



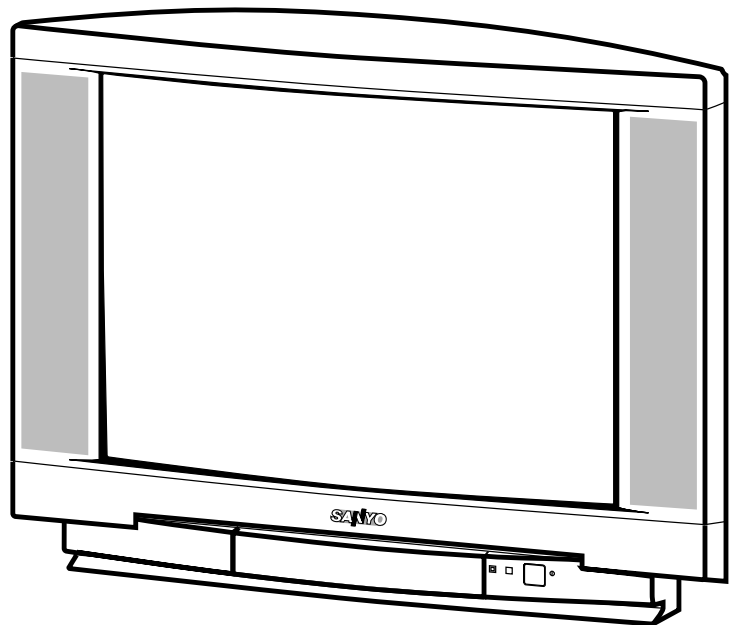
Colour Television Service Manual

CE25DN4-c

Model CE25DN4-C

Service Ref.No.: CE25DN4-C-01

PRODUCT CODE: 111339716
ORIGINAL VERSION: Chassis No. EB4-A(MKII)



Give complete "SERVICE REF. NO." for parts order or servicing, it is shown on the rating sheet on the cabinet back of the TV set.

Note
This TV receiver will not work properly in foreign countries where the television transmission system and power source differ from the design specifications. Refer to the specifications for the design specifications

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SAFETY PRECAUTION

- | | |
|--|--|
| <p>1: An isolation transformer should be connected in the power line between the receiver and the AC line when a service is performed on the primary of the converter transformer of the set.</p> <p>2: Comply with all caution and safety-related notes provided on the cabinet back, inside the cabinet, on the chassis or the picture tube.</p> | <p>3: When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as, control knobs, adjustment covers or shields, barriers, isolation resistor-capacitor networks etc. Before returning any television to the customer, the service technician must be sure that it is completely safe to operate without danger of electrical shock.</p> |
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X-RADIATION PRECAUTION

The primary source of X-RADIATION in the television receiver is the picture tube. The picture tube is specially constructed to limit X-RADIATION emissions. For continued X-RADIATION protection, the replacement tube must be the same type as the original including suffix letter. Excessive high voltage may produce potentially hazardous X-RADIATION. To avoid such hazards, the high voltage must be maintained within specified limit. Refer to this service manual, high voltage adjustment for specific high voltage limit. If high voltage exceeds specified limits, take necessary corrective action. Carefully follow the instructions for +B1 volt power supply adjustment, and high voltage adjustment to maintain the high voltage within the specified limits.

PRODUCT SAFETY NOTICE

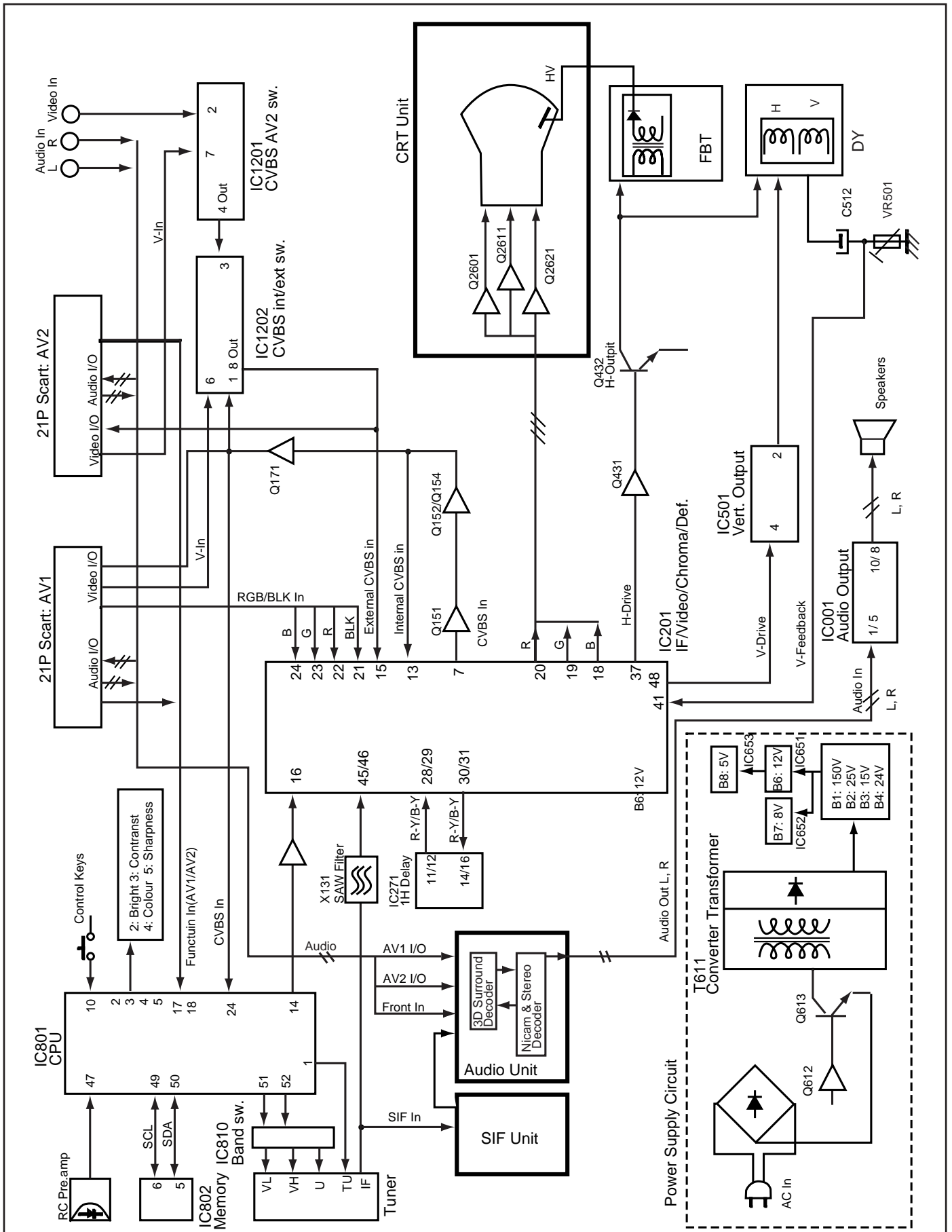
Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by mark Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that only parts designated on the parts list in this manual be used for component replacement designated by mark Δ . No deviations from resistance wattage or voltage ratings may be made for replacement items designated by mark Δ .

PRODUCT SPECIFICATIONS

Power source	AC 220~240V, 50Hz
Television system	System B/G, D/K
Colour system	PAL/NTSC 4.43/SECAM
Receiving channel	VHF: E2~E12, R1~R12 CATV: X, Y, Z, S1~S41 UHF: #21~69
Aerial input impedance	75 ohm
AV terminal	
21 Pin socket	AV1: CENELEC standard (RGB/S-Video inputs) AV2: CENELEC standard AV2: RCA Terminal, video and audio (L/R) inputs
Sound output(Music)	12 watts x 2
Picture tube	63cm diagonal, 110 degree
(Visible picture diagonal)	59cm
Dimensions (WxHxD)	680 x 543 x 442mm
Weight	26.6 Kg

BLOCK DIAGRAM

This is a diagram for all models and therefore differs slightly from the actual block diagram.



CIRCUIT DESCRIPTION

1. POWER SUPPLY

The power supply circuit of the EB4-A chassis is composed of a rectifier smoothing circuit, an oscillation circuit, a control circuit and an output rectifier circuit. The AC input voltage is full-wave rectified by the rectifier smoothing circuit, and an unstable DC voltage is generated at both terminals of the smoothing capacitor C607. This voltage is input to the oscillation circuit. The oscillation circuit is provided with a blocking oscillator circuit that switches the switching transistor Q613 ON and OFF, and an oscillation frequency and a duty square wave pulse are generated in the input windings according to operation of the control circuit. A square-wave pulse whose size is dependent on the turn ratio of the input and output windings is obtained in the output winding. This is rectified in the output rectifier circuit, and the desired DC voltage is obtained.

2. IF & DEFLECTION (TDA8361)

The IF output signal from the tuner passes through the SAW filter, and it is input to pin45 and pin46 of IC201. The signal input to the IC passes through the IF amplifier, video detection and video amplifier circuits and is output from pin7 as a composite video signal. And after this signal is converted to impedance at Q151, supplies to the video and chroma amplifier stages. The sync.-separation circuit separates the video signals applied to pin13(internal video signal) or pin15(external video signal) to vertical- and horizontal-sync. signals respectively. The horizontal oscillator requires no external components and is fully integrated. The oscillator is always running when the start-pin36 is supplied with 8V. Horizontal drive signal is output from pin37. VR361 is for adjustment of the horizontal centring. The separated vertical-sync. signal from sync. separation circuit passes through the vertical-separation circuit, and applied to trigger divider circuit. The horizontal oscillation pulse and input vertical sync. pulse are monitored by the trigger divider circuit, and switching 50Hz and 60Hz system, the vertical amplitude automatically adjusted for 50Hz and 60Hz. The output signal from the trigger divider is triggered vertical oscillation circuit consisting of C351, R352 and pin42, and vertical drive pulse is output from pin43. VR501 is for changing the amount of AC feedback applied to pin41 and for adjustment of the vertical amplitude.

3. VIDEO CHROMA & R.G.B. (TDA8361)

The composite video signal output from the pin7 of IC101 passes through Q151-Q154, and it is supplied to pin13. The external video signal output from SCART is supplied to pin15. The video signal input to pin13 or pin15 is separated to luminance (Y) signal and chroma signal in IC201. These pins are used in common with H/V-sync. separation input. The peaking of Y signal is adjusted by DC voltage of pin14. ("SHARPNESS" control) The chroma signal is divided into R-Y and B-Y

chroma signals, demodulated in IC201, and output from pin30 (R-Y) and pin31 (B-Y). These chroma signals pass through the 1H delay line circuit (IC271), and they are input to pin29 (R-Y) and pin28 (B-Y). These R-Y/B-Y signals pass through RGB matrix circuit and RGB selector circuit of IC101. The internal RGB signals are generated in RGB matrix circuit and the RGB selector, consisting linear amplifiers, clamps and selects either the internal RGB signals or the external RGB signals input from pin22(R), pin23(G), pin24(B). Selection is controlled by the voltage at the RGB switch control (pin21) and mixed RGB modes are possible since RGB switching is fast. The RGB switch also functions as a fast blanking pin by blanking the RGB output stages; here internal and external RGB signals are overruled. The colour gain is controlled by DC voltage of pin26. ("COLOUR" control) The contrast control voltage present at pin25, and the brightness control voltage present at pin17 controls DC level of RGB signals. The RGB signals are finally buffered before being available at the RGB output pins [pin20 (R), pin19 (G), pin18 (R)].

4. AUDIO OUTPUT(TDA7263M)

The audio signals output from the audio unit are input to pin1(L) and 5(R) of IC171 and passes through the pre-amplifier circuit and drive circuit, after which it is input to the audio amplifier. The audio amplifier is an SEPP (single-ended, push-pull) OTL type and output to pin8(R) and 10(L) to directly drive the speakers.

5. VERTICAL OUTPUT (LA7832/LA7832)

An IC (LA7832/LA7833) is used for the vertical output circuit in this chassis. The vertical drive pulse from pin43 of IC201 is input to pin4 of IC501. This pulse drives IC501, and vertical scanning is performed. In the first half of scanning a deflecting current is output from pin2 and passes through the following path:
Vcc(B4) → D501 → pin3 → pin2 → DY → C512 → VR501/R509. An electric charge is then stored in C512. In the last half of scanning the current path is C512 → DY → pin2 → pin1 → VR501/R509 → C512. In this way, an amplifying sawtooth waveform current flows directly to DY to perform electron beam deflection. Next, in the first half of the banking period the vertical drive pulse suddenly becomes OFF, and in order to reduce the current flowing to DY, the current path becomes as follows by the inductance of DY:
DY → pin2 → pin1 → VR501/R509 → C512 → DY. Also, when the charge of DY has dissipated, the current path becomes Vcc24V → pin6 → pin7 → C502 → pin3 → pin2 → DY → C512 → VR501/R509, and when the prescribed current value is reached, the vertical drive pulse becomes ON. This completes one cycle.

6. HORIZONTAL OUTPUT

A horizontal oscillation signal is output from pin37 of IC201 and switches the drive transistor Q431. This switching signal is current amplified by the drive transformer T431 and drives the output transistor Q432. When Q432 becomes ON, an amplifying current flows directly to DY through C441 → DY → Q432 → GND, and deflection is performed in the last half of the scanning period. Next, when Q432 becomes OFF, the charge that had been stored in DY up to that point releases a resonance current to the resonant capacitors C421/C423 and charges them. The current stored in C421/C423 is then flowed back to DY, and an opposite charge is then stored in DY. This opposite charge then switches the dumper diode in Q432 ON, the resonance state is completed, and an amplifying current is then flowed again directly to DY through the dumper diode. By this means, deflection in the first half of the scanning period is performed, and when Q432 becomes ON at the end of the first half of the scanning period, deflection during the last half is begun, thus completing one cycle.

In the PCC circuit consisting of Q461 and Q462, the parabola signal supplied from the vertical circuit is added at the horizontal output stage and pincushion compensation is performed by varying the DC voltage bias. Further, the ABL voltage is feedback to the base of Q462 to compensate for width variations due to variations in the beam current.

7. CPU <System and Teletext Control>

Pin description

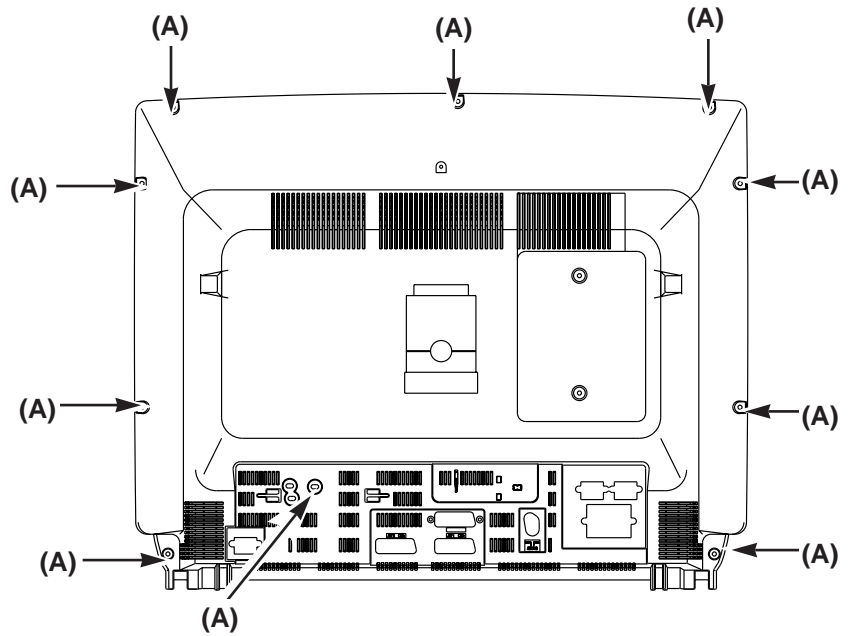
Pin1: Tuning voltage output
Pin2: Brightness control output (6-bit DAC)
Pin3: Contrast control output (6-bit DAC)
Pin4: Colour control output (6-bit DAC)
Pin5: Sharpness control output(6-bit DAC)
Pin6: Not used (GND)
Pin7: Not used (GND)
Pin8: Power ON/OFF output (H:ON)
Pin9: AFT signal input
Pin10: Option SW1 & Keyboard scan input (DC)
Pin11: Option SW2
Pin12: 50/60Hz switch input (50Hz: Hi)
Pin13: GND
Pin14: TV/AV switch output (TV: Hi)
Pin15: S-VHS switch output (S-VHS: Hi)
Pin16: Option SW3 (2AV: Hi)
Pin17: Function signal input for SCART1
Pin18: Function signal input for SCART2
Pin19: Power LED drive output1
Pin20: Option SW4 & Power LED drive output2
Pin21: Ignore output
Pin22: GND
Pin23: CVBS input0 (Internal)
Pin24: CVBS input1 (Internal/External)
Pin25: Black

Pin26: IREF
Pin27: Odd/Even output
Pin28: GND
Pin29: -
Pin30: V-deflection stop output
Pin31: RGB REF
Pin32: Blue output for OSD
Pin33: Green output for OSD
Pin34: Red output for OSD
Pin35: Blanking output for OSD
Pin36: H-sync. input (Horizontal pulse for OSD)
Pin37: V-sync. input (Vertical pulse for OSD)
Pin38~39: Supply (+5V)
Pin40: OSC GND
Pin41: Oscillator input for CPU
Pin42: Oscillator output for CPU
Pin43: Reset input
Pin44: Supply (+5V)
Pin45: Protect signal input (L:Power circuit defects)
Pin46: Ident. signal input
Pin47: R/C signal input
Pin48: Mute output in no picture
Pin49: I²C bus SCL (Serial clock)
Pin50: I²C bus SDA (Serial date)
Pin51: Option SW5 & Band select output1
Pin52: Band select output2

CABINET DISASSEMBLY

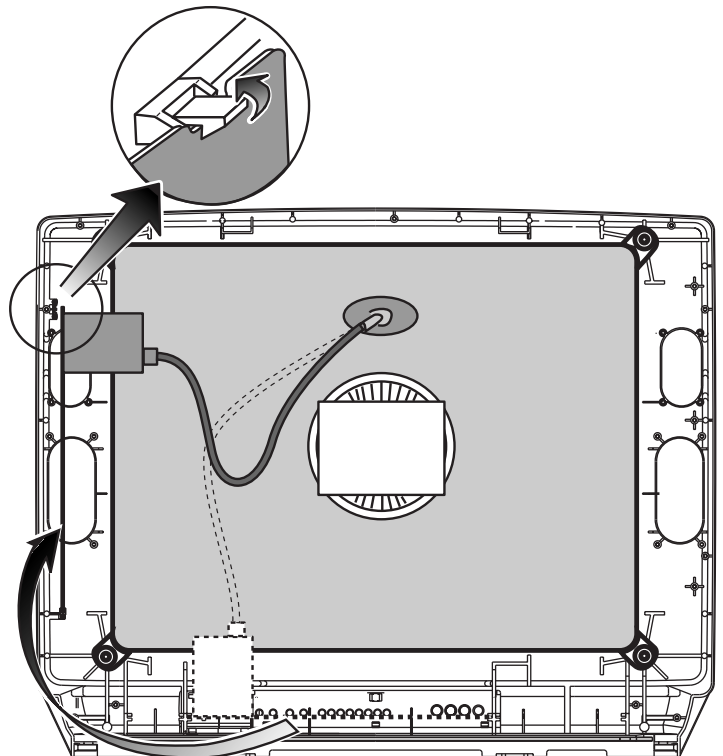
CABINET BACK DISASSEMBLY

1. Remove 10 screws(A).
2. Pull out the cabinet back.



PLACING THE CHASSIS TO SERVICE POSITION

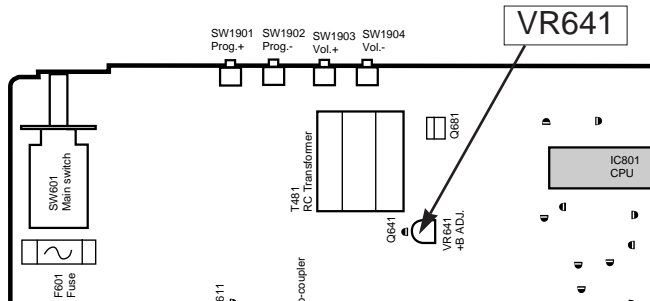
1. Pullout the chassis and put it to the rails on the side cabinet.
2. Fix main board with hook on the top rail.



SERVICE CONTROL ADJUSTMENT

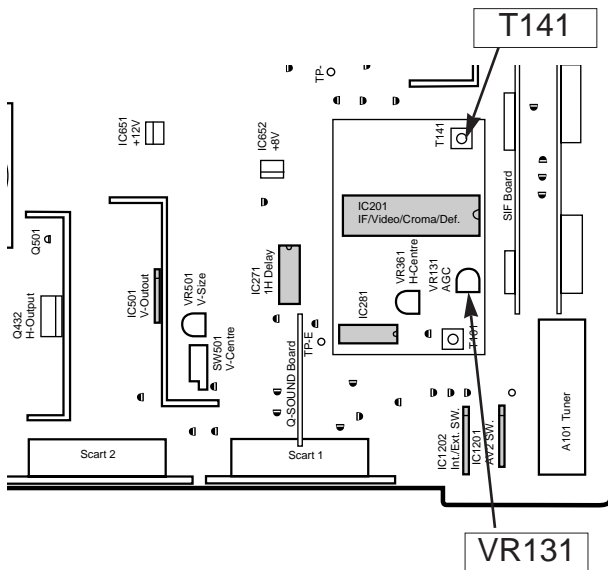
B1 POWER SUPPLY ADJUSTMENT

1. Set VR641 to be mechanical centre before pressing the main switch.
2. Tune the receiver to PAL circular pattern.
3. Set brightness and contrast controls to normal.
4. Connect digital V-meter to test point "TP-B".
5. By using VR641, adjust voltage to 150 ± 0.5 V.



AFT ADJUSTMENT

1. Tune the receiver to the clearest station.
2. By using T141, adjust AFT to obtain the best picture.



AGC ADJUSTMENT

NOTE: Do not attempt this adjustment with weak signal.

1. Tune the receiver to the clearest station.
2. Set AGC VR (VR131) in direction which causes snow noise to appear, then in the opposite direction until snow noise just disappears.

GREY SCALE ADJUSTMENT

[SCREEN VR ADJUSTMENT]

1. Tune the receiver to the white pattern.
2. Set brightness and contrast controls to normal.
3. Set VR602 and VR612 to be mechanical centre.
4. Turn VR601, VR611 and VR621 fully counter-clockwise.

5. Set mode to one horizontal scanning line, how to set refer to "service mode"
6. Set screen VR for one colour to be just visible.

[BIAS VR ADJUSTMENT]

7. By using VR601, VR611 or VR621, adjust line to be white.

8. Set screen mode OFF, how to set refer to "service mode"

[DRIVE VR ADJUSTMENT]

9. By using VR602 and VR612, adjust white balance.

HIGH VOLTAGE & WIDTH ADJUSTMENT

[HIGH VOLTAGE ADJUSTMENT]

1. Tune the receiver to circular pattern.
2. Set brightness and contrast controls to maximum.
3. Connect digital V-meter to both terminals of R224, and high voltage meter to CRT anode.
4. Confirm high voltage to be 26.0 ± 1 KV at beam current 1.3, and less than 29.0 KV at 0 beam current.

[H-WIDTH ADJUSTMENT]

5. Adjust VR462 to obtain proper H- width.
6. Reconfirm high voltage.

[H-CENTRE ADJUSTMENT]

1. Tune the receiver to circular pattern.
2. Adjust H-centre by using VR361.

[V-CENTRE ADJUSTMENT]

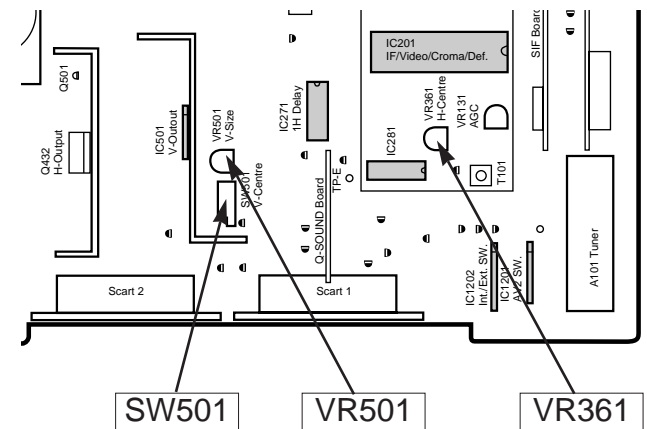
1. Tune the receiver to circular pattern.
2. Adjust V-centre by using SW501.

[V-SIZE ADJUSTMENT]

1. Tune the receiver to circular pattern.
2. Adjust V-size by using VR501.

FOCUS ADJUSTMENT

By using FOCUS VR, adjust focus control for good scanning lines.



CIRCUIT ALIGNMENT

VIF alignment

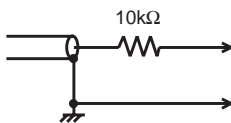
SETTING		Adjustment	Waveform
DC 15.5V AGC voltage (4.3-4.5V) Output probe Input probe Marker frequency Sweep ATT 0dB=176mVrms/75	C644 + IC201-pin48 IC201-pin45 (Side b) IC201-pin7 38.9MHz 20dB	By using T141, adjust "P" to be maximum amplitude.	

SIF alignment

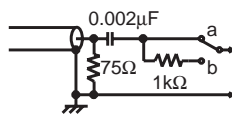
SETTING		Adjustment	Waveform
DC 12V AGC voltage(5V DC) Output probe Input probe Sweep ATT Marker Frequency Tool-A	IC3801-pin9 IC3801-pin13 IC3801-pin5 (Side b) IC3801-pin17 10dB 38.9MHz IC3801-pin6 and ground	1. By using T3801, adjust the VCO oscillation to be "P".	



Tool-A

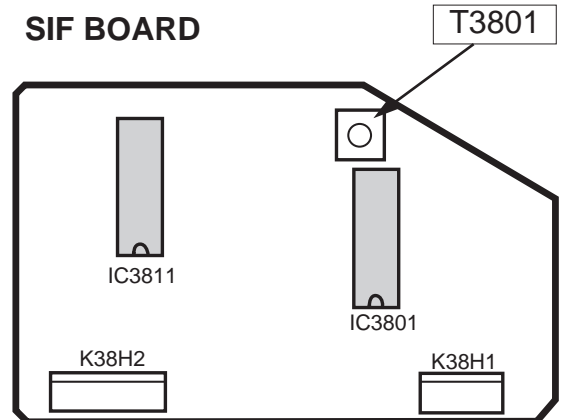


Input probe



Output probe

SIF BOARD



INITIALIZATION (Important Notice)

When you replace a memory IC (IC802), it is necessary to initialise the IC as following step.

A. Initialization

Press and hold the (→*←) **normalization button** on the remote control handset and press the (P▲) **programme + button** on the TV set.

The IC will be initialised automatically to set the following data.

User control data

Colour	: Centre
Brightness	: Centre
Contrast	: Maximum
Sharpness	: Centre
Text. Bright	: Centre
Bass	: Centre
Treble	: Centre
Balance	: Centre
Volume	: Step 12

B. Service Mode

1. To enter the service mode, press and hold the (F^{...}) **Function button** on the remote control handset and press the (P▲) **programme + button** on the TV set.

The following OSD appears on the screen.

ADJUST	DATA
System	+000
SCREEN	VOL
CPU MK2	1.0

2. Select desired service item by using the (F^{...}) **Function button** on the remote control handset.
3. Change date by using the (◀+) **Level +** or (▶-) **button**.
4. To return to TV mode press the (□) **Recall button** on the remote control handset.

Service mode description

SCREEN: For screen adjustment
To make one horizontal scanning line.

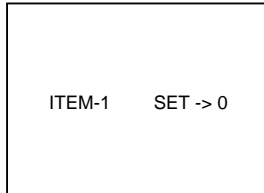
SPECIAL FUNCTION

This TV set allows you to set up the following special functions.

■ Maximum volume setting and prohibition of presetting

ITEM-1

Sets the current volume as the maximum volume level and prohibition of presetting.



SET → 0	NO
SET → 1	YES






■ Start up programme position

ITEM-2

Presets the programme position when the set is switched on.

SET -> 0	Last programme position start
SET -> 1	Programme position "1" start
SET -> 2	Programme position "2" start
SET -> 3	Programme position "3" start
SET -> 4	Programme position "4" start
SET -> 5	Programme position "5" start
SET -> 6	Programme position "6" start
SET -> 7	Programme position "7" start
SET -> 8	Programme position "8" start
SET -> 9	"AV1" start

SETTING PROCEDURE

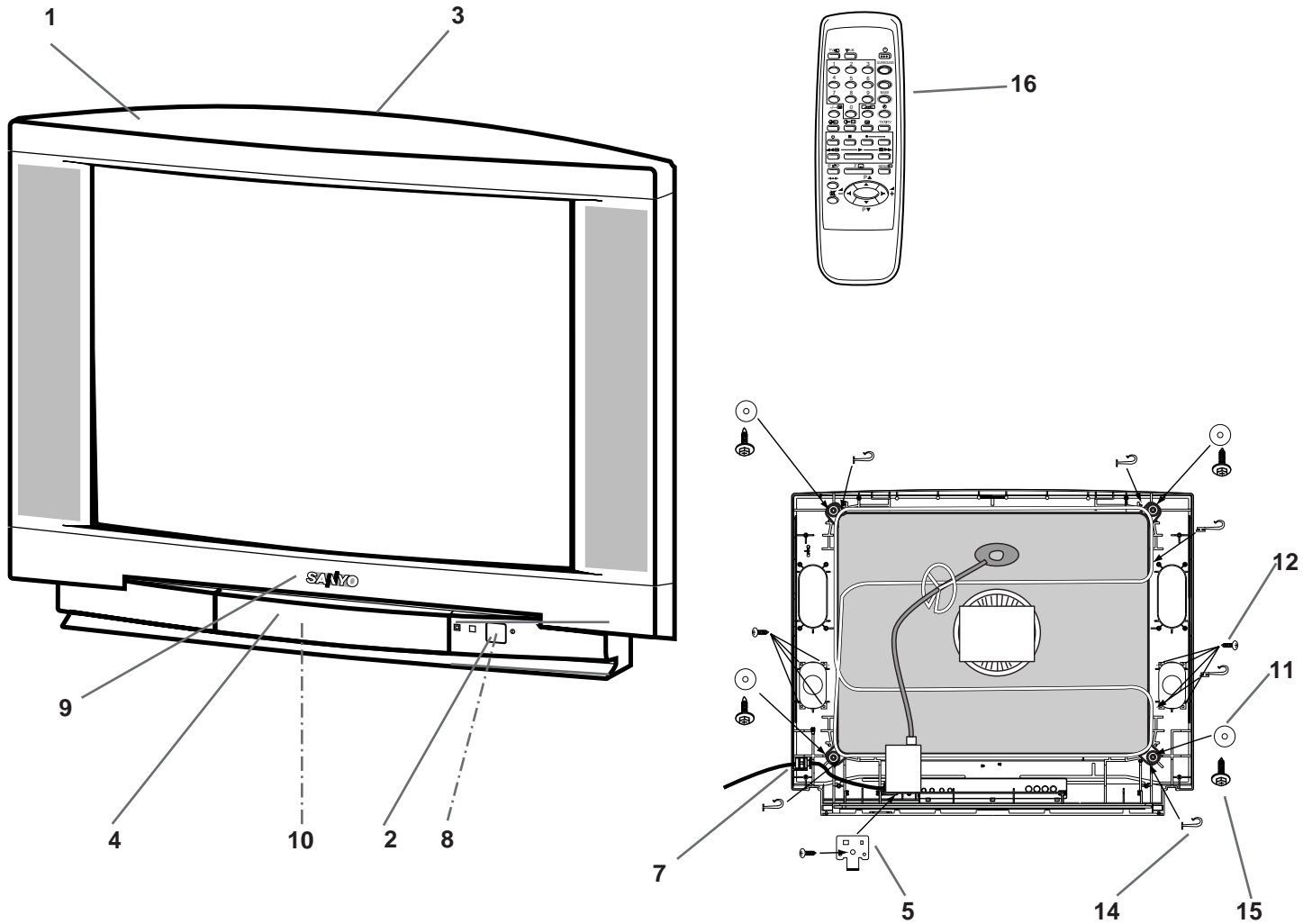
- 1 Press and hold the  **button** on the **Remote control handset** and then press the **Ps button** on the **TV set**.
- 2 To select the "Item" number, press the **F**  **button** on the **remote control handset**.
- 3 To select the "Set" number, press the  + or -  **button** repeatedly.
- 4 To return to the normal TV mode, press the  **button**.

- ✓ The setting conditions of all items can be confirmed.
- ✓ Special functions are not cancelled if the TV set is switched off or the mains disconnected.

SERVICE REF. NO. CE25DN4-C-01

CABINET PARTS LIST

Note: Parts order must contain Service Ref. No., Part No., and descriptions.



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
CABINET PARTS			ACCESSORIES		
1	610 278 4800	ASSY, CABINET FR- F7VT	16	JXMCA	RC TRANSMITTER
2	610 276 5618	BUTTON POWER- F7WC		SKP10174	INST MANUAL - F7WW (1)
3	610 278 4886	CABINET BACK - F7VA- A		SKP10175	INST MANUAL - F7WW (2)
4	610 278 4923	DOOR- F7WW		SKP10178	INST MANUAL - F7WW (3)
5	610 276 5656	DEC IND- F7WC		645 000 6708	BATTERY, MANGAN, COMPOSITE
6	SKZZ0072	DEG COIL CLIP- F4AC			
7	610 253 2449	AC CORD HOLDER- U- D4VA			
8	SKZZ0041- A	SPRING- E7GC			
9	645 030 7355	BADGE, SANYO*53. 5X12 GRAY			
10	610 104 2505	LATCH PUSH, 7. 9X6. 9BK\			
11	610 224 5721	CRT CUSHION- B3MY- UK			
12	411 076 1004	SCR TPG BRZ 4X12			
13	411 076 1301	SCR TPG BRZ 4X14			
14	1AA2HLM0146A-	HOLDER DC GBR- F3SC			
15	412 009 3003	SPECIAL SCREW			

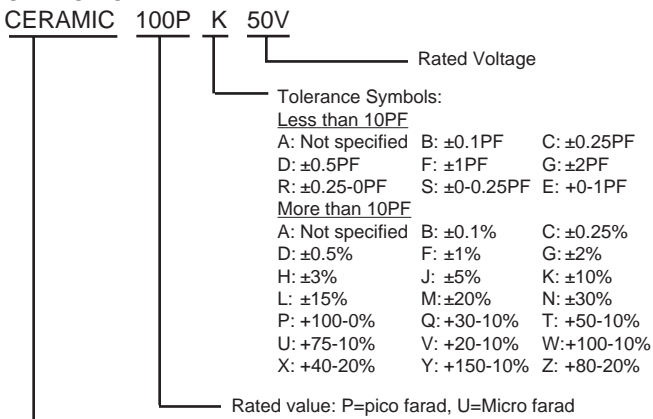
CHASSIS ELECTRICAL PARTS LIST

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by a Δ mark in this parts list and the circuit diagram show components whose value have special significance to product safety. It is particularly recommended that only parts specified on the following parts list be used for components replacement pointed out by the mark Δ .

Note: Parts order must contain Service Ref. No., Part No., and descriptions.

Read description in the Capacitor and Resistor as follows:

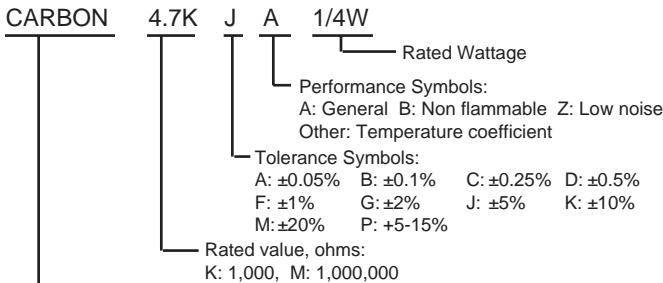
CAPACITOR



Material:

- CERAMICCeramic
- MT-PAPERMetallized Paper
- POLYESTER.....Polyester
- MT-POLYESTMetallized Polyester
- POLYPROPolypropylene
- MT-POLYPRO.....Metallized Polypropylene
- COMPO FILMComposite film
- MT-COMPOMetallized Composite
- STYRENEStyrene
- TA-SOLIDTantalum Solid
- AL-SOLIDAluminium Solid
- ELECTElectrolytic
- NP-ELECT.....Non-polarised Electrolytic
- OS-SOLIDAluminium Solid with Organic Semiconductive Electrolytic
- DL-ELECTDouble Layered Electrolytic

RESISTOR



Material:

- CARBONCarbon
- MT-FILMMetal Film
- OXIDE-MTOxide Metal Film
- SOLID.....Composition
- MT-GLAZEMetal Glaze
- WIRE WOUNDWire Wound
- CERAMIC RES....Ceramic
- FUSIBLE RESFusible

Ref. No.	Part No.	Description
Chassis construction CE25DN4-C-01		
	OUT OF CIRCUIT-F7VVV	(Page 12)
	ASSY,PWB,CRT-MK2 F3SSY1AA0B10H03500	(Page 12)
	ASSY, TEMP SIF-POLISH.2 1AA0B10H030EA	(Page 13)
	ASSY, TEMP AUDIO-POLISH.2 1AA0B10H030EB	(Page 13)
	ASSY,PWB,MAIN F2VVV 1AA0B10H026Q0	(Page 14-19)

OUT OF CIRCUIT-F7VVV			
PICTURE TUBE			
Δ Q901	414 009 7104	CRT A59EHJ43X38	
COIL			
Δ L901	645 025 6530	25DEG. COIL OREGA 47320234	
MISCELLANEOUS			
SP901	610 232 3986	SPEAKER	
SP902	610 232 3986	SPEAKER	
Δ W901	645 012 7632	EURO PLUG +2P HOUSE @ 2. 1	
W902	610 204 6083	GROUNDING CONNECTOR- D8CD	

ASSY,PWB,CRT-MK2 F3SSY1AA0B10H03500			
TRANSISTOR			
Q701	405 041 6507	TR 2SC2621- D- RA	
Q711	405 041 6507	TR 2SC2621- D- RA	
Q721	405 041 6507	TR 2SC2621- D- RA	
Q740	406 007 1901	TR JC556A	
Q751	406 007 1901	TR JC556A	

CAPACITOR					
C701	403 073 2910	CERAMIC	390P	K	50V
C711	403 073 2910	CERAMIC	390P	K	50V
C721	403 073 2910	CERAMIC	390P	K	50V
C731	403 077 2728	CERAMIC	1000P	P	2K
C735	403 055 8401	ELECT	22U	M	250V
C751	403 248 1608	ELECT	47U	M	16V

RESISTOR					
R701	401 026 3925	CARBON	330	JA	1/6W
R702	401 026 7022	CARBON	3K9	JA	1/6W
R703	401 025 4220	CARBON	1K8	JA	1/6W
Δ R704	401 065 4604	OXI DE- MT	12K	JA	2W
R705	401 009 6622	CARBON	3. 3K	JA	1/2W
R711	401 026 3925	CARBON	330	JA	1/6W
R712	401 026 7022	CARBON	3K9	JA	1/6W
R713	401 026 1020	CARBON	2K7	JA	1/6W
Δ R714	401 065 4604	OXI DE- MT	12K	JA	2W
R715	401 009 6622	CARBON	3. 3K	JA	1/2W
R721	401 026 3925	CARBON	330	JA	1/6W
R722	401 026 7022	CARBON	3K9	JA	1/6W
R723	401 025 4220	CARBON	1K8	JA	1/6W
Δ R724	401 065 4604	OXI DE- MT	12K	JA	2W
R725	401 009 6622	CARBON	3. 3K	JA	1/2W
R727	401 026 9620	CARBON	470	JA	1/6W

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
R741	401 026 9927	CARBON 4K7 JA 1/6W	ASSY, TEMPAUDIO-POLISH.2 1AA0B10H030EB		
R742	401 026 4328	CARBON 3K3 JA 1/6W			
R744	401 026 0627	CARBON 270 JA 1/6W			
R752	401 024 7430	CARBON 10K JA 1/6W			
R753	401 024 7430	CARBON 10K JA 1/6W			
VARIABLE RESISTOR			TRANSISTOR		
VR701	645 003 5722	VR, SEMI, 4. 7K N	Q1252	405 014 4519	TR 2SC2412KT146/R
VR702	645 003 5647	VR, SEMI, 1K N	Q1253	405 014 4519	TR 2SC2412KT146/R
VR711	645 003 5722	VR, SEMI, 4. 7K N	Q3452	405 014 4519	TR 2SC2412KT146/R
VR712	645 003 5647	VR, SEMI, 1K N	Q3453	405 014 4519	TR 2SC2412KT146/R
VR721	645 003 5722	VR, SEMI, 4. 7K N	Q3501	405 014 4519	TR 2SC2412KT146/R
			Q3502	405 014 4519	TR 2SC2412KT146/R
			Q3503	405 014 4519	TR 2SC2412KT146/R
COIL			INTEGRATED CIRCUIT		
L701	645 007 9856	PEAKING COIL 220UH K	IC1251	409 009 2501	IC HD14052BP
L711	645 007 9856	PEAKING COIL 220UH K	IC3451	409 445 1403	IC TDA9875A/V2
L721	645 007 9856	PEAKING COIL 220UH K	IC3500	409 367 2809	IC BA178M09T
			IC3501	409 398 9204	IC MM1369AD
DIODE			CAPACITOR		
D701	407 012 4416	DIODE 1SS133-T-77	C1251	403 248 1618	ELECT 47U M 16V
D711	407 012 4416	DIODE 1SS133-T-77	C3452	403 314 5915	SMD CAP GRM40X5R474K16
D721	407 012 4416	DIODE 1SS133-T-77	C3453	403 026 2813	CERAMIC 47P J 50V
D751	407 012 4416	DIODE 1SS133-T-77	C3454	403 068 0419	CERAMIC 0. 1U Z 25V
MISCELLANEOUS			C3455	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W
K7M	645 008 4058	TERMINAL PLUG	C3458	403 026 2813	CERAMIC 47P J 50V
K7P	645 008 7288	HOUSING PLUG 5P	C3461	403 248 1410	ELECT 1U M 50V
K7Q	645 008 7264	HOUSING PLUG 3P	C3462	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W
△ K701	645 031 7699	CRT SKT. HPS- 014103	C3468	403 248 1410	ELECT 1U M 50V
ASSY, TEMP SIF-POLISH.2 1AA0B10H030EA			C3469	403 248 1410	ELECT 1U M 50V
TRANSISTOR			C3473	403 279 4312	CERAMIC 0. 33U K 16V
Q3811	405 014 4519	TR 2SC2412KT146/R	C3474	403 279 4312	CERAMIC 0. 33U K 16V
INTEGRATED CIRCUIT			C3476	403 314 5915	SMD CAP GRM40X5R474K16
IC3801	409 310 8407	IC LA7577N	C3477	403 248 1618	ELECT 47U M 16V
CAPACITOR			C3480	403 248 1618	ELECT 47U M 16V
C3805	403 023 4414	CERAMIC 330P J 50V	C3481	403 248 1618	ELECT 47U M 16V
C3806	403 069 9510	CERAMIC CHIP 0. 01 Z 50V	C3482	403 069 9510	CERAMIC CHIP 0. 01 Z 50V
C3807	403 069 9510	CERAMIC CHIP 0. 01 Z 50V	C3483	403 069 9510	CERAMIC CHIP 0. 01 Z 50V
C3808	403 049 4204	ELECT 10U M 50V	C3484	403 248 1618	ELECT 47U M 16V
C3809	403 069 9510	CERAMIC CHIP 0. 01 Z 50V	C3485	403 069 9510	CERAMIC CHIP 0. 01 Z 50V
C3810	403 051 0607	ELECT 4. 7U M 50V	C3486	403 248 1410	ELECT 1U M 50V
C3811	403 018 0513	CERAMIC 22P J 50V	C3487	403 248 1410	ELECT 1U M 50V
C3812	403 048 6308	ELECT 0. 47U M 50V	C3490	403 009 5718	CERAMIC 100P J 50V
C3813	403 074 6610	CERAMIC 560P K 50V	C3492	403 069 5611	CERAMIC 0. 01U K 50V
C3814	403 069 1712	CERAMIC 1000P K 50V	C3493	403 069 5611	CERAMIC 0. 01U K 50V
C3815	403 069 9510	CERAMIC CHIP 0. 01 Z 50V	C3500	403 248 1618	ELECT 47U M 16V
RESISTOR			C3501	403 049 4204	ELECT 10U M 50V
R3811	401 038 7512	MT- GLAZE 56 JA 1/10W	C3502	403 075 0716	CERAMIC 6800P K 50V
R3812	401 037 5618	MT- GLAZE 10K JA 1/10W	C3503	403 010 1112	CERAMIC 100
R3815	401 037 5410	MT- GLAZE 1K JA 1/10W	C3504	403 192 5915	CERAMIC 0. 1U K 25V
R3816	401 038 3514	MT- GLAZE 330 JA 1/10W	C3505	403 248 1618	ELECT 47U M 16V
R3817	401 037 9210	MT- GLAZE 1. 8K JA 1/10W	C3506	403 248 2813	ELECT 2. 2U M 50V
R3818	401 038 9011	MT- GLAZE 680K JA 1/10W	C3507	403 069 5611	CERAMIC 0. 01U K 50V
TRANSFORMER			C3508	403 069 5611	CERAMIC 0. 01U K 50V
T3801	610 037 4539	S COIL	C3509	403 069 5611	CERAMIC 0. 01U K 50V
MISCELLANEOUS			C3510	403 069 5611	CERAMIC 0. 01U K 50V
J3801	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	C3511	403 010 1112	CERAMIC 100
J3802	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	C3512	403 192 5915	CERAMIC 0. 1U K 25V
J3811	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	C3513	403 075 0716	CERAMIC 6800P K 50V
J3813	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	C3514	403 049 4204	ELECT 10U M 50V
J3816	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	C3515	403 248 2813	ELECT 2. 2U M 50V
J3818	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	C3516	403 049 4204	ELECT 10U M 50V
K38H1	645 027 0185	PLUG, 4P	C3517	403 269 5916	CERAMIC 0. 22U K 16V
K38H2	645 027 0185	PLUG, 4P	C3518	403 248 1618	ELECT 47U M 16V
X3801	421 007 2208	SAW F TSB5393	C3520	403 248 1618	ELECT 47U M 16V
			C3521	403 279 4312	CERAMIC 0. 33U K 16V
			C3522	403 279 4312	CERAMIC 0. 33U K 16V
			RESISTOR		
			R1251	401 038 9318	MT- GLAZE 68K JA 1/10W
			R1252	401 038 9318	MT- GLAZE 68K JA 1/10W
			R1253	401 038 9318	MT- GLAZE 68K JA 1/10W
			R1254	401 038 9318	MT- GLAZE 68K JA 1/10W

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
R1255	401 038 9318	MT- GLAZE 68K JA 1/10W	K34C	645 027 0178	PLUG, 3P
R1256	401 038 9318	MT- GLAZE 68K JA 1/10W	X3451	645 024 7484	OSC, CRYSTAL 24. 576MHZ
R1257	401 038 9318	MT- GLAZE 68K JA 1/10W	ASSY,PWB,MAIN F2VVV 1AA0B10H026Q0		
R1258	401 038 9318	MT- GLAZE 68K JA 1/10W	TRANSISTOR		
R1261	401 038 6317	MT- GLAZE 470 JA 1/10W	Q001	406 007 2106	TR JC546A
R1262	401 038 0711	MT- GLAZE 2. 2K JA 1/10W	Q1001	406 007 1901	TR JC556A
R1263	401 038 6317	MT- GLAZE 470 JA 1/10W	Q1002	406 007 2106	TR JC546A
R1264	401 038 0711	MT- GLAZE 2. 2K JA 1/10W	Q1003	406 007 2106	TR JC546A
R3451	401 037 5212	MT- GLAZE 100 JA 1/10W	Q1004	406 007 2106	TR JC546A
R3452	401 037 5212	MT- GLAZE 100 JA 1/10W	Q1005	406 007 2106	TR JC546A
R3453	401 037 5618	MT- GLAZE 10K JA 1/10W	Q1041	406 007 2106	TR JC546A
R3454	401 037 5212	MT- GLAZE 100 JA 1/10W	Q1042	406 007 1901	TR JC556A
R3455	401 037 5618	MT- GLAZE 10K JA 1/10W	Q1043	406 007 2106	TR JC546A
R3456	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	Q1201	406 007 2106	TR JC546A
R3459	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	Q1202	406 007 2106	TR JC546A
R3462	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	Q1203	406 007 2106	TR JC546A
R3464	401 037 5212	MT- GLAZE 100 JA 1/10W	Q121	406 007 2106	TR JC546A
R3465	401 037 5618	MT- GLAZE 10K JA 1/10W	Q151	406 007 1901	TR JC556A
R3466	401 037 5410	MT- GLAZE 1K JA 1/10W	Q152	406 007 2106	TR JC546A
R3467	401 038 2111	MT- GLAZE 2. 7K JA 1/10W	Q153	406 007 1901	TR JC556A
R3468	401 037 5410	MT- GLAZE 1K JA 1/10W	Q154	406 007 1901	TR JC556A
R3469	401 038 2111	MT- GLAZE 2. 7K JA 1/10W	Q171	406 007 2106	TR JC546A
R3471	401 038 2012	MT- GLAZE 270 JA 1/10W	Q2001	406 007 2106	TR JC546A
R3472	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	Q201	406 007 2106	TR JC546A
R3473	401 038 6317	MT- GLAZE 470 JA 1/10W	Q202	406 007 2106	TR JC546A
R3474	401 038 0711	MT- GLAZE 2. 2K JA 1/10W	Q431	405 018 0616	TR 2SC3332- S
R3475	401 038 6317	MT- GLAZE 470 JA 1/10W	Q432	406 015 2501	ON5111 (BU2708DX) PH.
R3476	401 038 0711	MT- GLAZE 2. 2K JA 1/10W	Q432- 1	610 252 1108	H HEAT SINK E7LC
R3477	401 038 5310	MT- GLAZE 39K JA 1/10W	Q461	405 064 7307	TR 2SB1274- Q- RA
R3478	401 038 5310	MT- GLAZE 39K JA 1/10W	Q461- 1	610 251 5916	HEAT SINK PCC E7LC
R3479	401 037 8015	MT- GLAZE 15K JA 1/10W	Q462	406 007 2106	TR JC546A
R3480	401 037 8015	MT- GLAZE 15K JA 1/10W	Q501	406 007 2106	TR JC546A
R3501	401 180 0416	MT- GLAZE 7. 5K FA 1/10W	Q611	406 007 1901	TR JC556A
R3502	401 037 5212	MT- GLAZE 100 JA 1/10W	Q612	405 058 0208	TR 2SC3807- R- CTV- YA
R3503	401 037 5410	MT- GLAZE 1K JA 1/10W	Q613	405 095 0407	TR 2SC4429- L- YB
R3504	401 037 5410	MT- GLAZE 1K JA 1/10W	Q613- 1	610 251 5893	POW HEAT SINK E7LC
R3505	401 039 0512	MT- GLAZE 82K JA 1/10W	Q641	406 007 2106	TR JC546A
R3506	401 037 9319	MT- GLAZE 18K JA 1/10W	Q681	405 059 9804	TR 2SD1913- Q- RA
R3507	401 038 0711	MT- GLAZE 2. 2K JA 1/10W	Q682	406 007 1901	TR JC556A
R3508	401 037 5410	MT- GLAZE 1K JA 1/10W	Q801	405 118 4217	TR PH2369
R3509	401 038 9219	MT- GLAZE 6. 8K JA 1/10W	Q835	406 007 2106	TR JC546A
R3510	401 038 6416	MT- GLAZE 4. 7K JA 1/10W	Q861	406 007 1901	TR JC556A
R3511	401 038 0919	MT- GLAZE 220K JA 1/10W	Q871	406 007 2106	TR JC546A
R3512	401 038 7819	MT- GLAZE 56K JA 1/10W	Q872	406 007 2106	TR JC546A
R3513	401 038 7819	MT- GLAZE 56K JA 1/10W	Q873	406 007 2106	TR JC546A
R3514	401 038 5112	MT- GLAZE 3. 9K JA 1/10W	Q874	406 007 2106	TR JC546A
R3515	401 037 5410	MT- GLAZE 1K JA 1/10W	INTEGRATED CIRCUIT		
R3516	401 038 0711	MT- GLAZE 2. 2K JA 1/10W	IC001	409 301 4906	IC TDA7263M
R3517	401 037 5410	MT- GLAZE 1K JA 1/10W	IC001- 1	610 251 4186	AUDIO HEATSINK ASSY E7PC
R3518	401 038 0711	MT- GLAZE 2. 2K JA 1/10W	IC1201	409 018 7603	IC LA7016
COIL			IC1202	409 120 3401	IC LA7221
L3450	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	IC201	409 380 8703	IC TDA8361/N5
L3452	645 011 0252	INDUCTOR, 2. 2U K	IC271	409 404 0201	IC U3665M
L3456	645 011 0252	INDUCTOR, 2. 2U K	IC501	409 192 5709	IC LA7833
L3457	645 011 0252	INDUCTOR, 2. 2U K	IC501- 1	610 251 5909	V HEAT SINK E7LC
L3459	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	IC651	409 365 2900	IC BA178M12T
MISCELLANEOUS			IC652	409 365 2801	IC BA178M08T
J1251	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	IC653	409 241 5407	IC BA178M05T
J3459	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	IC654	409 367 2809	IC BA178M09T
J3463	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	IC801	410 342 3308	IC SAA5296ZP/**
J3465	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	IC802	409 333 3700	IC 24LC02B/P
J3469	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	IC810	409 019 6209	IC LA7910
J3474	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	CAPACITOR		
J3486	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	C001A	403 068 0419	CERAMI C 0. 1U Z 25V
J3489	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	C002	403 070 9813	CHIP CERAMIC 0. 015U K 50V
J3501	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	C003A	403 068 0419	CERAMI C 0. 1U Z 25V
K12B	645 008 7288	HOUSING PLUG 5P	C004	403 070 9813	CHI P CERAMI C 0. 015U K 50V
K34A	645 027 0192	PLUG, 10P			
K34B	645 027 0192	PLUG, 10P			

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
C005	403 258 3619	ELECT 33U M 25V	C141	403 028 4419	CERAMI C 56P J 50V
C006	403 258 3619	ELECT 33U M 25V	C142	403 068 0419	CERAMI C 0. 1U Z 25V
C007	403 237 7941	MT- COMPO 0. 22U J 50V	C143	403 027 1211	CERAMI C 5P J 50V
C008	403 237 7941	MT- COMPO 0. 22U J 50V	C146	403 010 8517	CERAMI C 18P J 50V
C009	403 237 7941	MT- COMPO 0. 22U J 50V	C151	403 024 2112	CERAMI C 39P J 50V
C010	403 237 7941	MT- COMPO 0. 22U J 50V	C162	403 068 2512	CERAMI C 0. 22U Z 25V
C011	403 218 8101	ELECT 1000U M 25V	C171	403 237 8057	MT- COMPO 0. 1U J 50V
C012	403 218 8101	ELECT 1000U M 25V	C1901	403 069 1712	CERAMI C 1000P K 50V
C013	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	C200	403 068 0419	CERAMI C 0. 1U Z 25V
C014	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	C2001	403 068 0419	CERAMI C 0. 1U Z 25V
C015	403 047 3100	ELECT 47U M 25V	C2002	403 068 0419	CERAMI C 0. 1U Z 25V
C016	403 152 4702	NP- ELECT 10U M 16V	C2003	403 068 0419	CERAMI C 0. 1U Z 25V
C017	403 152 4702	NP- ELECT 10U M 16V	C201	403 014 3419	CERAMI C 1
C020	403 069 0517	CERAMI C 1000P K 50V	C202	403 237 8057	MT- COMPO 0. 1U J 50V
C021	403 154 1917	ELECT 1000U M 35V	C203	403 073 9117	CERAMI C 4700P K 50V
C023	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	C204	403 068 0419	CERAMI C 0. 1U Z 25V
C024	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	C205	403 068 0419	CERAMI C 0. 1U Z 25V
C100	403 248 1618	ELECT 47U M 16V	C206	403 068 0419	CERAMI C 0. 1U Z 25V
C1001	403 069 1712	CERAMI C 1000P K 50V	C207	403 068 0419	CERAMI C 0. 1U Z 25V
C1002	403 049 4204	ELECT 10U M 50V	C208	403 068 0419	CERAMI C 0. 1U Z 25V
C1003	403 009 5718	CERAMI C 100P J 50V	C209	403 069 1712	CERAMI C 1000P K 50V
C1004	403 130 3119	CERAMI C 0. 047U K 50V	C212	403 248 2813	ELECT 2. 2U M 50V
C1005	403 069 1712	CERAMI C 1000P K 50V	C215	403 067 7895	MT- COMPO 0. 47 J 50V
C1006	403 049 4204	ELECT 10U M 50V	C222	404 045 6605	NP- ELECT 2. 2U M 50V
C1007	403 009 5718	CERAMI C 100P J 50V	C226	403 054 4909	ELECT 1U M 100V
C1008	403 130 3119	CERAMI C 0. 047U K 50V	C231	403 068 0419	CERAMI C 0. 1U Z 25V
C1009	403 049 4204	ELECT 10U M 50V	C232	403 033 4510	CERAMI C 82P J 50V
C101	403 194 4609	ELECT 470U M 16V	C233	403 068 0419	CERAMI C 0. 1U Z 25V
C102	403 248 1618	ELECT 47U M 16V	C234	403 033 4510	CERAMI C 82P J 50V
C1021	403 069 1712	CERAMI C 1000P K 50V	C235	403 008 7416	CERAMI C 10P D 50V
C1022	403 049 4204	ELECT 10U M 50V	C271	403 069 1712	CERAMI C 1000P K 50V
C1023	403 009 5718	CERAMI C 100P J 50V	C272	403 069 1712	CERAMI C 1000P K 50V
C1024	403 189 2425	ELECT 10U M 16V	C273	403 069 9510	CERAMI C CHIP 0. 01 Z 50V
C1025	403 069 1712	CERAMI C 1000P K 50V	C274	403 049 4204	ELECT 10U M 50V
C1026	403 049 4204	ELECT 10U M 50V	C351	403 237 8057	MT- COMPO 0. 1U J 50V
C1027	403 009 5718	CERAMI C 100P J 50V	C352	403 179 1015	POLYESTER 0. 047U J 50V
C1028	403 189 2425	ELECT 10U M 16V	C353	403 073 9117	CERAMI C 4700P K 50V
C1029	403 049 4204	ELECT 10U M 50V	C354	403 248 1410	ELECT 1U M 50V
C103A	403 069 1712	CERAMI C 1000P K 50V	C361	403 072 5615	CERAMI C 2700P K 50V
C1031	403 033 4510	CERAMI C 82P J 50V	C362	403 069 9510	CERAMI C CHIP 0. 01 Z 50V
C104B	403 248 1618	ELECT 47U M 16V	C363	403 195 8804	ELECT 100U M 16V
C1041	403 049 4204	ELECT 10U M 50V	C421	404 046 8806	MT- POLYPRO 6200P J 1. 5K
C106	403 248 1410	ELECT 1U M 50V	C422	403 299 3210	POLYPRO 0. 027U J 400V
C106A	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	C423	404 061 0601	MT- POLYPRO 5100P J 1. 5K
C107A	403 069 1712	CERAMI C 1000P K 50V	C424	403 299 3111	POLYPRO 0. 022U J 400V
C107B	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	C430	403 075 9719	CERAMI C 1800P K 500V
C108	403 027 1211	CERAMI C 5P J 50V	C431	403 068 5612	CERAMI C 0. 056U Z 25V
C109	403 027 1211	CERAMI C 5P J 50V	C432	403 075 7111	CERAMI C 1000P K 500V
C110	403 033 4510	CERAMI C 82P J 50V	C433	403 076 3112	CERAMI C 3900P K 500V
C1101	403 049 4204	ELECT 10U M 50V	C434	403 054 0703	ELECT 47U M 35V
C1103	403 069 1712	CERAMI C 1000P K 50V	C437	403 066 6106	MT- POLYEST 0. 47U J 250V
C1104	403 049 4204	ELECT 10U M 50V	C438	403 178 9319	POLYESTER 0. 01U J 50V
C1106	403 069 1712	CERAMI C 1000P K 50V	C441	403 083 5106	POLYPRO 0. 27U J 400V
C1107	403 049 4204	ELECT 10U M 50V	C445	403 049 4204	ELECT 10U M 50V
C1108	403 033 4510	CERAMI C 82P J 50V	C462	403 248 1410	ELECT 1U M 50V
C1109	403 008 7416	CERAMI C 10P D 50V	C463	403 237 8057	MT- COMPO 0. 1U J 50V
C114	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	C464	403 255 8934	MT- COMPO 0. 39U J 50V
C117	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	C465	403 066 0104	MT- POLYEST 2. 2U K 100V
C1200	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	C467	403 241 3817	ELECT 220U M 10V
C1201	403 049 4204	ELECT 10U M 50V	C468	403 217 1103	ELECT 22U M 50V
C1202	403 049 4204	ELECT 10U M 50V	C470	403 069 8315	CERAMI C 0. 01U Z 50V
C1203	403 069 8315	CERAMI C 0. 01U Z 50V	C481	403 076 1415	CERAMI C 2700P K 500V
C121	403 068 0419	CERAMI C 0. 1U Z 25V	C482	403 066 2009	MT- POLYEST 0. 1U K 250V
C131	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W	C501	403 054 1502	ELECT 470U M 35V
C132	403 069 1712	CERAMI C 1000P K 50V	C502	403 217 1103	ELECT 220U M 35V
C133	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	C503	403 024 2112	CERAMI C 39P J 50V
C134	403 050 6600	ELECT 3. 3U M 50V	C504	403 069 9510	CERAMI C CHIP 0. 01 Z 50V
C135	403 068 0419	CERAMI C 0. 1U Z 25V	C505	403 075 7111	CERAMI C 1000P K 500V
C136	403 194 4609	ELECT 470U M 16V	C506	403 102 8408	MT- POLYEST 0. 0UF K 100V
C137	403 068 0419	CERAMI C 0. 1U Z 25V	C511	403 256 4806	ECQU1104JMB 0. 1U J 100V
C138	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	C512	403 148 0701	ELECT 2200U M 25V

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
C513	403 049 4204	ELECT 10U M 50V	R1001	401 038 7611	MT- GLAZE 560 JA 1/10W
C514	403 049 4204	ELECT 10U M 50V	R1002	401 038 0711	MT- GLAZE 2. 2K JA 1/10W
C600	403 076 4010	CERAMI C 4700P K 500V	R1003	401 038 7611	MT- GLAZE 560 JA 1/10W
△ C601	404 060 7205	MT- POLYEST 0. 1U M 250V	R1004	401 038 0711	MT- GLAZE 2. 2K JA 1/10W
△ C602	404 060 7205	MT- POLYEST 0. 1U M 250V	R1005	401 027 6628	CARBON 75 JA 1/6W
C603	403 076 7130	CERAMI C 1000P M 1K	R1006	401 038 5310	MT- GLAZE 39K JA 1/10W
C604	403 076 7130	CERAMI C 1000P M 1K	R1007	401 038 3712	MT- GLAZE 33K JA 1/10W
C605	403 076 7130	CERAMI C 1000P M 1K	R1008	401 027 6628	CARBON 75 JA 1/6W
C606	403 076 7130	CERAMI C 1000P M 1K	R1009	401 027 6628	CARBON 75 JA 1/6W
C607	404 047 1608	ELECT 270U M 385V	R101	401 038 6218	MT- GLAZE 47 JA 1/10W
C613	403 179 1213	POLYESTER 4700P J 50V	R1010	401 027 6628	CARBON 75 JA 1/6W
C614	403 237 8057	MT- COMPO 0. 1U J 50V	R1011	401 037 5212	MT- GLAZE 100 JA 1/10W
C615	403 179 3217	POLYESTER 0. 015U J 50V	R1012	401 027 6628	CARBON 75 JA 1/6W
C616	403 246 8708	CERAMI C 1000P K 2K	R1013	401 012 4543	CARBON 100 JA 1/4W
C617	403 179 2418	POLYESTER 0. 022U K 50V	R1014	401 027 6628	CARBON 75 JA 1/6W
△ C631	404 060 6505	CERAMI C 2200P M 400V	R1015	401 038 6416	MT- GLAZE 4. 7K JA 1/10W
△ C632	404 044 2806	CERAMI C 470P K 400V	R1016	401 019 1040	CARBON 390 JA 1/4W
C640	403 069 8315	CERAMI C 0. 01U Z 50V	R1017	401 024 7430	CARBON 10K JA 1/6W
C641	403 165 9335	CERAMI C 680P K 1K	R1018	401 038 3514	MT- GLAZE 330 JA 1/10W
C642	404 055 9801	ELECT 220U M 200V	R1021	401 038 7611	MT- GLAZE 560 JA 1/10W
C643	403 214 4404	ELECT 470U M 35V	R1022	401 038 0711	MT- GLAZE 2. 2K JA 1/10W
C644	403 148 0701	ELECT 2200U M 25V	R1023	401 038 7611	MT- GLAZE 560 JA 1/10W
C645	403 161 2607	ELECT 2200U M 35V	R1024	401 038 0711	MT- GLAZE 2. 2K JA 1/10W
C651	403 148 0305	ELECT 470U M 16V	R1025	401 038 5310	MT- GLAZE 39K JA 1/10W
C652	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	R1026	401 038 3712	MT- GLAZE 33K JA 1/10W
C653	403 248 1618	ELECT 47U M 16V	R1027	401 027 6628	CARBON 75 JA 1/6W
C655	403 126 4400	ELECT 100U M 10V	R1028	401 027 6628	CARBON 75 JA 1/6W
C661	403 051 0607	ELECT 4. 7U M 50V	R1029	401 017 0847	CARBON 270 JA 1/4W
C681	403 190 4702	ELECT 1000U M 25V	R1031	401 038 0612	MT- GLAZE 220 JA 1/10W
C682	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	R1032	401 038 0612	MT- GLAZE 220 JA 1/10W
C683	403 039 9004	ELECT 1000U M 10V	R1033	401 038 0612	MT- GLAZE 220 JA 1/10W
C684	403 050 6600	ELECT 3. 3U M 50V	R1041	401 038 2210	MT- GLAZE 27K JA 1/10W
C802	403 237 8057	MT- COMPO 0. 1U J 50V	R1042	401 037 5618	MT- GLAZE 10K JA 1/10W
C812	403 248 1410	ELECT 1U M 50V	R1043	401 039 0314	MT- GLAZE 820 JA 1/10W
C814	403 248 1410	ELECT 1U M 50V	R1044	401 039 0314	MT- GLAZE 820 JA 1/10W
C816	403 051 0607	ELECT 4. 7U M 50V	R1045	401 037 5410	MT- GLAZE 1K JA 1/10W
C818	403 051 0607	ELECT 4. 7U M 50V	R1046	401 038 0711	MT- GLAZE 2. 2K JA 1/10W
C841	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	R1047	401 037 6714	MT- GLAZE 1. 2K JA 1/10W
C861	403 179 0810	POLYESTER 0. 0056U J 5	R1051	401 037 8114	MT- GLAZE 150K JA 1/10W
C871	403 068 0419	CERAMI C 0. 1U Z 25V	R1052	401 037 5717	MT- GLAZE 100K JA 1/10W
C872	403 248 1618	ELECT 47U M 16V	R1053	401 037 6714	MT- GLAZE 1. 2K JA 1/10W
C873	403 018 0513	CERAMI C 22P J 50V	R1054	401 037 8114	MT- GLAZE 150K JA 1/10W
C874	403 018 0513	CERAMI C 22P J 50V	R1055	401 037 5717	MT- GLAZE 100K JA 1/10W
C875	403 068 0419	CERAMI C 0. 1U Z 25V	R1056	401 037 6714	MT- GLAZE 1. 2K JA 1/10W
C878	403 073 9117	CERAMI C 4700P K 50V	R108	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W
C879	403 068 0419	CERAMI C 0. 1U Z 25V	R110	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W
C881	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	R1101	401 027 6628	CARBON 75 JA 1/6W
C882	403 049 4204	ELECT 10U M 50V	R1102	401 038 2012	MT- GLAZE 270 JA 1/10W
C883	403 018 0513	CERAMI C 22P J 50V	R1103	401 038 0711	MT- GLAZE 2. 2K JA 1/10W
C884	403 018 0513	CERAMI C 22P J 50V	R1104	401 038 0711	MT- GLAZE 2. 2K JA 1/10W
C892	403 069 9510	CERAMI C CHIP 0. 01 Z 50V	R1105	401 037 5717	MT- GLAZE 100K JA 1/10W
			R1106	401 037 5717	MT- GLAZE 100K JA 1/10W
			R1111	401 037 5618	MT- GLAZE 10K JA 1/10W
			R1200	401 022 1935	CARBON 680 JA 1/4W
			R1201	401 038 6515	MT- GLAZE 47K JA 1/10W
			R1202	401 038 6515	MT- GLAZE 47K JA 1/10W
			R1203	401 037 5618	MT- GLAZE 10K JA 1/10W
			R1204	401 038 2210	MT- GLAZE 27K JA 1/10W
			R1205	401 038 2210	MT- GLAZE 27K JA 1/10W
			R1208	401 038 0810	MT- GLAZE 22K JA 1/10W
			R1209	401 012 7049	CARBON 10K JA 1/4W
			R121	401 020 2944	CARBON 47K JA 1/4W
			R131	401 038 0919	MT- GLAZE 220K JA 1/10W
			R132	401 038 0919	MT- GLAZE 220K JA 1/10W
			R133	401 037 9111	MT- GLAZE 180 JA 1/10W
			R134	401 039 0413	MT- GLAZE 8. 2K JA 1/10W
			R135	401 038 0810	MT- GLAZE 22K JA 1/10W
			R136	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W
			R137	401 037 5212	MT- GLAZE 100 JA 1/10W
			R138	401 038 7710	MT- GLAZE 5. 6K JA 1/10W
			R141	401 038 9219	MT- GLAZE 6. 8K JA 1/10W
RESISTOR					
R001	401 037 5410	MT- GLAZE 1K JA 1/10W			
R002	401 037 9210	MT- GLAZE 1. 8K JA 1/10W			
R003	401 037 5410	MT- GLAZE 1K JA 1/10W			
R004	401 037 9210	MT- GLAZE 1. 8K JA 1/10W			
R005	401 019 9640	CARBON 47 JA 1/4W			
R006	401 014 4145	CARBON 1K5 JA 1/4W			
R007	401 019 9640	CARBON 47 JA 1/4W			
R008	401 014 4145	CARBON 1K5 JA 1/4W			
R009	401 010 1514	CARBON 4. 7 JA 1/2W			
R010	401 010 1514	CARBON 4. 7 JA 1/2W			
R011	401 007 7641	CARBON 150 JA 1/2W			
R012	401 007 7641	CARBON 150 JA 1/2W			
R013	401 037 6714	MT- GLAZE 1. 2K JA 1/10W			
R014	401 016 2644	CARBON 220 JA 1/4W			
R015	401 037 5410	MT- GLAZE 1K JA 1/10W			
R016	401 038 6515	MT- GLAZE 47K JA 1/10W			
R017	401 037 5618	MT- GLAZE 10K JA 1/10W			
R100	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W			

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
R150	401 024 7024	CARBON 1K JA 1/6W	△ R435	402 075 2307	WIRE WOUND 10 JA 5W
R151	401 022 1935	CARBON 680 JA 1/4W	R436	401 012 7049	CARBON 10K JA 1/4W
R152	401 025 3827	CARBON 180 JA 1/6W	△ R441	401 058 3706	OXIDE-MT 1K JA 1W
R153	401 037 5410	MT- GLAZE 1K JA 1/10W	R447	401 026 9927	CARBON 4K7 JA 1/6W
R154	401 038 7611	MT- GLAZE 560 JA 1/10W	R448	401 009 5843	CARBON 330 JA 1/2W
R155	401 037 5410	MT- GLAZE 1K JA 1/10W	△ R451	401 064 5305	OXIDE-MT 1.5 JA 2W
R156	401 037 5410	MT- GLAZE 1K JA 1/10W	R462	401 014 4145	CARBON 1K5 JA 1/4W
R157	401 039 0918	MT- GLAZE 910 JA 1/10W	R463	401 025 4220	CARBON 1K8 JA 1/6W
R158	401 037 5410	MT- GLAZE 1K JA 1/10W	R467	401 025 8723	CARBON 220K JA 1/6W
R159	401 022 1935	CARBON 680 JA 1/4W	R468	401 025 4220	CARBON 1K8 JA 1/6W
R163	401 038 6515	MT- GLAZE 47K JA 1/10W	R469	401 027 5928	CARBON 68K JA 1/6W
R171	401 038 6317	MT- GLAZE 470 JA 1/10W	R470	401 027 0329	CARBON 47K JA 1/6W
R172	401 016 2644	CARBON 220 JA 1/4W	R471	401 025 1625	CARBON 1K5 JA 1/6W
R173	401 025 7429	CARBON 220 JA 1/6W	R472	401 027 0329	CARBON 47K JA 1/6W
R1901	401 037 8015	MT- GLAZE 15K JA 1/10W	R473	401 027 5225	CARBON 680 JA 1/6W
R1901A	401 037 5014	MT- GLAZE 0.000 ZA 1/10W	R474	401 009 0927	CARBON 270 JA 1/2W
R1902	401 039 0413	MT- GLAZE 8.2K JA 1/10W	R481	401 015 4738	CARBON 180K JA 1/4W
R1902A	401 037 5014	MT- GLAZE 0.000 ZA 1/10W	R482	401 027 2620	CARBON 5K6 JA 1/6W
R1903	401 038 6416	MT- GLAZE 4.7K JA 1/10W	R501	401 020 2053	CARBON 4.7K JA 1/4W
R1903A	401 037 5014	MT- GLAZE 0.000 ZA 1/10W	△ R502	402 002 2004	FUSIBLE RES 4.7 J- 1/2W
R1904	401 038 2111	MT- GLAZE 2.7K JA 1/10W	R504	401 027 3023	CARBON 56K JA 1/6W
R1905	401 038 0711	MT- GLAZE 2.2K JA 1/10W	R505	401 026 7022	CARBON 3K9 JA 1/6W
R1906	401 037 5014	MT- GLAZE 0.000 ZA 1/10W	R506	401 026 9927	CARBON 4K7 JA 1/6W
R1907	401 037 5618	MT- GLAZE 10K JA 1/10W	R507	401 027 5027	CARBON 68 JA 1/6W
R1908	401 038 3514	MT- GLAZE 330 JA 1/10W	R508	401 025 7825	CARBON 2K2 JA 1/6W
R1909	401 037 7919	MT- GLAZE 1.5K JA 1/10W	△ R509	401 057 7507	OXIDE-MT 0.82 JA 1W
R1911	401 038 6317	MT- GLAZE 470 JA 1/10W	△ R511	401 061 6404	OXIDE-MT 390 JA 1W
R1921	401 037 6615	MT- GLAZE 120 JA 1/10W	△ R513	401 058 3706	OXIDE-MT 1K JA 1W
R1922	401 038 5013	MT- GLAZE 390 JA 1/10W	△ R521	402 037 1805	FUSIBLE RES 4.7 J- 1W
R1924	401 022 3147	CARBON 6K8 JA 1/4W	△ R602	402 072 4403	WIRE WOUND 3.9 KA 7W
R2001	401 038 2210	MT- GLAZE 27K JA 1/10W	R611	401 027 2620	CARBON 5K6 JA 1/6W
R2002	401 037 5618	MT- GLAZE 10K JA 1/10W	R615	401 025 8228	CARBON 22K JA 1/6W
R2004	401 037 7810	MT- GLAZE 150 JA 1/10W	R617	401 024 7024	CARBON 1K JA 1/6W
R2005	401 019 1941	CARBON 3K9 JA 1/4W	R619	401 016 1538	CARBON 22 JA 1/4W
R201	401 039 0413	MT- GLAZE 8.2K JA 1/10W	R620	401 007 5815	CARBON 120K JA 1/2W
R202	401 037 5717	MT- GLAZE 100K JA 1/10W	R621	401 007 5815	CARBON 120K JA 1/2W
R203	401 024 6720	CARBON 100 JA 1/6W	R622	401 014 5241	CARBON 15K JA 1/4W
R204	401 024 6720	CARBON 100 JA 1/6W	R623	401 025 4220	CARBON 1K8 JA 1/6W
R205	401 024 6720	CARBON 100 JA 1/6W	△ R624	401 068 6902	OXIDE-MT 56 JA 2W
R206	401 037 5212	MT- GLAZE 100 JA 1/10W	△ R625	401 065 9609	OXIDE-MT 18 JA 2W
R207	401 037 5212	MT- GLAZE 100 JA 1/10W	R626	401 016 3344	CARBON 2.2K GA 1/4W
R208	401 037 5212	MT- GLAZE 100 JA 1/10W	△ R631	402 000 8602	SOLID 5.6M KA 1/2W
R212	401 017 1844	CARBON 2K7 JA 1/4W	R632	402 000 8602	SOLID 5.6M KA 1/2W
R213	401 038 7710	MT- GLAZE 5.6K JA 1/10W	R641	401 014 6149	CARBON 150K JA 1/4W
R214	401 037 5212	MT- GLAZE 100 JA 1/10W	R642	401 027 4327	CARBON 6.2K JA 1/6W
R215	401 038 3712	MT- GLAZE 33K JA 1/10W	R643	401 015 4738	CARBON 180K JA 1/4W
R216	401 016 4836	CARBON 22K JA 1/4W	R644	401 011 2718	CARBON 68K JA 1/2W
R217	401 016 4836	CARBON 22K JA 1/4W	R645	401 025 8228	CARBON 22K JA 1/6W
R218	401 038 7819	MT- GLAZE 56K JA 1/10W	△ R646	402 069 9800	WIRE WOUND 2.7 KA 5W
R223	401 014 9506	CARBON 160K JA 1/4W	△ R647	402 076 0609	WIRE WOUND 8.2 KA 7W
R224	401 024 7024	CARBON 1K JA 1/6W	R648	401 026 9927	CARBON 4K7 JA 1/6W
R226	401 026 7428	CARBON 39K JA 1/6W	△ R651	401 064 3806	OXIDE-MT 1 JA 2W
R227	401 012 7049	CARBON 10K JA 1/4W	△ R652	401 065 1801	OXIDE-MT 12 JA 2W
R231	401 038 2012	MT- GLAZE 270 JA 1/10W	△ R653	401 067 8204	OXIDE-MT 39 JA 2W
R232	401 038 2012	MT- GLAZE 270 JA 1/10W	△ R655	401 065 5809	OXIDE-MT 15 JA 2W
R271	401 024 6720	CARBON 100 JA 1/6W	△ R661	401 068 4700	OXIDE-MT 4.7K JA 2W
R272	401 024 9028	CARBON 120 JA 1/6W	△ R662	401 068 8807	OXIDE-MT 5.6K JA 2W
R351	401 037 5212	MT- GLAZE 100 JA 1/10W	R681	401 008 1628	CARBON 1K8 JA 1/2W
R353	401 038 0919	MT- GLAZE 220K JA 1/10W	△ R682	401 069 1708	OXIDE-MT 68 JA 2W
R354	401 024 7727	CARBON 100K JA 1/6W	R684	401 023 2842	CARBON 8K2 JA 1/4W
R355	401 012 9904	CARBON 10M JA 1/4W	R685	401 025 8228	CARBON 22K JA 1/6W
R356	401 037 5212	MT- GLAZE 100 JA 1/10W	R800	401 016 3849	CARBON 2.2K JA 1/4W
R357	401 037 5618	MT- GLAZE 10K JA 1/10W	R801	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
R361	401 038 5419	MT- GLAZE 390K JA 1/10W	R802	401 038 0711	MT- GLAZE 2.2K JA 1/10W
R363	401 038 0810	MT- GLAZE 22K JA 1/10W	R803	401 037 9418	MT- GLAZE 180K JA 1/10W
R364	401 037 5212	MT- GLAZE 100 JA 1/10W	R804	401 024 7430	CARBON 10K JA 1/6W
R365	401 038 6416	MT- GLAZE 4.7K JA 1/10W	R806	401 024 7430	CARBON 10K JA 1/6W
R431	401 038 3514	MT- GLAZE 330 JA 1/10W	R807	401 024 7430	CARBON 10K JA 1/6W
R432	401 037 5410	MT- GLAZE 1K JA 1/10W	R808	401 019 1941	CARBON 3K9 JA 1/4W
R433	401 007 1134	CARBON 1K JA 1/2W	R811	401 016 3849	CARBON 2.2K JA 1/4W
△ R434	401 067 9003	OXIDE-MT 390 JA 2W			

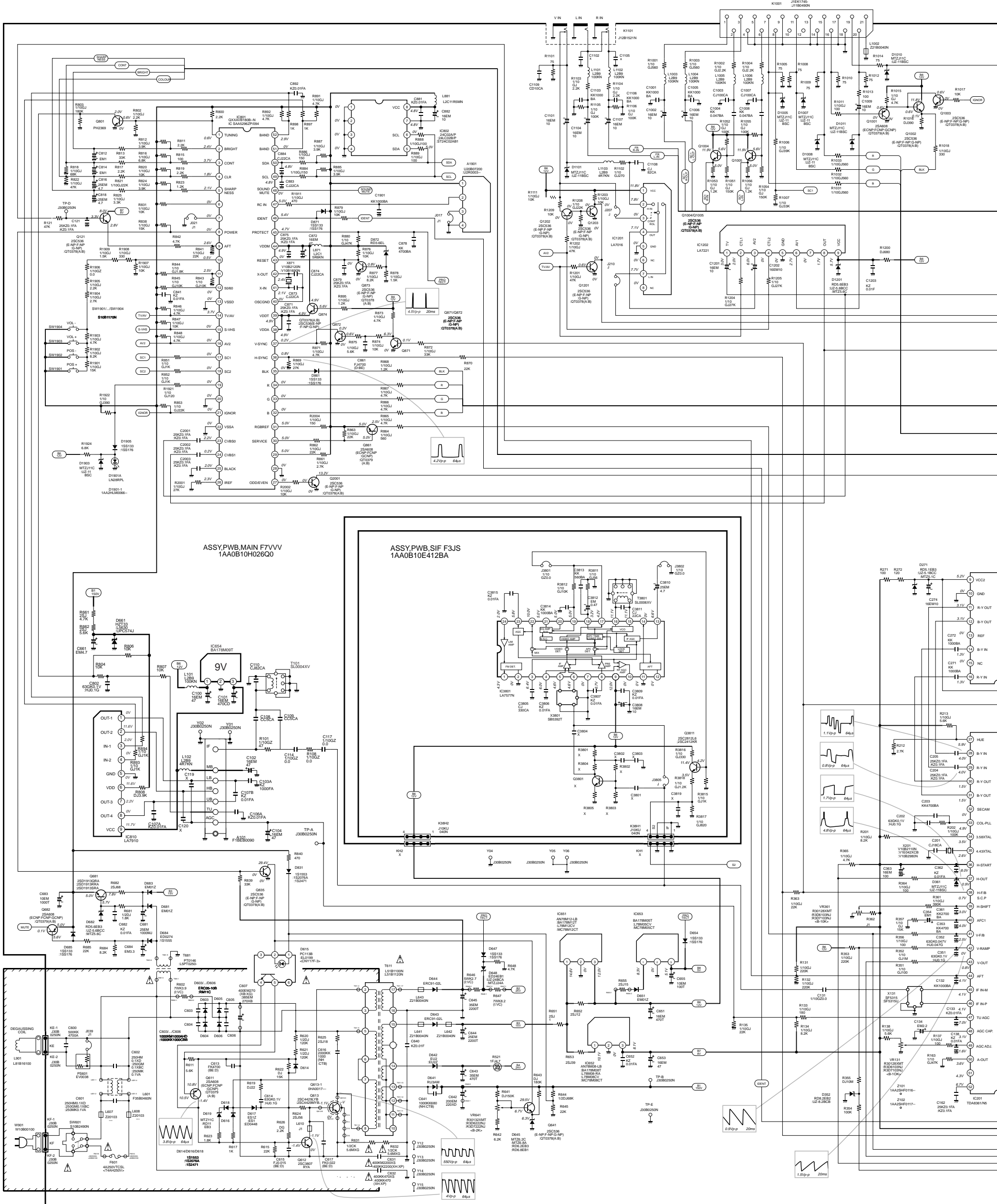
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
R812	401 038 5112	MT- GLAZE 3. 9K JA 1/10W			
R813	401 018 4933	CARBON 33K JA 1/4W			
R815	401 012 4543	CARBON 100 JA 1/4W			
R816	401 038 9219	MT- GLAZE 6. 8K JA 1/10W			
R817	401 016 3849	CARBON 2. 2K JA 1/4W			
R817A	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W			
R818	401 038 9318	MT- GLAZE 68K JA 1/10W			
R819	401 016 3849	CARBON 2. 2K JA 1/4W			
R820	401 037 5618	MT- GLAZE 10K JA 1/10W			
R821	401 038 0810	MT- GLAZE 22K JA 1/10W			
R822	401 038 6515	MT- GLAZE 47K JA 1/10W			
R823	401 013 5341	CARBON 1K2 JA 1/4W			
R824	401 038 5112	MT- GLAZE 3. 9K JA 1/10W			
R825	401 038 3613	MT- GLAZE 3. 3K JA 1/10W			
R831	401 037 5618	MT- GLAZE 10K JA 1/10W			
R838	401 037 8015	MT- GLAZE 15K JA 1/10W			
R839	401 018 4933	CARBON 33K JA 1/4W			
R840	401 020 0841	CARBON 470 JA 1/4W			
R841	401 038 0810	MT- GLAZE 22K JA 1/10W			
R842	401 020 2053	CARBON 4. 7K JA 1/4W			
R843	401 037 5618	MT- GLAZE 10K JA 1/10W			
R844	401 037 9210	MT- GLAZE 1. 8K JA 1/10W			
R845	401 037 5618	MT- GLAZE 10K JA 1/10W			
R846	401 038 6416	MT- GLAZE 4. 7K JA 1/10W			
R847	401 037 5618	MT- GLAZE 10K JA 1/10W			
R848	401 038 6416	MT- GLAZE 4. 7K JA 1/10W			
R851	401 037 5410	MT- GLAZE 1K JA 1/10W			
R852	401 037 5410	MT- GLAZE 1K JA 1/10W			
R853	401 038 0810	MT- GLAZE 22K JA 1/10W			
R861	401 038 2111	MT- GLAZE 2. 7K JA 1/10W			
R862	401 038 0810	MT- GLAZE 22K JA 1/10W			
R863	401 038 0810	MT- GLAZE 22K JA 1/10W			
R864	401 038 9011	MT- GLAZE 680 JA 1/10W			
R865	401 038 0711	MT- GLAZE 2. 2K JA 1/10W			
R866	401 038 0711	MT- GLAZE 2. 2K JA 1/10W			
R867	401 038 0711	MT- GLAZE 2. 2K JA 1/10W			
R868	401 037 6714	MT- GLAZE 1. 2K JA 1/10W			
R869	401 038 2210	MT- GLAZE 27K JA 1/10W			
R870	401 016 4836	CARBON 22K JA 1/4W			
R870A	401 037 5014	MT- GLAZE 0. 000 ZA 1/10W			
R871	401 038 6416	MT- GLAZE 4. 7K JA 1/10W			
R872	401 038 3712	MT- GLAZE 33K JA 1/10W			
R873	401 038 6416	MT- GLAZE 4. 7K JA 1/10W			
R874	401 037 5618	MT- GLAZE 10K JA 1/10W			
R875	401 038 7710	MT- GLAZE 5. 6K JA 1/10W			
R876	401 037 5618	MT- GLAZE 10K JA 1/10W			
R877	401 039 0413	MT- GLAZE 8. 2K JA 1/10W			
R878	401 037 7919	MT- GLAZE 1. 5K JA 1/10W			
R879	401 037 5618	MT- GLAZE 10K JA 1/10W			
R880	401 038 6515	MT- GLAZE 47K JA 1/10W			
R884	401 037 7810	MT- GLAZE 150 JA 1/10W			
R885	401 038 5112	MT- GLAZE 3. 9K JA 1/10W			
R886	401 037 7810	MT- GLAZE 150 JA 1/10W			
R887	401 038 5112	MT- GLAZE 3. 9K JA 1/10W			
R888	401 037 5212	MT- GLAZE 100 JA 1/10W			
R889	401 037 5212	MT- GLAZE 100 JA 1/10W			
R891	401 038 6416	MT- GLAZE 4. 7K JA 1/10W			
R892	401 038 6416	MT- GLAZE 4. 7K JA 1/10W			
R893	401 037 5410	MT- GLAZE 1K JA 1/10W			
R894	401 037 5410	MT- GLAZE 1K JA 1/10W			
R895	401 037 6714	MT- GLAZE 1. 2K JA 1/10W			
R897	401 012 5748	CARBON 1K JA 1/4W			
R898	401 012 5748	CARBON 1K JA 1/4W			
VARIABLE RESISTOR					
VR131	645 003 5531	VR 10K ALPS			
VR361	645 003 5531	VR 10K ALPS			
VR462	645 003 5616	VR 4. 7K ALPS			
VR501	645 006 5231	VR 100 ALPS			
VR641	645 003 5579	VR 2. 2K ALPS			
TRANSFORMER					
			TP- A	645 008 4058	TERMI NAL PLUG
			TP- B	645 008 4058	TERMI NAL PLUG
			TP- D	645 008 4058	TERMI NAL PLUG
			TP- E	645 008 4058	TERMI NAL PLUG
			T101	610 037 4508	S COIL
			T141	610 037 4522	S COIL
			T431	610 223 1656	DRIVE TRANS
			Δ T451	645 027 9317	F. B. T. SAMSUNG FSM- 28A001
			Δ T611	645 015 7653	TRANS. POWER, PULSE
			Δ T681	610 033 3758	POWER TRANS
COIL					
			L001	645 008 5635	I NDUCTOR, 12U K
			L002	645 008 5635	I NDUCTOR, 12U K
			L003	645 002 4511	CORE, PIPE
			L1002	645 002 4511	CORE, PIPE
			L1003	645 001 4550	PEAKING COIL 10UHK
			L1004	645 001 4550	PEAKING COIL 10UHK
			L1005	645 001 4550	PEAKING COIL 10UHK
			L1006	645 001 4550	PEAKING COIL 10UHK
			L101	645 001 4710	PEAKING COIL 10UH J
			L102	645 001 5656	PEAKING COIL 4. 7UH K
			L1022	645 002 4511	CORE, PIPE
			L1023	645 001 4550	PEAKING COIL 10UHK
			L1024	645 001 4550	PEAKING COIL 10UHK
			L1025	645 001 4550	PEAKING COIL 10UHK
			L1026	645 001 4550	PEAKING COIL 10UHK
			L1027	645 001 5656	PEAKING COIL 4. 7UH K
			L1101	645 001 4550	PEAKING COIL 10UHK
			L1102	645 001 4550	PEAKING COIL 10UHK
			L1103	645 001 5656	PEAKING COIL 4. 7UH K
			L141	645 001 4550	PEAKING COIL 10UHK
			L151	645 002 1534	PEAKING COIL 8. 2UHK
			L152	645 002 1459	PEAKING COIL
			L201	645 001 4710	PEAKING COIL 10UH J
			L202	645 001 4710	PEAKING COIL 10UH J
			L203	645 001 4710	PEAKING COIL 10UH J
			L231	645 001 5656	PEAKING COIL 4. 7UH K
			L232	645 003 8518	PEAKING COIL
			L431	645 008 5628	I NDUCTOR, 1U M
			L432	645 002 4511	CORE, PIPE
			L441	610 000 0964	L I N E A R I T Y COIL
			L442	610 221 3348	COIL
			L461	645 005 5645	I NDUCTOR 222UH K
			L462	610 000 0261	COIL 349UH
			L501	645 008 5642	I NDUCTOR, 3. 3U K
			L601	645 017 1260	E L F 18D431F L I N E F I L T E R
			L607	610 237 1000	P I P E C O R E
			L608	610 237 1000	P I P E C O R E
			L641	645 002 4511	C O R E, P I P E
			L642	645 002 4511	C O R E, P I P E
			L643	645 002 4511	C O R E, P I P E
			L871	645 008 2962	PEAKING COIL 5. 6UH K
			L881	645 012 8707	PEAKING COIL 1. 5UH M
DIODE					
			D1005	407 063 8319	ZENER DIODE MTZJ11C
			D1007	407 063 8319	ZENER DIODE MTZJ11C
			D1008	407 063 8319	ZENER DIODE MTZJ11C
			D1010	407 063 8319	ZENER DIODE MTZJ11C
			D1011	407 063 8319	ZENER DIODE MTZJ11C
			D1021	407 063 8319	ZENER DIODE MTZJ11C
			D1022	407 063 8319	ZENER DIODE MTZJ11C
			D1023	407 063 8319	ZENER DIODE MTZJ11C
			D1024	407 063 8319	ZENER DIODE MTZJ11C
			D1026	407 063 8319	ZENER DIODE MTZJ11C
			D1027	407 063 8319	ZENER DIODE MTZJ11C
			D1101	407 063 8319	ZENER DIODE MTZJ11C
			D1201	407 053 6803	ZENER DIODE MTZ5. 6C

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
D135	407 063 8319	ZENER DIODE MTZJ11C	J231	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D1901- 1	610 269 4710	HOLDER LED A- G2CA	J232	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D1901A	407 116 6504	LED SLP- 181B- 51	J233	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D1903	407 063 8319	ZENER DIODE MTZJ11C	J234	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D1905	407 012 4416	DIODE 1SS133- T- 77	J235	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D201	407 063 8319	ZENER DIODE MTZJ11C	J236	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D202	407 063 8319	ZENER DIODE MTZJ11C	J237	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D203	407 063 8319	ZENER DIODE MTZJ11C	J238	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D210	407 012 4416	DIODE 1SS133- T- 77	J239	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D221	407 012 4416	DIODE 1SS133- T- 77	J240	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D222	408 007 8607	DIODE 1N4148	J241	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D271	407 053 6209	ZENER DIODE MTZ5. 1A- T- 77	J242	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D352	407 053 8401	ZENER DIODE MTZ8. 2B- T- 77	J245	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D361	407 063 8319	ZENER DIODE MTZJ11C	J247	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D431	407 162 2703	ZENER DIODE UZ- 9. 1BCB	J248	401 037 5014	MT- GLAZE 0.000 ZA 1/10W
D432	407 005 7328	DIODE EMO1Z	KDY- 1	645 008 4058	TERMINAL PLUG
△ D438	407 095 8001	DIODE ERD07- 15L	KDY- 3	645 008 4058	TERMINAL PLUG
D439	407 006 4128	DIODE ERB44- 04V1	KDY- 5	645 008 4058	TERMINAL PLUG
D442	408 007 8607	DIODE 1N4148	KDY- 6	645 008 4058	TERMINAL PLUG
D445	407 012 4416	DIODE 1SS133- T- 77	△ KE- 1	645 008 4058	TERMINAL PLUG
D446	407 151 9003	ZENER DIODE UZ- 7. 5BCC	KE- 2	645 008 4058	TERMINAL PLUG
D464	407 053 6803	ZENER DIODE MTZ5. 6C	△ KF- 1	645 008 4058	TERMINAL PLUG
D465	407 012 4416	DIODE 1SS133- T- 77	KF- 2	645 008 4058	TERMINAL PLUG
D466	407 077 9705	ZENER DIODE MTZ20A	KL	645 004 2881	PLUG, 2P
D469	407 007 7415	DIODE EU1	KP	645 008 7288	HOUSING PLUG 5P
D481	407 007 7415	DIODE EU1	KQ	645 008 7264	HOUSING PLUG 3P
D482	407 012 4416	DIODE 1SS133- T- 77	KR- 1	645 008 4058	TERMINAL PLUG
D501	407 005 7328	DIODE EMO1Z	KR- 2	645 008 4058	TERMINAL PLUG
D502	407 118 2217	ZENER DIODE 1Z75	K001	645 005 5706	PHONE JACK HTJ- 035- 10AB
D603	407 009 6921	DIODE RM11C	K10B	645 008 7288	HOUSING PLUG 5P
D604	407 009 6921	DIODE RM11C	K1001	645 005 5867	21- PIN SOCKET
D605	407 009 6921	DIODE RM11C	K1001Z	610 261 2813	MOUNTING BRKT- F2WW
D606	407 009 6921	DIODE RM11C	K1002	645 005 5867	21- PIN SOCKET
D614	408 007 8607	DIODE 1N4148	K1002Z	610 261 2813	MOUNTING BRKT- F2WW
△ D615	408 009 8407	PHOTO COUPLE CNY17GF- 3	K1101	645 016 6433	JACK, RCA- 3
D616	408 007 8607	DIODE 1N4148	PB101	610 275 0539	PWB, MAIN F3SS
D617	407 007 6616	DIODE ES1	PS601	408 013 3801	TH PTH451C262BF140M270
D618	408 007 8607	DIODE 1N4148	SW1901	610 011 4432	SWITCH, PUSH
D619	407 053 3000	ZENER DIODE MTZ11C	SW1902	610 011 4432	SWITCH, PUSH
D641	407 009 8816	DIODE RU3AM	SW1903	610 011 4432	SWITCH, PUSH
D642	407 007 7613	DIODE EU2	SW1904	610 011 4432	SWITCH, PUSH
△ D643	407 166 2303	DIODE ERC- 91- 02L	SW501	610 011 2728	SWITCH, LEVER 1P- 3T
△ D644	407 166 2303	DIODE ERC- 91- 02L	SW601	645 024 0607	PUSH SW POWER SDDFC3
D645	407 053 7206	ZENER DIODE MTZ6. 2C	X131	421 002 2609	SAW F TSF5315
D647	407 012 4416	DIODE 1SS133- T- 77	X151	610 015 3547	EFC- S5R5MM3AS (5. 5B)
D648	407 099 8601	ZENER DIODE MTZJT77- 24A	X152	645 000 4490	TRAP, CERAMIC (6. 5W3)
D651	407 005 7328	DIODE EMO1Z	X201	645 025 2631	OSC, CRYSTAL 4. 43MHZ
D654	407 012 4416	DIODE 1SS133- T- 77	X871	645 018 9593	OSC, CRYSTAL 12MHZ
D661	409 026 8005	IC L5630	Y01	645 008 4058	TERMINAL PLUG
D681	407 005 7328	DIODE EMO1Z	Y02	645 008 4058	TERMINAL PLUG
D682	407 053 6803	ZENER DIODE MTZ5. 6C	Y04	645 008 4058	TERMINAL PLUG
D683	407 005 7328	DIODE EMO1Z	Y05	645 008 4058	TERMINAL PLUG
D684	408 007 8607	DIODE 1N4148	Y06	645 008 4058	TERMINAL PLUG
D685	407 012 4416	DIODE 1SS133- T- 77	Y07	645 008 4058	TERMINAL PLUG
D831	408 007 8607	DIODE 1N4148	Y08	645 008 4058	TERMINAL PLUG
D861	407 012 4416	DIODE 1SS133- T- 77	Y09	645 008 4058	TERMINAL PLUG
D871	407 012 4416	DIODE 1SS133- T- 77	Y10	645 008 4058	TERMINAL PLUG
D872	407 055 7927	ZENER DIODE RD3. 6EL	Y11	645 008 4058	TERMINAL PLUG
			Z101	610 259 7813	SHIELD CASE- A- F2RC
			Z102	610 259 7820	SHIELD CASE- B- F2RC
MISCELLANEOUS					
A101	645 023 4118	TUNER, U/V			
A1901	645 020 9277	UNIT, REMOCON RECEIVER			
△ F601	423 022 2102	FUSE 250V 4. 0A			
F601A	645 000 5077	HOLDER, FUSE			
F601B	645 000 5077	HOLDER, FUSE			
J025	401 037 5014	MT- GLAZE 0.000 ZA 1/10W			
J130	401 037 5014	MT- GLAZE 0.000 ZA 1/10W			
J151	401 037 5816	MT- GLAZE 1M JA 1/10W			
J194	401 037 5014	MT- GLAZE 0.000 ZA 1/10W			
J225	401 037 5014	MT- GLAZE 0.000 ZA 1/10W			
J226	401 037 5014	MT- GLAZE 0.000 ZA 1/10W			

All information in this manual is correct at the start of production. Sanyo reserves the right to modify components and procedures in order to comply with their continuous improvement policy.



Sanyo Industries (UK) Ltd
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COLOUR TELEVISION

SANYO

CHASSIS SERIES **EB4** MKII

MODEL NUMBER **CE25DN4-C**

SERVICE REF.NO. **CE25DN4-C-01**

The service Precaution:
The area enclosed by this line () is directly connected with AC mains voltage. When servicing the area, connect an isolating transformer between TV receiver and AC line to eliminate hazard of electric shock.

Product safety notice:
Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by a mark Δ in this circuit diagram show components whose values have special significance to product safety. It is particularly recommended that only parts specified on the part service manual be used for components replacement pointed out by the mark.

PRECAUZIONE DI SERVIZIO
L'area inclusa in questa linea () è collegata direttamente con la tensione della rete CA quando si serve l'area collegare un trasformatore isolante tra il ricevitore TV e la linea CA per eliminare il pericolo di scossa elettrica.

NOTIZIE SULLA SICUREZZA DI FUNZIONAMENTO
Ogni sostituzione di componenti va fatta tenendo conto della sicurezza di funzionamento. I componenti indicati sullo schema con il simbolo Δ hanno particolare importanza per il sicuro funzionamento del TV. I suddetti componenti devono essere sostituiti esclusivamente con quelli indicati nell'elenco.

Note sul diagramma di circuito :

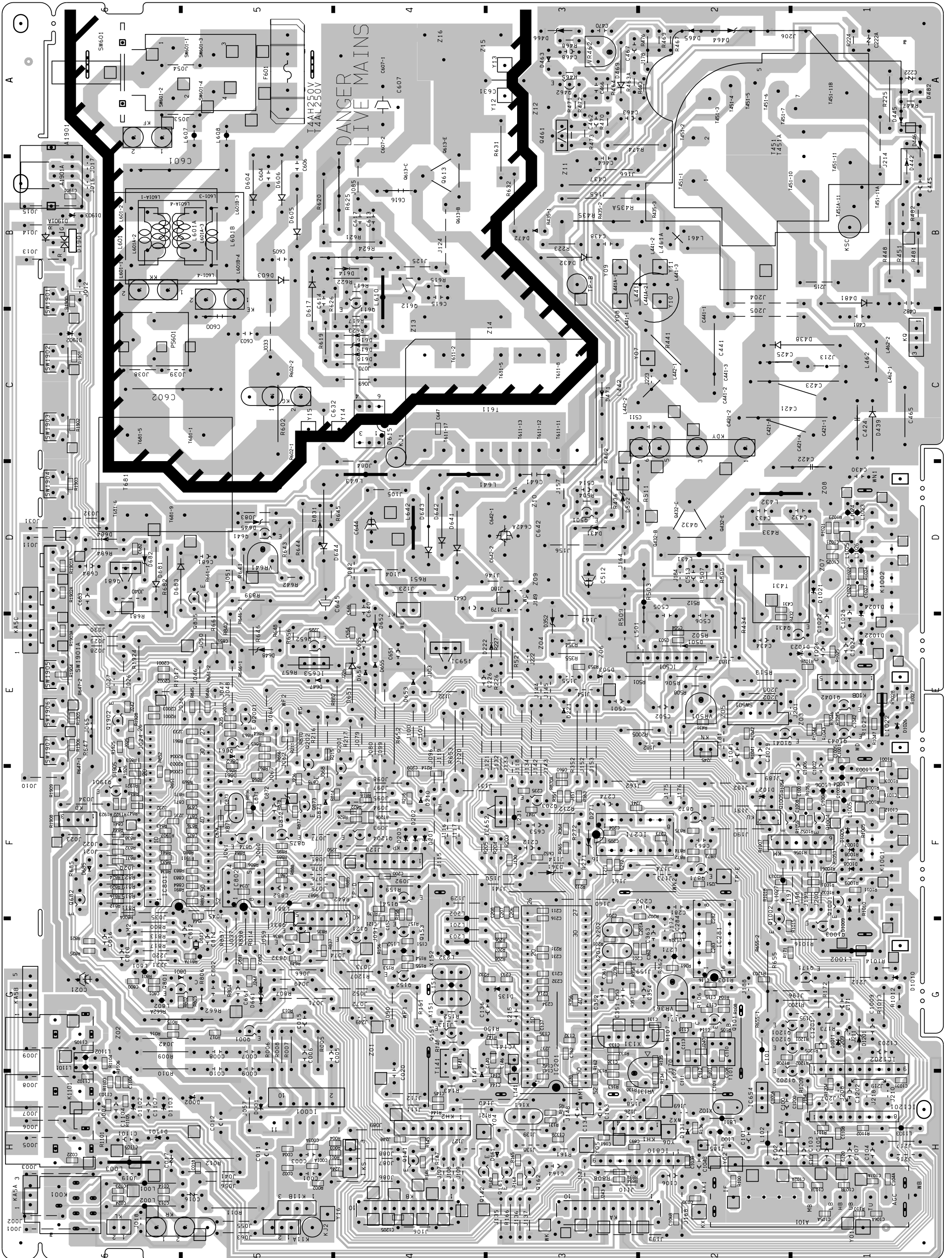
- Tutti i valori di resistenza sono in ohm, K=1,000, M=1,000,000.
- Tutte le resistenze nominali watt sono di 1/6 a meno che sia specificato altrimenti.
- Eccetto per i condensatori elettrolitici, tutti i valori di capacitanza di meno di sono espressi in μF, e di più di 1 sono in pF. I valori di capacitanza elettrolitici sono in μF.
- Tutti i valori di capacitanza nominali sono di 50V a meno che sia indicato altrimenti.
- Tutti i valori di induttanza sono in μH.
- I valori letti del voltaggio presi con un "VTVM" proveni gono dal punto indicato sulla massa del chassis, i valori di voltaggio presi usando un segnale di barre colore sono con tutti i controlli alle loro posizioni normali ed il commutatore AFC in posizione "OFF". Il voltaggio può variare con l'intensità del segnale.

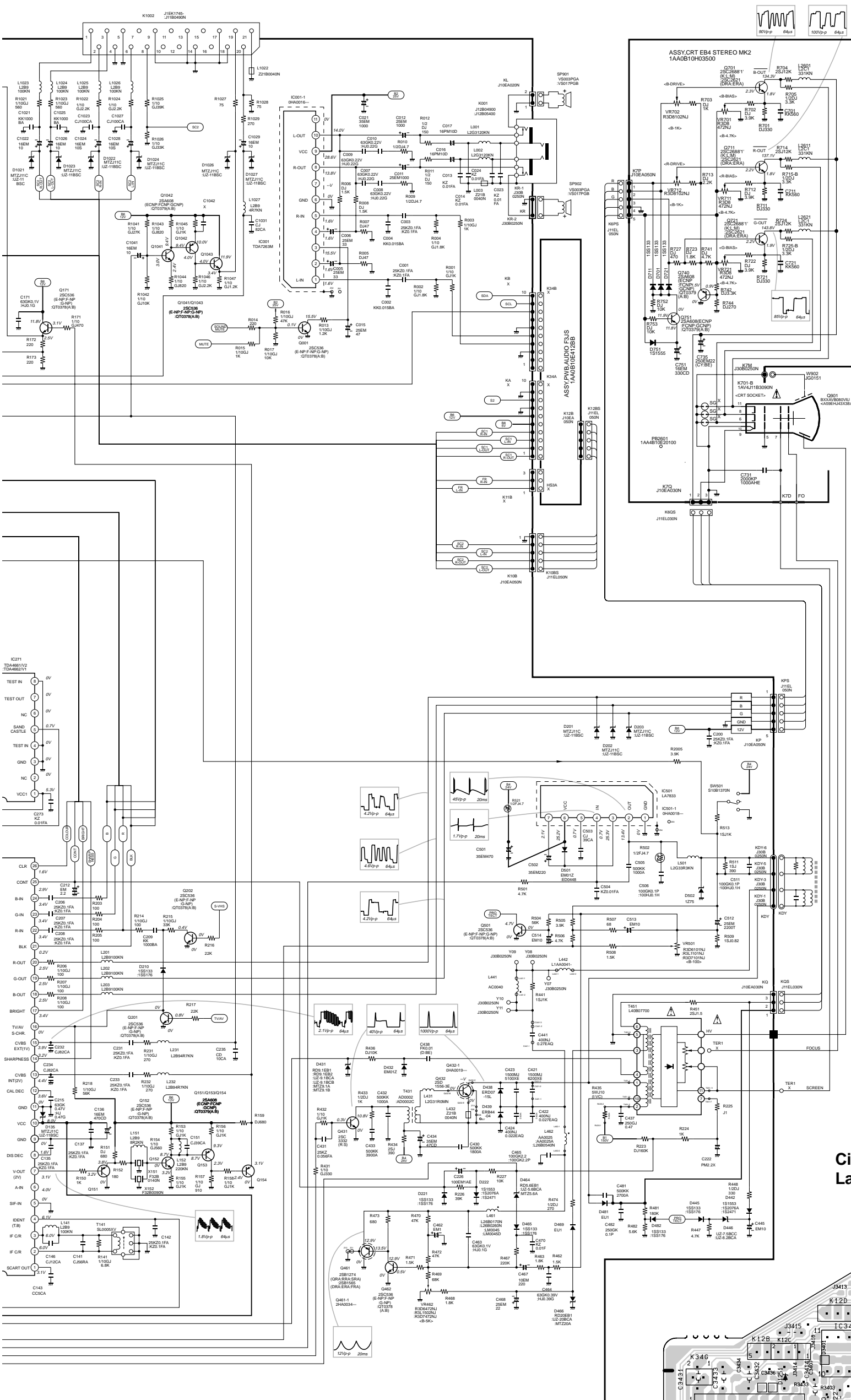
- Le forme di onda furono prese con il segnale di barre colore e i controlli regolati oppure le forme di onda di immagine normale furono prese usando una sonda bassa capacità.
- Rispetto a quando indicato su questo schema possono essere state introdotte delle modifiche.
- I diodi 1S1555 possono essere sostituiti con 1S2473, 1S2076 oppure DS472 a meno che sia specificato altrimenti.
- I transistori possono essere sostituiti con 2SC536(Q,R,S), 2SC1740(Q,R,S), 2SC945A(Q,R,P) oppure 2SC1815(G,O,Y) a meno che sia specificato altrimenti.
- Il transistor 2SA608(E,F) può essere sostituito con 2SA933(Q,R), 2SA564(QA,R), oppure 2SA1015(O,Y) a meno che sia specificato altrimenti.

Circuit diagram notes :

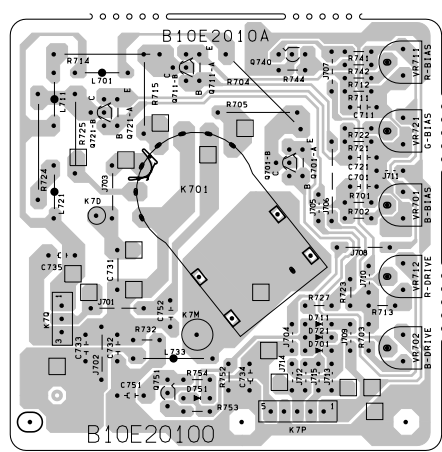
- All resistance values are in ohms, K=1,000, M=1,000,000.
- All resistance rated wattages are 1/6W unless otherwise noted.
- Excepting electrolytic capacitors, all capacitance values of less than 1 are expressed in μF and more than 1 are pF.
- All capacitance rated voltages are 50V unless otherwise noted.
- All inductance values are in μH.
- Voltage readings taken a digital voltmeter are from point indicated chassis ground. Voltage readings taken by using a colour bar signal are with all controls at normal position. Some voltages may vary with signal strength.
- Waveforms were taken with colour bar and controls adjusted for normal picture. Waveforms were taken by using a wide band oscilloscope and a low capacity probe.

Main Board /Pannello Principale
Circuit side/Lato del Circuito



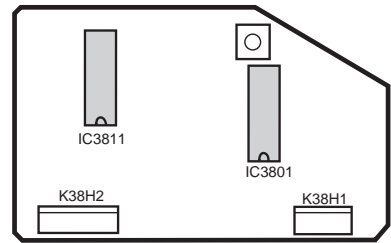


CRT Board /Pannello Cinescopio



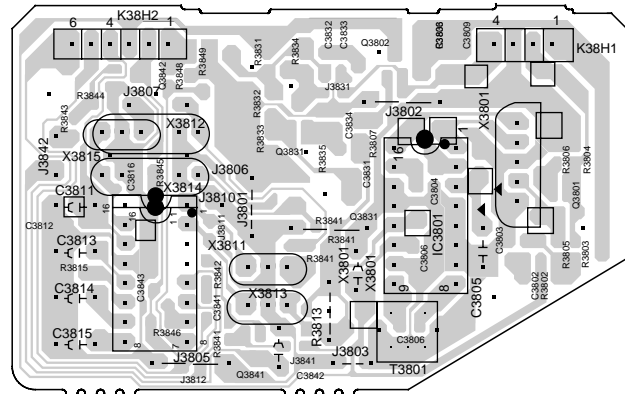
SIF Board /Pannello SIF

Component Location/Lato del Componente



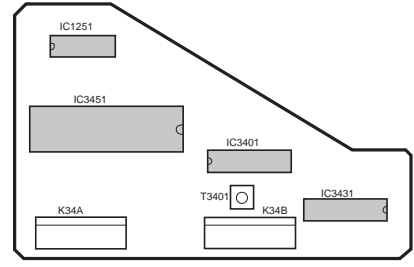
SIF Board /Pannello SIF

Circuit side/Lato del Circuito



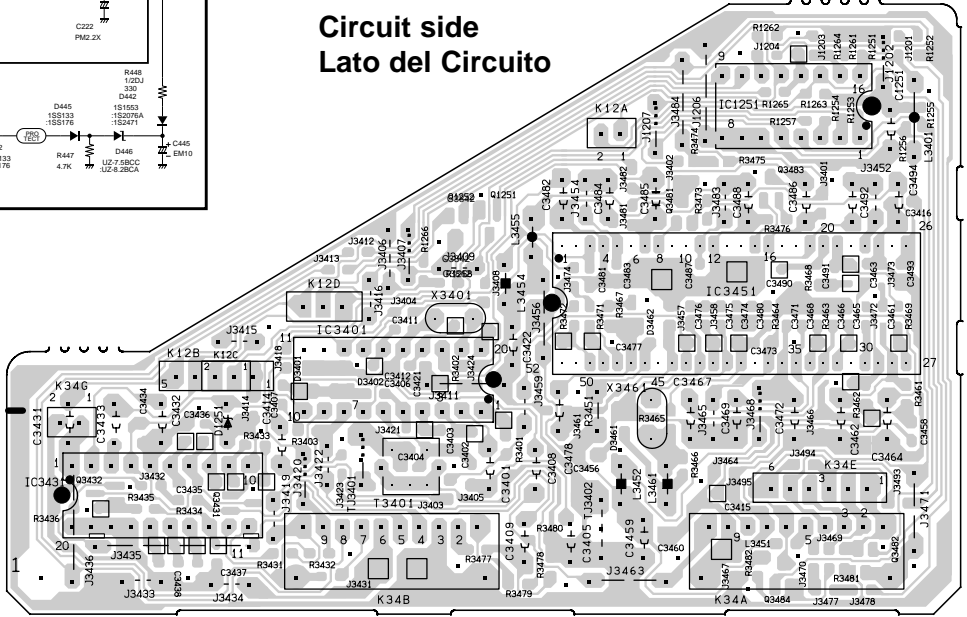
Audio Board /Pannello Audio

Component Location/Lato del Componente



Circuit side

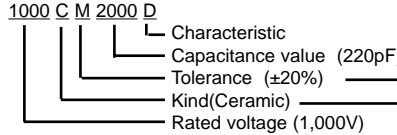
Lato del Circuito



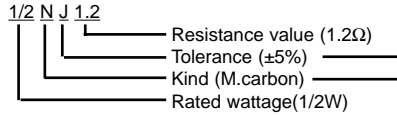
- This circuit diagram covers a basic or representative chassis only. There may be some components or partial circuit differences between the actual chassis and the circuit diagram.
- Diode 1S1555 may be replaced with 1S2473, 1S2076 or DS472 unless otherwise noted.
- Transistor 2SC536(Q,R,S), 2SC1740(Q,R,S), 2SC945A(Q,R,P) or 2SC1815(G,O,Y) unless otherwise noted.
- Transistor 2SA608(E,F) may be replaced with 2SA933(Q,R), 2SA564(QA,RA), or 2SA1015(O,Y) unless otherwise noted.

Expression of capacitance and resistance in circuit diagram.

Capacitance (Example)

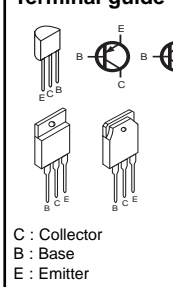


Resistance (Example)

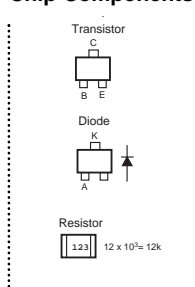


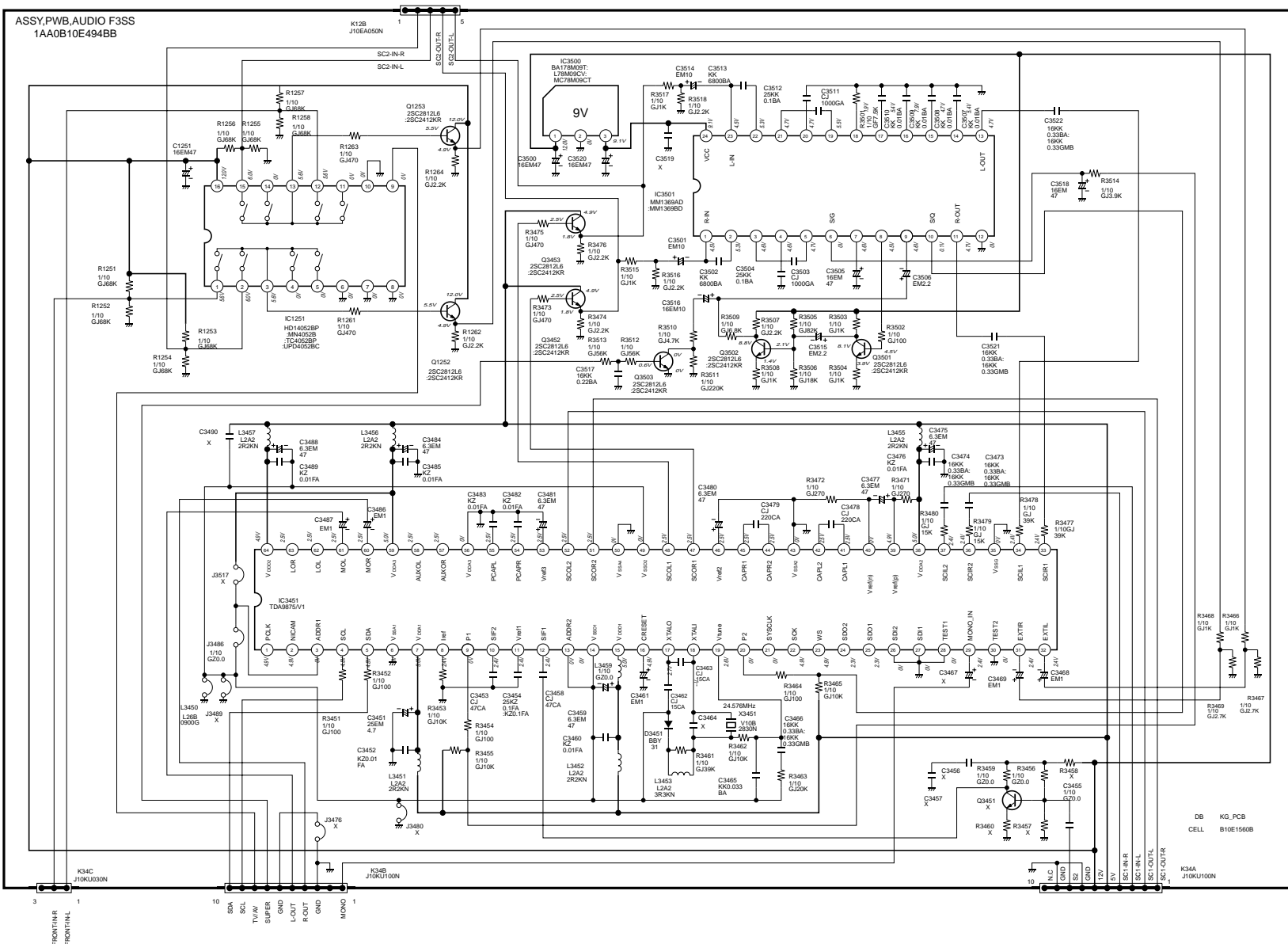
- J = ± 5%
- K = ± 10%
- M = ± 20%
- T, A, U, D : Electrolytic
- C, K, B : Ceramic
- F : Mylar film
- M, N : Polypropylene
- Z : Metallized paper
- D : Carbon
- N : Metallized carbon
- S : Oxide metallized
- W : Wire winding
- C : Solid

Terminal guide

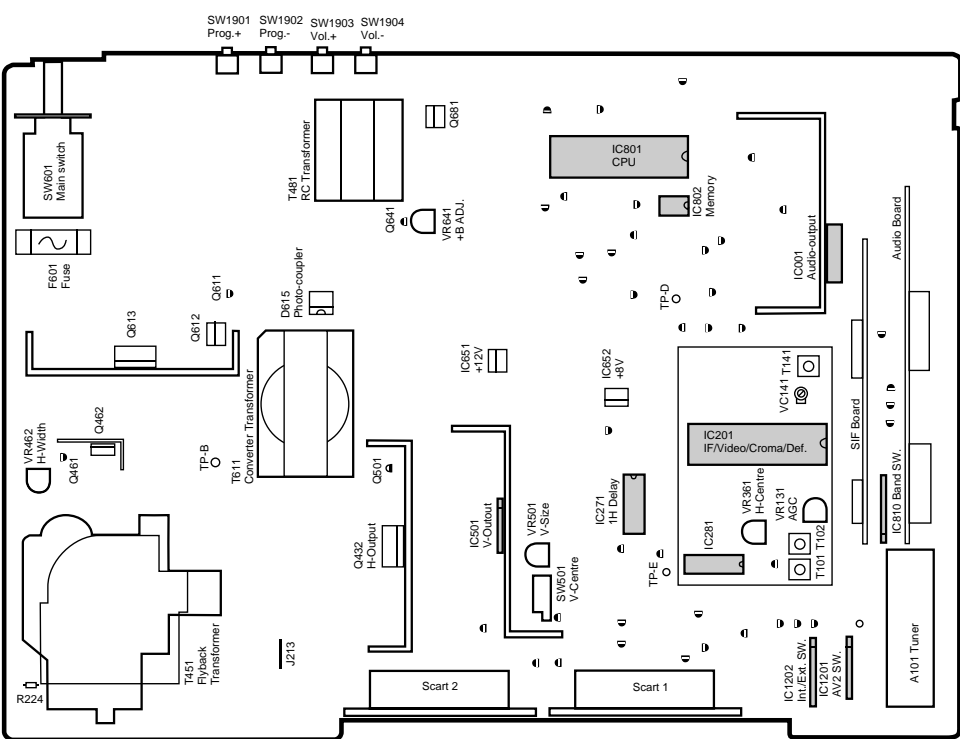


Chip Components

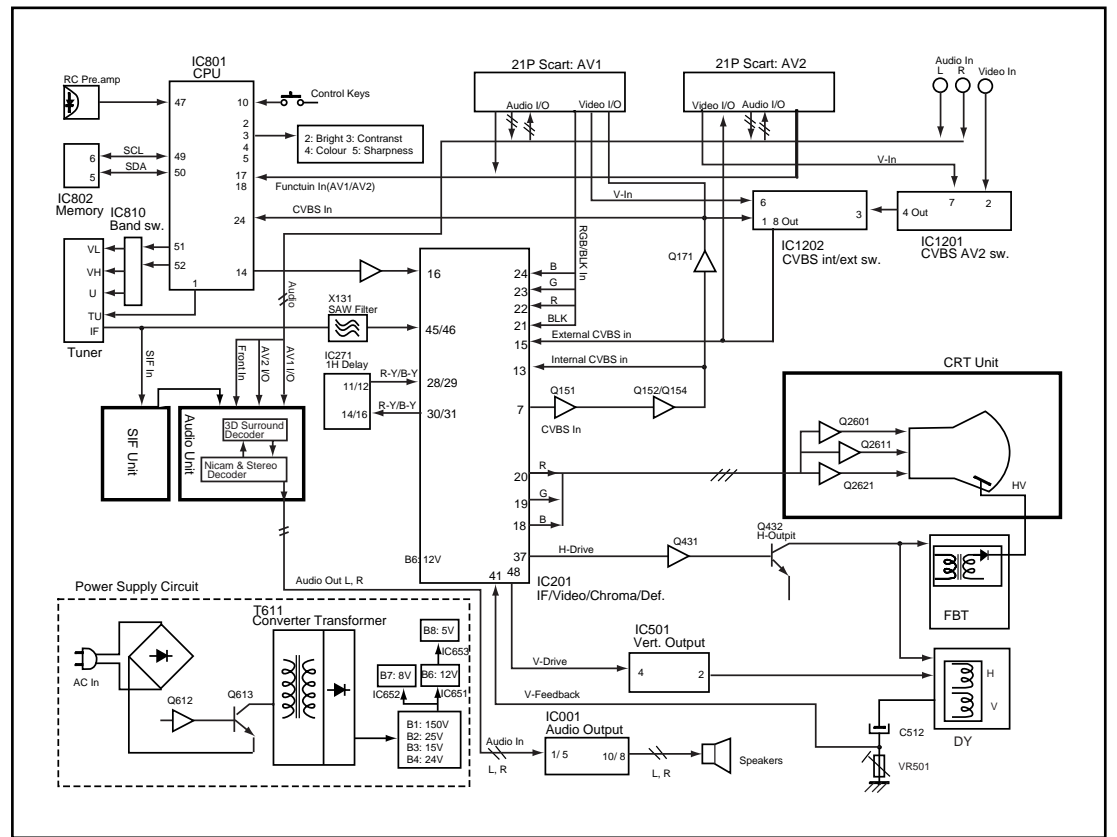




Main Board /Pannello Principal Component Location/Lato del Componente



GENERAL BLOCK DIAGRAM FOR EB4 mkII CHASSIS



REGOLAZIONI DI SERVIZIO TECNICO

REGOLAZIONE DELL'ALIMENTATORE B1

1. Regolare VR641 in modo che sia centro meccanico, prima di premere l'interruttore principale.
2. Sintonizzare il ricevitore sull'oscillogramma circolare PAL.
3. Regolare i comandi di luminosità e contrasto sui livelli normali.
4. Collegare il misuratore V digitale su "TP-B".
5. Servendosi di VR641, regolare il voltaggio su 130 ± 0.5 V (per 21 pollici).
6. Servendosi di VR641, regolare il voltaggio su 150 ± 0.5 V (per 25/28 pollici).

REGOLAZIONE AFT

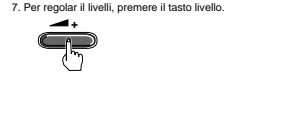
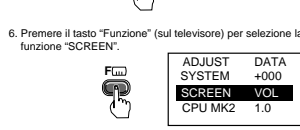
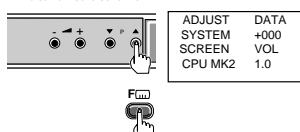
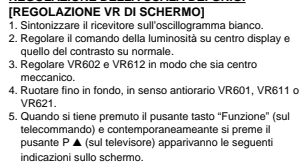
1. Sintonizzare il ricevitore sulla stazione più chiara.
2. Servendosi di T141, regolare AFT per ottenere l'immagine migliore.

REGOLAZIONE AGC

- NOTA: Non tentare questa regolazione con un segnale debole.**
1. Sintonizzare il ricevitore sulla stazione più chiara.
 2. Regolare AGC VR131 nella direzione in cui appaiono i disturbi da neve, quindi regolare in direzione opposta nel punto esatto in cui i disturbi da neve scompaiono.

REGOLAZIONE DELLA SCALA DEI GRIGI

- [REGOLAZIONE VR DI SCHERMO]**
1. Sintonizzare il ricevitore sull'oscillogramma bianco.
 2. Regolare il comando della luminosità su centro display e quello del contrasto su normale.
 3. Regolare VR602 e VR612 in modo che sia centro meccanico.
 4. Ruotare fino in fondo, in senso antiorario VR601, VR611 o VR621.
 5. Quando si preme il pulsante "Funzione" (sul telecomando) e contemporaneamente si preme il pulsante P (sul televisore) appaiono le seguenti indicazioni sullo schermo.



8. Regolare VR di schermo per un solo colore in modo che sia ben visibile.

[REGOLAZIONE VR DEL BIAS (POLARIZZAZIONE)]

7. Servendosi di VR601, VR611 o VR621, regolare la linea in modo che sia bianca.
9. Per tornare al modo di funzionamento TV, premere il tasto Richiamo.



[REGOLAZIONE VR DEL DRIVE (ECCITAZIONE)]

9. Servendosi di VR602 e VR612, regolare il bilanciamento del bianco.

REGOLAZIONE DI ALTO VOLTAGGIO E DI AMPIEZZA

[REGOLAZIONE DI ALTO VOLTAGGIO]

1. Sintonizzare il ricevitore sull'oscillogramma circolare PAL.
2. Regolare i comandi di luminosità e contrasto sui livelli massimi.
3. Collegare il misuratore V digitale su entrambi i terminali di R224 (lato sinistro (+)), e il misuratore di alto voltaggio sull'anodo CRT.
4. Confermare che l'alto voltaggio sia 26.0 ± 1 kV alla corrente di fascio di elettroni 1,3, e meno di 28,0 kV alla corrente di fascio di elettroni 0 (per 21 pollici). Confermare che l'alto voltaggio sia 26.0 ± 1 kV alla corrente di fascio di elettroni 1,3, e meno di 29,0 kV alla corrente di fascio di elettroni 0 (per 25 pollici).
5. Se l'ampiezza H è troppo larga o troppo stretta, collegare o scollegare un filo in piombo J213 (per 21 pollici). Regolare VR462 per ottenere l'ampiezza H appropriata (per 25/28 pollici).
6. Riconfermare l'alto voltaggio.

[REGOLAZIONE DI AMPIEZZA-H]

5. Se l'ampiezza H è troppo larga o troppo stretta, collegare o scollegare un filo in piombo J213 (per 21 pollici). Regolare VR462 per ottenere l'ampiezza H appropriata (per 25/28 pollici).
6. Riconfermare l'alto voltaggio.

REGOLAZIONE DI CENTRO-H

1. Sintonizzare il ricevitore sull'oscillogramma circolare.
2. Regolare il centro-H servendosi di VR361.

REGOLAZIONE DI CENTRO-V

1. Sintonizzare il ricevitore sull'oscillogramma circolare.
2. Regolare il centro-V servendosi di SW501.

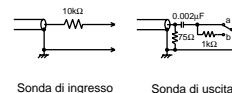
REGOLAZIONE DELLA DIMENSIONE-V

1. Sintonizzare il ricevitore sull'oscillogramma circolare.
2. Regolare la dimensione-V servendosi di VR501.

REGOLAZIONE DELLA MESSA A FUOCO

- Servendosi di FOCUS VR, regolare il controllo della messa a fuoco per una buona scansione delle linee.

ALLINEAMENTO DI CIRCUITO

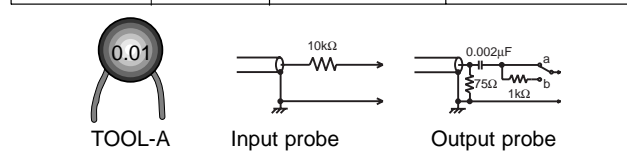


Allineamento VIF

IMPOSTAZIONE	Regolazione	Forma d'onda VIF
DC 15.5V Tensione AGC (4.3-4.5V) Sonda di uscita	C644 + IC201-pin48 IC201-pin45 (Side b) IC201-pin7	Servendosi di T141, regolare "P" in modo che sia di ampiezza massima.
Sonda di ingresso		
Marker frequency Sweep ATT 0dB=176mVrms/75	38.9MHz 20dB	

Allineamento SIF

IMPOSTAZIONE	Regolazione	Forma d'onda SIF
DC 12V Tensione AGC Sonda di uscita	IC3801-pin9 IC3801-pin13 IC3801-pin5 (Side b) IC3801-pin17 10dB 38.9MHz IC3801-pin6 + GND	1. Regolare la tensione AGC in modo che sia "A" = 0.5Vp-p. 2. Servendosi di T3801, regolare "P".
Sonda di ingresso		
ATT di deflessione Frequenza segnalatore Tool-A		



CRT Board /Pannello Cinescopio Component Location/Lato del Componente

