

HISTORY INFORMATION FOR THE FOLLOWING MANUAL:

# SERVICE MANUAL

# RA-5A CHASSIS

| <i>MODEL NAME</i> | <i>REMOTE COMMANDER</i> | <i>DESTINATION</i> | <i>CHASSIS NO.</i> |
|-------------------|-------------------------|--------------------|--------------------|
| <b>KDP-57XBR2</b> | RM-Y185                 | US                 | SCC-P69B-A         |
| <b>KDP-57XBR2</b> | RM-Y185                 | Canadian           | SCC-P69B-A         |
| <b>KDP-65XBR2</b> | RM-Y185                 | US                 | SCC-P69A-A         |
| <b>KDP-65XBR2</b> | RM-Y185                 | Canadian           | SCC-P69A-A         |

**ORIGINAL MANUAL ISSUE DATE: 7/2001**

**ALL REVISIONS AND UPDATES TO THE ORIGINAL MANUAL ARE APPENDED TO THE END OF THE PDF FILE.**

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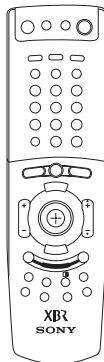
| REVISION DATE | REVISION TYPE  | SUBJECT  |
|---------------|----------------|--|
| 7/2001        |                | No revisions or updates are applicable at this time.         |
| 11/2001       | Supplement - 1 | Adjustment Manual Added                                      |
| 1/2002        | Correction - 1 | Exploded View - Screen Frame Block P/N Corrected             |
| 7/2002        | Supplement - 2 | B Board, Q-Box Assembly P/N Correction; IC001 P/N Correction |

DIGITAL HIGH DEFINITION PROJECTION TV

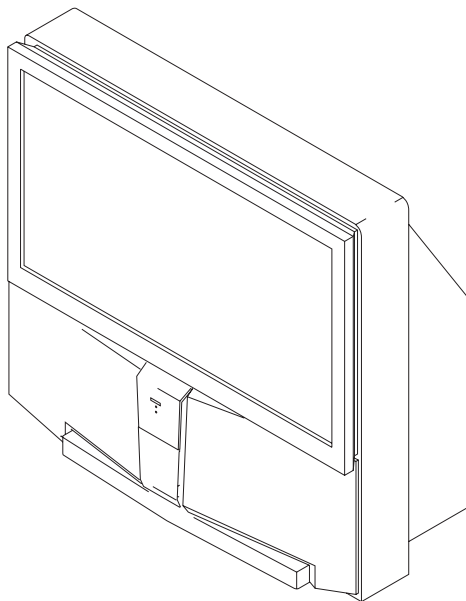
# SONY®

# SERVICE MANUAL RA-5A CHASSIS

| <u>MODEL</u>      | <u>COMMANDER</u> | <u>DEST.</u>    | <u>CHASSIS NO.</u> |
|-------------------|------------------|-----------------|--------------------|
| <i>KDP-57XBR2</i> | <i>RM-Y185</i>   | <i>US</i>       | <i>SCC-P69B-A</i>  |
| <i>KDP-57XBR2</i> | <i>RM-Y185</i>   | <i>Canadian</i> | <i>SCC-P69B-A</i>  |
| <i>KDP-65XBR2</i> | <i>RM-Y185</i>   | <i>US</i>       | <i>SCC-P69A-A</i>  |
| <i>KDP-65XBR2</i> | <i>RM-Y185</i>   | <i>Canadian</i> | <i>SCC-P69A-A</i>  |



RM-Y185



DIGITAL HIGH DEFINITION PROJECTION TV  
**SONY**<sup>®</sup>

## SPECIFICATIONS

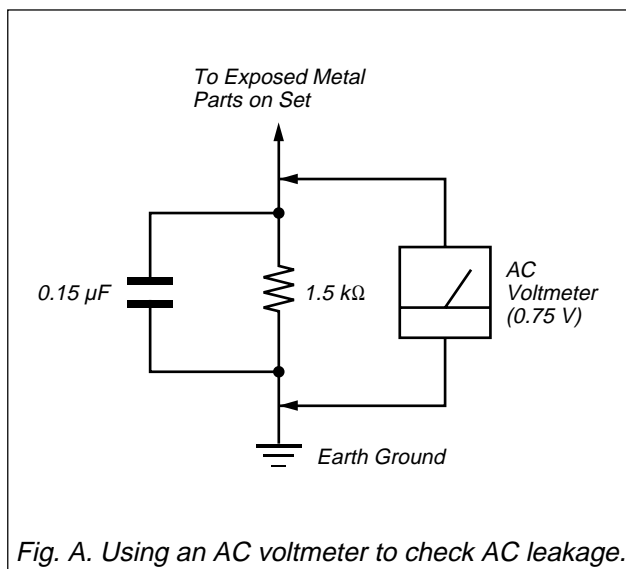
|   |   |  |
|---|---|--|
| Projection System                                 | 3 picture tubes, 3 lenses, horizontal in-line system  |  |
| Picture Tube                                      | 7-inch high-brightness monochrome tubes (6.3 raster size), with optical coupling and liquid cooling system              |  |
| Projection Lenses                                 | High performance, large diameter hybrid lens F1.05  |  |
| Antenna   | 75 ohm external terminal for VHF/UHF  |  |
| Television System                                 | NTSC, American TV Standard, ATSC  |  |
| Channel Coverage                                  |   |  |
| DTV   | 2-69  |  |
| VHF   | 2-13  |  |
| UHF   | 14-69   |  |
| CATV  | 1-125   |  |
| Power Requirements                                | 120V AC, 60 Hz  |  |
| Number of Inputs/Outputs                          |   |  |
| Video (IN)  | 4 total (1 on front panel)  | 1 Vp-p, 75 ohms unbalanced, sync negative  |
| S Video (IN)                                      | 4 (1 on front panel)  | Y: 1 Vp-p, 75 ohms unbalanced, sync negative<br>C: 0.286 Vp-p, (Burst signal), 75 ohms                                       |
| Component Video Input                             | 2 (Y, P <sub>B</sub> , P <sub>R</sub> )   | Y: 1.0 Vp-p, 75 ohms unbalanced, sync negative<br>P <sub>B</sub> : 0.7 Vp-p, 75 ohms<br>P <sub>R</sub> : 0.7 Vp-p, 75 ohms   |
| Audio (IN)  | 6 total (1 on front panel)  | 500 mVrms (100% modulation)<br>Impedance: 47 kilohm  |
| Audio (OUT)                                       | 1   | More than 408 mVrms at the maximum volume setting (Variable)<br>More than 408 mVrms (Fixed)<br>Impedance (output): 2 kilohms |
| Subwoofer (Out)                                   | 1   | More than 408 mVrms at the maximum volume setting<br>Impedance (output): 2 kilohms<br>Cutoff frequency: 100 Hz               |
| SELECT OUT  | 1 Video<br>1 Audio  | 1 Vp-p, 75 ohms unbalanced, sync negative<br>More than 408 mVrms (100% modulation)<br>Impedance (output): 2 kilohms          |
| Digital Audio Optical Output<br>Dolby Digital/PCM | 1   | Optical Rectangular (1)  |
| CONTROL S (IN/OUT)                                | 1   |  |
| i.LINK S200                                       | 2   | 4-pin S200 i.LINK terminal (2)   |
| Supplied Accessories                              |   |  |
| Remote Control                                    | RM-Y185   |  |
| AA (R6) Batteries                                 | 2 supplied for remote control   |  |
| Optional Accessories                              |   |  |
| AV Cable  | VMC-810/820/830 HG  |  |
| Audio Cable                                       | RKC-515HG   |  |
| i.LINK Cable                                      | VMC-IL4415 (4-pin to 4-pin, 1.5 meters), VMC-IL4435 (4-pin to 4-pin, 3.5 meters)  |  |
| Component Video Cable                             | VMC-10/30 HG  |  |
| Rear Speakers                                     | SS-MB115  |  |
| Screen Size                                       | 57 in measured diagonally (KDP-57XBR2)<br>65 in measured diagonally (KDP-65XBR2)  |  |
| Speakers  | Tweeter   | 100 mm (4") × 2  |
|   | Woofer  | 160 mm (6 3/8") × 2  |
|   | Center  | 100 mm (4") × 2  |
| Speaker Output                                    | Front   | 20 W × 2   |
|   | Center  | 20 W × 1   |
|   | Rear  | 20 W × 2   |
| Dimensions (W × H × D)                            | 1380 × 1400 × 680 mm (54 3/8 × 55 1/8 × 26 7/8 in) (KDP-57XBR2)<br>1558 × 1574 × 735 mm (61 3/8 × 62 × 29) (KDP-65XBR2) |  |
| Mass  | 126 kg (277 lbs) (KDP-57XBR2)<br>148 kg (326 lbs) (KDP-65XBR2)  |  |
| Power Consumption                                 |   |  |
| In Use  | 280 W   |  |
| In Standby  | 0.9 W   |  |
| In i.LINK Standby                                 | 24 W  |  |

Design and specifications are subject to change without notice.

## SAFETY CHECK-OUT (US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are “pinched” or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).  
Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna’s replacement.
8. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.



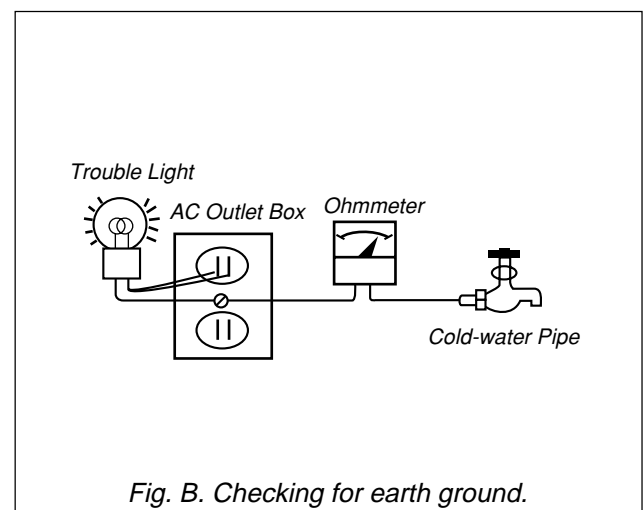
### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

### HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60 – 100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)





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**WARNING!!**

NEVER TURN ON THE POWER IN A CONDITION IN WHICH THE DEGAUSS COIL HAS BEEN REMOVED.

**SAFETY-RELATED COMPONENT WARNING!!**

COMPONENTS IDENTIFIED BY SHADING AND MARK  $\triangle$  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

**AVERTISSEMENT!!**

NE JAMAIS METTRE SOUS TENSION QUAND LA BOBINE DE DEMAGNETISATION EST ENLEVÉE.

**ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!**

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE  $\triangle$  SONT CRITIQUES POUR LA SÉCURITÉ. NE LES REMPLACER QUE PAR UNE PIÈCE PORTANT LE NUMÉRO SPECIFIÉ. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

## SECTION 1

# SELF DIAGNOSIS FUNCTION

### 1. Summary of Self-Diagnosis Function

- This device includes a self-diagnosis function.
- In case of abnormalities, the STANDBY/i. LINK STANDBY indicator automatically blinks. It is possible to predict the abnormality location by the number of blinks. The Instruction Manual describes blinking of the STANDBY/i. LINK STANDBY indicator.
- If the symptom is not reproduced sometimes in case of a malfunction, there is recording of whether a malfunction was generated or not. Operate the remote command to confirm the matter on the screen and to predict the location of the abnormality.

### 2. Diagnosis Items and Prediction of Malfunction Location

- When a malfunction occurs the STANDBY/i. LINK STANDBY indicator only blinks for one of the following diagnosis items. In case of two or more malfunctions, the item which first occurred blinks. If the malfunctions occurred simultaneously, the item with the lower blink count blinks first.
- The screen display displays the results regarding all the diagnosis items listed below. The display “0” means that no malfunctions occurred.

| Diagnosis Item   | No. of times STANDBY /i. STANDBY indicator blinks | Probable Cause Location  | Detected symptoms  |
|--|---|--|--|
| Power does not turn on                                       | 0   | <ul style="list-style-type: none"> <li>• Power cord is not plugged in.</li> <li>• Fuse is burned out (F6001) (G board)</li> </ul>  | <ul style="list-style-type: none"> <li>• Power does not come on.</li> <li>• No power is supplied to the unit.</li> <li>• AC power supply is faulty.</li> </ul>   |
| +B overcurrent (OCP)<br>(See Note 1)                         | 2 times   | <ul style="list-style-type: none"> <li>• H. OUT (Q8024) is shorted. (D board)</li> <li>• +B PWM (Q8035, 8038) is shorted. (D board)</li> </ul>   | <ul style="list-style-type: none"> <li>• Power does not come on.</li> <li>• Load on power line is shorted.</li> </ul>  |
| +B overvoltage (OVP)   | 3 times   | <ul style="list-style-type: none"> <li>• IC6104 is faulty (G board)</li> <li>• PH6002 is faulty (G board)</li> </ul>   | <ul style="list-style-type: none"> <li>• Has entered standby mode.</li> </ul>  |
| Vertical deflection stopped                                  | 4 times   | <ul style="list-style-type: none"> <li>• ±15 V is not supplied. (D board)</li> <li>• IC8003 is faulty. (D board)</li> </ul>  | <ul style="list-style-type: none"> <li>• Has entered standby state after horizontal raster.</li> <li>• Vertical deflection pulse is stopped.</li> <li>• Power line is shorted or power supply is stopped.</li> </ul> |
| White balance failure<br>(Not balanced)                      | 5 times   | <ul style="list-style-type: none"> <li>• Video out (IC3701, 3801, 3901) is faulty. (CR, CG, CB board)</li> <li>• CRT drive (IC3006) is faulty. (A board)</li> <li>• G2 is improperly adjusted. (See Note 2)</li> </ul> | <ul style="list-style-type: none"> <li>• No raster is generated.</li> <li>• CRT cathode current detection reference pulse output is small.</li> </ul>  |
| LOW +B OCP/OVP<br>(Overcurrent/over voltage)<br>(See Note 3) | 6 times   | <ul style="list-style-type: none"> <li>• LOW +B line is overloaded. (A, B boards)</li> <li>• LOW +B line is shorted. (A, B boards)</li> </ul>  | <ul style="list-style-type: none"> <li>• No picture</li> </ul>   |
| Horizontal deflection stopped                                | 7 times   | <ul style="list-style-type: none"> <li>• Q8035, 8038 is shorted. (D board)</li> </ul>  |  |

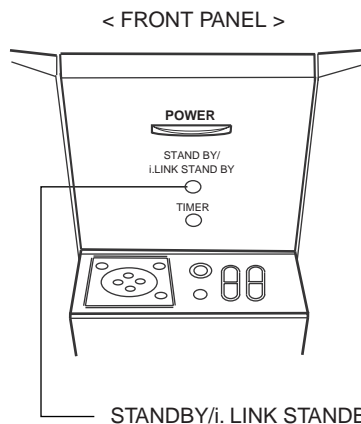
Note 1: If a +B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously. The symptom that is diagnosed first by the microcontroller is displayed on screen.

Note 2: Refer to Screen (G2) Adjustment in Section 3-1, 2 of this manual.

Note 3: If STANDBY/i. LINK STANDBY indicator blinks six (6) times, unplug the unit and wait 10 minutes before performing the adjustment.

### 3. Blinking count display of STANDBY / i. LINK STANDBY indicator

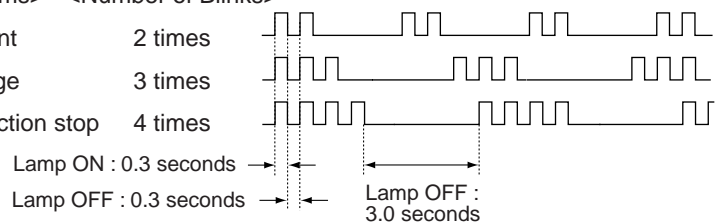
\* One blink is not used for self-diagnosis.



•EXAMPLE

<Diagnosis Items>    <Number of Blinks>

- +B overcurrent                    2 times
- +B overvoltage                    3 times
- Vertical deflection stop        4 times



#### Release of STANDBY/i. LINK STANDBY indicator blinking.

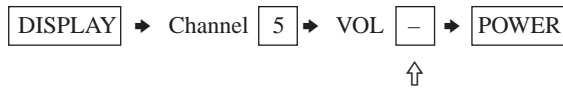
- The STANDBY/i. LINK STANDBY indicator blinking display is released by turning OFF the power switch on the TV main unit or removing the plug from the power.

#### 4. Self-diagnosis screen displays

- In cases of malfunctions where it is not possible to determine the symptom such as when the power goes off occasionally or when the screen disappears occasionally, there is a screen display on whether the malfunction occurred or not in the past (and whether the detection circuit operated or not) in order to allow confirmation.

##### <Screen Display Method>

- Quickly press the remote command button in the following order from the standby state.



Be aware that this differs from the method of entering the service mode (volume +).

##### Self-Diagnosis screen display

| Self Diagnosis   |   |
|------------------|---|
| 2:+B OCP         | 0 |
| 3:+B OVP         | 0 |
| 4:V STOP         | 0 |
| 5:AKB            | 1 |
| 6:Low B          | 0 |
| 7:H STOP         | 0 |
| 101:WDT          | 0 |
| Serial: xxxxxxxx |   |
| Model: xxxxxxxx  |   |

← Numeral "0" means that no fault has been detected.

← Numeral "1" means a fault was detected one time only.

#### 5. Self-Diagnosis Screen Display

- The results display is not automatically cleared. In case of repairs and after repairs, check the self-diagnosis screen and be sure to return the results display to "0".
- If the results display is not returned to "0" it will not be possible to judge a new malfunction after completing repairs.

##### <Method of Clearing Results Display>

- Power off (Set to the standby mode)
- DISPLAY → Channel 5 → VOL + → POWER (Service Mode)
- Channel 8 → ENTER (Test reset = Factory preset condition)

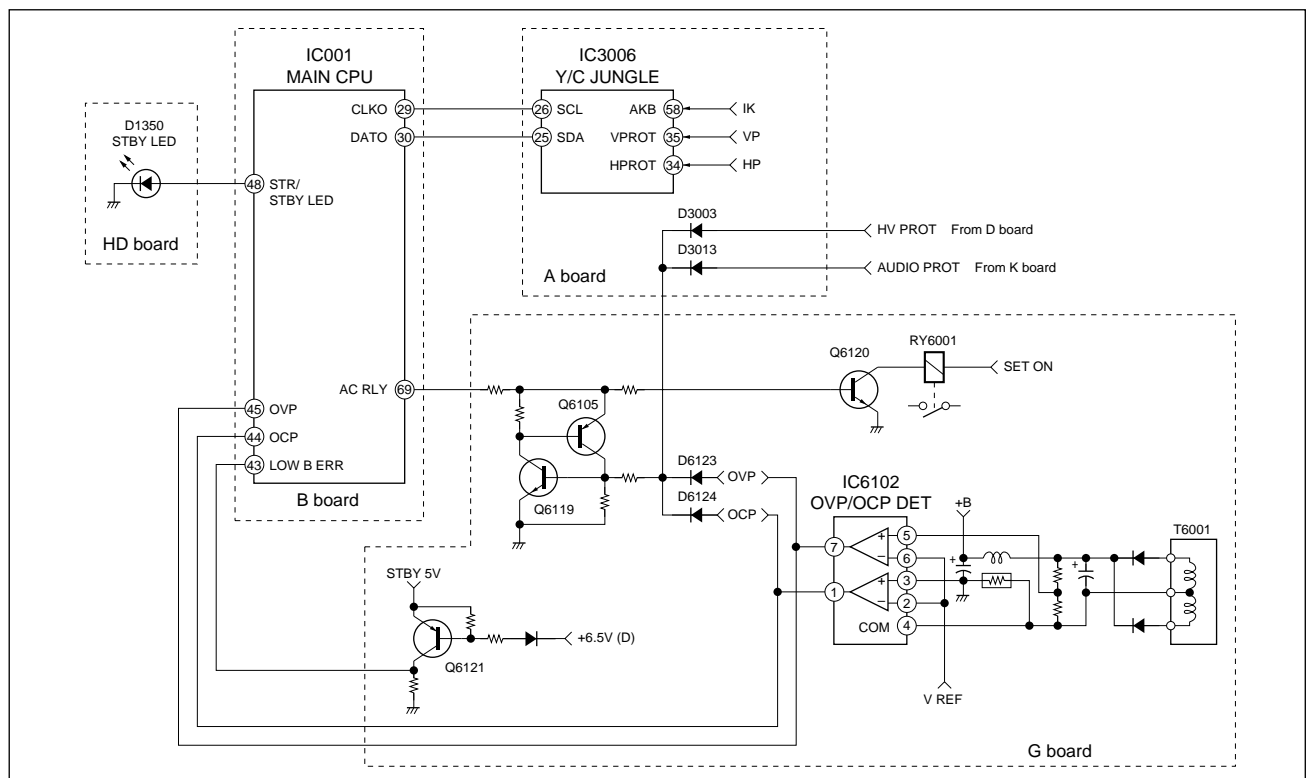
##### <Method of Ending Self Diagnosis Screen>

- When ending the self-diagnosis screen completely, turn the power switch OFF on the remote commander or the main unit.

## 6. Self-diagnosis function operation

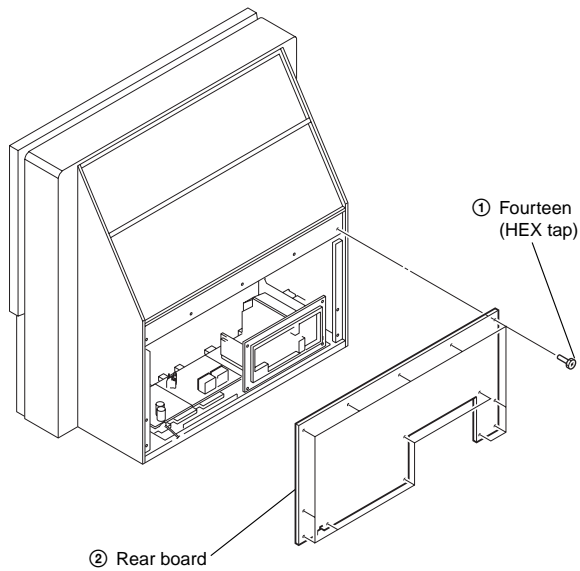
|        |  |
|--------|--|
| OCP    | Low B and +B line detect DET SHORT, and shut-down POWER ON RELAY.<br>Reset by turning power on/off.<br>In case of +B is loaded approx. 1.5 A or more, microcomputer detects it via IC6102. |
| OVP    | In case of +B becomes approx. 150 V or more, POWER ON RELAY shuts down and microcomputer detects it via IC6102.<br>Reset by turning power on/off just the same as OCP.                     |
| Low B  | Occurs when set +6.5 V (D) is out.   |
| V Stop | In case of V DRIVE is disappeared, IC3006 detects it and shut-down POWER ON RELAY. Microcomputer detects it and makes LED blinking.  |
| AKB    | IK detection. Makes LED blinking in case of microcomputer doesn't detect IK returns of IC3006 (CXA2150AQ) 20 seconds or more.  |
| H Stop | In case of H DRIVE is disappeared, IC3006 detects it and shut-down POWER ON RELAY. Microcomputer receives H Stop data from IC3006 and makes LED blinking.                                  |

### Self-diagnosis block diagram

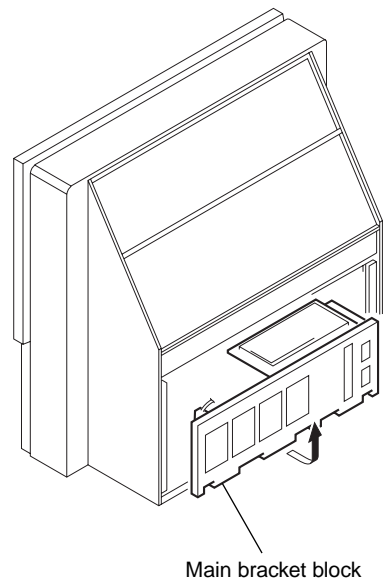


## SECTION 2 DISASSEMBLY

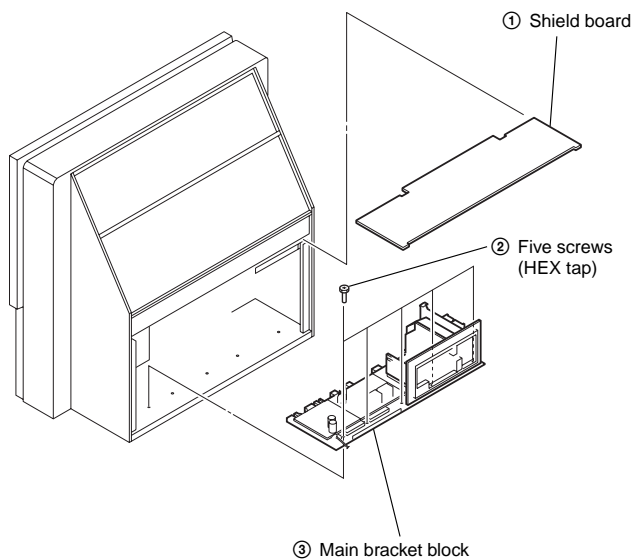
### 2-1. REAR BOARD REMOVAL



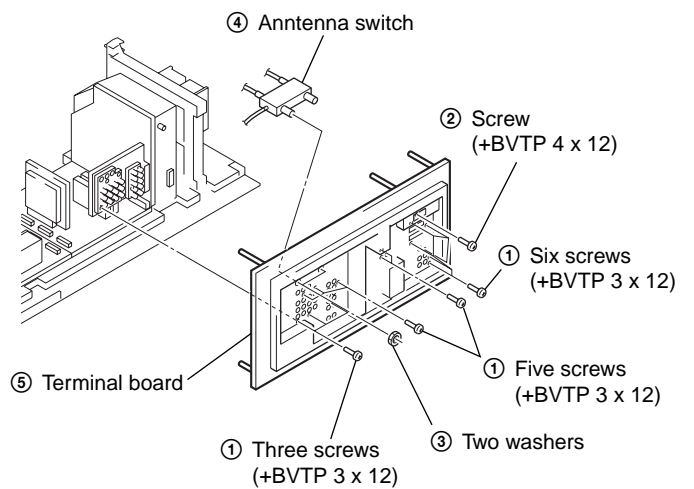
### 2-3. SERVICE POSITION



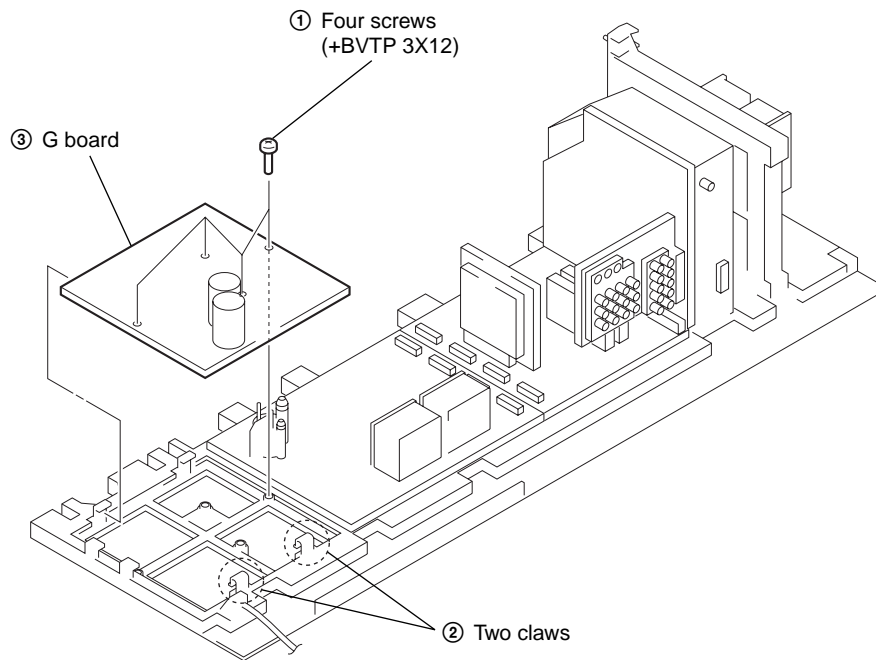
### 2-2. MAIN BRACKET BLOCK REMOVAL



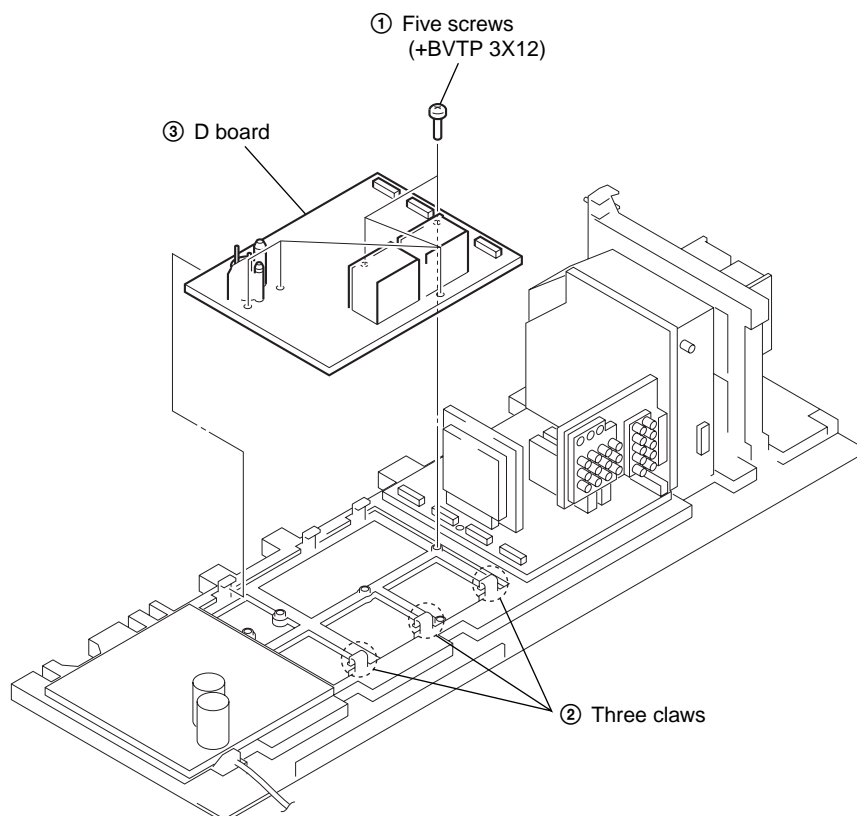
### 2-4. TERMINAL BOARD REMOVAL



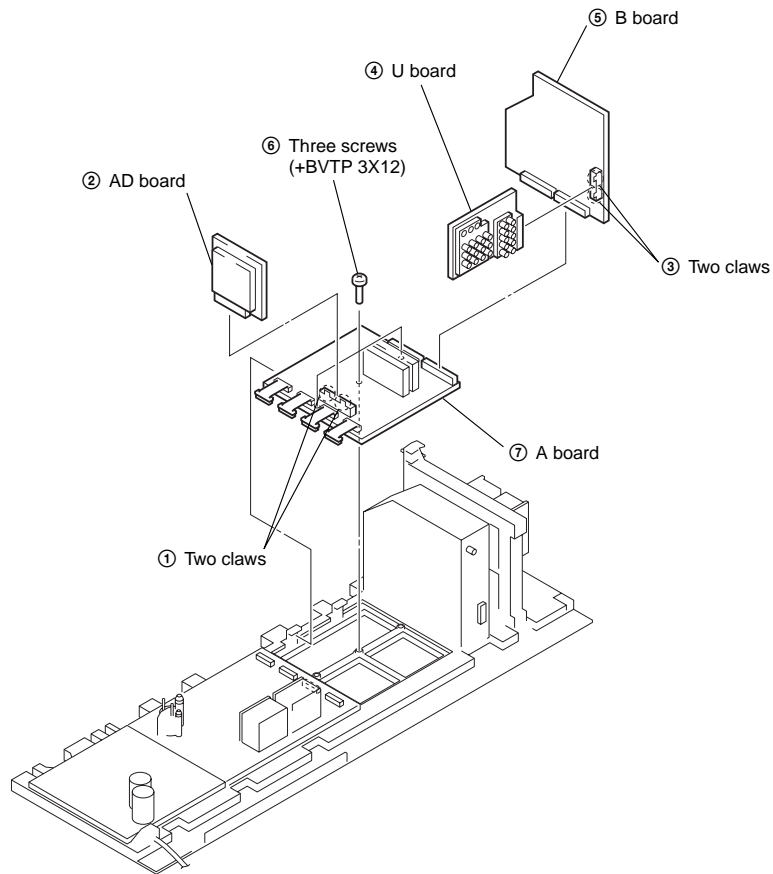
## 2-5. G BOARD REMOVAL



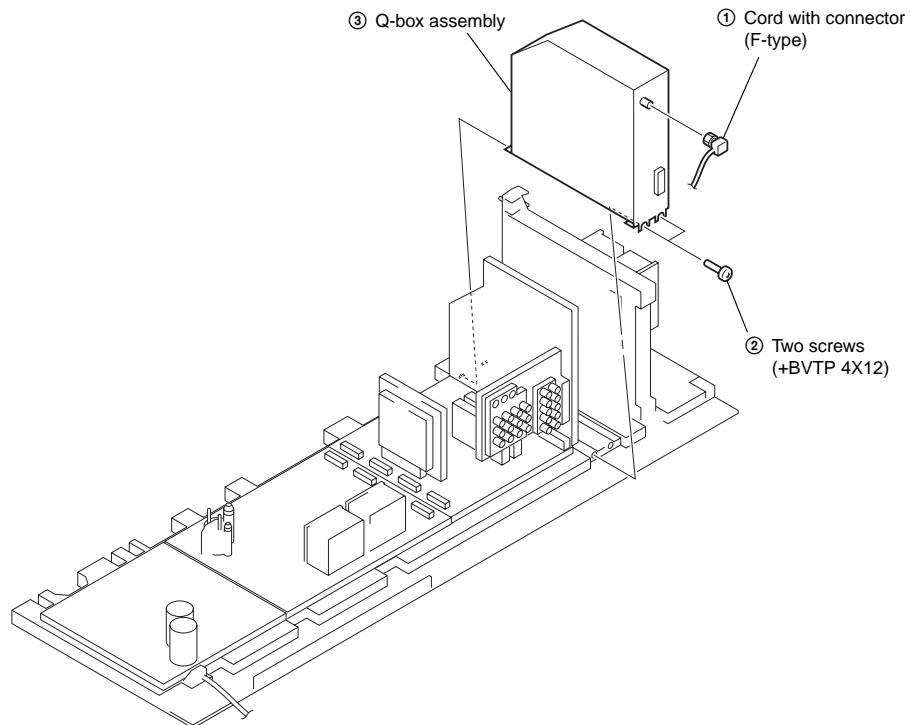
## 2-6. D BOARD REMOVAL



## 2-7. AD, U, B, AND A BOARDS REMOVAL

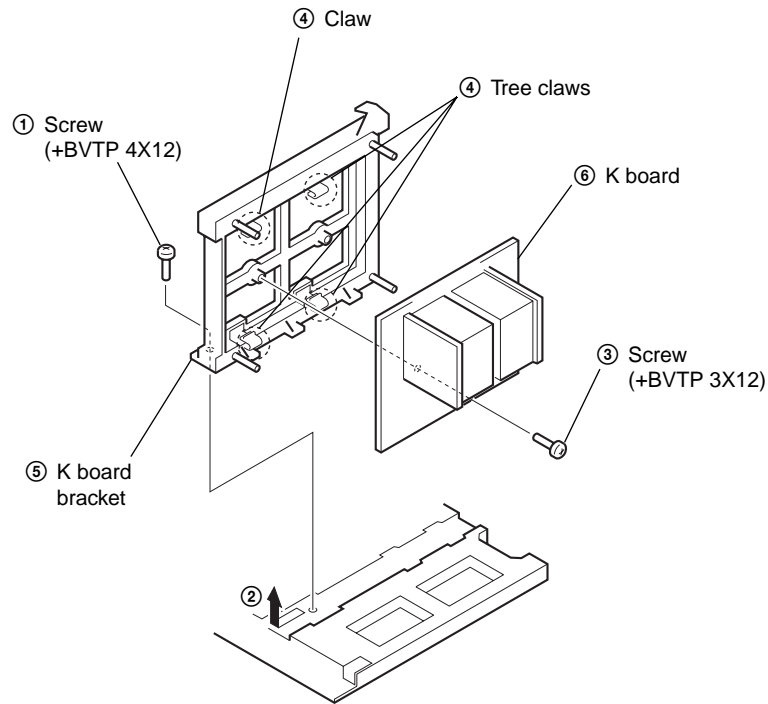


## 2-8. Q-BOX ASSEMBLY REMOVAL

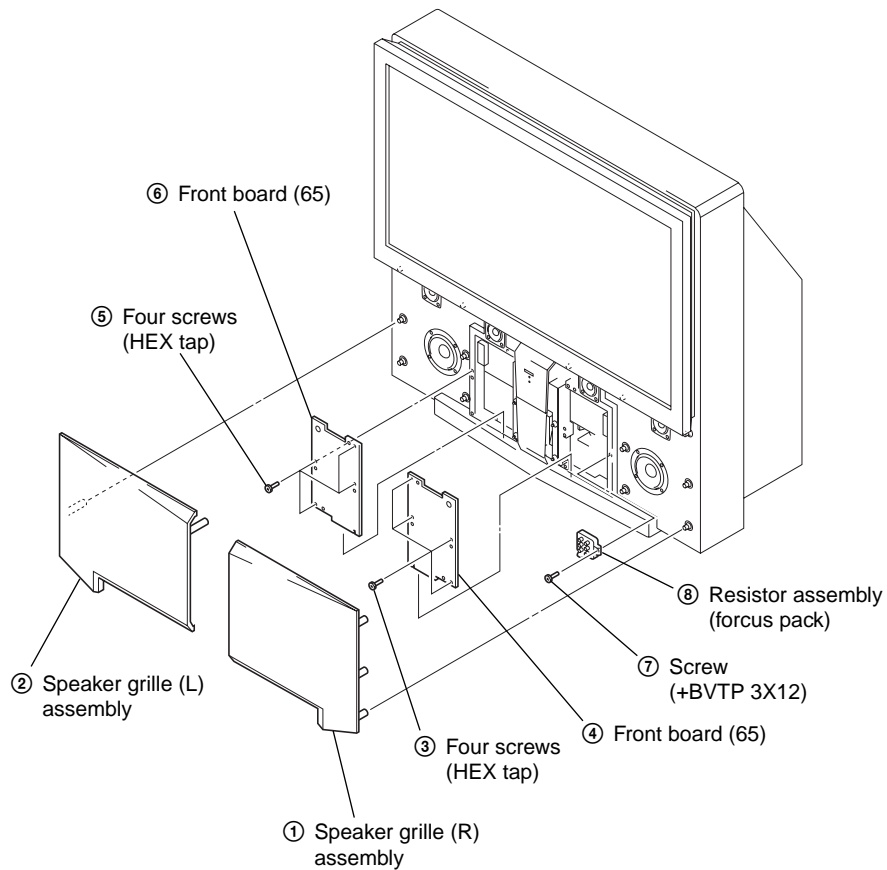




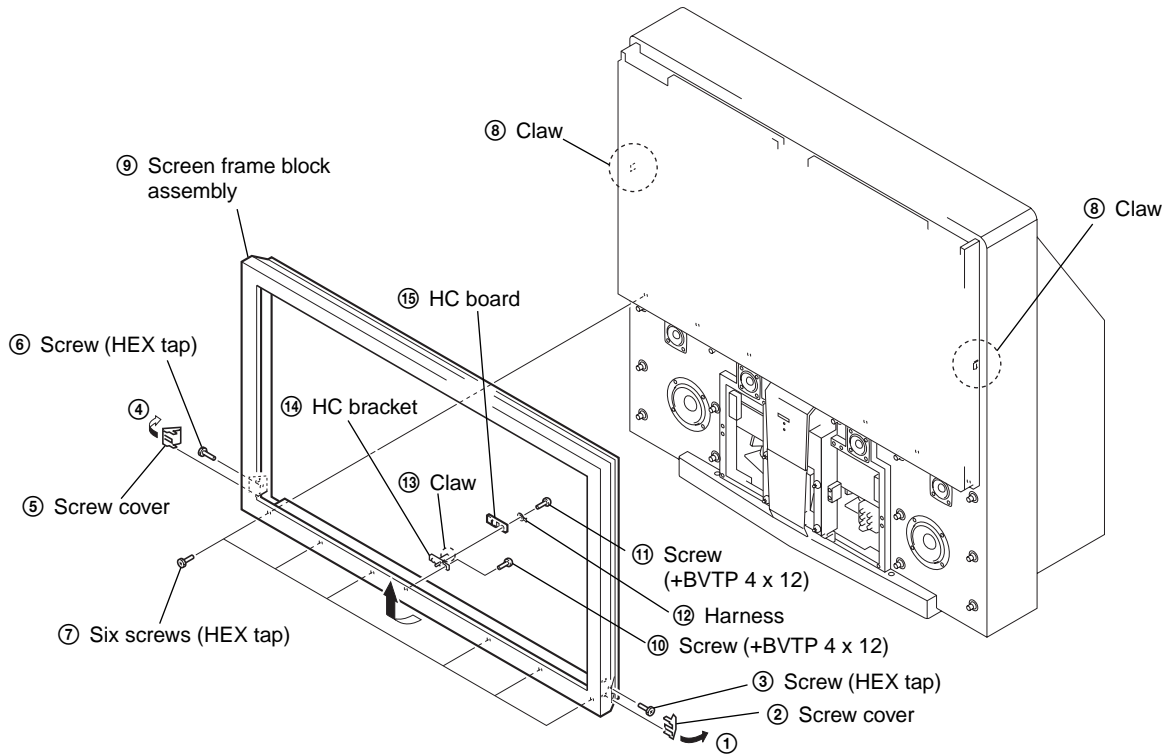
## 2-9. K BOARD REMOVAL



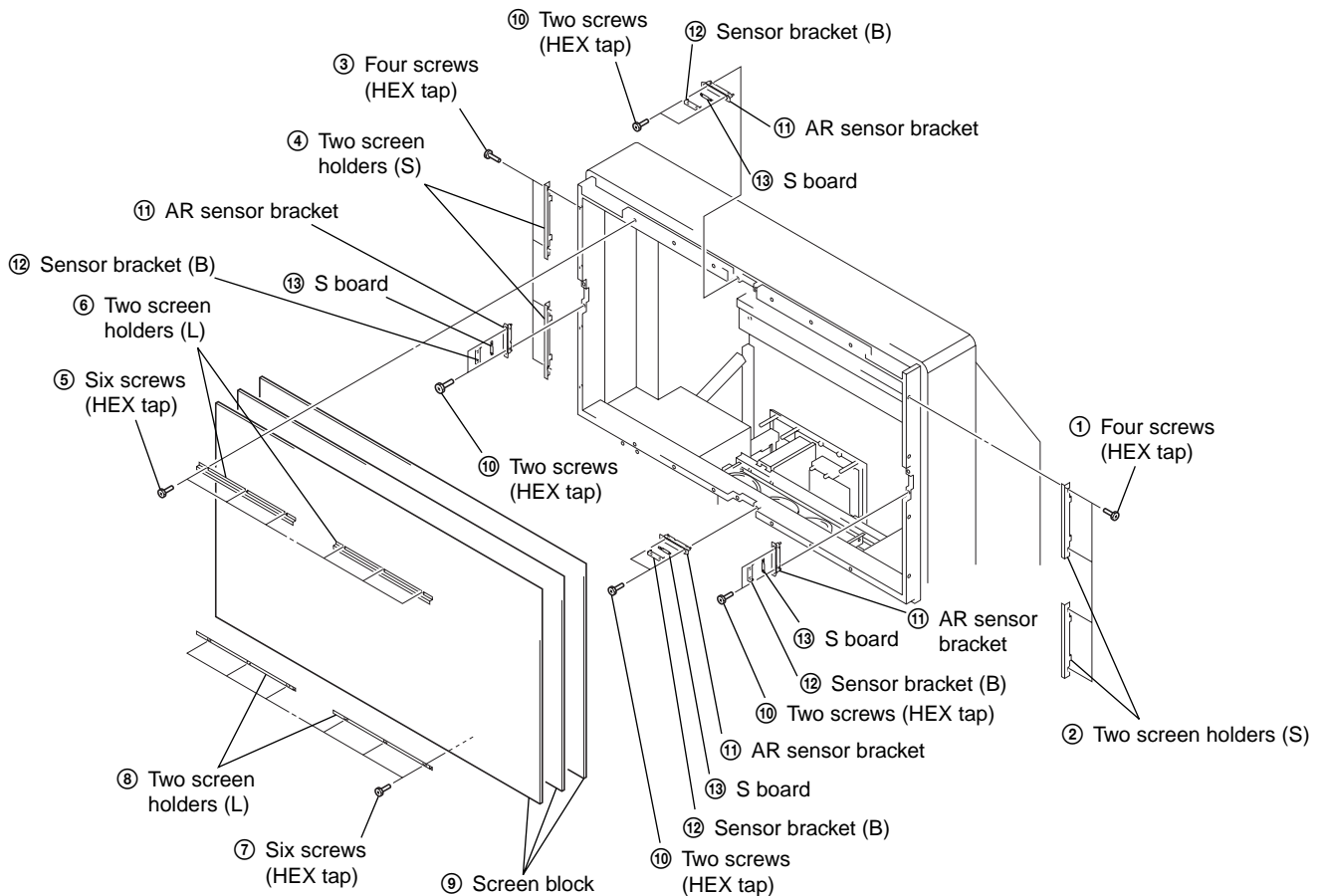
## 2-10. RESISTOR ASSEMBLY (FOCUS PACK) REMOVAL



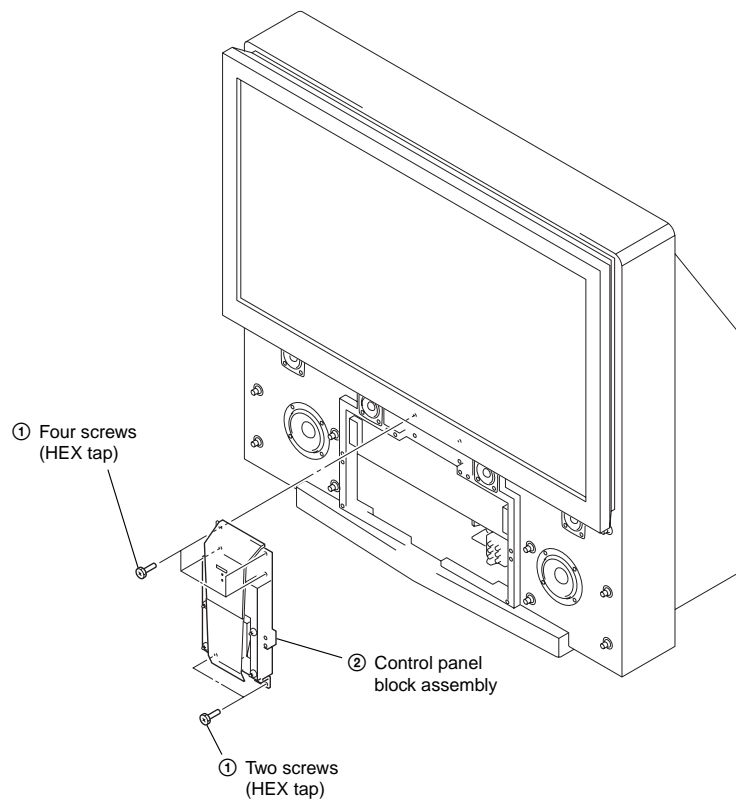
## 2-11. SCREEN FRAME BLOCK ASSEMBLY



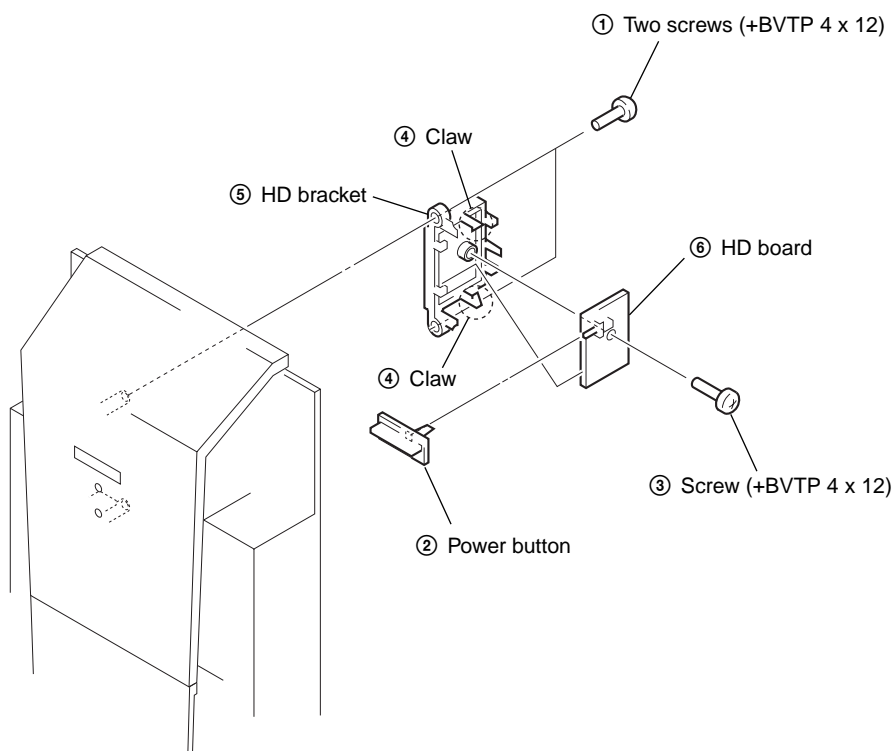
## 2-12. S BOARD REMOVAL



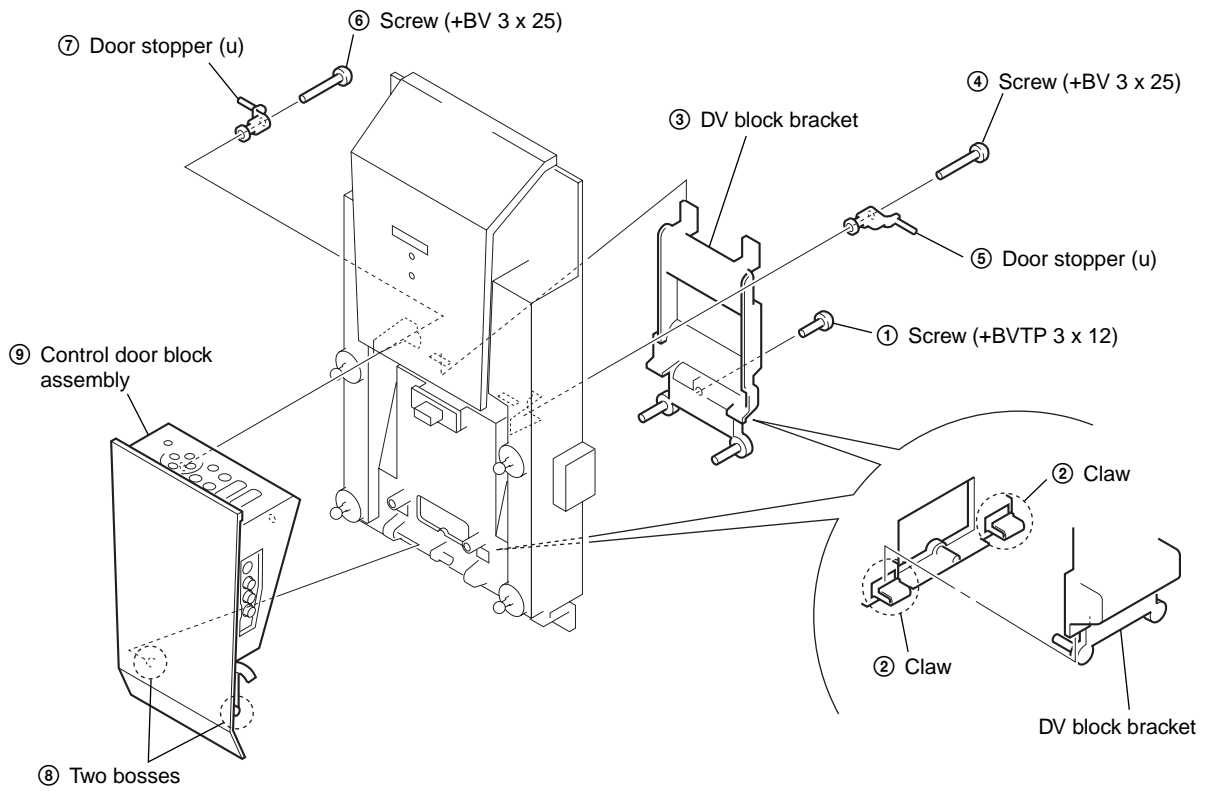
## 2-13. CONTROL PANEL BLOCK ASSEMBLY



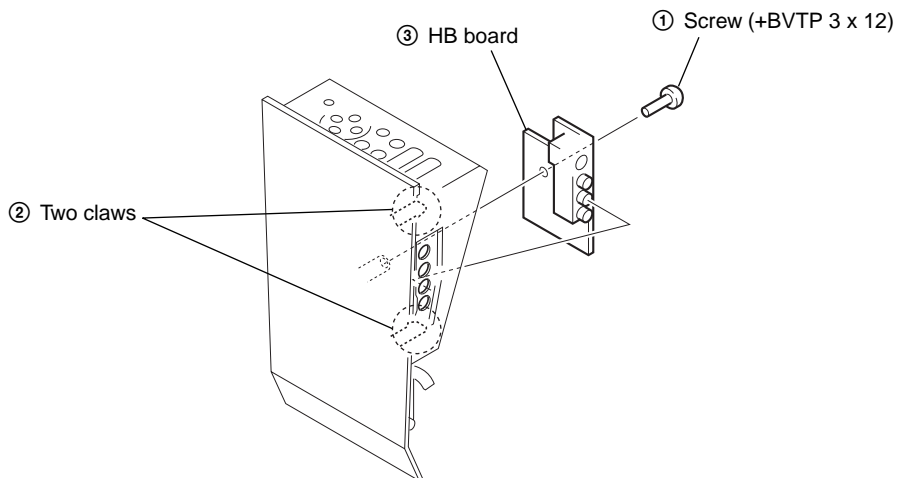
## 2-14. HD BOARD REMOVAL



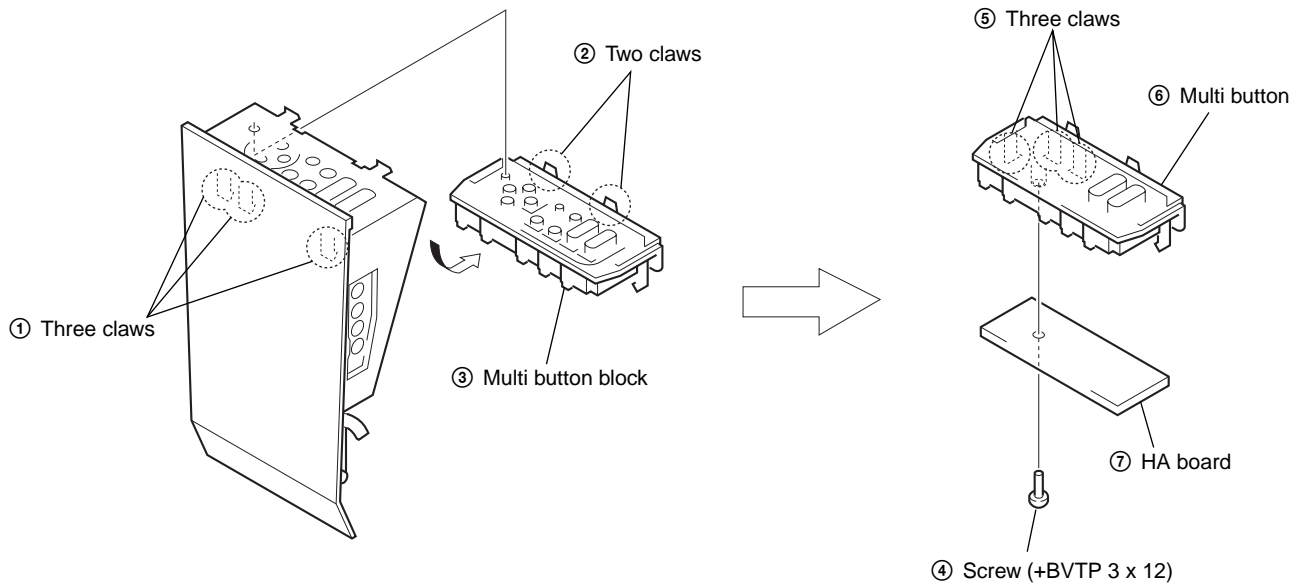
## 2-15. CONTROL DOOR BLOCK ASSEMBLY



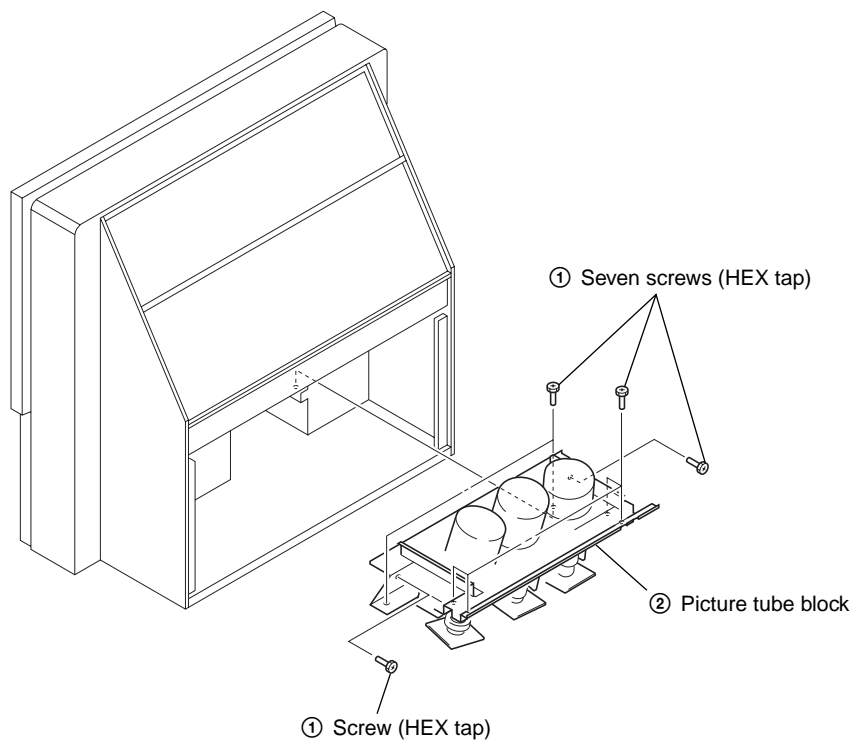
## 2-16. HB BOARD REMOVAL



### 2-17. HA BOARD REMOVAL

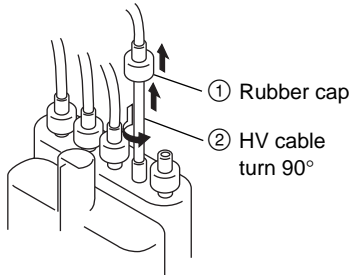


### 2-18. PICTURE TUBE BLOCK REMOVAL

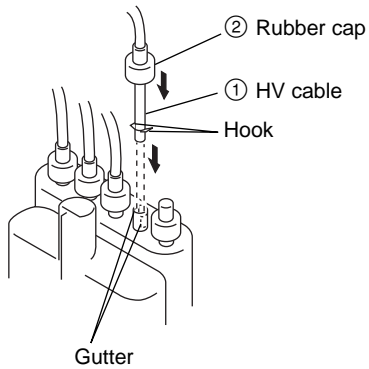


## 2-19. HIGH-VOLTAGE CABLE REMOVAL AND INSTALLATION

### (1) Removal

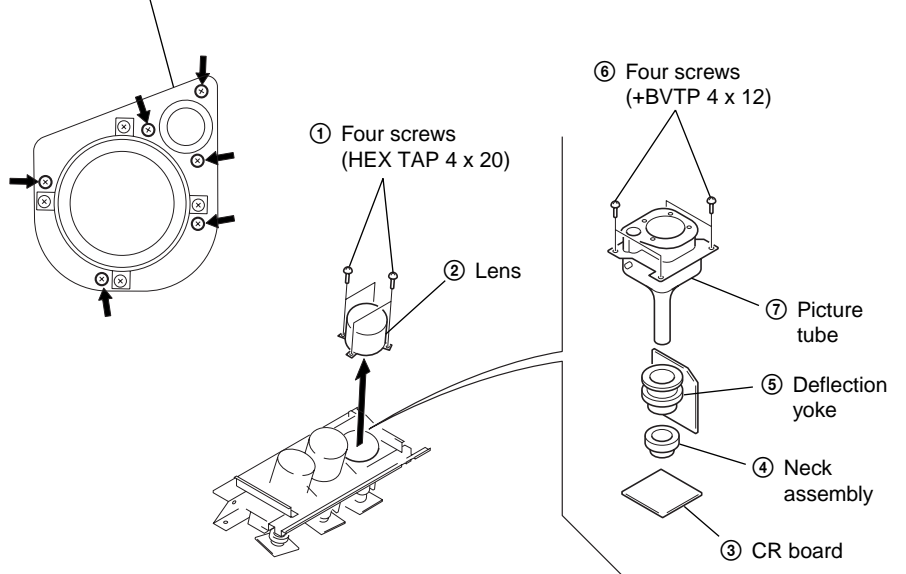


### (2) Installation



## 2-20. PICTURE TUBE REMOVAL

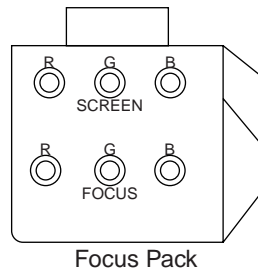
Removing the arrow-marked screw is strictly inhibited. If removed, it may cause liquid spill.



## SECTION 3 SET-UP ADJUSTMENTS

### 3-1. SCREEN VOLTAGE ADJUSTMENT (ROUGH ALIGNMENT)

1. Receive the monoscope signal.
2. Set 50% BRIGHTNESS and minimum PICTURE.
3. Turn the red VR on the focus pack all the way to the left and then gradually turn it to the right until the point where you can see the retrace line.
4. Next gradually turn it to the left to the position where the retrace line disappears.

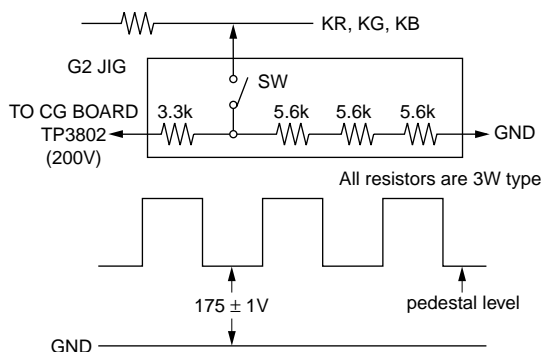


**Fig. 3-1**

### 3-2. SCREEN (G2) ADJUSTMENT

Fine Mode is recommended to set screen controls to their optimal condition. It is necessary to build the simple jig, illustrated below, using 3-watt resistors. Please note, that if the proper voltage is not obtained with their listed values, resistors, then please increase or decrease one of the values in the resistor network to obtain the correct voltage.

1. Select VIDEO1 mode without signals.
2. Connect G2 JIG to TP3802 (200V) of CG board and GND.
3. SW on JIG.
4. Connect an oscilloscope to the SG3701(KR), SG3801(KG) and SG3901(KB) of CR board, CG board and CB board.
5. Adjust R, G and B screen voltage to  $175 \pm 1V$  with screen VR on the focus pack.

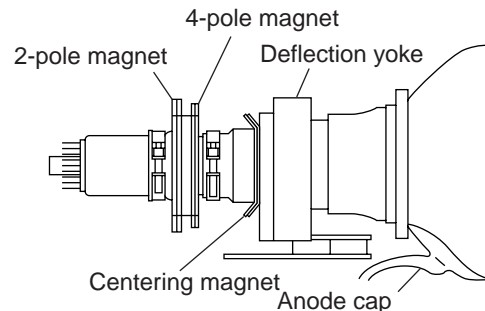


**Fig. 3-2**

### 3-3. DEFLECTION YOKE TILT ADJUSTMENT

1. Connect the color bar generator monoscope pattern to VIDEO1 input.
2. Cover the both red and blue picture lenses with the lens caps to show only the green color.
3. Loosen the deflection yoke set screw and align the tilt of the Deflection Yoke so that the bars at the center of the monoscope pattern are horizontal.
4. After aligning the deflection yoke, fasten it securely to the funnel-shaped portion (neck) of the CRT.
5. The tilt of the deflection yoke for red is aligned in the mode Cover the both green and blue picture lenses with the lens caps and the tilt of the deflection yoke for blue is aligned with in the mode Cover the both green and red picture lenses with the lens caps is aligned the same as was done for green.

Note: Instead of items 2 and 5, you can cut off the unnecessary color beams by controlling the service mode "1 RGBS" of "2150P-2".



**Fig. 3-3**

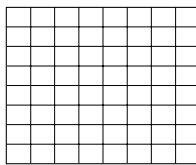
### 3-4. FOCUS LENS ADJUSTMENT

In this adjustment, use the remote commander in the service mode. For details of the usage of the service mode and the remote commander, please refer the item 3-10. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER.

1. Loosen the lens screw.
2. Cover the both red and blue picture lenses with the lens caps to show only the green color.
3. Turn the green lens to adjust to the optimum focus point with the crosshatch signal.
4. Tighten the lens screw.
5. Cover the both green and blue picture lenses with the lens caps to show only the red color.
6. Adjust red CRT lens just the same as green.
7. Cover the both green and red picture lenses with the lens caps to show only the blue color.
8. Adjust blue CRT lens just the same as green.
9. After adjusting the items 3-5. FOCUS VR ADJUSTMENT, 3-6. 2-POLE MAGNET ADJUSTMENT, 3-7. CENTER MAGNET ADJUSTMENT and 3-8. 4-POLE MAGNET ADJUSTMENT, adjust again to the optimum focus point.

Note: Instead of items 2, 5 and 7, you can cut off the unnecessary color beams by controlling the service mode "1 RGBS" of "2150P-2".

\*: Every time you press 6, the test signal changes to "crosshatch+video signal" - "crossbatch+borderline(black)" - "crosshach(black)" - "dots(black)" - off.



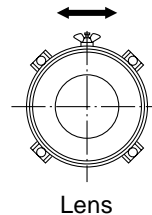
Test signal

Fig. 3-4

### 3-5. FOCUS VR ADJUSTMENT

1. Set generator to crosshatch.
2. Cover the both red and blue picture lenses with the lens caps to show only the green color.
3. Turn the green focus VR on the focus pack to adjust to the optimum focus point with the crosshatch signal.
4. Cover the both green and blue picture lenses with the lens caps to show only the red color.
5. Turn the red focus VR on the focus pack to adjust to the optimum focus point with the crosshatch signal.
6. Cover the both green and red picture lenses with the lens caps to show only the blue color.
7. Turn the blue focus VR on the focus pack to adjust to the optimum focus point with the crosshatch signal.
8. After adjusting the items 3-4. FOCUS LENS ADJUSTMENT, 3-6. 2-POLE MAGNET ADJUSTMENT, 3-7. CENTER MAGNET ADJUSTMENT and 3-8. 4-POLE MAGNET ADJUSTMENT, adjust again to the optimum focus point.

Note: Instead of items 2, 4 and 6, you can cut off the unnecessary color beams by controlling the service mode "1 RGBS" of "2150P-2".



Lens  
Fig. 3-5

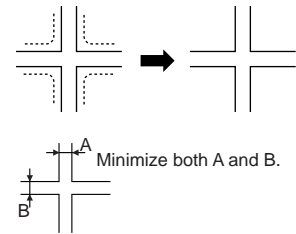


Fig. 3-6

### 3-6. 2-POLE MAGNET ADJUSTMENT

1. Set the picture mode to "Pro" and picture to MAX.
2. Receive the dot signal.
3. Cover the both red and blue picture lenses with the lens caps to show only the green color.
4. Turn the green focus VR on the focus pack to the left and set to overfocus to enlarge the spot.
5. Adjust 2-pole magnet so that the bright spot should be centered.
6. Align the green focus VR and set for just (precise) focus.
7. Perform the same alignment for red and blue.

Note: Instead of item 2 you can cut off the unnecessary color beams by controlling the service mode "1 RGBS" of "2150P-2".

Use the center dot

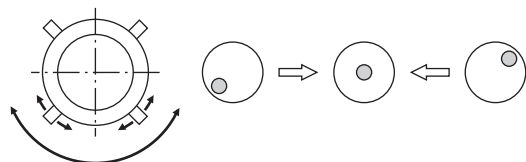


Fig. 3-7



### 3-7. CENTERING MAGNET ADJUSTMENT

1. Set the picture mode to "Pro".
2. Receive the monoscope signal.
3. Cover the both red and blue picture lenses with the lens caps to show only the green color.
4. Adjust the green centering magnet to put the center of the monoscope signal to the center of the screen.
5. Adjust the red centering magnet in the same way.
6. Adjust the blue centering magnet in the same way.

Note: Instead of item 2 you can cut off the unnecessary color beams by controlling the service mode "1 RGBS" of "2150P-2".

### 3-8. 4-POLE MAGNET ADJUSTMENT

1. Set the picture mode to "Pro" and picture to MAX.
2. Receive the dot signal.
3. Cover the both red and blue picture lenses with the lens caps to show only the green color.
4. Turn the green focus VR on the focus pack to the right and set the spot will become smaller.
5. Adjust the 4-Pole Magnet so that the spot becomes round for green and red.
6. Adjust blue spot to an oval shape.  $x : y = 1 : 1.2$

Note: Instead of item 2 you can cut off the unnecessary color beams by controlling the service mode "1 RGBS" of "2150P-2".

### 3-9. DEFOCUS ADJUSTMENT (BLUE)

Note: Please adjust the blue dot to be slightly larger than red and green dots. This adjustment provides a more pleasing picture to the customer.

1. Select the picture mode to "Pro".
2. Receive the dot signal.
3. Cover the both red and green picture lenses with the lens caps to show only the blue color.
4. Turn the blue focus VR on the focus pack to right to make the round dot elipical.
5. Check flare with high luminance signal, make sure flare is minimal while dot shape is elipical.
6. Set generator to all white signal and check uniformity.

Note: Instead of item 3 you can cut off the unnecessary color beams by controlling the service mode "1 RGBS" of "2150P-2".

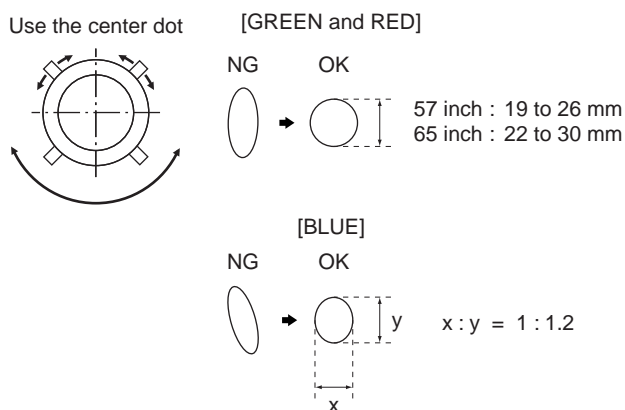


Fig. 3-8

### 3-10. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

By using remote commander (RM-Y185), all circuit adjustments can be made.

**NOTE : Test Equipment Required.**

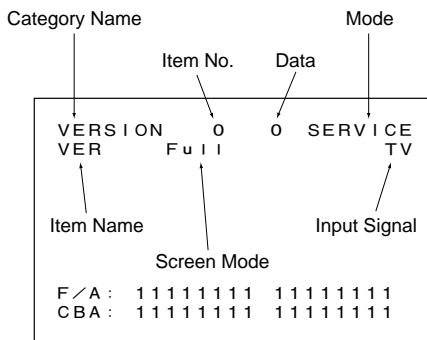
1. Pattern Generator (with component outputs)
2. Frequency counter
3. Digital multimeter
4. Audio oscillator

#### 1. Method of Setting the Service Adjustment Mode

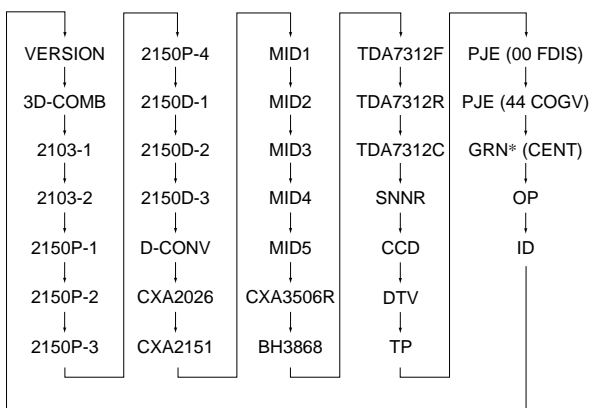
**SERVICE MODE PROCEDURE**

1. Standby mode. (Power off)
2. **DISPLAY** → **5** → **VOL (+)** → **TV POWER** on the remote commander.  
(Press each button within a second.)

**SERVICE MODE ADJUSTMENT**



3. The SCREEN displays the item being adjusted.
4. Press “**1**” or “**4**” on the remote commander to select the adjustment item.
5. Press “**3**” or “**6**” on the remote commander to change the data.
6. Press “**2**” or “**5**” on the remote commander to select the category. Every time you press “**2**” (Category up), Service mode changes in the order as shown below.



\* : GRN , RED or BLU

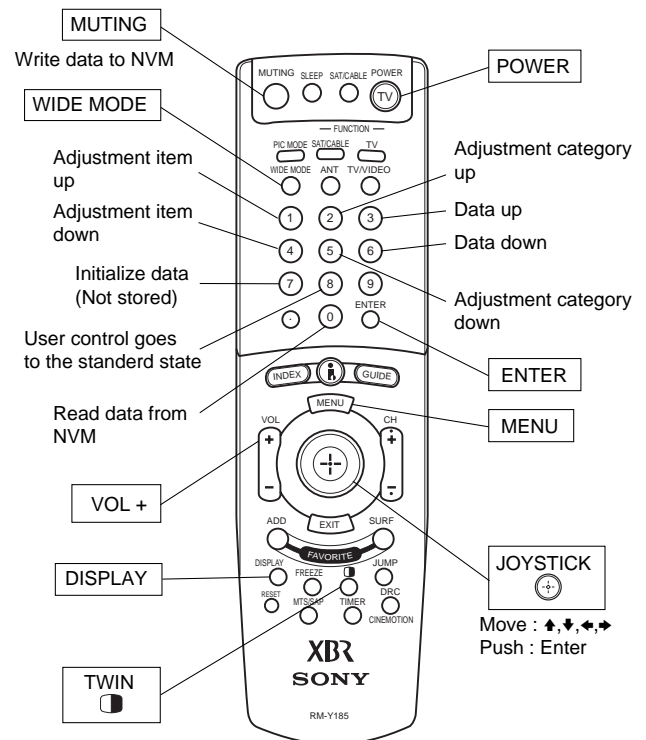
7. If you want to recover the latest values press “**0**” then “**ENTER**” to read the memory.
8. Press “**MUTING**” then “**ENTER**” to write into memory.
9. Turn power off.

Note: Press “**8**” then “**ENTER**” on the remote commander to initialize or turn set off and on to exit.

#### 2. Memory Write Confirmation Method

1. After adjustment, turn power off with the remote commander.
2. Turn power on and set to service mode.
3. Call the adjusted items again and confirm they were adjusted.

#### 3. Adjusting Buttons and Indicator



RM-Y185

Note : When the PJE mode is activated, which displays an internally generated signal, several buttons on the remote commander will have different functions than listed above. Therefore, when in the PJE mode, refer to page 41 for button functions.

## 4. Service Mode List

Note: •  shaded items are fixed. There is no need to change data. Others are different a little in the sets individually. Basically, there is no need to change data, too.

### 3D-COMB

3D Comb Filter ( $\mu$ PD64082)

| Item |      | Function |
|------|------|----------|
| No.  | Name |          |

|   |      |  | Common |
|---|------|--|--------|
| 0 | NRMD | Noise reduction mode [0: YCS, 1: YCS+, 2: MNNR, 3: YCNR] | 0      |
| 1 | YAPS | Y aperture/peaking [0: OFF, 1: A-ON, 2: D-ON, 3: A/D-ON] | 3      |

| Depends on NRMD data |      |  | NRMD (0) | NRMD (1) | NRMD (2) | NRMD (3) |
|----------------------|------|--|----------|----------|----------|----------|
| 2                    | CLKS | System CLK [0: Auto, 1: Forced-Burst, 2/3: Forced-H freq.] | 1        | 1        | 1        | 1        |

|   |      |  | Common |
|---|------|--|--------|
| 3 | NSDS | Signal [0: Auto, 1: F-ST, 2: F-nonST (H), 2/3: F-nonST(V)] | 3      |
| 4 | MSS  | Processing [0: Auto, 1: F-Inter Frame, 2/3: F-InterLine]   | 0      |
| 5 | KILS | Color Killer [0: Auto, 1: Port Cont., 2/3: F-Killer]       | 2      |

| Depends on NRMD data |      |  | NRMD (0) | NRMD (1) | NRMD (2) | NRMD (3) |
|----------------------|------|--|----------|----------|----------|----------|
| 6                    | CDL  | Chroma delay time [0: -280 ns, 4: 0 ns, 7: +210 ns]      | 3        | 3        | 3        | 3        |
| 7                    | DYCO | Y coring level [0: Coring 0, 15: Large amount of Coring] | 2        | 2        | 2        | 2        |
| 8                    | DYGA | Y coring gain [0: 0 gain, 15: Maximum gain]              | 11       | 11       | 11       | 11       |
| 9                    | DCCO | C coring level [0: Coring 0, 15: Large amount of Coring] | 4        | 4        | 4        | 4        |
| 10                   | DCGA | C coring gain [0: 0 gain, 15: Maximum gain]              | 8        | 8        | 8        | 8        |

|    |      |  | Common |
|----|------|--|--------|
| 11 | YNRL | YNR limit [0: YNR off (0LSB), 3: YNR 3LSB] | 1      |
| 12 | CNRL | CNR limit [0: CNR off (0LSB), 3: CNR 3LSB] | 1      |

| Depends on Signal Input |      |   | RF | CV/YC | Video5/Video6 |
|-------------------------|------|---|----|-------|---------------|
| 13                      | VTRH | H hysteresis of nonST signal det. [0: Hys-off, 3: Hys-high] | 1  | 1     | 1             |
| 14                      | VTRR | H sensitivity of nonST signal det. [0: High, 3: Off]        | 1  | 1     | 1             |
| 15                      | LDSR | Frame sensitivity of nonST signal det. [0: High, 3: Off]    | 2  | 2     | 2             |

| Depends on Picture Palette |      |  | Vivid | Standard | Movie | Game | Pro |
|----------------------------|------|--|-------|----------|-------|------|-----|
| 16                         | VAPG | Vertical aperture gain [0: Off, 7: Maximum]                | 0     | 0        | 0     | 0    | 0   |
| 17                         | VAPI | Vertical aperture conv. point [0: Off, 31: Max correction] | 0     | 0        | 0     | 0    | 0   |

| Depends on Picture Palette and Video Input |      |  | Vivid |       | Standard |       | Movie |       | Game |       | Pro |       | TWIN Any |
|--|------|--|-------|-------|----------|-------|-------|-------|------|-------|-----|-------|----------|
|  |      |  | RF    | CV/YC | RF       | CV/YC | RF    | CV/YC | RF   | CV/YC | RF  | CV/YC |          |
| 18   | YPFT | Y peaking freq. [0: 3.58 MHz, 1: 3.86 MHz, 2: 4.08 MHz, 3: 4.22 MHz] | 3     | 3     | 3        | 3     | 3     | 3     | 3    | 3     | 3   | 3     | 3        |
| 19   | YPFG | Y peaking gain [0: -1 times, 8: 0 times, 15: +0.875 times]           | 7     | 5     | 7        | 5     | 7     | 5     | 7    | 5     | 7   | 5     | 7        |

|    |      |  | Common |
|----|------|--|--------|
| 20 | YHCO | Y coring for y [0: Off, 1: Small, 2: Mid, 3: Large]        | 0      |
| 21 | YHCG | Y coring gain for High frequency [0: Normal, 1: 0.5 gain]  | 1      |
| 22 | HSSL | Horizontal sync slice level [0: 4LSB, 15: 19LSB]           | 12     |
| 23 | VSSL | Vertical sync slice level [0: HSSL+0 LSB, 15: HSSL+15 LSB] | 8      |
| 24 | ADCL | ADC clock delay [0: 0 ns, 1: 3 ns, 2: 17.5 ns, 3: 20.5 ns] | 3      |

| Depends on NRMD data |      |                    | NRMD (0) | NRMD (1) | NRMD (2) | NRMD (3) |
|----------------------|------|--------------------|----------|----------|----------|----------|
| 25                   | D2GA | Motion detect gain | 4        | 4        | 4        | 4        |

| Depends on Signal Input |      |  | RF | CV/YC | Video5/Video6 |
|-------------------------|------|--|----|-------|---------------|
| 26                      | SEDY | Select DY detect [0: Low sensitivity, 1: High sensitivity] | 1  | 1     | 1             |
| 27                      | SEDC | Select DC detect [0: Low sensitivity, 1: High sensitivity] | 0  | 0     | 0             |

3D Comb Filter ( $\mu$ PD64082)

| Item |      | Function |
|------|------|----------|
| No.  | Name |          |

|    |      |  | Common |
|----|------|--|--------|
| 28 | KILR | Killer detector [0: Off, 1: Low sensitivity, 15: High sensitivity] | 3      |
| 29 | OP   | NRMD for Y/C input [0: Recursive Type, 1: Comb Type]               | 1      |

| Depends on Signal Input |     |  | RF | V1 |    | V2 |    | V3 |    | V4 |    |
|-------------------------|-----|--|----|----|----|----|----|----|----|----|----|
|                         |     |  |    | CV | YC | CV | YC | CV | YC | CV | YC |
| 30                      | NR1 | Initial setting of NR On/Off [0: On, 1: Off] | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |    |

|    |      |  | Common |
|----|------|--|--------|
| 31 | NR2  | S/N adaptive processing [0: On, 1: Off]                      | 0      |
| 32 | HPLL | H PLL filter [0: Slow convergence, 1: Quick convergence]     | 1      |
| 33 | BPLL | Burst PLL filter [0: Quick convergence, 1: Slow convergence] | 1      |
| 34 | FSCF | Burst extraction gain [0: High gain, 1: Low gain]            | 0      |
| 35 | PLLF | PLL loop gain [0: Low gain, 1: High gain]                    | 1      |

| Depends on Signal Input |      |   | RF | CV/YC | Video5/Video6 |
|-------------------------|------|---|----|-------|---------------|
| 36                      | CC3N | C filter characteristic of comb filter [0: Narrow, 1: Wide] | 0  | 0     | 0             |

|    |      |   | Common |
|----|------|---|--------|
| 37 | HDP  | Horizontal phase [0: -1.12 $\mu$ s, 4: 0 $\mu$ s, 7: +0.84 $\mu$ s]     | 5      |
| 38 | BGPS | Burst gate start [0: HS center +2 $\mu$ s, 15: HS center +5.75 $\mu$ s] | 4      |
| 39 | BGPW | Burst gate width [0: 0.5 $\mu$ s, 15: 4.25 $\mu$ s]                     | 10     |
| 40 | TEST | Test bit [0: Normal, 1: Test mode]                                      | 0      |
| 41 | WSC  | Noise det. coring [0: 0LSB, 1: 1LSB, 2: 2LSB, 3: 3LSB]                  | 1      |

| Depends on Signal Input |      |   | RF | CV/YC | Video5/Video6 |
|-------------------------|------|---|----|-------|---------------|
| 42                      | LIND | 262P detect [xx1: nonST H, x1x: nonST V, 1xx: LD still] | 0  | 0     | 2             |

2103-1

Main Chroma Decoder (CXA2103)

| Item |      | Function   |     |     |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
|------|------|--|-----|-----|----|-------|----|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|
| No.  | Name |  | DRC | VDO | RF | CV/YC | YC | Video5 | Video6 | Single | BLK (0) | BLK (1) | BLK (2) | BLK (3) | BLK (4) | BLK (5) | BLK (6) | BLK (7) |
|      |      | Depends on Signal Path   |     |     |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 0    | YLEV | Y out level gain [0: 2.9 dB, 63: 9.0 dB]                               | 35  | 35  |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 1    | CLEV | CbCr out level gain [0: 2.9 dB, 63: 9.0 dB]                            | 50  | 42  |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
|      |      | Depends on Signal Input  |     |     |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 2    | SCON | Sub contrast [0: -2 dB, 15: +2 dB]                                     | 9   | 9   |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 3    | SCOL | Sub color [0: -2 dB, 15: +2 dB]  | 2   | 2   |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 4    | SHUE | Sub hue [0: -8.8 deg, 15: +8.8 deg]                                    | 11  | 5   |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 5    | YDLY | Y/C delay [0: Ref, 1: 30 ns Y delay, 2: 60 ns, 3: 100 ns]              | 0   | 0   |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
|      |      | Depends on Signal Input  |     |     |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 6    | SHAP | Sharpness [0: -3 dB, 15: +3 db]  | 6   | 8   | 8  | 4     |    |        |        |        |         |         |         |         |         |         |         |         |
| 7    | SHFO | Sharpness F0 [0: 2.5 MHz, 1: 3.0 MHz, 2: 3.5 MHz, 3: 4.0 MHz]          | 0   | 0   | 0  | 3     |    |        |        |        |         |         |         |         |         |         |         |         |
| 8    | PREO | Pre-over ratio [0: 1.5:1, 1: 1:1, 2: 1:1.5, 3: 1:2]                    | 3   | 3   | 3  | 3     |    |        |        |        |         |         |         |         |         |         |         |         |
|      |      | Depends on Signal Input  |     |     |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 9    | BPFO | Chroma BPF F0 [0: fsc, 1: fsc+400 kHz, 2: fsc+800 kHz, 3: fsc+1.2 MHz] | 3   | 0   | 0  |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 10   | BFFQ | Chroma BPF Q [0: 2.0, 1: 1.5, 2: 1.2, 3: 1.0]                          | 0   | 3   | 3  |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 11   | BPSW | Chroma BPF On/Off [0: Off, 1: On]                                      | 1   | 0   | 0  |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 12   | TRAP | Chroma trap on Y On/Off [0: Off, 1: On]                                | 0   | 0   | 0  |       |    |        |        |        |         |         |         |         |         |         |         |         |
|      |      | Depends on Signal Path   |     |     |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 13   | LPF  | Output LPF (YCbCr) [0: On, 1: Off (through)]                           | 1   | 0   |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
|      |      | Depends on Signal Input  |     |     |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 14   | AFCG | PLL loop gain [0: fast, 1: slow]                                       | 1   | 0   | 0  |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 15   | CDMD | Count down mode [0/1/3: CountDown, 2: H look *Tc: 0>1>3]               | 3   | 3   | 3  |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 16   | SSMD | Slice level [0: auto, 1: HV 65%, 2: H 25% V 65%, 3: HV 25%]            | 0   | 0   | 0  |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 17   | HMSK | Mask for Macro Vision [0: Off, 1: On]                                  | 0   | 1   | 1  |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 18   | HALI | Auto H alignment [0: Off, 1: On (AFC free run)]                        | 0   | 0   | 0  |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 19   | PPHA | Picture/H Tim phase [0: -0.5 μs, 15: +0.5 μs]                          | 7   | 7   | 7  |       |    |        |        |        |         |         |         |         |         |         |         |         |
|      |      | Depends on Signal Input  |     |     |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 20   | CBOF | Cb/Ext Cb offset [0: -16 mV, 63: +16 mV]                               | 26  | 29  | 25 |       |    |        |        |        |         |         |         |         |         |         |         |         |
| 21   | CROF | Cr/Ext Cr offset [0: -16 mV, 63: +16 mV]                               | 23  | 30  | 25 |       |    |        |        |        |         |         |         |         |         |         |         |         |
|      |      | Depends on CXA2150P-4 BLK  |     |     |    |       |    |        |        |        |         |         |         |         |         |         |         |         |
| **22 | ATPD | Auto pedestal point [0: Through, 1: 20 IRE, 2: 30 IRE, 3: 40 IRE]      | 0   | 0   | 1  | 2     | 2  | 2      | 2      | 3      | 1       |         |         |         |         |         |         |         |
| **23 | DCTR | DC transfer ratio [0: 100%, 1: 85%, 2: 90%, 3: 85%]                    | 0   | 0   | 2  | 1     | 1  | 3      | 3      | 2      | 2       |         |         |         |         |         |         |         |

\*\* Main and Sub CXA2103 share the same data for items 22 and 23.

## 2103-2

### Sub Chroma Decoder (CXA2103)

| Item |      | Function   |               |               |                      |               |
|------|------|--|---------------|---------------|----------------------|---------------|
| No.  | Name |  |               |               |                      |               |
|      |      | Depends on Signal Path   | <b>DRC</b>    | <b>VDO</b>    |                      |               |
| 0    | YLEV | Y out level gain [0: 2.9 dB, 63: 9.0 dB]                               | 35            | 35            |                      |               |
| 1    | CLEV | CbCr out level gain [0: 2.9 dB, 63: 9.0 dB]                            | 50            | 42            |                      |               |
|      |      | Depends on Signal Input  | <b>RF</b>     | <b>CV/YC</b>  |                      |               |
| 2    | SCON | Sub contrast [0: -2 dB, 15: +2 dB]                                     | 8             | 8             |                      |               |
| 3    | SCOL | Sub color [0: -2 dB, 15: +2 dB]  | 3             | 3             |                      |               |
| 4    | SHUE | Sub hue [0: -8.8 deg, 15: +8.8 deg]                                    | 10            | 3             |                      |               |
| 5    | YDLY | Y/C delay [0: Ref, 1: 30 ns Y delay, 2: 60 ns, 3: 100 ns]              | 0             | 0             |                      |               |
|      |      | Depends on Signal Input  | <b>RF</b>     | <b>CV</b>     | <b>YC</b>            | <b>Video5</b> |
| 6    | SHAP | Sharpness [0: -3 dB, 15: +3 db]  | 0             | 8             | 8                    | 4             |
| 7    | SHFO | Sharpness F0 [0: 2.5 MHz, 1: 3.0 MHz, 2: 3.5 MHz, 3: 4.0 MHz]          | 0             | 0             | 0                    | 3             |
| 8    | PREO | Pre-over ratio [0: 1.5:1, 1: 1:1, 2: 1:1.5, 3: 1:2]                    | 3             | 3             | 3                    | 3             |
|      |      | Depends on Signal Input  | <b>RF</b>     | <b>CV</b>     | <b>YC</b>            |               |
| 9    | BPFO | Chroma BPF F0 [0: fsc, 1: fsc+400 kHz, 2: fsc+800 kHz, 3: fsc+1.2 MHz] | 0             | 0             | 0                    |               |
| 10   | BPFQ | Chroma BPF Q [0: 2.0, 1: 1.5, 2: 1.2, 3: 1.0]                          | 3             | 3             | 3                    |               |
| 11   | BPSW | Chroma BPF On/Off [0: Off, 1: On]                                      | 0             | 1             | 1                    |               |
| 12   | TRAP | Chroma trap on Y On/Off [0: Off, 1: On]                                | 0             | 0             | 0                    |               |
|      |      | Depends on Signal Path   | <b>DRC</b>    | <b>VDO</b>    |                      |               |
| 13   | LPF  | Output LPF (YCbCr) [0: On, 1: Off (through)]                           | 1             | 0             |                      |               |
|      |      | Depends on Signal Input  | <b>RF</b>     | <b>CV/YC</b>  | <b>Video5/Video6</b> |               |
| 14   | AFCG | PLL loop gain [0: fast, 1: slow]                                       | 1             | 0             | 0                    |               |
| 15   | CDMD | Count down mode [0/1/3: Countdown, 2: H look *Tc: 0>1>3]               | 3             | 3             | 3                    |               |
| 16   | SSMD | Slice level [0: auto, 1: HV 65%, 2: H 25% V 65%, 3: HV 25%]            | 0             | 0             | 0                    |               |
| 17   | HMSK | Mask for Macro Vision [0: Off, 1: On]                                  | 0             | 1             | 1                    |               |
| 18   | HALI | Auto H alignment [0: Off, 1: On (AFC free run)]                        | 0             | 0             | 0                    |               |
| 19   | PPHA | Picture/H Tim phase [0: -0.5 $\mu$ s, 15: +0.5 $\mu$ s]                | 7             | 7             | 7                    |               |
|      |      | Depends on Signal Input  | <b>RF</b>     | <b>Video5</b> | <b>Video6</b>        |               |
| 20   | CBOF | Cb/Ext Cb offset [0: -16 mV, 63: +16 mV]                               | 27            | 31            | 31                   |               |
| 21   | CROF | Cr/Ext Cr offset [0: -16 mV, 63: +16 mV]                               | 22            | 31            | 31                   |               |
|      |      |  | <b>Common</b> |               |                      |               |
| 22   | 2SCO | SCON offset of CV for 2H Comb [0: -7step, 7: $\pm$ 0step, 15: +8step]  | 7             |               |                      |               |
| 23   | 2SCL | SCOL offset of CV for 2H Comb [0: -7step, 7: $\pm$ 0step, 15: +8step]  | 7             |               |                      |               |
| 24   | 2SHU | SHUE offset of CV for 2H Comb [0: -7step, 7: $\pm$ 0step, 15: +8step]  | 7             |               |                      |               |

## 2150P-1

### Video Processor (CXA2150)

| Item                              |      | Function   | Analog   |          | DTV | TWIN |
|-----------------------------------|------|--|----------|----------|-----|------|
| No.                               | Name |  | 1080i *1 | other *2 |     |      |
| Depends on Signal Path and Source |      |  |          |          |     |      |
| 0                                 | YOF  | Y offset [0: -39 mV, 7: 0 mV, 15: +45 mV]                                  | 7        | 7        | 7   | 7    |
| 1                                 | CBOF | Cb offset [0: B -36 mV G +16 mV, 31: B 0 mV G 0 mV, 63: B +43 mV G -20 mV] | 31       | 37       | 28  | 40   |
| 2                                 | CROF | Cr offset [0: R -46 mV G +10 mV, 31: R 0 mV G 0 mV, 63: R +55 mV G -12 mV] | 31       | 37       | 28  | 40   |
|                                   |      |  | Common   |          |     |      |
| 3                                 | SBRT | Sub brightness [0: -15 IRE, 31: 0 IRE, 63: 15 IRE]                         | 31       |          |     |      |
| 4                                 | RDRV | R drive gain [0: -4 dB, 41: 0 dB, 63: +2 dB]                               | 39       |          |     |      |
| 5                                 | GDRV | G drive gain [0: -4 dB, 41: 0 dB, 63: +2 dB]                               | 39       |          |     |      |
| 6                                 | BDRV | B drive gain [0: -4 dB, 41: 0 dB, 63: +2 dB]                               | 39       |          |     |      |
| 7                                 | RCUT | R cut-off [0: -9 dB, 31: 0 dB, 63: +4 dB]                                  | 31       |          |     |      |
| 8                                 | GCUT | G cut-off [0: -9 dB, 31: 0 dB, 63: +4 dB]                                  | 31       |          |     |      |
| 9                                 | BCUT | B cut-off [0: -9 dB, 31: 0 dB, 63: +4 dB]                                  | 31       |          |     |      |
| Depends on Color Temperature      |      |  | Warm     | Cool     |     |      |
| 10                                | WBSW | White balance offset [0: Normal, 1: R 100% G 90% B 70%]                    | 0        | 0        |     |      |
| 11                                | SBOF | Sub brightness offset color temperature [0: -7, 7: 0, 15: +8]              | 7        | 7        |     |      |
| 12                                | RDOF | RDRV offset [0: -15, 15: 0, 31: +16]                                       | 15       | 15       |     |      |
| 13                                | GDOF | GDRV offset [0: -15, 15: 0, 31: +16]                                       | 15       | 15       |     |      |
| 14                                | BDOF | BDRV offset [0: -15, 15: 0, 31: +16]                                       | 15       | 15       |     |      |
| 15                                | RCOF | RCUT offset [0: -15, 15: 0, 31: +16]                                       | 15       | 15       |     |      |
| 16                                | GCOF | GCUT offset [0: -15, 15: 0, 31: +16]                                       | 15       | 15       |     |      |
| 17                                | BCOF | BCUT offset [0: -15, 15: 0, 31: +16]                                       | 15       | 15       |     |      |
| 18                                | DCOL | Dynamic color, Cool [0: Off, 1: High (2025), 2: Mid (2100), 3: Low]        | 3        | --       |     |      |

\*1 Used when a 1080i signal by-passes the MID

\*2 Used for Analog signals passing through the MID

## 2150P-2

### Video Processor (CXA2150)

| Item                     |      | Function  | Analog   |          |
|--------------------------|------|---|----------|----------|
| No.                      | Name |   | 1080i *1 | other *2 |
|                          |      |   | Common   |          |
| 0                        | ALBK | Picture + Ref. Pulse on/off for G2 adjustment [0: RGB off, 1: RGB on] | 1        |          |
| 1                        | RGBS | [0: All off, 1: B, 2: G, 3: BG, 4: R, 5: BR, 6: GR, 7: BGR]           | 7        |          |
| 2                        | BLKB | Bottom limiter level [Ref. Pulse DC voltage 0: -1.25, 3: -0.65]       | 3        |          |
| 3                        | LIML | RGB limiter level [0: 115 IRE, 1: 123 IRE, 2: 131 IRE, 3: 140 IRE]    | 0        |          |
| 4                        | PABL | Peak ABL [0: 4.9 Vdc, 15: 6.8 Vdc]                                    | 15       |          |
| 5                        | SABL | Signal ABL level [0: Off, 3: maximum gain]                            | 0        |          |
| 6                        | AGNG | Black/White aging [0: Normal, 1: Black, 2: White, 3: Inhibit]         | 0        |          |
| 7                        | AKBO | AKB on/off [0: On, 1: Off]  | 0        |          |
| Depends on Signal Format |      |   |          |          |
| 8                        | SYPH | H sync delay [0: 0%, 1: -3.125%]                                      | 0        | 0        |
| 9                        | CLPH | Clamp pulse phase [0: +5%, 1: +4%, 2: +1%, 3: +2%]                    | 2        | 2        |
| 10                       | CLGA | Clamp gate on/off [0: Not gated, 1: Gated with input H sync]          | 0        | 0        |
| 11                       | CLSH | Clamp pulse start shift [0: No shift, 1: -3.125% shift from CLPH]     | 0        | 0        |

\*1 Used when a 1080i signal by-passes the MID

\*2 Used for Analog signals passing through the MID

2150P-3

Video Processor (CXA2150)

| Item |      | Function |
|------|------|----------|
| No.  | Name |          |

| Depends on Signal Format and Picture Pallet |      |   | Vivid Mode |       |           |       |      |      |      |       |      |      |    |
|---|------|---|------------|-------|-----------|-------|------|------|------|-------|------|------|----|
|   |      |   | RF         | CV/YC | Component |       |      | DTV  |      |       |      | TWIN |    |
|   |      |   |            |       | 480i      | 1080i | 720p | 480i | 480p | 1080i | 720p |      |    |
| 0   | SYSM | Bandwidth [0: NTSC, 1: FF, 2: HD, 3: DTV]                                 | 1          | 1     | 1         | 1     | 3    | 3    | 1    | 1     | 3    | 3    | 2  |
| 1   | VMLV | VM level [0: VM0, 1: VM1, 2: VM2, 3: VM3, 4: VM4, 5: VM5, 6: VM6, 7: VM7] | 7          | 7     | 7         | 7     | 7    | 7    | 7    | 7     | 7    | 7    | 7  |
| 2   | VMMO | VM mode (VM_LEV) [0: Off, 1: Low, 2: Mid, 3: High]                        | 3          | 3     | 3         | 3     | 3    | 3    | 3    | 3     | 3    | 3    | 3  |
| 3   | VMCR | VM coring level [0: Off, 1: ±5%, 2: ±10%, 3: ±15%]                        | 1          | 0     | 0         | 0     | 0    | 0    | 0    | 0     | 0    | 0    | 1  |
| 4   | VMLM | VM limiter level [0: Off, 1: ±83%, 2: ±67%, 3: ±50%]                      | 0          | 0     | 0         | 0     | 0    | 0    | 0    | 0     | 0    | 0    | 0  |
| 5   | VMF0 | VM f0 [0: Low, 1: Mid, 2: High, 3: Inhibit]                               | 1          | 1     | 1         | 1     | 2    | 2    | 1    | 1     | 2    | 2    | 0  |
| 6   | VMDL | VM delay [0: Short, 3: Long]  | 1          | 1     | 1         | 1     | 0    | 0    | 1    | 1     | 0    | 0    | 2  |
| 7   | SHOF | Sharpness offset [0: 0step, 1: +4step, 2: +8step, 3: +12step]             | 3          | 1     | 1         | 0     | 2    | 2    | 0    | 0     | 2    | 2    | 0  |
| 8   | SHF0 | Sharpness f0 [0: Low, 1: Mid, 2: High, 3: Inhibit]                        | 1          | 1     | 1         | 1     | 1    | 1    | 1    | 1     | 1    | 1    | 1  |
| 9   | PROV | Pre-over ratio [0: 1:1.5, 1: 1:1, 2: 1.5:1, 3: 2:1]                       | 3          | 3     | 3         | 3     | 3    | 3    | 3    | 3     | 3    | 3    | 2  |
| 10  | F1LV | Sharpness f1 [0: 0 dB, 1: +1 dB, 2: +2 dB, 3: +3 dB]                      | 0          | 0     | 0         | 0     | 3    | 3    | 0    | 0     | 3    | 3    | 0  |
| 11  | CDSP | Sharpness at color high [0: 0 dB, 1: +2 dB, 2: +4 dB, 3: +6 dB]           | 0          | 0     | 0         | 0     | 0    | 0    | 0    | 0     | 0    | 0    | 0  |
| 12  | LTLV | LTI level [0: Off, 1: Low, 2: Mid, 3: High]                               | 3          | 3     | 3         | 3     | 3    | 3    | 3    | 3     | 3    | 3    | 3  |
| 13  | LTMD | LTI mode [0: for Black & White, 1: for Black, 2: for White, 3: Inhibit]   | 1          | 1     | 1         | 1     | 1    | 1    | 1    | 1     | 1    | 1    | 0  |
| 14  | CTLV | CTI level [0: Off, 1: Low, 2: Mid, 3: High]                               | 0          | 0     | 0         | 0     | 0    | 0    | 0    | 0     | 0    | 0    | 0  |
| 15  | CTMD | CTI mode [0: for Black & White, 1: for Black, 2: for White, 3: Inhibit]   | 0          | 0     | 0         | 0     | 0    | 0    | 0    | 0     | 0    | 0    | 0  |
| 16  | UBOF | User bright offset [0: BRIGHT +0, ..., 3: BRIGHT +6, ..., 7: BRIGHT +14]  | 2          | 2     | 3         | 3     | 0    | 2    | 2    | 2     | 2    | 2    | 0  |
| 17  | UCOF | User color offset [0: COLOR +0, ..., 3: COLOR +6, ..., 7: COLOR +14]      | 0          | 0     | 0         | 0     | 0    | 0    | 0    | 0     | 0    | 0    | 0  |
| 18  | UHOF | User hue offset [0: HUE +0, 1: HUE +1, 2: HUE +2, 3: HUE +3]              | 2          | 2     | 2         | 2     | 2    | 2    | 2    | 2     | 2    | 2    | 2  |
| 19  | MIDE | MID Enhancement setting table [0: Soft, ..., 63: Sharp]                   | 7          | 12    | 17        | 22    | 27   | 32   | 37   | 42    | 47   | 52   | 57 |

| Depends on Signal Format and Picture Pallet |      |   | Standard Mode |       |           |      |       |      |      |      |       |      |      |
|---|------|---|---------------|-------|-----------|------|-------|------|------|------|-------|------|------|
|   |      |   | RF            | CV/YC | Component |      |       | DTV  |      |      |       | TWIN |      |
|   |      |   |               |       | 480i      | 480p | 1080i | 720p | 480i | 480p | 1080i |      | 720p |
| 0   | SYSM | Bandwidth [0: NTSC, 1: FF, 2: HD, 3: DTV]                                 | 1             | 1     | 1         | 1    | 3     | 3    | 1    | 1    | 3     | 3    | 2    |
| 1   | VMLV | VM level [0: VM0, 1: VM1, 2: VM2, 3: VM3, 4: VM4, 5: VM5, 6: VM6, 7: VM7] | 7             | 7     | 7         | 7    | 7     | 7    | 7    | 7    | 7     | 7    | 7    |
| 2   | VMMO | VM mode (VM_LEV) [0: Off, 1: Low, 2: Mid, 3: High]                        | 3             | 3     | 3         | 3    | 3     | 3    | 3    | 3    | 3     | 3    | 3    |
| 3   | VMCR | VM coring level [0: Off, 1: ±5%, 2: ±10%, 3: ±15%]                        | 1             | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 1    |
| 4   | VMLM | VM limiter level [0: Off, 1: ±83%, 2: ±67%, 3: ±50%]                      | 0             | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 5   | VMF0 | VM f0 [0: Low, 1: Mid, 2: High, 3: Inhibit]                               | 1             | 1     | 1         | 1    | 2     | 2    | 1    | 1    | 2     | 2    | 0    |
| 6   | VMDL | VM delay [0: Short, 3: Long]  | 1             | 1     | 1         | 1    | 0     | 0    | 1    | 1    | 0     | 0    | 2    |
| 7   | SHOF | Sharpness offset [0: 0step, 1: +4step, 2: +8step, 3: +12step]             | 2             | 2     | 2         | 0    | 2     | 3    | 0    | 0    | 2     | 3    | 0    |
| 8   | SHF0 | Sharpness f0 [0: Low, 1: Mid, 2: High, 3: Inhibit]                        | 1             | 1     | 1         | 1    | 1     | 1    | 1    | 1    | 1     | 1    | 1    |
| 9   | PROV | Pre-over ratio [0: 1:1.5, 1: 1:1, 2: 1.5:1, 3: 2:1]                       | 3             | 3     | 3         | 3    | 3     | 3    | 3    | 3    | 3     | 3    | 2    |
| 10  | F1LV | Sharpness f1 [0: 0 dB, 1: +1 dB, 2: +2 dB, 3: +3 dB]                      | 0             | 0     | 0         | 0    | 3     | 3    | 0    | 0    | 3     | 3    | 0    |
| 11  | CDSP | Sharpness at color high [0: 0 dB, 1: +2 dB, 2: +4 dB, 3: +6 dB]           | 0             | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 12  | LTLV | LTI level [0: Off, 1: Low, 2: Mid, 3: High]                               | 2             | 2     | 3         | 3    | 3     | 3    | 3    | 3    | 3     | 3    | 3    |
| 13  | LTMD | LTI mode [0: for Black & White, 1: for Black, 2: for White, 3: Inhibit]   | 1             | 1     | 1         | 1    | 1     | 1    | 1    | 1    | 1     | 1    | 0    |
| 14  | CTLV | CTI level [0: Off, 1: Low, 2: Mid, 3: High]                               | 0             | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 15  | CTMD | CTI mode [0: for Black & White, 1: for Black, 2: for White, 3: Inhibit]   | 0             | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 16  | UBOF | User bright offset [0: BRIGHT +0, ..., 3: BRIGHT +6, ..., 7: BRIGHT +14]  | 3             | 3     | 5         | 5    | 7     | 6    | 7    | 7    | 7     | 6    | 2    |
| 17  | UCOF | User color offset [0: COLOR +0, ..., 3: COLOR +6, ..., 7: COLOR +14]      | 0             | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 18  | UHOF | User hue offset [0: HUE +0, 1: HUE +1, 2: HUE +2, 3: HUE +3]              | 2             | 2     | 2         | 2    | 2     | 2    | 2    | 2    | 2     | 2    | 2    |
| 19  | MIDE | MID Enhancement setting table [0: Soft, ..., 63: Sharp]                   | 5             | 11    | 16        | 21   | 26    | 31   | 36   | 41   | 46    | 51   | 56   |



Video Processor (CXA2150)

| Item |      | Function  | Movie Mode |       |           |      |       |      |      |      |       |      |      |
|------|------|---|------------|-------|-----------|------|-------|------|------|------|-------|------|------|
| No.  | Name |   | RF         | CV/YC | Component |      |       |      | DTV  |      |       |      | TWIN |
|      |      | Depends on Signal Format and Picture Pallet                               |            |       | 480i      | 480p | 1080i | 720p | 480i | 480p | 1080i | 720p |      |
| 0    | SYSM | Bandwidth [0: NTSC, 1: FF, 2: HD, 3: DTV]                                 | 1          | 1     | 1         | 1    | 3     | 3    | 1    | 1    | 3     | 3    | 2    |
| 1    | VMLV | VM level [0: VM0, 1: VM1, 2: VM2, 3: VM3, 4: VM4, 5: VM5, 6: VM6, 7: VM7] | 2          | 2     | 2         | 2    | 2     | 2    | 2    | 2    | 2     | 2    | 2    |
| 2    | VMMO | VM mode (VM_LEV) [0: Off, 1: Low, 2: Mid, 3: High]                        | 3          | 3     | 3         | 3    | 3     | 3    | 3    | 3    | 3     | 3    | 3    |
| 3    | VMCR | VM coring level [0: Off, 1: ±5%, 2: ±10%, 3: ±15%]                        | 1          | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 1    |
| 4    | VMLM | VM limiter level [0: Off, 1: ±83%, 2: ±67%, 3: ±50%]                      | 0          | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 5    | VMF0 | VM f0 [0: Low, 1: Mid, 2: High, 3: Inhibit]                               | 1          | 1     | 1         | 1    | 2     | 2    | 1    | 1    | 2     | 2    | 0    |
| 6    | VMDL | VM delay [0: Short, 3: Long]  | 1          | 1     | 1         | 1    | 0     | 0    | 1    | 1    | 0     | 0    | 2    |
| 7    | SHOF | Sharpness offset [0: 0step, 1: +4step, 2: +8step, 3: +12step]             | 0          | 0     | 1         | 0    | 2     | 0    | 0    | 0    | 2     | 0    | 0    |
| 8    | SHF0 | Sharpness f0 [0: Low, 1: Mid, 2: High, 3: Inhibit]                        | 1          | 1     | 1         | 1    | 1     | 1    | 1    | 1    | 1     | 1    | 1    |
| 9    | PROV | Pre-over ratio [0: 1:1.5, 1: 1:1, 2: 1.5:1, 3: 2:1]                       | 3          | 3     | 3         | 3    | 3     | 3    | 3    | 3    | 3     | 3    | 2    |
| 10   | F1LV | Sharpness f1 [0: 0 dB, 1: +1 dB, 2: +2 dB, 3: +3 dB]                      | 0          | 0     | 0         | 0    | 3     | 3    | 0    | 0    | 3     | 3    | 0    |
| 11   | CDSP | Sharpness at color high [0: 0 dB, 1: +2 dB, 2: +4 dB, 3: +6 dB]           | 0          | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 12   | LTLV | LTI level [0: Off, 1: Low, 2: Mid, 3: High]                               | 1          | 1     | 1         | 1    | 1     | 1    | 1    | 1    | 1     | 1    | 1    |
| 13   | LTMD | LTI mode [0: for Black & White, 1: for Black, 2: for White, 3: Inhibit]   | 0          | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 14   | CTLV | CTI level [0: Off, 1: Low, 2: Mid, 3: High]                               | 0          | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 15   | CTMD | CTI mode [0: for Black & White, 1: for Black, 2: for White, 3: Inhibit]   | 0          | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 16   | UBOF | User bright offset [0: BRIGHT +0, ..., 3: BRIGHT +6, ..., 7: BRIGHT +14]  | 6          | 6     | 3         | 3    | 3     | 3    | 3    | 3    | 3     | 3    | 4    |
| 17   | UCOF | User color offset [0: COLOR +0, ..., 3: COLOR +6, ..., 7: COLOR +14]      | 0          | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 18   | UHOF | User hue offset [0: HUE +0, 1: HUE +1, 2: HUE +2, 3: HUE +3]              | 2          | 2     | 2         | 2    | 2     | 2    | 2    | 2    | 2     | 2    | 2    |
| 19   | MIDE | MID Enhancement setting table [0: Soft, ..., 63: Sharp]                   | 3          | 10    | 15        | 20   | 25    | 30   | 35   | 40   | 45    | 50   | 55   |

| Item |      | Function  | Game Mode |       |           |      |       |      |      |      |       |      |      |
|------|------|---|-----------|-------|-----------|------|-------|------|------|------|-------|------|------|
| No.  | Name |   | RF        | CV/YC | Component |      |       |      | DTV  |      |       |      | TWIN |
|      |      | Depends on Signal Format and Picture Pallet                               |           |       | 480i      | 480p | 1080i | 720p | 480i | 480p | 1080i | 720p |      |
| 0    | SYSM | Bandwidth [0: NTSC, 1: FF, 2: HD, 3: DTV]                                 | 1         | 1     | 1         | 1    | 3     | 3    | 1    | 1    | 3     | 3    | 2    |
| 1    | VMLV | VM level [0: VM0, 1: VM1, 2: VM2, 3: VM3, 4: VM4, 5: VM5, 6: VM6, 7: VM7] | 7         | 7     | 7         | 7    | 7     | 7    | 7    | 7    | 7     | 7    | 7    |
| 2    | VMMO | VM mode (VM_LEV) [0: Off, 1: Low, 2: Mid, 3: High]                        | 3         | 3     | 3         | 3    | 3     | 3    | 3    | 3    | 3     | 3    | 3    |
| 3    | VMCR | VM coring level [0: Off, 1: ±5%, 2: ±10%, 3: ±15%]                        | 1         | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 1    |
| 4    | VMLM | VM limiter level [0: Off, 1: ±83%, 2: ±67%, 3: ±50%]                      | 0         | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 5    | VMF0 | VM f0 [0: Low, 1: Mid, 2: High, 3: Inhibit]                               | 1         | 1     | 1         | 1    | 2     | 2    | 1    | 1    | 2     | 2    | 0    |
| 6    | VMDL | VM delay [0: Short, 3: Long]  | 1         | 1     | 1         | 1    | 0     | 0    | 1    | 1    | 0     | 0    | 2    |
| 7    | SHOF | Sharpness offset [0: 0step, 1: +4step, 2: +8step, 3: +12step]             | 2         | 2     | 2         | 0    | 2     | 3    | 0    | 0    | 2     | 3    | 0    |
| 8    | SHF0 | Sharpness f0 [0: Low, 1: Mid, 2: High, 3: Inhibit]                        | 1         | 1     | 1         | 1    | 1     | 1    | 1    | 1    | 1     | 1    | 1    |
| 9    | PROV | Pre-over ratio [0: 1:1.5, 1: 1:1, 2: 1.5:1, 3: 2:1]                       | 3         | 3     | 3         | 3    | 3     | 3    | 3    | 3    | 3     | 3    | 2    |
| 10   | F1LV | Sharpness f1 [0: 0 dB, 1: +1 dB, 2: +2 dB, 3: +3 dB]                      | 0         | 0     | 0         | 0    | 3     | 3    | 0    | 0    | 3     | 3    | 0    |
| 11   | CDSP | Sharpness at color high [0: 0 dB, 1: +2 dB, 2: +4 dB, 3: +6 dB]           | 0         | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 12   | LTLV | LTI level [0: Off, 1: Low, 2: Mid, 3: High]                               | 0         | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 13   | LTMD | LTI mode [0: for Black & White, 1: for Black, 2: for White, 3: Inhibit]   | 1         | 1     | 1         | 1    | 1     | 1    | 1    | 1    | 1     | 1    | 0    |
| 14   | CTLV | CTI level [0: Off, 1: Low, 2: Mid, 3: High]                               | 0         | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 15   | CTMD | CTI mode [0: for Black & White, 1: for Black, 2: for White, 3: Inhibit]   | 0         | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 16   | UBOF | User bright offset [0: BRIGHT +0, ..., 3: BRIGHT +6, ..., 7: BRIGHT +14]  | 3         | 3     | 5         | 5    | 7     | 6    | 7    | 7    | 7     | 6    | 2    |
| 17   | UCOF | User color offset [0: COLOR +0, ..., 3: COLOR +6, ..., 7: COLOR +14]      | 0         | 0     | 0         | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    |
| 18   | UHOF | User hue offset [0: HUE +0, 1: HUE +1, 2: HUE +2, 3: HUE +3]              | 2         | 2     | 2         | 2    | 2     | 2    | 2    | 2    | 2     | 2    | 2    |
| 19   | MIDE | MID Enhancement setting table [0: Soft, ..., 63: Sharp]                   | 1         | 9     | 14        | 19   | 24    | 29   | 34   | 39   | 44    | 49   | 54   |

Video Processor (CXA2150)

| Item  |      | Function  | Pro Mode     |                 |              |             |            |      |      |       |      |    |      |
|---|------|---|--------------|-----------------|--------------|-------------|------------|------|------|-------|------|----|------|
| No.   | Name |   | RF           | CV/YC           | Component    |             |            |      | DTV  |       |      |    | TWIN |
| Depends on Signal Format and Picture Pallet |      | 480i  |              |                 | 480p         | 1080i       | 720p       | 480i | 480p | 1080i | 720p |    |      |
| 0   | SYSM | Bandwidth [0: NTSC, 1: FF, 2: HD, 3: DTV]                                 | 1            | 1               | 1            | 1           | 3          | 3    | 1    | 1     | 3    | 3  | 2    |
| 1   | VMLV | VM level [0: VM0, 1: VM1, 2: VM2, 3: VM3, 4: VM4, 5: VM5, 6: VM6, 7: VM7] | 0            | 0               | 0            | 0           | 0          | 0    | 0    | 0     | 0    | 0  | 0    |
| 2   | VMMO | VM mode (VM_LEV) [0: Off, 1: Low, 2: Mid, 3: High]                        | 3            | 3               | 3            | 3           | 3          | 3    | 3    | 3     | 3    | 3  | 3    |
| 3   | VMCR | VM coring level [0: Off, 1: ±5%, 2: ±10%, 3: ±15%]                        | 1            | 0               | 0            | 0           | 0          | 0    | 0    | 0     | 0    | 0  | 1    |
| 4   | VMLM | VM limiter level [0: Off, 1: ±83%, 2: ±67%, 3: ±50%]                      | 0            | 0               | 0            | 0           | 0          | 0    | 0    | 0     | 0    | 0  | 0    |
| 5   | VMF0 | VM f0 [0: Low, 1: Mid, 2: High, 3: Inhibit]                               | 1            | 1               | 1            | 1           | 2          | 2    | 1    | 1     | 2    | 2  | 0    |
| 6   | VMDL | VM delay [0: Short, 3: Long]  | 1            | 1               | 1            | 1           | 0          | 0    | 1    | 1     | 0    | 0  | 2    |
| 7   | SHOF | Sharpness offset [0: 0step, 1: +4step, 2: +8step, 3: +12step]             | 0            | 0               | 0            | 0           | 2          | 0    | 0    | 0     | 2    | 0  | 0    |
| 8   | SHF0 | Sharpness f0 [0: Low, 1: Mid, 2: High, 3: Inhibit]                        | 1            | 1               | 1            | 1           | 1          | 1    | 1    | 1     | 1    | 1  | 1    |
| 9   | PROV | Pre-over ratio [0: 1:1.5, 1: 1:1, 2: 1.5:1, 3: 2:1]                       | 3            | 3               | 3            | 3           | 3          | 3    | 3    | 3     | 3    | 3  | 2    |
| 10  | F1LV | Sharpness f1 [0: 0 dB, 1: +1 dB, 2: +2 dB, 3: +3 dB]                      | 0            | 0               | 0            | 0           | 3          | 3    | 0    | 0     | 3    | 3  | 0    |
| 11  | CDSP | Sharpness at color high [0: 0 dB, 1: +2 dB, 2: +4 dB, 3: +6 dB]           | 0            | 0               | 0            | 0           | 0          | 0    | 0    | 0     | 0    | 0  | 0    |
| 12  | LTLV | LTI level [0: Off, 1: Low, 2: Mid, 3: High]                               | 0            | 0               | 0            | 0           | 0          | 0    | 0    | 0     | 0    | 0  | 0    |
| 13  | LTMD | LTI mode [0: for Black & White, 1: for Black, 2: for White, 3: Inhibit]   | 1            | 1               | 1            | 1           | 1          | 1    | 1    | 1     | 1    | 1  | 0    |
| 14  | CTLV | CTI level [0: Off, 1: Low, 2: Mid, 3: High]                               | 0            | 0               | 0            | 0           | 0          | 0    | 0    | 0     | 0    | 0  | 0    |
| 15  | CTMD | CTI mode [0: for Black & White, 1: for Black, 2: for White, 3: Inhibit]   | 0            | 0               | 0            | 0           | 0          | 0    | 0    | 0     | 0    | 0  | 0    |
| 16  | UBOF | User bright offset [0: BRIGHT +0, ..., 3: BRIGHT +6, ..., 7: BRIGHT +14]  | 6            | 6               | 3            | 3           | 3          | 3    | 3    | 3     | 3    | 3  | 4    |
| 17  | UCOF | User color offset [0: COLOR +0, ..., 3: COLOR +6, ..., 7: COLOR +14]      | 0            | 0               | 0            | 0           | 0          | 0    | 0    | 0     | 0    | 0  | 0    |
| 18  | UHOF | User hue offset [0: HUE +0, 1: HUE +1, 2: HUE +2, 3: HUE +3]              | 0            | 0               | 0            | 0           | 0          | 0    | 0    | 0     | 0    | 0  | 0    |
| 19  | MIDE | MID Enhancement setting table [0: Soft, ..., 63: Sharp]                   | 0            | 8               | 13           | 18          | 23         | 28   | 33   | 38    | 43   | 48 | 53   |
|   |      |   | <b>Vivid</b> | <b>Standard</b> | <b>Movie</b> | <b>Game</b> | <b>Pro</b> |      |      |       |      |    |      |
| 20  | TVVM | Initial VM level [0: VM Off, 1: VM Low, 2: VM Mid, 3: VM High]            | 3            | 3               | 1            | 3           | 0          |      |      |       |      |    |      |
| 21  | VM_H | VM High level assignment [0: weak, ..., 7: strong]                        | 7            | 7               | 6            | 7           | 6          |      |      |       |      |    |      |
| 22  | VM_M | VM Mid level assignment [0: weak, ..., 7: strong]                         | 5            | 5               | 4            | 5           | 4          |      |      |       |      |    |      |
| 23  | VM_L | VM Low level assignment [0: weak, ..., 7: strong]                         | 3            | 3               | 2            | 3           | 2          |      |      |       |      |    |      |

# 2150P-4

## Video Processor (CXA2150)

| Item |      | Function |
|------|------|----------|
| No.  | Name |          |

|   |      | Depends on Signal Source                                   | Analog | Digital |
|---|------|--|--------|---------|
| 0 | SCON | Sub contrast adjustment [0: -1.2 dB, 7: 0 dB, 15: +1.5 dB] | 9      | 4       |
| 1 | SCOL | Sub color adjustment [0: -31 step, 31: 0step, 63: +32step] | 30     | 32      |
| 2 | SHUE | Sub hue adjustment [0: -31step, 31:0step, 63: +32step]     | 28     | 28      |

|   |      | Depends on Source or Display Mode                                | Analog:<br>w/o 1080i | TWIN |
|---|------|--|----------------------|------|
| 3 | SCNO | Sub contrast offset from angle [0: -7step, 7: 0step, 15: +8step] | 7                    | 7    |
| 4 | SCLO | Sub color offset from angle [0: -7step, 7: 0step, 15: +8step]    | 7                    | 7    |
| 5 | SHUO | Sub hue offset from angle [0: -7step, 7: 0step, 15: +8step]      | 7                    | 7    |

|    |      |   | Vivid | Standard | Movie | Game | Pro |
|----|------|---|-------|----------|-------|------|-----|
| 6  | UPIC | Initial picture gain [0: -15 dB, 63: 0 dB]                      | 63    | 50       | 22    | 31   | 31  |
| 7  | UBRT | Initial brightness [0: -15 IRE, 31: 0 IRE, 63: +15 IRE]         | 31    | 34       | 34    | 34   | 31  |
| 8  | UCOL | Initial color [0: Color Off, 31: 0 dB, 63: +6 dB]               | 33    | 31       | 31    | 31   | 31  |
| 9  | UHUE | Initial hue [0: -33 deg, 31: Center, 63: +33 deg]               | 31    | 31       | 31    | 31   | 31  |
| 10 | USHP | Initial sharpness [0: -10 dB, 31: +2 dB, 63: +8 dB]             | 33    | 29       | 31    | 29   | 31  |
| 11 | UTMP | Initial color temperature [0: Low, 1: Mid, 2: High, 3: Inhibit] | 2     | 1        | 0     | 1    | 1   |
| 12 | AXIS | Color axis [0: PJ, 1: PAL/SECAM, 2: NTSC-US, 3: NTSC-JP]        | 0     | --       | --    | --   | --  |

|      |      | Depends on Signal Format and Picture Pallet      | Vivid    | Standard | Movie | Game | Pro |   |
|------|------|--|----------|----------|-------|------|-----|---|
| 13   | GAMM | Initial gamma [0: Weak, 7: Strong] ; Upper 2 bit | RF/CV/YC | 4        | 2     | 2    | 2   | 0 |
|      |      |  | 480i     | 3        | 2     | 2    | 2   | 0 |
|      |      |  | 480p     | 3        | 2     | 2    | 2   | 0 |
|      |      |  | 1080i    | 4        | 2     | 2    | 2   | 0 |
|      |      |  | 720p     | 4        | 2     | 2    | 2   | 0 |
| TWIN | 4    | 2  | 0        | 2        | 0     |      |     |   |

|    |      | Depends on Service Item "GAMM"                    | GAMM (CXA2150P-4 13) |   |   |   |   |   |   |   |
|----|------|---|----------------------|---|---|---|---|---|---|---|
|    |      |   | 0                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14 | GSBO | Sub bright offset for gamma [0: 0step, 3: +3step] | 0                    | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | GCCO | Sub color offset for gamma [0: 0step, 3: +3step]  | 0                    | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | GHUO | Sub hue offset for gamma [0: 0step, 3: +3step]    | 0                    | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

|    |     | Depends on Signal Format and Picture Pallet | Vivid    | Standard | Movie | Game | Pro |   |
|----|-----|---|----------|----------|-------|------|-----|---|
| 17 | BLK | Black level [0: No Effect, 7: Max Enhance]  | RF/CV/YC | 6        | 4     | 0    | 4   | 0 |
|    |     |   | 480i     | 7        | 4     | 0    | 4   | 0 |
|    |     |   | 480p     | 7        | 4     | 0    | 4   | 0 |
|    |     |   | 1080i    | 7        | 4     | 0    | 4   | 0 |
|    |     |   | 720p     | 7        | 4     | 0    | 4   | 0 |
|    |     |   | TWIN     | 5        | 3     | 0    | 3   | 0 |

|    |      | Depends on Service Item "BLK"   | BLK (CXA2150P-4 17) |   |   |   |   |   |   |   |
|----|------|---|---------------------|---|---|---|---|---|---|---|
|    |      |   | 0                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18 | DCTR | DC transefer ratio [0: 103%, 1: 100%, 2: 93%, 3: 85%]                   | 1                   | 1 | 1 | 1 | 2 | 1 | 2 | 2 |
| 19 | DPIC | Auto pedestal level [ 0: Off, 1: 30 IRE kneedown, 2: 35, 3: 40]         | 0                   | 0 | 0 | 0 | 1 | 0 | 3 | 2 |
| 20 | DSBO | Sub bright to offset or UBLK [0: -7step, 7: 0step, 15: +8step]          | 7                   | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 21 | ABLM | ABL mode [0: PIC, 1: PIC & BRT-min, 2: PIC & BRT-mid, 3: PIC & BRT-max] | 0                   | 0 | 0 | 0 | 0 | 0 | 1 | 1 |

|    |      | Others  | Small Pic |
|----|------|---|-----------|
| 22 | ABLT | Current detection Vth [0: Vth 0.8 V, 15: Vth 1.9 V]                   | 8         |
| 23 | ABLC | ABL level [0: Max ABL, 255: Min ABL]                                  | 0         |
| 24 | SPOF | Picture offset for small area picture [0: 0step, 31: -(UPIC/63) x 31] | --        |

|    |      | RF/CV/YC                 | 480i | 480p | 1080i | 720p | TWIN |
|----|------|--------------------------|------|------|-------|------|------|
| 25 | PIOF | Picture offset level     | 6    | 6    | 6     | 6    | 6    |
| 26 | BROF | Brightness offset level  | 15   | 0    | 0     | 0    | 7    |
| 27 | PICL | Maximum picture level    | 63   | --   | --    | --   | --   |
| 28 | BRTL | Maximum brightness level | 63   | --   | --    | --   | --   |

**2150D-1**

**Deflection (CXA2150)**

| Item |      | Function                 | Wide Zoom |      | Zoom | Full / Index |      | Normal |  |
|------|------|--------------------------|-----------|------|------|--------------|------|--------|--|
| No.  | Name |                          | 960i      | 960i | 960i | 1080i        | 960i |        |  |
| 0    | VPOS | Vertical position        | 25        |      |      |              |      |        |  |
| 1    | VSIZ | Vertical size            | 50        |      |      |              |      |        |  |
| 2    | VSZO | V size off set           | 0         | 0    | 0    | 31           | 0    |        |  |
| 3    | VLIN | Vertical linearity       | 5         |      |      | 5            |      |        |  |
| 4    | VSCO | Vertical s correction    | 8         |      |      | 8            |      |        |  |
| 5    | VCEN | Vertical centering       | 31        |      |      |              |      |        |  |
| 6    | VPIN | Vertical pin             | 15        |      |      |              |      | 15     |  |
| 7    | NSCO | Rotation                 | 7         |      |      |              |      |        |  |
| 8    | HTPZ | Horizontal trapezoid     | 15        |      |      |              |      |        |  |
| 9    | ZOOM | Zoom switch              | 1         | 1    |      | 0            |      |        |  |
| 10   | APSW | Aspect switch            | 0         | 0    | 0    | 0            | 0    |        |  |
| 11   | ASPT | Aspect ratio             | 22        | 44   | 0    | 0            | 0    |        |  |
| 12   | SCRL | Vertical scroll          | 29        | 29   | 29   | 29           | 29   |        |  |
| 13   | UVLN | Upper vertical linearity | 5         | 0    |      | 0            | 0    |        |  |
| 14   | LVLN | Lower vertical linearity | 5         | 0    |      | 0            | 0    |        |  |

**2150D-2**

**Deflection (CXA2150)**

| Item |      | Function                        | Wide Zoom |      | Zoom | Full / Index |      | Normal |
|------|------|---------------------------------|-----------|------|------|--------------|------|--------|
| No.  | Name |                                 | 960i      | 960i | 960i | 1080i        | 960i |        |
| 0    | HCEN | Horizontal centering            | 35        |      |      |              |      |        |
| 1    | HPOS | Horizontal position             | 25        |      |      | 25           |      |        |
| 2    | HSIZ | Horizontal size                 | 35        |      |      | 35           |      |        |
| 3    | SLIN | Horizontal s correction         | 0         |      |      | 0            |      |        |
| 4    | MPIN | Horizontal middle pin           | 0         |      |      | 0            |      |        |
| 5    | PIN  | Horizontal pin                  | 10        |      |      | 10           |      |        |
| 6    | PINO | Pin offset                      | 7         |      |      | 7            |      |        |
| 7    | UCP  | Upper corner pin                | 31        |      |      | 31           |      |        |
| 8    | LCP  | Lower corner pin                | 31        |      |      | 31           |      |        |
| 9    | UXCG | Upper extra corner pin gain     | 0         |      |      | 0            |      |        |
| 10   | LXCG | Lower extra corner pin gain     | 0         |      |      | 0            |      |        |
| 11   | UXCP | Upper extra corner pin position | 2         |      |      | 2            |      |        |
| 12   | LXCP | Lower extra corner pin position | 2         |      |      | 2            |      |        |
| 13   | XCPP | Extra corner pin polarity       | 0         |      |      | 0            |      |        |
| 14   | PPHA | Pin phase                       | 31        |      |      | 31           |      |        |
| 15   | VANG | AFC angle                       | 31        |      |      |              |      |        |
| 16   | LANG | Linearity angle                 | 32        |      |      |              |      |        |
| 17   | VBOW | AFC bow                         | 31        |      |      |              |      |        |
| 18   | LBOW | Linearity bow                   | 43        |      |      |              |      |        |
| 19   | CPY1 | Copy function 1                 | 0         |      |      |              |      |        |

## 2150D-3

### Deflection (CXA2150)

| Item |      | Function                    | Wide Zoom |      | Zoom | Full / Index |      | Normal |
|------|------|-----------------------------|-----------|------|------|--------------|------|--------|
| No.  | Name |                             | 960i      | 960i | 960i | 1080i        | 960i |        |
| 0    | HBLK | Horizontal blanking switch  | 1         |      |      |              |      |        |
| 1    | LBLK | Left blanking               | 56        |      |      |              |      |        |
| 2    | RBLK | Right blanking              | 25        |      |      |              |      |        |
| 3    | VBLK | Vertical blanking switch    | 0         | 0    | 1    |              | 1    |        |
| 4    | TBLK | Top blanking                | 15        | 15   | 15   | 4            | 15   |        |
| 5    | BBLK | Bottom blanking             | 15        | 15   | 15   | 5            | 15   |        |
| 6    | VCMP | Vertical compensation       | 0         | 0    | 0    | 0            | 0    |        |
| 7    | HCMP | Horizontal compensation     | 0         | 0    | 0    | 0            | 0    |        |
| 8    | ACMP | AFC compensation            | 0         | 0    | 0    | 0            | 0    |        |
| 9    | PCMP | Pin compensation            | 0         | 0    | 0    | 0            | 0    |        |
| 10   | AFCM | AFC loop gain               | 3         |      |      | 1            | 3    |        |
| 11   | VFRQ | Vertical frequency          | 1         |      |      |              |      |        |
| 12   | VON  | Vertical drive on           | 1         |      |      |              |      |        |
| 13   | JUMP | Reference pulse jump switch | 0         |      |      |              |      |        |
| 14   | VDJP | Vertical drive jump switch  | 1         | 1    | 1    | 1            | 1    |        |
| 15   | VDST | Vertical drive start switch | 0         | 0    | 0    | 0            | 0    |        |
| 16   | EWDC | Pin DC level shift          | 0         |      |      |              |      |        |
| 17   | AKBT | AKB timing                  | 9         | 9    | 9    | 9            | 9    |        |

## CXA2151

### Sync Selector (CXA2151)

| Item |      | Function   | 1080i/720p   |                | 480p/480i   | * This data can't be memorized, it is controlled by M16C micro. |
|------|------|--|--------------|----------------|-------------|---|
| No.  | Name |  | 1080i/720p   | 480p/480i      | 480p/480i   |   |
|      |      | Depends on Signal Format                                     | 1080i/720p   |                | 480p/480i   |   |
| 0    | MTRX | Matrix [0: Through, 1: YPbPr (J), 2: YPbPr (U), 3: RGB]      | 1 *          |                | 0 *         |   |
| 1    | GAIN | Output gain for video [0: 6 dB ±2 dB, 1: 0 dB, 2/3: Mute]    | 0 *          |                |             |   |
|      |      | Depends on Signal Input                                      | Video5       | Video6         | Chroma Dec. |   |
| 2    | FIXS | Sync type [0: Auto Detect, 1: HS/VS, 2: CS, 3: SYNC on Y(G)] | 0            | 0              | 0           |   |
|      |      | Depends on Signal Format                                     | Analog 1080i | others         |             |   |
| 3    | CBGN | Output gain for Cb [0: -2 dB, 7: 0 dB, 15: +2 dB]            | 7            | 7              |             |   |
| 4    | CRGN | Output gain for Cr [0: -2 dB, 7: 0 dB, 15: +2 dB]            | 8            | 8              |             |   |
| 5    | YGN  | Output gain for Y [0: -2 dB, 7: 0 dB, 15: +2 dB]             | 8            | 8              |             |   |
| 6    | VTC  | V sync sep. time constant [0: 6 μs, 3: 18 μs]                | 0            | --             |             |   |
|      |      | Depends on Signal Format                                     | 1080i/720p   | 480p/480i      |             |   |
| 7    | HTC  | H sync sep. time constant [0: for HD, 1: for 45.75 kHz]      | 0 *          | 1 *            |             |   |
| 8    | HWD  | H sync width [0: Through, 1: 1.4 μs, 2: 1.7 μs, 3: 3.7 μs]   | 1 *          | --             |             |   |
| 9    | HSEP | Sync sep. type [0: Voltage Slice, 1: Charge/Dis-charge]      | 1 *          | --             |             |   |
|      |      | Depends on Signal Format                                     | 1080i        | 720p/480p/480i |             |   |
| 10   | HMSK | H sync mask during V sync period [0: On, 1: Off]             | 0 *          | 1 *            |             |   |
|      |      | Depends on Signal Input                                      | Video5       | Video6         | Chroma Dec. |   |
| 11   | FRGB | Matrix = 3: RGB [0: Micro Control, 1: Forced RGB]            | 0            | 0              | 0           |   |

**MID5**

**MID Enhancement (CXD9509)**

| Item |      | Function |
|------|------|----------|
| No.  | Name |          |

|   |     |                              |                                |
|---|-----|------------------------------|--------------------------------|
| 0 | POP | Service data effect [0 – 63] | Same as "MIDE" (CXA2150P-3 19) |
|---|-----|------------------------------|--------------------------------|

| Depends on Service Item "POP" (MID5 0)<br>Applicable pallet and format : |      |  | 0            | 1    | 2 | 3     | 4 | 5        | 6 | 7     |
|--|------|--|--------------|------|---|-------|---|----------|---|-------|
|  |      |  | Analog Tuner |      |   |       |   |          |   |       |
|  |      |  | Pro          | Game |   | Movie |   | Standard |   | Vivid |
| 1  | MHLY | Main H LPF Y coefficient code [0 - 3]    | 2            | 3    | 2 | 2     | 2 | 2        | 2 | 2     |
| 2  | MHLC | Main H LPF C coefficient code [0 - 3]    | 3            | 3    | 3 | 3     | 3 | 3        | 3 | 3     |
| 3  | MVLY | Main V LPF Y coefficient code [0 - 3]    | 0            | 1    | 0 | 0     | 0 | 0        | 0 | 0     |
| 4  | MVLC | Main V LPF C coefficient code [0 - 3]    | 0            | 1    | 0 | 0     | 0 | 0        | 0 | 0     |
| 5  | MHYR | Main H enhance Y coreing code [0 - 3]    | 0            | 0    | 0 | 0     | 3 | 3        | 3 | 3     |
| 6  | MHYL | Main H enhance Y clipping code [0 - 3]   | 0            | 0    | 0 | 0     | 2 | 2        | 2 | 2     |
| 7  | MHYE | Main H enhance Y level code [0 - 7]      | 0            | 0    | 0 | 0     | 7 | 7        | 7 | 7     |
| 8  | MHYO | Main H enhance Y coefficient code [0, 1] | 1            | 0    | 1 | 1     | 1 | 1        | 1 | 1     |
| 9  | MHCR | Main H enhance C coreing code [0 - 3]    | 0            | 0    | 0 | 0     | 2 | 2        | 2 | 2     |
| 10   | MHCL | Main H enhance C clipping code [0 - 3]   | 0            | 0    | 0 | 0     | 0 | 0        | 0 | 0     |
| 11   | MHCE | Main H enhance C level code [0 - 7]      | 0            | 0    | 0 | 0     | 0 | 0        | 0 | 0     |
| 12   | MHCO | Main H enhance C coefficient code [0, 1] | 1            | 0    | 1 | 1     | 1 | 1        | 1 | 1     |
| 13   | MVYR | Main V enhance Y coreing code [0 - 3]    | 0            | 0    | 0 | 0     | 2 | 2        | 2 | 2     |
| 14   | MVYL | Main V enhance Y clipping code [0 - 3]   | 0            | 0    | 0 | 0     | 1 | 1        | 1 | 1     |
| 15   | MVYE | Main V enhance Y level code [0 - 7]      | 0            | 0    | 0 | 0     | 3 | 3        | 3 | 3     |
| 16   | MVCR | Main V enhance C coreing code [0 - 3]    | 0            | 0    | 0 | 0     | 2 | 2        | 2 | 2     |
| 17   | MVCL | Main V enhance C clipping code [0 - 3]   | 0            | 0    | 0 | 0     | 0 | 0        | 0 | 0     |
| 18   | MVCE | Main V enhance C level code [0 - 7]      | 0            | 0    | 0 | 0     | 0 | 0        | 0 | 0     |

| Depends on Service Item "POP" (MID5 0)<br>Applicable pallet and format : |      |  | 8           | 9    | 10    | 11       | 12    | 13             | 14   | 15    | 16       | 17    |  |  |
|--|------|--|-------------|------|-------|----------|-------|----------------|------|-------|----------|-------|--|--|
|  |      |  | Video 1 - 4 |      |       |          |       | Video 5/6 480i |      |       |          |       |  |  |
|  |      |  | Pro         | Game | Movie | Standard | Vivid | Pro            | Game | Movie | Standard | Vivid |  |  |
| 1  | MHLY | Main H LPF Y coefficient code [0 - 3]    | 1           | 3    | 1     | 1        | 1     | 2              | 3    | 2     | 2        | 2     |  |  |
| 2  | MHLC | Main H LPF C coefficient code [0 - 3]    | 3           | 3    | 3     | 3        | 3     | 3              | 3    | 3     | 3        | 3     |  |  |
| 3  | MVLY | Main V LPF Y coefficient code [0 - 3]    | 0           | 1    | 0     | 0        | 0     | 0              | 1    | 0     | 0        | 0     |  |  |
| 4  | MVLC | Main V LPF C coefficient code [0 - 3]    | 0           | 1    | 0     | 0        | 0     | 0              | 1    | 0     | 0        | 0     |  |  |
| 5  | MHYR | Main H enhance Y coreing code [0 - 3]    | 0           | 0    | 0     | 2        | 2     | 0              | 0    | 0     | 1        | 2     |  |  |
| 6  | MHYL | Main H enhance Y clipping code [0 - 3]   | 0           | 0    | 0     | 2        | 2     | 0              | 0    | 0     | 2        | 2     |  |  |
| 7  | MHYE | Main H enhance Y level code [0 - 7]      | 0           | 0    | 0     | 4        | 7     | 0              | 0    | 0     | 2        | 2     |  |  |
| 8  | MHYO | Main H enhance Y coefficient code [0, 1] | 1           | 0    | 1     | 1        | 1     | 1              | 0    | 1     | 1        | 1     |  |  |
| 9  | MHCR | Main H enhance C coreing code [0 - 3]    | 0           | 0    | 0     | 2        | 2     | 0              | 0    | 0     | 2        | 2     |  |  |
| 10   | MHCL | Main H enhance C clipping code [0 - 3]   | 0           | 0    | 0     | 0        | 0     | 0              | 0    | 0     | 0        | 0     |  |  |
| 11   | MHCE | Main H enhance C level code [0 - 7]      | 0           | 0    | 0     | 0        | 0     | 0              | 0    | 0     | 0        | 0     |  |  |
| 12   | MHCO | Main H enhance C coefficient code [0, 1] | 1           | 0    | 1     | 1        | 1     | 1              | 0    | 1     | 1        | 1     |  |  |
| 13   | MVYR | Main V enhance Y coreing code [0 - 3]    | 0           | 0    | 0     | 2        | 3     | 0              | 0    | 0     | 1        | 2     |  |  |
| 14   | MVYL | Main V enhance Y clipping code [0 - 3]   | 0           | 0    | 0     | 1        | 1     | 0              | 0    | 0     | 1        | 1     |  |  |
| 15   | MVYE | Main V enhance Y level code [0 - 7]      | 0           | 0    | 0     | 3        | 3     | 0              | 0    | 0     | 3        | 4     |  |  |
| 16   | MVCR | Main V enhance C coreing code [0 - 3]    | 0           | 0    | 0     | 2        | 2     | 0              | 0    | 0     | 0        | 0     |  |  |
| 17   | MVCL | Main V enhance C clipping code [0 - 3]   | 0           | 0    | 0     | 0        | 0     | 0              | 0    | 0     | 2        | 2     |  |  |
| 18   | MVCE | Main V enhance C level code [0 - 7]      | 0           | 0    | 0     | 0        | 0     | 0              | 0    | 0     | 0        | 0     |  |  |

MID Enhancement (CXD9509)

| Item |      | Function                                 | Depends on Service Item "POP" (MID5 0)<br>Applicable pallet and format : |      |       |          |       |                 |      |       |          |       |  |
|------|------|--|--|------|-------|----------|-------|-----------------|------|-------|----------|-------|--|
| No.  | Name |  | 18   | 19   | 20    | 21       | 22    | 23              | 24   | 25    | 26       | 27    |  |
|      |      |  | Video 5/6 480p   |      |       |          |       | Video 5/6 1080i |      |       |          |       |  |
|      |      |  | Pro  | Game | Movie | Standard | Vivid | Pro             | Game | Movie | Standard | Vivid |  |
| 1    | MHLY | Main H LPF Y coefficient code [0 - 3]    | 1  | 3    | 1     | 1        | 1     | 2               | 3    | 2     | 2        | 2     |  |
| 2    | MHLC | Main H LPF C coefficient code [0 - 3]    | 3  | 3    | 3     | 3        | 3     | 2               | 3    | 2     | 2        | 2     |  |
| 3    | MVLY | Main V LPF Y coefficient code [0 - 3]    | 0  | 1    | 0     | 0        | 0     | 0               | 1    | 0     | 0        | 0     |  |
| 4    | MVLC | Main V LPF C coefficient code [0 - 3]    | 0  | 1    | 0     | 0        | 0     | 0               | 1    | 0     | 0        | 0     |  |
| 5    | MHYR | Main H enhance Y coreing code [0 - 3]    | 0  | 0    | 0     | 1        | 2     | 0               | 0    | 0     | 1        | 2     |  |
| 6    | MHYL | Main H enhance Y clipping code [0 - 3]   | 0  | 0    | 0     | 2        | 2     | 0               | 0    | 0     | 1        | 1     |  |
| 7    | MHYE | Main H enhance Y level code [0 - 7]      | 0  | 0    | 0     | 2        | 7     | 0               | 0    | 0     | 7        | 7     |  |
| 8    | MHYO | Main H enhance Y coefficient code [0, 1] | 1  | 0    | 1     | 1        | 1     | 1               | 0    | 1     | 1        | 1     |  |
| 9    | MHCR | Main H enhance C coreing code [0 - 3]    | 0  | 0    | 0     | 2        | 2     | 0               | 0    | 0     | 2        | 2     |  |
| 10   | MHCL | Main H enhance C clipping code [0 - 3]   | 0  | 0    | 0     | 0        | 0     | 0               | 0    | 0     | 2        | 2     |  |
| 11   | MHCE | Main H enhance C level code [0 - 7]      | 0  | 0    | 0     | 0        | 0     | 0               | 0    | 0     | 2        | 2     |  |
| 12   | MHCO | Main H enhance C coefficient code [0, 1] | 1  | 0    | 1     | 1        | 1     | 1               | 0    | 1     | 1        | 1     |  |
| 13   | MVYR | Main V enhance Y coreing code [0 - 3]    | 0  | 0    | 0     | 1        | 2     | 0               | 0    | 0     | 1        | 2     |  |
| 14   | MVYL | Main V enhance Y clipping code [0 - 3]   | 0  | 0    | 0     | 1        | 1     | 0               | 0    | 0     | 1        | 1     |  |
| 15   | MVYE | Main V enhance Y level code [0 - 7]      | 0  | 0    | 0     | 5        | 5     | 0               | 0    | 0     | 2        | 5     |  |
| 16   | MVCR | Main V enhance C coreing code [0 - 3]    | 0  | 0    | 0     | 2        | 2     | 0               | 0    | 0     | 2        | 2     |  |
| 17   | MVCL | Main V enhance C clipping code [0 - 3]   | 0  | 0    | 0     | 0        | 0     | 0               | 0    | 0     | 1        | 1     |  |
| 18   | MVCE | Main V enhance C level code [0 - 7]      | 0  | 0    | 0     | 0        | 0     | 0               | 0    | 0     | 2        | 3     |  |

| Item |      | Function                                 | Depends on Service Item "POP" (MID5 0)<br>Applicable pallet and format : |      |       |          |       |              |      |       |          |       |  |
|------|------|--|--|------|-------|----------|-------|--------------|------|-------|----------|-------|--|
| No.  | Name |  | 28   | 29   | 30    | 31       | 32    | 33           | 34   | 35    | 36       | 37    |  |
|      |      |  | Video 5/6 720p   |      |       |          |       | Digital 480i |      |       |          |       |  |
|      |      |  | Pro  | Game | Movie | Standard | Vivid | Pro          | Game | Movie | Standard | Vivid |  |
| 1    | MHLY | Main H LPF Y coefficient code [0 - 3]    | 0  | 3    | 0     | 0        | 0     | 1            | 3    | 1     | 1        | 1     |  |
| 2    | MHLC | Main H LPF C coefficient code [0 - 3]    | 0  | 3    | 0     | 0        | 0     | 3            | 3    | 3     | 3        | 3     |  |
| 3    | MVLY | Main V LPF Y coefficient code [0 - 3]    | 0  | 1    | 0     | 0        | 0     | 0            | 1    | 0     | 0        | 0     |  |
| 4    | MVLC | Main V LPF C coefficient code [0 - 3]    | 0  | 1    | 0     | 0        | 0     | 0            | 1    | 0     | 0        | 0     |  |
| 5    | MHYR | Main H enhance Y coreing code [0 - 3]    | 0  | 0    | 0     | 1        | 3     | 0            | 0    | 0     | 1        | 2     |  |
| 6    | MHYL | Main H enhance Y clipping code [0 - 3]   | 0  | 0    | 0     | 1        | 1     | 0            | 0    | 0     | 2        | 0     |  |
| 7    | MHYE | Main H enhance Y level code [0 - 7]      | 0  | 0    | 0     | 7        | 4     | 0            | 0    | 0     | 2        | 0     |  |
| 8    | MHYO | Main H enhance Y coefficient code [0, 1] | 1  | 0    | 1     | 1        | 1     | 1            | 0    | 1     | 1        | 1     |  |
| 9    | MHCR | Main H enhance C coreing code [0 - 3]    | 0  | 0    | 0     | 1        | 3     | 0            | 0    | 0     | 2        | 2     |  |
| 10   | MHCL | Main H enhance C clipping code [0 - 3]   | 0  | 0    | 0     | 2        | 2     | 0            | 0    | 0     | 0        | 0     |  |
| 11   | MHCE | Main H enhance C level code [0 - 7]      | 0  | 0    | 0     | 2        | 2     | 0            | 0    | 0     | 0        | 0     |  |
| 12   | MHCO | Main H enhance C coefficient code [0, 1] | 1  | 0    | 1     | 1        | 1     | 1            | 0    | 1     | 1        | 1     |  |
| 13   | MVYR | Main V enhance Y coreing code [0 - 3]    | 0  | 0    | 0     | 1        | 3     | 0            | 0    | 0     | 1        | 1     |  |
| 14   | MVYL | Main V enhance Y clipping code [0 - 3]   | 0  | 0    | 0     | 1        | 1     | 0            | 0    | 0     | 1        | 1     |  |
| 15   | MVYE | Main V enhance Y level code [0 - 7]      | 0  | 0    | 0     | 4        | 3     | 0            | 0    | 0     | 3        | 4     |  |
| 16   | MVCR | Main V enhance C coreing code [0 - 3]    | 0  | 0    | 0     | 1        | 3     | 0            | 0    | 0     | 2        | 2     |  |
| 17   | MVCL | Main V enhance C clipping code [0 - 3]   | 0  | 0    | 0     | 1        | 1     | 0            | 0    | 0     | 0        | 0     |  |
| 18   | MVCE | Main V enhance C level code [0 - 7]      | 0  | 0    | 0     | 4        | 3     | 0            | 0    | 0     | 0        | 0     |  |

MID Enhancement (CXD9509)

| Item                                   |      | Function                                 |              |      |       |          |       |               |      |       |          |       |    |    |
|--|------|--|--------------|------|-------|----------|-------|---------------|------|-------|----------|-------|----|----|
| No.                                    | Name |  | 38           | 39   | 40    |          | 41    | 42            | 43   | 44    | 45       |       | 46 | 47 |
| Depends on Service Item "POP" (MID5 0) |      |  |              |      |       |          |       |               |      |       |          |       |    |    |
| Applicable pallet and format :         |      |  | Digital 480p |      |       |          |       | Digital 1080i |      |       |          |       |    |    |
|  |      |  | Pro          | Game | Movie | Standard | Vivid | Pro           | Game | Movie | Standard | Vivid |    |    |
| 1                                      | MHLY | Main H LPF Y coefficient code [0 - 3]    | 1            | 3    | 1     | 2        | 2     | 2             | 3    | 2     | 2        | 2     | 2  |    |
| 2                                      | MHLC | Main H LPF C coefficient code [0 - 3]    | 3            | 3    | 3     | 3        | 3     | 2             | 3    | 2     | 2        | 2     | 2  |    |
| 3                                      | MVLY | Main V LPF Y coefficient code [0 - 3]    | 0            | 1    | 0     | 0        | 0     | 0             | 1    | 0     | 0        | 0     | 0  |    |
| 4                                      | MVLC | Main V LPF C coefficient code [0 - 3]    | 0            | 1    | 0     | 0        | 0     | 0             | 1    | 0     | 0        | 0     | 0  |    |
| 5                                      | MHYR | Main H enhance Y coreing code [0 - 3]    | 0            | 0    | 0     | 1        | 2     | 0             | 0    | 0     | 1        | 2     |    |    |
| 6                                      | MHYL | Main H enhance Y clipping code [0 - 3]   | 0            | 0    | 0     | 2        | 2     | 0             | 0    | 0     | 1        | 1     |    |    |
| 7                                      | MHYE | Main H enhance Y level code [0 - 7]      | 0            | 0    | 0     | 2        | 7     | 0             | 0    | 0     | 7        | 7     |    |    |
| 8                                      | MHYO | Main H enhance Y coefficient code [0, 1] | 1            | 0    | 1     | 1        | 1     | 1             | 0    | 1     | 1        | 1     |    |    |
| 9                                      | MHCR | Main H enhance C coreing code [0 - 3]    | 0            | 0    | 0     | 2        | 2     | 0             | 0    | 0     | 2        | 2     |    |    |
| 10                                     | MHCL | Main H enhance C clipping code [0 - 3]   | 0            | 0    | 0     | 0        | 0     | 0             | 0    | 0     | 7        | 0     |    |    |
| 11                                     | MHCE | Main H enhance C level code [0 - 7]      | 0            | 0    | 0     | 0        | 0     | 0             | 0    | 0     | 0        | 0     |    |    |
| 12                                     | MHCO | Main H enhance C coefficient code [0, 1] | 0            | 0    | 1     | 1        | 1     | 1             | 0    | 1     | 1        | 1     |    |    |
| 13                                     | MVYR | Main V enhance Y coreing code [0 - 3]    | 0            | 0    | 0     | 1        | 3     | 0             | 0    | 0     | 1        | 2     |    |    |
| 14                                     | MVYL | Main V enhance Y clipping code [0 - 3]   | 0            | 0    | 0     | 1        | 1     | 0             | 0    | 0     | 1        | 1     |    |    |
| 15                                     | MVYE | Main V enhance Y level code [0 - 7]      | 0            | 0    | 0     | 5        | 3     | 0             | 0    | 0     | 2        | 5     |    |    |
| 16                                     | MVCR | Main V enhance C coreing code [0 - 3]    | 0            | 0    | 0     | 2        | 2     | 0             | 0    | 0     | 2        | 2     |    |    |
| 17                                     | MVCL | Main V enhance C clipping code [0 - 3]   | 0            | 0    | 0     | 0        | 0     | 0             | 0    | 0     | 0        | 0     |    |    |
| 18                                     | MVCE | Main V enhance C level code [0 - 7]      | 0            | 0    | 0     | 0        | 0     | 0             | 0    | 0     | 0        | 0     |    |    |
| Depends on Service Item "POP" (MID5 0) |      |  | 48           | 49   | 50    | 51       | 52    | 53            | 54   | 55    | 56       | 57    |    |    |
| Applicable pallet and format :         |      |  | Digital 720p |      |       |          | TWIN  |               |      |       |          |       |    |    |
|  |      |  | Pro          | Game | Movie | Standard | Vivid | Pro           | Game | Movie | Standard | Vivid |    |    |
| 1                                      | MHLY | Main H LPF Y coefficient code [0 - 3]    | 0            | 3    | 0     | 0        | 0     | 0             | 3    | 0     | 0        | 0     |    |    |
| 2                                      | MHLC | Main H LPF C coefficient code [0 - 3]    | 0            | 3    | 0     | 0        | 0     | 0             | 3    | 0     | 0        | 0     |    |    |
| 3                                      | MVLY | Main V LPF Y coefficient code [0 - 3]    | 0            | 1    | 0     | 0        | 0     | 0             | 1    | 0     | 0        | 0     |    |    |
| 4                                      | MVLC | Main V LPF C coefficient code [0 - 3]    | 0            | 1    | 0     | 0        | 0     | 0             | 1    | 0     | 0        | 0     |    |    |
| 5                                      | MHYR | Main H enhance Y coreing code [0 - 3]    | 0            | 0    | 0     | 1        | 3     | 0             | 0    | 0     | 0        | 0     |    |    |
| 6                                      | MHYL | Main H enhance Y clipping code [0 - 3]   | 0            | 0    | 0     | 1        | 1     | 0             | 0    | 0     | 0        | 0     |    |    |
| 7                                      | MHYE | Main H enhance Y level code [0 - 7]      | 0            | 0    | 0     | 7        | 4     | 0             | 0    | 0     | 0        | 0     |    |    |
| 8                                      | MHYO | Main H enhance Y coefficient code [0, 1] | 1            | 0    | 1     | 1        | 1     | 0             | 0    | 0     | 0        | 0     |    |    |
| 9                                      | MHCR | Main H enhance C coreing code [0 - 3]    | 0            | 0    | 0     | 2        | 3     | 0             | 0    | 0     | 0        | 0     |    |    |
| 10                                     | MHCL | Main H enhance C clipping code [0 - 3]   | 0            | 0    | 0     | 2        | 2     | 0             | 0    | 0     | 0        | 0     |    |    |
| 11                                     | MHCE | Main H enhance C level code [0 - 7]      | 0            | 0    | 0     | 2        | 2     | 0             | 0    | 0     | 0        | 0     |    |    |
| 12                                     | MHCO | Main H enhance C coefficient code [0, 1] | 1            | 0    | 1     | 1        | 1     | 0             | 0    | 0     | 0        | 0     |    |    |
| 13                                     | MVYR | Main V enhance Y coreing code [0 - 3]    | 0            | 0    | 0     | 1        | 3     | 0             | 0    | 0     | 0        | 0     |    |    |
| 14                                     | MVYL | Main V enhance Y clipping code [0 - 3]   | 0            | 0    | 0     | 1        | 1     | 0             | 0    | 0     | 0        | 0     |    |    |
| 15                                     | MVYE | Main V enhance Y level code [0 - 7]      | 0            | 0    | 0     | 4        | 3     | 0             | 0    | 0     | 0        | 0     |    |    |
| 16                                     | MVCR | Main V enhance C coreing code [0 - 3]    | 0            | 0    | 0     | 1        | 3     | 0             | 0    | 0     | 0        | 0     |    |    |
| 17                                     | MVCL | Main V enhance C clipping code [0 - 3]   | 0            | 0    | 0     | 1        | 1     | 0             | 0    | 0     | 0        | 0     |    |    |
| 18                                     | MVCE | Main V enhance C level code [0 - 7]      | 0            | 0    | 0     | 4        | 3     | 0             | 0    | 0     | 0        | 0     |    |    |



MID Enhancement (CXD9509)

| Item                                   |      | Function                                | 0 - 63<br>(Same Data) |
|--|------|---|-----------------------|
| No.                                    | Name |   |                       |
| Depends on Service Item "POP" (MID5 0) |      |   |                       |
| 19                                     | SHLY | Sub H LPF Y coefficient code [0 - 7]    | 0                     |
| 20                                     | SHLC | Sub H LPF C coefficient code [0 - 7]    | 0                     |
| 21                                     | SVLY | Sub V LPF Y coefficient code [0 - 7]    | 0                     |
| 22                                     | SVLC | Sub V LPF C coefficient code [0 - 7]    | 0                     |
| 23                                     | SHYR | Sub H enhance Y coreing code [0 - 3]    | 0                     |
| 24                                     | SHYL | Sub H enhance Y clipping code [0 - 3]   | 0                     |
| 25                                     | SHYE | Sub H enhance Y level code [0 - 7]      | 0                     |
| 26                                     | SHYO | Sub H enhance Y coefficient code [0, 1] | 0                     |
| 27                                     | SHCR | Sub H enhance C coreing code [0 - 3]    | 0                     |
| 28                                     | SHCL | Sub H enhance C clipping code [0 - 3]   | 0                     |
| 29                                     | SHCE | Sub H enhance C level code [0 - 7]      | 0                     |
| 30                                     | SHCO | Sub H enhance C coefficient code [0, 1] | 0                     |
| 31                                     | SVYR | Sub V enhance Y coreing code [0 - 3]    | 0                     |
| 32                                     | SVYL | Sub V enhance Y clipping code [0 - 3]   | 0                     |
| 33                                     | SVYE | Sub V enhance Y level code [0 - 7]      | 0                     |
| 34                                     | SVCR | Sub V enhance C coreing code [0 - 3]    | 0                     |
| 35                                     | SVCL | Sub V enhance C clipping code [0 - 3]   | 0                     |
| 36                                     | SVCE | Sub V enhance C level code [0 - 7]      | 0                     |

CXA3506R

A/D Converter (CXA3506)

| Item |      | Function                  |                 |            |
|------|------|---------------------------|-----------------|------------|
| No.  | Name |                           | 1080i/720p/480p | 480i (sub) |
| 0    | MCON | Main contrast [0 - 255]   | 64              | 64         |
| 1    | SCOR | Sub contrast Y [0 - 255]  | 108             | 113        |
| 2    | SCOG | Sub contrast Cb [0 - 255] | 155             | 150        |
| 3    | SCOB | Sub contrast Cr [0 - 255] | 153             | 153        |
| 4    | RGB  | RGB out select [0, 1]     | 0               | 0          |

TDA7312F

Audio Processor (TDA7312-F)

| Item                                   |      | Function         | Common |
|--|------|------------------|--------|
| No.                                    | Name |                  |        |
| Depends on Service Item "POP" (MID5 0) |      |                  |        |
| 0                                      | SBAS | Sub bass control | 7      |
| 1                                      | STRE | Sub treble       | 7      |

TDA7312R

Audio Processor (TDA7312-R)

| Item                                   |      | Function         | Common |
|--|------|------------------|--------|
| No.                                    | Name |                  |        |
| Depends on Service Item "POP" (MID5 0) |      |                  |        |
| 0                                      | SBAS | Sub bass control | 7      |
| 1                                      | STRE | Sub treble       | 7      |

TDA7312C

Audio Processor (TDA7312-C)

| Item                                   |      | Function         | Common |
|--|------|------------------|--------|
| No.                                    | Name |                  |        |
| Depends on Service Item "POP" (MID5 0) |      |                  |        |
| 0                                      | SBAS | Sub bass control | 7      |
| 1                                      | STRE | Sub treble       | 7      |

# SNNR

## SNNR

| Item                                |      | Function  |               |    |    |    |    |     |     |
|-------------------------------------|------|---|---------------|----|----|----|----|-----|-----|
| No.                                 | Name |   |               |    |    |    |    |     |     |
|                                     |      |   | <b>Common</b> |    |    |    |    |     |     |
| 0                                   | SNNR | SNNR data label   | *1            |    |    |    |    |     |     |
| 1                                   | SNFX | [0: SNNR is controlled by Micro, 1: SNNR controlled by service] | *2            |    |    |    |    |     |     |
| *1 Data is controlled by M16C Micro |      |   |               |    |    |    |    |     |     |
| *2 Normally "0"                     |      |   |               |    |    |    |    |     |     |
| Sets the Threshold for SNNR         |      |   |               |    |    |    |    |     |     |
| 2                                   | WSLT | Threshold of SNNR   | A             | B  | C  | D  | E  | F   | G   |
|                                     |      |   | 15            | 31 | 45 | 63 | 85 | 127 | 180 |

To choose the SNNR level the following equations apply

|                                |                 |
|--------------------------------|-----------------|
| $0 \leq WSL < WSLT (A)$        | Select SNNR (0) |
| $WSLT (A) \leq WSL < WSLT (B)$ | Select SNNR (1) |
| $WSLT (B) \leq WSL < WSLT (C)$ | Select SNNR (2) |
| $WSLT (C) \leq WSL < WSLT (D)$ | Select SNNR (3) |
| $WSLT (D) \leq WSL < WSLT (E)$ | Select SNNR (4) |
| $WSLT (E) \leq WSL < WSLT (F)$ | Select SNNR (5) |
| $WSLT (F) \leq WSL < WSLT (G)$ | Select SNNR (6) |
| $WSLT (G) \leq WSL < 255$      | Select SNNR (7) |

| SNNR Offset Data |      | 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------------------|------|--|---|---|---|---|---|---|---|
| 3                | CPFG | $\mu$ PD64082: YPFG (–Offset Data)           | 0 | 0 | 1 | 1 | 1 | 2 | 2 |
| 4                | CPFT | $\mu$ PD64082: YPFT (–Offset Data)           | 0 | 0 | 2 | 2 | 3 | 3 | 3 |
| 5                | CCOR | $\mu$ PD64082: YHCOR (–Offset Data)          | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 6                | CHCG | $\mu$ PD64082: YHCGAIN (–Offset Data)        | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 7                | CAPG | $\mu$ PD64082: YAPGAIN (–Offset Data)        | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8                | 3SHP | CXA2103-M: SHAP (–Offset Data)               | 0 | 1 | 1 | 2 | 2 | 2 | 3 |
| 9                | 5SHP | CXA2150P-4: USHP (–Offset Data)              | 0 | 0 | 2 | 2 | 3 | 4 | 4 |
| 10               | 5YF1 | CXA2150P-3: F1LV (–Offset Data)              | 0 | 0 | 1 | 1 | 2 | 2 | 3 |
| 11               | 5CDS | CXA2150P-3: CDSP (–Offset Data)              | 0 | 2 | 2 | 2 | 2 | 2 | 2 |
| 12               | 5LTI | CXA2150P-3: LTLV (–Offset Data)              | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13               | 5CTI | CXA2150P-3: CTLV (–Offset Data)              | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14               | 5VML | CXA2150P-3: UVML (–Offset Data)              | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15               | 5VMC | CXA2150P-3: VMCR (–Offset Data)              | 0 | 1 | 1 | 1 | 2 | 2 | 2 |
| 16               | MIDD | CXA2150P-3: MID offset for SN (–Offset Data) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SNNR (0) uses no Offset Data  
 SNNR (1) uses Offset Data (0)  
 SNNR (2) uses Offset Data (1)  
 SNNR (3) uses Offset Data (2)  
 SNNR (4) uses Offset Data (3)  
 SNNR (5) uses Offset Data (4)  
 SNNR (6) uses Offset Data (5)  
 SNNR (7) uses Offset Data (6)

# TP

## Model Type

| Item |      | Function                         |               |  |
|------|------|----------------------------------|---------------|--|
| No.  | Name |                                  |               |  |
|      |      |                                  |               |  |
|      |      |                                  | <b>Common</b> |  |
| 0    | MODL | Model category [0: HA3, 1: RA5A] | 1             |  |

PJE

NVM list (PJ Engine)

| Item |      | Function  | Data Range | Normal | Zoom | Wide Zoom                    | HD   |
|------|------|---|------------|--------|------|------------------------------|------|
| No.  | Name |   |            |        |      |                              |      |
| 00   | FDIS | Swith of display for fine adjustment data           | 00, 01     |        |      |                              |      |
| 01   | COPY | Service copy adjustment                             | 00, 01     |        |      |                              |      |
| 02   | ALCP | Service all copy adjustment                         | 00, 01     |        |      |                              |      |
| 03   | OSDH | OSD horizontal position of PJED service menu        | 01 - 255   |        |      | 22                           |      |
| 04   | OSDV | OSD vertical position of PJED service menu          | 01 - 255   | 100    | 120  | 100                          | 60   |
| 05   | FVSL | Start position of fine adjustment                   | 00 - 15    | 00     | 14   | 15                           | 00   |
| 06   | FVSP | Start line of fine adjustment                       | 00 - 255   | 03     | 21   | 25                           | 53   |
| 07   | V1DL | Value of V1 delay                                   | 00 - 255   | 01     | 139  | 60                           | 01   |
| 08   | V1CU | Value of V1 count up                                | 000 - 4095 | 454    | 598  | 506                          | 387  |
| 09   | V1OH | Value of V1 offset upper data                       | 00 - 255   | 05     | 05   | 05                           | 79   |
| 10   | V1OL | Value of V1 offset lower data                       | 00 - 255   | 00     | 00   | 00                           | 00   |
| 11   | OEVP | Odd/Even select position                            | 000 - 4095 |        |      | 1056                         |      |
| 12   | COHP | Horizontal phase for rough adjustment               | 000 - 4095 |        |      | 000                          |      |
| 13   | 34CS | Start center clamp position of H3 and H4 pulse      | 00 - 31    |        |      | 14                           |      |
| 14   | 34CW | Width center clamp position of H3 and H4 pulse      | 00 - 31    |        |      | 00                           |      |
| 15   | FIHP | Horizontal phase for fine adjustment                | 000 - 4095 |        |      | 1104                         |      |
| 16   | TPHP | Horizontal phase for test pattern                   | 000 - 4095 |        |      | 069                          |      |
| 17   | TPVP | Vertical phase for test pattern                     | 00 - 255   | 55     | 111  | 79                           | 15   |
| 18   | DFHP | Horizontal phase for dynamic focus                  | 000 - 4095 |        |      | 200                          |      |
| 19   | DFHG | Value of horizontal parabola wave for dynamic focus | -128 - 127 | -90    | -90  | -90                          | -90  |
| 20   | DFVG | Value of vertical parabola wave for dynamic focus   | -128 - 127 | -60    | -60  | -60                          | -60  |
| 21   | DFDC | Value of center for dynamic focus                   | -128 - 127 | 127    | 127  | 127                          | 127  |
| 22   | DFV1 | Value of V1 saw wave for dynamic focus              | -128 - 127 | -50    | -50  | -50                          | -50  |
| 23   | SDHP | Compensation of horizontal phase for shading        | 000 - 4095 |        |      | 501                          |      |
| 24   | SDH1 | Value of horizontal saw wave for dynamic focus      | -128 - 127 | -128   | -128 | -128                         | -128 |
| 25   | RVCS | Start position of Red vertical clamp                | 00 - 31    |        |      | 00                           |      |
| 26   | RVCW | Width of Red vertical clamp                         | 00 - 31    |        |      | 00                           |      |
| 27   | GVCS | Start position of Green vertical clamp              | 00 - 31    |        |      | 00                           |      |
| 28   | GVCW | Width of Green vertical clamp                       | 00 - 31    |        |      | 00                           |      |
| 29   | BVCS | Start position of Blue vertical clamp               | 00 - 31    |        |      | 00                           |      |
| 30   | BVCW | Width of Blue vertical clamp                        | 00 - 31    |        |      | 00                           |      |
| 31   | RHCS | Start of position Red horizontal clamp              | 00 - 31    |        |      | 00                           |      |
| 32   | RHCW | Width of Red horizontal clamp                       | 00 - 31    |        |      | 00                           |      |
| 33   | GHCS | Start position of Green horizontal clamp            | 00 - 31    |        |      | 00                           |      |
| 34   | GHCW | Width of Green horizontal clamp                     | 00 - 31    |        |      | 00                           |      |
| 35   | BHCS | Start position of Blue horizontal clamp             | 00 - 31    |        |      | 00                           |      |
| 36   | BHCW | Width of Blue horizontal clamp                      | 00 - 31    |        |      | 00                           |      |
| 37   | BDVU | Vertical position for boder line 1                  | 000 - 2047 | 023    | 018  | 012                          | 049  |
| 38   | BDVL | Vertical position for boder line 2                  | 000 - 2047 | 905    | 686  | 820                          | 1039 |
| 39   | BDHL | Horizontal position for boder line 1                | 000 - 2047 |        |      | 148                          |      |
| 40   | BDHR | Horizontal position for boder line 2                | 000 - 2047 |        |      | 1262                         |      |
| 41   | HBLD | Horizontal phase for output of H. Blank out         | 000 - 4095 |        |      | 000                          |      |
| 42   | HBLW | Width for output of H. Blank out                    | 000 - 4095 |        |      | 000                          |      |
| 43   | PWM2 | PWM2 output width setting of Regi. IC               | 000 - 4095 |        |      | 730 (57 inch), 600 (65 inch) |      |
| 44   | COGV | Green vertical center offset data for Auto Regi.    | -128 - 127 |        |      | -                            |      |
| 45   | CORV | Red vertical center offset data for Auto Regi.      | -128 - 127 |        |      | -                            |      |
| 46   | COBV | Blue vertical center offset data for Auto Regi.     | -128 - 127 |        |      | -                            |      |
| 47   | COGH | Green horizontal center offset data for Auto Regi.  | -128 - 127 |        |      | -                            |      |
| 48   | CORH | Red horizontal center offset data for Auto Regi.    | -128 - 127 |        |      | -                            |      |
| 49   | COBH | Blue horizontal center offset data for Auto Regi.   | -128 - 127 |        |      | -                            |      |
| 50   | SOGV | Green vertical skew offset data for Auto Regi.      | -128 - 127 |        |      | -                            |      |
| 51   | SORV | Red vertical skew offset data for Auto Regi.        | -128 - 127 |        |      | -                            |      |
| 52   | SOBV | Blue vertical skew offset data for Auto Regi.       | -128 - 127 |        |      | -                            |      |
| 53   | SOGH | Green horizontal skew offset data for Auto Regi.    | -128 - 127 |        |      | -                            |      |
| 54   | SORH | Red horizontal skew offset data for Auto Regi.      | -128 - 127 |        |      | -                            |      |

NVM list (PJ Engine)

| Item |                           | Function  | Data Range | Normal      | Zoom                           | Wide Zoom | HD |
|------|---------------------------|---|------------|-------------|--------------------------------|-----------|----|
| No.  | Name                      |   |            |             |                                |           |    |
| 55   | SOBH                      | Blue horizontal skew offset data for Auto Regi.       | -128 - 127 |             |                                | -         |    |
| 56   | ZOGH                      | Green horizontal size offset data for Auto Regi.      | -128 - 127 |             |                                | -         |    |
| 57   | ZORH                      | Red horizontal size offset data for Auto Regi.        | -128 - 127 |             |                                | -         |    |
| 58   | ZOBH                      | Blue horizontal size offset data for Auto Regi.       | -128 - 127 |             |                                | -         |    |
| 59   | LOGH                      | Green horizontal linearity offset data for Auto Regi. | -128 - 127 |             |                                | -         |    |
| 60   | LORH                      | Red horizontal linearity offset data for Auto Regi.   | -128 - 127 |             |                                | -         |    |
| 61   | LOBH                      | Blue horizontal linearity offset data for Auto Regi.  | -128 - 127 |             |                                | -         |    |
| 62   | ERR                       | Auto Regi. Error code                                 | 000 - xxx  |             |                                | -         |    |
| 63   | ADTM                      | A/D data input timing of Auto Regi.                   | 00 - 127   |             | 134 (57 inch), 134 (65 inch)   |           |    |
| 64   | VUP                       | Auto Regi. pattern upper vertical position            | 000 - 2047 |             | 048 (57 inch), 048 (65 inch)   |           |    |
| 65   | VUPM                      | Auto Regi. pattern upper middle vertical position     | 000 - 2047 |             | 000                            |           |    |
| 66   | VMID                      | Auto Regi. pattern middle vertical position           | 000 - 2047 |             | 515 (57 inch), 515 (65 inch)   |           |    |
| 67   | VLOM                      | Auto Regi. pattern lower middle vertical position     | 000 - 2047 |             | 000                            |           |    |
| 68   | VLOW                      | Auto Regi. pattern lower vertical position            | 000 - 2047 |             | 980 (57 inch), 980 (65 inch)   |           |    |
| 69   | HLE                       | Auto Regi. pattern left horizontal position           | 000 - 4095 |             | 072 (57 inch), 072 (65inch)    |           |    |
| 70   | HLEM                      | Auto Regi. pattern left middle horizontal position    | 000 - 4095 |             | 000                            |           |    |
| 71   | HMID                      | Auto Regi. pattern middle horizontal position         | 000 - 4095 |             | 655 (57 inch), 655 (65 inch)   |           |    |
| 72   | HRIM                      | Auto Regi. pattern right middle horizontal position   | 000 - 4095 |             | 000                            |           |    |
| 73   | HRIV                      | Auto Regi pattern right horizontal position           | 000 - 4095 |             | 1232 (57 inch), 1232 (65 inch) |           |    |
| 74   | SFTF                      | Switth of shift fast                                  | 000, 001   |             | 000                            |           |    |
| 75   | ACTL                      | Account timer counter lower byte                      | 000 - xxx  |             | 000                            |           |    |
| 76   | ACTH                      | Account timer counter upper byte                      | 000 - xx   |             | 000                            |           |    |
| 77   | SLSW                      | Auto Regi. adjustment item select                     | 000 - 003  |             | 003 (57 inch), 003 (65 inch)   |           |    |
| GRN  | CENT                      | Green Horizontal / Vertical center                    | -512 - 511 |             | 35 / 20                        |           |    |
|      | SKEW                      | Green Horizontal / Vertical skew                      | -512 - 511 |             | 000 / 000                      |           |    |
|      | SIZE                      | Green Horizontal / Vertical size                      | -512 - 511 |             | -100 / -075                    |           |    |
|      | LIN                       | Green Horizontal / Vertical linearity                 | -512 - 511 |             | 000 / 000                      |           |    |
|      | KEY                       | Green Vertical keystone                               | -512 - 511 |             | xxxx / 000                     |           |    |
|      | PIN                       | Green Horizontal pincushion                           | -512 - 511 |             | 000 / 400                      |           |    |
|      | MLIN                      | Green Horizontal mid linearity                        | -512 - 511 |             | 000 / xxxx                     |           |    |
| MSIZ | Green Horizontal mid size | -512 - 511  |            | -200 / xxxx |                                |           |    |
| BLU  | CENT                      | Blue Horizontal / Vertical center                     | -512 - 511 |             | 35 / 20                        |           |    |
|      | SKEW                      | Blue Horizontal / Vertical skew                       | -512 - 511 |             | 000 / 000                      |           |    |
|      | SIZE                      | Blue Horizontal / Vertical size                       | -512 - 511 |             | -100 / -075                    |           |    |
|      | LIN                       | Blue Horizontal / Vertical linearity                  | -512 - 511 |             | -425 / 000                     |           |    |
|      | KEY                       | Blue Vertical keystone                                | -512 - 511 |             | xxxx / -120                    |           |    |
|      | PIN                       | Blue Horizontal pincushion                            | -512 - 511 |             | 000 / 350                      |           |    |
|      | MLIN                      | Blue Horizontal mid linearity                         | -512 - 511 |             | 150 / xxxx                     |           |    |
| MSIZ | Blue Horizontal mid size  | -512 - 511  |            | -100 / xxxx |                                |           |    |
| RED  | CENT                      | Red Horizontal / Vertical center                      | -512 - 511 |             | 35 / 20                        |           |    |
|      | SKEW                      | Red Horizontal / Vertical skew                        | -512 - 511 |             | 000 / 000                      |           |    |
|      | SIZE                      | Red Horizontal / Vertical size                        | -512 - 511 |             | -100 / -075                    |           |    |
|      | LIN                       | Red Horizontal / Vertical linearity                   | -512 - 511 |             | 425 / 000                      |           |    |
|      | KEY                       | Red Vertical keystone                                 | -512 - 511 |             | xxxx / 120                     |           |    |
|      | PIN                       | Red Horizontal pincushion                             | -512 - 511 |             | 000 / 350                      |           |    |
|      | MLIN                      | Red Horizontal mid linearity                          | -512 - 511 |             | -150 / xxxx                    |           |    |
| MSIZ | Red Horizontal mid size   | -512 - 511  |            | -100 / xxxx |                                |           |    |

OP

Model Option

| Item |      | Function   | Common |
|------|------|--|--------|
| No.  | Name |  |        |
| 0    | DLY1 | Delay time 1 of power on segment                             | 10     |
| 1    | DLY2 | Delay time 2 of power on segment                             | 18     |
| 2    | DLY3 | Delay time 3 of power on segment                             | 0      |
| 3    | AGCA | AGC ATT level  | 255    |
| 4    | OSDH | OSD H position [0: Left, 254: Right]                         | 8      |
| 5    | HDPT | HD (1080i) pass through switch [0: Pass through, 1: MID out] | 1      |
| 6    | DRST | DTV box auto reset function [0: Off, 1: On]                  | 1      |
| 7    | RAMW | RAM window display [0: Off, 1: Display]                      | 0      |

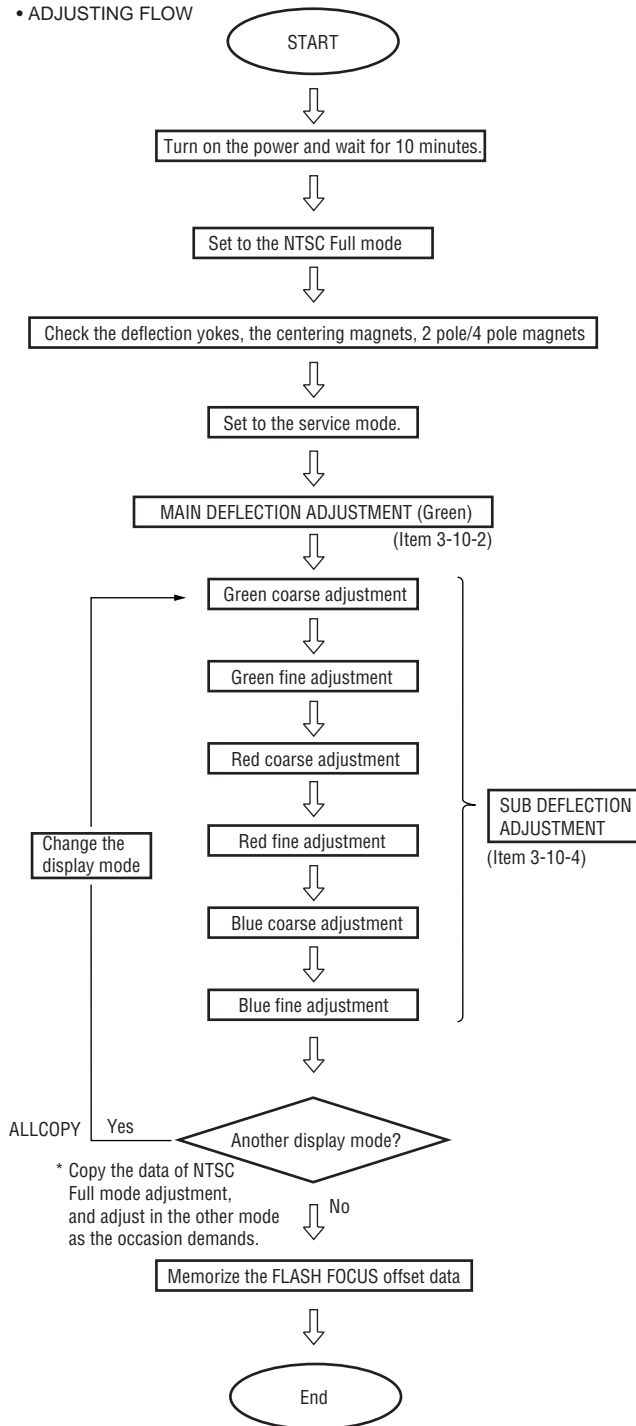
ID

Model ID

| Item |      | Function        | Common |
|------|------|-----------------|--------|
| No.  | Name |                 |        |
| 0    | ID0  | Language/System | 89     |
| 1    | ID1  | Video input     | 255    |
| 2    | ID2  | Audio           | 119    |
| 3    | ID3  | etc. 1          | 106    |
| 4    | ID4  | etc. 2          | 75     |
| 5    | ID5  | etc. 3          | 161    |
| 6    | ID6  | Sub picture     | 62     |
| 7    | ID7  | etc. 4          | 30     |

### 3-11. REGISTRATION ADJUSTMENT

• ADJUSTING FLOW

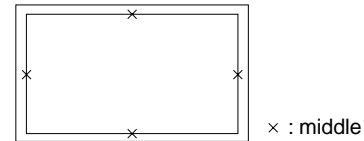


#### 3-11-1. Setup for Adjustment

##### 1. Marking

- At the 4 insides of the screen, locate the middle. Use a tape measure to identify the middle.

##### 2. Data Setting



- Set NTSC Full mode.
- Enter the Service mode, and select "PJE".

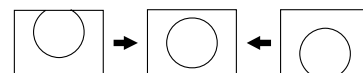
Note : When you replaced printed circuit boards or devices or CRTs, and when correction is drastically necessary, press "⑦" + "[ENTER]" buttons to initialize the data in the Projector Engine mode. Press "[MUTING]" + "[ENTER]" buttons on the commander to write the data.

#### 3-11-2. Main Deflection Adjustment

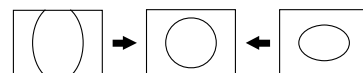
Note : Before this adjustment, input the data of PJE item GRN, RED and BLU (See page 39).

- Place the caps on the red and blue lenses so that only the green color is displayed.
- Enter the monoscope signal and set to NTSC Full mode .
- Enter the Service mode, and select "2150D-1" .
- Adjust "0 VPOS" and "1 VSIZ" so that the picture is displayed in the center of screen.

0 VPOS



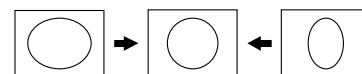
1 VSIZ



- Select "2150D-2" and adjust "2 HSIZ" so that the picture size is within the specification.

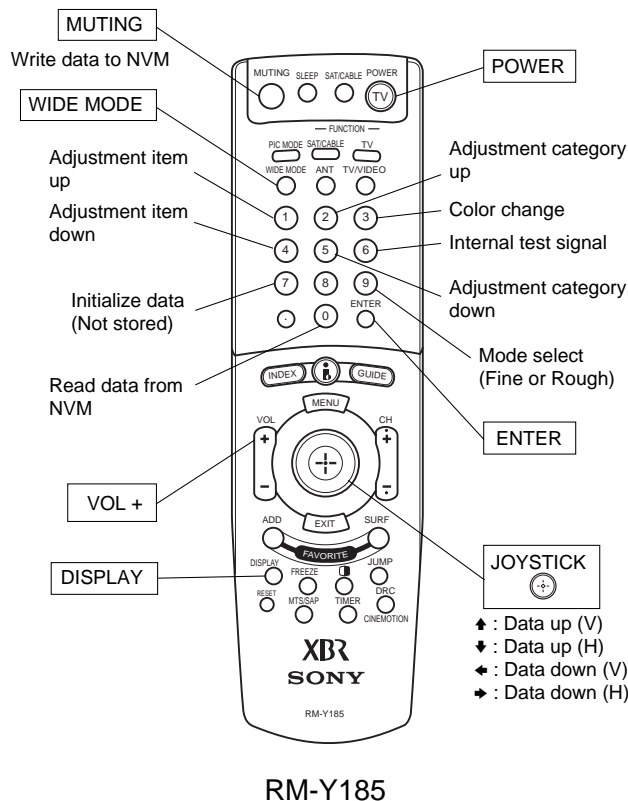
| SPEC         | Overscan Spec. = 9% |                |
|--------------|---------------------|----------------|
| Input Signal | H SIZE              | V SIZE         |
| Monoscope    | 15.5 ± 0.2 sq.      | 11.6 ± 0.2 sq. |

2 HSIZ



- Copy the data of NTSC Full mode to the other display mode and adjust in the other mode as the occasion demands.

### 3-11-3. Operation Method for Projector Engine Mode



RM-Y185

#### 1. Functions of Keys on Commander

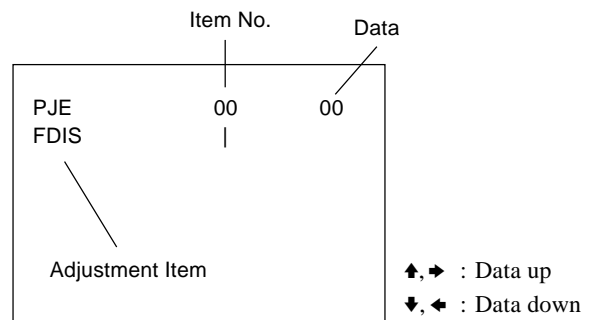
- ① : Changes adjustment item. (item No. moves up)  
: Marker moves clockwise from center to outside. (in fine adjustment mode)
- ④ : Changes adjustment item. (item No. moves down)  
: Marker moves counterclockwise from outside to center. (in fine adjustment mode)
- ② : Changes adjustment category. (category moves up)
- ⑤ : Changes adjustment category. (category moves down)<sup>o</sup>
- $\uparrow \downarrow \leftarrow \rightarrow$  : Changes data value.  
: Marker moves up, down, or to the left or right. (in fine adjustment mode)
- ③ : Changes adjustment color. (except item No. 00~77) GRN → BLU → RED
- ⑥ : Displays or changes internal test signals.  
: crosshatch + external signal → crosshatch + borderline → crosshatch only → dot only → off
- ⑨ : Switches adjustment mode.  
rough adjustment mode → fine adjustment mode
- $\oplus$  (push) : Switches marker moving method. (in fine adjustment mode)  
joystick key → ① and ④ buttons

#### Commander Function

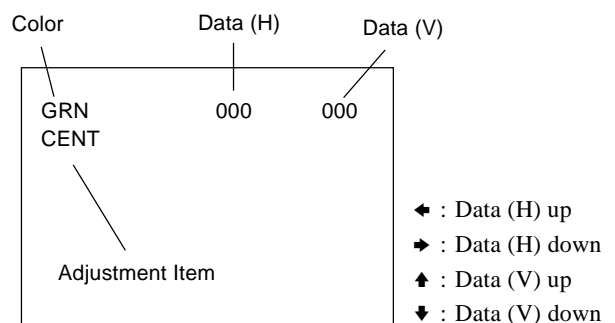
| Button         | Mode        | Description   |
|----------------|-------------|---|
| MUTING + ENTER | WRITE       | Writes data to NVM.   |
| ⑩ + ENTER      | READ        | Reads data from NVM.  |
| ⑦ + ENTER      | PJE INITIAL | Service data initialization. Not stored. (Be sure not to use usually) |

#### 2. Operation Method for Rough Adjustment

- 1) Set in the service mode, and select the category “PJE”.
- 2) Press “①” or “④” button on the commander to select the item, and move the joystick  $\uparrow, \downarrow, \leftarrow, \rightarrow$  to change the data.



- 3) Select “GRN CENT” . When BLU or RED is displayed, press “③” button on the commander to change the adjustment color in the order of GRN → BLU → RED.
- 4) In the GRN, BLU, or RED mode, moving the joystick  $\uparrow, \downarrow$  can change the data in vertical direction, or  $\leftarrow, \rightarrow$  in horizontal direction.

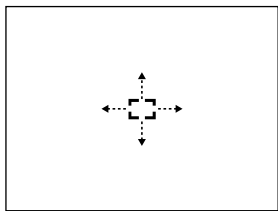


- 5) Before returning to the Service mode, press “MUTING” + “ENTER” buttons on the commander to write the data. (Omission of this operation causes the set data to be returned to the data before adjustment)

### 3. Operation Method for Fine Adjustment

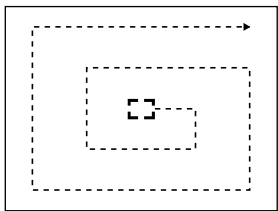
- 1) Set in the service mode and select the category "PJE".
- 2) Select "00 FDIS" so that the data at each position can be displayed in the fine adjustment mode, and set the data to "01".
- 3) Press "9" button on the commander, and the fine adjustment mode will be active where a green marker appears in the center of screen (in the case of GRN mode).
- 4) Press "+" button on the commander, and the marker color will be switched between green (GRN mode) and white alternately.
- 5) Use "1" or "4" button on the commander, or the joystick to move the marker to the position to be adjusted, where fine adjustment can be made.

- When marker color is white.  
(in this case, fine adjustment is disabled)



Operating the joystick can move the marker up, down, or to the left or right freely.

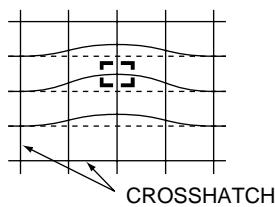
- When marker color is green. (GRN mode)



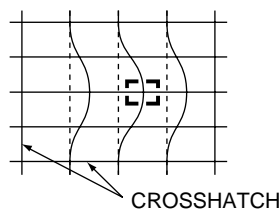
- ① : moves the marker clockwise from center to outside.
- ④ : moves the marker counterclockwise from outside to center.

- Fine adjustment can be made on the basis of marker position by moving the joystick ↑, ↓, ←, →.

Movement when moving the joystick ↑.



Movement when moving the joystick →.



- 6) Press "9" button on the commander to return to the rough adjustment mode.

### 3-11-4. Projector Engine Adjustment (Sub Deflection Adjustment)

| Adjustment Item | Adjustment Type |       |       |
|-----------------|-----------------|-------|-------|
|                 | GRN             | RED   | BLU   |
|                 | H / V           | H / V | H / V |
| CENT            | ○ / ○           | ○ / ○ | ○ / ○ |
| SKEW            | ○ / ○           | ○ / ○ | ○ / ○ |
| SIZE            | ○ / ○           | ○ / ○ | ○ / ○ |
| LIN             | ○ / ○           | ○ / ○ | ○ / ○ |
| KEY             | - / ○           | - / ○ | - / ○ |
| PIN             | ○ / ○           | ○ / ○ | ○ / ○ |
| MLIN            | ○ / -           | ○ / - | ○ / - |
| MSIZ            | ○ / -           | ○ / - | ○ / - |

Note: If the value of over the limit value, adjust these in the fine adjustment .

< Rough Adjustment Data Limit Value >  
 CENT H : 35±170 V : 20±170  
 SIZE H : -75max  
 LIN H BLU : -425min  
 H RED : 425max

#### <Adjustment for NTSC Full Screen Mode>

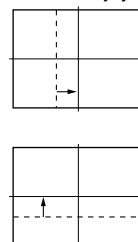
The adjustment should be done in the numerical order given.

#### 1. Green Adjustment

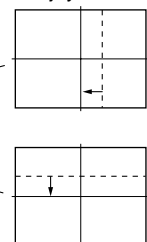
- 1) Place the caps on the red and blue lenses so that only the green color is displayed.
- 2) Enter the monoscope signal to set.
- 3) Select the "PJE" mode.
- 4) Press "6" button on the commander to display internal test signal (crosshatch).
- 5) Select "GRN CENT", and adjust so that the picture coincide in the center of screen.

- GRN CENT (horizontally/vertically)

Move the joystick →.



Move the joystick ←.



Move the joystick ↑.

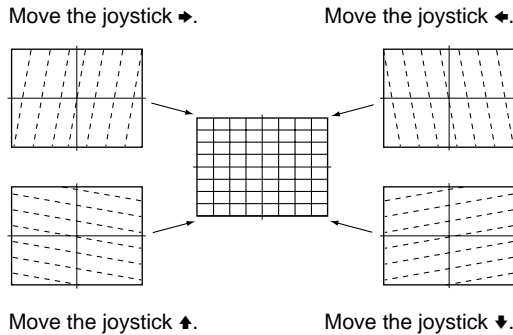


Move the joystick ↓.



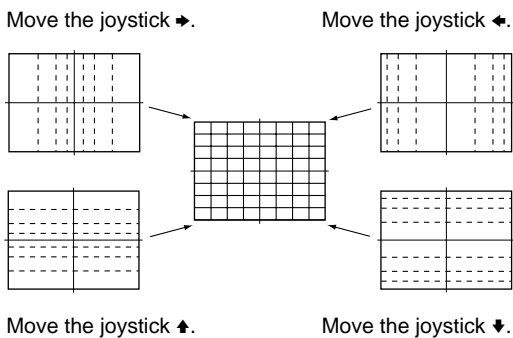
6) Select “GRN SKEW”, and correct the tilt of horizontal lines and vertical lines.

• GRN SKEW (horizontally/vertically)



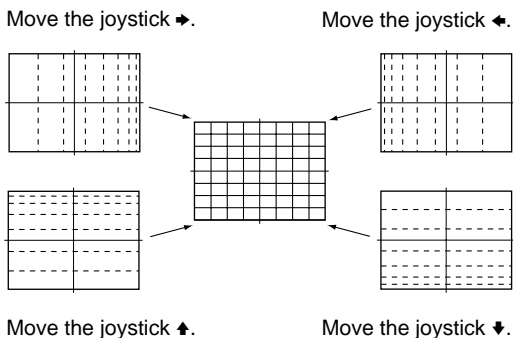
7) Select “GRN SIZE”, and adjust so that each distance from center to left end and to right end is equal. Adjust so that each distance from center to top and to bottom is equal.

• GRN SIZE (horizontally/vertically)



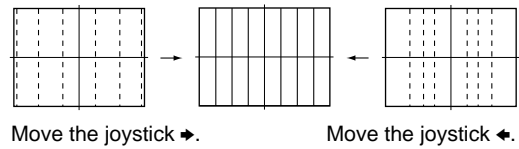
8) Select “GRN LIN”, and adjust so that each space at the right end and at the left end of screen is equal. Adjust so that each space at the top and at the bottom of screen is equal.

• GRN LIN (horizontally/vertically)



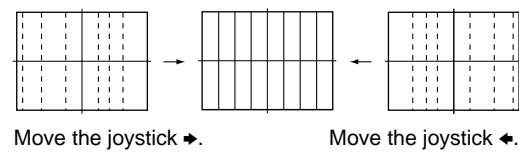
9) Select “GRN MSIZ”, and correct the space intervals for the horizontal section of the screen are equal.

• GRN MSIZ (horizontally)



10) Select “GRN MLIN”, and correct the sizes of the horizontal line at the center of the screen are symmetrical left and right.

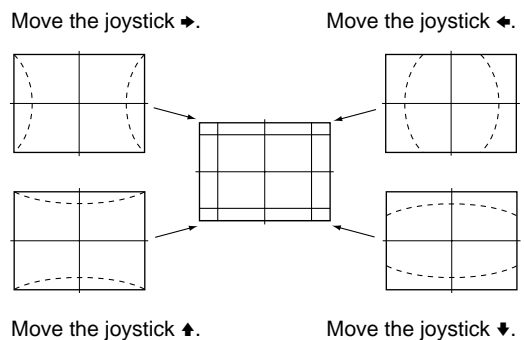
• GRN MLIN (horizontally)



Note: The SIZE and LIN, MSIZ and MLIN adjustments are affected each other. So adjust these mutually if necessary.

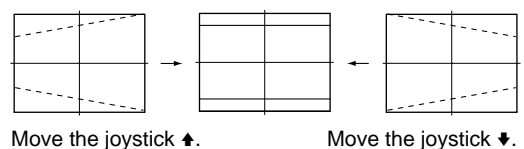
11) Select “GRN PIN”, and adjust so that right and left vertical lines on the screen become straight. Adjust so that upper and lower horizontal lines on the screen become straight.

• GRN PIN (horizontally/vertically)



12) Select “GRN KEY”, and adjust so that upper and lower horizontal lines on the screen become parallel.

• GRN KEY (vertically)



Note: The VPIN and KEY adjustments are affected each other. So adjust these mutually if necessary.



- 13) Press “⑨” button on the commander to enter the fine adjustment mode.
- 14) Make fine adjustment so that horizontal lines and vertical lines become straight.
- 15) Press “⑨” button on the commander to return to the rough adjustment mode.

## 2. Red Adjustment

- 1) Place a cap on the blue lens so that green and red colors are displayed.
- 2) Press “③” button on the commander to select RED mode.
- 3) Adjust the following items so that red lines overlap with green lines.

- RED CENT (horizontally/vertically)
- RED SKEW (horizontally/vertically)
- RED SIZE (horizontally/vertically)
- RED LIN (horizontally/vertically)
- RED MSIZ (horizontally)
- RED MLIN (horizontally)
- RED PIN (horizontally/vertically)
- RED KEY (vertically)

- 4) Press “⑨” button on the commander to enter the fine adjustment mode.
- 5) Make fine adjustment so that horizontal lines and vertical lines overlap with green lines.
- 6) Press “⑨” button on the commander to return to the coarse adjustment mode.

## 3. Blue Adjustment

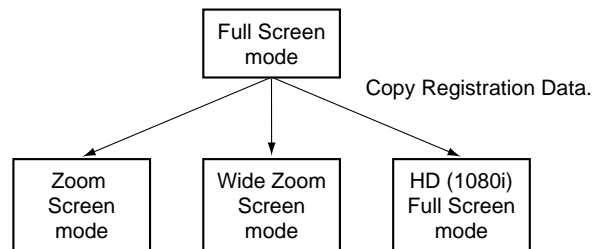
- 1) All colors are displayed.
- 2) Press “③” button on the commander to select BLU mode.
- 3) Hereinafter, use same manner as that of red adjustment to adjust so that the blue lines overlap with green and red lines.

## 4. Registration Data Writing

- 1) After each adjustment of green, blue, and red for the NTSC Full mode finished, press “[MUTING]”+ “[ENTER]” buttons on the commander to write registration data to the NVM.

### <Copy All Registration Data to Other modes>

1. Make sure that the adjustment for NTSC Full mode finished and the data have already been written.
2. Select the “PJE” mode.
3. Select “02 ALCP” and set the data to “01”, and press “[MUTING]”+ “[ENTER]” buttons on the commander.
4. The data of NTSC Full mode are copied to all other modes.



5. Check in the other mode and adjust as the occasion demands. Be sure to write data in each mode.

## 3-12. AUTO REGISTRATION OFFSET

This adjustment must be performed after the registration adjustment was made or after readjustment was made by any reason.

1. Darken the periphery of this set.
2. Enter the monoscope signal to set the NTSC Full mode.
3. Select the PJE mode.
4. Press “[FLASH FOCUS]” button on the front panel of the set. (The offset value is now automatically stored)
5. Select “ERR” of PJE mode. Confirm ERR is “000”. If ERR is not “000”, recheck. (Refer to 3-13.)
6. Exit the service mode.

### 3-13. AUTO REGISTRATION ERROR CODE LIST

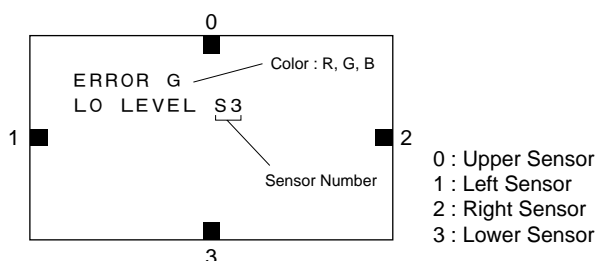
If an error code is displayed after the set has been fully adjusted, correctly, please check the following items : position, tilt and sizing. If either of these adjustments are off, even slightly, the auto registration pattern will not hit the four sensors properly. This occurs when the internal generator patterns is being flashed on the screen for the sensor to read. Therefore, auto registration (called auto convergence) cannot operate properly causing an error code to be displayed. In order for this function to operate properly, correct position, tilt and size must be adjusted properly.

#### ERROR CODE LIST

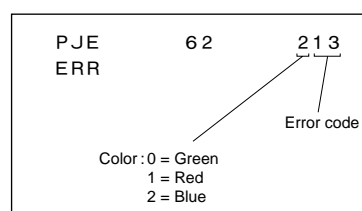
| ERROR CODE | DESCRIPTION                             | REMEDY   |
|------------|---|--|
| 00         | No Error                                |  |
| 10         | Sensor 0 low output                     | Check sensor 0, connection/wiring, circuit, and pattern position<br>(Are patterns hitting sensor ?) Adjust "64 VUP" if necessary.  |
| 11         | Sensor 1 low output                     | Check sensor 1, connection/wiring, circuit, and pattern position<br>(Are patterns hitting sensor ?) Adjust "69 HLE" if necessary.  |
| 12         | Sensor 2 low output                     | Check sensor 2, connection/wiring, circuit, and pattern position<br>(Are patterns hitting sensor ?) Adjust "73 HRIV" if necessary. |
| 13         | Sensor 3 low output                     | Check sensor 3, connection/wiring, circuit, and pattern position<br>(Are patterns hitting sensor ?) Adjust "68 VLOW" if necessary. |
| 20         | Sensor 0 high output                    | Check sensor 0 and circuit.  |
| 21         | Sensor 1 high output                    | Check sensor 1 and circuit.  |
| 22         | Sensor 2 high output                    | Check sensor 2 and circuit.  |
| 23         | Sensor 3 high output                    | Check sensor 3 and circuit.  |
| 30         | V CENT or SKEW adjustment loop overflow | Check "66 VMID" data and check registration condition.   |
| 31         | H CENT or SKEW adjustment loop overflow | Check "71 HMID" data and check registration condition.   |
| 32         | H LIN or SIZE adjustment loop overflow  | Check "69 HLE" and "73 HRIV" data and check registration condition.  |
| 40         | V CENT regi data overflow               | Check "66 VMID" data and confirm V CENT data (all mode) is not near 511.   |
| 41         | H CENT regi data overflow               | Check "71 HMID" data and confirm H CENT data (all mode) is not near 511.   |
| 42         | V SKEW regi data overflow               | Check "66 VMID" data and confirm V SKEW data (all mode) is not near 511.   |
| 43         | H SKEW regi data overflow               | Check "71 HMID" data and confirm H SKEW data (all mode) is not near 511.   |
| 44         | H LIN regi data overflow                | Check "69 HLE" and "73 HRIV" data and confirm H CENT data (all mode) is not near 511.  |
| 45         | H SIZE regi data overflow               | Check "69 HLE" and "73 HRIV" data and confirm V CENT data (all mode) is not near 511.  |
| 50         | V CENT regi data overdraw               | Check "66 VMID" data and confirm V CENT data (all mode) is not near -512.  |
| 51         | H CENT regi data overdraw               | Check "71 HMID" data and confirm H CENT data (all mode) is not near -512.  |
| 52         | V SKEW regi data overdraw               | Check "66 VMID" data and confirm V SKEW data (all mode) is not near -512.  |
| 53         | H SKEW regi data overdraw               | Check "71 HMID" data and confirm H SKEW data (all mode) is not near -512.  |
| 54         | H LIN regi data overdraw                | Check "69 HLE" and "73 HRIV" data and confirm H CENT data (all mode) is not near -512.   |
| 55         | H SIZE regi data overdraw               | Check "69 HLE" and "73 HRIV" data and confirm V CENT data (all mode) is not near -512.   |
| 60         | H or V CENT offset overflow             | Check "71 HMID" data and check "66 VMID" data.   |
| 61         | H or V SKEW offset overflow             | Check SKEW adjustment.   |
| 62         | H SIZE or LIN offset overflow           | Check "69 HLE" and "73 HRIV" data and check SIZE and LIN adjustment.   |
| 70         | H or V CENT offset overdraw             | Check "71 HMID" data and check "66 VMID" data.   |
| 71         | H or V SKEW offset overdraw             | Check SKEW adjustment.   |
| 72         | H SIZE or LIN offset overdraw           | Check "69 HLE" and "73 HRIV" data and check SIZE and LIN adjustment.   |
| 80         | Size limit error                        | Check that H SIZE data is negative and not near 0.   |

#### [Error Code Screen Display]

- When executing flash focus in service mode, the error will be displayed in text format.  
(Example : Green Low Level Sensor 3)



- Error codes in normal (customer) mode are not displayed. You must enter PJE service mode to see the error code.  
(Example : Blue Low Level Sensor 3)



## SECTION 4 CIRCUIT ADJUSTMENTS

### 4-1. 480p Y, PB, PR GAIN ADJUSTMENT

1. Receive the 100 % color bar (480p, 0% setup, component) signal with VIDEO 5 input.  
(White to Black Level :  $700 \pm 10$  mVp-p)
2. Connect the oscilloscope between CN005 ① pin (V\_MIDI\_Y), ② pin (V\_MIDI\_PB), ③ pin (V\_MIDI\_PR) on the B board and ground.
3. Set in the service mode and select the category “CXA2151”.
4. Adjust “5 YGN” , “3 CBGN” and “4 CRGN” so that the waveform level is  $1.400 \pm 0.035$  Vp-p.
5. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

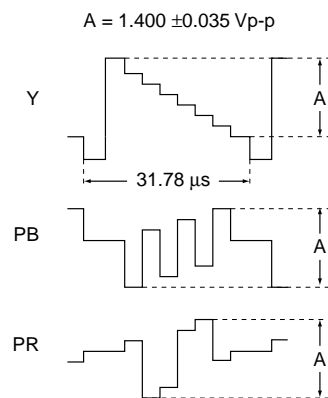


Fig. 4-1

### 4-2. MAIN Y/C LEVEL ADJUSTMENT (FOR THE DRC PATH)

1. Receive the 100 % color bar (480i, 0% setup, component) signal with VIDEO 5 input.  
(White to Black Level Y :  $714 \pm 10$  mVp-p, PB, PR :  $700 \pm 10$  mVp-p)
2. Connect the oscilloscope between CN005 ⑤ pin (V\_DRCL\_Y), ⑥ pin (V\_DRCL\_PB) on the B board and ground.
3. Set in the service mode and select the category “2103-1”.
4. Adjust “0 YLEV” and “1 CLEV” so that the waveform levels are  $1.400 \pm 0.015$  Vp-p and  $1.490 \pm 0.015$  Vp-p.
5. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

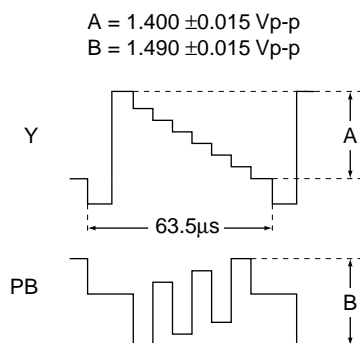


Fig. 4-2

### 4-3. MAIN Y/C LEVEL ADJUSTMENT (FOR THE VDO PATH)

1. Receive the 100 % color bar (480i, 0% setup, component) signal with VIDEO 5 input.  
(White to Black Level Y :  $714 \pm 10$  mVp-p, PB, PR :  $700 \pm 10$  mVp-p)
2. Connect CN005 ⑨ pin (MN\_SB\_SW) on the B board to 5 V.
3. Connect the oscilloscope between CN005 ① pin (V\_MIDI\_Y), ② pin (V\_MIDI\_PB) on the B board and ground.
4. Set in the service mode and select the category “2103-1”.
5. Adjust “0 YLEV” and “1 CLEV” so that the waveform levels are  $1.400 \pm 0.015$  Vp-p.
6. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

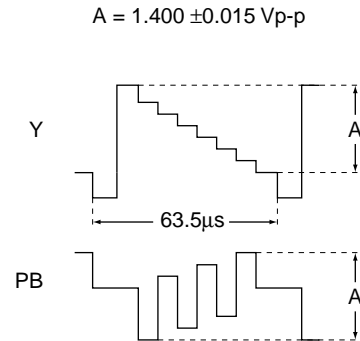


Fig. 4-3

#### 4-4. SUB Y/C LEVEL ADJUSTMENT (FOR THE DRC PATH)

1. Receive the 100 % color bar (480i, 0% setup, component) signal with VIDEO 5 input.  
(White to Black Level Y :  $714 \pm 10$  mVp-p, PB,PR :  $700 \pm 10$  mVp-p)
2. Connect CN005 (A9) pin (MN\_SB\_SW) on the B board to 5 V.
3. Connect the oscilloscope between CN005 (A5) pin (V\_DRCL\_Y), (A6) pin (V\_DRCL\_PB) on the B board and ground.
4. Set in the service mode and select the category “2103-2”.
5. Adjust “0 YLEV” and “1 CLEV” so that the waveform levels are  $1.400 \pm 0.015$  Vp-p and  $1.490 \pm 0.015$  Vp-p.
6. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

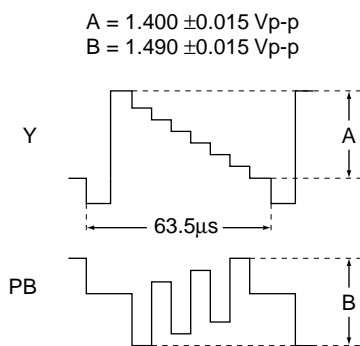


Fig. 4-4

#### 4-5. SUB Y/C LEVEL ADJUSTMENT (FOR THE VDO PATH)

1. Receive the 100 % color bar (480i, 0% setup, component) signal with VIDEO 5 input.  
(White to Black Level Y :  $714 \pm 10$  mVp-p, PB,PR :  $700 \pm 10$  mVp-p)
2. Connect the oscilloscope between CN005 (A1) pin (V\_MIDI\_Y), (A2) pin (V\_MIDI\_PB) on the B board and ground.
3. Set in the service mode and select the category “2103-2”.
4. Adjust “0 YLEV” and “1 CLEV” so that the waveform levels are  $1.400 \pm 0.015$  Vp-p.
5. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

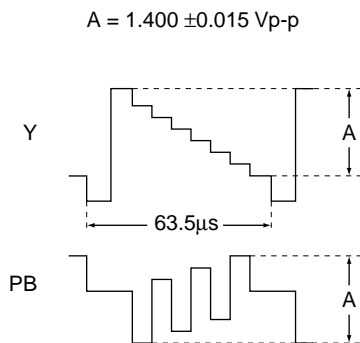


Fig. 4-5

#### 4-6. MAIN DECODER SUB CONTRAST ADJUSTMENT (FOR COMPOSITE AND Y/C INPUTS)

1. Receive the 100 % color bar (480i, 7.5% setup, Y/C) signal with VIDEO 3 input. (White to Black Level Y :  $714 \pm 10$  mVp-p, Burst Level C :  $285 \pm 10$  mVp-p)
2. Connect the oscilloscope between CN005 (A5) pin (V\_DRCL\_Y) on the B board and ground.
3. Set in the service mode and select the category “2103-1”.
4. Adjust “2 SCON” so that the waveform level is  $1.400 \pm 0.035$  Vp-p.
5. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

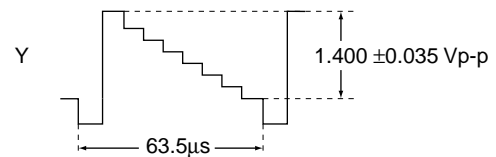


Fig. 4-6

#### 4-7. MAIN DECODER SUB COLOR AND SUB HUE ADJUSTMENT (FOR COMPOSITE AND Y/C INPUTS)

1. Receive the 100 % color bar (480i, 7.5% setup, Y/C) signal with VIDEO 3 input. (White to Black Level Y :  $714 \pm 10$  mVp-p, Burst Level C :  $285 \pm 10$  mVp-p)
2. Connect the oscilloscope between CN005 (A6) pin (V\_DRCL\_PB) on the B board and ground.
3. Set in the service mode and select the category “2103-1”.
4. Adjust “3 SCOL” and “4 SHUE” so that the waveform levels are  $1.490 \pm 0.040$  Vp-p and  $0.248 \pm 0.035$  Vp-p.
5. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

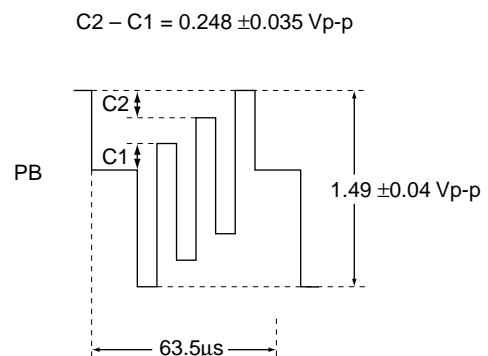


Fig. 4-7

#### 4-8. SUB DECODER SUB CONTRAST ADJUSTMENT (FOR Y/C INPUT)

1. Receive the 100 % color bar (480i, 7.5% setup, Y/C) signal with VIDEO 3 input. (White to Black Level Y :  $714 \pm 10$  mVp-p, Burst Level C :  $285 \pm 10$  mVp-p)
2. Connect the oscilloscope between CN005 ㉑ pin (V\_MIDI\_Y) on the B board and ground.
3. Set in the service mode and select the category “2103-2”.
4. Adjust “2 SCON” so that the waveform level is  $1.400 \pm 0.035$  Vp-p.
5. After adjustment finished, press “[MUTING]” + “[ENTER]” buttons on the commander to write the data to the NVM.

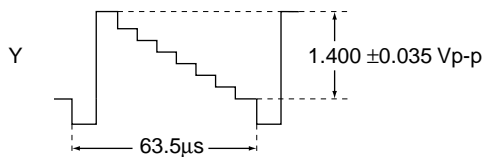


Fig. 4-8

#### 4-9. SUB DECODER SUB COLOR AND SUB HUE ADJUSTMENT (FOR Y/C INPUT)

1. Receive the 100 % color bar (480i, 7.5% setup, Y/C) signal with VIDEO 3 input. (White to Black Level Y :  $714 \pm 10$  mVp-p, Burst Level C :  $285 \pm 10$  mVp-p)
2. Connect the oscilloscope between CN005 ㉒ pin (V\_MIDI\_PB) on the B board and ground.
3. Set in the service mode and select the category “2103-2”.
4. Adjust “3 SCOL” and “4 SHUE” so that the waveform levels are  $1.400 \pm 0.040$  Vp-p and  $0.248 \pm 0.035$  Vp-p.
5. After adjustment finished, press “[MUTING]” + “[ENTER]” buttons on the commander to write the data to the NVM.

$$C2 - C1 = 0.248 \pm 0.035 \text{ Vp-p}$$

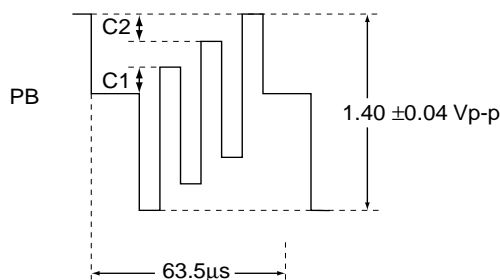


Fig. 4-9

#### 4-10. SUB DECODER SUB CONTRAST ADJUSTMENT (FOR COMPOSITE INPUT)

1. Receive the 100 % color bar (480i, 7.5% setup, composite) signal with VIDEO 1 input. (White to Black Level :  $714 \pm 10$  mVp-p, Burst Level :  $285 \pm 10$  mVp-p)
2. Connect the oscilloscope between CN005 ㉑ pin (V\_MIDI\_Y) on the B board and ground.
3. Set in the service mode and select the category “2103-2”.
4. Adjust “22 2SCO” so that the waveform level is  $1.400 \pm 0.035$  Vp-p.
5. After adjustment finished, press “[MUTING]” + “[ENTER]” buttons on the commander to write the data to the NVM.

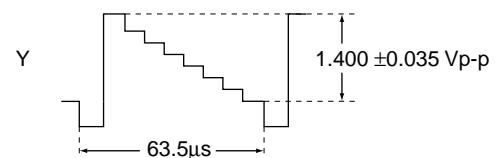


Fig. 4-10

#### 4-11. SUB DECODER SUB COLOR AND SUB HUE ADJUSTMENT (FOR COMPOSITE INPUT)

1. Receive the 100 % color bar (480i, 7.5% setup, composite) signal with VIDEO 1 input. (White to Black Level :  $714 \pm 10$  mVp-p, Burst Level :  $285 \pm 10$  mVp-p)
2. Connect the oscilloscope between CN005 ㉒ pin (V\_MIDI\_PB) on the B board and ground.
3. Set in the service mode and select the category “2103-2”.
4. Adjust “23 2SCL” and “24 2SHU” so that the waveform levels are  $1.400 \pm 0.040$  Vp-p and  $0.248 \pm 0.035$  Vp-p.
5. After adjustment finished, press “[MUTING]” + “[ENTER]” buttons on the commander to write the data to the NVM.

$$C2 - C1 = 0.248 \pm 0.035 \text{ Vp-p}$$

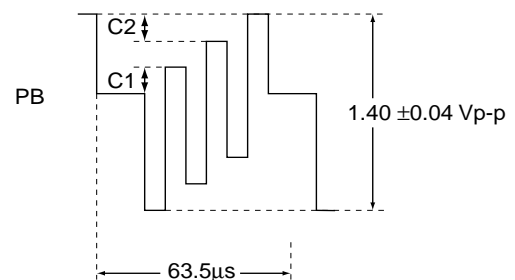


Fig. 4-11

#### 4-12. MAIN DECODER PB AND PR OFFSET ADJUSTMENT

1. Receive the all white (480i, 7.5% setup, composite) signal with VIDEO 1 input. (White to Black Level :  $714 \pm 10$  mVp-p)
2. Connect the oscilloscope between CN005 ① pin (V\_DRCL\_PB), ② pin (V\_DRCL\_PR) on the B board and ground.
3. Set in the service mode and select the category “2103-1”.
4. Adjust “20 CBOF” and “21 CROF” so that the waveform level is  $0.000 \pm 0.003$  Vp-p.
5. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.
6. Turn the all white (480i, 0% setup, component) signal with VIDEO 5 input. (White to Black Y : Level :  $714 \pm 10$  mVp-p, Pb,Pr : 0 Vp-p)
7. Adjust “20 CBOF” and “21 CROF” so that the waveform level is  $0.000 \pm 0.003$  Vp-p.
8. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

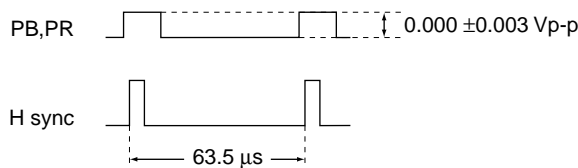


Fig. 4-12

#### 4-13. SUB DECODER PB AND PR OFFSET ADJUSTMENT

1. Receive the all white (480i, 7.5% setup, composite) signal with VIDEO 1 input. (White to Black Level :  $714 \pm 10$  mVp-p)
2. Connect the oscilloscope between CN005 ② pin (V\_MIDI\_PB), ③ pin (V\_MIDI\_PR) on the B board and ground.
3. Set in the service mode and select the category “2103-2”.
4. Adjust “20 CBOF” and “21 CROF” so that the waveform level is  $0.000 \pm 0.003$  Vp-p.
5. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

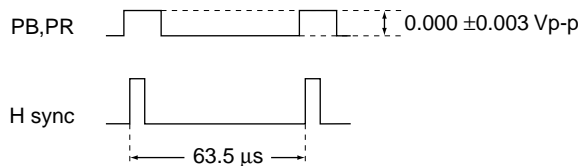


Fig. 4-13

#### 4-14. BLUE OFFSET ADJUSTMENT

1. Receive the all black (1080i, component) signal with VIDEO 5 input, and set PICTURE to maximum.
2. Connect the oscilloscope between CN3009 ⑦ pin (B) on the A board and ground.
3. Set in the service mode and select the category “2150D-2”.
4. Adjust “3 SLIN” so that the waveform level is  $2.20 \pm 0.05$  Vp-p.
5. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.
6. Receive the RF signal and change the wide mode to “Wide Zoom”. Copy the same data to “3 SLIN”.

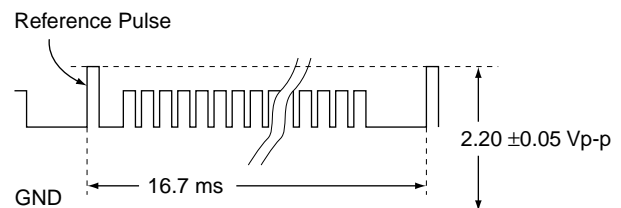


Fig. 4-14

#### 4-15. SUB CONTRAST ADJUSTMENT

1. Receive the 1/25 window (1080i, component) signal with VIDEO 5 input, and set PICTURE to maximum.
2. Connect the oscilloscope between CN3009 ⑥ pin (G) on the A board and ground.
3. Set in the service mode and select the category “2150P-4”.
4. Adjust “0 SCON” so that the waveform level is  $2.30 \pm 0.05$  Vp-p.
5. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.
6. Receive the 1/25 window (1080i, DTV) signal.
7. Adjust “0 SCON” so that the waveform level is  $2.30 \pm 0.05$  Vp-p.
8. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

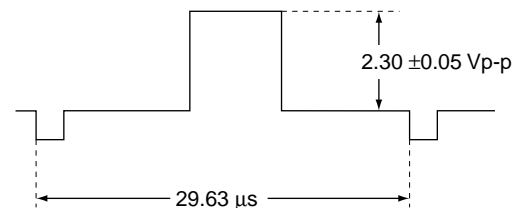


Fig. 4-15

#### 4-16. SUB COLOR AND SUB HUE ADJUSTMENT

1. Receive the 100 % color bar (1080i, component) signal with VIDEO 5 input, and set PICTURE to maximum.
2. Connect the oscilloscope between CN3009 ⑦ pin (B) on the A board and ground.
3. Set in the service mode and select the category “2150P-4”.
4. Adjust “1 SCOL” and “2 SHUE” so that the waveform levels are VB1 = VB4 and VB2 = VB3.
5. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.
6. Receive the 100 % color bar (1080i, DTV) signal.
7. Adjust “1 SCOL” and “2 SHUE” so that the waveform levels are VB1 = VB4 and VB2 = VB3.
8. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

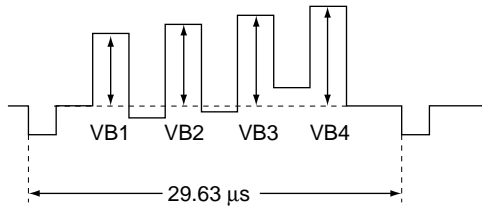


Fig. 4-16

#### 4-17. RF SUB CONTRAST ADJUSTMENT

1. Press “**TWIN**” button on the commander to set the TWIN mode, and set PICTURE to maximum, COLOR to minimum.
2. Receive the 75 % color bar (RF) signal on both side.
3. Connect the oscilloscope between CN3009 ⑥ pin (G) on the A board and ground.
4. Set in the service mode and select the category “MID1”. Select the item “21 BCOL” and set the data to “1”.
5. Select the category “2103-1”.
6. Adjust “2 SCON” so that the left side waveform level is  $1.59 \pm 0.05$  Vp-p.
7. Select the category “2103-2”.
8. Adjust “2 SCON” so that the right side waveform level is  $1.59 \pm 0.05$  Vp-p.
9. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

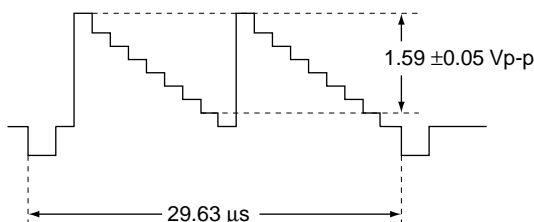


Fig. 4-17

#### 4-18. RF SUB COLOR AND SUB HUE ADJUSTMENT

1. Press “**TWIN**” button on the commander to set the TWIN mode, and set PICTURE to maximum.
2. Receive the 75 % color bar (RF) signal on both side.
3. Connect the oscilloscope between CN3009 ⑦ pin (B) on the A board and ground.
4. Set in the service mode and select the category “MID1”. Select the item “21 BCOL” and set the data to “1”.
5. Select the category “2103-1”.
6. Adjust “3 SCOL” and “4 SHUE” so that the left side waveform levels are VB1 = VB4 and VB2 = VB3.
7. Select the category “2103-2”.
8. Adjust “3 SCOL” and “4 SHUE” so that the right side waveform levels are VB5 = VB8 and VB6 = VB7.
9. After adjustment finished, press “**MUTING**” + “**ENTER**” buttons on the commander to write the data to the NVM.

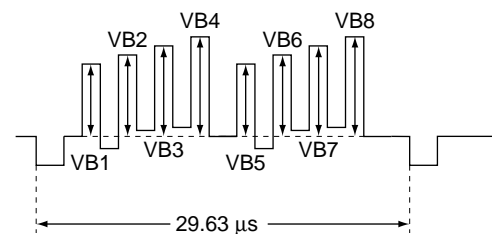


Fig. 4-18

## SECTION 5

### SAFETY RELATED ADJUSTMENTS

#### [ D BOARD]

#### 5-1. HV REGULATION CIRCUIT CHECK AND ADJUSTMENT

When replacing the following components marked with  $\blacksquare$  on the schematic diagram always check HV regulation, and if necessary re-adjust.

$\boxtimes$ : VR8001

$\blacksquare$ : C8079, C8083, C8090, C8129, D8013, D8015, D8038, D8043, IC8006, Q8021, R8055, R8099, R8102, R8128, R8129, R8131, R8139, R8140, R8142, R8153, R8163, R8223, R8230, T8004 (LOT), T8005 (FBT), HV block, D board

#### OPERATION CHECK

1. Receive the all white signal.
2. Set PIC MAX/BRT CENT.
3. Confirm that the voltage between CN8015 ① pin and GND is less than 7.80VDC.

#### HV REGULATION ADJUSTMENT

1. Connect a HV static voltmeter to the unconnected plug of the high-voltage block.
2. Power on the set.
3. Repeat steps 1 and 2 as above.
4. Confirm that the static voltmeter reading is  $31.0 \pm 0.4V$ .
5. If not, adjust with VR8001 to the specified value.
6. After adjustment, put the VR cover on VR8001 as shown below and apply sufficient amount of epoxy resin around VR8001.

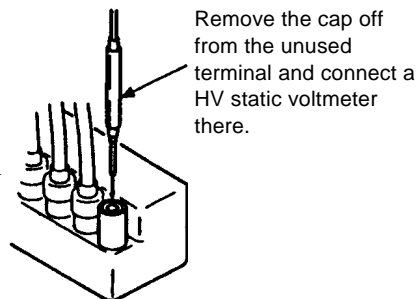


Fig. 5-1

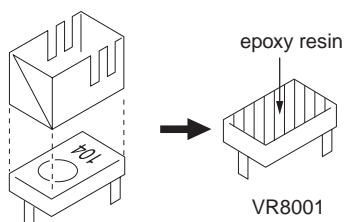


Fig. 5-2

#### 5-2. HV HOLD DOWN CIRCUIT OPERATION CHECK AND ADJUSTMENT

When replacing the following components marked with  $\blacksquare$  on the schematic diagram always check hold-down voltage and if necessary re-adjust.

$\boxtimes$ : VR8002

$\blacksquare$ : C8054, C8086, C8088, C8100, C8104, C8118, C8123, C8124, D8019, D8020, D8022, D8028, D8036, FB8001, IC8008, Q8035, Q8038, R8035, R8043, R8159, R8166, R8171, R8196, R8201, T8004 (LOT), T8005 (FBT), HV block, D board

#### OPERATION CHECK

1. Receive the dot signal.
2. Set PIC MIN/BRT MIN.
3. Confirm that the voltage between cathode of D8038 (JW171) and GND is more than 23.0V DC.
4. Using an external DC Power supply, apply the voltage shown below between cathode of D8038 (JW171) on "D" and GND, then confirm that the HV-Prot circuit works. (Raster disappears.) Apply DC voltage: Less than 29.05V DC.

#### HV HOLD-DOWN ADJUSTMENT

1. Connect a HV static voltmeter to the unconnected plug of the high-voltage block.
2. Power on the set.
3. Connect an external 10k VR at CN8015 and adjust this VR so that the high voltage is 34.50kV.
4. Adjust VR8002 to the point that the HV-Prot circuit works (Raster disappears) at  $34.50 \pm 0.50kV$  reading on the static voltmeter.
5. After adjustment, put the VR cover on VR8002 and apply sufficient amount of epoxy resin around VR8002 as the same manner for VR8001.

#### [ G BOARD]

#### 5-3. +B MAX VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC6101.

1. Supply 130VAC to variable autotransformer.
2. Receive dot signal pattern and set the PICTURE and BRIGHTNESS settings to their minimum.
3. Confirm the voltage of TP6102 [TP. +B 135V] is less than 137.0Vdc.
4. If step 3 not satisfied, replace IC6101 and repeat above steps.

#### 5-4. +B OVP CONFIRMATION

1. Add to low voltage power supply between to TP6101 [TP. OVP] and ground.
2. Supply 120VAC to variable autotransformer.
3. Power on the Set and receive dot signal pattern.
4. Set the PICTURE and BRIGHTNESS settings.
5. Check the OVP is activated. Operate :  $2.60 \pm 0.10V$



## SECTION 6 FIRMWARE UPGRADES

### 6-1. OVERVIEW

From time to time the KDP-57XBR2/65XBR2 may require an upgrade to its firmware.

The Q-box inside the set allows for upgrading the firmware via a Memory Stick® slot. At such times that upgrades are required, pre-programmed Memory Sticks will be made available to the service network. Be sure to check the Sony Service Company’s web site to see if any upgrades are available for correcting the problems you are trying to resolve.

**DISCLAIMER:**

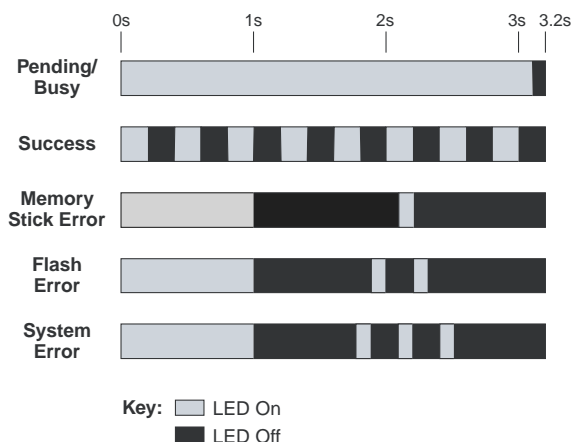
Any use of the Memory Stick port for any reason other than a Sony authorized upgrade will void the product warranty. All related repair charges will be the responsibility of the customer.

### 6-2. TRANSFERRING THE NEW FIRMWARE FROM THE MEMORY STICK TO THE Q-BOX.

1. Turn the PJ on.
2. Insert the Memory Stick containing the new firmware into the Memory Stick slot on the back of the set.
3. If the inserted Memory Stick is the correct type, and its files are correct for the KD-57XBR2/65XBR2 and are not damaged (corrupted), the upgrade process will begin automatically. The screen will display “Memory Upgrade Mode” for 3 seconds, after which the screen will go black until the upgrade is completed.

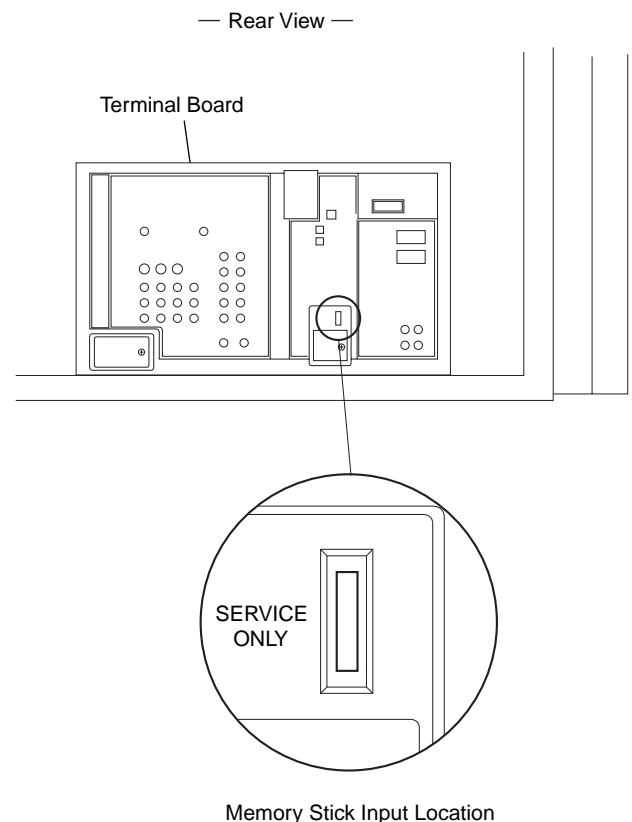
**NOTE:** The user controls are inoperative while this upgrade is in progress.

4. A status LED is located above the Memory Stick slot. This LED will flash in several distinct patterns dependent upon the status of the upgrade, as follows:



**Fig. 6-1**

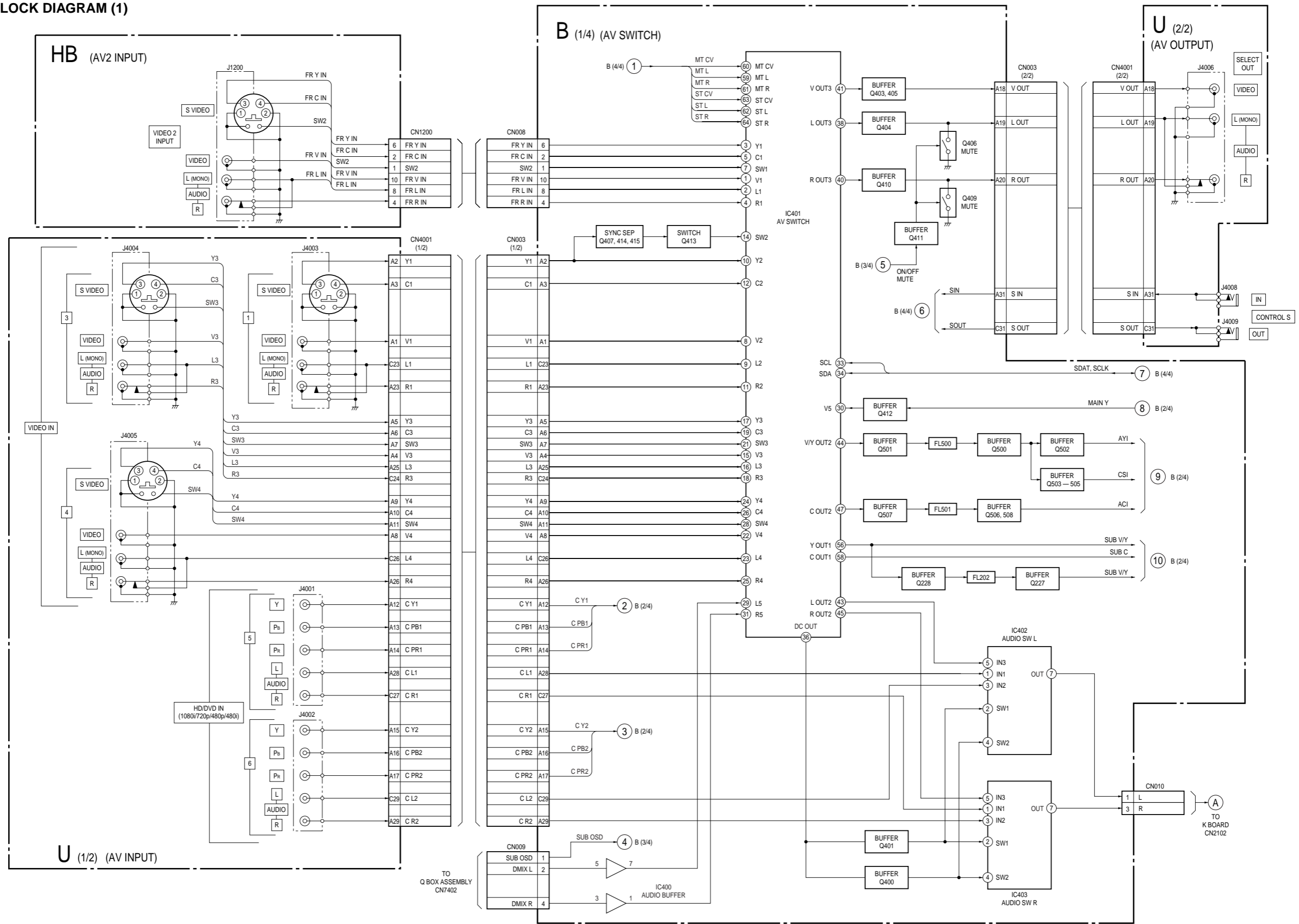
5. When the status LED flashes the “Success” pattern shown Fig. 6-1, the upgrade has completed successfully. Remove the Memory Stick and the set will return to the operating state it was in before the upgrade began.
6. If the status LED flashes the “Flash Error” (flash memory) pattern or the “System Error” pattern shown above, remove the Memory Stick and start over again from step 1.
7. If the status LED flashes the “Memory Stick Error” pattern you must obtain a new Memory Stick and start over from step 1.



**Fig. 6-2**

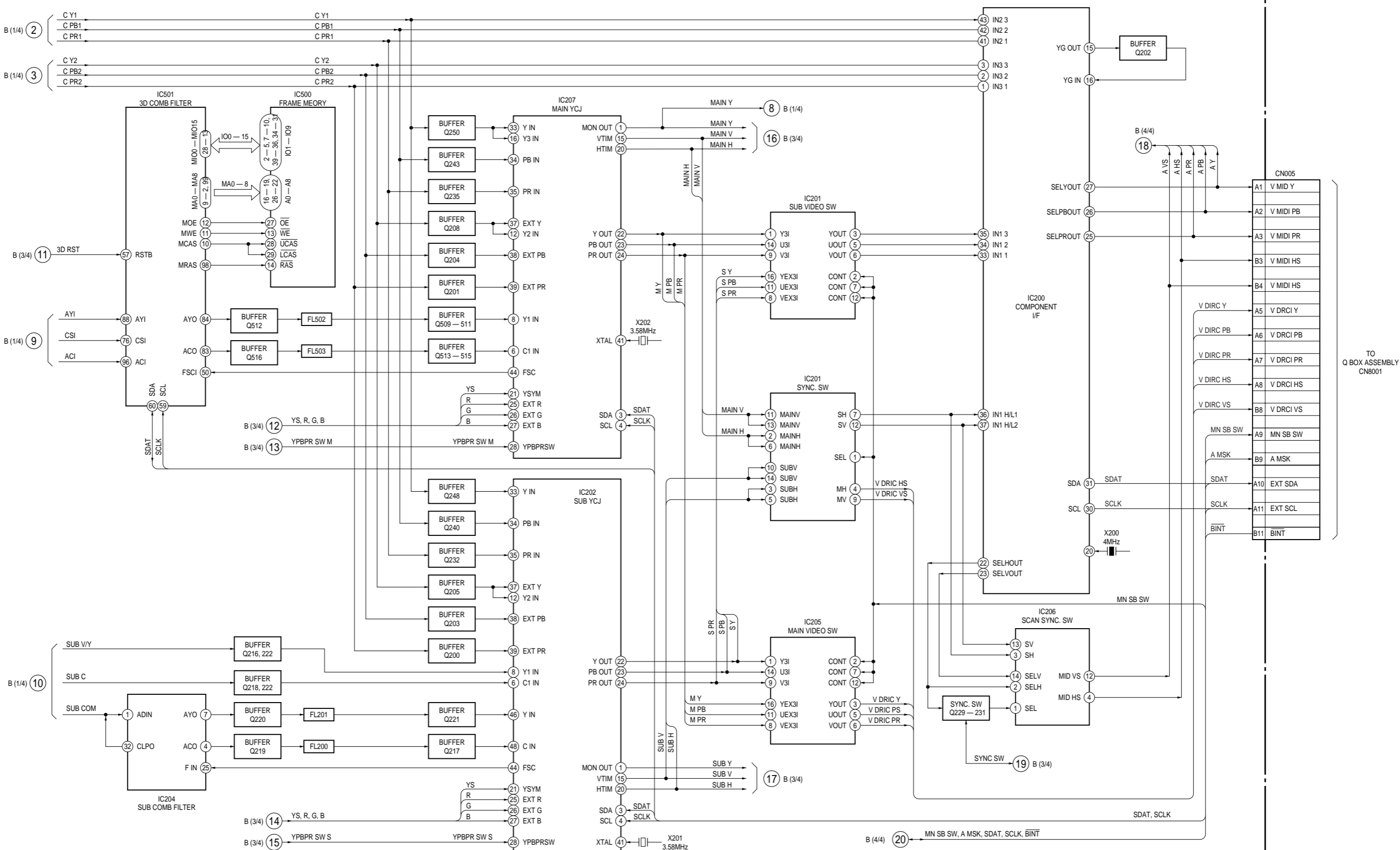
# SECTION 7 DIAGRAMS

7-1. BLOCK DIAGRAM (1)

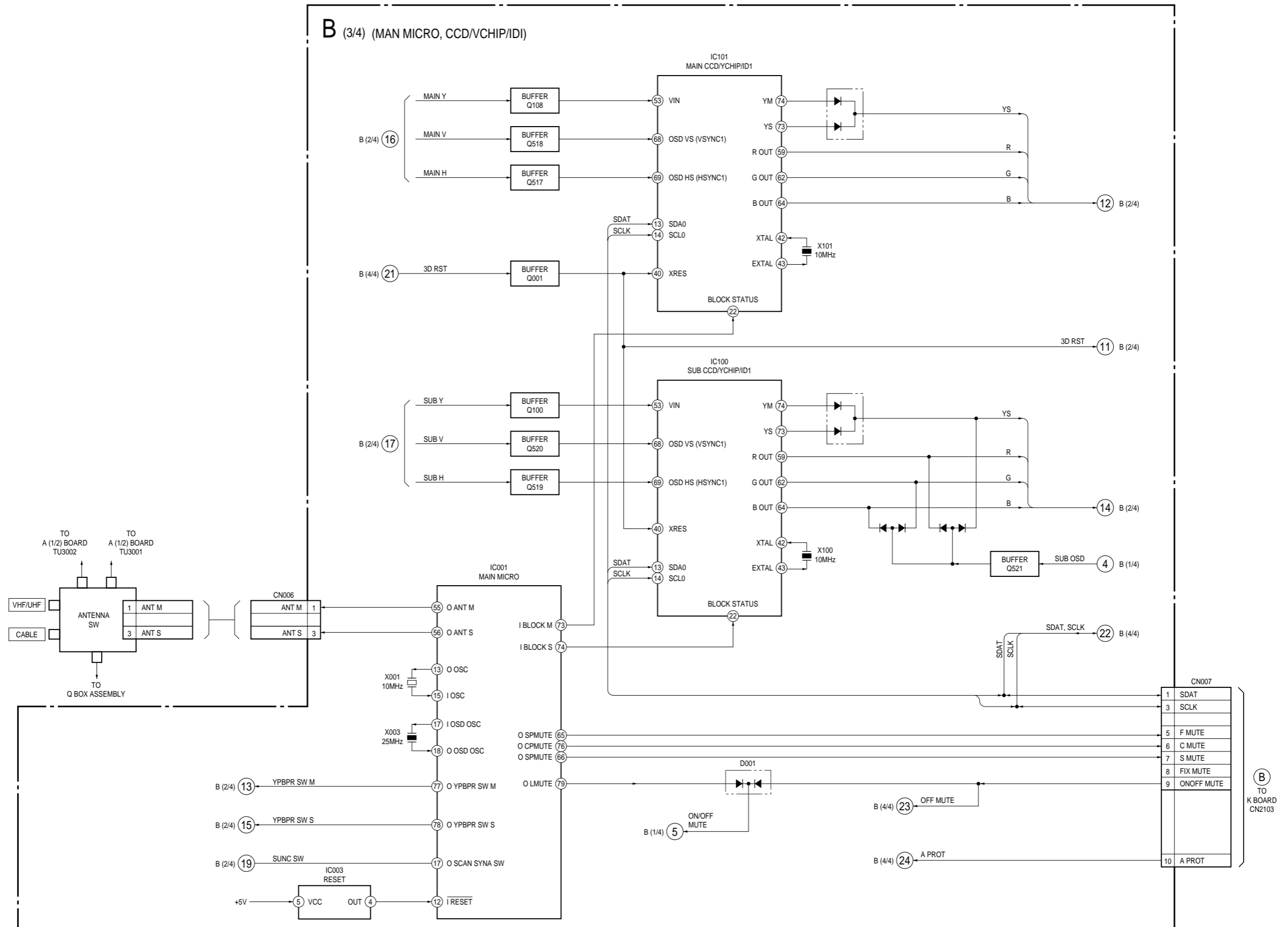


BLOCK DIAGRAM (2)

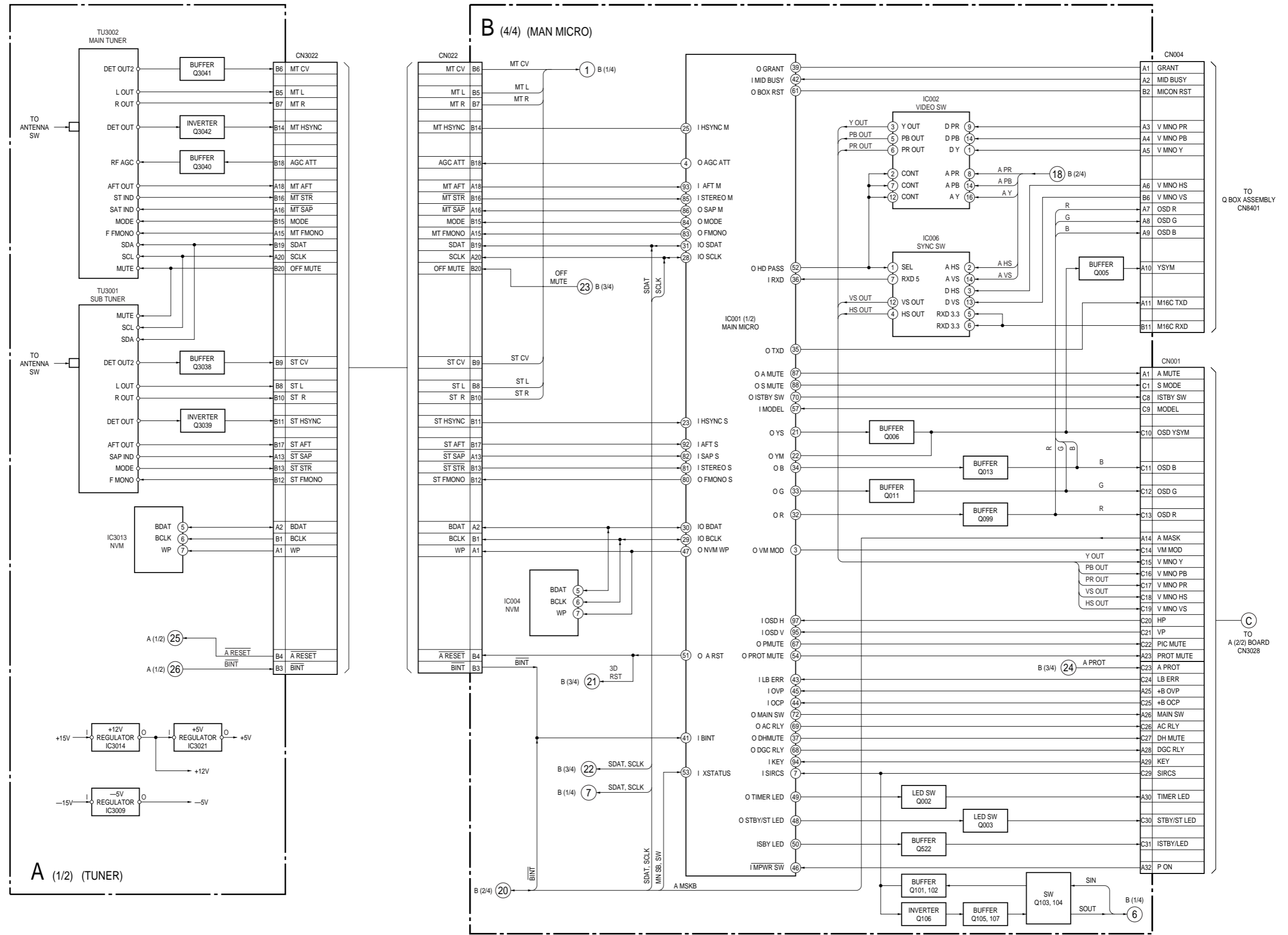
B (2/4) (MAN MICRO, YC JUNGLE, COMB FILTER)



BLOCK DIAGRAM (3)

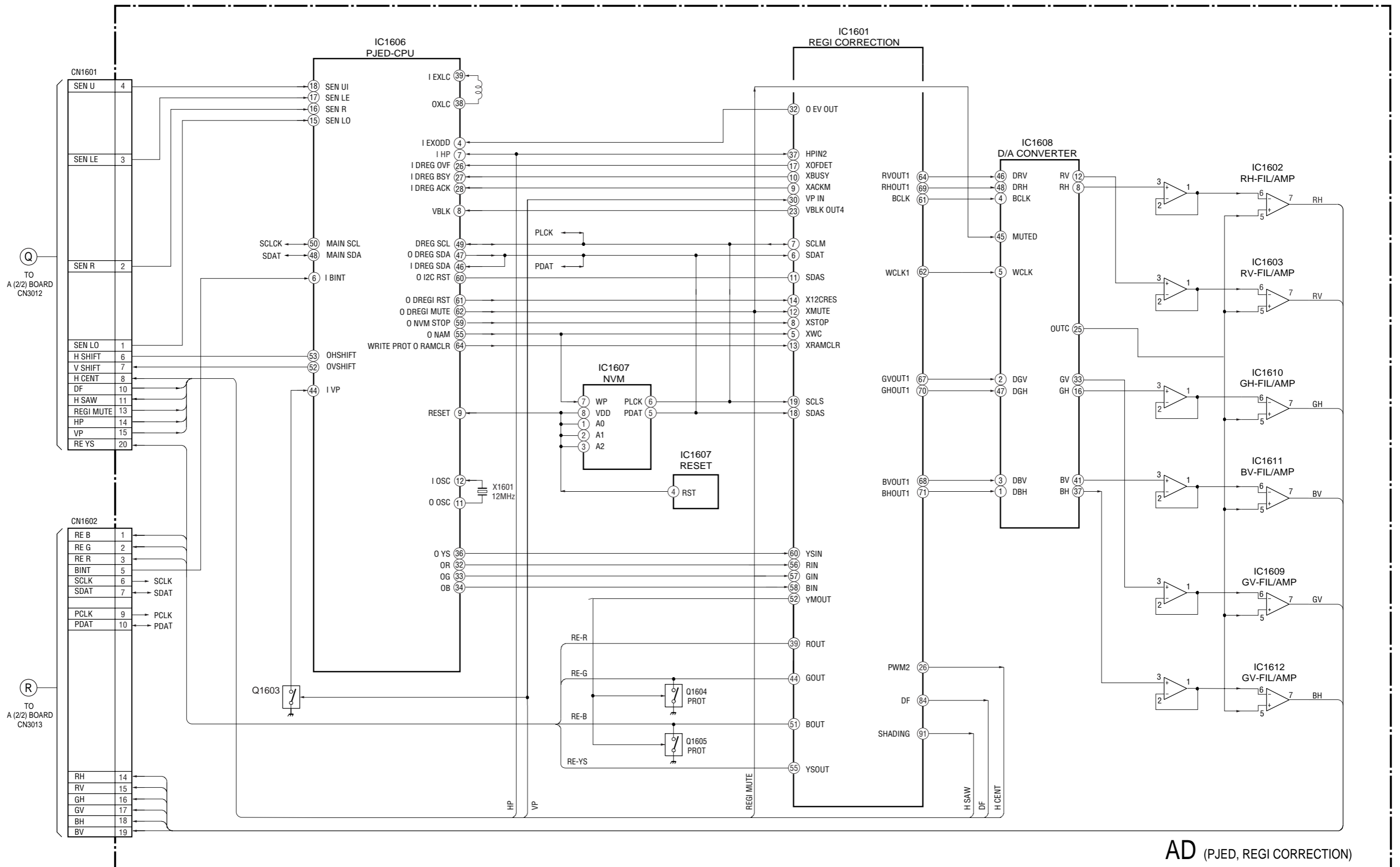


BLOCK DIAGRAM (4)



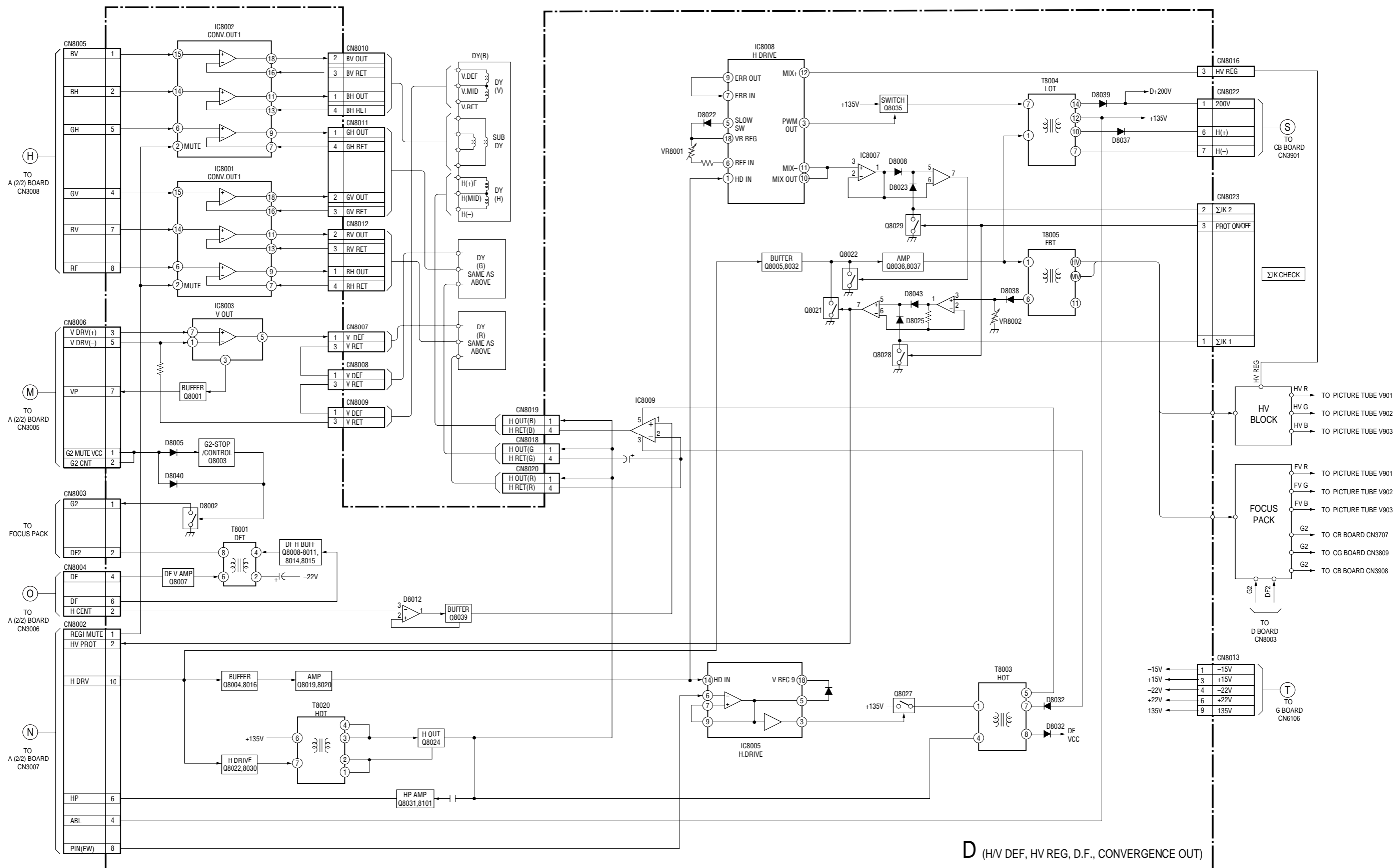


BLOCK DIAGRAM (6)



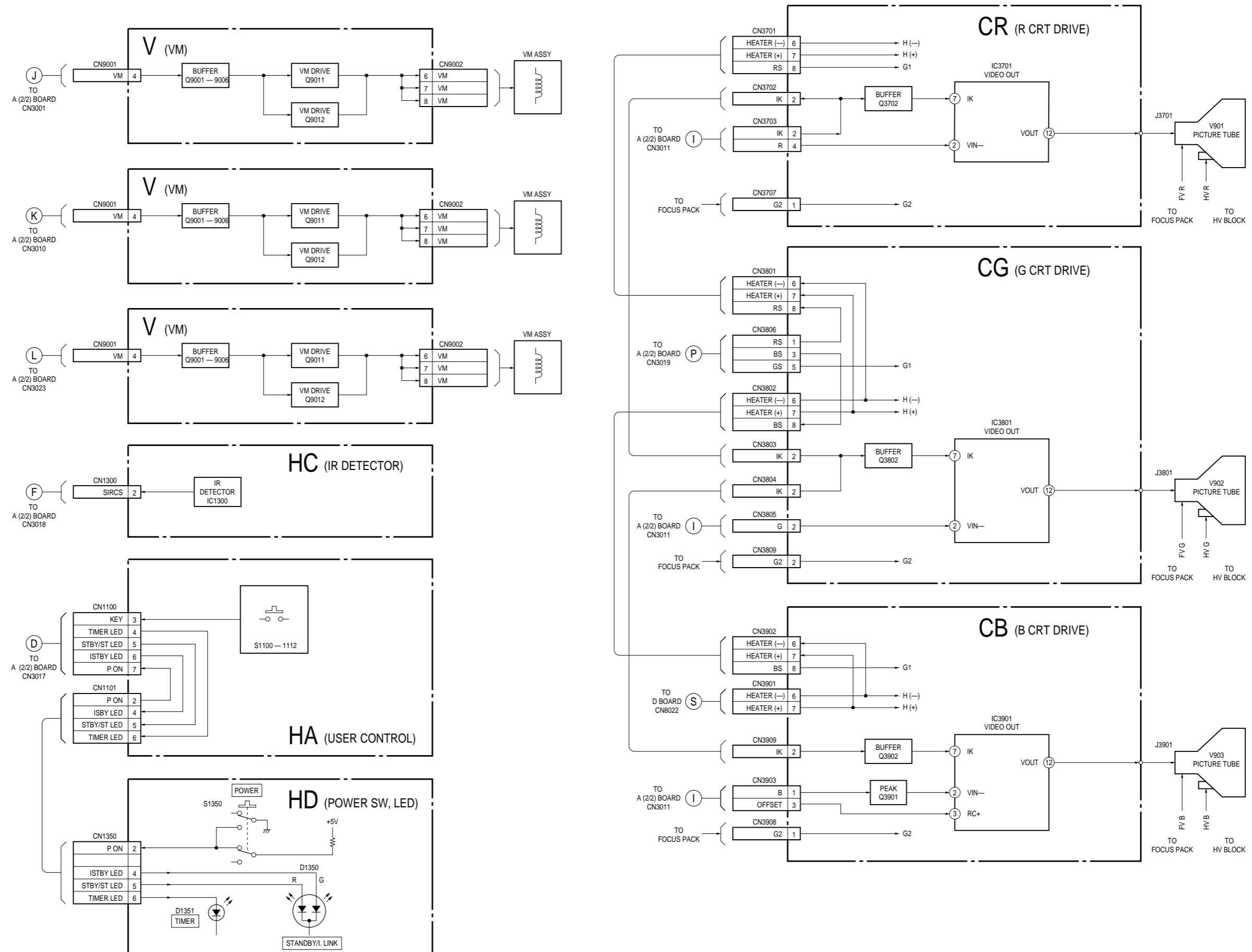
AD (PJED, REGI CORRECTION)

BLOCK DIAGRAM (7)

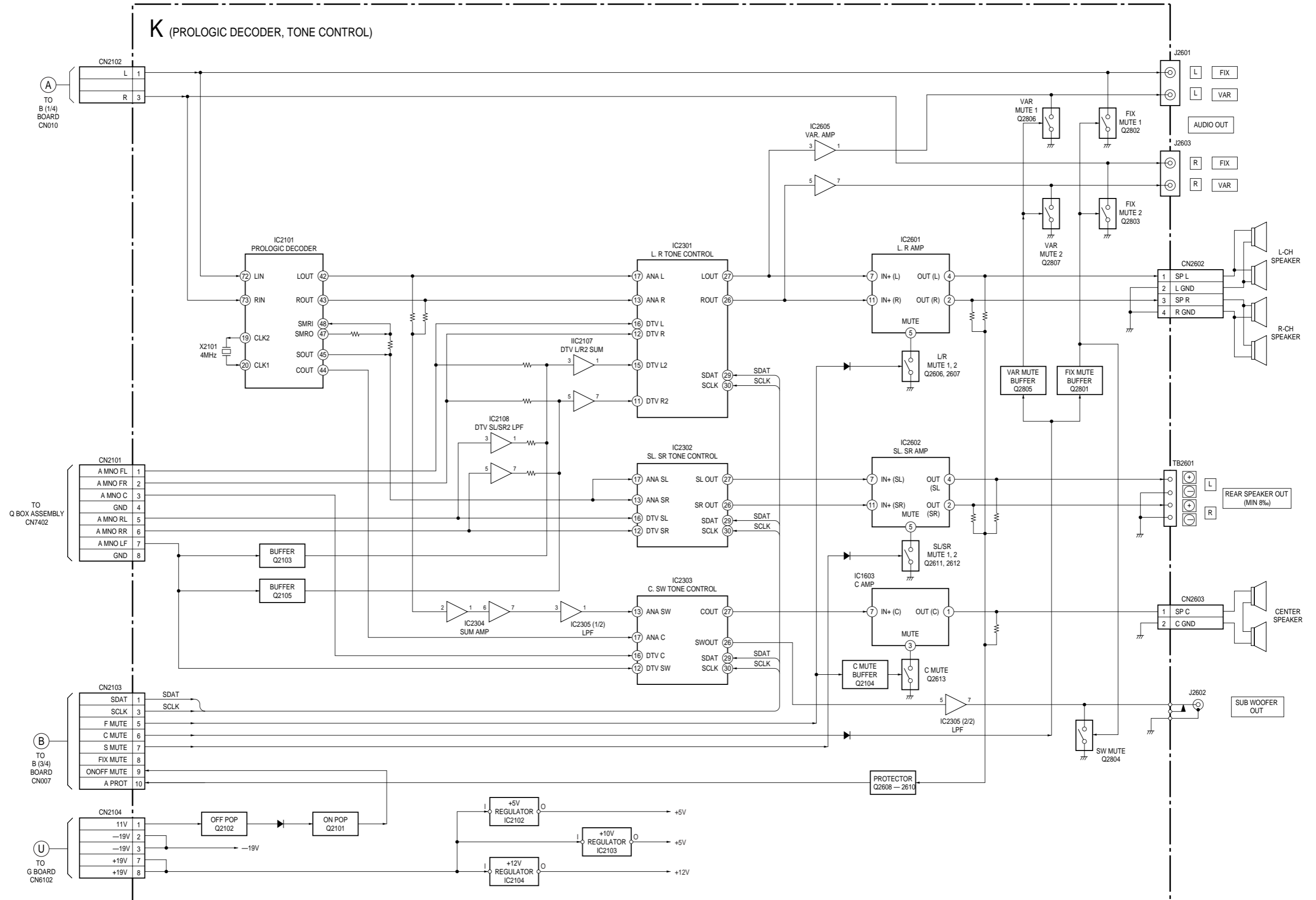


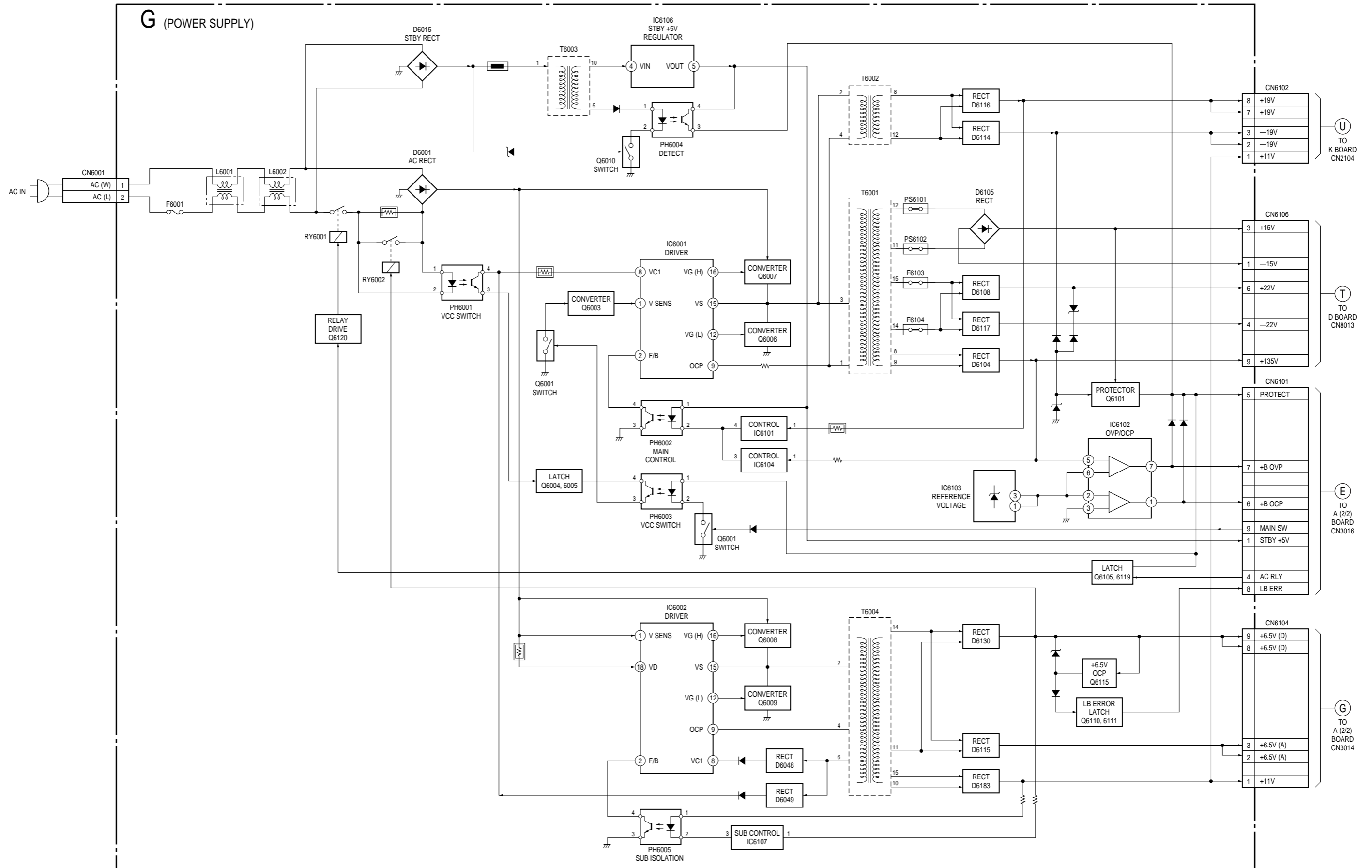


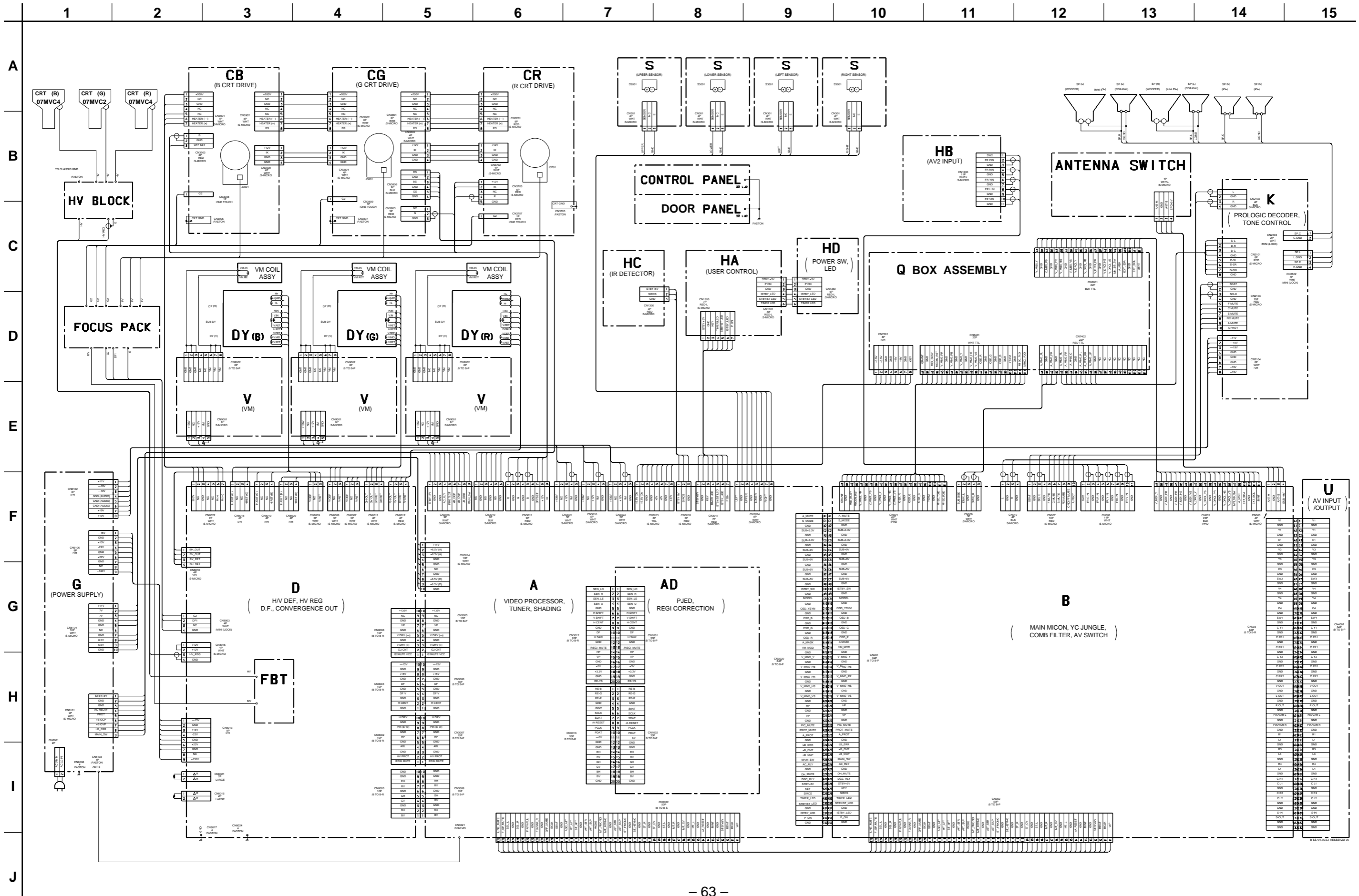
BLOCK DIAGRAM (8)



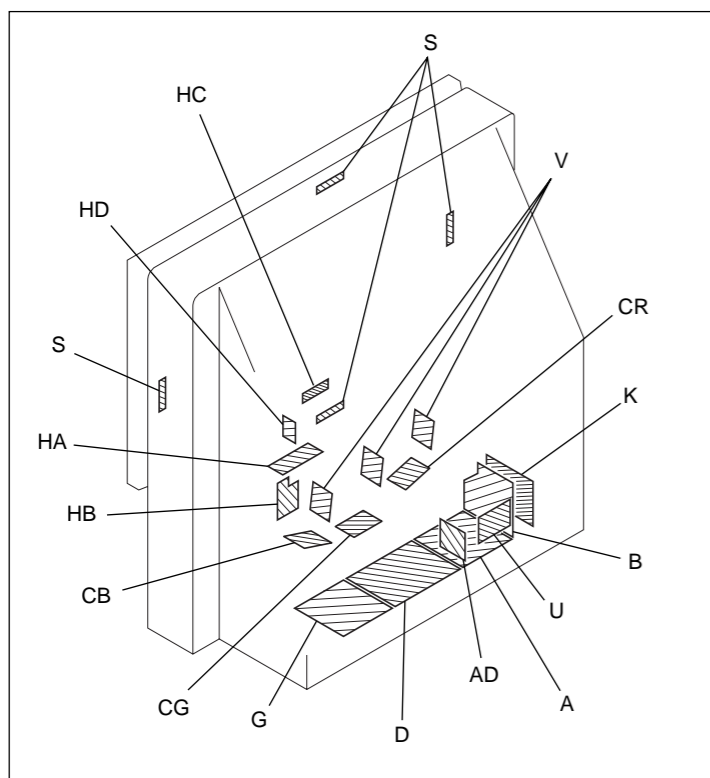
BLOCK DIAGRAM (9)







### 7-3. CIRCUIT BOARDS LOCATION



### 7-4. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

**Note:**

- The parts marked “#” on schematic diagrams are not mounted.
- All capacitors are in  $\mu\text{F}$  unless otherwise noted. (pF:  $\mu\mu\text{F}$ ) Capacitors without voltage indication are all 50 V.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm  
Rating electrical power 1/4 W (CHIP : 1/10 W)

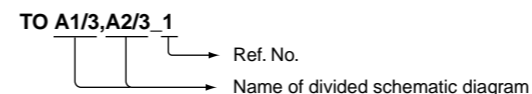
- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- $\Delta$  : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- $\perp$  : earth-ground.
- : earth-chassis.
- All voltages are in V.
- Readings are taken with a 10 M digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- \* : Can not be measured.
- Circled numbers are waveform references.
- : B + bus.
- : B - bus.
- : Signal path.
- The components identified by in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by , make the necessary adjustments indicated. (See page 51)
- When replacing the part in below table, be sure to perform the related adjustment.

| Part Replaced ()  | Adjustment ()            |
|---|--------------------------|
| C8079, C8083, C8090, C8129, D8013, D8015, D8038, D8043, IC8006, Q8021, R8055, R8099, R8102, R8128, R8129, R8131, R8139, R8140, R8142, R8153, R8163, R8223, R8230, T8004 (LOT), T8005 (FBT), HV Block, D Board         | VR8001<br>(HV Regulator) |
| C8054, C8086, C8088, C8100, C8104, C8118, C8123, C8124, D8019, D8020, D8022, D8028, D8036, FB8001, IC8008, Q8035, Q8038, R8035, R8043, R8159, R8166, R8171, R8196, R8201, T8004 (LOT), T8005 (FBT), HV Block, D Board | VR8002<br>(HV Hold-Down) |

- Divided schematic diagram

Schematic diagrams of A, AD, B, D, G and K boards are divided into several pieces. Information to where the line is to be connected is printed at the end of each line.

For example, [ TO A1/3,A2/3\_1 ] means the line is connected to Ref. No. 1 of A (1/3) and A (2/3) schematic diagrams.



**Reference information**

|           |         |                          |
|-----------|---------|--------------------------|
| RESISTOR  | : RN    | METAL FILM               |
|           | : RC    | SOLID                    |
|           | : FPRD  | NONFLAMMABLE CARBON      |
|           | : FUSE  | NONFLAMMABLE FUSIBLE     |
|           | : RW    | NONFLAMMABLE WIREWOUND   |
|           | : RS    | NONFLAMMABLE METAL OXIDE |
|           | : RB    | NONFLAMMABLE CEMENT      |
| COIL      | : LF-8L | MICRO INDUCTOR           |
| CAPACITOR | : TA    | TANTALUM                 |
|           | : PS    | STYROL                   |
|           | : PP    | POLYPROPYLENE            |
|           | : PT    | MYLAR                    |
|           | : MPS   | METALIZED POLYESTER      |
|           | : MPP   | METALIZED POLYPROPYLENE  |
|           | : ALB   | BIPOLAR                  |
|           | : ALT   | HIGH TEMPERATURE         |
|           | : ALR   | HIGH RIPPLE              |

**Note: The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.**

**Note: Les composants identifiés par un tramé et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.**

### Terminal name of semiconductors in silk screen printed circuit (※)

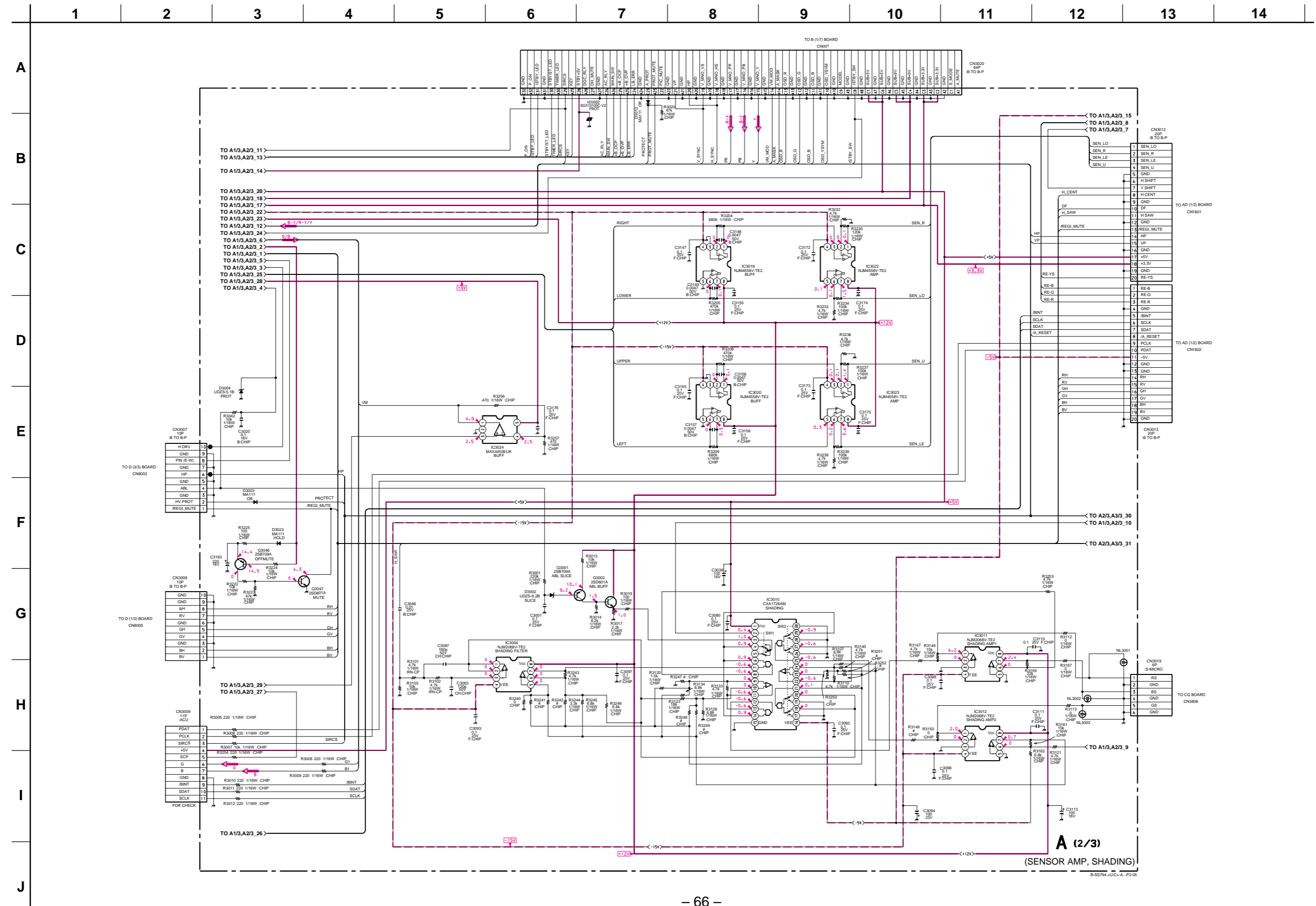
| Device             | Printed symbol | Terminal name                        | Circuit |
|--------------------|----------------|--------------------------------------|---------|
| ① Transistor       |                | Collector<br>Base<br>Emitter         |         |
| ② Transistor       |                | Collector<br>Base<br>Emitter         |         |
| ③ Diode            |                | Cathode<br>Anode                     |         |
| ④ Diode            |                | Cathode<br>Anode (NC)                |         |
| ⑤ Diode            |                | Cathode<br>Anode (NC)                |         |
| ⑥ Diode            |                | Common<br>Anode<br>Cathode           |         |
| ⑦ Diode            |                | Common<br>Anode<br>Cathode           |         |
| ⑧ Diode            |                | Common<br>Anode<br>Anode             |         |
| ⑨ Diode            |                | Common<br>Anode<br>Anode             |         |
| ⑩ Diode            |                | Common<br>Cathode<br>Cathode         |         |
| ⑪ Diode            |                | Common<br>Cathode<br>Cathode         |         |
| ⑫ Diode            |                | Anode<br>Cathode<br>Anode<br>Cathode |         |
| ⑬ Transistor (FET) |                | Drain<br>Source<br>Gate              |         |
| ⑭ Transistor (FET) |                | Drain<br>Source<br>Gate              |         |
| ⑮ Transistor (FET) |                | Source<br>Drain<br>Gate              |         |
| ⑯ Transistor       |                | Emitter<br>Collector<br>Base         |         |
| ⑰ Transistor       |                | C2 B1 E1<br>E2 B2 C1                 |         |
| ⑱ Transistor       |                | C1 B2 E2<br>E1 B1 C2                 |         |
| ⑳ Transistor       |                | C1 B2 E2<br>E1 B1 C2                 |         |
| ㉑ Transistor       |                | E2 B1 E1<br>C2 C1(B2)                |         |
| ㉒ Transistor       |                | B1 (B2) E2<br>C1 C2                  |         |
| ㉓ Transistor       |                | (B2) E2 E1 B1<br>C2 C1               |         |
| —                  |                | Discrete semiconductot               |         |

(Chip semiconductors that are not actually used are included.)

Ver.1.5

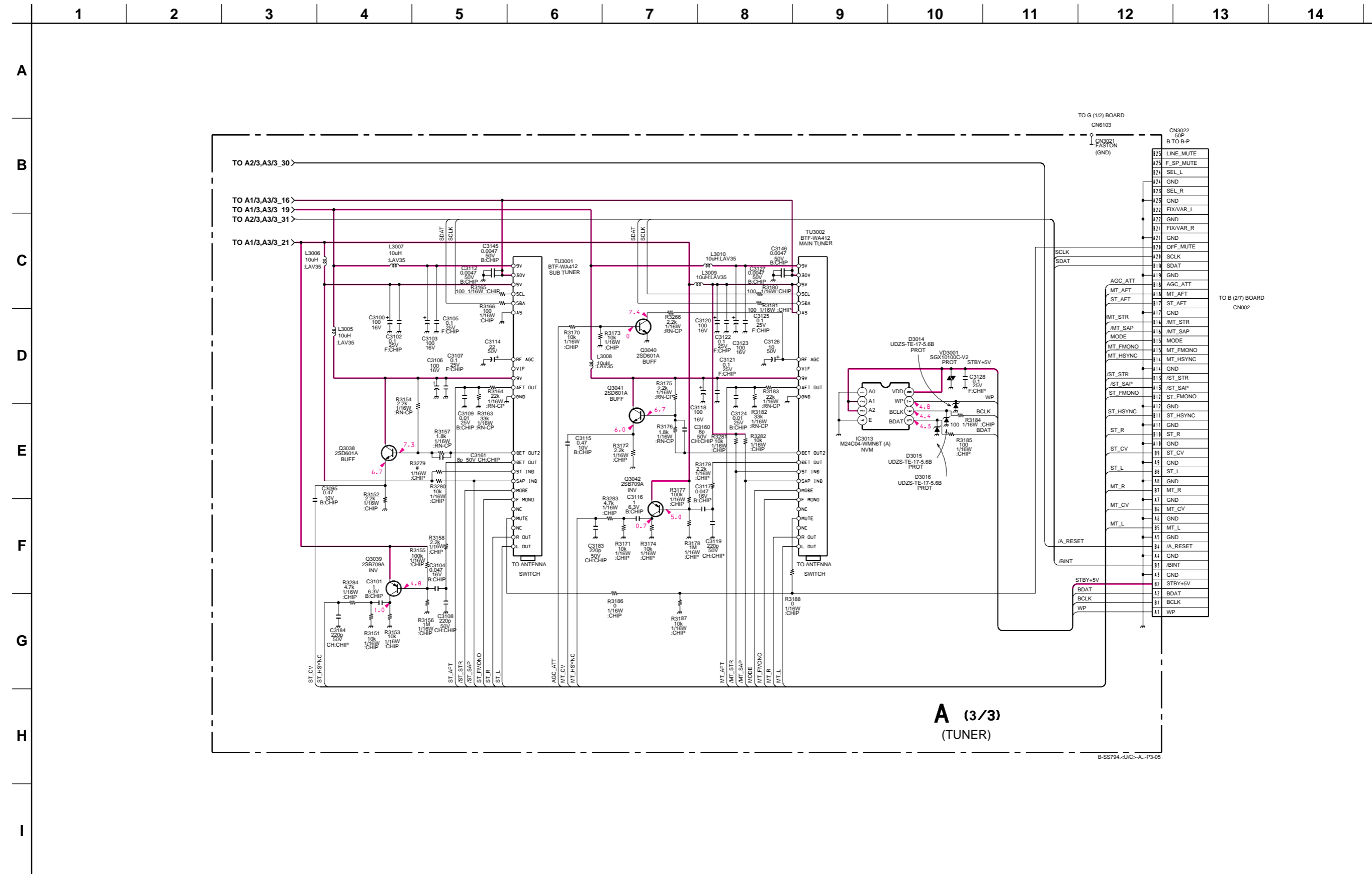


(2) Schematic Diagram of A (2/3) Board



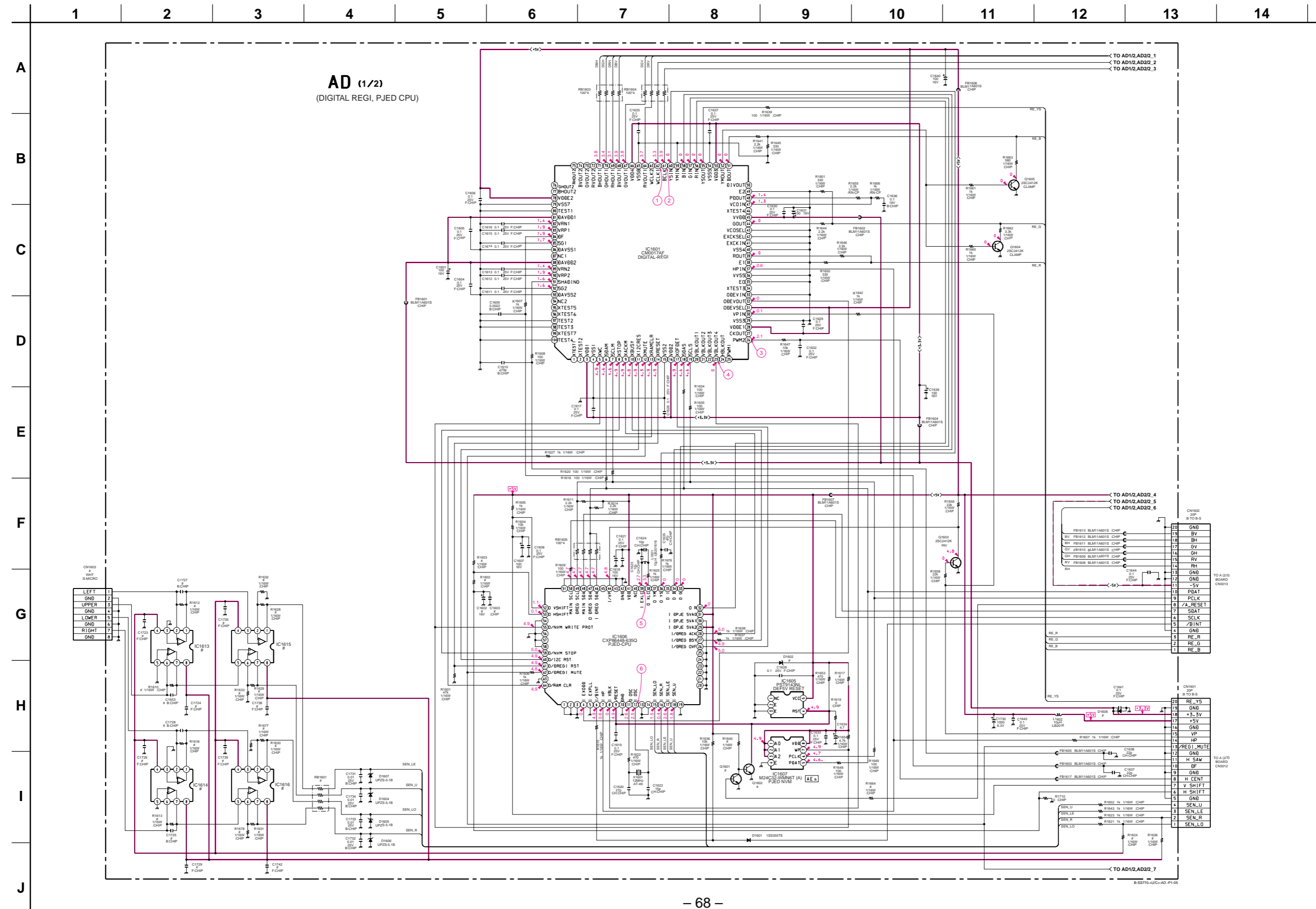


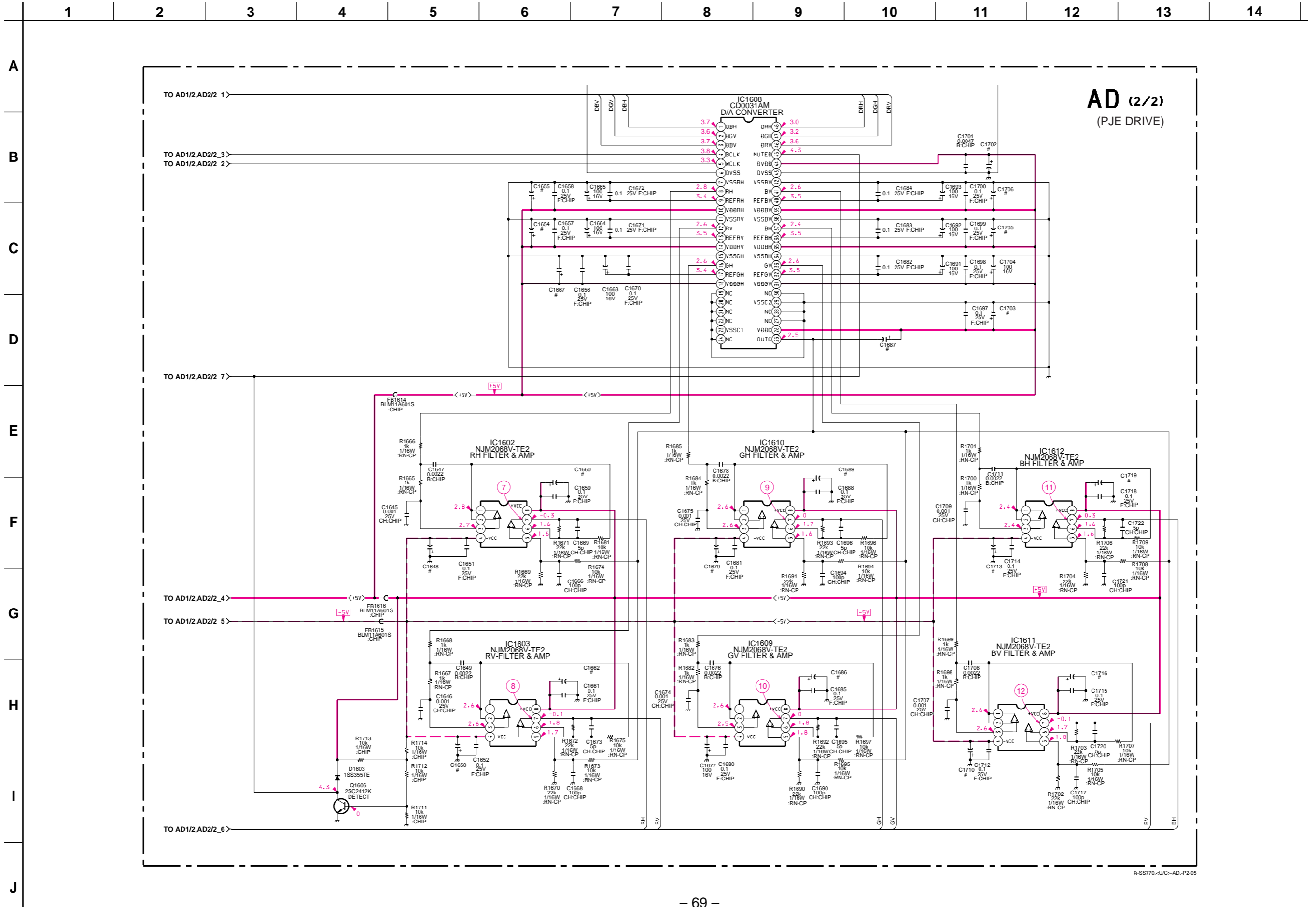
(3) Schematic Diagram of A (3/3) Board





(4) Schematic Diagram of AD (1/2) Board

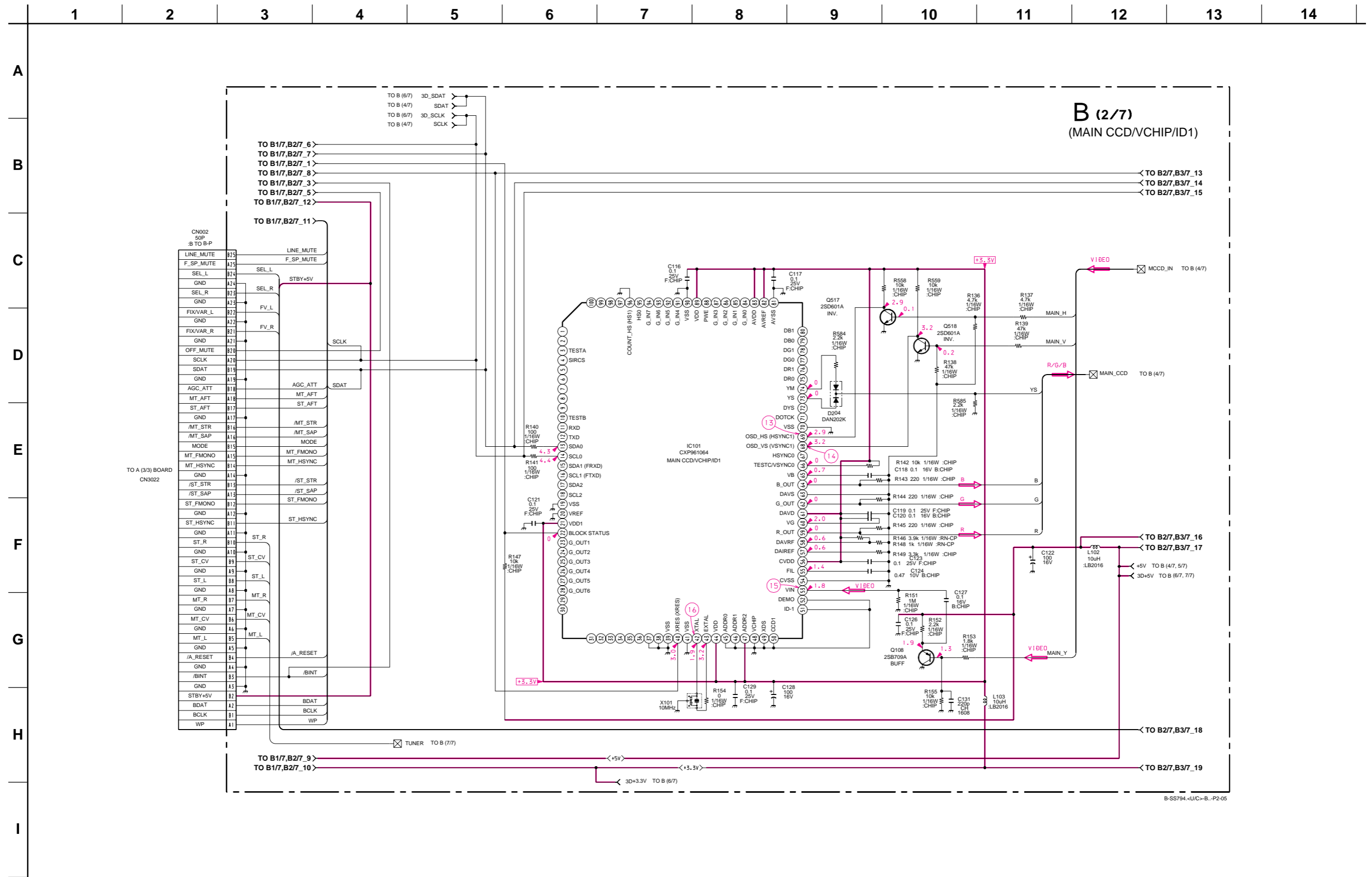




B-SS770.-UIC-AD.-P2-05



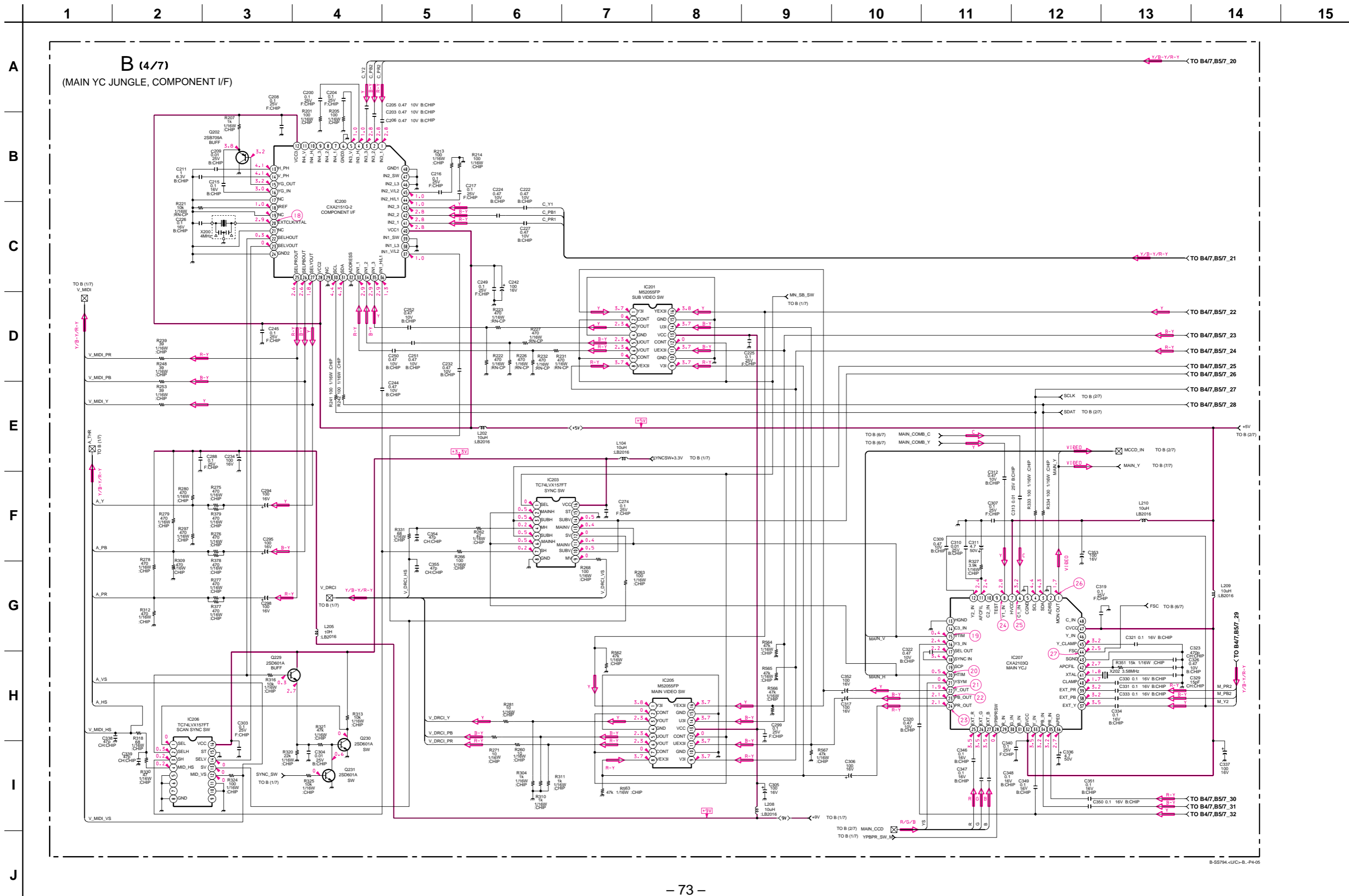
(7) Schematic Diagram of B (2/7) Board



B-SS794- $\langle$ U/C $\rangle$ -B.-P2-05

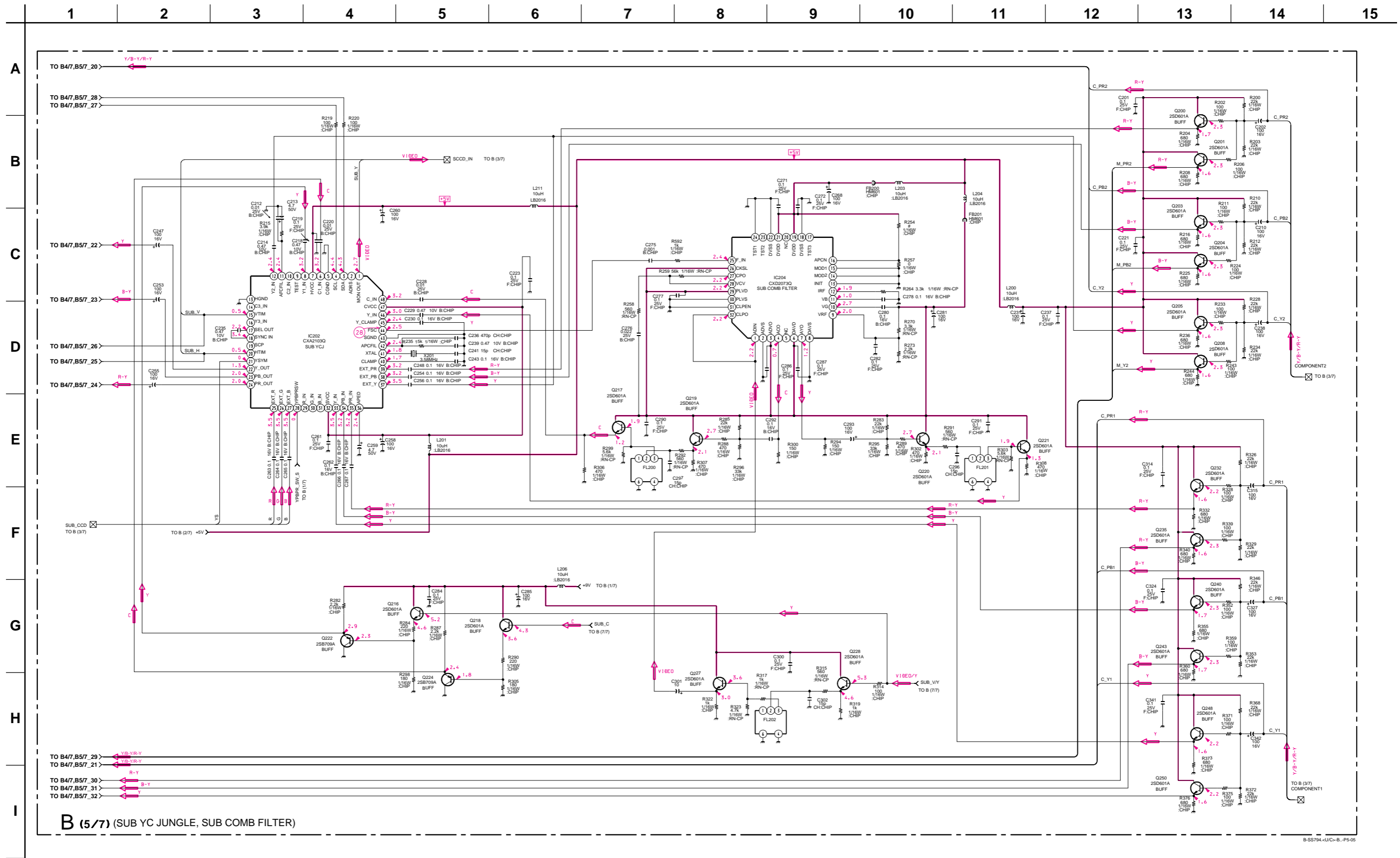


(9) Schematic Diagram of B (4/7) Board



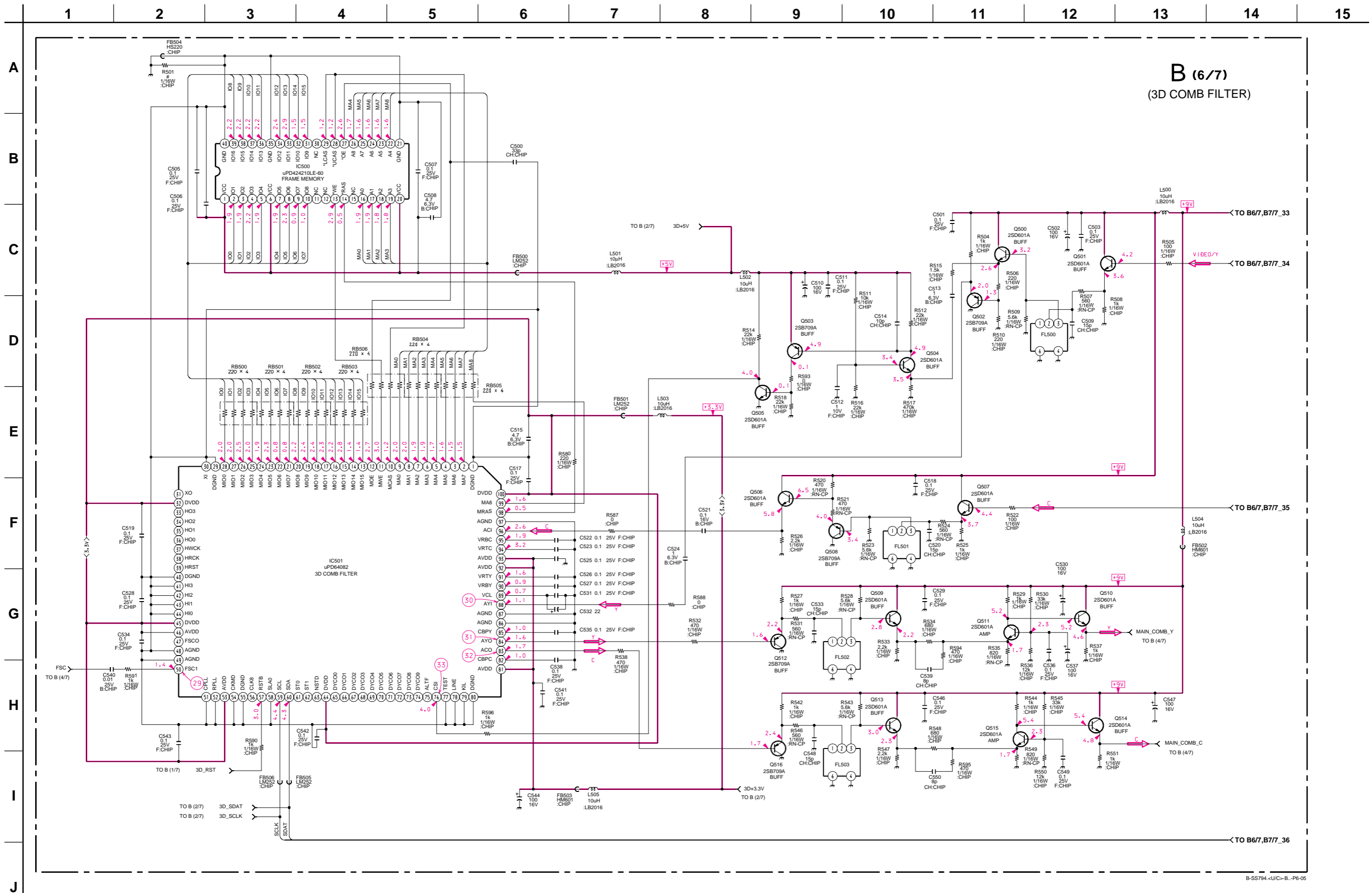


(10) Schematic Diagram of B (5/7) Board



B-SS794-UC/C-B-P5-05

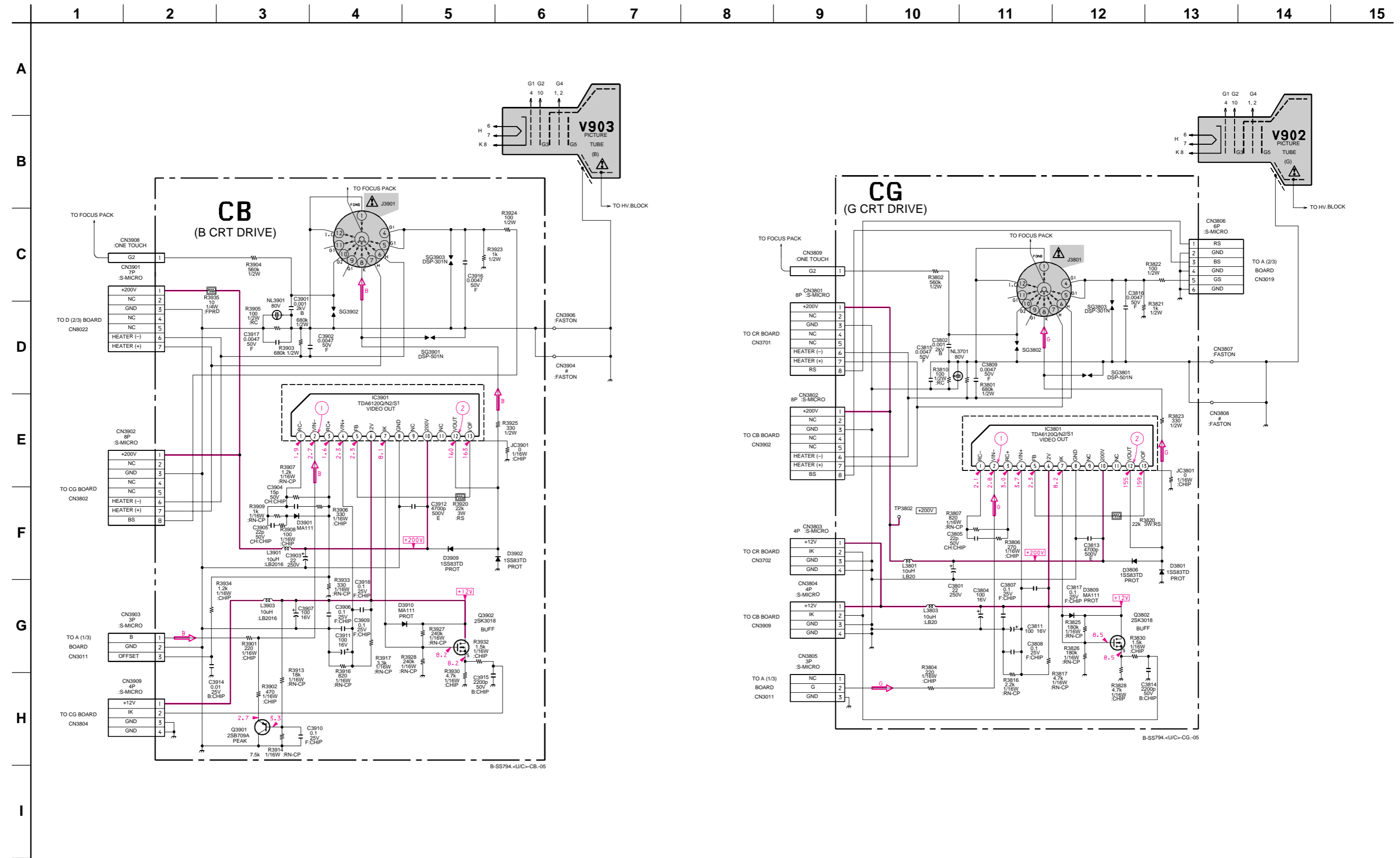
(11) Schematic Diagram of B (6/7) Board

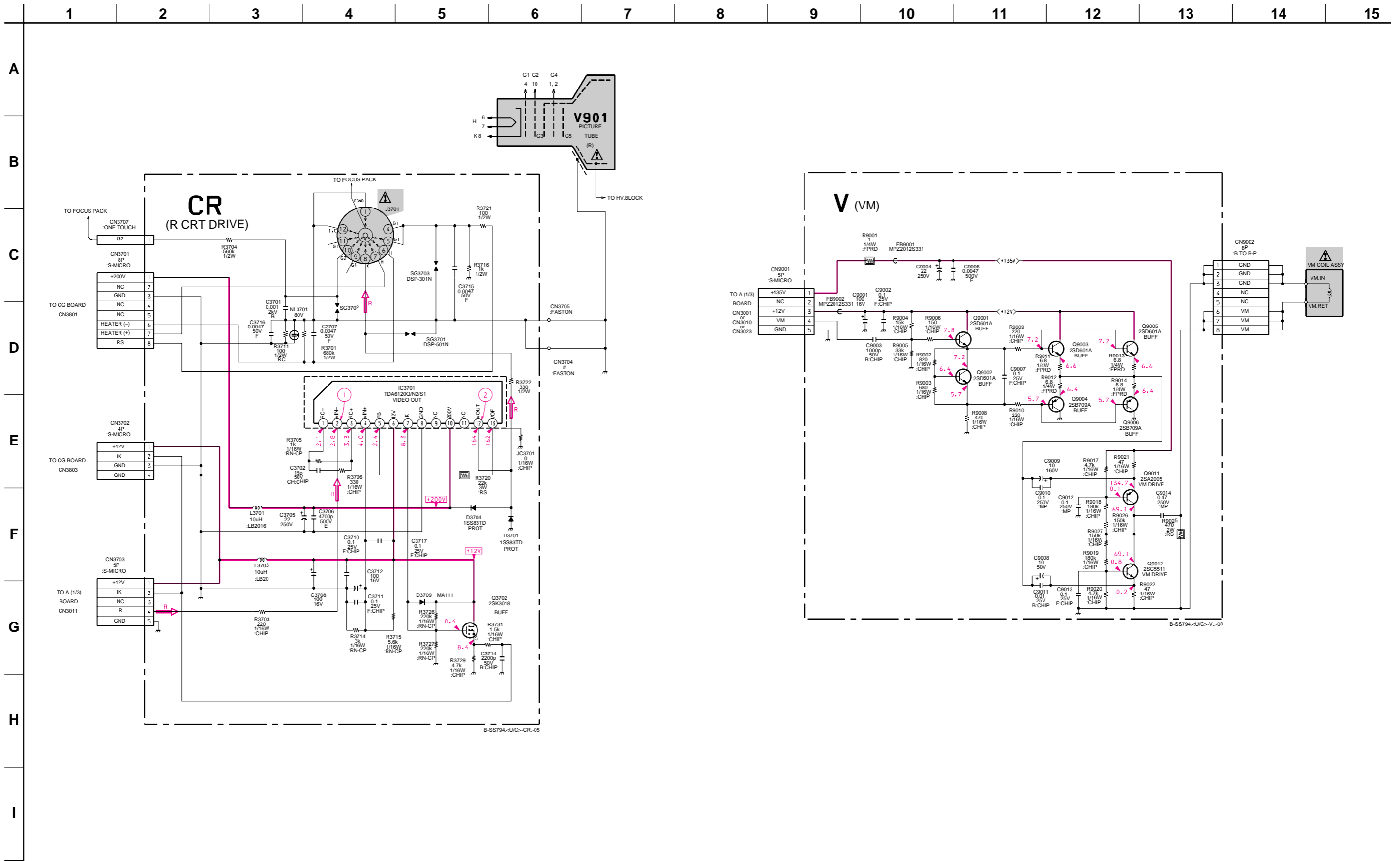




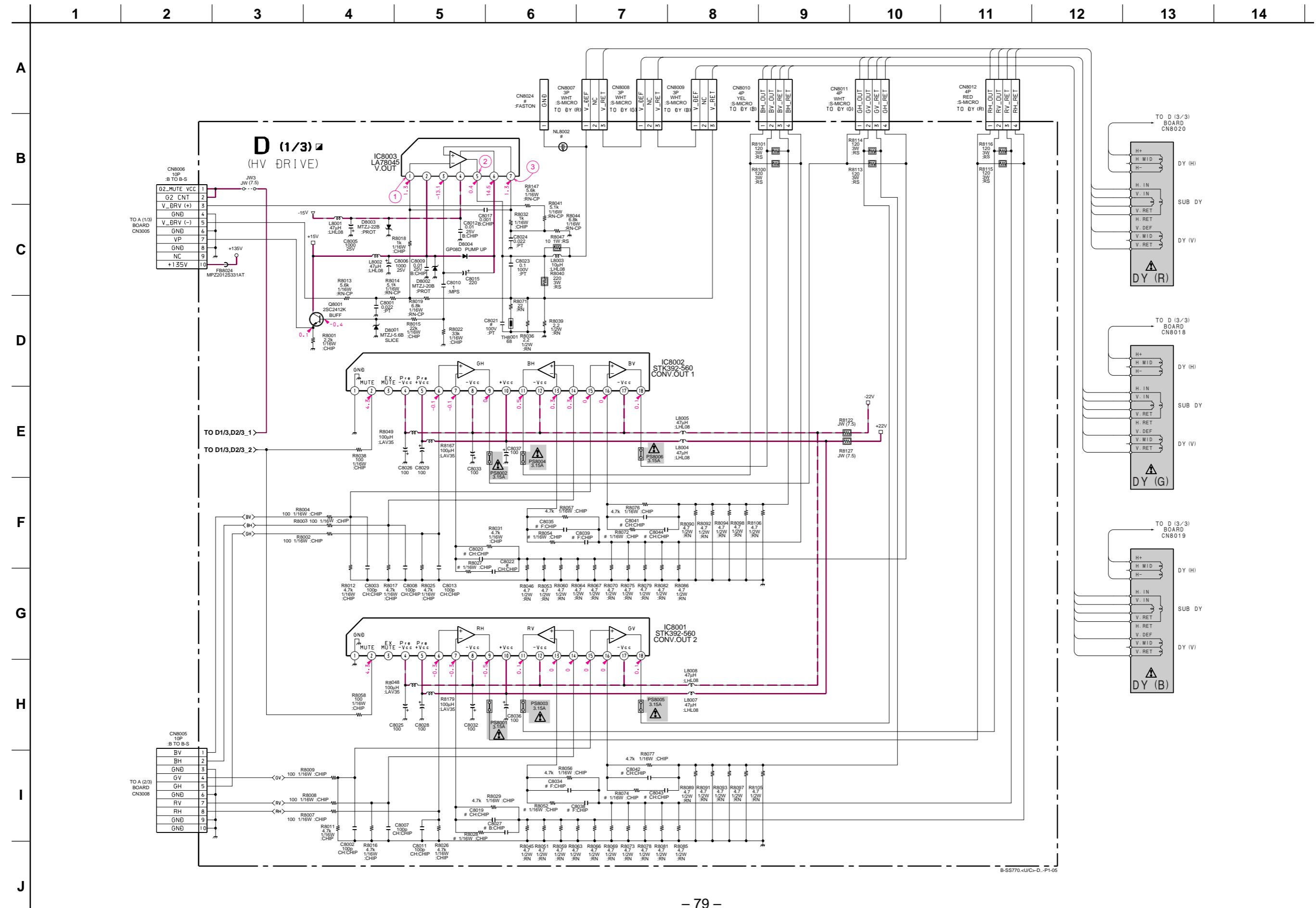


(13) Schematic Diagrams of CB and CG Boards



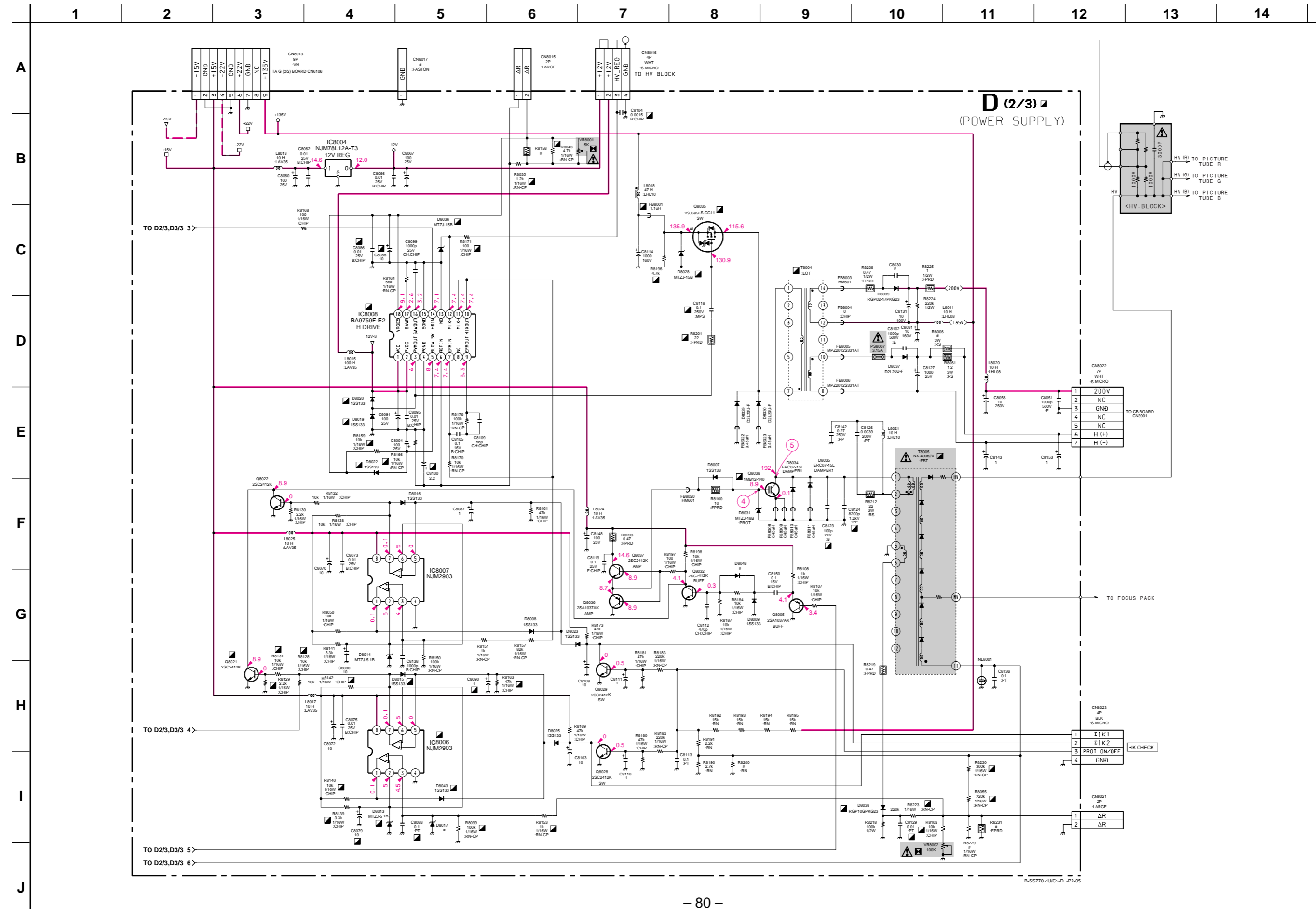


(15) Schematic Diagram of D (1/3) Board

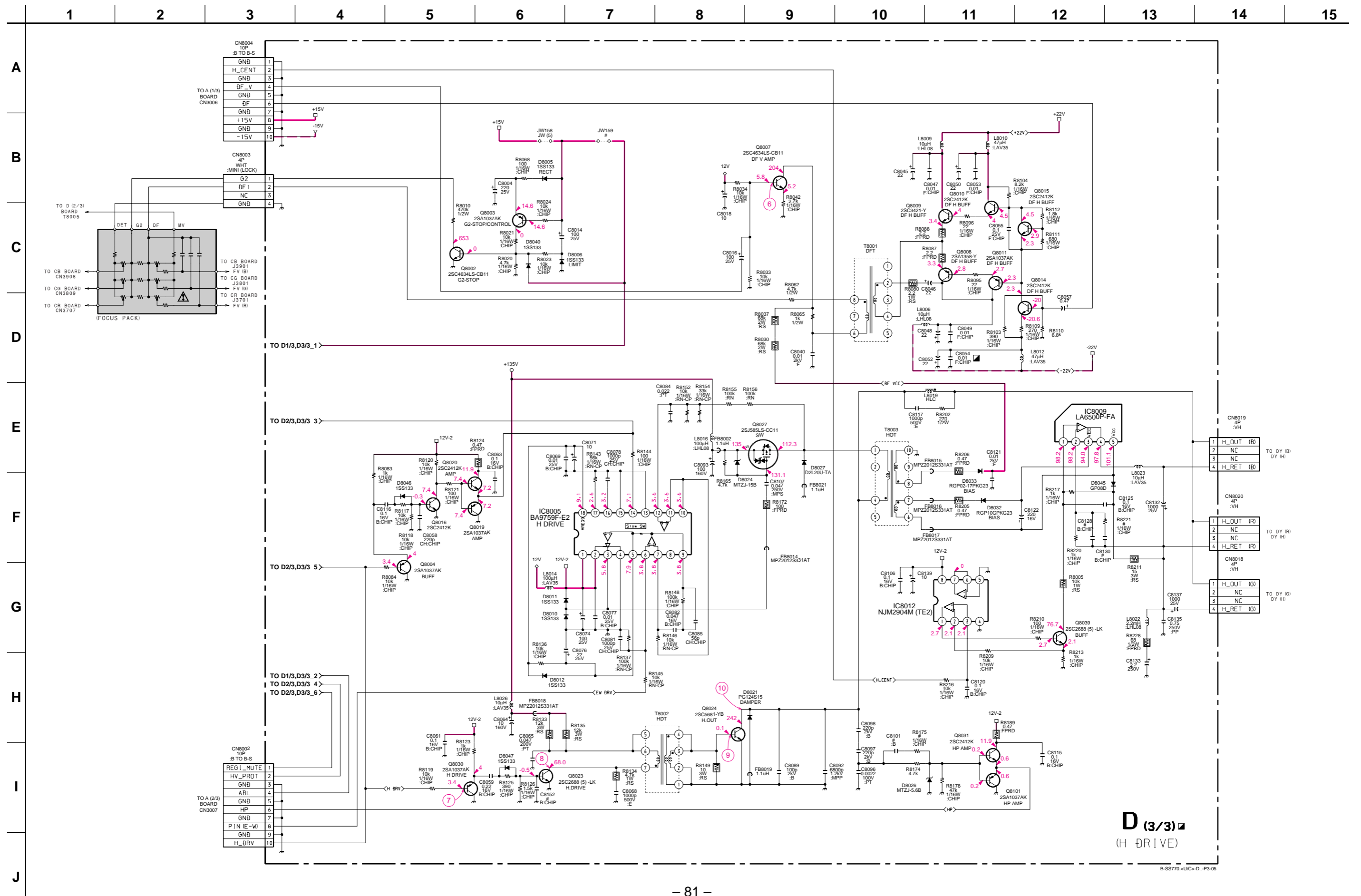


B-S5770-UC-D-P1-05

(16) Schematic Diagram of D (2/3) Board



(17) Schematic Diagram of D (3/3) Board

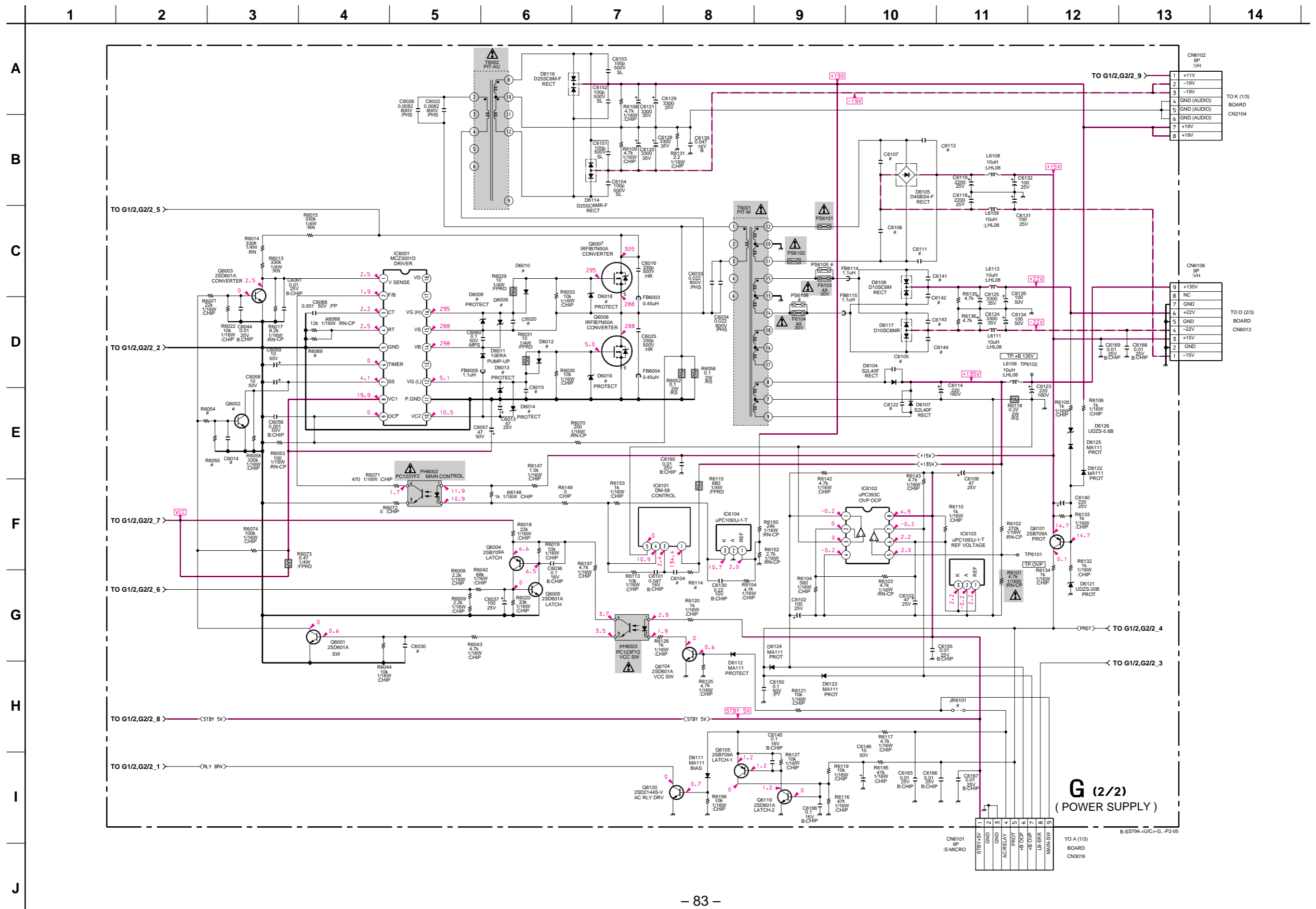


**D (3/3)**  
(H DRIVE)



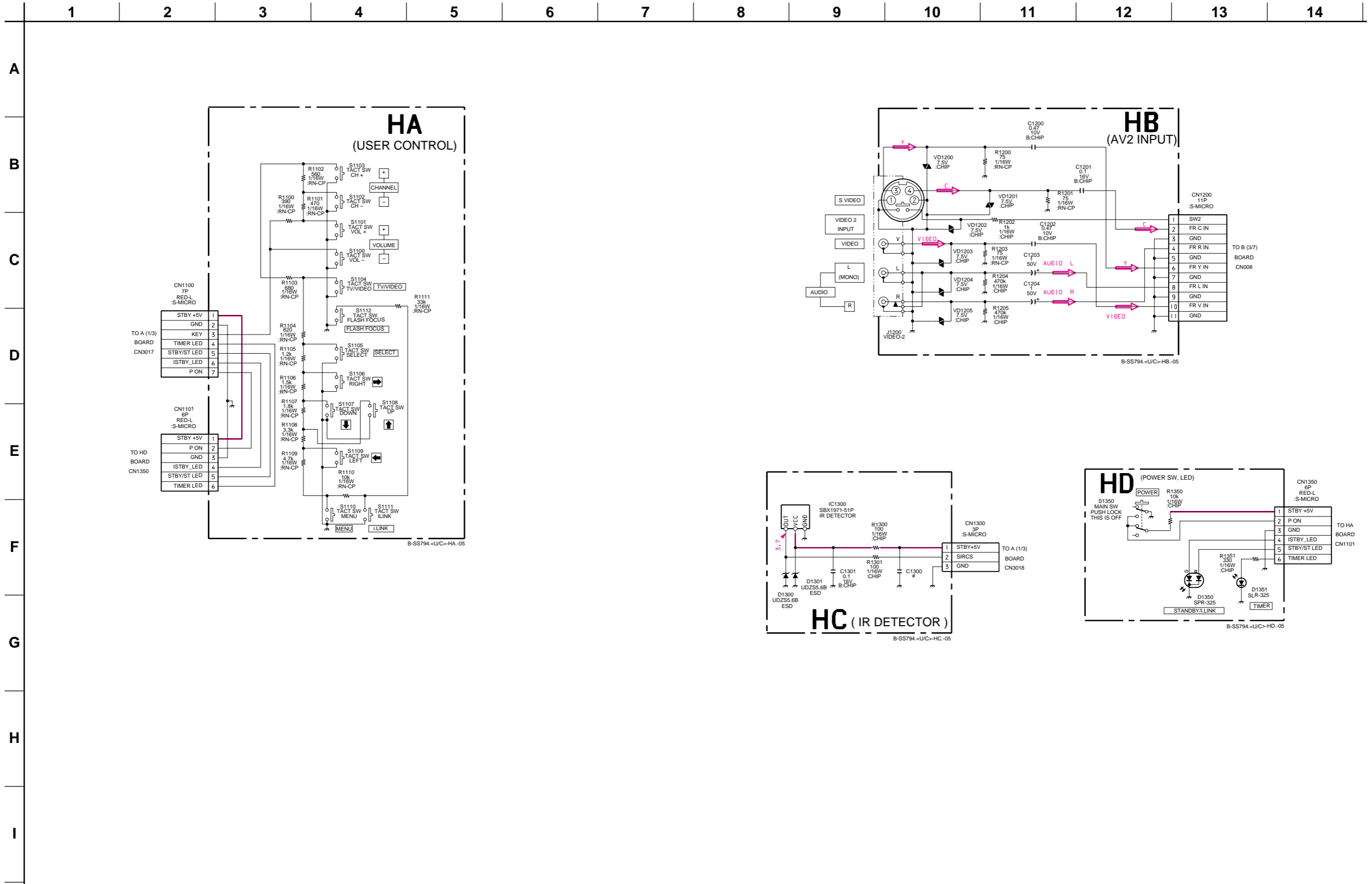


(19) Schematic Diagram of G (2/2) Board

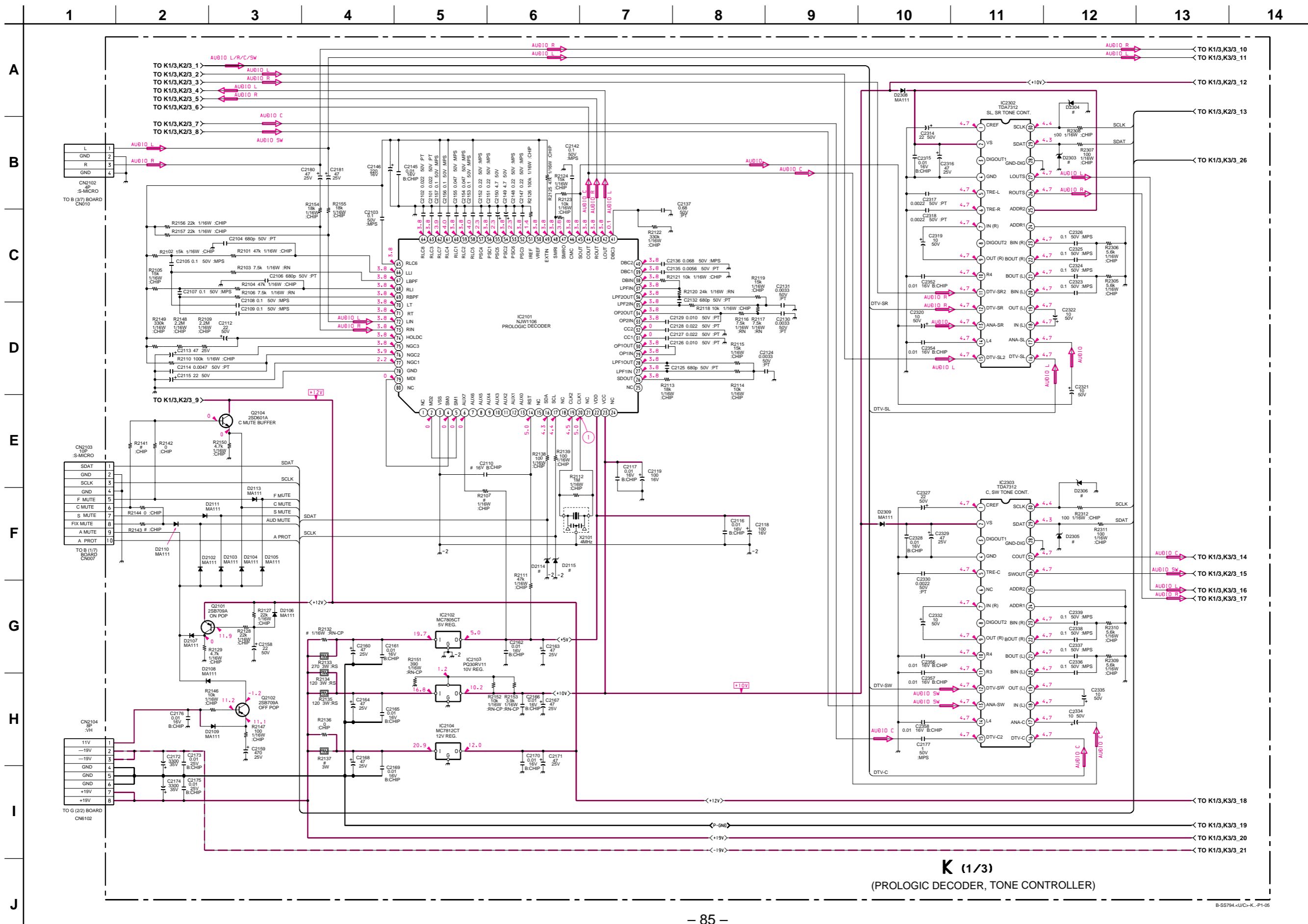




(20) Schematic Diagrams of HA, HB, HC and HD Boards

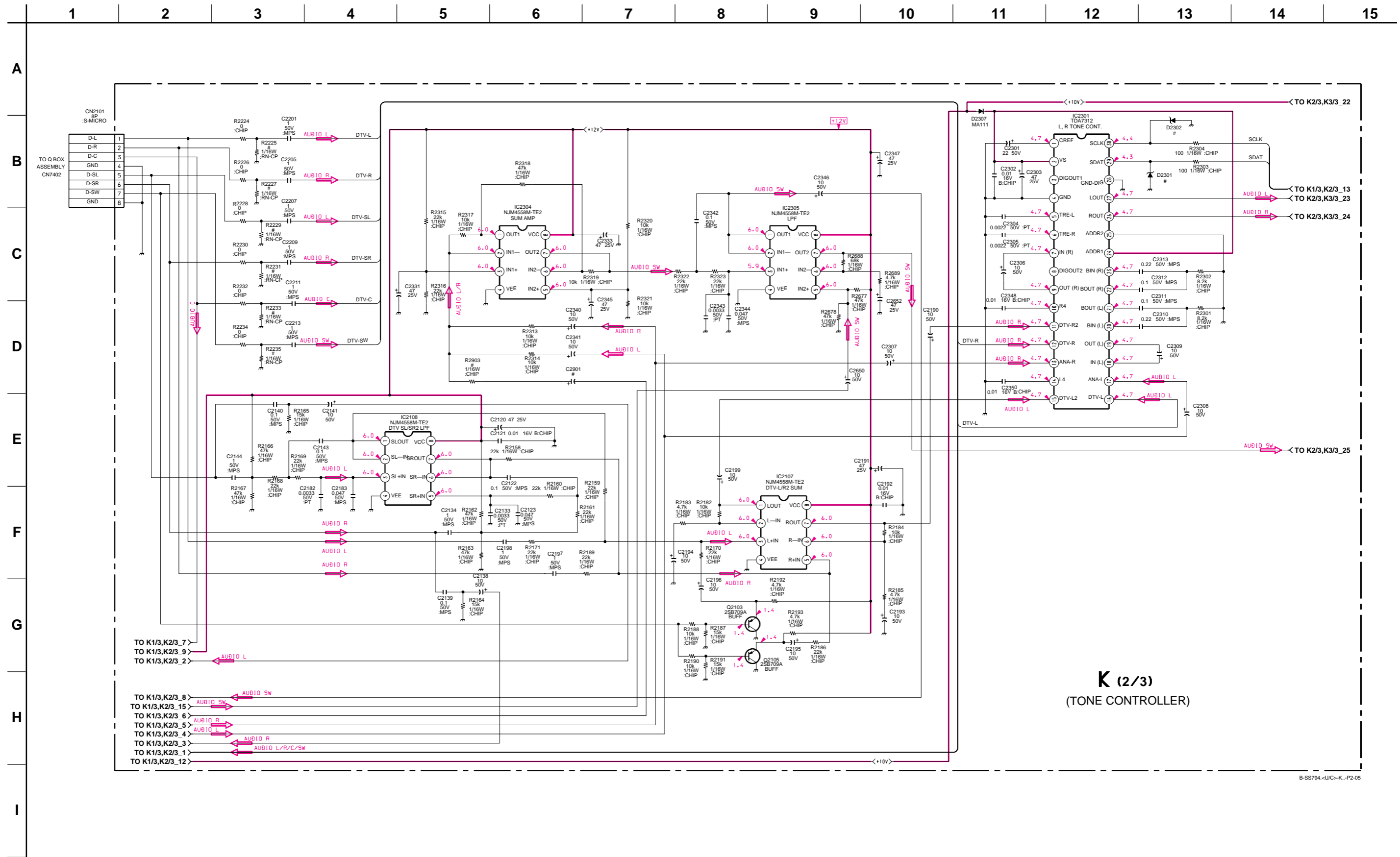


(21) Schematic Diagram of K (1/3) Board



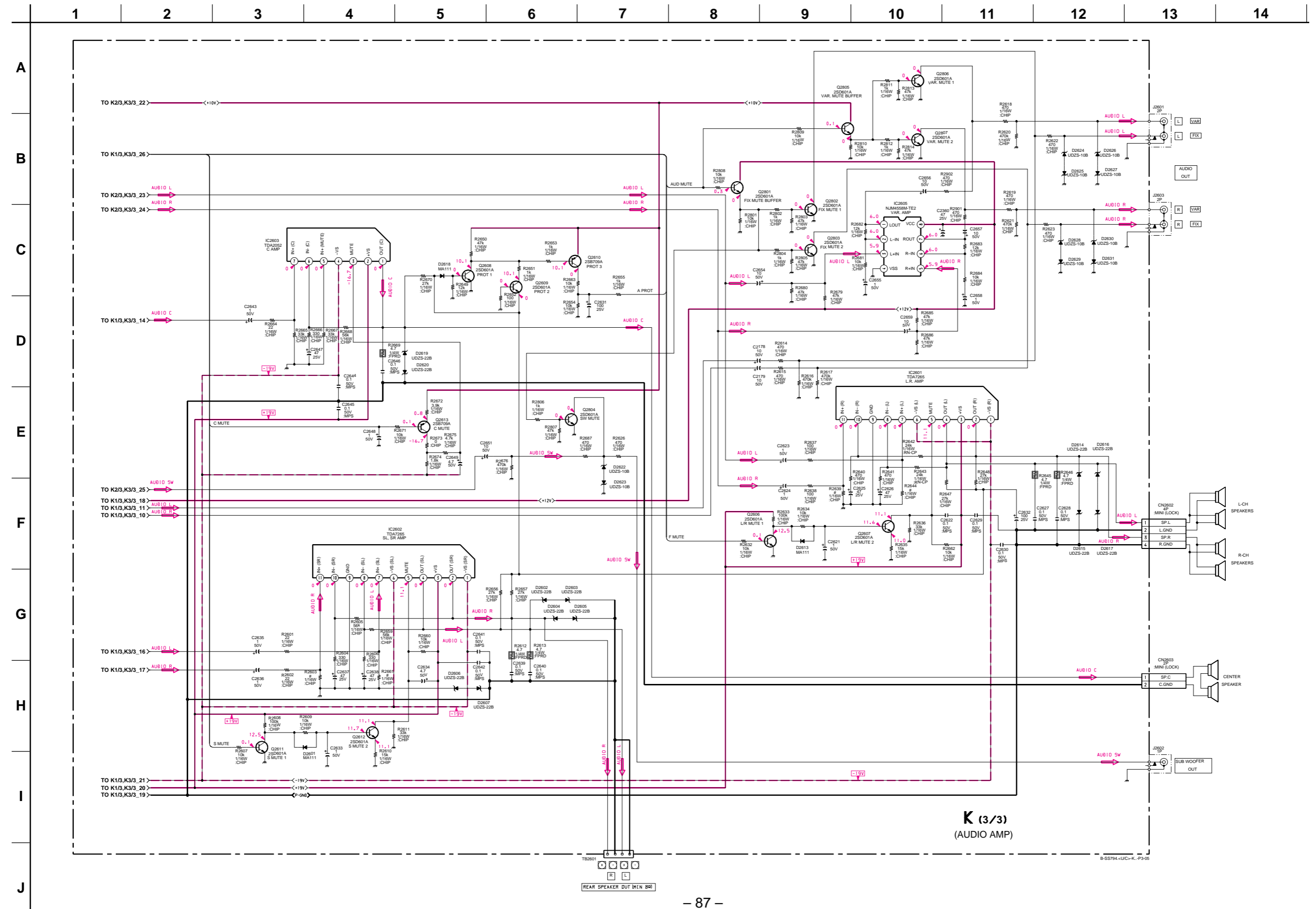
**K (1/3)**  
(PROLOGIC DECODER, TONE CONTROLLER)

(22) Schematic Diagram of K (2/3) Board



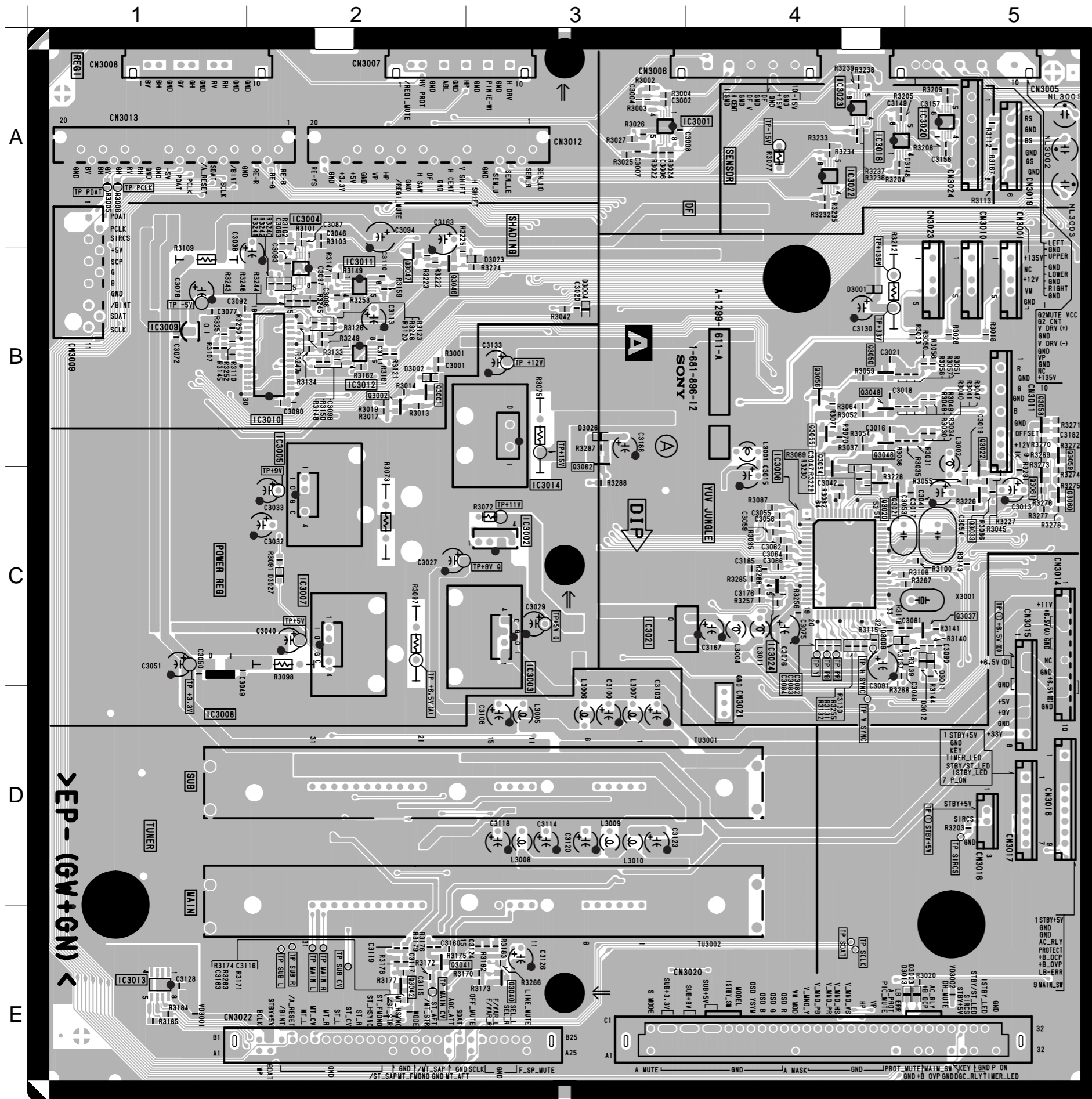
B-SS794 <U/C> K-K-P2-05

(23) Schematic Diagram of K (3/3) Board









**A** VIDEO PROCESSOR, TUNER, SHADING

• A BOARD SEMICONDUCTOR LOCATION (Component Side)

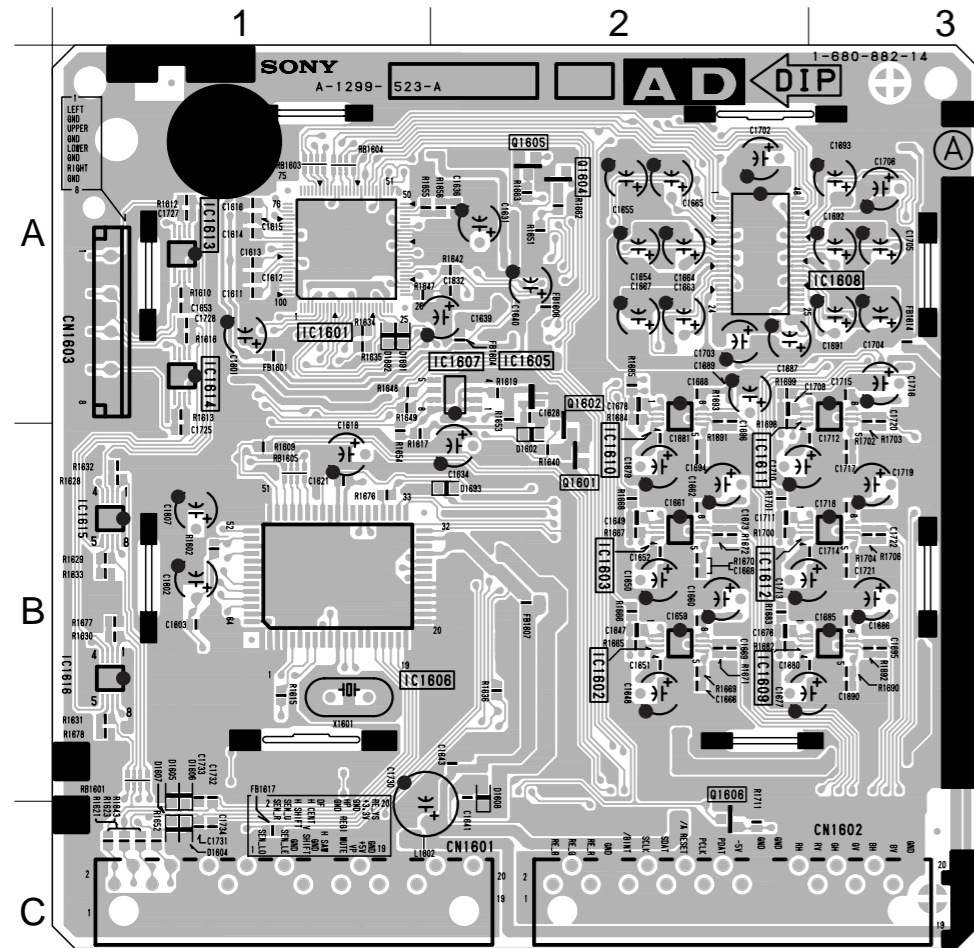
| IC         | Location | Terminal |
|------------|----------|----------|
| IC3001     | A-3      | (2)      |
| IC3002     | C-3      | (2)      |
| IC3003     | C-3      | (2)      |
| IC3004     | B-2      | (2)      |
| IC3005     | C-2      | (2)      |
| IC3006     | C-4      | (2)      |
| IC3007     | C-2      | (2)      |
| IC3008     | C-1      | (2)      |
| IC3009     | B-1      | (2)      |
| IC3010     | B-2      | (2)      |
| IC3011     | B-2      | (2)      |
| IC3012     | B-2      | (2)      |
| IC3013     | E-1      | (2)      |
| IC3014     | B-3      | (2)      |
| IC3018     | A-4      | (2)      |
| IC3020     | A-5      | (2)      |
| IC3021     | C-4      | (2)      |
| IC3022     | A-4      | (2)      |
| IC3023     | A-4      | (2)      |
| IC3024     | C-4      | (2)      |
| Q3041      | E-2      | (2)      |
| Q3042      | E-2      | (2)      |
| Q3046      | B-2      | (2)      |
| Q3047      | B-2      | (2)      |
| Q3048      | B-4      | (2)      |
| Q3049      | B-4      | (2)      |
| Q3050      | B-4      | (2)      |
| Q3054      | C-4      | (2)      |
| Q3055      | B-4      | (2)      |
| Q3056      | B-4      | (2)      |
| Q3058      | B-5      | (2)      |
| Q3059      | B-5      | (2)      |
| Q3060      | C-5      | (2)      |
| Q3061      | C-5      | (2)      |
| Q3062      | B-3      | (2)      |
| DIODE      |          |          |
| D3001      | B-4      | (*) (2)  |
| D3002      | B-2      | (*) (2)  |
| D3003      | E-5      | (*) (2)  |
| D3004      | B-3      | (*) (2)  |
| D3009      | C-4      | (*) (2)  |
| D3011      | C-5      | (*) (2)  |
| D3012      | C-5      | (*) (2)  |
| D3013      | E-5      | (*) (2)  |
| D3023      | B-3      | (*) (2)  |
| D3026      | B-3      | (*) (2)  |
| TRANSISTOR |          |          |
| Q3001      | B-2      | (*) (2)  |
| Q3002      | B-2      | (*) (2)  |
| Q3020      | C-4      | (*) (2)  |
| Q3021      | C-4      | (*) (2)  |
| Q3022      | C-5      | (*) (2)  |
| Q3033      | C-5      | (*) (2)  |
| Q3037      | C-5      | (*) (2)  |
| Q3040      | E-3      | (*) (2)  |
| CRYSTAL    |          |          |
| X3001      | C-5      | (2)      |

\*: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)



**AD** [PJED,  
REGI CORRECTION]

— AD BOARD (Component Side) —

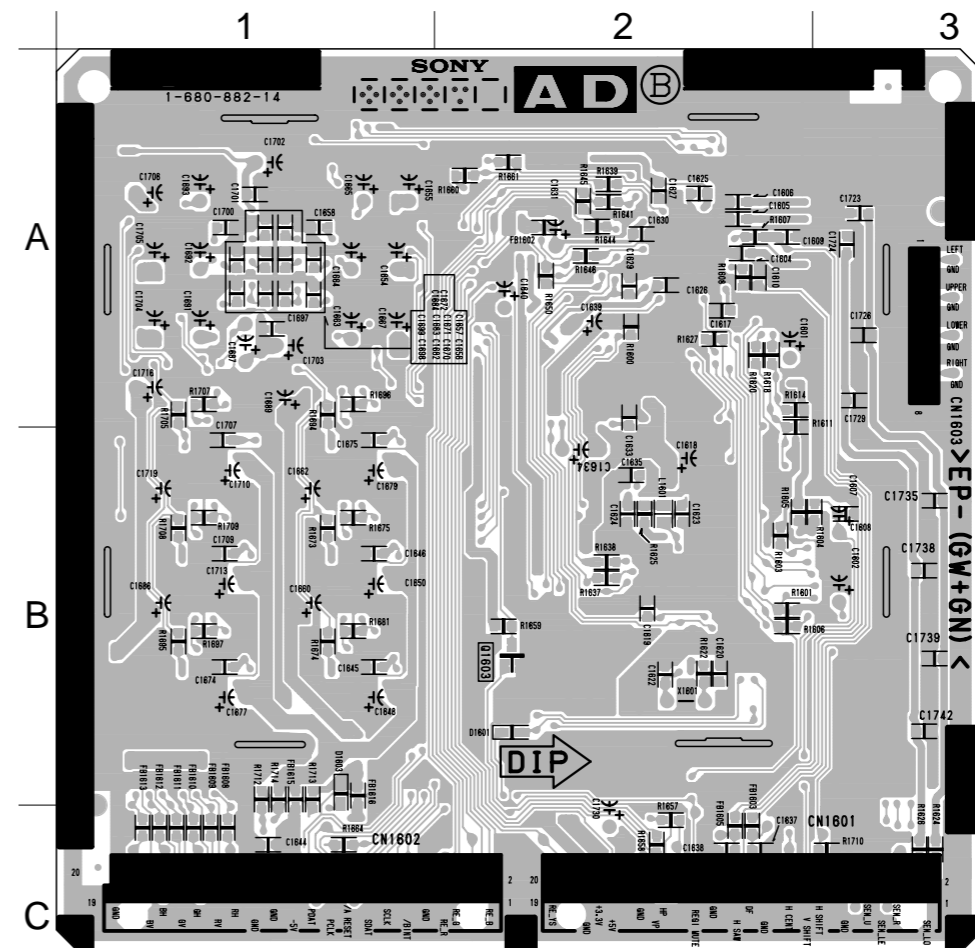


• AD BOARD SEMICONDUCTOR LOCATION  
(Component Side)

| IC                | DIODE     |   |
|-------------------|-----------|---|
| IC1601 A-1        |           | * |
| IC1602 B-2        | D1604 C-1 | ③ |
| IC1603 B-2        | D1605 B-1 | ③ |
| IC1605 A-2        | D1606 B-1 | ③ |
| IC1606 B-1        | D1607 C-1 | ③ |
| IC1607 A-2        |           |   |
| IC1608 A-2        |           |   |
| IC1609 B-3        |           |   |
| IC1610 A-2        |           |   |
| IC1611 A-3        |           |   |
| IC1612 B-3        |           |   |
| <b>TRANSISTOR</b> |           |   |
|                   |           | * |
| Q1604 A-2         |           | ② |
| Q1605 A-2         |           | ② |
| Q1606 C-2         |           | ② |
| <b>CRYSTAL</b>    |           |   |
|                   | X1601 B-1 |   |

\*: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)

— AD BOARD (Conductor Side) —



• AD BOARD SEMICONDUCTOR LOCATION  
(Conductor Side)

| TRANSISTOR |  |   |
|------------|--|---|
|            |  | * |
| Q1603 B-2  |  | ① |
| DIODE      |  |   |
|            |  | * |
| D1601 B-2  |  | ③ |
| D1603 B-1  |  | ③ |
| CRYSTAL    |  |   |
| X1601 B-2  |  |   |

\*: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)

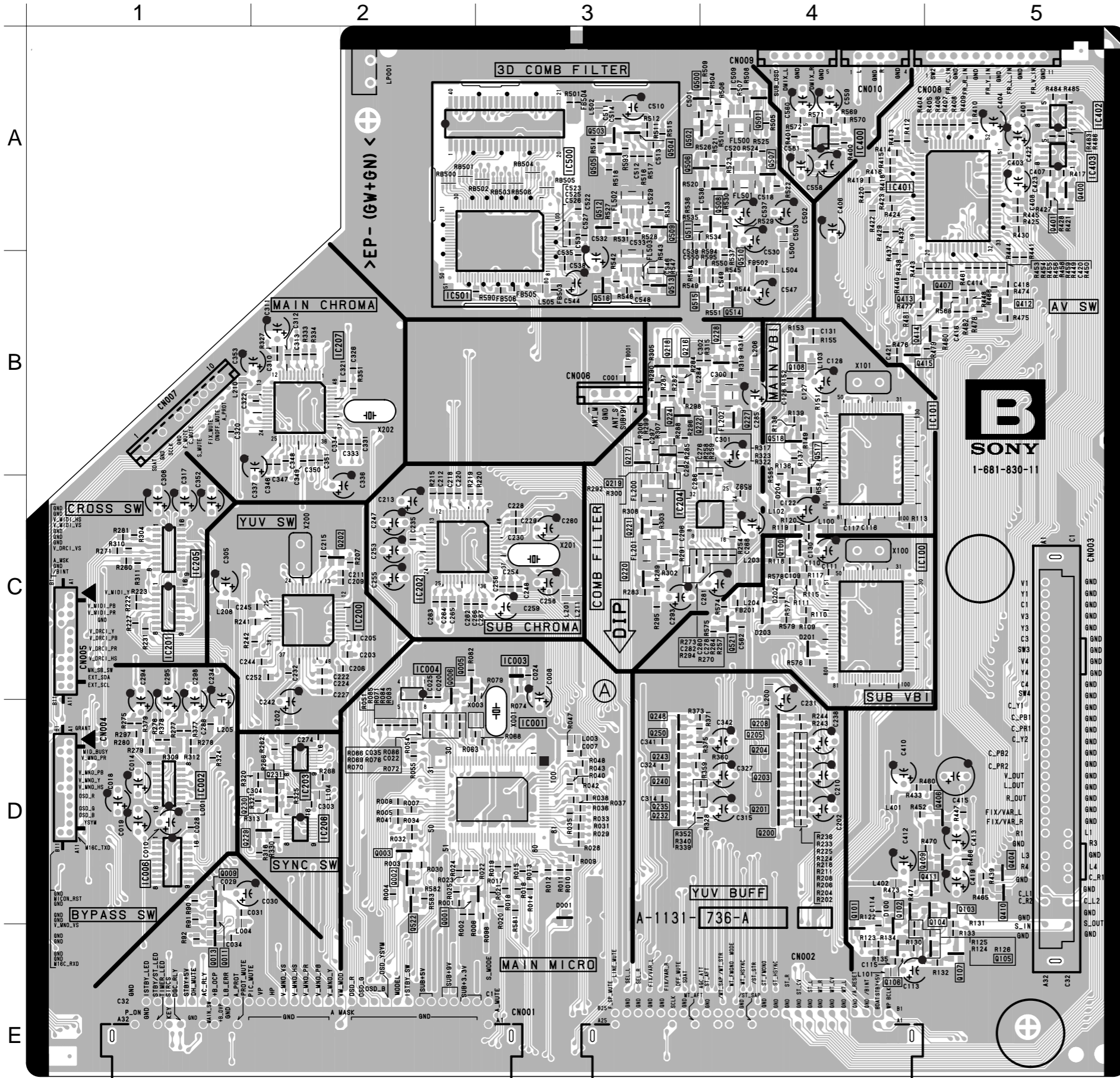


**B** MAIN MICON, YC JUNGLE,  
COMB FILTER, AV SWITCH

• B BOARD SEMICONDUCTOR LOCATION  
(Component Side)

| IC    |     | TRANSISTOR |     |
|-------|-----|------------|-----|
| IC001 | D-3 | Q001       | D-3 |
| IC002 | D-1 | Q002       | D-2 |
| IC003 | C-3 | Q003       | D-2 |
| IC004 | C-2 | Q005       | C-2 |
| IC006 | D-1 | Q006       | C-2 |
| IC100 | C-4 | Q009       | D-1 |
| IC101 | B-4 | Q011       | D-1 |
| IC200 | C-2 | Q101       | E-4 |
| IC201 | C-1 | Q102       | D-4 |
| IC202 | C-2 | Q103       | D-5 |
| IC203 | D-2 | Q104       | D-5 |
| IC204 | C-4 | Q105       | E-5 |
| IC205 | C-1 | Q106       | E-4 |
| IC206 | D-2 | Q107       | E-5 |
| IC207 | B-2 | Q108       | B-4 |
| IC400 | A-4 | Q200       | D-4 |
| IC401 | A-5 | Q201       | D-4 |
| IC402 | A-5 | Q202       | C-2 |
| IC403 | A-5 | Q203       | D-4 |
| IC500 | A-3 | Q204       | D-4 |
| IC501 | A-3 | Q205       | D-4 |
|       |     | Q208       | D-4 |
|       |     | Q216       | B-3 |
|       |     | Q217       | B-3 |
|       |     | Q218       | B-3 |
|       |     | Q219       | B-3 |
|       |     | Q220       | C-3 |
|       |     | Q221       | C-3 |
|       |     | Q222       | B-3 |
|       |     | Q224       | B-3 |
|       |     | Q227       | B-4 |
|       |     | Q228       | B-4 |
|       |     | Q229       | D-2 |
|       |     | Q230       | D-2 |
|       |     | Q231       | D-2 |
|       |     | Q232       | D-3 |
|       |     | Q235       | D-3 |
|       |     | Q240       | D-3 |
|       |     | Q243       | D-3 |
|       |     | Q248       | D-3 |
|       |     | Q250       | D-3 |
|       |     | Q400       | A-5 |
|       |     | Q401       | A-5 |
|       |     | Q404       | D-5 |
|       |     | Q406       | D-5 |
|       |     | Q407       | B-5 |
|       |     | Q409       | D-5 |
|       |     | Q410       | D-5 |
|       |     | Q411       | D-5 |
|       |     | Q412       | B-5 |
|       |     | Q413       | B-4 |
|       |     | Q414       | B-5 |
|       |     | Q415       | B-4 |
|       |     | Q500       | A-3 |
|       |     | Q501       | A-4 |
|       |     | Q502       | A-3 |
|       |     | Q503       | A-3 |
|       |     | Q504       | A-3 |
|       |     | Q505       | A-3 |
|       |     | Q506       | A-3 |
|       |     | Q507       | A-4 |
|       |     | Q508       | A-4 |
|       |     | Q509       | A-3 |
|       |     | Q510       | A-4 |
|       |     | Q511       | A-4 |
|       |     | Q512       | A-3 |
|       |     | Q513       | B-3 |
|       |     | Q514       | B-4 |
|       |     | Q515       | B-4 |
|       |     | Q516       | B-3 |
|       |     | Q517       | B-4 |
|       |     | Q518       | B-4 |
|       |     | Q521       | C-4 |
|       |     | Q522       | D-2 |
|       |     |            |     |
| DIODE |     | CRYSTAL    |     |
|       |     | D001       | D-3 |
|       |     | D100       | E-4 |
|       |     | D201       | C-4 |
|       |     | D202       | C-4 |
|       |     | D203       | C-4 |
|       |     | D204       | C-4 |
|       |     |            |     |
|       |     | X001       | D-3 |
|       |     | X003       | D-2 |
|       |     | X100       | C-4 |
|       |     | X101       | B-4 |
|       |     | X200       | C-2 |
|       |     | X201       | C-3 |
|       |     | X202       | B-2 |

\*: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)

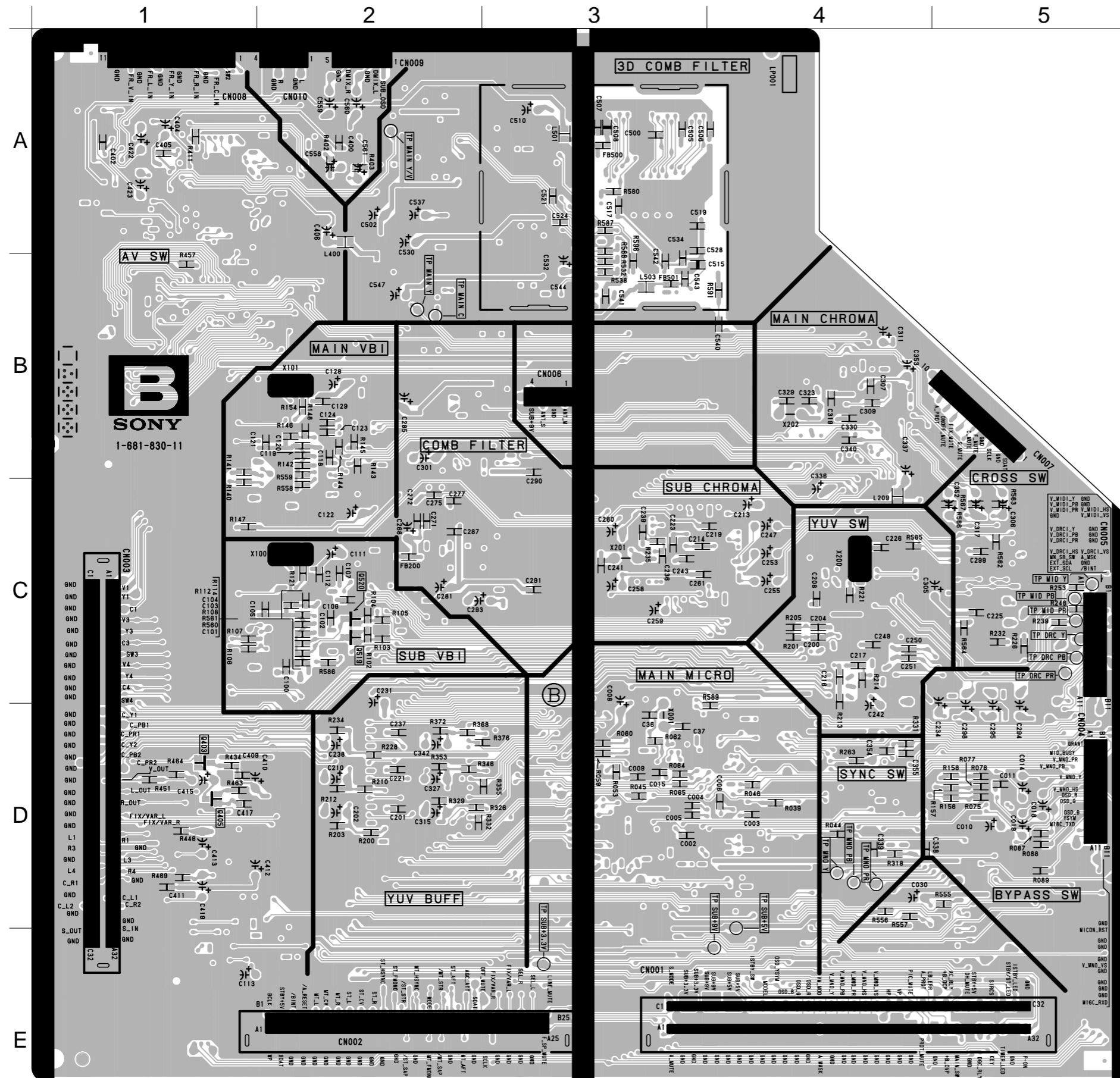


**B** MAIN MICON, YC JUNGLE,  
COMB FILTER, AV SWITCH

• B BOARD SEMICONDUCTOR LOCATION  
(Conductor Side)

| TRANSISTOR |     |   |
|------------|-----|---|
| Q403       | D-1 | ① |
| Q405       | D-1 | ① |
| Q519       | C-2 | ① |
| Q520       | C-2 | ① |
| CRYSTAL    |     |   |
| X001       | D-3 |   |
| X100       | C-2 |   |
| X101       | B-2 |   |
| X200       | C-4 |   |
| X201       | C-3 |   |
| X202       | B-4 |   |

\*: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)

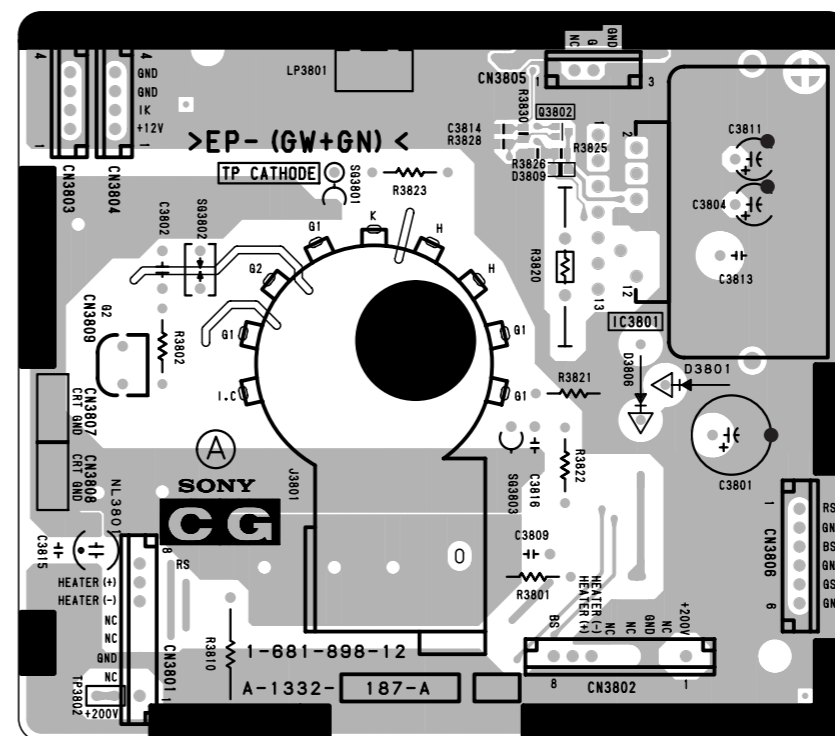
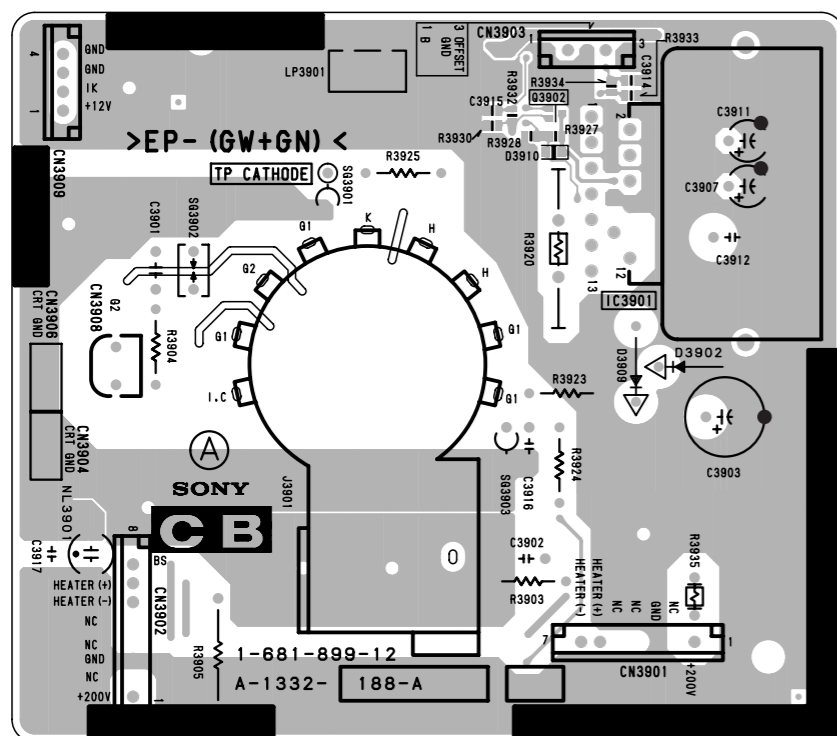


**CB** [ B CRT DRIVE ]

**CG** [ G CRT DRIVE ]

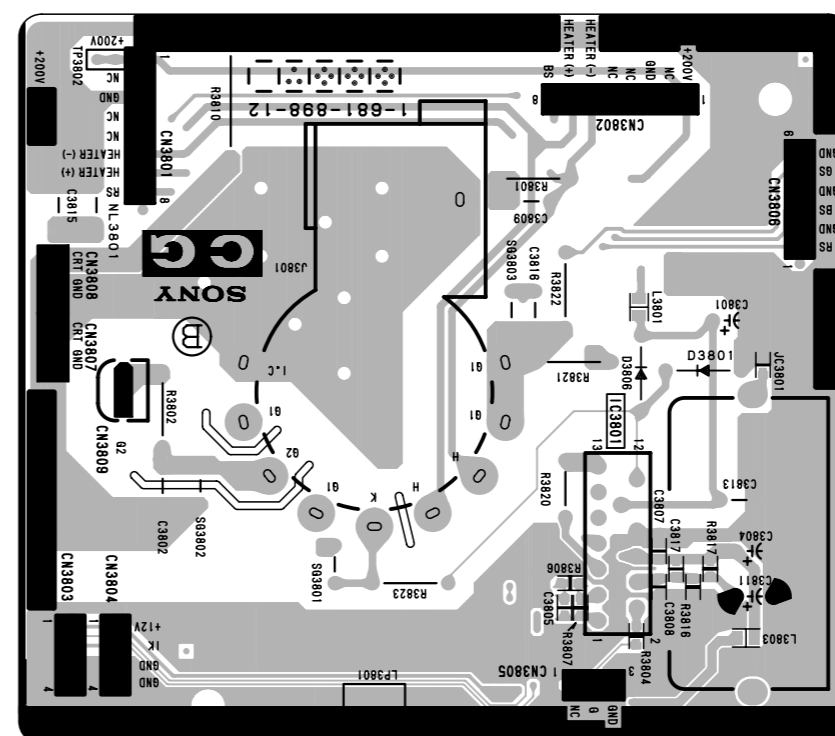
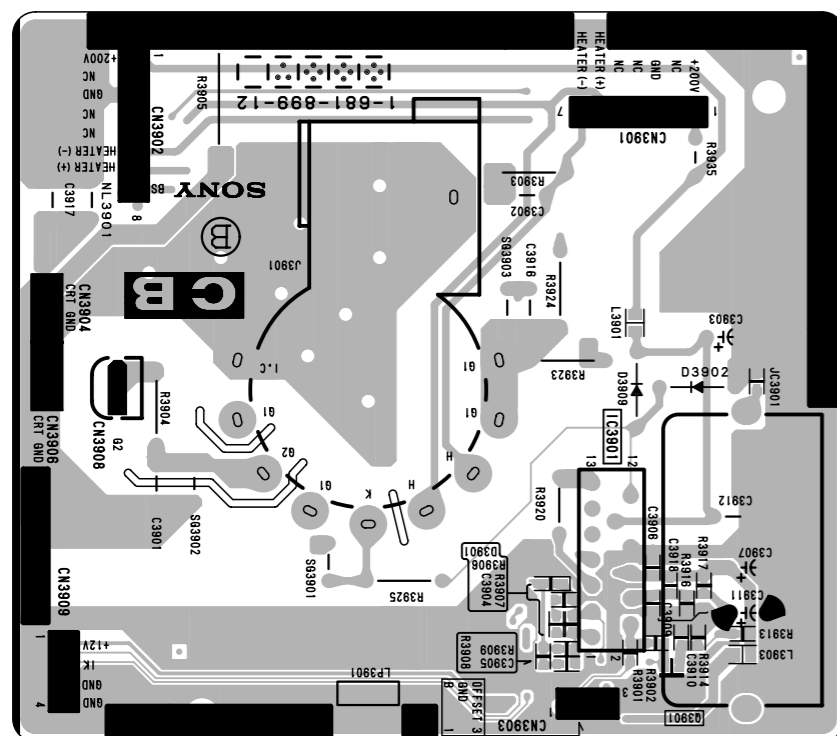
— CB BOARD (Component Side) —

— CG BOARD (Component Side) —



— CB BOARD (Conductor Side) —

— CG BOARD (Conductor Side) —



**CB BOARD**  
Terminal name of semiconductors  
in silk screen printed circuit (\*)

| Ref.        | * |
|-------------|---|
| D3901, 3910 | ⑤ |
| Q3901       | ① |
| Q3902       | ⑬ |

※: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)

**CG BOARD**  
Terminal name of semiconductors  
in silk screen printed circuit (\*)

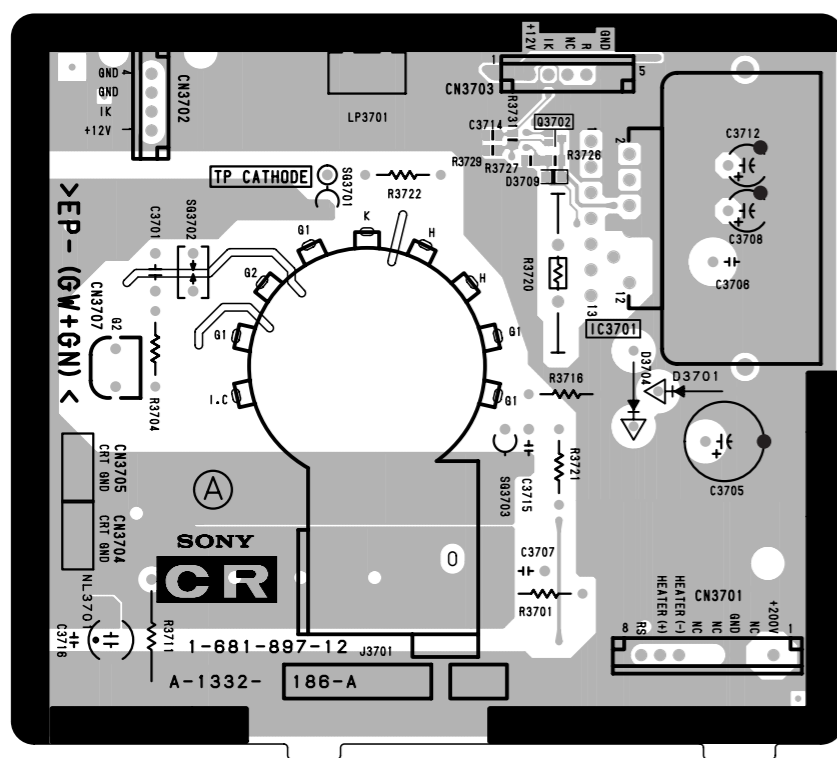
| Ref.  | * |
|-------|---|
| D3809 | ③ |
| Q3802 | ⑬ |

※: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)

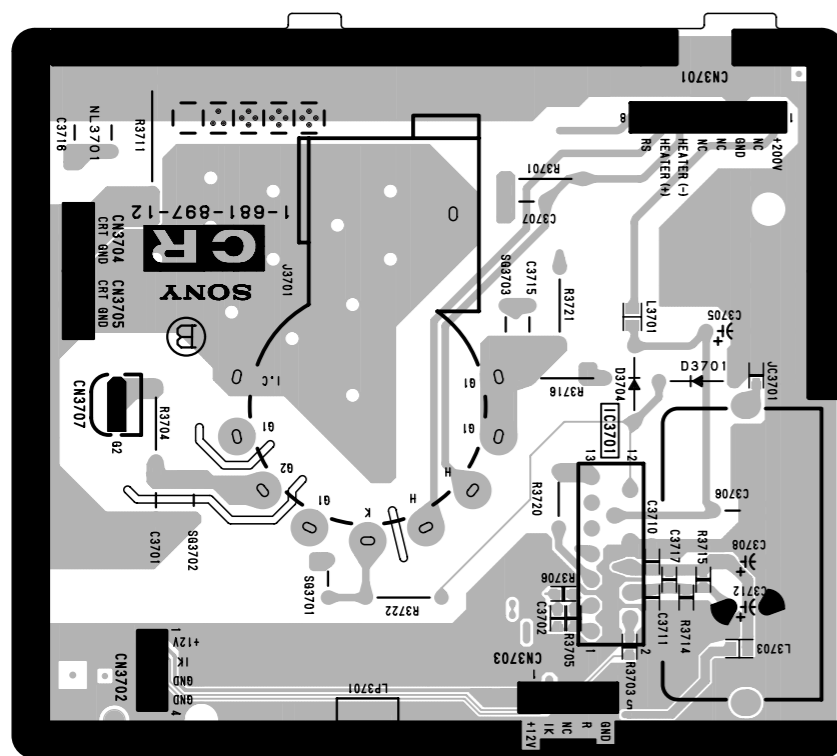


**CR** [R CRT DRIVE]

— CR BOARD (Component Side) —



— CR BOARD (Conductor Side) —



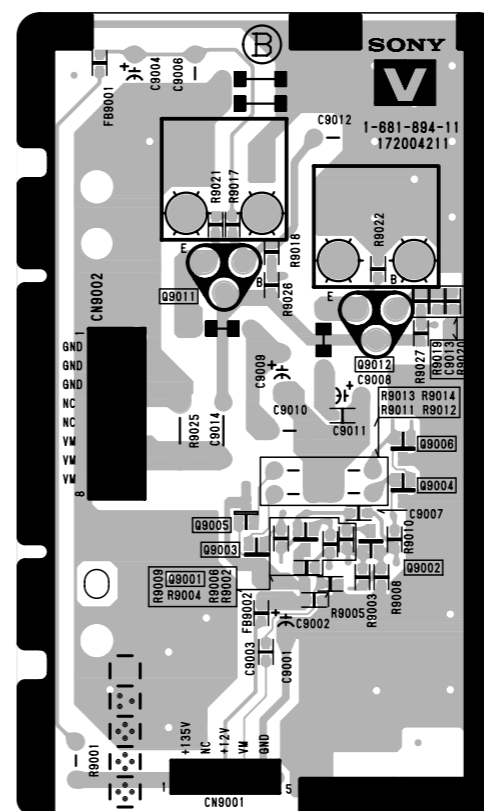
**CR BOARD**  
Terminal name of semiconductors  
in silk screen printed circuit (\*)

| Ref.  | * |
|-------|---|
| D3709 | ⓐ |
| Q3702 | ⓑ |

\*: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)

**V** [VM]

— V BOARD —



**V BOARD**  
Terminal name of semiconductors  
in silk screen printed circuit (\*)

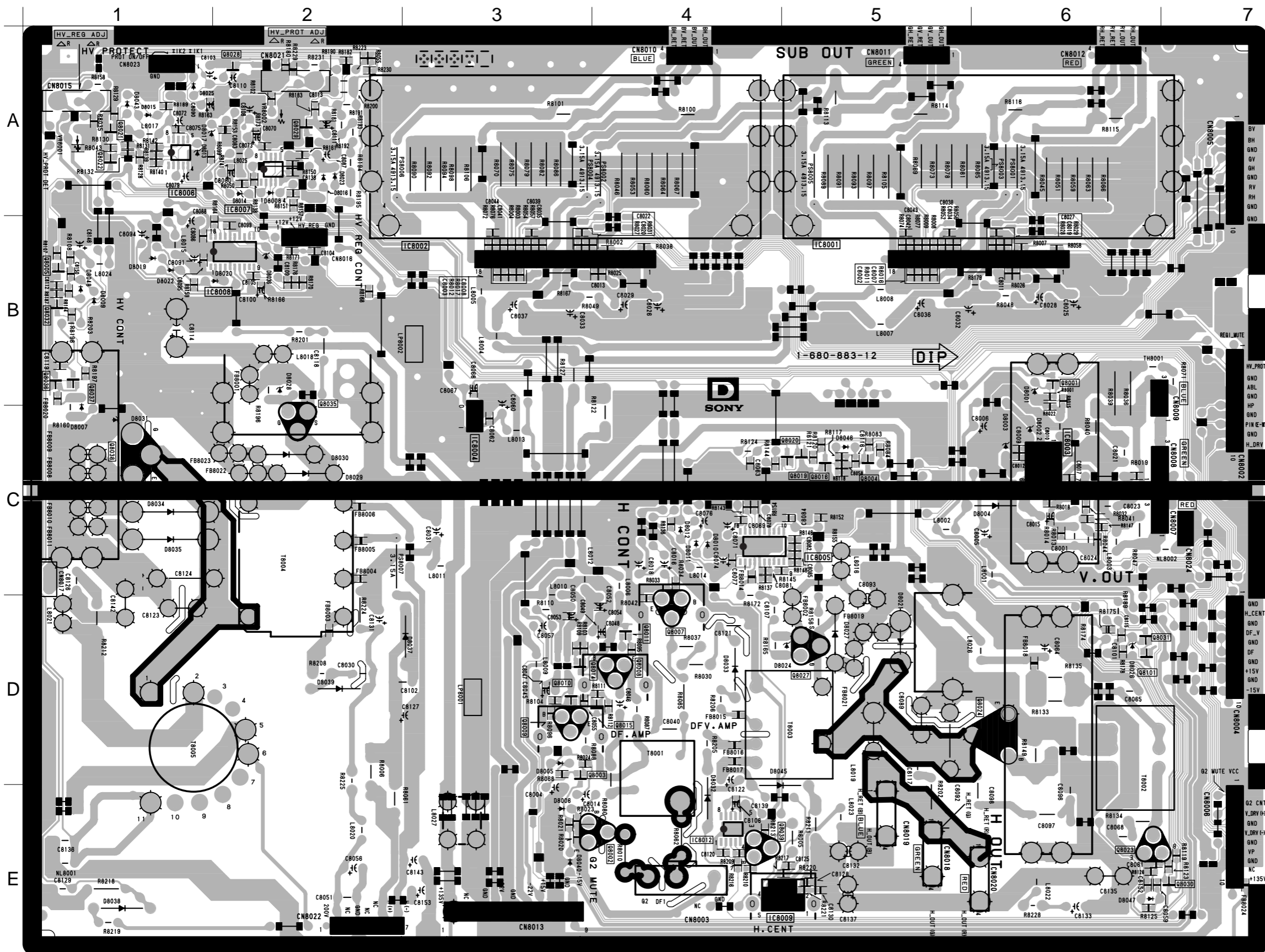
| Ref.         | * |
|--------------|---|
| Q9001 - 9006 | ⓐ |

\*: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)

**NOTE:**  
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

**D** DEF. HV REG. D.F., CONVERGENCE OUT

— D BOARD —



• D BOARD SEMICONDUCTOR LOCATION

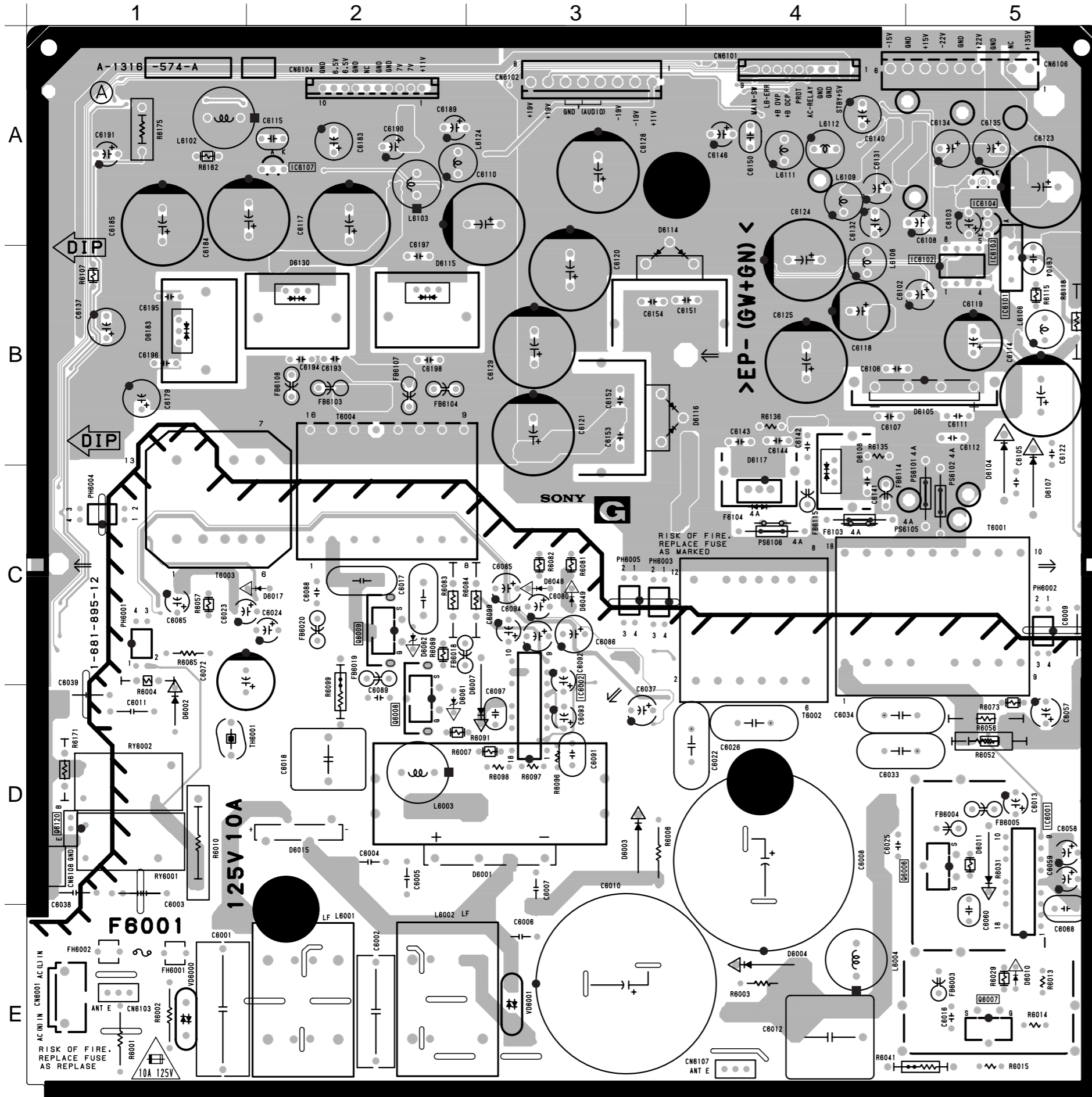
| IC         |     | DIODE |       |
|------------|-----|-------|-------|
| IC8001     | B-5 | D8001 | B-6 * |
| IC8002     | B-3 | D8002 | C-6   |
| IC8003     | C-6 | D8003 | C-6   |
| IC8004     | C-3 | D8004 | C-6   |
| IC8005     | C-4 | D8005 | D-3   |
| IC8006     | A-1 | D8006 | E-3   |
| IC8007     | A-2 | D8007 | C-1   |
| IC8008     | B-2 | D8008 | A-2   |
| IC8009     | E-4 | D8010 | C-4   |
| IC8012     | E-4 | D8011 | C-4   |
| TRANSISTOR |     | D8012 | C-4   |
|            |     | D8013 | A-1   |
|            |     | D8014 | A-2   |
|            |     | D8015 | A-1   |
| Q8001      | B-6 | D8016 | A-2   |
| Q8002      | E-4 | D8019 | B-1   |
| Q8003      | D-3 | D8020 | B-2   |
| Q8004      | C-5 | D8021 | D-5   |
| Q8005      | B-1 | D8022 | B-1   |
| Q8007      | D-4 | D8023 | A-2   |
| Q8008      | D-4 | D8024 | D-5   |
| Q8009      | D-3 | D8025 | A-1   |
| Q8010      | D-3 | D8026 | D-6   |
| Q8011      | D-4 | D8027 | D-5   |
| Q8014      | D-3 | D8028 | B-2   |
| Q8015      | D-4 | D8029 | C-2   |
| Q8016      | C-5 | D8030 | C-2   |
| Q8019      | C-5 | D8031 | C-1   |
| Q8020      | C-5 | D8032 | E-4   |
| Q8021      | A-1 | D8033 | D-4   |
| Q8022      | A-1 | D8034 | C-1   |
| Q8023      | E-6 | D8035 | C-1   |
| Q8024      | D-6 | D8036 | B-2   |
| Q8027      | D-5 | D8037 | D-3   |
| Q8028      | A-2 | D8038 | E-1   |
| Q8029      | A-2 | D8039 | D-2   |
| Q8030      | E-7 | D8040 | E-3   |
| Q8031      | D-6 | D8043 | A-1   |
| Q8032      | B-1 | D8045 | E-4   |
| Q8035      | C-2 | D8046 | C-5   |
| Q8036      | B-1 | D8047 | E-6   |
| Q8037      | B-1 | D8048 | B-1   |
| Q8038      | C-1 |       |       |
| Q8039      | E-4 |       |       |
| Q8101      | D-6 |       |       |

\*: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)

**G** [POWER SUPPLY]

• G BOARD SEMICONDUCTOR LOCATION  
(Component Side)

| IC         |     |
|------------|-----|
| IC6001     | D-5 |
| IC6002     | D-3 |
| IC6101     | B-5 |
| IC6102     | B-5 |
| IC6103     | A-5 |
| IC6104     | A-5 |
| IC6107     | A-2 |
| TRANSISTOR |     |
| Q6006      | D-5 |
| Q6007      | E-5 |
| Q6008      | D-2 |
| Q6009      | C-2 |
| Q6120      | D-1 |
| DIODE      |     |
| D6001      | D-3 |
| D6002      | D-1 |
| D6003      | D-3 |
| D6004      | E-4 |
| D6007      | D-3 |
| D6011      | D-5 |
| D6015      | D-2 |
| D6017      | C-2 |
| D6048      | C-3 |
| D6049      | C-3 |
| D6061      | D-2 |
| D6062      | C-2 |
| D6104      | C-5 |
| D6105      | B-5 |
| D6107      | C-5 |
| D6108      | C-4 |
| D6114      | B-3 |
| D6115      | B-2 |
| D6116      | B-3 |
| D6117      | C-4 |
| D6130      | B-2 |
| D6183      | B-1 |





**G** [POWER SUPPLY]

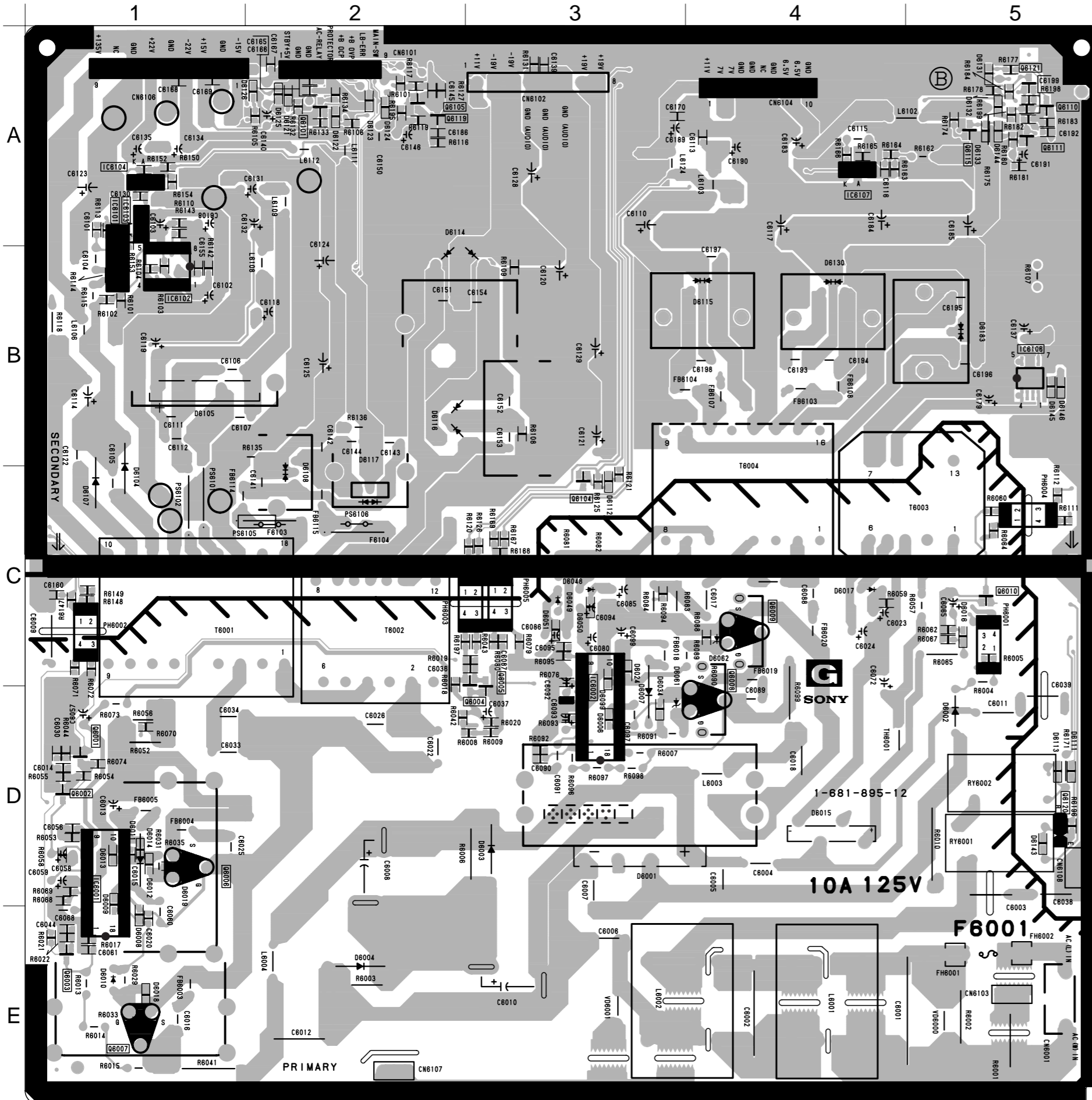
• G BOARD SEMICONDUCTOR LOCATION (Conductor Side)

| IC     |     | DIODE |       |
|--------|-----|-------|-------|
| IC6001 | D-1 | D6001 | D-3 * |
| IC6002 | D-3 | D6002 | D-5   |
| IC6101 | B-1 | D6003 | D-3   |
| IC6102 | B-1 | D6004 | E-2   |
| IC6103 | A-1 | D6007 | D-3   |
| IC6104 | A-1 | D6011 | D-1   |
| IC6106 | B-5 | D6015 | D-4   |
| IC6107 | A-4 | D6016 | C-5   |
|        |     | D6017 | C-4   |
|        |     | D6048 | C-3   |
|        |     | D6049 | C-3   |
|        |     | D6050 | C-3   |
|        |     | D6051 | C-3   |
|        |     | D6061 | D-3   |
|        |     | D6062 | C-4   |
|        |     | D6104 | C-1   |
|        |     | D6105 | B-1   |
|        |     | D6107 | C-1   |
|        |     | D6108 | C-2   |
|        |     | D6111 | D-5   |
|        |     | D6112 | C-3   |
|        |     | D6113 | D-5   |
|        |     | D6114 | B-2   |
|        |     | D6115 | B-4   |
|        |     | D6116 | B-2   |
|        |     | D6117 | C-2   |
|        |     | D6121 | A-2   |
|        |     | D6122 | A-2   |
|        |     | D6123 | A-2   |
|        |     | D6124 | A-2   |
|        |     | D6125 | A-2   |
|        |     | D6126 | A-2   |
|        |     | D6130 | B-4   |
|        |     | D6131 | A-5   |
|        |     | D6132 | A-5   |
|        |     | D6133 | A-5   |
|        |     | D6143 | D-5   |
|        |     | D6144 | A-5   |
|        |     | D6183 | B-5   |

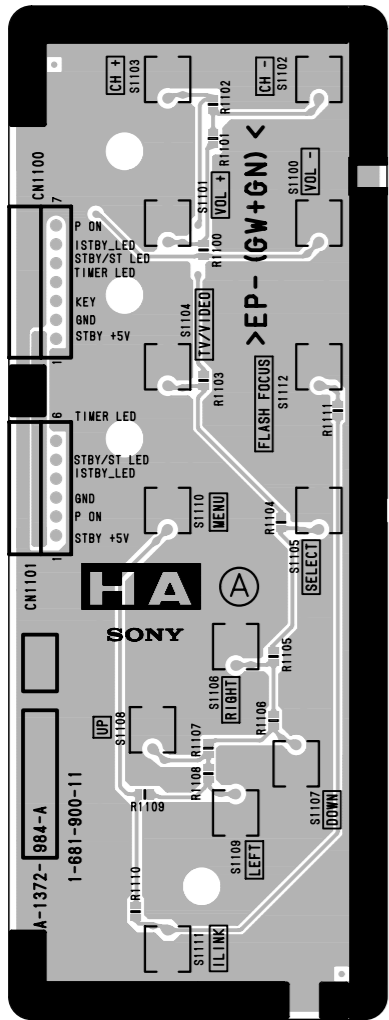
| TRANSISTOR |     |       |
|------------|-----|-------|
| Q6001      | D-1 | * (1) |
| Q6003      | E-1 | (1)   |
| Q6004      | C-3 | (1)   |
| Q6005      | D-3 | (1)   |
| Q6006      | D-1 | (1)   |
| Q6007      | E-1 | (1)   |
| Q6008      | D-4 | (1)   |
| Q6009      | C-4 | (1)   |
| Q6010      | C-5 | (1)   |
| Q6101      | A-2 | (1)   |
| Q6104      | C-3 | (1)   |
| Q6105      | A-2 | (1)   |
| Q6110      | A-5 | (1)   |
| Q6111      | A-5 | (1)   |
| Q6115      | A-5 | (1)   |
| Q6119      | A-2 | (1)   |
| Q6120      | D-5 | (1)   |
| Q6121      | A-5 | (1)   |

\*: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)

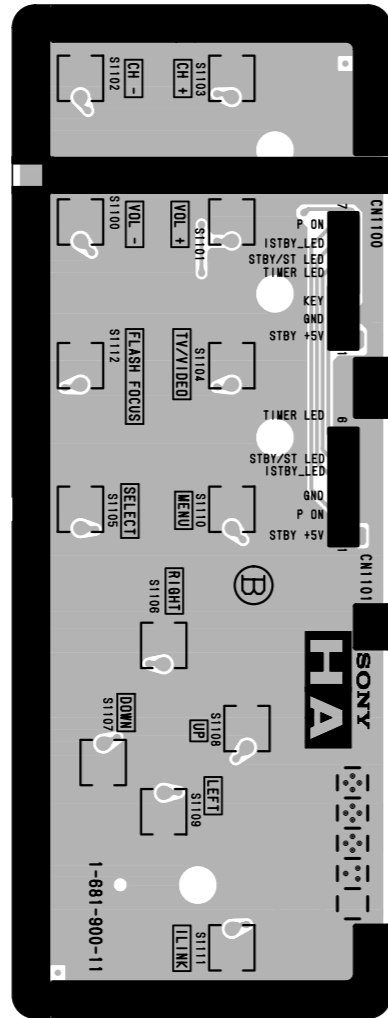


**HA** [USER CONTROL]

— HA BOARD (Component Side) —

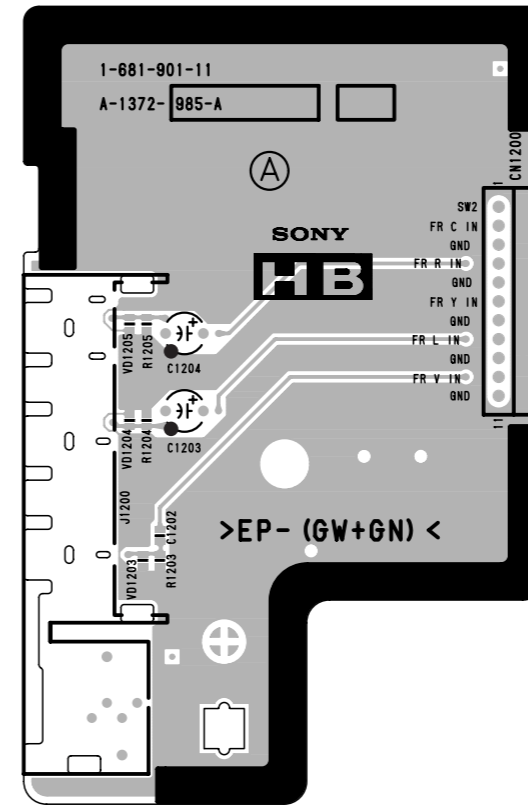


— HA BOARD (Conductor Side) —

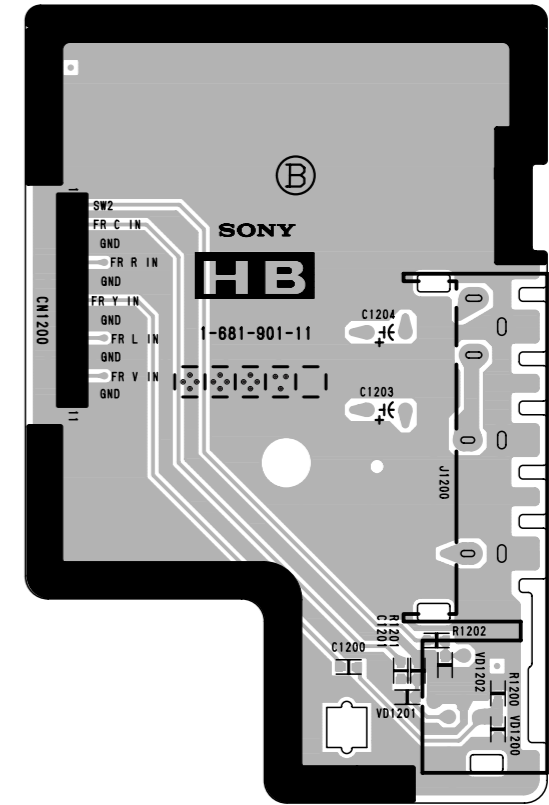


**HB** [AV2 INPUT]

— HB BOARD (Component Side) —

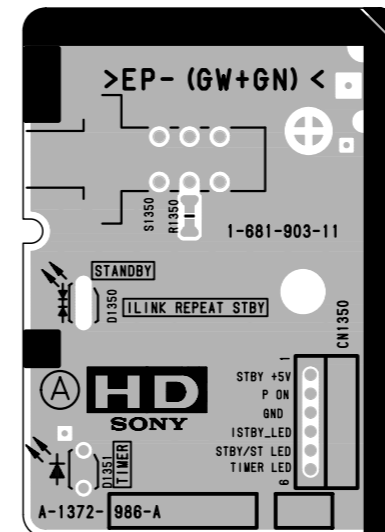


— HB BOARD (Conductor Side) —

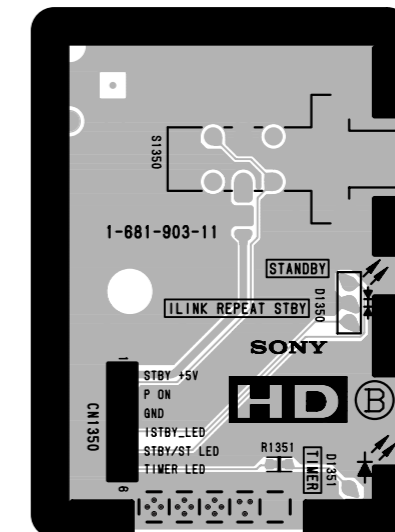


**HD** [POWER SW, LED]

— HD BOARD (Component Side) —

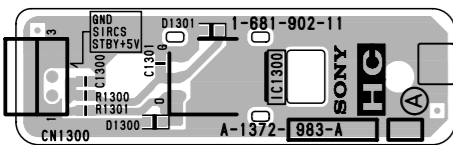


— HD BOARD (Conductor Side) —

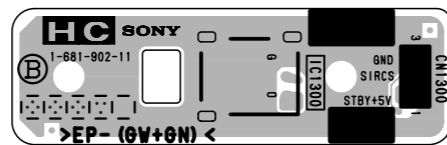


**HC** [IR DETECTOR]

— HC BOARD (Component Side) —



— HC BOARD (Conductor Side) —



**HC BOARD**  
Terminal name of semiconductors  
in silk screen printed circuit (\*)

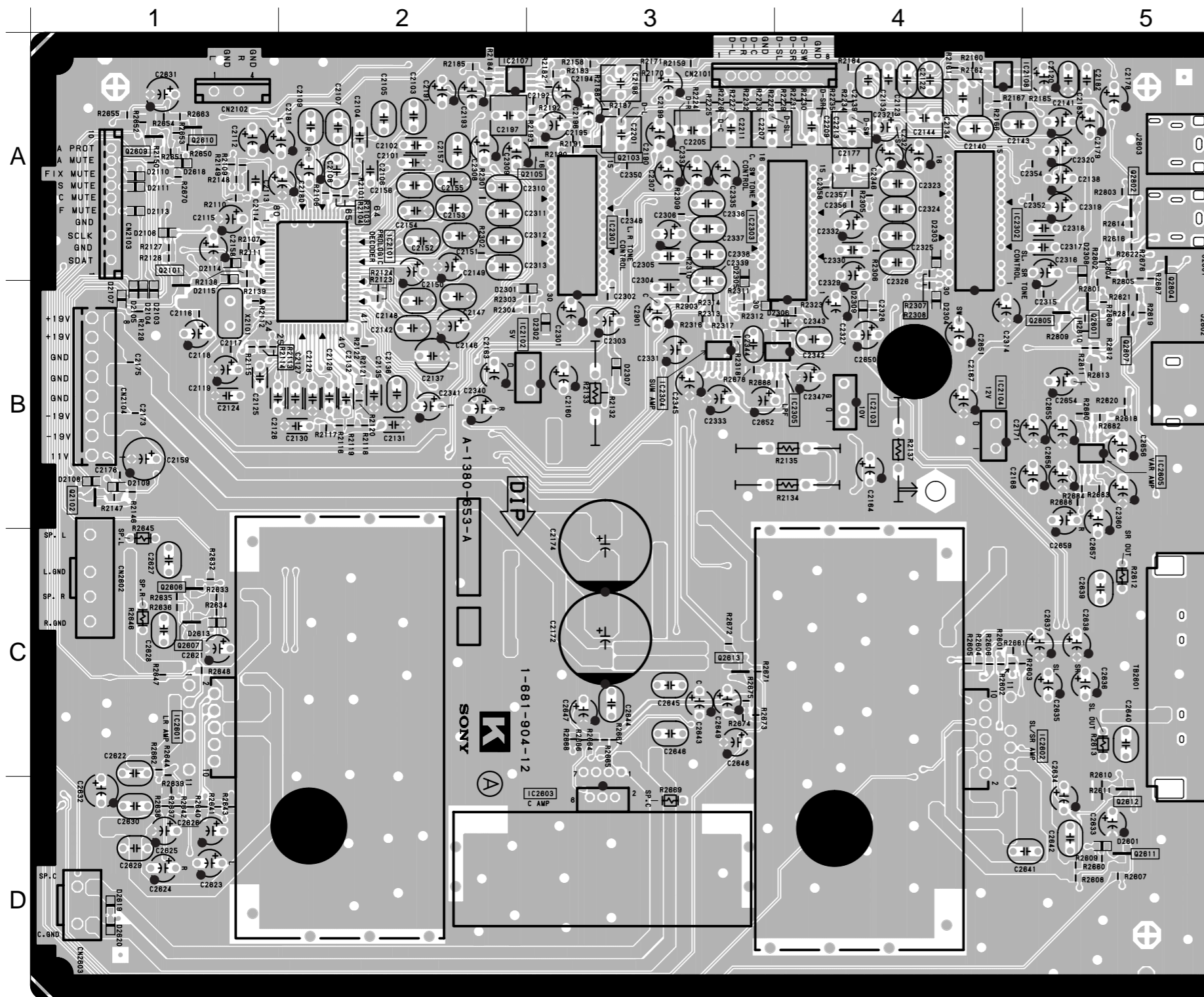
| Ref.        | * |
|-------------|---|
| D1300, 1301 | ③ |

※: Refer to Terminal name of  
semiconductors in silk screen  
printed circuit (see page 64)





— K BOARD (Component Side) —



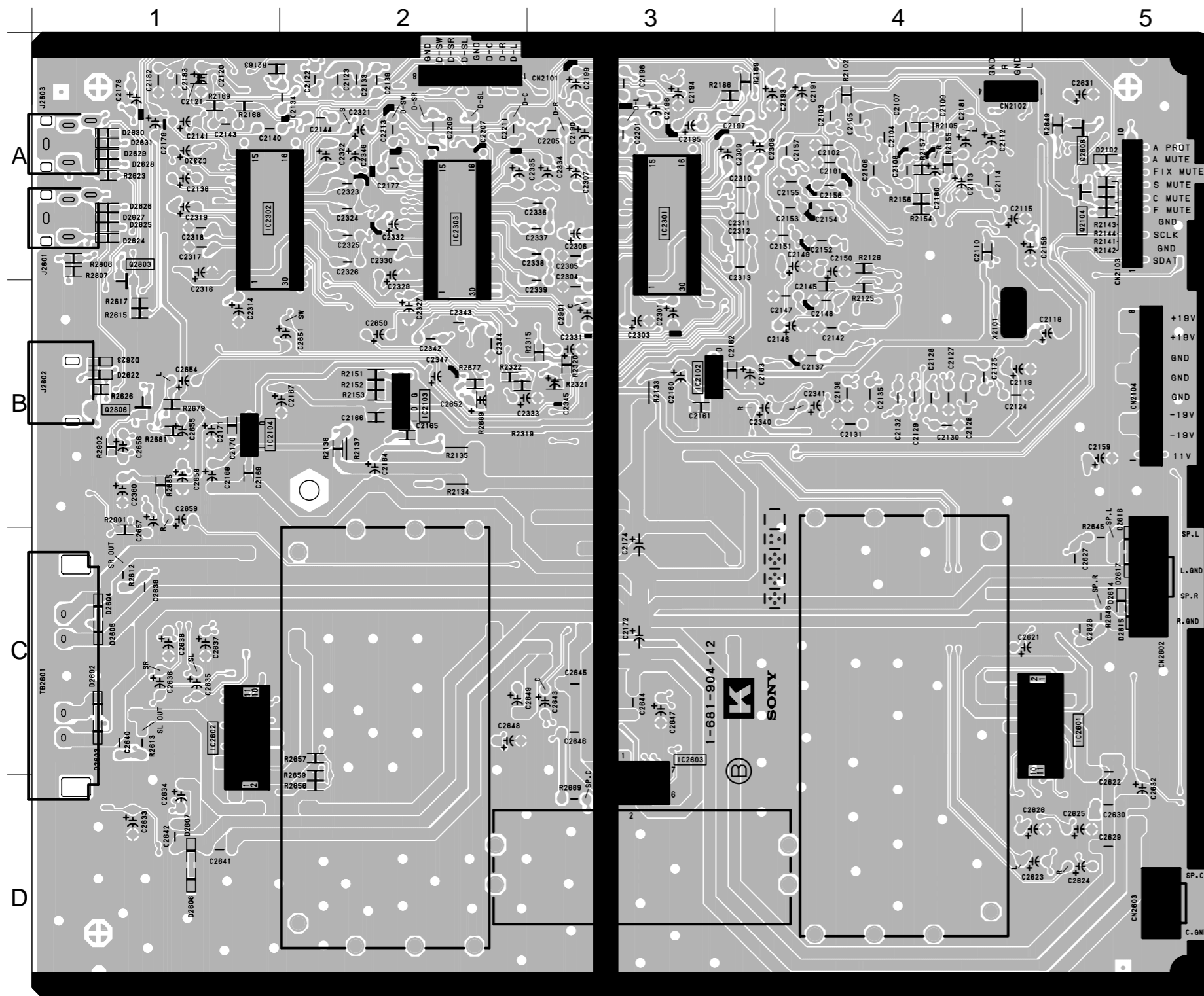
• K BOARD SEMICONDUCTOR LOCATION (Component Side)

| IC         |     | DIODE   |     |   |
|------------|-----|---------|-----|---|
| IC2101     | A-2 | D2103   | B-1 | * |
| IC2102     | B-3 | D2104   | B-1 | ③ |
| IC2103     | B-4 | D2105   | B-1 | ③ |
| IC2104     | B-4 | D2106   | A-1 | ③ |
| IC2107     | A-2 | D2107   | B-1 | ③ |
| IC2108     | A-4 | D2108   | B-1 | ③ |
| IC2301     | A-3 | D2109   | B-1 | ③ |
| IC2302     | A-4 | D2110   | A-1 | ③ |
| IC2303     | A-4 | D2111   | A-1 | ③ |
| IC2304     | B-3 | D2113   | A-1 | ③ |
| IC2305     | B-4 | D2307   | B-3 | ③ |
| IC2601     | C-1 | D2308   | A-5 | ③ |
| IC2602     | C-4 | D2309   | B-4 | ③ |
| IC2603     | D-3 | D2601   | D-5 | ③ |
| IC2605     | B-5 | D2613   | C-1 | ③ |
|            |     | D2618   | A-1 | ③ |
|            |     | D2619   | D-1 | ③ |
|            |     | D2620   | D-1 | ③ |
| TRANSISTOR |     | CRYSTAL |     |   |
| Q2101      | B-1 |         |     | * |
| Q2102      | B-1 |         |     | ② |
| Q2103      | A-3 |         |     | ② |
| Q2105      | A-3 |         |     | ② |
| Q2606      | C-1 |         |     | ② |
| Q2607      | C-1 |         |     | ② |
| Q2609      | A-1 |         |     | ② |
| Q2610      | A-1 |         |     | ② |
| Q2611      | D-5 |         |     | ② |
| Q2612      | D-5 |         |     | ② |
| Q2613      | C-3 |         |     | ② |
| Q2801      | B-5 |         |     | ② |
| Q2802      | A-5 |         |     | ② |
| Q2804      | A-5 |         |     | ② |
| Q2805      | B-5 |         |     | ② |
| Q2807      | B-5 |         |     | ② |
|            |     | X2101   | B-1 |   |

※: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)



— K BOARD (Conductor Side) —



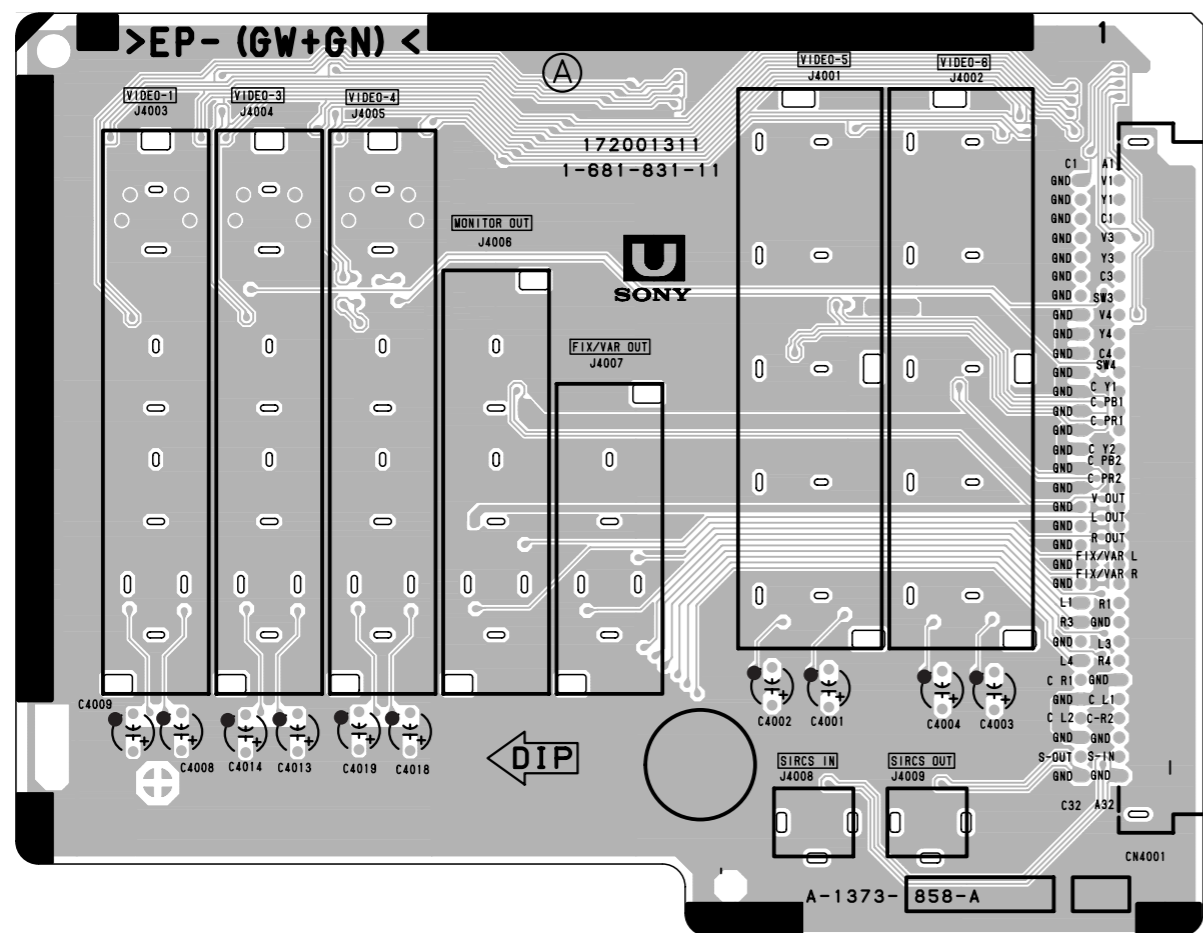
• K BOARD SEMICONDUCTOR LOCATION  
(Conductor Side)

| IC         |       |
|------------|-------|
| IC2102     | B-3   |
| IC2103     | B-2   |
| IC2104     | B-1   |
| IC2301     | A-3   |
| IC2302     | A-1   |
| IC2303     | A-2   |
| IC2601     | C-5   |
| IC2602     | C-1   |
| IC2603     | D-3   |
| TRANSISTOR |       |
| Q2104      | A-5 * |
| Q2608      | A-5 ① |
| Q2803      | A-1 ① |
| Q2806      | B-1 ① |
| DIODE      |       |
| D2102      | A-5 * |
| D2602      | C-1 ③ |
| D2603      | C-1 ③ |
| D2604      | C-1 ③ |
| D2605      | C-1 ③ |
| D2606      | D-1 ③ |
| D2607      | D-1 ③ |
| D2614      | C-5 ③ |
| D2615      | C-5 ③ |
| D2616      | C-5 ③ |
| D2617      | C-5 ③ |
| D2622      | B-1 ③ |
| D2623      | B-1 ③ |
| D2624      | A-1 ③ |
| D2625      | A-1 ③ |
| D2626      | A-1 ③ |
| D2627      | A-1 ③ |
| D2628      | A-1 ③ |
| D2629      | A-1 ③ |
| D2630      | A-1 ③ |
| D2631      | A-1 ③ |
| CRYSTAL    |       |
| X2101      | B-4   |

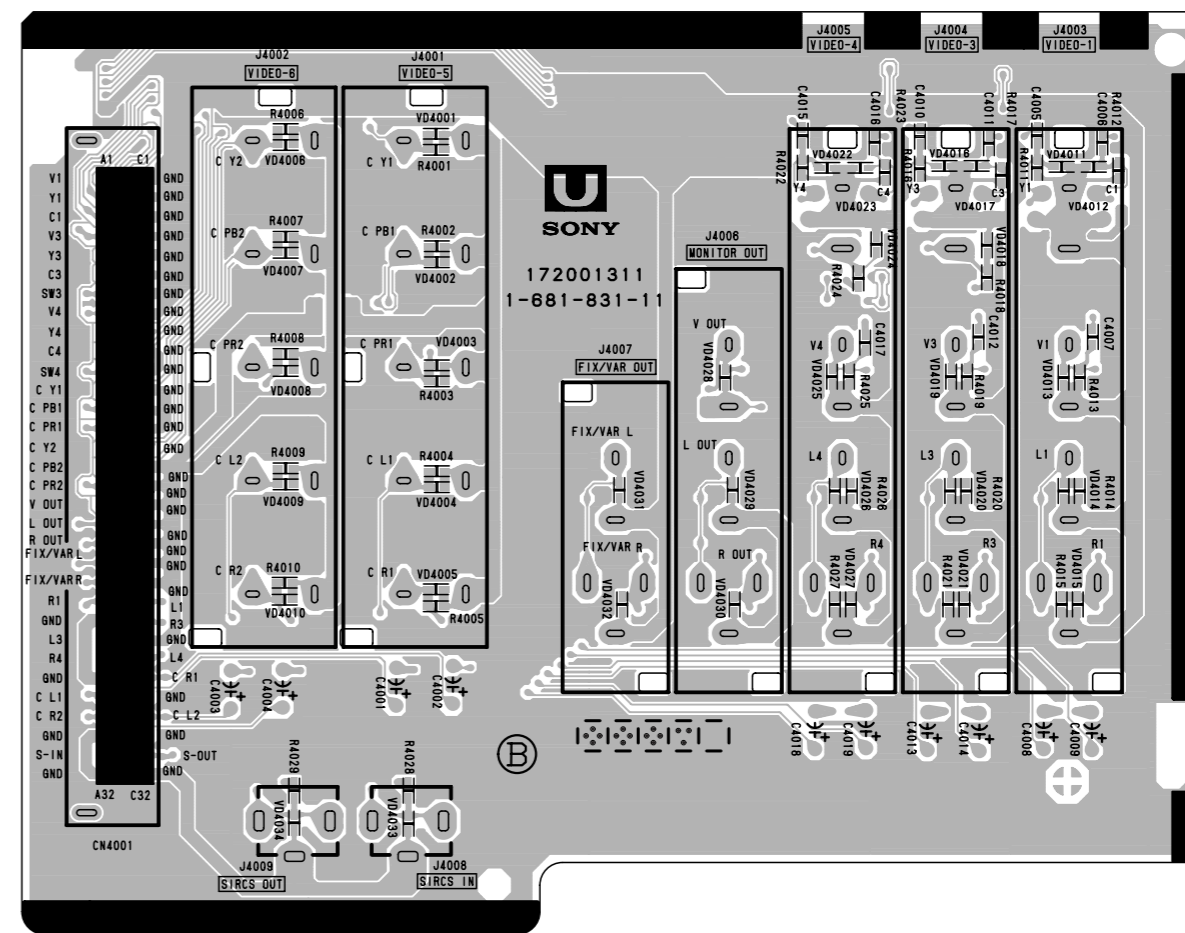
\*: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 64)

**U** [AV INPUT/OUTPUT]

— U BOARD (Component Side) —

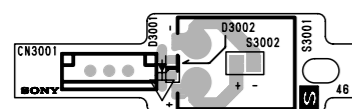


— U BOARD (Conductor Side) —

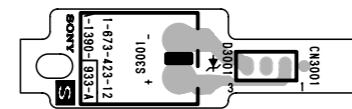


**S** [SENSOR]

— S BOARD (Component Side) —

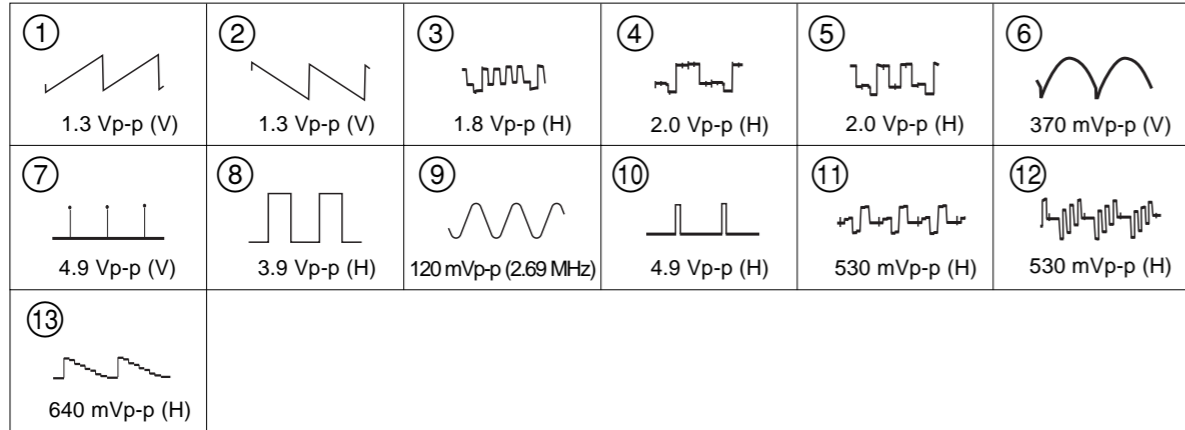


— S BOARD (Conductor Side) —

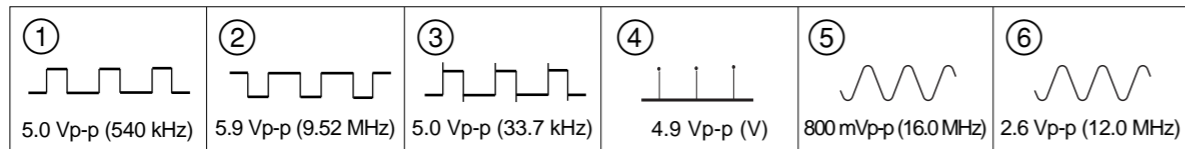


7-5. WAVEFORMS

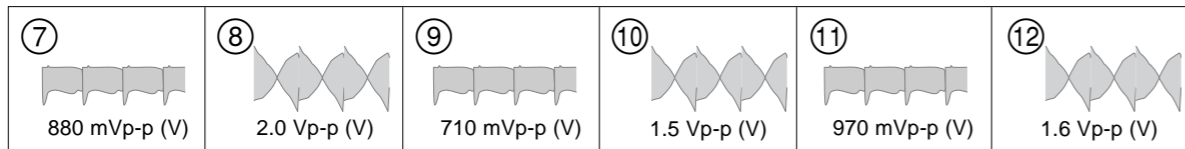
• A (1/3) BOARD WAVEFORMS



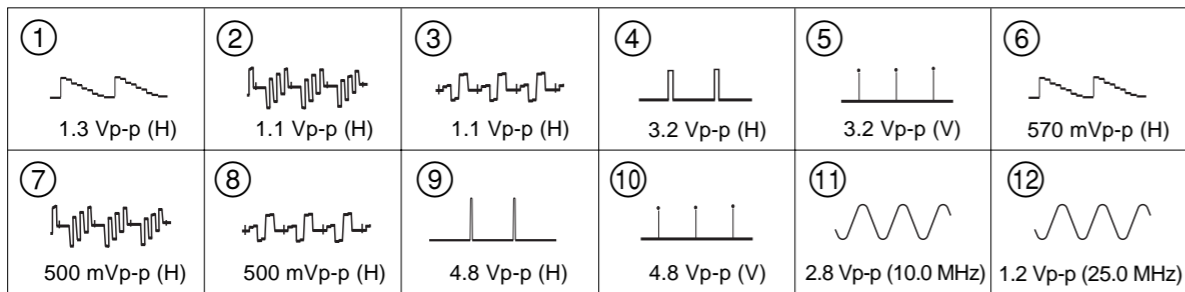
• AD (1/2) BOARD WAVEFORMS



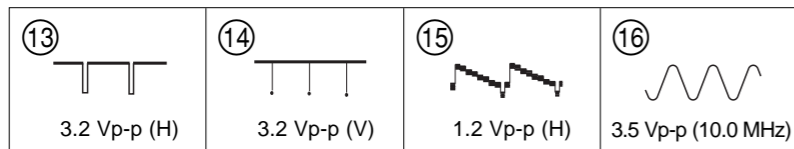
• AD (2/2) BOARD WAVEFORMS



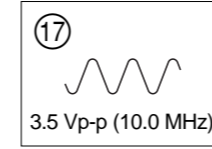
• B (1/7) BOARD WAVEFORMS



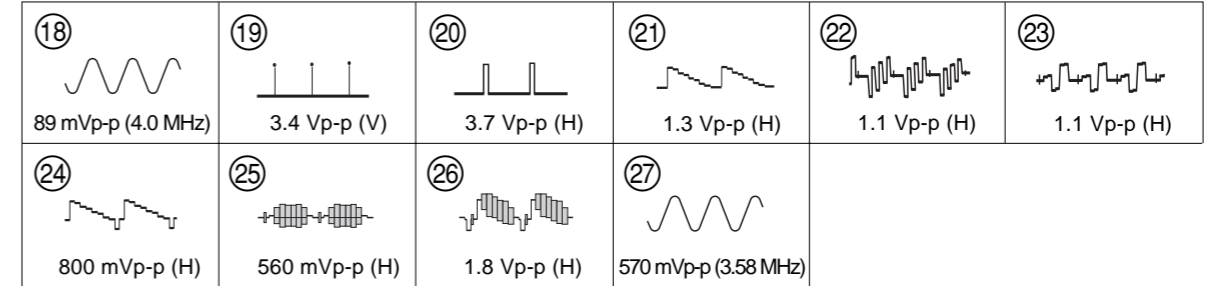
• B (2/7) BOARD WAVEFORMS



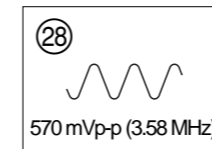
• B (3/7) BOARD WAVEFORM



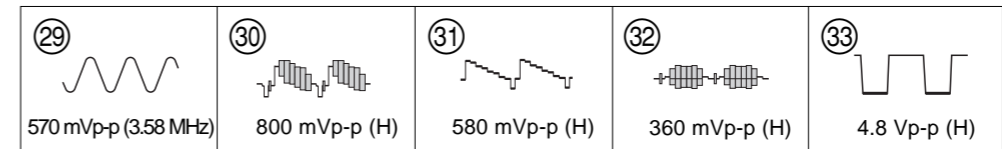
• B (4/7) BOARD WAVEFORMS



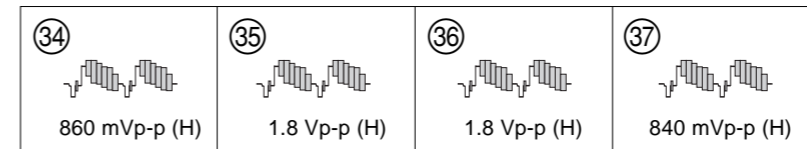
• B (5/7) BOARD WAVEFORM



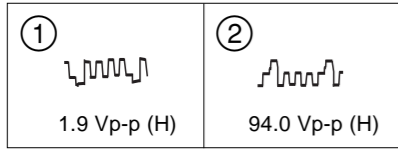
• B (6/7) BOARD WAVEFORMS



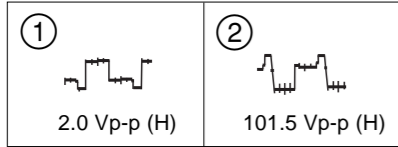
• B (7/7) BOARD WAVEFORMS



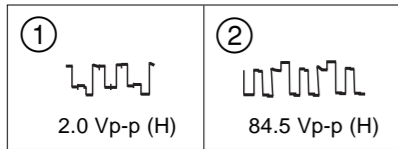
• **CB BOARD WAVEFORMS**



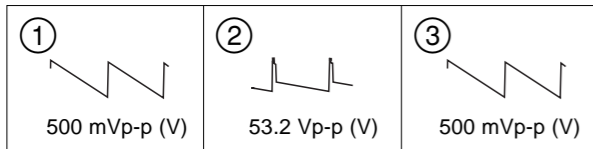
• **CG BOARD WAVEFORMS**



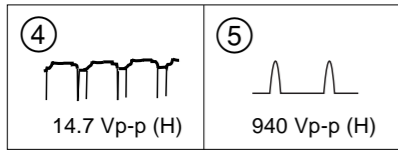
• **CR BOARD WAVEFORMS**



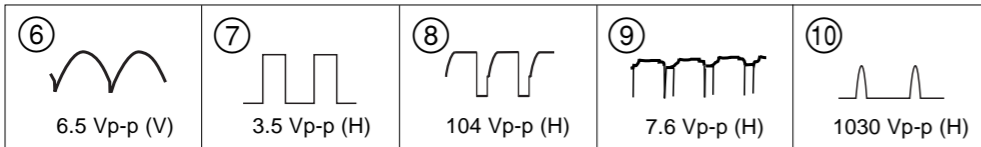
• **D (1/3) BOARD WAVEFORMS**



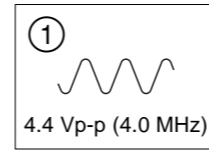
• **D (2/3) BOARD WAVEFORMS**



• **D (3/3) BOARD WAVEFORMS**



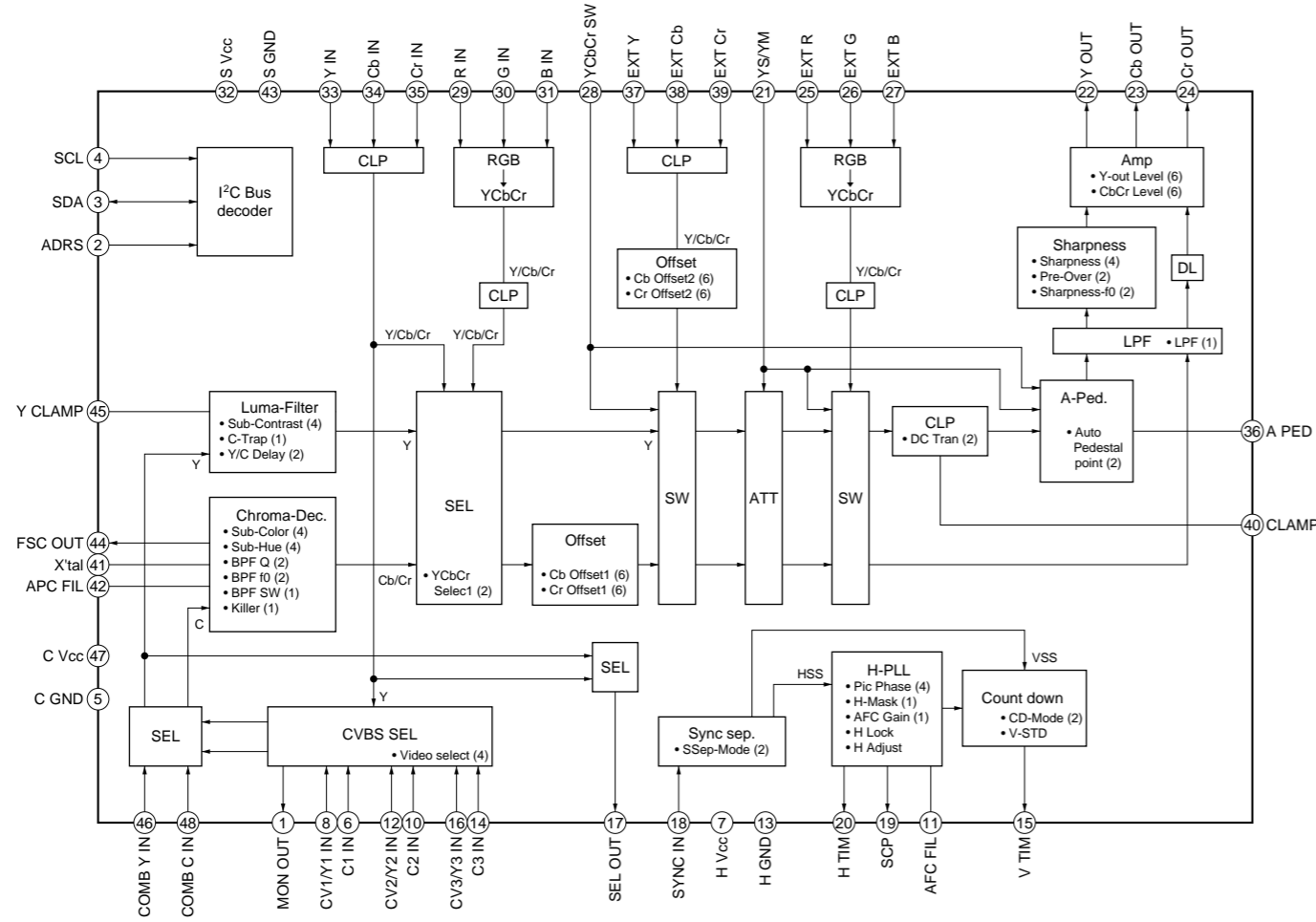
• **K BOARD WAVEFORM**



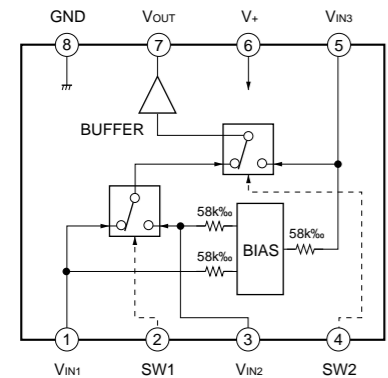




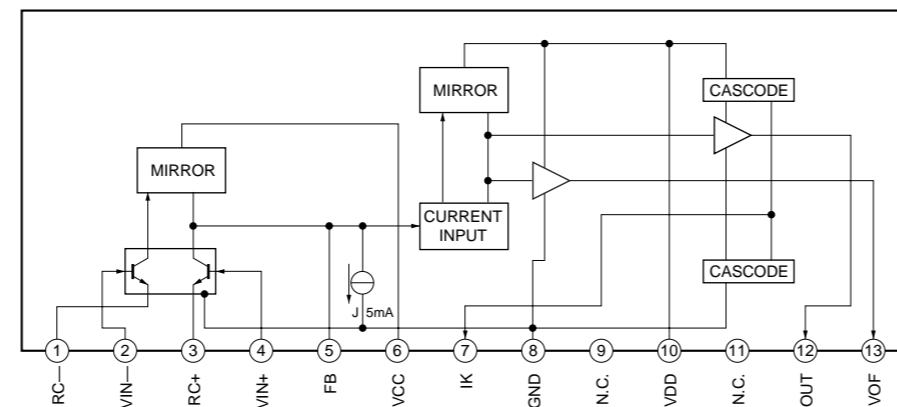
- B (4/7) BOARD IC207
- B (5/7) BOARD IC202  
CXA2103Q



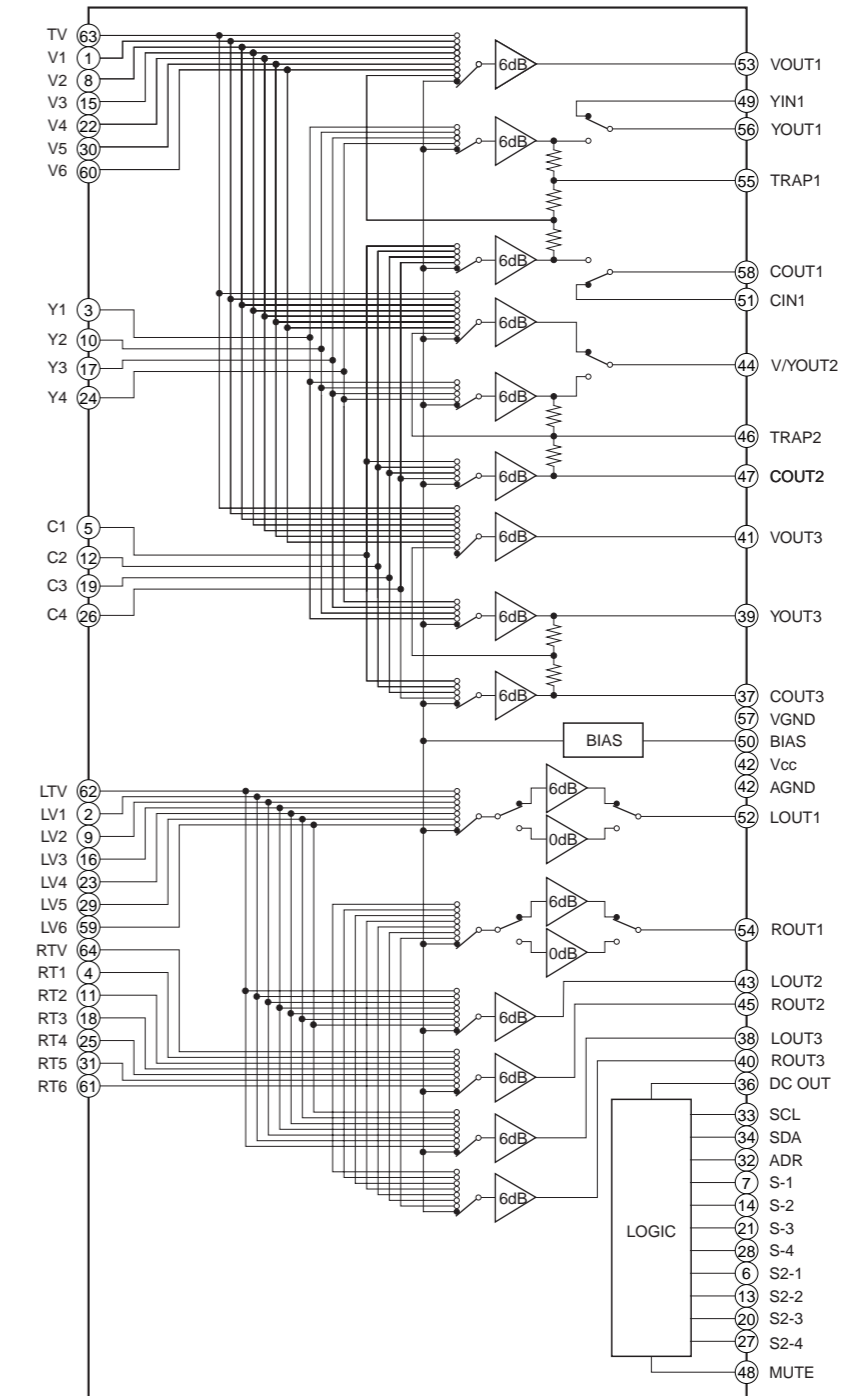
- B (7/7) BOARD IC402, IC403  
NJM2521M



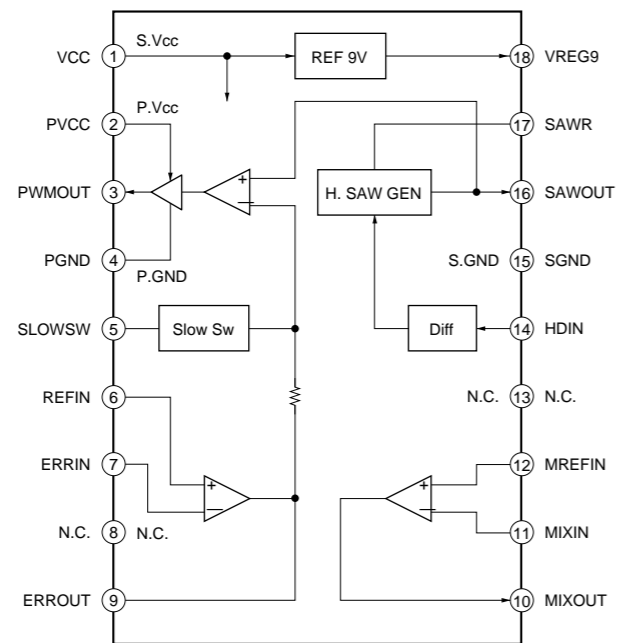
- CB BOARD IC3901
- CG BOARD IC3801
- CR BOARD IC3701  
TDA6120Q



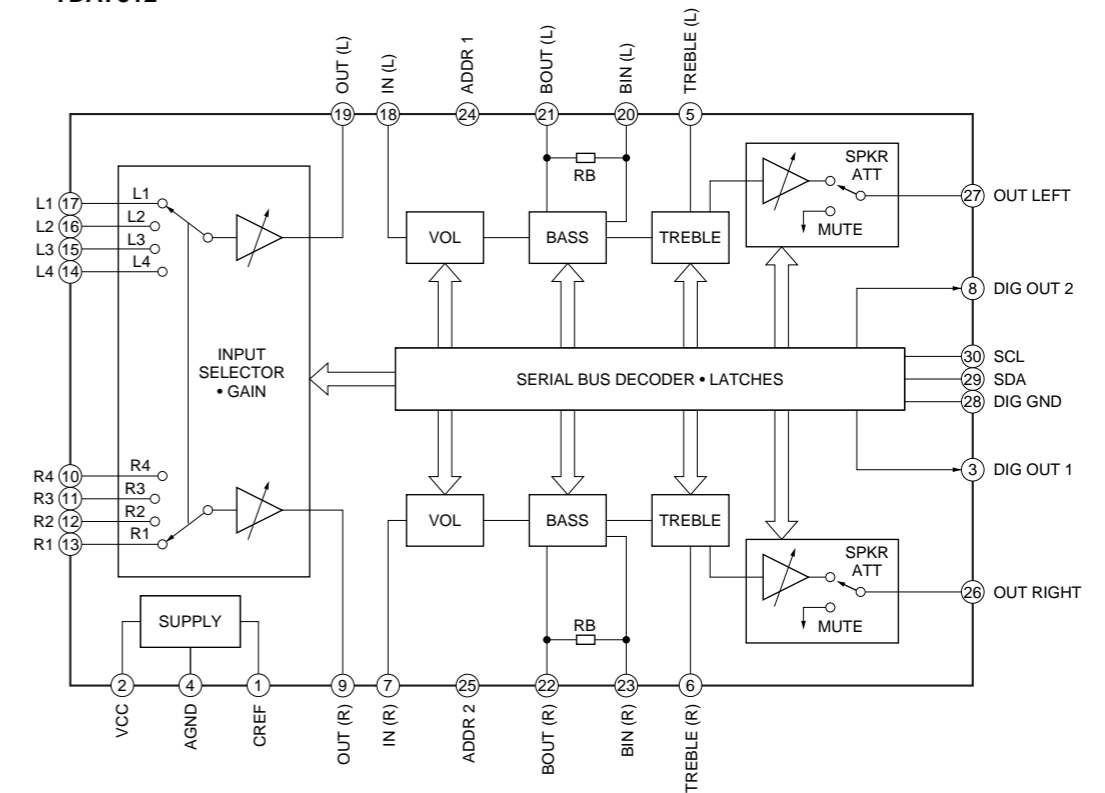
- B (7/7) BOARD IC401  
CXA2069Q



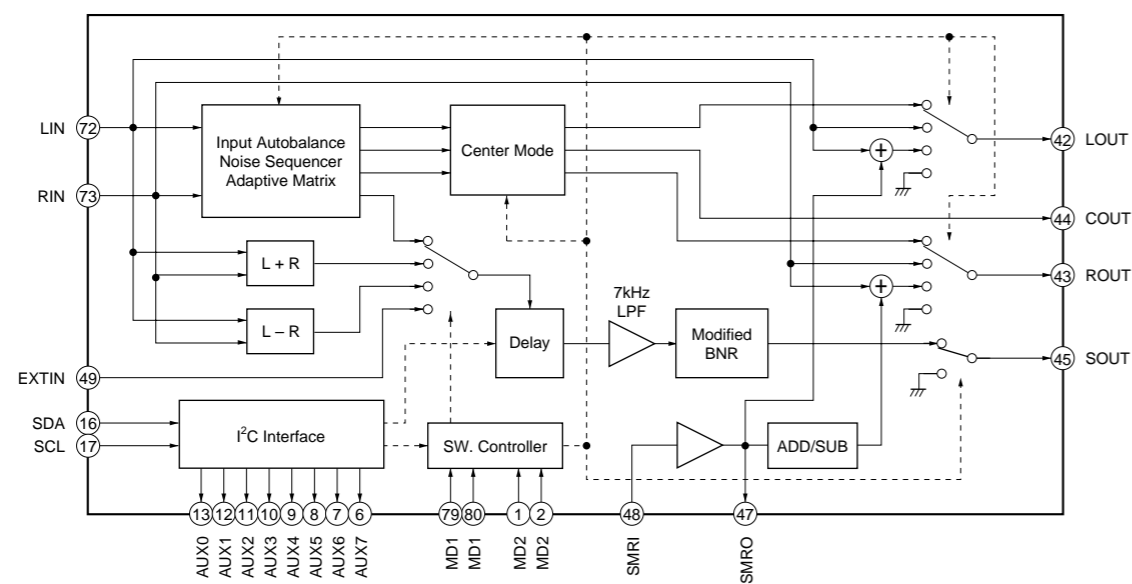
• D (2/3) BOARD IC8008  
BA9759F-E2



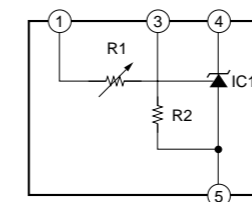
• K (1/3) BOARD IC2302, IC2303  
• K (2/3) BOARD IC2301  
TDA7312



• K (1/3) BOARD IC2101  
NJW1106



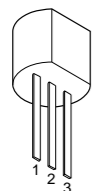
• G (2/2) BOARD IC6101  
DM-58



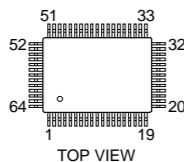


7-7. SEMICONDUCTORS

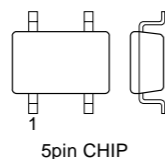
AN77L12-TA  
NJM78L12A-T3  
NJM79L05A  
NJM79L05A-T3



CXA2069Q  
CXA2150AQ

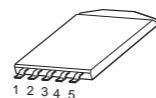


MAX4450EUK-TG069

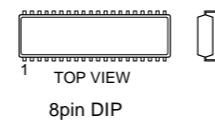


M24C04-WMN6T(A)  
M24C32-WMN6T(A)  
NJM2068V-TE2  
NJM2521M(TE2)  
NJM2903M  
NJM2903M-TE2  
NJM2904M  
NJM2904M(TE2)  
NJM4558M-T2  
NJM4558M-TE2  
NJM4558V-TE2  
μPC4558G2

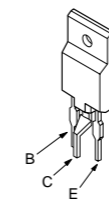
PST9143NL



μPC393C

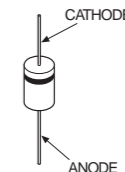


2SC5681-YB

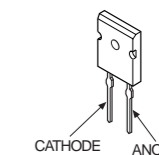


DTZ10B  
MA111-TX  
UDZ-TE-17- 8.2B  
UDZ-TE-17-7.5B  
UDZS-TE17-12B  
UDZS-TE17-22B  
UDZS-TE17-33B  
UDZSTE-1710B  
UDZSTE-1720B  
UDZSTE-175.1B  
UDZSTE-175.6B  
UDZSTE-177.5B  
UDZSTE-178.2B  
1SS355TE-17

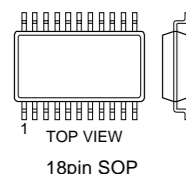
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ERC04-06SE



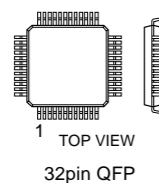
FMQ-G5FMS  
PG124S15



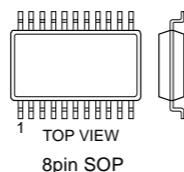
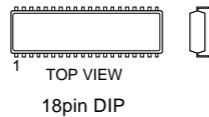
BA9759F-E2



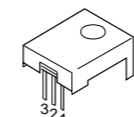
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MCZ3001D



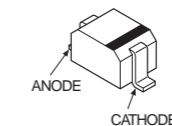
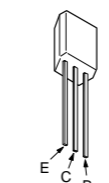
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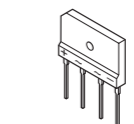
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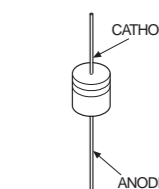
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2SD2144S-V



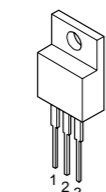
D2SB60A-F04  
D4SBS4-F  
D6SB60LF



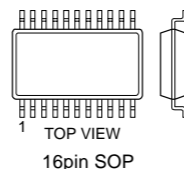
MTZJ-T-77-15B  
MTZJ-T-77-20B  
MTZJ-T-77-5.1B  
RD18ES-B2  
RD20ES-B2  
RD5.1ESB2  
RD5.6ESB2  
1SS133T-77



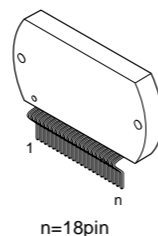
MC7805CT  
MC7812CT  
NJM7805FA  
NJM7812FA  
PQ09RF21  
TA7805S  
TA7812S



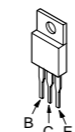
M52055FP  
TC74HCT157AF  
TC74HCT157AF(EL)  
TC74LVX157FT(EL)



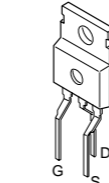
STK392-560



1MB12-140-F153A  
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2SC4634LS-CB11  
2SC5511

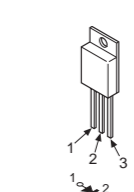


2SJ585LS-CC11

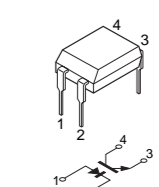


D1NL20U  
D1NL20U-TA2  
D2L20U  
D2L20U-TA  
EL1Z  
ERA22-08  
ERA22-08TP3  
GP08D  
GP08DPKG23  
MTZJ-T-77-18B  
MTZJ-T-77-22B  
MTZJ-T-77-5.6B  
RGP02-17EL-6433  
RGP02-17PKG23  
RGP10PKG23  
S2L40F  
10ERA60-TP  
1SS83  
1SS83TD

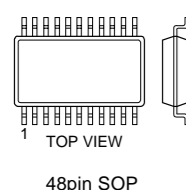
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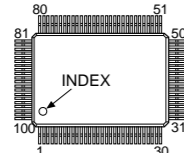
PC123F2  
PC123FY2



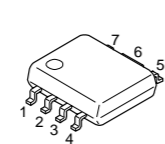
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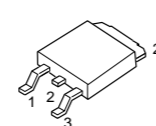
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M306V2ME-154FP  
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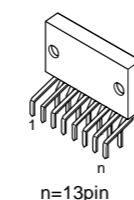
MM1476AF(TP)



NJM2391DL1-33-TEI



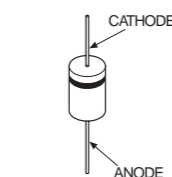
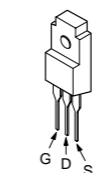
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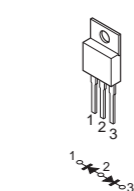
2SA1037AK-T146-QR  
2SA1037AK-T146-R  
2SA1226  
2SA1226-T1E3E4  
2SB709A-QRS-TX  
2SC1623-L5L6  
2SC2412K-T-146-QR  
2SD601A-Q  
2SD601A-QRS-TX



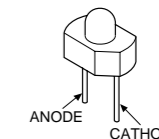
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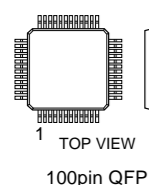
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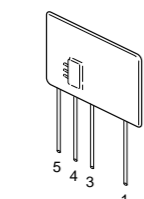
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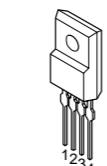
DM-58



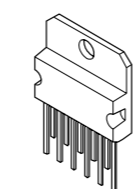
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μPD424210LE-60-E2



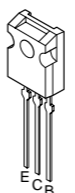
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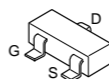
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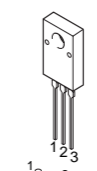
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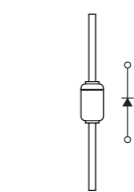
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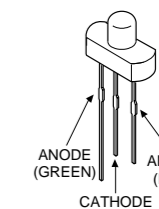
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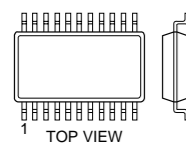
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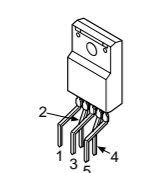
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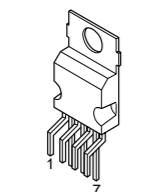
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CXA1726AM-T6



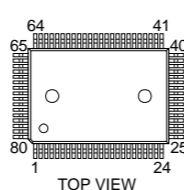
LA6500-FA  
LA6500P-FA



LA78045  
TDA2052



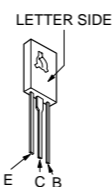
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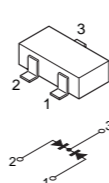
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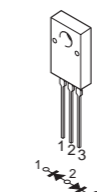
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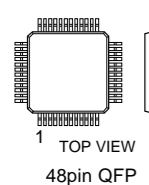
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DAN202K-T-146



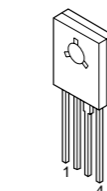
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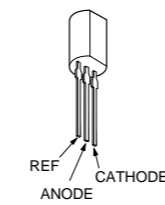
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CXA2151Q



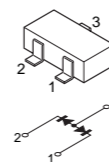
PQ30RV11



μPC1093J-1-T



DAP202K  
DAP202K-T-146



## SECTION 8 EXPLODED VIEWS

**NOTE:**

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

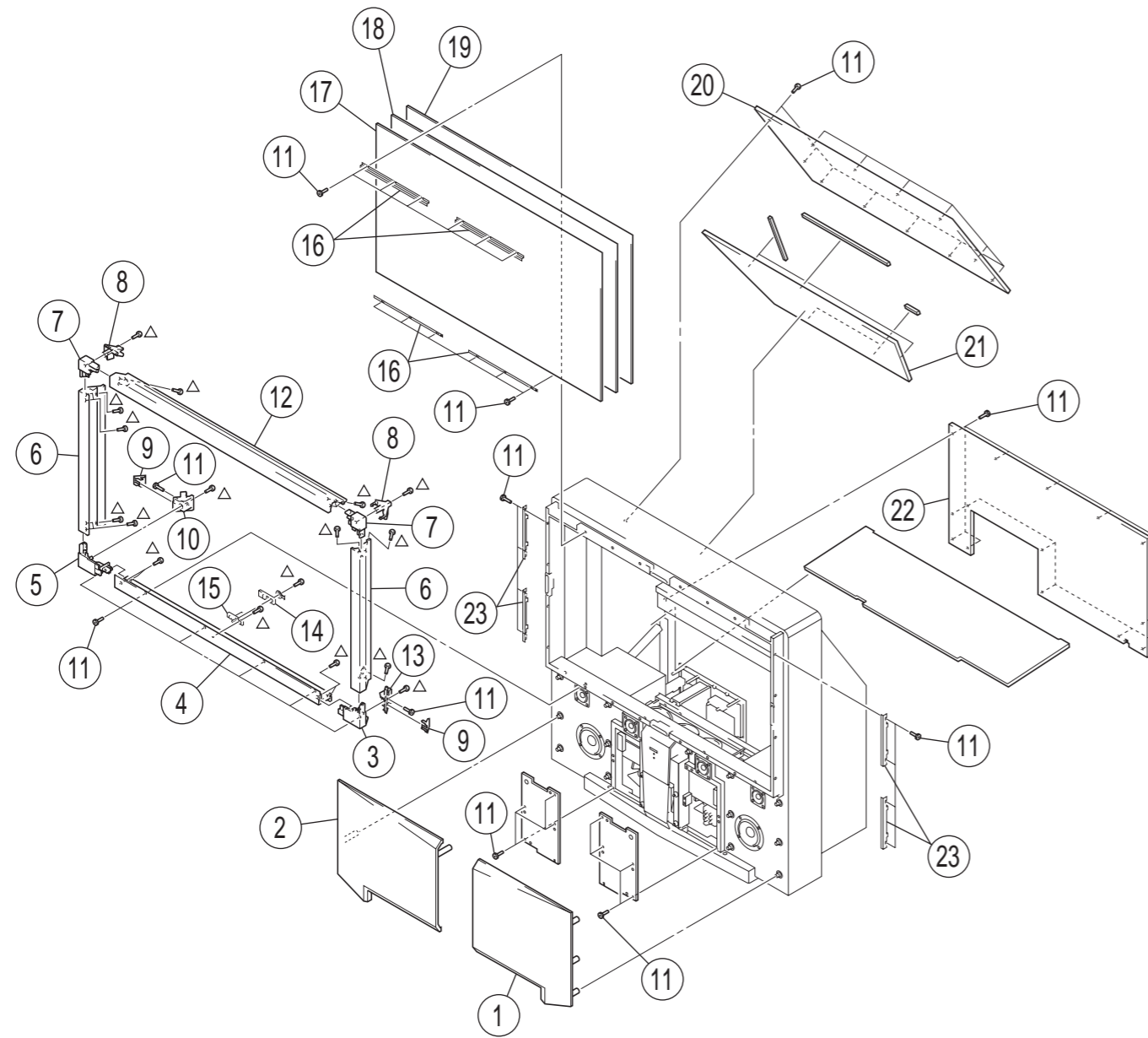
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par un tramé et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

### 8-1. SCREEN AND SCREEN FRAME BLOCK

$\Delta$  : 7-685-661-71 +BVTP 4X12



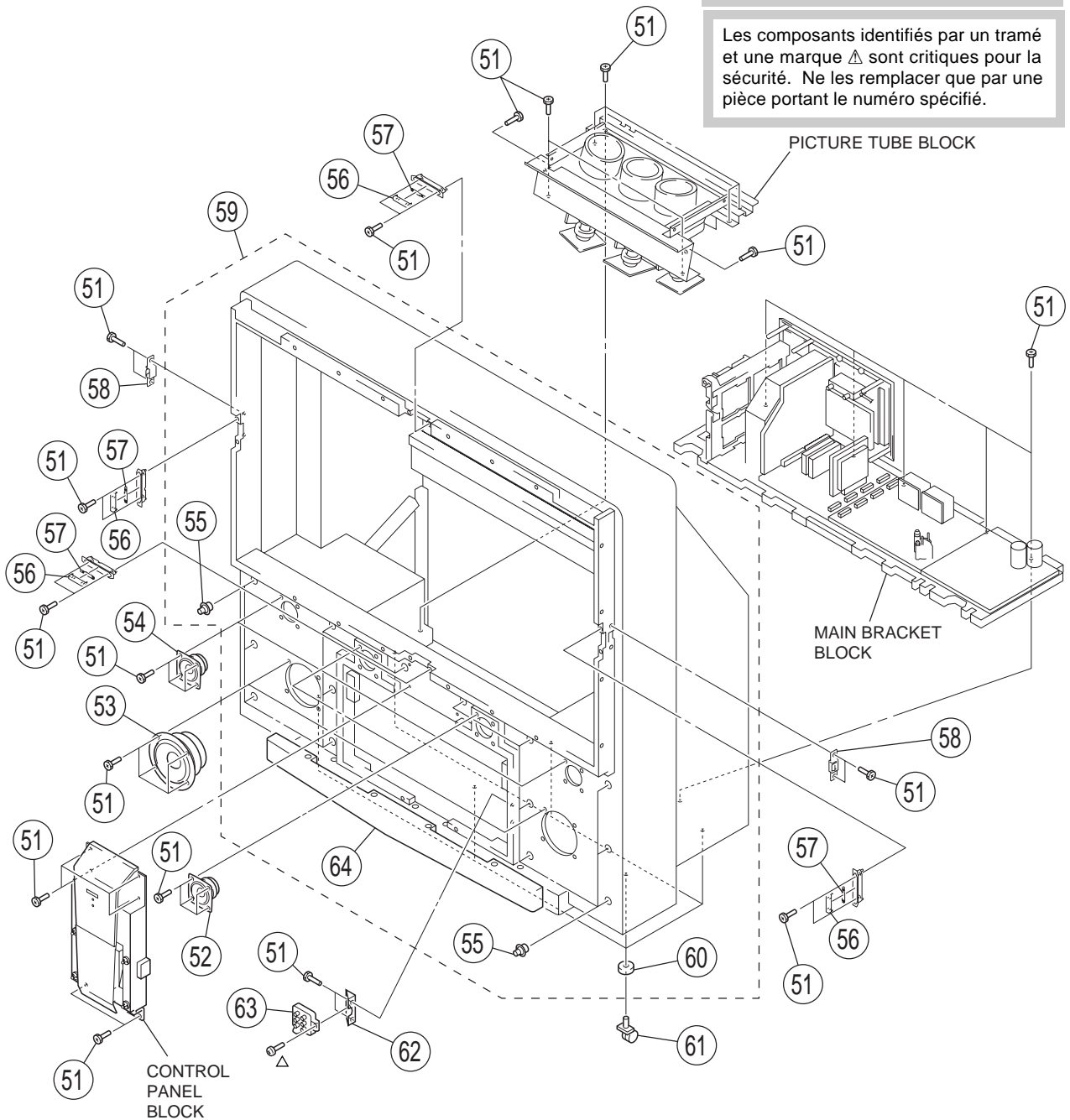
| REF.NO. | PART NO.      | DESCRIPTION                       | REMARK   | REF.NO. | PART NO.      | DESCRIPTION                        | REMARK |
|---------|---------------|-----------------------------------|----------|---------|---------------|------------------------------------|--------|
| 1       | X-4039-155-1  | GRILLE (R) ASSY, SPEAKER (KDP-65) |          | 13      | 4-079-342-01  | COVER (R), CORNER BLOCK            |        |
| 1       | X-4039-157-1  | GRILLE (R) ASSY, SPEAKER (KDP-57) |          | 14      | *A-1372-983-A | HC BOARD, COMPLETE                 |        |
| 2       | X-4039-154-1  | GRILLE (L) ASSY, SPEAKER (KDP-65) |          | 15      | *4-076-887-02 | BRACKET, HC                        |        |
| 2       | X-4039-158-1  | GRILLE (L) ASSY, SPEAKER (KDP-57) |          | 16      | *4-080-429-01 | HOLDER (L), SCREEN                 |        |
| 3       | 4-076-882-11  | BLOCK (R), CORNER                 |          | 17      | 4-083-713-11  | SCREEN (57W), CONTRAST (KDP-57)    |        |
| 4       | 4-076-880-21  | FRAME LW, SCREEN (KDP-65)         |          | 17      | 4-083-714-11  | SCREEN (65W), CONTRAST (KDP-65)    |        |
| 4       | 4-076-880-31  | FRAME LW, SCREEN (KDP-57)         |          | 18      | 4-076-305-11  | PLATE (65WL), DIFFUSION (KDP-65)   |        |
| 5       | 4-076-883-11  | BLOCK (L), CORNER                 |          | 18      | 4-076-308-11  | PLATE (57WL), DIFFUSION (KDP-57)   |        |
| 6       | 4-076-879-21  | FRAME SD, SCREEN (KDP-65)         |          | 19      | 4-076-309-11  | PLATE (57WF), DIFFUSION (KDP-57)   |        |
| 6       | 4-076-879-31  | FRAME SD, SCREEN (KDP-57)         |          | 19      | 4-083-715-11  | PLATE (65WV90), DIFFUSION (KDP-65) |        |
| 7       | 4-076-881-11  | BLOCK (U), CORNER                 |          | 20      | *4-080-436-01 | BOARD (57), MIRROR (KDP-57)        |        |
| 8       | 4-076-884-01  | COVER (U), CORNER BLOCK           |          | 20      | *4-080-442-01 | BOARD (65), MIRROR (KDP-65)        |        |
| 9       | *4-076-903-01 | COVER, SCREW                      |          | 21      | 4-079-954-01  | MIRROR (57) (KDP-57)               |        |
| 10      | 4-079-341-01  | COVER (L), CORNER BLOCK           |          | 21      | 4-079-955-01  | MIRROR (65) (KDP-65)               |        |
| 11      | 4-081-063-01  | SCREW, DOME WASHER HEX            | TAP 4X20 | 22      | *4-083-979-01 | BOARD (65), REAR (KDP-65)          |        |
| 12      | 4-076-878-21  | FRAME U, SCREEN (KDP-65)          |          | 22      | *4-083-984-01 | BOARD 57, REAR (KDP-57)            |        |
| 12      | 4-076-878-31  | FRAME U, SCREEN (KDP-57)          |          | 23      | *4-080-430-01 | HOLDER (S), SCREEN                 |        |

**8-2. CABINET BLOCK**

△ : 7-685-661-71 +BVTP 4X12

The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par un tramé et une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



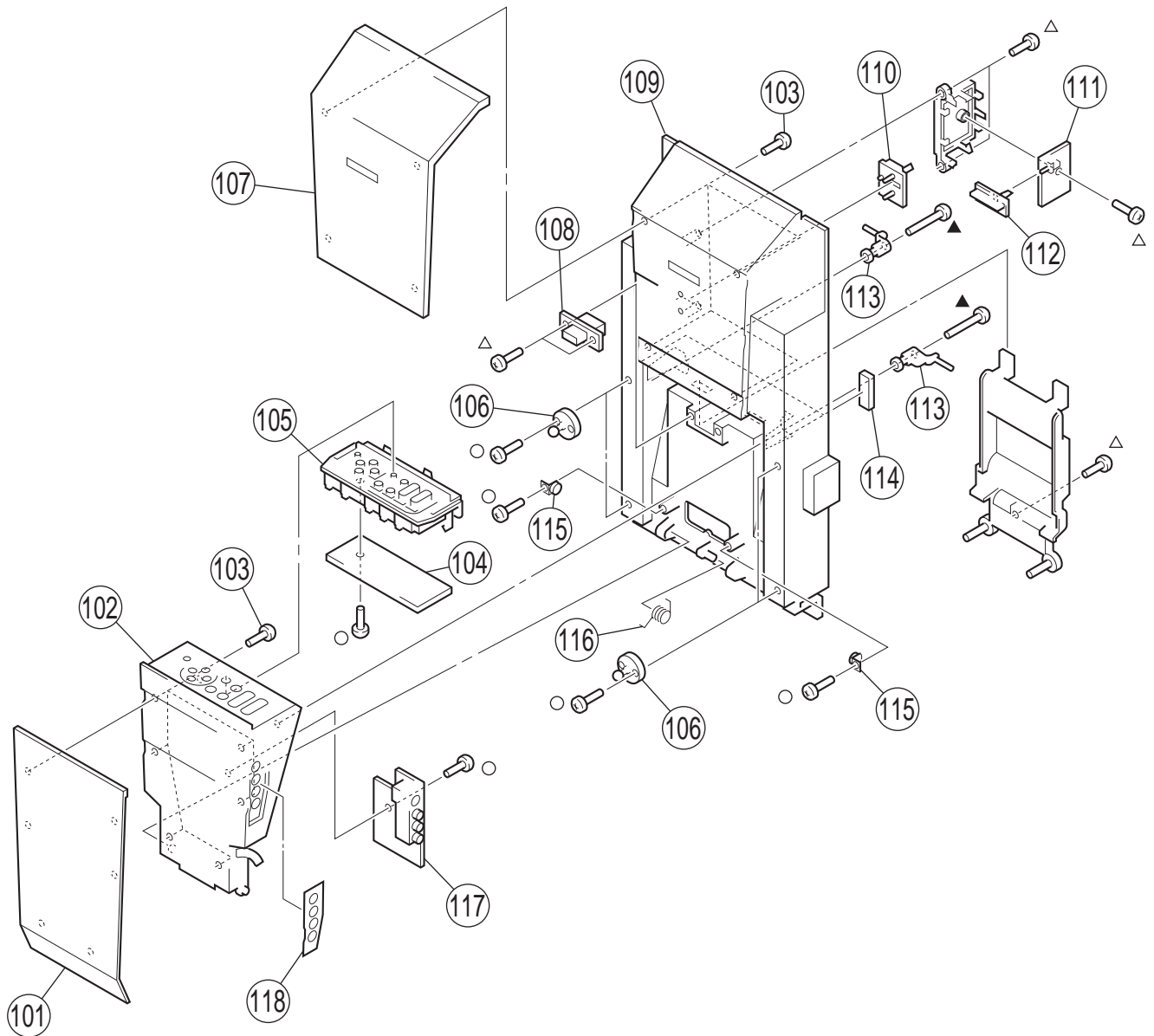
| REF.NO. | PART NO.       | DESCRIPTION            | REMARK   | REF.NO. | PART NO.       | DESCRIPTION                               | REMARK     |
|---------|----------------|------------------------|----------|---------|----------------|---|------------|
| 51      | 4-081-063-01   | SCREW, DOME WASHER HEX | TAP 4X20 | 59      | * X-4039-156-1 | CABINET (65) ASSY (KDP-65)                | 55, 60, 64 |
| 52      | 1-529-830-12   | SPEAKER (10CM)         |          | 59      | * X-4039-159-1 | CABINET (57) ASSY (KDP-57)                | 55, 60, 64 |
| 53      | 1-529-831-11   | SPEAKER (16CM)         |          | 60      | 4-030-850-03   | SOCKET, CASTER                            |            |
| 54      | 1-529-832-11   | SPEAKER (10CM)         |          | 61      | 4-040-508-01   | CASTER                                    |            |
| 55      | 4-063-421-02   | LATCH (K)              |          | 62      | * 4-063-403-01 | BRACKET, FOCUS PACK (KDP-65)              |            |
| 56      | * 4-069-680-01 | BRACKET (B), SENSOR    |          | 63      | △ 1-223-925-31 | RESISTOR ASSY (HIGH-VOLTAGE) (FOCUS PACK) |            |
| 57      | * A-1391-148-A | S BOARD, COMPLETE      |          | 64      | * 4-080-433-01 | SKIRT (57), FRONT (KDP-57)                |            |
| 58      | 4-076-877-01   | CATCHER, FRAME         |          | 64      | * 4-080-439-01 | SKIRT (65), FRONT (KDP-65)                |            |

**8-3. CONTROL PANEL BLOCK**

△ : 7-685-661-71 +BVTP 4X12

○ : 7-685-648-71 +BVTP 3X12

▲ : 7-685-152-19 +BV 3X25



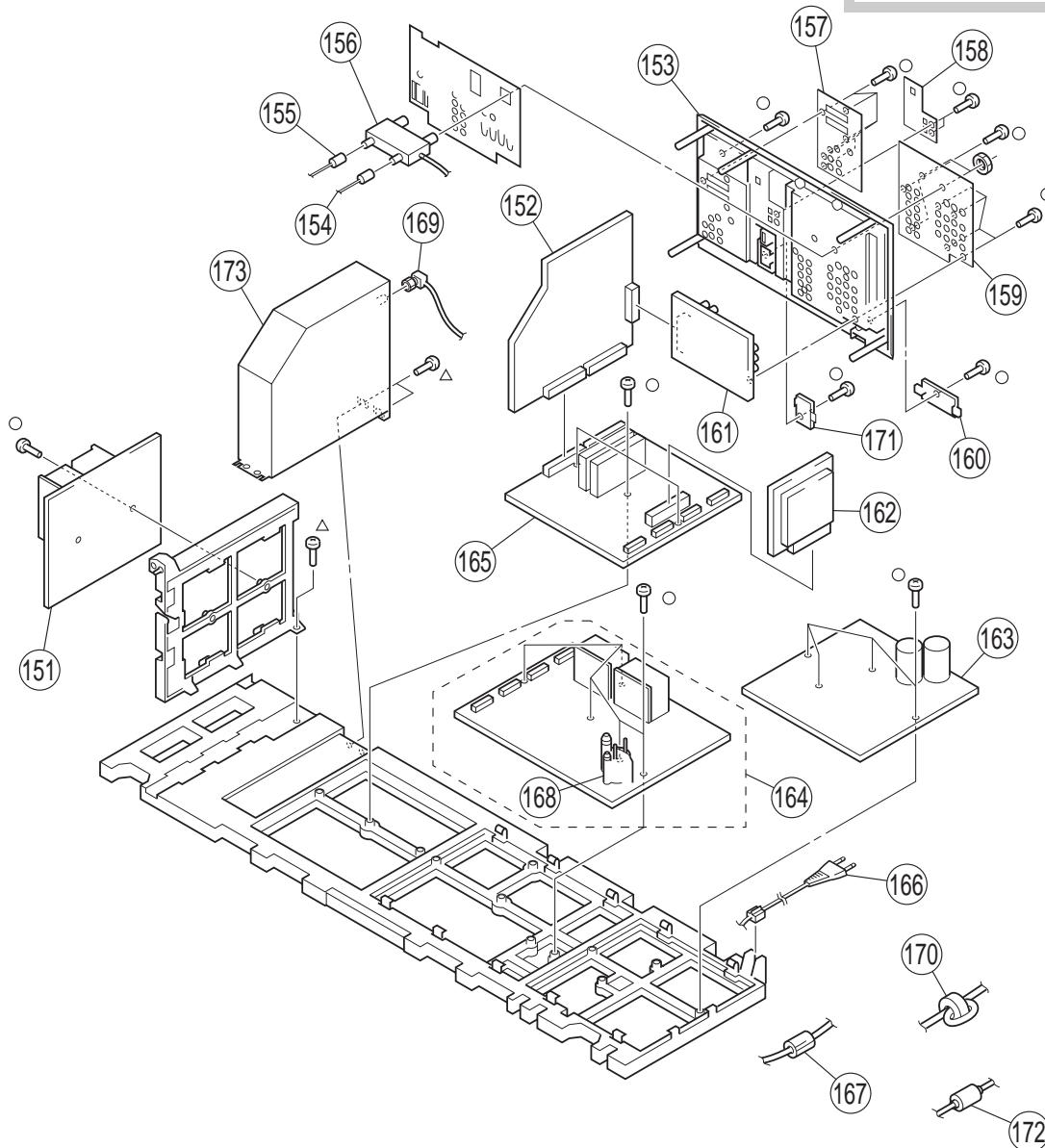
| REF.NO. | PART NO.      | DESCRIPTION                    | REMARK | REF.NO. | PART NO.      | DESCRIPTION                    | REMARK |
|---------|---------------|--------------------------------|--------|---------|---------------|--------------------------------|--------|
| 101     | 4-077-631-11  | PANEL, DOOR                    |        | 109     | *4-076-905-01 | BRACKET, CONTROL (57) (KDP-57) |        |
| 102     | 4-076-896-11  | BRACKET, DOOR                  |        | 110     | *4-076-899-01 | GUIDE, LED                     |        |
| 103     | 3-701-809-21  | SCREW, TERMINAL (M3X6)         |        | 111     | *A-1372-986-A | HD BOARD, COMPLETE             |        |
| 104     | *A-1372-984-A | HA BOARD, COMPLETE             |        | 112     | 4-076-900-01  | BUTTON, POWER                  |        |
| 105     | 4-081-874-01  | BUTTON, MULTI                  |        | 113     | 4-077-630-01  | STOPPER (U), DOOR              |        |
| 106     | 4-054-709-01  | STRIKE                         |        | 114     | *4-080-583-01 | SPACER, FOAM                   |        |
| 107     | 4-077-629-11  | PANEL, CONTROL (KDP-65)        |        | 115     | 4-919-393-42  | DAMPER                         |        |
| 107     | 4-077-633-11  | PANEL, CONTROL (KDP-57)        |        | 116     | *4-077-628-01 | SPRING, DOOR                   |        |
| 108     | 4-076-904-01  | PUSH CATCH                     |        | 117     | *A-1372-985-A | HB BOARD, COMPLETE             |        |
| 109     | *4-076-902-01 | BRACKET, CONTROL (65) (KDP-65) |        | 118     | 4-077-632-01  | LABEL, FRONT TERMINAL          |        |

**8-4. MAIN BRACKET BLOCK**

- △ : 7-685-661-71 +BVTP 4X12
- : 7-685-648-71 +BVTP 3X12

The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par un tramé et une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



| REF.NO. | PART NO.       | DESCRIPTION             | REMARK | REF.NO. | PART NO.       | DESCRIPTION                              | REMARK |
|---------|----------------|-------------------------|--------|---------|----------------|--|--------|
| 151     | * A-1380-653-A | K BOARD, COMPLETE       |        | 164     | * A-1348-120-A | D BOARD, COMPLETE                        | 168    |
| 152     |                | SEE SUPPLEMENT-2        |        | 165     | * A-1272-382-A | A BOARD, COMPLETE                        |        |
| 153     | 4-081-876-01   | TERMINAL BOARD          |        | 166     | △ 1-783-595-11 | CORD, NOISE FILTER WITH POWER            |        |
| 154     | * 1-556-945-21 | CABLE, P-P              |        | 167     | 1-543-653-21   | CORE ASSY, BEAD (DIVISION TYPE)          |        |
| 155     | * 1-557-056-31 | CABLE, P-P              |        | 168     | △ 1-453-285-31 | TRANSFORMER ASSY, FLYBACK (NX-4006//X4P) |        |
| 156     | 1-786-183-11   | SWITCH, ANTENNA         |        | 169     | 1-757-970-11   | CORD WITH CONNECTOR (F-TYPE)             |        |
| 157     | 4-081-877-01   | LABEL, AUDIO TERMINAL   |        | 170     | 1-543-982-11   | CORE, FERRITE                            |        |
| 158     | 4-081-878-01   | LABEL, DIGITAL TERMINAL |        | 171     | * 4-081-602-01 | COVER, U BRACKET                         |        |
| 159     | 4-081-882-01   | LABEL, VIDEO TERMINAL   |        | 172     | 1-500-603-11   | CLAMP, FERRITE                           |        |
| 160     | 4-069-675-01   | CAP, TERMINAL BOARD     |        | 173     |                | SEE SUPPLEMENT-2                         |        |
| 161     | * A-1373-860-A | U BOARD, COMPLETE       |        | 173     |                | SEE SUPPLEMENT-2                         |        |
| 162     | * A-1299-523-A | AD BOARD, COMPLETE      |        |         |                |  |        |
| 163     | * A-1316-574-A | G BOARD, COMPLETE       |        |         |                |  |        |



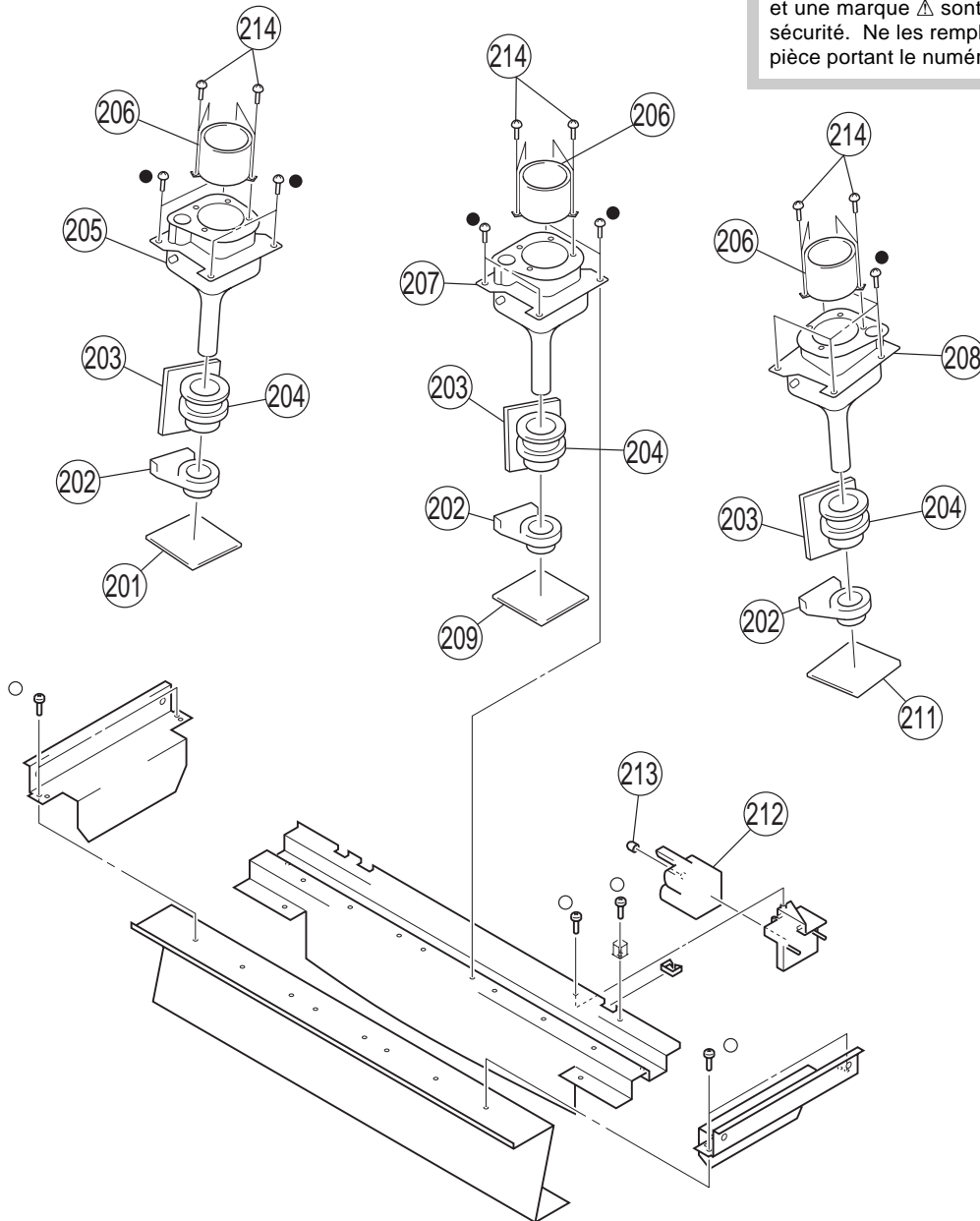
**8-5. PICTURE TUBE BLOCK**

○ : 7-685-648-71 +BVTP 3X12

● : 7-685-661-71 +BVTP 4X12

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par un trame et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



| REF.NO. | PART NO.              | DESCRIPTION                         | REMARK | REF.NO. | PART NO.              | DESCRIPTION                         | REMARK |
|---------|-----------------------|-------------------------------------|--------|---------|-----------------------|-------------------------------------|--------|
| 201     | * A-1332-186-A        | CR BOARD, COMPLETE                  |        | 207     | $\Delta$ 8-733-626-05 | PICTURE TUBE 07MVC5 (G)-L (KDP-65)  |        |
| 202     | $\Delta$ 1-451-535-11 | COIL ASSY, VM                       |        | 208     | $\Delta$ 8-733-624-05 | PICTURE TUBE 07MVC41 (B)-L (KDP-57) |        |
| 203     | * A-1342-612-A        | V BOARD, COMPLETE                   |        | 208     | $\Delta$ 8-733-627-05 | PICTURE TUBE 07MVC5 (B)-L (KDP-65)  |        |
| 204     | 1-451-537-11          | DEFLECTION YOKE                     |        | 209     | * A-1332-187-A        | CG BOARD, COMPLETE                  |        |
| 205     | $\Delta$ 8-733-625-05 | PICTURE TUBE 07MVC41 (R)-L (KDP-57) |        | 211     | * A-1332-188-A        | CB BOARD, COMPLETE                  |        |
| 205     | $\Delta$ 8-733-628-05 | PICTURE TUBE 07MVC5 (R)-L (KDP-65)  |        | 212     | $\Delta$ 8-598-955-31 | BLOCK ASSY, HIGH-VOLTAGE (HVB-1031) |        |
| 206     | 4-076-500-01          | LENS (KDP-65)                       |        | 213     | 4-373-137-02          | CAP (Z), RUBBER                     |        |
| 206     | 4-083-750-01          | LENS (DELTA 260) (KDP-57)           |        | 214     | 4-052-894-01          | SCREW, DOME WASHER HEX TAP 4X20     |        |
| 207     | $\Delta$ 8-733-620-05 | PICTURE TUBE 07MVC21 (G)-L (KDP-57) |        |         |                       |                                     |        |

## SECTION 9

## ELECTRICAL PARTS LIST



## NOTE:

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par un tramé et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

The components identified by  $\square$  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

## RESISTORS

• All resistors are in ohms  
• F : nonflammable

• Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• CAPACITORS  
PF :  $\mu\text{F}$

• There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

| REF.NO. | PART NO.     | DESCRIPTION                                 | REMARK     | REF.NO. | PART NO.     | DESCRIPTION                     | REMARK   |
|---------|--------------|---|------------|---------|--------------|---------------------------------|----------|
|         |              | SEE SUPPLEMENT-2 B BOARD, COMPLETE<br>***** |            | C111    | 1-126-933-11 | ELECT 100 $\mu\text{F}$         | 20% 16V  |
|         |              |   |            | C112    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
|         |              |   |            | C113    | 1-126-933-11 | ELECT 100 $\mu\text{F}$         | 20% 16V  |
|         |              | < CAPACITOR >                               |            | C114    | 1-107-826-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 10% 16V  |
|         |              |   |            | C115    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
|         |              |   |            | C116    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
|         |              |   |            | C117    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
|         |              |   |            | C118    | 1-107-826-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 10% 16V  |
| C001    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C119    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C002    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C120    | 1-107-826-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 10% 16V  |
| C003    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C121    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C004    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C122    | 1-126-933-11 | ELECT 100 $\mu\text{F}$         | 20% 16V  |
| C005    | 1-115-156-11 | CERAMIC CHIP 1 $\mu\text{F}$                | 10V        | C123    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C006    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C124    | 1-125-891-11 | CERAMIC CHIP 0.47 $\mu\text{F}$ | 10% 10V  |
| C007    | 1-162-968-11 | CERAMIC CHIP 0.0047 $\mu\text{F}$           | 10% 50V    | C126    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C008    | 1-126-933-11 | ELECT 100 $\mu\text{F}$                     | 20% 16V    | C127    | 1-107-826-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 10% 16V  |
| C009    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C128    | 1-126-933-11 | ELECT 100 $\mu\text{F}$         | 20% 16V  |
| C010    | 1-126-933-11 | ELECT 100 $\mu\text{F}$                     | 20% 16V    | C129    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C011    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C130    | 1-164-230-11 | CERAMIC CHIP 220pF              | 5% 50V   |
| C014    | 1-107-715-11 | ELECT 22 $\mu\text{F}$                      | 20% 16V    | C131    | 1-164-230-11 | CERAMIC CHIP 220pF              | 5% 50V   |
| C015    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C200    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C018    | 1-107-715-11 | ELECT 22 $\mu\text{F}$                      | 20% 16V    | C201    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C019    | 1-107-715-11 | ELECT 22 $\mu\text{F}$                      | 20% 16V    | C202    | 1-126-933-11 | ELECT 100 $\mu\text{F}$         | 20% 16V  |
| C020    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C203    | 1-125-891-11 | CERAMIC CHIP 0.47 $\mu\text{F}$ | 10% 10V  |
| C022    | 1-162-919-11 | CERAMIC CHIP 22pF                           | 5% 50V     | C204    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C024    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C205    | 1-125-891-11 | CERAMIC CHIP 0.47 $\mu\text{F}$ | 10% 10V  |
| C025    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C206    | 1-125-891-11 | CERAMIC CHIP 0.47 $\mu\text{F}$ | 10% 10V  |
| C028    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C208    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C029    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C209    | 1-162-970-11 | CERAMIC CHIP 0.01 $\mu\text{F}$ | 10% 25V  |
| C030    | 1-126-933-11 | ELECT 100 $\mu\text{F}$                     | 20% 16V    | C210    | 1-126-933-11 | ELECT 100 $\mu\text{F}$         | 20% 16V  |
| C031    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C211    | 1-125-837-91 | CERAMIC CHIP 1 $\mu\text{F}$    | 10% 6.3V |
| C034    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C212    | 1-162-970-11 | CERAMIC CHIP 0.01 $\mu\text{F}$ | 10% 25V  |
| C035    | 1-162-910-11 | CERAMIC CHIP 5pF                            | 0.25pF 50V | C213    | 1-126-963-11 | ELECT 4.7 $\mu\text{F}$         | 20% 50V  |
| C036    | 1-162-919-11 | CERAMIC CHIP 22pF                           | 5% 50V     | C214    | 1-125-891-11 | CERAMIC CHIP 0.47 $\mu\text{F}$ | 10% 10V  |
| C037    | 1-162-919-11 | CERAMIC CHIP 22pF                           | 5% 50V     | C215    | 1-107-826-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 10% 16V  |
| C100    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C216    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C101    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C217    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C102    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C218    | 1-125-891-11 | CERAMIC CHIP 0.47 $\mu\text{F}$ | 10% 10V  |
| C103    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C219    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C104    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C220    | 1-162-970-11 | CERAMIC CHIP 0.01 $\mu\text{F}$ | 10% 25V  |
| C105    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C221    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C106    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        | C222    | 1-125-891-11 | CERAMIC CHIP 0.47 $\mu\text{F}$ | 10% 10V  |
| C107    | 1-125-891-11 | CERAMIC CHIP 0.47 $\mu\text{F}$             | 10% 10V    | C223    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$  | 25V      |
| C109    | 1-164-156-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 25V        |         |              |                                 |          |
| C110    | 1-107-826-11 | CERAMIC CHIP 0.1 $\mu\text{F}$              | 10% 16V    |         |              |                                 |          |



| REF.NO. | PART NO.     | DESCRIPTION  | REMARK      | REF.NO. | PART NO. | DESCRIPTION               | REMARK         |
|---------|--------------|--------------|-------------|---------|----------|---------------------------|----------------|
| C224    | 1-125-891-11 | CERAMIC CHIP | 0.47μF 10%  | 10V     | C288     | 1-164-156-11 CERAMIC CHIP | 0.1μF 25V      |
| C225    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C290     | 1-164-156-11 CERAMIC CHIP | 0.1μF 25V      |
| C226    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C291     | 1-164-156-11 CERAMIC CHIP | 0.1μF 25V      |
| C227    | 1-125-891-11 | CERAMIC CHIP | 0.47μF 10%  | 10V     | C292     | 1-107-826-11 CERAMIC CHIP | 0.1μF 10% 16V  |
| C228    | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10%  | 25V     | C293     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
| C229    | 1-125-891-11 | CERAMIC CHIP | 0.47μF 10%  | 10V     | C294     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
| C230    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C295     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
| C231    | 1-126-933-11 | ELECT        | 100μF       | 20% 16V | C296     | 1-162-917-11 CERAMIC CHIP | 15pF 5% 50V    |
| C232    | 1-125-891-11 | CERAMIC CHIP | 0.47μF 10%  | 10V     | C297     | 1-162-917-11 CERAMIC CHIP | 15pF 5% 50V    |
| C234    | 1-126-933-11 | ELECT        | 100μF       | 20% 16V | C298     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
| C235    | 1-125-891-11 | CERAMIC CHIP | 0.47μF 10%  | 10V     | C299     | 1-164-156-11 CERAMIC CHIP | 0.1μF 25V      |
| C236    | 1-164-315-11 | CERAMIC CHIP | 470pF 5%    | 50V     | C300     | 1-164-156-11 CERAMIC CHIP | 0.1μF 25V      |
| C237    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C301     | 1-126-964-11 ELECT        | 10μF 20% 50V   |
| C238    | 1-126-933-11 | ELECT        | 100μF       | 20% 16V | C302     | 1-162-917-11 CERAMIC CHIP | 15pF 5% 50V    |
| C239    | 1-125-891-11 | CERAMIC CHIP | 0.47μF 10%  | 10V     | C303     | 1-164-156-11 CERAMIC CHIP | 0.1μF 25V      |
| C241    | 1-162-917-11 | CERAMIC CHIP | 15pF 5%     | 50V     | C304     | 1-162-970-11 CERAMIC CHIP | 0.01μF 10% 25V |
| C242    | 1-126-933-11 | ELECT        | 100μF       | 20% 16V | C305     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
| C243    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C306     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
| C244    | 1-125-891-11 | CERAMIC CHIP | 0.47μF 10%  | 10V     | C307     | 1-164-156-11 CERAMIC CHIP | 0.1μF 25V      |
| C245    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C309     | 1-125-891-11 CERAMIC CHIP | 0.47μF 10% 10V |
| C247    | 1-126-933-11 | ELECT        | 100μF       | 20% 16V | C310     | 1-162-970-11 CERAMIC CHIP | 0.01μF 10% 25V |
| C248    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C311     | 1-126-963-11 ELECT        | 4.7μF 20% 50V  |
| C249    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C312     | 1-125-891-11 CERAMIC CHIP | 0.47μF 10% 10V |
| C250    | 1-125-891-11 | CERAMIC CHIP | 0.47μF 10%  | 10V     | C313     | 1-162-970-11 CERAMIC CHIP | 0.01μF 10% 25V |
| C251    | 1-125-891-11 | CERAMIC CHIP | 0.47μF 10%  | 10V     | C314     | 1-164-156-11 CERAMIC CHIP | 0.1μF 25V      |
| C252    | 1-125-891-11 | CERAMIC CHIP | 0.47μF 10%  | 10V     | C315     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
| C253    | 1-126-933-11 | ELECT        | 100μF       | 20% 16V | C317     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
| C254    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C319     | 1-164-156-11 CERAMIC CHIP | 0.1μF 25V      |
| C255    | 1-126-933-11 | ELECT        | 100μF       | 20% 16V | C320     | 1-125-891-11 CERAMIC CHIP | 0.47μF 10% 10V |
| C256    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C321     | 1-107-826-11 CERAMIC CHIP | 0.1μF 10% 16V  |
| C258    | 1-126-933-11 | ELECT        | 100μF       | 20% 16V | C322     | 1-125-891-11 CERAMIC CHIP | 0.47μF 10% 10V |
| C259    | 1-126-963-11 | ELECT        | 4.7μF       | 20% 50V | C323     | 1-164-315-11 CERAMIC CHIP | 470pF 5% 50V   |
| C260    | 1-126-933-11 | ELECT        | 100μF       | 20% 16V | C324     | 1-164-156-11 CERAMIC CHIP | 0.1μF 25V      |
| C261    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C326     | 1-125-891-11 CERAMIC CHIP | 0.47μF 10% 10V |
| C262    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C327     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
| C263    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C329     | 1-162-917-11 CERAMIC CHIP | 15pF 5% 50V    |
| C264    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C330     | 1-107-826-11 CERAMIC CHIP | 0.1μF 10% 16V  |
| C265    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C331     | 1-107-826-11 CERAMIC CHIP | 0.1μF 10% 16V  |
| C266    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C333     | 1-107-826-11 CERAMIC CHIP | 0.1μF 10% 16V  |
| C267    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C334     | 1-107-826-11 CERAMIC CHIP | 0.1μF 10% 16V  |
| C268    | 1-126-933-11 | ELECT        | 100μF       | 20% 16V | C336     | 1-126-963-11 ELECT        | 4.7μF 20% 50V  |
| C271    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C337     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
| C272    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C338     | 1-162-923-11 CERAMIC CHIP | 47pF 5% 50V    |
| C274    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C339     | 1-162-923-11 CERAMIC CHIP | 47pF 5% 50V    |
| C275    | 1-162-964-11 | CERAMIC CHIP | 0.001μF 10% | 50V     | C340     | 1-164-156-11 CERAMIC CHIP | 0.1μF 25V      |
| C276    | 1-164-227-11 | CERAMIC CHIP | 0.022μF 10% | 25V     | C341     | 1-164-156-11 CERAMIC CHIP | 0.1μF 25V      |
| C277    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C342     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
| C278    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C346     | 1-107-826-11 CERAMIC CHIP | 0.1μF 10% 16V  |
| C280    | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10%   | 16V     | C347     | 1-107-826-11 CERAMIC CHIP | 0.1μF 10% 16V  |
| C281    | 1-126-933-11 | ELECT        | 100μF       | 20% 16V | C348     | 1-107-826-11 CERAMIC CHIP | 0.1μF 10% 16V  |
| C282    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C349     | 1-107-826-11 CERAMIC CHIP | 0.1μF 10% 16V  |
| C284    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C350     | 1-107-826-11 CERAMIC CHIP | 0.1μF 10% 16V  |
| C285    | 1-126-933-11 | ELECT        | 100μF       | 20% 16V | C351     | 1-107-826-11 CERAMIC CHIP | 0.1μF 10% 16V  |
| C286    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C352     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
| C287    | 1-164-156-11 | CERAMIC CHIP | 0.1μF       | 25V     | C353     | 1-126-933-11 ELECT        | 100μF 20% 16V  |
|         |              |              |             |         | C354     | 1-162-923-11 CERAMIC CHIP | 47pF 5% 50V    |









| REF.NO. | PART NO.     | DESCRIPTION               | REMARK       | REF.NO. | PART NO.     | DESCRIPTION | REMARK          |
|---------|--------------|---------------------------|--------------|---------|--------------|-------------|-----------------|
| Q403    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R020    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q404    | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |              | R021    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q405    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R022    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q406    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R023    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q407    | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |              | R024    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q409    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R025    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q410    | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |              | R028    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q411    | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |              | R029    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q412    | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |              | R030    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| Q413    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R031    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q414    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R032    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| Q415    | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |              | R033    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q500    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R034    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q501    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R035    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q502    | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |              | R036    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q503    | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |              | R037    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q504    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R038    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q505    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R039    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q506    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R040    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q507    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R041    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| Q508    | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |              | R042    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q509    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R043    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q510    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R044    | 1-216-849-11 | RES-CHIP    | 220K 5% 1/16W   |
| Q511    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R045    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q512    | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |              | R046    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q513    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R047    | 1-218-708-11 | METAL CHIP  | 4.7K 0.5% 1/16W |
| Q514    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R048    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q515    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R051    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| Q516    | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |              | R053    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| Q517    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R054    | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| Q518    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R055    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q519    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R059    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q520    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R060    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q521    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R062    | 1-216-864-11 | SHORT       | 0               |
| Q522    | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |              | R063    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
|         |              |                           |              | R064    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
|         |              | < RESISTOR >              |              | R065    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R001    | 1-216-833-11 | RES-CHIP                  | 10K 5% 1/16W | R066    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R002    | 1-216-840-11 | RES-CHIP                  | 39K 5% 1/16W | R068    | 1-216-864-11 | SHORT       | 0               |
| R003    | 1-216-809-11 | RES-CHIP                  | 100 5% 1/16W | R069    | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| R004    | 1-216-817-11 | RES-CHIP                  | 470 5% 1/16W | R070    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R005    | 1-216-821-11 | RES-CHIP                  | 1K 5% 1/16W  | R071    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R006    | 1-216-821-11 | RES-CHIP                  | 1K 5% 1/16W  | R072    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R007    | 1-216-821-11 | RES-CHIP                  | 1K 5% 1/16W  | R074    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R008    | 1-216-821-11 | RES-CHIP                  | 1K 5% 1/16W  | R075    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R009    | 1-216-809-11 | RES-CHIP                  | 100 5% 1/16W | R076    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R010    | 1-216-809-11 | RES-CHIP                  | 100 5% 1/16W | R077    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R011    | 1-216-809-11 | RES-CHIP                  | 100 5% 1/16W | R078    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R012    | 1-216-809-11 | RES-CHIP                  | 100 5% 1/16W | R079    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R013    | 1-216-809-11 | RES-CHIP                  | 100 5% 1/16W | R082    | 1-216-815-11 | RES-CHIP    | 330 5% 1/16W    |
| R014    | 1-216-809-11 | RES-CHIP                  | 100 5% 1/16W | R083    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R015    | 1-216-809-11 | RES-CHIP                  | 100 5% 1/16W | R084    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R016    | 1-216-809-11 | RES-CHIP                  | 100 5% 1/16W | R085    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R017    | 1-216-809-11 | RES-CHIP                  | 100 5% 1/16W | R086    | 1-216-828-11 | RES-CHIP    | 3.9K 5% 1/16W   |
| R018    | 1-216-809-11 | RES-CHIP                  | 100 5% 1/16W | R087    | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     |
| R019    | 1-216-809-11 | RES-CHIP                  | 100 5% 1/16W | R088    | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     |



| REF.NO. | PART NO.     | DESCRIPTION | REMARK          | REF.NO. | PART NO.     | DESCRIPTION | REMARK          |
|---------|--------------|-------------|-----------------|---------|--------------|-------------|-----------------|
| R089    | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     | R157    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R090    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R158    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R091    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R200    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |
| R092    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R201    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R098    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    | R202    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R102    | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   | R203    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |
| R103    | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   | R204    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R104    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    | R205    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R105    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    | R206    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R106    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R207    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R107    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R208    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R108    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R210    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |
| R109    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R211    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R110    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R212    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |
| R111    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R213    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R112    | 1-218-706-11 | METAL CHIP  | 3.9K 0.5% 1/16W | R214    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R113    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R215    | 1-216-828-11 | RES-CHIP    | 3.9K 5% 1/16W   |
| R114    | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   | R216    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R115    | 1-216-827-11 | RES-CHIP    | 3.3K 5% 1/16W   | R219    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R117    | 1-216-857-11 | RES-CHIP    | 1M 5% 1/16W     | R220    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R118    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R221    | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  |
| R119    | 1-216-824-11 | RES-CHIP    | 1.8K 5% 1/16W   | R222    | 1-218-684-11 | METAL CHIP  | 470 0.5% 1/16W  |
| R120    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R223    | 1-218-684-11 | METAL CHIP  | 470 0.5% 1/16W  |
| R121    | 1-216-864-11 | SHORT       | 0               | R224    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R122    | 1-216-849-11 | RES-CHIP    | 220K 5% 1/16W   | R225    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R123    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R226    | 1-218-684-11 | METAL CHIP  | 470 0.5% 1/16W  |
| R124    | 1-216-849-11 | RES-CHIP    | 220K 5% 1/16W   | R227    | 1-218-684-11 | METAL CHIP  | 470 0.5% 1/16W  |
| R125    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    | R228    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |
| R126    | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   | R231    | 1-218-684-11 | METAL CHIP  | 470 0.5% 1/16W  |
| R130    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R232    | 1-218-684-11 | METAL CHIP  | 470 0.5% 1/16W  |
| R131    | 1-216-864-11 | SHORT       | 0               | R233    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R132    | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   | R234    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |
| R133    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R235    | 1-216-835-11 | RES-CHIP    | 15K 5% 1/16W    |
| R134    | 1-216-849-11 | RES-CHIP    | 220K 5% 1/16W   | R236    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R135    | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   | R239    | 1-216-804-11 | RES-CHIP    | 39 5% 1/16W     |
| R136    | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   | R241    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R137    | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   | R242    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R138    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    | R243    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R139    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    | R244    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R140    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R248    | 1-216-804-11 | RES-CHIP    | 39 5% 1/16W     |
| R141    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R253    | 1-216-804-11 | RES-CHIP    | 39 5% 1/16W     |
| R142    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R257    | 1-216-864-11 | SHORT       | 0               |
| R143    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R258    | 1-218-686-11 | METAL CHIP  | 560 0.5% 1/16W  |
| R144    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R259    | 1-218-734-11 | METAL CHIP  | 56K 0.5% 1/16W  |
| R145    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R260    | 1-216-797-11 | RES-CHIP    | 10 5% 1/16W     |
| R146    | 1-218-706-11 | METAL CHIP  | 3.9K 0.5% 1/16W | R262    | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     |
| R147    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R263    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R148    | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   | R264    | 1-218-704-11 | METAL CHIP  | 3.3K 0.5% 1/16W |
| R149    | 1-216-827-11 | RES-CHIP    | 3.3K 5% 1/16W   | R266    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R151    | 1-216-857-11 | RES-CHIP    | 1M 5% 1/16W     | R268    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R152    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R270    | 1-218-704-11 | METAL CHIP  | 3.3K 0.5% 1/16W |
| R153    | 1-216-824-11 | RES-CHIP    | 1.8K 5% 1/16W   | R271    | 1-216-797-11 | RES-CHIP    | 10 5% 1/16W     |
| R154    | 1-216-864-11 | SHORT       | 0               | R273    | 1-218-700-11 | METAL CHIP  | 2.2K 0.5% 1/16W |
| R155    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R275    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    |
| R156    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R276    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    |
|         |              |             |                 | R277    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    |



| REF.NO. | PART NO.     | DESCRIPTION | REMARK          | REF.NO. | PART NO.     | DESCRIPTION | REMARK          |
|---------|--------------|-------------|-----------------|---------|--------------|-------------|-----------------|
| R278    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R346    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |
| R279    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R351    | 1-216-835-11 | RES-CHIP    | 15K 5% 1/16W    |
| R280    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R352    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R281    | 1-216-797-11 | RES-CHIP    | 10 5% 1/16W     |         |              |             |                 |
|         |              |             |                 | R353    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |
| R282    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R355    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R283    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    | R359    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R284    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R360    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R285    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    | R368    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |
| R287    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   |         |              |             |                 |
|         |              |             |                 | R371    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R288    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R372    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |
| R289    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R373    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R290    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R375    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R291    | 1-218-686-11 | METAL CHIP  | 560 0.5% 1/16W  | R376    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R292    | 1-218-686-11 | METAL CHIP  | 560 0.5% 1/16W  |         |              |             |                 |
|         |              |             |                 | R377    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    |
| R294    | 1-216-811-11 | RES-CHIP    | 150 5% 1/16W    | R378    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    |
| R295    | 1-216-839-11 | RES-CHIP    | 33K 5% 1/16W    | R379    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    |
| R296    | 1-216-839-11 | RES-CHIP    | 33K 5% 1/16W    | R400    | 1-218-710-11 | METAL CHIP  | 5.6K 0.5% 1/16W |
| R297    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R401    | 1-218-710-11 | METAL CHIP  | 5.6K 0.5% 1/16W |
| R298    | 1-216-812-11 | RES-CHIP    | 180 5% 1/16W    |         |              |             |                 |
|         |              |             |                 | R402    | 1-218-712-11 | METAL CHIP  | 6.8K 0.5% 1/16W |
| R299    | 1-218-710-11 | METAL CHIP  | 5.6K 0.5% 1/16W | R403    | 1-218-712-11 | METAL CHIP  | 6.8K 0.5% 1/16W |
| R300    | 1-216-811-11 | RES-CHIP    | 150 5% 1/16W    | R404    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   |
| R302    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R405    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R303    | 1-218-710-11 | METAL CHIP  | 5.6K 0.5% 1/16W | R406    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   |
| R304    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |         |              |             |                 |
|         |              |             |                 | R407    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   |
| R305    | 1-216-812-11 | RES-CHIP    | 180 5% 1/16W    | R408    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R306    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R409    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   |
| R307    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R410    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R308    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R411    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R309    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    |         |              |             |                 |
|         |              |             |                 | R412    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R310    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R413    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   |
| R311    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R414    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R312    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R415    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   |
| R313    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R416    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R314    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |         |              |             |                 |
|         |              |             |                 | R417    | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| R315    | 1-218-686-11 | METAL CHIP  | 560 0.5% 1/16W  | R418    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R316    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R419    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R317    | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   | R420    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   |
| R318    | 1-216-807-11 | RES-CHIP    | 68 5% 1/16W     | R421    | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   |
| R319    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |         |              |             |                 |
|         |              |             |                 | R422    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R320    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    | R423    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   |
| R321    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    | R424    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R322    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R425    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R323    | 1-218-708-11 | METAL CHIP  | 4.7K 0.5% 1/16W | R427    | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   |
| R324    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |         |              |             |                 |
|         |              |             |                 | R428    | 1-216-848-11 | RES-CHIP    | 180K 5% 1/16W   |
| R325    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R429    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R326    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    | R430    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R327    | 1-216-828-11 | RES-CHIP    | 3.9K 5% 1/16W   | R432    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R328    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R433    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R329    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |         |              |             |                 |
|         |              |             |                 | R434    | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     |
| R330    | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     | R437    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   |
| R331    | 1-216-807-11 | RES-CHIP    | 68 5% 1/16W     | R438    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R332    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    | R439    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R333    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R440    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   |
| R334    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |         |              |             |                 |
|         |              |             |                 | R441    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    |
| R339    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R443    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R340    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    | R444    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    |



| REF.NO. | PART NO.     | DESCRIPTION | REMARK          | REF.NO. | PART NO.     | DESCRIPTION | REMARK          |
|---------|--------------|-------------|-----------------|---------|--------------|-------------|-----------------|
| R445    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R523    | 1-218-710-11 | METAL CHIP  | 5.6K 0.5% 1/16W |
| R446    | 1-216-853-11 | RES-CHIP    | 470K 5% 1/16W   | R524    | 1-218-686-11 | METAL CHIP  | 560 0.5% 1/16W  |
| R447    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R525    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R448    | 1-216-842-11 | RES-CHIP    | 56K 5% 1/16W    | R526    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   |
| R449    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   | R527    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R450    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   | R528    | 1-218-710-11 | METAL CHIP  | 5.6K 0.5% 1/16W |
| R451    | 1-218-665-11 | METAL CHIP  | 75 0.5% 1/16W   | R529    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R452    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R530    | 1-216-839-11 | RES-CHIP    | 33K 5% 1/16W    |
| R453    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R531    | 1-218-686-11 | METAL CHIP  | 560 0.5% 1/16W  |
| R454    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R532    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    |
| R455    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   | R533    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   |
| R456    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R534    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R457    | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   | R535    | 1-218-690-11 | METAL CHIP  | 820 0.5% 1/16W  |
| R458    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R536    | 1-216-834-11 | RES-CHIP    | 12K 5% 1/16W    |
| R459    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R537    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R460    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R538    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    |
| R461    | 1-216-857-11 | RES-CHIP    | 1M 5% 1/16W     | R542    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R463    | 1-216-806-11 | RES-CHIP    | 56 5% 1/16W     | R543    | 1-218-710-11 | METAL CHIP  | 5.6K 0.5% 1/16W |
| R464    | 1-216-853-11 | RES-CHIP    | 470K 5% 1/16W   | R544    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R465    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R545    | 1-216-839-11 | RES-CHIP    | 33K 5% 1/16W    |
| R466    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R546    | 1-218-686-11 | METAL CHIP  | 560 0.5% 1/16W  |
| R468    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R547    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   |
| R469    | 1-216-853-11 | RES-CHIP    | 470K 5% 1/16W   | R548    | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    |
| R470    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R549    | 1-218-690-11 | METAL CHIP  | 820 0.5% 1/16W  |
| R471    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    | R550    | 1-216-834-11 | RES-CHIP    | 12K 5% 1/16W    |
| R473    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R551    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R474    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R555    | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     |
| R475    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R556    | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     |
| R476    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R557    | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     |
| R477    | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   | R558    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R478    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R559    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R479    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R560    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R480    | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   | R561    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R481    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R562    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R482    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R563    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R483    | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   | R564    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R484    | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   | R565    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R485    | 1-216-831-11 | RES-CHIP    | 6.8K 5% 1/16W   | R566    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R486    | 1-216-831-11 | RES-CHIP    | 6.8K 5% 1/16W   | R567    | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R504    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R568    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R505    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R569    | 1-218-740-11 | METAL CHIP  | 100K 0.5% 1/16W |
| R506    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R570    | 1-218-742-11 | METAL CHIP  | 120K 0.5% 1/16W |
| R507    | 1-218-686-11 | METAL CHIP  | 560 0.5% 1/16W  | R571    | 1-218-740-11 | METAL CHIP  | 100K 0.5% 1/16W |
| R508    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R572    | 1-218-742-11 | METAL CHIP  | 120K 0.5% 1/16W |
| R509    | 1-218-710-11 | METAL CHIP  | 5.6K 0.5% 1/16W | R574    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R510    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    | R575    | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R511    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R576    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   |
| R512    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    | R577    | 1-216-822-11 | RES-CHIP    | 1.2K 5% 1/16W   |
| R514    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    | R578    | 1-216-822-11 | RES-CHIP    | 1.2K 5% 1/16W   |
| R515    | 1-216-823-11 | RES-CHIP    | 1.5K 5% 1/16W   | R579    | 1-216-822-11 | RES-CHIP    | 1.2K 5% 1/16W   |
| R516    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    | R580    | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W    |
| R517    | 1-216-853-11 | RES-CHIP    | 470K 5% 1/16W   | R581    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R518    | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    | R582    | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    |
| R520    | 1-218-684-11 | METAL CHIP  | 470 0.5% 1/16W  | R583    | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R521    | 1-218-684-11 | METAL CHIP  | 470 0.5% 1/16W  | R584    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   |
| R522    | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R585    | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   |





| REF.NO. | PART NO.     | DESCRIPTION               | REMARK   | REF.NO. | PART NO. | DESCRIPTION  | REMARK          |                    |      |
|---------|--------------|---------------------------|----------|---------|----------|--------------|-----------------|--------------------|------|
| C1688   | 1-164-156-11 | CERAMIC CHIP              | 0.1μF    | 25V     | FB1609   | 1-414-445-11 | FERRITE         | 0μH                |      |
| C1690   | 1-162-927-11 | CERAMIC CHIP              | 100pF    | 5%      | 50V      | FB1610       | 1-414-445-11    | FERRITE            | 0μH  |
| C1691   | 1-126-933-11 | ELECT                     | 100μF    | 20%     | 16V      | FB1611       | 1-414-445-11    | FERRITE            | 0μH  |
| C1692   | 1-126-933-11 | ELECT                     | 100μF    | 20%     | 16V      | FB1612       | 1-414-445-11    | FERRITE            | 0μH  |
| C1693   | 1-126-933-11 | ELECT                     | 100μF    | 20%     | 16V      | FB1613       | 1-414-445-11    | FERRITE            | 0μH  |
| C1694   | 1-162-927-11 | CERAMIC CHIP              | 100pF    | 5%      | 50V      | FB1614       | 1-414-445-11    | FERRITE            | 0μH  |
| C1695   | 1-162-910-11 | CERAMIC CHIP              | 5pF      | 0.25pF  | 50V      | FB1615       | 1-414-445-11    | FERRITE            | 0μH  |
| C1696   | 1-162-910-11 | CERAMIC CHIP              | 5pF      | 0.25pF  | 50V      | FB1616       | 1-414-445-11    | FERRITE            | 0μH  |
| C1697   | 1-164-156-11 | CERAMIC CHIP              | 0.1μF    | 25V     | FB1617   | 1-414-445-11 | FERRITE         | 0μH                |      |
| C1698   | 1-164-156-11 | CERAMIC CHIP              | 0.1μF    | 25V     |          |              |                 |                    |      |
| C1699   | 1-164-156-11 | CERAMIC CHIP              | 0.1μF    | 25V     |          |              |                 |                    |      |
| C1700   | 1-164-156-11 | CERAMIC CHIP              | 0.1μF    | 25V     |          |              |                 | < IC >             |      |
| C1701   | 1-162-968-11 | CERAMIC CHIP              | 0.0047μF | 10%     | 50V      | IC1601       | 8-759-683-55    | IC CM0017AF        |      |
| C1704   | 1-126-933-11 | ELECT                     | 100μF    | 20%     | 16V      | IC1602       | 8-759-830-08    | IC NJM2068V-TE2    |      |
| C1707   | 1-115-416-11 | CERAMIC CHIP              | 0.001μF  | 5%      | 25V      | IC1603       | 8-759-830-08    | IC NJM2068V-TE2    |      |
| C1708   | 1-162-966-11 | CERAMIC CHIP              | 0.0022μF | 10%     | 50V      | IC1605       | 8-759-352-91    | IC PST9143NL       |      |
| C1709   | 1-115-416-11 | CERAMIC CHIP              | 0.001μF  | 5%      | 25V      | IC1606       | 8-752-925-71    | IC CXP86448-635Q   |      |
| C1711   | 1-162-966-11 | CERAMIC CHIP              | 0.0022μF | 10%     | 50V      | IC1607       | 8-759-682-41    | IC M24C32-WMN6T(A) |      |
| C1712   | 1-164-156-11 | CERAMIC CHIP              | 0.1μF    | 25V     | IC1608   | 8-759-829-87 | IC CD0031AM     |                    |      |
| C1714   | 1-164-156-11 | CERAMIC CHIP              | 0.1μF    | 25V     | IC1609   | 8-759-830-08 | IC NJM2068V-TE2 |                    |      |
| C1715   | 1-164-156-11 | CERAMIC CHIP              | 0.1μF    | 25V     | IC1610   | 8-759-830-08 | IC NJM2068V-TE2 |                    |      |
| C1717   | 1-162-927-11 | CERAMIC CHIP              | 100pF    | 5%      | 50V      | IC1611       | 8-759-830-08    | IC NJM2068V-TE2    |      |
| C1718   | 1-164-156-11 | CERAMIC CHIP              | 0.1μF    | 25V     | IC1612   | 8-759-830-08 | IC NJM2068V-TE2 |                    |      |
| C1720   | 1-162-910-11 | CERAMIC CHIP              | 5pF      | 0.25pF  | 50V      |              |                 |                    |      |
| C1721   | 1-162-927-11 | CERAMIC CHIP              | 100pF    | 5%      | 50V      |              |                 | < COIL >           |      |
| C1722   | 1-162-910-11 | CERAMIC CHIP              | 5pF      | 0.25pF  | 50V      |              |                 |                    |      |
| C1730   | 1-126-916-11 | ELECT                     | 1000μF   | 20%     | 6.3V     | L1601        | 1-469-555-21    | INDUCTOR           | 10μH |
| C1731   | 1-162-970-11 | CERAMIC CHIP              | 0.01μF   | 10%     | 25V      | L1602        | 1-469-555-21    | INDUCTOR           | 10μH |
| C1732   | 1-162-970-11 | CERAMIC CHIP              | 0.01μF   | 10%     | 25V      |              |                 |                    |      |
| C1733   | 1-162-970-11 | CERAMIC CHIP              | 0.01μF   | 10%     | 25V      |              |                 | < TRANSISTOR >     |      |
| C1734   | 1-162-970-11 | CERAMIC CHIP              | 0.01μF   | 10%     | 25V      |              |                 |                    |      |
|         |              | < CONNECTOR >             |          |         |          |              |                 |                    |      |
| CN1601  | 1-573-301-21 | CONNECTOR, BOARD TO BOARD | 20P      |         |          |              |                 |                    |      |
| CN1602  | 1-573-301-21 | CONNECTOR, BOARD TO BOARD | 20P      |         |          |              |                 |                    |      |
|         |              | < DIODE >                 |          |         |          |              |                 |                    |      |
| D1601   | 8-719-988-61 | DIODE 1SS355TE-17         |          |         |          |              |                 |                    |      |
| D1603   | 8-719-988-61 | DIODE 1SS355TE-17         |          |         |          |              |                 |                    |      |
| D1604   | 8-719-069-54 | DIODE UDZSTE-175.1B       |          |         |          |              |                 |                    |      |
| D1605   | 8-719-069-54 | DIODE UDZSTE-175.1B       |          |         |          |              |                 |                    |      |
| D1606   | 8-719-069-54 | DIODE UDZSTE-175.1B       |          |         |          |              |                 |                    |      |
| D1607   | 8-719-069-54 | DIODE UDZSTE-175.1B       |          |         |          |              |                 |                    |      |
|         |              | < FERRITEBEAD >           |          |         |          |              |                 |                    |      |
| FB1601  | 1-414-445-11 | FERRITE                   | 0μH      |         |          |              |                 |                    |      |
| FB1602  | 1-414-445-11 | FERRITE                   | 0μH      |         |          |              |                 |                    |      |
| FB1603  | 1-414-445-11 | FERRITE                   | 0μH      |         |          |              |                 |                    |      |
| FB1604  | 1-414-445-11 | FERRITE                   | 0μH      |         |          |              |                 |                    |      |
| FB1605  | 1-414-445-11 | FERRITE                   | 0μH      |         |          |              |                 |                    |      |
| FB1606  | 1-414-445-11 | FERRITE                   | 0μH      |         |          |              |                 |                    |      |
| FB1607  | 1-414-445-11 | FERRITE                   | 0μH      |         |          |              |                 |                    |      |
| FB1608  | 1-414-445-11 | FERRITE                   | 0μH      |         |          |              |                 |                    |      |
|         |              | < RESISTOR >              |          |         |          |              |                 |                    |      |
| R1601   | 1-216-841-11 | RES-CHIP                  | 47K      | 5%      | 1/16W    |              |                 |                    |      |
| R1604   | 1-216-833-11 | RES-CHIP                  | 10K      | 5%      | 1/16W    |              |                 |                    |      |
| R1605   | 1-216-821-11 | RES-CHIP                  | 1K       | 5%      | 1/16W    |              |                 |                    |      |
| R1606   | 1-216-821-11 | RES-CHIP                  | 1K       | 5%      | 1/16W    |              |                 |                    |      |
| R1607   | 1-216-821-11 | RES-CHIP                  | 1K       | 5%      | 1/16W    |              |                 |                    |      |
| R1608   | 1-216-809-11 | RES-CHIP                  | 100      | 5%      | 1/16W    |              |                 |                    |      |
| R1609   | 1-216-809-11 | RES-CHIP                  | 100      | 5%      | 1/16W    |              |                 |                    |      |
| R1611   | 1-216-825-11 | RES-CHIP                  | 2.2K     | 5%      | 1/16W    |              |                 |                    |      |
| R1614   | 1-216-825-11 | RES-CHIP                  | 2.2K     | 5%      | 1/16W    |              |                 |                    |      |
| R1615   | 1-216-821-11 | RES-CHIP                  | 1K       | 5%      | 1/16W    |              |                 |                    |      |
| R1618   | 1-216-809-11 | RES-CHIP                  | 100      | 5%      | 1/16W    |              |                 |                    |      |
| R1619   | 1-216-864-11 | SHORT                     | 0        |         |          |              |                 |                    |      |
| R1620   | 1-216-809-11 | RES-CHIP                  | 100      | 5%      | 1/16W    |              |                 |                    |      |
| R1621   | 1-216-821-11 | RES-CHIP                  | 1K       | 5%      | 1/16W    |              |                 |                    |      |
| R1622   | 1-216-817-11 | RES-CHIP                  | 470      | 5%      | 1/16W    |              |                 |                    |      |
| R1623   | 1-216-821-11 | RES-CHIP                  | 1K       | 5%      | 1/16W    |              |                 |                    |      |
| R1625   | 1-216-821-11 | RES-CHIP                  | 1K       | 5%      | 1/16W    |              |                 |                    |      |
| R1627   | 1-216-821-11 | RES-CHIP                  | 1K       | 5%      | 1/16W    |              |                 |                    |      |





| REF.NO. | PART NO.     | DESCRIPTION | REMARK          | REF.NO. | PART NO.     | DESCRIPTION                                | REMARK           |
|---------|--------------|-------------|-----------------|---------|--------------|--|------------------|
| R1634   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R1699   | 1-218-692-11 | METAL CHIP                                 | 1K 0.5% 1/16W    |
| R1635   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R1700   | 1-218-692-11 | METAL CHIP                                 | 1K 0.5% 1/16W    |
| R1636   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R1701   | 1-218-692-11 | METAL CHIP                                 | 1K 0.5% 1/16W    |
| R1637   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R1702   | 1-218-724-11 | METAL CHIP                                 | 22K 0.5% 1/16W   |
| R1638   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R1703   | 1-218-724-11 | METAL CHIP                                 | 22K 0.5% 1/16W   |
| R1639   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R1704   | 1-218-724-11 | METAL CHIP                                 | 22K 0.5% 1/16W   |
| R1640   | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    | R1705   | 1-218-716-11 | METAL CHIP                                 | 10K 0.5% 1/16W   |
| R1641   | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R1706   | 1-218-724-11 | METAL CHIP                                 | 22K 0.5% 1/16W   |
| R1642   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R1707   | 1-218-716-11 | METAL CHIP                                 | 10K 0.5% 1/16W   |
| R1643   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R1708   | 1-218-716-11 | METAL CHIP                                 | 10K 0.5% 1/16W   |
| R1644   | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R1709   | 1-218-716-11 | METAL CHIP                                 | 10K 0.5% 1/16W   |
| R1645   | 1-216-815-11 | RES-CHIP    | 330 5% 1/16W    | R1710   | 1-216-864-11 | SHORT                                      | 0                |
| R1646   | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R1711   | 1-216-833-11 | RES-CHIP                                   | 10K 5% 1/16W     |
| R1647   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R1712   | 1-216-833-11 | RES-CHIP                                   | 10K 5% 1/16W     |
| R1648   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R1713   | 1-216-833-11 | RES-CHIP                                   | 10K 5% 1/16W     |
| R1649   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R1714   | 1-216-833-11 | RES-CHIP                                   | 10K 5% 1/16W     |
| R1650   | 1-216-815-11 | RES-CHIP    | 330 5% 1/16W    |         |              | < NETWORK RESISTOR >                       |                  |
| R1651   | 1-216-815-11 | RES-CHIP    | 330 5% 1/16W    | RB1603  | 1-233-576-11 | RES, CHIP NETWORK                          | 100              |
| R1652   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | RB1604  | 1-233-576-11 | RES, CHIP NETWORK                          | 100              |
| R1653   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | RB1605  | 1-233-576-11 | RES, CHIP NETWORK                          | 100              |
| R1654   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |         |              | < CRYSTAL >                                |                  |
| R1655   | 1-218-700-11 | METAL CHIP  | 2.2K 0.5% 1/16W | X1601   | 1-767-925-21 | VIBRATOR, CRYSTAL (12MHZ)                  |                  |
| R1656   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   |         |              | *****                                      |                  |
| R1657   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |         |              | * A-1299-611-AA BOARD, COMPLETE            |                  |
| R1658   | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |         |              | *****                                      |                  |
| R1659   | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |         |              | 4-382-854-11 SCREW (M3X10), P, SW (+)      |                  |
| R1660   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |         |              | * 7-651-000-50 GREASE,SILICON (G-746) 200G |                  |
| R1661   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |         |              | < CAPACITOR >                              |                  |
| R1662   | 1-216-827-11 | RES-CHIP    | 3.3K 5% 1/16W   | C3001   | 1-164-156-11 | CERAMIC CHIP                               | 0.1μF 25V        |
| R1663   | 1-216-818-11 | RES-CHIP    | 560 5% 1/16W    | C3002   | 1-115-416-11 | CERAMIC CHIP                               | 0.001μF 5% 25V   |
| R1665   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   | C3003   | 1-164-156-11 | CERAMIC CHIP                               | 0.1μF 25V        |
| R1666   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   | C3004   | 1-162-970-11 | CERAMIC CHIP                               | 0.01μF 10% 25V   |
| R1667   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   | C3005   | 1-162-970-11 | CERAMIC CHIP                               | 0.01μF 10% 25V   |
| R1668   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   | C3006   | 1-162-927-11 | CERAMIC CHIP                               | 100pF 5% 50V     |
| R1669   | 1-218-724-11 | METAL CHIP  | 22K 0.5% 1/16W  | C3007   | 1-164-392-11 | CERAMIC CHIP                               | 390pF 5% 50V     |
| R1670   | 1-218-724-11 | METAL CHIP  | 22K 0.5% 1/16W  | C3008   | 1-164-156-11 | CERAMIC CHIP                               | 0.1μF 25V        |
| R1671   | 1-218-724-11 | METAL CHIP  | 22K 0.5% 1/16W  | C3013   | 1-126-933-11 | ELECT                                      | 100μF 20% 16V    |
| R1672   | 1-218-724-11 | METAL CHIP  | 22K 0.5% 1/16W  | C3014   | 1-164-156-11 | CERAMIC CHIP                               | 0.1μF 25V        |
| R1673   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  | C3015   | 1-126-933-11 | ELECT                                      | 100μF 20% 16V    |
| R1674   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  | C3016   | 1-164-156-11 | CERAMIC CHIP                               | 0.1μF 25V        |
| R1675   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  | C3017   | 1-110-563-11 | CERAMIC CHIP                               | 0.068μF 10% 16V  |
| R1676   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | C3018   | 1-164-156-11 | CERAMIC CHIP                               | 0.1μF 25V        |
| R1681   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  | C3019   | 1-162-966-11 | CERAMIC CHIP                               | 0.0022μF 10% 50V |
| R1682   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   | C3020   | 1-107-826-11 | CERAMIC CHIP                               | 0.1μF 10% 16V    |
| R1683   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   | C3021   | 1-164-156-11 | CERAMIC CHIP                               | 0.1μF 25V        |
| R1684   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   | C3022   | 1-164-156-11 | CERAMIC CHIP                               | 0.1μF 25V        |
| R1685   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   | C3023   | 1-164-156-11 | CERAMIC CHIP                               | 0.1μF 25V        |
| R1690   | 1-218-724-11 | METAL CHIP  | 22K 0.5% 1/16W  | C3024   | 1-164-156-11 | CERAMIC CHIP                               | 0.1μF 25V        |
| R1691   | 1-218-724-11 | METAL CHIP  | 22K 0.5% 1/16W  |         |              |  |                  |
| R1692   | 1-218-724-11 | METAL CHIP  | 22K 0.5% 1/16W  |         |              |  |                  |
| R1693   | 1-218-724-11 | METAL CHIP  | 22K 0.5% 1/16W  |         |              |  |                  |
| R1694   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  |         |              |  |                  |
| R1695   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  |         |              |  |                  |
| R1696   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  |         |              |  |                  |
| R1697   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  |         |              |  |                  |
| R1698   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   |         |              |  |                  |



| REF.NO. | PART NO.     | DESCRIPTION  | REMARK   | REF.NO. | PART NO. | DESCRIPTION  | REMARK       |              |          |       |      |
|---------|--------------|--------------|----------|---------|----------|--------------|--------------|--------------|----------|-------|------|
| C3025   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3091    | 1-126-933-11 | ELECT        | 100μF        | 20%      | 16V   |      |
| C3026   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3092    | 1-164-156-11 | CERAMIC CHIP | 0.1μF        | 25V      |       |      |
| C3027   | 1-126-933-11 | ELECT        | 100μF    | 20%     | 16V      | C3093        | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V   |      |
| C3028   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3094    | 1-104-665-11 | ELECT        | 100μF        | 20%      | 25V   |      |
| C3029   | 1-126-933-11 | ELECT        | 100μF    | 20%     | 16V      |              |              |              |          |       |      |
| C3030   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3095    | 1-125-891-11 | CERAMIC CHIP | 0.47μF       | 10%      | 10V   |      |
| C3031   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3096    | 1-164-156-11 | CERAMIC CHIP | 0.1μF        | 25V      |       |      |
| C3032   | 1-126-963-11 | ELECT        | 4.7μF    | 20%     | 50V      | C3097        | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V   |      |
| C3033   | 1-126-933-11 | ELECT        | 100μF    | 20%     | 16V      | C3098        | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V   |      |
| C3034   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3100    | 1-126-933-11 | ELECT        | 100μF        | 20%      | 16V   |      |
| C3035   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3101    | 1-125-837-91 | CERAMIC CHIP | 1μF          | 10%      | 6.3V  |      |
| C3036   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3102    | 1-164-156-11 | CERAMIC CHIP | 0.1μF        | 25V      |       |      |
| C3037   | 1-127-760-11 | CERAMIC CHIP | 4.7μF    | 10%     | 6.3V     | C3103        | 1-126-933-11 | ELECT        | 100μF    | 20%   | 16V  |
| C3038   | 1-126-933-11 | ELECT        | 100μF    | 20%     | 16V      | C3104        | 1-165-176-11 | CERAMIC CHIP | 0.047μF  | 10%   | 16V  |
| C3039   | 1-127-760-11 | CERAMIC CHIP | 4.7μF    | 10%     | 6.3V     | C3105        | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V   |      |
| C3040   | 1-126-933-11 | ELECT        | 100μF    | 20%     | 16V      | C3106        | 1-126-933-11 | ELECT        | 100μF    | 20%   | 16V  |
| C3041   | 1-126-933-11 | ELECT        | 100μF    | 20%     | 16V      | C3107        | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V   |      |
| C3042   | 1-125-837-91 | CERAMIC CHIP | 1μF      | 10%     | 6.3V     | C3108        | 1-164-816-11 | CERAMIC CHIP | 220pF    | 2%    | 50V  |
| C3044   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3109    | 1-162-970-11 | CERAMIC CHIP | 0.01μF       | 10%      | 25V   |      |
| C3045   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3110    | 1-164-156-11 | CERAMIC CHIP | 0.1μF        | 25V      |       |      |
| C3046   | 1-162-970-11 | CERAMIC CHIP | 0.01μF   | 10%     | 25V      | C3111        | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V   |      |
| C3047   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3112    | 1-162-968-11 | CERAMIC CHIP | 0.0047μF     | 10%      | 50V   |      |
| C3048   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3113    | 1-126-933-11 | ELECT        | 100μF        | 20%      | 16V   |      |
| C3049   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3114    | 1-126-965-91 | ELECT        | 22μF         | 20%      | 50V   |      |
| C3050   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3115    | 1-125-891-11 | CERAMIC CHIP | 0.47μF       | 10%      | 10V   |      |
| C3051   | 1-126-933-11 | ELECT        | 100μF    | 20%     | 16V      | C3116        | 1-125-837-91 | CERAMIC CHIP | 1μF      | 10%   | 6.3V |
| C3052   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3117    | 1-165-176-11 | CERAMIC CHIP | 0.047μF      | 10%      | 16V   |      |
| C3053   | 1-130-495-00 | MYLAR        | 0.1μF    | 5%      | 50V      | C3118        | 1-126-933-11 | ELECT        | 100μF    | 20%   | 16V  |
| C3054   | 1-136-244-11 | FILM         | 0.1μF    | 5%      | 50V      | C3119        | 1-164-816-11 | CERAMIC CHIP | 220pF    | 2%    | 50V  |
| C3055   | 1-107-826-11 | CERAMIC CHIP | 0.1μF    | 10%     | 16V      | C3120        | 1-126-933-11 | ELECT        | 100μF    | 20%   | 16V  |
| C3056   | 1-107-826-11 | CERAMIC CHIP | 0.1μF    | 10%     | 16V      | C3121        | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V   |      |
| C3057   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3122    | 1-164-156-11 | CERAMIC CHIP | 0.1μF        | 25V      |       |      |
| C3059   | 1-107-826-11 | CERAMIC CHIP | 0.1μF    | 10%     | 16V      | C3123        | 1-126-933-11 | ELECT        | 100μF    | 20%   | 16V  |
| C3062   | 1-107-826-11 | CERAMIC CHIP | 0.1μF    | 10%     | 16V      | C3124        | 1-162-970-11 | CERAMIC CHIP | 0.01μF   | 10%   | 25V  |
| C3063   | 1-162-928-11 | CERAMIC CHIP | 120pF    | 5%      | 50V      | C3125        | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V   |      |
| C3064   | 1-107-826-11 | CERAMIC CHIP | 0.1μF    | 10%     | 16V      | C3126        | 1-126-964-11 | ELECT        | 10μF     | 20%   | 50V  |
| C3066   | 1-107-826-11 | CERAMIC CHIP | 0.1μF    | 10%     | 16V      | C3127        | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10%   | 50V  |
| C3068   | 1-125-891-11 | CERAMIC CHIP | 0.47μF   | 10%     | 10V      | C3128        | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V   |      |
| C3069   | 1-162-970-11 | CERAMIC CHIP | 0.01μF   | 10%     | 25V      | C3130        | 1-126-964-11 | ELECT        | 10μF     | 20%   | 50V  |
| C3071   | 1-125-891-11 | CERAMIC CHIP | 0.47μF   | 10%     | 10V      | C3131        | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V   |      |
| C3072   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3132    | 1-164-156-11 | CERAMIC CHIP | 0.1μF        | 25V      |       |      |
| C3073   | 1-127-760-11 | CERAMIC CHIP | 4.7μF    | 10%     | 6.3V     | C3133        | 1-126-933-11 | ELECT        | 100μF    | 20%   | 16V  |
| C3075   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3145    | 1-162-968-11 | CERAMIC CHIP | 0.0047μF     | 10%      | 50V   |      |
| C3076   | 1-126-933-11 | ELECT        | 100μF    | 20%     | 16V      | C3146        | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10%   | 50V  |
| C3077   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3147    | 1-164-156-11 | CERAMIC CHIP | 0.1μF        | 25V      |       |      |
| C3078   | 1-126-933-11 | ELECT        | 100μF    | 20%     | 16V      | C3148        | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10%   | 50V  |
| C3080   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3149    | 1-162-968-11 | CERAMIC CHIP | 0.0047μF     | 10%      | 50V   |      |
| C3081   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3150    | 1-164-156-11 | CERAMIC CHIP | 0.1μF        | 25V      |       |      |
| C3082   | 1-107-826-11 | CERAMIC CHIP | 0.1μF    | 10%     | 16V      | C3155        | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V   |      |
| C3083   | 1-107-826-11 | CERAMIC CHIP | 0.1μF    | 10%     | 16V      | C3156        | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10%   | 50V  |
| C3084   | 1-107-826-11 | CERAMIC CHIP | 0.1μF    | 10%     | 16V      | C3157        | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10%   | 50V  |
| C3085   | 1-125-891-11 | CERAMIC CHIP | 0.47μF   | 10%     | 10V      | C3158        | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V   |      |
| C3086   | 1-162-968-11 | CERAMIC CHIP | 0.0047μF | 10%     | 50V      | C3160        | 1-162-913-11 | CERAMIC CHIP | 8pF      | 0.5pF | 50V  |
| C3087   | 1-164-218-11 | CERAMIC CHIP | 180pF    | 5%      | 50V      | C3161        | 1-162-913-11 | CERAMIC CHIP | 8pF      | 0.5pF | 50V  |
| C3089   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3163    | 1-126-934-11 | ELECT        | 220μF        | 20%      | 16V   |      |
| C3090   | 1-164-156-11 | CERAMIC CHIP | 0.1μF    | 25V     | C3164    | 1-164-156-11 | CERAMIC CHIP | 0.1μF        | 25V      |       |      |
|         |              |              |          |         | C3166    | 1-164-156-11 | CERAMIC CHIP | 0.1μF        | 25V      |       |      |



| REF.NO.       | PART NO.       | DESCRIPTION                     | REMARK    | REF.NO. | PART NO.       | DESCRIPTION          | REMARK                    |
|---------------|----------------|---------------------------------|-----------|---------|----------------|----------------------|---------------------------|
| C3167         | 1-126-933-11   | ELECT                           | 100µF 20% | 16V     | IC3002         | 8-759-833-71         | IC NJM2395F09             |
| C3172         | 1-164-156-11   | CERAMIC CHIP                    | 0.1µF     | 25V     | IC3003         | 8-759-833-12         | IC NJM2395AF05            |
| C3173         | 1-164-156-11   | CERAMIC CHIP                    | 0.1µF     | 25V     | IC3004         | 8-759-830-08         | IC NJM2068V-TE2           |
| C3174         | 1-164-156-11   | CERAMIC CHIP                    | 0.1µF     | 25V     | IC3005         | 8-759-198-03         | IC PQ09RF21               |
| C3175         | 1-164-156-11   | CERAMIC CHIP                    | 0.1µF     | 25V     | IC3006         | 8-752-100-25         | IC CXA2150AQ              |
| C3176         | 1-164-156-11   | CERAMIC CHIP                    | 0.1µF     | 25V     | IC3007         | 8-759-833-12         | IC NJM2395AF05            |
| C3182         | 1-107-826-11   | CERAMIC CHIP                    | 0.1µF     | 10% 16V | IC3008         | 8-759-641-26         | IC NJM2391DL1-33(TE1)     |
| C3183         | 1-164-816-11   | CERAMIC CHIP                    | 220pF     | 2% 50V  | IC3009         | 8-759-700-65         | IC NJM79L05A              |
| C3184         | 1-164-816-11   | CERAMIC CHIP                    | 220pF     | 2% 50V  | IC3010         | 8-752-068-37         | IC CXA1726AM              |
| C3185         | 1-162-923-11   | CERAMIC CHIP                    | 47pF      | 5% 50V  | IC3011         | 8-759-830-08         | IC NJM2068V-TE2           |
| C3186         | 1-126-933-11   | ELECT                           | 100µF     | 20% 16V | IC3012         | 8-759-830-08         | IC NJM2068V-TE2           |
| < CONNECTOR > |                |                                 |           | IC3013  | 6-700-150-01   | IC M24C04-WMN6T(A)   |                           |
| CN3001        | * 1-564-508-11 | PLUG, CONNECTOR                 | 5P        |         | IC3014         | 8-759-701-79         | IC NJM7812FA              |
| CN3005        | * 1-779-892-11 | CONNECTOR, BOARD TO BOARD       | 10P       |         | IC3018         | 8-759-278-58         | IC NJM4558V-TE2           |
| CN3006        | * 1-779-892-11 | CONNECTOR, BOARD TO BOARD       | 10P       |         | IC3020         | 8-759-278-58         | IC NJM4558V-TE2           |
| CN3007        | * 1-779-892-11 | CONNECTOR, BOARD TO BOARD       | 10P       |         | IC3021         | 8-759-701-75         | IC NJM7805FA              |
| CN3008        | * 1-779-892-11 | CONNECTOR, BOARD TO BOARD       | 10P       |         | IC3022         | 8-759-278-58         | IC NJM4558V-TE2           |
| CN3009        | 1-573-979-21   | CONNECTOR, BOARD TO BOARD       | 11P       |         | IC3023         | 8-759-278-58         | IC NJM4558V-TE2           |
| CN3010        | * 1-564-508-11 | PLUG, CONNECTOR                 | 5P        |         | IC3024         | 8-759-687-05         | IC MAX4450EUK-TG069       |
| CN3011        | * 1-564-512-11 | PLUG, CONNECTOR                 | 9P        |         | < COIL >       |                      |                           |
| CN3012        | 1-573-298-21   | CONNECTOR, BOARD TO BOARD       | 20P       |         | L3001          | 1-414-856-11         | INDUCTOR 10µH             |
| CN3013        | 1-573-298-21   | CONNECTOR, BOARD TO BOARD       | 20P       |         | L3002          | 1-414-856-11         | INDUCTOR 10µH             |
| CN3014        | * 1-764-333-11 | PLUG, CONNECTOR                 | 10P       |         | L3004          | 1-414-856-11         | INDUCTOR 10µH             |
| CN3015        | * 1-564-511-11 | PLUG, CONNECTOR                 | 8P        |         | L3005          | 1-414-856-11         | INDUCTOR 10µH             |
| CN3016        | * 1-564-512-11 | PLUG, CONNECTOR                 | 9P        |         | L3006          | 1-414-856-11         | INDUCTOR 10µH             |
| CN3017        | * 1-564-510-11 | PLUG, CONNECTOR                 | 7P        |         | L3007          | 1-414-856-11         | INDUCTOR 10µH             |
| CN3018        | * 1-564-506-11 | PLUG, CONNECTOR                 | 3P        |         | L3008          | 1-414-856-11         | INDUCTOR 10µH             |
| CN3019        | * 1-564-509-11 | PLUG, CONNECTOR                 | 6P        |         | L3009          | 1-414-856-11         | INDUCTOR 10µH             |
| CN3020        | * 1-793-922-11 | CONNECTOR, DIN (RECEPTACLE)     | 64P       |         | L3010          | 1-414-856-11         | INDUCTOR 10µH             |
| CN3021        | 1-695-915-11   | TAB (CONTACT)                   |           |         | L3011          | 1-414-856-11         | INDUCTOR 10µH             |
| CN3022        | 1-793-174-11   | SOCKET, PC CONNECTOR (PC BOARD) |           |         | < NEON LAMP >  |                      |                           |
| CN3023        | * 1-564-508-11 | PLUG, CONNECTOR                 | 5P        |         | NL3001         | 1-517-778-21         | LAMP, NEON                |
| CN3024        | * 1-564-511-11 | PLUG, CONNECTOR                 | 8P        |         | NL3002         | 1-517-778-21         | LAMP, NEON                |
| < DIODE >     |                |                                 |           | NL3003  | 1-517-778-21   | LAMP, NEON           |                           |
| D3001         | 8-719-083-87   | DIODE UDZS-TE17-33B             |           |         | < TRANSISTOR > |                      |                           |
| D3002         | 8-719-056-85   | DIODE UDZ-TE-17- 8.2B           |           |         | Q3001          | 8-729-424-02         | TRANSISTOR 2SB709A-QRS-TX |
| D3003         | 8-719-404-50   | DIODE MA111-TX                  |           |         | Q3002          | 8-729-422-27         | TRANSISTOR 2SD601A-Q      |
| D3004         | 8-719-069-54   | DIODE UDZSTE-175.1B             |           |         | Q3020          | 8-729-422-27         | TRANSISTOR 2SD601A-Q      |
| D3009         | 8-719-404-50   | DIODE MA111-TX                  |           |         | Q3021          | 8-729-424-02         | TRANSISTOR 2SB709A-QRS-TX |
| D3011         | 8-719-404-50   | DIODE MA111-TX                  |           |         | Q3022          | 8-729-424-02         | TRANSISTOR 2SB709A-QRS-TX |
| D3012         | 8-719-404-50   | DIODE MA111-TX                  |           |         | Q3033          | 8-729-424-02         | TRANSISTOR 2SB709A-QRS-TX |
| D3013         | 8-719-404-50   | DIODE MA111-TX                  |           |         | Q3037          | 8-729-422-27         | TRANSISTOR 2SD601A-Q      |
| D3014         | 8-719-069-55   | DIODE UDZSTE-175.6B             |           |         | Q3038          | 8-729-422-27         | TRANSISTOR 2SD601A-Q      |
| D3015         | 8-719-069-55   | DIODE UDZSTE-175.6B             |           |         | Q3039          | 8-729-424-02         | TRANSISTOR 2SB709A-QRS-TX |
| D3016         | 8-719-069-55   | DIODE UDZSTE-175.6B             |           |         | Q3040          | 8-729-422-27         | TRANSISTOR 2SD601A-Q      |
| D3023         | 8-719-404-50   | DIODE MA111-TX                  |           |         | Q3041          | 8-729-422-27         | TRANSISTOR 2SD601A-Q      |
| D3026         | 8-719-404-50   | DIODE MA111-TX                  |           |         | Q3042          | 8-729-424-02         | TRANSISTOR 2SB709A-QRS-TX |
| D3027         | 8-719-991-33   | DIODE 1SS133T-77                |           |         | Q3046          | 8-729-424-02         | TRANSISTOR 2SB709A-QRS-TX |
| < IC >        |                |                                 |           | Q3047   | 8-729-422-27   | TRANSISTOR 2SD601A-Q |                           |
| IC3001        | 8-759-830-08   | IC NJM2068V-TE2                 |           |         | Q3048          | 8-729-122-63         | TRANSISTOR 2SA1226        |
|               |                |                                 |           |         | Q3049          | 8-729-122-63         | TRANSISTOR 2SA1226        |



| REF.NO. | PART NO.     | DESCRIPTION               | REMARK     | REF.NO. | PART NO.     | DESCRIPTION      | REMARK     |
|---------|--------------|---------------------------|------------|---------|--------------|------------------|------------|
| Q3050   | 8-729-122-63 | TRANSISTOR 2SA1226        |            | R3064   | 1-216-829-11 | RES-CHIP 4.7K    | 5% 1/16W   |
| Q3051   | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |            | R3066   | 1-216-827-11 | RES-CHIP 3.3K    | 5% 1/16W   |
| Q3052   | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |            | R3067   | 1-216-815-11 | RES-CHIP 330     | 5% 1/16W   |
| Q3053   | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |            | R3068   | 1-216-825-11 | RES-CHIP 2.2K    | 5% 1/16W   |
|         |              |                           |            | R3069   | 1-216-824-11 | RES-CHIP 1.8K    | 5% 1/16W   |
| Q3054   | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |            | R3070   | 1-216-824-11 | RES-CHIP 1.8K    | 5% 1/16W   |
| Q3055   | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |            | R3071   | 1-216-824-11 | RES-CHIP 1.8K    | 5% 1/16W   |
| Q3056   | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |            | R3072   | 1-249-377-11 | CARBON 0.47      | 5% 1/4W    |
| Q3058   | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |            | R3073   | 1-216-369-00 | METAL OXIDE 1    | 5% 2W      |
| Q3059   | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |            | R3075   | 1-216-371-00 | METAL OXIDE 1.5  | 5% 2W      |
| Q3060   | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |            | R3077   | 1-249-377-11 | CARBON 0.47      | 5% 1/4W    |
| Q3061   | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |            | R3082   | 1-216-833-11 | RES-CHIP 10K     | 5% 1/16W   |
| Q3062   | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX |            | R3086   | 1-216-826-11 | RES-CHIP 2.7K    | 5% 1/16W   |
| Q3063   | 8-729-422-27 | TRANSISTOR 2SD601A-Q      |            | R3087   | 1-216-809-11 | RES-CHIP 100     | 5% 1/16W   |
|         |              |                           |            | R3091   | 1-249-417-11 | CARBON 1K        | 5% 1/4W    |
|         |              | < RESISTOR >              |            | R3092   | 1-249-429-11 | CARBON 10K       | 5% 1/4W    |
| R3001   | 1-216-849-11 | RES-CHIP 220K             | 5% 1/16W   | R3095   | 1-216-809-11 | RES-CHIP 100     | 5% 1/16W   |
| R3002   | 1-218-722-11 | METAL CHIP 18K            | 0.5% 1/16W | R3097   | 1-216-365-00 | METAL OXIDE 0.47 | 5% 2W      |
| R3003   | 1-218-720-11 | METAL CHIP 15K            | 0.5% 1/16W | R3098   | 1-216-349-00 | METAL OXIDE 1    | 5% 1W      |
| R3004   | 1-218-740-11 | METAL CHIP 100K           | 0.5% 1/16W | R3100   | 1-216-821-11 | RES-CHIP 1K      | 5% 1/16W   |
| R3005   | 1-216-813-11 | RES-CHIP 220              | 5% 1/16W   | R3101   | 1-218-708-11 | METAL CHIP 4.7K  | 0.5% 1/16W |
| R3006   | 1-216-813-11 | RES-CHIP 220              | 5% 1/16W   | R3102   | 1-218-708-11 | METAL CHIP 4.7K  | 0.5% 1/16W |
| R3007   | 1-216-833-11 | RES-CHIP 10K              | 5% 1/16W   | R3103   | 1-216-833-11 | RES-CHIP 10K     | 5% 1/16W   |
| R3008   | 1-216-813-11 | RES-CHIP 220              | 5% 1/16W   | R3106   | 1-216-863-11 | RES-CHIP 3.3M    | 5% 1/16W   |
| R3009   | 1-216-813-11 | RES-CHIP 220              | 5% 1/16W   | R3107   | 1-216-831-11 | RES-CHIP 6.8K    | 5% 1/16W   |
| R3010   | 1-216-813-11 | RES-CHIP 220              | 5% 1/16W   | R3108   | 1-216-809-11 | RES-CHIP 100     | 5% 1/16W   |
| R3011   | 1-216-813-11 | RES-CHIP 220              | 5% 1/16W   | R3109   | 1-216-427-00 | METAL OXIDE 120  | 5% 1W      |
| R3012   | 1-216-813-11 | RES-CHIP 220              | 5% 1/16W   | R3110   | 1-216-829-11 | RES-CHIP 4.7K    | 5% 1/16W   |
| R3013   | 1-216-833-11 | RES-CHIP 10K              | 5% 1/16W   | R3112   | 1-216-864-11 | SHORT 0          |            |
| R3014   | 1-216-832-11 | RES-CHIP 8.2K             | 5% 1/16W   | R3113   | 1-216-864-11 | SHORT 0          |            |
| R3017   | 1-216-825-11 | RES-CHIP 2.2K             | 5% 1/16W   | R3115   | 1-216-809-11 | RES-CHIP 100     | 5% 1/16W   |
| R3018   | 1-216-809-11 | RES-CHIP 100              | 5% 1/16W   | R3116   | 1-216-809-11 | RES-CHIP 100     | 5% 1/16W   |
| R3019   | 1-216-809-11 | RES-CHIP 100              | 5% 1/16W   | R3118   | 1-218-708-11 | METAL CHIP 4.7K  | 0.5% 1/16W |
| R3020   | 1-216-841-11 | RES-CHIP 47K              | 5% 1/16W   | R3120   | 1-216-823-11 | RES-CHIP 1.5K    | 5% 1/16W   |
| R3022   | 1-218-702-11 | METAL CHIP 2.7K           | 0.5% 1/16W | R3121   | 1-216-829-11 | RES-CHIP 4.7K    | 5% 1/16W   |
| R3024   | 1-218-714-11 | METAL CHIP 8.2K           | 0.5% 1/16W | R3122   | 1-216-817-11 | RES-CHIP 470     | 5% 1/16W   |
| R3025   | 1-218-706-11 | METAL CHIP 3.9K           | 0.5% 1/16W | R3123   | 1-216-836-11 | RES-CHIP 18K     | 5% 1/16W   |
| R3026   | 1-216-839-11 | RES-CHIP 33K              | 5% 1/16W   | R3126   | 1-216-831-11 | RES-CHIP 6.8K    | 5% 1/16W   |
| R3027   | 1-216-827-11 | RES-CHIP 3.3K             | 5% 1/16W   | R3129   | 1-216-835-11 | RES-CHIP 15K     | 5% 1/16W   |
| R3028   | 1-216-809-11 | RES-CHIP 100              | 5% 1/16W   | R3130   | 1-216-821-11 | RES-CHIP 1K      | 5% 1/16W   |
| R3033   | 1-216-809-11 | RES-CHIP 100              | 5% 1/16W   | R3131   | 1-216-809-11 | RES-CHIP 100     | 5% 1/16W   |
| R3034   | 1-216-804-11 | RES-CHIP 39               | 5% 1/16W   | R3132   | 1-216-809-11 | RES-CHIP 100     | 5% 1/16W   |
| R3035   | 1-249-413-11 | CARBON 470                | 5% 1/4W    | R3133   | 1-216-829-11 | RES-CHIP 4.7K    | 5% 1/16W   |
| R3037   | 1-216-809-11 | RES-CHIP 100              | 5% 1/16W   | R3134   | 1-216-831-11 | RES-CHIP 6.8K    | 5% 1/16W   |
| R3042   | 1-216-833-11 | RES-CHIP 10K              | 5% 1/16W   | R3136   | 1-218-716-11 | METAL CHIP 10K   | 0.5% 1/16W |
| R3045   | 1-216-833-11 | RES-CHIP 10K              | 5% 1/16W   | R3137   | 1-216-833-11 | RES-CHIP 10K     | 5% 1/16W   |
| R3047   | 1-216-804-11 | RES-CHIP 39               | 5% 1/16W   | R3139   | 1-216-833-11 | RES-CHIP 10K     | 5% 1/16W   |
| R3048   | 1-249-413-11 | CARBON 470                | 5% 1/4W    | R3140   | 1-216-821-11 | RES-CHIP 1K      | 5% 1/16W   |
| R3052   | 1-216-809-11 | RES-CHIP 100              | 5% 1/16W   | R3141   | 1-216-833-11 | RES-CHIP 10K     | 5% 1/16W   |
| R3053   | 1-216-829-11 | RES-CHIP 4.7K             | 5% 1/16W   | R3143   | 1-216-823-11 | RES-CHIP 1.5K    | 5% 1/16W   |
| R3054   | 1-216-829-11 | RES-CHIP 4.7K             | 5% 1/16W   | R3144   | 1-216-829-11 | RES-CHIP 4.7K    | 5% 1/16W   |
| R3055   | 1-216-809-11 | RES-CHIP 100              | 5% 1/16W   | R3145   | 1-216-829-11 | RES-CHIP 4.7K    | 5% 1/16W   |
| R3056   | 1-216-804-11 | RES-CHIP 39               | 5% 1/16W   | R3147   | 1-216-829-11 | RES-CHIP 4.7K    | 5% 1/16W   |
| R3057   | 1-249-413-11 | CARBON 470                | 5% 1/4W    | R3149   | 1-216-835-11 | RES-CHIP 15K     | 5% 1/16W   |
| R3059   | 1-216-809-11 | RES-CHIP 100              | 5% 1/16W   | R3150   | 1-216-864-11 | SHORT 0          |            |
| R3063   | 1-216-829-11 | RES-CHIP 4.7K             | 5% 1/16W   | R3151   | 1-216-833-11 | RES-CHIP 10K     | 5% 1/16W   |



| REF.NO. | PART NO.     | DESCRIPTION | REMARK          | REF.NO. | PART NO.     | DESCRIPTION                 | REMARK          |
|---------|--------------|-------------|-----------------|---------|--------------|-----------------------------|-----------------|
| R3152   | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R3238   | 1-216-829-11 | RES-CHIP                    | 4.7K 5% 1/16W   |
| R3153   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R3239   | 1-216-845-11 | RES-CHIP                    | 100K 5% 1/16W   |
| R3154   | 1-218-700-11 | METAL CHIP  | 2.2K 0.5% 1/16W | R3240   | 1-216-864-11 | SHORT                       | 0               |
| R3155   | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   | R3243   | 1-216-829-11 | RES-CHIP                    | 4.7K 5% 1/16W   |
| R3156   | 1-216-857-11 | RES-CHIP    | 1M 5% 1/16W     | R3244   | 1-216-827-11 | RES-CHIP                    | 3.3K 5% 1/16W   |
| R3157   | 1-218-698-11 | METAL CHIP  | 1.8K 0.5% 1/16W | R3245   | 1-216-831-11 | RES-CHIP                    | 6.8K 5% 1/16W   |
| R3158   | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R3246   | 1-216-831-11 | RES-CHIP                    | 6.8K 5% 1/16W   |
| R3159   | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    | R3250   | 1-216-864-11 | SHORT                       | 0               |
| R3161   | 1-216-835-11 | RES-CHIP    | 15K 5% 1/16W    | R3253   | 1-216-829-11 | RES-CHIP                    | 4.7K 5% 1/16W   |
| R3162   | 1-216-831-11 | RES-CHIP    | 6.8K 5% 1/16W   | R3254   | 1-216-813-11 | RES-CHIP                    | 220 5% 1/16W    |
| R3163   | 1-218-728-11 | METAL CHIP  | 33K 0.5% 1/16W  | R3255   | 1-216-809-11 | RES-CHIP                    | 100 5% 1/16W    |
| R3164   | 1-218-724-11 | METAL CHIP  | 22K 0.5% 1/16W  | R3256   | 1-216-817-11 | RES-CHIP                    | 470 5% 1/16W    |
| R3165   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R3257   | 1-216-817-11 | RES-CHIP                    | 470 5% 1/16W    |
| R3166   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R3266   | 1-218-700-11 | METAL CHIP                  | 2.2K 0.5% 1/16W |
| R3167   | 1-216-864-11 | SHORT       | 0               | R3267   | 1-216-809-11 | RES-CHIP                    | 100 5% 1/16W    |
| R3170   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R3268   | 1-216-829-11 | RES-CHIP                    | 4.7K 5% 1/16W   |
| R3171   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R3269   | 1-216-840-11 | RES-CHIP                    | 39K 5% 1/16W    |
| R3172   | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R3270   | 1-218-700-11 | METAL CHIP                  | 2.2K 0.5% 1/16W |
| R3173   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R3271   | 1-216-829-11 | RES-CHIP                    | 4.7K 5% 1/16W   |
| R3174   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R3272   | 1-218-706-11 | METAL CHIP                  | 3.9K 0.5% 1/16W |
| R3175   | 1-218-700-11 | METAL CHIP  | 2.2K 0.5% 1/16W | R3273   | 1-216-841-11 | RES-CHIP                    | 47K 5% 1/16W    |
| R3176   | 1-218-698-11 | METAL CHIP  | 1.8K 0.5% 1/16W | R3274   | 1-216-841-11 | RES-CHIP                    | 47K 5% 1/16W    |
| R3177   | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   | R3275   | 1-216-841-11 | RES-CHIP                    | 47K 5% 1/16W    |
| R3178   | 1-216-857-11 | RES-CHIP    | 1M 5% 1/16W     | R3276   | 1-218-732-11 | METAL CHIP                  | 47K 0.5% 1/16W  |
| R3179   | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R3277   | 1-218-702-11 | METAL CHIP                  | 2.7K 0.5% 1/16W |
| R3180   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R3278   | 1-218-698-11 | METAL CHIP                  | 1.8K 0.5% 1/16W |
| R3181   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R3280   | 1-216-833-11 | RES-CHIP                    | 10K 5% 1/16W    |
| R3182   | 1-218-728-11 | METAL CHIP  | 33K 0.5% 1/16W  | R3281   | 1-216-833-11 | RES-CHIP                    | 10K 5% 1/16W    |
| R3183   | 1-218-724-11 | METAL CHIP  | 22K 0.5% 1/16W  | R3282   | 1-216-833-11 | RES-CHIP                    | 10K 5% 1/16W    |
| R3184   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R3283   | 1-216-829-11 | RES-CHIP                    | 4.7K 5% 1/16W   |
| R3185   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R3284   | 1-216-829-11 | RES-CHIP                    | 4.7K 5% 1/16W   |
| R3186   | 1-216-864-11 | SHORT       | 0               | R3285   | 1-216-828-11 | RES-CHIP                    | 3.9K 5% 1/16W   |
| R3187   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R3286   | 1-216-829-11 | RES-CHIP                    | 4.7K 5% 1/16W   |
| R3188   | 1-216-864-11 | SHORT       | 0               | R3287   | 1-216-833-11 | RES-CHIP                    | 10K 5% 1/16W    |
| R3203   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R3288   | 1-216-839-11 | RES-CHIP                    | 33K 5% 1/16W    |
| R3204   | 1-216-855-11 | RES-CHIP    | 680K 5% 1/16W   | R3289   | 1-216-833-11 | RES-CHIP                    | 10K 5% 1/16W    |
| R3205   | 1-216-853-11 | RES-CHIP    | 470K 5% 1/16W   | R3290   | 1-216-833-11 | RES-CHIP                    | 10K 5% 1/16W    |
| R3208   | 1-216-853-11 | RES-CHIP    | 470K 5% 1/16W   | R3291   | 1-216-833-11 | RES-CHIP                    | 10K 5% 1/16W    |
| R3209   | 1-216-855-11 | RES-CHIP    | 680K 5% 1/16W   |         |              |                             |                 |
| R3212   | 1-215-900-11 | METAL OXIDE | 22K 5% 2W       |         |              | < TUNER >                   |                 |
| R3222   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | TU3001  | 8-598-542-20 | TUNER, FSS BTF-WA412        |                 |
| R3223   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    | TU3002  | 8-598-542-20 | TUNER, FSS BTF-WA412        |                 |
| R3224   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |         |              |                             |                 |
| R3225   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |         |              | < VARISTOR >                |                 |
| R3226   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | VDR3001 | 1-803-974-21 | VARISTOR, CHIP              |                 |
| R3227   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | VDR3002 | 1-803-974-21 | VARISTOR, CHIP              |                 |
| R3228   | 1-218-708-11 | METAL CHIP  | 4.7K 0.5% 1/16W |         |              |                             |                 |
| R3229   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   |         |              | < CRYSTAL >                 |                 |
| R3230   | 1-218-704-11 | METAL CHIP  | 3.3K 0.5% 1/16W | X3001   | 1-760-895-21 | VIBRATOR, CERAMIC (2.69MHz) |                 |
| R3231   | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     |         |              | *****                       |                 |
| R3232   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |         |              |                             |                 |
| R3233   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |         |              |                             |                 |
| R3234   | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   |         |              |                             |                 |
| R3235   | 1-216-846-11 | RES-CHIP    | 120K 5% 1/16W   |         |              |                             |                 |
| R3236   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |         |              |                             |                 |
| R3237   | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   |         |              |                             |                 |

The components identified by shading  
and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

Les composants identifiés par un tramé  
et une marque  $\Delta$  sont critiques pour la  
sécurité. Ne les remplacer que par une  
pièce portant le numéro spécifié.



| REF.NO.                                  | PART NO.              | DESCRIPTION  | REMARK          | REF.NO.       | PART NO.       | DESCRIPTION                  | REMARK          |
|--|-----------------------|--------------|-----------------|---------------|----------------|------------------------------|-----------------|
| * A-1316-574-AG BOARD, COMPLETE<br>***** |                       |              |                 | C6102         | 1-104-665-11   | ELECT                        | 100µF 20% 25V   |
| 4-382-854-11 SCREW (M3X10), P, SW (+)    |                       |              |                 | C6103         | 1-126-947-11   | ELECT                        | 47µF 20% 25V    |
| < CAPACITOR >                            |                       |              |                 | C6108         | 1-126-947-11   | ELECT                        | 47µF 20% 25V    |
| C6001                                    | $\Delta$ 1-104-708-51 | MYLAR        | 0.47µF 20% 250V | C6110         | 1-115-745-51   | ELECT                        | 0.0039F 20% 10V |
| C6002                                    | $\Delta$ 1-104-706-51 | MYLAR        | 0.22µF 20% 250V | C6113         | 1-162-970-11   | CERAMIC CHIP                 | 0.01µF 10% 25V  |
| C6003                                    | $\Delta$ 1-119-906-51 | CERAMIC      | 2200pF 20% 250V | C6114         | 1-107-641-11   | ELECT                        | 220µF 20% 160V  |
| C6004                                    | $\Delta$ 1-161-964-91 | CERAMIC      | 0.0047µF 250V   | C6115         | 1-136-165-00   | FILM                         | 0.1µF 5% 50V    |
| C6005                                    | $\Delta$ 1-161-964-91 | CERAMIC      | 0.0047µF 250V   | C6117         | 1-115-745-51   | ELECT                        | 0.0039F 20% 10V |
| C6006                                    | $\Delta$ 1-161-964-91 | CERAMIC      | 0.0047µF 250V   | C6118         | 1-126-943-11   | ELECT                        | 2200µF 20% 25V  |
| C6007                                    | $\Delta$ 1-161-964-91 | CERAMIC      | 0.0047µF 250V   | C6119         | 1-126-943-11   | ELECT                        | 2200µF 20% 25V  |
| C6008                                    | $\Delta$ 1-125-982-11 | ELECT MELF   | 1800µF 20% 250V | C6120         | 1-128-549-11   | ELECT                        | 3300µF 20% 35V  |
| C6010                                    | $\Delta$ 1-125-982-11 | ELECT MELF   | 1800µF 20% 250V | C6121         | 1-128-549-11   | ELECT                        | 3300µF 20% 35V  |
| C6011                                    | $\Delta$ 1-119-906-51 | CERAMIC      | 2200pF 20% 250V | C6123         | 1-107-641-11   | ELECT                        | 220µF 20% 160V  |
| C6012                                    | 1-117-228-11          | MYLAR        | 2.2µF 10% 450V  | C6124         | 1-128-549-11   | ELECT                        | 3300µF 20% 35V  |
| C6013                                    | 1-126-947-11          | ELECT        | 47µF 20% 25V    | C6125         | 1-128-549-11   | ELECT                        | 3300µF 20% 35V  |
| C6016                                    | 1-164-644-11          | CERAMIC      | 330pF 10% 500V  | C6128         | 1-128-549-11   | ELECT                        | 3300µF 20% 35V  |
| C6017                                    | 1-135-945-81          | FILM         | 10000pF 3% 800V | C6129         | 1-128-549-11   | ELECT                        | 3300µF 20% 35V  |
| C6018                                    | 1-117-227-11          | MYLAR        | 1µF 10% 450V    | C6130         | 1-115-467-11   | CERAMIC CHIP                 | 0.22µF 10% 10V  |
| C6022                                    | 1-137-725-21          | FILM         | 8200pF 3% 800V  | C6131         | 1-104-665-11   | ELECT                        | 100µF 20% 25V   |
| C6023                                    | 1-126-965-91          | ELECT        | 22µF 20% 50V    | C6132         | 1-104-665-11   | ELECT                        | 100µF 20% 25V   |
| C6024                                    | 1-126-965-91          | ELECT        | 22µF 20% 50V    | C6134         | 1-126-968-11   | ELECT                        | 100µF 20% 50V   |
| C6025                                    | 1-164-644-11          | CERAMIC      | 330pF 10% 500V  | C6135         | 1-126-968-11   | ELECT                        | 100µF 20% 50V   |
| C6026                                    | 1-137-725-21          | FILM         | 8200pF 3% 800V  | C6137         | 1-126-935-11   | ELECT                        | 470µF 20% 16V   |
| C6033                                    | 1-137-756-21          | FILM         | 22000pF 3% 800V | C6139         | 1-165-176-11   | CERAMIC CHIP                 | 0.047µF 10% 16V |
| C6034                                    | 1-137-756-21          | FILM         | 22000pF 3% 800V | C6140         | 1-104-666-11   | ELECT                        | 220µF 20% 25V   |
| C6036                                    | 1-107-826-11          | CERAMIC CHIP | 0.1µF 10% 16V   | C6145         | 1-107-826-11   | CERAMIC CHIP                 | 0.1µF 10% 16V   |
| C6037                                    | 1-104-665-11          | ELECT        | 100µF 20% 25V   | C6146         | 1-126-964-11   | ELECT                        | 10µF 20% 50V    |
| C6038                                    | $\Delta$ 1-119-906-51 | CERAMIC      | 2200pF 20% 250V | C6150         | 1-136-165-00   | FILM                         | 0.1µF 5% 50V    |
| C6039                                    | $\Delta$ 1-119-906-51 | CERAMIC      | 2200pF 20% 250V | C6151         | 1-101-810-00   | CERAMIC                      | 100pF 5% 500V   |
| C6044                                    | 1-162-970-11          | CERAMIC CHIP | 0.01µF 10% 25V  | C6152         | 1-101-810-00   | CERAMIC                      | 100pF 5% 500V   |
| C6056                                    | 1-162-964-11          | CERAMIC CHIP | 0.001µF 10% 50V | C6153         | 1-101-810-00   | CERAMIC                      | 100pF 5% 500V   |
| C6057                                    | 1-126-967-11          | ELECT        | 47µF 20% 50V    | C6154         | 1-101-810-00   | CERAMIC                      | 100pF 5% 500V   |
| C6058                                    | 1-126-964-11          | ELECT        | 10µF 20% 50V    | C6155         | 1-162-970-11   | CERAMIC CHIP                 | 0.01µF 10% 25V  |
| C6059                                    | 1-126-964-11          | ELECT        | 10µF 20% 50V    | C6160         | 1-162-970-11   | CERAMIC CHIP                 | 0.01µF 10% 25V  |
| C6060                                    | 1-136-165-00          | FILM         | 0.1µF 5% 50V    | C6165         | 1-162-970-11   | CERAMIC CHIP                 | 0.01µF 10% 25V  |
| C6061                                    | 1-162-970-11          | CERAMIC CHIP | 0.01µF 10% 25V  | C6166         | 1-162-970-11   | CERAMIC CHIP                 | 0.01µF 10% 25V  |
| C6065                                    | 1-126-963-11          | ELECT        | 4.7µF 20% 50V   | C6167         | 1-162-970-11   | CERAMIC CHIP                 | 0.01µF 10% 25V  |
| C6068                                    | 1-136-479-11          | FILM         | 0.001µF 2% 50V  | C6168         | 1-162-970-11   | CERAMIC CHIP                 | 0.01µF 10% 25V  |
| C6072                                    | 1-107-679-91          | ELECT        | 10µF 20% 450V   | C6169         | 1-162-970-11   | CERAMIC CHIP                 | 0.01µF 10% 25V  |
| C6080                                    | 1-126-947-11          | ELECT        | 47µF 20% 25V    | C6170         | 1-162-970-11   | CERAMIC CHIP                 | 0.01µF 10% 25V  |
| C6085                                    | 1-126-948-11          | ELECT        | 100µF 20% 35V   | C6179         | 1-126-940-11   | ELECT                        | 330µF 20% 25V   |
| C6086                                    | 1-126-949-11          | ELECT        | 220µF 20% 35V   | C6183         | 1-126-935-11   | ELECT                        | 470µF 20% 16V   |
| C6088                                    | 1-107-824-11          | CERAMIC      | 220pF 5% 1KV    | C6184         | 1-115-745-51   | ELECT                        | 0.0039F 20% 10V |
| C6089                                    | 1-107-824-11          | CERAMIC      | 220pF 5% 1KV    | C6185         | 1-128-547-11   | ELECT                        | 6800µF 20% 16V  |
| C6090                                    | 1-162-970-11          | CERAMIC CHIP | 0.01µF 10% 25V  | C6186         | 1-107-826-11   | CERAMIC CHIP                 | 0.1µF 10% 16V   |
| C6091                                    | 1-136-479-11          | FILM         | 0.001µF 2% 50V  | C6189         | 1-126-947-11   | ELECT                        | 47µF 20% 25V    |
| C6092                                    | 1-126-963-11          | ELECT        | 4.7µF 20% 50V   | C6190         | 1-126-947-11   | ELECT                        | 47µF 20% 25V    |
| C6093                                    | 1-126-964-11          | ELECT        | 10µF 20% 50V    | C6191         | 1-126-963-11   | ELECT                        | 4.7µF 20% 50V   |
| C6094                                    | 1-126-948-11          | ELECT        | 100µF 20% 35V   | C6192         | 1-107-826-11   | CERAMIC CHIP                 | 0.1µF 10% 16V   |
| C6095                                    | 1-162-964-11          | CERAMIC CHIP | 0.001µF 10% 50V | C6199         | 1-107-826-11   | CERAMIC CHIP                 | 0.1µF 10% 16V   |
| C6097                                    | 1-136-165-00          | FILM         | 0.1µF 5% 50V    | < CONNECTOR > |                |                              |                 |
| C6099                                    | 1-126-947-11          | ELECT        | 47µF 20% 25V    | CN6001        | 1-580-843-11   | PIN, CONNECTOR (POWER)       |                 |
| C6101                                    | 1-165-176-11          | CERAMIC CHIP | 0.047µF 10% 16V | CN6101        | * 1-564-512-11 | PLUG, CONNECTOR 9P           |                 |
|  |                       |              |                 | CN6102        | * 1-691-757-11 | PIN, CONNECTOR (PC BOARD) 8P |                 |

The components identified by shading  
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Les composants identifiés par un trame  
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| REF.NO. | PART NO.              | DESCRIPTION                  | REMARK | REF.NO. | PART NO.              | DESCRIPTION              | REMARK |
|---------|-----------------------|------------------------------|--------|---------|-----------------------|--------------------------|--------|
| CN6103  | 1-695-915-11          | TAB (CONTACT)                |        | FB6005  | 1-410-397-21          | FERRITE                  | 1.1μH  |
| CN6104  | * 1-764-333-11        | PLUG, CONNECTOR 10P          |        | FB6018  | 1-410-397-21          | FERRITE                  | 1.1μH  |
|         |                       |                              |        | FB6019  | 1-410-396-41          | FERRITE                  | 0.45μH |
| CN6106  | * 1-766-177-11        | PIN, CONNECTOR (PC BOARD) 9P |        | FB6020  | 1-410-396-41          | FERRITE                  | 0.45μH |
|         |                       | < DIODE >                    |        | FB6103  | 1-410-397-21          | FERRITE                  | 1.1μH  |
| D6001   | $\Delta$ 8-719-018-79 | DIODE D6SB60LF               |        | FB6104  | 1-410-397-21          | FERRITE                  | 1.1μH  |
| D6002   | $\Delta$ 8-719-055-18 | DIODE ERA22-08TP3            |        | FB6107  | 1-410-397-21          | FERRITE                  | 1.1μH  |
| D6003   | 8-719-068-00          | DIODE ERC04-06SE             |        | FB6108  | 1-410-397-21          | FERRITE                  | 1.1μH  |
| D6004   | 8-719-068-00          | DIODE ERC04-06SE             |        | FB6114  | 1-410-397-21          | FERRITE                  | 1.1μH  |
| D6007   | 8-719-083-78          | DIODE 10ERA60-TP             |        | FB6115  | 1-410-397-21          | FERRITE                  | 1.1μH  |
| D6011   | 8-719-083-78          | DIODE 10ERA60-TP             |        |         |                       | < FUSE HOLDER >          |        |
| D6015   | $\Delta$ 8-719-077-76 | DIODE D2SB60A-F04            |        | FH6001  | 1-533-223-11          | CLIP, FUSE               |        |
| D6016   | 8-719-083-82          | DIODE UDZS-TE17-12B          |        | FH6002  | 1-533-223-11          | CLIP, FUSE               |        |
| D6017   | 8-719-063-70          | DIODE D1NL20U                |        |         |                       | < IC >                   |        |
| D6048   | 8-719-063-70          | DIODE D1NL20U                |        | IC6001  | 8-759-670-30          | IC MCZ3001D              |        |
| D6049   | 8-719-063-70          | DIODE D1NL20U                |        | IC6002  | 8-759-670-30          | IC MCZ3001D              |        |
| D6050   | 8-719-404-50          | DIODE MA111-TX               |        | IC6101  | 8-749-012-13          | IC DM-58                 |        |
| D6051   | 8-719-404-50          | DIODE MA111-TX               |        | IC6102  | 8-759-103-93          | IC μPC393C               |        |
| D6061   | 8-719-110-53          | DIODE RD20ES-B2              |        | IC6103  | 8-759-198-31          | IC μPC1093J-1-T          |        |
| D6062   | 8-719-110-53          | DIODE RD20ES-B2              |        | IC6104  | 8-759-198-31          | IC μPC1093J-1-T          |        |
| D6104   | 8-719-031-78          | DIODE S2L40F                 |        | IC6106  | 8-759-663-29          | IC MM1476AF(TP)          |        |
| D6105   | 8-719-052-91          | DIODE D4SBS4-F               |        | IC6107  | 8-759-198-31          | IC μPC1093J-1-T          |        |
| D6107   | 8-719-031-78          | DIODE S2L40F                 |        |         |                       | < COIL >                 |        |
| D6108   | 8-719-510-09          | DIODE D10SC6M                |        | L6001   | $\Delta$ 1-431-116-11 | TRANSFORMER, LINE FILTER |        |
| D6111   | 8-719-404-50          | DIODE MA111-TX               |        | L6002   | $\Delta$ 1-431-116-11 | TRANSFORMER, LINE FILTER |        |
| D6112   | 8-719-404-50          | DIODE MA111-TX               |        | L6003   | 1-406-977-21          | INDUCTOR                 | 100μH  |
| D6113   | 8-719-404-50          | DIODE MA111-TX               |        | L6004   | 1-406-977-21          | INDUCTOR                 | 100μH  |
| D6114   | 8-719-072-30          | DIODE D25SC6MRF04            |        | L6102   | 1-406-973-11          | INDUCTOR                 | 22μH   |
| D6115   | 8-719-510-09          | DIODE D10SC6M                |        | L6103   | 1-406-657-11          | INDUCTOR                 | 4.7μH  |
| D6116   | 8-719-072-29          | DIODE D25SC6MF04             |        | L6106   | 1-412-525-31          | INDUCTOR                 | 10μH   |
| D6117   | 8-719-988-31          | DIODE D10SC6MR               |        | L6108   | 1-412-525-31          | INDUCTOR                 | 10μH   |
| D6121   | 8-719-083-67          | DIODE UDZSTE-1720B           |        | L6109   | 1-412-525-31          | INDUCTOR                 | 10μH   |
| D6122   | 8-719-404-50          | DIODE MA111-TX               |        | L6111   | 1-412-525-31          | INDUCTOR                 | 10μH   |
| D6123   | 8-719-404-50          | DIODE MA111-TX               |        | L6112   | 1-412-525-31          | INDUCTOR                 | 10μH   |
| D6124   | 8-719-404-50          | DIODE MA111-TX               |        | L6124   | 1-412-519-11          | INDUCTOR                 | 3.3μH  |
| D6125   | 8-719-404-50          | DIODE MA111-TX               |        |         |                       | < PHOTO COUPLER >        |        |
| D6126   | 8-719-069-55          | DIODE UDZSTE-175.6B          |        | PH6001  | $\Delta$ 8-749-010-65 | PHOTO COUPLER PC123F2    |        |
| D6130   | 8-719-055-40          | DIODE FCQ30A04               |        | PH6002  | $\Delta$ 8-749-010-65 | PHOTO COUPLER PC123F2    |        |
| D6131   | 8-719-404-50          | DIODE MA111-TX               |        | PH6003  | $\Delta$ 8-749-010-65 | PHOTO COUPLER PC123F2    |        |
| D6132   | 8-719-404-50          | DIODE MA111-TX               |        | PH6004  | $\Delta$ 8-749-010-65 | PHOTO COUPLER PC123F2    |        |
| D6133   | 8-719-056-84          | DIODE UDZ-TE-17-7.5B         |        | PH6005  | $\Delta$ 8-749-010-65 | PHOTO COUPLER PC123F2    |        |
| D6143   | 8-719-404-50          | DIODE MA111-TX               |        |         |                       | < IC LINK >              |        |
| D6144   | 8-719-404-50          | DIODE MA111-TX               |        | PS6101  | $\Delta$ 1-533-596-31 | LINK, IC (4A)            |        |
| D6183   | 8-719-510-09          | DIODE D10SC6M                |        | PS6102  | $\Delta$ 1-533-596-31 | LINK, IC (4A)            |        |
|         |                       | < FUSE >                     |        |         |                       | < FERRITEBEAD >          |        |
| F6001   | $\Delta$ 1-576-048-11 | FUSE, GLASS TUBE (10A/125V)  |        |         |                       |                          |        |
| F6103   | $\Delta$ 1-576-360-21 | FUSE, MULTIPLE (4A/30V)      |        |         |                       |                          |        |
| F6104   | $\Delta$ 1-576-360-21 | FUSE, MULTIPLE (4A/30V)      |        |         |                       |                          |        |
| FB6003  | 1-410-396-41          | FERRITE                      | 0.45μH |         |                       |                          |        |
| FB6004  | 1-410-396-41          | FERRITE                      | 0.45μH |         |                       |                          |        |

The components identified by shading  
and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

Les composants identifiés par un tramé  
et une marque  $\Delta$  sont critiques pour la  
sécurité. Ne les remplacer que par une  
pièce portant le numéro spécifié.



| REF.NO. | PART NO.              | DESCRIPTION                | REMARK | REF.NO. | PART NO.     | DESCRIPTION           | REMARK           |            |
|---------|-----------------------|----------------------------|--------|---------|--------------|-----------------------|------------------|------------|
|         |                       | < TRANSISTOR >             |        | R6062   | 1-216-845-11 | RES-CHIP 100K         | 5% 1/16W         |            |
| Q6001   | 8-729-422-27          | TRANSISTOR 2SD601A-Q       |        | R6064   | 1-216-825-11 | RES-CHIP 2.2K         | 5% 1/16W         |            |
| Q6003   | 8-729-422-27          | TRANSISTOR 2SD601A-Q       |        | R6065   | 1-260-134-11 | CARBON 820K           | 5% 1/2W          |            |
| Q6004   | 8-729-424-02          | TRANSISTOR 2SB709A-QRS-TX  |        | R6067   | 1-216-841-11 | RES-CHIP 47K          | 5% 1/16W         |            |
| Q6005   | 8-729-422-27          | TRANSISTOR 2SD601A-Q       |        | R6068   | 1-218-718-11 | METAL CHIP 12K        | 0.5% 1/16W       |            |
| Q6006   | 8-729-052-32          | TRANSISTOR IRFIB7N50A      |        | R6070   | 1-218-675-11 | METAL CHIP 200        | 0.5% 1/16W       |            |
| Q6007   | 8-729-052-32          | TRANSISTOR IRFIB7N50A      |        | R6071   | 1-216-817-11 | RES-CHIP 470          | 5% 1/16W         |            |
| Q6008   | 8-729-052-29          | TRANSISTOR 2SK2876-01MR-F1 |        | R6072   | 1-216-864-11 | SHORT 0               |                  |            |
| Q6009   | 8-729-052-29          | TRANSISTOR 2SK2876-01MR-F1 |        | R6073   | 1-249-377-11 | CARBON 0.47           | 5% 1/4W          |            |
| Q6010   | 8-729-422-27          | TRANSISTOR 2SD601A-Q       |        | R6074   | 1-216-845-11 | RES-CHIP 100K         | 5% 1/16W         |            |
| Q6101   | 8-729-424-02          | TRANSISTOR 2SB709A-QRS-TX  |        | R6079   | 1-216-864-11 | SHORT 0               |                  |            |
| Q6104   | 8-729-422-27          | TRANSISTOR 2SD601A-Q       |        | R6080   | 1-216-817-11 | RES-CHIP 470          | 5% 1/16W         |            |
| Q6105   | 8-729-424-02          | TRANSISTOR 2SB709A-QRS-TX  |        | R6081   | 1-249-393-11 | CARBON 10             | 5% 1/4W          |            |
| Q6110   | 8-729-424-02          | TRANSISTOR 2SB709A-QRS-TX  |        | R6082   | 1-249-393-11 | CARBON 10             | 5% 1/4W          |            |
| Q6111   | 8-729-422-27          | TRANSISTOR 2SD601A-Q       |        | R6083   | 1-216-363-00 | METAL OXIDE 0.33      | 5% 2W            |            |
| Q6115   | 8-729-424-02          | TRANSISTOR 2SB709A-QRS-TX  |        | R6084   | 1-216-363-00 | METAL OXIDE 0.33      | 5% 2W            |            |
| Q6119   | 8-729-422-27          | TRANSISTOR 2SD601A-Q       |        | R6088   | 1-216-833-11 | RES-CHIP 10K          | 5% 1/16W         |            |
| Q6120   | 8-729-922-39          | TRANSISTOR 2SD2144S-V      |        | R6089   | 1-249-393-11 | CARBON 10             | 5% 1/4W          |            |
| Q6121   | 8-729-424-02          | TRANSISTOR 2SB709A-QRS-TX  |        | R6090   | 1-216-833-11 | RES-CHIP 10K          | 5% 1/16W         |            |
|         |                       | < RESISTOR >               |        | R6091   | 1-249-393-11 | CARBON 10             | 5% 1/4W          |            |
| R6001   | $\Delta$ 1-219-776-91 | CARBON 2.2M                | 10%    | 1/2W    | R6092        | 1-218-715-11          | METAL CHIP 9.1K  | 0.5% 1/16W |
| R6002   | $\Delta$ 1-219-759-91 | CARBON 1M                  | 5%     | 1/2W    | R6093        | 1-218-720-11          | METAL CHIP 15K   | 0.5% 1/16W |
| R6003   | $\Delta$ 1-260-131-91 | CARBON 470K                | 5%     | 1/2W    | R6094        | 1-218-656-11          | METAL CHIP 33    | 0.5% 1/16W |
| R6004   | $\Delta$ 1-260-328-71 | CARBON 1K                  | 5%     | 1/2W    | R6095        | 1-218-668-11          | METAL CHIP 100   | 0.5% 1/16W |
| R6005   | $\Delta$ 1-216-829-91 | RES-CHIP 4.7K              | 5%     | 1/16W   | R6096        | 1-215-481-00          | METAL 330K       | 1% 1/4W    |
| R6006   | $\Delta$ 1-260-131-91 | CARBON 470K                | 5%     | 1/2W    | R6097        | 1-215-481-00          | METAL 330K       | 1% 1/4W    |
| R6007   | 1-249-417-11          | CARBON 1K                  | 5%     | 1/4W    | R6098        | 1-215-481-00          | METAL 330K       | 1% 1/4W    |
| R6008   | 1-216-825-11          | RES-CHIP 2.2K              | 5%     | 1/16W   | R6099        | $\Delta$ 1-220-926-11 | FUSIBLE 0.47     | 10% 1/2W   |
| R6009   | 1-216-825-11          | RES-CHIP 2.2K              | 5%     | 1/16W   | R6101        | $\Delta$ 1-218-708-91 | METAL CHIP 4.7K  | 0.5% 1/16W |
| R6010   | $\Delta$ 1-205-997-11 | CEMENTED 2.2               | 5%     | 10W     | R6102        | 1-218-750-11          | METAL CHIP 270K  | 0.5% 1/16W |
| R6013   | 1-215-481-00          | METAL 330K                 | 1%     | 1/4W    | R6103        | 1-218-708-11          | METAL CHIP 4.7K  | 0.5% 1/16W |
| R6014   | 1-215-481-00          | METAL 330K                 | 1%     | 1/4W    | R6104        | 1-216-818-11          | RES-CHIP 560     | 5% 1/16W   |
| R6015   | 1-215-481-00          | METAL 330K                 | 1%     | 1/4W    | R6105        | 1-216-821-11          | RES-CHIP 1K      | 5% 1/16W   |
| R6017   | 1-218-714-11          | METAL CHIP 8.2K            | 0.5%   | 1/16W   | R6106        | 1-216-821-11          | RES-CHIP 1K      | 5% 1/16W   |
| R6018   | 1-216-837-11          | RES-CHIP 22K               | 5%     | 1/16W   | R6108        | 1-216-829-11          | RES-CHIP 4.7K    | 5% 1/16W   |
| R6019   | 1-216-833-11          | RES-CHIP 10K               | 5%     | 1/16W   | R6109        | 1-216-829-11          | RES-CHIP 4.7K    | 5% 1/16W   |
| R6020   | 1-216-839-11          | RES-CHIP 33K               | 5%     | 1/16W   | R6110        | 1-216-821-11          | RES-CHIP 1K      | 5% 1/16W   |
| R6021   | 1-216-837-11          | RES-CHIP 22K               | 5%     | 1/16W   | R6111        | 1-216-809-11          | RES-CHIP 100     | 5% 1/16W   |
| R6022   | 1-216-833-11          | RES-CHIP 10K               | 5%     | 1/16W   | R6112        | 1-216-809-11          | RES-CHIP 100     | 5% 1/16W   |
| R6029   | 1-249-393-11          | CARBON 10                  | 5%     | 1/4W    | R6113        | 1-216-833-11          | RES-CHIP 10K     | 5% 1/16W   |
| R6031   | 1-249-393-11          | CARBON 10                  | 5%     | 1/4W    | R6115        | 1-249-415-11          | CARBON 680       | 5% 1/4W    |
| R6033   | 1-216-833-11          | RES-CHIP 10K               | 5%     | 1/16W   | R6116        | 1-216-841-11          | RES-CHIP 47K     | 5% 1/16W   |
| R6035   | 1-216-833-11          | RES-CHIP 10K               | 5%     | 1/16W   | R6117        | 1-216-829-11          | RES-CHIP 4.7K    | 5% 1/16W   |
| R6041   | $\Delta$ 1-220-778-11 | FUSIBLE 0.1                | 10%    | 1/2W    | R6118        | 1-216-361-00          | METAL OXIDE 0.22 | 5% 2W      |
| R6042   | 1-216-843-11          | RES-CHIP 68K               | 5%     | 1/16W   | R6119        | 1-216-833-11          | RES-CHIP 10K     | 5% 1/16W   |
| R6043   | 1-216-829-11          | RES-CHIP 4.7K              | 5%     | 1/16W   | R6120        | 1-216-821-11          | RES-CHIP 1K      | 5% 1/16W   |
| R6044   | 1-216-833-11          | RES-CHIP 10K               | 5%     | 1/16W   | R6121        | 1-216-833-11          | RES-CHIP 10K     | 5% 1/16W   |
| R6052   | 1-243-979-71          | METAL OXIDE 0.1            | 5%     | 2W      | R6125        | 1-216-829-11          | RES-CHIP 4.7K    | 5% 1/16W   |
| R6053   | 1-218-668-11          | METAL CHIP 100             | 0.5%   | 1/16W   | R6126        | 1-216-821-11          | RES-CHIP 1K      | 5% 1/16W   |
| R6056   | 1-243-979-71          | METAL OXIDE 0.1            | 5%     | 2W      | R6127        | 1-216-833-11          | RES-CHIP 10K     | 5% 1/16W   |
| R6057   | 1-249-389-11          | CARBON 4.7                 | 5%     | 1/4W    | R6131        | 1-216-789-11          | RES-CHIP 2.2     | 5% 1/16W   |
| R6058   | 1-216-851-11          | RES-CHIP 330K              | 5%     | 1/16W   | R6132        | 1-216-821-11          | RES-CHIP 1K      | 5% 1/16W   |
| R6059   | 1-216-827-11          | RES-CHIP 3.3K              | 5%     | 1/16W   | R6133        | 1-216-821-11          | RES-CHIP 1K      | 5% 1/16W   |
| R6060   | 1-216-825-11          | RES-CHIP 2.2K              | 5%     | 1/16W   | R6134        | 1-216-821-11          | RES-CHIP 1K      | 5% 1/16W   |
|         |                       |                            |        |         | R6135        | 1-249-425-11          | CARBON 4.7K      | 5% 1/4W    |
|         |                       |                            |        |         | R6136        | 1-249-425-11          | CARBON 4.7K      | 5% 1/4W    |



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| REF.NO.         | PART NO.              | DESCRIPTION                   | REMARK          | REF.NO.  | PART NO.       | DESCRIPTION                   | REMARK |
|-----------------|-----------------------|-------------------------------|-----------------|--|----------------|-------------------------------|--------|
| R6142           | 1-216-829-11          | RES-CHIP                      | 4.7K 5% 1/16W   | * A-1332-186-ACR BOARD, COMPLETE<br>*****        |                |                               |        |
| R6143           | 1-216-829-11          | RES-CHIP                      | 4.7K 5% 1/16W   |  |                |                               |        |
| R6147           | 1-216-823-11          | RES-CHIP                      | 1.5K 5% 1/16W   | 4-382-854-11 SCREW (M3X10), P, SW (+)            |                |                               |        |
| R6148           | 1-216-821-11          | RES-CHIP                      | 1K 5% 1/16W     |  |                |                               |        |
| R6149           | 1-216-864-11          | SHORT                         | 0               | < CAPACITOR >                                    |                |                               |        |
| R6150           | 1-218-725-11          | METAL CHIP                    | 24K 0.5% 1/16W  | C3701  | 1-104-570-11   | CERAMIC 0.001μF 10% 2KV       |        |
| R6152           | 1-218-702-11          | METAL CHIP                    | 2.7K 0.5% 1/16W | C3702  | 1-162-917-11   | CERAMIC CHIP 15pF 5% 50V      |        |
| R6153           | 1-216-821-11          | RES-CHIP                      | 1K 5% 1/16W     | C3705  | 1-107-662-11   | ELECT 22μF 20% 250V           |        |
| R6154           | 1-216-829-11          | RES-CHIP                      | 4.7K 5% 1/16W   | C3706  | 1-161-830-00   | CERAMIC 0.0047μF 500V         |        |
| R6162           | 1-249-405-11          | CARBON                        | 100 5% 1/4W     | C3707  | 1-101-003-00   | CERAMIC 0.0047μF 50V          |        |
| R6163           | 1-218-714-11          | METAL CHIP                    | 8.2K 0.5% 1/16W | C3708  | 1-126-933-11   | ELECT 100μF 20% 16V           |        |
| R6165           | 1-218-708-11          | METAL CHIP                    | 4.7K 0.5% 1/16W | C3710  | 1-164-156-11   | CERAMIC CHIP 0.1μF 25V        |        |
| R6166           | 1-216-821-11          | RES-CHIP                      | 1K 5% 1/16W     | C3711  | 1-164-156-11   | CERAMIC CHIP 0.1μF 25V        |        |
| R6167           | 1-216-864-11          | SHORT                         | 0               | C3712  | 1-126-933-11   | ELECT 100μF 20% 16V           |        |
| R6168           | 1-216-821-11          | RES-CHIP                      | 1K 5% 1/16W     | C3714  | 1-162-966-11   | CERAMIC CHIP 0.0022μF 10% 50V |        |
| R6169           | 1-216-825-11          | RES-CHIP                      | 2.2K 5% 1/16W   | C3715  | 1-101-003-00   | CERAMIC 0.0047μF 50V          |        |
| R6171           | 1-215-859-00          | METAL OXIDE                   | 22 5% 1W        | C3716  | 1-101-003-00   | CERAMIC 0.0047μF 50V          |        |
| R6174           | 1-216-821-11          | RES-CHIP                      | 1K 5% 1/16W     | C3717  | 1-164-156-11   | CERAMIC CHIP 0.1μF 25V        |        |
| R6175           | 1-219-393-11          | METAL                         | 0.05 10% 5W     | < CONNECTOR >                                    |                |                               |        |
| R6177           | 1-216-809-11          | RES-CHIP                      | 100 5% 1/16W    | CN3701   | * 1-564-511-11 | PLUG, CONNECTOR 8P            |        |
| R6178           | 1-216-841-11          | RES-CHIP                      | 47K 5% 1/16W    | CN3702   | * 1-564-507-11 | PLUG, CONNECTOR 4P            |        |
| R6180           | 1-216-821-11          | RES-CHIP                      | 1K 5% 1/16W     | CN3703   | * 1-564-508-11 | PLUG, CONNECTOR 5P            |        |
| R6181           | 1-216-833-11          | RES-CHIP                      | 10K 5% 1/16W    | CN3705   | 1-695-915-11   | TAB (CONTACT)                 |        |
| R6182           | 1-216-833-11          | RES-CHIP                      | 10K 5% 1/16W    | CN3707   | 1-785-879-11   | CONNECTOR, ONE TOUCH          |        |
| R6183           | 1-216-833-11          | RES-CHIP                      | 10K 5% 1/16W    | < DIODE >  |                |                               |        |
| R6184           | 1-216-809-11          | RES-CHIP                      | 100 5% 1/16W    | D3701  | 8-719-901-83   | DIODE 1SS83                   |        |
| R6195           | 1-216-841-11          | RES-CHIP                      | 47K 5% 1/16W    | D3704  | 8-719-901-83   | DIODE 1SS83                   |        |
| R6196           | 1-216-833-11          | RES-CHIP                      | 10K 5% 1/16W    | D3709  | 8-719-404-50   | DIODE MA111-TX                |        |
| R6197           | 1-216-829-11          | RES-CHIP                      | 4.7K 5% 1/16W   | < IC >   |                |                               |        |
| R6198           | 1-216-833-11          | RES-CHIP                      | 10K 5% 1/16W    | IC3701   | 8-759-680-01   | IC TDA6120Q/N2/S1             |        |
| R6199           | 1-216-833-11          | RES-CHIP                      | 10K 5% 1/16W    | < JACK >   |                |                               |        |
| < RELAY >       |                       |                               |                 | J3701 $\Delta$ 1-251-182-21 SOCKET, PICTURE TUBE |                |                               |        |
| RY6001          | $\Delta$ 1-755-388-11 | RELAY (AC POWER)              |                 | < CHIP CONDUCTOR >                               |                |                               |        |
| RY6002          | $\Delta$ 1-755-388-11 | RELAY (AC POWER)              |                 | JC3701   | 1-216-864-11   | SHORT 0                       |        |
| < TRANSFORMER > |                       |                               |                 | < COIL >   |                |                               |        |
| T6001           | $\Delta$ 1-429-807-12 | TRANSFORMER, CONVERTER (PIT)  |                 | L3701  | 1-469-555-21   | INDUCTOR 10μH                 |        |
| T6002           | $\Delta$ 1-431-897-11 | TRANSFORMER, CONVERTER (PIT)  |                 | L3703  | 1-469-555-21   | INDUCTOR 10μH                 |        |
| T6003           | $\Delta$ 1-437-455-11 | TRANSFORMER ASSY, POWER (HST) |                 | < NEON LAMP >                                    |                |                               |        |
| T6004           | $\Delta$ 1-437-484-11 | TRANSFORMER, CONVERTER (PIT)  |                 | NL3701   | 1-517-778-21   | LAMP, NEON                    |        |
| < THERMISTOR >  |                       |                               |                 | *****  |                |                               |        |
| TH6001          | 1-803-586-11          | THERMISTOR, NTC               |                 |  |                |                               |        |
| < VARISTOR >    |                       |                               |                 |  |                |                               |        |
| VD6000          | $\Delta$ 1-801-268-51 | VARISTOR TNR14V471K660        |                 |  |                |                               |        |
| VD6001          | $\Delta$ 1-801-268-51 | VARISTOR TNR14V471K660        |                 |  |                |                               |        |

The components identified by shading  
and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

Les composants identifiés par un tramé  
et une marque  $\Delta$  sont critiques pour la  
sécurité. Ne les remplacer que par une  
pièce portant le numéro spécifié.



| REF.NO.  | PART NO.     | DESCRIPTION                      | REMARK                   | REF.NO.  | PART NO.              | DESCRIPTION             | REMARK          |
|----------|--------------|----------------------------------|--------------------------|----------|-----------------------|-------------------------|-----------------|
|          |              | < TRANSISTOR >                   |                          |          |                       |                         |                 |
| Q3702    | 8-729-048-50 | TRANSISTOR 2SK3018-T106          |                          | CN3804 * | 1-564-507-11          | PLUG, CONNECTOR 4P      |                 |
|          |              | < RESISTOR >                     |                          | CN3805 * | 1-564-506-11          | PLUG, CONNECTOR 3P      |                 |
| R3701    | 1-260-133-11 | CARBON                           | 680K 5% 1/2W             | CN3806 * | 1-564-509-11          | PLUG, CONNECTOR 6P      |                 |
| R3703    | 1-216-813-11 | RES-CHIP                         | 220 5% 1/16W             | CN3807   | 1-695-915-11          | TAB (CONTACT)           |                 |
| R3704    | 1-260-132-11 | CARBON                           | 560K 5% 1/2W             | CN3809   | 1-785-879-11          | CONNECTOR, ONE TOUCH    |                 |
| R3705    | 1-218-692-11 | METAL CHIP                       | 1K 0.5% 1/16W            |          |                       | < DIODE >               |                 |
| R3706    | 1-216-815-11 | RES-CHIP                         | 330 5% 1/16W             | D3801    | 8-719-901-83          | DIODE 1SS83             |                 |
|          |              |                                  |                          | D3806    | 8-719-901-83          | DIODE 1SS83             |                 |
| R3711    | 1-219-743-11 | CARBON                           | 100 5% 1/2W              | D3809    | 8-719-404-50          | DIODE MA111-TX          |                 |
| R3714    | 1-218-703-11 | METAL CHIP                       | 3K 0.5% 1/16W            |          |                       | < IC >                  |                 |
| R3715    | 1-218-710-11 | METAL CHIP                       | 5.6K 0.5% 1/16W          | IC3801   | 8-759-680-01          | IC TDA6120Q/N2/S1       |                 |
| R3716    | 1-260-328-11 | CARBON                           | 1K 5% 1/2W               |          |                       | < JACK >                |                 |
| R3720    | 1-215-925-11 | METAL OXIDE                      | 22K 5% 3W                |          |                       |                         |                 |
| R3721    | 1-260-087-11 | CARBON                           | 100 5% 1/2W              | J3801    | $\Delta$ 1-251-182-21 | SOCKET, PICTURE TUBE    |                 |
| R3722    | 1-260-093-11 | CARBON                           | 330 5% 1/2W              |          |                       | < CHIP CONDUCTOR >      |                 |
| R3726    | 1-218-748-11 | METAL CHIP                       | 220K 0.5% 1/16W          | JC3801   | 1-216-864-11          | SHORT                   | 0               |
| R3727    | 1-218-748-11 | METAL CHIP                       | 220K 0.5% 1/16W          |          |                       | < COIL >                |                 |
| R3729    | 1-216-829-11 | RES-CHIP                         | 4.7K 5% 1/16W            | L3801    | 1-469-555-21          | INDUCTOR                | 10 $\mu$ H      |
|          |              |                                  |                          | L3803    | 1-469-555-21          | INDUCTOR                | 10 $\mu$ H      |
| R3731    | 1-216-823-11 | RES-CHIP                         | 1.5K 5% 1/16W            |          |                       | < NEON LAMP >           |                 |
|          |              | < SPARK GAP >                    |                          | NL3801   | 1-517-778-21          | LAMP, NEON              |                 |
| SG3701   | 1-517-729-31 | GAP, SPARK                       |                          |          |                       | < TRANSISTOR >          |                 |
| SG3702   | 1-519-422-11 | GAP, SPARK                       |                          | Q3802    | 8-729-048-50          | TRANSISTOR 2SK3018-T106 |                 |
| SG3703   | 1-519-421-11 | GAP, DISCHARGE                   |                          |          |                       | < RESISTOR >            |                 |
| *****    |              |                                  |                          |          |                       |                         |                 |
|          |              | * A-1332-187-ACG BOARD, COMPLETE |                          |          |                       |                         |                 |
|          |              | *****                            |                          |          |                       |                         |                 |
|          |              | 4-382-854-11                     | SCREW (M3X10), P, SW (+) |          |                       |                         |                 |
|          |              | < CAPACITOR >                    |                          |          |                       |                         |                 |
| C3801    | 1-107-662-11 | ELECT                            | 22 $\mu$ F 20% 250V      |          |                       |                         |                 |
| C3802    | 1-104-570-11 | CERAMIC                          | 0.001 $\mu$ F 10% 2KV    |          |                       |                         |                 |
| C3804    | 1-126-933-11 | ELECT                            | 100 $\mu$ F 20% 16V      |          |                       |                         |                 |
| C3805    | 1-162-919-11 | CERAMIC CHIP                     | 22pF 5% 50V              | R3801    | 1-260-133-11          | CARBON                  | 680K 5% 1/2W    |
| C3807    | 1-164-156-11 | CERAMIC CHIP                     | 0.1 $\mu$ F 25V          | R3802    | 1-260-132-11          | CARBON                  | 560K 5% 1/2W    |
| C3808    | 1-164-156-11 | CERAMIC CHIP                     | 0.1 $\mu$ F 25V          | R3804    | 1-216-813-11          | RES-CHIP                | 220 5% 1/16W    |
| C3809    | 1-101-003-00 | CERAMIC                          | 0.0047 $\mu$ F 50V       | R3806    | 1-216-814-11          | RES-CHIP                | 270 5% 1/16W    |
| C3811    | 1-126-933-11 | ELECT                            | 100 $\mu$ F 20% 16V      | R3807    | 1-218-690-11          | METAL CHIP              | 820 0.5% 1/16W  |
| C3813    | 1-161-830-00 | CERAMIC                          | 0.0047 $\mu$ F 500V      |          |                       |                         |                 |
| C3814    | 1-162-966-11 | CERAMIC CHIP                     | 0.0022 $\mu$ F 10% 50V   | R3810    | 1-219-743-11          | CARBON                  | 100 5% 1/2W     |
| C3815    | 1-101-003-00 | CERAMIC                          | 0.0047 $\mu$ F 50V       | R3816    | 1-218-700-11          | METAL CHIP              | 2.2K 0.5% 1/16W |
| C3816    | 1-101-003-00 | CERAMIC                          | 0.0047 $\mu$ F 50V       | R3817    | 1-218-708-11          | METAL CHIP              | 4.7K 0.5% 1/16W |
| C3817    | 1-164-156-11 | CERAMIC CHIP                     | 0.1 $\mu$ F 25V          | R3820    | 1-215-925-11          | METAL OXIDE             | 22K 5% 3W       |
|          |              | < CONNECTOR >                    |                          | R3821    | 1-260-328-11          | CARBON                  | 1K 5% 1/2W      |
| CN3801 * | 1-564-511-11 | PLUG, CONNECTOR 8P               |                          | R3822    | 1-260-087-11          | CARBON                  | 100 5% 1/2W     |
| CN3802 * | 1-564-511-11 | PLUG, CONNECTOR 8P               |                          | R3823    | 1-260-093-11          | CARBON                  | 330 5% 1/2W     |
| CN3803 * | 1-564-507-11 | PLUG, CONNECTOR 4P               |                          | R3825    | 1-218-746-11          | METAL CHIP              | 180K 0.5% 1/16W |
|          |              |                                  |                          | R3826    | 1-218-746-11          | METAL CHIP              | 180K 0.5% 1/16W |
|          |              |                                  |                          | R3828    | 1-216-829-11          | RES-CHIP                | 4.7K 5% 1/16W   |

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par un trame et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



| REF.NO. | PART NO.              | DESCRIPTION                      | REMARK                   | REF.NO. | PART NO.     | DESCRIPTION                     | REMARK                   |
|---------|-----------------------|----------------------------------|--------------------------|---------|--------------|---------------------------------|--------------------------|
| R3830   | 1-216-823-11          | RES-CHIP 1.5K 5% 1/16W           |                          |         |              | < CHIP CONDUCTOR >              |                          |
|         |                       | < SPARK GAP >                    |                          | JC3901  | 1-216-864-11 | SHORT 0                         |                          |
| SG3801  | 1-517-729-31          | GAP, SPARK                       |                          |         |              | < COIL >                        |                          |
| SG3802  | 1-519-422-11          | GAP, SPARK                       |                          | L3901   | 1-469-555-21 | INDUCTOR 10μH                   |                          |
| SG3803  | 1-519-421-11          | GAP, DISCHARGE                   |                          | L3903   | 1-469-555-21 | INDUCTOR 10μH                   |                          |
| *****   |                       |                                  |                          |         |              | < NEON LAMP >                   |                          |
|         |                       | * A-1332-188-ACB BOARD, COMPLETE |                          | NL3901  | 1-517-778-21 | LAMP, NEON                      |                          |
|         |                       | *****                            |                          |         |              | < TRANSISTOR >                  |                          |
|         |                       | 4-382-854-11                     | SCREW (M3X10), P, SW (+) | Q3901   | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX       |                          |
|         |                       | < CAPACITOR >                    |                          | Q3902   | 8-729-048-50 | TRANSISTOR 2SK3018-T106         |                          |
| C3901   | 1-104-570-11          | CERAMIC 0.001μF 10% 2KV          |                          |         |              | < RESISTOR >                    |                          |
| C3902   | 1-101-003-00          | CERAMIC 0.0047μF 50V             |                          | R3901   | 1-216-813-11 | RES-CHIP 220 5% 1/16W           |                          |
| C3903   | 1-107-662-11          | ELECT 22μF 20% 250V              |                          | R3902   | 1-216-817-11 | RES-CHIP 470 5% 1/16W           |                          |
| C3904   | 1-162-917-11          | CERAMIC CHIP 15pF 5% 50V         |                          | R3903   | 1-260-133-11 | CARBON 680K 5% 1/2W             |                          |
| C3905   | 1-162-919-11          | CERAMIC CHIP 22pF 5% 50V         |                          | R3904   | 1-260-132-11 | CARBON 560K 5% 1/2W             |                          |
| C3906   | 1-164-156-11          | CERAMIC CHIP 0.1μF 25V           |                          | R3905   | 1-219-743-11 | CARBON 100 5% 1/2W              |                          |
| C3907   | 1-126-933-11          | ELECT 100μF 20% 16V              |                          | R3906   | 1-216-815-11 | RES-CHIP 330 5% 1/16W           |                          |
| C3909   | 1-164-156-11          | CERAMIC CHIP 0.1μF 25V           |                          | R3907   | 1-218-694-11 | METAL CHIP 1.2K 0.5% 1/16W      |                          |
| C3910   | 1-164-156-11          | CERAMIC CHIP 0.1μF 25V           |                          | R3908   | 1-216-809-11 | RES-CHIP 100 5% 1/16W           |                          |
| C3911   | 1-126-933-11          | ELECT 100μF 20% 16V              |                          | R3909   | 1-218-692-11 | METAL CHIP 1K 0.5% 1/16W        |                          |
| C3912   | 1-161-830-00          | CERAMIC 0.0047μF 500V            |                          | R3913   | 1-218-722-11 | METAL CHIP 18K 0.5% 1/16W       |                          |
| C3914   | 1-162-970-11          | CERAMIC CHIP 0.01μF 10% 25V      |                          | R3914   | 1-218-713-11 | METAL CHIP 7.5K 0.5% 1/16W      |                          |
| C3915   | 1-162-966-11          | CERAMIC CHIP 0.0022μF 10% 50V    |                          | R3916   | 1-218-690-11 | METAL CHIP 820 0.5% 1/16W       |                          |
| C3916   | 1-101-003-00          | CERAMIC 0.0047μF 50V             |                          | R3917   | 1-218-704-11 | METAL CHIP 3.3K 0.5% 1/16W      |                          |
| C3917   | 1-101-003-00          | CERAMIC 0.0047μF 50V             |                          | R3920   | 1-215-925-11 | METAL OXIDE 22K 5% 3W           |                          |
| C3918   | 1-164-156-11          | CERAMIC CHIP 0.1μF 25V           |                          | R3923   | 1-260-328-11 | CARBON 1K 5% 1/2W               |                          |
|         |                       | < CONNECTOR >                    |                          | R3924   | 1-260-087-11 | CARBON 100 5% 1/2W              |                          |
| CN3901  | * 1-564-510-11        | PLUG, CONNECTOR 7P               |                          | R3925   | 1-260-093-11 | CARBON 330 5% 1/2W              |                          |
| CN3902  | * 1-564-511-11        | PLUG, CONNECTOR 8P               |                          | R3927   | 1-218-749-11 | METAL CHIP 240K 0.5% 1/16W      |                          |
| CN3903  | * 1-564-506-11        | PLUG, CONNECTOR 3P               |                          | R3928   | 1-218-749-11 | METAL CHIP 240K 0.5% 1/16W      |                          |
| CN3906  | 1-695-915-11          | TAB (CONTACT)                    |                          | R3930   | 1-216-829-11 | RES-CHIP 4.7K 5% 1/16W          |                          |
| CN3908  | 1-785-879-11          | CONNECTOR, ONE TOUCH             |                          | R3932   | 1-216-823-11 | RES-CHIP 1.5K 5% 1/16W          |                          |
| CN3909  | * 1-564-507-11        | PLUG, CONNECTOR 4P               |                          | R3933   | 1-218-680-11 | METAL CHIP 330 0.5% 1/16W       |                          |
|         |                       | < DIODE >                        |                          | R3934   | 1-216-822-11 | RES-CHIP 1.2K 5% 1/16W          |                          |
| D3901   | 8-719-404-50          | DIODE MA111-TX                   |                          | R3935   | 1-249-393-11 | CARBON 10 5% 1/4W               |                          |
| D3902   | 8-719-901-83          | DIODE 1SS83                      |                          |         |              | < SPARK GAP >                   |                          |
| D3909   | 8-719-901-83          | DIODE 1SS83                      |                          | SG3901  | 1-517-729-31 | GAP, SPARK                      |                          |
| D3910   | 8-719-404-50          | DIODE MA111-TX                   |                          | SG3902  | 1-519-422-11 | GAP, SPARK                      |                          |
|         |                       | < IC >                           |                          | SG3903  | 1-519-421-11 | GAP, DISCHARGE                  |                          |
| IC3901  | 8-759-680-01          | IC TDA6120Q/N2/S1                |                          | *****   |              |                                 |                          |
|         |                       | < JACK >                         |                          |         |              | * A-1342-612-AV BOARD, COMPLETE |                          |
|         |                       |                                  |                          |         |              | *****                           |                          |
| J3901   | $\Delta$ 1-251-182-21 | SOCKET, PICTURE TUBE             |                          |         |              | 4-382-854-11                    | SCREW (M3X10), P, SW (+) |



| REF.NO. | PART NO.       | DESCRIPTION                  | REMARK          | REF.NO.                               | PART NO.     | DESCRIPTION  | REMARK          |
|---------|----------------|------------------------------|-----------------|---------------------------------------|--------------|--------------|-----------------|
|         |                | < CAPACITOR >                |                 | R9021                                 | 1-216-805-11 | RES-CHIP     | 47 5% 1/16W     |
|         |                |                              |                 | R9022                                 | 1-216-805-11 | RES-CHIP     | 47 5% 1/16W     |
|         |                |                              |                 | R9025                                 | 1-215-890-11 | METAL OXIDE  | 470 5% 2W       |
| C9001   | 1-126-933-11   | ELECT                        | 100µF 20% 16V   | R9026                                 | 1-216-847-11 | RES-CHIP     | 150K 5% 1/16W   |
| C9002   | 1-164-156-11   | CERAMIC CHIP                 | 0.1µF 25V       | R9027                                 | 1-216-847-11 | RES-CHIP     | 150K 5% 1/16W   |
| C9003   | 1-162-964-11   | CERAMIC CHIP                 | 0.001µF 10% 50V | *****                                 |              |              |                 |
| C9004   | 1-107-662-11   | ELECT                        | 22µF 20% 250V   | * A-1348-120-AD BOARD, COMPLETE       |              |              |                 |
| C9006   | 1-161-830-00   | CERAMIC                      | 0.0047µF 500V   | *****                                 |              |              |                 |
| C9007   | 1-164-156-11   | CERAMIC CHIP                 | 0.1µF 25V       | 3-710-578-01 COVER, VOLUME, 6 MOLD    |              |              |                 |
| C9008   | 1-126-964-11   | ELECT                        | 10µF 20% 50V    | 4-382-854-11 SCREW (M3X10), P, SW (+) |              |              |                 |
| C9009   | 1-107-636-11   | ELECT                        | 10µF 20% 160V   | 7-682-952-09 SCREW +PSW 3X16          |              |              |                 |
| C9010   | 1-137-528-11   | MYLAR                        | 0.1µF 10% 250V  | < CAPACITOR >                         |              |              |                 |
| C9011   | 1-162-970-11   | CERAMIC CHIP                 | 0.01µF 10% 25V  | C8001                                 | 1-137-372-11 | MYLAR        | 0.022µF 5% 50V  |
| C9012   | 1-137-528-11   | MYLAR                        | 0.1µF 10% 250V  | C8002                                 | 1-162-927-11 | CERAMIC CHIP | 100pF 5% 50V    |
| C9013   | 1-164-156-11   | CERAMIC CHIP                 | 0.1µF 25V       | C8003                                 | 1-162-927-11 | CERAMIC CHIP | 100pF 5% 50V    |
| C9014   | 1-117-450-11   | MYLAR                        | 0.47µF 10% 250V | C8004                                 | 1-104-666-11 | ELECT        | 220µF 20% 25V   |
|         |                | < CONNECTOR >                |                 | C8005                                 | 1-126-942-61 | ELECT        | 1000µF 20% 25V  |
| CN9001  | * 1-564-508-11 | PLUG, CONNECTOR 5P           |                 | C8006                                 | 1-126-942-61 | ELECT        | 1000µF 20% 25V  |
| CN9002  | * 1-770-723-11 | CONNECTOR, BOARD TO BOARD 8P |                 | C8007                                 | 1-162-927-11 | CERAMIC CHIP | 100pF 5% 50V    |
|         |                | < FERRITEBEAD >              |                 | C8008                                 | 1-162-927-11 | CERAMIC CHIP | 100pF 5% 50V    |
| FB9001  | 1-469-869-21   | FERRITE                      | 0µH             | C8009                                 | 1-162-970-11 | CERAMIC CHIP | 0.01µF 10% 25V  |
| FB9002  | 1-469-869-21   | FERRITE                      | 0µH             | C8010                                 | 1-136-177-00 | FILM         | 1µF 5% 50V      |
|         |                | < TRANSISTOR >               |                 | C8011                                 | 1-162-927-11 | CERAMIC CHIP | 100pF 5% 50V    |
| Q9001   | 8-729-422-27   | TRANSISTOR 2SD601A-Q         |                 | C8012                                 | 1-162-970-11 | CERAMIC CHIP | 0.01µF 10% 25V  |
| Q9002   | 8-729-422-27   | TRANSISTOR 2SD601A-Q         |                 | C8013                                 | 1-162-927-11 | CERAMIC CHIP | 100pF 5% 50V    |
| Q9003   | 8-729-422-27   | TRANSISTOR 2SD601A-Q         |                 | C8014                                 | 1-104-665-11 | ELECT        | 100µF 20% 25V   |
| Q9004   | 8-729-424-02   | TRANSISTOR 2SB709A-QRS-TX    |                 | C8015                                 | 1-126-969-11 | ELECT        | 220µF 20% 50V   |
| Q9005   | 8-729-422-27   | TRANSISTOR 2SD601A-Q         |                 | C8016                                 | 1-104-665-11 | ELECT        | 100µF 20% 25V   |
| Q9006   | 8-729-424-02   | TRANSISTOR 2SB709A-QRS-TX    |                 | C8017                                 | 1-162-964-11 | CERAMIC CHIP | 0.001µF 10% 50V |
| Q9011   | 8-729-045-05   | TRANSISTOR 2SA2005           |                 | C8018                                 | 1-126-964-11 | ELECT        | 10µF 20% 50V    |
| Q9012   | 8-729-045-04   | TRANSISTOR 2SC5511           |                 | C8023                                 | 1-106-220-00 | MYLAR        | 0.1µF 10% 100V  |
|         |                | < RESISTOR >                 |                 | C8024                                 | 1-137-372-11 | MYLAR        | 0.022µF 5% 50V  |
| R9001   | 1-249-381-11   | CARBON                       | 1 5% 1/4W       | C8025                                 | 1-126-968-11 | ELECT        | 100µF 20% 50V   |
| R9002   | 1-216-820-11   | RES-CHIP                     | 820 5% 1/16W    | C8026                                 | 1-126-968-11 | ELECT        | 100µF 20% 50V   |
| R9003   | 1-216-819-11   | RES-CHIP                     | 680 5% 1/16W    | C8028                                 | 1-126-968-11 | ELECT        | 100µF 20% 50V   |
| R9004   | 1-216-835-11   | RES-CHIP                     | 15K 5% 1/16W    | C8029                                 | 1-126-968-11 | ELECT        | 100µF 20% 50V   |
| R9005   | 1-216-839-11   | RES-CHIP                     | 33K 5% 1/16W    | C8031                                 | 1-107-636-11 | ELECT        | 10µF 20% 160V   |
| R9006   | 1-216-811-11   | RES-CHIP                     | 150 5% 1/16W    | C8032                                 | 1-126-968-11 | ELECT        | 100µF 20% 50V   |
| R9008   | 1-216-817-11   | RES-CHIP                     | 470 5% 1/16W    | C8033                                 | 1-126-968-11 | ELECT        | 100µF 20% 50V   |
| R9009   | 1-216-813-11   | RES-CHIP                     | 220 5% 1/16W    | C8036                                 | 1-126-968-11 | ELECT        | 100µF 20% 50V   |
| R9010   | 1-216-813-11   | RES-CHIP                     | 220 5% 1/16W    | C8037                                 | 1-126-968-11 | ELECT        | 100µF 20% 50V   |
| R9011   | 1-249-391-11   | CARBON                       | 6.8 5% 1/4W     | C8040                                 | 1-115-349-51 | CERAMIC      | 0.01µF 2KV      |
| R9012   | 1-249-391-11   | CARBON                       | 6.8 5% 1/4W     | C8045                                 | 1-126-965-91 | ELECT        | 22µF 20% 50V    |
| R9013   | 1-249-391-11   | CARBON                       | 6.8 5% 1/4W     | C8046                                 | 1-126-965-91 | ELECT        | 22µF 20% 50V    |
| R9014   | 1-249-391-11   | CARBON                       | 6.8 5% 1/4W     | C8047                                 | 1-162-974-11 | CERAMIC CHIP | 0.01µF 50V      |
| R9017   | 1-216-829-11   | RES-CHIP                     | 4.7K 5% 1/16W   | C8048                                 | 1-126-965-91 | ELECT        | 22µF 20% 50V    |
| R9018   | 1-216-848-11   | RES-CHIP                     | 180K 5% 1/16W   | C8049                                 | 1-162-974-11 | CERAMIC CHIP | 0.01µF 50V      |
| R9019   | 1-216-848-11   | RES-CHIP                     | 180K 5% 1/16W   | C8050                                 | 1-126-965-91 | ELECT        | 22µF 20% 50V    |
| R9020   | 1-216-829-11   | RES-CHIP                     | 4.7K 5% 1/16W   | C8051                                 | 1-102-038-00 | CERAMIC      | 0.001µF 500V    |
|         |                |                              |                 | C8052                                 | 1-126-965-91 | ELECT        | 22µF 20% 50V    |
|         |                |                              |                 | C8053                                 | 1-162-974-11 | CERAMIC CHIP | 0.01µF 50V      |
|         |                |                              |                 | C8054                                 | 1-162-974-11 | CERAMIC CHIP | 0.01µF 50V      |
|         |                |                              |                 | C8055                                 | 1-164-156-11 | CERAMIC CHIP | 0.1µF 25V       |



| REF.NO. | PART NO.     | DESCRIPTION  | REMARK            | REF.NO. | PART NO.       | DESCRIPTION               | REMARK            |
|---------|--------------|--------------|-------------------|---------|----------------|---------------------------|-------------------|
| C8056   | 1-107-652-11 | ELECT        | 10μF 20% 250V     | C8113   | 1-130-495-00   | MYLAR                     | 0.1μF 5% 50V      |
| C8057   | 1-126-959-11 | ELECT        | 0.47μF 20% 50V    | C8114   | 1-125-473-11   | ELECT(BLOCK)              | 1000μF 20% 160V   |
| C8058   | 1-164-230-11 | CERAMIC CHIP | 220pF 5% 50V      | C8115   | 1-107-826-11   | CERAMIC CHIP              | 0.1μF 10% 16V     |
| C8059   | 1-127-715-91 | CERAMIC CHIP | 0.22μF 10% 16V    | C8116   | 1-107-826-11   | CERAMIC CHIP              | 0.1μF 10% 16V     |
| C8060   | 1-104-665-11 | ELECT        | 100μF 20% 25V     | C8117   | 1-102-038-00   | CERAMIC                   | 0.001μF 500V      |
| C8061   | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10% 16V     | C8118   | 1-136-189-00   | MYLAR                     | 0.1μF 10% 250V    |
| C8062   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V    | C8119   | 1-164-156-11   | CERAMIC CHIP              | 0.1μF 25V         |
| C8063   | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10% 16V     | C8120   | 1-107-826-11   | CERAMIC CHIP              | 0.1μF 10% 16V     |
| C8064   | 1-107-636-11 | ELECT        | 10μF 20% 160V     | C8121   | 1-115-349-51   | CERAMIC                   | 0.01μF 2KV        |
| C8065   | 1-106-383-00 | MYLAR        | 0.047μF 10% 200V  | C8122   | 1-126-934-11   | ELECT                     | 220μF 20% 16V     |
| C8066   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V    | C8123   | 1-107-444-11   | CERAMIC                   | 100pF 10% 2KV     |
| C8067   | 1-104-665-11 | ELECT        | 100μF 20% 25V     | C8124   | 1-117-642-11   | FILM                      | 8200pF 3% 1.2KV   |
| C8068   | 1-102-038-00 | CERAMIC      | 0.001μF 500V      | C8125   | 1-107-826-11   | CERAMIC CHIP              | 0.1μF 10% 16V     |
| C8069   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V    | C8126   | 1-106-357-00   | MYLAR                     | 0.0039μF 99% 200V |
| C8070   | 1-126-964-11 | ELECT        | 10μF 20% 50V      | C8127   | 1-126-942-61   | ELECT                     | 1000μF 20% 25V    |
| C8071   | 1-126-964-11 | ELECT        | 10μF 20% 50V      | C8129   | 1-137-150-11   | MYLAR                     | 0.01μF 5% 50V     |
| C8072   | 1-126-964-11 | ELECT        | 10μF 20% 50V      | C8131   | 1-128-582-11   | ELECT                     | 10μF 20% 100V     |
| C8073   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V    | C8132   | 1-126-942-61   | ELECT                     | 1000μF 20% 25V    |
| C8074   | 1-104-665-11 | ELECT        | 100μF 20% 25V     | C8133   | 1-107-649-11   | ELECT                     | 2.2μF 20% 250V    |
| C8075   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V    | C8135   | 1-109-961-11   | FILM                      | 0.75μF 5% 250V    |
| C8076   | 1-128-551-11 | ELECT        | 22μF 20% 25V      | C8136   | 1-130-495-00   | MYLAR                     | 0.1μF 5% 50V      |
| C8077   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V    | C8137   | 1-126-942-61   | ELECT                     | 1000μF 20% 25V    |
| C8078   | 1-115-416-11 | CERAMIC CHIP | 0.001μF 5% 25V    | C8138   | 1-162-964-11   | CERAMIC CHIP              | 0.001μF 10% 50V   |
| C8079   | 1-126-964-11 | ELECT        | 10μF 20% 50V      | C8139   | 1-126-964-11   | ELECT                     | 10μF 20% 50V      |
| C8080   | 1-126-964-11 | ELECT        | 10μF 20% 50V      | C8142   | 1-117-664-11   | FILM                      | 0.27μF 5% 250V    |
| C8081   | 1-115-416-11 | CERAMIC CHIP | 0.001μF 5% 25V    | C8143   | 1-126-960-11   | ELECT                     | 1μF 20% 50V       |
| C8082   | 1-165-176-11 | CERAMIC CHIP | 0.047μF 10% 16V   | C8148   | 1-104-665-11   | ELECT                     | 100μF 20% 25V     |
| C8083   | 1-130-495-00 | MYLAR        | 0.1μF 5% 50V      | C8150   | 1-107-826-11   | CERAMIC CHIP              | 0.1μF 10% 16V     |
| C8084   | 1-130-992-11 | FILM         | 0.022μF 5% 50V    | C8153   | 1-126-960-11   | ELECT                     | 1μF 20% 50V       |
| C8085   | 1-162-924-11 | CERAMIC CHIP | 56pF 5% 50V       |         |                | < CONNECTOR >             |                   |
| C8086   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V    | CN8002  | * 1-779-890-11 | CONNECTOR, BOARD TO BOARD | 10P               |
| C8087   | 1-126-960-11 | ELECT        | 1μF 20% 50V       | CN8003  | * 1-691-135-11 | PIN, CONNECTOR (PC BOARD) | 4P                |
| C8088   | 1-126-964-11 | ELECT        | 10μF 20% 50V      | CN8004  | * 1-779-890-11 | CONNECTOR, BOARD TO BOARD | 10P               |
| C8089   | 1-107-444-11 | CERAMIC      | 100pF 10% 2KV     | CN8005  | * 1-779-890-11 | CONNECTOR, BOARD TO BOARD | 10P               |
| C8090   | 1-126-960-11 | ELECT        | 1μF 20% 50V       | CN8006  | * 1-779-890-11 | CONNECTOR, BOARD TO BOARD | 10P               |
| C8091   | 1-104-665-11 | ELECT        | 100μF 20% 25V     | CN8007  | * 1-564-506-11 | PLUG, CONNECTOR           | 3P                |
| C8092   | 1-117-640-11 | FILM         | 6800pF 3% 1.2KV   | CN8008  | * 1-564-506-11 | PLUG, CONNECTOR           | 3P                |
| C8093   | 1-107-648-91 | ELECT        | 100μF 20% 160V    | CN8009  | * 1-564-506-11 | PLUG, CONNECTOR           | 3P                |
| C8094   | 1-104-665-11 | ELECT        | 100μF 20% 25V     | CN8010  | * 1-564-507-11 | PLUG, CONNECTOR           | 4P                |
| C8095   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V    | CN8011  | * 1-564-507-11 | PLUG, CONNECTOR           | 4P                |
| C8096   | 1-136-684-51 | MYLAR        | 0.0022μF 10% 100V | CN8012  | * 1-564-507-11 | PLUG, CONNECTOR           | 4P                |
| C8097   | 1-162-131-11 | CERAMIC      | 220pF 10% 2KV     | CN8013  | * 1-766-177-11 | PIN, CONNECTOR (PC BOARD) | 9P                |
| C8098   | 1-162-131-11 | CERAMIC      | 220pF 10% 2KV     | CN8015  | * 1-506-371-00 | PIN, CONNECTOR            | 2P                |
| C8099   | 1-115-416-11 | CERAMIC CHIP | 0.001μF 5% 25V    | CN8016  | * 1-564-507-11 | PLUG, CONNECTOR           | 4P                |
| C8100   | 1-126-961-11 | ELECT        | 2.2μF 20% 50V     | CN8018  | * 1-580-689-11 | PIN, CONNECTOR (PC BOARD) | 4P                |
| C8102   | 1-102-038-00 | CERAMIC      | 0.001μF 500V      | CN8019  | * 1-580-689-11 | PIN, CONNECTOR (PC BOARD) | 4P                |
| C8103   | 1-126-964-11 | ELECT        | 10μF 20% 50V      | CN8020  | * 1-580-689-11 | PIN, CONNECTOR (PC BOARD) | 4P                |
| C8104   | 1-162-965-11 | CERAMIC CHIP | 0.0015μF 10% 50V  | CN8021  | * 1-506-371-00 | PIN, CONNECTOR            | 2P                |
| C8105   | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10% 16V     | CN8022  | * 1-564-510-11 | PLUG, CONNECTOR           | 7P                |
| C8106   | 1-107-826-11 | CERAMIC CHIP | 0.1μF 10% 16V     | CN8023  | * 1-564-507-11 | PLUG, CONNECTOR           | 4P                |
| C8107   | 1-136-187-11 | MYLAR        | 0.047μF 10% 250V  |         |                | < DIODE >                 |                   |
| C8108   | 1-126-964-11 | ELECT        | 10μF 20% 50V      | D8001   | 8-719-109-89   | DIODE RD5.6ESB2           |                   |
| C8109   | 1-162-924-11 | CERAMIC CHIP | 56pF 5% 50V       |         |                |                           |                   |
| C8110   | 1-126-960-11 | ELECT        | 1μF 20% 50V       |         |                |                           |                   |
| C8111   | 1-126-960-11 | ELECT        | 1μF 20% 50V       |         |                |                           |                   |
| C8112   | 1-164-315-11 | CERAMIC CHIP | 470pF 5% 50V      |         |                |                           |                   |



| REF.NO. | PART NO.     | DESCRIPTION           | REMARK | REF.NO. | PART NO.     | DESCRIPTION                | REMARK |
|---------|--------------|-----------------------|--------|---------|--------------|----------------------------|--------|
| D8002   | 8-719-110-53 | DIODE RD20ES-B2       |        | FB8016  | 1-469-869-21 | FERRITE                    | 0μH    |
| D8003   | 8-719-924-13 | DIODE MTZJ-T-77-22B   |        | FB8017  | 1-469-869-21 | FERRITE                    | 0μH    |
| D8004   | 8-719-908-03 | DIODE GP08D           |        | FB8018  | 1-469-869-21 | FERRITE                    | 0μH    |
| D8005   | 8-719-991-33 | DIODE 1SS133T-77      |        |         |              |                            |        |
| D8006   | 8-719-991-33 | DIODE 1SS133T-77      |        | FB8019  | 1-410-397-21 | FERRITE                    | 1.1μH  |
| D8007   | 8-719-991-33 | DIODE 1SS133T-77      |        | FB8020  | 1-414-229-11 | FERRITE                    | 0μH    |
| D8008   | 8-719-991-33 | DIODE 1SS133T-77      |        | FB8021  | 1-410-397-21 | FERRITE                    | 1.1μH  |
| D8009   | 8-719-991-33 | DIODE 1SS133T-77      |        | FB8022  | 1-410-396-41 | FERRITE                    | 0.45μH |
| D8010   | 8-719-991-33 | DIODE 1SS133T-77      |        | FB8023  | 1-410-396-41 | FERRITE                    | 0.45μH |
| D8011   | 8-719-991-33 | DIODE 1SS133T-77      |        | FB8024  | 1-469-869-21 | FERRITE                    | 0μH    |
| D8012   | 8-719-991-33 | DIODE 1SS133T-77      |        |         |              |                            |        |
| D8013   | 8-719-109-85 | DIODE RD5.1ESB2       |        |         |              | < IC >                     |        |
| D8014   | 8-719-109-85 | DIODE RD5.1ESB2       |        |         |              |                            |        |
| D8015   | 8-719-991-33 | DIODE 1SS133T-77      |        | IC8001  | 8-749-019-08 | IC STK392-560              |        |
| D8016   | 8-719-991-33 | DIODE 1SS133T-77      |        | IC8002  | 8-749-019-08 | IC STK392-560              |        |
| D8019   | 8-719-991-33 | DIODE 1SS133T-77      |        | IC8003  | 8-759-593-33 | IC LA78045                 |        |
| D8020   | 8-719-991-33 | DIODE 1SS133T-77      |        | IC8004  | 8-759-595-88 | IC AN77L12-TA              |        |
| D8021   | 8-719-061-21 | DIODE FMQ-G5FMS       |        | IC8005  | 8-759-585-82 | IC BA9759F-E2              |        |
| D8022   | 8-719-991-33 | DIODE 1SS133T-77      |        | IC8006  | 8-759-700-07 | IC NJM2903M                |        |
| D8023   | 8-719-991-33 | DIODE 1SS133T-77      |        | IC8007  | 8-759-700-07 | IC NJM2903M                |        |
| D8024   | 8-719-110-41 | DIODE RD15ES-B2       |        | IC8008  | 8-759-585-82 | IC BA9759F-E2              |        |
| D8025   | 8-719-991-33 | DIODE 1SS133T-77      |        | IC8009  | 8-759-803-42 | IC LA6500-FA               |        |
| D8026   | 8-719-109-89 | DIODE RD5.6ESB2       |        | IC8012  | 8-759-701-01 | IC NJM2904M                |        |
| D8027   | 8-719-028-45 | DIODE D2L20U          |        |         |              | < COIL >                   |        |
| D8028   | 8-719-110-41 | DIODE RD15ES-B2       |        | L8001   | 1-412-533-21 | INDUCTOR                   | 47μH   |
| D8029   | 8-719-028-45 | DIODE D2L20U          |        | L8002   | 1-412-533-21 | INDUCTOR                   | 47μH   |
| D8030   | 8-719-028-45 | DIODE D2L20U          |        | L8003   | 1-412-525-31 | INDUCTOR                   | 10μH   |
| D8031   | 8-719-110-49 | DIODE RD18ES-B2       |        | L8004   | 1-412-533-21 | INDUCTOR                   | 47μH   |
| D8032   | 8-719-302-43 | DIODE EL1Z            |        | L8005   | 1-412-533-21 | INDUCTOR                   | 47μH   |
| D8033   | 8-719-028-72 | DIODE RGP02-17EL-6433 |        | L8006   | 1-412-525-31 | INDUCTOR                   | 10μH   |
| D8034   | 6-500-004-01 | DIODE ERD07-15L       |        | L8007   | 1-412-533-21 | INDUCTOR                   | 47μH   |
| D8035   | 6-500-004-01 | DIODE ERD07-15L       |        | L8008   | 1-412-533-21 | INDUCTOR                   | 47μH   |
| D8036   | 8-719-110-41 | DIODE RD15ES-B2       |        | L8009   | 1-412-525-31 | INDUCTOR                   | 10μH   |
| D8037   | 8-719-028-45 | DIODE D2L20U          |        | L8010   | 1-414-187-11 | INDUCTOR                   | 47μH   |
| D8038   | 8-719-302-43 | DIODE EL1Z            |        | L8011   | 1-412-525-31 | INDUCTOR                   | 10μH   |
| D8039   | 8-719-028-72 | DIODE RGP02-17EL-6433 |        | L8012   | 1-414-187-11 | INDUCTOR                   | 47μH   |
| D8040   | 8-719-991-33 | DIODE 1SS133T-77      |        | L8013   | 1-414-856-11 | INDUCTOR                   | 10μH   |
| D8043   | 8-719-991-33 | DIODE 1SS133T-77      |        | L8014   | 1-414-189-31 | INDUCTOR                   | 100μH  |
| D8045   | 8-719-908-03 | DIODE GP08D           |        | L8015   | 1-414-189-31 | INDUCTOR                   | 100μH  |
| D8046   | 8-719-991-33 | DIODE 1SS133T-77      |        | L8016   | 1-412-537-31 | INDUCTOR                   | 100μH  |
| D8047   | 8-719-991-33 | DIODE 1SS133T-77      |        | L8017   | 1-414-856-11 | INDUCTOR                   | 10μH   |
|         |              | < FERRITEBEAD >       |        | L8018   | 1-406-663-21 | INDUCTOR                   | 47μH   |
| FB8001  | 1-410-397-21 | FERRITE               | 1.1μH  | L8019   | 1-419-352-11 | COIL, HORIZONTAL LINEARITY |        |
| FB8002  | 1-410-397-21 | FERRITE               | 1.1μH  | L8020   | 1-412-525-31 | INDUCTOR                   | 10μH   |
| FB8003  | 1-414-229-11 | FERRITE               | 0μH    | L8021   | 1-406-659-11 | INDUCTOR                   | 10μH   |
| FB8004  | 1-216-864-11 | SHORT                 | 0      | L8022   | 1-412-552-11 | INDUCTOR                   | 2.2mH  |
| FB8005  | 1-469-869-21 | FERRITE               | 0μH    | L8023   | 1-414-856-11 | INDUCTOR                   | 10μH   |
| FB8006  | 1-469-869-21 | FERRITE               | 0μH    | L8024   | 1-414-856-11 | INDUCTOR                   | 10μH   |
| FB8008  | 1-410-396-41 | FERRITE               | 0.45μH | L8025   | 1-414-856-11 | INDUCTOR                   | 10μH   |
| FB8009  | 1-410-396-41 | FERRITE               | 0.45μH | L8026   | 1-414-856-11 | INDUCTOR                   | 10μH   |
| FB8010  | 1-410-396-41 | FERRITE               | 0.45μH |         |              | < NEON LAMP >              |        |
| FB8011  | 1-410-396-41 | FERRITE               | 0.45μH | NL8001  | 1-517-778-21 | LAMP, NEON                 |        |
| FB8014  | 1-469-869-21 | FERRITE               | 0μH    |         |              |                            |        |
| FB8015  | 1-469-869-21 | FERRITE               | 0μH    |         |              |                            |        |

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par un tramé et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



| REF.NO.  | PART NO.     | DESCRIPTION | REMARK        | REF.NO. | PART NO.     | DESCRIPTION | REMARK          |
|--|--------------|-------------|---------------|---------|--------------|-------------|-----------------|
| < IC LINK >  |              |             |               | R8012   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| PS8001 $\Delta$ 1-533-595-31 LINK, IC (3.15A/90V AC, 60V DC) |              |             |               | R8013   | 1-218-710-11 | METAL CHIP  | 5.6K 0.5% 1/16W |
| PS8002 $\Delta$ 1-533-595-31 LINK, IC (3.15A/90V AC, 60V DC) |              |             |               | R8014   | 1-218-709-11 | METAL CHIP  | 5.1K 0.5% 1/16W |
| PS8003 $\Delta$ 1-533-595-31 LINK, IC (3.15A/90V AC, 60V DC) |              |             |               | R8015   | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W    |
| PS8004 $\Delta$ 1-533-595-31 LINK, IC (3.15A/90V AC, 60V DC) |              |             |               | R8016   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| PS8005 $\Delta$ 1-533-595-31 LINK, IC (3.15A/90V AC, 60V DC) |              |             |               | R8017   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| PS8006 $\Delta$ 1-533-595-31 LINK, IC (3.15A/90V AC, 60V DC) |              |             |               | R8018   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| PS8007 $\Delta$ 1-533-595-31 LINK, IC (3.15A/90V AC, 60V DC) |              |             |               | R8019   | 1-218-712-11 | METAL CHIP  | 6.8K 0.5% 1/16W |
| < TRANSISTOR >   |              |             |               | R8020   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| Q8001 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8021   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| Q8002 8-729-046-80 TRANSISTOR 2SC4634LS-CB11                 |              |             |               | R8022   | 1-216-839-11 | RES-CHIP    | 33K 5% 1/16W    |
| Q8003 8-729-026-49 TRANSISTOR 2SA1037AK-T146-R               |              |             |               | R8023   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| Q8004 8-729-026-49 TRANSISTOR 2SA1037AK-T146-R               |              |             |               | R8024   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| Q8005 8-729-026-49 TRANSISTOR 2SA1037AK-T146-R               |              |             |               | R8025   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| Q8007 8-729-046-80 TRANSISTOR 2SC4634LS-CB11                 |              |             |               | R8026   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| Q8008 8-729-207-89 TRANSISTOR 2SA1358-Y                      |              |             |               | R8029   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| Q8009 8-729-207-82 TRANSISTOR 2SC3421-Y                      |              |             |               | R8030   | 1-215-903-11 | METAL OXIDE | 68K 5% 2W       |
| Q8010 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8031   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| Q8011 8-729-026-49 TRANSISTOR 2SA1037AK-T146-R               |              |             |               | R8032   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| Q8014 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8033   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| Q8015 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8034   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| Q8016 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8035   | 1-218-694-11 | METAL CHIP  | 1.2K 0.5% 1/16W |
| Q8019 8-729-026-49 TRANSISTOR 2SA1037AK-T146-R               |              |             |               | R8036   | 1-214-800-11 | METAL       | 2.2 1% 1/2W     |
| Q8020 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8037   | 1-215-903-11 | METAL OXIDE | 68K 5% 2W       |
| Q8021 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8038   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| Q8022 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8039   | 1-214-800-11 | METAL       | 2.2 1% 1/2W     |
| Q8023 8-729-048-47 TRANSISTOR 2SC2688(5)-LK                  |              |             |               | R8040   | 1-215-913-11 | METAL OXIDE | 220 5% 3W       |
| Q8024 8-729-056-50 TRANSISTOR 2SC5681-YB                     |              |             |               | R8041   | 1-218-709-11 | METAL CHIP  | 5.1K 0.5% 1/16W |
| Q8027 8-729-050-13 TRANSISTOR 2SJ585LS-CC11                  |              |             |               | R8042   | 1-216-826-11 | RES-CHIP    | 2.7K 5% 1/16W   |
| Q8028 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8043   | 1-218-708-11 | METAL CHIP  | 4.7K 0.5% 1/16W |
| Q8029 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8044   | 1-218-712-11 | METAL CHIP  | 6.8K 0.5% 1/16W |
| Q8030 8-729-026-49 TRANSISTOR 2SA1037AK-T146-R               |              |             |               | R8045   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     |
| Q8031 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8046   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     |
| Q8032 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8047   | 1-215-857-71 | METAL OXIDE | 10 5% 1W        |
| Q8035 8-729-050-13 TRANSISTOR 2SJ585LS-CC11                  |              |             |               | R8048   | 1-414-189-31 | INDUCTOR    | 100 $\mu$ H     |
| Q8036 8-729-026-49 TRANSISTOR 2SA1037AK-T146-R               |              |             |               | R8049   | 1-414-189-31 | INDUCTOR    | 100 $\mu$ H     |
| Q8037 8-729-120-28 TRANSISTOR 2SC1623-L5L6                   |              |             |               | R8050   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| Q8038 8-729-038-10 TRANSISTOR 1MB12-140-F153A                |              |             |               | R8051   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     |
| Q8039 8-729-048-47 TRANSISTOR 2SC2688(5)-LK                  |              |             |               | R8053   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     |
| Q8101 8-729-026-49 TRANSISTOR 2SA1037AK-T146-R               |              |             |               | R8055   | 1-218-748-11 | METAL CHIP  | 220K 0.5% 1/16W |
| < RESISTOR >   |              |             |               | R8056   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| R8001  | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W | R8057   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   |
| R8002  | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W  | R8058   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R8003  | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W  | R8059   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     |
| R8004  | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W  | R8060   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     |
| R8005  | 1-215-875-11 | METAL OXIDE | 10K 5% 1W     | R8061   | 1-216-390-11 | METAL OXIDE | 1.2 5% 3W       |
| R8007  | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W  | R8062   | 1-260-107-11 | CARBON      | 4.7K 5% 1/2W    |
| R8008  | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W  | R8063   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     |
| R8009  | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W  | R8064   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     |
| R8010  | 1-260-131-11 | CARBON      | 470K 5% 1/2W  | R8065   | 1-260-328-11 | CARBON      | 1K 5% 1/2W      |
| R8011  | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W | R8066   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     |
|  |              |             |               | R8067   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     |
|  |              |             |               | R8068   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
|  |              |             |               | R8069   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     |
|  |              |             |               | R8070   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     |



| REF.NO. | PART NO.     | DESCRIPTION | REMARK          | REF.NO. | PART NO.     | DESCRIPTION | REMARK          |
|---------|--------------|-------------|-----------------|---------|--------------|-------------|-----------------|
| R8071   | 1-215-381-00 | METAL       | 22 1% 1/4W      | R8131   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8073   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8132   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8075   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8133   | 1-216-487-11 | METAL OXIDE | 12K 5% 3W       |
| R8076   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   | R8134   | 1-215-873-00 | METAL OXIDE | 4.7K 5% 1W      |
| R8077   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   | R8135   | 1-216-487-11 | METAL OXIDE | 12K 5% 3W       |
| R8078   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8136   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8079   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8137   | 1-218-740-11 | METAL CHIP  | 100K 0.5% 1/16W |
| R8080   | 1-216-353-00 | METAL OXIDE | 2.2 5% 1W       | R8138   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8081   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8139   | 1-216-827-11 | RES-CHIP    | 3.3K 5% 1/16W   |
| R8082   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8140   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8083   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R8141   | 1-216-827-11 | RES-CHIP    | 3.3K 5% 1/16W   |
| R8084   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R8142   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8085   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8143   | 1-218-734-11 | METAL CHIP  | 56K 0.5% 1/16W  |
| R8086   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8144   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R8087   | 1-249-385-11 | CARBON      | 2.2 5% 1/4W     | R8145   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  |
| R8088   | 1-249-385-11 | CARBON      | 2.2 5% 1/4W     | R8146   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  |
| R8089   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8147   | 1-218-710-11 | METAL CHIP  | 5.6K 0.5% 1/16W |
| R8090   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8148   | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   |
| R8091   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8149   | 1-215-905-11 | METAL OXIDE | 10 5% 3W        |
| R8092   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8150   | 1-218-740-11 | METAL CHIP  | 100K 0.5% 1/16W |
| R8093   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8151   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   |
| R8094   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8152   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  |
| R8095   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     | R8153   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   |
| R8096   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     | R8154   | 1-218-728-11 | METAL CHIP  | 33K 0.5% 1/16W  |
| R8097   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8155   | 1-215-469-00 | METAL       | 100K 1% 1/4W    |
| R8098   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8156   | 1-215-469-00 | METAL       | 100K 1% 1/4W    |
| R8099   | 1-218-740-11 | METAL CHIP  | 100K 0.5% 1/16W | R8157   | 1-218-738-11 | METAL CHIP  | 82K 0.5% 1/16W  |
| R8100   | 1-216-475-11 | METAL OXIDE | 120 5% 3W       | R8159   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8101   | 1-216-475-11 | METAL OXIDE | 120 5% 3W       | R8160   | 1-249-393-11 | CARBON      | 10 5% 1/4W      |
| R8102   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R8161   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R8103   | 1-216-816-11 | RES-CHIP    | 390 5% 1/16W    | R8163   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R8104   | 1-216-832-11 | RES-CHIP    | 8.2K 5% 1/16W   | R8164   | 1-218-734-11 | METAL CHIP  | 56K 0.5% 1/16W  |
| R8105   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8165   | 1-249-425-11 | CARBON      | 4.7K 5% 1/4W    |
| R8106   | 1-214-808-11 | METAL       | 4.7 1% 1/2W     | R8166   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  |
| R8107   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R8167   | 1-414-189-31 | INDUCTOR    | 100µH           |
| R8108   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R8168   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R8109   | 1-216-814-11 | RES-CHIP    | 270 5% 1/16W    | R8169   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R8110   | 1-249-427-11 | CARBON      | 6.8K 5% 1/4W    | R8170   | 1-218-716-11 | METAL CHIP  | 10K 0.5% 1/16W  |
| R8111   | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    | R8171   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R8112   | 1-216-824-11 | RES-CHIP    | 1.8K 5% 1/16W   | R8172   | 1-249-405-11 | CARBON      | 100 5% 1/4W     |
| R8113   | 1-216-475-11 | METAL OXIDE | 120 5% 3W       | R8173   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R8114   | 1-216-475-11 | METAL OXIDE | 120 5% 3W       | R8174   | 1-249-425-11 | CARBON      | 4.7K 5% 1/4W    |
| R8115   | 1-216-475-11 | METAL OXIDE | 120 5% 3W       | R8176   | 1-218-740-11 | METAL CHIP  | 100K 0.5% 1/16W |
| R8116   | 1-216-475-11 | METAL OXIDE | 120 5% 3W       | R8178   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R8117   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R8179   | 1-414-189-31 | INDUCTOR    | 100µH           |
| R8118   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R8180   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R8119   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R8181   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    |
| R8120   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R8182   | 1-218-748-11 | METAL CHIP  | 220K 0.5% 1/16W |
| R8121   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8183   | 1-218-748-11 | METAL CHIP  | 220K 0.5% 1/16W |
| R8123   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R8184   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8124   | 1-249-377-11 | CARBON      | 0.47 5% 1/4W    | R8187   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8125   | 1-216-816-11 | RES-CHIP    | 390 5% 1/16W    | R8189   | 1-249-377-11 | CARBON      | 0.47 5% 1/4W    |
| R8126   | 1-216-823-11 | RES-CHIP    | 1.5K 5% 1/16W   | R8190   | 1-215-431-00 | METAL       | 2.7K 1% 1/4W    |
| R8128   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | R8191   | 1-215-429-00 | METAL       | 2.2K 1% 1/4W    |
| R8129   | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R8192   | 1-215-449-00 | METAL       | 15K 1% 1/4W     |
| R8130   | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | R8193   | 1-215-449-00 | METAL       | 15K 1% 1/4W     |







| REF.NO. | PART NO. | DESCRIPTION  | REMARK | REF.NO. | PART NO.     | DESCRIPTION                                     | REMARK |
|---------|----------|--|--------|---------|--------------|---|--------|
|         |          | * A-1372-985-AHB BOARD, COMPLETE<br>*****              |        |         |              | < SWITCH >                                      |        |
|         |          | < CAPACITOR >  |        | S1350   | 1-571-032-11 | SWITCH, PUSH (1 KEY) (POWER)                    | *****  |
|         |          | C1200 1-125-891-11 CERAMIC CHIP 0.47μF 10% 10V         |        |         |              | * A-1373-860-AU BOARD, COMPLETE<br>*****        |        |
|         |          | C1201 1-107-826-11 CERAMIC CHIP 0.1μF 10% 16V          |        |         |              | < CAPACITOR >                                   |        |
|         |          | C1202 1-125-891-11 CERAMIC CHIP 0.47μF 10% 10V         |        | C4001   | 1-126-960-11 | ELECT 1μF 20% 50V                               |        |
|         |          | C1203 1-126-960-11 ELECT 1μF 20% 50V                   |        | C4002   | 1-126-960-11 | ELECT 1μF 20% 50V                               |        |
|         |          | C1204 1-126-960-11 ELECT 1μF 20% 50V                   |        | C4003   | 1-126-960-11 | ELECT 1μF 20% 50V                               |        |
|         |          | < CONNECTOR >  |        | C4004   | 1-126-960-11 | ELECT 1μF 20% 50V                               |        |
|         |          | CN1200 * 1-564-526-11 PLUG, CONNECTOR 11P              |        | C4005   | 1-125-891-11 | CERAMIC CHIP 0.47μF 10% 10V                     |        |
|         |          | < JACK >   |        | C4006   | 1-107-826-11 | CERAMIC CHIP 0.1μF 10% 16V                      |        |
|         |          | J1200 1-565-929-11 TERMINAL BLOCK, S 3P (VIDEO2 INPUT) |        | C4007   | 1-125-891-11 | CERAMIC CHIP 0.47μF 10% 10V                     |        |
|         |          | < RESISTOR >   |        | C4008   | 1-126-960-11 | ELECT 1μF 20% 50V                               |        |
|         |          | R1200 1-218-665-11 METAL CHIP 75 0.5% 1/16W            |        | C4009   | 1-126-960-11 | ELECT 1μF 20% 50V                               |        |
|         |          | R1201 1-218-665-11 METAL CHIP 75 0.5% 1/16W            |        | C4010   | 1-125-891-11 | CERAMIC CHIP 0.47μF 10% 10V                     |        |
|         |          | R1202 1-216-821-11 RES-CHIP 1K 5% 1/16W                |        | C4011   | 1-107-826-11 | CERAMIC CHIP 0.1μF 10% 16V                      |        |
|         |          | R1203 1-218-665-11 METAL CHIP 75 0.5% 1/16W            |        | C4012   | 1-125-891-11 | CERAMIC CHIP 0.47μF 10% 10V                     |        |
|         |          | R1204 1-216-853-11 RES-CHIP 470K 5% 1/16W              |        | C4013   | 1-126-960-11 | ELECT 1μF 20% 50V                               |        |
|         |          | R1205 1-216-853-11 RES-CHIP 470K 5% 1/16W              |        | C4014   | 1-126-960-11 | ELECT 1μF 20% 50V                               |        |
|         |          | < VARISTOR >   |        | C4015   | 1-125-891-11 | CERAMIC CHIP 0.47μF 10% 10V                     |        |
|         |          | VD1200 1-803-974-21 VARISTOR, CHIP                     |        | C4016   | 1-107-826-11 | CERAMIC CHIP 0.1μF 10% 16V                      |        |
|         |          | VD1201 1-803-974-21 VARISTOR, CHIP                     |        | C4017   | 1-125-891-11 | CERAMIC CHIP 0.47μF 10% 10V                     |        |
|         |          | VD1202 1-803-974-21 VARISTOR, CHIP                     |        | C4018   | 1-126-960-11 | ELECT 1μF 20% 50V                               |        |
|         |          | VD1203 1-803-974-21 VARISTOR, CHIP                     |        | C4019   | 1-126-960-11 | ELECT 1μF 20% 50V                               |        |
|         |          | VD1204 1-803-974-21 VARISTOR, CHIP                     |        |         |              | < CONNECTOR >                                   |        |
|         |          | VD1205 1-803-974-21 VARISTOR, CHIP                     |        |         |              | CN4001 * 1-793-923-11 CONNECTOR, DIN (PLUG) 64P |        |
|         |          | *****  |        |         |              | < JACK >  |        |
|         |          | * A-1372-986-AHD BOARD, COMPLETE<br>*****              |        | J4001   | 1-774-358-11 | JACK BLOCK, PIN (HD/DVD IN 5)                   |        |
|         |          | < CONNECTOR >  |        | J4002   | 1-774-358-11 | JACK BLOCK, PIN (HD/DVD IN 6)                   |        |
|         |          | CN1350 * 1-564-521-11 PLUG, CONNECTOR 6P               |        | J4003   | 1-750-515-11 | TERMINAL BLOCK, S 3P (VIDEO IN 1)               |        |
|         |          | < DIODE >  |        | J4004   | 1-750-515-11 | TERMINAL BLOCK, S 3P (VIDEO IN 3)               |        |
|         |          | D1350 8-719-064-11 DIODE SPR-325MVW (STANDBY/I. LINK)  |        | J4005   | 1-750-515-11 | TERMINAL BLOCK, S 3P (VIDEO IN 4)               |        |
|         |          | D1351 8-719-053-43 DIODE SLR-325VCT31 (TIMER)          |        | J4006   | 1-750-517-11 | JACK BLOCK, PIN 3P (SELECT OUT)                 |        |
|         |          | < RESISTOR >   |        | J4008   | 1-764-143-11 | JACK (CONTROL S IN)                             |        |
|         |          | R1350 1-216-833-11 RES-CHIP 10K 5% 1/16W               |        | J4009   | 1-764-143-11 | JACK (CONTROL S OUT)                            |        |
|         |          | R1351 1-216-815-11 RES-CHIP 330 5% 1/16W               |        |         |              | < RESISTOR >                                    |        |
|         |          |  |        | R4001   | 1-218-665-11 | METAL CHIP 75 0.5% 1/16W                        |        |
|         |          |  |        | R4002   | 1-218-665-11 | METAL CHIP 75 0.5% 1/16W                        |        |
|         |          |  |        | R4003   | 1-218-665-11 | METAL CHIP 75 0.5% 1/16W                        |        |
|         |          |  |        | R4004   | 1-216-853-11 | RES-CHIP 470K 5% 1/16W                          |        |
|         |          |  |        | R4005   | 1-216-853-11 | RES-CHIP 470K 5% 1/16W                          |        |
|         |          |  |        | R4006   | 1-218-665-11 | METAL CHIP 75 0.5% 1/16W                        |        |
|         |          |  |        | R4007   | 1-218-665-11 | METAL CHIP 75 0.5% 1/16W                        |        |
|         |          |  |        | R4008   | 1-218-665-11 | METAL CHIP 75 0.5% 1/16W                        |        |



| REF.NO.      | PART NO.     | DESCRIPTION    | REMARK        | REF.NO. | PART NO.     | DESCRIPTION                     | REMARK                   |
|--------------|--------------|----------------|---------------|---------|--------------|---------------------------------|--------------------------|
| R4009        | 1-216-853-11 | RES-CHIP       | 470K 5% 1/16W | VD4034  | 1-803-974-21 | VARISTOR, CHIP                  |                          |
| R4010        | 1-216-853-11 | RES-CHIP       | 470K 5% 1/16W | *****   |              |                                 |                          |
| R4011        | 1-218-665-11 | METAL CHIP     | 75 0.5% 1/16W |         |              | * A-1380-653-AK BOARD, COMPLETE |                          |
| R4012        | 1-218-665-11 | METAL CHIP     | 75 0.5% 1/16W |         |              | *****                           |                          |
| R4013        | 1-218-665-11 | METAL CHIP     | 75 0.5% 1/16W |         |              | 4-382-854-11                    | SCREW (M3X10), P, SW (+) |
| R4014        | 1-216-853-11 | RES-CHIP       | 470K 5% 1/16W |         |              | < CAPACITOR >                   |                          |
| R4015        | 1-216-853-11 | RES-CHIP       | 470K 5% 1/16W | C2101   | 1-137-372-11 | MYLAR                           | 0.022μF 5% 50V           |
| R4016        | 1-218-665-11 | METAL CHIP     | 75 0.5% 1/16W | C2102   | 1-137-372-11 | MYLAR                           | 0.022μF 5% 50V           |
| R4017        | 1-218-665-11 | METAL CHIP     | 75 0.5% 1/16W | C2103   | 1-136-165-00 | FILM                            | 0.1μF 5% 50V             |
| R4018        | 1-216-821-11 | RES-CHIP       | 1K 5% 1/16W   | C2104   | 1-136-357-11 | MYLAR                           | 680pF 5% 50V             |
| R4019        | 1-218-665-11 | METAL CHIP     | 75 0.5% 1/16W | C2105   | 1-136-165-00 | FILM                            | 0.1μF 5% 50V             |
| R4020        | 1-216-853-11 | RES-CHIP       | 470K 5% 1/16W | C2106   | 1-136-357-11 | MYLAR                           | 680pF 5% 50V             |
| R4021        | 1-216-853-11 | RES-CHIP       | 470K 5% 1/16W | C2107   | 1-136-165-00 | FILM                            | 0.1μF 5% 50V             |
| R4022        | 1-218-665-11 | METAL CHIP     | 75 0.5% 1/16W | C2108   | 1-136-165-00 | FILM                            | 0.1μF 5% 50V             |
| R4023        | 1-218-665-11 | METAL CHIP     | 75 0.5% 1/16W | C2109   | 1-136-165-00 | FILM                            | 0.1μF 5% 50V             |
| R4024        | 1-216-821-11 | RES-CHIP       | 1K 5% 1/16W   | C2112   | 1-126-965-91 | ELECT                           | 22μF 20% 50V             |
| R4025        | 1-218-665-11 | METAL CHIP     | 75 0.5% 1/16W | C2113   | 1-126-947-11 | ELECT                           | 47μF 20% 25V             |
| R4026        | 1-216-853-11 | RES-CHIP       | 470K 5% 1/16W | C2114   | 1-137-368-11 | MYLAR                           | 0.0047μF 5% 50V          |
| R4027        | 1-216-853-11 | RES-CHIP       | 470K 5% 1/16W | C2115   | 1-126-965-91 | ELECT                           | 22μF 20% 50V             |
| R4028        | 1-216-809-11 | RES-CHIP       | 100 5% 1/16W  | C2116   | 1-162-970-11 | CERAMIC CHIP                    | 0.01μF 10% 16V           |
| R4029        | 1-216-809-11 | RES-CHIP       | 100 5% 1/16W  | C2117   | 1-162-970-11 | CERAMIC CHIP                    | 0.01μF 10% 16V           |
| < VARISTOR > |              |                |               | C2118   | 1-126-933-11 | ELECT                           | 100μF 20% 16V            |
| VD4001       | 1-803-974-21 | VARISTOR, CHIP |               | C2119   | 1-126-933-11 | ELECT                           | 100μF 20% 16V            |
| VD4002       | 1-803-974-21 | VARISTOR, CHIP |               | C2120   | 1-126-947-11 | ELECT                           | 47μF 20% 25V             |
| VD4003       | 1-803-974-21 | VARISTOR, CHIP |               | C2121   | 1-162-970-11 | CERAMIC CHIP                    | 0.01μF 10% 16V           |
| VD4004       | 1-803-974-21 | VARISTOR, CHIP |               | C2122   | 1-136-165-00 | FILM                            | 0.1μF 5% 50V             |
| VD4005       | 1-803-974-21 | VARISTOR, CHIP |               | C2123   | 1-136-161-00 | FILM                            | 0.047μF 5% 50V           |
| VD4006       | 1-803-974-21 | VARISTOR, CHIP |               | C2124   | 1-137-367-11 | MYLAR                           | 0.0033μF 5% 50V          |
| VD4007       | 1-803-974-21 | VARISTOR, CHIP |               | C2125   | 1-136-357-11 | MYLAR                           | 680pF 5% 50V             |
| VD4008       | 1-803-974-21 | VARISTOR, CHIP |               | C2126   | 1-137-150-11 | MYLAR                           | 0.01μF 5% 50V            |
| VD4009       | 1-803-974-21 | VARISTOR, CHIP |               | C2127   | 1-137-372-11 | MYLAR                           | 0.022μF 5% 50V           |
| VD4010       | 1-803-974-21 | VARISTOR, CHIP |               | C2128   | 1-137-372-11 | MYLAR                           | 0.022μF 5% 50V           |
| VD4011       | 1-803-974-21 | VARISTOR, CHIP |               | C2129   | 1-137-150-11 | MYLAR                           | 0.01μF 5% 50V            |
| VD4012       | 1-803-974-21 | VARISTOR, CHIP |               | C2130   | 1-137-367-11 | MYLAR                           | 0.0033μF 5% 50V          |
| VD4013       | 1-803-974-21 | VARISTOR, CHIP |               | C2131   | 1-137-367-11 | MYLAR                           | 0.0033μF 5% 50V          |
| VD4014       | 1-803-974-21 | VARISTOR, CHIP |               | C2132   | 1-136-357-11 | MYLAR                           | 680pF 5% 50V             |
| VD4015       | 1-803-974-21 | VARISTOR, CHIP |               | C2133   | 1-137-367-11 | MYLAR                           | 0.0033μF 5% 50V          |
| VD4016       | 1-803-974-21 | VARISTOR, CHIP |               | C2134   | 1-136-177-00 | FILM                            | 1μF 5% 50V               |
| VD4017       | 1-803-974-21 | VARISTOR, CHIP |               | C2135   | 1-137-437-11 | MYLAR                           | 0.0056μF 5% 50V          |
| VD4018       | 1-803-974-21 | VARISTOR, CHIP |               | C2136   | 1-136-495-11 | FILM                            | 0.068μF 5% 50V           |
| VD4019       | 1-803-974-21 | VARISTOR, CHIP |               | C2137   | 1-136-175-00 | FILM                            | 0.68μF 5% 50V            |
| VD4020       | 1-803-974-21 | VARISTOR, CHIP |               | C2138   | 1-126-964-11 | ELECT                           | 10μF 20% 50V             |
| VD4021       | 1-803-974-21 | VARISTOR, CHIP |               | C2139   | 1-136-165-00 | FILM                            | 0.1μF 5% 50V             |
| VD4022       | 1-803-974-21 | VARISTOR, CHIP |               | C2140   | 1-136-165-00 | FILM                            | 0.1μF 5% 50V             |
| VD4023       | 1-803-974-21 | VARISTOR, CHIP |               | C2141   | 1-126-964-11 | ELECT                           | 10μF 20% 50V             |
| VD4024       | 1-803-974-21 | VARISTOR, CHIP |               | C2142   | 1-136-165-00 | FILM                            | 0.1μF 5% 50V             |
| VD4025       | 1-803-974-21 | VARISTOR, CHIP |               | C2143   | 1-136-165-00 | FILM                            | 0.1μF 5% 50V             |
| VD4026       | 1-803-974-21 | VARISTOR, CHIP |               | C2144   | 1-136-177-00 | FILM                            | 1μF 5% 50V               |
| VD4027       | 1-803-974-21 | VARISTOR, CHIP |               | C2145   | 1-162-970-11 | CERAMIC CHIP                    | 0.01μF 10% 16V           |
| VD4028       | 1-803-974-21 | VARISTOR, CHIP |               | C2146   | 1-126-934-11 | ELECT                           | 220μF 20% 16V            |
| VD4029       | 1-803-974-21 | VARISTOR, CHIP |               | C2147   | 1-136-169-00 | FILM                            | 0.22μF 5% 50V            |
| VD4030       | 1-803-974-21 | VARISTOR, CHIP |               | C2148   | 1-136-169-00 | FILM                            | 0.22μF 5% 50V            |
| VD4033       | 1-803-974-21 | VARISTOR, CHIP |               | C2149   | 1-126-963-11 | ELECT                           | 4.7μF 20% 50V            |



| REF.NO. | PART NO.     | DESCRIPTION  | REMARK          | REF.NO. | PART NO.     | DESCRIPTION  | REMARK          |
|---------|--------------|--------------|-----------------|---------|--------------|--------------|-----------------|
| C2150   | 1-126-963-11 | ELECT        | 4.7μF 20% 50V   | C2307   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2151   | 1-136-169-00 | FILM         | 0.22μF 5% 50V   | C2308   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2152   | 1-136-169-00 | FILM         | 0.22μF 5% 50V   | C2309   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2153   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    | C2310   | 1-136-169-00 | FILM         | 0.22μF 5% 50V   |
| C2154   | 1-136-161-00 | FILM         | 0.047μF 5% 50V  | C2311   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |
| C2155   | 1-136-161-00 | FILM         | 0.047μF 5% 50V  | C2312   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |
| C2156   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    | C2313   | 1-136-169-00 | FILM         | 0.22μF 5% 50V   |
| C2157   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    | C2314   | 1-126-965-91 | ELECT        | 22μF 20% 50V    |
| C2158   | 1-126-965-91 | ELECT        | 22μF 20% 50V    | C2315   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  |
| C2159   | 1-126-941-11 | ELECT        | 470μF 20% 25V   | C2316   | 1-126-947-11 | ELECT        | 47μF 20% 25V    |
| C2160   | 1-126-947-11 | ELECT        | 47μF 20% 25V    | C2317   | 1-137-366-11 | MYLAR        | 0.0022μF 5% 50V |
| C2161   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  | C2318   | 1-137-366-11 | MYLAR        | 0.0022μF 5% 50V |
| C2162   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  | C2319   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2163   | 1-126-947-11 | ELECT        | 47μF 20% 25V    | C2320   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2164   | 1-126-947-11 | ELECT        | 47μF 20% 25V    | C2321   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2165   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  | C2322   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2166   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  | C2323   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |
| C2167   | 1-126-947-11 | ELECT        | 47μF 20% 25V    | C2324   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |
| C2168   | 1-126-947-11 | ELECT        | 47μF 20% 25V    | C2325   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |
| C2169   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  | C2326   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |
| C2170   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  | C2327   | 1-126-965-91 | ELECT        | 22μF 20% 50V    |
| C2171   | 1-126-947-11 | ELECT        | 47μF 20% 25V    | C2328   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  |
| C2172   | 1-128-549-11 | ELECT        | 3300μF 20% 35V  | C2329   | 1-126-947-11 | ELECT        | 47μF 20% 25V    |
| C2173   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V  | C2330   | 1-137-366-11 | MYLAR        | 0.0022μF 5% 50V |
| C2174   | 1-128-549-11 | ELECT        | 3300μF 20% 35V  | C2331   | 1-126-947-11 | ELECT        | 47μF 20% 25V    |
| C2175   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V  | C2332   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2176   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V  | C2333   | 1-126-947-11 | ELECT        | 47μF 20% 25V    |
| C2177   | 1-136-177-00 | FILM         | 1μF 5% 50V      | C2334   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2178   | 1-126-964-11 | ELECT        | 10μF 20% 50V    | C2335   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2179   | 1-126-964-11 | ELECT        | 10μF 20% 50V    | C2336   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |
| C2180   | 1-126-947-11 | ELECT        | 47μF 20% 25V    | C2337   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |
| C2181   | 1-126-947-11 | ELECT        | 47μF 20% 25V    | C2338   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |
| C2182   | 1-137-367-11 | MYLAR        | 0.0033μF 5% 50V | C2339   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |
| C2183   | 1-136-161-00 | FILM         | 0.047μF 5% 50V  | C2340   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2190   | 1-126-964-11 | ELECT        | 10μF 20% 50V    | C2341   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2191   | 1-126-947-11 | ELECT        | 47μF 20% 25V    | C2342   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |
| C2192   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  | C2343   | 1-137-367-11 | MYLAR        | 0.0033μF 5% 50V |
| C2193   | 1-126-964-11 | ELECT        | 10μF 20% 50V    | C2344   | 1-136-161-00 | FILM         | 0.047μF 5% 50V  |
| C2194   | 1-126-964-11 | ELECT        | 10μF 20% 50V    | C2345   | 1-126-947-11 | ELECT        | 47μF 20% 25V    |
| C2195   | 1-126-964-11 | ELECT        | 10μF 20% 50V    | C2346   | 1-126-964-11 | ELECT        | 10μF 20% 50V    |
| C2196   | 1-126-964-11 | ELECT        | 10μF 20% 50V    | C2347   | 1-126-947-11 | ELECT        | 47μF 20% 25V    |
| C2197   | 1-136-177-00 | FILM         | 1μF 5% 50V      | C2348   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  |
| C2198   | 1-136-177-00 | FILM         | 1μF 5% 50V      | C2350   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  |
| C2199   | 1-126-964-11 | ELECT        | 10μF 20% 50V    | C2352   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  |
| C2201   | 1-136-177-00 | FILM         | 1μF 5% 50V      | C2354   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  |
| C2205   | 1-136-177-00 | FILM         | 1μF 5% 50V      | C2356   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  |
| C2207   | 1-136-177-00 | FILM         | 1μF 5% 50V      | C2357   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  |
| C2209   | 1-136-177-00 | FILM         | 1μF 5% 50V      | C2358   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  |
| C2211   | 1-136-177-00 | FILM         | 1μF 5% 50V      | C2360   | 1-126-947-11 | ELECT        | 47μF 20% 25V    |
| C2213   | 1-136-177-00 | FILM         | 1μF 5% 50V      | C2621   | 1-126-960-11 | ELECT        | 1μF 20% 50V     |
| C2301   | 1-126-965-91 | ELECT        | 22μF 20% 50V    | C2622   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |
| C2302   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 16V  | C2623   | 1-126-960-11 | ELECT        | 1μF 20% 50V     |
| C2303   | 1-126-947-11 | ELECT        | 47μF 20% 25V    | C2624   | 1-126-960-11 | ELECT        | 1μF 20% 50V     |
| C2304   | 1-137-366-11 | MYLAR        | 0.0022μF 5% 50V | C2625   | 1-126-947-11 | ELECT        | 47μF 20% 25V    |
| C2305   | 1-137-366-11 | MYLAR        | 0.0022μF 5% 50V | C2626   | 1-126-947-11 | ELECT        | 47μF 20% 25V    |
| C2306   | 1-126-964-11 | ELECT        | 10μF 20% 50V    | C2627   | 1-136-165-00 | FILM         | 0.1μF 5% 50V    |



| REF.NO. | PART NO.     | DESCRIPTION | REMARK        | REF.NO. | PART NO.     | DESCRIPTION                                 | REMARK |
|---------|--------------|-------------|---------------|---------|--------------|---|--------|
| C2628   | 1-136-165-00 | FILM        | 0.1μF 5% 50V  | D2309   | 8-719-404-50 | DIODE MA111-TX                              |        |
| C2629   | 1-136-165-00 | FILM        | 0.1μF 5% 50V  | D2601   | 8-719-404-50 | DIODE MA111-TX                              |        |
| C2630   | 1-136-165-00 | FILM        | 0.1μF 5% 50V  | D2602   | 8-719-083-85 | DIODE UDZS-TE17-22B                         |        |
| C2631   | 1-104-665-11 | ELECT       | 100μF 20% 25V | D2603   | 8-719-083-85 | DIODE UDZS-TE17-22B                         |        |
| C2632   | 1-104-665-11 | ELECT       | 100μF 20% 25V | D2604   | 8-719-083-85 | DIODE UDZS-TE17-22B                         |        |
| C2633   | 1-126-960-11 | ELECT       | 1μF 20% 50V   | D2605   | 8-719-083-85 | DIODE UDZS-TE17-22B                         |        |
| C2634   | 1-126-963-11 | ELECT       | 4.7μF 20% 50V | D2606   | 8-719-083-85 | DIODE UDZS-TE17-22B                         |        |
| C2635   | 1-126-960-11 | ELECT       | 1μF 20% 50V   | D2607   | 8-719-083-85 | DIODE UDZS-TE17-22B                         |        |
| C2636   | 1-126-960-11 | ELECT       | 1μF 20% 50V   | D2613   | 8-719-404-50 | DIODE MA111-TX                              |        |
| C2637   | 1-126-947-11 | ELECT       | 47μF 20% 25V  | D2614   | 8-719-083-85 | DIODE UDZS-TE17-22B                         |        |
| C2638   | 1-126-947-11 | ELECT       | 47μF 20% 25V  | D2615   | 8-719-083-85 | DIODE UDZS-TE17-22B                         |        |
| C2639   | 1-136-165-00 | FILM        | 0.1μF 5% 50V  | D2616   | 8-719-083-85 | DIODE UDZS-TE17-22B                         |        |
| C2640   | 1-136-165-00 | FILM        | 0.1μF 5% 50V  | D2617   | 8-719-083-85 | DIODE UDZS-TE17-22B                         |        |
| C2641   | 1-136-165-00 | FILM        | 0.1μF 5% 50V  | D2618   | 8-719-404-50 | DIODE MA111-TX                              |        |
| C2642   | 1-136-165-00 | FILM        | 0.1μF 5% 50V  | D2619   | 8-719-083-85 | DIODE UDZS-TE17-22B                         |        |
| C2643   | 1-126-960-11 | ELECT       | 1μF 20% 50V   | D2620   | 8-719-083-85 | DIODE UDZS-TE17-22B                         |        |
| C2644   | 1-136-165-00 | FILM        | 0.1μF 5% 50V  | D2622   | 8-719-977-28 | DIODE DTZ10B                                |        |
| C2645   | 1-136-165-00 | FILM        | 0.1μF 5% 50V  | D2623   | 8-719-977-28 | DIODE DTZ10B                                |        |
| C2646   | 1-136-165-00 | FILM        | 0.1μF 5% 50V  | D2624   | 8-719-977-28 | DIODE DTZ10B                                |        |
| C2647   | 1-126-947-11 | ELECT       | 47μF 20% 25V  | D2625   | 8-719-977-28 | DIODE DTZ10B                                |        |
| C2648   | 1-126-960-11 | ELECT       | 1μF 20% 50V   | D2626   | 8-719-977-28 | DIODE DTZ10B                                |        |
| C2649   | 1-126-963-11 | ELECT       | 4.7μF 20% 50V | D2627   | 8-719-977-28 | DIODE DTZ10B                                |        |
| C2650   | 1-126-964-11 | ELECT       | 10μF 20% 50V  | D2628   | 8-719-977-28 | DIODE DTZ10B                                |        |
| C2651   | 1-126-964-11 | ELECT       | 10μF 20% 50V  | D2629   | 8-719-977-28 | DIODE DTZ10B                                |        |
| C2652   | 1-126-947-11 | ELECT       | 47μF 20% 25V  | D2630   | 8-719-977-28 | DIODE DTZ10B                                |        |
| C2654   | 1-126-964-11 | ELECT       | 10μF 20% 50V  | D2631   | 8-719-977-28 | DIODE DTZ10B                                |        |
| C2655   | 1-126-960-11 | ELECT       | 1μF 20% 50V   |         |              |   |        |
| C2656   | 1-126-964-11 | ELECT       | 10μF 20% 50V  |         |              | < IC >                                      |        |
| C2657   | 1-126-964-11 | ELECT       | 10μF 20% 50V  |         |              |   |        |
| C2658   | 1-126-960-11 | ELECT       | 1μF 20% 50V   | IC2101  | 6-700-393-01 | IC NJW1106FC2                               |        |
| C2659   | 1-126-964-11 | ELECT       | 10μF 20% 50V  | IC2102  | 8-759-231-53 | IC TA7805S                                  |        |
|         |              |             |               | IC2103  | 8-759-098-24 | IC PQ30RV11                                 |        |
|         |              |             |               | IC2104  | 8-759-231-58 | IC TA7812S                                  |        |
|         |              |             |               | IC2107  | 8-759-100-96 | IC μPC4558G2                                |        |
|         |              |             |               | IC2108  | 8-759-100-96 | IC μPC4558G2                                |        |
|         |              |             |               | IC2301  | 8-759-544-72 | IC TDA7312                                  |        |
|         |              |             |               | IC2302  | 8-759-544-72 | IC TDA7312                                  |        |
|         |              |             |               | IC2303  | 8-759-544-72 | IC TDA7312                                  |        |
|         |              |             |               | IC2304  | 8-759-100-96 | IC μPC4558G2                                |        |
|         |              |             |               | IC2305  | 8-759-100-96 | IC μPC4558G2                                |        |
|         |              |             |               | IC2601  | 8-759-190-89 | IC TDA7265                                  |        |
|         |              |             |               | IC2602  | 8-759-190-89 | IC TDA7265                                  |        |
|         |              |             |               | IC2603  | 8-759-072-99 | IC TDA2052                                  |        |
|         |              |             |               | IC2605  | 8-759-100-96 | IC μPC4558G2                                |        |
|         |              |             |               |         |              |   |        |
|         |              |             |               |         |              | < JACK >                                    |        |
|         |              |             |               | J2601   | 1-785-083-21 | JACK BLOCK, PIN 2P<br>(AUDIO OUT L FIX/VAR) |        |
|         |              |             |               | J2602   | 1-793-446-11 | JACK, PIN 1P (SUB WOOFER OUT)               |        |
|         |              |             |               | J2603   | 1-785-083-11 | JACK BLOCK, PIN 2P<br>(AUDIO OUT R FIX/VAR) |        |
|         |              |             |               |         |              |   |        |
|         |              |             |               |         |              | < TRANSISTOR >                              |        |
|         |              |             |               | Q2101   | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX                   |        |
|         |              |             |               | Q2102   | 8-729-424-02 | TRANSISTOR 2SB709A-QRS-TX                   |        |





| REF.NO. | PART NO.     | DESCRIPTION | REMARK         | REF.NO. | PART NO.     | DESCRIPTION | REMARK        |
|---------|--------------|-------------|----------------|---------|--------------|-------------|---------------|
| R2313   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W   | R2656   | 1-216-838-11 | RES-CHIP    | 27K 5% 1/16W  |
| R2314   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W   | R2657   | 1-216-838-11 | RES-CHIP    | 27K 5% 1/16W  |
| R2315   | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W   | R2659   | 1-216-842-11 | RES-CHIP    | 56K 5% 1/16W  |
| R2316   | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W   |         |              |             |               |
|         |              |             |                | R2660   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| R2317   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W   | R2662   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| R2318   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W   | R2663   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| R2319   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W   | R2664   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W   |
| R2320   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W   | R2665   | 1-216-839-11 | RES-CHIP    | 33K 5% 1/16W  |
| R2321   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W   |         |              |             |               |
|         |              |             |                | R2666   | 1-216-815-11 | RES-CHIP    | 330 5% 1/16W  |
| R2322   | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W   | R2667   | 1-216-839-11 | RES-CHIP    | 33K 5% 1/16W  |
| R2323   | 1-216-837-11 | RES-CHIP    | 22K 5% 1/16W   | R2668   | 1-216-842-11 | RES-CHIP    | 56K 5% 1/16W  |
| R2601   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W    | R2669   | 1-249-389-11 | CARBON      | 4.7 5% 1/4W   |
| R2602   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W    | R2670   | 1-216-838-11 | RES-CHIP    | 27K 5% 1/16W  |
| R2604   | 1-216-815-11 | RES-CHIP    | 330 5% 1/16W   |         |              |             |               |
|         |              |             |                | R2671   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| R2605   | 1-216-842-11 | RES-CHIP    | 56K 5% 1/16W   | R2672   | 1-216-828-11 | RES-CHIP    | 3.9K 5% 1/16W |
| R2606   | 1-216-815-11 | RES-CHIP    | 330 5% 1/16W   | R2673   | 1-216-864-11 | SHORT       | 0             |
| R2607   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W   | R2674   | 1-216-824-11 | RES-CHIP    | 1.8K 5% 1/16W |
| R2608   | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W  | R2675   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W |
| R2609   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W   |         |              |             |               |
|         |              |             |                | R2676   | 1-216-853-11 | RES-CHIP    | 470K 5% 1/16W |
| R2610   | 1-216-835-11 | RES-CHIP    | 15K 5% 1/16W   | R2677   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R2611   | 1-216-839-11 | RES-CHIP    | 33K 5% 1/16W   | R2678   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R2612   | 1-249-389-11 | CARBON      | 4.7 5% 1/4W    | R2679   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R2613   | 1-249-389-11 | CARBON      | 4.7 5% 1/4W    | R2680   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R2614   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W   |         |              |             |               |
|         |              |             |                | R2681   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| R2615   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W   | R2682   | 1-216-834-11 | RES-CHIP    | 12K 5% 1/16W  |
| R2616   | 1-216-853-11 | RES-CHIP    | 470K 5% 1/16W  | R2683   | 1-216-834-11 | RES-CHIP    | 12K 5% 1/16W  |
| R2617   | 1-216-853-11 | RES-CHIP    | 470K 5% 1/16W  | R2684   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| R2618   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W   | R2685   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R2619   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W   |         |              |             |               |
|         |              |             |                | R2686   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R2620   | 1-216-853-11 | RES-CHIP    | 470K 5% 1/16W  | R2687   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W  |
| R2621   | 1-216-853-11 | RES-CHIP    | 470K 5% 1/16W  | R2688   | 1-216-843-11 | RES-CHIP    | 68K 5% 1/16W  |
| R2622   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W   | R2689   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W |
| R2623   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W   | R2801   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| R2626   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W   |         |              |             |               |
|         |              |             |                | R2802   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W   |
| R2632   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W   | R2803   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R2633   | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W  | R2804   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W   |
| R2634   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W   | R2805   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R2635   | 1-216-835-11 | RES-CHIP    | 15K 5% 1/16W   | R2806   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W   |
| R2636   | 1-216-839-11 | RES-CHIP    | 33K 5% 1/16W   |         |              |             |               |
|         |              |             |                | R2807   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R2637   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W   | R2808   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| R2638   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W   | R2809   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| R2640   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W   | R2810   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| R2641   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W   | R2811   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W   |
| R2642   | 1-218-725-11 | METAL CHIP  | 24K 0.5% 1/16W |         |              |             |               |
|         |              |             |                | R2812   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W   |
| R2643   | 1-218-725-11 | METAL CHIP  | 24K 0.5% 1/16W | R2813   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R2645   | 1-249-389-11 | CARBON      | 4.7 5% 1/4W    | R2814   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R2646   | 1-249-389-11 | CARBON      | 4.7 5% 1/4W    | R2901   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W  |
| R2647   | 1-216-838-11 | RES-CHIP    | 27K 5% 1/16W   | R2902   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W  |
| R2648   | 1-216-838-11 | RES-CHIP    | 27K 5% 1/16W   |         |              |             |               |
|         |              |             |                |         |              |             |               |
| R2649   | 1-216-834-11 | RES-CHIP    | 12K 5% 1/16W   |         |              |             |               |
| R2650   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W   |         |              |             |               |
| R2651   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W    |         |              |             |               |
| R2652   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W   |         |              |             |               |
| R2653   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W    |         |              |             |               |
|         |              |             |                |         |              |             |               |
| R2654   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W   |         |              |             |               |
| R2655   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W    |         |              |             |               |

&lt; TERMINAL BOARD &gt;

TB2601 1-694-442-11 TERMINAL, PUSH (REAR SPEAKER OUT)







## **Q-BOX ASSEMBLY**

Note: The Q-box assembly is not field repairable and cannot be ordered independently. If service is required, use the following part number to order a replacement Q-box which includes the complete QM and QI board assemblies.

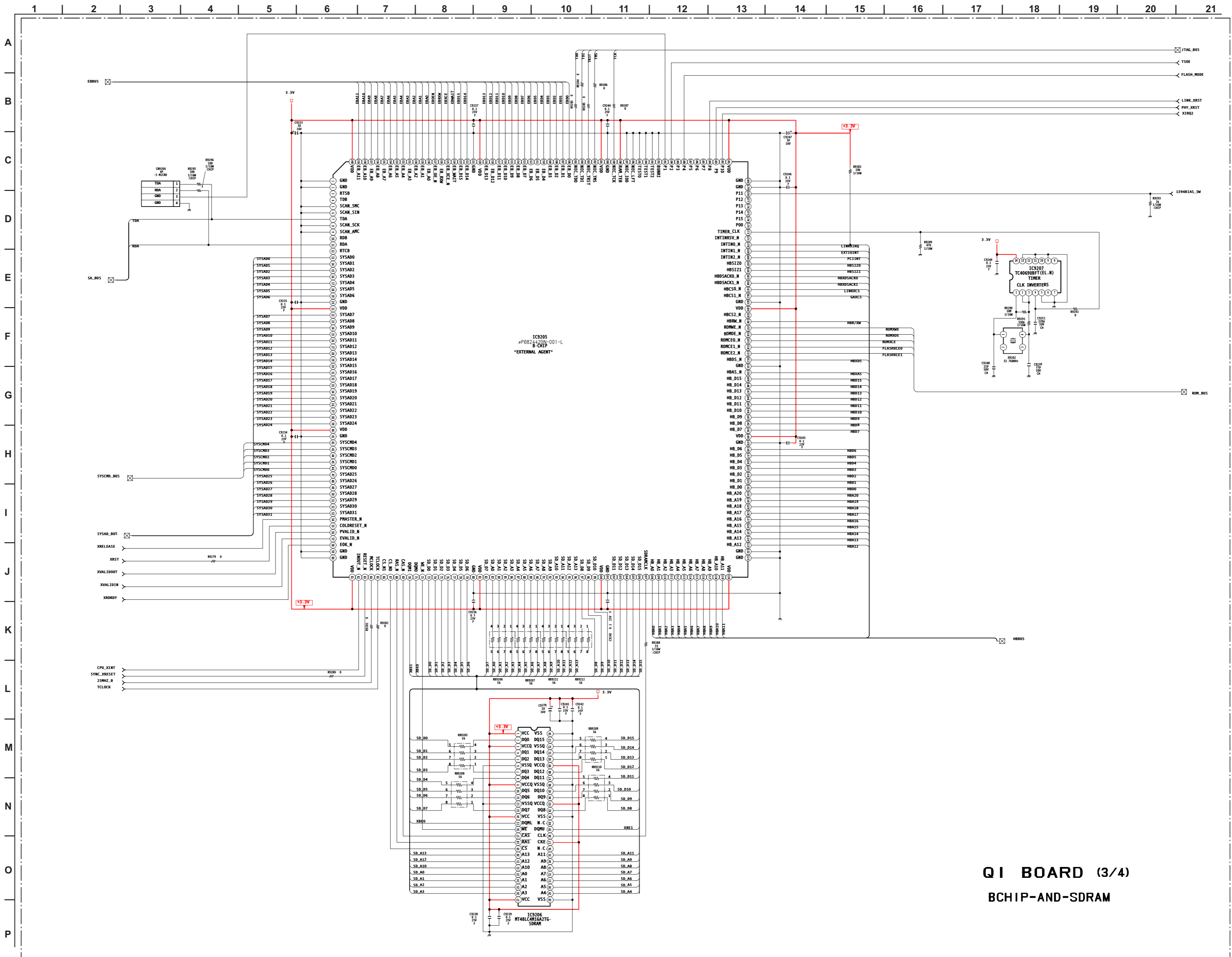
T-9986-079-1 Q-BOX, COMPLETE (KDP-57)  
T-9986-079-2 Q-BOX, COMPLETE (KDP-65)

- **Schematic Diagrams**
- **Printed Wiring Boards**
- **Electrical Parts List**

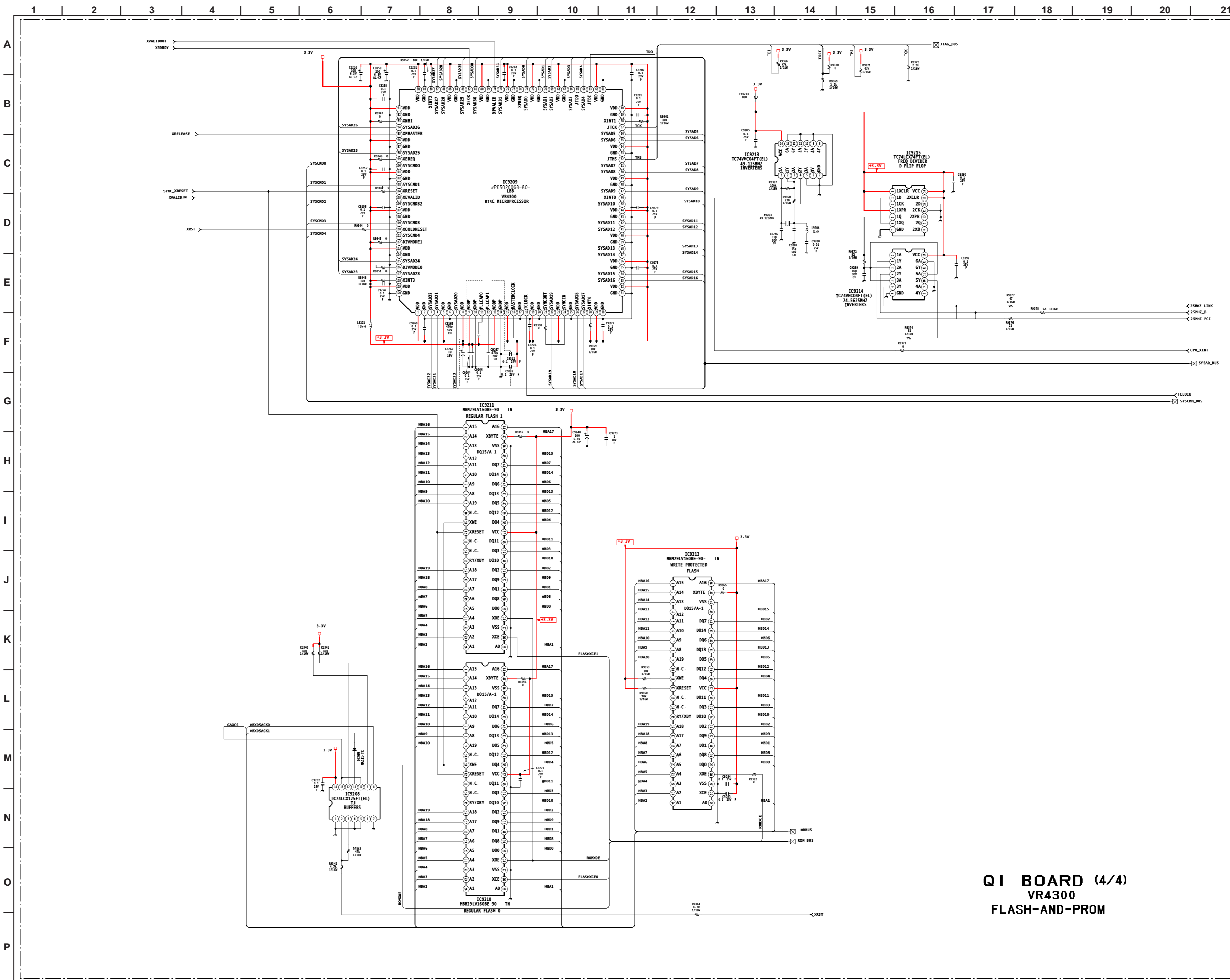




Q1 BOARD SCHEMATIC DIAGRAM (3 OF 4)



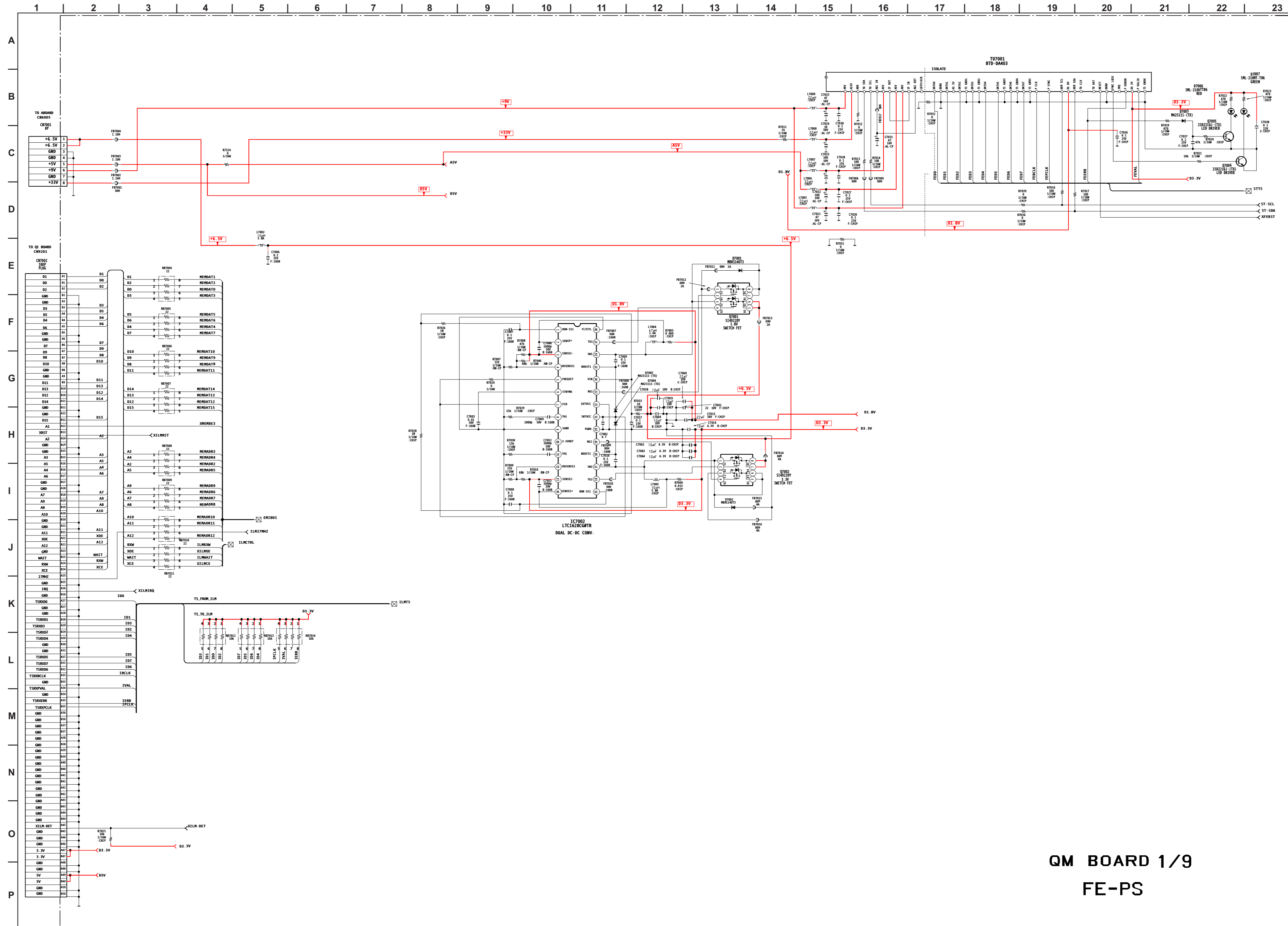
Q1 BOARD (3/4)  
BCHIP-AND-SDRAM

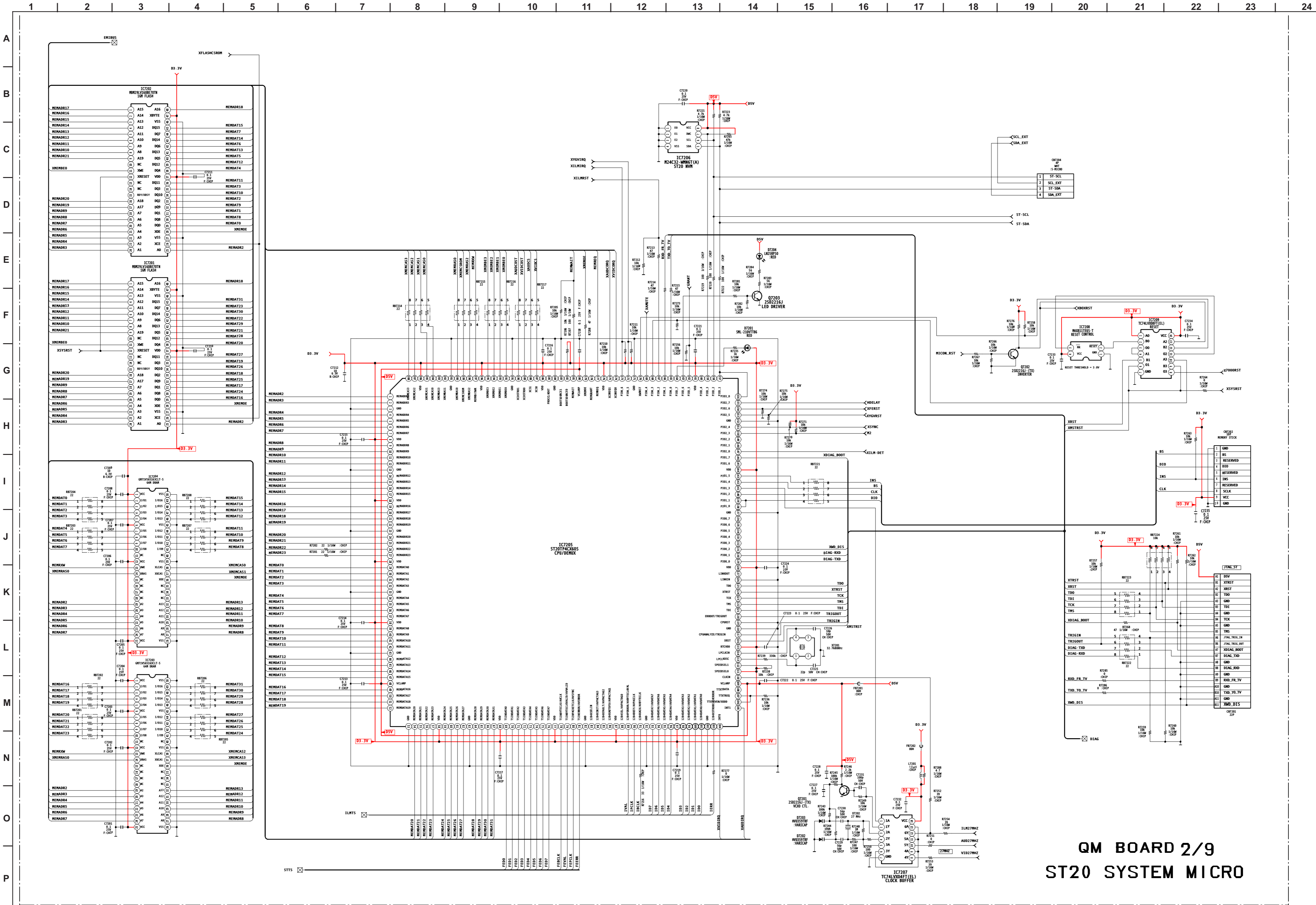


QI BOARD (4/4)  
VR4300  
FLASH-AND-PROM



QM BOARD SCHEMATIC DIAGRAM (1 OF 9)

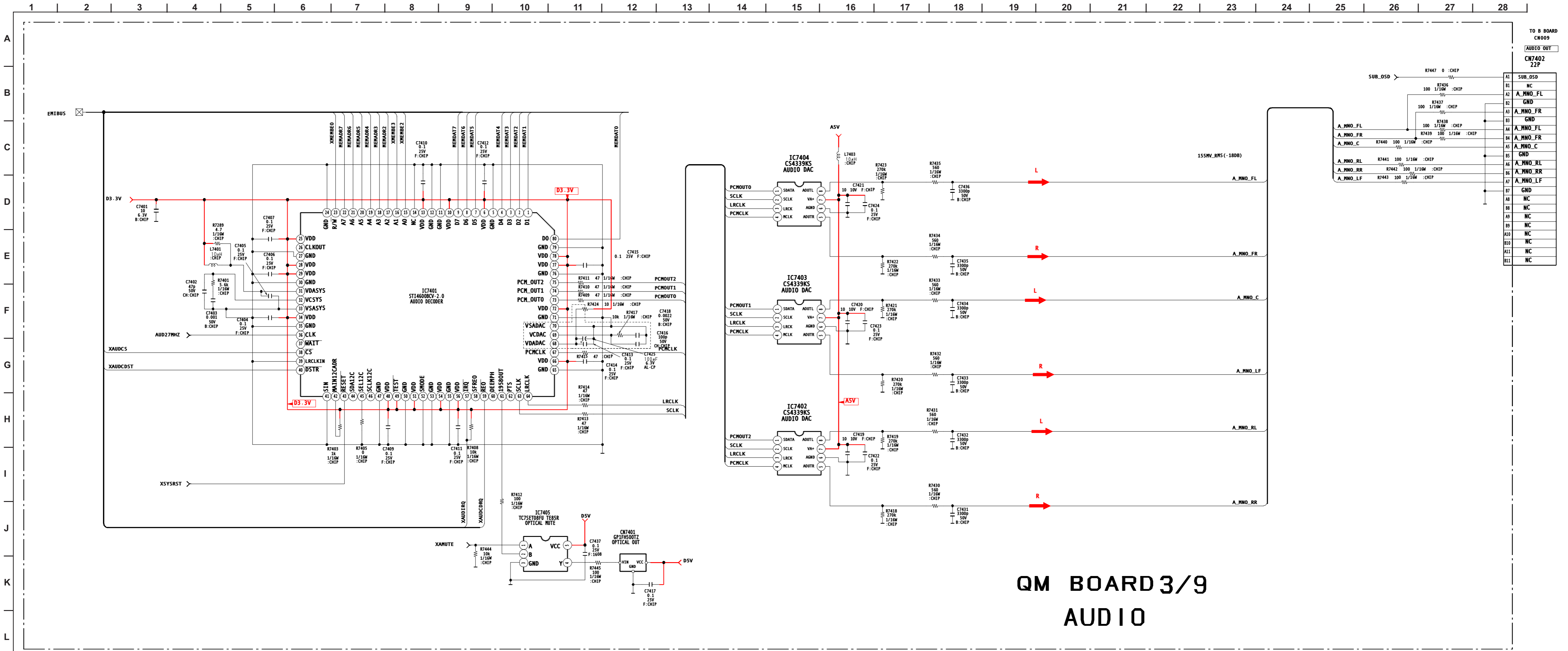




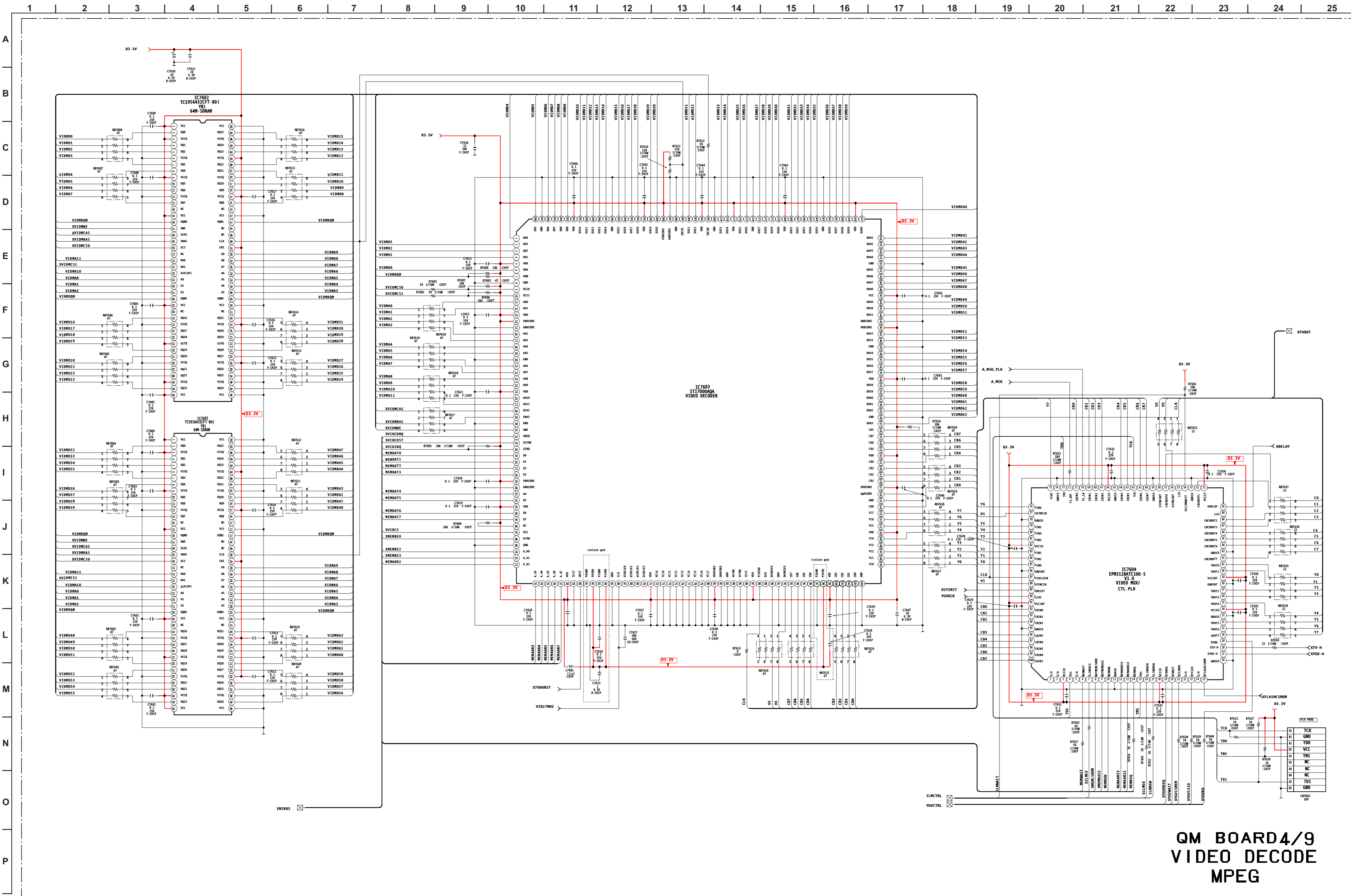
QM BOARD 2/9  
ST20 SYSTEM MICRO



QM BOARD SCHEMATIC DIAGRAM (3 OF 9)



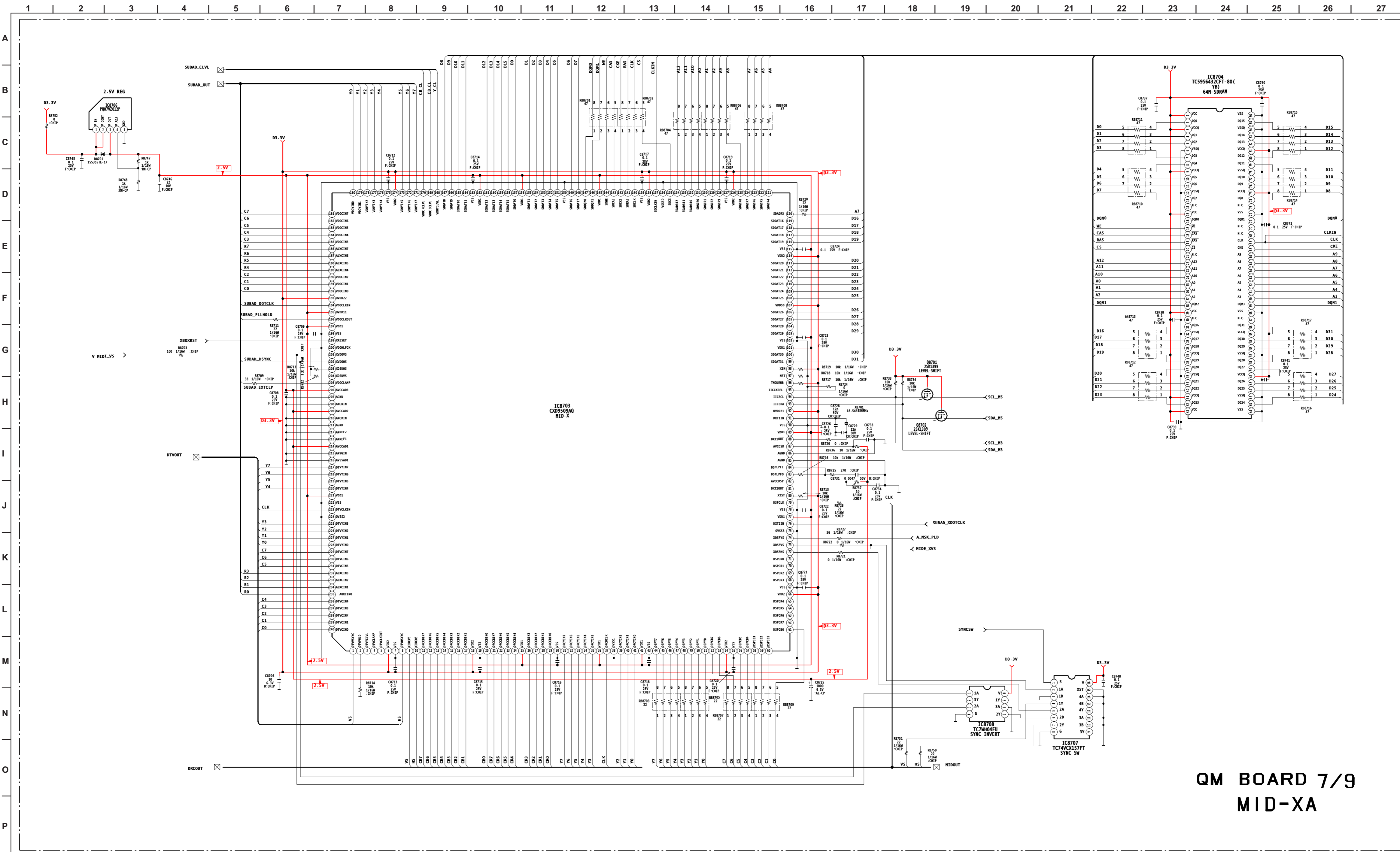
QM BOARD 3/9  
AUDIO



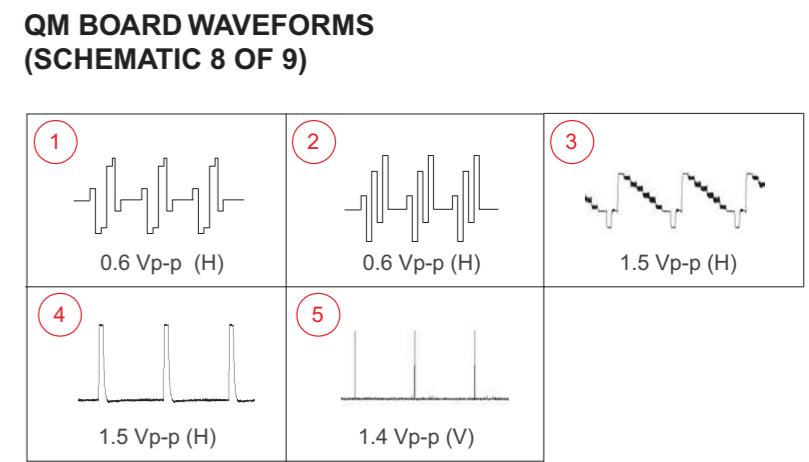
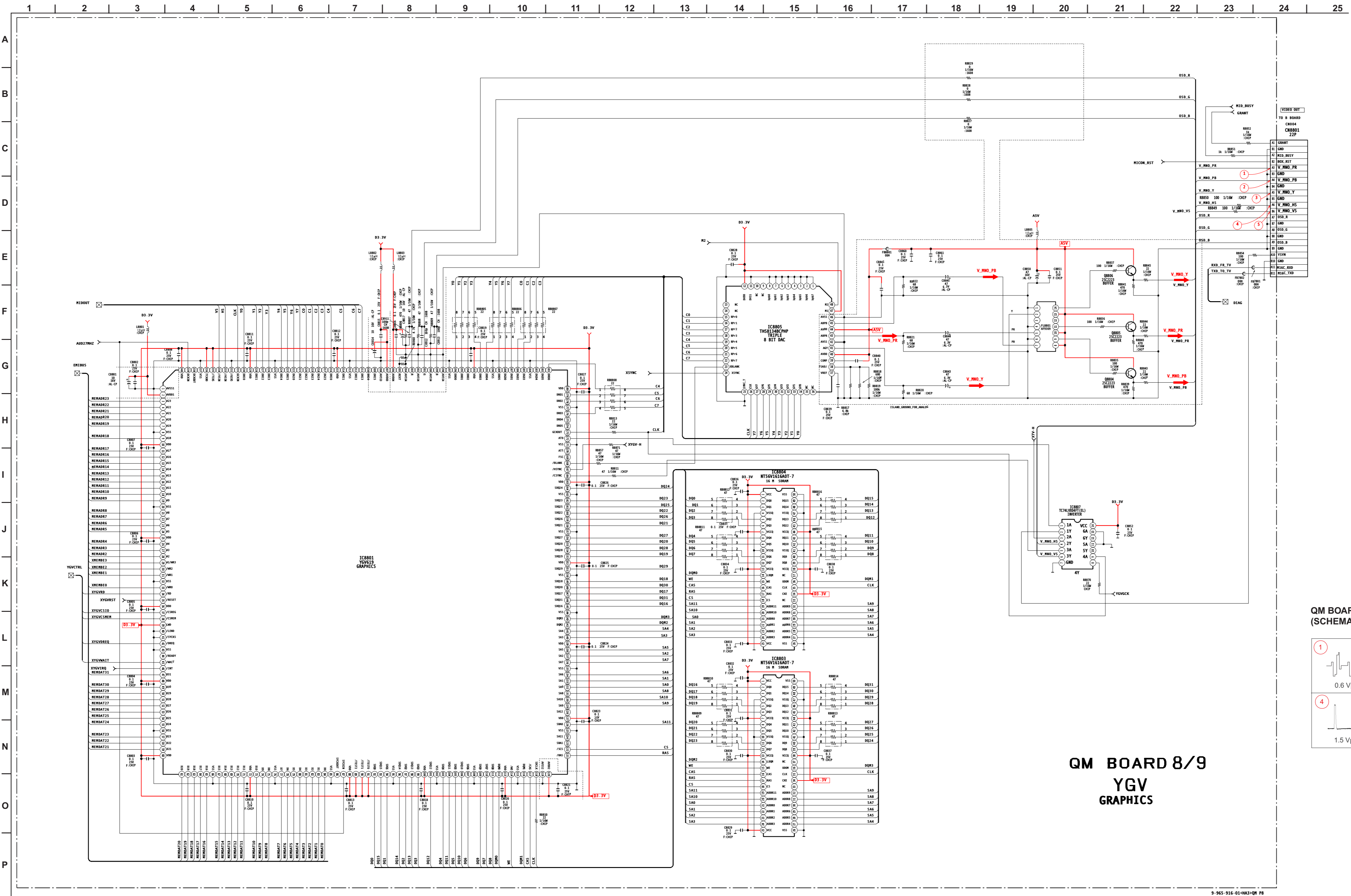






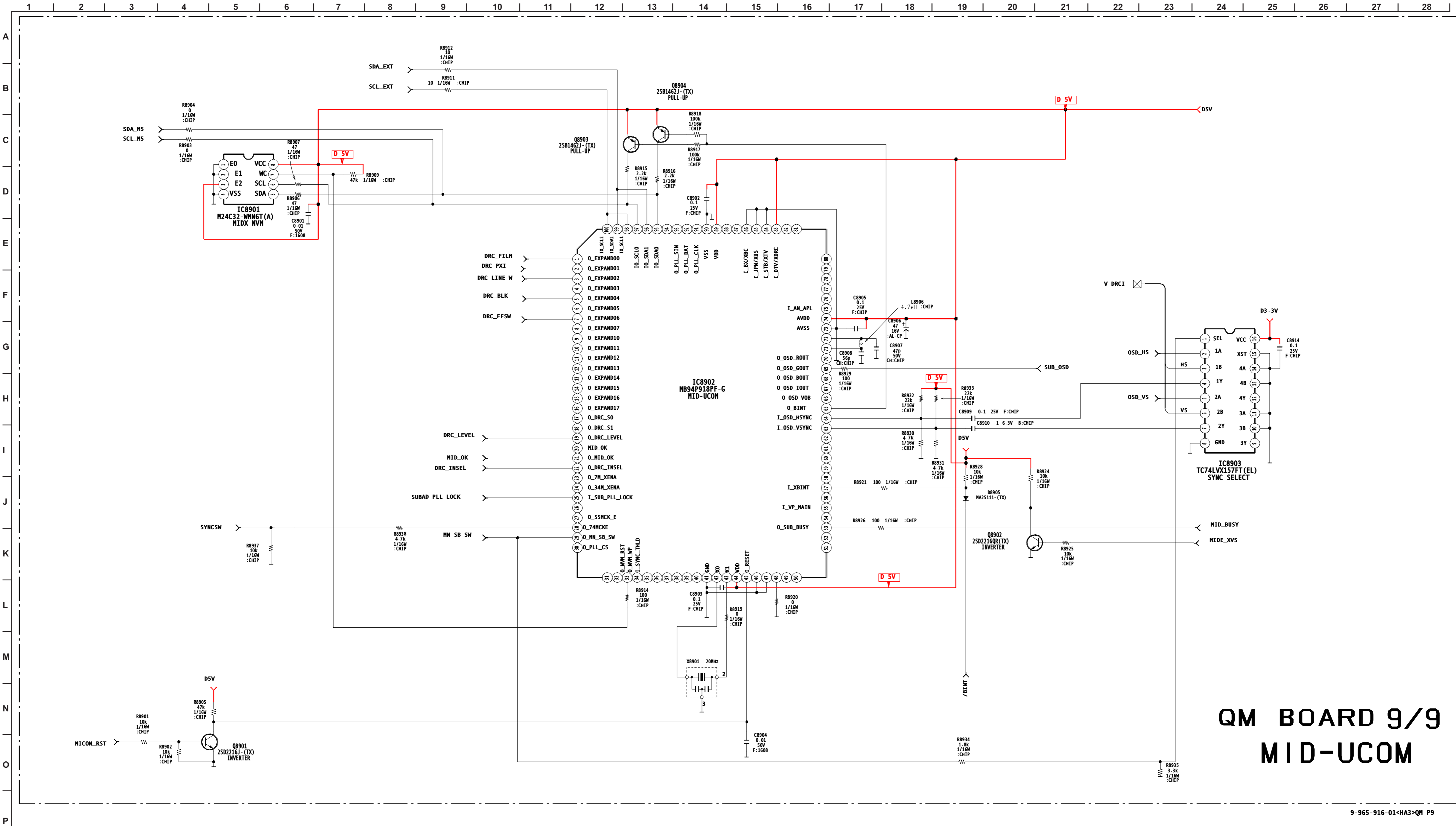


QM BOARD 7/9  
MID-XA



**QM BOARD 8/9**  
**YGV**  
**GRAPHICS**





**QM BOARD 9/9  
MID-UCOM**

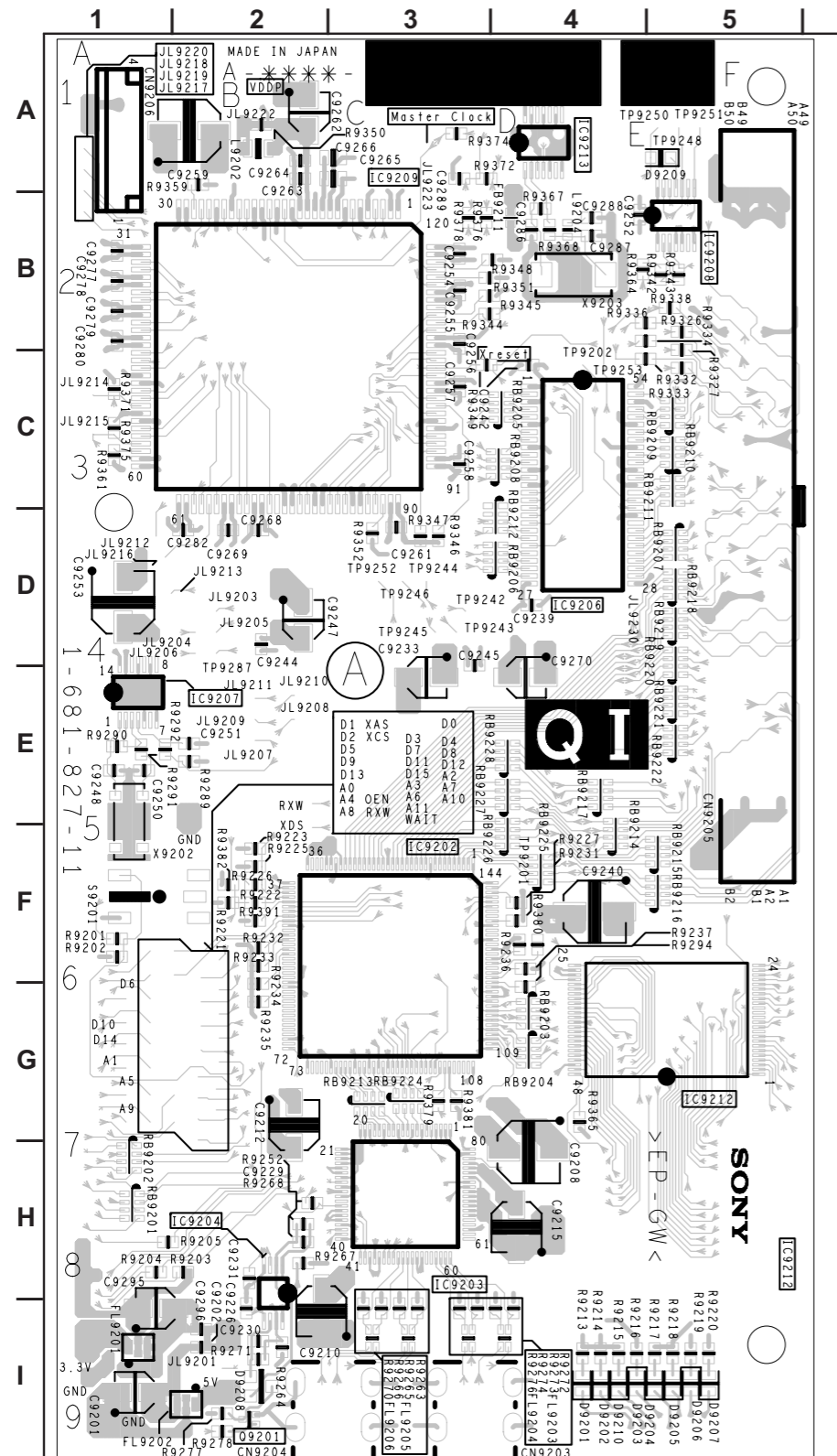






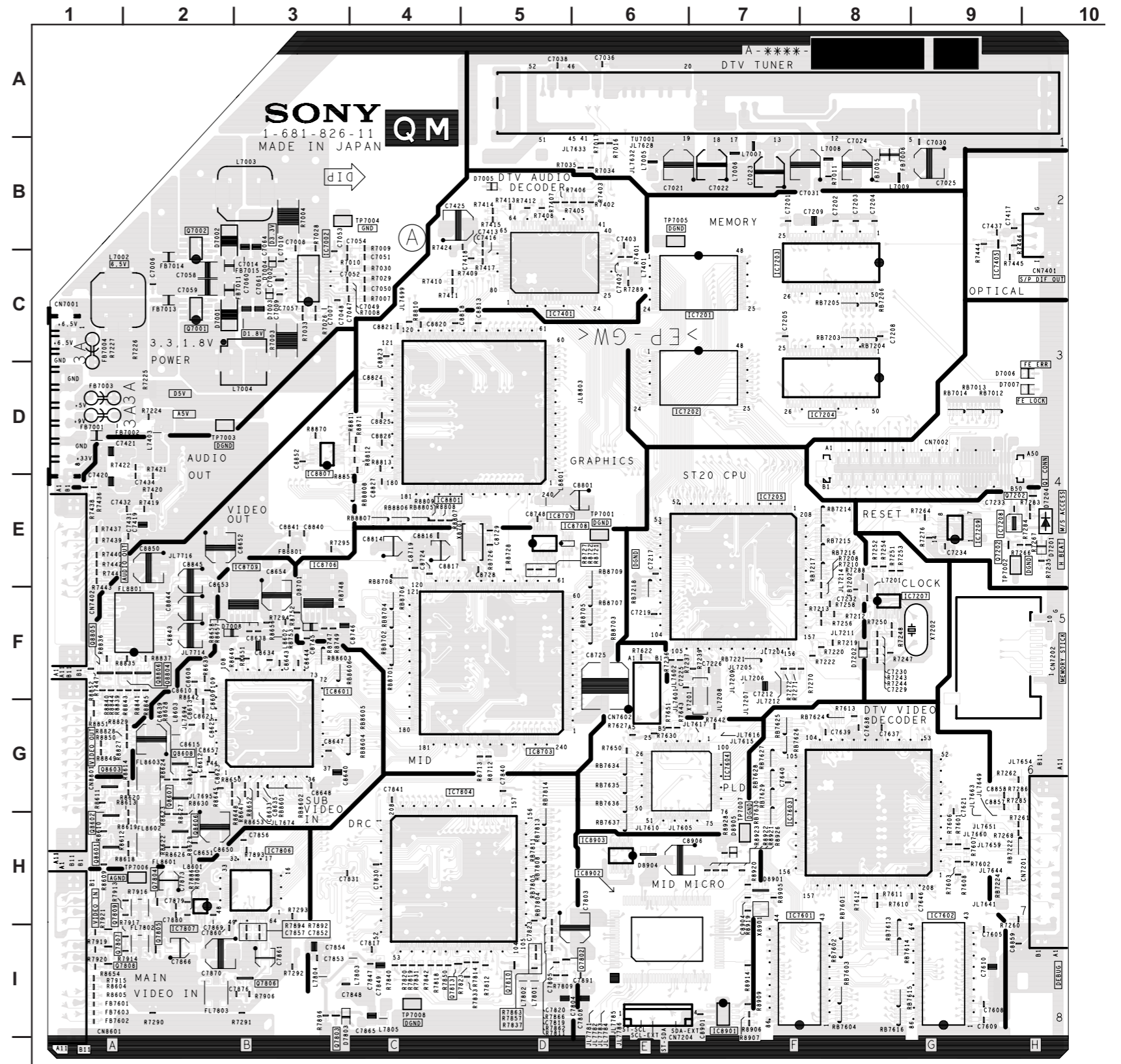
[BOARD TO BOARD CONNECTOR, LINK-AND-PHY, B-CHIP-AND-SDRAM, FLASH-AND-PROM]

CONDUCTOR SIDE



[FE-PS, ST-20 SYSTEM MICRO, AUDIO, VIDEO DECODE, MPEG, AD-DRC, HD-ADC, MID-XA, YGV GRAPHICS, MID-UCOM]

CONDUCTOR SIDE



# ELECTRICAL PARTS LIST



**NOTE:**

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par un tramé et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

**RESISTORS**

- All resistors are in ohms
- F : nonflammable

**CAPACITORS**

- PF :  $\mu\mu\text{F}$
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

| REF.NO.   | PART NO.     | DESCRIPTION  | REMARK                      | REF.NO. | PART NO.     | DESCRIPTION  | REMARK                    |
|---|--------------|--------------|-----------------------------|---------|--------------|--------------|---------------------------|
| <p>QM BOARD<br/>*****</p> <p>Note: The QM board is not field repairable and cannot be ordered independently. If service is required, use the following part number to order a replacement Q-box which includes the complete QM and QI board assemblies.</p> <p>SEE SUPPLEMENT-2 Q-BOX, COMPLETE (KDP-57)<br/>SEE SUPPLEMENT-2 Q-BOX, COMPLETE (KDP-65)<br/>*****</p> <p>&lt; CAPACITOR &gt;</p> |              |              |                             |         |              |              |                           |
| C7002   | 1-127-760-11 | CERAMIC CHIP | 4.7 $\mu\text{F}$ 10% 6.3V  | C7060   | 1-119-667-11 | CERAMIC CHIP | 22 $\mu\text{F}$ 10V      |
| C7003   | 1-162-974-11 | CERAMIC CHIP | 0.01 $\mu\text{F}$ 50V      | C7061   | 1-119-667-11 | CERAMIC CHIP | 22 $\mu\text{F}$ 10V      |
| C7004   | 1-117-808-91 | CERAMIC CHIP | 10 $\mu\text{F}$ 10% 10V    | C7062   | 1-127-692-11 | CERAMIC CHIP | 10 $\mu\text{F}$ 10% 6.3V |
| C7006   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7063   | 1-127-692-11 | CERAMIC CHIP | 10 $\mu\text{F}$ 10% 6.3V |
| C7007   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7064   | 1-127-692-11 | CERAMIC CHIP | 10 $\mu\text{F}$ 10% 6.3V |
| C7008   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7201   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7009   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7202   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7010   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7203   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7013   | 1-119-667-11 | CERAMIC CHIP | 22 $\mu\text{F}$ 10V        | C7204   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7014   | 1-127-692-11 | CERAMIC CHIP | 10 $\mu\text{F}$ 10% 6.3V   | C7205   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7021   | 1-126-204-11 | ELECT CHIP   | 47 $\mu\text{F}$ 20% 16V    | C7206   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7022   | 1-128-393-11 | ELECT CHIP   | 100 $\mu\text{F}$ 20% 10V   | C7207   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7023   | 1-128-393-11 | ELECT CHIP   | 100 $\mu\text{F}$ 20% 10V   | C7208   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7024   | 1-126-197-11 | ELECT CHIP   | 10 $\mu\text{F}$ 20% 50V    | C7209   | 1-127-692-11 | CERAMIC CHIP | 10 $\mu\text{F}$ 10% 6.3V |
| C7025   | 1-126-204-11 | ELECT CHIP   | 47 $\mu\text{F}$ 20% 16V    | C7210   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7026   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7211   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7027   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7212   | 1-127-692-11 | CERAMIC CHIP | 10 $\mu\text{F}$ 10% 6.3V |
| C7028   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7213   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7030   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7214   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7031   | 1-126-204-11 | ELECT CHIP   | 47 $\mu\text{F}$ 20% 16V    | C7215   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7036   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7216   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7037   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7217   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7038   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7218   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7048   | 1-162-964-11 | CERAMIC CHIP | 0.001 $\mu\text{F}$ 10% 50V | C7219   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7049   | 1-162-964-11 | CERAMIC CHIP | 0.001 $\mu\text{F}$ 10% 50V | C7220   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7052   | 1-162-964-11 | CERAMIC CHIP | 0.001 $\mu\text{F}$ 10% 50V | C7221   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7053   | 1-162-964-11 | CERAMIC CHIP | 0.001 $\mu\text{F}$ 10% 50V | C7222   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7057   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V       | C7223   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7058   | 1-117-808-91 | CERAMIC CHIP | 10 $\mu\text{F}$ 10% 10V    | C7224   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
| C7059   | 1-117-808-91 | CERAMIC CHIP | 10 $\mu\text{F}$ 10% 10V    | C7225   | 1-162-919-11 | CERAMIC CHIP | 22pF 5% 50V               |
|   |              |              |                             | C7226   | 1-162-915-11 | CERAMIC CHIP | 10pF 0.5pF 50V            |
|   |              |              |                             | C7227   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
|   |              |              |                             | C7228   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
|   |              |              |                             | C7229   | 1-162-924-11 | CERAMIC CHIP | 56pF 5% 50V               |
|   |              |              |                             | C7230   | 1-162-924-11 | CERAMIC CHIP | 56pF 5% 50V               |
|   |              |              |                             | C7231   | 1-162-927-11 | CERAMIC CHIP | 100pF 5% 50V              |
|   |              |              |                             | C7232   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
|   |              |              |                             | C7233   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
|   |              |              |                             | C7234   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
|   |              |              |                             | C7235   | 1-164-156-11 | CERAMIC CHIP | 0.1 $\mu\text{F}$ 25V     |
|   |              |              |                             | C7401   | 1-127-692-11 | CERAMIC CHIP | 10 $\mu\text{F}$ 10% 6.3V |
|   |              |              |                             | C7402   | 1-162-923-11 | CERAMIC CHIP | 47pF 5% 50V               |



| REF.NO. | PART NO.     | DESCRIPTION  | REMARK           | REF.NO. | PART NO.     | DESCRIPTION  | REMARK         |
|---------|--------------|--------------|------------------|---------|--------------|--------------|----------------|
| C7403   | 1-162-964-11 | CERAMIC CHIP | 0.001μF 10% 50V  | C7629   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7404   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7630   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7405   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7631   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7406   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7632   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7407   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7633   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7409   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7634   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7410   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7635   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7411   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7636   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7412   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7637   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7413   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7638   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7414   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7639   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7415   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7640   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7416   | 1-162-927-11 | CERAMIC CHIP | 100pF 5% 50V     | C7641   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7417   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7642   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7418   | 1-162-966-11 | CERAMIC CHIP | 0.0022μF 10% 50V | C7643   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7419   | 1-117-370-11 | CERAMIC CHIP | 10μF 10V         | C7644   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7420   | 1-117-370-11 | CERAMIC CHIP | 10μF 10V         | C7645   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7421   | 1-117-370-11 | CERAMIC CHIP | 10μF 10V         | C7646   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7422   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7647   | 1-127-692-11 | CERAMIC CHIP | 10μF 10% 6.3V  |
| C7423   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7801   | 1-162-970-11 | CERAMIC CHIP | 0.01μF 10% 25V |
| C7424   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7802   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7425   | 1-126-206-11 | ELECT CHIP   | 100μF 20% 6.3V   | C7803   | 1-126-204-11 | ELECT CHIP   | 47μF 20% 16V   |
| C7431   | 1-162-967-11 | CERAMIC CHIP | 0.0033μF 10% 50V | C7804   | 1-117-370-11 | CERAMIC CHIP | 10μF 10V       |
| C7432   | 1-162-967-11 | CERAMIC CHIP | 0.0033μF 10% 50V | C7805   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7433   | 1-162-967-11 | CERAMIC CHIP | 0.0033μF 10% 50V | C7808   | 1-117-370-11 | CERAMIC CHIP | 10μF 10V       |
| C7434   | 1-162-967-11 | CERAMIC CHIP | 0.0033μF 10% 50V | C7810   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7435   | 1-162-967-11 | CERAMIC CHIP | 0.0033μF 10% 50V | C7811   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7436   | 1-162-967-11 | CERAMIC CHIP | 0.0033μF 10% 50V | C7812   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7437   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7813   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7601   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7814   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7602   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7815   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7603   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7816   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7604   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7817   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7605   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7818   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7606   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7819   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7608   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7820   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7609   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7821   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7610   | 1-127-692-11 | CERAMIC CHIP | 10μF 10% 6.3V    | C7822   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7611   | 1-127-692-11 | CERAMIC CHIP | 10μF 10% 6.3V    | C7823   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7612   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7824   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7613   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7825   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7614   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7826   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7615   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7827   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7616   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7828   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7617   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7829   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7618   | 1-119-667-11 | CERAMIC CHIP | 22μF 10V         | C7830   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7619   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7831   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7620   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7832   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7621   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7833   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7622   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7834   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7623   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7835   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7624   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7836   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7625   | 1-125-837-91 | CERAMIC CHIP | 1μF 10% 6.3V     | C7837   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7626   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7838   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7627   | 1-162-915-11 | CERAMIC CHIP | 10pF 0.5pF 50V   | C7839   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |
| C7628   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V        | C7840   | 1-164-156-11 | CERAMIC CHIP | 0.1μF 25V      |



| REF.NO. | PART NO.     | DESCRIPTION           | REMARK   | REF.NO. | PART NO.     | DESCRIPTION           | REMARK   |
|---------|--------------|-----------------------|----------|---------|--------------|-----------------------|----------|
| C7841   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8633   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7846   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8634   | 1-125-837-91 | CERAMIC CHIP 1μF      | 10% 6.3V |
| C7847   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8635   | 1-125-837-91 | CERAMIC CHIP 1μF      | 10% 6.3V |
| C7848   | 1-127-760-11 | CERAMIC CHIP 4.7μF    | 10% 6.3V | C8636   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7849   | 1-117-370-11 | CERAMIC CHIP 10μF     | 10V      | C8637   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7850   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8638   | 1-119-667-11 | CERAMIC CHIP 22μF     | 10V      |
| C7851   | 1-162-970-11 | CERAMIC CHIP 0.01μF   | 10% 25V  | C8639   | 1-126-204-11 | ELECT CHIP 47μF       | 20% 16V  |
| C7852   | 1-107-826-11 | CERAMIC CHIP 0.1μF    | 10% 16V  | C8640   | 1-117-370-11 | CERAMIC CHIP 10μF     | 10V      |
| C7853   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8641   | 1-117-370-11 | CERAMIC CHIP 10μF     | 10V      |
| C7854   | 1-117-370-11 | CERAMIC CHIP 10μF     | 10V      | C8642   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7855   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8643   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7856   | 1-107-826-11 | CERAMIC CHIP 0.1μF    | 10% 16V  | C8644   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7857   | 1-107-826-11 | CERAMIC CHIP 0.1μF    | 10% 16V  | C8645   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7859   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8646   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7860   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8647   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7861   | 1-124-779-00 | ELECT CHIP 10μF       | 20% 16V  | C8648   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7863   | 1-117-370-11 | CERAMIC CHIP 10μF     | 10V      | C8649   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7865   | 1-117-370-11 | CERAMIC CHIP 10μF     | 10V      | C8650   | 1-126-204-11 | ELECT CHIP 47μF       | 20% 16V  |
| C7866   | 1-124-779-00 | ELECT CHIP 10μF       | 20% 16V  | C8651   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7867   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8652   | 1-126-204-11 | ELECT CHIP 47μF       | 20% 16V  |
| C7870   | 1-126-206-11 | ELECT CHIP 100μF      | 20% 6.3V | C8653   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7871   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8654   | 1-126-206-11 | ELECT CHIP 100μF      | 20% 6.3V |
| C7873   | 1-124-779-00 | ELECT CHIP 10μF       | 20% 16V  | C8655   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7874   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8656   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7875   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8657   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7876   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8706   | 1-127-692-11 | CERAMIC CHIP 10μF     | 10% 6.3V |
| C7878   | 1-119-667-11 | CERAMIC CHIP 22μF     | 10V      | C8708   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7879   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8709   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7880   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8712   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7881   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8713   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7882   | 1-115-467-11 | CERAMIC CHIP 0.22μF   | 10% 10V  | C8714   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C7891   | 1-115-467-11 | CERAMIC CHIP 0.22μF   | 10% 10V  | C8715   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8601   | 1-162-970-11 | CERAMIC CHIP 0.01μF   | 10% 25V  | C8716   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8602   | 1-127-692-11 | CERAMIC CHIP 10μF     | 10% 6.3V | C8717   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8603   | 1-162-970-11 | CERAMIC CHIP 0.01μF   | 10% 25V  | C8718   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8604   | 1-127-692-11 | CERAMIC CHIP 10μF     | 10% 6.3V | C8719   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8605   | 1-162-970-11 | CERAMIC CHIP 0.01μF   | 10% 25V  | C8720   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8606   | 1-127-692-11 | CERAMIC CHIP 10μF     | 10% 6.3V | C8721   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8607   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8722   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8608   | 1-165-112-11 | CERAMIC CHIP 0.33μF   | 20% 10V  | C8723   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8609   | 1-162-967-11 | CERAMIC CHIP 0.0033μF | 10% 50V  | C8724   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8610   | 1-162-927-11 | CERAMIC CHIP 100pF    | 5% 50V   | C8725   | 1-110-530-11 | ELECT CHIP 1000μF     | 20% 6.3V |
| C8611   | 1-162-927-11 | CERAMIC CHIP 100pF    | 5% 50V   | C8726   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8612   | 1-107-826-11 | CERAMIC CHIP 0.1μF    | 10% 16V  | C8728   | 1-162-916-11 | CERAMIC CHIP 12pF     | 5% 50V   |
| C8613   | 1-107-826-11 | CERAMIC CHIP 0.1μF    | 10% 16V  | C8729   | 1-162-916-11 | CERAMIC CHIP 12pF     | 5% 50V   |
| C8615   | 1-107-826-11 | CERAMIC CHIP 0.1μF    | 10% 16V  | C8731   | 1-162-968-11 | CERAMIC CHIP 0.0047μF | 10% 50V  |
| C8617   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8733   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8621   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8734   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8622   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8737   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8623   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8738   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8624   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8739   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8625   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8740   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8629   | 1-162-970-11 | CERAMIC CHIP 0.01μF   | 10% 25V  | C8741   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8630   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8742   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8631   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      | C8745   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |
| C8632   | 1-164-156-11 | CERAMIC CHIP 0.1μF    | 25V      |         |              |                       |          |









| REF.NO. | PART NO.     | DESCRIPTION                   | REMARK | REF.NO. | PART NO.     | DESCRIPTION   | REMARK   |
|---------|--------------|-------------------------------|--------|---------|--------------|---------------|----------|
| Q8602   | 8-729-102-07 | TRANSISTOR 2SC2223-T1F13F14   |        | R7211   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
| Q8603   | 8-729-102-07 | TRANSISTOR 2SC2223-T1F13F14   |        | R7212   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
| Q8604   | 8-729-037-53 | TRANSISTOR 2SB1462J-QR(TX).SO |        | R7213   | 1-216-805-11 | RES-CHIP 47   | 5% 1/16W |
| Q8605   | 8-729-037-53 | TRANSISTOR 2SB1462J-QR(TX).SO |        | R7214   | 1-216-805-11 | RES-CHIP 47   | 5% 1/16W |
| Q8606   | 8-729-122-63 | TRANSISTOR 2SA1226-T1E3E4     |        |         |              |               |          |
| Q8607   | 8-729-122-63 | TRANSISTOR 2SA1226-T1E3E4     |        | R7215   | 1-216-805-11 | RES-CHIP 47   | 5% 1/16W |
| Q8608   | 8-729-122-63 | TRANSISTOR 2SA1226-T1E3E4     |        | R7216   | 1-216-803-11 | RES-CHIP 33   | 5% 1/16W |
| Q8609   | 8-729-037-53 | TRANSISTOR 2SB1462J-QR(TX).SO |        | R7219   | 1-216-809-11 | RES-CHIP 100  | 5% 1/16W |
| Q8701   | 8-719-012-57 | TRANSISTOR 2SK1399-T1B        |        | R7220   | 1-216-809-11 | RES-CHIP 100  | 5% 1/16W |
| Q8702   | 8-719-012-57 | TRANSISTOR 2SK1399-T1B        |        | R7221   | 1-216-829-11 | RES-CHIP 4.7K | 5% 1/16W |
| Q8804   | 8-729-102-07 | TRANSISTOR 2SC2223-T1F13F14   |        | R7222   | 1-216-809-11 | RES-CHIP 100  | 5% 1/16W |
| Q8805   | 8-729-102-07 | TRANSISTOR 2SC2223-T1F13F14   |        | R7223   | 1-216-829-11 | RES-CHIP 4.7K | 5% 1/16W |
| Q8806   | 8-729-102-07 | TRANSISTOR 2SC2223-T1F13F14   |        | R7224   | 1-216-864-11 | SHORT         |          |
| Q8901   | 8-729-037-52 | TRANSISTOR 2SD2216J-QR(TX).SO |        | R7235   | 1-216-821-11 | RES-CHIP 1K   | 5% 1/16W |
| Q8902   | 8-729-037-52 | TRANSISTOR 2SD2216J-QR(TX).SO |        | R7236   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
| Q8903   | 8-729-037-53 | TRANSISTOR 2SB1462J-QR(TX).SO |        | R7238   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
| Q8904   | 8-729-037-53 | TRANSISTOR 2SB1462J-QR(TX).SO |        | R7239   | 1-216-851-11 | RES-CHIP 330K | 5% 1/16W |
|         |              |                               |        | R7243   | 1-216-845-11 | RES-CHIP 100K | 5% 1/16W |
|         |              |                               |        | R7244   | 1-216-845-11 | RES-CHIP 100K | 5% 1/16W |
|         |              |                               |        | R7245   | 1-216-845-11 | RES-CHIP 100K | 5% 1/16W |
|         |              |                               |        |         |              |               |          |
|         |              |                               |        | R7246   | 1-216-825-11 | RES-CHIP 2.2K | 5% 1/16W |
|         |              |                               |        | R7247   | 1-216-809-11 | RES-CHIP 100  | 5% 1/16W |
|         |              |                               |        | R7248   | 1-216-857-11 | RES-CHIP 1M   | 5% 1/16W |
|         |              |                               |        | R7249   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7250   | 1-216-809-11 | RES-CHIP 100  | 5% 1/16W |
|         |              |                               |        |         |              |               |          |
|         |              |                               |        | R7251   | 1-216-864-11 | SHORT         |          |
|         |              |                               |        | R7252   | 1-216-804-11 | RES-CHIP 39   | 5% 1/16W |
|         |              |                               |        | R7253   | 1-216-804-11 | RES-CHIP 39   | 5% 1/16W |
|         |              |                               |        | R7254   | 1-216-804-11 | RES-CHIP 39   | 5% 1/16W |
|         |              |                               |        | R7256   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        |         |              |               |          |
|         |              |                               |        | R7257   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7258   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7259   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7260   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7261   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        |         |              |               |          |
|         |              |                               |        | R7262   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7263   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7264   | 1-216-864-11 | SHORT         |          |
|         |              |                               |        | R7265   | 1-216-841-11 | RES-CHIP 47K  | 5% 1/16W |
|         |              |                               |        | R7266   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        |         |              |               |          |
|         |              |                               |        | R7267   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7268   | 1-216-805-11 | RES-CHIP 47   | 5% 1/16W |
|         |              |                               |        | R7270   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7271   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7273   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        |         |              |               |          |
|         |              |                               |        | R7274   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7275   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7276   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7277   | 1-216-864-11 | SHORT         |          |
|         |              |                               |        | R7281   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        |         |              |               |          |
|         |              |                               |        | R7282   | 1-216-833-11 | RES-CHIP 10K  | 5% 1/16W |
|         |              |                               |        | R7283   | 1-216-806-11 | RES-CHIP 56   | 5% 1/16W |
|         |              |                               |        | R7284   | 1-216-806-11 | RES-CHIP 56   | 5% 1/16W |
|         |              |                               |        | R7285   | 1-216-864-11 | SHORT         |          |
|         |              |                               |        | R7286   | 1-216-864-11 | SHORT         |          |
|         |              |                               |        |         |              |               |          |
|         |              |                               |        | R7288   | 1-216-793-11 | RES-CHIP 4.7  | 5% 1/16W |
|         |              |                               |        | R7289   | 1-216-793-11 | RES-CHIP 4.7  | 5% 1/16W |





| REF.NO. | PART NO.     | DESCRIPTION | REMARK | REF.NO. | PART NO. | DESCRIPTION | REMARK                  |      |       |       |
|---------|--------------|-------------|--------|---------|----------|-------------|-------------------------|------|-------|-------|
| R7401   | 1-216-830-11 | RES-CHIP    | 5.6K   | 5%      | 1/16W    | R7640       | 1-216-806-11 RES-CHIP   | 56   | 5%    | 1/16W |
| R7403   | 1-216-821-11 | RES-CHIP    | 1K     | 5%      | 1/16W    | R7641       | 1-216-833-11 RES-CHIP   | 10K  | 5%    | 1/16W |
| R7405   | 1-216-864-11 | SHORT       |        |         |          | R7642       | 1-216-806-11 RES-CHIP   | 56   | 5%    | 1/16W |
| R7408   | 1-216-833-11 | RES-CHIP    | 10K    | 5%      | 1/16W    | R7643       | 1-216-806-11 RES-CHIP   | 56   | 5%    | 1/16W |
| R7409   | 1-216-805-11 | RES-CHIP    | 47     | 5%      | 1/16W    | R7650       | 1-216-801-11 RES-CHIP   | 22   | 5%    | 1/16W |
| R7410   | 1-216-805-11 | RES-CHIP    | 47     | 5%      | 1/16W    | R7651       | 1-216-806-11 RES-CHIP   | 56   | 5%    | 1/16W |
| R7411   | 1-216-805-11 | RES-CHIP    | 47     | 5%      | 1/16W    | R7652       | 1-216-809-11 RES-CHIP   | 100  | 5%    | 1/16W |
| R7412   | 1-216-809-11 | RES-CHIP    | 100    | 5%      | 1/16W    | R7801       | 1-216-853-11 RES-CHIP   | 470K | 5%    | 1/16W |
| R7413   | 1-216-805-11 | RES-CHIP    | 47     | 5%      | 1/16W    | R7802       | 1-216-864-11 SHORT      |      |       |       |
| R7414   | 1-216-805-11 | RES-CHIP    | 47     | 5%      | 1/16W    | R7803       | 1-216-837-11 RES-CHIP   | 22K  | 5%    | 1/16W |
| R7415   | 1-216-805-11 | RES-CHIP    | 47     | 5%      | 1/16W    | R7804       | 1-216-809-11 RES-CHIP   | 100  | 5%    | 1/16W |
| R7417   | 1-216-833-11 | RES-CHIP    | 10K    | 5%      | 1/16W    | R7805       | 1-216-815-11 RES-CHIP   | 330  | 5%    | 1/16W |
| R7418   | 1-216-850-11 | RES-CHIP    | 270K   | 5%      | 1/16W    | R7806       | 1-216-813-11 RES-CHIP   | 220  | 5%    | 1/16W |
| R7419   | 1-216-850-11 | RES-CHIP    | 270K   | 5%      | 1/16W    | R7807       | 1-216-809-11 RES-CHIP   | 100  | 5%    | 1/16W |
| R7420   | 1-216-850-11 | RES-CHIP    | 270K   | 5%      | 1/16W    | R7808       | 1-216-813-11 RES-CHIP   | 220  | 5%    | 1/16W |
| R7421   | 1-216-850-11 | RES-CHIP    | 270K   | 5%      | 1/16W    | R7809       | 1-216-821-11 RES-CHIP   | 1K   | 5%    | 1/16W |
| R7422   | 1-216-850-11 | RES-CHIP    | 270K   | 5%      | 1/16W    | R7811       | 1-216-827-11 RES-CHIP   | 3.3K | 5%    | 1/16W |
| R7423   | 1-216-850-11 | RES-CHIP    | 270K   | 5%      | 1/16W    | R7812       | 1-216-829-11 RES-CHIP   | 4.7K | 5%    | 1/16W |
| R7424   | 1-216-797-11 | RES-CHIP    | 10     | 5%      | 1/16W    | R7813       | 1-216-829-11 RES-CHIP   | 4.7K | 5%    | 1/16W |
| R7430   | 1-216-818-11 | RES-CHIP    | 560    | 5%      | 1/16W    | R7814       | 1-216-829-11 RES-CHIP   | 4.7K | 5%    | 1/16W |
| R7431   | 1-216-818-11 | RES-CHIP    | 560    | 5%      | 1/16W    | R7817       | 1-216-829-11 RES-CHIP   | 4.7K | 5%    | 1/16W |
| R7432   | 1-216-818-11 | RES-CHIP    | 560    | 5%      | 1/16W    | R7818       | 1-216-829-11 RES-CHIP   | 4.7K | 5%    | 1/16W |
| R7433   | 1-216-818-11 | RES-CHIP    | 560    | 5%      | 1/16W    | R7819       | 1-216-829-11 RES-CHIP   | 4.7K | 5%    | 1/16W |
| R7434   | 1-216-818-11 | RES-CHIP    | 560    | 5%      | 1/16W    | R7820       | 1-216-829-11 RES-CHIP   | 4.7K | 5%    | 1/16W |
| R7435   | 1-216-818-11 | RES-CHIP    | 560    | 5%      | 1/16W    | R7822       | 1-218-705-11 METAL CHIP | 3.6K | 0.50% | 1/16W |
| R7436   | 1-216-809-11 | RES-CHIP    | 100    | 5%      | 1/16W    | R7823       | 1-216-841-11 RES-CHIP   | 47K  | 5%    | 1/16W |
| R7437   | 1-216-809-11 | RES-CHIP    | 100    | 5%      | 1/16W    | R7826       | 1-216-833-11 RES-CHIP   | 10K  | 5%    | 1/16W |
| R7438   | 1-216-809-11 | RES-CHIP    | 100    | 5%      | 1/16W    | R7828       | 1-216-853-11 RES-CHIP   | 470K | 5%    | 1/16W |
| R7439   | 1-216-809-11 | RES-CHIP    | 100    | 5%      | 1/16W    | R7829       | 1-216-833-11 RES-CHIP   | 10K  | 5%    | 1/16W |
| R7440   | 1-216-809-11 | RES-CHIP    | 100    | 5%      | 1/16W    | R7831       | 1-216-833-11 RES-CHIP   | 10K  | 5%    | 1/16W |
| R7441   | 1-216-809-11 | RES-CHIP    | 100    | 5%      | 1/16W    | R7833       | 1-216-833-11 RES-CHIP   | 10K  | 5%    | 1/16W |
| R7442   | 1-216-809-11 | RES-CHIP    | 100    | 5%      | 1/16W    | R7837       | 1-216-833-11 RES-CHIP   | 10K  | 5%    | 1/16W |
| R7443   | 1-216-809-11 | RES-CHIP    | 100    | 5%      | 1/16W    | R7840       | 1-216-833-11 RES-CHIP   | 10K  | 5%    | 1/16W |
| R7444   | 1-216-833-11 | RES-CHIP    | 10K    | 5%      | 1/16W    | R7842       | 1-216-833-11 RES-CHIP   | 10K  | 5%    | 1/16W |
| R7445   | 1-216-809-11 | RES-CHIP    | 100    | 5%      | 1/16W    | R7850       | 1-216-833-11 RES-CHIP   | 10K  | 5%    | 1/16W |
| R7447   | 1-216-864-11 | SHORT       |        |         |          | R7857       | 1-216-801-11 RES-CHIP   | 22   | 5%    | 1/16W |
| R7601   | 1-216-804-11 | RES-CHIP    | 39     | 5%      | 1/16W    | R7858       | 1-216-801-11 RES-CHIP   | 22   | 5%    | 1/16W |
| R7602   | 1-216-804-11 | RES-CHIP    | 39     | 5%      | 1/16W    | R7859       | 1-216-833-11 RES-CHIP   | 10K  | 5%    | 1/16W |
| R7603   | 1-216-805-11 | RES-CHIP    | 47     | 5%      | 1/16W    | R7862       | 1-218-687-11 METAL CHIP | 620  | 0.5%  | 1/16W |
| R7604   | 1-216-833-11 | RES-CHIP    | 10K    | 5%      | 1/16W    | R7863       | 1-218-676-11 METAL CHIP | 220  | 0.5%  | 1/16W |
| R7605   | 1-216-833-11 | RES-CHIP    | 10K    | 5%      | 1/16W    | R7864       | 1-216-814-11 RES-CHIP   | 270  | 5%    | 1/16W |
| R7606   | 1-216-833-11 | RES-CHIP    | 10K    | 5%      | 1/16W    | R7865       | 1-218-704-11 METAL CHIP | 3.3K | 0.5%  | 1/16W |
| R7607   | 1-216-833-11 | RES-CHIP    | 10K    | 5%      | 1/16W    | R7866       | 1-218-676-11 METAL CHIP | 220  | 0.5%  | 1/16W |
| R7608   | 1-216-833-11 | RES-CHIP    | 10K    | 5%      | 1/16W    | R7867       | 1-218-676-11 METAL CHIP | 220  | 0.5%  | 1/16W |
| R7610   | 1-216-810-11 | RES-CHIP    | 120    | 5%      | 1/16W    | R7868       | 1-216-803-11 RES-CHIP   | 33   | 5%    | 1/16W |
| R7611   | 1-216-811-11 | RES-CHIP    | 150    | 5%      | 1/16W    | R7869       | 1-216-803-11 RES-CHIP   | 33   | 5%    | 1/16W |
| R7612   | 1-216-797-11 | RES-CHIP    | 10     | 5%      | 1/16W    | R7871       | 1-216-809-11 RES-CHIP   | 100  | 5%    | 1/16W |
| R7613   | 1-216-864-11 | SHORT       |        |         |          | R7872       | 1-216-809-11 RES-CHIP   | 100  | 5%    | 1/16W |
| R7614   | 1-216-833-11 | RES-CHIP    | 10K    | 5%      | 1/16W    | R7873       | 1-216-803-11 RES-CHIP   | 33   | 5%    | 1/16W |
| R7617   | 1-216-806-11 | RES-CHIP    | 56     | 5%      | 1/16W    | R7874       | 1-216-803-11 RES-CHIP   | 33   | 5%    | 1/16W |
| R7619   | 1-216-806-11 | RES-CHIP    | 56     | 5%      | 1/16W    | R7876       | 1-216-809-11 RES-CHIP   | 100  | 5%    | 1/16W |
| R7622   | 1-216-821-11 | RES-CHIP    | 1K     | 5%      | 1/16W    | R7877       | 1-216-821-11 RES-CHIP   | 1K   | 5%    | 1/16W |
| R7627   | 1-216-821-11 | RES-CHIP    | 1K     | 5%      | 1/16W    | R7878       | 1-216-821-11 RES-CHIP   | 1K   | 5%    | 1/16W |
| R7630   | 1-216-821-11 | RES-CHIP    | 1K     | 5%      | 1/16W    | R7879       | 1-218-695-11 METAL CHIP | 1.3K | 0.5%  | 1/16W |
| R7638   | 1-216-806-11 | RES-CHIP    | 56     | 5%      | 1/16W    | R7880       | 1-218-695-11 METAL CHIP | 1.3K | 0.5%  | 1/16W |
| R7639   | 1-216-806-11 | RES-CHIP    | 56     | 5%      | 1/16W    | R7881       | 1-216-820-11 RES-CHIP   | 820  | 5%    | 1/16W |



| REF.NO. | PART NO.     | DESCRIPTION | REMARK          | REF.NO. | PART NO.     | DESCRIPTION | REMARK          |
|---------|--------------|-------------|-----------------|---------|--------------|-------------|-----------------|
| R7884   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8629   | 1-216-823-11 | RES-CHIP    | 1.5K 5% 1/16W   |
| R7885   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R8630   | 1-216-823-11 | RES-CHIP    | 1.5K 5% 1/16W   |
| R7886   | 1-218-694-11 | METAL CHIP  | 1.2K 0.5% 1/16W | R8631   | 1-216-823-11 | RES-CHIP    | 1.5K 5% 1/16W   |
| R7887   | 1-216-855-11 | RES-CHIP    | 680K 5% 1/16W   | R8632   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R7888   | 1-218-709-11 | METAL CHIP  | 5.1K 0.5% 1/16W | R8636   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R7889   | 1-216-855-11 | RES-CHIP    | 680K 5% 1/16W   | R8637   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R7890   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8638   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R7892   | 1-218-720-11 | METAL CHIP  | 15K 0.5% 1/16W  | R8639   | 1-218-704-11 | METAL CHIP  | 3.3K 0.5% 1/16W |
| R7893   | 1-218-720-11 | METAL CHIP  | 15K 0.5% 1/16W  | R8641   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R7894   | 1-218-720-11 | METAL CHIP  | 15K 0.5% 1/16W  | R8642   | 1-218-703-11 | METAL CHIP  | 3K 0.5% 1/16W   |
| R7896   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    | R8643   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R7897   | 1-216-815-11 | RES-CHIP    | 330 5% 1/16W    | R8644   | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   |
| R7899   | 1-216-815-11 | RES-CHIP    | 330 5% 1/16W    | R8645   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R7904   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R8646   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     |
| R7905   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R8647   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R7906   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R8648   | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   |
| R7907   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8649   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R7908   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8650   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R7909   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8651   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     |
| R7910   | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   | R8652   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R7911   | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   | R8653   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R7912   | 1-216-830-11 | RES-CHIP    | 5.6K 5% 1/16W   | R8656   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   |
| R7913   | 1-216-818-11 | RES-CHIP    | 560 5% 1/16W    | R8657   | 1-218-704-11 | METAL CHIP  | 3.3K 0.5% 1/16W |
| R7914   | 1-216-818-11 | RES-CHIP    | 560 5% 1/16W    | R8658   | 1-218-704-11 | METAL CHIP  | 3.3K 0.5% 1/16W |
| R7915   | 1-216-818-11 | RES-CHIP    | 560 5% 1/16W    | R8703   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |
| R7916   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R8709   | 1-216-803-11 | RES-CHIP    | 33 5% 1/16W     |
| R7917   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R8711   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     |
| R7918   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | R8712   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R7919   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8713   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R7920   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8714   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R7921   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8715   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8604   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R8716   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8605   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R8717   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8606   | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    | R8718   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8607   | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    | R8719   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8608   | 1-216-819-11 | RES-CHIP    | 680 5% 1/16W    | R8720   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     |
| R8609   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8721   | 1-216-864-11 | SHORT       |                 |
| R8610   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8722   | 1-216-864-11 | SHORT       |                 |
| R8611   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8724   | 1-216-864-11 | SHORT       |                 |
| R8612   | 1-216-820-11 | RES-CHIP    | 820 5% 1/16W    | R8725   | 1-216-814-11 | RES-CHIP    | 270 5% 1/16W    |
| R8613   | 1-216-820-11 | RES-CHIP    | 820 5% 1/16W    | R8726   | 1-216-864-11 | SHORT       |                 |
| R8614   | 1-216-820-11 | RES-CHIP    | 820 5% 1/16W    | R8727   | 1-216-806-11 | RES-CHIP    | 56 5% 1/16W     |
| R8615   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8728   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     |
| R8616   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8733   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8617   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8734   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    |
| R8618   | 1-218-679-11 | METAL CHIP  | 300 0.5% 1/16W  | R8736   | 1-216-797-11 | RES-CHIP    | 10 5% 1/16W     |
| R8619   | 1-218-679-11 | METAL CHIP  | 300 0.5% 1/16W  | R8737   | 1-216-797-11 | RES-CHIP    | 10 5% 1/16W     |
| R8620   | 1-218-675-11 | METAL CHIP  | 200 0.5% 1/16W  | R8744   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     |
| R8621   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R8747   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   |
| R8622   | 1-218-679-11 | METAL CHIP  | 300 0.5% 1/16W  | R8748   | 1-218-692-11 | METAL CHIP  | 1K 0.5% 1/16W   |
| R8623   | 1-218-679-11 | METAL CHIP  | 300 0.5% 1/16W  | R8750   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     |
| R8624   | 1-218-675-11 | METAL CHIP  | 200 0.5% 1/16W  | R8751   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     |
| R8625   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | R8752   | 1-216-864-11 | SHORT       |                 |
| R8626   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8806   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    |
| R8627   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | R8807   | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     |
| R8628   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    |         |              |             |                 |



| REF.NO. | PART NO.     | DESCRIPTION | REMARK          | REF.NO. | PART NO.     | DESCRIPTION          | REMARK        |
|---------|--------------|-------------|-----------------|---------|--------------|----------------------|---------------|
| R8808   | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     | R8931   | 1-216-829-11 | RES-CHIP             | 4.7K 5% 1/16W |
| R8809   | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     | R8932   | 1-216-837-11 | RES-CHIP             | 22K 5% 1/16W  |
| R8810   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     | R8933   | 1-216-837-11 | RES-CHIP             | 22K 5% 1/16W  |
| R8811   | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     | R8934   | 1-216-824-11 | RES-CHIP             | 1.8K 5% 1/16W |
| R8813   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     |         |              |                      |               |
| R8817   | 1-218-712-11 | METAL CHIP  | 6.8K 0.5% 1/16W | R8935   | 1-216-827-11 | RES-CHIP             | 3.3K 5% 1/16W |
| R8818   | 1-218-688-11 | METAL CHIP  | 680 0.5% 1/16W  | R8937   | 1-216-833-11 | RES-CHIP             | 10K 5% 1/16W  |
| R8819   | 1-218-740-11 | METAL CHIP  | 100K 0.5% 1/16W | R8938   | 1-216-829-11 | RES-CHIP             | 4.7K 5% 1/16W |
| R8820   | 1-218-664-11 | METAL CHIP  | 68 0.5% 1/16W   |         |              |                      |               |
| R8821   | 1-218-664-11 | METAL CHIP  | 68 0.5% 1/16W   |         |              | < NETWORK RESISTOR > |               |
| R8822   | 1-218-664-11 | METAL CHIP  | 68 0.5% 1/16W   | RB7004  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8827   | 1-216-864-11 | SHORT       |                 | RB7005  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8828   | 1-216-864-11 | SHORT       |                 | RB7006  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8829   | 1-216-864-11 | SHORT       |                 | RB7007  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8835   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | RB7008  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8836   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | RB7009  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8837   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | RB7010  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8839   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | RB7011  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8840   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | RB7012  | 1-236-908-11 | RES, CHIP NETWORK    | 10K           |
| R8841   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W    | RB7013  | 1-236-908-11 | RES, CHIP NETWORK    | 10K           |
| R8843   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     | RB7014  | 1-236-908-11 | RES, CHIP NETWORK    | 10K           |
| R8844   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     | RB7201  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8845   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     | RB7202  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8849   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | RB7203  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8850   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | RB7204  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8851   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | RB7205  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8852   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W     | RB7206  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8854   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | RB7207  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8857   | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     | RB7208  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8860   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   | RB7214  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8870   | 1-216-801-11 | RES-CHIP    | 22 5% 1/16W     | RB7215  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8871   | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     | RB7216  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8901   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | RB7217  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8902   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | RB7221  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8903   | 1-216-864-11 | SHORT       |                 | RB7222  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8904   | 1-216-864-11 | SHORT       |                 | RB7223  | 1-233-575-11 | RES, CHIP NETWORK    | 22            |
| R8905   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    | RB7224  | 1-236-908-11 | RES, CHIP NETWORK    | 10K           |
| R8906   | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     | RB7601  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8907   | 1-216-805-11 | RES-CHIP    | 47 5% 1/16W     | RB7602  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8909   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W    | RB7603  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8911   | 1-216-797-11 | RES-CHIP    | 10 5% 1/16W     | RB7604  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8912   | 1-216-797-11 | RES-CHIP    | 10 5% 1/16W     | RB7605  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8914   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | RB7606  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8915   | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | RB7607  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8916   | 1-216-825-11 | RES-CHIP    | 2.2K 5% 1/16W   | RB7608  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8917   | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   | RB7609  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8918   | 1-216-845-11 | RES-CHIP    | 100K 5% 1/16W   | RB7610  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8919   | 1-216-864-11 | SHORT       |                 | RB7611  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8920   | 1-216-864-11 | SHORT       |                 | RB7612  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8921   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | RB7613  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8924   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | RB7614  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8925   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | RB7615  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8926   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | RB7616  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8928   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W    | RB7617  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8929   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W    | RB7618  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |
| R8930   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W   | RB7619  | 1-239-409-11 | RES, CHIP NETWORK    | 47            |



| REF.NO. | PART NO.     | DESCRIPTION       | REMARK | REF.NO.  | PART NO.     | DESCRIPTION                               | REMARK  |
|---------|--------------|-------------------|--------|--|--------------|---|---------|
| RB7620  | 1-239-409-11 | RES, CHIP NETWORK | 47     | RB8815   | 1-239-409-11 | RES, CHIP NETWORK                         | 47      |
| RB7624  | 1-239-409-11 | RES, CHIP NETWORK | 47     | RB8816   | 1-239-409-11 | RES, CHIP NETWORK                         | 47      |
| RB7625  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              |   |         |
| RB7626  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              | < TUNER >                                 |         |
| RB7627  | 1-239-409-11 | RES, CHIP NETWORK | 47     | TU7001   | 8-598-583-00 | UNIT, DIGITAL TUNER BTD-DA403             |         |
| RB7628  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              | < CRYSTAL >                               |         |
| RB7629  | 1-239-409-11 | RES, CHIP NETWORK | 47     | X7201  | 1-579-886-21 | VIBRATOR, CRYSTAL                         |         |
| RB7630  | 1-239-409-11 | RES, CHIP NETWORK | 47     | X7202  | 1-767-262-31 | VIBRATOR, CRYSTAL                         |         |
| RB7632  | 1-233-575-11 | RES, CHIP NETWORK | 22     | X8701  | 1-781-887-21 | VIBRATOR, CRYSTAL                         |         |
| RB7634  | 1-233-575-11 | RES, CHIP NETWORK | 22     | X8901  | 1-781-945-21 | VIBRATOR, CERAMIC                         |         |
| RB7635  | 1-233-575-11 | RES, CHIP NETWORK | 22     | *****  |              |   |         |
| RB7636  | 1-233-575-11 | RES, CHIP NETWORK | 22     |  |              | QI BOARD                                  |         |
| RB7637  | 1-233-575-11 | RES, CHIP NETWORK | 22     |  |              | *****                                     |         |
| RB7804  | 1-239-409-11 | RES, CHIP NETWORK | 47     | Note: The QI board is not field repairable and cannot be ordered independently. If service is required, use the following part number to order a replacement Q-box which includes the complete QM and QI board assemblies. |              |   |         |
| RB7805  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              | SEE SUPPLEMENT-2 Q-BOX, COMPLETE (KDP-57) |         |
| RB7806  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              | SEE SUPPLEMENT-2 Q-BOX, COMPLETE (KDP-65) |         |
| RB7807  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              | *****                                     |         |
| RB7808  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              | < CAPACITOR >                             |         |
| RB7809  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9201  | 1-124-779-00 | ELECT CHIP 10µF                           | 20% 16V |
| RB7810  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9202  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB7811  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9203  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB7813  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9204  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB7814  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9205  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8601  | 1-233-575-11 | RES, CHIP NETWORK | 22     | C9206  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8602  | 1-233-575-11 | RES, CHIP NETWORK | 22     | C9207  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8603  | 1-233-575-11 | RES, CHIP NETWORK | 22     | C9208  | 1-126-204-11 | ELECT CHIP 47µF                           | 20% 16V |
| RB8604  | 1-233-575-11 | RES, CHIP NETWORK | 22     | C9209  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8605  | 1-233-575-11 | RES, CHIP NETWORK | 22     | C9210  | 1-126-395-11 | ELECT CHIP 22µF                           | 20% 16V |
| RB8606  | 1-233-575-11 | RES, CHIP NETWORK | 22     | C9211  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8701  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9212  | 1-126-395-11 | ELECT CHIP 22µF                           | 20% 16V |
| RB8702  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9213  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8703  | 1-233-575-11 | RES, CHIP NETWORK | 22     | C9214  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8704  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9215  | 1-126-395-11 | ELECT CHIP 22µF                           | 20% 16V |
| RB8705  | 1-233-575-11 | RES, CHIP NETWORK | 22     | C9216  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8706  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9219  | 1-162-923-11 | CERAMIC CHIP 47pF                         | 5% 50V  |
| RB8707  | 1-233-575-11 | RES, CHIP NETWORK | 22     | C9220  | 1-162-926-11 | CERAMIC CHIP 82pF                         | 5% 50V  |
| RB8708  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9221  | 1-162-919-11 | CERAMIC CHIP 22pF                         | 5% 50V  |
| RB8709  | 1-233-575-11 | RES, CHIP NETWORK | 22     | C9222  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8710  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9223  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8711  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9224  | 1-162-970-11 | CERAMIC CHIP 0.01µF                       | 10% 25V |
| RB8712  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9225  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8713  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9226  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8714  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9227  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8715  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9228  | 1-164-388-91 | CERAMIC CHIP 270pF                        | 5% 50V  |
| RB8716  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9229  | 1-162-964-11 | CERAMIC CHIP 0.001µF                      | 10% 50V |
| RB8717  | 1-239-409-11 | RES, CHIP NETWORK | 47     | C9230  | 1-162-964-11 | CERAMIC CHIP 0.001µF                      | 10% 50V |
| RB8805  | 1-233-575-11 | RES, CHIP NETWORK | 22     | C9231  | 1-164-156-11 | CERAMIC CHIP 0.1µF                        | 25V     |
| RB8806  | 1-233-575-11 | RES, CHIP NETWORK | 22     |  |              |   |         |
| RB8807  | 1-233-575-11 | RES, CHIP NETWORK | 22     |  |              |   |         |
| RB8808  | 1-233-575-11 | RES, CHIP NETWORK | 22     |  |              |   |         |
| RB8809  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              |   |         |
| RB8810  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              |   |         |
| RB8811  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              |   |         |
| RB8812  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              |   |         |
| RB8813  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              |   |         |
| RB8814  | 1-239-409-11 | RES, CHIP NETWORK | 47     |  |              |   |         |



| REF.NO. | PART NO.     | DESCRIPTION  | REMARK | REF.NO. | PART NO. | DESCRIPTION | REMARK   |
|---------|--------------|--------------|--------|---------|----------|-------------|--|
| C9232   | 1-164-388-91 | CERAMIC CHIP | 270pF  | 5%      | 50V      |             |  |
| C9233   | 1-124-779-00 | ELECT CHIP   | 10μF   | 20%     | 16V      | C9298       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9234   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9299       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9235   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9301       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9236   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9302       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9237   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9303       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9238   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9304       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9239   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9305       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9240   | 1-126-206-11 | ELECT CHIP   | 100μF  | 20%     | 6.3V     | C9306       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9241   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9307       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9242   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9308       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9243   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9309       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9244   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9310       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9245   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9311       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9246   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9312       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9247   | 1-124-779-00 | ELECT CHIP   | 10μF   | 20%     | 16V      | C9313       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9248   | 1-162-919-11 | CERAMIC CHIP | 22pF   | 5%      | 50V      | C9314       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9249   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      | C9315       | 1-164-156-11 CERAMIC CHIP 0.1μF 25V                  |
| C9250   | 1-162-919-11 | CERAMIC CHIP | 22pF   | 5%      | 50V      |             |  |
| C9251   | 1-164-230-11 | CERAMIC CHIP | 220pF  | 5%      | 50V      |             | < CONNECTOR >  |
| C9252   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | CN9203 *1-815-164-11 CONNECTOR, I LINK (FLANGE TYPE) |
| C9253   | 1-126-206-11 | ELECT CHIP   | 100μF  | 20%     | 6.3V     |             | CN9204 *1-815-164-11 CONNECTOR, I LINK (FLANGE TYPE) |
| C9254   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | CN9206 *1-564-507-11 PLUG,CONNECTOR 4P               |
| C9255   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             |  |
| C9256   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | < DIODE >  |
| C9257   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | D9201 8-719-060-99 DIODE SML-210MT-T86               |
| C9258   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | D9202 8-719-060-99 DIODE SML-210MT-T86               |
| C9259   | 1-126-206-11 | ELECT CHIP   | 100μF  | 20%     | 6.3V     |             | D9203 8-719-060-99 DIODE SML-210MT-T86               |
| C9260   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | D9204 8-719-060-99 DIODE SML-210MT-T86               |
| C9261   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | D9205 8-719-060-99 DIODE SML-210MT-T86               |
| C9262   | 1-124-779-00 | ELECT CHIP   | 10μF   | 20%     | 16V      |             | D9206 8-719-060-99 DIODE SML-210MT-T86               |
| C9263   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | D9207 8-719-060-99 DIODE SML-210MT-T86               |
| C9264   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | D9208 8-719-820-05 DIODE MA152WA-TX                  |
| C9265   | 1-164-188-11 | CERAMIC CHIP | 470pF  | 2%      | 50V      |             | D9209 8-719-404-50 DIODE MA111-TX                    |
| C9267   | 1-164-188-11 | CERAMIC CHIP | 470pF  | 2%      | 50V      |             | D9210 8-719-060-99 DIODE SML-210MT-T86               |
| C9268   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             |  |
| C9270   | 1-124-779-00 | ELECT CHIP   | 10μF   | 20%     | 16V      |             | < FERRITEBEAD >                                      |
| C9271   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | FB9202 1-414-760-21 FERRITE 0μH                      |
| C9273   | 1-115-156-11 | CERAMIC CHIP | 1μF    |         | 10V      |             | FB9204 1-414-760-21 FERRITE 0μH                      |
| C9276   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | FB9211 1-414-760-21 FERRITE 0μH                      |
| C9277   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             |  |
| C9278   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | < FILTER >   |
| C9279   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | FL9201 1-400-087-21 FILTER, EMI REMOVAL (SMD)        |
| C9281   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | FL9202 1-400-087-21 FILTER, EMI REMOVAL (SMD)        |
| C9282   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | FL9203 1-781-667-21 INDUCTOR 0μH                     |
| C9283   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | FL9204 1-781-667-21 INDUCTOR 0μH                     |
| C9284   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | FL9205 1-781-667-21 INDUCTOR 0μH                     |
| C9285   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             | FL9206 1-781-667-21 INDUCTOR 0μH                     |
| C9286   | 1-162-917-11 | CERAMIC CHIP | 15pF   | 5%      | 50V      |             |  |
| C9287   | 1-162-917-11 | CERAMIC CHIP | 15pF   | 5%      | 50V      |             |  |
| C9288   | 1-162-970-11 | CERAMIC CHIP | 0.01μF | 10%     | 25V      |             |  |
| C9289   | 1-162-915-11 | CERAMIC CHIP | 10pF   | 0.5pF   | 50V      |             |  |
| C9290   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             |  |
| C9292   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             |  |
| C9295   | 1-124-779-00 | ELECT CHIP   | 10μF   | 20%     | 16V      |             |  |
| C9296   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             |  |
| C9297   | 1-164-156-11 | CERAMIC CHIP | 0.1μF  |         | 25V      |             |  |



| REF.NO. | PART NO.       | DESCRIPTION                   | REMARK   | REF.NO. | PART NO.     | DESCRIPTION | REMARK        |
|---------|----------------|-------------------------------|----------|---------|--------------|-------------|---------------|
|         | < IC >         |                               |          | R9237   | 1-216-864-11 | SHORT       |               |
| IC9201  | 8-759-475-53   | IC TC74LCX541FT(EL)           |          | R9247   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| IC9202  | 8-752-400-16   | IC CXD3203R                   |          | R9250   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| IC9203  | 8-752-396-41   | IC CXD1945R                   |          | R9251   | 1-216-864-11 | SHORT       |               |
| IC9204  | 8-759-669-46   | IC LM358PWR-12                |          | R9252   | 1-216-813-11 | RES-CHIP    | 220 5% 1/16W  |
| IC9205  | 8-759-680-30   | IC $\mu$ PD82442GN-001-LMU    |          | R9253   | 1-216-824-11 | RES-CHIP    | 1.8K 5% 1/16W |
|         |                |                               |          | R9254   | 1-216-822-11 | RES-CHIP    | 1.2K 5% 1/16W |
| IC9206  | 8-759-589-36   | IC MT48LC4M16A2TG-75          |          | R9256   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| IC9207  | 8-759-530-29   | IC TC4069UBFT(EL,N)           |          | R9257   | 1-216-836-11 | RES-CHIP    | 18K 5% 1/16W  |
| IC9208  | 8-759-475-43   | IC TC74LCX125FT(EL)           |          | R9258   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W   |
| IC9209  | 6-700-335-01   | IC $\mu$ PD30200GD-80-LBB     |          | R9259   | 1-216-815-11 | RES-CHIP    | 330 5% 1/16W  |
| IC9210  | 8-759-689-92   | IC MBM29LV160BE-90TN          |          | R9260   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W  |
| IC9211  | 8-759-689-92   | IC MBM29LV160BE-90TN          |          | R9261   | 1-216-812-11 | RES-CHIP    | 180 5% 1/16W  |
| IC9212  | 6-800-499-01   | IC MBM29LV160BE-90TN-V1.0     |          | R9262   | 1-216-811-11 | RES-CHIP    | 150 5% 1/16W  |
| IC9213  | 8-759-491-46   | IC TC74VHC04FT(EL)            |          | R9263   | 1-216-806-11 | RES-CHIP    | 56 5% 1/16W   |
| IC9214  | 8-759-491-46   | IC TC74VHC04FT(EL)            |          | R9264   | 1-216-810-11 | RES-CHIP    | 120 5% 1/16W  |
| IC9215  | 8-759-475-39   | IC TC74LCX74FT(EL)            |          | R9265   | 1-216-806-11 | RES-CHIP    | 56 5% 1/16W   |
|         | < COIL >       |                               |          | R9266   | 1-216-806-11 | RES-CHIP    | 56 5% 1/16W   |
| L9202   | 1-414-078-11   | INDUCTOR 10 $\mu$ H           |          | R9267   | 1-216-810-11 | RES-CHIP    | 120 5% 1/16W  |
| L9204   | 1-543-949-22   | FERRITE 0 $\mu$ H             |          | R9268   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
|         | < TRANSISTOR > |                               |          | R9269   | 1-218-272-11 | RES-CHIP    | 5.1K 5% 1/16W |
| Q9201   | 8-729-037-52   | TRANSISTOR 2SD2216J-QR(TX).SO |          | R9270   | 1-216-806-11 | RES-CHIP    | 56 5% 1/16W   |
|         | < RESISTOR >   |                               |          | R9271   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R9201   | 1-216-864-11   | SHORT                         |          | R9272   | 1-216-806-11 | RES-CHIP    | 56 5% 1/16W   |
| R9203   | 1-216-864-11   | SHORT                         |          | R9273   | 1-216-806-11 | RES-CHIP    | 56 5% 1/16W   |
| R9204   | 1-216-864-11   | SHORT                         |          | R9274   | 1-216-806-11 | RES-CHIP    | 56 5% 1/16W   |
| R9205   | 1-216-864-11   | SHORT                         |          | R9275   | 1-218-272-11 | RES-CHIP    | 5.1K 5% 1/16W |
| R9206   | 1-216-864-11   | SHORT                         |          | R9276   | 1-216-806-11 | RES-CHIP    | 56 5% 1/16W   |
| R9207   | 1-216-864-11   | SHORT                         |          | R9277   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| R9208   | 1-216-864-11   | SHORT                         |          | R9278   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |
| R9209   | 1-216-864-11   | SHORT                         |          | R9279   | 1-216-864-11 | SHORT       |               |
| R9210   | 1-216-864-11   | SHORT                         |          | R9280   | 1-216-864-11 | SHORT       |               |
| R9211   | 1-216-864-11   | SHORT                         |          | R9281   | 1-216-864-11 | SHORT       |               |
| R9213   | 1-216-821-11   | RES-CHIP 1K                   | 5% 1/16W | R9282   | 1-216-864-11 | SHORT       |               |
| R9214   | 1-216-821-11   | RES-CHIP 1K                   | 5% 1/16W | R9283   | 1-216-864-11 | SHORT       |               |
| R9215   | 1-216-821-11   | RES-CHIP 1K                   | 5% 1/16W | R9284   | 1-216-864-11 | SHORT       |               |
| R9216   | 1-216-821-11   | RES-CHIP 1K                   | 5% 1/16W | R9285   | 1-216-864-11 | SHORT       |               |
| R9217   | 1-216-821-11   | RES-CHIP 1K                   | 5% 1/16W | R9286   | 1-216-864-11 | SHORT       |               |
| R9218   | 1-216-821-11   | RES-CHIP 1K                   | 5% 1/16W | R9287   | 1-216-864-11 | SHORT       |               |
| R9219   | 1-216-821-11   | RES-CHIP 1K                   | 5% 1/16W | R9288   | 1-216-803-11 | RES-CHIP    | 33 5% 1/16W   |
| R9220   | 1-216-821-11   | RES-CHIP 1K                   | 5% 1/16W | R9289   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
| R9222   | 1-216-864-11   | SHORT                         |          | R9290   | 1-219-570-11 | RES-CHIP    | 10M 5% 1/16W  |
| R9226   | 1-216-864-11   | SHORT                         |          | R9291   | 1-216-851-11 | RES-CHIP    | 330K 5% 1/16W |
| R9228   | 1-216-864-11   | SHORT                         |          | R9292   | 1-216-864-11 | SHORT       |               |
| R9229   | 1-216-864-11   | SHORT                         |          | R9293   | 1-216-821-11 | RES-CHIP    | 1K 5% 1/16W   |
| R9231   | 1-216-864-11   | SHORT                         |          | R9295   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W  |
| R9232   | 1-216-833-11   | RES-CHIP 10K                  | 5% 1/16W | R9296   | 1-216-809-11 | RES-CHIP    | 100 5% 1/16W  |
| R9233   | 1-216-833-11   | RES-CHIP 10K                  | 5% 1/16W | R9340   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W  |
| R9234   | 1-216-833-11   | RES-CHIP 10K                  | 5% 1/16W | R9341   | 1-216-817-11 | RES-CHIP    | 470 5% 1/16W  |
| R9235   | 1-216-833-11   | RES-CHIP 10K                  | 5% 1/16W | R9342   | 1-216-829-11 | RES-CHIP    | 4.7K 5% 1/16W |
| R9236   | 1-216-864-11   | SHORT                         |          | R9343   | 1-216-841-11 | RES-CHIP    | 47K 5% 1/16W  |
|         |                |                               |          | R9344   | 1-216-864-11 | SHORT       |               |
|         |                |                               |          | R9345   | 1-216-864-11 | SHORT       |               |
|         |                |                               |          | R9346   | 1-216-864-11 | SHORT       |               |
|         |                |                               |          | R9347   | 1-216-864-11 | SHORT       |               |
|         |                |                               |          | R9348   | 1-216-833-11 | RES-CHIP    | 10K 5% 1/16W  |



| REF.NO. | PART NO.     | DESCRIPTION | REMARK |    |       |
|---------|--------------|-------------|--------|----|-------|
| R9349   | 1-216-864-11 | SHORT       |        |    |       |
| R9351   | 1-216-864-11 | SHORT       |        |    |       |
| R9352   | 1-216-833-11 | RES-CHIP    | 10K    | 5% | 1/16W |
| R9353   | 1-216-833-11 | RES-CHIP    | 10K    | 5% | 1/16W |
| R9355   | 1-216-864-11 | SHORT       |        |    |       |
| R9356   | 1-216-864-11 | SHORT       |        |    |       |
| R9358   | 1-216-864-11 | SHORT       |        |    |       |
| R9359   | 1-216-833-11 | RES-CHIP    | 10K    | 5% | 1/16W |
| R9360   | 1-216-833-11 | RES-CHIP    | 10K    | 5% | 1/16W |
| R9361   | 1-216-833-11 | RES-CHIP    | 10K    | 5% | 1/16W |
| R9362   | 1-216-864-11 | SHORT       |        |    |       |
| R9364   | 1-216-829-11 | RES-CHIP    | 4.7K   | 5% | 1/16W |
| R9365   | 1-216-864-11 | SHORT       |        |    |       |
| R9366   | 1-216-841-11 | RES-CHIP    | 47K    | 5% | 1/16W |
| R9367   | 1-216-845-11 | RES-CHIP    | 100K   | 5% | 1/16W |
| R9368   | 1-216-813-11 | RES-CHIP    | 220    | 5% | 1/16W |
| R9369   | 1-216-825-11 | RES-CHIP    | 2.2K   | 5% | 1/16W |
| R9370   | 1-216-864-11 | SHORT       |        |    |       |
| R9371   | 1-216-841-11 | RES-CHIP    | 47K    | 5% | 1/16W |
| R9372   | 1-216-808-11 | RES-CHIP    | 82     | 5% | 1/16W |
| R9373   | 1-216-864-11 | SHORT       |        |    |       |
| R9374   | 1-216-808-11 | RES-CHIP    | 82     | 5% | 1/16W |
| R9375   | 1-216-825-11 | RES-CHIP    | 2.2K   | 5% | 1/16W |
| R9376   | 1-216-801-11 | RES-CHIP    | 22     | 5% | 1/16W |
| R9377   | 1-216-805-11 | RES-CHIP    | 47     | 5% | 1/16W |
| R9378   | 1-216-807-11 | RES-CHIP    | 68     | 5% | 1/16W |
| R9379   | 1-216-864-11 | SHORT       |        |    |       |
| R9381   | 1-216-864-11 | SHORT       |        |    |       |
| R9382   | 1-216-833-11 | RES-CHIP    | 10K    | 5% | 1/16W |
| R9391   | 1-216-833-11 | RES-CHIP    | 10K    | 5% | 1/16W |

< NETWORK RESISTOR >

|        |              |                   |    |  |  |
|--------|--------------|-------------------|----|--|--|
| RB9201 | 1-233-575-11 | RES, CHIP NETWORK | 22 |  |  |
| RB9202 | 1-233-575-11 | RES, CHIP NETWORK | 22 |  |  |
| RB9203 | 1-233-575-11 | RES, CHIP NETWORK | 22 |  |  |
| RB9204 | 1-233-575-11 | RES, CHIP NETWORK | 22 |  |  |
| RB9205 | 1-234-525-21 | RES, CHIP NETWORK | 56 |  |  |
| RB9206 | 1-234-525-21 | RES, CHIP NETWORK | 56 |  |  |
| RB9207 | 1-234-525-21 | RES, CHIP NETWORK | 56 |  |  |
| RB9208 | 1-234-525-21 | RES, CHIP NETWORK | 56 |  |  |
| RB9209 | 1-234-525-21 | RES, CHIP NETWORK | 56 |  |  |
| RB9210 | 1-234-525-21 | RES, CHIP NETWORK | 56 |  |  |
| RB9211 | 1-234-525-21 | RES, CHIP NETWORK | 56 |  |  |
| RB9212 | 1-234-525-21 | RES, CHIP NETWORK | 56 |  |  |
| RB9213 | 1-234-525-21 | RES, CHIP NETWORK | 56 |  |  |
| RB9224 | 1-234-525-21 | RES, CHIP NETWORK | 56 |  |  |
| RB9225 | 1-233-575-11 | RES, CHIP NETWORK | 22 |  |  |
| RB9226 | 1-233-575-11 | RES, CHIP NETWORK | 22 |  |  |
| RB9227 | 1-233-575-11 | RES, CHIP NETWORK | 22 |  |  |
| RB9228 | 1-233-575-11 | RES, CHIP NETWORK | 22 |  |  |

< CRYSTAL >

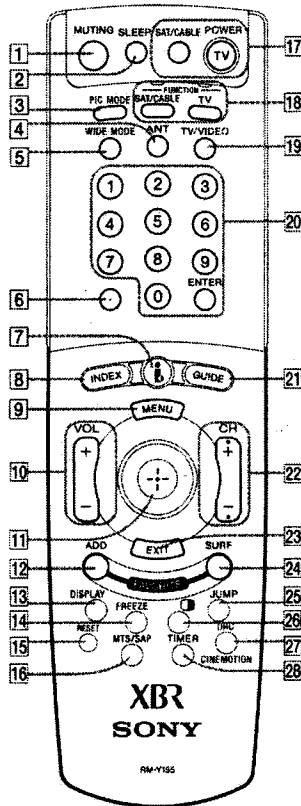
|       |              |                   |  |  |  |
|-------|--------------|-------------------|--|--|--|
| X9202 | 1-579-886-21 | VIBRATOR, CRYSTAL |  |  |  |
| X9203 | 1-767-779-21 | VIBRATOR, CRYSTAL |  |  |  |



Introducing the Projection TV


Button Descriptions

The following table describes the buttons on the remote control's outside and inside panels.



Outside Panel

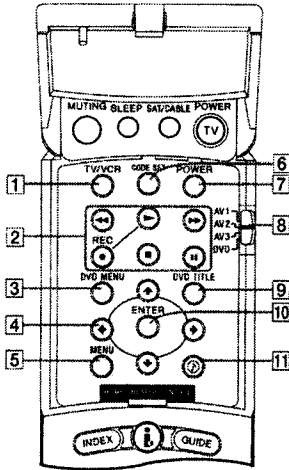
| Button          | Description  |
|-----------------|--|
| 1 MUTING        | Press to mute the sound. Press again or press VOL+ to restore the sound.   |
| 2 SLEEP         | Press repeatedly until the projection TV displays the time in minutes (15, 30, 45, 60, or 90) that you want the projection TV to remain on before shutting off automatically. Cancel by pressing until Sleep Off appears. While the Sleep feature is set, press once to view remaining time. |
| 3 PIC MODE      | Press repeatedly to step through the video picture modes: Vivid, Standard, Movie, Game, Pro. Also available in the Video menu. For details, see page 52.   |
| 4 ANT           | Press to change between the VHF/UHF input and the CABLE input.   |
| 5 WIDE MODE     | Press repeatedly to step through the Wide Mode settings: Wide Zoom, Normal, Full, Zoom. Also available in the Screen Mode menu. For details, see pages 43 and 56.  |
| 6               | Use with 0 - 9 and ENTER buttons to select subchannels (for example, 2.1). For details on selecting subchannels, see page 38.  |
| 7               | Press to display the i.LINK Control Panel. There is also an i.LINK button on the front panel of the projection TV (see page 13). For details on using the i.LINK Control Panel, see page 48.   |
| 8 INDEX         | Press to display the Scrolling Channel Index. For details, see page 39.  |
| 9 MENU          | Press to display the projection TV on-screen menu. Press again to exit from the menus. For details, see page 51.   |
| 10 VOL          | Press to adjust the volume.  |
| 11              | Move the joystick $\blacktriangleleft\blacktriangleright\blacktriangleup\blacktriangledown$ to move the on-screen cursor. To select an item, press the center of the joystick ().  |
| 12 ADD FAVORITE | Press to add the current channel to the Favorite Channels list. For details, see page 40.  |
| 13 DISPLAY      | Press once to display the channel number, channel label (if set), time, and other information. When the DTV is receiving a digital signal with Dolby Digital, the decoding type is displayed (Dolby Digital or Dolby Digital Pro Logic). Press again to turn Display off.                    |
| 14 FREEZE       | Press to freeze the window picture. Press again to restore the picture. For details, see page 47.  |

| <b>Button</b>   | <b>Description</b>   |
|---|--|
| <b>15</b> RESET   | Press while a menu is displayed (page 51 to 66) to reset the settings to the factory defaults. Also used to clear Favorite Channels (see page 42).   |
| <b>16</b> MTS/SAP   | Press repeatedly to step through the Multi-channel TV Sound (MTS) options: Stereo, Auto SAP, and Mono. Also available in the Audio menu. For details, see page 54.                         |
| <b>17</b> POWER buttons<br>(GREEN)  | Press to turn on and off the projection TV and other audio/video equipment you have programmed into the remote control. For instructions, see "Programming the Remote Control" on page 68. |
| <b>18</b> FUNCTION<br>buttons   | Press to select the equipment (SAT/CABLE or TV) that you want to operate. The indicator lights up momentarily when pushed to show which device the remote control is operating.            |
| <b>19</b> TV/VIDEO  | Press repeatedly to step through the video equipment connected to your projection TV's video inputs.   |
| <b>20</b> 0 – 9 and ENTER   | Press 0 - 9 to select a channel — the channel changes after 2 seconds. Press ENTER to select immediately.  |
| <b>21</b> GUIDE   | Press to display the program guide. For details, see page 38.  |
| <b>22</b> CH  | Press to scan through channels. To scan rapidly through channels, press and hold down either CH button.  |
| <b>23</b> EXIT  | Press to exit the on-screen menu or display and return to normal viewing.  |
| <b>24</b> SURF FAVORITE   | Press to display the Favorite Channels list. For details, see page 41.   |
| <b>25</b> JUMP  | Press to jump back and forth between two channels. The projection TV alternates between the current channel and the last channel that was selected.  |
| <b>26</b>  (TWIN VIEW) | Press to turn on and off Twin View. For details, see pages 44 to 46.   |
| <b>27</b> DRC<br>CINEMOTION   | Press repeatedly to step through the available high-resolution picture modes: Interlaced, Progressive and CineMotion. Also available in the Video menu. For details, see page 53.          |
| <b>28</b> TIMER   | Press to program the projection TV to turn on and off and tune to a specific channel at two scheduled viewing times (see page 49). Also available in the Setup menu (see page 66).         |

Introducing the Projection TV

Inside Panel

You can access the following buttons by lifting up the outside panel.



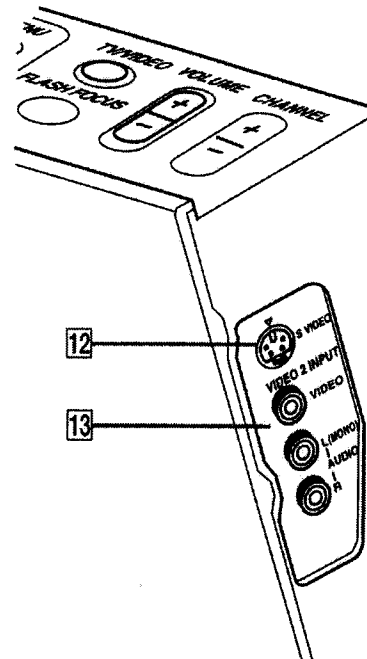
| Button                     | Description  |
|----------------------------|--|
| 1 TV/VCR                   | Press to change the VHF/UHF output of the VCR.   |
| 2 Transport Buttons        | <ul style="list-style-type: none"> <li>◀◀ Rewind</li> <li>▶▶ Play</li> <li>● Record (press together with ▶▶)</li> <li>■ Stop</li> <li>▶▶ Fast-forward</li> <li>   Pause</li> </ul> |
| 3 DVD MENU                 | Press to display the DVD disc menu.  |
| 4 ◀◀▶▶                     | Press ◀◀▶▶ to move the on-screen cursor.   |
| 5 MENU                     | Press to display the DVD setup menu.   |
| 6 CODE SET                 | Used for programming the remote control to operate non-Sony video equipment. For details, see "Programming the Remote Control" on page 68.   |
| 7 POWER                    | Press to turn on and off other audio/video equipment you have programmed into the remote control. For instructions, see "Programming the Remote Control" on page 68.               |
| 8 AV1<br>AV2<br>AV3<br>DVD | Use to switch control for connected video equipment. You can program one video source for each switch position. For details, see "Programming the Remote Control" on page 68.      |
| 9 DVD TITLE                | Press to display the DVD title.  |
| 10 ENTER                   | Press to select.   |
| 11                         | Press repeatedly to step through the Audio Effect options: Dolby Surround, Simulated, and Off. Also available in the Audio menu. For details, see page 54.                         |

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Setting Up the Projection TV

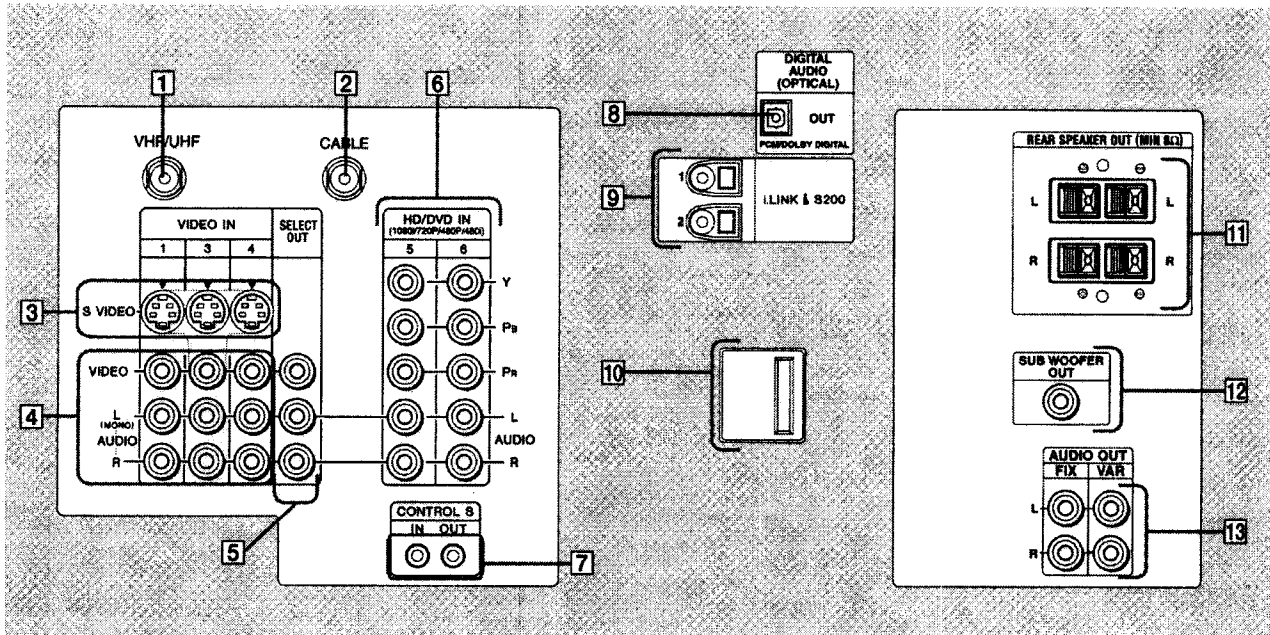
---

Side of Front Panel



- |  |  |
|--|--|
| <b>12</b> S VIDEO 2 INPUT                        | Connects to the S VIDEO OUT jack of your camcorder or other S VIDEO equipped video component. Provides better picture quality than the VHF/UHF jacks or the Video IN jack. |
| <b>13</b> VIDEO 2 INPUT<br>VIDEO/L(MONO)-AUDIO-R | Connect to the audio and video OUT jacks on your camcorder or other video component.   |

Rear Panel



| Connection  | Description  |
|---|--|
| 1 VHF/UHF   | Connects to your VHF/UHF antenna. VHF/UHF is the digital TV antenna input.   |
| 2 CABLE   | Connects to your cable source.   |
| 3 S VIDEO IN 1/3/4                                    | Connects to the S VIDEO OUT jack of your VCR or other S VIDEO-equipped video component. Provides better picture quality than the VHF/UHF jacks or the Video IN jack.   |
| 4 VIDEO IN 1/3/4<br>VIDEO/L(MONO)-AUDIO-R             | Connect to the audio and video OUT jacks on your VCR or other video component. A 6th video input (VIDEO 2) is located on the front panel of the projection TV. The Audio and Video IN jacks provide better picture quality than the VHF/UHF IN jack. |
| 5 SELECT OUT  | Connect to the audio and video IN jacks on your VCR or other video component. The output signal is determined by the SELECT OUT setting in the Setup menu (see page 65).   |
| 6 HD/DVD IN<br>(1080i/720p/480p/480i)<br>VIDEO IN 5/6 | Connect to your DVD player's or digital set-top box's component video (Y, PB, PR) and audio (L/R) jacks.   |
| 7 CONTROL S<br>IN/OUT                                 | Allows the projection TV to receive (IN) and send (OUT) remote control signals to other Sony infrared-controlled audio or video components.  |
| 8 DIGITAL AUDIO (OPTICAL)<br>OUT PCM/DOLBY DIGITAL    | Connect to the optical audio input of an audio component that is Dolby Digital and PCM compatible.   |

continued on next page

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## Setting Up the Projection TV

| <b>Connection</b>                                | <b>Description</b>   |
|--|--|
| <b>9</b> i.LINK S200                             | Used for connecting i.LINK equipped devices.                                 |
| <b>10</b> Service Only                           | For Sony service use only.   |
| <b>11</b> REAR SPEAKER OUT                       | Used for connecting optional rear speakers.                                  |
| <b>12</b> SUBWOOFER OUT                          | Used for connecting an optional powered subwoofer.                           |
| <b>13</b> AUDIO OUT (VAR/FIX)<br>L(MONO)-AUDIO-R | Connect to the left and right audio inputs of your audio or video component. |

## Basic Connections

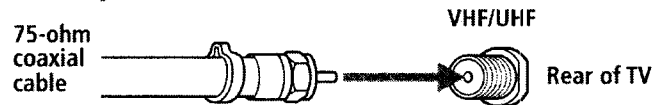
This section describes how to connect a VHF/UHF antenna, CATV cable, and CATV cable box.

### Connecting a VHF/UHF Antenna

The connection you choose depends on the type of VHF/UHF antenna you have in your home.

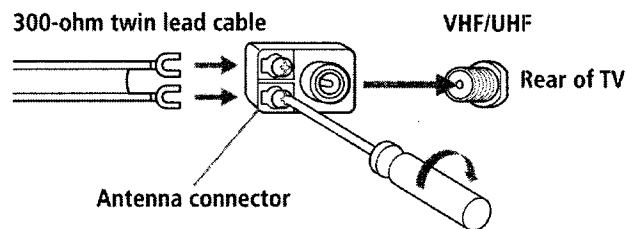
Newer homes are usually equipped with 75-ohm coaxial cable (**A**):

**A** VHF Only or VHF/UHF



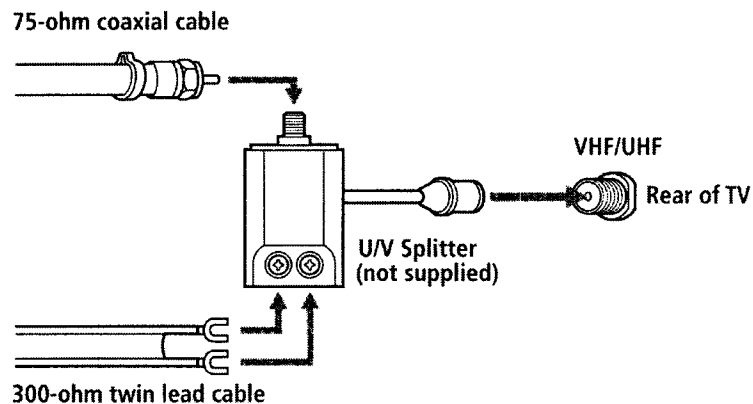
Older homes may have 300-ohm twin lead cable (**B**):

**B** VHF Only or UHF Only or VHF/UHF



Some homes may have both 75-ohm coaxial and 300-ohm twin lead cables (**C**):

**C** VHF and UHF



⚠ Of the three methods shown, connection **A** results in the best picture quality.

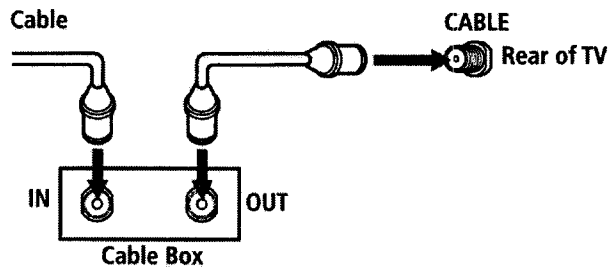


**Connecting a CATV  
Cable or a  
CATV Cable Box**

CATV Cable



CATV Cable Box

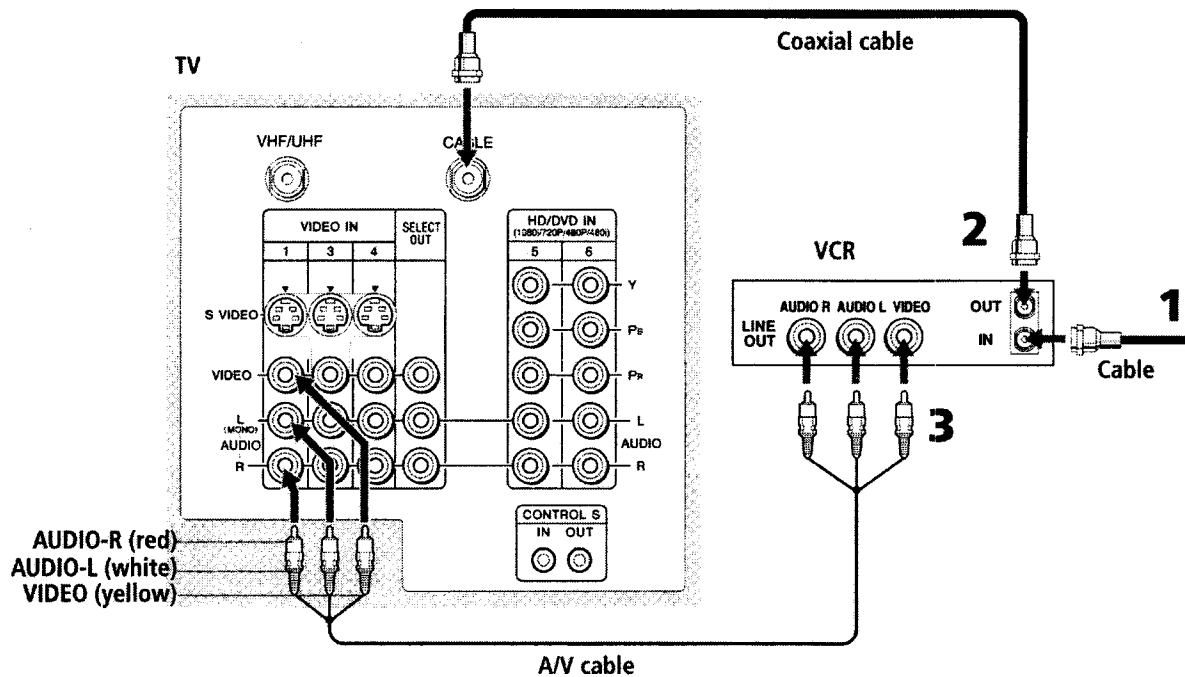


## Connecting a VCR and Cable

Use this hookup if you have cable TV that does not require a cable box.

- 1 Connect the cable TV cable to the VCR's IN jack.
- 2 Using a coaxial cable, connect the VCR's OUT jack to the projection TV's CABLE jack.
- 3 Using an A/V cable, connect the VCR's Audio and Video OUT jacks to the projection TV's Audio and Video IN jacks.

⚠ If the VCR you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because an S VIDEO cable carries only the video signal, you will also need audio cables for sound.



## Connecting a VCR and Cable Box

### Use this hookup if


- Your cable TV company scrambles some channels, but not all of them (pay channels vs. regular cable channels), so you need to use a cable box
- You want to use the Twin View or Scrolling Channel Index feature.

### With this setup you can

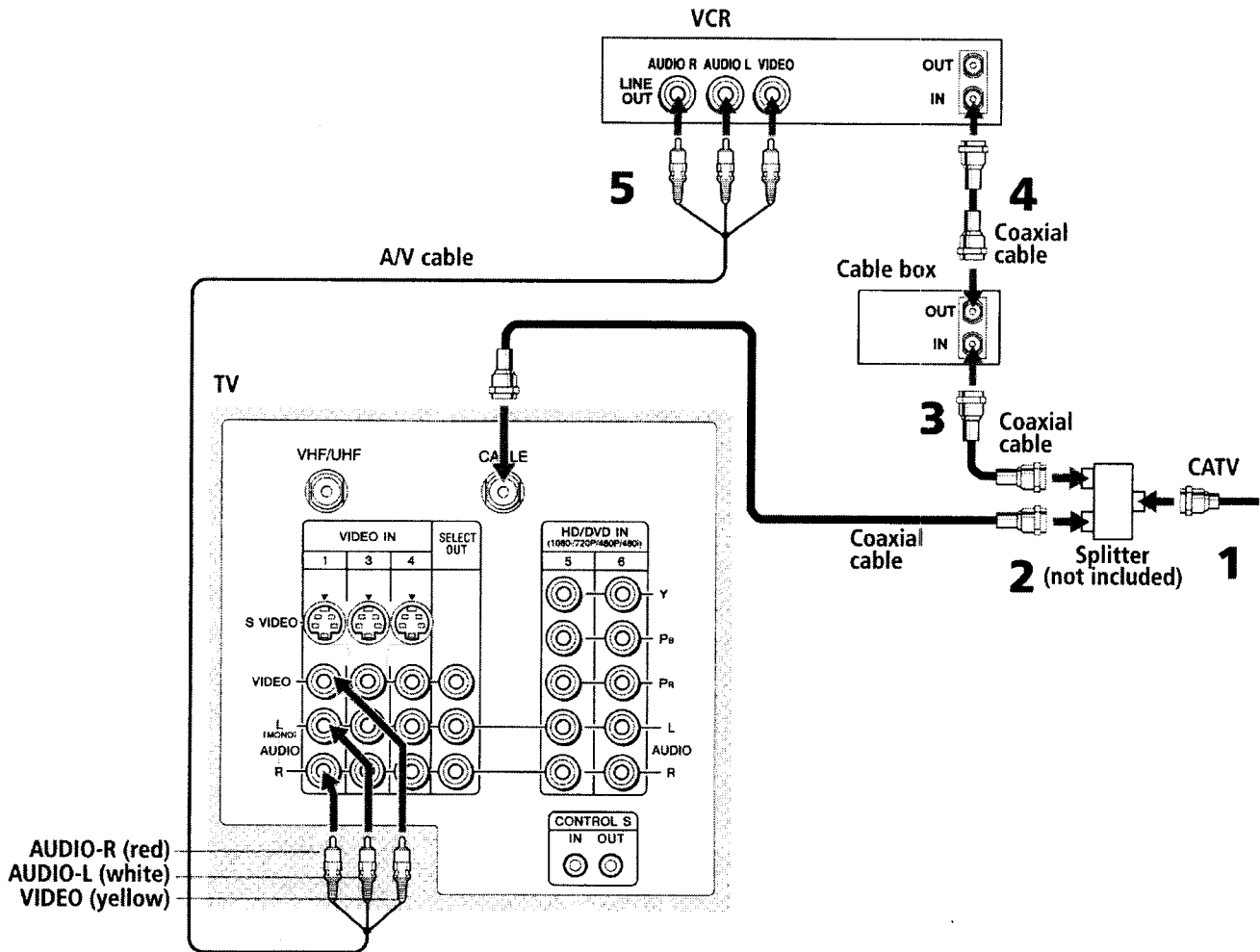
- Use the projection TV remote control to change channels using your cable box when the signal is scrambled.
- Use the projection TV remote control to change channels using your projection TV when the signal is not scrambled. (Your projection TV's tuner provides a better signal than the cable box.)
- Use the Twin View and Scrolling Channel Index features.
- Record both regular cable TV and scrambled channels.

### To connect a cable box and a VCR, you will need

- A small inexpensive device known as a splitter.
  - Three short coaxial cables.
  - Either a combination audio/video cable, or an S VIDEO cable and audio cables.
- 1 Connect the CATV cable to the single (input) jack of the splitter.
  - 2 Use a coaxial cable to connect one of the two output jacks of the splitter to the projection TV's CABLE jack.
  - 3 Use a coaxial cable to connect the other output jack of the splitter to the input jack of the cable box.
  - 4 Use a coaxial cable to connect the output jack of the cable box to the input jack of the VCR.
  - 5 Use the video line (yellow) of a combination audio/video (A/V) cable to connect the video output jack of the VCR to the video input jack of the projection TV.

 If your VCR has an S VIDEO jack, you can substitute an S VIDEO cable for the video line of an A/V cable. The S VIDEO cable will provide improved video signal quality.

- 6 Connect the left (white) and right (red) audio output channels of the VCR to the respective input jacks on the projection TV.



**IMPORTANT** - To use the Twin View or Scrolling Channel Index feature or to watch premium (scrambled) channels the **VCR MUST BE TURNED ON**; otherwise, you will be unable to view them.

**To view scrambled channels:**

- Press TV/VIDEO on the remote control to select the input to which you connected the VCR. Turn on the VCR, and make sure the VCR input selection is set to RF Input. Then use the cable box to change channels.

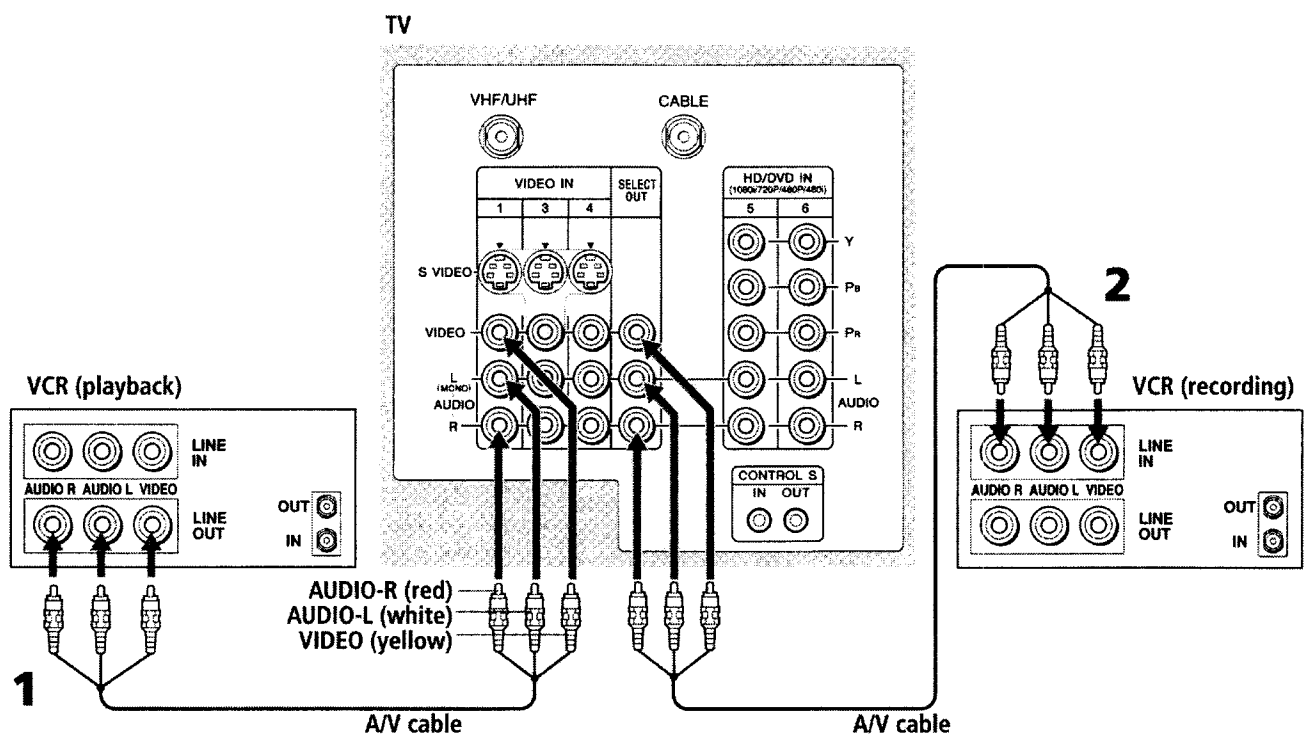
**To prevent the accidental switching of channels:**

- When using a VCR or cable box, you can use the Channel Fix feature to lock in a channel. For details, see page 58.

## Connecting Two VCRs for Tape Editing

The SELECT OUT jacks allow you use a second VCR to record a program being played by the primary VCR to edit and dub tapes.

- 1 Using an A/V cable, connect the playback VCR's Audio and Video OUT jacks to the projection TV's Audio and Video IN jacks.
- 2 Using an A/V cable, connect the recording VCR's Audio and Video OUT jacks to the projection TV's SELECT OUT jacks.



- 3 If necessary, change the video input on your VCR. (For details, see your VCR's instruction guide.)

### To do tape editing

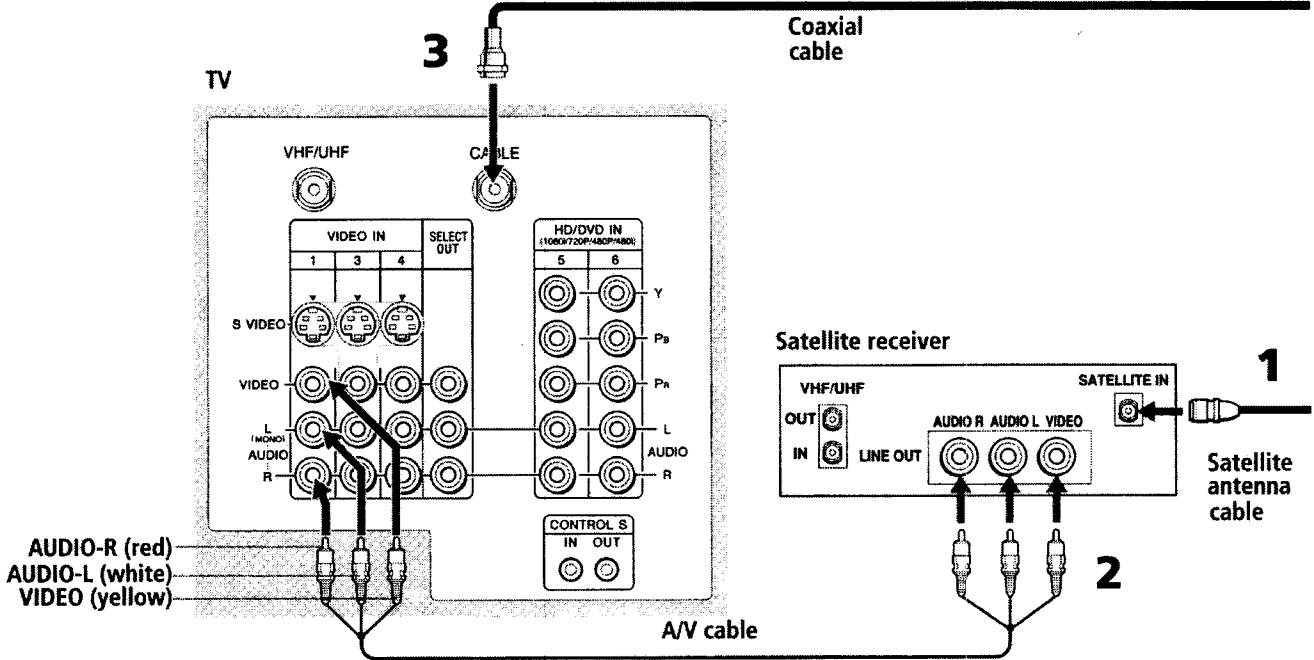
- Press TV/VIDEO on the remote control to select the playback VCR.

You can select the output signal from the SELECT OUT jacks in the Setup menu. For details, see page 65.

### Connecting a Satellite Receiver

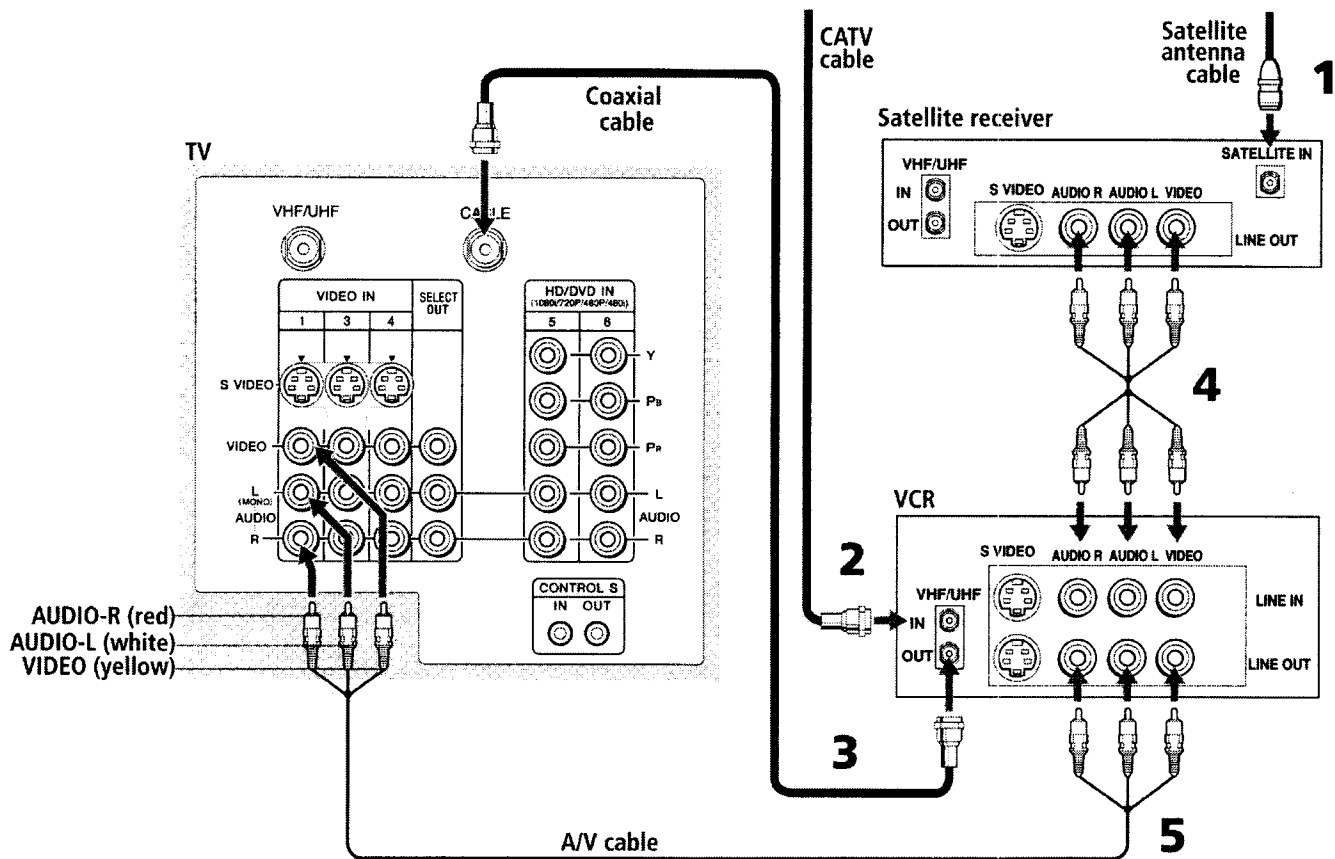
- 1 Connect the satellite antenna cable to the satellite receiver's SATELLITE IN jack.
- 2 Using an A/V cable, connect the satellite receiver's Audio and Video OUT jacks to the projection TV's Audio and Video IN jacks.
- 3 Connect a coaxial cable from your cable or antenna to the projection TV's CABLE jack.


⚠ If the receiver you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will also need audio cables for sound.



## Connecting a Satellite Receiver with a VCR

- 1 Connect the satellite antenna cable to the satellite receiver's SATELLITE IN jack.
- 2 Connect the CATV cable to the VCR's VHF/UHF IN jack.
- 3 Using a coaxial cable, connect the VCR's OUT jack to the projection TV's CABLE jack.
- 4 Using an A/V cable, connect the satellite receiver's Audio and Video OUT jacks to the VCR's Audio and Video IN jacks.
- 5 Using an A/V cable, connect the VCR's Audio and Video OUT jacks to the projection TV's Audio and Video IN jacks.
- 6 If necessary, change the video input on your VCR. (For details, see your VCR's instruction guide.)



 If the peripherals you are connecting have S VIDEO jacks, you can use S VIDEO cables for improved picture quality (compared to combination audio/video cables). Because S VIDEO cables carry only the video signal, you will also need audio cables for sound.

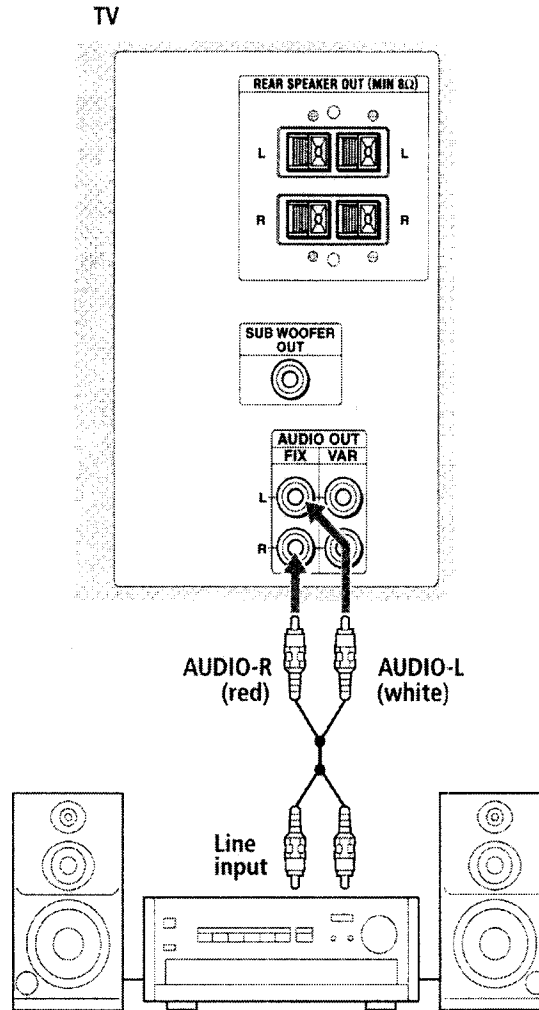


## Connecting an Audio Receiver

For better sound quality, you may want to connect your projection TV to your stereo system's audio receiver.

### To connect to an audio receiver

- ❑ Use audio cables to connect the projection TV's Audio OUT jacks to the audio receiver's audio LINE IN jacks.



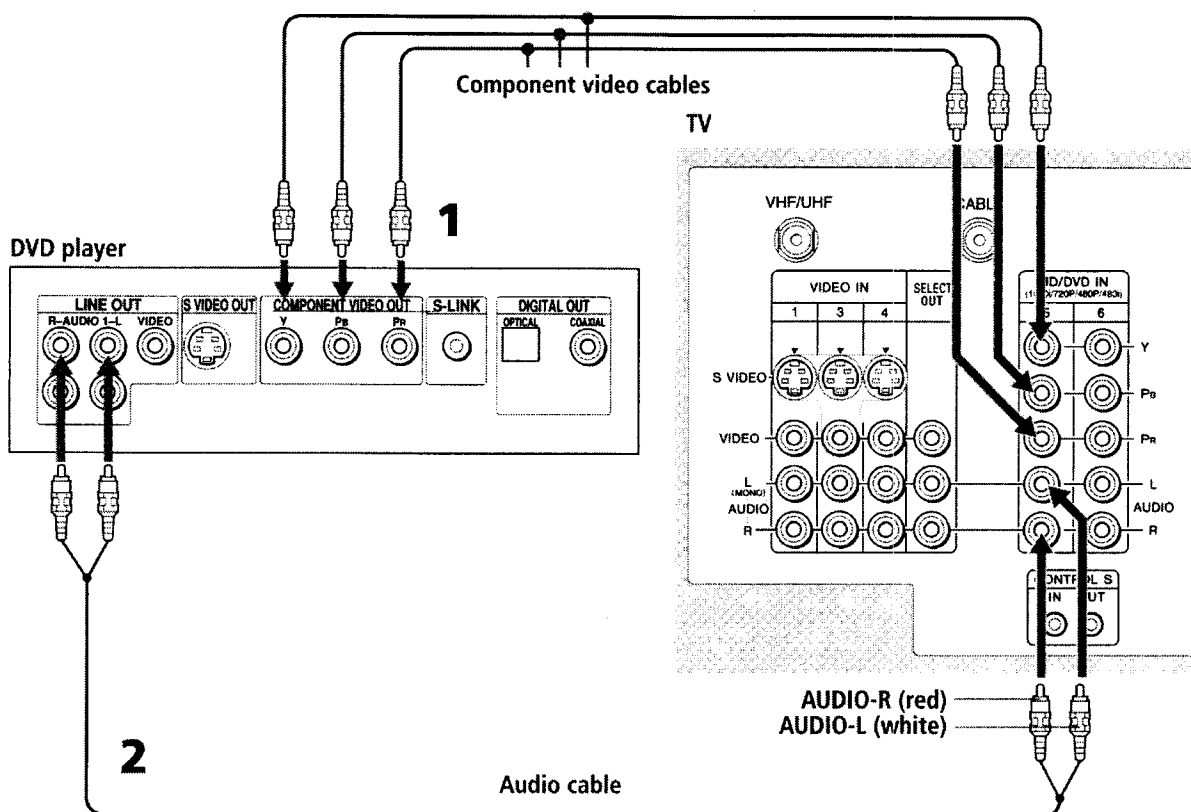
## Connecting a DVD Player with Component Video Connectors


This is the preferred hookup to use if your DVD player has component video out jacks.

- 1 Using three separate component video cables, connect the DVD player's Y, PB and PR jacks to the Y, PB and PR jacks on the projection TV. Use the HD/DVD IN 5 or 6 connections.

 The Y, PB and PR jacks on your DVD player are sometimes labeled Y, CB and CR, or Y, B-Y and R-Y. If so, connect the cables to like colors.


- 2 Using an audio cable, connect the DVD player's Audio OUT jacks to the projection TV's Audio IN jacks. Be sure to use the same column of inputs that you used for the video connection (HD/DVD IN 5 or 6).



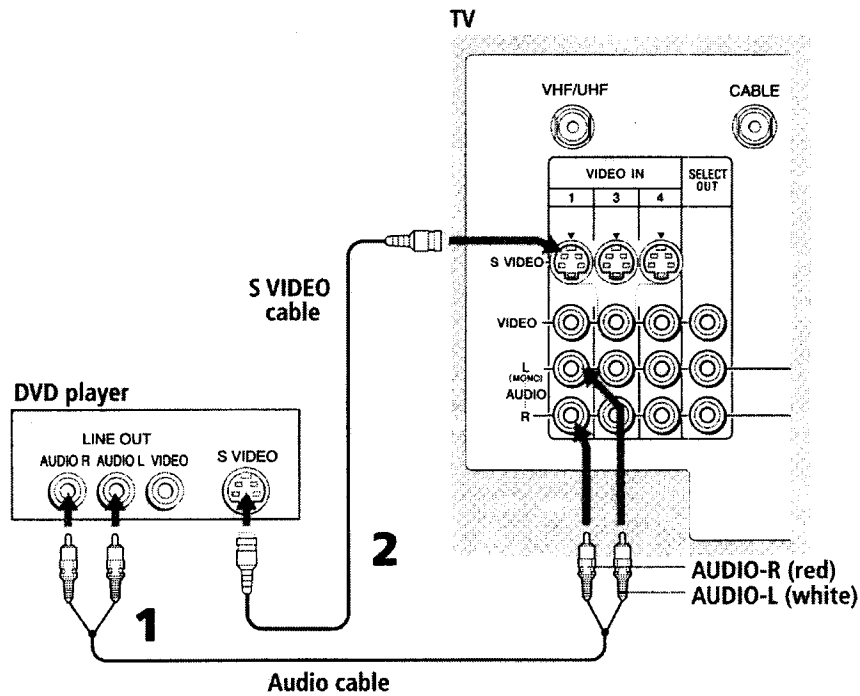
 You cannot record the signal from any equipment connected into the Y, PB, PR jacks.

## Connecting a DVD Player with A/V Connectors

Use this hookup if your DVD player does not have component video out jacks (as shown on page 26).

 An S VIDEO connection will give a good-quality video signal, but if your DVD player has component video, that connection (described on page 26) will give an even better signal.

- 1 Using audio cables, connect the DVD player's Audio OUT jacks to the projection TV's Audio IN jacks.
- 2 Using an S VIDEO cable, connect the DVD player's S VIDEO jack to the projection TV's S VIDEO jack.



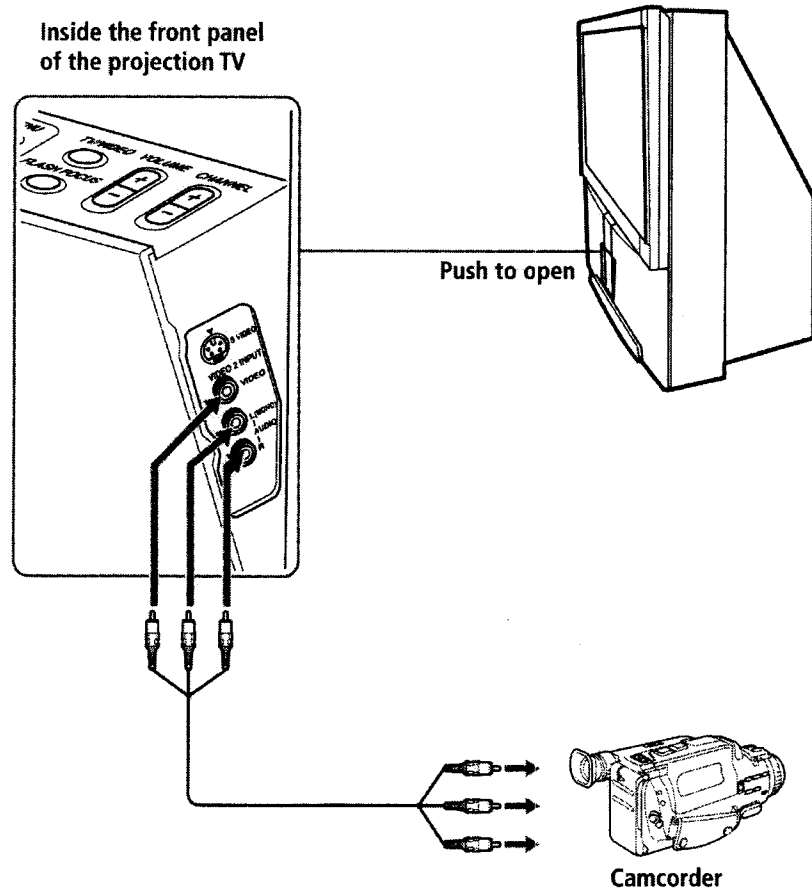
**To switch between your projection TV, VCR and DVD**

- Press TV/VIDEO to switch from one input device to another.

## Connecting a Camcorder

For easy connection of the camcorder, the projection TV has front Audio and Video inputs (shown below). If you prefer, you can connect the camcorder to the projection TV's rear Audio and Video IN jacks.

- Using A/V cables, connect the camcorder's Audio and Video OUT jacks to the projection TV's Audio and Video IN jacks.



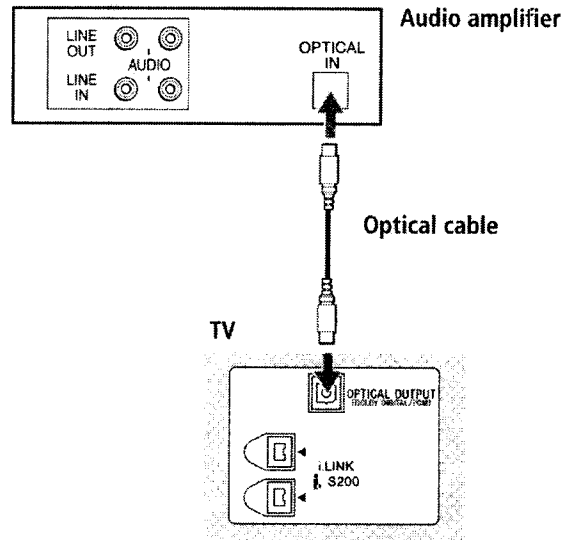
If you have a mono camcorder, connect its audio output to the projection TV's AUDIO L jack.

- ⚡ If the camcorder you are connecting has an S VIDEO jack, you can use an S VIDEO cable for improved picture quality (compared to a combination audio/video cable). Because S VIDEO cables carry only the video signal, you will also need audio cables for sound.

## Connecting a Device with an Optical IN Connector

You can use the projection TV's DIGITAL AUDIO OPTICAL OUTPUT jack to connect an audio device that is Dolby Digital and PCM compatible, such as an audio amplifier.

- Using an optical cable, connect the device's DIGITAL AUDIO IN jack to the projection TV's DIGITAL AUDIO OPTICAL OUTPUT jack.



✎ The optical output works only for DTV programming, so you might also want to connect the projection TV's analog audio out connectors to the amplifier's analog audio in connectors, as described on page 25.

## Connecting i.LINK Compatible Devices

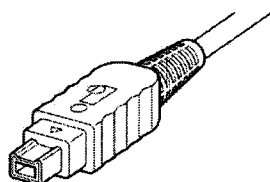
This projection TV is equipped with i.LINK, which provides a secure digital interface to other digital home entertainment devices, including digital cable set-top boxes. i.LINK allows for the secure transfer of copyright-protected high-definition content between these devices and your digital television.

⚠ Upon initial release of this projection TV to the market, the Sony digital cable set-top box (DHG-M55CV) is the only i.LINK device that is verified to be compatible with this projection TV.

For more information about i.LINK, see "About i.LINK" on page 73.

### Using i.LINK Cables

This projection TV has two 4-pin S200 i.LINK terminals. You can use any of the following i.LINK cables with the projection TV:



4-pin i.LINK cable

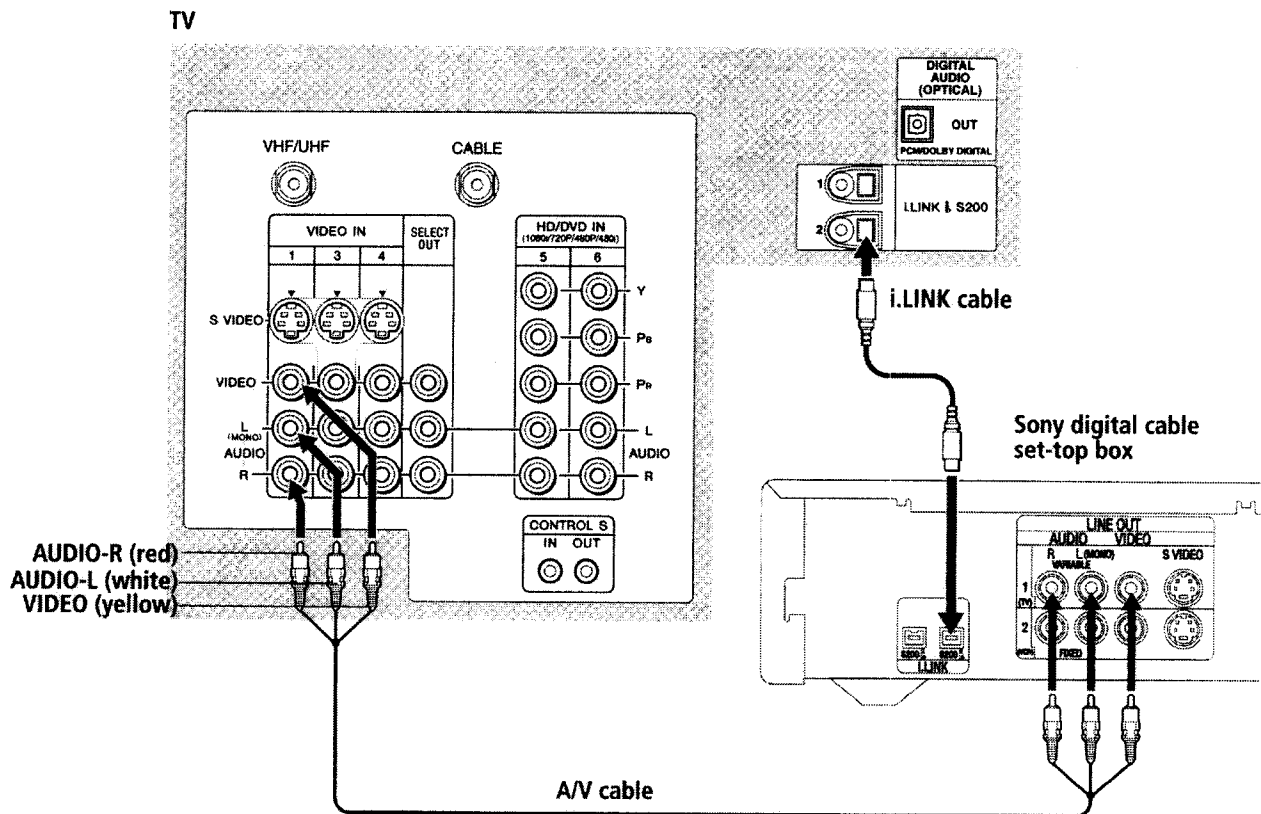
| <b>Sony Model Number</b> | <b>Length</b> |
|--------------------------|---------------|
| VMC-IL4415               | 1.5 meters    |
| VMC-IL4435               | 3.5 meters    |

⚠ Do not use cables other than the types listed above.

## Connecting Cables

Before connecting this unit to i.LINK-compatible equipment, see the instruction manual of the i.LINK device to be connected.

- 1 Using an A/V cable, connect the i.LINK device's Audio and Video OUT jacks to the projection TV's Audio and Video IN jacks.
- 2 Using an i.LINK cable (see page 30), connect the device's i.LINK jack to either of the projection TV's i.LINK jacks.

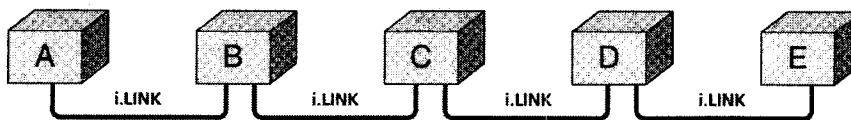


i.LINK devices can be "hotplugged" (connected and disconnected while they are still powered on). The projection TV automatically recognizes the device and displays the screen shown on page 33.

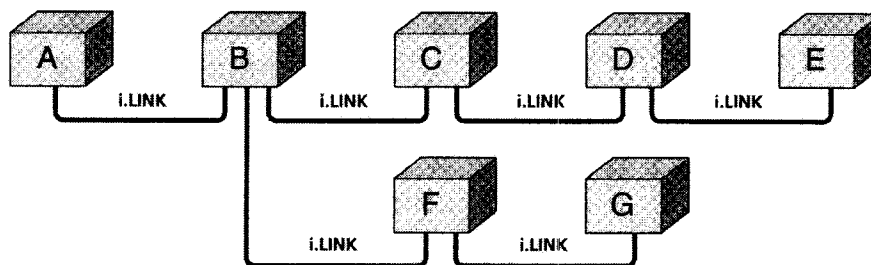
**Notes on Connecting  
i.LINK Devices**

As additional compatible i.LINK devices are introduced in the future, observe the following when connecting devices to the projection TV.

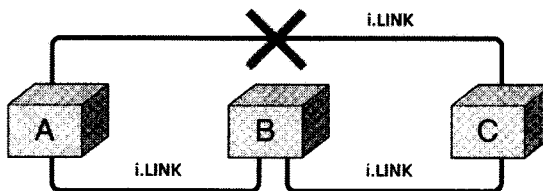
- ❑ To connect two or more i.LINK-capable devices, use i.LINK cables to connect them as shown below.



- ❑ You can connect up to 63 i.LINK devices. However, the maximum number of cables in any serial route is 16.



- ❑ Do not connect i.LINK devices in a way that creates a loop.



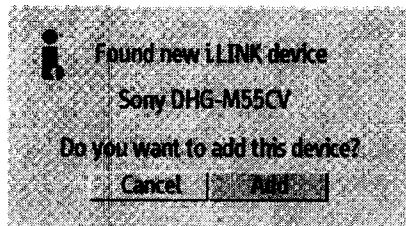
- ❑ Connecting non-compatible devices, such as camcorders, PCs, or PC peripherals, may result in malfunctions.



## Completing i.LINK Setup

Before you can use an i.LINK device with the projection TV, you need to register the device as follows.

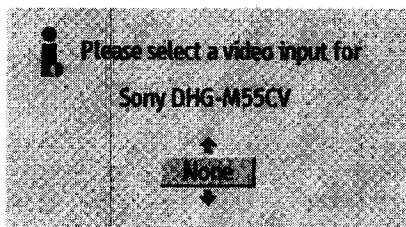
- 1 After you've connected the cables (as described on page 31), first turn on the projection TV, and then turn on the i.LINK device(s). The following screen automatically appears.



To add the i.LINK device, highlight Add and press  $\odot$ .

$\triangleleft$  If you select Cancel, the i.LINK device is set up as "hidden" and it does not appear in the i.LINK Control Panel. To see the device in the i.LINK Control Panel, change the i.LINK Setup option from Hide to Show in the Setup menu (see page 65).

- 2 If you selected Add in step 1, and the device requires an analog video connection (see the device's instruction manual), the following screen appears.



$\triangleleft$  Depending on the i.LINK device you are setting up, this screen may not be displayed. In this case, the device's video input will be displayed as N/A.

- 3 Move the joystick  $\uparrow$  and  $\downarrow$  to highlight the video input (VIDEO 1-4) that connects the i.LINK device to the projection TV. If you don't need an analog video connection, select None. Then press  $\odot$

A confirmation screen appears, which indicates the i.LINK device name and video input. The device is now available in the i.LINK Control Panel (see page 48).

### For more information

- To change the setup of the i.LINK device, use the Setup menu. For details, see page 65.
- For information on using the i.LINK Control Panel, see page 48.
- For general information about i.LINK, see page 73.

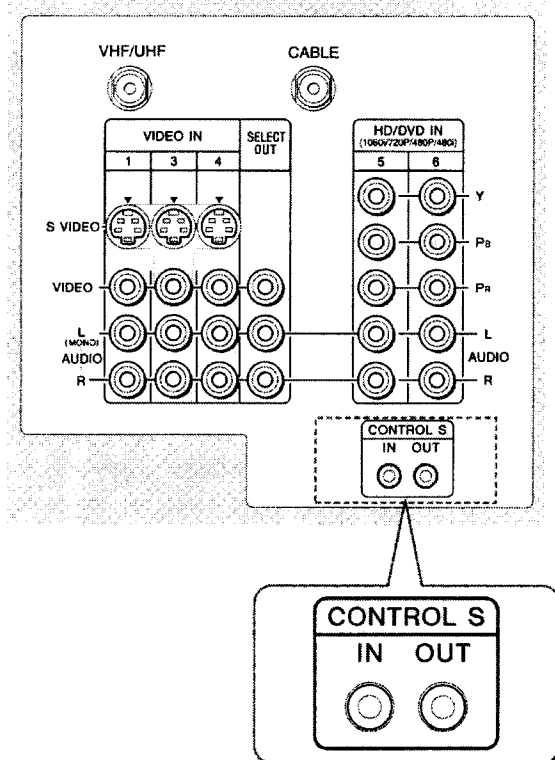
## Using the CONTROL S Feature

CONTROL S allows you to control your system and other Sony equipment with one remote control. In addition to allowing you to control multiple devices with one remote control, the CONTROL S feature allows you to always point your remote control at your projection TV, instead of having to point it at the other equipment, which might be hidden or out of direct line of sight.

Use CONTROL S IN to send signals to the projection TV.

Use CONTROL S OUT to send signals to connected equipment.

TV



# SERVICE MANUAL

# RA-5A CHASSIS

| <u>MODEL NAME</u> | <u>REMOTE COMMANDER</u> | <u>DESTINATION</u> | <u>CHASSIS NO.</u> |
|-------------------|-------------------------|--------------------|--------------------|
| <b>KDP-57XBR2</b> | RM-Y185                 | US                 | SCC-P69B-A         |
| <b>KDP-57XBR2</b> | RM-Y185                 | Canadian           | SCC-P69B-A         |
| <b>KDP-65XBR2</b> | RM-Y185                 | US                 | SCC-P69A-A         |
| <b>KDP-65XBR2</b> | RM-Y185                 | Canadian           | SCC-P69A-A         |

## SUPPLEMENT - 1

SUBJECT: ADJUSTMENT MANUAL ADDED

Correct the service manual as shown.  
File this Correction with the service manual.

DIGITAL HIGH DEFINITION PROJECTION TV

# SONY®

Sony Corporation  
Sony Technology Center  
Technical Services  
Service Promotion Department

English  
2001JK74WEB-1  
Printed in USA  
© 2001.11

# KDP-57XBR2 KDP-65XBR2 Adjustment Manual

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- 1-2 Deflection Yoke Tilt Adjustment
- 1-3 Focus Lens Adjustment
- 1-4 Focus Control Adjustment
- 1-5 2-pole Magnet and Centering Magnet Adjustment
- 1-6 4-pole Magnet Adjustment
- 1-7 Defocus Adjustment (Blue CRT Only)

#### 2- Picture Adjustments

- 2-1 480p Y, Pb, Pr Gain Adjustment
- 2-2 Main Y/C Level Adjustment (for DRC Signal Path)
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- 2-5 Sub Y/C Level Adjustment (for VDO Signal Path)
- 2-6 Main-decoder Sub-contrast Adjustment (for Composite and Y/C Inputs)
- 2-7 Main-decoder Sub-color and Sub-hue Adjustment (for Composite and Y/C Inputs)
- 2-8 Sub-decoder Sub-contrast Adjustment (for Y/C Inputs)
- 2-9 Sub-decoder Sub-color and Sub-hue Adjustment (for Y/C Inputs)
- 2-10 Sub-decoder Sub-contrast Adjustment (for Composite Input)
- 2-11 Sub-decoder Sub-color and Sub-hue Adjustment (for Composite Input)
- 2-12 Main-decoder Pb and Pr Offset Adjustment
- 2-13 Sub-decoder Pb and Pr Offset Adjustment
- 2-14 Blue Offset Adjustment
- 2-15 Sub-contrast Adjustment
- 2-16 Sub-color and Sub-hue Adjustment
- 2-17 RF Sub-contrast Adjustment
- 2-18 RF Sub-color and Sub-hue Adjustment
- 2-19 Sub-brightness Adjustment
- 2-20 Neutral White Balance Adjustment
- 2-21 Cool White Balance Adjustment
- 2-22 Warm White Balance Adjustment
- 2-23 Using the Internally Generated Patterns

#### 3- Registration and Geometry Adjustments

- 3-1 Setup for Adjustment
- 3-2 Main Deflection Adjustment
- 3-3 PJE Mode Sub-deflection Adjustment
  - 3-3-1 Function keys on the Remote Commander
  - 3-3-2 Performing the PJE Mode Coarse Adjustment
  - 3-3-3 Performing the PJE Mode Fine Adjustment
  - 3-3-4 Projector Engine ("PJE") Adjustment (Sub-deflection Adjustment)
  - 3-3-5 PJE NTSC FULL mode Adjustment
  - 3-3-6 Auto-registration ("Auto-Focus") Offset Data Calculation

#### 4- Auto-registration Error Code List

## ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

By using remote commander (RM-Y185), all circuit adjustments can be made.

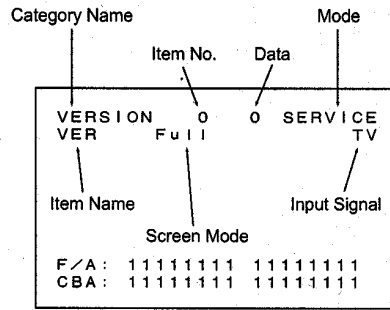
### NOTE : Test Equipment Required.

- NTSC Pattern generator.
- HDTV Pattern generator with component outputs,
- capable of outputting *both* 1080i and 480p component signals (Y, Pb,Pr). In lieu of 480p capability, a DVD player with progressive scan output and a test DVD (such the AVIA "Guide to Home Theater" DVD made by Ovation Software®) may be used.
- Oscilloscope.

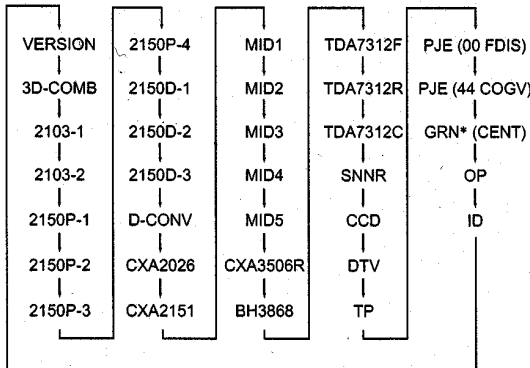
### 1. SERVICE MODE PROCEDURE

1. Standby mode. (Power off)
2. **DISPLAY** → **5** → **VOL (+)** → **TV POWER** on the remote commander.  
(Press each button within a second.)

### SERVICE MODE ADJUSTMENT



3. The SCREEN displays the item being adjusted.
4. Press "1" or "4" on the remote commander to select the adjustment item.
5. Press "3" or "6" on the remote commander to change the data.
6. Press "2" or "5" on the remote commander to select the category. Every time you press "2" (Category up), Service mode changes in the order as shown below.



\* : GRN , RED or BLU

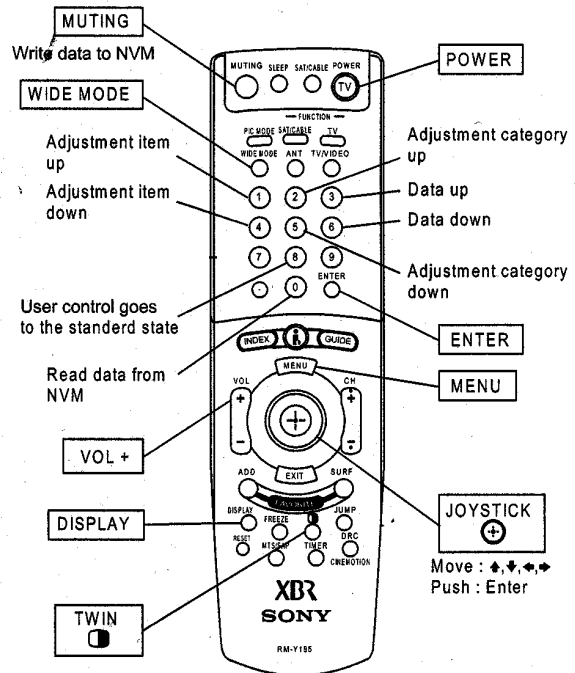
7. If you want to recover the latest values press "0" then "ENTER" to read the memory.
8. Press "MUTING" then "ENTER" to write into memory.
9. Turn power off.

Note: Press "0" then "ENTER" on the remote commander to initialize or turn set off and on to exit.

### 2. Memory Write Confirmation Method

1. After adjustment, turn power off with the remote commander.
2. Turn power on and set to service mode.
3. Call the adjusted items again and confirm they were adjusted.

### 3. Adjusting Buttons and Indicator



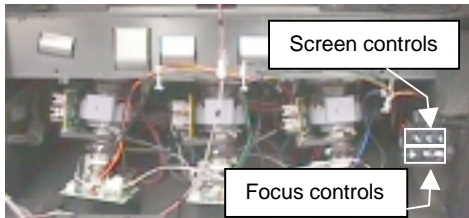
RM-Y185

Note: When the PJE mode is activated, which displays an internally generated pattern, several buttons on the remote commander will have different functions than listed above. Therefore, when in the PJE mode, refer to section 3-3 for the button functions.

# 1- SET UP ADJUSTMENTS

## 1-1 SCREEN VOLTAGE ADJUSTMENT

1. Select a video input with no signal applied (the screen must be black, and the room must be as dark as possible. You may use a clean, heavy blanket over the screen to block out ambient light. Be careful to ensure that the blanket does not mar or scratch the screen).
2. Select display mode to WIDE ZOOM and picture mode PRO, and while in the adjustment menu press RESET on the remote to restore the PRO mode factory defaults. Turn the green SCREEN control on the focus block all the way **counter-clockwise** and then gradually turn it **clockwise** until the retrace line is barely visible.

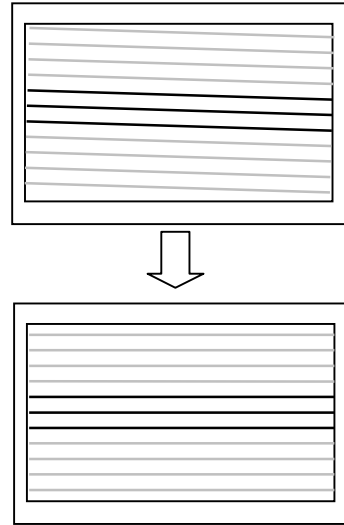


3. Gradually turn the control **counter-clockwise** until the retrace line just disappears.
4. Repeat steps 1 through 3 for the red and blue CRTs.
5. Lock the screen controls with locking paint.

## 1-2 DEFLECTION YOKE TILT ADJUSTMENT

1. Display a cross-hatch pattern (any input, display mode, and picture mode are OK).
2. Enter the service mode.
3. Cover the red and blue CRT lenses with lens caps to allow only green to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
4. Loosen the green CRT's deflection yoke set screw and align the tilt of the deflection yoke so that the horizontal lines at the center of the cross-hatch

pattern are parallel to the top and bottom edges of the screen.



5. After aligning the deflection yoke fasten it securely, making sure it is fully forward on the neck of the CRT.
6. The tilt of the deflection yoke for red and blue are aligned the same way as the green CRT.

Cover the green and blue CRT lenses with lens caps (or use the method shown in the note below for turning off the CRTs individually without using lens caps), then repeat steps 4 and 5 for the red CRT.

Cover the green and red CRT lenses with lens caps (or use the method shown in the note below for turning off the CRTs individually without using lens caps), then repeat steps 4 and 5 for the blue CRT.

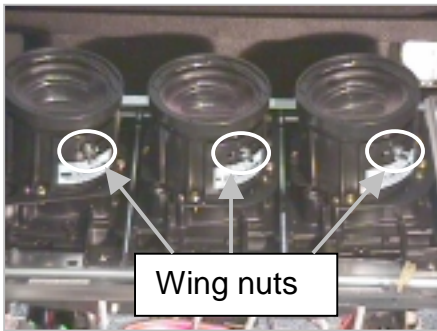
**Note:** If lens caps are unavailable, you can cut off the unnecessary colors in the service mode by individually changing the data in adjustment category "2150P-2", item # 1"RGBS". To display blue only, change the data to "1", to display green only, change the data to "2", to display red only, change the data to "4". All colors are displayed when the data is set to "7".

## 1-3 FOCUS LENS ADJUSTMENT

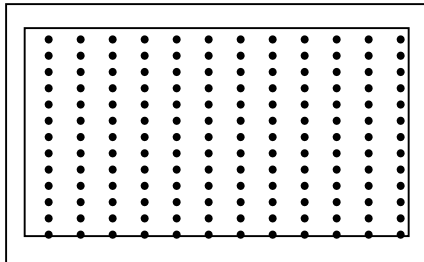
In this adjustment, use the remote commander while in service mode. For details on the usage of the service mode and the remote commander, please refer to the service

manual.

1. Loosen each lens' wing nut.



2. Enter the service mode.
3. Select display mode to WIDE ZOOM and picture mode PRO, and while in the adjustment menu press RESET on the remote to restore the PRO mode factory defaults.
4. Display a dot pattern.



5. Cover the red and blue CRT lenses with lens caps to allow only green to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
6. Rotate the green lens assembly to adjust to the optimum focus point in the center area of the screen with the test signal being displayed
7. Tighten the lens wing nut.
8. Cover the green and blue CRT lenses with the lens caps to allow only red to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps). Make sure the dot pattern is still being displayed.

Adjust the red CRT lens the same way as the green CRT lens.

Cover the green and red CRT lenses with the lens caps to allow only blue to

show (or use the method shown in the note below for turning off the CRTs individually without using lens caps). Make sure the dot pattern is still being displayed.

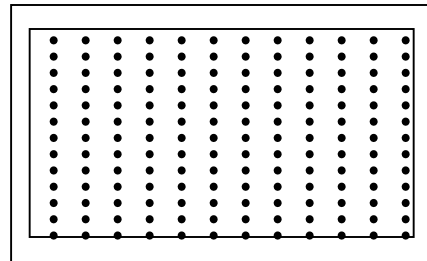
Adjust the blue CRT lens the same way as the green and red CRT lenses.

9. After adjusting items 1-4 "Focus Control Adjustment" and 1-6 "4-Pole Magnet Adjustment", reconfirm the lens optimum focus point and adjust again if necessary.

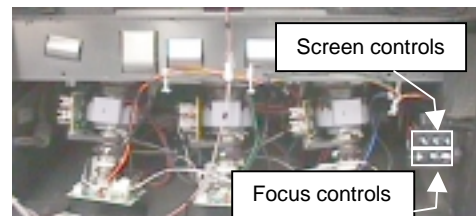
**Note:** If lens caps are unavailable, you can cut off the unnecessary colors in the service mode by individually changing the data in adjustment category "2150P-2", item # 1"RGB5". To display blue only, change the data to "1", to display green only, change the data to "2", to display red only, change the data to "4". All colors are displayed when the data is set to "7".

## 1-4 FOCUS CONTROL ADJUSTMENT

1. Enter the service mode.
2. Select display mode to WIDE ZOOM and picture mode PRO, and while in the adjustment menu press RESET on the remote to restore the PRO mode factory defaults.
3. Display a dot pattern.



4. Cover the red and blue CRT lenses with lens caps to allow only green to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
5. Adjust the green focus control on the focus block to achieve the best overall focus with the dot pattern being displayed.

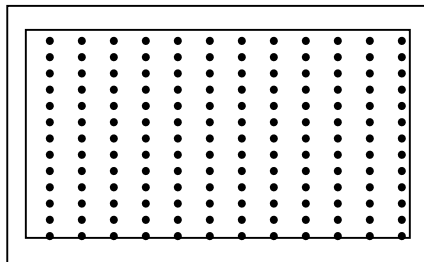


6. Cover the green and blue picture lenses with lens caps to allow only red to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
7. Adjust the red focus control on the focus block to achieve the optimum focus point with the dot pattern being displayed.
8. Cover the green and red picture lenses with lens caps to allow only blue to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
9. Adjust the blue focus control on the focus block to achieve the optimum focus point with the dot pattern being displayed.
10. Repeat steps 1 through 9 after adjusting items 1-3. "Focus Lens Adjustment", 1-5 "2-pole Magnet Adjustment", 1-6 "4-Pole Magnet Adjustment"

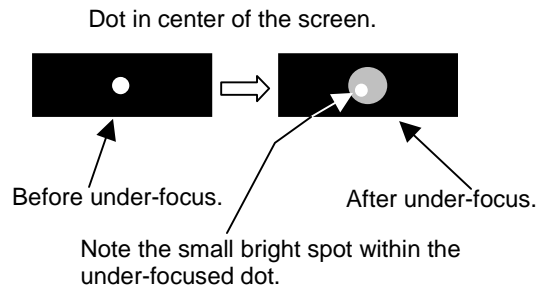
**Note:** If lens caps are unavailable, you can cut off the unnecessary colors in the service mode by individually changing the data in adjustment category "2150P-2", item # 1"RGSB". To display blue only, change the data to "1", to display green only, change the data to "2", to display red only, change the data to "4". All colors are displayed when the data is set to "7".

### 1-5 2-POLE MAGNET AND CENTERING MAGNET ADJUSTMENT

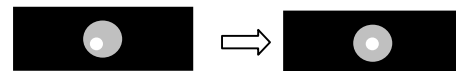
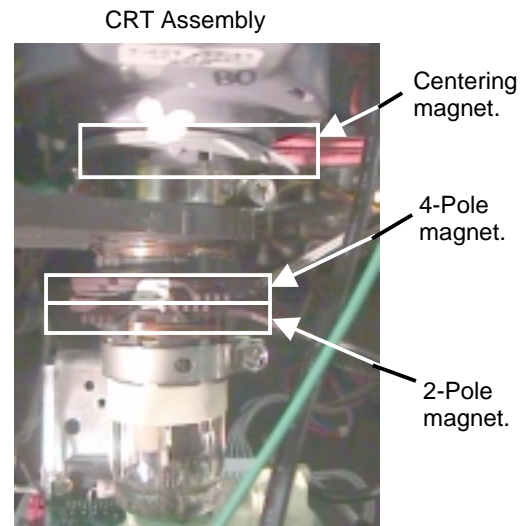
1. Enter the service mode.
2. Select display mode to WIDE ZOOM and picture mode PRO, and while in the adjustment menu press RESET on the remote to restore the PRO mode factory defaults. Then set the picture to maximum, brightness to 50%, VM (velocity modulation) off.
3. Display a dot pattern.



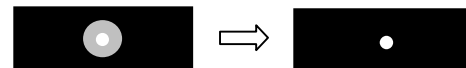
4. Cover the red and blue CRT lenses with lens caps to allow only green to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
5. Turn the green focus control on the focus block all the way **counter-clockwise** and set it to underfocus to enlarge the spot (the dot).



6. Adjust the green CRT's 2-pole magnet so that the small bright spot is in the center of the large defocused spot.

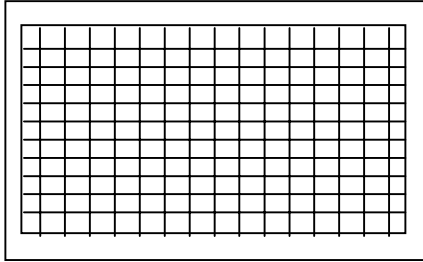


7. Adjust the green focus control on the focus block and set it for the best focus.





- Change the pattern from dots to cross-hatch.



- If necessary, adjust the green CRT centering magnet to center the pattern horizontally and vertically. This is just a rough adjustment. Fine adjustment will be made later using the service mode.
- Reconfirm the 2-pole magnet adjustment after moving the centering magnet.
- Repeat steps 4 through 10 for the red CRT, except now you will cover the green and blue CRT lenses with lens caps to allow only red to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps) and you will adjust the red focus control on the focus block.
- Repeat steps 4 through 10 for the blue CRT, except now you will cover the green and red CRT lenses with lens caps to allow only blue to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps) and you will adjust the blue focus control on the focus block.
- Lock the focus controls with locking paint (if no other mechanical adjustments are being made).

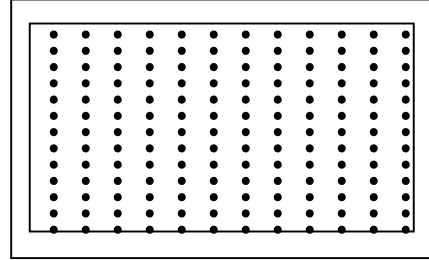
**Note:** If lens caps are unavailable, you can cut off the unnecessary colors in the service mode by individually changing the data in adjustment category "2150P-2", item # 1"RGB". To display blue only, change the data to "1", to display green only, change the data to "2", to display red only, change the data to "4". All colors are displayed when the data is set to "7".

## 1-6 4-POLE MAGNET ADJUSTMENT

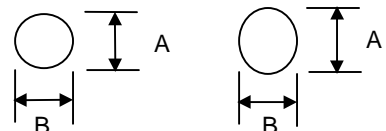
- Enter the service mode.
- Select display mode to WIDE ZOOM

and picture mode PRO, and while in the adjustment menu press RESET on the remote to restore the PRO mode factory defaults. Then set the picture to maximum, VM (velocity modulation) off.

- Display a dot pattern.



- Cover the red and blue CRT lenses with lens caps to allow only green to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps).
- Turn the green focus control on the focus block **clockwise** to enlarge the dot.
- Adjust the 4-pole magnet so that the enlarged spot in the center of the screen becomes a perfect circle.
- Adjust the green focus control on the focus block and set it for the best focus.
- Repeat steps 4 through 7 for the red CRT, except now you will cover the green and blue CRT lenses with lens caps to allow only red to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps) and you will adjust the red focus control on the focus block.
- Repeat steps 4 through 7 for the blue CRT, except now you will cover the green and red CRT lenses with lens caps to allow only blue to show (or use the method shown in the note below for turning off the CRTs individually without using lens caps) and you will adjust the blue focus control on the focus block. **However**, for the blue CRT **do not** make the enlarged spot a perfect circle as indicated in step # 6; instead, adjust the 4-pole magnet so that the height of the enlarged blue spot in the center of the screen is approx. 1.2 times the width of the spot.



Red and green dots:  $A = B$

Blue dot:  $A = 1.2 B$

- Lock the focus controls with locking paint (if no other mechanical adjustments are being made).

**Note:** If lens caps are unavailable, you can cut off the unnecessary colors in the service mode by individually changing the data in adjustment category "2150P-2", item # 1"RGRS". To display blue only, change the data to "1", to display green only, change the data to "2", to display red only, change the data to "4". All colors are displayed when the data is set to "7".

## 1-7 DEFOCUS ADJUSTMENT (BLUE CRT ONLY)

- Select display mode to WIDE ZOOM and picture mode PRO, and while in the adjustment menu press RESET on the remote to restore the PRO mode factory defaults.
- Display a dot pattern.
- Adjust the blue focus control on the focus block to make the blue dot *slightly* larger than red and green dots. This adjustment provides a more pleasing picture to the customer.
- Confirm that the flare surrounding the blue dot is minimal. "Flare" is a fuzziness that surrounds an otherwise focused dot. It may even be a different color than the color of the CRT that is producing it. For example, if you cover the red and blue lenses and display a green cross-hatch or dot pattern, the flare surrounding the green lines or dots may be blue due to the prism effect of the green CRT lens.



Excessive flare: no good.



Minimum flare: OK

Lock the focus controls with locking paint (if no other mechanical adjustments are being made).

**This completes the setup adjustments.**

## 2- PICTURE ADJUSTMENTS

### 2-1 480p Y, PB, PR GAIN ADJUSTMENT

- Display 100 % color bars (480p, 0% setup, component) signal through VIDEO 5 input. (White to Black Level :  $700 \pm 10$  mVp- p)
- Alternately connect an oscilloscope to CN005 pin A1 (V\_ MIDI\_ Y) and pin A2 (V\_ MIDI\_ PB), and pin A3 (V\_ MIDI\_ PR) on the B board.
- Enter the service mode and select category "CXA2151".
- Adjust item #5 "YGN", item #3 "CBGN", and item # 4 "CRGN" so that the waveform level is  $1.400 \pm 0.035$  Vp-p.

After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

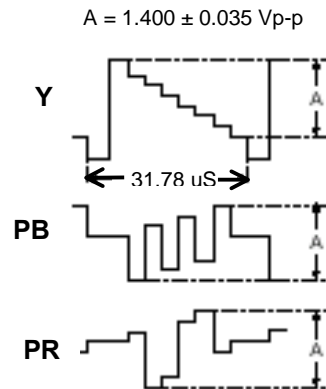


Fig. 2-1

### 2-2 MAIN Y/C LEVEL ADJUSTMENT (FOR DRC SIGNAL PATH)

- Display 100 % color bars (480i, 0% setup, component) signal through VIDEO 5 input. (White to Black Level Y :  $714 \pm 10$  mVp- p, PB, PR :  $700 \pm 10$  mVp- p)
- Alternately connect an oscilloscope to CN005 pin A5 (V\_ DRCl\_ Y), and pin A6 (V\_ DRCl\_ PB) on the B board.
- Enter the service mode and select category "2103- 1".
- Adjust item #0 "YLEV" and item #1 "CLEV" so that the waveform levels are

$1.400 \pm 0.015$  Vp-p and  $1.490 \pm 0.015$  Vp-p.

- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

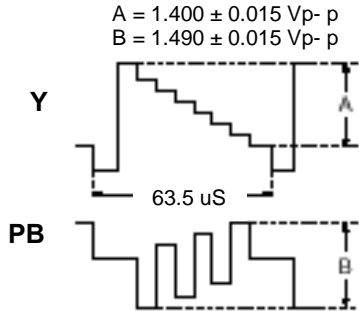
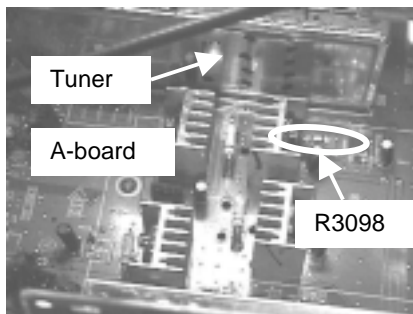


Fig. 2-2

### 2-3 MAIN Y/C LEVEL ADJUSTMENT (FOR VDO SIGNAL PATH)

- Display 100 % color bars (480i, 0% setup, component) signal through the VIDEO 5 input. (White to Black Level: Y =  $714 \pm 10$  mVp-p, PB, PR =  $700 \pm 10$  mVp-p).
- Connect CN005 pin A9 (MN\_SB\_SW) on the B board to 5 Vdc. **Either side of R3098 (1 ohm) on the A-board is a good point to obtain 5 volts.**



- Alternately connect an oscilloscope to CN005 pin A1 (V\_MIDI\_Y) and pin A2 (V\_MIDI\_PB) on the B board.
- Enter the service mode and select category "2103- 1".
- Adjust item #0 "YLEV" and item # 1 "CLEV" so that the waveform are  $1.400 \pm 0.015$  Vp-p.
- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the

remote to write the data to memory.

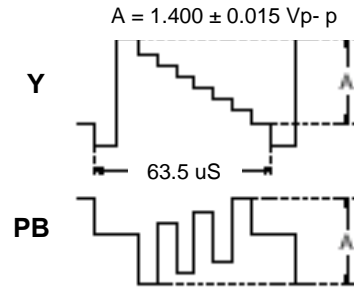


Fig. 2-3

- Disconnect CN005 pin 9 from the 5 volt source.

### 2-4 SUB Y/C LEVEL ADJUSTMENT (FOR DRC SIGNAL PATH)

- Select TWIN picture mode, and display 100 % color bars (480i, 0% setup, component) signal through VIDEO 5 input so that the bars appear in both picture windows. (White to Black Level Y :  $714 \pm 10$  mVp-p, PB, PR :  $700 \pm 10$  mVp-p)
- Alternately connect an oscilloscope to CN005 pin A5 (V\_DRCL\_Y), and pin A6 (V\_DRCL\_PB) on the B board.
- Enter the service mode and select category "2103- 2".
- Adjust item #0 "YLEV" and item #1 "CLEV" so that the waveform levels are  $1.400 \pm 0.015$  Vp-p and  $1.490 \pm 0.015$  Vp-p.
- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

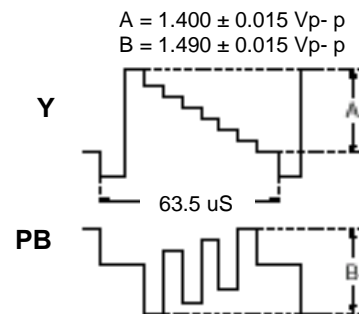


Fig. 2-4

## 2-5 SUB Y/C LEVEL ADJUSTMENT (FOR VDO SIGNAL PATH)

1. Select TWIN mode and display 100 % color bars (480i, 0% setup, component) signal through VIDEO 5 input in both picture windows. (White to Black Level: Y =  $714 \pm 10$  mVp-p; PB, PR =  $700 \pm 10$  mVp-p).
2. Press the remote's joystick button in to cancel the TWIN mode.
3. Press the channel UP button on the remote to display any cable or VHF/UHF channel.
4. Alternately connect an oscilloscope to CN005 pin A1 (V\_ MIDI\_ Y), and pin A2 (V\_ MIDI\_ PB) on the B board. **The TV should be showing the TV picture, but the oscilloscope should still be showing the waveform from the colors bars that are being input to video-5.**
5. Enter the service mode and select category "2103- 2".
6. Adjust item #0 "YLEV" and item #1 "CLEV" so that the waveform levels are  $1.400 \pm 0.015$  Vp-p.
7. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

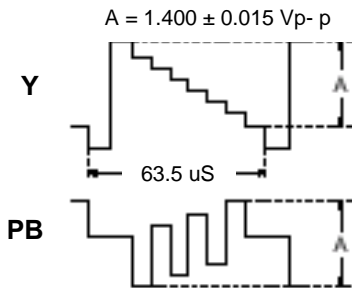


Fig. 2-5

## 2-6 MAIN DECODER SUB CONTRAST ADJUSTMENT (FOR COMPOSITE AND Y/C INPUTS)

1. Display 100 % color bars (480i, 7.5% setup, Y/ C) signal through VIDEO 3 input. (White to Black Level Y :  $714 \pm 10$  mVp-p, Burst Level C:  $285 \pm 10$  mVp- p)
2. Connect an oscilloscope to CN005 pin A5 (V\_ DRCl\_ Y) on the B board.

3. Enter the service mode and select category "2103- 1".
4. Adjust item #2 "SCON" so that the waveform level is  $1.400 \pm 0.035$  Vp-p.
5. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

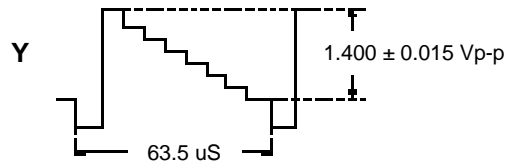


Fig. 2-6

## 2-7 MAIN DECODER SUB COLOR AND SUB HUE ADJUSTMENT (FOR COMPOSITE AND Y/C INPUTS)

1. Display 100 % color bars (480i, 7.5% setup, Y/ C) signal through VIDEO 3 input. (White to Black Level Y:  $714 \pm 10$  mVp-p; Burst Level C:  $285 \pm 10$  mVp-p).
2. Connect an oscilloscope to CN005 pin A6 (V\_ DRCl\_ PB) on the B board.
3. Enter the service mode and select category "2103- 1".
4. Adjust item #3 "SCOL" and item #4 "SHUE" so that the waveform levels are  $1.490 \pm 0.040$  Vp- p and  $0.248 \pm 0.035$  Vp-p.
5. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

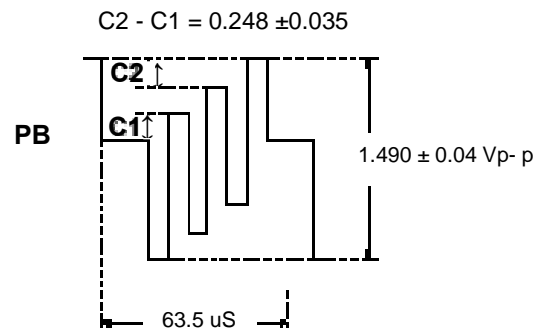


Fig. 2-7

## 2-8 SUB DECODER SUB CONTRAST ADJUSTMENT (FOR Y/C INPUTS)

1. Display 100 % color bars (480i, 7.5% setup, Y/ C) signal through VIDEO 3 input. (White to Black Level Y :  $714 \pm 10$  mVp-p, Burst Level C:  $285 \pm 10$  mVp-p)
2. Connect an oscilloscope to CN005 pin A1 (V\_ MIDI\_ Y) on the B board.
3. Enter the service mode and select category "2103- 2".
4. Adjust item #2 "SCON" so that the waveform level is  $1.400 \pm 0.035$ Vp-p.
5. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

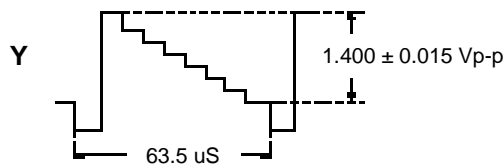


Fig. 2-8

## 2-9 SUB DECODER SUB COLOR AND SUB HUE ADJUSTMENT (FOR Y/C INPUTS)

1. Display 100 % color bars (480i, 7.5% setup, Y/ C) signal through VIDEO 3 input. (White to Black Level Y :  $714 \pm 10$  mVp-p; Burst Level C:  $285 \pm 10$  mVp-p).
2. Connect an oscilloscope to CN005 pin A2 (V\_ MIDI\_ PB) on the B board.
3. Enter the service mode and select category "2103- 2".
4. Adjust item #3 "SCOL" and item #4 "SHUE" so that the waveform levels are  $1.400 \pm 0.040$  Vp- p and  $0.248 \pm 0.035$  Vp-p.
5. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

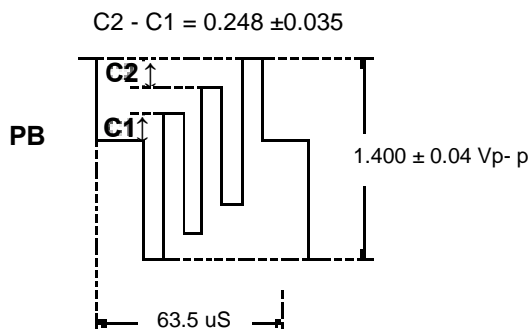


Fig. 2-9

## 2-10 SUB DECODER SUB CONTRAST ADJUSTMENT (FOR COMPOSITE INPUT)

1. Display 100 % color bars (480i, 7.5% setup, composite) signal through VIDEO 1 input. (White to Black Level  $714 \pm 10$  mVp-p, Burst Level  $285 \pm 10$  mVp- p)
2. Connect an oscilloscope to CN005 pin A1 (V\_ MIDI\_ Y) on the B board.
3. Enter the service mode and select category "2103- 2".
4. Adjust item #22 "2SCO" so that the waveform level is  $1.400 \pm 0.035$ Vp-p.
5. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

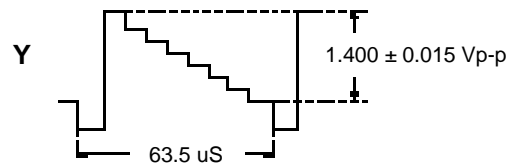


Fig. 2-10

## 2-11 SUB DECODER SUB COLOR AND SUB HUE ADJUSTMENT (FOR COMPOSITE INPUT)

1. Display 100 % color bars (480i, 7.5% setup, composite) signal through VIDEO 3 input. (White to Black Level  $714 \pm 10$  mVp-p; Burst Level  $285 \pm 10$  mVp-p).
2. Connect an oscilloscope to CN005 pin A2 (V\_ MIDI\_ PB) on the B board.
3. Enter the service mode and select category "2103- 2".
4. Adjust item #23 "2SCL" and item #24 "2SHU" so that the waveform levels are  $1.400 \pm 0.040$  Vp- p and  $0.248 \pm 0.035$  Vp-p.

- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

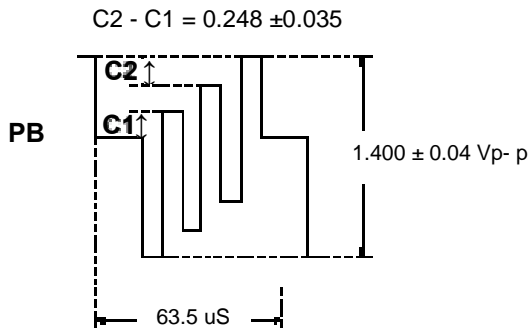


Fig. 2-11

## 2-12 MAIN DECODER PB AND PR OFFSET ADJUSTMENT

- Display a white raster (480i, 7.5% setup, composite) signal through VIDEO 1 input. (White to Black Level  $714 \pm 10$  mVp-p).
- Connect an oscilloscope to CN005 pin A6 (V\_ DRCl\_ PB) and pin A7 (V\_ DRCl\_ PB) on the B board.
- Enter the service mode and select category "2103- 1".
- Adjust item #20 "CBOF" and item #21 "CROF" so that the waveform levels are  $0.000 \pm 0.003$  Vp-p.
- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.
- Display a white raster (480i, % setup, component) signal through VIDEO 5 input (White to Black Level Y:714 ± 10 mVp-p; PB and PR: 0 Vp-p).
- Adjust item #20 "CBOF" and item #21 "CROF" so that the waveform levels are  $0.000 \pm 0.003$  Vp-p.
- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

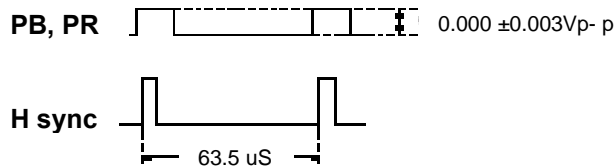


Fig. 2-12

## 2-13 SUB DECODER PB AND PR OFFSET ADJUSTMENT

- Display a white raster (480i, 7.5% setup, composite) signal through VIDEO 1 input. (White to Black Level  $714 \pm 10$  mVp-p).
- Connect an oscilloscope to CN005 pin A2 (V\_ MIDI\_ PB) and pin A3 (V\_ MIDI\_ PR) on the B board.
- Enter the service mode and select category "2103- 2".
- Adjust item #20 "CBOF" and item #21 "CROF" so that the waveform levels are  $0.000 \pm 0.003$  Vp-p.
- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

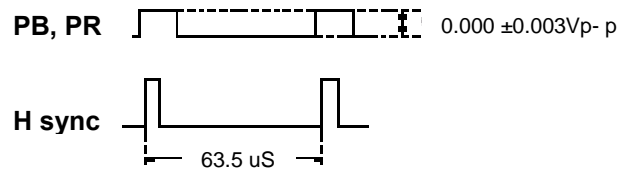


Fig. 2-13

## 2-14 BLUE OFFSET ADJUSTMENT

- Display an all black (1080i, component) signal through VIDEO 5 input, and set PICTURE to maximum. An HDTV pattern generator is required for this.
- Connect an oscilloscope to CN3009 pin 7 (B) on the A board.
- Enter the service mode and select category "2150D- 2".
- Adjust item #3 "SLIN" so that the waveform level is  $2.20 \pm 0.05$  Vp-p. Make a note of the data you just adjusted for "SLIN".
- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.
- Tune the set to any VHF-UHF or cable channel and change the display mode to WIDE ZOOM.
- Set the data of item #3 "SLIN" so that it is the same value that was set in step # 4.

- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

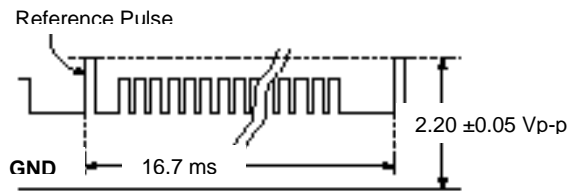
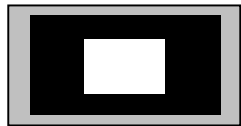


Fig. 2.14

## 2-15 SUB CONTRAST ADJUSTMENT

- Display a window pattern (1080i component) signal through VIDEO 5 input and set PICTURE to maximum. An HDTV pattern generator is required for this. A window pattern consists of a bright white square or rectangle on a black background, something like this:



- Connect an oscilloscope to CN3009 pin 6 (G) on the A board.
- Enter the service mode and select category "2150P- 4".
- Adjust item #0 "SCON" so that the waveform level is  $2.30 \pm 0.05V_{p-p}$ .
- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.
- Display a 1/25 window (1080i DTV) signal. **This pattern can be internally generated within the TV. See the section on displaying internal patterns in section 2-23 at the end of this picture adjustment section.**
- Adjust item #0 "SCON" so that the waveform level is  $2.30 \pm 0.05V_{p-p}$ .
- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

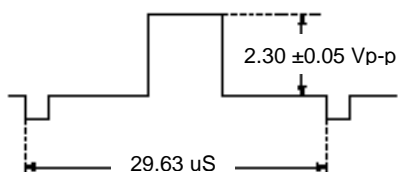


Fig. 2.15

## 2-16 SUB COLOR AND SUB HUE ADJUSTMENT

- Display 100 % color bars (1080i, component) signal through VIDEO 5 input, and set PICTURE to maximum. An HDTV pattern generator is required for this.
- Connect an oscilloscope to CN3009 pin 7 (B) on the A board.
- Enter the service mode and select category "2150P- 4".
- Adjust item #1 "SCOL" and item #2 "SHUE" so that the waveform levels are as follows:  $VB1 = VB4$  and  $VB2 = VB3$ .
- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.
- Display 100 % color bars (1080i, DTV) signal. **This pattern can be internally generated within the TV. See the section on displaying internal patterns at the end of this picture adjustment section.**
- Adjust item #1 "SCOL" and item #2 "SHUE" so that the waveform levels are as follows:  $VB1 = VB4$  and  $VB2 = VB3$ .
- After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

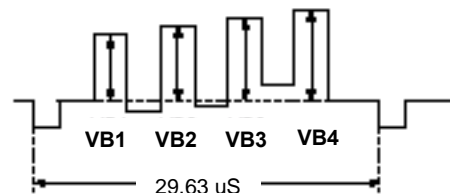



Fig. 2.16

## 2-17 RF SUB CONTRAST ADJUSTMENT

- Display the TWIN mode by pressing the  button on the remote, then set PICTURE to maximum and color to minimum.
- Display 75 % color bars (RF) signal through the VHF-UHF input, and tune both picture windows to the same channel that the color bar generator is set to.
- Connect an oscilloscope to CN3009 pin 6 (G) on the A board.
- Select category "2103-1".
- Adjust item #2 "SCON" so that the left side waveform level is  $1.59 \pm 0.05 V_{p-p}$ .



6. Select category "2103-2".
7. Adjust item #2 "SCON" so that the right side waveform level is  $1.59 \pm 0.05$  Vp-p.
8. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

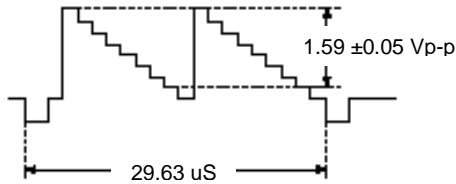



Fig. 2.17

## 2-18 RF SUB COLOR AND SUB HUE ADJUSTMENT

1. Display the TWIN mode by pressing the  button on the remote, then set PICTURE to maximum and COLOR to 50%.
2. Display 75 % color bars (RF) signal through the VHF-UHF input, and tune both picture windows to the same channel that the color bar generator is set to.
3. Connect an oscilloscope to CN3009 pin 7 (B) on the A board.
4. Select category "2103-1".
5. Adjust item #3 "SCOL" and #4 "SHUE" so that the left side waveform levels are as follows: VB1 = VB4 and VB2 = VB3.
6. Select category "2103-2".
7. Adjust item #3 "SCOL" and #4 "SHUE" so that the right side waveform levels are as follows: VB5 = VB8 and VB6 = VB7.
8. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

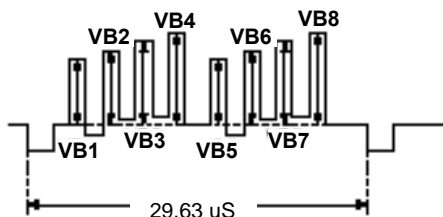


Fig. 2.18

## 2-19 SUB-BRIGHTNESS ADJUSTMENT

1. Enter the service mode and display the internally generated 1080i all-black pattern (refer to section 2-23 for details on displaying this pattern).
2. Set the picture level to minimum, then make the room as dark as possible.
3. Select category "2150P-1".
4. Adjust item #3 "SBRT" so that the picture is all black without any faint glowing of the screen.
5. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

## 2-20 NEUTRAL WHITE BALANCE ADJUSTMENT

1. Enter the service mode.
2. Display an all-white raster through any video input.
3. Set the color temperature to NEUTRAL.
4. Set the color to minimum.
5. Select adjustment category "2150P-1".
6. Alternately adjust item # 4 "RDRV" and item # 6 "BDRV" to remove any color tint from the white picture.
7. Display a 30 IRE raster (dark gray).
8. Alternately adjust item # 7 "RCUT" and item # 9 "BCUT" to remove any color tint from the gray picture.
9. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

## 2-21 COOL WHITE BALANCE ADJUSTMENT

1. Enter the service mode.
2. Display an all-white raster through any video input.
3. Set the color temperature to COOL.
4. Set the color to minimum.
5. Select adjustment category "2150P-1".
6. Alternately adjust item # 12 "RDOF" and item # 14 "BDOF" to give the white picture a slight bluish tint.
7. Display a 30 IRE raster (dark gray).
8. Alternately adjust item # 7 "RCOF" and item # 9 "BCOF" to give the gray picture a slight bluish tint.



9. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

## 2-22 WARM WHITE BALANCE ADJUSTMENT

1. Enter the service mode.
2. Display an all-white raster through any video input.
3. Set the color temperature to WARM.
4. Set the color to minimum.
5. Select adjustment category "2150P-1".
6. Alternately adjust item # 12 "RDOF" and item # 14 "BDOF" to give the white picture a slight bluish tint.
7. Display a 30 IRE raster (dark gray).
8. Alternately adjust item # 7 "RCOF" and item # 9 "BCOF" to give the gray picture a slight bluish tint.
9. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

## 2-23 USING THE INTERNALLY GENERATED PATTERNS

The TV can internally generate various patterns in various formats (480i, 480p, 1080i, 720p). These patterns can be used in place of those which would otherwise require an HDTV *RF* pattern generator. **These internal patterns cannot be used in place of the 480i, 480p, and 1080i component (Y/Pb/Pr) pattern signals called for in some of the previous picture adjustment sections.** For these, a DVD player with progressive scan capability and a test DVD disc having various patterns is recommended.

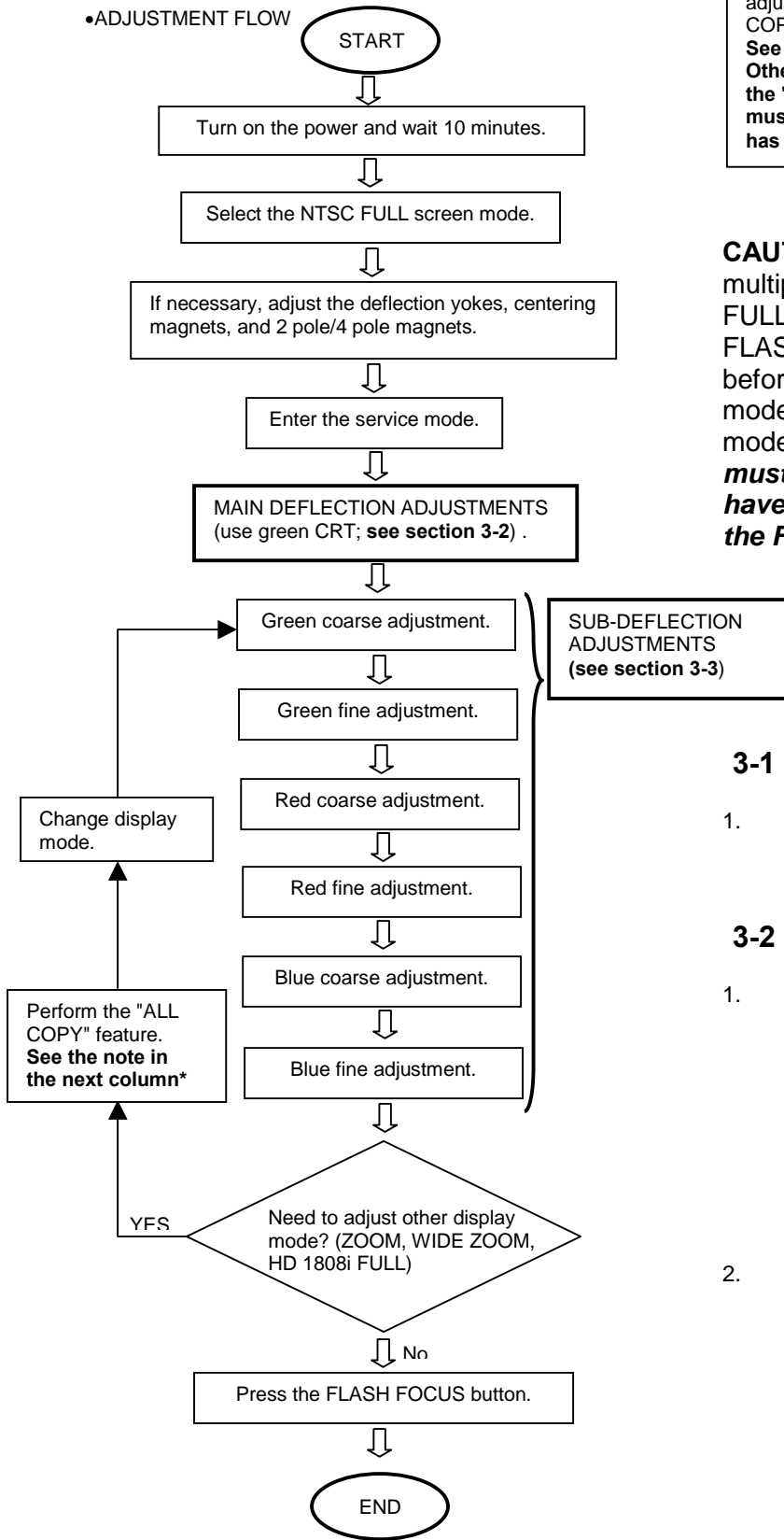
To display the internal patterns follow this procedure:

1. Tune the TV to any DTV channel. **There does not have to be a DTV broadcast active at this time.** Simply use the remote control to direct-tune a DTV channel, for example channel "2.1" Be sure to use the decimal point or "dot" button on the remote, and make sure the number after the decimal point is "1" or higher. Do not be concerned if the words "Now Tuning" or "No Signal" appear on the screen.

2. Turn the TV off, then enter the service mode.
3. Select category "DTV".
4. Select adjustment item # 1 "PATN".
5. Select the pattern you want to display by changing the data in "PATN" as follows:
  - "0" = 1080i black screen.
  - "1" = 1080i cross-hatch w/ size markers.
  - "2" = 1080i 1/2 color bars, 1/2 gray sweep.
  - "3" = 1080i white window.
  - "4" = 1080i color bars.
  - "5" = 1080i white raster.
  - "6" = 1080i 1/2 0 IRE field, 1/2 10 IRE field.
  - "7" = 1080i gray scale.
  - "8" = 1080i frequency response.
  - "9" = 1080i gray raster.
  - "10" = 1080i diagonal lines.
  - "11" = 480i cross-hatch w/ size markers.
  - "12" = 480i 1/2 color bars, 1/2 gray sweep.
  - "13" = 480i white window.
  - "14" = 480i color bars.
  - "15" = 480i white raster.
  - "16" = 480i 1/2 0 IRE field, 1/2 10 IRE field.
  - "17" = 480i gray scale.
  - "18" = 480i frequency response.
  - "19" = 480i gray raster.
  - "20" = 480i diagonal lines.
  - "21" = 480p cross-hatch w/ size markers.
  - "22" = 480p 1/2 color bars, 1/2 gray sweep.
  - "23" = 480p white window.
  - "24" = 480p color bars.
  - "25" = 480p white raster.
  - "26" = 480p 1/2 0 IRE field, 1/2 10 IRE field.
  - "27" = 480p gray scale.
  - "28" = 480p frequency response.
  - "29" = 480p gray raster.
  - "30" = 480p diagonal lines.
  - "31" = 720p cross-hatch w/ size markers.
  - "32" = 720p 1/2 color bars, 1/2 gray sweep.
  - "33" = 720p white window.
  - "34" = 720p color bars.
  - "35" = 720p white raster.
  - "36" = 720p 1/2 0 IRE field, 1/2 10 IRE field.
  - "37" = 720p gray scale.
  - "38" = 720p frequency response.
  - "9" = 720p gray raster.
  - "40" = 720p diagonal lines.

# 3- REGISTRATION AND GEOMETRY ADJUSTMENTS

•ADJUSTMENT FLOW



\*The "ALL COPY" feature copies the adjustment data from the FULL mode to ZOOM, WIDE ZOOM, and HD 1080i FULL modes at the same time. This feature is useful when major geometry/registration adjustments are required. After "ALL COPY" is performed, go to each mode and touch up as required. If major adjustments are not required, do not perform "ALL COPY". Instead, just touch up each mode as required. See the section "Copy All Registration Data to Other Modes" in section 3-3-5.4 for details on using the "ALL COPY" feature. The ALL COPY feature must only be used once (after the NTSC FULL mode has been adjusted).

**CAUTION:** In previous models that had multiple display modes, e.g. ZOOM, FULL, etc., it was mandatory that the FLASH FOCUS button was pressed before you exited a particular display mode after you adjusted it in the service mode. **HOWEVER, in this model you must wait until all display modes have been adjusted before pressing the FLASH FOCUS button!**

### 3-1 SETUP FOR ADJUSTMENT

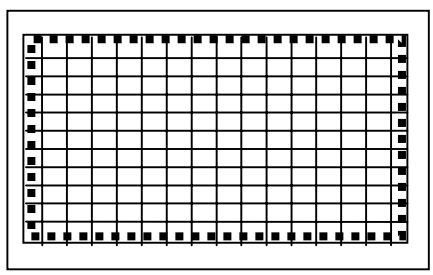
1. At the 4 insides of the screen, locate the middle. Use a tape measure to identify the middle.

### 3-2 MAIN DEFLECTION ADJ.

1. Place lens caps on the red and blue lenses so that only the green color is displayed. If lens caps are not available, use the following method to turn off the CRTs individually without using lens caps:

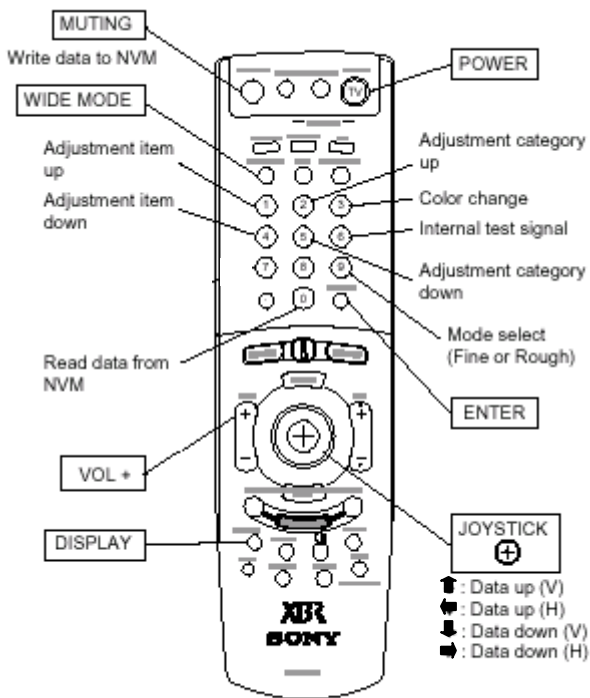
Change the data in adjustment category "2150P-2", item # 1"RGB5" from "7" to "2".

2. Display the internal test pattern # 11, "480i cross-hatch w/ size markers" (see section 2-23).



3. Enter the Service mode, and select category "2150D- 1".
4. Adjust item # 0 "VPOS" so that the picture is displayed in the center of screen vertically.
5. Adjust item # 1 "VSIZ" so that the vertical height is as shown above.
6. Select category "2150D- 2" and adjust item # 1 "HPOS" so that the picture is displayed in the center of screen.
7. Select category "2150D- 2" and adjust item # 2 "HSIZ" so that the horizontal width is as shown above.
8. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.
9. Change to the WIDE ZOOM mode and repeat steps # 6 - 8. This time, use only side markers for position and width; do not be concerned about the top and bottom markers.

### 3-3 PJE MODE SUB-DEFLECTION (COARSE AND FINE GEOMETRY & CONVERGENCE) ADJUSTMENT



RM-Y185

#### 3-3-1 Functions of Keys on Remote Commander

- ① : Changes adjustment item (selects the next higher adjustment item).  
: Moves the fine-adjust mode position marker clockwise from center to outside.
- ④ : Changes adjustment item (selects the next lower adjustment item).  
: Moves the fine-adjust mode position marker counter-clockwise from the outside to the center.
- ② : Changes adjustment category (selects the next higher category).
- ⑤ : Changes adjustment category (selects the next lower category).  
↑↔↓↔ : Changes data value.  
: Marker moves up, down, or to the left or right. (in fine adjustment mode).
- ③ : Changes adjustment color:  
GRN → BLU → RED (except for PJE items No. 00~ 77)
- ⑥ : Displays or changes internal test patterns:  
crosshatch + video → crosshatch + borderline → crosshatch only → dots only → patterns off.
- ⑨ : Changes the sub-deflection ("PJE") adjustment mode from coarse adjustment mode to fine adjustment mode and back.

⊕ (press in) : When pressed in, toggles the method of moving the fine-adjustment mode marker around the screen as follows:

When marker is white, move joystick button up, down, and side to side direction to move the marker around the screen.

Press joystick button in and the marker changes from white to red or green or blue. Use the # 1 and # 4 buttons to move the colored marker around.

Press the joystick button in again to change the marker from a color (red, green, or blue) to white.

Commander Function

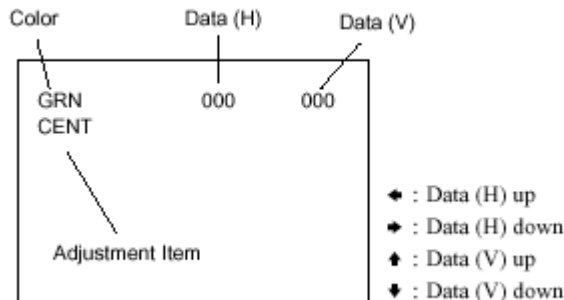
| Button             | Mode  | Description          |
|--------------------|-------|----------------------|
| [MUTING] + [ENTER] | WRITE | Writes data to NVM.  |
| ⊕ + [ENTER]        | READ  | Reads data from NVM. |

### 3-3-2 Performing the PJE Mode Coarse Adjustment.

1. Enter the service mode, and select category "PJE".
2. Press the "①" or "④" button on the remote to select the adjustment item, and move the joystick button  $\uparrow \leftarrow \downarrow \rightarrow$  to change the data.



3. Select item "GRN CENT". If "BLU" or "RED" is displayed, press the "③" button on the remote until "GRN" is displayed.
4. In the GRN, BLU, or RED mode, moving the joystick  $\uparrow$  or  $\downarrow$  changes the data for vertical deflection, and  $\leftarrow$  or  $\rightarrow$  changes the data for horizontal deflection.

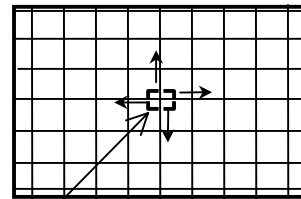


5. Before exiting the PJE coarse adjustment mode, be sure to press the "[ MUTING ]" + "[ ENTER ]" buttons on the remote to write the data to memory. **Failure to do this causes the new adjustment data to be returned to the data before adjustment, and the adjustments will have to be redone!**

### 3-3-3 Performing the PJE Mode Fine Adjustment.

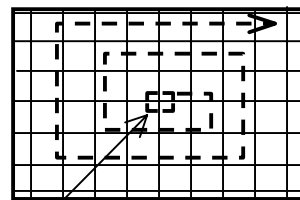
1. Enter the service mode and select category "PJE".
2. Select item 00 "FDIS" and set the data to "01" so that the data at each adjustment position on the screen can be displayed in the fine adjustment mode.
3. Press the "⑨" button on the remote, and the fine adjustment mode will be active where the green marker appears in the center of screen (assuming that the GRN mode is currently selected).
4. Press the "⊕" button on the remote, and the marker color will change between green (in GRN mode) and white.
5. Use the "①" or "④" button on the remote, or use the joystick button, to move the marker to the positions that require fine adjustment.

When the adjustment marker color is white, it can be moved in the directions shown by the arrows by moving the joystick button (in this case, fine adjustment is disabled)



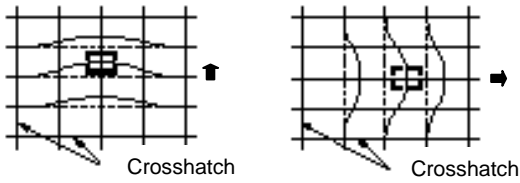
Adjustment marker: when white, it can be freely moved left, right, up, and down.

When the adjustment marker color is green, blue, or red, it can be moved in a spiral direction by pressing the "①" and "④" buttons (in this case, the fine adjustments can be made).



Adjustment marker: when red, green, or blue, it can be moved in a spiral direction using the ① and ④ buttons on the remote.

Effect on the crosshatch lines in the area of the marker when moving the joystick button up or right (down and left just the opposite).



6. Press the "Ⓣ" button on the remote to return to the coarse adjustment mode.

### 3-3-4 Projector Engine ("PJE") Adjustment (Sub-deflection Adjustment).

| Adjustment Item | Adjustment Type |     |     |
|-----------------|-----------------|-----|-----|
|                 | GRN             | RED | BLU |
|                 | H/V             | H/V | H/V |
| CENT            | ○/○             | ○/○ | ○/○ |
| SKEW            | ○/○             | ○/○ | ○/○ |
| SIZE            | ○/○             | ○/○ | ○/○ |
| LIN             | ○/○             | ○/○ | ○/○ |
| KEY             | -/○             | -/○ | -/○ |
| PIN             | ○/○             | ○/○ | ○/○ |
| MLIN            | ○/-             | ○/- | ○/- |
| MSIZ            | ○/-             | ○/- | ○/- |

Note: Do not exceed the following data limits when adjusting in the coarse mode. If proper adjustment cannot be attained within these limits, use the fine adjustment mode to complete the adjustment.

< Coarse Adjustment Data Limit Values >

|      |                     |                     |
|------|---------------------|---------------------|
| CENT | H: -135 to +205     | V: -150 to +190     |
| SIZE | H: -512 to -75      |                     |
| LIN  | H BLU: -425 to +511 | H RED: -512 to +425 |

### 3-3-5 PJE NTSC Full Mode Adjustment

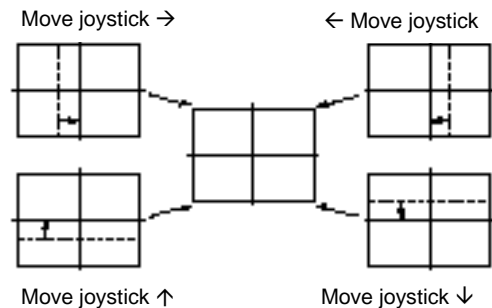
These adjustments should be performed in the order presented.

#### 3-3-5.1 Green Coarse and Fine Adjustment

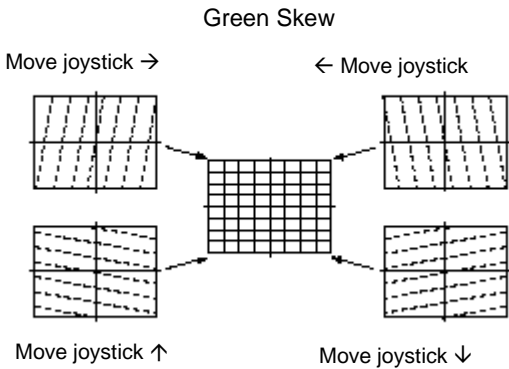
1. Cover the red and blue CRT lenses so that only the green picture is seen.
2. Enter the service mode.

3. Display the internal **480i** cross-hatch pattern with size markers and select the FULL display mode (see section 2-23 for details on displaying the internal patterns).
4. Select adjustment category "PJE".
5. Press the "Ⓣ" button on the remote until **only the internal cross-hatch with size markers pattern is displayed**. (Be sure that the PJE cross-hatch pattern *is not* displayed. The PJE cross-hatch pattern is also internally generated. Its rectangles are smaller than those of the "internal cross-hatch with size markers" pattern described in section 2-24. Having both cross-hatch patterns displayed at once makes it difficult to make the adjustment).
6. Select category "PJE", item "GRN CENT".
7. Adjust the vertical and horizontal data to improve the green centering if necessary, which might be required due to the limited resolution of Main Deflection centering adjustments. In most cases this step will not be necessary if the Main Deflection adjustment was OK (section 3-2, "VPOS" and "HPOS").

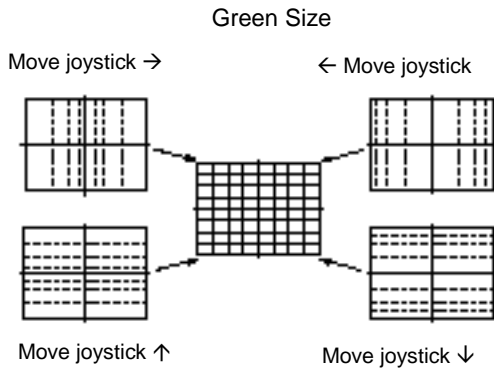
#### Green Centering



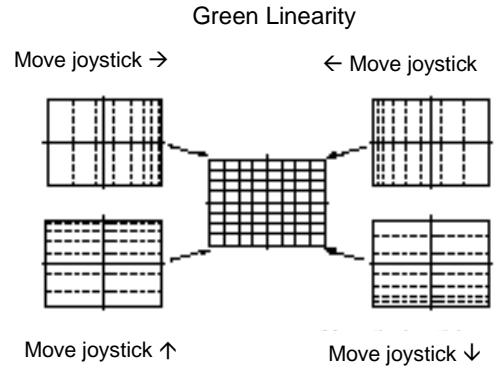
8. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.
9. Select category "PJE", item "GRN SKEW".
10. Adjust the data to remove any tilting of the green horizontal and vertical cross-hatch lines.



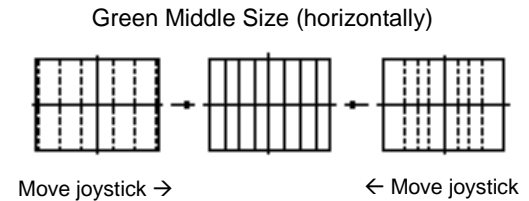
11. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.
12. Select category "PJE", item "GRN SIZE".
13. Adjust the data to improve the green vertical and horizontal size if necessary, which might be required due to the limited resolution of Main Deflection size adjustments. In most cases this step will not be necessary if the Main Deflection adjustment was OK (section 3-2, "VSIZ" and "HSIZ").



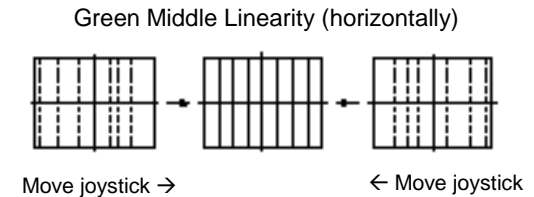
14. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.
15. Select category "PJE", item "GRN LIN".
16. Adjust the data so that the boxes at the top and bottom of the screen are the same height, and the boxes at the left and right sides are the same width.



17. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.
18. Select category "PJE", item "GRN MSIZ".
19. Adjust the data so that the boxes in the center area of the screen the screen are the same width.



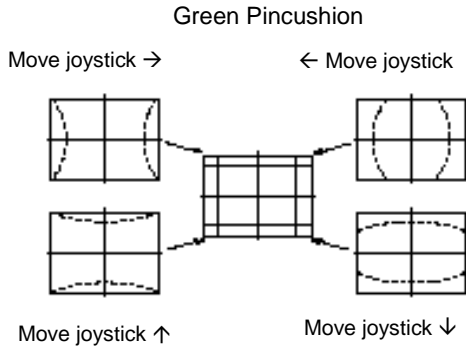
20. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.
21. Select category "PJE", item "GRN MLIN".
22. Adjust the data so that the boxes throughout the screen the screen are the same width.



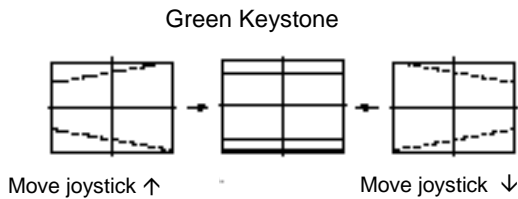
23. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.

NOTE: SIZE and LIN, and MSIZ and MLIN interact with each other, so be sure to re-check each one after adjusting the other.

24. Select category "PJE", item "GRN PIN".
25. Adjust the data so that the left side and right side vertical lines and the top and bottom horizontal lines are straight.



26. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.
27. Select category "PJE", item "GRN KEY".
28. Adjust the data so that the boxes at the top and bottom horizontal lines on the screen are parallel.



29. After adjustment is finished, press the "MUTING" + "ENTER" buttons on the remote to write the data to memory.
- NOTE: the vertical PIN and KEY adjustments interact with each other, so be sure to re-check each one after adjusting the other.
30. Press the "ⓐ" button on the remote to enter the fine adjustment mode.
  31. Press the "ⓑ" button on the remote so that only the PJE internal cross-hatch pattern on the screen (the internal crosshatch pattern with size markers should not be displayed now).
  32. Make fine vertical and horizontal adjustments as required at various parts of the screen so that the cross-hatch lines are straight (refer to section 3-3-3

for instructions on using the PJE fine adjustment mode).

Be sure to write the data to memory often in fine-adjustment mode by pressing the "MUTING" + "ENTER" buttons on the remote.

### 3-3-5.2 Red Coarse and Fine Adjustment

1. Cover the blue CRT lenses so that only the green and red pictures are seen.
2. Press the "ⓐ" button on the remote to select the RED adjustment mode (the adjustment marker must be red to indicate that red adjustment mode is active).
3. Adjust the following coarse-adjustment mode items so that the red lines overlay the green lines as much as possible. Adjust these items similar to the way the green was adjusted. **Be sure to write the data for one item to memory before going on to the next item by pressing the "MUTING" + "ENTER" buttons on the remote.**

RED CENT (horizontally/vertically)  
 RED SKEW (horizontally/vertically)  
 RED SIZE (horizontally/vertically)  
 RED LIN (horizontally/vertically)  
 RED MSIZ (horizontally)  
 RED MLIN ((horizontally)  
 RED PIN (horizontally/vertically)  
 RED KEY (vertically)

4. Press the "ⓑ" button on the remote to enter the fine adjustment mode.
5. Make fine vertical and horizontal adjustments as required at various parts of the screen so that the red cross-hatch lines are straight and overlay the green cross-hatch lines.

Be sure to write the data to memory often in fine-adjustment mode by pressing the "MUTING" + "ENTER" buttons on the remote.

6. Press the "ⓐ" button on the remote to return to the coarse adjustment mode.

### 3-3-5.3 Blue Coarse and Fine Adjustment

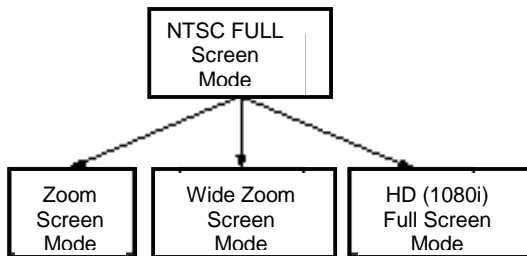
1. Make sure that all 3 CRTs are not covered.

2. Press the " ③ " button on the remote to select the BLUE adjustment mode (the adjustment marker must be blue to indicate that blue adjustment mode is active).
3. Repeat steps 3 through 6 in section 3-3-5.2 (red coarse and fine adjustment) for the blue adjustment mode so that the blue lines overlay the green and red lines as much as possible.
4. **Be sure to write the data for one item to memory before going on to the next item by pressing the "MUTING" + "ENTER" buttons on the remote.**

#### 3-3-5.4 Copying the NTSC FULL mode adjustment data to the other display modes .

**CAUTION:** Only perform this function if the other display modes (ZOOM, WIDE ZOOM, and HD 1080i FULL) are severely misadjusted, then touch up each mode as required. Skip the copy function if only touch up is required in the other modes.

1. Make sure that the NTSC FULL mode adjustments are finished and the adjustment data has been written to memory.
2. Select adjustment category "PJE", item # 02 "ALCP", and change the data from "0" to "1".
3. Press the "MUTING" + "ENTER" buttons on the remote. The NTSC FULL mode data are written to the other modes.



#### 3-3-6 Auto-registration ("Auto-Focus") Offset Data Calculation.

**NOTE:** Only perform this function immediately after *all* geometry and convergence adjustments have been completed. This function *must* be performed *before* you exit the service mode.

This function calculates and stores the auto-focus offset data that allows the registration to be returned to the condition it was in when service mode adjustments were made. In the event that the registration drifts over time, the stored offset data is used as the reference data when the customer presses the auto-focus button on the set.

1. Darken the room (this will prevent the ambient light from interacting with the colored boxes that hit the sensors during auto-focus).
2. Make sure the set is in the NTSC FULL mode.
3. Press the flash-focus button the set's front panel.
4. After the flash-focus is completed, select category "PJE", item "ERR", and confirm that the data is "000". If the data is anything other than "000" refer to section 3-4 "Auto registration Error Code List".
5. Exit the service mode.

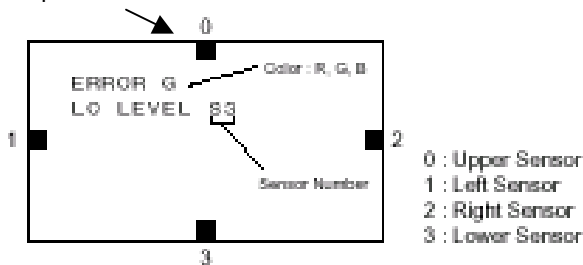


### 3-4. Auto Registration Error Code List

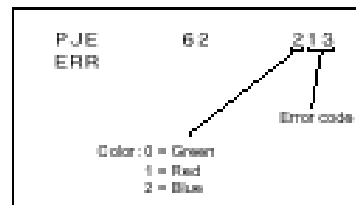
If an error code is displayed after the set has been fully adjusted correctly, please check the following items: position, tilt, and sizing. If either of these adjustments are off, even slightly, the auto registration patterns might not hit the four sensors properly (this occurs when the internal generator patterns are being flashed on the screen for the sensor to read). Therefore, auto registration (also called auto convergence or auto focus) cannot operate properly, causing an error code to be displayed. In order for this function to operate properly, correct position, tilt, and size must be adjusted properly.

| Error Code | DESCRIPTION                             | RECOMMENDATIONS  |
|------------|---|--|
| 00         | No Error                                |  |
| 10         | Sensor 0 low output                     | Check sensor 0, connection/ wiring, circuit, and pattern position (Are patterns hitting sensor ?) Adjust "64 VUP" if necessary.  |
| 11         | Sensor 1 low output                     | Check sensor 1, connection/ wiring, circuit, and pattern position (Are patterns hitting sensor ?) Adjust "69 HLE" if necessary.  |
| 12         | Sensor 2 low output                     | Check sensor 2, connection/ wiring, circuit, and pattern position (Are patterns hitting sensor ?) Adjust "73 HRIV" if necessary. |
| 13         | Sensor 3 low output                     | Check sensor 3, connection/ wiring, circuit, and pattern position (Are patterns hitting sensor ?) Adjust "68 VLOW" if necessary. |
| 20         | Sensor 0 high output                    | Check sensor 0 and circuit.  |
| 21         | Sensor 1 high output                    | Check sensor 1 and circuit.  |
| 22         | Sensor 2 high output                    | Check sensor 2 and circuit.  |
| 23         | Sensor 3 high output                    | Check sensor 3 and circuit.  |
| 30         | V CENT or SKEW adjustment loop overflow | Check "66 VMID" data and check registration condition.   |
| 31         | H CENT or SKEW adjustment loop overflow | Check "71 HMID" data and check registration condition.   |
| 32         | H LIN or SIZE adjustment loop overflow  | Check "69 HLE" and "73 HRIV" data and check registration condition.  |
| 40         | V CENT regi data overflow               | Check "66 VMID" data and confirm V CENT data (all mode) is not near +511.  |
| 41         | H CENT regi data overflow               | Check "71 HMID" data and confirm H CENT data (all mode) is not near +511.  |
| 42         | V SKEW regi data overflow               | Check "66 VMID" data and confirm V SKEW data (all mode) is not near +511.  |
| 43         | H SKEW regi data overflow               | Check "71 HMID" data and confirm H SKEW data (all mode) is not near +511.  |
| 44         | H LIN regi data overflow                | Check "69 HLE" and "73 HRIV" data and confirm H CENT data (all mode) is not near +511.   |
| 45         | H SIZE regi data overflow               | Check "69 HLE" and "73 HRIV" data and confirm V CENT data (all mode) is not near +511.   |
| 50         | V CENT regi data overflow               | Check "66 VMID" data and confirm V CENT data (all mode) is not near -512.  |
| 51         | H CENT regi data overflow               | Check "71 HMID" data and confirm H CENT data (all mode) is not near -512.  |
| 52         | V SKEW regi data overflow               | Check "66 VMID" data and confirm V SKEW data (all mode) is not near -512.  |
| 53         | H SKEW regi data overflow               | Check "71 HMID" data and confirm H SKEW data (all mode) is not near -512.  |
| 54         | H LIN regi data overflow                | Check "69 HLE" and "73 HRIV" data and confirm H CENT data (all mode) is not near -512.   |
| 55         | H SIZE regi data overflow               | Check "69 HLE" and "73 HRIV" data and confirm V CENT data (all mode) is not near -512.   |
| 60         | H or V CENT offset overflow             | Check "71 HMID" data and check "66 VMID" data  |
| 61         | H or V SKEW offset overflow             | Check SKEW adjustment.   |
| 62         | H SIZE or LIN offset overflow           | Check "69 HLE" and "73 HRIV" data and check SIZE and LIN adjustment.   |
| 70         | H or V CENT offset overflow             | Check "71 HMID" data and check "66 VMID" data  |
| 71         | H or V SKEW offset overflow             | Check SKEW adjustment.   |
| 72         | H SIZE or LIN offset overflow           | Check "69 HLE" and "73 HRIV" data and check SIZE and LIN adjustment.   |
| 80         | Size limit error                        | Check that H SIZE data is a negative value and not near 0.   |

Error code screen display when auto-focus performed in service mode.



Stored-error code screen displayed in category "PJE", item "ERR" (refer to table above).



# SERVICE MANUAL

# RA-5A CHASSIS

| <u>MODEL NAME</u> | <u>REMOTE COMMANDER</u> | <u>DESTINATION</u> | <u>CHASSIS NO.</u> |
|-------------------|-------------------------|--------------------|--------------------|
| <b>KDP-57XBR2</b> | RM-Y185                 | US                 | SCC-P69B-A         |
| <b>KDP-57XBR2</b> | RM-Y185                 | Canadian           | SCC-P69B-A         |
| <b>KDP-65XBR2</b> | RM-Y185                 | US                 | SCC-P69A-A         |
| <b>KDP-65XBR2</b> | RM-Y185                 | Canadian           | SCC-P69A-A         |

## CORRECTION - 1

SUBJECT: EXPLODED VIEW P/N CORRECTION -  
SCREEN FRAME BLOCK

Correct the service manual as shown.  
File this Correction with the service manual.



 : Corrected Item

Section 8: Exploded View (Page 109)

8-1. Screen and Screen Frame Block

### INCORRECT

### CORRECT

| REF. NO. | PART NO.     | DESCRIPTION                     | REF. NO.   | PART NO.     | DESCRIPTION                     |
|----------|--------------|---------------------------------|--|--------------|---------------------------------|
| 17       | 4-083-713-11 | SCREEN (57W), CONTRAST (KDP-57) |  17 | 4-084-346-11 | SCREEN (57W), CONTRAST (SDP-57) |
| 17       | 4-083-714-11 | SCREEN (65W), CONTRACT (KDP-65) |  17 | 4-084-347-11 | SCREEN (65W), CONTRAST (SDP-65) |

**DIGITAL HIGH DEFINITION PROJECTION TV**

# SONY®

**Sony Corporation**  
Sony Technology Center  
Technical Services  
Service Promotion Department

English  
2002AJ74WEB-1  
Printed in USA  
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# SERVICE MANUAL

# RA-5A CHASSIS

| <u>MODEL NAME</u> | <u>REMOTE COMMANDER</u> | <u>DESTINATION</u> | <u>CHASSIS NO.</u> |
|-------------------|-------------------------|--------------------|--------------------|
| <b>KDP-57XBR2</b> | RM-Y185                 | US                 | SCC-P69B-A         |
| <b>KDP-57XBR2</b> | RM-Y185                 | Canadian           | SCC-P69B-A         |
| <b>KDP-65XBR2</b> | RM-Y185                 | US                 | SCC-P69A-A         |
| <b>KDP-65XBR2</b> | RM-Y185                 | Canadian           | SCC-P69A-A         |

## SUPPLEMENT - 2

SUBJECT: B BOARD, Q-BOX ASSEMBLY P/N CORRECTION;  
IC001 P/N CORRECTION

Correct the service manual as shown.  
File this Supplement with the service manual.

DIGITAL HIGH DEFINITION PROJECTION TV

**SONY®**

Sony Corporation  
Sony Technology Center  
Technical Services  
Service Promotion Department

English  
2002JG74WEB-1  
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 : Corrected Item

## Section 8: Exploded Views

### 8-4. Main Bracket Block (Page 112)

#### INCORRECT



#### CORRECT

| REF. NO. | PART NO.     | DESCRIPTION             | REF. NO.  | PART NO.     | DESCRIPTION   |
|----------|--------------|-------------------------|---|--------------|---|
| 152      | A-1136-205-A | B BOARD, COMPLETE       |  152 | A-1136-205-A | B BOARD, COMPLETE<br>(KDP-57XBR2 S/N's up to 9009999)<br>(KDP-65XBR2 S/N's up to 9005999)           |
|          |              |                         |  152 | A-1136-205-B | B BOARD, COMPLETE<br>(KDP-57XBR2 S/N's 9010000 and higher)<br>(KDP-65XBR2 S/N's 9006000 and higher) |
| 173      | T-9986-079-1 | Q-BOX ASSEMBLY (KDP-57) |  173 | T-9986-079-1 | Q-BOX ASSEMBLY (KDP-57)<br>(KDP-57XBR2 S/N's up to 9009999)   |
|          |              |                         |  173 | T-9986-093-7 | Q BOX ASSEMBLY (KDP-57)<br>(KDP-57XBR2 S/N's 9010000 and higher)                                    |
| 173      | T-9986-079-2 | Q-BOX ASSEMBLY (KDP-65) |  173 | T-9986-079-2 | Q-BOX ASSEMBLY (KDP-65)<br>(KDP-65XBR2 S/N's up to 9005999)   |
|          |              |                         |  173 | T-9986-093-8 | Q-BOX ASSEMBLY (KDP-65)<br>(KDP-65XBR2 S/N's 9006000 and higher)                                    |

### Section 9: Electrical Parts List (Page 114)

#### INCORRECT



#### CORRECT

| REF. NO. | PART NO.     | DESCRIPTION       | REF. NO.  | PART NO.     | DESCRIPTION   |
|----------|--------------|-------------------|---|--------------|---|
|          | A-1136-205-A | B BOARD, COMPLETE |  | A-1136-205-A | B BOARD, COMPLETE<br>(KDP-57XBR2 S/N's up to 9009999)<br>(KDP-65XBR2 S/N's up to 9005999)           |
|          |              |                   |  | A-1136-205-B | B BOARD, COMPLETE<br>(KDP-57XBR2 S/N's 9010000 and higher)<br>(KDP-65XBR2 S/N's 9006000 and higher) |

### Section 9: Electrical Parts List (Page 117)

#### INCORRECT

#### CORRECT

| REF. NO. | PART NO.     | DESCRIPTION       | REF. NO.  | PART NO.     | DESCRIPTION   |
|----------|--------------|-------------------|---|--------------|---|
| IC001    | 6-800-670-01 | IC M306V2ME-154FP |  IC001 | 6-801-826-01 | IC M306V2ME-155FP<br>(KDP-57XBR2 S/N's up to 9009999)<br>(KDP-65XBR2 S/N's up to 9005999)           |
|          |              |                   |  IC001 | 6-801-856-01 | IC M306V2ME-156FP<br>(KDP-57XBR2 S/N's 9010000 and higher)<br>(KDP-65XBR2 S/N's 9006000 and higher) |