

(Middle East)



This T.V. receiver will not work properly in foreign countries where the television transmission system and power source differ from the design specifications. Refer to the specification table.

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Safety Notice

SAFETY PRECAUTIONS

- | | |
|--|--|
| 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. | 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. |
| 2: Comply with all caution and safety-related notes provided on the cabinet back, inside the cabinet, on the chassis or the picture tube. | |

X-RADIATION PRECAUTION

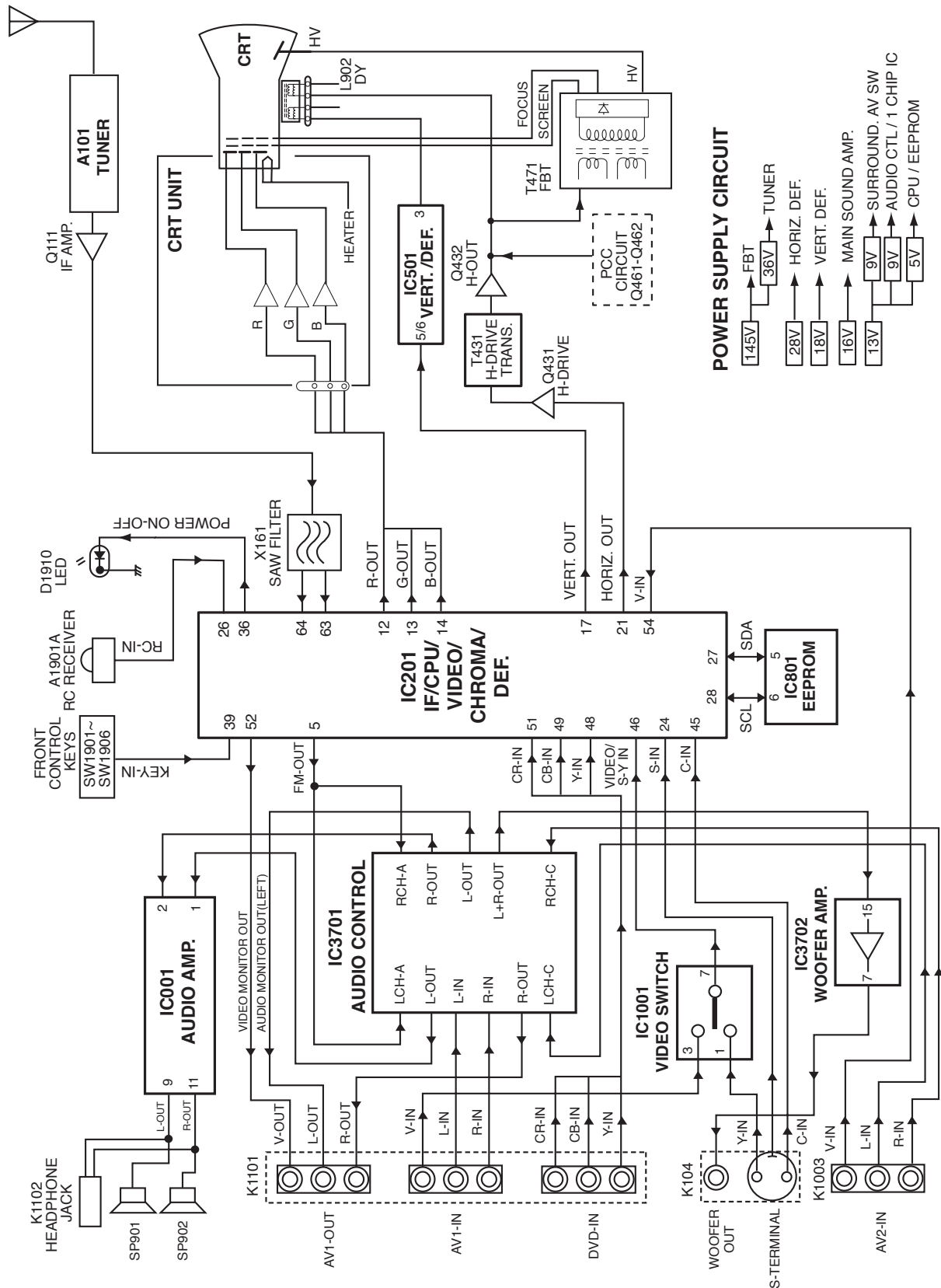
The primary source of X-RADIATION in television receiver is the picture tube. The picture tube is specially constructed to limit X-RADIATION emissions. For continued X-RADIATION protection, the replacement tube must be the same type as the original including suffix letter. Excessive high voltage may 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 check 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  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 . No deviations from resistance wattage or voltage ratings may be made for replacement items designated by mark .

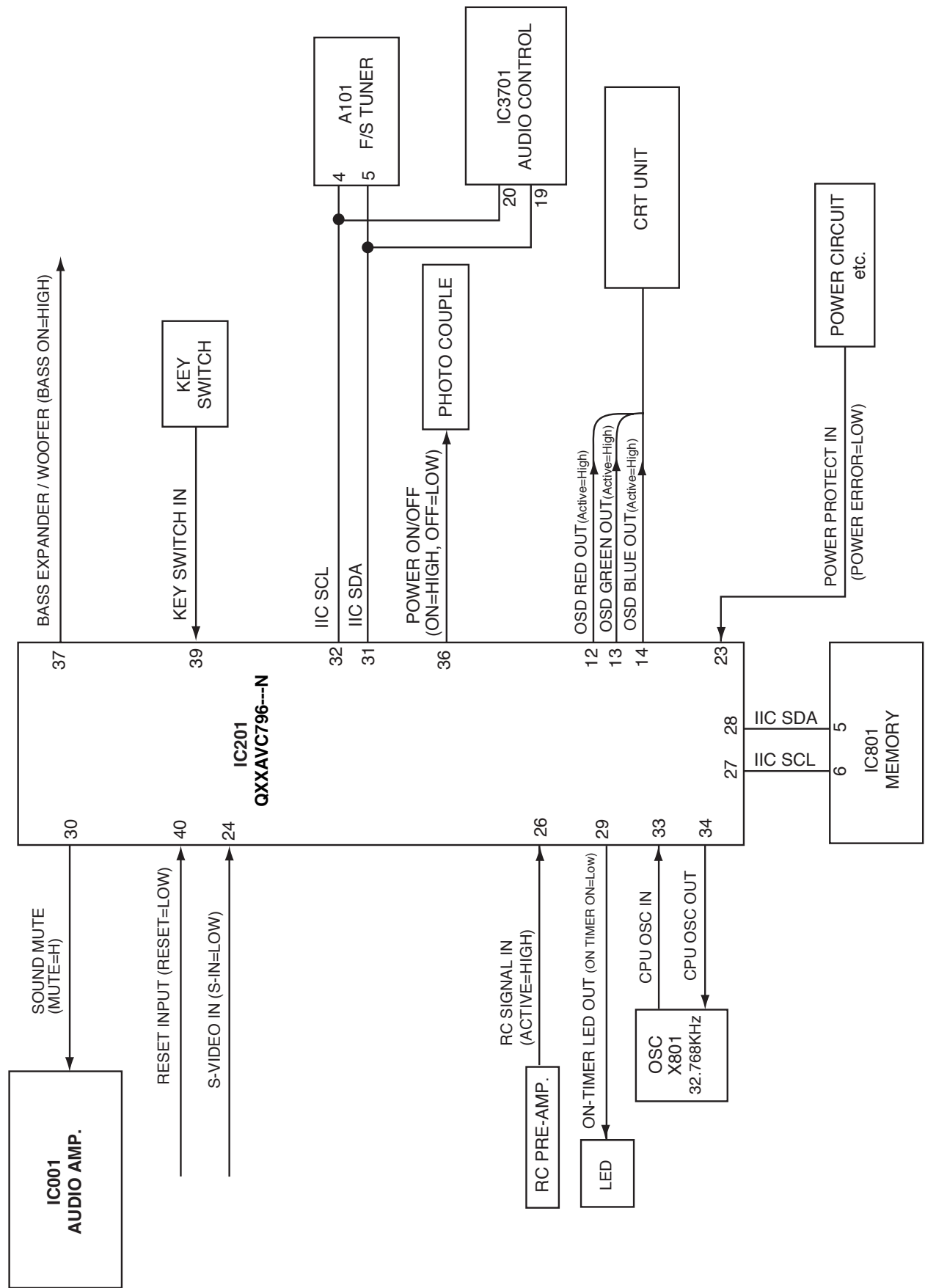
Chassis Block Diagrams

MAIN SIGNAL PROCESSING CIRCUIT



Chassis Block Diagrams

SYSTEM CONTROL

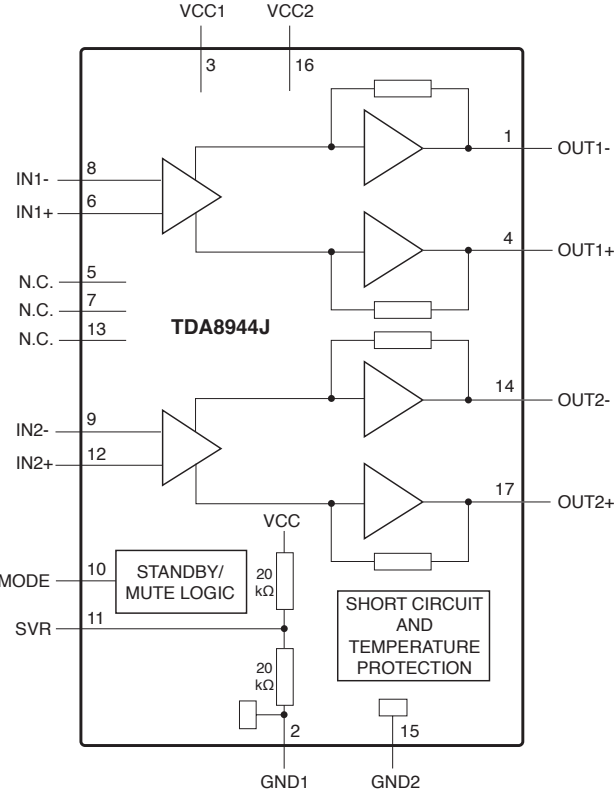


IC201 < CPU/IF/Video/Chroma/Def. > LA76933DE 57Y6-E

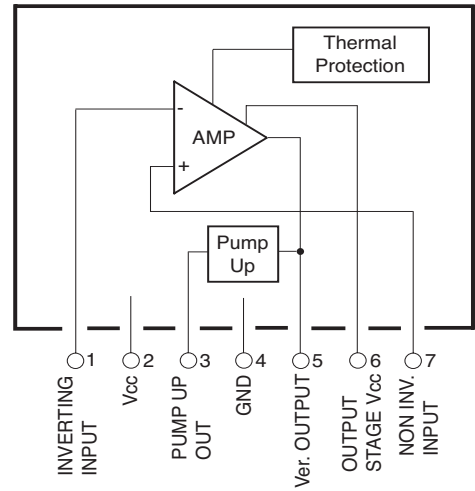


IC Block Diagrams

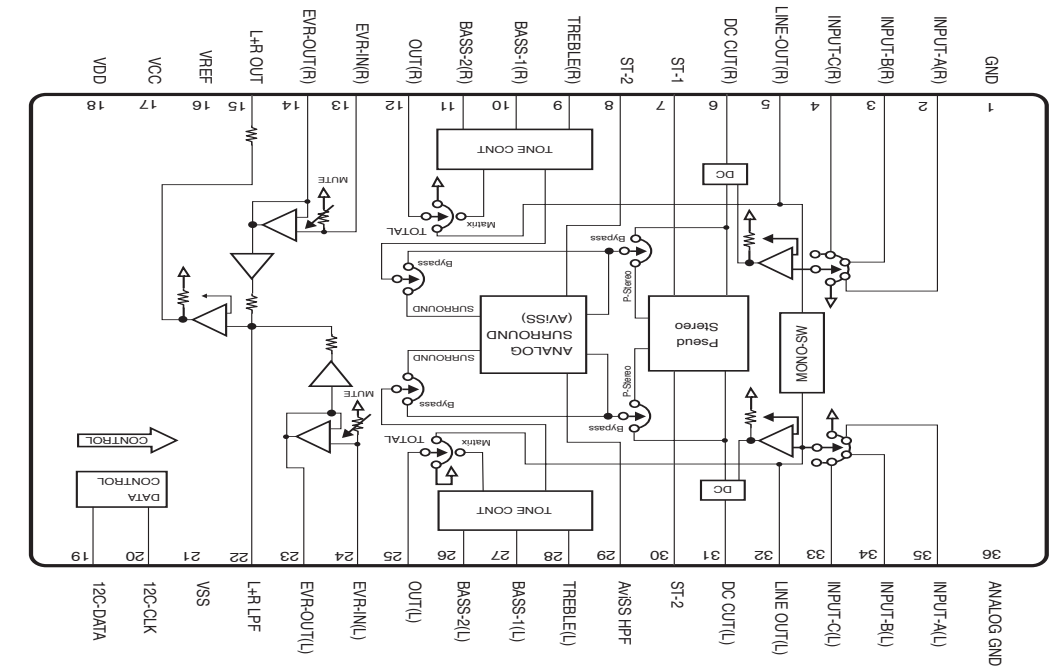
IC001 < Audio AMP.> LA42072-E



IC501 < Vertical Output >LA78041



IC3701 < AUDIO Control > LV1116NV-TLM-E



IC201 Port Function

Pin No.	Function Name	Function
1	SIFout	SIF Output (NICAM)
2	IFAGC-F	IF AGC Filter
3	SIF-IN	SIF Input
4	FM-F	Filter for the DC loop of FM detector
5	FMout	FM detector output
6	Aud out	Audio output
7	SNDAPCF	Snd VCO frequency is locked at 500kHz from SIF
8	IF-Vcc	DC Supply pin for IF circuit
9	VM/Ext-A-IN	External audio signal input
10	ABL	Auto Beam Limiter function
11	RGB Vcc	Vcc input pin of RGB output block function
12	R-Out	R signal output pin function
13	G-Out	G signal output pin function
14	B-Out	B signal output pin function
15	NC	Not Connected
16	Vramp	To generate a ramp waveform for the reference V-out
17	V-out	Output pin of vertical synchronization ramp signal
18	Iref	Producing reference current function
19	H-Vcc	Vcc of Horizontal deflection and BUS interface
20	AFC-F	AFC Filter pin of horizontal VCO function
21	H-out	Horizontal output pin
22	VCD-GND	Video Chroma Deflection GND
23	Power Fail IN	Power Fail Input function
24	S-TERM IN	S-Video input
25	STATUS IN	Factory PC mode status (L=ON)
26	Remote IN	Remote Control signal receiver
27	P14/PWM1	
28	P15/PWM2	
29	ON-TIMER LED OUT	On timer led out function
30	MUTE OUT	Mute out function
31	IIC SDA1	IIC-Bus Data Line
32	IIC SCK1	IIC-Bus Clock Line
33	X ' tal	Crystal Oscillator
34	X ' tal	Crystal Oscillator
35	5V	Supply (5V)
36	Power Out	Power On/Off signal output
37	Bass Expander ON/OFF OUT	Bass Expander On/Off function
38	VIF M OUT /Bilingual Out	VIF M Out/Bilingual Out function
39	AD KEY IN	Key signal input
40	RESET	RESET pin function
41	FILT	FILT pin function
42	GND	Ground

Pin No.	Function Name	Function
43	CCD-Vcc	Vcc (5V) pin for 1H delay-line
44	FBP-IN	Fly Back Pulse Input
45	YC-C	Y/C-C Input function
46	YC-Y	Y/C-Y Input function
47	C-APC2	AFC filter pin of chroma VCO. (3.58MHz)
48	DVD-Y	DVD-Y Input
49	CB-IN	C _B Input (for DVD)
50	X ' tal	4.43MHz Crystal
51	CR-IN	C _R Input (for DVD)
52	SVO/FSC	Selected Video Output or FSC Output
53	C-APC-F	Chroma APC Filter
54	Ext-Video-IN	Ext Video Input & Y Input in S-VHS mode
55	VCD-Vcc	Video Chroma Deflection VCC
56	Int-Video-IN	Int. Video Input & Chroma Signal Input in S-VHS mode
57	Blk-F	Black peak level detection in black stretch circuit.
58	PIF-APC-F	APC filter pin for PLL circuit function.
59	AFT	Automatic Fine Tuning Output pin
60	Video out	Video Output pin
61	RF AGC	RF AGC Output pin
62	IF-GND	Ground of IF circuit
63	VIF IN	PIF input pin
64	VIF IN	PIF input pin

Service Information

■ Protection Circuit

This TV set has a built-in power supply protection circuit.

It is provided to protect the TV set in case of a power supply circuit malfunctions. When something abnormality occurs during TV reception, the TV set goes to the stand-by mode.

When an abnormality occurs during TV reception, it causes pin 23 of the CPU to go continually Low for about one second. The CPU detects that this has occurred and outputs the signal from pin 36 to switch off the power supply lines.

Releasing the protective circuit and restoring power supply

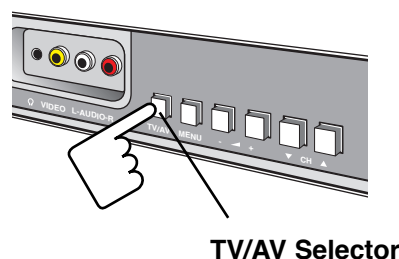
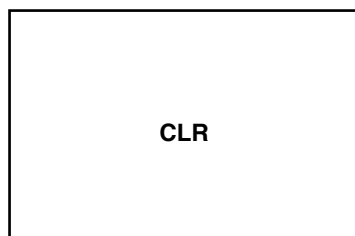
To release the protective circuit and restore power supply, turn the power to the TV set OFF and then ON again via either the main power switch or the ON-OFF button on the remote control. This will work only if the power supply trouble was temporary. If there is permanent trouble such as a damaged circuit, power cannot be restored and the circuit will have to be repaired.

Service Adjustments with Replacing Memory IC(IC801)

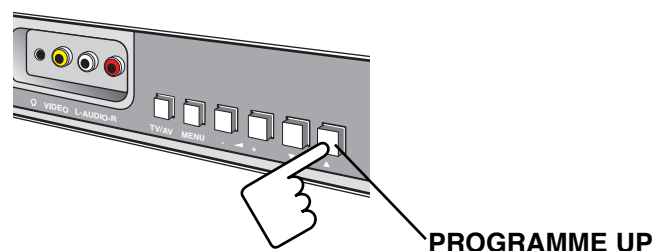
Note: The CPU (IC201) and memory IC (IC801) store the service adjustments data and controls data for each circuit. When the Memory IC(IC801) is replaced, some of the service adjustments should be readjusted to obtain the best performance. The necessary service adjustments are carried out by using the RC handset. Please set up the TV set with following steps [1] to [2].

[1] Initializing Procedure

1. Put a new memory IC.
2. Turn on the TV set.
3. Press and hold the **TV/AV Selector** on the TV set for more than 2 seconds. The following picture appears on the screen.



4. Press the **PROGRAMME UP** on the TV set while the above On-Screen Display is still on the screen. The following picture appears on the screen.



This completes the initialization of memory IC.

Following shows the initialized contents of memory data by this procedure.

- | | |
|---------------------|----------------|
| - Plug & Play | : No executed |
| - Inhibit Data | : Cancelled |
| - Ch Skip Data | : Cancelled |
| - Sound Volume Data | : 10/63 steps. |
| - Volume Lock | : OFF |
| - Tuning Lock | : OFF |
| - Music Mode | : OFF |
| - AV Start | : OFF |
| - Colour System | : AUTO |

[2] Required Service Adjustments

Readjust the following service adjustments.

<u>Adjustments</u>	<u>Service Mode No. & Item</u>
RF AGC	Item 01, RF AGC
Horizontal centre	Item 02, H-PHA
Vertical size	Item 05, V-SIZ
Vertical linearity	Item 06, V-LIN
Vertical S-Correction	Item 07, V-SCO
Gray scale	Item 30-33, 35-37

Further adjustment please refer to page 14 and 15.

Service Adjustments with Replacing Memory IC(IC801)

Following table shows the initial values which have been stored in the CPU ROM, and items for the service adjustments.

Service mode adjustments table in CPU ROM

No.	ITEM	DATA RANGE	INITIAL SETUP DATA	DESCRIPTION
01	RFAGC	0~63	21	RF AGC Adj.
02	H-PHA	0~31	16	H-Phase (H-Centering) Adj. (50Hz)
03	V-POS	0~63	46	V-Position (V-Centering) Adj. (50Hz)Fixed.
04	V-SHIFT	0~15	5	V-Phase Adj. (50Hz)
05	V-SIZ	0~127	46	V-Size Adj. (50Hz)
06	V-LIN	0~31	11	V-Linearity Adj. (50Hz)
07	V-SCO	0~31	22	Vertical S-Correction Adj. (50Hz)
08	V-TRANS	0~1	0	Data transmission between V Retrace
09	V-RES	0~1	0	Vertical Reset Timing.
10	H-P60	-16~+15	+3	H-Phase Adj. (60Hz) difference val.
11	V-S60	-64~+63	-1	V-size Adj. (60Hz) difference val.
12	V-SHIF60	-16~+15	-2	V-Phase Adj. (60Hz) difference val.
13	OSDHP	0~255	22	OSD H-Position Adj.
14	OSDC	0~7	4	OSD Contrast Adj.
15	V-SCP	0~7	7	V-Size COMP Adj.
16	H-SCP	0~7	7	H-Size COMP Adj.
17	EWDC	0~63	44	H-Width / H-Size adj.
18	EWAMP	0~63	38	EW Parabola / Width ratio
19	EWTILT	0~63	34	EW Trapezium correction
20	EWTOP	0~15	8	EW Corner Top
21	EWBTM	0~15	9	EW Corner Bottom
22	EWCNPSW	0~3	0	Select control range for corner corr.
23	EWTEST	0~7	0	Select EW DAC test mode
24	EWDC60	-32~+31	+1	H-Width / H-Size Adj. NTSC (60Hz)
25	EWAMP60	-32~+31	-1	EW Parabola/Width ratio NTSC (60 Hz)
26	EWTILT60	-32~+31	+3	EW Trapezium correction NTSC (60 Hz)
27	EWTOP60	-16~+15	0	EW Corner Top NTSC (60Hz)
28	EWBTM60	-16~+15	-1	EW Corner bottom NTSC (60Hz)
29	SBIAS	0~255	63	Sub Bias Adj.
30	RBIAS	0~255	0	Red Bias Adj.
31	GBIAS	0~255	0	Green Bias Adj.
32	BBIAS	0~255	0	Blue Bias Adj.
33	RDRIV	0~127	64	Red Drive Adj.
34	GDRIV	0~15	8	Green Drive Adj.
35	BDRIV	0~127	64	Blue Drive Adj.
36	1 Line Appear			White Balance Adj.
37	DRV			White Balance Adj.
38	B-YD	0~31	23	B-Y DC Level
39	R-YD	0~31	22	R-Y DC Level
40	B-YDN	-16~+15	0	NTSC B-Y DC Level Adj.
41	R-YDN	-16~+15	0	NTSC R-Y DC Level Adj.
42	SBDC	-16~+15	-2	SECAM B-Y DC Level Adj.
43	SRDC	-16~+15	-8	SECAM R-Y DC Level Adj.
44	B-YDD	-16~+15	+4	DVD B-Y DC Level
45	R-YDD	-16~+15	0	DVD R-Y DC Level

No.	ITEM	DATA RANGE	INITIAL SETUP DATA	DESCRIPTION
46	RGBTEMP	0~1	0	RGB Temp. SW
47	RGBTEST	0~1	0	RGB Test
48	EXTRGBC	0~1	0	External RGB Contrast
49	RGBTEST	0~1	0	RGB Test
50	HALFTONE	0~3	0	Halftone Color
51	G-YA	0~1	0	G-Y Angle
52	GYAMP	0~15	8	G-Y Amplitude Adj.
53	RBBG	0~15	8	R-Y / B-Y Gain Balance
54	RBAG	0~15	8	R-Y / B-Y Angle
55	G-YAN	0~1	0	NTSC G-Y Angle
56	GYAMPN	-8~+7	0	NTSC G-Y Amplitude Adj.
57	RBBGN	-16~+15	0	NTSC R-Y / B-Y Gain Balance
58	RBAGN	-16~+15	0	NTSC R-Y / B-Y Angle
59	RBBGDN	-16~+15	+10	DVD NTSC R-Y / B-Y Gain Balance
60	RBAGDN	-16~+15	+10	DVD NTSC R-Y / B-Y Angle
61	VOLFIL	0~1	0	DAC Volume filter disable
62	APCOFFSET	0~1	0	Align APC Offset Current
63	IF-AGC	0~1	0	IF AGC defeat
64	OVERMOD	0~1	0	Select Over Modulation Circuit Type
65	COGV	0~3	0	Coring Gain
66	BLKS	0~3	3	Blk. Str. Start (w/ defeat)
67	BLKG	0~3	3	Blk. Str. Gain
68	BRTA	0~1	0	Brt. Abl. Def.
69	BRST	0~1	0	Mid. Stp. Def.
70	BRTH	0~7	0	Bright Abl. Threshold
71	WPL	0~3	2	White Peak Limit Op. Point (w/ defeat)
72	YGAM	0~3	0	Y Gamma Start
73	PRS	0~3	0	Pre-shoot AV Adj.
74	ORS	0~3	2	Over-shoot AV Adj.
75	DCREST	0~3	0	Select Luminance DC Restoration
76	RFCO	0~3	1	RF Coring Gain Difference
77	PRSN	0~3	0	Pre-shoot RF Adj.
78	ORSN	0~3	2	Over-shoot RF Adj.
79	CTRAP	0~7	4	Chroma Trap control
80	CBPF	0~3	0	Chroma BPF control
81	CBPFN	0~3	1	Chroma BPF control NTSC
82	CBPFAVN	0~3	0	Chroma BPF control AV NTSC
83	TINT	-16~+15	0	Tint RF
84	TINT443	-16~+15	+4	Tint (NTSC4.43)
85	SHRF	-32~+31	0	RF Sharpness
86	SH Adj	-32~+31	0	Sharpness Adjustment
87	COL TEST	0~1	1	Color Test
88	COL NTSC	-32~+31	-20	Color NTSC (difference from PAL)
89	CODP	-16~+15	-10	DVD PAL Color
90	CODN	-16~+15	-20	DVD NTSC Color

Service Adjustments with Replacing Memory IC(IC801)

No.	ITEM	DATA RANGE	INITIAL SETUP DATA	DESCRIPTION
91	TINTDN	-16~+15	-7	DVD NTSC Tint
92	YTH	0~3	0	Select Y signal sensitivity for Blue Stretch
93	YGAIN	0~3	0	Select Blue stretching gain w/ defeat
94	RWIDTH	0~3	0	R Width
95	ROFFSET	0~3	0	R Offset
96	BWIDTH	0~3	0	B Width
97	BOFFSET	0~3	0	B Offset
98	VOLUM	0~127	127	Volume Control
99	DEEM	0~1	0	De-emphasis TC
100	VIFSW	0~3	0	VIF System SW
101	SIFSW	0~3	1	SIF System SW
102	V-LVL	0~7	4	Video Level
103	V-LVLOFS	0~3	1	Video Level Offset
104	FMGAIN	0~1	0	FM Gain
105	IFOM-S	0~1	0	Over Modulation SW
106	IFMN-S	0~1	1	Audio Monitor SW Monitor or FM
107	IFTRPS	0~1	1	IC Inside SIF Trap SW ON-OFF
108	IFMLVL	0~15	0	IF Over Modulation Level Adj.
109	IFTEST1	0~1	0	IF Test 1
110	TRAPT	0~7	4	Sound Trapt Test
111	H-FRQ	0~63	20	Horizontal Freq.
112	FBTS	0~1	0	FBPBLK SW
113	COOP	0~7	7	Color Killer Option
114	HBLKL	0~7	6	H-Blanking Control Left
115	HBLKR	0~7	2	H-Blanking Control Right
116	AFCRF	0~1	0	RF AFC Gain & Gate Adj.
117	VSURF	0~1	0	RF Vsync. Separation sensitivity
118	CDMRF	0~7	0	RF Vertical count down circuit Adj.
119	AFCAV	0~1	1	AV AFC Gain & Gate Adj.
120	VSUAV	0~1	0	AV Vsync separation sensitivity
121	CDMAV	0~7	0	AV vertical count down circuit Adj.
122	HLVDRF	0~1	1	H-Lock Vdet
123	HLVDAV	0~1	1	H-Lock Vdet
124	VTEST	0~3	0	Select Vertical DAC test mode
125	VCO ADJ	0~15	8	IF VCO free run Freq. Adj.
126	C.VCOADJ	0~7	4	Control free run Freq. of chroma VCD
127	VCOFREQ	0~255	100	ES Sample IF VCO Freq. Adj.
128	CROSS-BW	0~3	0	Pattern Output
129	AVNCON	0~127	64	AV non-signal Contrast
130	AVNBRI	0~127	64	AV non-signal Brightness
131	VMDELAY	0~3	0	Select Delay of VM out
132	VMGAIN	0~7	0	Select VM Gain of VM out
133	SYNSEP	0~7	4	Select Sync. Sep Threshold Level
134	SCMKILON	0~1	0	Enable Killer Circuit (Service Mode only)
135	SCMKILOF	0~1	0	Disable Killer Circuit (Service Mode only)

No.	ITEM	DATA RANGE	INITIAL SETUP DATA	DESCRIPTION
136	SCM TEST	0~1	0	SECAM DC Level Adj.
137	BELL SW	0~1	1	Enable BELL Filter Adj.
138	EQU SW	0~1	0	Enable EQUALIZER Circuit Adj.
139	BELLADJ	0~15	3	BELL Filter Adj.
140	EQU ADJ	0~15	0	EQUALIZER Filter Adj.
141	POMT	0~127	25	Power Mute Time
142	CHMT	0~31	8	Ch Mute Time
143	SYST	0~15	5	System
144	S-STE	0~3	1	AV Stereo/Mono Option
145	VOLTBL	0~1	1	Volume Table Select
146	MPP	0~1	0	MPP Function on/off Option
147	TUNER	0~1	0	Tuner Option
148	BOOSTER	0~1	0	Booster Option (LNA Tuner)
149	OPT AVIN	0~3	3	AV1/AV2/AV3 Option
150	OPT POS	0~1	1	255 Position Option
151	LANGUAGE	0~1	1	Language Option
152	OPT COL	0~1	1	Color System Option
153	OPT SIF	0~1	1	SIF System Option
154	OPT BASS	0~3	2	Bass Expander Option
155	OPT SURR	0~1	1	Surround Option
156	OPT BLBK	0~1	1	Blue Back Option
157	1LINEMOD	0~1	0	Color Output Data Option at 1 Line Mode
158	OPT VM	0~1	0	Select VM Out or Ext Audio In
159	OPT ERGB	0~1	1	Select Video In or RGB In
160	AUDGAIN	0~7	1	Gain Control LV1116
161	L/RGAIN	0~7	6	L/R Output Gain Control LV111
300	R00	0~255	82	ROM Correction
301	R01	0~255	244	ROM Correction
302	R02	0~255	84	ROM Correction
303	R03	0~255	249	ROM Correction
304	R04	0~255	173	ROM Correction
305	R05	0~255	101	ROM Correction
306	R06	0~255	0	ROM Correction
307	R07	0~255	0	ROM Correction
308	R08	0~255	7	ROM Correction
309	R09	0~255	19	ROM Correction
310	R10	0~255	2	ROM Correction
311	R11	0~255	136	ROM Correction
312	R12	0~255	224	ROM Correction
313	R13	0~255	3	ROM Correction
314	R14	0~255	33	ROM Correction
315	R15	0~255	82	ROM Correction
316	R16	0~255	246	ROM Correction
317	R17	0~255	33	ROM Correction

Notes: The initial value that the CPU writes down the CPU ROM data to the memory when replaced the memory IC. TV set may not operate correctly with this initial value. It is required to set up the fine adjustment for service adjustments described in the above.

Service Adjustments with Replacing Memory IC(IC801)

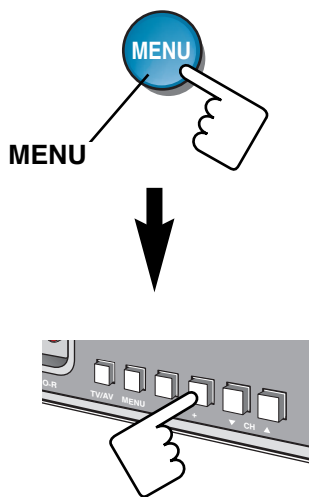
No.	ITEM	DATA RANGE	INITIAL SETUP DATA	DESCRIPTION
318	R18	0~255	83	ROM Correction
319	R19	0~255	1	ROM Correction
320	R20	0~255	0	ROM Correction
321	R21	0~255	0	ROM Correction
322	R22	0~255	0	ROM Correction
323	R23	0~255	0	ROM Correction
324	R24	0~255	34	ROM Correction
325	R25	0~255	153	ROM Correction
326	R26	0~255	100	ROM Correction
327	R27	0~255	33	ROM Correction
328	R28	0~255	173	ROM Correction
329	R29	0~255	85	ROM Correction
330	R30	0~255	0	ROM Correction
331	R31	0~255	0	ROM Correction
332	R32	0~255	0	ROM Correction
333	R33	0~255	0	ROM Correction
334	R34	0~255	0	ROM Correction
335	R35	0~255	0	ROM Correction
336	R36	0~255	0	ROM Correction
337	R37	0~255	0	ROM Correction
338	R38	0~255	0	ROM Correction
339	R39	0~255	0	ROM Correction
340	R40	0~255	0	ROM Correction
341	R41	0~255	136	ROM Correction
342	R42	0~255	224	ROM Correction
343	R43	0~255	4	ROM Correction
344	R44	0~255	223	ROM Correction
345	R45	0~255	0	ROM Correction
346	R46	0~255	1	ROM Correction
347	R47	0~255	2	ROM Correction
348	R48	0~255	255	ROM Correction
349	R49	0~255	0	ROM Correction
350	R50	0~255	33	ROM Correction
351	R51	0~255	84	ROM Correction
352	R52	0~255	251	ROM Correction
353	R53	0~255	0	ROM Correction
354	R54	0~255	0	ROM Correction
355	R55	0~255	0	ROM Correction
356	R56	0~255	0	ROM Correction
357	R57	0~255	0	ROM Correction
358	R58	0~255	0	ROM Correction
359	R59	0~255	0	ROM Correction
360	R60	0~255	0	ROM Correction
361	R61	0~255	0	ROM Correction
362	R62	0~255	0	ROM Correction

No.	ITEM	DATA RANGE	INITIAL SETUP DATA	DESCRIPTION
363	R63	0~255	0	ROM Correction
364	R64	0~255	0	ROM Correction
365	R65	0~255	0	ROM Correction
366	R66	0~255	0	ROM Correction
367	R67	0~255	0	ROM Correction
368	R68	0~255	0	ROM Correction
369	R69	0~255	0	ROM Correction
370	R70	0~255	0	ROM Correction
371	R71	0~255	0	ROM Correction
372	R72	0~255	0	ROM Correction
373	R73	0~255	1	ROM Correction
374	R74	0~255	205	ROM Correction
375	R75	0~255	0	ROM Correction
376	R76	0~255	0	ROM Correction
377	R77	0~255	109	ROM Correction

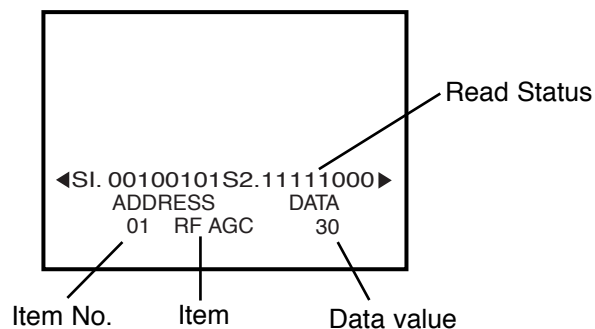
Service Adjustments with Replacing Memory IC(IC801)

[Entering to Service Mode]

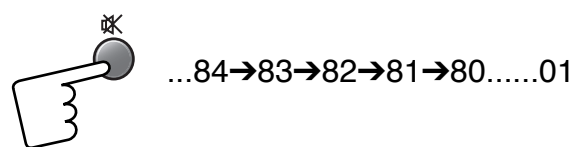
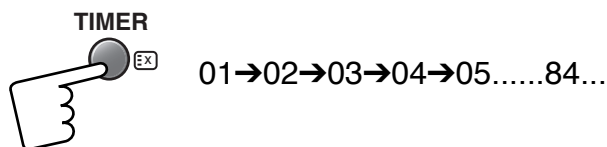
1. Press and hold the **MENU** button on the Remote Control and press the **VOLUME (+)** button on the TV set.
Following setting items appears on the screen.



Display for [RF AGC] RF AGC adjustment

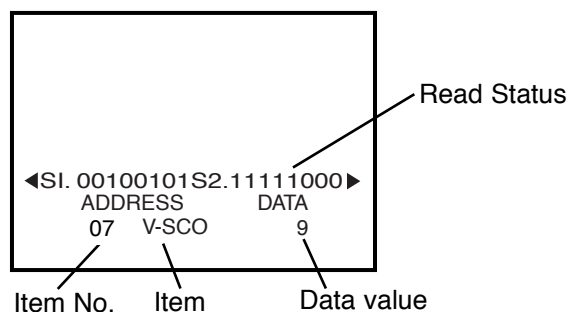


2. Select item by pressing the **TIMER** (Item No. UP) or **SOUND MUTE** (Item No. DOWN) button on the remote control handset.

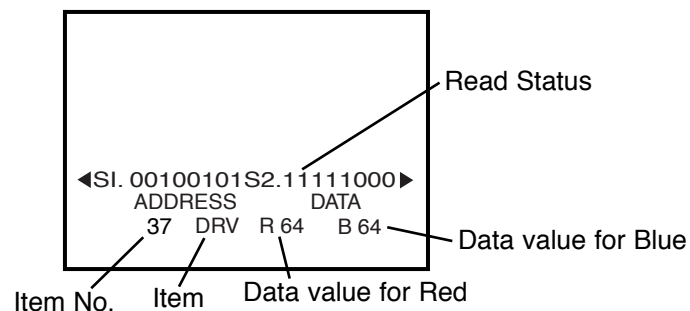


Example

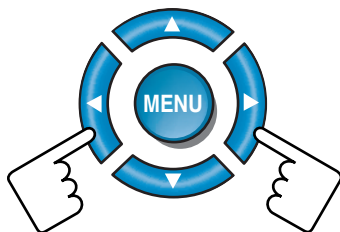
Display for [V-SCO] V-S Correction adjustment



Display for [DRV] White balance adjustment



3. Adjust data value by pressing the **VOLUME +** or **VOLUME -** button on the remote control handset.



To return to normal TV mode, press the **MENU** button on the TV set or the remote control handset.

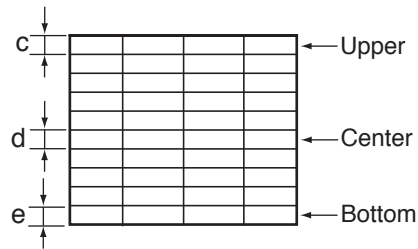
Service Mode Adjustments

Following adjustments should be carried out when the memory IC is replaced. How to enter the service mode and adjust values, please refer to "Entering to Service mode" on page 13.

Item 01 [RF AGC] AGC

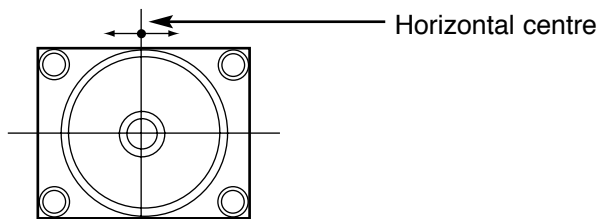
NOTE: Do not attempt this adjustment with weak signal.

- (1) Tune the receiver to most clearest (or strongest) VHF station in your area. Set the brightness and contrast controls to maximum. Set the colour control to minimum.
- (2) Select [RF AGC] in the service mode.
- (3) Change value until the snow noise just disappears.
- (4) Exit from service mode.



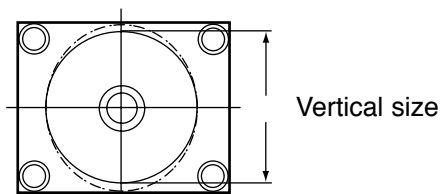
Item 02 [H-PHA] HORIZONTAL CENTRE

- (1) Receive a monochrome circular pattern.
- (2) Set the brightness and contrast to normal.
- (3) Select [H-PHA] in the service mode.
- (4) Change value to be optimum horizontal centre position.
- (5) Exit from service mode.



Item 05 [V-SIZ] VERTICAL SIZE

- (1) Receive a monochrome circular pattern.
- (2) Set the brightness and contrast to maximum.
- (3) Select [V-SIZ] in the service mode.
- (4) Change value to be optimum vertical size.
- (5) Exit from service mode.

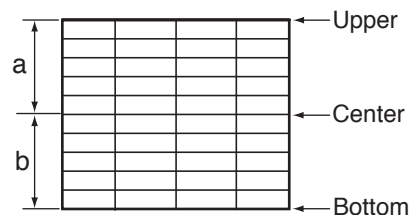


Item 07 [V-SCO] V-S CORRECTION

- (1) Receive a crosshatch pattern.
- (2) Select a picture mode of NATURAL by pressing the PICTURE MODE button.
- (3) Select [V-SCO] in the service mode.
- (4) Adjust Vertical S-letter Correction so that the difference of "c", "d" and "e" becomes less than 2 mm by pressing the VOLUME + or - button.
- (5) Confirm Vertical Linearity and adjust Vertical Center then Vertical Size.
- (6) Exit from service mode.

Item 06 [V-LIN] VERTICAL LINEARITY

- (1) Receive a crosshatch pattern.
- (2) Select a picture mode of NATURAL by pressing the PICTURE MODE button.
- (3) Select [V-LIN] in the service mode.
- (4) Adjust Vertical Linearity so that the difference of "a" and "b" becomes less than 3mm by pressing VOLUME + or - button.
- (5) Exit from service mode.



Item 18 ~ 21 [PCC] PCC Adjustment

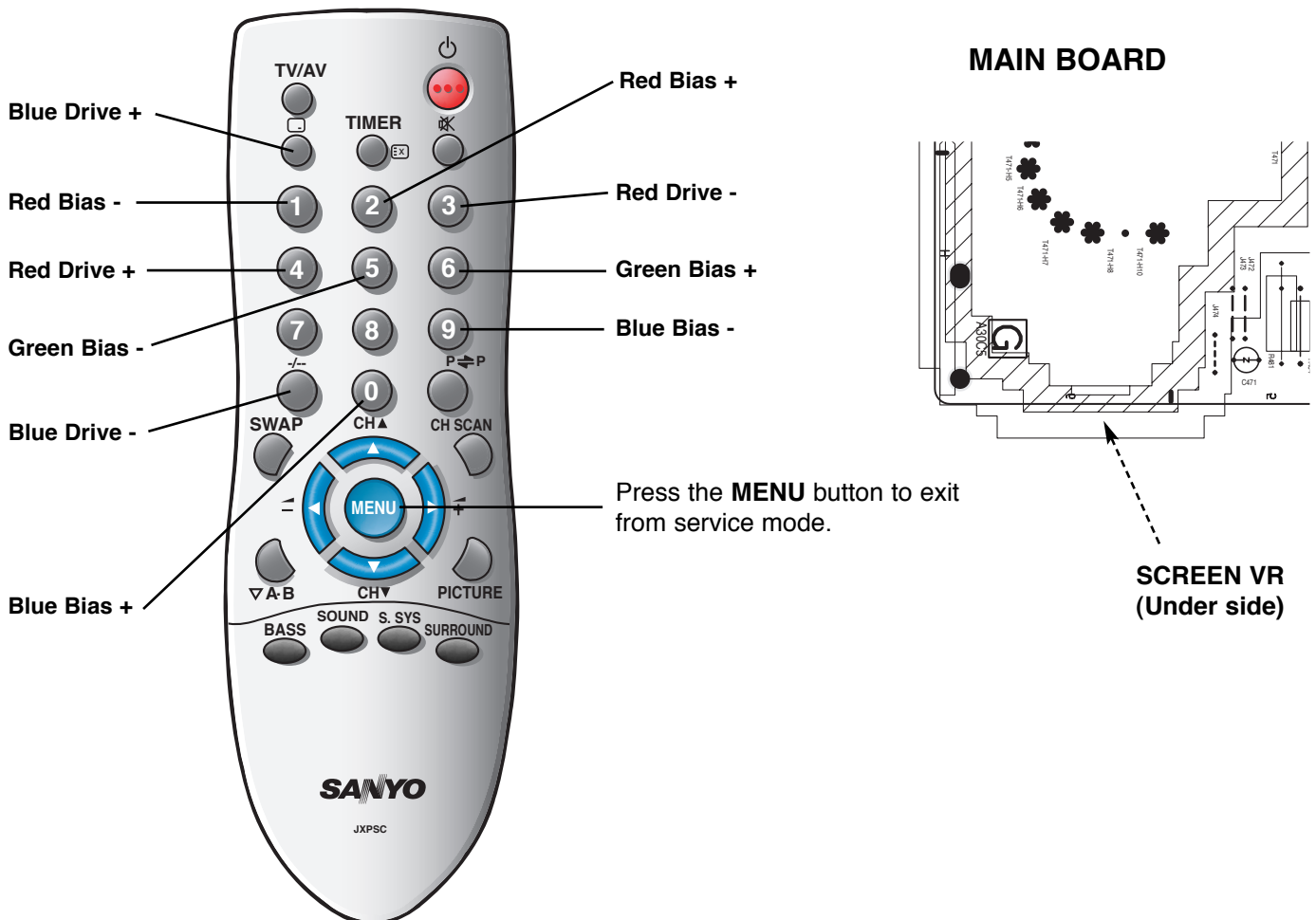
- (1) Receive a crosshatch pattern.
- (2) Select a picture mode of NATURAL by pressing the PICTURE MODE button.
- (3) Select [EWAMP] in the service mode.
- (4) Adjust Vertical Lines to be adequately straight.
- (5) Select [EWTILT] in the service mode.
- (6) Adjust Vertical Lines to be adequately parallel each other.
- (7) Select [EWTOP] in the service mode.
- (8) Adjust Left and Right top corner so that vertical lines more straight.
- (9) Select [EWBTM] in the service mode.
- (10) Adjust Left and Right bottom corner so that vertical lines more straight.

Service Mode Adjustments

Items 30-33, 35-37 GREY SCALE

- (1) Receive a monochrome circular pattern.
- (2) Set the brightness and colour to normal, contrast to maximum.
- (3) Enter to the service mode.
- (4) Select No. 30 RBIAS (Red Bias), No. 31 GBIAS (Green Bias), and No. 32 BBIAS (Blue Bias) and set each data to 0 by pressing the VOLUME + or - key.
- (5) Select No. 33 RDRIV (Red Drive) and No. 35 BDRIV (Blue Drive) and set each data to 64 by pressing the VOLUME + or - key.
- (6) Turn Screen Control on the FBT (T471) to minimum (fully counter-clock-wise).
- (7) Select No. 36 (1-line appear).
- (8) Advance Screen Control clockwise to obtain just visible one colour line. If line does not appear, place this control to maximum (fully clockwise).
- (9) Raise each Bias Level with 1, 2, 5, 6, 9 and 0 keys to obtain just visible white line.
- (10) Select No. 37 DRV (Drive Adjustments).
- (11) Adjust Red and Blue Drive Levels alternately with 3, 4, -/-- or RECALL key to produce normal black and white picture in highlight areas.
- (12) Check for proper grayscale at all brightness levels. To turn off the TV Service Menu display, press the MENU key.

Note: If the Grayscale adjustment is made after picture tube replacement, check the High Voltage



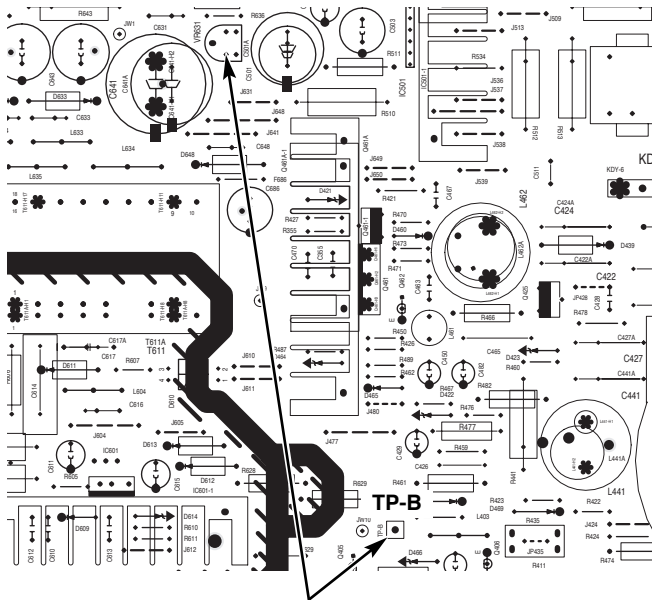
Service Adjustments

Following adjustments are not required to readjust when replacing the memory IC.

B-VOLTAGE SUPPLY CHECKING

- (1) Connect DC meter to TP-B and the ground.
- (2) Tune the receiver to an active channel and synchronized picture. Select **NATURAL** picture mode by pressing the **PICTURE MODE** button on the remote control.
- (3) Adjust B-voltage to be $145 \pm 0.5V$ DC by using VR631.

MAIN BOARD



B-Voltage Supply Adjustment

HIGH VOLTAGE CHECK

Note: +B (+145V) Voltage Check and Grayscale Adjustment must be completed before attempting High Voltage Check.

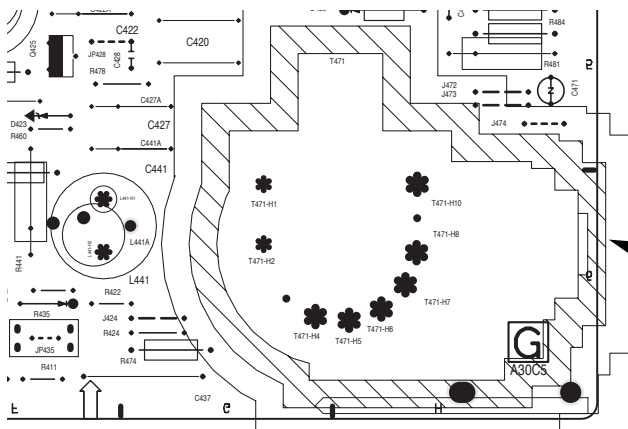
- (1) Connect high voltage voltmeter negative lead to ground, and connect + lead to anode of picture tube.
- (2) Tune receiver to an active channel and confirm TV is operating properly.
- (3) Maximize the beam current by adjusting the contrast and brightness controls to maximum. Confirm high voltage is within 28.0 KV and 30.0 KV at maximum beam current.
- (4) Eliminate the beam current by adjusting the contrast and brightness controls to minimum. Confirm high voltage does not exceed 31.5 KV at zero beam current.

If reading is not within range, check horizontal circuit.
No high-voltage adjustment is provided on this chassis.

FOCUS ADJUSTMENT

- (1) Receive the monochrome circular pattern.
- (2) Set the brightness to normal and contrast to maximum.
- (3) Adjust the focus control on the F.B.T. for the best focus on the screen centre.

MAIN BOARD



Focus VR
(Upper side)

Special Function

The following special functions can be set up on this TV set.

(1) Volume Lock setting

With this function, a maximum sound volume limit can be set at any level.



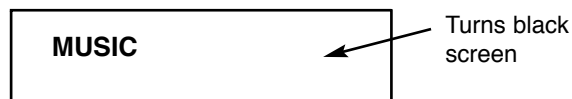
(2) Tuning Lock setting

Once TUNING LOCK is switched on, further channel tuning (Pre-set) is not possible. The Channel Swapping function also is not possible.



(3) Music Mode setting

When Music Mode is ON, Programme position from "247" to "255" and "0" are set Music Mode. Only sound is provided and any picture is not on the screen under Music Mode.



(4) AV Start setting

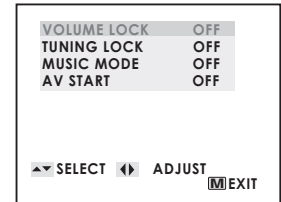
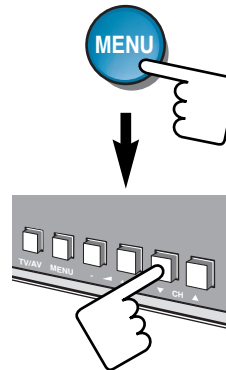
Set AV-START to ON and every time the TV set is switched on, AV1 position will be the initial programme position.



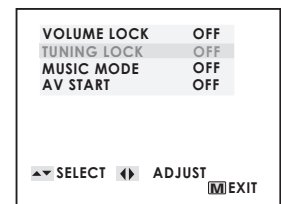
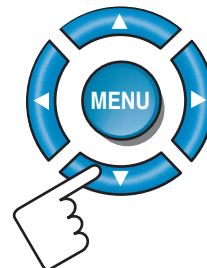
How to set the special function:

Note: When making the VOLUME LOCK setting, set the desired maximum sound volume by pressing the **VOLUME +** or **-** button before entering Special Function setting mode.

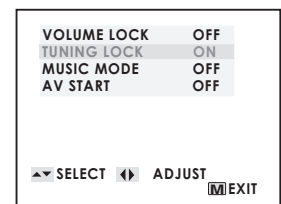
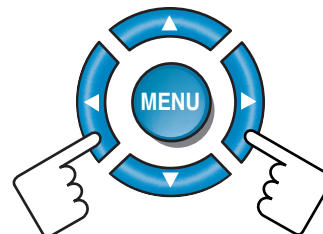
- 1 To enter into the special function setting mode, press and hold the **MENU** button of the remote control, then press the **PROGRAMME DOWN** button on the TV set.



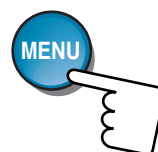
- 2 Select an item of the special functions by pressing the **PROGRAMME UP** or **DOWN** button on the remote control or the TV set.



- 3 Set the selected special function "ON" by pressing the **VOLUME +** or **-** button. To cancel, set to "OFF".



- 4 Press the **MENU** button of the remote control to return to the normal TV mode.



Purity and Convergence Adjustment

CAUTION: The Convergence and Purity adjustments have been made at the factory. Readjustment should be made only after picture tube or deflection yoke replacement, following the steps below:

Signals: Use a pattern generator which can output red, green, blue and white raster and crosshatch pattern signals.

Procedure: Carry out purity adjustment first, and then carry out convergence adjustment.

Preparation: The deflection yoke may have several correction magnets attached to its outer edge. If replacing the picture tube, the positions of the magnets can be changed and they can be re-used, so remove these magnets and keep them safely so that they do not get lost.

PURITY ADJUSTMENTS

1. Place the picture so that its front faces west.
2. Insert the power plug into a wall outlet, and then turn on the power for the TV and de-magnetize the TV using its own degaussing circuit.
3. Loosen the screw which is holding the deflection yoke (with integrated purity magnets), and then move the deflection yoke forward as far as it will go. Remove the rubber wedge at this time.
4. Turn off the red and blue raster so that only the green raster is on.
5. Adjust the angle between the tabs (wings) on purity magnets to center the vertical green belt in the picture tube screen. (See Figures 2 and 3.)

NOTE: This adjustment can only be carried out by changing the angle, not by rotating the tabs up and down.

6. Gently move the deflection yoke back to the position where the green band fills the whole of the picture tube screen, and then tighten the screw to secure the deflection yoke in place.
7. If there is any color distortion around the edges, correct it by attaching magnets to the outer edge of the deflection yoke. The magnets should be attached so that the line running from the position of the distortion to the center of the picture tube intersects the deflection yoke. The colors on the magnets indicate the north and south poles of the magnets. Attach the magnets in whichever direction causes the distortion to disappear. (See Figures 1 and 4. The south and north pole positions are shown as a guide.)
8. Switch the screen to red and blue rasters and check that there is no color distortion. If there is any distortion, adjust the angles of purity magnets tabs or the forward-back position of the deflection yoke, or change the attachment positions of the correction magnets.

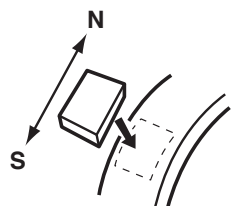
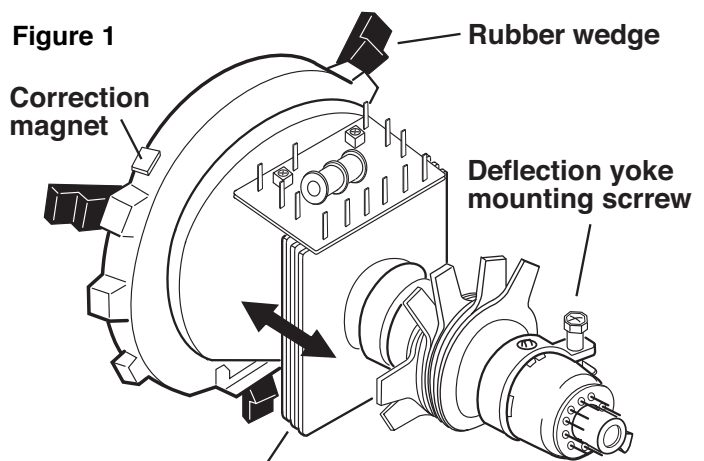


Figure 1



Move the deflection yoke back and forth to adjust the purity

Figure 2

Change the angle to adjust the green band so that it is centered in the screen.

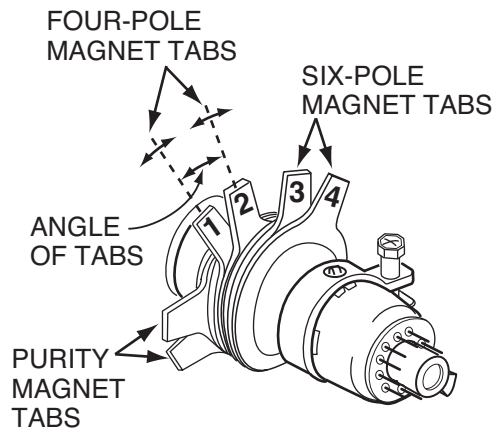


Figure 3

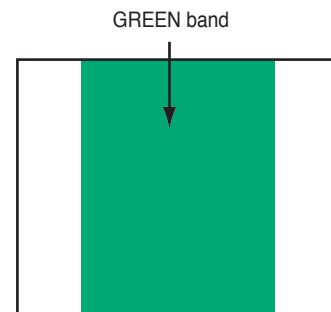
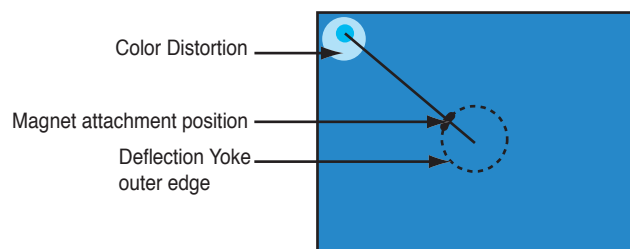


Figure 4



Purity and Convergence Adjustment

CONVERGENCE ADJUSTMENT

Preparation: After carrying out purity adjustment and before proceeding to convergence adjustment, provisionally insert the rubber wedge so that there is no vertical or sideways play in the deflection yoke.

Signals: Display a crosshatch pattern.

1. Red/blue center adjustment

Adjust the angle between the tabs (1) and (2) in Figure 5 and rotate them together until the lines of the red and blue crosshatch patterns (vertical and horizontal lines) are superimposed in the center of the screen.

2. Green and red/blue center adjustment

Adjust the angle between the tabs (3) and (4) in Figure 5 and rotate them together until the lines of the green crosshatch pattern are superimposed with the red/blue crosshatch pattern (vertical and horizontal lines) which were superimposed in step 1).

3. Vertical lines at screen center (Red and Blue)

Use the VR2 control (see Figure 8) at the top of the deflection yoke to correct the vertical line convergence at the center of the screen. (See Figure 9.)

4. Vertical lines at screen top and bottom

Use the VR1 control (see Figure 8) at the top of the deflection yoke to correct the vertical line convergence at the top and bottom of the screen. (See Figure 10.)

5. Horizontal lines at screen top and bottom

Rotate the Deflection yoke to the left or right to correct the horizontal line convergence at the top and bottom of the screen. (See Figure 11.)

If vertical lines are intersecting at the top and bottom, use a screwdriver to adjust the Balance coil at the top of the deflection yoke. (See Figure 12.)

Figure 5

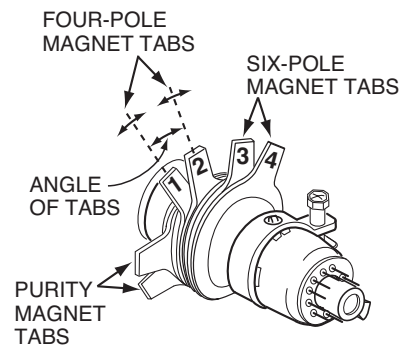
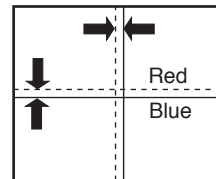
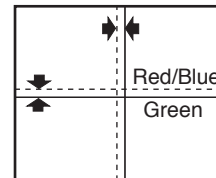


Figure 6



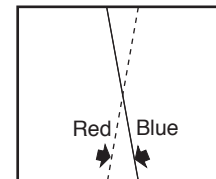
Adjust the angle rotation of tabs (1) and (2) to align the vertical and horizontal lines.

Figure 7



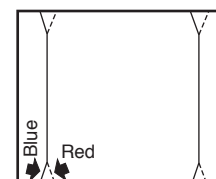
Adjust the angle and rotation of tabs (3) and (4) to align the vertical and horizontal lines.

Figure 9



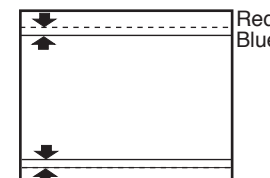
Use the VR2 control to correct.

Figure 10



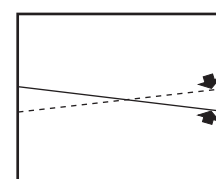
Use the VR1 control to correct.

Figure 11



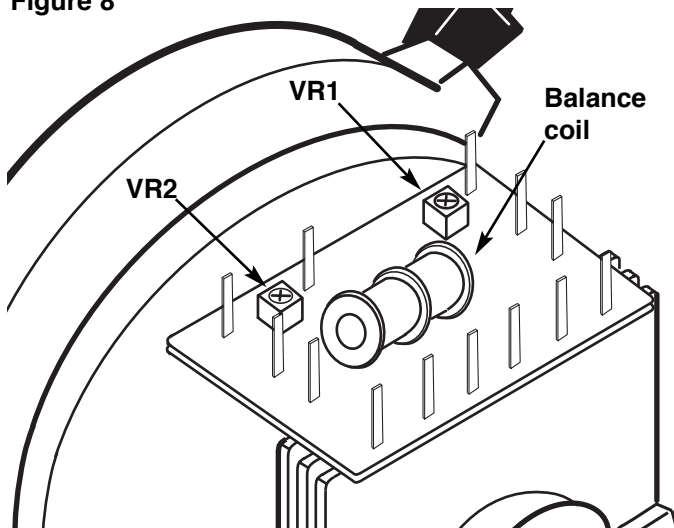
Rotate the DY to correct.

Figure 12



Use the Balance coil to correct

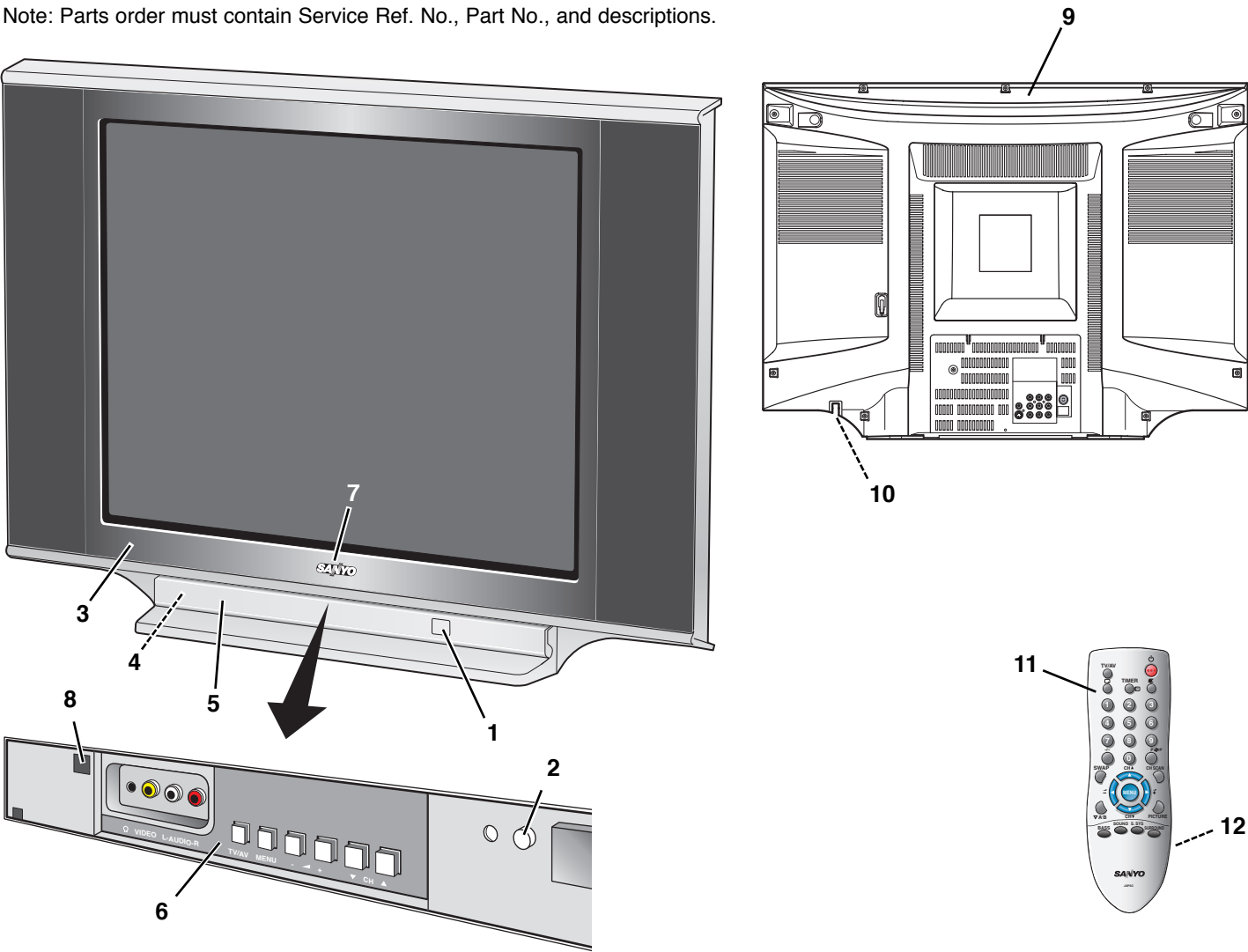
Figure 8



Cabinet Parts List

BA6R/BA6RA

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



Key No.	Part No.	Description	Key No.	Part No.	Description
1	610 324 7779	BUTTON POWER-C8ZA			
	610 229 8406	SPRING-E3HA (for power button)			
2	610 324 7878	DEC IND-C8ZA			
3	610 334 8018	CABINET FRONT-BA6R			
4	610 323 8616	DOOR-C8ZA			
5	610 334 6274	DOOR COVER SHEET-BA6A			
6	610 324 7823	DEC SHEET-C8ZA			
7	645 040 4672	BADGE,SANYO*43.5X10L43.5			
or	645 041 7269	BADGE,SANYO*43.5X10L43.5			
8	610 104 2505	LATCH PUSH,7.9X6.9BK			
or	645 019 2449	LATCH PUSH,7.9X6.9BK			
9	610 333 6374	CABINET BACK-BA6R			
10	610 256 7670	HOLDER AC CORD-SGP-D4VA			
11	645 071 1145	ASSY,REMOCON JXPSC			
or	652 002 0634	REMOCON,JXPSG			
12	610 313 3393	RC-BATTERY LID-JXPLA			
	610 333 2260	INSTRUCTION MANUAL-BA6R			
	610 333 2253	SIMPLIFIED MANUAL-BA6R			

BA6R/BA6RA

Note: Parts order must contain Service Ref. No., Part No., and descriptions. The main PCB unit will be supplied without tuner and flyback transformer. They should be ordered separately.

-21-

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
Q1003	4050020417	TR 2SA1037K T146 S	Q503	4050020318	TR 2SA1037K T146 R
	4050026726	TR 2SA1179-M6-TB		4050020417	TR 2SA1037K T146 S
	4050026924	TR 2SA1179-M7-TB		4050026726	TR 2SA1179-M6-TB
	4051631513	TR 2SA1179N-M6-TB		4050026924	TR 2SA1179-M7-TB
	4051739615	TR 2SA1235A1E		4051631513	TR 2SA1179N-M6-TB
	4051739714	TR 2SA1235A1F		4051739615	TR 2SA1235A1E
	4051648016	TR KTA1504S-GR-RTK		4051739714	TR 2SA1235A1F
	4051345925	TR 2SA1037AK-T146-R		4051648412	TR KTC3875S-GR-RTK
	4051472215	TR 2SA1037AK-S-T146		4050144519	TR 2SC2412K T146 R
	4050020318	TR 2SA1037K T146 R		4050144618	TR 2SC2412K T146 S
	4050020417	TR 2SA1037K T146 S		4050158724	TR 2SC2812-L6-TB
	4050026726	TR 2SA1179-M6-TB		4050158922	TR 2SC2812-L7-TB
	4050026924	TR 2SA1179-M7-TB		4051631612	TR 2SC2812N-L6-TB0
	4051631513	TR 2SA1179N-M6-TB		4051739813	TR 2SC3928A1R
	4051739615	TR 2SA1235A1E		4051739912	TR 2SC3928A1S
Q111	4051739714	TR 2SA1235A1F	Q631	4051648412	TR KTC3875S-GR-RTK
	4050159721	TR 2SC2814-F4-TB		4050144519	TR 2SC2412K T146 R
Q122	4051648412	TR KTC3875S-GR-RTK		4050144618	TR 2SC2412K T146 S
	4050144519	TR 2SC2412K T146 R		4050158724	TR 2SC2812-L6-TB
	4050144618	TR 2SC2412K T146 S		4050158922	TR 2SC2812-L7-TB
Q3701	4050158724	TR 2SC2812-L6-TB	Q632	4051631612	TR 2SC2812N-L6-TB0
	4050158922	TR 2SC2812-L7-TB		4051739813	TR 2SC3928A1R
	4051631612	TR 2SC2812N-L6-TB0		4051739912	TR KTC3875S-GR-RTK
	4051739813	TR 2SC3928A1R		4050144519	TR 2SC2412K T146 R
	4051739912	TR 2SC3928A1S		4050144618	TR 2SC2412K T146 S
	4051648412	TR KTC3875S-GR-RTK		4050158724	TR 2SC2812-L6-TB
	4050144519	TR 2SC2412K T146 R		4050158922	TR 2SC2812-L7-TB
	4050144618	TR 2SC2412K T146 S		4051631612	TR 2SC2812N-L6-TB0
	4050158724	TR 2SC2812-L6-TB		4051739813	TR 2SC3928A1R
	4050158922	TR 2SC2812-L7-TB		4051739912	TR 2SC3928A1S
	4051631612	TR 2SC2812N-L6-TB0	Q641	4051648412	TR KTC3875S-GR-RTK
	4051739813	TR 2SC3928A1R		4050144519	TR 2SC2412K T146 R
	4051739912	TR 2SC3928A1S		4050144618	TR 2SC2412K T146 S
Q424	4051648412	TR KTC3875S-GR-RTK		4050158724	TR 2SC2812-L6-TB
	4050144519	TR 2SC2412K T146 R		4050158922	TR 2SC2812-L7-TB
	4050144618	TR 2SC2412K T146 S	Q642	4051631612	TR 2SC2812N-L6-TB0
	4050158724	TR 2SC2812-L6-TB		4051739813	TR 2SC3928A1R
	4050158922	TR 2SC2812-L7-TB		4051739912	TR 2SC3928A1S
Q425	4051631612	TR 2SC2812N-L6-TB0		4050893011	TR 2SC4487-S
	4051739813	TR 2SC3928A1R		4050893110	TR 2SC4487-T
	4051739912	TR 2SC3928A1S	Q643	4050222514	TR 2SD1347-S
Q431	4060121408	TR 2SK2010-CTV-YA14		4050222613	TR 2SD1347-T
	4052192211	TR 2N5551C-AT/P		4051413515	TR KTA1266-Y-T
	4050180517	TR 2SC3332-R		4050061816	TR 2SA933S-R
	4050180616	TR 2SC3332-S	Q645	4051648412	TR KTC3875S-GR-RTK
Q432	4051571304	TR 2SD2634-YB		4050144519	TR 2SC2412K T146 R
	4051648412	TR KTC3875S-GR-RTK		4050144618	TR 2SC2412K T146 S
Q439	4050144519	TR 2SC2412K T146 R		4050158724	TR 2SC2812-L6-TB
	4050144618	TR 2SC2412K T146 S		4050158922	TR 2SC2812-L7-TB
	4050158724	TR 2SC2812-L6-TB		4051631612	TR 2SC2812N-L6-TB0
	4050158922	TR 2SC2812-L7-TB		4051739813	TR 2SC3928A1R
	4051631612	TR 2SC2812N-L6-TB0	Q661	4051739912	TR 2SC3928A1S
	4051739813	TR 2SC3928A1R		4052144200	TR KTC2026-Y-U/P
	4051739912	TR 2SC3928A1S		4050599903	TR 2SD1913-R-RA
	4050296307	TR 2SB817-E		4050600005	TR 2SD1913-S-RA
Q461	4051413317	TR KTC3198-GR-T	Q681	4051413317	TR KTC3198-GR-T
	4050118411	TR 2SC1740S-Q		4050118411	TR 2SC1740S-Q
	4050118510	TR 2SC1740S-R		4050118510	TR 2SC1740S-R
	4050118619	TR 2SC1740S-S		4050118619	TR 2SC1740S-S
	4050122012	TR 2SC1815-GR		4050122012	TR 2SC1815-GR
Q491	4050122111	TR 2SC1815-O	Q683	4050122111	TR 2SC1815-O
	4050207511	TR 2SC945A-PA		4050207511	TR 2SC945A-PA
	4050207719	TR 2SC945A-QA		4050207719	TR 2SC945A-QA
	4050207917	TR 2SC945A-RA		4050207917	TR 2SC945A-RA
	4051648016	TR KTA1504S-GR-RTK		4050890010	TR 2SA1707-S
	4051345925	TR 2SA1037AK-T146-R		4050890119	TR 2SA1707-T
	4051472215	TR 2SA1037AK-S-T146			

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	
Q684	4050096917	TR 2SB985-S	C012	4040847700	ELECT 10U M 16V	
	4050097013	TR 2SB985-T		4032007927	ELECT 10U M 16V	
	4051413317	TR KTC3198-GR-T		4040973102	ELECT 22U M 50V	
	4050118411	TR 2SC1740S-Q		4040875406	ELECT 22U M 50V	
	4050118510	TR 2SC1740S-R		4032001529	ELECT 22U M 50V	
	4050118619	TR 2SC1740S-S	C013	4041072002	ELECT 470U M 16V	
	4050122012	TR 2SC1815-GR		4040848301	ELECT 470U M 16V	
	4050122111	TR 2SC1815-O		4031768621	ELECT 470U M 16V	
	4050207511	TR 2SC945A-PA	C014	4011506011	MT-GLAZE 0.000 ZA 1/10W	
	4050207719	TR 2SC945A-QA		4011057919	MT-GLAZE 0.000 ZA 1/16W	
	4050207917	TR 2SC945A-RA	C1001	4011506011	MT-GLAZE 0.000 ZA 1/10W	
	4051648412	TR KTC3875S-GR-RTK		4011057919	MT-GLAZE 0.000 ZA 1/16W	
	Q886	4050144519	TR 2SC2412K T146 R	C1002	4040968504	ELECT 10U M 50V
		4050144618	TR 2SC2412K T146 S		4040848905	ELECT 10U M 50V
		4050158724	TR 2SC2812-L6-TB	C1003	4031957748	ELECT 10U M 50V
4050158922		TR 2SC2812-L7-TB	4040968504		ELECT 10U M 50V	
4051631612		TR 2SC2812N-L6-TB0	4040848905		ELECT 10U M 50V	
4051739813		TR 2SC3928A1R	C1004	4031957748	ELECT 10U M 50V	
4051739912		TR 2SC3928A1S		4040968504	ELECT 10U M 50V	
				4040848905	ELECT 10U M 50V	
				4031957748	ELECT 10U M 50V	
				4040968504	ELECT 10U M 50V	
INTEGRATED CIRCUIT			C1005	4040968504	ELECT 10U M 50V	
IC001	4095732105	IC LA42072-E		4040848905	ELECT 10U M 50V	
IC1001	4094244916	IC NJM2533M		4031957748	ELECT 10U M 50V	
IC201	4106203402	IC LA76938NDE56S0-E	C1006	4040971900	ELECT 220U M 16V	
IC202	4092415407	IC BA178M05T		4040848004	ELECT 220U M 16V	
	4094636701	IC KIA7805API		4032006722	ELECT 220U M 16V	
	4092654806	IC L78M05CV	C1007	4040968504	ELECT 10U M 50V	
IC3701	4095922734	IC LV1116NV-TLM-E		4040848905	ELECT 10U M 50V	
IC3702	4090397814	IC NJM4558M-TE2		4031957748	ELECT 10U M 50V	
IC501	4093740607	IC LA7846N	C1008	4040968504	ELECT 10U M 50V	
IC601	4105643100	IC STR-W6754(LF2003)		4040848905	ELECT 10U M 50V	
IC651	4092415407	IC BA178M05T		4031957748	ELECT 10U M 50V	
	4094636701	IC KIA7805API	C1009	4032070317	CERAMIC 1U Z 16V	
	4092654806	IC L78M05CV		4032789615	CERAMIC 1U Z 16V	
IC801	4096760701	IC LE24C161-E-C		C101	4041072002	ELECT 470U M 16V
	4104958007	IC AT24C16A-10PU-2.7	4040848301		ELECT 470U M 16V	
	4094594506	IC 24LC16B/P	4031768621		ELECT 470U M 16V	
CAPACITOR			C1010	4033670417	CERAMIC 0.1U K 50V	
C001	4040972303	ELECT 1K U M 25V		4033670417	CERAMIC 0.1U K 50V	
	4040848400	ELECT 1000U M 25V	C1012	4032070317	CERAMIC 1U Z 16V	
	4031977340	ELECT 1000U M 25V		4032789615	CERAMIC 1U Z 16V	
C002	4040968504	ELECT 10U M 50V	C1013	4032152211	CERAMIC 0.01U K 50V	
	4040848905	ELECT 10U M 50V		C1014	4040968405	ELECT 1U M 50V
	4031957748	ELECT 10U M 50V	4040848806		ELECT 1U M 50V	
C003	4031133815	CERAMIC 1000P K 50V	C1015	4032001123	ELECT 1U M 50V	
	4031737914	CERAMIC 1000P Z 50V		4040968504	ELECT 10U M 50V	
	4033565119	CERAMIC 0.047U K 50V		4040848905	ELECT 10U M 50V	
C004	4032247016	CERAMIC 0.047U Z 50V	C1016	4031957748	ELECT 10U M 50V	
	4031303119	CERAMIC 0.047U K 50V		4040968405	ELECT 1U M 50V	
	4033565119	CERAMIC 0.047U K 50V		4040848806	ELECT 1U M 50V	
C005	4032247016	CERAMIC 0.047U Z 50V	C104	4032001123	ELECT 1U M 50V	
	4031133815	CERAMIC 1000P K 50V		4040973508	ELECT 47U M 50V	
	4031737914	CERAMIC 1000P Z 50V		4040849308	ELECT 47U M 50V	
C006	4030700919	CERAMIC 0.1U K 50V	C106	4032001727	ELECT 47U M 50V	
	4033670417	CERAMIC 0.1U K 50V		4040973102	ELECT 22U M 50V	
	4033053517	CERAMIC 0.1U Z 50V		4040875406	ELECT 22U M 50V	
C007	4030700919	CERAMIC 0.1U K 50V	C107	4032001529	ELECT 22U M 50V	
	4033670417	CERAMIC 0.1U K 50V		C10102	4031133815	CERAMIC 1000P K 50V
	4033053517	CERAMIC 0.1U Z 50V			4040968504	ELECT 10U M 50V
C008	4030700919	CERAMIC 0.1U K 50V	C1103		4040848905	ELECT 10U M 50V
	4033670417	CERAMIC 0.1U K 50V		4031957748	ELECT 10U M 50V	
	4033053517	CERAMIC 0.1U Z 50V		C111	4040968504	ELECT 10U M 50V
C009	4030700919	CERAMIC 0.1U K 50V	C112		4032152211	CERAMIC 0.01U K 50V
	4033670417	CERAMIC 0.1U K 50V			4032152211	CERAMIC 0.01U K 50V
	4033053517	CERAMIC 0.1U Z 50V				
C010	4030700919	CERAMIC 0.1U K 50V				
	4033670417	CERAMIC 0.1U K 50V				
	4033053517	CERAMIC 0.1U Z 50V				
C011	4040967903	ELECT 10U M 16V				

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
C114	4032152211	CERAMIC 0.01U K 50V	C3704	4032152211	CERAMIC 0.01U K 50V
C120	4032844314	CERAMIC 0.022U K 50V	C3705	4031134119	CERAMIC 2200P K 50V
	4032246613	CERAMIC 0.022U Z 50V		4031737518	CERAMIC 2200P Z 50V
C121	4032152211	CERAMIC 0.01U K 50V	C3706	4033670417	CERAMIC 0.1U K 50V
C122	4040971702	ELECT 100U M 16V	C3707	4030700919	CERAMIC 0.1U K 50V
	4040847809	ELECT 100U M 16V		4033670417	CERAMIC 0.1U K 50V
	4031957837	ELECT 100U M 16V	C3708	4032070317	CERAMIC 1U Z 16V
C123	4011506011	MT-GLAZE 0.000 ZA 1/10W		4032789615	CERAMIC 1U Z 16V
	4011057919	MT-GLAZE 0.000 ZA 1/16W	C3709	4040968306	ELECT 100U M 25V
C132	4033363517	CERAMIC 0.47U K 16V		4040897200	ELECT 100U M 25V
C138	4032844314	CERAMIC 0.022U K 50V		4031957936	ELECT 100U M 25V
C171	4031552111	CERAMIC 1500P K 50V	C3710	4032070317	CERAMIC 1U Z 16V
C172	4032152211	CERAMIC 0.01U K 50V		4032789615	CERAMIC 1U Z 16V
C174	4031571914	CERAMIC 10P D 50V	C3711	4040973300	ELECT 4.7U M 50V
C176	4011506011	MT-GLAZE 0.000 ZA 1/10W		4040849209	ELECT 4.7U M 50V
	4011057919	MT-GLAZE 0.000 ZA 1/16W		4032001420	ELECT 4.7U M 50V
C1902	4040973102	ELECT 22U M 50V	C3712	4041086207	ELECT 2200U M 16V
	4040875406	ELECT 22U M 50V		4040936909	ELECT 2200U M 16V
	4032001529	ELECT 22U M 50V		4031937443	ELECT 2200U M 16V
C201	4032152211	CERAMIC 0.01U K 50V	C3713	4040973300	ELECT 4.7U M 50V
C202	4031793217	POLYESTER 0.015U J 50V		4040849209	ELECT 4.7U M 50V
C203	4032152211	CERAMIC 0.01U K 50V		4032001420	ELECT 4.7U M 50V
C204	4040968306	ELECT 100U M 25V	C3714	4032070317	CERAMIC 1U Z 16V
	4040897200	ELECT 100U M 25V		4032789615	CERAMIC 1U Z 16V
	4031957936	ELECT 100U M 25V	C3715	4040973300	ELECT 4.7U M 50V
C210	4040971702	ELECT 100U M 16V		4040849209	ELECT 4.7U M 50V
	4040847809	ELECT 100U M 16V		4032001420	ELECT 4.7U M 50V
	4031957837	ELECT 100U M 16V	C3716	4040973300	ELECT 4.7U M 50V
C212	4031554214	CERAMIC 15P J 50V		4040849209	ELECT 4.7U M 50V
C215	4033588316	CERAMIC 1U K 10V		4032001420	ELECT 4.7U M 50V
C224	4032052818	CERAMIC 0.047U K 25V	C3717	4031577312	CERAMIC 6800P K 50V
C225	4033145915	CERAMIC 0.47U K 16V	C3718	4033423310	CERAMIC 0.1U K 25V
	4033363517	CERAMIC 0.47U K 16V	C3719	4030718112	CERAMIC 2200P K 50V
C226	4040972709	ELECT 0.47U M 50V		4031134119	CERAMIC 2200P K 50V
	4040848707	ELECT 0.47U M 50V		4031737518	CERAMIC 2200P Z 50V
	4032002625	ELECT 0.47U M 50V	C3720	4030700919	CERAMIC 0.1U K 50V
C227	4032152211	CERAMIC 0.01U K 50V		4033670417	CERAMIC 0.1U K 50V
C231	4032560848	MT-COMPO 0.47U J 50V	C3721	4030700919	CERAMIC 0.1U K 50V
C232	4032152211	CERAMIC 0.01U K 50V		4033670417	CERAMIC 0.1U K 50V
C233	4040968504	ELECT 10U M 50V	C3722	4032070317	CERAMIC 1U Z 16V
	4040848905	ELECT 10U M 50V		4032789615	CERAMIC 1U Z 16V
	4031957748	ELECT 10U M 50V	C3723	4032989619	CERAMIC 0.1U K 16V
C234	4032152211	CERAMIC 0.01U K 50V	C3724	4032070317	CERAMIC 1U Z 16V
C236	4032070317	CERAMIC 1U Z 16V		4032789615	CERAMIC 1U Z 16V
	4032789615	CERAMIC 1U Z 16V	C3725	4041086306	ELECT 33U M 16V
C243	4032152211	CERAMIC 0.01U K 50V		4040897804	ELECT 33U M 16V
C244TM	4040968009	ELECT 1000U M 16V		4032006524	ELECT 33U M 16V
	4040847908	ELECT 1000U M 16V	C3726	4032989619	CERAMIC 0.1U K 16V
	4032006930	ELECT 1000U M 16V	C3728	4030700919	CERAMIC 0.1U K 50V
C245	4032070317	CERAMIC 1U Z 16V		4033670417	CERAMIC 0.1U K 50V
	4032789615	CERAMIC 1U Z 16V	C3729	4030700919	CERAMIC 0.1U K 50V
C247	4040972907	ELECT 2.2U M 50V		4033670417	CERAMIC 0.1U K 50V
	4040849001	ELECT 2.2U M 50V	C3730	4040972105	ELECT 330U M 16V
	4032001222	ELECT 2.2U M 50V		4040848103	ELECT 330U M 16V
C273	4033423310	CERAMIC 0.1U K 25V		4032006821	ELECT 330U M 16V
C291	4040968207	ELECT 47U M 16V	C3731	4041086306	ELECT 33U M 16V
	4040848202	ELECT 47U M 16V		4040897804	ELECT 33U M 16V
	4032006623	ELECT 47U M 16V		4032006524	ELECT 33U M 16V
C355	4031032257	CERAMIC 100P K 50V	C3734	4040967903	ELECT 10U M 16V
C358	4032070317	CERAMIC 1U Z 16V		4040847700	ELECT 10U M 16V
	4032789615	CERAMIC 1U Z 16V		4032007927	ELECT 10U M 16V
C3701	4032070317	CERAMIC 1U Z 16V	C3736	4040973102	ELECT 22U M 50V
	4032789615	CERAMIC 1U Z 16V		4040875406	ELECT 22U M 50V
C3702	4040973300	ELECT 4.7U M 50V		4032001529	ELECT 22U M 50V
	4040849209	ELECT 4.7U M 50V	C420	4040775102	MT-POLYPRO 8900P H 1.5K
	4032001420	ELECT 4.7U M 50V	C422	4040869405	POLYPRO 0.018U J 400V
C3703	4031552418	CERAMIC 5600P K 50V		4030833914	POLYPRO 0.018U J 400V

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
C423	4040775102	MT-POLYPRO 8900P H 1.5K		4033128225	CERAMIC 1000P K 1K
C424	4030833419	POLYPRO 0.015U J 400V		4033991017	CERAMIC 1000P K 1K
C426	4031801605	MT-POLYEST 0.1U K 400V	C609	4040787600	ELECT 270U M 400V
C427	4033466822	MT-POLYPRO 0.2U J 250V		4040961901	ELECT 270U M 400V
	4033710618	MT-POLYPRO 0.2U J 250V		4041061105	ELECT 270U M 400V
	4033726510	MT-POLYPRO 0.2U J 250V	C610	4032769112	POLYESTER 470P J 50V
C428	4031149519	CERAMIC 1000P K 500V	C611	4040968405	ELECT 1U M 50V
C429	4040968504	ELECT 10U M 50V		4040848806	ELECT 1U M 50V
	4040848905	ELECT 10U M 50V		4032001123	ELECT 1U M 50V
	4031957748	ELECT 10U M 50V	C612	4030569734	POLYESTER 0.01U J 50V
C432	4031149519	CERAMIC 1000P K 500V		4031789319	POLYESTER 0.01U J 50V
C433	4032753329	CERAMIC 3900P K 500V	C613	4031792715	POLYESTER 2200P J 50V
C434	4041087303	ELECT 330U M 35V	C614	4030840318	POLYPRO 0.022U J 630V
	4041075508	ELECT 330U M 35V	C615	4041087907	ELECT 22U M 35V
	4032003632	ELECT 330U M 35V		4040875802	ELECT 22U M 35V
C437	4031879703	MT-POLYEST 2.2U J 250V		4032003226	ELECT 22U M 35V
	4031589206	MT-POLYEST 2.2U K 250V	C616	4032468708	CERAMIC 1000P K 2K
C439	4033145915	CERAMIC 0.47U K 16V		4034132914	CERAMIC 1000P K 2K
C441	4033726312	MT-POLYPRO 0.15U J 250V	C617	4040862109	CERAMIC 470P K 2K
C463	4030617534	POLYESTER 4700P J 50V		4032454404	CERAMIC 470P K 2K
	4031791213	POLYESTER 4700P J 50V	△C626	4040733904	CERAMIC 1000P K 250V
C465	4030660104	MT-POLYEST 2.2U K 100V		4040732105	CERAMIC 1000P M 250V
C467	4032602043	MT-COMPO 1U J 50V		4040713302	CERAMIC 1000P M 400V
C468	4040973102	ELECT 22U M 50V		4040978503	CERAMIC 1000P K 400V
	4040875406	ELECT 22U M 50V	△C627	4040735106	CERAMIC 470P K 250V
	4032001529	ELECT 22U M 50V		4040714507	CERAMIC 470P K 400V
C469	4040968504	ELECT 10U M 50V		4040978909	CERAMIC 470P K 400V
	4040848905	ELECT 10U M 50V	△C628	4040735106	CERAMIC 470P K 250V
	4031957748	ELECT 10U M 50V		4040714507	CERAMIC 470P K 400V
C470	4032462221	MT-COMPO 0.01U J 50V		4040978909	CERAMIC 470P K 400V
C471	4040565208	NP-ELECT 2.2U M 100V	△C629	4040733904	CERAMIC 1000P K 250V
	4040847007	NP-ELECT 2.2U M 100V		4040732105	CERAMIC 1000P M 250V
C482	4041106905	ELECT 0.47U M 160V		4040713302	CERAMIC 1000P M 400V
C486	4040981602	ELECT 33U M 250V		4040978503	CERAMIC 1000P K 400V
C491	4034164915	CERAMIC 680P K 500V	C631	4034132914	CERAMIC 1000P K 2K
C501A	4033683100	ELECT 3300U M 25V	C632	4040861508	CERAMIC 470P K 1K
C502A	4033683100	ELECT 3300U M 25V		4032475003	CERAMIC 470P K 1K
C503	4040968603	ELECT 220U M 35V		4034084510	CERAMIC 470P K 1K
	4040849407	ELECT 220U M 35V	C633	4040861508	CERAMIC 470P K 1K
	4032003533	ELECT 220U M 35V		4032475003	CERAMIC 470P K 1K
C504	4030725615	CERAMIC 2700P K 50V		4034084510	CERAMIC 470P K 1K
	4031577114	CERAMIC 2700P K 50V	C634	4040861508	CERAMIC 470P K 1K
C505	4031043659	CERAMIC 82P J 50V		4032475003	CERAMIC 470P K 1K
C506	4032560848	MT-COMPO 0.47U J 50V		4034084510	CERAMIC 470P K 1K
C507	4031792210	POLYESTER 2700P K 50V	C635	4032753012	CERAMIC 0.047U K 16V
C510	4040973102	ELECT 22U M 50V	C636	4040968504	ELECT 10U M 50V
	4040875406	ELECT 22U M 50V		4040848905	ELECT 10U M 50V
	4032001529	ELECT 22U M 50V		4031957748	ELECT 10U M 50V
C512	4032560907	MT-COMPO 0.82U J 50V	C637	4033670417	CERAMIC 0.1U K 50V
C529	4040968504	ELECT 10U M 50V	C639	4032321102	CERAMIC 1000P K 2K
	4040848905	ELECT 10U M 50V		4034132914	CERAMIC 1000P K 2K
	4031957748	ELECT 10U M 50V	C640	4040968801	ELECT 470U M 35V
	4041082704	NP-ELECT 10U M 16V		4040849506	ELECT 470U M 35V
	4040902102	ELECT 10U M 16V		4032002130	ELECT 470U M 35V
C535	4030095718	CERAMIC 100P J 50V	C641	4040739005	ELECT 220U M 160V
	4031573611	CERAMIC 100P J 50V		4040559801	ELECT 220U M 200V
△C601	4040881704	MT-POLYEST 0.22U K 250V		4040973706	ELECT 220U M 160V
	4040888802	MT-POLYEST 0.22U M 275V	C643	4040968801	ELECT 470U M 35V
	4040941804	MT-POLYEST 0.22U K 275V		4040849506	ELECT 470U M 35V
△C602	4040796503	MT-POLYEST 0.068U M 250V		4032002130	ELECT 470U M 35V
	4040920700	MT-POLYEST 0.068U M 275V	C644	4040972303	ELECT 1K U M 25V
	4041144501	MT-POLYEST 0.068U K 275V		4040848400	ELECT 1000U M 25V
C603	4040846307	CERAMIC 1000P K 1K		4031977340	ELECT 1000U M 25V
	4030766707	CERAMIC 1000P K 1K	C645	4041087006	ELECT 2200U M 25V
	4033128225	CERAMIC 1000P K 1K		4040886600	ELECT 2200U M 25V
C604	4040846307	CERAMIC 1000P K 1K		4031943840	ELECT 2200U M 25V
	4030766707	CERAMIC 1000P K 1K	C649	4040973508	ELECT 47U M 50V

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
	4040849308	ELECT 47U M 50V		4011052815	MT-GLAZE 2.2K JA 1/16W
	4032001727	ELECT 47U M 50V	R1009	4011505816	MT-GLAZE 100K JA 1/10W
C650	4032006524	ELECT 33U M 16V		4011050712	MT-GLAZE 100K JA 1/16W
C651	4041071906	ELECT 470U M 10V	R101	4011506011	MT-GLAZE 0.000 ZA 1/10W
	4040847601	ELECT 470U M 10V		4011057919	MT-GLAZE 0.000 ZA 1/16W
	4032008221	ELECT 470U M 10V	R1010	4012562719	MT-GLAZE 75 JA 1/10W
C661	4040968504	ELECT 10U M 50V		4011134412	MT-GLAZE 75 JA 1/16W
	4040848905	ELECT 10U M 50V	R1011	4011505816	MT-GLAZE 100K JA 1/10W
	4031957748	ELECT 10U M 50V		4011050712	MT-GLAZE 100K JA 1/16W
C662	4040971900	ELECT 220U M 16V	R1012	4011506219	MT-GLAZE 1K JA 1/10W
	4040848004	ELECT 220U M 16V		4011050514	MT-GLAZE 1K JA 1/16W
	4032006722	ELECT 220U M 16V	R1013	4012562719	MT-GLAZE 18K JA 1/10W
C663	4040972303	ELECT 1K U M 25V		4011052112	MT-GLAZE 18K JA 1/16W
	4040848400	ELECT 1000U M 25V	R1014	4011506219	MT-GLAZE 1K JA 1/10W
	4031977340	ELECT 1000U M 25V		4011050514	MT-GLAZE 1K JA 1/16W
C686	4040972303	ELECT 1K U M 25V	R1015	4012562719	MT-GLAZE 18K JA 1/10W
	4040848400	ELECT 1000U M 25V		4011052112	MT-GLAZE 18K JA 1/16W
	4031977340	ELECT 1000U M 25V	R1016	4012562719	MT-GLAZE 75 JA 1/10W
C691	4040968405	ELECT 1U M 50V		4011134412	MT-GLAZE 75 JA 1/16W
	4040848806	ELECT 1U M 50V	R1018	4012562719	MT-GLAZE 75 JA 1/10W
	4032001123	ELECT 1U M 50V		4011134412	MT-GLAZE 75 JA 1/16W
C801	4031397316	CERAMIC 18P J 50V	R102	4011506011	MT-GLAZE 0.000 ZA 1/10W
C802	4031397316	CERAMIC 18P J 50V		4011057919	MT-GLAZE 0.000 ZA 1/16W
C803	4032152211	CERAMIC 0.01U K 50V	R1020	4012562719	MT-GLAZE 75 JA 1/10W
C805	4040971702	ELECT 100U M 16V		4011134412	MT-GLAZE 75 JA 1/16W
	4040847809	ELECT 100U M 16V	R1021	4012562719	MT-GLAZE 75 JA 1/10W
	4031957837	ELECT 100U M 16V		4011134412	MT-GLAZE 75 JA 1/16W
C842	4033423310	CERAMIC 0.1U K 25V	R1022	4012562719	MT-GLAZE 75 JA 1/10W
C863	4032070317	CERAMIC 1U Z 16V		4011134412	MT-GLAZE 75 JA 1/16W
	4032789615	CERAMIC 1U Z 16V	R1023	4012562719	MT-GLAZE 75 JA 1/10W
C893	4040972907	ELECT 2.2U M 50V		4011134412	MT-GLAZE 75 JA 1/16W
	4040849001	ELECT 2.2U M 50V	R1024	4012566915	MT-GLAZE 680 JA 1/10W
	4032001222	ELECT 2.2U M 50V		4011056516	MT-GLAZE 680 JA 1/16W
C894	4032815017	CERAMIC 0.033U K 25V	R1025	4011505816	MT-GLAZE 100K JA 1/10W
				4011050712	MT-GLAZE 100K JA 1/16W
RESISTOR			R1026	4011506219	MT-GLAZE 1K JA 1/10W
R001	4010273033	CARBON 56K JA 1/6W		4011050514	MT-GLAZE 1K JA 1/16W
R002	4010273033	CARBON 56K JA 1/6W	R1027	4010246938	CARBON 1K GA 1/6W
R003	4012566014	MT-GLAZE 27K JA 1/10W		4010247034	CARBON 1K JA 1/6W
	4011053416	MT-GLAZE 27K JA 1/16W	R1028	4011506219	MT-GLAZE 1K JA 1/10W
R004	4012566014	MT-GLAZE 27K JA 1/10W		4011050514	MT-GLAZE 1K JA 1/16W
	4011053416	MT-GLAZE 27K JA 1/16W	R1029	4011506219	MT-GLAZE 1K JA 1/10W
R005	4010247440	CARBON 10K JA 1/6W		4011050514	MT-GLAZE 1K JA 1/16W
R007	4010257835	CARBON 2.2K JA 1/6W	R103	4010618111	OXIDE-MT 39K JA 1W
R009	4011506219	MT-GLAZE 1K JA 1/10W	R1030	4011624012	MT-GLAZE 560 JA 1/10W
	4011050514	MT-GLAZE 1K JA 1/16W		4011055915	MT-GLAZE 560 JA 1/16W
R010	4010255435	CARBON 2.2 JA 1/6W	R1031	4011506219	MT-GLAZE 1K JA 1/10W
R011	4010255435	CARBON 2.2 JA 1/6W		4011050514	MT-GLAZE 1K JA 1/16W
R012	4010255435	CARBON 2.2 JA 1/6W	R1032	4011506219	MT-GLAZE 1K JA 1/10W
R013	4010255435	CARBON 2.2 JA 1/6W		4011050514	MT-GLAZE 1K JA 1/16W
R014	4011624012	MT-GLAZE 560 JA 1/10W	R106	4012556510	MT-GLAZE 100 JA 1/10W
	4011055915	MT-GLAZE 560 JA 1/16W		4011050415	MT-GLAZE 100 JA 1/16W
R015	4012556510	MT-GLAZE 100 JA 1/10W	R107	4012556510	MT-GLAZE 100 JA 1/10W
	4011050415	MT-GLAZE 100 JA 1/16W		4011050415	MT-GLAZE 100 JA 1/16W
R1002	4011506219	MT-GLAZE 1K JA 1/10W	R108	4012562719	MT-GLAZE 18K JA 1/10W
	4011050514	MT-GLAZE 1K JA 1/16W		4011052112	MT-GLAZE 18K JA 1/16W
R1003	4012567219	MT-GLAZE 18K JA 1/10W	R109	4012566618	MT-GLAZE 68K JA 1/10W
	4011052112	MT-GLAZE 18K JA 1/16W		4011058213	MT-GLAZE 68K JA 1/16W
R1004	4011506219	MT-GLAZE 1K JA 1/10W	R1106	4010099346	CARBON 390 JA 1/2W
	4011050514	MT-GLAZE 1K JA 1/16W	R1107	4010099346	CARBON 390 JA 1/2W
R1005	4012567219	MT-GLAZE 18K JA 1/10W	R111	4011506219	MT-GLAZE 1K JA 1/10W
	4011052112	MT-GLAZE 18K JA 1/16W		4011050514	MT-GLAZE 1K JA 1/16W
R1006	4011506110	MT-GLAZE 2.2K JA 1/10W	R112	4011624111	MT-GLAZE 5.6K JA 1/10W
	4011052815	MT-GLAZE 2.2K JA 1/16W		4011056011	MT-GLAZE 5.6K JA 1/16W
R1007	4011505816	MT-GLAZE 100K JA 1/10W	R114	4011523216	MT-GLAZE 330 JA 1/10W
	4011050712	MT-GLAZE 100K JA 1/16W		4011054017	MT-GLAZE 330 JA 1/16W
R1008	4011506110	MT-GLAZE 2.2K JA 1/10W	R115	4010272135	CARBON 56 JA 1/6W

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
R116	4012564119	MT-GLAZE 56 JA 1/10W	R243	4010666112	OXIDE-MT 220 JA 2W
	4011055816	MT-GLAZE 56 JA 1/16W	R244	4012566311	MT-GLAZE 47K JA 1/10W
R121	4012567318	MT-GLAZE 6.8K JA 1/10W		4011055410	MT-GLAZE 47K JA 1/16W
	4011056615	MT-GLAZE 6.8K JA 1/16W	R245	4012566311	MT-GLAZE 47K JA 1/10W
R122	4011506110	MT-GLAZE 2.2K JA 1/10W		4011055410	MT-GLAZE 47K JA 1/16W
	4011052815	MT-GLAZE 2.2K JA 1/16W	R280	4010246730	CARBON 100 JA 1/6W
R124	4011505915	MT-GLAZE 10K JA 1/10W	R286	4012651710	MT-GLAZE 4.7K FA 1/10W
	4011050613	MT-GLAZE 10K JA 1/16W		4012039914	MT-GLAZE 4.7K FA 1/16W
R125	4010261337	CARBON 27K JA 1/6W	R290	4010686219	OXIDE-MT 5.6 JA 2W
R126	4011506219	MT-GLAZE 1K JA 1/10W	R340	4012566014	MT-GLAZE 27K JA 1/10W
	4011050514	MT-GLAZE 1K JA 1/16W		4011053416	MT-GLAZE 27K JA 1/16W
R130	4011506011	MT-GLAZE 0.000 ZA 1/10W	R350	4010276638	CARBON 75 JA 1/6W
	4011057919	MT-GLAZE 0.000 ZA 1/16W	R351	4010256531	CARBON 20K JA 1/6W
R132	4011623619	MT-GLAZE 470 JA 1/10W	R355	4010127059	CARBON 10K JA 1/4W
	4011055212	MT-GLAZE 470 JA 1/16W	R357	4010526525	MT-FILM 1K FA 1/6W
R140	4011624012	MT-GLAZE 560 JA 1/10W	R358	4011506011	MT-GLAZE 0.000 ZA 1/10W
	4011055915	MT-GLAZE 560 JA 1/16W		4011057919	MT-GLAZE 0.000 ZA 1/16W
R141	4011624012	MT-GLAZE 560 JA 1/10W	R3701	4012567615	MT-GLAZE 3.9K JA 1/10W
	4011055915	MT-GLAZE 560 JA 1/16W		4011054611	MT-GLAZE 3.9K JA 1/16W
R176	4011505915	MT-GLAZE 10K JA 1/10W	R3702	4012567615	MT-GLAZE 3.9K JA 1/10W
	4011050613	MT-GLAZE 10K JA 1/16W		4011054611	MT-GLAZE 3.9K JA 1/16W
R1902	4012560418	MT-GLAZE 12K JA 1/10W	R3703	4033423310	CERAMIC 0.1U K 25V
	4011051115	MT-GLAZE 12K JA 1/16W	R3704	4010257439	CARBON 220 JA 1/6W
R1903	4011624111	MT-GLAZE 5.6K JA 1/10W	R3705	4010257439	CARBON 220 JA 1/6W
	4011056011	MT-GLAZE 5.6K JA 1/16W	R3706	4012567615	MT-GLAZE 3.9K JA 1/10W
R1904	4012567615	MT-GLAZE 3.9K JA 1/10W		4011054611	MT-GLAZE 3.9K JA 1/16W
	4011054611	MT-GLAZE 3.9K JA 1/16W	R3707	4012567615	MT-GLAZE 3.9K JA 1/10W
R1905	4011506110	MT-GLAZE 2.2K JA 1/10W		4011054611	MT-GLAZE 3.9K JA 1/16W
	4011052815	MT-GLAZE 2.2K JA 1/16W	R3708	4011624111	MT-GLAZE 5.6K JA 1/10W
R1906	4011622810	MT-GLAZE 1.8K JA 1/10W		4011056011	MT-GLAZE 5.6K JA 1/16W
	4011052013	MT-GLAZE 1.8K JA 1/16W	R3709	4011505915	MT-GLAZE 10K JA 1/10W
R1907	4010246730	CARBON 100 JA 1/6W		4011050613	MT-GLAZE 10K JA 1/16W
R1911	4010257439	CARBON 220 JA 1/6W	R3710	4010247440	CARBON 10K JA 1/6W
R1912	4012567516	MT-GLAZE 390 JA 1/10W	R3711	4010247440	CARBON 10K JA 1/6W
	4011054512	MT-GLAZE 390 JA 1/16W	R3712	4011506011	MT-GLAZE 0.000 ZA 1/10W
R1913	4011622919	MT-GLAZE 220 JA 1/10W		4011057919	MT-GLAZE 0.000 ZA 1/16W
	4011052716	MT-GLAZE 220 JA 1/16W	R3714	4010247440	CARBON 10K JA 1/6W
R210	4012556411	MT-GLAZE 3K JA 1/10W	R3715	4011506011	MT-GLAZE 0.000 ZA 1/10W
	4011053713	MT-GLAZE 3K JA 1/16W		4011057919	MT-GLAZE 0.000 ZA 1/16W
R211	4010249038	CARBON 120 JA 1/6W	R3716	4011505915	MT-GLAZE 10K JA 1/10W
R212	4010251338	CARBON 150 JA 1/6W		4011050613	MT-GLAZE 10K JA 1/16W
R215	4011506011	MT-GLAZE 0.000 ZA 1/10W	R3717	4012567615	MT-GLAZE 3.9K JA 1/10W
	4011057919	MT-GLAZE 0.000 ZA 1/16W		4011054611	MT-GLAZE 3.9K JA 1/16W
R224	4012567615	MT-GLAZE 3.9K JA 1/10W	R3718	4011623718	MT-GLAZE 4.7K JA 1/10W
	4011054611	MT-GLAZE 3.9K JA 1/16W		4011055311	MT-GLAZE 4.7K JA 1/16W
R225	4012560418	MT-GLAZE 12K JA 1/10W	R3719	4010261030	CARBON 2.7K JA 1/6W
	4011051115	MT-GLAZE 12K JA 1/16W	R3720	4012560418	MT-GLAZE 12K JA 1/10W
R226	4012566014	MT-GLAZE 27K JA 1/10W		4011051115	MT-GLAZE 12K JA 1/16W
	4011053416	MT-GLAZE 27K JA 1/16W	R3722	4012560418	MT-GLAZE 12K JA 1/10W
R227	4012561712	MT-GLAZE 33K JA 1/10W		4011051115	MT-GLAZE 12K JA 1/16W
	4011054215	MT-GLAZE 33K JA 1/16W	R421	4010486849	MT-FILM 4.7K FA 1/4W
R228	4010254933	CARBON 180K JA 1/6W	R422	4010202835	CARBON 47K JA 1/4W
R229	4012567110	MT-GLAZE 680K JA 1/10W		4010202954	CARBON 47K JA 1/4W
	4011056714	MT-GLAZE 680K JA 1/16W	R423	4010192958	CARBON 39K JA 1/4W
R230	4010269333	CARBON 47 JA 1/6W		4010193054	CARBON 39K JA 1/4W
R231	4011506110	MT-GLAZE 2.2K JA 1/10W	R424	4010247034	CARBON 1K JA 1/6W
	4011052815	MT-GLAZE 2.2K JA 1/16W	R426	4010247440	CARBON 10K JA 1/6W
R232	4011506110	MT-GLAZE 2.2K JA 1/10W	R431	4011506219	MT-GLAZE 1K JA 1/10W
	4011052815	MT-GLAZE 2.2K JA 1/16W		4011050514	MT-GLAZE 1K JA 1/16W
R233	4011506110	MT-GLAZE 2.2K JA 1/10W	R432	4011623619	MT-GLAZE 470 JA 1/10W
	4011052815	MT-GLAZE 2.2K JA 1/16W		4011055212	MT-GLAZE 470 JA 1/16W
R234	4012560012	MT-GLAZE 120 JA 1/10W	R433	4010071134	CARBON 1K JA 1/2W
	4011050910	MT-GLAZE 120 JA 1/16W	R434	4010606415	OXIDE-MT 27 JA 1W
R235	4012560012	MT-GLAZE 120 JA 1/10W	R435	4020803702	OXIDE-MT 6.8 JB 7W
	4011050910	MT-GLAZE 120 JA 1/16W	R437	4010247034	CARBON 1K JA 1/6W
R236	4012560012	MT-GLAZE 120 JA 1/10W	R438	4011523216	MT-GLAZE 330 JA 1/10W
	4011050910	MT-GLAZE 120 JA 1/16W		4011054017	MT-GLAZE 330 JA 1/16W

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
R441	4010648712	OXIDE-MT 1K JA 2W		4011050514	MT-GLAZE 1K JA 1/16W
R459	4010270537	CARBON 470K JA 1/6W	R640	4011505915	MT-GLAZE 10K JA 1/10W
R460	4010247440	CARBON 10K JA 1/6W		4011050613	MT-GLAZE 10K JA 1/16W
R461	4010072319	CARBON 100K JA 1/2W	R641	4012567318	MT-GLAZE 6.8K JA 1/10W
R462	4010530017	MT-FILM 18K FA 1/6W		4011056615	MT-GLAZE 6.8K JA 1/16W
R466	4010610818	OXIDE-MT 3.9 JA 1W	R642	4010247737	CARBON 100K JA 1/6W
R467	4010278335	CARBON 820 JA 1/6W	R643	4021104006	FUSIBLE RES 1.5 J- 2W
R470	4010224154	CARBON 68K JA 1/4W	R645	4010145251	CARBON 15K JA 1/4W
R471	4010529120	MT-FILM 1.5K FA 1/6W	R646	4020827906	WIRE WOUND 1.0 KA 5W
R473	4010275235	CARBON 680 JA 1/6W	R648	4010247440	CARBON 10K JA 1/6W
R474	4010071134	CARBON 1K JA 1/2W	R649	4011505816	MT-GLAZE 100K JA 1/10W
R475	4010095843	CARBON 330 JA 1/2W		4011050712	MT-GLAZE 100K JA 1/16W
R476	4010254230	CARBON 1.8K JA 1/6W	R650	4011058629	CARBON 100K GA 1/6W
R477	4010623016	OXIDE-MT 47K JA 1W		4010247737	CARBON 100K JA 1/6W
R478	4010246730	CARBON 100 JA 1/6W	R655	4010163859	CARBON 2.2K JA 1/4W
R479	4010272630	CARBON 5.6K JA 1/6W	R658	4011505915	MT-GLAZE 10K JA 1/10W
R481	4010690414	OXIDE-MT 6.8 JA 2W		4011050613	MT-GLAZE 10K JA 1/16W
R482	4010104812	CARBON 470K JA 1/2W	R659	4011624111	MT-GLAZE 5.6K JA 1/10W
R487	4010279332	CARBON 820K JA 1/6W		4011056011	MT-GLAZE 5.6K JA 1/16W
R488	4020222008	FUSIBLE RES 1.0 J- 1/2W	R660	4012567615	MT-GLAZE 3.9K JA 1/10W
R489	4010248031	CARBON 1M JA 1/6W		4011054611	MT-GLAZE 3.9K JA 1/16W
R490	4010088627	CARBON 220K JA 1/2W	R661	4010602714	OXIDE-MT 220 JA 1W
R491	4012560418	MT-GLAZE 12K JA 1/10W	R668	4010673110	OXIDE-MT 3.9 JA 2W
	4011051115	MT-GLAZE 12K JA 1/16W	R681	4011506219	MT-GLAZE 1K JA 1/10W
R492	4012560418	MT-GLAZE 12K JA 1/10W		4011050514	MT-GLAZE 1K JA 1/16W
	4011051115	MT-GLAZE 12K JA 1/16W	R685	4010146159	CARBON 150K JA 1/4W
R493	4011623619	MT-GLAZE 470 JA 1/10W	R686	4010127059	CARBON 10K JA 1/4W
	4011055212	MT-GLAZE 470 JA 1/16W	R687	4010191951	CARBON 3.9K JA 1/4W
R494	4011623619	MT-GLAZE 470 JA 1/10W	R688	4010258238	CARBON 22K JA 1/6W
	4011055212	MT-GLAZE 470 JA 1/16W	R689	4010273231	CARBON 560K JA 1/6W
R495	4012556510	MT-GLAZE 100 JA 1/10W	R690	4010251635	CARBON 1.5K JA 1/6W
	4011050415	MT-GLAZE 100 JA 1/16W	R801	4012565819	MT-GLAZE 270K JA 1/10W
R502	4020222008	FUSIBLE RES 1.0 J- 1/2W		4011053515	MT-GLAZE 270K JA 1/16W
R503	4011523216	MT-GLAZE 330 JA 1/10W	R814	4011505915	MT-GLAZE 10K JA 1/10W
	4011054017	MT-GLAZE 330 JA 1/16W		4011050613	MT-GLAZE 10K JA 1/16W
R504	4010279332	CARBON 820K JA 1/6W	R815	4011505915	MT-GLAZE 10K JA 1/10W
R510	4012691518	OXIDE-MT 0.56 JA 2W		4011050613	MT-GLAZE 10K JA 1/16W
R511	4010069329	CARBON 10 JA 1/2W	R817	4010247034	CARBON 1K JA 1/6W
R512	4010666112	OXIDE-MT 220 JA 2W	R818	4011506219	MT-GLAZE 1K JA 1/10W
R513	4010666112	OXIDE-MT 220 JA 2W		4011050514	MT-GLAZE 1K JA 1/16W
R516	4010251932	CARBON 15K JA 1/6W	R819	4011505915	MT-GLAZE 10K JA 1/10W
R517	4012565918	MT-GLAZE 2.7K JA 1/10W		4011050613	MT-GLAZE 10K JA 1/16W
	4011053317	MT-GLAZE 2.7K JA 1/16W	R830	4011506219	MT-GLAZE 1K JA 1/10W
R534	4010529120	MT-FILM 1.5K FA 1/6W		4011050514	MT-GLAZE 1K JA 1/16W
R536	4010498119	MT-FILM 56K FA 1/4W	R834	4011505915	MT-GLAZE 10K JA 1/10W
R537	4010950429	MT-FILM 47K FA 1/6W		4011050613	MT-GLAZE 10K JA 1/16W
R538	4010950429	MT-FILM 47K FA 1/6W	R837	4012563617	MT-GLAZE 15K JA 1/10W
R603	4011015810	OXIDE-MT 0.68 JA 2W		4011051610	MT-GLAZE 15K JA 1/16W
R604	4011808412	OXIDE-MT 0.47 JA 2W	R838	4012563617	MT-GLAZE 15K JA 1/10W
R606	4010632919	OXIDE-MT 68K JA 1W		4011051610	MT-GLAZE 15K JA 1/16W
R607	4010246433	CARBON 10 JA 1/6W	R839	4012556510	MT-GLAZE 100 JA 1/10W
R609	4010246730	CARBON 100 JA 1/6W		4011050415	MT-GLAZE 100 JA 1/16W
R610	4010247034	CARBON 1K JA 1/6W	R840	4011623619	MT-GLAZE 470 JA 1/10W
R611	4010251635	CARBON 1.5K JA 1/6W		4011055212	MT-GLAZE 470 JA 1/16W
R612	4010082615	CARBON 180K JA 1/2W	R841	4011623718	MT-GLAZE 4.7K JA 1/10W
R613	4010088627	CARBON 220K JA 1/2W		4011055311	MT-GLAZE 4.7K JA 1/16W
△ R628	4020008602	SOLID 5.6M KA 1/2W	R842	4011623718	MT-GLAZE 4.7K JA 1/10W
	4020976604	CARBON 5.6M KA 1/2W		4011055311	MT-GLAZE 4.7K JA 1/16W
△ R629	4020008602	SOLID 5.6M KA 1/2W	R844	4012556510	MT-GLAZE 100 JA 1/10W
	4020976604	CARBON 5.6M KA 1/2W		4011050415	MT-GLAZE 100 JA 1/16W
R635	4010075815	CARBON 120K JA 1/2W	R845	4011505915	MT-GLAZE 10K JA 1/10W
R636	4010272630	CARBON 5.6K JA 1/6W		4011050613	MT-GLAZE 10K JA 1/16W
R637	4011505915	MT-GLAZE 10K JA 1/10W	R850	4012556510	MT-GLAZE 100 JA 1/10W
	4011050613	MT-GLAZE 10K JA 1/16W		4011050415	MT-GLAZE 100 JA 1/16W
R638	4011623718	MT-GLAZE 4.7K JA 1/10W	R852	4011505915	MT-GLAZE 10K JA 1/10W
	4011055311	MT-GLAZE 4.7K JA 1/16W		4011050613	MT-GLAZE 10K JA 1/16W
R639	4011506219	MT-GLAZE 1K JA 1/10W	R853	4011505915	MT-GLAZE 10K JA 1/10W

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
	4011050613	MT-GLAZE 10K JA 1/16W		4080537104	DIODE ERA15-02
R863	4012566311	MT-GLAZE 47K JA 1/10W		4080456801	DIODE ERA15-02
	4011055410	MT-GLAZE 47K JA 1/16W	D1000	4072505817	ZENER DIODE KDZ10V
R886	4011623015	MT-GLAZE 22K JA 1/10W		4072065618	ZENER DIODE UDZS-TE-1710B
	4011052914	MT-GLAZE 22K JA 1/16W	D1001	4070639623	ZENER DIODE MTZJ9.1A
R893	4012556015	MT-GLAZE 1M JA 1/10W		4070579632	ZENER DIODE RD9.1EB1
	4011058015	MT-GLAZE 1M JA 1/16W		4080480004	ZENER DIODE MTZJ9.1B
R894	4012556510	MT-GLAZE 100 JA 1/10W		4080480301	ZENER DIODE MTZJ9.1C-52
	4011050415	MT-GLAZE 100 JA 1/16W	D1002	4070639623	ZENER DIODE MTZJ9.1A
				4070579632	ZENER DIODE RD9.1EB1
VARIABLE RESISTOR				4080480004	ZENER DIODE MTZJ9.1B
VR631	6450065514	VR,SEMI,2.2K N		4080480301	ZENER DIODE MTZJ9.1C-52
	6450035579	VR,SEMI,2.2K N	D1003	4070639623	ZENER DIODE MTZJ9.1A
TRANSFORMER				4070579632	ZENER DIODE RD9.1EB1
T431	6450473371	TRANS,DRIVE		4080480004	ZENER DIODE MTZJ9.1B
	6520000704	TRANS,DRIVE		4080480301	ZENER DIODE MTZJ9.1C-52
△T471	6520016644	TRANS,FLYBACK	D1004	4072505817	ZENER DIODE KDZ10V
△T611	6450920561	TRANS,POWER,PULSE		4072065618	ZENER DIODE UDZS-TE-1710B
COIL			D1005	4072505817	ZENER DIODE KDZ10V
L1901	6450064333	INDUCTOR,1U K		4072065618	ZENER DIODE UDZS-TE-1710B
L403	6101975711	CUTTING WIRE	D1006	4072505817	ZENER DIODE KDZ10V
L431	6450261084	INDUCTOR,1U K		4072065618	ZENER DIODE UDZS-TE-1710B
L432	6450187025	CORE,PIPE	D1007	4072505817	ZENER DIODE KDZ10V
	6520010475	PIPE CORE		4072065618	ZENER DIODE UDZS-TE-1710B
L434	6450080531	INDUCTOR,1U K	D1008	4072505817	ZENER DIODE KDZ10V
L441	6450642654	COIL,LINERITY		4072065618	ZENER DIODE UDZS-TE-1710B
L461	6100311367	INDUCTOR 202J	D1009	4072505817	ZENER DIODE KDZ10V
	6102113488	INDUCTOR		4072065618	ZENER DIODE UDZS-TE-1710B
	6450055645	INDUCTOR,2200U K	D1010	4072505817	ZENER DIODE KDZ10V
L462	6450169120	INDUCTOR,420UH		4072065618	ZENER DIODE UDZS-TE-1710B
	6450472541	INDUCTOR,420U	D1011	4072505817	ZENER DIODE KDZ10V
△L601A	6450193873	LINE FILTER		4072065618	ZENER DIODE UDZS-TE-1710B
	6520001961	LINE FILTER	D1012	4072505817	ZENER DIODE KDZ10V
L604	6100785946	PIPE CORE		4072065618	ZENER DIODE UDZS-TE-1710B
	6100785953	PIPE CORE	D1013	4072505817	ZENER DIODE KDZ10V
	6520010123	CORE,PIPE		4072065618	ZENER DIODE UDZS-TE-1710B
	6520010147	CORE,PIPE	D1014	4072505817	ZENER DIODE KDZ10V
L632	6100785946	PIPE CORE		4072065618	ZENER DIODE UDZS-TE-1710B
	6100785953	PIPE CORE	D1015	4072505817	ZENER DIODE KDZ10V
	6520010123	CORE,PIPE		4072065618	ZENER DIODE UDZS-TE-1710B
	6520010147	CORE,PIPE	D102	4070995620	ZENER DIODE MTZJ6.8A
L633	6100785946	PIPE CORE		4070574013	ZENER DIODE RD6.8EB1
	6100785953	PIPE CORE		4080478506	ZENER DIODE MTZJ6.8A
	6520010123	CORE,PIPE	D103	4071000224	ZENER DIODE MTZJ36A
	6520010147	CORE,PIPE		4070562317	ZENER DIODE RD36EB1
L634	6100785946	PIPE CORE		4080476106	ZENER DIODE MTZJ36A
	6100785953	PIPE CORE	D106	4072505817	ZENER DIODE KDZ10V
	6520010123	CORE,PIPE		4072065618	ZENER DIODE UDZS-TE-1710B
	6520010147	CORE,PIPE	D107	4072505817	ZENER DIODE KDZ10V
L635	6100785946	PIPE CORE		4072065618	ZENER DIODE UDZS-TE-1710B
	6100785953	PIPE CORE	D122	4071661118	DIODE 1SS356-TW11
	6520010123	CORE,PIPE	D1901	4072455003	LED SLR343BCT
	6520010147	CORE,PIPE	D1901A	6102645064	HOLDER LED-S2CP
L639	6100785946	PIPE CORE		6102737929	HOLDER LED-S4KF
	6100785953	PIPE CORE		6103039954	HOLDER LED-C4LA
	6520010123	CORE,PIPE	D231	4080093204	DIODE 1N4148
	6520010147	CORE,PIPE		4070124426	DIODE 1SS133
DIODE				4070134336	DIODE 1S2076A
D001	4080093204	DIODE 1N4148	D234	4072505817	ZENER DIODE KDZ10V
	4070124426	DIODE 1SS133		4072065618	ZENER DIODE UDZS-TE-1710B
	4070134336	DIODE 1S2076A	D235	4072505817	ZENER DIODE KDZ10V
D004	4072128818	DIODE KDS160-RTK		4072065618	ZENER DIODE UDZS-TE-1710B
	4071490817	DIODE 1SS355-TE-17	D236	4072505817	ZENER DIODE KDZ10V
D006	4070058632	DIODE ERA15-02-V1		4072065618	ZENER DIODE UDZS-TE-1710B
			D237	4072128818	DIODE KDS160-RTK
				4071490817	DIODE 1SS355-TE-17
			D238	4072128818	DIODE KDS160-RTK

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
	4071490817	DIODE 1SS355-TE-17		4072317707	PC TLP421F(D4-BL)
D249	4070996023	ZENER DIODE MTZJ9.1B	D611	4071468113	DIODE EG01C
	4070579711	ZENER DIODE RD9.1EB2		4080618803	DIODE EG01C
D352	4070638626	ZENER DIODE MTZJ5.1A	D612	4070077415	DIODE EU1
	4070569811	ZENER DIODE RD5.6EB1		4080614102	DIODE EU1
	4080477004	ZENER DIODE MTZJ5.1C-52	D613	4070077415	DIODE EU1
D357	4080093204	DIODE 1N4148		4080614102	DIODE EU1
	4070124426	DIODE 1SS133	D614	4070995422	ZENER DIODE MTZJ6.2B
	4070134336	DIODE 1S2076A	D631	4070098806	DIODE RU3AM
D3701	4070058632	DIODE ERA15-02-V1	D632	4071662303	DIODE ERC91-02
	4080537104	DIODE ERA15-02	D633	4072105710	DIODE RN1Z
D3702	4080093204	DIODE 1N4148	D634	4072105710	DIODE RN1Z
	4070124426	DIODE 1SS133	D639	4072105710	DIODE RN1Z
	4070134336	DIODE 1S2076A	D648	4072105710	DIODE RN1Z
D421	4070997228	ZENER DIODE MTZJ16A	D661	4070995224	ZENER DIODE MTZJ5.1B
	4070547027	ZENER DIODE RD16EB1		4070568012	ZENER DIODE RD5.1EB2
	4080475208	ZENER DIODE MTZJ16A-52		4080476700	ZENER DIODE MTZJ5.1B
D422	4070995026	ZENER DIODE MTZJ4.7A		4080477004	ZENER DIODE MTZJ5.1C-52
D423	4070996627	ZENER DIODE MTZJ-T-7212B	D662	4070995224	ZENER DIODE MTZJ5.1B
	4080482305	ZENER DIODE MTZJ12B		4070568012	ZENER DIODE RD5.1EB2
D438	4070958001	DIODE ERD07-15L		4080476700	ZENER DIODE MTZJ5.1B
D439	4070064128	DIODE ERB44-04V1		4080477004	ZENER DIODE MTZJ5.1C-52
D461	4080093204	DIODE 1N4148	D681	4072128818	DIODE KDS160-RTK
	4070124426	DIODE 1SS133	D681	4071490817	DIODE 1SS355-TE-17
	4070134336	DIODE 1S2076A	D686	4070995521	ZENER DIODE MTZJ6.2C
D464	4070995828	ZENER DIODE MTZJ7.5A		4070572831	ZENER DIODE RD6.2EB3
	4080478803	ZENER DIODE MTZJ7.5A		4080478209	ZENER DIODE MTZJ6.2C-52
D465	4080093204	DIODE 1N4148	D687	4070638923	ZENER DIODE MTZJ5.6C
	4070124426	DIODE 1SS133		4080477608	ZENER DIODE MTZJ5.6C
	4070134336	DIODE 1S2076A	D688	4072128818	DIODE KDS160-RTK
D466	4070638626	ZENER DIODE MTZJ5.1A		4071490817	DIODE 1SS355-TE-17
D467	4080093204	DIODE 1N4148	D850	4072505817	ZENER DIODE KDZ10V
	4070124426	DIODE 1SS133		4072065618	ZENER DIODE UDZS-TE-1710B
	4070134336	DIODE 1S2076A	D851	4072505817	ZENER DIODE KDZ10V
D468	4080093204	DIODE 1N4148		4072065618	ZENER DIODE UDZS-TE-1710B
	4070124426	DIODE 1SS133	D852	4072505817	ZENER DIODE KDZ10V
	4070134336	DIODE 1S2076A		4072065618	ZENER DIODE UDZS-TE-1710B
D469	4070077415	DIODE EU1	D853	4072505817	ZENER DIODE KDZ10V
	4080614102	DIODE EU1		4072065618	ZENER DIODE UDZS-TE-1710B
D470	4070639425	ZENER DIODE MTZJ8.2A	D857	4072505817	ZENER DIODE KDZ10V
D476	4070638329	ZENER DIODE MTZJ11C		4072065618	ZENER DIODE UDZS-TE-1710B
	4070541827	ZENER DIODE RD11EB3			
D485	4070077415	DIODE EU1	MISCELLANEOUS		
	4080614102	DIODE EU1	△ F601	4240059507	FUSE 250V 4A
D501	4070057328	DIODE EM01Z		4230288603	FUSE 250V 4A
	4070058632	DIODE ERA15-02-V1		4230329603	FUSE 250V 4A
D502	4080093204	DIODE 1N4148	F601A	6450705434	HOLDER,FUSE
	4070124426	DIODE 1SS133	F601B	6450705434	HOLDER,FUSE
D502	4070134336	DIODE 1S2076A	A101	6450904059	TUNER, U/V
D503	4070995323	ZENER DIODE MTZJ5.6B	A1901	6450476228	UNIT,REMOCON RECEIVER
D506	4070057328	DIODE EM01Z		6450794124	UNIT,REMOCON RECEIVER
	4070058632	DIODE ERA15-02-V1		6450820465	UNIT,REMOCON RECEIVER
D603	4070066310	DIODE ERC05-10BV1	K1003	6520015401	JACK,RCA-3
	4070096921	DIODE RM11C	K1004	6520015432	TERMINAL, BOARD
	4080614003	DIODE ERC05-10B	K1101	6520016187	JACK,RCA-9
D604	4070066310	DIODE ERC05-10BV1	K1102	6450064791	JACK,PHONE D3.6
	4070096921	DIODE RM11C		6520010970	JACK,PHONE D3.5
	4080614003	DIODE ERC05-10B	△ PS601	4080465407	TH PTDCA1BF4R5Q200
D605	4070066310	DIODE ERC05-10BV1	SW1901	6450034701	SWITCH,PUSH 1P-1TX1
	4070096921	DIODE RM11C		6450194887	SWITCH,PUSH 1P-1TX1
	4080614003	DIODE ERC05-10B	SW1902	6450034701	SWITCH,PUSH 1P-1TX1
D606	4070066310	DIODE ERC05-10BV1		6450194887	SWITCH,PUSH 1P-1TX1
	4070096921	DIODE RM11C	SW1903	6450034701	SWITCH,PUSH 1P-1TX1
	4080614003	DIODE ERC05-10B		6450194887	SWITCH,PUSH 1P-1TX1
D609	4080093204	DIODE 1N4148	SW1904	6450034701	SWITCH,PUSH 1P-1TX1
△ D610	4072348701	PHOTO COUPLE PC123X5YFZ		6450194887	SWITCH,PUSH 1P-1TX1
	4072303908	PHOTO COUPLE PC123Y52	SW1905	6450034701	SWITCH,PUSH 1P-1TX1

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
	6450194887	SWITCH,PUSH 1P-1TX1	R708	4011622711	MT-GLAZE 180 JA 1/10W
SW1906	6450034701	SWITCH,PUSH 1P-1TX1		4011051917	MT-GLAZE 180 JA 1/16W
	6450194887	SWITCH,PUSH 1P-1TX1	R711	4010654614	OXIDE-MT 12K JA 2W
△ SW601	6450590061	SWITCH, POWER 1P-1TX1	R712	4010654614	OXIDE-MT 12K JA 2W
△ VA601	4071712008	VARISTOR ERZV14D471	R713	4010654614	OXIDE-MT 12K JA 2W
	4072471300	VARISTOR SVC471D-07ABW7	R715	4010091528	CARBON 2.7K JA 1/2W
VA602	4080613204	TH ICL B57238S0100M000	R716	4010091528	CARBON 2.7K JA 1/2W
X161	4210121906	SAW F TSF6376BL	R717	4010091528	CARBON 2.7K JA 1/2W
	4210115202	SAW F TSF6376Y	R723	4011624012	MT-GLAZE 560 JA 1/10W
X211	6450248818	OSC,CRYSTAL 4.433619MHZ		4011055915	MT-GLAZE 560 JA 1/16W
	6450820052	OSC,CRYSTAL 4.433619MHZ	R724	4011622414	MT-GLAZE 1.2K JA 1/10W
	6520010154	OSC,CRYSTAL 4.433619MHZ		4011051016	MT-GLAZE 1.2K JA 1/16W
X801	6450041938	OSC,CRYSTAL 32.768KHZ	R732	4010246433	CARBON 10 JA 1/6W
			R743	4011623718	MT-GLAZE 4.7K JA 1/10W
				4011055311	MT-GLAZE 4.7K JA 1/16W
6103331836 ASSY,PWB,CRT BA6R					
1AA0B10S2490B					
TRANSISTOR			COIL		
Q701	4050416507	TR 2SC2621-D-RA	L702	6450079863	INDUCTOR,220U K
	4050416705	TR 2SC2621-E-RA	MISCELLANEOUS		
	4050669903	TR 2SC2688(1)-K	△ K701L	6450262005	SOCKET,CRT 8P
	4050670008	TR 2SC2688(1)-L		6450317699	SOCKET,CRT 8P
	4050670107	TR 2SC2688(1)-M		6520017726	SOCKET,CRT 8P
Q703	4050416507	TR 2SC2621-D-RA			
	4050416705	TR 2SC2621-E-RA			
	4050669903	TR 2SC2688(1)-K			
	4050670008	TR 2SC2688(1)-L			
	4050670107	TR 2SC2688(1)-M			
Q705	4050416507	TR 2SC2621-D-RA			
	4050416705	TR 2SC2621-E-RA			
	4050669903	TR 2SC2688(1)-K			
	4050670008	TR 2SC2688(1)-L			
	4050670107	TR 2SC2688(1)-M			
Q721	4051648016	TR KTA1504S-GR-RTK			
	4051345925	TR 2SA1037AK-T146-R			
	4051472215	TR 2SA1037AK-S-T146			
	4050020318	TR 2SA1037K T146 R			
	4050020417	TR 2SA1037K T146 S			
	4050026726	TR 2SA1179-M6-TB			
	4050026924	TR 2SA1179-M7-TB			
	4051739615	TR 2SA1235A1E			
	4051739714	TR 2SA1235A1F			
CAPACITOR					
C703	4030737311	CERAMIC 470P K 50V			
	4031576612	CERAMIC 470P K 50V			
C705	4030737311	CERAMIC 470P K 50V			
	4031576612	CERAMIC 470P K 50V			
C707	4030737311	CERAMIC 470P K 50V			
	4031576612	CERAMIC 470P K 50V			
C708	4034140612	CERAMIC 680P K 2K			
C710	4041093205	ELECT 10U M 250V			
	4034517810	ELECT 10U M 250V			
	4033531411	ELECT 10U M 250V			
RESISTOR					
R701	4012559016	MT-GLAZE 82 JA 1/10W			
	4011057216	MT-GLAZE 82 JA 1/16W			
R702	4011622711	MT-GLAZE 180 JA 1/10W			
	4011051917	MT-GLAZE 180 JA 1/16W			
R704	4012559016	MT-GLAZE 82 JA 1/10W			
	4011057216	MT-GLAZE 82 JA 1/16W			
R705	4011622711	MT-GLAZE 180 JA 1/10W			
	4011051917	MT-GLAZE 180 JA 1/16W			
R707	4012559016	MT-GLAZE 82 JA 1/10W			
	4011057216	MT-GLAZE 82 JA 1/16W			

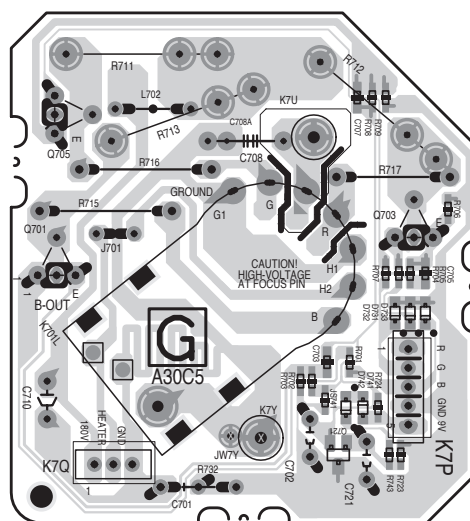
Main Board (Parts Side)



Main Board (Solder Side)



CRT Board (Solder Side)



Voltages and Waveforms Charts

IC001 (AUDIO AMP.)

Pin-1 14.5V

2 0V

3 GND

4 0V

5 3.4V

6 2.2V

7 15.1V

8 7.2V

9 7.2V

10 GND

11 7.2V

12 7.2V

13 2.2V

IC501 (VERT. OUT)

Pin-1 NC

2 0V

3 15.4V

4 35.3V

5 20.2V

6 20.3V

7 36.9V

8 1.4V

9 NC

10 NC

IC601 (POWER)

Pin-1 32V

2 N.C.

3 GND

4 19.6V

5 0V

6 1.2V

7 0.5V

IC651 (5VRC)

Pin-1 11.2V

2 GND

3 5V

IC202 (5V1)

Pin-1 7.1V

2 GND

3 4.9V

IC1001 (VIDEO SWITCH)

Pin-1 4.6V

2 3.7V

3 4.6V

4 0V

5 0

6 8.9V

7 3.8V

8 GND

IC3702 (WOOFER AMP.)

Pin-1 4.6V

2 4.6V

3 4.6V

4 GND

5 4.6V

6 4.6V

7 4.6V

8 8.2V

IC801 (MEMORY)

Pin-1 GND

2 GND

3 GND

4 GND

5 4.9V

6 4.9V

7 0V

8 0V

IC3701 (AUDIO CONTROL)

Pin-1: GND

2: 4.1V

3: 4.1V

4: 4.1V

5: 3.5V

6: 4.1V

7: 4.1V

8: 4.1V

9: 4.1V

10: 4.1V

11: 4.1V

12: 4.1V

13: 4.1V

14: 4.1V

15: 4.0V

16: 4.2V

17: 8.3V

18: 3.0V

19: 3.5V

20: 3V

21: 0V

22: 4.1V

23: 4.1V

24: 4.1V

25: 4.1V

26: 4.1V

27: 4.1V

28: 4.1V

29: 4.7V

30: 4.1V

31: 4.1V

32: 3.5V

33: 4.1V

34: 4.1V

35: 4.2V

36: 4.1V

IC201 (CPU/IF/VIDEO/CHROMA/DEF)

Pin-1: 2.5V

2: 2.6V

3: 3V

4: 2.3V

5: 2.4V

6: 2.4V

7: 2V

8: 5V

9: 2.4V

10: 3.4V

11: 8.4V

12: 3.2V

13: 3.2V

14: 3.2V

15: 1.2V

16: 2V

17: 2.4V

18: 1.7V

19: 5V

20: 2.7V

21: 2.7V

22: GND

23: 5V

24: 5V

25: 5V

26: 4.8V

27: 5V

28: 5V

29: 5V

30: 0V

31: 4.3V

32: 4V

33: 0.4V

34: 2.5V

35: 5V

36: 4.9V

37: 0V

38: 5V

39: 0V

40: 3.9V

41: 3.3V

42: GND

43: 4.5V

44: 1.4V

45: 2.4V

46: 2.6V

47: 2.4V

48: 2.5V

49: 0V

50: 2.8V

51: 0V

52: 2.6V

53: 3.2V

54: 2.6V

55: 5V

56: 2.8V

57: 0V

58: 2.5V

59: 2.4V

60: 2.3V

61: 1.8V

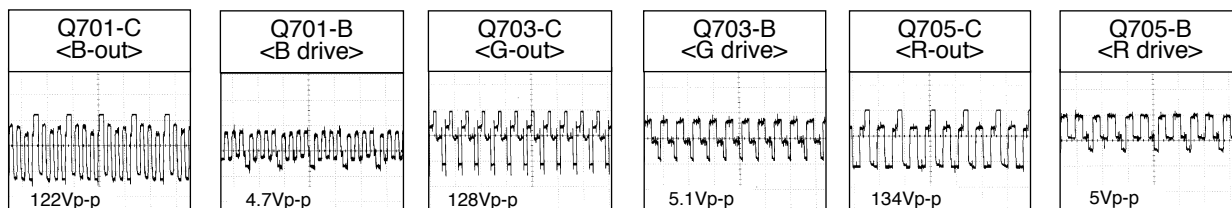
62: GND

63: 2.9V

64: 2.9V

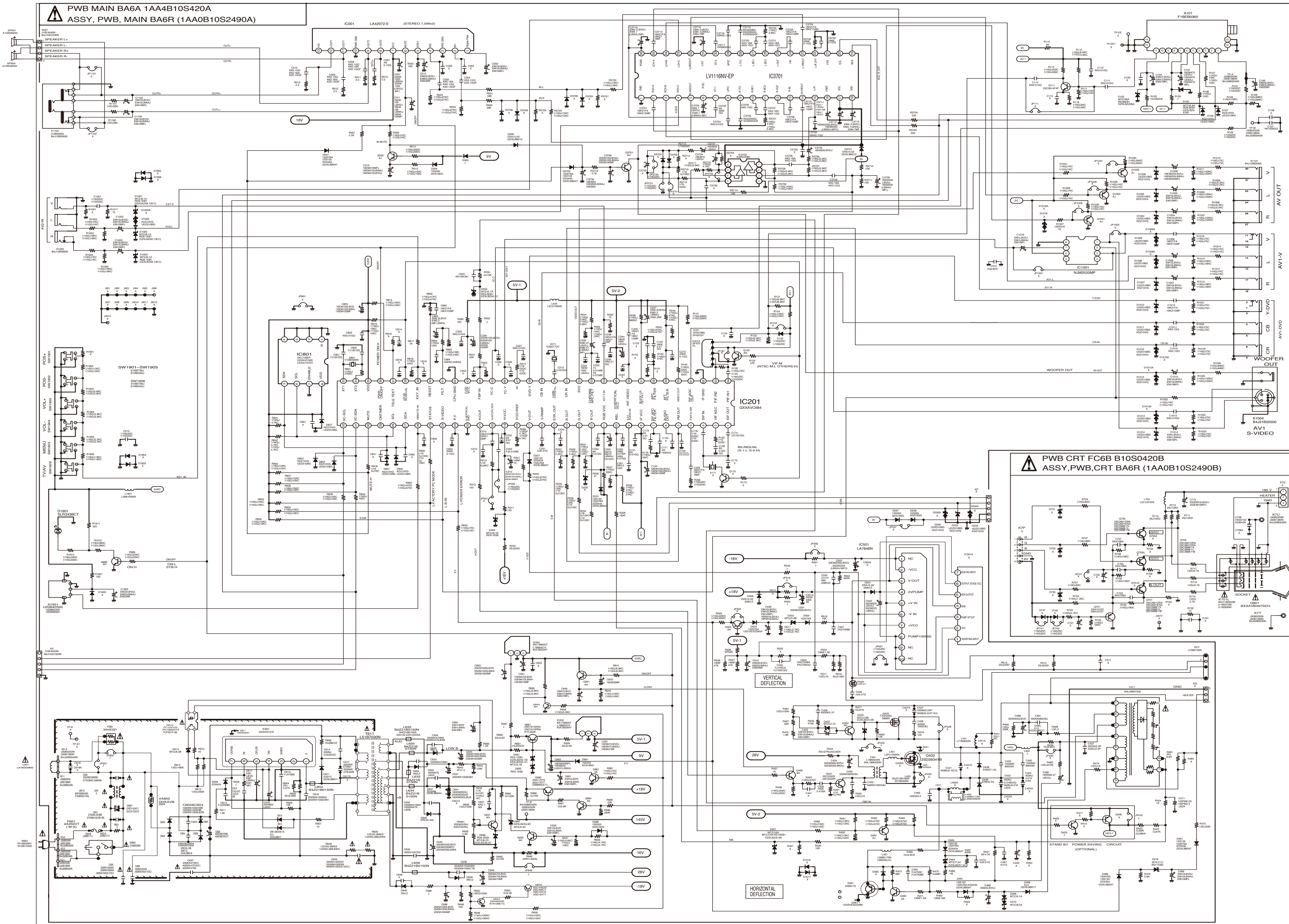
CRT Board

Q701	Q703	Q705
E 2.7V	E 2.6V	E 2.6V
C 118V	C 126V	C 124V
B 2.8V	B 2.6V	B 2.7V





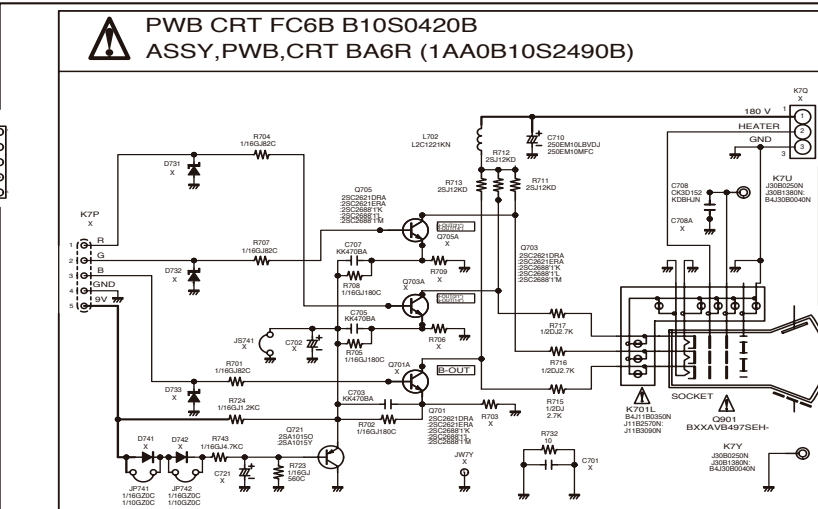
SANYO Electric Co., Ltd.
Printed in Indonesia



DIFFERENCE PARTS LIST :

MODEL	ELECTRICAL	MAIN UNIT	CRT UNIT
BA6R	013BA6R	1AA0B10S2490A	1AA0B10S2490B
BA6R	013BA6R	1AA0B10S2490A	1AA0B10S2490B
BA6R	013BA6R	1AA0B10S2490A	1AA0B10S2490B

LOC.	013BA6R	013BA6R
W001	1AA0B10S2490A	1AA0B10S2490B
	1AA0B10S2490A	1AA0B10S2490B



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.

COLOUR TELEVISION

SANYO FC6-B CHASSIS SERIES

SERVICE **CM29FS1-00**
REF. NO. **CM29FS1A-00**

BA6R/BA6RA

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.

- CIRCUIT DIAGRAM NOTICE:**
- All resistance value 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 μ F and more than 1 are pF.
 - All capacitance rated voltages are 50V unless otherwise noted.
 - All inductance values are in μ H.
 - Voltage readings take with a "VTVM" are from point indicated chassis ground. Voltage readings taken by using PAL colour bar signal are with all controls at normal position. Some voltage may vary with signal strength.
 - Waveform were taken with PAL colour bar and controls adjusted for normal picture. Waveforms were taken by using a wide band oscilloscope and a low capacity probe.
 - 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.
 - Parts specified with "X" are not installed in this model.
 - Parts specified with "J" are just jumper wires.

11. Expression of capacitance and resistance in circuit diagram.

Capacitance (Example)
1000 C M 2000 D

Resistance (Example)
1/2 N J 1.2

Characteristic
Capacitance value (220pF)
Allowable error ($\pm 20\%$)
Kind (Ceramic)
Rated voltage (1,000V)

J = $\pm 5\%$
K = $\pm 10\%$
M = $\pm 20\%$
T, A, U, D: Electrolytic
C, K, B: Ceramic
F: Mylar film
M, N: Polypropylene
Z: Metalized paper

D: Carbon
N: Metalized carbon
S: Oxid metalized
W: Wire winding
C: Solid

