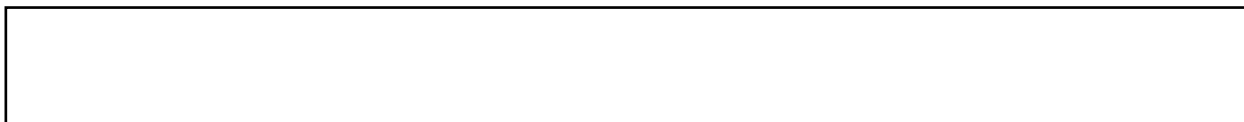


Service  
Service  
**Service**

**VR830/02/07/16/39**



# Service Manual

## Contents

|                                       |
|---------------------------------------|
| Chapter                               |
| Sec. 1: Adjustment Procedure          |
| Schematic Diagrams and CBA's          |
| Exploded Views                        |
| Mechanical and Electrical Parts Lists |
| Sec. 2: Standard Maintenance          |
| Mechanism Alignment Procedures        |
| Disassembly / Assembly of Mechanism   |
| Deck Exploded Views                   |

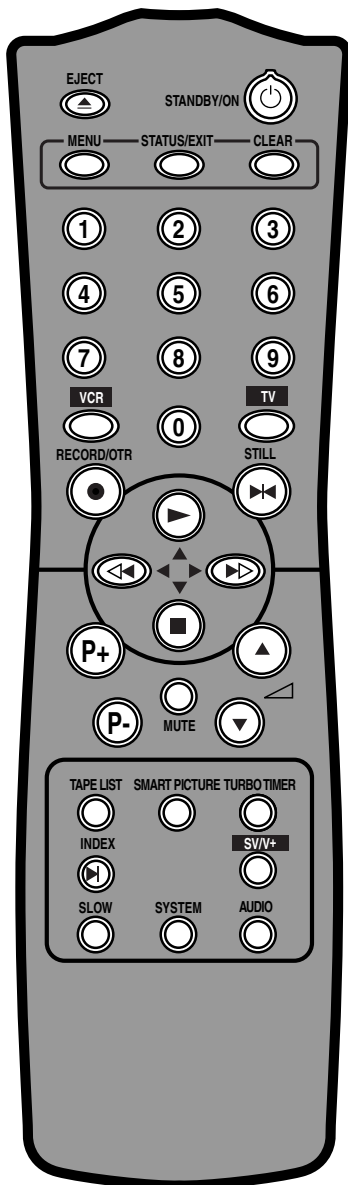
## Survey of versions:

|     |                         |
|-----|-------------------------|
| /02 | PAL B/G, VPS/PDC        |
| /07 | PAL I, Ireland          |
| /16 | PAL B/G, Spain          |
| /39 | SECAM L,L' & PAL B/G, I |
| /58 | PAL/SECAM B/G, D/K      |

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.



## [ VR830/02, VR830/07, VR830/16, VR830/39 ]



### Buttons for VCR feature only

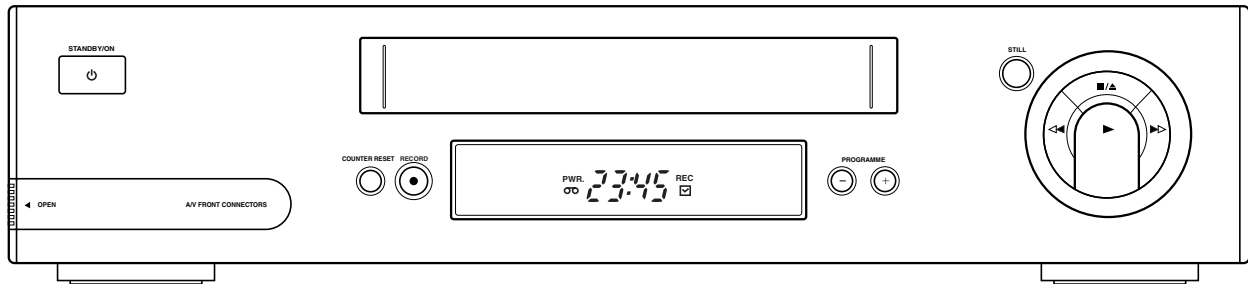
- VCR** To operate the VCR with the remote control.
- EJECT** To eject the cassette.
- CLEAR** To delete last entry/Clear programmed recording (TIMER).
- RECORD/OTR** To record the TV channel selected at this moment or press repeatedly to start a One-Touch Recording.
- STILL** To stop the tape and slow a still picture.
- P+** **P-** To select the programme number. During normal or slow motion playback, press to adjust the tracking.
- INDEX** In combination with **<<** **>>** to search for previous or next recording on the cassette.
- SLOW** To view the picture in slow motion.
- AUDIO** To change stereo sound and 2nd language.
- SYSTEM** Doesn't work in these models.
- TAPE LIST** To call up the Tape List.
- SMART PICTURE** To select a smart picture mode.
- TURBO TIMER** To programme a recording with the function TURBO TIMER.
- SV/V+** To make a TIMER programming with SHOWVIEW.
- MENU** To call up main menu of VCR.
- ▶** To play a tape, select an item in the menu of VCR.
- ▼** To stop the tape, select an item in the menu of VCR.
- >>** When tape playback is stopped, press to fast forward the tape at high speed. During playback, press to fast forward the tape while the picture stay on the screen. To store or confirm entry in the menu.
- <<** When tape playback is stopped, press to rewind the tape at high speed. During playback, press to rewind the tape while the picture stay on the screen. To return the cursor in the menu.

### Buttons with TV feature

- TV** To call up additional TV functions.
- STANDBY/ON** To switch VCR or Philips TV on or off, interrupt menu function.
- STATUS/EXIT** To access or remove the VCR's on-screen status display. To exit on-screen menus. Or, to access or remove a status display or menu of Philips TV.
- 0..9** Press to select channels at VCR or Philips TV.
- MUTE** To mute the TV's sound. Press again to restore the volume.
- ▲** **▼** To adjust the TV's volume.

Press button VCR on the remote control before doing VCR related functions on the remote. By pressing button TV it is possible to navigate some functions on PHILIPS TV sets.

## Front of the device



**STANDBY/ON** To switch off or on, interrupt a function.

**PROGRAMME+** **PROGRAMME-** To select the programme number. During normal or slow motion playback, press to adjust the tracking.

**RECORD** To record the TV channel selected at this moments.

**▶▶** When tape playback is stopped, press to fast forward the tape at high speed. During playback, press to fast forward the tape while the picture stay on the screen.

**◀◀** When tape playback is stoped, press to rewind the tape at high speed. During playback, press to rewind the tape while the picture stay on the screen.

**▶** To play a tape.

**■/▲** To stop the tape and eject the cassette.

**STILL** To stop the tape and show a still picture.

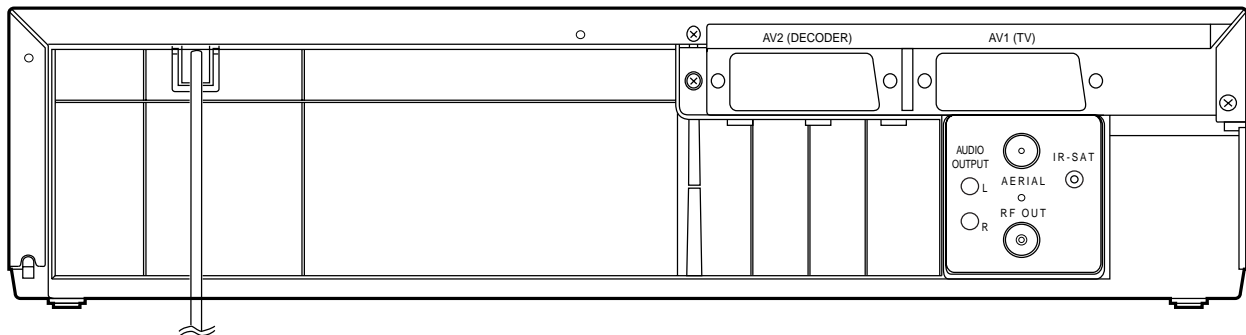
**COUNTER RESET** To reset the counter.

### AV FRONT CONNECTORS

White and red socket Audio input socket left/right: To connect a camera recorder or video recorder

Yellow socket Video input socket: To connect a camera recorder or video recorder.

## Back of the set



**AUDIO OUTPUT L R** To connect a HIFI-set.

**AV2(DECODER)** To connect a satellite receiver, decoder, video recorder, etc.

**AV1(TV)** To connect the TV set.

**AERIAL** To connect the aerial cable.

**RF OUT** To connect the TV set.

**IR-SAT** To connect the SAT MOUSE.

[ VR830/02, VR830/07, VR830/16, VR830/39 ]

| Signal Name           | Function   |
|-----------------------|--|
| 8POUT-1               | SCART 1 8Pin Output Control Signal                         |
| 8POUT-2               | SCART 2 8Pin Output Control Signal                         |
| A-MODE                | Hi-Fi Tape Detection Signal                                |
| A-MUTE-H              | Audio Mute Control Signal (Mute = "H")                     |
| A-PB/REC              | Normal Audio Play Back/Record Signal                       |
| AFC                   | Automatic Frequency Control Signal                         |
| AGC                   | IF AGC Control Signal                                      |
| AL+15V/+12V           | Always +15V/+12V with AC Plug Connected                    |
| AL+5V                 | Always +5V with AC Plug Connected                          |
| AL+9V                 | Always +9V with AC Plug Connected                          |
| AMPC                  | CTL AMP Connected Terminal                                 |
| AMPVcc                | AMPVcc   |
| AMPVREF <sub>IN</sub> | V-Ref for CTL AMP  |
| AMPVss                | AMPVss (GND)   |
| AVcc                  | A/D Converter Power Input/ Standard Voltage Input          |
| C                     | C Terminal   |
| C-CONT                | Capstan Motor Control Signal                               |
| C-F/R                 | Capstan Motor FWD/REV Control Signal (FWD="L"/REV="H")     |
| C-FG                  | Capstan Motor Rotation Detection Pulse                     |
| C-POWER-SW            | Capstan Power Switching Pulse                              |
| C-ROTA                | Color Phase Rotary Changeover Signal                       |
| C-SYNC                | Composite Synchronized Pulse                               |
| CLKSEL                | Clock Select (GND)   |
| COLOR-IN              | SECAM or MESECAM Chroma Video Input Signal at Super Impose |
| CTL (+)               | Playback/Record Control Signal (+)                         |
| CTL (-)               | Playback/Record Control Signal (-)                         |
| CTLAMPout             | To Monitor for CTL AMP Output                              |

| Signal Name               | Function                                       |
|---------------------------|--|
| D-CONT                    | Drum Motor Control Signal                      |
| D-FG                      | Drum Motor Rotation Detection Pulse            |
| D-PG                      | Drum Motor Pulse Generator                     |
| D-REC-H                   | Delayed Record Signal                          |
| D-V- SYNC                 | Dummy V-sync Output                            |
| DAVN-L                    | VPS/PDC Data Receive = "L"                     |
| DRV-CLK                   | LED Clock Driver IC Control Clock              |
| DRV-DATA                  | LED Clock Driver IC Control Data               |
| DRV-STB                   | LED Clock Driver IC Chip Select Signal         |
| END-S                     | Tape End Position Detect Signal                |
| FE-H GND                  | Ground for Full Erase Head                     |
| FF/REW-L                  | CTL Amp Gain Switching Signal (FF/REW="L")     |
| FSC-IN [4.43MHz]          | 4.43MHz Clock Input                            |
| FTV-IN                    | Comparator Input of Video Signal for Follow TV |
| H-A-COMP                  | Head Amp Comparator Signal                     |
| H-A-SW                    | Video Head Amp Switching Pulse                 |
| Hi-Fi-A (L)               | Hi-Fi Audio Head (L)                           |
| Hi-Fi-A (R)               | Hi-Fi Audio Head (R)                           |
| Hi-Fi-COM                 | Hi-Fi Audio Head Common                        |
| HiFi-H-SW                 | HiFi Audio Head Switching Pulse                |
| HLF                       | LPF Connected Terminal (Slicer)                |
| I <sup>2</sup> C BUS- SCL | I <sup>2</sup> C BUS Control Clock             |
| I <sup>2</sup> C BUS- SDA | I <sup>2</sup> C BUS Control Data              |
| JK1-8P-OUT-1              | SCART 1 8Pin Output Control Signal             |
| JK1-8P-OUT-2              | SCART 2 8Pin Output Control Signal             |
| KEY-1                     | Key Scan Input Signal 1                        |
| KEY-2                     | Key Scan Input Signal 2                        |
| LD-SW                     | Deck Mode Position Detector Signal             |
| LINK-IN                   | Easy Link Data Input                           |
| LINK-OUT                  | Easy Link Data Output                          |
| LINK-OUT                  | Easy Link Data Output                          |
| LM-FWD/REV                | Loading Motor Control Signal                   |

| Signal Name | Function   |
|-------------|--|
| MOD-A       | Modulator Audio Output Signal  |
| N-A-PB      | Normal Audio Playback  |
| N-A-REC     | Normal Audio Recording   |
| OSCIN       | Clock Input for letter size  |
| OSCOU       | Clock Output for letter size   |
| OSDVcc      | OSDVcc   |
| OSDVss      | OSDVss   |
| P-DOWN-L    | Power Voltage Down Detector Signal                                       |
| P-ON+44V    | +44V at Power-On Signal  |
| P-ON+5V     | +5V at Power-On Signal   |
| P-ON+9V     | +9V at Power-On Signal   |
| P-ON-H      | Power On Signal at High  |
| PG-DELAY    | Video Head Switching Pulse Signal Adjusted Voltage                       |
| POW-SAF     | P-ON Power Detection Input Signal  |
| REC-SAF     | Recording Safety SW Detect (With Record tab="L"/With out Record tab="H") |
| REMOCON-IN  | Remote Control Sensor  |
| RESET       | System Reset Signal (Reset="L")  |
| RESET       | System Reset Signal (Reset="L")  |
| RF-SW       | Video Head Switching Pulse   |
| RGB-THROUGH | SCART 2 RGB Through Control Signal                                       |
| S-REEL      | Supply Reel Rotation Signal  |
| SAT-MOUSE   | SAT-MOUSE Data Control Signal Output                                     |
| SC2-IN      | Input Signal from Pin 8 of SCART2  |
| SECAM-H     | SECAM Mode at High   |
| ST-S        | Tape Start Position Detector Signal                                      |
| T-REEL      | Take Up Reel Rotation Signal   |
| TIMER+5V    | +5V at Timer   |
| TRICK-H     | Special Playback = "H" in SECAM Mode                                     |
| TU-AUDIO    | Tuner Audio Input Signal   |
| TU-VIDEO    | Tuner Video Input Signal   |
| V-ENV       | Video Envelope Comparator Signal   |

| Signal Name | Function            |
|-------------|---------------------|
| Vcc         | Vcc                 |
| VIDEO-IN    | Video Signal Input  |
| VIDEO-OUT   | Video Signal Output |
| Vss         | Vss(GND)            |
| X-IN        | Main Clock Input    |
| X-OUT       | Main Clock Input    |
| XC-IN       | Sub Clock           |
| XC-OUT      | Sub Clock           |

# Servo/System Control Block Diagram

## Comparison Chart of Models & Marks

| Model    | Mark | Model    | Mark |
|----------|------|----------|------|
| VR830/02 | S    | VR830/16 | U    |
| VR830/07 | T    | VR830/39 | V    |

# BLOCK DIAGRAMS

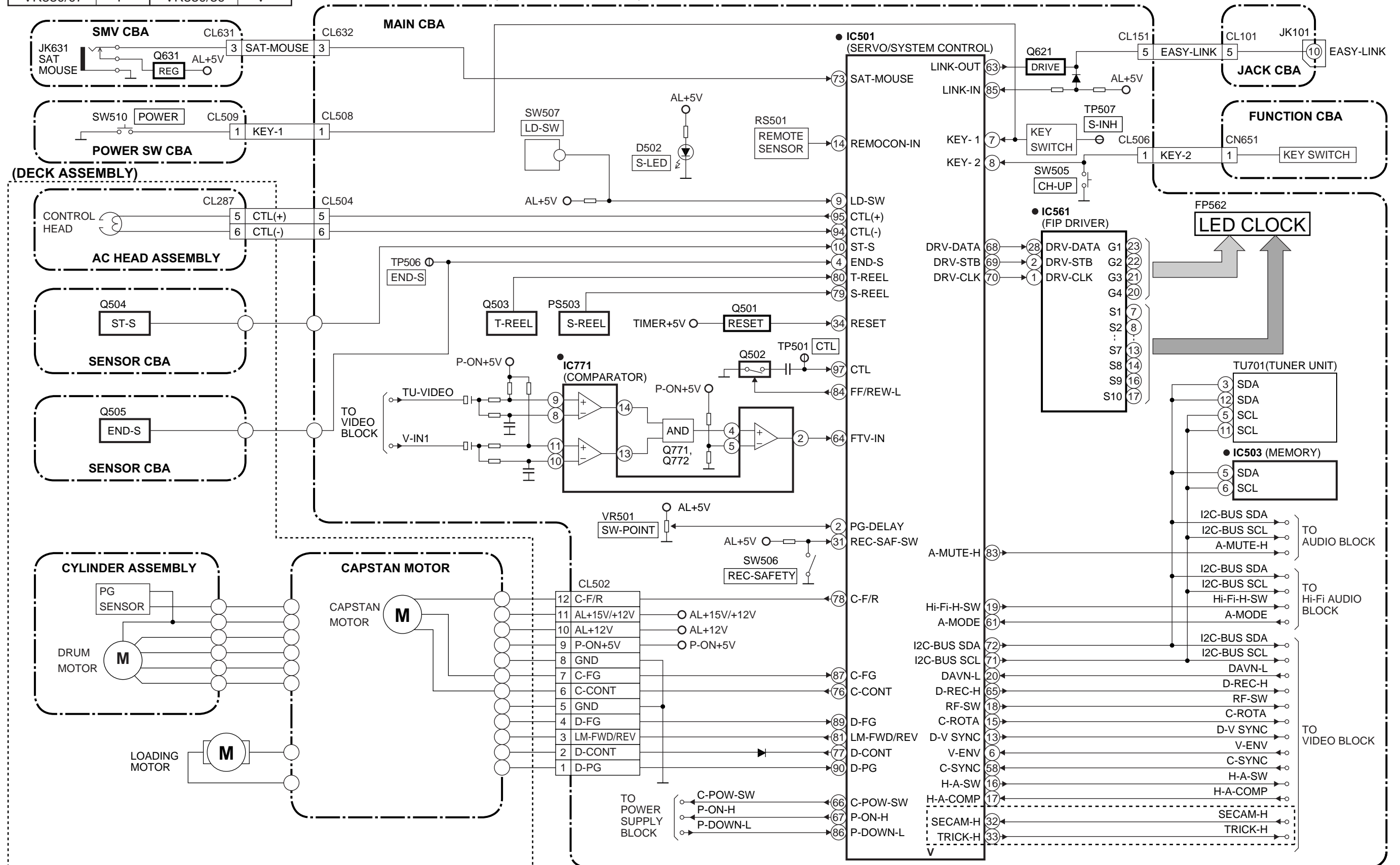
### NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB. (WIRE IS SOLDERED DIRECTLY.)

### TEST POINT INFORMATION

- ⊙ :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ⊚ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- ⊗ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- :USED TO INDICATE A TEST POINT WITH A TEST PIN.

"●" = SMD



# Video Block Diagram

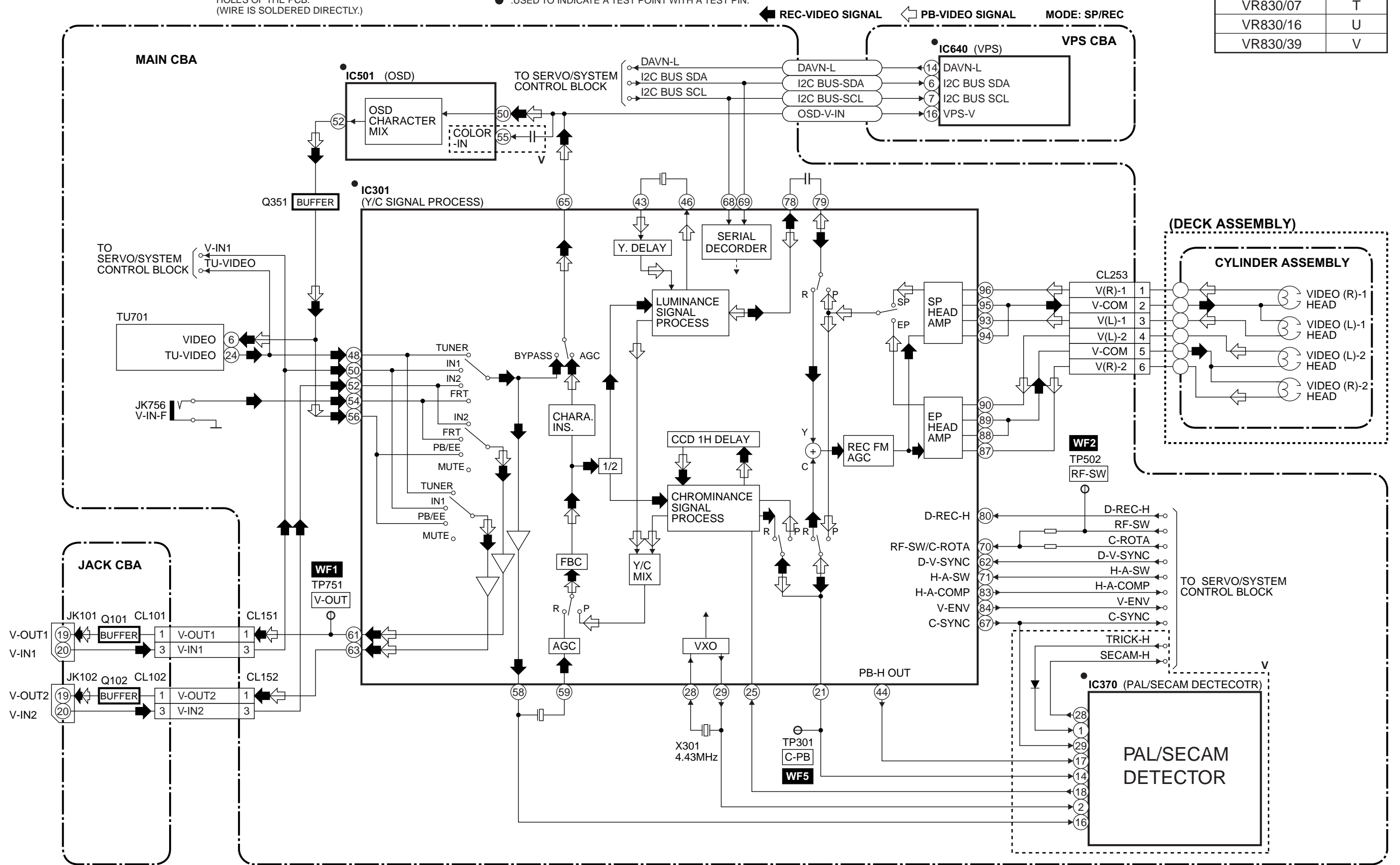
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 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.  
 (CAN DISCONNECT AND RECONNECT.)  
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER  
 HOLES OF THE PCB.  
 (WIRE IS SOLDERED DIRECTLY.)

**TEST POINT INFORMATION**  
 ○ : INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.  
 □ : USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.  
 ⊙ : USED TO INDICATE A TEST POINT WITH NO TEST PIN.  
 ● : USED TO INDICATE A TEST POINT WITH A TEST PIN.

● = SMD

## Comparison Chart of Models & Marks

| Model    | Mark |
|----------|------|
| VR830/02 | S    |
| VR830/07 | T    |
| VR830/16 | U    |
| VR830/39 | V    |



# Audio Block Diagram

**NOTE FOR WIRE CONNECTORS:**

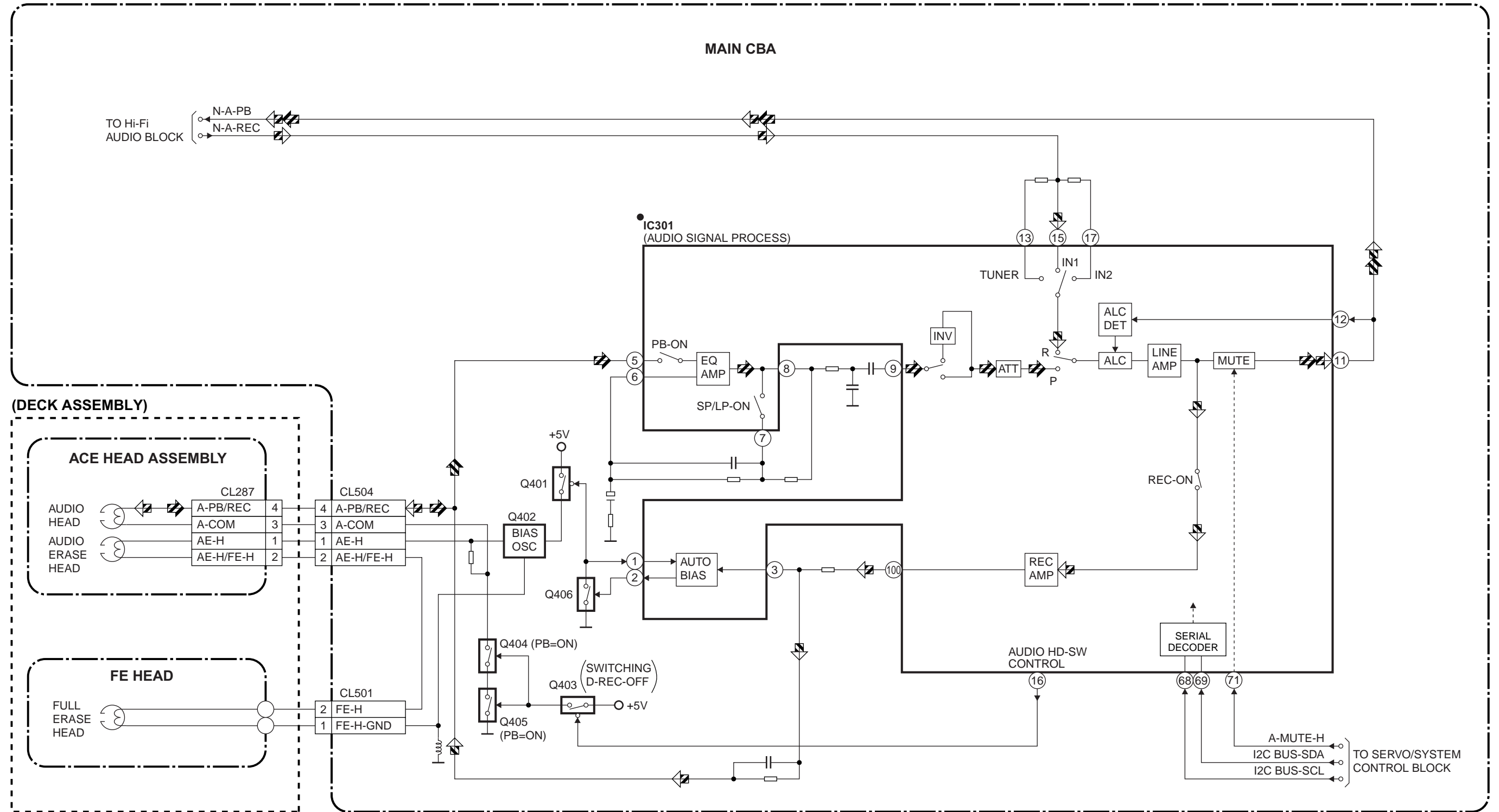
1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB. (WIRE IS SOLDERED DIRECTLY.)

"●" = SMD

**TEST POINT INFORMATION**

- ⊕ : INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
- ⇨ : USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
- ⊗ : USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- : USED TO INDICATE A TEST POINT WITH A TEST PIN.

↔ PB-AUDIO SIGNAL    ↔ REC-AUDIO SIGNAL    Mode : SP/REC





# Hi-Fi Audio Block Diagram

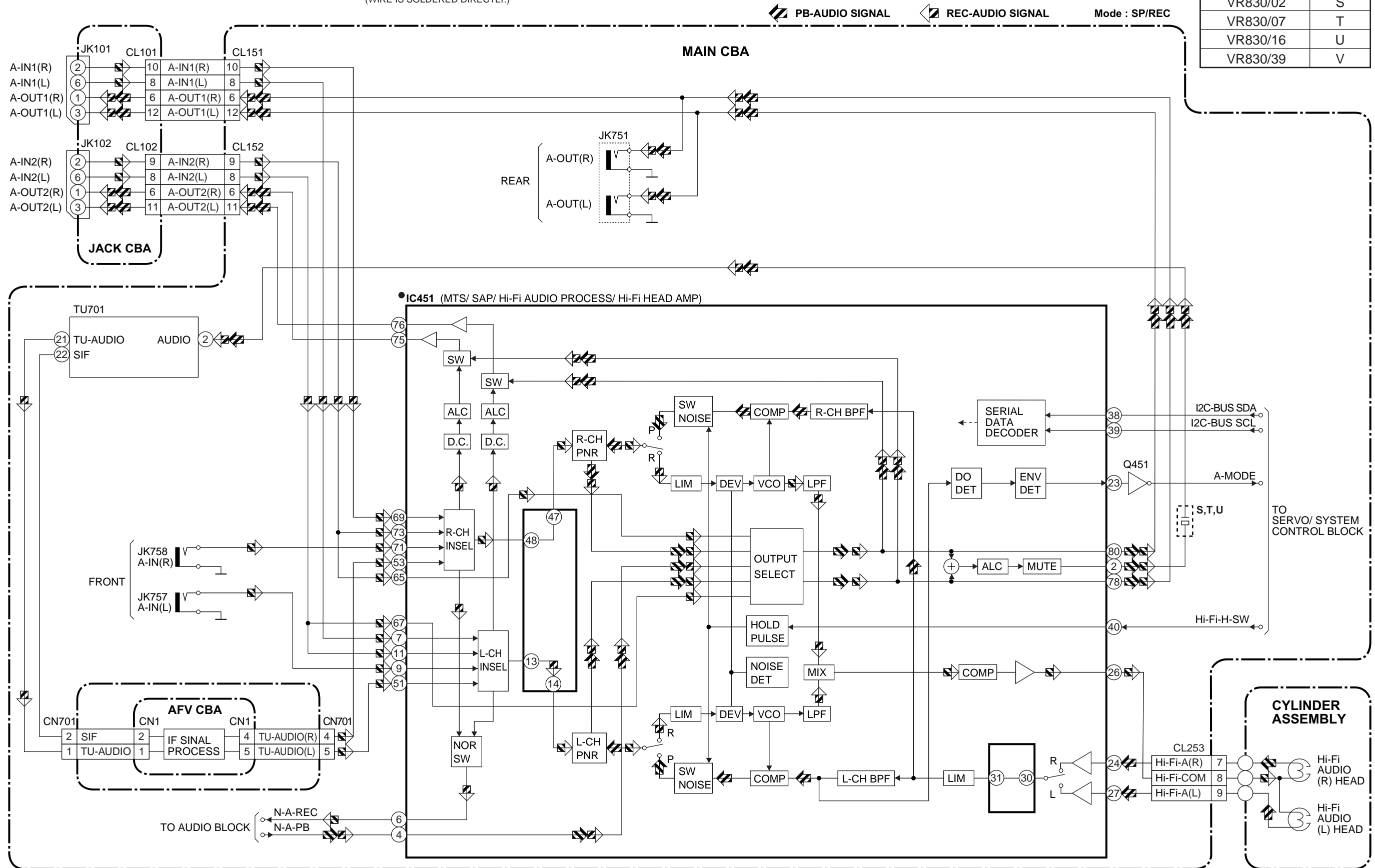
"●" = SMD

**NOTE FOR WIRE CONNECTORS:**  
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.  
 (CAN DISCONNECT AND RECONNECT.)  
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER  
 HOLES OF THE PCB.  
 (WIRE IS SOLDERED DIRECTLY.)

**TEST POINT INFORMATION**  
 ○ : INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.  
 □ : USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.  
 ⊙ : USED TO INDICATE A TEST POINT WITH NO TEST PIN.  
 ● : USED TO INDICATE A TEST POINT WITH A TEST PIN.

## Comparison Chart of Models & Marks

| Model    | Mark |
|----------|------|
| VR830/02 | S    |
| VR830/07 | T    |
| VR830/16 | U    |
| VR830/39 | V    |

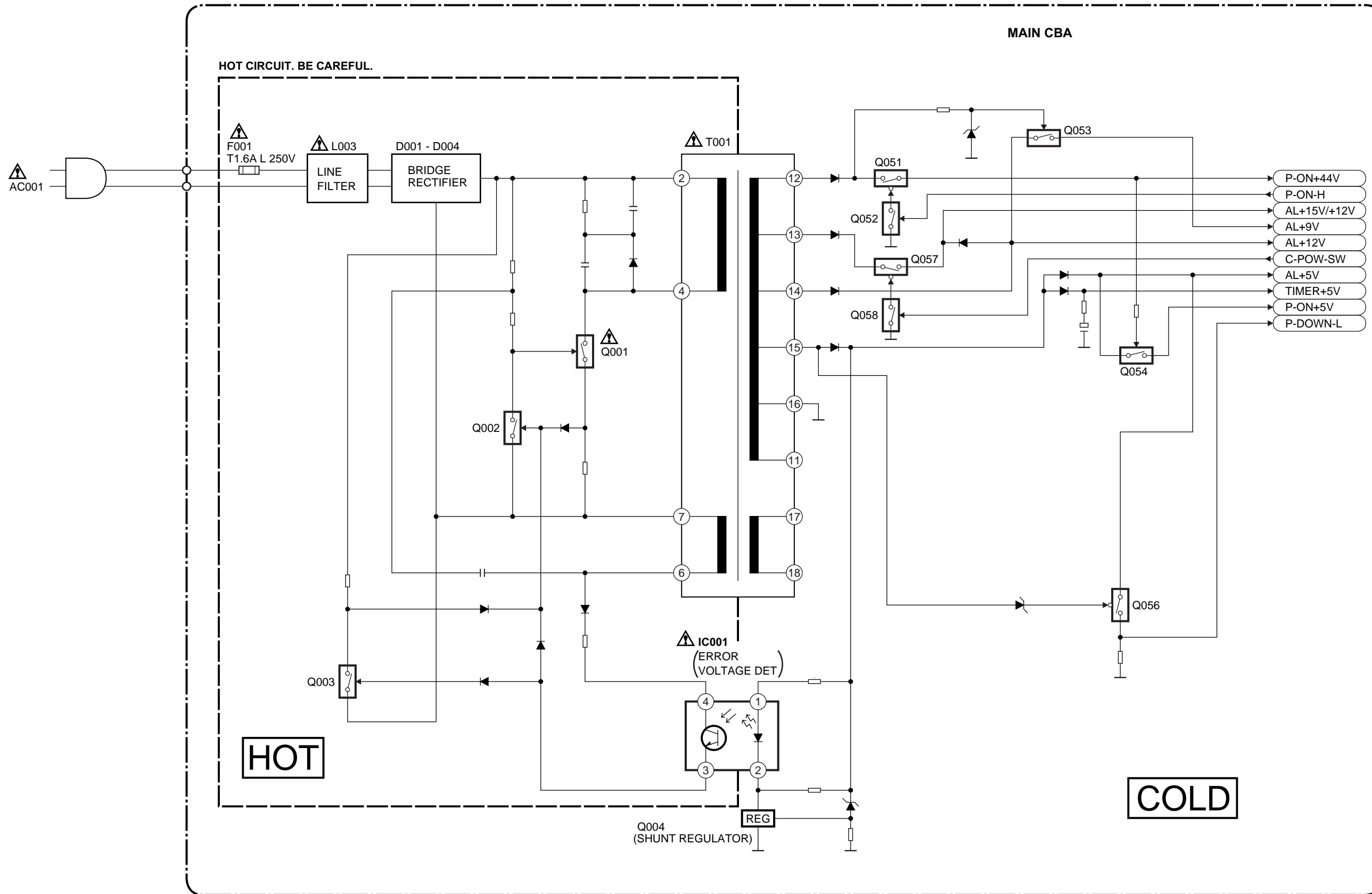


# Power Supply Block Diagram

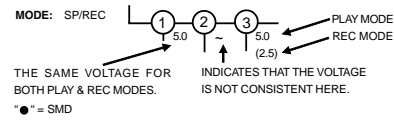
**NOTE :**  
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

**CAUTION**  
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE T1.6AL/250V FUSE.

**CAUTION !**  
Fixed voltage (or Auto voltage selectable ) power supply circuit is used in this unit.  
If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.



# Main 1/6 Schematic Diagram

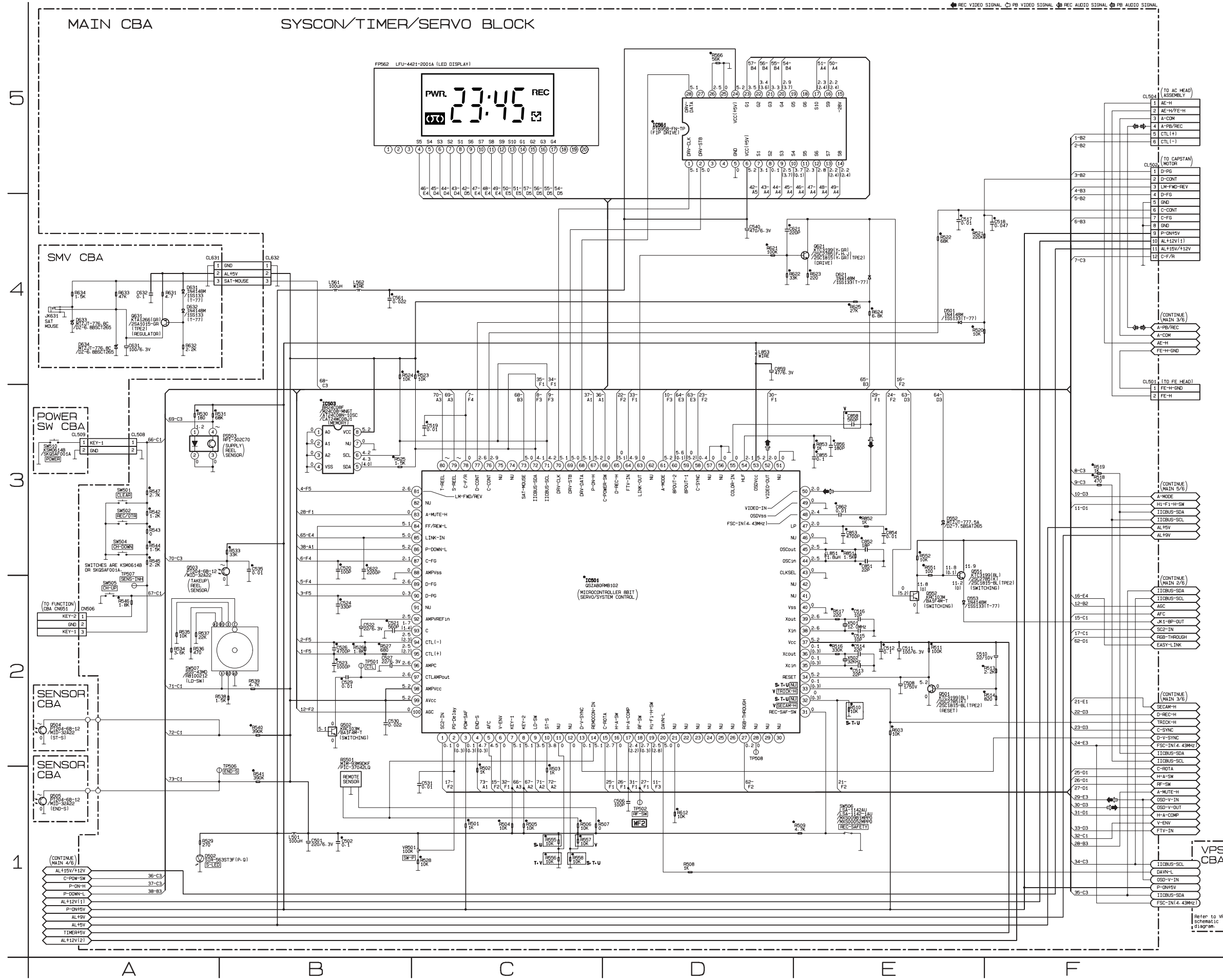


## Comparison Chart of Models and Marks

| MODEL    | MARK | MODEL    | MARK |
|----------|------|----------|------|
| VR830/02 | S    | VR830/16 | U    |
| VR830/07 | T    | VR830/39 | V    |

## IC501 KEY VOLTAGE CHART

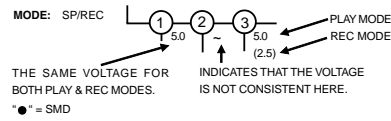
|              | KEY 1 (7PIN) | KEY 2 (8 PIN) |
|--------------|--------------|---------------|
| 0.00 ~ 0.51V | POWER        | CH UP         |
| 0.51 ~ 0.92V | -----        | REW           |
| 0.92 ~ 1.27V | CLEAR        | PLAY          |
| 1.27 ~ 1.61V | REC/OTR      | FF            |
| 1.61 ~ 1.98V | CH DOWN      | PAUSE         |
| 1.98 ~ 2.39V | S-INH        | -----         |
| 2.39 ~ 2.90V | -----        | STOP/EJECT    |
| 2.90 ~ 3.60V | -----        | -----         |
| 3.60 ~ 4.30V | -----        | -----         |
| 4.30 ~ 5.00V | KEY OFF      | KEY OFF       |



## MAIN 1/6 Schematic Diagram Parts Location Guide

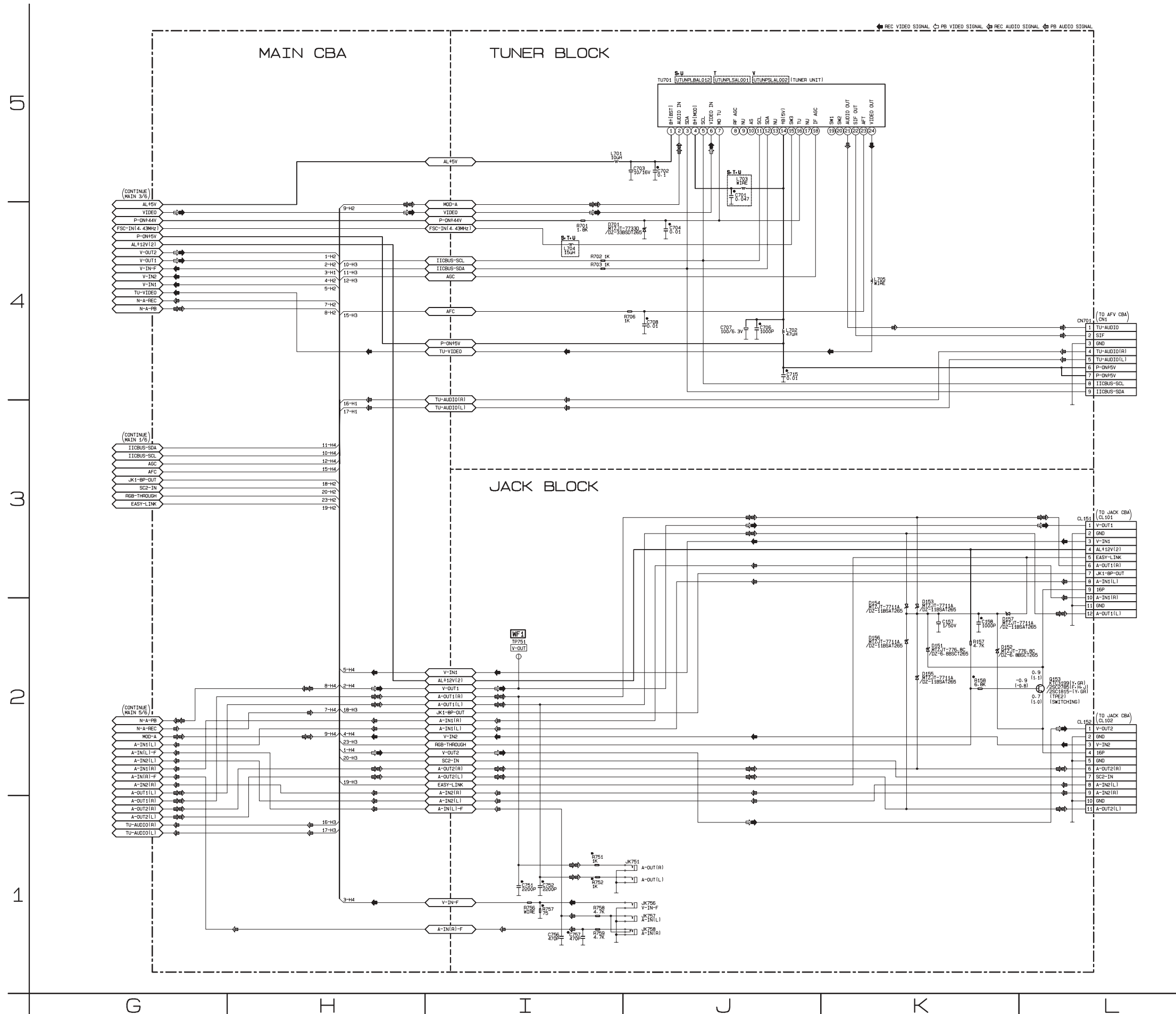
| Ref No.     | Position | Ref No.             | Position |
|-------------|----------|---------------------|----------|
| CAPACITORS  |          | RESISTORS           |          |
| C501        | B-1      | R508                | D-1      |
| C502        | B-1      | R509                | E-1      |
| C506        | D-1      | R510                | E-2      |
| C508        | E-2      | R511                | E-2      |
| C510        | F-2      | R513                | F-2      |
| C511        | E-2      | R514                | F-2      |
| C512        | E-2      | R516                | E-2      |
| C513        | E-2      | R517                | E-2      |
| C514        | E-2      | R518                | F-3      |
| C515        | E-2      | R519                | F-3      |
| C516        | E-2      | R520                | E-4      |
| C517        | E-4      | R521                | E-4      |
| C518        | F-4      | R522                | E-4      |
| C519        | C-3      | R523                | C-4      |
| C520        | B-3      | R524                | B-4      |
| C521        | B-2      | R525                | B-3      |
| C522        | B-2      | R526                | B-2      |
| C523        | B-2      | R527                | B-2      |
| C524        | B-2      | R528                | C-1      |
| C526        | B-2      | R529                | A-1      |
| C527        | B-2      | R530                | A-3      |
| C529        | B-2      | R531                | A-3      |
| C530        | B-2      | R533                | B-3      |
| C531        | C-1      | R534                | A-2      |
| C535        | B-3      | R535                | A-2      |
| C540        | D-4      | R536                | A-2      |
| C561        | C-4      | R537                | A-2      |
| C621        | D-4      | R538                | B-2      |
| C622        | B-3      | R539                | B-2      |
| C851        | E-3      | R540                | B-2      |
| C852        | E-3      | R541                | B-1      |
| C853        | E-3      | R542                | A-3      |
| C854        | E-3      | R543                | A-3      |
| C855        | E-3      | R544                | A-3      |
| C856        | E-3      | R545                | A-2      |
| CONNECTORS  |          | R552                | E-3      |
| CL501       | F-4      | R555                | C-1      |
| CL502       | F-5      | R556                | C-1      |
| CL504       | F-5      | R557                | C-1      |
| CL508       | A-3      | R558                | C-1      |
| CL509       | A-3      | R566                | D-5      |
| CN506       | A-2      | R603                | E-2      |
| DIODES      |          | R612                | D-1      |
| D501        | E-4      | R621                | D-4      |
| D502        | A-1      | R622                | D-4      |
| D552        | E-3      | R623                | E-4      |
| D553        | E-2      | R624                | E-4      |
| D621        | E-4      | R625                | E-4      |
| ICS         |          | R851                | E-3      |
| IC501       | C-2      | R852                | E-3      |
| IC503       | B-3      | R853                | E-3      |
| IC561       | D-5      | SWITCHES            |          |
| COILS       |          | SW501               | A-3      |
| L501        | B-1      | SW502               | A-3      |
| L561        | B-4      | SW504               | A-3      |
| L562        | B-4      | SW505               | A-2      |
| L851        | E-3      | SW506               | E-1      |
| L853        | D-4      | SW507               | A-2      |
| TRANSISTORS |          | VARIABLE RESISTORS  |          |
| Q501        | E-2      | VR501               | B-1      |
| Q502        | B-2      | CRYSTAL OSCILLATORS |          |
| Q503        | A-3      | X501                | E-2      |
| Q551        | E-3      | X502                | E-2      |
| Q552        | E-2      | MISCELLANEOUS       |          |
| Q621        | E-4      | FP562               | B-5      |
| RESISTORS   |          | PS503               | B-3      |
| C622        | B-3      | RS501               | B-2      |
| R501        | C-1      | TEST POINTS         |          |
| R502        | C-1      | TP501               | B-2      |
| R503        | C-1      | TP502               | D-1      |
| R504        | C-1      | TP506               | B-2      |
| R505        | C-1      | TP507               | A-2      |
| R506        | C-1      | TP508               | D-1      |
| R507        | C-1      |                     |          |

Main 2/6 Schematic Diagram



Comparison Chart of Models and Marks

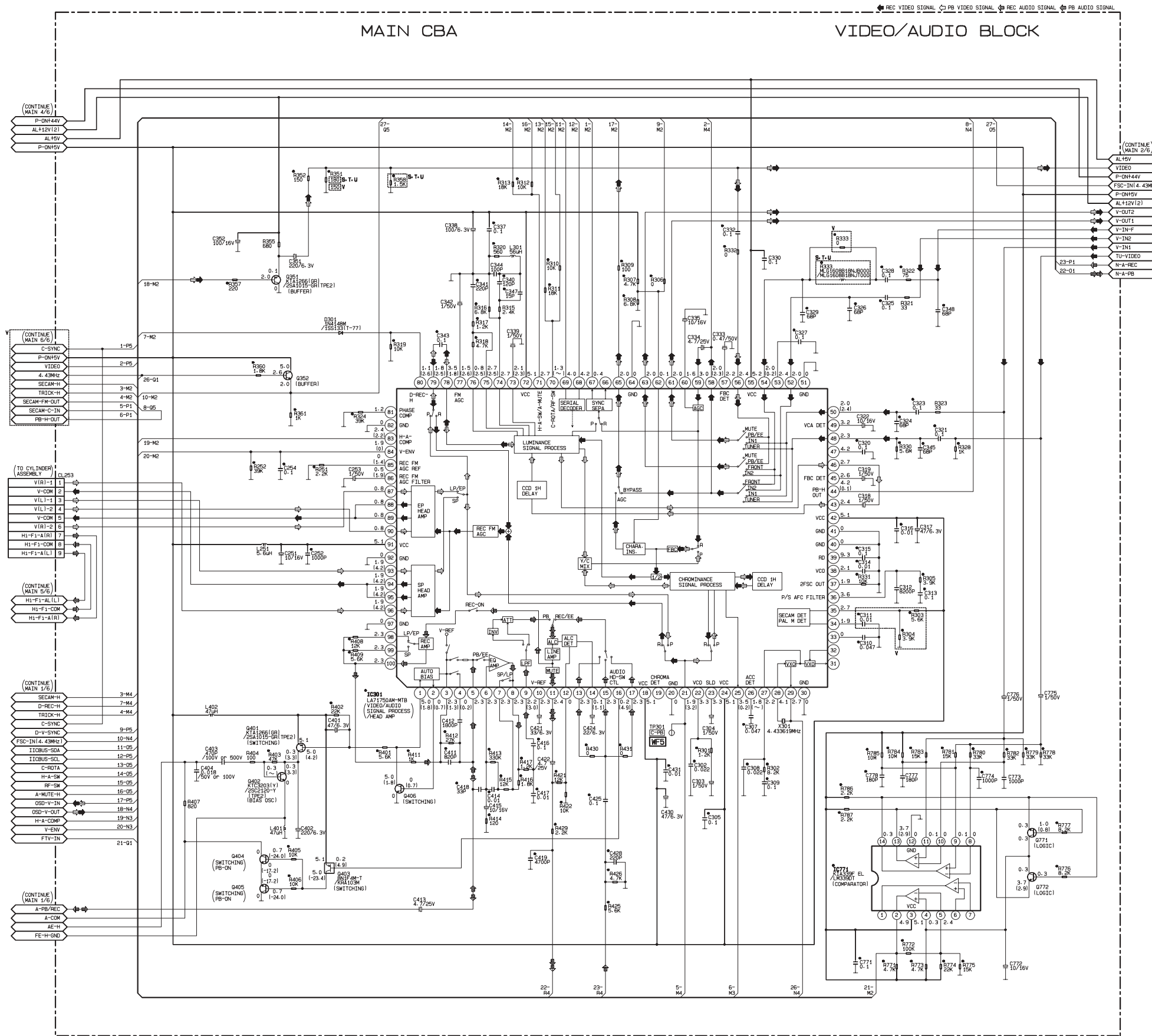
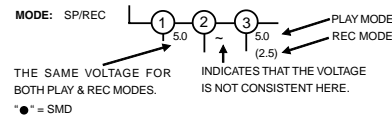
| MODEL    | MARK |
|----------|------|
| VR830/02 | S    |
| VR830/07 | T    |
| VR830/16 | U    |
| VR830/39 | V    |



MAIN 2/6 Schematic Diagram Parts Location Guide

| Ref No.       | Position |
|---------------|----------|
| CAPACITORS    |          |
| C157          | K-2      |
| C158          | K-2      |
| C701          | J-5      |
| C702          | J-5      |
| C703          | J-5      |
| C704          | J-4      |
| C706          | J-4      |
| C707          | J-4      |
| C708          | J-4      |
| C715          | J-4      |
| C751          | I-1      |
| C752          | I-1      |
| C753          | I-1      |
| C754          | I-1      |
| C755          | I-1      |
| C756          | I-1      |
| C757          | I-1      |
| C758          | I-1      |
| C759          | I-1      |
| C760          | I-1      |
| C761          | I-1      |
| C762          | I-1      |
| C763          | I-1      |
| C764          | I-1      |
| C765          | I-1      |
| C766          | I-1      |
| C767          | I-1      |
| C768          | I-1      |
| C769          | I-1      |
| C770          | I-1      |
| C771          | I-1      |
| C772          | I-1      |
| C773          | I-1      |
| C774          | I-1      |
| C775          | I-1      |
| C776          | I-1      |
| C777          | I-1      |
| C778          | I-1      |
| C779          | I-1      |
| C780          | I-1      |
| C781          | I-1      |
| C782          | I-1      |
| C783          | I-1      |
| C784          | I-1      |
| C785          | I-1      |
| C786          | I-1      |
| C787          | I-1      |
| C788          | I-1      |
| C789          | I-1      |
| C790          | I-1      |
| C791          | I-1      |
| C792          | I-1      |
| C793          | I-1      |
| C794          | I-1      |
| C795          | I-1      |
| C796          | I-1      |
| C797          | I-1      |
| C798          | I-1      |
| C799          | I-1      |
| C800          | I-1      |
| CONNECTORS    |          |
| CL151         | L-3      |
| CL152         | L-2      |
| CN701         | L-4      |
| DIODES        |          |
| D151          | K-2      |
| D152          | K-2      |
| D153          | K-2      |
| D154          | K-2      |
| D155          | K-2      |
| D156          | K-2      |
| D157          | K-2      |
| D701          | I-4      |
| COILS         |          |
| L701          | I-5      |
| L702          | J-4      |
| L703          | J-5      |
| L704          | I-4      |
| L705          | K-4      |
| TRANSISTORS   |          |
| Q153          | L-2      |
| RESISTORS     |          |
| R157          | K-2      |
| R158          | K-2      |
| R701          | I-4      |
| R702          | I-4      |
| R703          | I-4      |
| R706          | J-4      |
| R751          | I-1      |
| R752          | I-1      |
| R756          | I-1      |
| R757          | I-1      |
| R758          | I-1      |
| R759          | I-1      |
| MISCELLANEOUS |          |
| JK751         | J-1      |
| JK756         | J-1      |
| JK757         | J-1      |
| JK758         | J-1      |
| TU701         | J-5      |
| TEST POINT    |          |
| TP751         | I-2      |

| MODEL    | MARK |
|----------|------|
| VR830/02 | S    |
| VR830/07 | T    |
| VR830/16 | U    |
| VR830/39 | V    |



MAIN 3/6 Schematic Diagram Parts Location Guide

| Ref No.    | Position | Ref No.     | Position  | Ref No.             | Position |
|------------|----------|-------------|-----------|---------------------|----------|
| CAPACITORS |          |             | RESISTORS |                     |          |
| C251       | N-3      | C421        | O-2       | R321                | Q-4      |
| C252       | N-3      | C422        | O-2       | R322                | Q-4      |
| C253       | O-3      | C424        | P-2       | R323                | Q-4      |
| C254       | N-3      | C425        | P-2       | R324                | O-3      |
| C302       | P-2      | C428        | P-1       | R328                | Q-3      |
| C303       | P-2      | C430        | P-2       | R330                | Q-3      |
| C304       | P-2      | C431        | P-2       | R331                | Q-3      |
| C305       | P-2      | C756        | I-1       | R332                | P-4      |
| C307       | P-2      | C757        | I-1       | R333                | Q-4      |
| C308       | P-2      | C771        | Q-1       | R351                | N-5      |
| C309       | P-2      | C772        | R-1       | R352                | N-5      |
| C310       | Q-2      | C773        | R-2       | R355                | N-4      |
| C311       | Q-3      | C774        | Q-2       | R357                | N-4      |
| C312       | Q-3      | C775        | R-2       | R358                | O-5      |
| C313       | Q-3      | C776        | Q-2       | R360                | N-4      |
| C314       | Q-3      | C777        | Q-2       | R361                | N-3      |
| C315       | Q-3      | C778        | Q-2       | R401                | O-2      |
| C316       | Q-3      | CONNECTORS  |           | R402                | N-2      |
| C317       | Q-3      | CL253       | M-3       | R403                | N-2      |
| C318       | Q-3      | DIODE       |           | R404                | N-2      |
| C319       | Q-3      | D301        | N-4       | R405                | N-1      |
| C320       | Q-3      | ICS         |           | R406                | N-1      |
| C321       | Q-3      | IC301       | O-2       | R407                | N-2      |
| C322       | Q-3      | IC771       | Q-1       | R408                | O-2      |
| C323       | Q-4      | COILS       |           | R409                | O-2      |
| C324       | Q-3      | L251        | N-3       | R411                | O-2      |
| C325       | Q-4      | L301        | O-4       | R412                | O-2      |
| C326       | Q-4      | L401        | N-2       | R413                | O-2      |
| C327       | Q-4      | L402        | N-2       | R414                | O-2      |
| C328       | Q-4      | TRANSISTORS |           | R415                | O-2      |
| C329       | Q-4      | Q351        | N-4       | R416                | O-2      |
| C330       | P-4      | Q352        | N-4       | R417                | O-2      |
| C332       | P-4      | Q401        | N-2       | R421                | O-2      |
| C333       | P-4      | Q402        | N-2       | R422                | O-2      |
| C334       | P-4      | Q403        | N-1       | R425                | P-1      |
| C335       | P-4      | Q404        | N-1       | R426                | P-1      |
| C337       | O-4      | Q405        | N-1       | R429                | O-2      |
| C338       | O-4      | Q406        | O-2       | R430                | P-2      |
| C339       | O-4      | Q771        | R-2       | R431                | P-2      |
| C340       | O-4      | Q772        | R-1       | R771                | Q-1      |
| C341       | O-4      | RESISTORS   |           | R772                | Q-1      |
| C342       | O-4      | R251        | O-3       | R773                | Q-1      |
| C343       | O-4      | R252        | N-3       | R774                | Q-1      |
| C344       | O-4      | R301        | P-2       | R775                | Q-1      |
| C345       | Q-4      | R302        | P-2       | R776                | R-2      |
| C347       | O-4      | R303        | Q-3       | R777                | R-2      |
| C348       | Q-4      | R304        | Q-2       | R778                | R-2      |
| C351       | N-4      | R305        | Q-3       | R779                | R-2      |
| C352       | N-4      | R306        | P-4       | R780                | Q-2      |
| C401       | N-2      | R307        | P-4       | R781                | Q-2      |
| C402       | N-2      | R308        | P-4       | R782                | Q-2      |
| C403       | N-2      | R309        | P-4       | R783                | Q-2      |
| C404       | N-2      | R310        | O-4       | R784                | Q-2      |
| C411       | O-2      | R311        | O-4       | R785                | Q-2      |
| C412       | O-2      | R312        | O-5       | R786                | Q-2      |
| C413       | O-1      | R313        | O-5       | R787                | Q-2      |
| C414       | O-2      | R315        | O-4       | CRYSTAL OSCILLATORS |          |
| C415       | O-2      | R316        | O-4       | X301                | P-2      |
| C416       | O-2      | R317        | O-4       | TEST POINT          |          |
| C417       | O-2      | R318        | O-4       | TP301               | P-2      |
| C418       | O-2      | R319        | O-4       |                     |          |
| C419       | O-1      | R320        | O-4       |                     |          |

UNLESS OTHERWISE SPECIFIED:  
NEW TRANSISTORS ARE KTC1399 (Y, GR), 2SC2705 (F, H, J) OR 2SC1815 (Y, GR) (TPE2).

Main 4/6 Schematic Diagram

Comparison Chart of Models and Marks

| MODEL    | MARK |
|----------|------|
| VR830/02 | S    |
| VR830/07 | T    |
| VR830/16 | U    |
| VR830/39 | V    |

**CAUTION !**

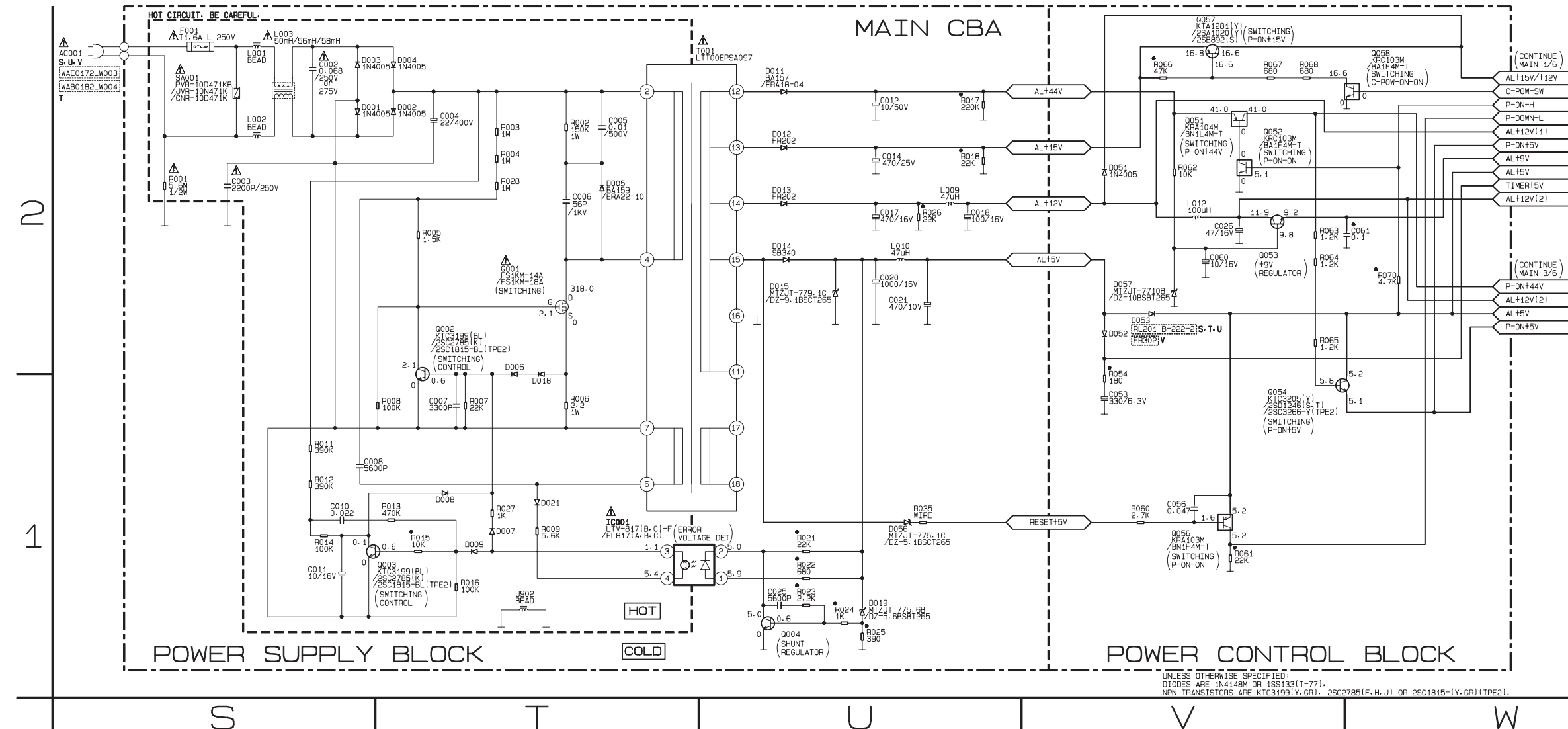
Fixed voltage (or Auto voltage selectable ) power supply circuit is used in this unit. If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

**NOTE :**

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

**CAUTION**

FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.

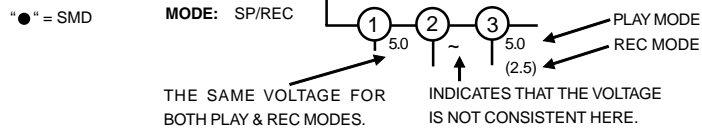


MAIN 4/6 Schematic Diagram Parts Location Guide

| Ref No.    | Position | Ref No.       | Position |
|------------|----------|---------------|----------|
| CAPACITORS |          | TRANSISTORS   |          |
| C002       | S-2      | Q001          | T-2      |
| C003       | S-2      | Q002          | T-2      |
| C004       | T-2      | Q003          | T-1      |
| C005       | T-2      | Q004          | U-1      |
| C006       | T-2      | Q005          | V-2      |
| C007       | T-1      | Q052          | V-2      |
| C008       | S-1      | Q053          | V-2      |
| C010       | S-1      | Q054          | V-1      |
| C011       | S-1      | Q056          | V-1      |
| C012       | U-2      | Q057          | V-2      |
| C014       | U-2      | Q058          | W-2      |
| C017       | U-2      | RESISTORS     |          |
| C018       | U-2      | R001          | S-2      |
| C020       | U-2      | R002          | T-2      |
| C021       | U-2      | R003          | T-2      |
| C025       | U-1      | R004          | T-2      |
| C026       | V-2      | R005          | T-2      |
| C053       | V-1      | R006          | T-1      |
| C056       | V-1      | R007          | T-1      |
| C060       | V-2      | R008          | T-1      |
| C061       | W-2      | R009          | T-1      |
| DIODES     |          | R011          | S-1      |
| D001       | S-2      | R012          | S-1      |
| D002       | T-2      | R013          | T-1      |
| D003       | S-2      | R014          | S-1      |
| D004       | T-2      | R015          | T-1      |
| D005       | T-2      | R016          | T-1      |
| D006       | T-2      | R017          | U-2      |
| D007       | T-1      | R018          | U-2      |
| D008       | T-1      | R021          | U-1      |
| D009       | T-1      | R022          | U-1      |
| D011       | U-2      | R023          | U-1      |
| D012       | U-2      | R024          | U-1      |
| D013       | U-2      | R025          | U-1      |
| D014       | U-2      | R026          | U-2      |
| D015       | U-2      | R027          | T-1      |
| D018       | T-1      | R028          | T-2      |
| D019       | U-1      | R035          | U-1      |
| D021       | T-1      | R054          | V-2      |
| D051       | V-2      | R060          | V-1      |
| D052       | V-2      | R061          | V-1      |
| D053       | V-2      | R062          | V-2      |
| D056       | U-1      | R063          | V-2      |
| D057       | V-2      | R064          | V-2      |
| ICS        |          | R065          | V-2      |
| IC001      | T-1      | R066          | V-2      |
| COILS      |          | R067          | V-2      |
| J902       | T-1      | R068          | V-2      |
| L001       | S-2      | R070          | W-2      |
| L002       | S-2      | MISCELLANEOUS |          |
| L003       | S-2      | F001          | S-2      |
| L009       | U-2      | SA001         | S-2      |
| L010       | U-2      | T001          | T-2      |
| L012       | T-1      |               |          |

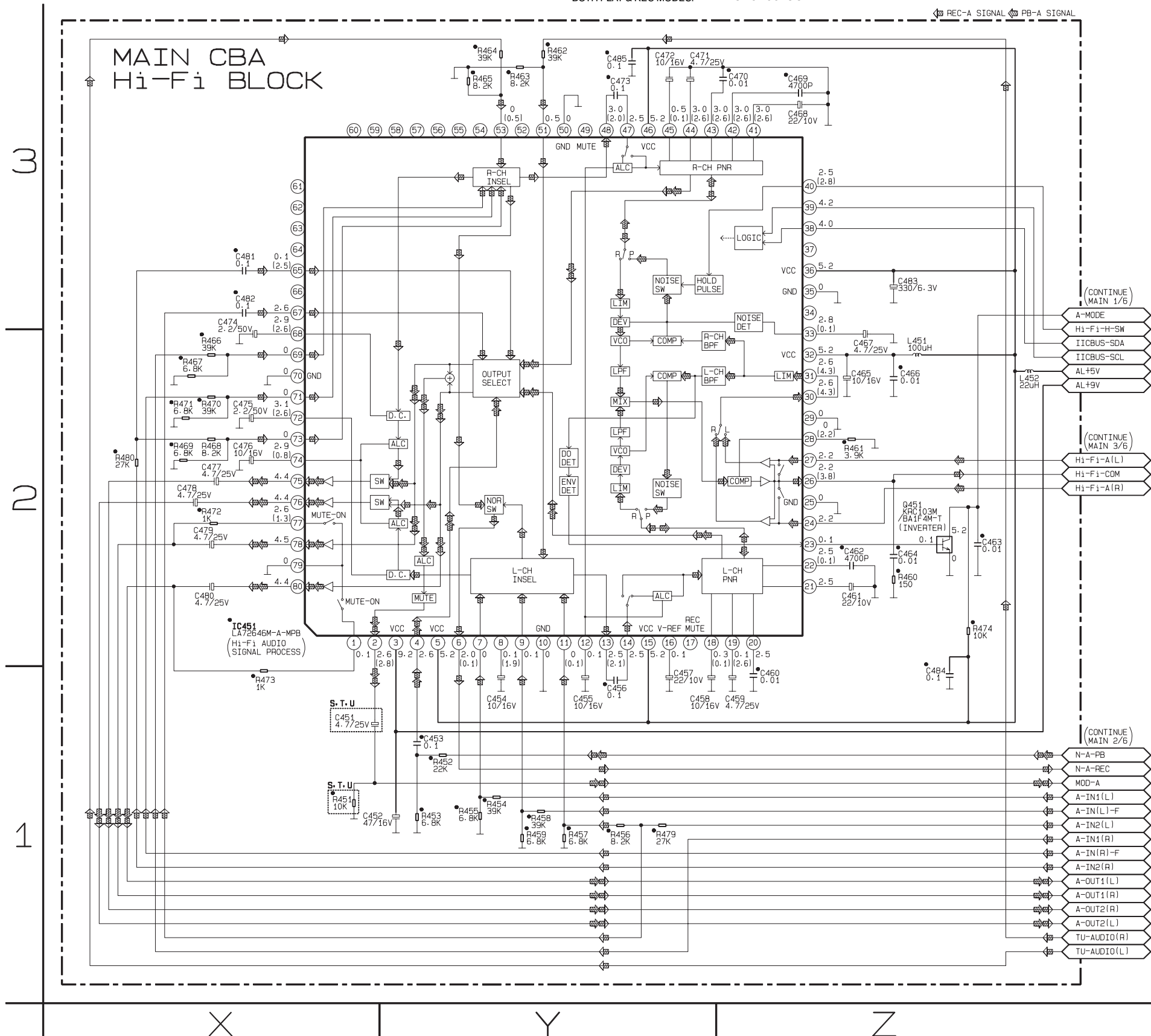
UNLESS OTHERWISE SPECIFIED:  
DIODES ARE 1N4148M OR 1SS133(T-77).  
NPN TRANSISTORS ARE KTC3199(Y,GR), 2SC2785(F,H,J) OR 2SC1815-(Y,GR)(TPE2).

# Main 5/6 Schematic Diagram



## Comparison Chart of Models and Marks

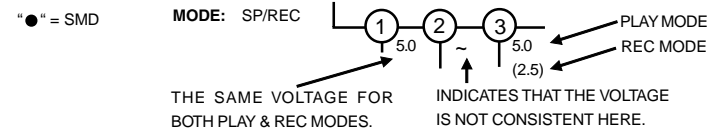
| MODEL    | MARK |
|----------|------|
| VR830/02 | S    |
| VR830/07 | T    |
| VR830/16 | U    |
| VR830/39 | V    |



## MAIN 5/6 Schematic Diagram Parts Location Guide

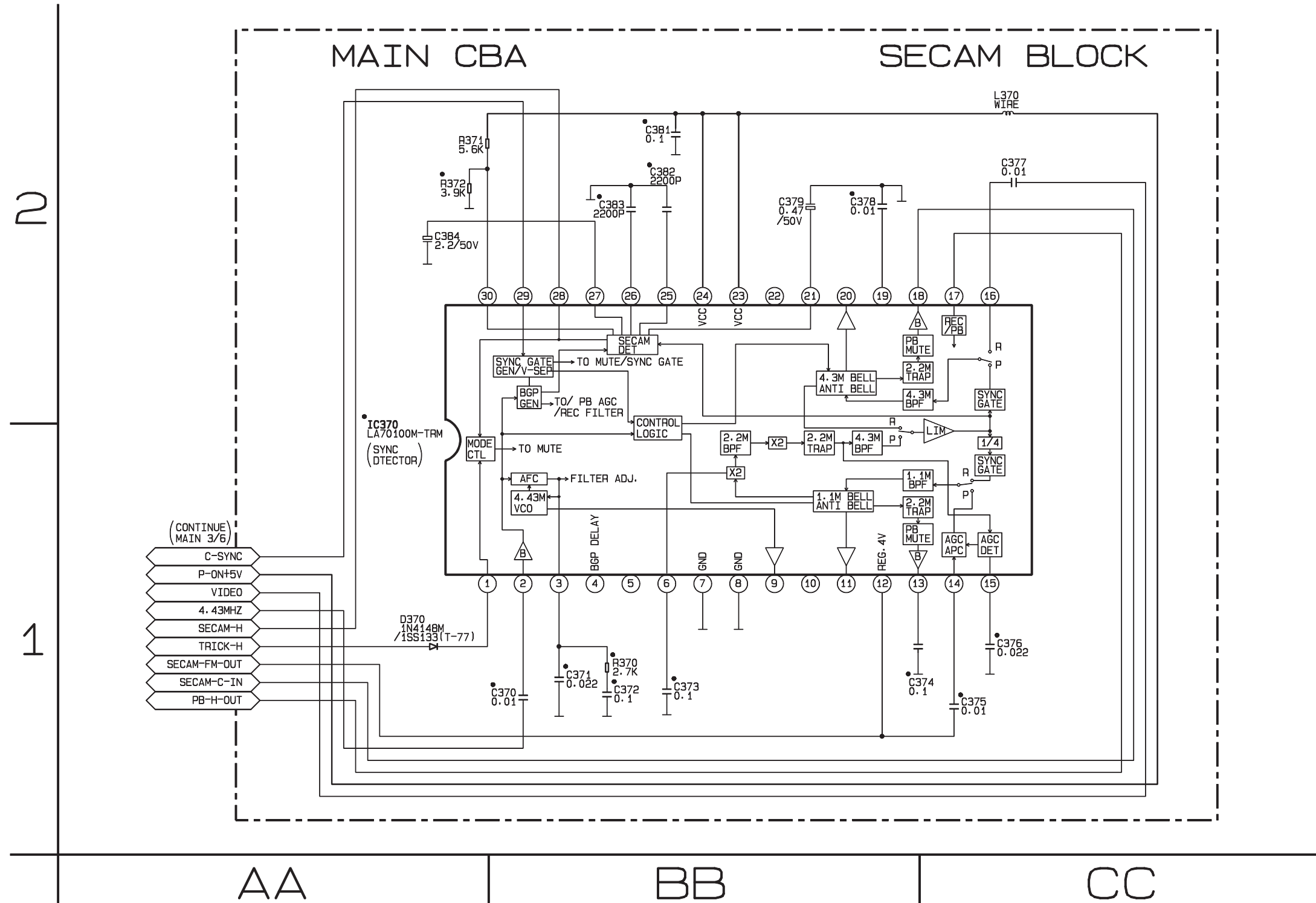
| Ref No.    | Position | Ref No.    | Position |
|------------|----------|------------|----------|
| CAPACITORS |          | IC         |          |
| C451       | X-1      | IC451      | X-2      |
| C452       | X-1      | COILS      |          |
| C453       | Y-1      | L451       | Z-2      |
| C454       | Y-1      | L452       | Z-2      |
| C455       | Y-1      | TRANSISTOR |          |
| C456       | Y-1      | Q451       | Z-2      |
| C457       | Y-1      | RESISTORS  |          |
| C458       | Y-1      | R451       | X-1      |
| C459       | Z-1      | R452       | Y-1      |
| C460       | Z-1      | R453       | Y-1      |
| C461       | Z-2      | R454       | Y-1      |
| C462       | Z-2      | R455       | Y-1      |
| C463       | Z-2      | R456       | Y-1      |
| C464       | Z-2      | R457       | Y-1      |
| C465       | Z-2      | R458       | Y-1      |
| C466       | Z-2      | R459       | Y-1      |
| C467       | Z-2      | R460       | Z-2      |
| C468       | Z-3      | R461       | Z-2      |
| C469       | Z-3      | R462       | Y-3      |
| C470       | Z-3      | R463       | Y-3      |
| C471       | Y-3      | R464       | Y-3      |
| C472       | Y-3      | R465       | Y-3      |
| C473       | Y-3      | R466       | X-2      |
| C474       | X-3      | R467       | X-2      |
| C475       | X-2      | R468       | X-2      |
| C476       | X-2      | R469       | X-2      |
| C477       | X-2      | R470       | X-2      |
| C478       | X-2      | R471       | X-2      |
| C479       | X-2      | R472       | X-2      |
| C480       | X-2      | R473       | X-1      |
| C481       | X-3      | R474       | Z-2      |
| C482       | X-3      | R479       | Y-1      |
| C483       | Z-3      | R480       | X-2      |
| C484       | Z-1      |            |          |
| C485       | Y-3      |            |          |

# Main 6/6 Schematic Diagram ( V )



## Comparison Chart of Models and Marks

| MODEL    | MARK |
|----------|------|
| VR830/02 | S    |
| VR830/07 | T    |
| VR830/16 | U    |
| VR830/39 | V    |

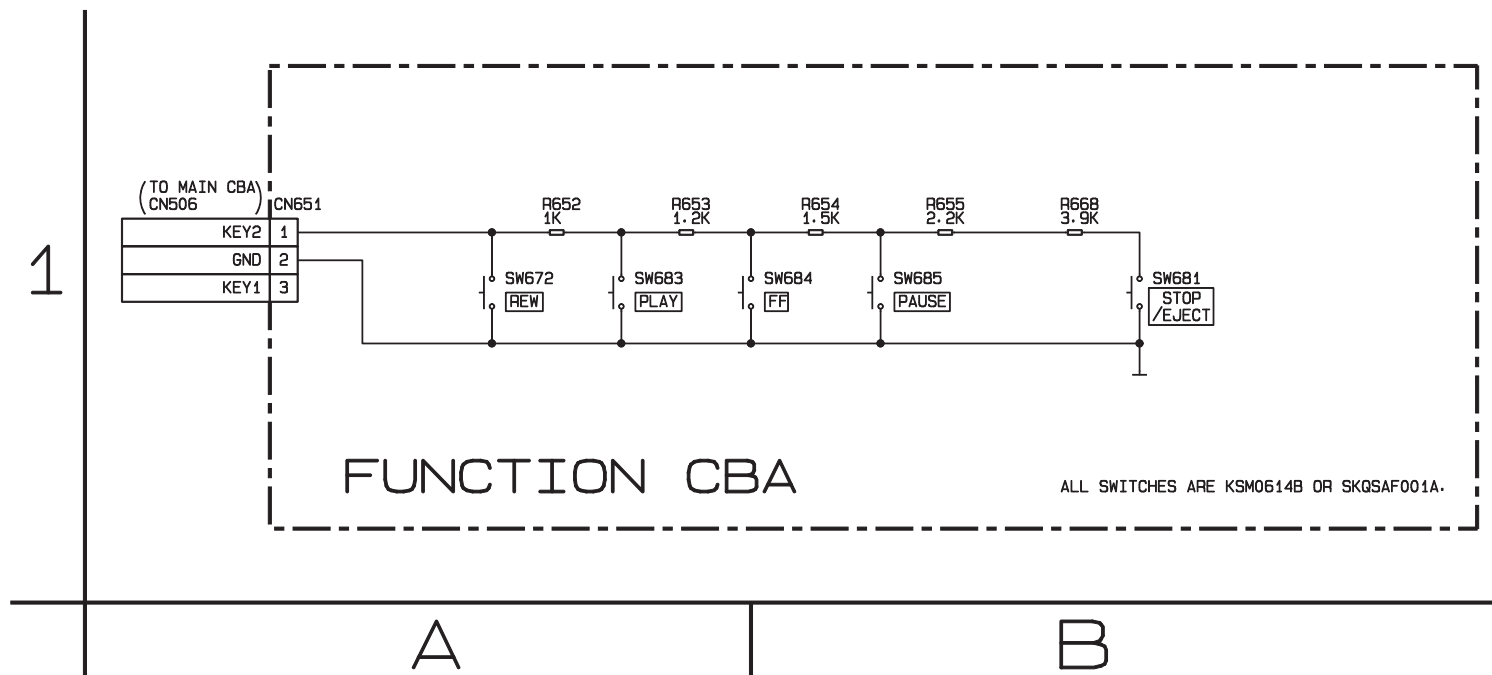


## MAIN 6/6 Schematic Diagram Parts Location Guide (V)

| Ref No.    | Position |
|------------|----------|
| CAPACITORS |          |
| C370       | BB-1     |
| C371       | BB-1     |
| C372       | BB-1     |
| C373       | BB-1     |
| C374       | BB-1     |
| C375       | CC-1     |
| C376       | CC-1     |
| C377       | CC-2     |
| C378       | BB-2     |
| C379       | BB-2     |
| C381       | BB-2     |
| C382       | BB-2     |
| C383       | BB-2     |
| C384       | AA-2     |
| DIODE      |          |
| D370       | AA-1     |
| IC         |          |
| IC370      | AA-1     |
| COILS      |          |
| L370       | CC-2     |
| RESISTORS  |          |
| R370       | BB-1     |
| R371       | AA-2     |
| R372       | AA-2     |



# Function Schematic Diagram

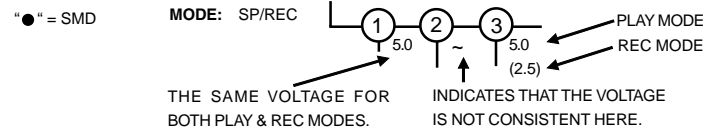


HC480SCF

Function Schematic Diagram  
Parts Location Guide

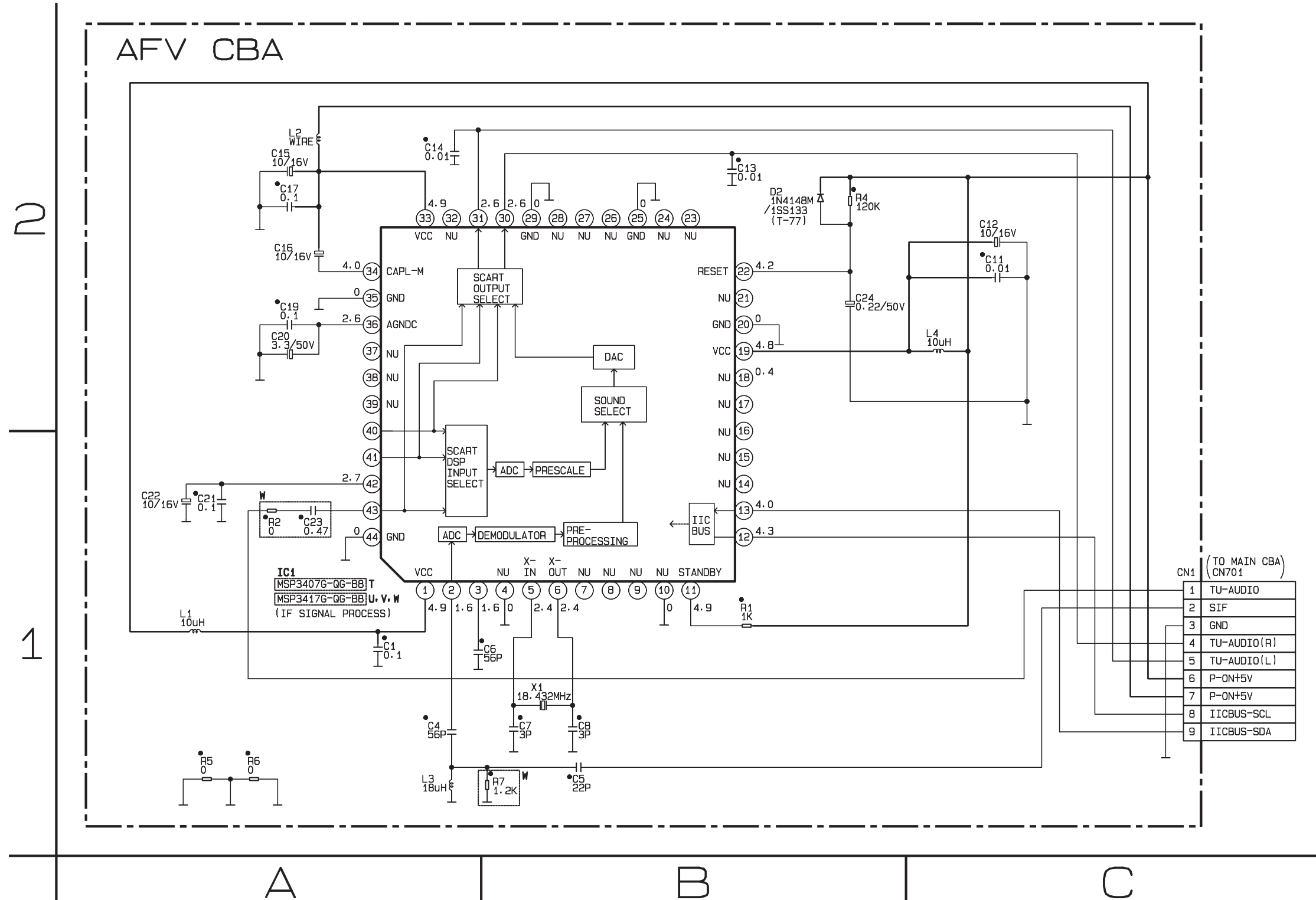
| Ref No.   | Position |
|-----------|----------|
| CONNECTOR |          |
| CN651     | A-1      |
| RESISTORS |          |
| R652      | A-1      |
| R653      | A-1      |
| R654      | B-1      |
| R655      | B-1      |
| R668      | B-1      |
| SWITCHES  |          |
| SW672     | A-1      |
| SW681     | B-1      |
| SW683     | A-1      |
| SW684     | B-1      |
| SW685     | B-1      |

# AFV Schematic Diagram



## Comparison Chart of Models and Marks

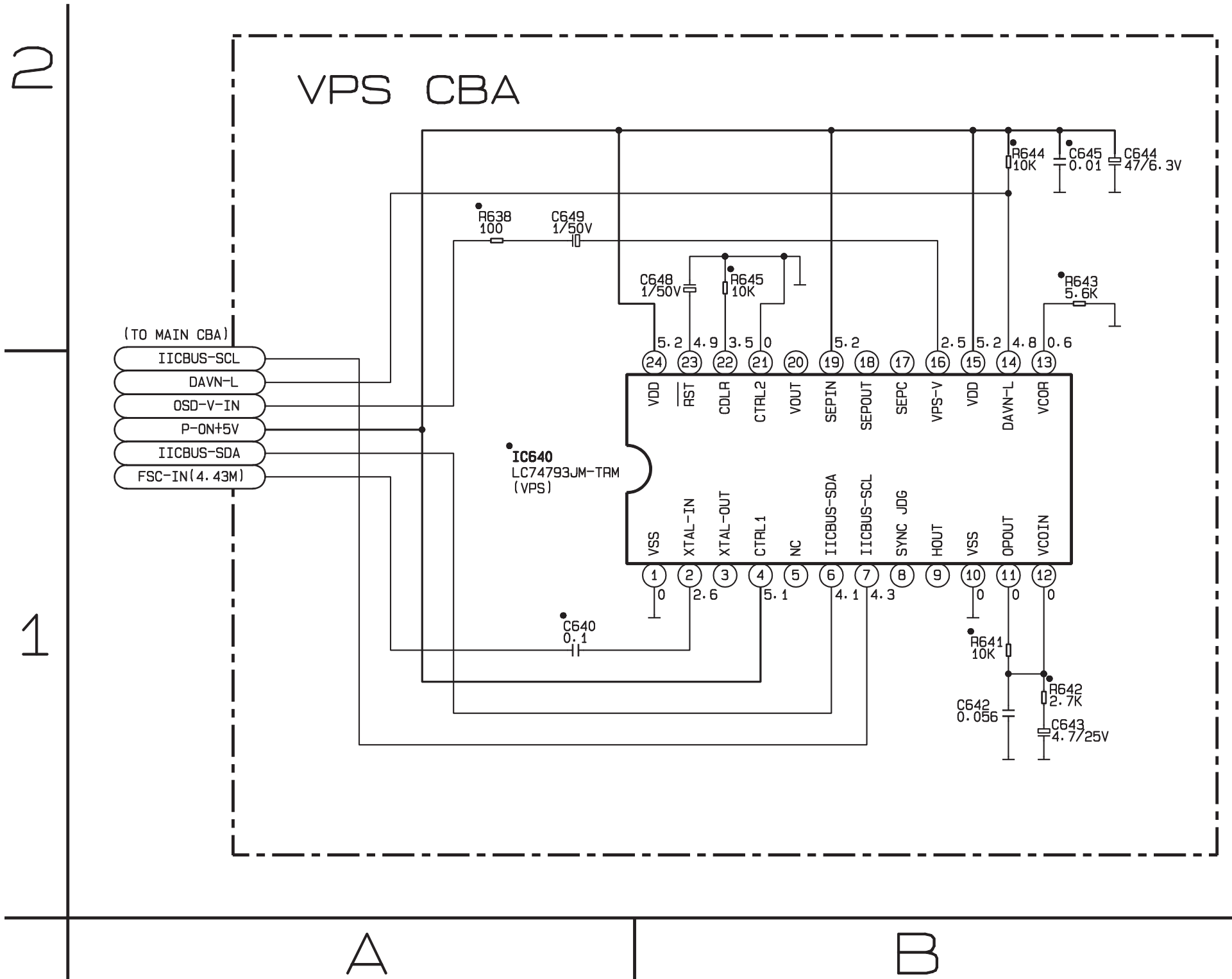
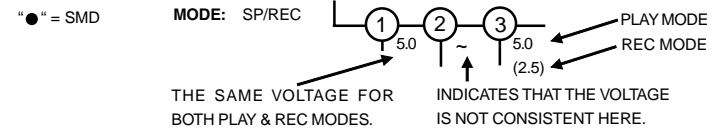
| MODEL    | MARK |
|----------|------|
| VR830/02 | S    |
| VR830/07 | T    |
| VR830/16 | U    |
| VR830/39 | V    |



## AFV Schematic Diagram Parts Location Guide

| Ref No.             | Position |
|---------------------|----------|
| CAPACITORS          |          |
| C1                  | A-1      |
| C4                  | A-1      |
| C5                  | B-1      |
| C6                  | B-1      |
| C7                  | B-1      |
| C8                  | B-1      |
| C11                 | C-2      |
| C12                 | C-2      |
| C13                 | B-2      |
| C14                 | A-2      |
| C15                 | A-2      |
| C16                 | A-2      |
| C17                 | A-2      |
| C19                 | A-2      |
| C20                 | A-2      |
| C21                 | A-1      |
| C22                 | A-1      |
| C23                 | A-1      |
| C24                 | B-2      |
| CONNECTOR           |          |
| CN1                 | C-1      |
| DIODE               |          |
| D2                  | B-2      |
| IC                  |          |
| IC1                 | A-1      |
| COILS               |          |
| L1                  | A-1      |
| L2                  | A-2      |
| L3                  | A-1      |
| L4                  | C-2      |
| RESISTORS           |          |
| R1                  | B-1      |
| R2                  | A-1      |
| R4                  | B-2      |
| R5                  | A-1      |
| R6                  | A-1      |
| R7                  | B-1      |
| CRYSTAL OSCILLATORS |          |
| X1                  | B-1      |

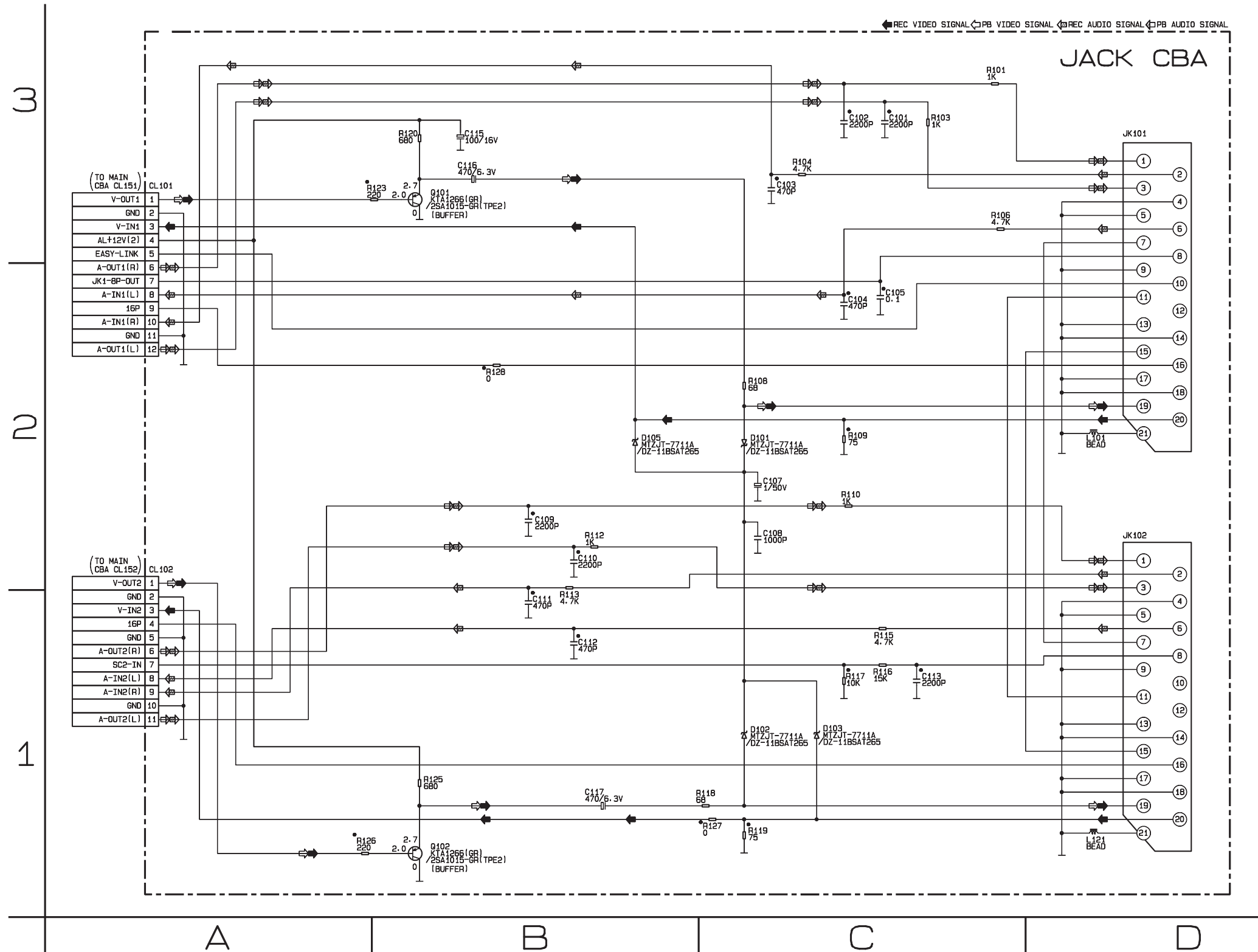
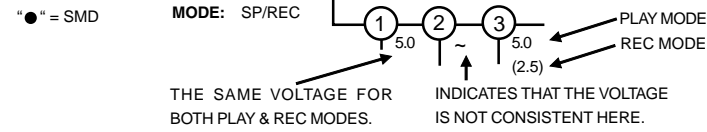
# VPS Schematic Diagram



VPS Schematic Diagram  
Parts Location Guide

| Ref No.    | Position |
|------------|----------|
| CAPACITORS |          |
| C640       | A-1      |
| C642       | B-1      |
| C643       | B-1      |
| C644       | B-2      |
| C645       | B-2      |
| C648       | B-2      |
| C649       | A-2      |
| IC         |          |
| IC640      | A-2      |
| RESISTORS  |          |
| R638       | A-2      |
| R641       | B-1      |
| R642       | B-1      |
| R643       | B-2      |
| R644       | B-2      |
| R645       | B-2      |

# Jack Schematic Diagram



Jack Schematic Diagram Parts Location Guide

| Ref No.    | Position | Ref No.       | Position |
|------------|----------|---------------|----------|
| CAPACITORS |          | TRANSISTORS   |          |
| C101       | C-3      | Q101          | B-3      |
| C102       | C-3      | Q102          | B-1      |
| C103       | C-3      | RESISTORS     |          |
| C104       | C-2      | R101          | C-3      |
| C105       | C-2      | R103          | C-3      |
| C107       | C-2      | R104          | C-3      |
| C108       | C-2      | R106          | C-3      |
| C109       | B-2      | R108          | C-2      |
| C110       | B-2      | R109          | C-2      |
| C111       | B-1      | R110          | C-2      |
| C112       | B-1      | R112          | B-2      |
| C113       | C-1      | R113          | B-1      |
| C115       | B-3      | R115          | C-1      |
| C116       | B-3      | R116          | C-1      |
| C117       | B-1      | R117          | C-1      |
| CONNECTORS |          | R118          | C-1      |
| CL101      | A-3      | R119          | C-1      |
| CL102      | A-2      | DIODES        |          |
| DIODES     |          | R123          | B-3      |
| D101       | C-2      | R125          | B-1      |
| D102       | C-1      | R126          | A-1      |
| D103       | C-1      | R127          | C-1      |
| D105       | B-2      | R128          | B-2      |
| COILS      |          | MISCELLANEOUS |          |
| L101       | D-2      | JK101         | D-3      |
| L121       | D-1      | JK102         | D-2      |

Main CBA Top View

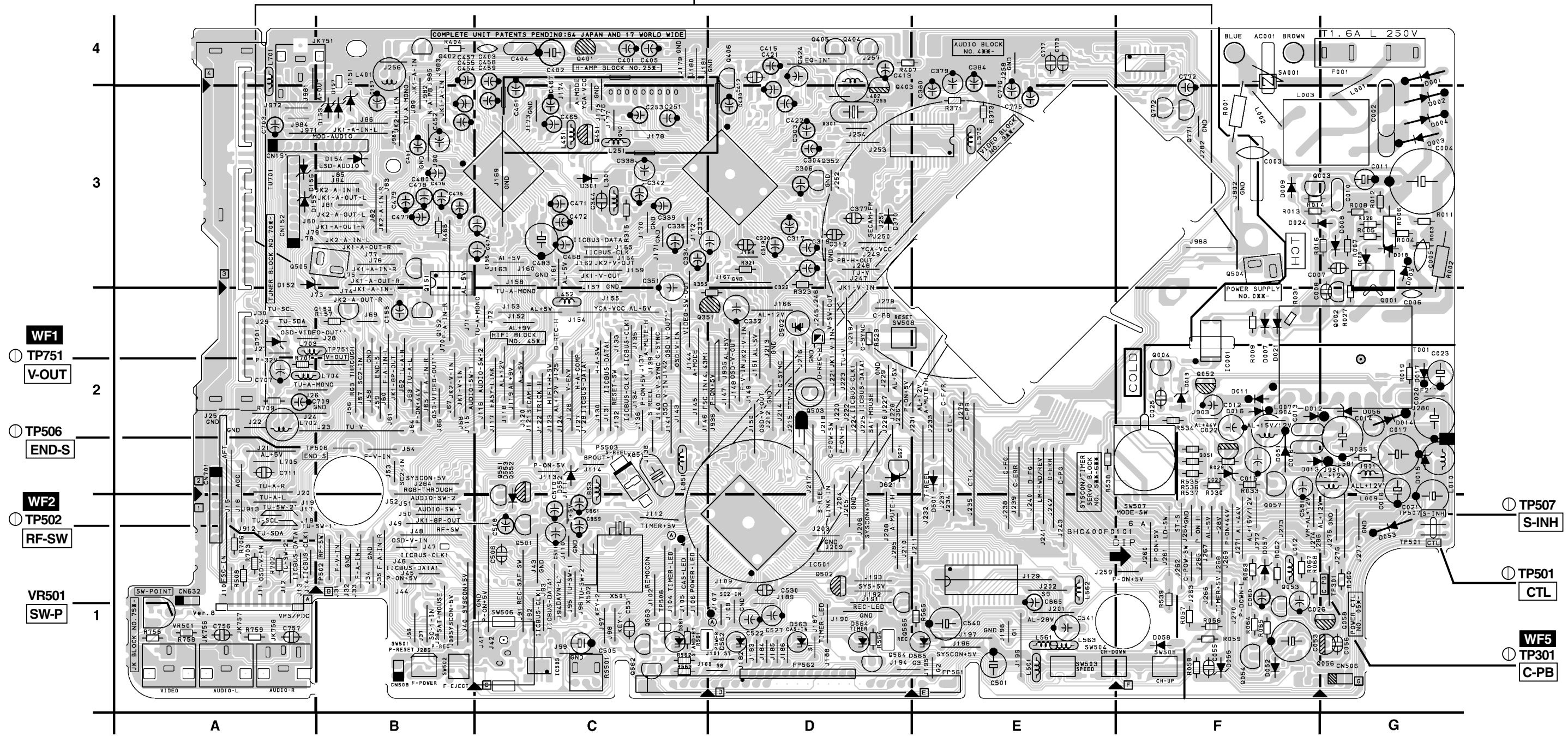
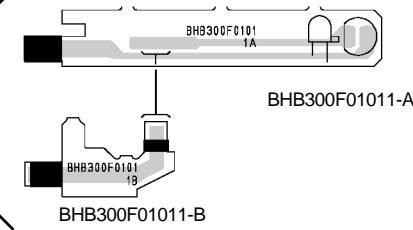
BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

**CAUTION**  
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.

**CAUTION!**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

**NOTE:**  
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

Sensor CBA Top View



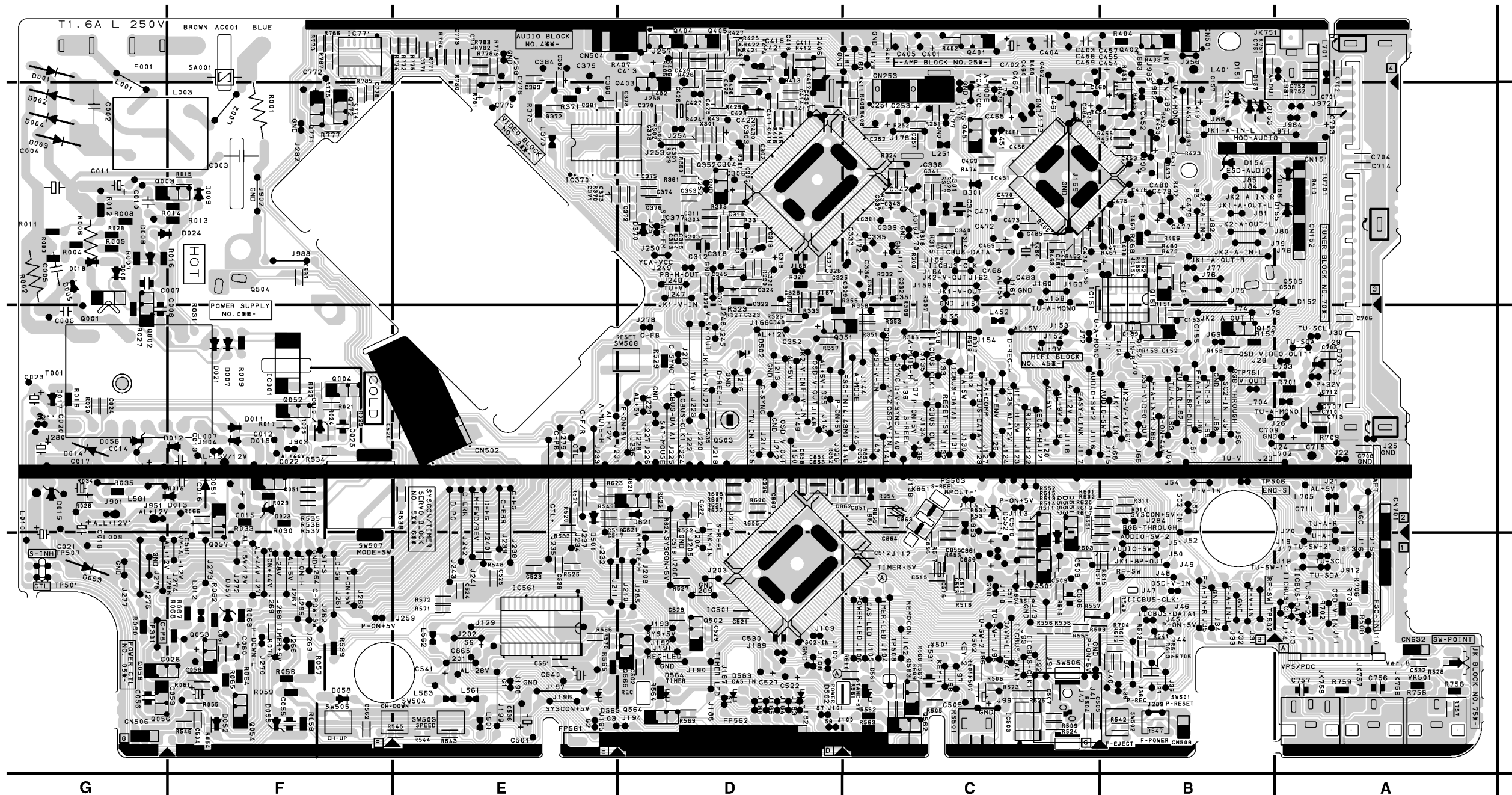
Main CBA Bottom View

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

**CAUTION**  
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.

**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

**NOTE:**  
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



# Main CBA Parts Location Guide

| Ref No.    | Position | Ref No.    | Position | Ref No.    | Position | Ref No.    | Position | Ref No.     | Position | Ref No.   | Position | Ref No.   | Position | Ref No.   | Position | Ref No.             | Position |
|------------|----------|------------|----------|------------|----------|------------|----------|-------------|----------|-----------|----------|-----------|----------|-----------|----------|---------------------|----------|
| CAPACITORS |          | CAPACITORS |          | CAPACITORS |          | CAPACITORS |          | ICS         |          | RESISTORS |          | RESISTORS |          | RESISTORS |          | RESISTORS           |          |
| C002       | G-3      | C341       | C-3      | C471       | C-3      | C778       | F-3      | IC451       | C-3      | R003      | G-3      | R330      | D-3      | R501      | C-1      | R752                | A-3      |
| C003       | F-3      | C342       | C-3      | C472       | C-3      | C851       | C-2      | IC501       | D-1      | R004      | G-3      | R331      | D-3      | R502      | B-1      | R756                | A-1      |
| C004       | G-3      | C343       | C-3      | C473       | C-3      | C852       | C-2      | IC503       | C-1      | R005      | G-3      | R332      | D-3      | R503      | C-1      | R757                | A-1      |
| C005       | G-3      | C344       | C-3      | C474       | C-3      | C853       | D-2      | IC561       | E-1      | R006      | G-3      | R333      | D-2      | R504      | C-1      | R758                | A-1      |
| C006       | G-2      | C345       | D-3      | C475       | B-3      | C854       | D-2      | IC771       | F-4      | R007      | G-3      | R351      | C-2      | R505      | C-1      | R759                | A-1      |
| C007       | F-3      | C347       | C-3      | C476       | B-3      | C855       | C-1      | COILS       |          | R008      | G-3      | R352      | C-2      | R506      | C-1      | R771                | E-4      |
| C008       | F-2      | C348       | D-2      | C477       | B-3      | C856       | C-1      | J902        | F-3      | R009      | F-2      | R355      | C-2      | R507      | C-1      | R772                | E-4      |
| C010       | G-3      | C351       | C-3      | C478       | B-3      | C858       | D-2      | L001        | G-4      | R011      | G-3      | R357      | D-2      | R508      | A-1      | R773                | F-4      |
| C011       | G-3      | C352       | D-2      | C479       | B-3      | C859       | C-1      | L002        | F-3      | R012      | G-3      | R358      | C-3      | R509      | C-1      | R774                | E-4      |
| C012       | F-2      | C370       | D-3      | C480       | B-3      | C862       | D-2      | L003        | F-3      | R013      | F-3      | R360      | D-3      | R510      | C-1      | R775                | E-4      |
| C014       | G-2      | C371       | E-3      | C481       | C-3      | CONNECTORS |          | L009        | G-1      | R014      | F-3      | R361      | D-3      | R511      | C-2      | R776                | F-4      |
| C017       | G-2      | C372       | D-3      | C482       | C-3      | CL151      | A-3      | L010        | G-2      | R015      | F-3      | R370      | E-3      | R513      | C-2      | R777                | F-3      |
| C018       | G-1      | C373       | E-3      | C483       | C-3      | CL152      | A-3      | L012        | F-1      | R016      | F-3      | R371      | E-3      | R514      | C-2      | R778                | E-4      |
| C020       | G-2      | C374       | D-3      | C484       | C-3      | CL253      | C-4      | L251        | C-3      | R017      | F-2      | R372      | E-3      | R516      | C-1      | R779                | E-4      |
| C021       | G-1      | C375       | D-3      | C485       | C-3      | CL501      | B-4      | L301        | C-3      | R018      | F-2      | R401      | C-4      | R517      | C-1      | R780                | E-4      |
| C025       | F-2      | C376       | D-3      | C501       | E-1      | CL502      | E-2      | L370        | E-3      | R021      | F-2      | R402      | C-4      | R518      | C-2      | R781                | E-4      |
| C026       | F-1      | C377       | D-3      | C502       | D-1      | CL504      | E-4      | L401        | B-4      | R022      | F-2      | R403      | B-4      | R519      | C-2      | R782                | E-4      |
| C053       | F-1      | C378       | D-3      | C506       | C-1      | CL508      | B-1      | L402        | D-3      | R023      | F-2      | R404      | B-4      | R520      | E-2      | R783                | E-4      |
| C056       | G-1      | C379       | E-4      | C508       | C-1      | CL509      | B-1      | L451        | C-3      | R024      | F-2      | R405      | D-4      | R521      | E-2      | R784                | E-4      |
| C060       | F-1      | C381       | E-3      | C510       | C-2      | CN506      | G-1      | L452        | C-2      | R025      | F-2      | R406      | D-4      | R522      | D-2      | R785                | F-4      |
| C061       | F-1      | C382       | E-4      | C511       | C-1      | CN701      | A-2      | L501        | E-1      | R026      | G-2      | R407      | D-4      | R523      | C-1      | R786                | F-4      |
| C157       | B-4      | C383       | E-3      | C512       | C-1      | DIODES     |          | L561        | E-1      | R027      | G-2      | R408      | C-3      | R524      | C-1      | R787                | F-4      |
| C158       | B-3      | C384       | E-4      | C513       | C-1      | D001       | G-4      | L562        | E-1      | R028      | G-3      | R409      | C-3      | R525      | C-1      | R851                | C-2      |
| C251       | C-3      | C401       | C-4      | C514       | C-1      | D002       | G-3      | L701        | A-4      | R035      | G-2      | R411      | C-4      | R526      | E-1      | R852                | D-2      |
| C252       | C-3      | C402       | C-4      | C515       | C-1      | D003       | G-3      | L702        | A-2      | R054      | F-1      | R412      | D-4      | R527      | D-1      | R853                | C-1      |
| C253       | C-3      | C403       | C-4      | C516       | C-1      | D004       | G-3      | L703        | A-2      | R060      | G-1      | R413      | D-4      | R528      | A-1      | SWITCHES            |          |
| C254       | C-3      | C404       | C-4      | C517       | E-2      | D005       | G-3      | L704        | B-2      | R061      | F-1      | R414      | D-4      | R529      | D-2      | SW501               | B-1      |
| C302       | D-3      | C411       | D-4      | C518       | E-2      | D006       | G-3      | L705        | A-2      | R062      | F-1      | R415      | D-3      | R530      | C-2      | SW502               | B-1      |
| C303       | D-3      | C412       | D-4      | C519       | D-1      | D007       | F-2      | L851        | C-2      | R063      | F-1      | R416      | D-3      | R531      | C-2      | SW504               | E-1      |
| C304       | D-3      | C413       | D-4      | C520       | D-1      | D008       | G-3      | L853        | C-1      | R064      | F-1      | R417      | D-3      | R533      | E-2      | SW505               | F-1      |
| C305       | D-3      | C414       | D-4      | C521       | D-1      | D009       | F-3      | TRANSISTORS |          | R065      | F-1      | R421      | D-4      | R534      | F-2      | SW506               | C-1      |
| C307       | D-3      | C415       | D-4      | C522       | D-1      | D011       | F-2      | Q001        | G-2      | R066      | F-2      | R422      | D-4      | R535      | F-2      | SW507               | F-1      |
| C308       | D-3      | C416       | D-3      | C523       | E-1      | D012       | F-2      | Q002        | G-2      | R067      | F-1      | R425      | D-4      | R536      | F-2      | VARIABLE RESISTORS  |          |
| C309       | D-3      | C417       | D-3      | C524       | E-1      | D013       | F-2      | Q003        | F-3      | R068      | F-1      | R426      | D-4      | R537      | F-1      | VR501               | A-1      |
| C310       | D-3      | C418       | D-4      | C526       | E-1      | D014       | G-2      | Q004        | F-2      | R070      | F-1      | R429      | D-3      | R538      | E-2      | CRYSTAL OSCILLATORS |          |
| C311       | D-3      | C419       | D-3      | C527       | D-1      | D015       | G-2      | Q051        | F-2      | R157      | B-2      | R430      | D-3      | R539      | F-1      | X301                | D-3      |
| C312       | D-3      | C421       | D-4      | C529       | D-1      | D018       | G-3      | Q052        | F-2      | R158      | B-2      | R431      | D-3      | R540      | B-1      | X501                | C-1      |
| C313       | D-3      | C422       | D-3      | C530       | D-1      | D019       | F-2      | Q053        | F-1      | R251      | C-3      | R451      | B-3      | R541      | B-1      | X502                | C-1      |
| C314       | D-3      | C424       | D-4      | C531       | C-1      | D021       | F-2      | Q054        | F-1      | R252      | C-3      | R452      | B-3      | R542      | B-1      | MISCELLANEOUS       |          |
| C315       | D-3      | C425       | D-3      | C535       | D-2      | D051       | F-2      | Q056        | F-1      | R301      | D-3      | R453      | B-3      | R543      | E-1      | AC001               | F-4      |
| C316       | D-3      | C428       | D-4      | C540       | E-1      | D052       | F-1      | Q057        | F-1      | R302      | D-3      | R454      | B-3      | R544      | E-1      | F001                | G-4      |
| C317       | D-3      | C430       | D-3      | C561       | E-1      | D053       | G-1      | Q058        | G-1      | R303      | D-3      | R455      | B-3      | R545      | F-1      | FP562               | D-1      |
| C318       | D-3      | C431       | C-3      | C621       | D-2      | D056       | G-2      | Q153        | B-2      | R304      | D-3      | R456      | B-4      | R546      | G-1      | JK751               | B-4      |
| C319       | D-3      | C451       | B-3      | C622       | D-2      | D057       | F-1      | Q351        | C-2      | R305      | D-3      | R457      | B-3      | R547      | B-1      | JK756               | A-1      |
| C320       | D-3      | C452       | B-3      | C701       | A-3      | D151       | B-4      | Q352        | D-3      | R306      | C-2      | R458      | B-3      | R551      | C-2      | JK757               | A-1      |
| C321       | D-3      | C453       | B-3      | C702       | A-4      | D152       | A-3      | Q401        | C-4      | R307      | C-3      | R459      | C-3      | R552      | C-2      | JK758               | A-1      |
| C322       | D-3      | C454       | B-4      | C703       | A-3      | D153       | B-3      | Q402        | B-4      | R308      | C-3      | R460      | C-4      | R555      | C-1      | PS503               | C-2      |
| C323       | D-2      | C455       | B-4      | C704       | A-3      | D154       | B-3      | Q403        | D-4      | R309      | C-3      | R461      | C-3      | R556      | C-1      | RS501               | C-1      |
| C324       | D-3      | C456       | C-3      | C706       | A-2      | D155       | A-3      | Q404        | D-4      | R310      | B-2      | R462      | C-3      | R557      | C-1      | SA001               | F-4      |
| C325       | D-3      | C457       | B-4      | C707       | A-2      | D156       | A-3      | Q405        | D-4      | R311      | B-2      | R463      | C-3      | R558      | C-1      | T001                | G-2      |
| C326       | D-3      | C458       | C-4      | C708       | A-2      | D157       | B-3      | Q406        | D-4      | R312      | C-2      | R464      | C-3      | R566      | E-1      | TU701               | A-3      |
| C327       | D-3      | C459       | C-4      | C715       | A-1      | D301       | C-3      | Q451        | C-3      | R313      | C-2      | R465      | C-3      | R603      | C-1      | TEST POINTS         |          |
| C328       | D-3      | C460       | C-3      | C751       | B-4      | D370       | D-3      | Q501        | C-1      | R315      | C-3      | R466      | B-3      | R612      | B-1      | TP301               | G-1      |
| C329       | C-3      | C461       | C-3      | C752       | A-3      | D501       | E-1      | Q502        | D-1      | R316      | C-3      | R467      | B-3      | R621      | D-2      | TP501               | G-1      |
| C330       | D-3      | C462       | C-4      | C756       | A-1      | D502       | D-2      | Q503        | D-2      | R317      | C-3      | R468      | B-3      | R622      | D-2      | TP502               | B-1      |
| C332       | C-3      | C463       | C-3      | C757       | A-1      | D552       | C-2      | Q551        | C-2      | R318      | C-3      | R469      | B-3      | R623      | E-2      | TP506               | A-2      |
| C333       | C-3      | C464       | C-4      | C771       | E-4      | D553       | C-2      | Q552        | C-2      | R319      | C-3      | R470      | B-3      | R624      | D-2      | TP507               | G-1      |
| C334       | C-3      | C465       | C-3      | C772       | F-4      | D621       | D-2      | Q621        | D-2      | R320      | C-3      | R471      | B-3      | R625      | D-2      | TP508               | C-1      |
| C335       | C-3      | C466       | C-3      | C773       | E-4      | D701       | A-2      | Q771        | F-3      | R321      | D-3      | R472      | B-3      | R701      | A-2      | TP751               | B-2      |
| C337       | C-3      | C467       | C-3      | C774       | F-3      | ICS        |          | Q772        | F-3      | R322      | D-3      | R473      | B-3      | R702      | A-1      |                     |          |
| C338       | C-3      | C468       | C-3      | C775       | E-3      | IC001      | F-2      | RESISTORS   |          | R323      | D-2      | R474      | C-3      | R703      | A-1      |                     |          |
| C339       | C-3      | C469       | C-3      | C776       | E-3      | IC301      | C-3      | R001        | F-3      | R324      | C-3      | R479      | B-3      | R706      | A-1      |                     |          |
| C340       | C-3      | C470       | C-3      | C777       | E-4      | IC370      | E-3      | R002        | G-3      | R328      | D-3      | R480      | B-3      | R751      | B-4      |                     |          |

### Function CBA Top View

### Function CBA Bottom View



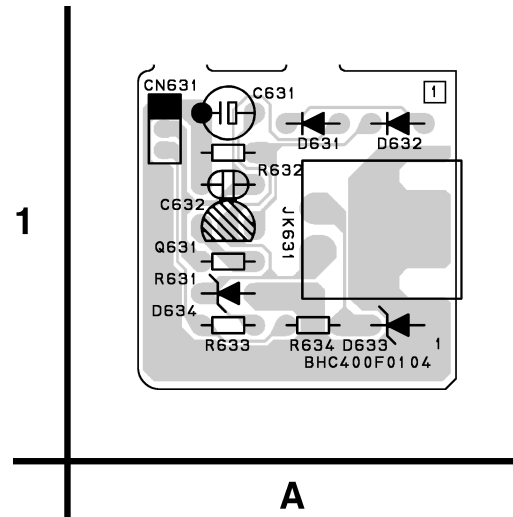
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Function CBA Parts Location Guide

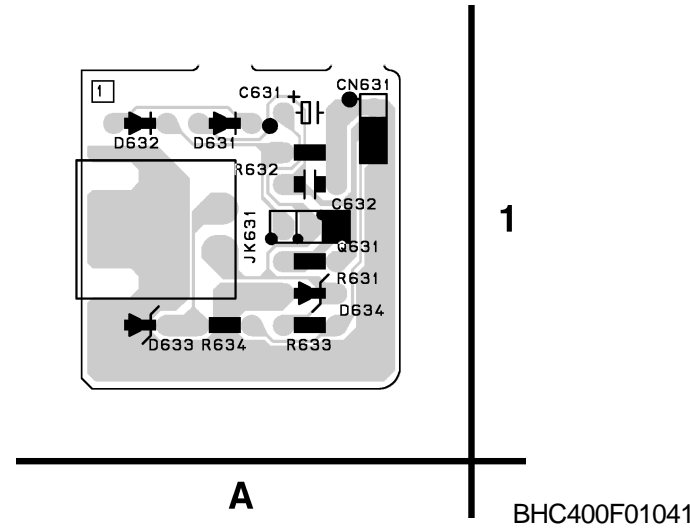
| Ref No.    | Position | Ref No.  | Position |
|------------|----------|----------|----------|
| CONNECTORS |          | SWITCHES |          |
| CN651      | A-1      | SW672    | A-1      |
| RESISTORS  |          | SW681    | A-2      |
| R652       | A-2      | SW683    | A-2      |
| R653       | A-2      | SW684    | A-2      |
| R654       | A-2      | SW685    | A-1      |
| R655       | A-2      |          |          |
| R668       | B-2      |          |          |



**SMV CBA Top View**



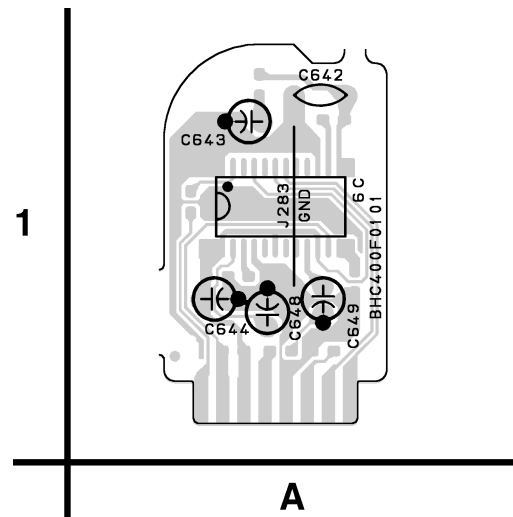
**SMV CBA Bottom View**



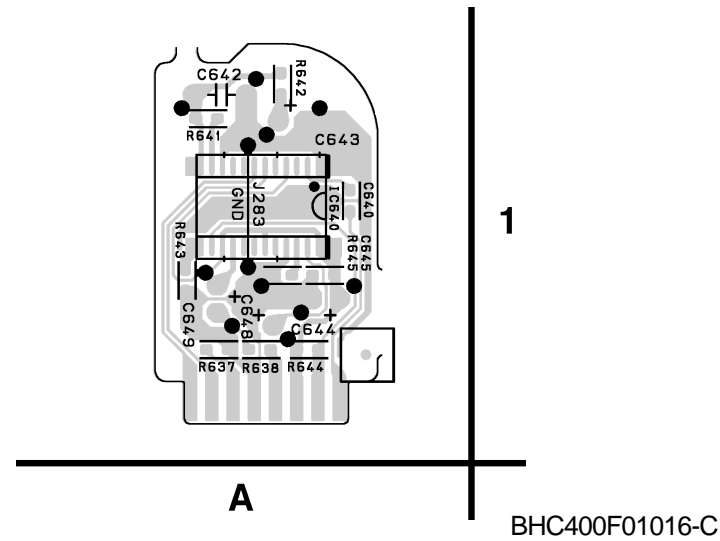
SMV CBA Parts Location Guide

| Ref No.    | Position | Ref No.       | Position |
|------------|----------|---------------|----------|
| CAPACITORS |          | TRANSISTORS   |          |
| C631       | A-1      | Q631          | A-1      |
| C632       | A-1      | RESISTORS     |          |
| CONNECTORS |          | R631          | A-1      |
| CL631      | A-1      | R632          | A-1      |
| DIODES     |          | R633          | A-1      |
| D631       | A-1      | R634          | A-1      |
| D632       | A-1      | MISCELLANEOUS |          |
| D633       | A-1      | JK101         | A-1      |
| D634       | A-1      |               |          |

**VPS CBA Top View**



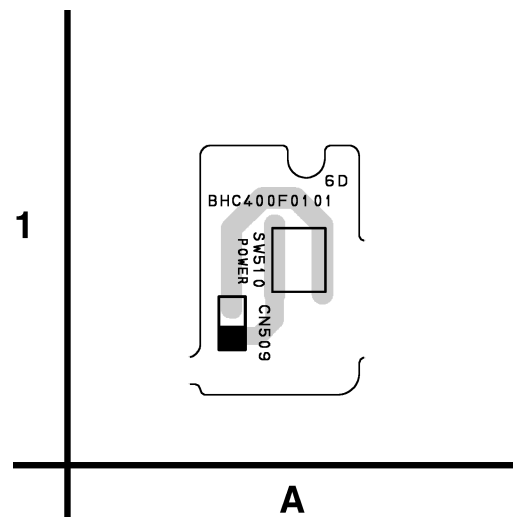
**VPS CBA Bottom View**



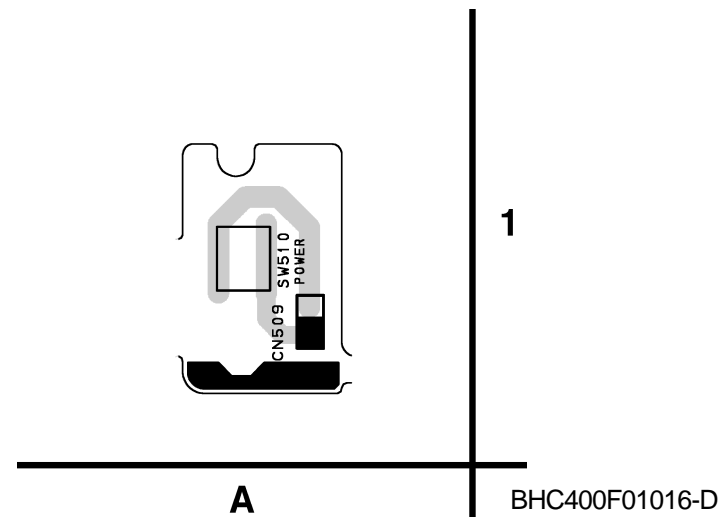
VPS CBA Parts Location Guide

| Ref No.    | Position | Ref No.   | Position |
|------------|----------|-----------|----------|
| CAPACITORS |          | RESISTORS |          |
| C640       | A-1      | R638      | A-1      |
| C642       | A-1      | R641      | A-1      |
| C643       | A-1      | R642      | A-1      |
| C644       | A-1      | R643      | A-1      |
| C645       | A-1      | R644      | A-1      |
| C648       | A-1      | R645      | A-1      |
| C649       | A-1      |           |          |
| ICS        |          |           |          |
| IC640      | A-1      |           |          |

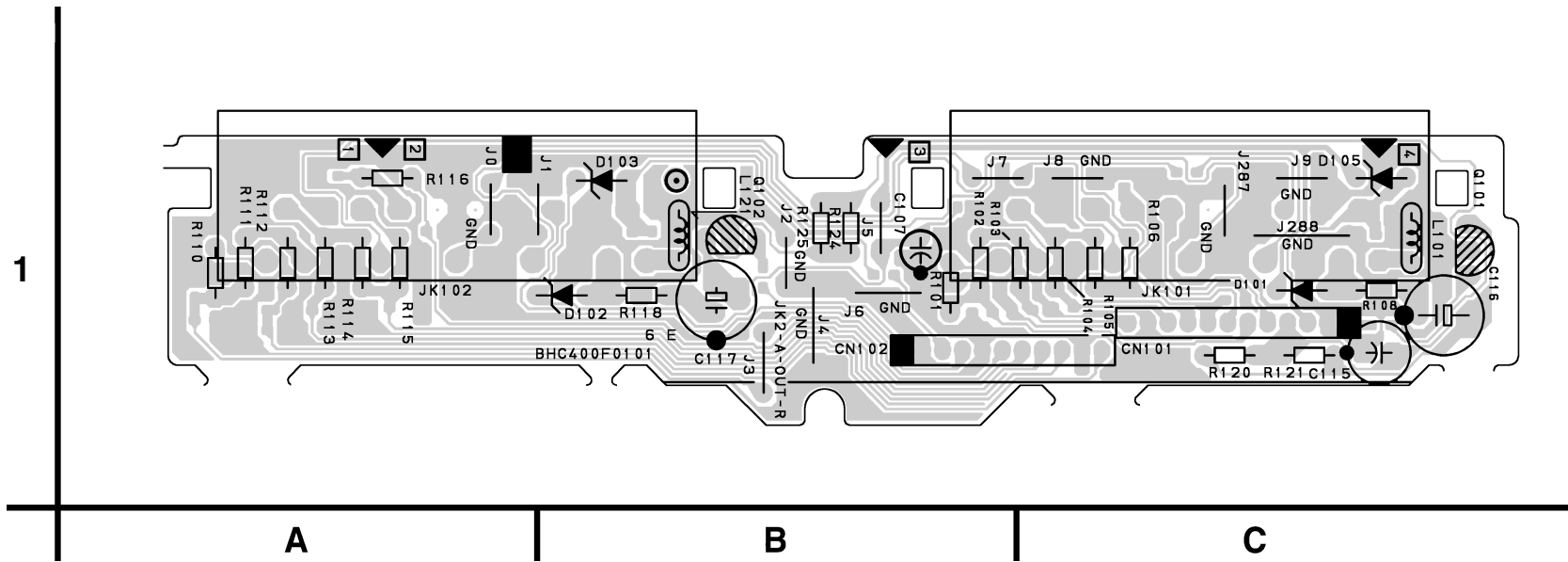
**Power SW CBA Top View**



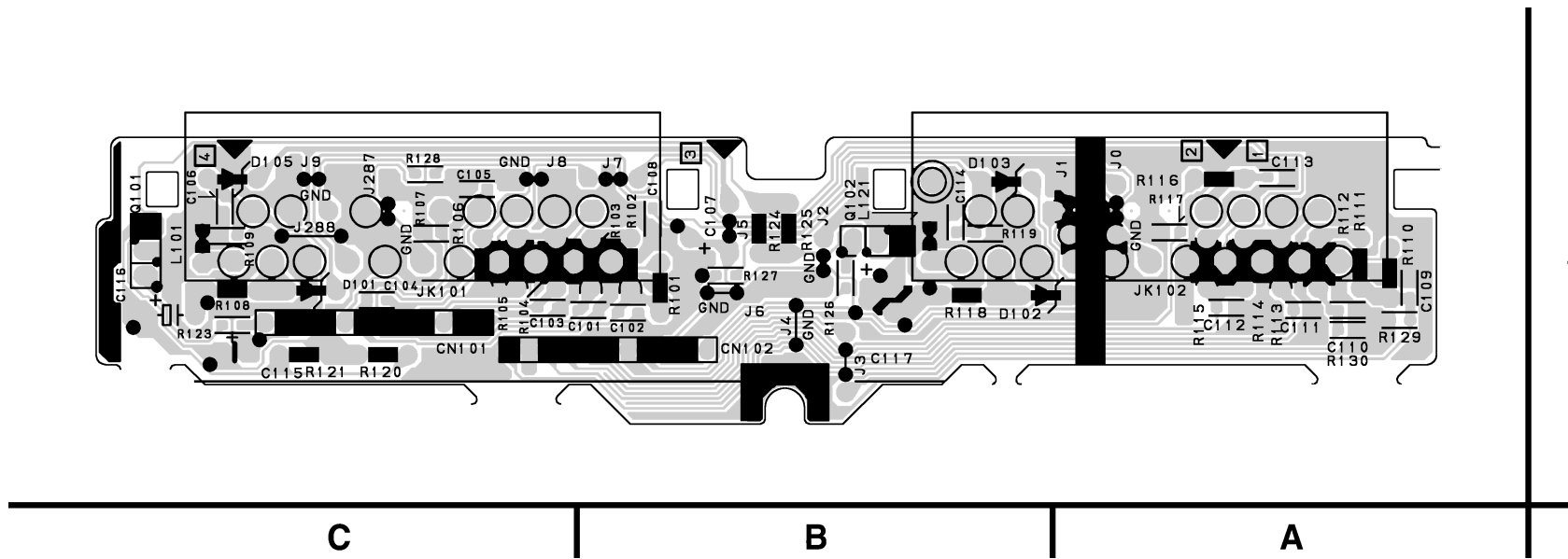
**Power SW CBA Bottom View**



# Jack CBA Top View



# Jack CBA Bottom View



JACK CBA Parts Location Guide

| Ref No.    | Position | Ref No.       | Position |
|------------|----------|---------------|----------|
| CAPACITORS |          | TRANSISTORS   |          |
| C101       | C-1      | Q101          | C-1      |
| C102       | B-1      | Q102          | B-1      |
| C103       | C-1      | RESISTORS     |          |
| C104       | C-1      | R101          | B-1      |
| C105       | C-1      | R103          | B-1      |
| C106       | C-1      | R104          | C-1      |
| C107       | B-1      | R106          | C-1      |
| C108       | B-1      | R108          | C-1      |
| C109       | A-1      | R109          | C-1      |
| C110       | A-1      | R110          | A-1      |
| C111       | A-1      | R112          | A-1      |
| C112       | A-1      | R113          | A-1      |
| C113       | A-1      | R115          | A-1      |
| C115       | C-1      | R116          | A-1      |
| C116       | C-1      | R117          | A-1      |
| C117       | B-1      | R118          | B-1      |
| CONNECTORS |          | R119          | B-1      |
| CL101      | C-1      | R120          | C-1      |
| CL102      | B-1      | R123          | C-1      |
| DIODES     |          | R125          | B-1      |
| D101       | C-1      | R126          | B-1      |
| D102       | B-1      | R127          | B-1      |
| D103       | B-1      | R128          | C-1      |
| D105       | C-1      | MISCELLANEOUS |          |
| COILS      |          | JK101         | C-1      |
| L101       | C-1      | JK102         | A-1      |
| L121       | B-1      |               |          |

BHC400F01016-E

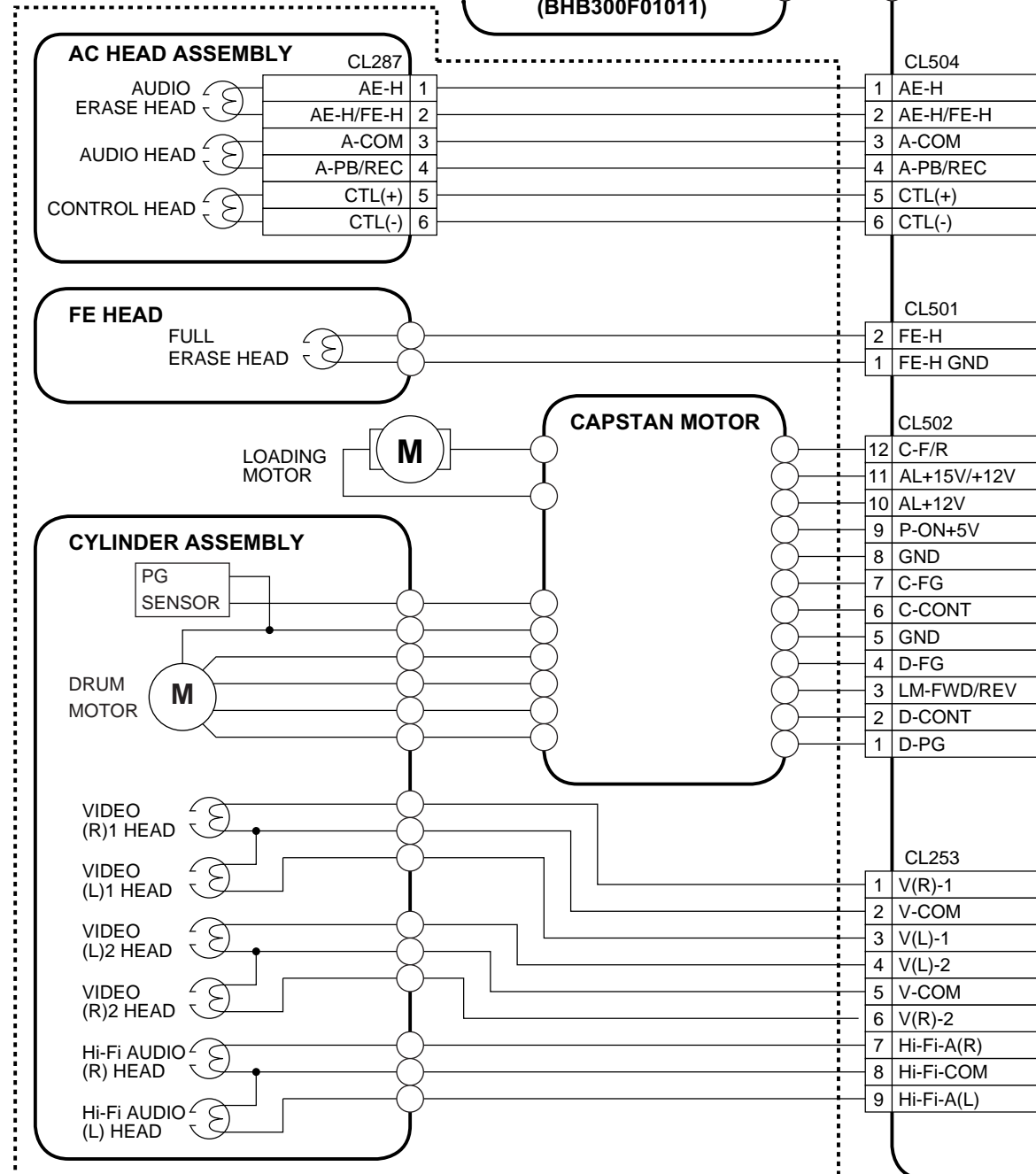
# WIRING DIAGRAM

**NOTE FOR WIRE CONNECTORS:**  
 1. PREFIX SYMBOL "CN" MEANS CONNECTOR.  
 (CAN DISCONNECT AND RECONNECT.)  
 2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER  
 HOLES OF THE PCB.  
 (WIRE IS SOLDERED DIRECTLY.)

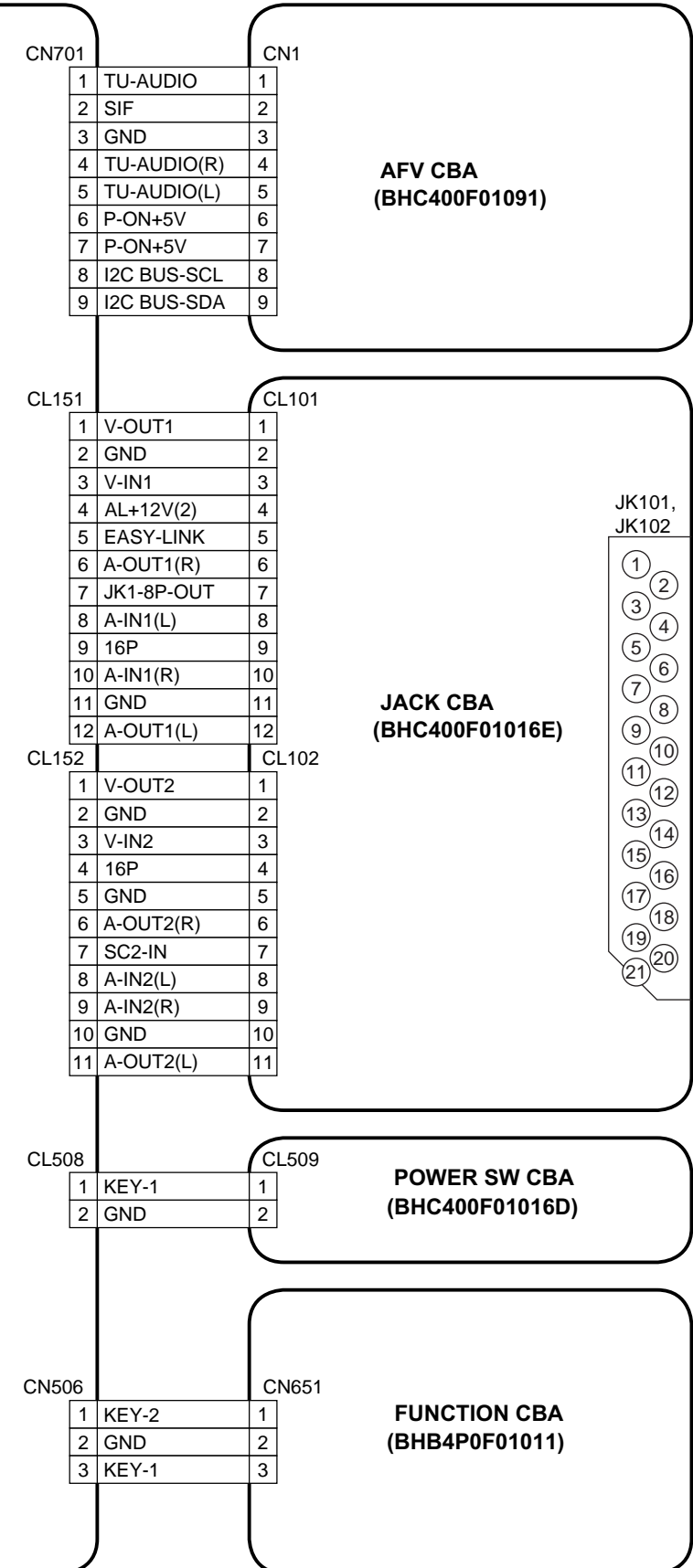
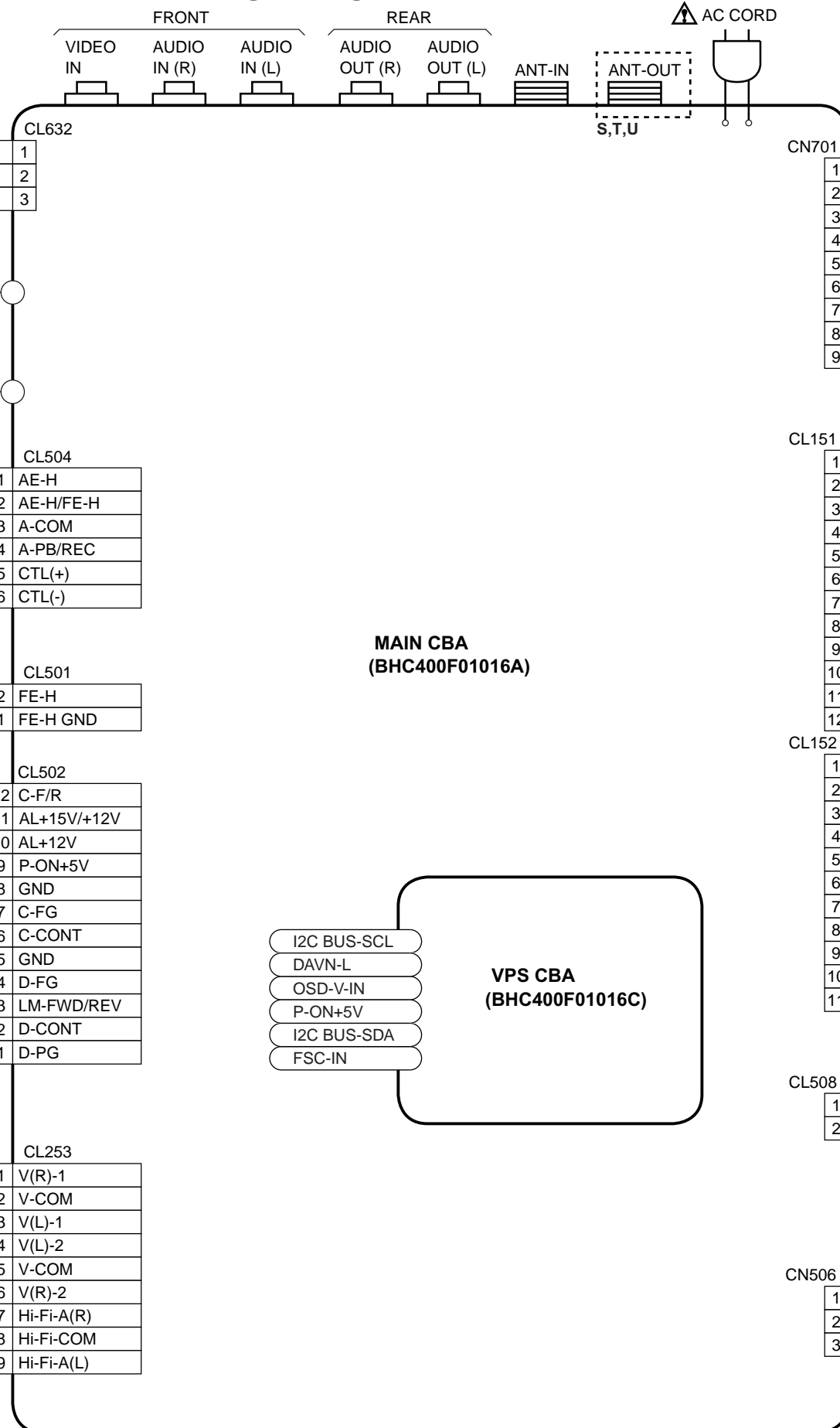
## Comparison Chart of Models & Marks

| Model    | Mark |
|----------|------|
| VR830/02 | S    |
| VR830/07 | T    |
| VR830/16 | U    |
| VR830/39 | V    |

## (DECK ASSEMBLY)



1-12-3



1-12-4

HC480WI

[ VR830/02, VR830/07, VR830/16, VR830/39 ]

Comparison Chart of Models and Marks

| Model    | Mark |
|----------|------|
| VR830/02 | S    |
| VR830/07 | T    |
| VR830/16 | U    |
| VR830/39 | V    |

IC501( SERVO / SYSTEM CONTROL IC )

“H” ≥ 4.5V, “L” ≤ 1.0V

| Pin No. | Mark | IN/OUT | Signal Name | Function   | Active Level |
|---------|------|--------|-------------|--|--------------|
| 1       |      | IN     | SC2-IN      | Input Signal from Pin 8 of SCART2                  | L/Hi-z       |
| 2       |      | IN     | PG-DELAY    | Video Head Switching Pulse Signal Adjusted Voltage | A/D          |
| 3       |      | IN     | POW-SAF     | P-ON Power Detection Input Signal                  | A/D          |
| 4       |      | IN     | END-S       | Tape End Position Detect Signal                    | A/D          |
| 5       |      | IN     | AFC         | Automatic Frequency Control Signal                 | A/D          |
| 6       |      | IN     | V-ENV       | Video Envelope Comparator Signal                   | A/D          |
| 7       |      | IN     | KEY-1       | Key Scan Input Signal 1                            | A/D          |
| 8       |      | IN     | KEY-2       | Key Scan Input Signal 2                            | A/D          |
| 9       |      | IN     | LD-SW       | Deck Mode Position Detector Signal                 | A/D          |
| 10      |      | OUT    | ST-S        | Tape Start Position Detector Signal                | A/D          |
| 11      |      | -      | N.U.        | Not Used   | -            |
| 12      |      | -      | N.U.        | Not Used   | -            |
| 13      |      | OUT    | D-V-SYNC    | Dummy V-sync Output                                | H/Hi-z       |
| 14      |      | IN     | REMOCON-IN  | Remote Control Sensor                              | L            |

| Pin No. | Mark  | IN/OUT | Signal Name | Function  | Active Level |
|---------|-------|--------|-------------|---|--------------|
| 15      |       | OUT    | C-ROTA      | Color Phase Rotary Changeover Signal                                      | H/L          |
| 16      |       | OUT    | H-A-SW      | Video Head Amp Switching Pulse  | H/L          |
| 17      |       | IN     | H-A-COMP    | Head Amp Comparator Signal  | H/L          |
| 18      |       | OUT    | RF-SW       | Video Head Switching Pulse  | H/L          |
| 19      |       | OUT    | HiFi-H-SW   | HiFi Audio Head Switching Pulse   | H/L          |
| 20      |       | IN     | DAVN-L      | VPS/PDC Data Receive = “L”  | L            |
| 21      |       | -      | N.U.        | Not Used  | -            |
| 22      |       | -      | N.U.        | Not Used  | -            |
| 23      |       | -      | N.U.        | Not Used  | -            |
| 24      |       | -      | N.U.        | Not Used  | -            |
| 25      |       | -      | N.U.        | Not Used  | -            |
| 26      |       | -      | N.U.        | Not Used  | -            |
| 27      |       | OUT    | RGB-THROUGH | SCART 2 RGB Through Control Signal  | L/Hi-z       |
| 28      |       | -      | N.U.        | Not Used  | -            |
| 29      |       | -      | N.U.        | Not Used  | -            |
| 30      |       | -      | N.U.        | Not Used  | -            |
| 31      |       | IN     | REC-SAF     | Recording Safety SW Detect (With Record tab=“L”/ With out Record tab=“H”) | H            |
| 32      | S,T,U | -      | N.U.        | Not Used  | -            |
|         | V     | IN     | SECAM-H     | SECAM Mode at High  | H/L          |
| 33      | S,T,U | -      | N.U.        | Not Used  | -            |
|         | V     | OUT    | TRICK-H     | Special Playback = “H” in SECAM Mode                                      | H            |
| 34      |       | IN     | RESET       | System Reset Signal (Reset=“L”)   | L            |
| 35      |       | IN     | XC-IN       | Sub Clock   | -            |
| 36      |       | OUT    | XC-OUT      | Sub Clock   | -            |
| 37      |       | -      | Vcc         | Vcc   | -            |
| 38      |       | IN     | X-IN        | Main Clock Input  | -            |
| 39      |       | OUT    | X-OUT       | Main Clock Input  | -            |
| 40      |       | -      | Vss         | Vss(GND)  | -            |

| Pin No. | Mark | IN/OUT | Signal Name      | Function   | Active Level |
|---------|------|--------|------------------|--|--------------|
| 41      |      | -      | N.U.             | Not Used   | -            |
| 42      |      | -      | N.U.             | Not Used   | -            |
| 43      |      | IN     | CLKSEL           | Clock Select (GND)   | L            |
| 44      |      | IN     | OSCIN            | Clock Input for letter size                                | -            |
| 45      |      | OUT    | OSCOU            | Clock Output for letter size                               | -            |
| 46      |      | -      | N.U.             | Not Used   | -            |
| 47      |      | -      | LP               | LP   | -            |
| 48      |      | IN     | FSC-IN [4.43MHz] | 4.43MHz Clock Input  | -            |
| 49      |      | -      | OSDVss           | OSDVss   | -            |
| 50      |      | IN     | VIDEO-IN         | Video Signal Input   | -            |
| 51      |      | -      | N.U.             | Not Used   | -            |
| 52      |      | OUT    | VIDEO-OUT        | Video Signal Output  | -            |
| 53      |      | -      | OSDVcc           | OSDVcc   | -            |
| 54      |      | -      | HLF              | LPF Connected Terminal (Slicer)                            | -            |
| 55      |      | IN     | COLOR-IN         | SECAM or MESECAM Chroma Video Input Signal at Super Impose | Z/L          |
| 56      |      | -      | N.U.             | Not Used   | -            |
| 57      |      | -      | N.U.             | Not Used   | -            |
| 58      |      | IN     | C-SYNC           | Composite Synchronized Pulse                               | PULSE        |
| 59      |      | OUT    | 8POUT-1          | SCART 1 8Pin Output Control Signal                         | H/L          |
| 60      |      | OUT    | 8POUT-2          | SCART 2 8Pin Output Control Signal                         | H/L          |
| 61      |      | IN     | A-MODE           | Hi-Fi Tape Detection Signal                                | L            |
| 62      |      | -      | N.U.             | Not Used   | -            |
| 63      |      | OUT    | LINK-OUT         | Easy Link Data Output                                      | Z/L          |
| 64      |      | IN     | FTV-IN           | Comparator Input of Video Signal for Follow TV             | L/Hi-z       |
| 65      |      | OUT    | D-REC-H          | Delayed Record Signal                                      | L            |
| 66      |      | OUT    | C-POWER-SW       | Capstan Power Switching Pulse                              | L/Hi-z       |

| Pin No. | Mark | IN/OUT | Signal Name              | Function   | Active Level |
|---------|------|--------|--------------------------|--|--------------|
| 67      |      | IN     | P-ON-H                   | Power On Signal at High                                | H            |
| 68      |      | OUT    | DRV-DATA                 | LED Clock Driver IC Control Data                       | H/L          |
| 69      |      | OUT    | DRV-STB                  | LED Clock Driver IC Chip Select Signal                 | H/L          |
| 70      |      | OUT    | DRV-CLK                  | LED Clock Driver IC Control Clock                      | H/L          |
| 71      |      | OUT    | I <sup>2</sup> C BUS-SCL | I <sup>2</sup> C BUS Control Clock                     | H/L          |
| 72      |      | IN/OUT | I <sup>2</sup> C BUS-SDA | I <sup>2</sup> C BUS Control Data                      | H/L          |
| 73      |      | OUT    | SAT-MOUSE                | SAT-MOUSE Data Control Signal Output                   | L            |
| 74      |      | -      | N.U.                     | Not Used   | -            |
| 75      |      | -      | N.U.                     | Not Used   | -            |
| 76      |      | OUT    | C-CONT                   | Capstan Motor Control Signal                           | PWM          |
| 77      |      | OUT    | D-CONT                   | Drum Motor Control Signal                              | PWM          |
| 78      |      | OUT    | C-F/R                    | Capstan Motor FWD/REV Control Signal (FWD="L"/REV="H") | H/L          |
| 79      |      | IN     | S-REEL                   | Supply Reel Rotation Signal                            | PULSE        |
| 80      |      | IN     | T-REEL                   | Take Up Reel Rotation Signal                           | PULSE        |
| 81      |      | OUT    | LM-FWD/REV               | Loading Motor Control Signal                           | H/L/Hi-z     |
| 82      |      | -      | N.U.                     | Not Used   | -            |
| 83      |      | OUT    | A-MUTE-H                 | Audio Mute Control Signal (Mute = "H")                 | H            |
| 84      |      | OUT    | FF/REW-L                 | CTL Amp Gain Switching Signal (FF/REW="L")             | L            |
| 85      |      | IN     | LINK-IN                  | Easy Link Data Input                                   | Z/L          |
| 86      |      | IN     | P-DOWN-L                 | Power Voltage Down Detector Signal                     | L            |
| 87      |      | IN     | C-FG                     | Capstan Motor Rotation Detection Pulse                 | PULSE        |
| 88      |      | -      | AMPVss                   | AMPVss (GND)   | -            |

| Pin No. | Mark | IN/OUT | Signal Name   | Function   | Active Level |
|---------|------|--------|---------------|--|--------------|
| 89      |      | IN     | D-FG          | Drum Motor Rotation Detection Pulse                  | PULSE        |
| 90      |      | IN     | D-PG          | Drum Motor Pulse Generator                           | PULSE        |
| 91      |      | -      | N.U.          | Not Used   | -            |
| 92      |      | -      | AMPVRE<br>FIN | V-Ref for CTL AMP                                    | -            |
| 93      |      | -      | C             | C Terminal   | -            |
| 94      |      | OUT    | CTL (-)       | Playback/Record Control Signal (-)                   | H/L          |
| 95      |      | OUT    | CTL (+)       | Playback/Record Control Signal (+)                   | H/L          |
| 96      |      | -      | AMPC          | CTL AMP Connected Terminal                           | -            |
| 97      |      | -      | CTLAMP<br>out | To Monitor for CTL AMP Output                        | PULSE        |
| 98      |      | -      | AMPVcc        | AMPVcc   | -            |
| 99      |      | -      | AVcc          | A/D Converter Power Input/<br>Standard Voltage Input | -            |
| 100     |      | IN     | AGC           | IF AGC Control Signal                                | H/L/<br>Hi-z |

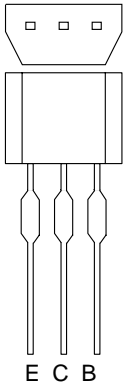
**Notes:**

Abbreviation for Active Level:

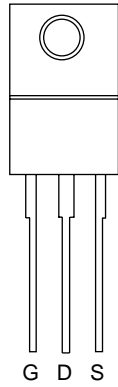
PWM -----Pulse Wide Modulation

A/D-----Analog - Digital Converter

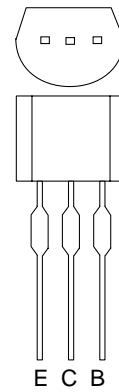
[ VR830/02, VR830/07, VR830/16, VR830/39 ]



BN1F4M-T  
BA1F4M-T  
KTA1266(GR)  
KRA104M  
KTC3199(Y,GR,BL)  
2SC2785(J.H.F.K)  
KTC3205(Y)  
KRA103M  
KRC103M  
BN1L4M-T  
2SC3266-Y(TPE2)

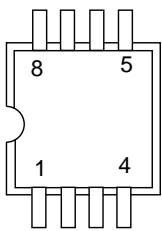


FS1KM-18A  
FS1KM-14A

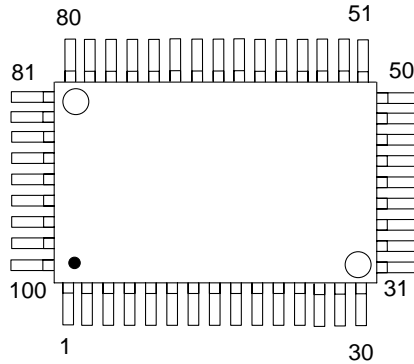


2SC1815-Y(TPE2)  
2SC1815-GR(TPE2)  
KTA1281(Y)  
2SC2120-Y(TPE2)  
KTC3203(Y)  
2SC1815-BL(TPE2)  
2SA1020(Y)  
2SB892(S)  
2SD1246(S,T)  
2SA1015-GR(TPE2)

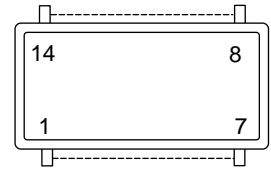
CAT24WC08JI  
BR24C08F  
AT24C08N-10SC  
M24C08-MN6T



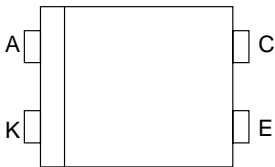
LA71750M-AM-MTB  
QSZAB0RMB102



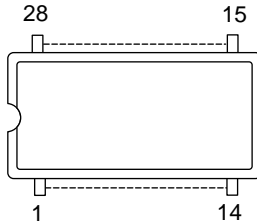
LM339DT  
KIA339F EL



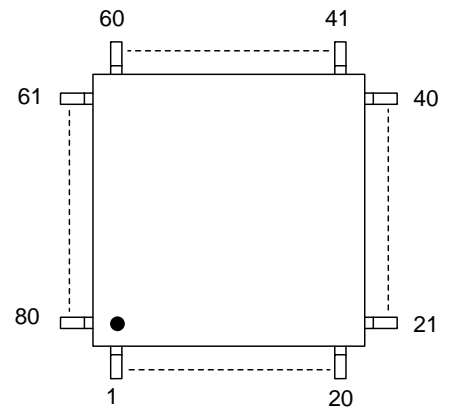
LTV-817(B,C)-F  
EL817(A,B,C)



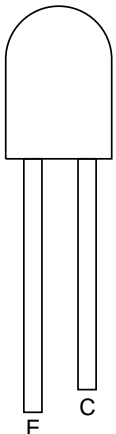
PT-6958-FN-TP



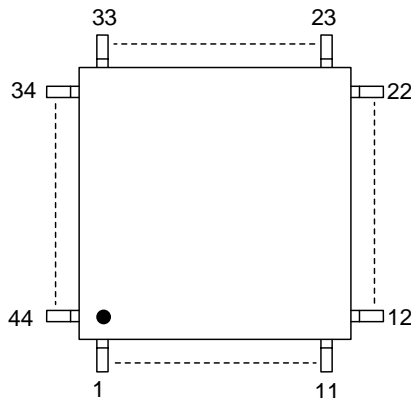
LA72646M-A-MPB



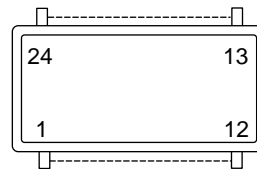
PT204-6B-12  
MID-32A22



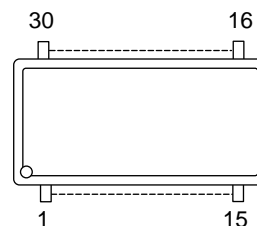
MSP3407G-QG-B8  
MSP3417G-QG-B8



LC74793JM-TRM



LA70100M-TRM



**Note:**

- A: Anode
- K: Cathode
- E: Emitter
- C: Collector
- B: Base
- R: Reference
- S: Source
- G: Gate
- D: Drain

**PRODUCT SAFETY NOTE:** Products marked with a ▲

have special characteristics important to safety.  
 Before replacing any of these components, read carefully  
 the product safety notice in this service manual.  
 Don't degrade the safety of the product through improper servicing.

**NOTES:**

Parts that not assigned part numbers (-----) are not available.  
 Tolerance of Capacitors and Resistors are noted with the following symbols.

C..±0.25%      D..±0.5%    F..±1%  
 G..±2%        J..±5%     K..±10%  
 M..±20%      N..±30%   Z..+80/-20%

| <b>ELECTRICAL PARTS LIST</b> |          |                |                                     | <b>VR830/02</b> | <b>VR830/07</b> | <b>VR830/16</b> | <b>VR830/39</b> |
|------------------------------|----------|----------------|-------------------------------------|-----------------|-----------------|-----------------|-----------------|
| <b>Pos.</b>                  | <b>▲</b> | <b>12 NC</b>   | <b>Description</b>                  |                 |                 |                 |                 |
|                              |          |                | MCV CBA                             |                 |                 |                 |                 |
|                              |          |                | Consists of the following           |                 |                 |                 |                 |
|                              |          |                | MAIN CBA(MCV-A)                     | 1               | 1               | 1               | 1               |
|                              |          |                | VPS CBA(MCV-C)                      | 1               | 1               | 1               | 1               |
|                              |          |                | POWER SW CBA(MCV-D)                 | 1               | 1               | 1               | 1               |
|                              |          |                | JACK CBA(MCV-E)                     | 1               | 1               | 1               | 1               |
|                              |          |                | SENSOR CBA                          |                 |                 |                 |                 |
|                              |          |                | SENSOR CBA                          | 1               | 1               | 1               | 1               |
| <b>MAIN CBA</b>              |          |                |                                     |                 |                 |                 |                 |
| 2B7                          |          | 9965 000 12286 | SHIELD ASSEMBLY HC460ED             | 1               | 1               | 1               | 1               |
| 2B8                          |          | 9965 000 08566 | BUSH, LED(F) H3700UD                | 1               | 1               | 1               | 1               |
| 2B46                         |          | 9965 000 12173 | ROHM HOLDER H7770JD                 | 1               | 1               | 1               | 1               |
| A4                           |          | 9965 000 12406 | JACK BOARD(CONV) HC480ED            | 1               | 1               | 1               | 1               |
| AC001                        | ▲        | 9965 000 08666 | AC CORD PE8B2CB1H0A-057             | 1               |                 | 1               | 1               |
| AC001                        | ▲        | 9965 000 12174 | AC CORD PQ8B1V51H0A-05B             |                 | 1               |                 |                 |
| <b>CAPACITORS</b>            |          |                |                                     |                 |                 |                 |                 |
| C002                         | ▲        | 9965 000 06521 | METALLIZED FILM CAP. 0.068UF/250V K | 1               | 1               | 1               | 1               |
| C003                         | ▲        | 9965 000 06522 | SAFETY CAP. 2200PF/250V             | 1               | 1               | 1               | 1               |
| C004                         |          | 9965 000 06566 | ELECTROLYTIC CAP. 22UF/400V M(L?Z)  | 1               | 1               | 1               | 1               |
| C005                         |          | 4822 126 14142 | CERAMIC CAP. B K 0.01UF/500V        | 1               | 1               | 1               | 1               |
| C006                         |          | 4822 126 14141 | CERAMIC CAP. SL K 56PF/1KV          | 1               | 1               | 1               | 1               |
| C007                         |          |                | CERAMIC CAP.(AX) X K 3300PF/16V     | 1               | 1               | 1               | 1               |
| C008                         |          |                | CERAMIC CAP.(AX) X K 5600PF/16V     | 1               | 1               | 1               | 1               |
| C010                         |          |                | FILM CAP.(P) 0.022UF/50V J          | 1               | 1               | 1               | 1               |
| C011                         |          |                | ELECTROLYTIC CAP. 10UF/16V M        | 1               | 1               | 1               | 1               |
| C012                         |          |                | ELECTROLYTIC CAP. 10UF/50V M H7     | 1               | 1               | 1               | 1               |
| C014                         |          |                | ELECTROLYTIC CAP. 470UF/25V M       | 1               | 1               | 1               | 1               |
| C017                         |          |                | ELECTROLYTIC CAP. 470UF/16V M       | 1               | 1               | 1               | 1               |
| C018                         |          |                | ELECTROLYTIC CAP. 100UF/16V M       | 1               | 1               | 1               | 1               |
| C020                         |          |                | ELECTROLYTIC CAP. 1000UF/16V M      | 1               | 1               | 1               | 1               |
| C021                         |          |                | ELECTROLYTIC CAP. 470UF/10V M       | 1               | 1               | 1               | 1               |
| C025                         |          |                | CERAMIC CAP.(AX) X K 5600PF/16V     | 1               | 1               | 1               | 1               |
| C026                         |          |                | ELECTROLYTIC CAP. 47UF/16V M H7     | 1               | 1               | 1               | 1               |
| C053                         |          |                | ELECTROLYTIC CAP. 330UF/6.3V M      | 1               | 1               | 1               | 1               |
| C056                         |          |                | CERAMIC CAP.(AX) F Z 0.047UF/16V    | 1               | 1               | 1               | 1               |
| C060                         |          |                | ELECTROLYTIC CAP. 10UF/16V M H7     | 1               | 1               | 1               | 1               |
| C061                         |          |                | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1               | 1               | 1               | 1               |
| C157                         |          |                | ELECTROLYTIC CAP. 1UF/50V M H7      | 1               | 1               | 1               | 1               |
| C158                         |          |                | CHIP CERAMIC CAP. B K 1000PF/50V    | 1               | 1               | 1               | 1               |
| C251                         |          |                | ELECTROLYTIC CAP. 10UF/16V M H7     | 1               | 1               | 1               | 1               |
| C252                         |          |                | CHIP CERAMIC CAP. B K 1000PF/50V    | 1               | 1               | 1               | 1               |
| C253                         |          |                | ELECTROLYTIC CAP. 1UF/50V M H7      | 1               | 1               | 1               | 1               |



# ELECTRICAL PARTS LIST

| ELECTRICAL PARTS LIST |         |                                     | VR830/02 | VR830/07 | VR830/16 | VR830/39 |
|-----------------------|---------|-------------------------------------|----------|----------|----------|----------|
| Pos.                  | ▲ 12 NC | Description                         |          |          |          |          |
| C254                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C302                  |         | CHIP CERAMIC CAP. B K 0.022UF/50V   | 1        | 1        | 1        | 1        |
| C303                  |         | ELECTROLYTIC CAP. 1UF/50V M H7      | 1        | 1        | 1        | 1        |
| C304                  |         | ELECTROLYTIC CAP. 1UF/50V M H7      | 1        | 1        | 1        | 1        |
| C305                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C307                  |         | CHIP CERAMIC CAP. B K 0.047UF/50V   | 1        | 1        | 1        | 1        |
| C308                  |         | CHIP CERAMIC CAP. B K 0.022UF/50V   | 1        | 1        | 1        | 1        |
| C309                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C310                  |         | CHIP CERAMIC CAP. B K 0.047UF/50V   | 1        | 1        | 1        | 1        |
| C311                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V    |          |          |          | 1        |
| C312                  |         | CERAMIC CAP.(AX) Y M 8200PF/16V     | 1        | 1        | 1        | 1        |
| C313                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C314                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V    | 1        | 1        | 1        | 1        |
| C315                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C316                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V    | 1        | 1        | 1        | 1        |
| C317                  |         | ELECTROLYTIC CAP. 47UF/6.3V M H7    | 1        | 1        | 1        | 1        |
| C318                  |         | ELECTROLYTIC CAP. 1UF/50V M H7      | 1        | 1        | 1        | 1        |
| C319                  |         | ELECTROLYTIC CAP. 1UF/50V M H7      | 1        | 1        | 1        | 1        |
| C320                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C321                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C322                  |         | ELECTROLYTIC CAP. 10UF/16V M H7     | 1        | 1        | 1        | 1        |
| C323                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C324                  |         | CHIP CERAMIC CAP. CH J 68PF/50V     | 1        | 1        | 1        | 1        |
| C325                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C326                  |         | CHIP CERAMIC CAP. CH J 68PF/50V     | 1        | 1        | 1        | 1        |
| C327                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C328                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C329                  |         | CHIP CERAMIC CAP. CH J 68PF/50V     | 1        | 1        | 1        | 1        |
| C330                  |         | CERAMIC CAP.(AX) F Z 0.1UF/50V      | 1        | 1        | 1        | 1        |
| C332                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C333                  |         | ELECTROLYTIC CAP. 0.47UF/50V M H7   | 1        | 1        | 1        | 1        |
| C334                  |         | ELECTROLYTIC CAP. 4.7UF/25V M NP H7 | 1        | 1        | 1        | 1        |
| C335                  |         | ELECTROLYTIC CAP. 10UF/16V M H7     | 1        | 1        | 1        | 1        |
| C337                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C338                  |         | ELECTROLYTIC CAP. 100UF/6.3V H7     | 1        | 1        | 1        | 1        |
| C339                  |         | ELECTROLYTIC CAP. 1UF/50V M H7      | 1        | 1        | 1        | 1        |
| C340                  |         | CHIP CERAMIC CAP. CH J 120PF/50V    | 1        | 1        | 1        | 1        |
| C341                  |         | CHIP CERAMIC CAP. CH J 220PF/50V    | 1        | 1        | 1        | 1        |
| C342                  |         | ELECTROLYTIC CAP. 1UF/50V M H7      | 1        | 1        | 1        | 1        |
| C343                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C344                  |         | CERAMIC CAP.(AX) B K 100PF/50V      | 1        | 1        | 1        | 1        |
| C345                  |         | CHIP CERAMIC CAP. CH J 68PF/50V     | 1        | 1        | 1        | 1        |
| C347                  |         | CHIP CERAMIC CAP. CH J 15PF/50V     | 1        | 1        | 1        | 1        |
| C348                  |         | CHIP CERAMIC CAP. CH J 68PF/50V     | 1        | 1        | 1        | 1        |
| C351                  |         | ELECTROLYTIC CAP. 220UF/6.3V M H7   | 1        | 1        | 1        | 1        |
| C352                  |         | ELECTROLYTIC CAP. 100UF/16V M H7    | 1        | 1        | 1        | 1        |
| C370                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V    |          |          |          | 1        |
| C371                  |         | CHIP CERAMIC CAP. B K 0.022UF/50V   |          |          |          | 1        |
| C372                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     |          |          |          | 1        |
| C373                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     |          |          |          | 1        |
| C374                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     |          |          |          | 1        |
| C375                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V    |          |          |          | 1        |
| C376                  |         | CHIP CERAMIC CAP. B K 0.022UF/50V   |          |          |          | 1        |
| C377                  |         | CERAMIC CAP.(AX) Y M 0.01UF/16V     |          |          |          | 1        |
| C378                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V    |          |          |          | 1        |
| C379                  |         | ELECTROLYTIC CAP. 0.47UF/50V M H7   |          |          |          | 1        |
| C381                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V     |          |          |          | 1        |
| C382                  |         | CHIP CERAMIC CAP. B K 2200PF/50V    |          |          |          | 1        |
| C383                  |         | CHIP CERAMIC CAP. B K 2200PF/50V    |          |          |          | 1        |
| C384                  |         | ELECTROLYTIC CAP. 2.2UF/50V M H7    |          |          |          | 1        |
| C401                  |         | ELECTROLYTIC CAP. 47UF/6.3V M H7    | 1        | 1        | 1        | 1        |
| C402                  |         | ELECTROLYTIC CAP. 220UF/6.3V M H7   | 1        | 1        | 1        | 1        |
| C403                  |         | CERAMIC CAP. B K 470PF/100V         | 1        | 1        | 1        | 1        |

# ELECTRICAL PARTS LIST

| ELECTRICAL PARTS LIST |         |                                   | VR830/02 | VR830/07 | VR830/16 | VR830/39 |
|-----------------------|---------|-----------------------------------|----------|----------|----------|----------|
| Pos.                  | ▲ 12 NC | Description                       |          |          |          |          |
| C404                  |         | FILM CAP.(P) 0.018UF/100V J       | 1        | 1        | 1        | 1        |
| C411                  |         | CHIP CERAMIC CAP. CH J 820PF/50V  | 1        | 1        | 1        | 1        |
| C412                  |         | CERAMIC CAP.(AX) X K 1800PF/16V   | 1        | 1        | 1        | 1        |
| C413                  |         | ELECTROLYTIC CAP. 4.7UF/25V M H7  | 1        | 1        | 1        | 1        |
| C414                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V  | 1        | 1        | 1        | 1        |
| C415                  |         | ELECTROLYTIC CAP. 10UF/16V M H7   | 1        | 1        | 1        | 1        |
| C416                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V   | 1        | 1        | 1        | 1        |
| C417                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V  | 1        | 1        | 1        | 1        |
| C418                  |         | CHIP CERAMIC CAP. CH J 33PF/50V   | 1        | 1        | 1        | 1        |
| C419                  |         | CHIP CERAMIC CAP. B K 4700PF/50V  | 1        | 1        | 1        | 1        |
| C421                  |         | ELECTROLYTIC CAP. 33UF/6.3V M H7  | 1        | 1        | 1        | 1        |
| C422                  |         | ELECTROLYTIC CAP. 4.7UF/25V M H7  | 1        | 1        | 1        | 1        |
| C424                  |         | ELECTROLYTIC CAP. 22UF/6.3V M H7  | 1        | 1        | 1        | 1        |
| C425                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V   | 1        | 1        | 1        | 1        |
| C428                  |         | CHIP CERAMIC CAP. CH J 220PF/50V  | 1        | 1        | 1        | 1        |
| C430                  |         | ELECTROLYTIC CAP. 47UF/6.3V M H7  | 1        | 1        | 1        | 1        |
| C431                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V  | 1        | 1        | 1        | 1        |
| C452                  |         | ELECTROLYTIC CAP. 47UF/16V M H7   | 1        | 1        | 1        | 1        |
| C451                  |         | ELECTROLYTIC CAP. 4.7UF/25V M H7  | 1        | 1        | 1        |          |
| C453                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V   | 1        | 1        | 1        | 1        |
| C454                  |         | ELECTROLYTIC CAP. 10UF/16V M H7   | 1        | 1        | 1        | 1        |
| C455                  |         | ELECTROLYTIC CAP. 10UF/16V M H7   | 1        | 1        | 1        | 1        |
| C456                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V   | 1        | 1        | 1        | 1        |
| C457                  |         | ELECTROLYTIC CAP. 22UF/10V M H7   | 1        | 1        | 1        | 1        |
| C458                  |         | ELECTROLYTIC CAP. 10UF/16V M H7   | 1        | 1        | 1        | 1        |
| C459                  |         | ELECTROLYTIC CAP. 4.7UF/25V M H7  | 1        | 1        | 1        | 1        |
| C460                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V  | 1        | 1        | 1        | 1        |
| C461                  |         | ELECTROLYTIC CAP. 22UF/10V M H7   | 1        | 1        | 1        | 1        |
| C462                  |         | CHIP CERAMIC CAP. B K 4700PF/50V  | 1        | 1        | 1        | 1        |
| C463                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V  | 1        | 1        | 1        | 1        |
| C464                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V  | 1        | 1        | 1        | 1        |
| C465                  |         | ELECTROLYTIC CAP. 10UF/16V M H7   | 1        | 1        | 1        | 1        |
| C466                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V  | 1        | 1        | 1        | 1        |
| C467                  |         | ELECTROLYTIC CAP. 4.7UF/25V M H7  | 1        | 1        | 1        | 1        |
| C468                  |         | ELECTROLYTIC CAP. 22UF/10V M H7   | 1        | 1        | 1        | 1        |
| C469                  |         | CHIP CERAMIC CAP. B K 4700PF/50V  | 1        | 1        | 1        | 1        |
| C470                  |         | CHIP CERAMIC CAP. B K 0.01UF/50V  | 1        | 1        | 1        | 1        |
| C471                  |         | ELECTROLYTIC CAP. 4.7UF/25V M H7  | 1        | 1        | 1        | 1        |
| C472                  |         | ELECTROLYTIC CAP. 10UF/16V M H7   | 1        | 1        | 1        | 1        |
| C473                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V   | 1        | 1        | 1        | 1        |
| C474                  |         | ELECTROLYTIC CAP. 2.2UF/50V M H7  | 1        | 1        | 1        | 1        |
| C475                  |         | ELECTROLYTIC CAP. 2.2UF/50V M H7  | 1        | 1        | 1        | 1        |
| C476                  |         | ELECTROLYTIC CAP. 10UF/16V M H7   | 1        | 1        | 1        | 1        |
| C477                  |         | ELECTROLYTIC CAP. 4.7UF/25V M H7  | 1        | 1        | 1        | 1        |
| C478                  |         | ELECTROLYTIC CAP. 4.7UF/25V M H7  | 1        | 1        | 1        | 1        |
| C479                  |         | ELECTROLYTIC CAP. 4.7UF/25V M H7  | 1        | 1        | 1        | 1        |
| C480                  |         | ELECTROLYTIC CAP. 4.7UF/25V M H7  | 1        | 1        | 1        | 1        |
| C481                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V   | 1        | 1        | 1        | 1        |
| C482                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V   | 1        | 1        | 1        | 1        |
| C483                  |         | ELECTROLYTIC CAP. 330UF/6.3V M H7 | 1        | 1        | 1        | 1        |
| C484                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V   | 1        | 1        | 1        | 1        |
| C485                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V   | 1        | 1        | 1        | 1        |
| C501                  |         | ELECTROLYTIC CAP. 220UF/6.3V M    | 1        | 1        | 1        | 1        |
| C502                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V   | 1        | 1        | 1        | 1        |
| C506                  |         | CERAMIC CAP.(AX) B K 100PF/50V    | 1        | 1        | 1        | 1        |
| C508                  |         | ELECTROLYTIC CAP. 1UF/50V M H7    | 1        | 1        | 1        | 1        |
| C510                  |         | ELECTROLYTIC CAP. 22UF/10V M H7   | 1        | 1        | 1        | 1        |
| C511                  |         | ELECTROLYTIC CAP. 100UF/6.3V H7   | 1        | 1        | 1        | 1        |
| C512                  |         | CHIP CERAMIC CAP. F Z 0.1UF/50V   | 1        | 1        | 1        | 1        |
| C513                  |         | CHIP CERAMIC CAP. CH J 22PF/50V   | 1        | 1        | 1        | 1        |
| C514                  |         | CHIP CERAMIC CAP. CH J 22PF/50V   | 1        | 1        | 1        | 1        |
| C515                  |         | CHIP CERAMIC CAP. CH D 10PF/50V   | 1        | 1        | 1        | 1        |
| C516                  |         | CHIP CERAMIC CAP. CH D 10PF/50V   | 1        | 1        | 1        | 1        |

| ELECTRICAL PARTS LIST |                |                                       | VR830/02 | VR830/07 | VR830/16 | VR830/39 |
|-----------------------|----------------|---------------------------------------|----------|----------|----------|----------|
| Pos.                  | ▲ 12 NC        | Description                           |          |          |          |          |
| C517                  |                | CHIP CERAMIC CAP. B K 0.01UF/50V      | 1        | 1        | 1        | 1        |
| C518                  |                | CHIP CERAMIC CAP. B K 0.047UF/50V     | 1        | 1        | 1        | 1        |
| C519                  |                | CHIP CERAMIC CAP. B K 0.01UF/50V      | 1        | 1        | 1        | 1        |
| C520                  |                | CHIP CERAMIC CAP. CH J 100PF/50V      | 1        | 1        | 1        | 1        |
| C521                  |                | CHIP CERAMIC CAP. CH J 560PF/50V      | 1        | 1        | 1        | 1        |
| C522                  |                | ELECTROLYTIC CAP. 22UF/6.3V M H7      | 1        | 1        | 1        | 1        |
| C523                  |                | CHIP CERAMIC CAP. B K 1000PF/50V      | 1        | 1        | 1        | 1        |
| C524                  |                | CHIP CERAMIC CAP. CH J 330PF/50V      | 1        | 1        | 1        | 1        |
| C526                  |                | CHIP CERAMIC CAP. B K 4700PF/50V      | 1        | 1        | 1        | 1        |
| C527                  |                | ELECTROLYTIC CAP. 22UF/6.3V M H7      | 1        | 1        | 1        | 1        |
| C529                  |                | CHIP CERAMIC CAP. B K 0.01UF/50V      | 1        | 1        | 1        | 1        |
| C530                  |                | CERAMIC CAP.(AX) F Z 0.022UF/25V      | 1        | 1        | 1        | 1        |
| C531                  |                | CERAMIC CAP.(AX) Y M 0.01UF/16V       | 1        | 1        | 1        | 1        |
| C535                  |                | CHIP CERAMIC CAP. B K 0.01UF/50V      | 1        | 1        | 1        | 1        |
| C540                  |                | ELECTROLYTIC CAP. 470UF/6.3V M        | 1        | 1        | 1        | 1        |
| C561                  |                | CHIP CERAMIC CAP. B K 0.022UF/50V     | 1        | 1        | 1        | 1        |
| C621                  |                | CHIP CERAMIC CAP. CH J 220PF/50V      | 1        | 1        | 1        | 1        |
| C622                  |                | CHIP CERAMIC CAP. B K 2200PF/50V      | 1        | 1        | 1        | 1        |
| C701                  |                | CHIP CERAMIC CAP. B K 0.047UF/50V     | 1        | 1        | 1        |          |
| C702                  |                | CHIP CERAMIC CAP. F Z 0.1UF/50V       | 1        | 1        | 1        | 1        |
| C703                  |                | ELECTROLYTIC CAP. 10UF/16V M H7       | 1        | 1        | 1        | 1        |
| C704                  |                | CHIP CERAMIC CAP. B K 0.01UF/50V      | 1        | 1        | 1        | 1        |
| C706                  |                | CHIP CERAMIC CAP. B K 1000PF/50V      | 1        | 1        | 1        | 1        |
| C707                  |                | ELECTROLYTIC CAP. 100UF/6.3V H7       | 1        | 1        | 1        | 1        |
| C708                  |                | CHIP CERAMIC CAP. B K 0.01UF/50V      | 1        | 1        | 1        | 1        |
| C715                  |                | CHIP CERAMIC CAP. B K 0.01UF/50V      | 1        | 1        | 1        | 1        |
| C756                  |                | CERAMIC CAP.(AX) B K 470PF/50V        | 1        | 1        | 1        | 1        |
| C757                  |                | CERAMIC CAP.(AX) B K 470PF/50V        | 1        | 1        | 1        | 1        |
| C771                  |                | CHIP CERAMIC CAP. F Z 0.1UF/50V       | 1        | 1        | 1        | 1        |
| C772                  |                | ELECTROLYTIC CAP. 10UF/16V M H7       | 1        | 1        | 1        | 1        |
| C773                  |                | CERAMIC CAP.(AX) B K 1000PF/50V       | 1        | 1        | 1        | 1        |
| C774                  |                | CHIP CERAMIC CAP. B K 1000PF/50V      | 1        | 1        | 1        | 1        |
| C775                  |                | ELECTROLYTIC CAP. 1UF/50V M H7        | 1        | 1        | 1        | 1        |
| C776                  |                | ELECTROLYTIC CAP. 1UF/50V M H7        | 1        | 1        | 1        | 1        |
| C777                  |                | CERAMIC CAP.(AX) B K 180PF/50V        | 1        | 1        | 1        | 1        |
| C778                  |                | CHIP CERAMIC CAP. CH J 180PF/50V      | 1        | 1        | 1        | 1        |
| C851                  |                | CHIP CERAMIC CAP. CH J 22PF/50V       | 1        | 1        | 1        | 1        |
| C852                  |                | CHIP CERAMIC CAP. CH J 18PF/50V       | 1        | 1        | 1        | 1        |
| C853                  |                | CHIP CERAMIC CAP. B K 4700PF/50V      | 1        | 1        | 1        | 1        |
| C854                  |                | CHIP CERAMIC CAP. B K 0.01UF/50V      | 1        | 1        | 1        | 1        |
| C855                  |                | CHIP CERAMIC CAP. F Z 0.1UF/50V       | 1        | 1        | 1        | 1        |
| C856                  |                | CHIP CERAMIC CAP. CH J 180PF/50V      | 1        | 1        | 1        | 1        |
| C858                  |                | CHIP CERAMIC CAP. CH J 560PF/50V      |          |          |          | 1        |
| C859                  |                | ELECTROLYTIC CAP. 47UF/6.3V M H7      | 1        | 1        | 1        | 1        |
| C862                  |                | CHIP CERAMIC CAP. B K 0.01UF/50V      | 1        | 1        | 1        | 1        |
| <b>PCB ASSEMBLY</b>   |                |                                       |          |          |          |          |
| CN506                 | 9965 000 12407 | FNT PCB ASSEMBLY CP2500/C480/FUNCTION | 1        | 1        | 1        | 1        |
| CN701                 | 9965 000 12272 | AFV PCB ASSEMBLY CP2500/C460          | 1        |          |          |          |
| CN701                 | 9965 000 12175 | AFV PCB ASSEMBLY CP2500/C461          |          | 1        | 1        |          |
| CN701                 | 9965 000 12254 | AFV PCB ASSEMBLY CP2500/C463          |          |          |          | 1        |
| <b>DIODES</b>         |                |                                       |          |          |          |          |
| D001                  | 4822 130 31933 | RECTIFIER DIODE 1N4005                | 1        | 1        | 1        | 1        |
| D002                  | 4822 130 31933 | RECTIFIER DIODE 1N4005                | 1        | 1        | 1        | 1        |
| D003                  | 4822 130 31933 | RECTIFIER DIODE 1N4005                | 1        | 1        | 1        | 1        |
| D004                  | 4822 130 31933 | RECTIFIER DIODE 1N4005                | 1        | 1        | 1        | 1        |
| D005                  | 5322 130 34979 | RECTIFIER DIODE BA159                 | 1        | 1        | 1        | 1        |
| D006                  | 4822 130 30621 | SWITCHING DIODE 1N4148M               | 1        | 1        | 1        | 1        |
| D007                  | 4822 130 30621 | SWITCHING DIODE 1N4148M               | 1        | 1        | 1        | 1        |
| D008                  | 4822 130 30621 | SWITCHING DIODE 1N4148M               | 1        | 1        | 1        | 1        |
| D009                  | 4822 130 30621 | SWITCHING DIODE 1N4148M               | 1        | 1        | 1        | 1        |
| D011                  | 4822 130 41487 | RECTIFIER DIODE BA157                 | 1        | 1        | 1        | 1        |
| D012                  | 4822 130 83883 | RECTIFIER DIODE FR202                 | 1        | 1        | 1        | 1        |
| D013                  | 4822 130 83883 | RECTIFIER DIODE FR202                 | 1        | 1        | 1        | 1        |

| ELECTRICAL PARTS LIST |                  |                                       | VR830/02 | VR830/07 | VR830/16 | VR830/39 |
|-----------------------|------------------|---------------------------------------|----------|----------|----------|----------|
| Pos.                  | ▲ 12 NC          | Description                           |          |          |          |          |
| D014                  | 4822 130 32715   | SCHOTTKY BARRIER DIODE SB340          | 1        | 1        | 1        | 1        |
| D015                  | 9965 000 09323   | ZENER DIODE DZ-9.1BSCT265             | 1        | 1        | 1        | 1        |
| D018                  | 4822 130 30621   | SWITCHING DIODE 1N4148M               | 1        | 1        | 1        | 1        |
| D019                  | 9965 000 08622   | ZENER DIODE DZ-5.6BSBT265             | 1        | 1        | 1        | 1        |
| D021                  | 4822 130 30621   | SWITCHING DIODE 1N4148M               | 1        | 1        | 1        | 1        |
| D051                  | 4822 130 31933   | RECTIFIER DIODE 1N4005                | 1        | 1        | 1        | 1        |
| D052                  | 4822 130 30621   | SWITCHING DIODE 1N4148M               | 1        | 1        | 1        | 1        |
| D053                  | 9965 000 12176   | RECTIFIER DIODE RL201 B-222-2         | 1        | 1        | 1        |          |
| D053                  | 9965 000 09322   | RECTIFIER DIODE FR302                 |          |          |          | 1        |
| D056                  | 9965 000 09182   | ZENER DIODE DZ-5.1BSCT265             | 1        | 1        | 1        | 1        |
| D057                  | 9965 000 09283   | ZENER DIODE DZ-10BSBT265              | 1        | 1        | 1        | 1        |
| D151                  | 9965 000 12177   | ZENER DIODE DZ-6.8BSCT265             | 1        | 1        | 1        | 1        |
| D152                  | 9965 000 12177   | ZENER DIODE DZ-6.8BSCT265             | 1        | 1        | 1        | 1        |
| D153                  | 9965 000 12178   | ZENER DIODE DZ-11BSAT265              | 1        | 1        | 1        | 1        |
| D154                  | 9965 000 12178   | ZENER DIODE DZ-11BSAT265              | 1        | 1        | 1        | 1        |
| D155                  | 9965 000 12178   | ZENER DIODE DZ-11BSAT265              | 1        | 1        | 1        | 1        |
| D156                  | 9965 000 12178   | ZENER DIODE DZ-11BSAT265              | 1        | 1        | 1        | 1        |
| D157                  | 9965 000 12178   | ZENER DIODE DZ-11BSAT265              | 1        | 1        | 1        | 1        |
| D301                  | 4822 130 30621   | SWITCHING DIODE 1N4148M               | 1        | 1        | 1        | 1        |
| D370                  | 4822 130 30621   | SWITCHING DIODE 1N4148M               |          |          |          | 1        |
| D501                  | 4822 130 30621   | SWITCHING DIODE 1N4148M               | 1        | 1        | 1        | 1        |
| D502                  | 9965 000 05250   | LED SIR-563ST3F P                     | 1        | 1        | 1        | 1        |
| D552                  | 4822 130 10094   | ZENER DIODE MTZJT-777.5A              | 1        | 1        | 1        | 1        |
| D553                  | 4822 130 30621   | SWITCHING DIODE 1N4148M               | 1        | 1        | 1        | 1        |
| D621                  | 4822 130 30621   | SWITCHING DIODE 1N4148M               | 1        | 1        | 1        | 1        |
| D701                  | 9965 000 09183   | ZENER DIODE DZ-33BSDT265              | 1        | 1        | 1        | 1        |
| <b>MISCELLANEOUS</b>  |                  |                                       |          |          |          |          |
| F001                  | ▲ 9965 000 12179 | FUSE 21301.6M                         | 1        | 1        | 1        | 1        |
| FH001                 | 4822 256 10461   | FUSE HOLDER MSF-015                   | 1        | 1        | 1        | 1        |
| FH002                 | 4822 256 10461   | FUSE HOLDER MSF-015                   | 1        | 1        | 1        | 1        |
| FP562                 | 9965 000 09307   | LED DISPLAY LFU-4421-2001A            | 1        | 1        | 1        | 1        |
| <b>IC's</b>           |                  |                                       |          |          |          |          |
| IC001                 | ▲ 4822 130 11655 | PHOTOCOUPLER LTV-817B-F               | 1        | 1        | 1        | 1        |
| IC301                 | 9965 000 12180   | IC:Y/C/A LA71750AM-MTB                | 1        | 1        | 1        | 1        |
| IC370                 | 9965 000 12255   | IC:SECAM LA70100M-TRM                 |          |          |          | 1        |
| IC451                 | 9965 000 12181   | IC:HIFI LA72646M-A-MPB                | 1        | 1        | 1        | 1        |
| IC501                 | 9965 000 12408   | MICROCONTROLLER 16BIT M37762MFA-1B7GP | 1        | 1        | 1        | 1        |
| IC503                 | 9965 000 12409   | IC:EEPROM M24C08-MN6T                 | 1        | 1        | 1        | 1        |
| IC561                 | 9965 000 12183   | IC:LED DRIVER PT6958-FN-TP            | 1        | 1        | 1        | 1        |
| IC771                 | 9965 000 12184   | IC:COMPARATOR KIA339F EL              | 1        | 1        | 1        | 1        |
| <b>MISCELLANEOUS</b>  |                  |                                       |          |          |          |          |
| JK756                 | 4822 265 11659   | RCA JACK(YELLOW) MSP-281V4-B          | 1        | 1        | 1        | 1        |
| JK757                 | 4822 265 11661   | RCA JACK(WHITE) MSP-281V1-B           | 1        | 1        | 1        | 1        |
| JK758                 | 9965 000 00423   | RCA JACK(RED) MSP-281V3-A             | 1        | 1        | 1        | 1        |
| JW001                 | 9965 000 12411   | FLAT CABLE, 11P AWG26#2651/P1.25/150  | 1        | 1        | 1        | 1        |
| JW002                 | 9965 000 12412   | FLAT CABLE, 12P AWG26#2651/P1.25/150  | 1        | 1        | 1        | 1        |
| JW003                 | 9965 000 12413   | FLAT CABLE, 2P AWG26#2651/P1.25/120   | 1        | 1        | 1        | 1        |
| <b>COILS</b>          |                  |                                       |          |          |          |          |
| L001                  | 4822 526 10685   | BEAD CORE B16 RH 3.5X10X1.3           | 1        | 1        | 1        | 1        |
| L002                  | 4822 526 10685   | BEAD CORE B16 RH 3.5X10X1.3           | 1        | 1        | 1        | 1        |
| L003                  | ▲ 9965 000 12188 | LINE FILTER 50MH LF-4Z-E503           | 1        | 1        | 1        | 1        |
| L009                  | 9965 000 05627   | CHOKE COIL 47UH-K                     | 1        | 1        | 1        | 1        |
| L010                  | 9965 000 05627   | CHOKE COIL 47UH-K                     | 1        | 1        | 1        | 1        |
| L012                  | 4822 157 10649   | INDUCTOR 100UH-K-26T                  | 1        | 1        | 1        | 1        |
| L251                  | 9965 000 08652   | INDUCTOR 5.6UH-K-26T                  | 1        | 1        | 1        | 1        |
| L301                  | 4822 157 63316   | INDUCTOR 56UH-K-26T                   | 1        | 1        | 1        | 1        |
| L370                  | 4822 157 10332   | PCB JUMPER D0.6-P5.0                  |          |          |          | 1        |
| L401                  | 9965 000 05627   | CHOKE COIL 47UH-K                     | 1        | 1        | 1        | 1        |
| L402                  | 9965 000 05627   | CHOKE COIL 47UH-K                     | 1        | 1        | 1        | 1        |
| L451                  | 4822 157 10649   | INDUCTOR 100UH-K-26T                  | 1        | 1        | 1        | 1        |
| L452                  | 4822 157 10347   | INDUCTOR 22UH-K-26T                   | 1        | 1        | 1        | 1        |
| L501                  | 4822 157 10649   | INDUCTOR 100UH-K-26T                  | 1        | 1        | 1        | 1        |
| L561                  | 4822 157 10649   | INDUCTOR 100UH-K-26T                  | 1        | 1        | 1        | 1        |

# ELECTRICAL PARTS LIST

| ELECTRICAL PARTS LIST |                |                                     | VR830/02 | VR830/07 | VR830/16 | VR830/39 |
|-----------------------|----------------|-------------------------------------|----------|----------|----------|----------|
| Pos.                  | ▲ 12 NC        | Description                         |          |          |          |          |
| L562                  | 4822 157 10332 | PCB JUMPER D0.6-P5.0                | 1        | 1        | 1        | 1        |
| L701                  | 4822 157 10889 | INDUCTOR 10UH-K-26T                 | 1        | 1        | 1        | 1        |
| L702                  | 9965 000 05627 | CHOKE COIL 47UH-K                   | 1        | 1        | 1        | 1        |
| L703                  | 4822 157 10332 | PCB JUMPER D0.6-P5.0                | 1        | 1        | 1        |          |
| L704                  | 4822 157 11511 | INDUCTOR 15UH-K-26T                 | 1        | 1        | 1        |          |
| L705                  | 4822 157 10332 | PCB JUMPER D0.6-P5.0                | 1        | 1        | 1        | 1        |
| L851                  | 9965 000 08629 | INDUCTOR 1.8UH-K-26T                | 1        | 1        | 1        | 1        |
| L853                  | 4822 157 10332 | PCB JUMPER D0.6-P5.0                | 1        | 1        | 1        | 1        |
| PS503                 | 9965 000 12189 | PHOTO INTERRUPTER RPI-302C70        | 1        | 1        | 1        | 1        |
| Q001                  | 9965 000 06568 | FET FS1KM-18A                       | 1        | 1        | 1        | 1        |
| Q002                  | 4822 130 10923 | TRANSISTOR KTC3199(BL)              | 1        | 1        | 1        | 1        |
| Q002                  | 4822 130 41319 | TRANSISTOR 2SC1815-BL(TPE2)         | 1        | 1        | 1        | 1        |
| Q003                  | 4822 130 10923 | TRANSISTOR KTC3199(BL)              | 1        | 1        | 1        | 1        |
| Q004                  | 4822 130 10103 | TRANSISTOR KTC3199(Y)               | 1        | 1        | 1        | 1        |
| Q051                  | 4822 130 42292 | RES. BUILT-IN TRANSISTOR KRA104M    | 1        | 1        | 1        | 1        |
| Q052                  | 4822 130 10098 | RES. BUILT-IN TRANSISTOR KRC103M    | 1        | 1        | 1        | 1        |
| Q053                  | 4822 130 10103 | TRANSISTOR KTC3199(Y)               | 1        | 1        | 1        | 1        |
| Q054                  | 9965 000 09389 | TRANSISTOR 2SD1246(T)               | 1        | 1        | 1        | 1        |
| Q056                  | 4822 130 10145 | RES. BUILT-IN TRANSISTOR KRA103M    | 1        | 1        | 1        | 1        |
| Q057                  | 9965 000 12190 | TRANSISTOR KTA1281(Y)               | 1        | 1        | 1        | 1        |
| Q058                  | 4822 130 10098 | RES. BUILT-IN TRANSISTOR KRC103M    | 1        | 1        | 1        | 1        |
| Q153                  | 4822 130 10103 | TRANSISTOR KTC3199(Y)               | 1        | 1        | 1        | 1        |
| Q351                  | 4822 130 42959 | TRANSISTOR KTA1266(GR)              | 1        | 1        | 1        | 1        |
| Q352                  | 4822 130 10103 | TRANSISTOR KTC3199(Y)               | 1        | 1        | 1        | 1        |
| Q401                  | 4822 130 42959 | TRANSISTOR KTA1266(GR)              | 1        | 1        | 1        | 1        |
| Q402                  | 4822 130 42292 | TRANSISTOR KTC3203(Y)               | 1        | 1        | 1        | 1        |
| Q403                  | 4822 130 10145 | RES. BUILT-IN TRANSISTOR KRA103M    | 1        | 1        | 1        | 1        |
| Q404                  | 4822 130 10103 | TRANSISTOR KTC3199(Y)               | 1        | 1        | 1        | 1        |
| Q405                  | 4822 130 10103 | TRANSISTOR KTC3199(Y)               | 1        | 1        | 1        | 1        |
| Q406                  | 4822 130 10103 | TRANSISTOR KTC3199(Y)               | 1        | 1        | 1        | 1        |
| Q451                  | 4822 130 10098 | RES. BUILT-IN TRANSISTOR KRC103M    | 1        | 1        | 1        | 1        |
| Q501                  | 4822 130 10923 | TRANSISTOR KTC3199(BL)              | 1        | 1        | 1        | 1        |
| Q502                  | 4822 130 10098 | RES. BUILT-IN TRANSISTOR KRC103M    | 1        | 1        | 1        | 1        |
| Q503                  | 9965 000 08630 | PHOTO TRANSISTOR PT204-6B-12        | 1        | 1        | 1        | 1        |
| Q551                  | 4822 130 10923 | TRANSISTOR KTC3199(BL)              | 1        | 1        | 1        | 1        |
| Q552                  | 4822 130 10098 | RES. BUILT-IN TRANSISTOR KRC103M    | 1        | 1        | 1        | 1        |
| Q621                  | 4822 130 10103 | TRANSISTOR KTC3199(Y)               | 1        | 1        | 1        | 1        |
| Q771                  | 4822 130 10103 | TRANSISTOR KTC3199(Y)               | 1        | 1        | 1        | 1        |
| Q772                  | 4822 130 10103 | TRANSISTOR KTC3199(Y)               | 1        | 1        | 1        | 1        |
| <b>RESISTORS</b>      |                |                                     |          |          |          |          |
| R001                  | 9965 000 08653 | CARBON RES. 1/2W K 5.6M OHM         | 1        | 1        | 1        | 1        |
| R002                  | 9965 000 08635 | METAL OXIDE FILM RES. 1W J 150K OHM | 1        | 1        | 1        | 1        |
| R003                  |                | CARBON RES. 1/4W J 1M OHM           | 1        | 1        | 1        | 1        |
| R004                  |                | CARBON RES. 1/4W J 1M OHM           | 1        | 1        | 1        | 1        |
| R005                  |                | CARBON RES. 1/6W G 1.5K OHM         | 1        | 1        | 1        | 1        |
| R006                  |                | METAL OXIDE FILM RES. 1W J 2.2 OHM  | 1        | 1        | 1        | 1        |
| R007                  |                | CARBON RES. 1/6W J 22K OHM          | 1        | 1        | 1        | 1        |
| R008                  |                | CARBON RES. 1/6W J 100K OHM         | 1        | 1        | 1        | 1        |
| R009                  |                | CARBON RES. 1/6W G 5.6K OHM         | 1        | 1        | 1        | 1        |
| R011                  |                | CARBON RES. 1/4W J 390K OHM         | 1        | 1        | 1        | 1        |
| R012                  |                | CARBON RES. 1/4W J 390K OHM         | 1        | 1        | 1        | 1        |
| R013                  |                | CARBON RES. 1/6W J 470K OHM         | 1        | 1        | 1        | 1        |
| R014                  |                | CARBON RES. 1/6W J 100K OHM         | 1        | 1        | 1        | 1        |
| R015                  |                | CHIP RES.(1608) 1/10W J 10K OHM     | 1        | 1        | 1        | 1        |
| R016                  |                | CARBON RES. 1/6W J 100K OHM         | 1        | 1        | 1        | 1        |
| R017                  |                | CHIP RES.(1608) 1/10W J 220K OHM    | 1        | 1        | 1        | 1        |
| R018                  |                | CHIP RES.(1608) 1/10W J 22K OHM     | 1        | 1        | 1        | 1        |
| R021                  |                | CHIP RES.(1608) 1/10W J 22K OHM     | 1        | 1        | 1        | 1        |
| R022                  |                | CHIP RES.(1608) 1/10W J 680 OHM     | 1        | 1        | 1        | 1        |
| R023                  |                | CHIP RES.(1608) 1/10W J 2.2K OHM    | 1        | 1        | 1        | 1        |
| R024                  |                | CHIP RES.(1608) 1/10W J 1K OHM      | 1        | 1        | 1        | 1        |
| R025                  |                | CHIP RES.(1608) 1/10W J 390 OHM     | 1        | 1        | 1        | 1        |
| R026                  |                | CHIP RES.(1608) 1/10W J 22K OHM     | 1        | 1        | 1        | 1        |

# ELECTRICAL PARTS LIST

| ELECTRICAL PARTS LIST |                |                                  | VR830/02 | VR830/07 | VR830/16 | VR830/39 |
|-----------------------|----------------|----------------------------------|----------|----------|----------|----------|
| Pos.                  | ▲ 12 NC        | Description                      |          |          |          |          |
| R027                  |                | CARBON RES. 1/6W J 1K OHM        | 1        | 1        | 1        | 1        |
| R028                  |                | CARBON RES. 1/4W J 1M OHM        | 1        | 1        | 1        | 1        |
| R035                  |                | PCB JUMPER D0.6-P5.0             | 1        | 1        | 1        | 1        |
| R054                  |                | CHIP RES.(1608) 1/10W J 180 OHM  | 1        | 1        | 1        | 1        |
| R060                  |                | CARBON RES. 1/6W J 2.7K OHM      | 1        | 1        | 1        | 1        |
| R061                  |                | CHIP RES.(1608) 1/10W J 22K OHM  | 1        | 1        | 1        | 1        |
| R062                  |                | CARBON RES. 1/4W J 10K OHM       | 1        | 1        | 1        | 1        |
| R063                  |                | CARBON RES. 1/4W J 1.2K OHM      | 1        | 1        | 1        | 1        |
| R064                  |                | CARBON RES. 1/4W J 1.2K OHM      | 1        | 1        | 1        | 1        |
| R065                  |                | CARBON RES. 1/4W J 1.2K OHM      | 1        | 1        | 1        | 1        |
| R066                  |                | CHIP RES.(1608) 1/10W J 47K OHM  | 1        | 1        | 1        | 1        |
| R067                  |                | CARBON RES. 1/4W J 680 OHM       | 1        | 1        | 1        | 1        |
| R068                  |                | CARBON RES. 1/4W J 680 OHM       | 1        | 1        | 1        | 1        |
| R070                  |                | CHIP RES.(1608) 1/10W J 4.7K OHM | 1        | 1        | 1        | 1        |
| R157                  |                | CARBON RES. 1/6W J 4.7K OHM      | 1        | 1        | 1        | 1        |
| R158                  |                | CHIP RES.(1608) 1/10W J 6.8K OHM | 1        | 1        | 1        | 1        |
| R251                  |                | CHIP RES.(1608) 1/10W J 2.2K OHM | 1        | 1        | 1        | 1        |
| R252                  |                | CHIP RES.(1608) 1/10W J 39K OHM  | 1        | 1        | 1        | 1        |
| R301                  |                | CHIP RES.(1608) 1/10W J 1.2K OHM | 1        | 1        | 1        | 1        |
| R302                  |                | CHIP RES.(1608) 1/10W J 8.2K OHM | 1        | 1        | 1        | 1        |
| R303                  |                | CHIP RES.(1608) 1/10W J 5.6K OHM |          |          |          | 1        |
| R304                  |                | CHIP RES.(1608) 1/10W J 3.9K OHM |          |          |          | 1        |
| R305                  |                | CHIP RES.(1608) 1/10W J 3.9K OHM | 1        | 1        | 1        | 1        |
| R306                  |                | CHIP RES.(1608) 1/10W 0 OHM      | 1        | 1        | 1        | 1        |
| R307                  |                | CHIP RES.(1608) 1/10W J 4.7K OHM | 1        | 1        | 1        | 1        |
| R308                  |                | CHIP RES.(1608) 1/10W J 6.8K OHM | 1        | 1        | 1        | 1        |
| R309                  |                | CHIP RES.(1608) 1/10W J 100 OHM  | 1        | 1        | 1        | 1        |
| R310                  |                | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R311                  |                | CHIP RES.(1608) 1/10W J 18K OHM  | 1        | 1        | 1        | 1        |
| R312                  |                | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R313                  |                | CHIP RES.(1608) 1/10W J 18K OHM  | 1        | 1        | 1        | 1        |
| R315                  |                | CARBON RES. 1/6W J 2.4K OHM      | 1        | 1        | 1        | 1        |
| R316                  |                | CHIP RES.(1608) 1/10W J 6.8K OHM | 1        | 1        | 1        | 1        |
| R317                  |                | CHIP RES.(1608) 1/10W J 1.2K OHM | 1        | 1        | 1        | 1        |
| R318                  |                | CHIP RES.(1608) 1/10W J 4.7K OHM | 1        | 1        | 1        | 1        |
| R319                  |                | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R320                  |                | CHIP RES.(1608) 1/10W J 560 OHM  | 1        | 1        | 1        | 1        |
| R321                  |                | CARBON RES. 1/6W J 33 OHM        | 1        | 1        | 1        | 1        |
| R322                  |                | CHIP RES.(1608) 1/10W J 75 OHM   | 1        | 1        | 1        | 1        |
| R323                  |                | CARBON RES. 1/6W J 33 OHM        | 1        | 1        | 1        | 1        |
| R324                  |                | CHIP RES.(1608) 1/10W J 39K OHM  | 1        | 1        | 1        | 1        |
| R328                  |                | CHIP RES.(1608) 1/10W J 1K OHM   | 1        | 1        | 1        | 1        |
| R330                  |                | CHIP RES.(1608) 1/10W J 5.6M OHM | 1        | 1        | 1        | 1        |
| R331                  |                | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R332                  |                | CHIP RES.(1608) 1/10W 0 OHM      | 1        | 1        | 1        | 1        |
| R333                  |                | CHIP INDUCTOR MLG1608B18NJB000   | 1        | 1        | 1        |          |
| R333                  | 9965 000 08652 | CHIP INDUCTOR MLG1608B18NJT000   | 1        | 1        | 1        |          |
| R333                  |                | CHIP RES.(1608) 1/10W 0 OHM      |          |          |          | 1        |
| R351                  |                | CHIP RES.(1608) 1/10W J 180 OHM  | 1        | 1        | 1        |          |
| R351                  |                | CHIP RES.(1608) 1/10W J 150 OHM  |          |          |          | 1        |
| R352                  |                | CHIP RES.(1608) 1/10W J 150 OHM  | 1        | 1        | 1        | 1        |
| R355                  |                | CARBON RES. 1/4W J 680 OHM       | 1        | 1        | 1        | 1        |
| R357                  |                | CHIP RES.(1608) 1/10W J 220 OHM  | 1        | 1        | 1        | 1        |
| R358                  |                | CHIP RES.(1608) 1/10W J 1.5K OHM | 1        | 1        | 1        |          |
| R360                  |                | CHIP RES.(1608) 1/10W J 1.8K OHM | 1        | 1        | 1        | 1        |
| R361                  |                | CHIP RES.(1608) 1/10W J 1K OHM   | 1        | 1        | 1        | 1        |
| R370                  |                | CHIP RES.(1608) 1/10W J 2.7K OHM |          |          |          | 1        |
| R371                  |                | CARBON RES. 1/6W J 5.6K OHM      |          |          |          | 1        |
| R372                  |                | CHIP RES.(1608) 1/10W J 3.9K OHM |          |          |          | 1        |
| R401                  |                | CHIP RES.(1608) 1/10W J 5.6K OHM | 1        | 1        | 1        | 1        |
| R402                  |                | CHIP RES.(1608) 1/10W J 22K OHM  | 1        | 1        | 1        | 1        |
| R403                  |                | CHIP RES.(1608) 1/10W J 47K OHM  | 1        | 1        | 1        | 1        |
| R404                  |                | CARBON RES. 1/6W J 100 OHM       | 1        | 1        | 1        | 1        |

# ELECTRICAL PARTS LIST

| ELECTRICAL PARTS LIST |         |                                  | VR830/02 | VR830/07 | VR830/16 | VR830/39 |
|-----------------------|---------|----------------------------------|----------|----------|----------|----------|
| Pos.                  | ▲ 12 NC | Description                      |          |          |          |          |
| R405                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R406                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R407                  |         | CARBON RES. 1/6W J 820 OHM       | 1        | 1        | 1        | 1        |
| R408                  |         | CHIP RES.(1608) 1/10W J 12K OHM  | 1        | 1        | 1        | 1        |
| R409                  |         | CHIP RES.(1608) 1/10W J 5.6K OHM | 1        | 1        | 1        | 1        |
| R411                  |         | CHIP RES.(1608) 1/10W J 1K OHM   | 1        | 1        | 1        | 1        |
| R412                  |         | CHIP RES.(1608) 1/10W J 27K OHM  | 1        | 1        | 1        | 1        |
| R413                  |         | CHIP RES.(1608) 1/10W J 330K OHM | 1        | 1        | 1        | 1        |
| R414                  |         | CHIP RES.(1608) 1/10W J 120 OHM  | 1        | 1        | 1        | 1        |
| R415                  |         | CHIP RES.(1608) 1/10W J 12K OHM  | 1        | 1        | 1        | 1        |
| R416                  |         | CHIP RES.(1608) 1/10W J 1.8K OHM | 1        | 1        | 1        | 1        |
| R417                  |         | CHIP RES.(1608) 1/10W J 1.2K OHM | 1        | 1        | 1        | 1        |
| R421                  |         | CHIP RES.(1608) 1/10W J 12K OHM  | 1        | 1        | 1        | 1        |
| R422                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R425                  |         | CHIP RES.(1608) 1/10W J 5.6K OHM | 1        | 1        | 1        | 1        |
| R426                  |         | CHIP RES.(1608) 1/10W J 4.7K OHM | 1        | 1        | 1        | 1        |
| R429                  |         | CHIP RES.(1608) 1/10W J 2.2K OHM | 1        | 1        | 1        | 1        |
| R430                  |         | CHIP RES.(1608) 1/10W 0 OHM      | 1        | 1        | 1        | 1        |
| R431                  |         | CHIP RES.(1608) 1/10W 0 OHM      | 1        | 1        | 1        | 1        |
| R451                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        |          |
| R452                  |         | CHIP RES.(1608) 1/10W J 22K OHM  | 1        | 1        | 1        | 1        |
| R453                  |         | CHIP RES.(1608) 1/10W J 6.8K OHM | 1        | 1        | 1        | 1        |
| R454                  |         | CHIP RES.(1608) 1/10W J 39K OHM  | 1        | 1        | 1        | 1        |
| R455                  |         | CHIP RES.(1608) 1/10W J 6.8K OHM | 1        | 1        | 1        | 1        |
| R456                  |         | CHIP RES.(1608) 1/10W J 8.2K OHM | 1        | 1        | 1        | 1        |
| R457                  |         | CHIP RES.(1608) 1/10W J 6.8K OHM | 1        | 1        | 1        | 1        |
| R458                  |         | CHIP RES.(1608) 1/10W J 39K OHM  | 1        | 1        | 1        | 1        |
| R459                  |         | CHIP RES.(1608) 1/10W J 6.8K OHM | 1        | 1        | 1        | 1        |
| R460                  |         | CHIP RES.(1608) 1/10W J 470 OHM  | 1        | 1        | 1        | 1        |
| R461                  |         | CHIP RES.(1608) 1/10W J 2.2K OHM | 1        | 1        | 1        | 1        |
| R462                  |         | CHIP RES.(1608) 1/10W J 39K OHM  | 1        | 1        | 1        | 1        |
| R463                  |         | CHIP RES.(1608) 1/10W J 8.2K OHM | 1        | 1        | 1        | 1        |
| R464                  |         | CHIP RES.(1608) 1/10W J 39K OHM  | 1        | 1        | 1        | 1        |
| R465                  |         | CHIP RES.(1608) 1/10W J 8.2K OHM | 1        | 1        | 1        | 1        |
| R466                  |         | CHIP RES.(1608) 1/10W J 39K OHM  | 1        | 1        | 1        | 1        |
| R467                  |         | CHIP RES.(1608) 1/10W J 6.8K OHM | 1        | 1        | 1        | 1        |
| R468                  |         | CARBON RES. 1/6W J 8.2K OHM      | 1        | 1        | 1        | 1        |
| R469                  |         | CHIP RES.(1608) 1/10W J 6.8K OHM | 1        | 1        | 1        | 1        |
| R470                  |         | CHIP RES.(1608) 1/10W J 39K OHM  | 1        | 1        | 1        | 1        |
| R471                  |         | CHIP RES.(1608) 1/10W J 6.8K OHM | 1        | 1        | 1        | 1        |
| R472                  |         | CHIP RES.(1608) 1/10W J 1K OHM   | 1        | 1        | 1        | 1        |
| R473                  |         | CHIP RES.(1608) 1/10W J 1K OHM   | 1        | 1        | 1        | 1        |
| R474                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R479                  |         | CHIP RES.(1608) 1/10W J 27K OHM  | 1        | 1        | 1        | 1        |
| R480                  |         | CHIP RES.(1608) 1/10W J 27K OHM  | 1        | 1        | 1        | 1        |
| R501                  |         | CHIP RES.(1608) 1/10W J 1K OHM   | 1        | 1        | 1        | 1        |
| R502                  |         | CHIP RES.(1608) 1/10W J 1K OHM   | 1        | 1        | 1        | 1        |
| R503                  |         | CHIP RES.(1608) 1/10W J 1K OHM   | 1        | 1        | 1        | 1        |
| R504                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R505                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R506                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R507                  |         | CHIP RES.(1608) 1/10W 0 OHM      | 1        | 1        | 1        | 1        |
| R508                  |         | CARBON RES. 1/6W J 1K OHM        | 1        | 1        | 1        | 1        |
| R509                  |         | CHIP RES.(1608) 1/10W J 4.7K OHM | 1        | 1        | 1        | 1        |
| R510                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        |          |
| R511                  |         | CHIP RES.(1608) 1/10W J 100K OHM | 1        | 1        | 1        | 1        |
| R513                  |         | CHIP RES.(1608) 1/10W J 2.2K OHM | 1        | 1        | 1        | 1        |
| R514                  |         | CHIP RES.(1608) 1/10W J 820 OHM  | 1        | 1        | 1        | 1        |
| R516                  |         | CHIP RES.(1608) 1/10W J 330K OHM | 1        | 1        | 1        | 1        |
| R517                  |         | CHIP RES.(1608) 1/10W J 220 OHM  | 1        | 1        | 1        | 1        |
| R518                  |         | CHIP RES.(1608) 1/10W J 470 OHM  | 1        | 1        | 1        | 1        |
| R519                  |         | CHIP RES.(1608) 1/10W 0 OHM      | 1        | 1        | 1        | 1        |
| R520                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |

# ELECTRICAL PARTS LIST

| ELECTRICAL PARTS LIST |         |                                  | VR830/02 | VR830/07 | VR830/16 | VR830/39 |
|-----------------------|---------|----------------------------------|----------|----------|----------|----------|
| Pos.                  | ▲ 12 NC | Description                      |          |          |          |          |
| R521                  |         | CHIP RES.(1608) 1/10W J 220K OHM | 1        | 1        | 1        | 1        |
| R522                  |         | CHIP RES.(1608) 1/10W J 68K OHM  | 1        | 1        | 1        | 1        |
| R523                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R524                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R525                  |         | CHIP RES.(1608) 1/10W J 1.5K OHM | 1        | 1        | 1        | 1        |
| R526                  |         | CHIP RES.(1608) 1/10W J 1.8K OHM | 1        | 1        | 1        | 1        |
| R527                  |         | CHIP RES.(1608) 1/10W J 680 OHM  | 1        | 1        | 1        | 1        |
| R528                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R529                  |         | CARBON RES. 1/4W J 270 OHM       | 1        | 1        | 1        | 1        |
| R530                  |         | CHIP RES.(1608) 1/10W J 180 OHM  | 1        | 1        | 1        | 1        |
| R531                  |         | CHIP RES.(1608) 1/10W J 68K OHM  | 1        | 1        | 1        | 1        |
| R533                  |         | CHIP RES.(1608) 1/10W J 33K OHM  | 1        | 1        | 1        | 1        |
| R534                  |         | CARBON RES. 1/6W G 3.6K OHM      | 1        | 1        | 1        | 1        |
| R535                  |         | CARBON RES. 1/6W G 10K OHM       | 1        | 1        | 1        | 1        |
| R536                  |         | CARBON RES. 1/6W G 470 OHM       | 1        | 1        | 1        | 1        |
| R537                  |         | CARBON RES. 1/6W G 22K OHM       | 1        | 1        | 1        | 1        |
| R538                  |         | CARBON RES. 1/6W G 1.5K OHM      | 1        | 1        | 1        | 1        |
| R539                  |         | CARBON RES. 1/6W G 4.7K OHM      | 1        | 1        | 1        | 1        |
| R540                  |         | CHIP RES.(1608) 1/10W J 390K OHM | 1        | 1        | 1        | 1        |
| R541                  |         | CHIP RES.(1608) 1/10W J 390K OHM | 1        | 1        | 1        | 1        |
| R542                  |         | CHIP RES.(1608) 1/10W J 1.2K OHM | 1        | 1        | 1        | 1        |
| R543                  |         | CHIP RES.(1608) 1/10W 0 OHM      | 1        | 1        | 1        | 1        |
| R544                  |         | CHIP RES.(1608) 1/10W J 1.5K OHM | 1        | 1        | 1        | 1        |
| R545                  |         | CHIP RES.(1608) 1/10W J 2.2K OHM | 1        | 1        | 1        | 1        |
| R546                  |         | CHIP RES.(1608) 1/10W J 1.8K OHM | 1        | 1        | 1        | 1        |
| R547                  |         | CHIP RES.(1608) 1/10W J 2.7K OHM | 1        | 1        | 1        | 1        |
| R551                  |         | CHIP RES.(1608) 1/10W J 100 OHM  | 1        | 1        | 1        | 1        |
| R552                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R555                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        |          | 1        |          |
| R556                  |         | CHIP RES.(1608) 1/10W J 10K OHM  |          | 1        |          | 1        |
| R557                  |         | CHIP RES.(1608) 1/10W J 10K OHM  |          |          |          | 1        |
| R558                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        |          |
| R566                  |         | CHIP RES.(1608) 1/10W J 56K OHM  | 1        | 1        | 1        | 1        |
| R603                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R612                  |         | CHIP RES.(1608) 1/10W J 10K OHM  | 1        | 1        | 1        | 1        |
| R621                  |         | CHIP RES.(1608) 1/10W J 100K OHM | 1        | 1        | 1        | 1        |
| R622                  |         | CHIP RES.(1608) 1/10W J 33K OHM  | 1        | 1        | 1        | 1        |
| R623                  |         | CHIP RES.(1608) 1/10W J 220 OHM  | 1        | 1        | 1        | 1        |
| R624                  |         | CHIP RES.(1608) 1/10W J 6.8K OHM | 1        | 1        | 1        | 1        |
| R625                  |         | CHIP RES.(1608) 1/10W J 27K OHM  | 1        | 1        | 1        | 1        |
| R701                  |         | CARBON RES. 1/6W J 1.8K OHM      | 1        | 1        | 1        | 1        |
| R702                  |         | CARBON RES. 1/6W J 1K OHM        | 1        | 1        | 1        | 1        |
| R703                  |         | CARBON RES. 1/6W J 1K OHM        | 1        | 1        | 1        | 1        |
| R706                  |         | CARBON RES. 1/6W J 1K OHM        | 1        | 1        | 1        | 1        |
| R756                  |         | PCB JUMPER D0.6-P5.0             | 1        | 1        | 1        | 1        |
| R757                  |         | CHIP RES.(1608) 1/10W J 75 OHM   | 1        | 1        | 1        | 1        |
| R758                  |         | CARBON RES. 1/6W J 4.7K OHM      | 1        | 1        | 1        | 1        |
| R759                  |         | CARBON RES. 1/6W J 4.7K OHM      | 1        | 1        | 1        | 1        |
| R771                  |         | CHIP RES.(1608) 1/10W J 4.7K OHM | 1        | 1        | 1        | 1        |
| R772                  |         | CHIP RES.(1608) 1/10W J 100K OHM | 1        | 1        | 1        | 1        |
| R773                  |         | CHIP RES.(1608) 1/10W J 4.7K OHM | 1        | 1        | 1        | 1        |
| R774                  |         | CHIP RES.(1608) 1/10W J 22K OHM  | 1        | 1        | 1        | 1        |
| R775                  |         | CHIP RES.(1608) 1/10W J 15K OHM  | 1        | 1        | 1        | 1        |
| R776                  |         | CHIP RES.(1608) 1/10W J 8.2K OHM | 1        | 1        | 1        | 1        |
| R777                  |         | CHIP RES.(1608) 1/10W J 8.2K OHM | 1        | 1        | 1        | 1        |
| R778                  |         | CHIP RES.(1608) 1/10W J 33K OHM  | 1        | 1        | 1        | 1        |
| R779                  |         | CHIP RES.(1608) 1/10W J 33K OHM  | 1        | 1        | 1        | 1        |
| R780                  |         | CHIP RES.(1608) 1/10W J 33K OHM  | 1        | 1        | 1        | 1        |
| R781                  |         | CHIP RES.(1608) 1/10W J 15K OHM  | 1        | 1        | 1        | 1        |
| R782                  |         | CHIP RES.(1608) 1/10W J 33K OHM  | 1        | 1        | 1        | 1        |
| R783                  |         | CHIP RES.(1608) 1/10W J 15K OHM  | 1        | 1        | 1        | 1        |
| R784                  |         | CHIP RES.(1608) 1/10W J 10M OHM  | 1        | 1        | 1        | 1        |
| R785                  |         | CHIP RES.(1608) 1/10W J 10M OHM  | 1        | 1        | 1        | 1        |



| ELECTRICAL PARTS LIST |                  |                                     | VR830/02 | VR830/07 | VR830/16 | VR830/39 |
|-----------------------|------------------|-------------------------------------|----------|----------|----------|----------|
| Pos.                  | ▲ 12 NC          | Description                         |          |          |          |          |
| R786                  |                  | CHIP RES.(1608) 1/10W J 2.2K OHM    | 1        | 1        | 1        | 1        |
| R787                  |                  | CHIP RES.(1608) 1/10W J 2.2K OHM    | 1        | 1        | 1        | 1        |
| R851                  |                  | CHIP RES.(1608) 1/10W J 1.5K OHM    | 1        | 1        | 1        | 1        |
| R852                  |                  | CHIP RES.(1608) 1/10W J 1K OHM      | 1        | 1        | 1        | 1        |
| R853                  |                  | CHIP RES.(1608) 1/10W J 1K OHM      | 1        | 1        | 1        | 1        |
| <b>MISCELLANEOUS</b>  |                  |                                     |          |          |          |          |
| RS501                 | 9965 000 12287   | REMOTE RECEIVER MIM-93M9DKF         | 1        | 1        | 1        | 1        |
| SA001                 | ▲ 4822 252 11373 | SURGE ABSORBER JVR-10N471K          | 1        | 1        | 1        | 1        |
| <b>SWITCHES</b>       |                  |                                     |          |          |          |          |
| SW501                 | 4822 276 13954   | TACT SWITCH KSM0614B                | 1        | 1        | 1        | 1        |
| SW502                 | 4822 276 13954   | TACT SWITCH KSM0614B                | 1        | 1        | 1        | 1        |
| SW504                 | 4822 276 13954   | TACT SWITCH KSM0614B                | 1        | 1        | 1        | 1        |
| SW505                 | 4822 276 13954   | TACT SWITCH KSM0614B                | 1        | 1        | 1        | 1        |
| SW506                 | 9965 000 12285   | LEAF SWITCH LSA-1142AU              | 1        | 1        | 1        | 1        |
| SW507                 | 9965 000 08561   | ROTARY MODE SWITCH SSS-43MD         | 1        | 1        | 1        | 1        |
| T001                  | ▲ 9965 000 09203 | PULSE TRANS SA-00901B               | 1        | 1        | 1        | 1        |
| TP301                 |                  | PCB JUMPER D0.6-P9.5                | 1        | 1        | 1        | 1        |
| TP501                 |                  | PCB JUMPER D0.6-P6.0                | 1        | 1        | 1        | 1        |
| TP502                 |                  | PCB JUMPER D0.6-P10.0               | 1        | 1        | 1        | 1        |
| TP506                 |                  | PCB JUMPER D0.6-P5.0                | 1        | 1        | 1        | 1        |
| TP507                 |                  | PCB JUMPER D0.6-P6.0                | 1        | 1        | 1        | 1        |
| TP508                 |                  | PCB JUMPER D0.6-P23.0               | 1        | 1        | 1        | 1        |
| TP751                 |                  | PCB JUMPER D0.6-P5.0                | 1        | 1        | 1        | 1        |
| TU701                 | 9965 000 12265   | TUNER UNIT TMDG2-631A               | 1        |          | 1        |          |
| TU701                 | 9965 000 12193   | TUNER UNIT TMDG2-632A               |          | 1        |          |          |
| TU701                 | 9965 000 12256   | TUNER UNIT TMDZ2-731A               |          |          |          | 1        |
| VR501                 | 9965 000 05260   | CARBON P.O.T. 100K OHM B            | 1        | 1        | 1        | 1        |
| X301                  | 9965 000 05629   | XTAL 4.433619MHZ                    | 1        | 1        | 1        | 1        |
| X501                  | 9965 000 12194   | XTAL 12.000MHZ                      | 1        | 1        | 1        | 1        |
| X502                  | 9965 000 12288   | XTAL 32.768KHZ(20PPM)               | 1        | 1        | 1        | 1        |
| <b>VPS CBA</b>        |                  |                                     |          |          |          |          |
| <b>CAPACITORS</b>     |                  |                                     |          |          |          |          |
| C640                  |                  | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C642                  |                  | SEMICONDUCTOR CAP. SR K 0.056UF/25V | 1        | 1        | 1        | 1        |
| C643                  |                  | ELECTROLYTIC CAP. 4.7UF/25V M H7    | 1        | 1        | 1        | 1        |
| C644                  |                  | ELECTROLYTIC CAP. 47UF/6.3V M H7    | 1        | 1        | 1        | 1        |
| C645                  |                  | CHIP CERAMIC CAP. B K 0.01UF/50V    | 1        | 1        | 1        | 1        |
| C648                  |                  | ELECTROLYTIC CAP. 1UF/50V M H7      | 1        | 1        | 1        | 1        |
| C649                  |                  | ELECTROLYTIC CAP. 1UF/50V M H7      | 1        | 1        | 1        | 1        |
| <b>IC's</b>           |                  |                                     |          |          |          |          |
| IC640                 | 9965 000 12198   | IC:VPS/PDC SLICER LC74793JM-TRM     | 1        | 1        | 1        | 1        |
| <b>RESISTORS</b>      |                  |                                     |          |          |          |          |
| R638                  |                  | CHIP RES.(1608) 1/10W J 100 OHM     | 1        | 1        | 1        | 1        |
| R641                  |                  | CHIP RES.(1608) 1/10W J 10K OHM     | 1        | 1        | 1        | 1        |
| R642                  |                  | CHIP RES.(1608) 1/10W J 2.7K OHM    | 1        | 1        | 1        | 1        |
| R643                  |                  | CHIP RES.(1608) 1/10W J 5.6K OHM    | 1        | 1        | 1        | 1        |
| R644                  |                  | CHIP RES.(1608) 1/10W J 10K OHM     | 1        | 1        | 1        | 1        |
| R645                  |                  | CHIP RES.(1608) 1/10W J 10K OHM     | 1        | 1        | 1        | 1        |
| <b>POWER SW CBA</b>   |                  |                                     |          |          |          |          |
| SW510                 | 4822 276 13954   | TACT SWITCH KSM0614B                | 1        | 1        | 1        | 1        |
| <b>JACK CBA</b>       |                  |                                     |          |          |          |          |
| 2L022                 | 4822 502 30752   | SCREW, P-TIGHT M3X10 WASHER HEAD+   | 1        | 1        | 1        | 1        |
| A5                    | 9965 000 12263   | JACK BOARD(2-21P) HC470ED           | 1        | 1        | 1        | 1        |
| <b>CAPACITORS</b>     |                  |                                     |          |          |          |          |
| C101                  |                  | CHIP CERAMIC CAP. B K 2200PF/50V    | 1        | 1        | 1        | 1        |
| C102                  |                  | CHIP CERAMIC CAP. B K 2200PF/50V    | 1        | 1        | 1        | 1        |
| C103                  |                  | CHIP CERAMIC CAP. CH J 470PF/50V    | 1        | 1        | 1        | 1        |
| C104                  |                  | CHIP CERAMIC CAP. CH J 470PF/50V    | 1        | 1        | 1        | 1        |
| C105                  |                  | CHIP CERAMIC CAP. F Z 0.1UF/50V     | 1        | 1        | 1        | 1        |
| C107                  |                  | ELECTROLYTIC CAP. 1UF/50V M H7      | 1        | 1        | 1        | 1        |
| C108                  |                  | CHIP CERAMIC CAP. B K 1000PF/50V    | 1        | 1        | 1        | 1        |
| C109                  |                  | CHIP CERAMIC CAP. B K 2200PF/50V    | 1        | 1        | 1        | 1        |
| C110                  |                  | CHIP CERAMIC CAP. B K 2200PF/50V    | 1        | 1        | 1        | 1        |

| ELECTRICAL PARTS LIST |                |                                     | VR830/02 | VR830/07 | VR830/16 | VR830/39 |
|-----------------------|----------------|-------------------------------------|----------|----------|----------|----------|
| Pos.                  | ▲ 12 NC        | Description                         |          |          |          |          |
| C111                  |                | CHIP CERAMIC CAP. CH J 470PF/50V    | 1        | 1        | 1        | 1        |
| C112                  |                | CHIP CERAMIC CAP. CH J 470PF/50V    | 1        | 1        | 1        | 1        |
| C113                  |                | CHIP CERAMIC CAP. B K 2200PF/50V    | 1        | 1        | 1        | 1        |
| C115                  |                | ELECTROLYTIC CAP. 100UF/16V M H7    | 1        | 1        | 1        | 1        |
| C116                  |                | ELECTROLYTIC CAP. 470UF/6.3V M      | 1        | 1        | 1        | 1        |
| C117                  |                | ELECTROLYTIC CAP. 470UF/6.3V M      | 1        | 1        | 1        | 1        |
| <b>DIODES</b>         |                |                                     |          |          |          |          |
| D101                  | 9965 000 12178 | ZENER DIODE DZ-11BSAT265            | 1        | 1        | 1        | 1        |
| D102                  | 9965 000 12178 | ZENER DIODE DZ-11BSAT265            | 1        | 1        | 1        | 1        |
| D103                  | 9965 000 12178 | ZENER DIODE DZ-11BSAT265            | 1        | 1        | 1        | 1        |
| D105                  | 9965 000 12178 | ZENER DIODE DZ-11BSAT265            | 1        | 1        | 1        | 1        |
| JK101                 | 9965 000 12197 | RGB CONNECTOR MRC-021V-01           | 1        | 1        | 1        | 1        |
| JK102                 | 9965 000 12197 | RGB CONNECTOR MRC-021V-01           | 1        | 1        | 1        | 1        |
| <b>COILS</b>          |                |                                     |          |          |          |          |
| L101                  | 4822 526 10685 | BEAD CORE B16 RH 3.5X10X1.3         | 1        | 1        | 1        | 1        |
| L101                  | 4822 526 10685 | BEAD CORE HF70BB3.5X10X1.3          | 1        | 1        | 1        | 1        |
| L121                  | 4822 526 10685 | BEAD CORE B16 RH 3.5X10X1.3         | 1        | 1        | 1        | 1        |
| L121                  | 4822 526 10685 | BEAD CORE HF70BB3.5X10X1.3          | 1        | 1        | 1        | 1        |
| <b>TRANSISTORS</b>    |                |                                     |          |          |          |          |
| Q101                  | 4822 130 42959 | TRANSISTOR KTA1266(GR)              | 1        | 1        | 1        | 1        |
| Q101                  | 4822 130 11101 | TRANSISTOR 2SA1015-GR(TPE2)         | 1        | 1        | 1        | 1        |
| Q102                  | 4822 130 42959 | TRANSISTOR KTA1266(GR)              | 1        | 1        | 1        | 1        |
| Q102                  | 4822 130 11101 | TRANSISTOR 2SA1015-GR(TPE2)         | 1        | 1        | 1        | 1        |
| <b>RESISTORS</b>      |                |                                     |          |          |          |          |
| R101                  |                | CARBON RES. 1/4W J 1K OHM           | 1        | 1        | 1        | 1        |
| R103                  |                | CARBON RES. 1/4W J 1K OHM           | 1        | 1        | 1        | 1        |
| R104                  |                | CARBON RES. 1/6W J 4.7K OHM         | 1        | 1        | 1        | 1        |
| R106                  |                | CARBON RES. 1/6W J 4.7K OHM         | 1        | 1        | 1        | 1        |
| R108                  |                | CARBON RES. 1/4W J 68 OHM           | 1        | 1        | 1        | 1        |
| R109                  |                | CHIP RES.(1608) 1/10W J 75 OHM      | 1        | 1        | 1        | 1        |
| R110                  |                | CARBON RES. 1/4W J 1K OHM           | 1        | 1        | 1        | 1        |
| R112                  |                | CARBON RES. 1/4W J 1K OHM           | 1        | 1        | 1        | 1        |
| R113                  |                | CARBON RES. 1/6W J 4.7K OHM         | 1        | 1        | 1        | 1        |
| R115                  |                | CARBON RES. 1/6W J 4.7K OHM         | 1        | 1        | 1        | 1        |
| R116                  |                | CARBON RES. 1/6W J 15K OHM          | 1        | 1        | 1        | 1        |
| R117                  |                | CHIP RES.(1608) 1/10W J 10K OHM     | 1        | 1        | 1        | 1        |
| R118                  |                | CARBON RES. 1/4W J 68 OHM           | 1        | 1        | 1        | 1        |
| R119                  |                | CHIP RES.(1608) 1/10W J 75 OHM      | 1        | 1        | 1        | 1        |
| R120                  |                | CARBON RES. 1/6W J 680 OHM          | 1        | 1        | 1        | 1        |
| R123                  |                | CHIP RES.(1608) 1/10W J 220 OHM     | 1        | 1        | 1        | 1        |
| R125                  |                | CARBON RES. 1/6W J 680 OHM          | 1        | 1        | 1        | 1        |
| R126                  |                | CHIP RES.(1608) 1/10W J 220 OHM     | 1        | 1        | 1        | 1        |
| R127                  |                | CHIP RES.(1608) 1/10W 0 OHM         | 1        | 1        | 1        | 1        |
| R128                  |                | CHIP RES.(1608) 1/10W 0 OHM         | 1        | 1        | 1        | 1        |
| <b>SENSOR CBA</b>     |                |                                     |          |          |          |          |
| Q504                  | 9965 000 08630 | PHOTO TRANSISTOR PT204-6B-12        | 1        | 1        | 1        | 1        |
| Q505                  | 9965 000 08630 | PHOTO TRANSISTOR PT204-6B-12        | 1        | 1        | 1        | 1        |
| <b>SMV CBA</b>        |                |                                     |          |          |          |          |
| C631                  |                | ELECTROLYTIC CAP. 100UF/6.3V M      | 1        | 1        | 1        | 1        |
| C632                  |                | CERAMIC CAP.(AX) F Z 0.1UF/50V      | 1        | 1        | 1        | 1        |
| <b>DIODES</b>         |                |                                     |          |          |          |          |
| D631                  | 4822 130 30621 | SWITCHING DIODE 1N4148M             | 1        | 1        | 1        | 1        |
| D632                  | 4822 130 30621 | SWITCHING DIODE 1N4148M             | 1        | 1        | 1        | 1        |
| D633                  | 9965 000 12177 | ZENER DIODE DZ-6.8BSCT265           | 1        | 1        | 1        | 1        |
| D634                  | 9965 000 12177 | ZENER DIODE DZ-6.8BSCT265           | 1        | 1        | 1        | 1        |
| JK631                 | 9965 000 12415 | MINIATURE JACK WTJ035-10DBT         | 1        | 1        | 1        | 1        |
| JW004                 | 9965 000 12414 | FLAT CABLE, 3P AWG26#2651/P1.25/150 | 1        | 1        | 1        | 1        |
| <b>TRANSISTORS</b>    |                |                                     |          |          |          |          |
| Q631                  | 4822 130 42959 | TRANSISTOR KTA1266(GR)              | 1        | 1        | 1        | 1        |
| <b>RESISTORS</b>      |                |                                     |          |          |          |          |
| R631                  |                | CARBON RES. 1/6W J 4.7K OHM         | 1        | 1        | 1        | 1        |
| R632                  |                | CARBON RES. 1/6W J 2.2K OHM         | 1        | 1        | 1        | 1        |
| R633                  |                | CARBON RES. 1/6W J 47K OHM          | 1        | 1        | 1        | 1        |

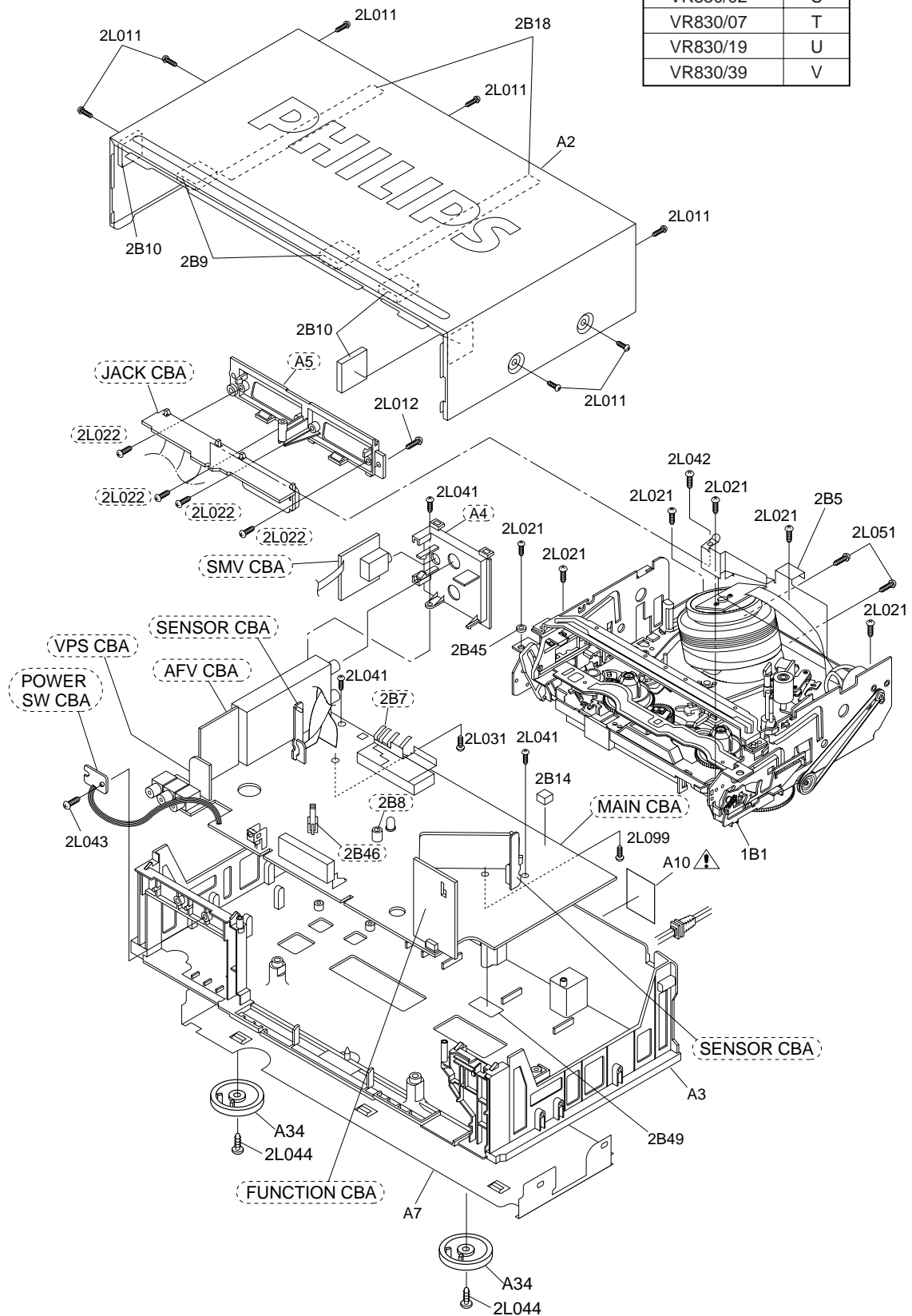
| ELECTRICAL PARTS LIST |                |                                       | VR830/02 | VR830/07 | VR830/16 | VR830/39 |
|-----------------------|----------------|---------------------------------------|----------|----------|----------|----------|
| Pos.                  | ▲ 12 NC        | Description                           |          |          |          |          |
| R634                  |                | CARBON RES. 1/6W J 1.5K OHM           | 1        | 1        | 1        | 1        |
| <b>FUNCTION CBA</b>   |                |                                       |          |          |          |          |
| CN651                 | 9965 000 09213 | ANGLE PIN HEADER, 3P 6029B-1-03Z002-T | 1        | 1        | 1        | 1        |
| <b>RESISTORS</b>      |                |                                       |          |          |          |          |
| R652                  |                | CARBON RES. 1/6W J 1K OHM             | 1        | 1        | 1        | 1        |
| R653                  |                | CARBON RES. 1/6W J 1.2K OHM           | 1        | 1        | 1        | 1        |
| R654                  |                | CARBON RES. 1/6W J 1.5K OHM           | 1        | 1        | 1        | 1        |
| R655                  |                | CARBON RES. 1/6W J 2.2K OHM           | 1        | 1        | 1        | 1        |
| R668                  |                | CARBON RES. 1/6W J 3.9K OHM           | 1        | 1        | 1        | 1        |
| <b>SWITCHES</b>       |                |                                       |          |          |          |          |
| SW672                 | 4822 276 13954 | TACT SWITCH KSM0614B                  | 1        | 1        | 1        | 1        |
| SW681                 | 4822 276 13954 | TACT SWITCH KSM0614B                  | 1        | 1        | 1        | 1        |
| SW683                 | 4822 276 13954 | TACT SWITCH KSM0614B                  | 1        | 1        | 1        | 1        |
| SW684                 | 4822 276 13954 | TACT SWITCH KSM0614B                  | 1        | 1        | 1        | 1        |
| SW685                 | 4822 276 13954 | TACT SWITCH KSM0614B                  | 1        | 1        | 1        | 1        |
| <b>AFV CBA</b>        |                |                                       |          |          |          |          |
| <b>CAPACITORS</b>     |                |                                       |          |          |          |          |
| C1                    |                | CHIP CERAMIC CAP. F Z 0.1UF/50V       | 1        | 1        | 1        | 1        |
| C4                    |                | CHIP CERAMIC CAP. CH J 56PF/50V       | 1        | 1        | 1        | 1        |
| C5                    |                | CHIP CERAMIC CAP. CH J 22PF/50V       | 1        | 1        | 1        | 1        |
| C6                    |                | CHIP CERAMIC CAP. CH J 56PF/50V       | 1        | 1        | 1        | 1        |
| C7                    |                | CHIP CERAMIC CAP. CH D 3PF/50V        | 1        | 1        | 1        | 1        |
| C8                    |                | CHIP CERAMIC CAP. CH D 3PF/50V        | 1        | 1        | 1        | 1        |
| C11                   |                | CHIP CERAMIC CAP. B K 0.01UF/50V      | 1        | 1        | 1        | 1        |
| C12                   |                | ELECTROLYTIC CAP. 10UF/16V M H7       | 1        | 1        | 1        | 1        |
| C13                   |                | CHIP CERAMIC CAP. B K 0.01UF/50V      | 1        | 1        | 1        | 1        |
| C14                   |                | CHIP CERAMIC CAP. B K 0.01UF/50V      | 1        | 1        | 1        | 1        |
| C15                   |                | ELECTROLYTIC CAP. 10UF/16V M H7       | 1        | 1        | 1        | 1        |
| C16                   |                | ELECTROLYTIC CAP. 10UF/16V M H7       | 1        | 1        | 1        | 1        |
| C17                   |                | CHIP CERAMIC CAP. F Z 0.1UF/50V       | 1        | 1        | 1        | 1        |
| C19                   |                | CHIP CERAMIC CAP. F Z 0.1UF/50V       | 1        | 1        | 1        | 1        |
| C20                   |                | ELECTROLYTIC CAP. 3.3UF/50V M H7      | 1        | 1        | 1        | 1        |
| C21                   |                | CHIP CERAMIC CAP. F Z 0.1UF/50V       | 1        | 1        | 1        | 1        |
| C22                   |                | ELECTROLYTIC CAP. 10UF/16V M H7       | 1        | 1        | 1        | 1        |
| C23                   |                | CHIP CERAMIC CAP. F Z 0.47UF/10V      |          |          |          | 1        |
| C24                   |                | ELECTROLYTIC CAP. 0.22UF/50V M H7     | 1        | 1        | 1        | 1        |
| <b>MISCELLANEOUS</b>  |                |                                       |          |          |          |          |
| CN1                   | 4822 265 11267 | ANGLE PIN HEADER, 9P 6029B-1-09Z003-T | 1        | 1        | 1        | 1        |
| <b>DIODES</b>         |                |                                       |          |          |          |          |
| D2                    | 4822 130 30621 | SWITCHING DIODE 1N4148M               | 1        | 1        | 1        | 1        |
| IC1                   | 9965 000 12274 | IC:AUDIO PROCESSOR MSP3407G-QG-B8     | 1        |          |          |          |
| IC1                   | 9965 000 12199 | IC:AUDIO PROCESSOR MSP3417G-QG-B8     |          | 1        | 1        | 1        |
| L1                    | 4822 157 10889 | INDUCTOR 10UH-K-26T                   | 1        | 1        | 1        | 1        |
| L2                    | 4822 157 10332 | PCB JUMPER D0.6-P5.0                  | 1        | 1        | 1        | 1        |
| L3                    | 4822 157 11318 | INDUCTOR 18UH-K-26T                   | 1        | 1        | 1        | 1        |
| L4                    | 4822 157 10889 | INDUCTOR 10UH-K-26T                   | 1        | 1        | 1        | 1        |
| <b>RESISTORS</b>      |                |                                       |          |          |          |          |
| R1                    |                | CHIP RES.(1608) 1/10W J 1K OHM        | 1        | 1        | 1        | 1        |
| R2                    |                | CHIP RES.(1608) 1/10W 0 OHM           |          |          |          | 1        |
| R4                    |                | CHIP RES.(1608) 1/10W J 120K OHM      | 1        | 1        | 1        | 1        |
| R5                    |                | CHIP RES.(1608) 1/10W 0 OHM           | 1        | 1        | 1        | 1        |
| R6                    |                | CHIP RES.(1608) 1/10W 0 OHM           | 1        | 1        | 1        | 1        |
| R7                    |                | CHIP RES.(1608) 1/10W J 1.2K OHM      |          |          |          | 1        |
| X1                    | 9965 000 12200 | XTAL 18.432MHZ                        | 1        | 1        | 1        | 1        |

# [ VR830/02, VR830/07, VR830/16, VR830/39 ]

## Cabinet

Comparison Chart of Models and Marks

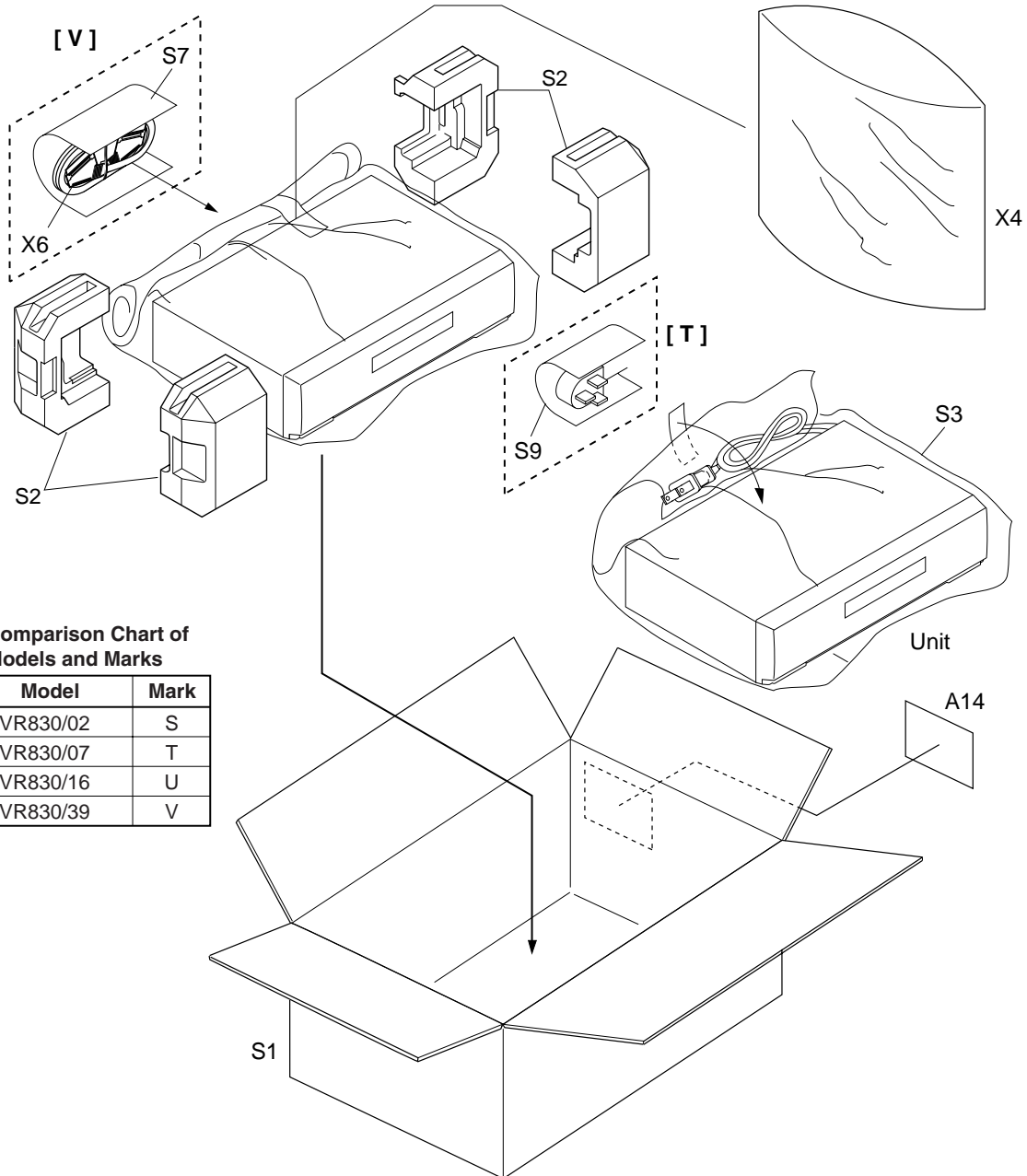
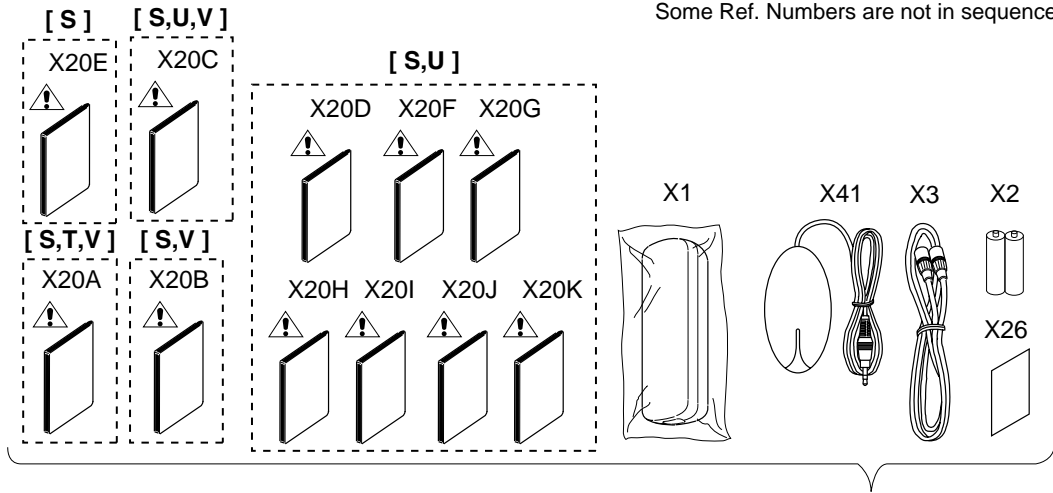
| Model    | Mark |
|----------|------|
| VR830/02 | S    |
| VR830/07 | T    |
| VR830/19 | U    |
| VR830/39 | V    |



[ VR830/02, VR830/07, VR830/16, VR830/39 ]

Packing

Some Ref. Numbers are not in sequence.



Comparison Chart of Models and Marks

| Model    | Mark |
|----------|------|
| VR830/02 | S    |
| VR830/07 | T    |
| VR830/16 | U    |
| VR830/39 | V    |

**PRODUCT SAFETY NOTE:** Products marked with a ▲

have special characteristics important to safety.  
 Before replacing any of these components, read carefully  
 the product safety notice in this service manual.  
 Dont degrade the safety of the product through improper servicing.

| <b>MECHANICAL PARTS LIST</b> |                |                                   | <b>VR830/02</b> | <b>VR830/07</b> | <b>VR830/16</b> | <b>VR830/39</b> |
|------------------------------|----------------|-----------------------------------|-----------------|-----------------|-----------------|-----------------|
| <b>Pos.</b>                  | <b>▲ 12 NC</b> | <b>Description</b>                |                 |                 |                 |                 |
| A1X                          | 9965 000 12401 | FRONT ASSEMBLY HC480ED            | 1               |                 |                 |                 |
| A1X                          | 9965 000 12417 | FRONT ASSEMBLY HC481BD            |                 | 1               |                 |                 |
| A1X                          | 9965 000 12418 | FRONT ASSEMBLY HC482ED            |                 |                 | 1               |                 |
| A1X                          | 9965 000 12419 | FRONT ASSEMBLY HC483FD            |                 |                 |                 | 1               |
| A2                           | 9965 000 12258 | CASE, TOP HC470ED                 | 1               | 1               | 1               | 1               |
| A3                           | 9965 000 12398 | CHASSIS HC480ED                   | 1               | 1               | 1               | 1               |
| A7                           | 9965 000 12260 | PANEL, BOTTOM HC470ED             | 1               | 1               | 1               | 1               |
| A10                          | ▲              | LABEL, RATING HC480ED             | 1               |                 |                 |                 |
| A10                          | ▲              | LABEL, RATING HC481BD             |                 | 1               |                 |                 |
| A10                          | ▲              | LABEL, RATING HC482ED             |                 |                 | 1               |                 |
| A10                          | ▲              | LABEL, RATING HC483FD             |                 |                 |                 | 1               |
| A14                          |                | LABEL, BAR CODE HC480ED           | 1               |                 |                 |                 |
| A14                          |                | LABEL, BAR CODE HC481BD           |                 | 1               |                 |                 |
| A14                          |                | LABEL, BAR CODE HC482ED           |                 |                 | 1               |                 |
| A14                          |                | LABEL, BAR CODE HC483FD           |                 |                 |                 | 1               |
| A34                          |                | INSULATOR ASSEMBLY HC480ED        | 1               | 1               | 1               | 1               |
| 1B1                          | 9965 000 12399 | DECK ASSEMBLY CZD011/VM15E0       | 1               | 1               | 1               | 1               |
| 2B5                          | 9965 000 12168 | SHEILD, CYLINDER HC460ED          | 1               | 1               | 1               | 1               |
| 2B9                          | 9965 000 12378 | CUSHION HC460ED                   | 1               | 1               | 1               | 1               |
| 2B14                         | 9965 000 12379 | CUSHION(PCB) HC460ED              | 1               | 1               | 1               | 1               |
| 2B18                         | 9965 000 12400 | FIBER, TOP CASE HC460ED           | 1               | 1               | 1               | 1               |
| 2B29                         | 9965 000 12170 | DOUBLE SIDE TAPE HB200UD          | 1               | 1               | 1               | 1               |
| 2B49                         | 9965 000 12402 | CHASSIS FIBER HC460ED             | 1               | 1               | 1               | 1               |
| 2L011                        | 9965 000 12403 | SCREW, P-TIGHT 3X12 BIND HEAD+    | 1               | 1               | 1               | 1               |
| 2L012                        | 9965 000 12403 | SCREW, P-TIGHT 3X12 BIND HEAD+    | 1               | 1               | 1               | 1               |
| 2L021                        | 4822 502 30752 | SCREW, P-TIGHT M3X10 WASHER HEAD+ | 1               | 1               | 1               | 1               |
| 2L031                        | 9965 000 12171 | SCREW, B-TIGHT M3X8 BIND HEAD+    | 1               | 1               | 1               | 1               |
| 2L041                        | 4822 502 14012 | P-TIGHT SCREW 3X8 BIND +          | 1               | 1               | 1               | 1               |
| 2L042                        | 4822 502 14012 | P-TIGHT SCREW 3X8 BIND +          | 1               | 1               | 1               | 1               |
| 2L043                        | 4822 502 14012 | P-TIGHT SCREW 3X8 BIND +          | 1               | 1               | 1               | 1               |
| 2L044                        | 4822 502 14012 | P-TIGHT SCREW 3X8 BIND +          | 1               | 1               | 1               | 1               |
| 2L051                        | 4822 502 14018 | SCREW, S-TIGHT M3X5 BIND HEAD+    | 1               | 1               | 1               | 1               |
| X1                           | 9965 000 12404 | REMOTE CONTROL UNIT 364/CRC006    | 1               | 1               | 1               | 1               |
| X3                           | 9965 000 09742 | RF CORD PAL 1.2M                  | 1               | 1               | 1               | 1               |
| X4                           |                | ACCESSORY BAG K8092BA             | 1               | 1               | 1               | 1               |
| X6                           | 9965 000 12420 | 21P SCART CABLE                   |                 |                 |                 | 1               |
| X41                          | 9965 000 12405 | SATMOUSE 8622-666-10101           | 1               | 1               | 1               | 1               |

| DECK PARTS LIST |   |                |                                     |
|-----------------|---|----------------|-------------------------------------|
| Pos.            | ▲ | 12 NC          | Description                         |
| B2              |   | 9965 000 12201 | CYLINDER ASSEMBLY MK11 PAL 4HD HIFI |
| B3              |   | 9965 000 12202 | LOADING MOTOR ASS. MK11             |
| B8              |   | 9965 000 12203 | PULLEY ASSEMBLY MK11                |
| B9              |   | 9965 000 08560 | MOVING GUIDE S MK10                 |
| B10             |   | 9965 000 08431 | MOVING GUIDE T MK10                 |
| B11             |   | 9965 000 12204 | LOADING ARM T(B) ASS. MK11          |
| B12             |   | 9965 000 12205 | LOADING ARM S(B) ASS. MK11          |
| B27             |   | 9965 000 12206 | TENSION LEVER SUB ASS. MK11         |
| B31             |   | 9965 000 12207 | AC HEAD ASSEMBLY MK11               |
| B35             |   | 9965 000 12208 | TAPE GUIDE ASSEMBLY MK11            |
| B37             |   | 9965 000 12209 | CAPSTAN MOTOR 288/VCCM011           |
| B52             |   | 9965 000 08593 | CAP BELT MK10                       |
| B73             |   | 9965 000 12210 | FE HEAD ASSEMBLY MK11               |
| B74             |   | 9965 000 08555 | PRISM MK10                          |
| B121            |   | 9965 000 12211 | WORM MK11                           |
| B126            |   | 9965 000 12212 | PULLEY MK11                         |
| B133            |   | 9965 000 12213 | IDLER ASSEMBLY(2) MK10              |
| B148            |   | 4822 462 11189 | TG CAP MK6                          |
| B300            |   | 9965 000 12214 | C DRIVE LEVER R MK11                |
| B303            |   | 9965 000 12215 | F DOOR OPENER MK11                  |
| B347            |   | 9965 000 08445 | GUIDE HOLDER A MK10                 |
| B354            |   | 9965 000 12216 | SLIDER R MK11                       |
| B355            |   | 9965 000 12217 | SLIDER L MK11                       |
| B359            |   |                | CLEANER LEVER MK10                  |
| B359            |   | 9965 000 12416 | CLEANER LEVER MK11                  |
| B360            |   | 9965 000 06561 | CLEANER ROLLER MK9                  |
| B361            |   |                | CL POST MK10                        |
| B410            |   | 9965 000 12218 | PINCH ARM(A) ASSEMBLY MK11          |
| B411            |   | 9965 000 08453 | PINCH SPRING MK10                   |
| B414            |   | 9965 000 12219 | M BRAKE S(HI) ASSEMBLY MK11         |
| B416            |   | 9965 000 12220 | M BRAKE T(HI) ASSEMBLY MK11         |
| B417            |   | 9965 000 12221 | TENSION SPG(190265) MK11            |
| B425            |   | 9965 000 08457 | LOCK LEVER SPRING MK10              |
| B426            |   | 9965 000 08458 | KICK PULLEY MK10                    |
| B482            |   | 9965 000 12222 | C PLATE MK11                        |
| B483            |   | 9965 000 08461 | LOCK LEVER MK10                     |
| B487            |   | 9965 000 08462 | BAND BRAKE MK10                     |
| B488            |   | 9965 000 12223 | MODE LEVER(HI) MK11                 |
| B491            |   | 9965 000 12224 | CAM GEAR(A) MK11                    |
| B492            |   | 9965 000 12225 | MODE GEAR MK11                      |
| B494            |   | 9965 000 12226 | DOOR OPENER B MK11                  |
| B499            |   | 9965 000 08467 | T LEVER HOLDER MK10                 |
| B501            |   | 9965 000 12227 | WORM HOLDER MK11                    |
| B502            |   | 9965 000 08469 | CAM GEAR(B) MK10                    |
| B505            |   | 9965 000 12372 | PSCW(625504) MK11                   |
| B507            |   | 9965 000 05342 | REEL WASHER MK9 5*2.1*0.5           |
| B508            |   | 9965 000 08470 | S BRAKE SPRING MK10                 |
| B513            |   | 9965 000 08471 | PSCW(752605) MK10                   |
| B514            |   | 9965 000 12228 | SCREW RACK MK11                     |

| DECK PARTS LIST |   |                |                                    |
|-----------------|---|----------------|------------------------------------|
| Pos.            | ▲ | 12 NC          | Description                        |
| B516            |   | 9965 000 05342 | REEL WASHER MK9 5*2.1*0.5          |
| B518            |   | 4822 532 13159 | P.S.W CUT 1.6X4.0X0.5T             |
| B520            |   | 9965 000 12229 | T BRAKE SPRING HI(F) MK11          |
| B521            |   | 9965 000 08482 | SOFT SPRING MK10                   |
| B522            |   | 9965 000 08483 | TG POST ASSEMBLY MK10              |
| B525            |   | 9965 000 12230 | LDG BELT MK11                      |
| B529            |   | 9965 000 12231 | CLEANER ASSEMBLY MK11              |
| B551            |   | 9965 000 12232 | FF ARM(HI) MK10                    |
| B553            |   | 9965 000 12233 | REV SPRING MK11                    |
| B555            |   | 9965 000 12234 | RACK ASSEMBLY MK11                 |
| B557            |   | 9965 000 08519 | MOTOR PULLEY U5                    |
| B558            |   | 9965 000 12235 | LOADING MOTOR                      |
| B559            |   | 9965 000 12236 | CLUTCH ASSEMBLY                    |
| B560            |   | 9965 000 08522 | KICK SPRING MK10                   |
| B562            |   | 9965 000 08524 | C DRIVE LEVER L MK10               |
| B563            |   | 9965 000 08525 | SLIDER SHAFT MK10                  |
| B564            |   | 9965 000 12237 | M GEAR(HYT) N12G5F*                |
| B565            |   | 9965 000 12238 | SENSOR GEAR MK11                   |
| B567            |   | 9965 000 08544 | PINCH ARM(B) MK10                  |
| B568            |   | 9965 000 08545 | BT ARM MK10                        |
| B569            |   | 9965 000 12239 | CAM HOLDER F MK11                  |
| B570            |   | 9965 000 12240 | CAM RACK SPRING(HI) MK11           |
| B571            |   | 4822 532 13158 | P.S.W F 6*2.55*0.5                 |
| B572            |   | 4822 532 13159 | P.S.W CUT 1.6X4.0X0.5T             |
| B573            |   | 9965 000 12241 | REEL S MK11                        |
| B574            |   | 9965 000 12376 | REEL T MK10                        |
| B578            |   | 9965 000 12243 | TR GEAR A MK10                     |
| B579            |   | 9965 000 12244 | TR GEAR B MK10                     |
| B580            |   | 9965 000 12245 | TR GEAR C MK11                     |
| B581            |   | 9965 000 12246 | CENTER GEAR(HYT) N12G5F*           |
| B582            |   | 9965 000 12247 | TR GEAR SPRING MK10                |
| B583            |   | 9965 000 05342 | REEL WASHER MK9 5*2.1*0.5          |
| B584            |   | 9965 000 12248 | TR GEAR SHAFT MK10                 |
| B585            |   | 9965 000 12249 | PSW(2957505) MK11                  |
| L1051           |   | 9965 000 05359 | SCREW, B-TIGHT M2.6X6 PAN HEAD+    |
| L1053           |   | 9965 000 05375 | SCREW, S-TIGHT M2.6X8 WASHER HEAD+ |
| L1151           |   | 9965 000 08642 | SCREW, SEMS M2.6X4 PAN HEAD+       |
| L1191           |   | 9965 000 05375 | SCREW, S-TIGHT M2.6X8 WASHER HEAD+ |
| L1321           |   | 4822 502 14009 | SCREW, S-TIGHT M3X6 BIND HEAD+     |
| L1341           |   | 4822 502 14669 | SCREW, P-TIGHT M2.6X6 BIND HEAD+   |
| L1406           |   | 9965 000 08643 | AC HEAD SCREW MK9                  |
| L1407           |   | 9965 000 12250 | SCREW, S-TIGHT M2.6X10 DISH HEAD+  |
| L1450           |   | 4822 502 14671 | SCREW, SEMS M2.6X5 PAN HEAD+       |
| L1461           |   | 4822 502 30471 | SCREW, P-TIGHT M2.6X6 WASHER HEAD+ |
| L1466           |   | 9965 000 05364 | SCREW, S-TIGHT M2.6X6 BIND HEAD+   |
| L1467           |   | 9965 000 12251 | SCREW, S-TIGHT M2.6X5 WASHER HEAD+ |
| L1468           |   | 9965 000 12252 | SCREW, B-TIGHT M1.7X12             |
| L1471           |   | 9965 000 05364 | SCREW, S-TIGHT M2.6X6 BIND HEAD+   |