

KV-27TS27/27TS31

RM-791 RM-Y101

SERVICE MANUAL

US Model

KV-27TS27

Chassis No. SCC-E54A-A

KV-27TS31

Chassis No. SCC-E54B-A

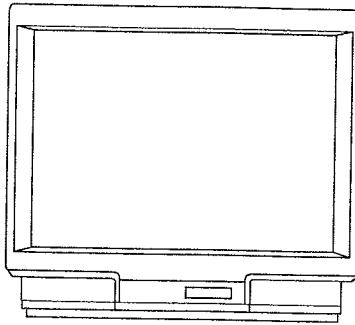
Canadian Model

KV-27TS27

Chassis No. SCC-E65A-A

KV-27TS31

Chassis No. SCC-E65B-A



KV-27TS31



RM-Y101

LN-1 CHASSIS

SPECIFICATIONS

MODELS OF THE SAME SERIES	
KV-27TS27	
KV-27TS31	

Television system	American TV standards	Audio frequency response	KV-27TS27
Channel coverage	VHF: 2-13 UHF: 14-69 Cable TV: 1-125		FRONT (About) 80 Hz - 20 KHz
Picture tube	Microblack™ Trinitron® tube 27-inch picture measured diagonally 28-inch picture tube measured diagonally (KV-27TS27, KV-27TS31)	Power requirements	KV-27TS31
Antenna Input	75-ohm antenna terminal for VHF/UHF VIDEO and S VIDEO S VIDEO in (4-pin mini DIN) Y: 1 Vp-p, 75-ohms unbalanced, sync negative C: 0.286 Vp-p (Burst signal), 75-ohms Video (phono jacks): 1 Vp-p, 75-ohms unbalanced, sync negative Audio (phono jacks): 500mVrms (100% modulation)	Power consumption	FRONT (About) 80 Hz - 20 KHz 120V AC, 60 Hz
Output	Impedance: 47 kilohms AUDIO OUT (VARIABLE) (phono jacks) More than 408 mVrms at the maximum volume setting (variable)	Dimensions (w/h/d)	KV-27TS27 660.5 x 602.5 x 465.5mm (26 1/8 x 23 3/4 x 18 3/8 in.)
Speaker output	Impedance: 5 kilohms 5W x 2	Weight	KV-27TS31 660.5 x 602.5 x 468 mm (26 1/8 x 23 3/4 x 18 1/2 in.)
Speaker size	KV-27TS27 Full range 120 x 60 mm (4 3/4 x 2 3/8 in.) x 2 units (OVAL)	Supplied accessories	KV-27TS27 46 kg (99 lbs 4 oz)
	KV-27TS31 Full range 120 x 60 mm (4 3/4 x 2 3/8 in.) x 2 units (OVAL)	Recommended accessories	KV-27TS31 Remote Commander RM-Y101 (1) with 2 size AA (R6) batteries

Design and specifications are subject to change without notice.

TRINITRON® COLOR TV
SONY®



SECTION 4

SAFETY RELATED ADJUSTMENT

█ R542, CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with █ on the schematic diagram). IC601, PM501, Q605, Q606, C536, R620, R621, R629, R630, R639, R542, R546

(1) Preparation before confirmation

1. Remove R620 on the D board and connect a variable resistor (RV1: about $10\text{k}\Omega$) between pin ① of IC601 and B+ line.
2. Supply 120 ± 2.0 V AC to with variable autotransformer.

(2) Hold-down operation confirmation

1. Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to $1650 \pm 20 \mu\text{A}$ with PICTURE and BRIGHT etc controls.
2. Increase B +line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 144.0V DC whereby the raster disappears during operation of hold-down circuit.

NOTE:

When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

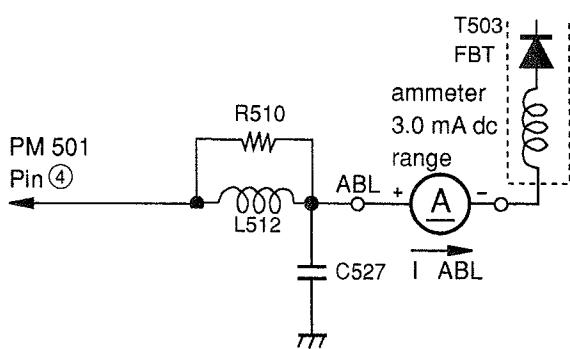
3. Turn the POWER switch ON, and receive dot signals and adjust ABL current to $150 \pm 20 \mu\text{A}$ with PICTURE and BRIGHT etc controls.
4. Increase B +line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 148.0V DC whereby the raster disappears during operation of hold-down circuit.

NOTE:

When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

(3) Hold-down readjustment

When step (2) is not satisfied, readjustment should be performed by altering the resistance value of R542 (a component marked with █).



█ R543 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with █ on the schematic diagram). IC601, Q605, Q606, PM501, D507, C535, C536, C639, R520, R543, R546, R620, R621, R629, R630, T503

(1) Preparation before confirmation

1. Turn the POWER switch ON, and receive entirely white signals and set the PICTURE and BRIGHT controls to maximum.
2. Confirm that voltage of the check terminal of pin ① of D-15 is more than 115.0V DC when the set is operating normally with 120.0 ± 2.0 V AC supply.

(2) Hold-down operation confirmation

1. Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to $1650 \pm 20 \mu\text{A}$ with PICTURE and BRIGHT etc controls.
2. Apply DC voltage of over 130V DC gradually to the check terminal of pin ① of D-15 via 1T40 from the DC stabilized power source.

Confirm that the minimum voltage is less than 140.0V DC whereby the raster disappears during operation of hold-down circuit.

NOTE:

When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

3. Turn the POWER switch ON, and receive dot signals and adjust ABL current to $150 \pm 20 \mu\text{A}$ with PICTURE and BRIGHT etc controls.

4. Apply DC voltage of over 130V gradually to the check terminal of pin ① of D-15 via 1T40 from the DC stabilized power source. Confirm that the minimum voltage is less than 140.5V DC whereby the raster disappears during operation of hold-down circuit.

NOTE:

When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

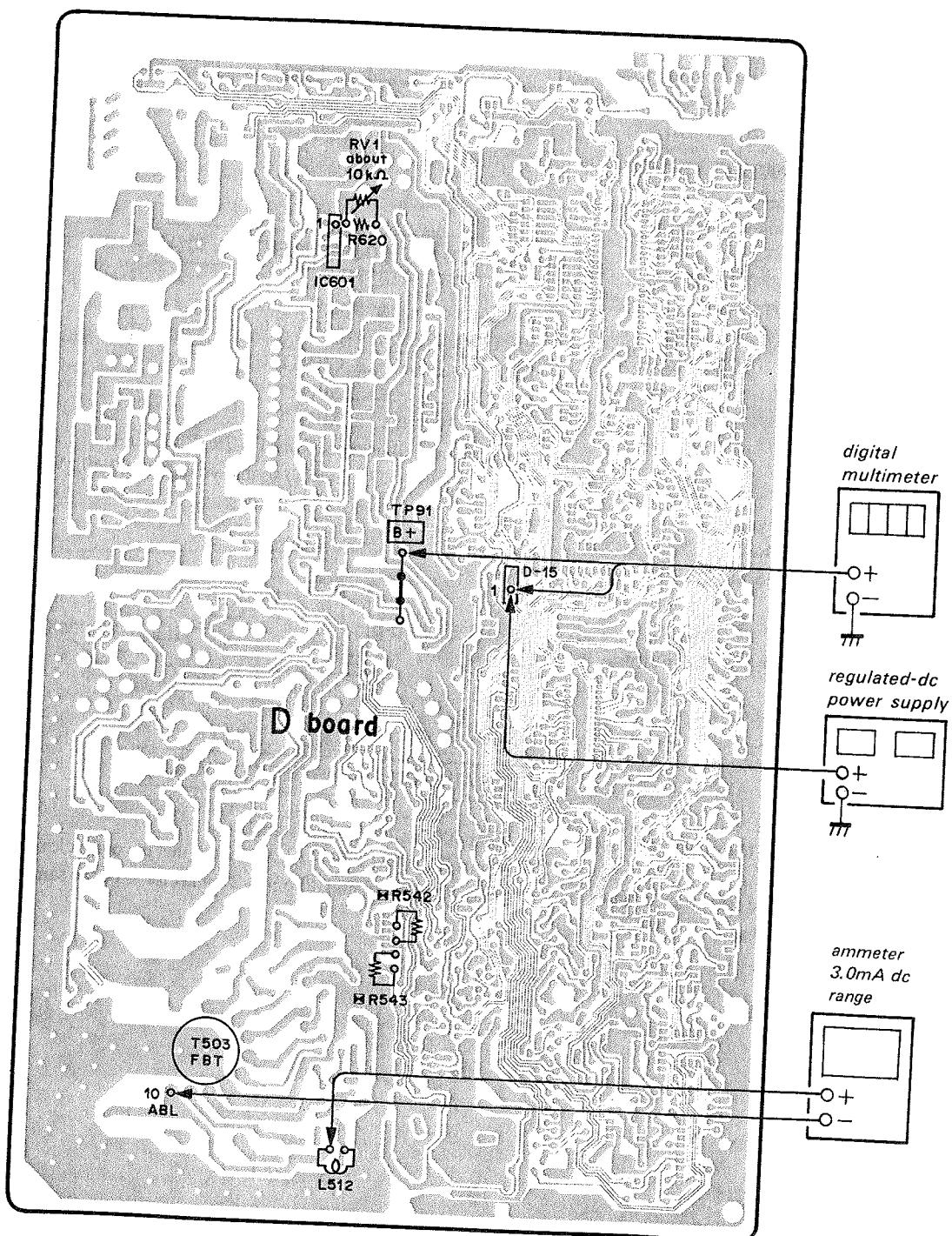
(3) Hold-down readjustment

When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R543 (a component marked with █).

B+ VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC601 and R620.

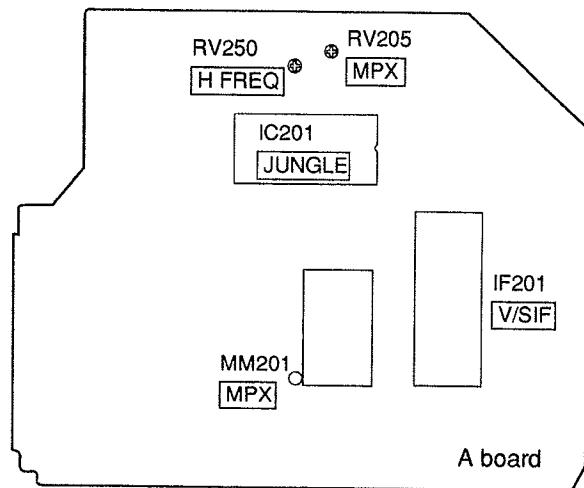
1. Supply $130^{+2.0}_{-0}$ V AC to with variable auto-transformer.
2. Receive entirely monoscope signal.
3. Set the PICTURE control and BRIGHT controls in to initial reset.
4. Confirm the voltage of +B Line is less than 137.0V DC.
5. If step 4 is not satisfied, replace IC601 and R620 repeat above steps.



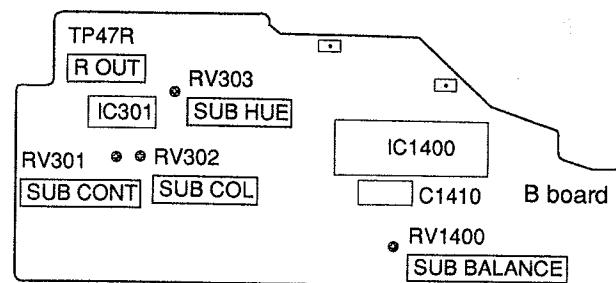
SECTION 5

CIRCUIT ADJUSTMENTS

5-1. A BOARD ADJUSTMENTS



5-2. B BOARD ADJUSTMENTS

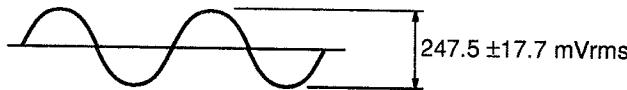


RF AGC ADJUSTMENT

1. Receive an off-air signal.
2. Adjust AGC VR (AGC VR of IF201) so that snow noise and cross-modulation just disappear from the picture.

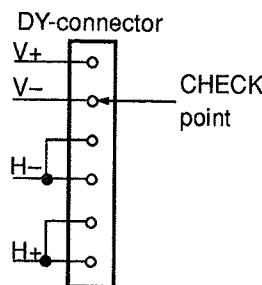
MPX LEVEL ADJUSTMENT (RV205)

1. Receive 400Hz (100% modulation) sound signal.
2. Connect an RMS meter to pin 12 of MM201.
3. Adjust RV205 so that the MPX level is 247.5 ± 17.7 mVrms.



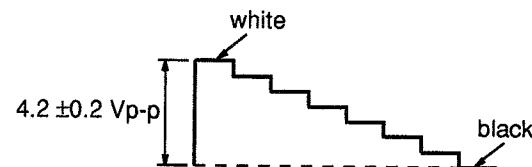
H.FREQ ADJUSTMENT (RV250)

1. Receive an off air signal.
2. Short circuit between TP (Y SYNC) and TP (12V) with a jumper wire.
3. Adjust RV250 for 15.734 kHz ± 50 Hz on the frequency counter.
4. Disconnect a jumper wire from TP (SYNC) and TP (12V).



SUB CONTRAST ADJUSTMENT (RV301)

1. Receive a color-bar signal.
PICTURE MAX
BRT CENTER
COLOR MIN
SHARP MIN
2. Connect an oscilloscope to the TP47R (R OUT).
3. Adjust RV301 (SUB CONT) so that voltage is 4.2 ± 0.2 Vp-p.

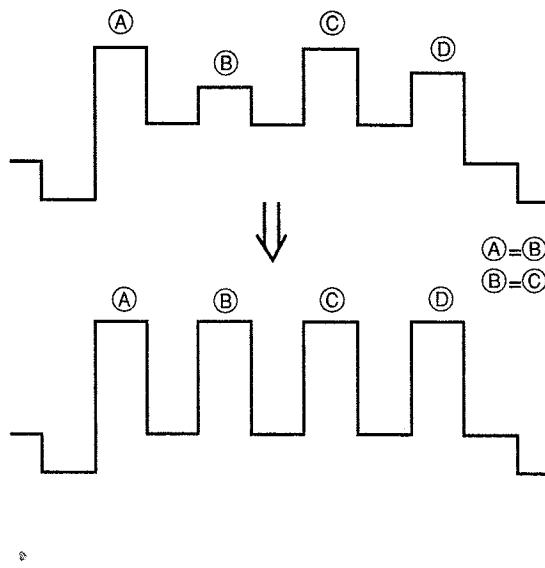


SUB BALANCE ADJUSTMENT (RV1400)

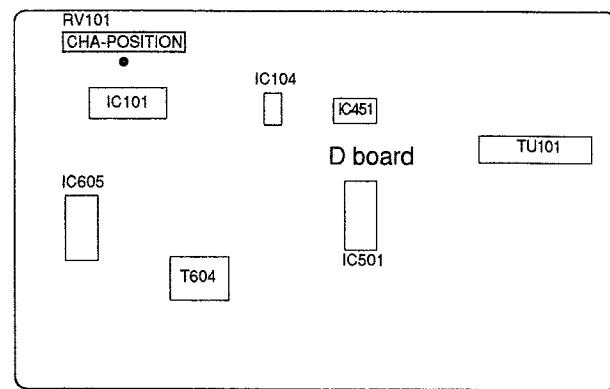
1. Input 400 Hz 200mVrms signal.
2. Adjust RV1400 (SUB-BALANCE) so that the output level of ② pin B-4 connector and ② pin B-2 connector to be the same level.

**SUB COLOR AND SUB HUE ADJUSTMENTS
(RV302, 303)**

1. Receive a color bar signal.
2. Set PICTURE and BRT to normal.
3. Connect an oscilloscope to the TP47R (R OUT).
4. Adjust RV302 (SUB-COL) and RV303 (SUB-HUE) to be the same level.



5-3. D BOARD ADJUSTMENTS



CHARACTER POSITION (RV101)

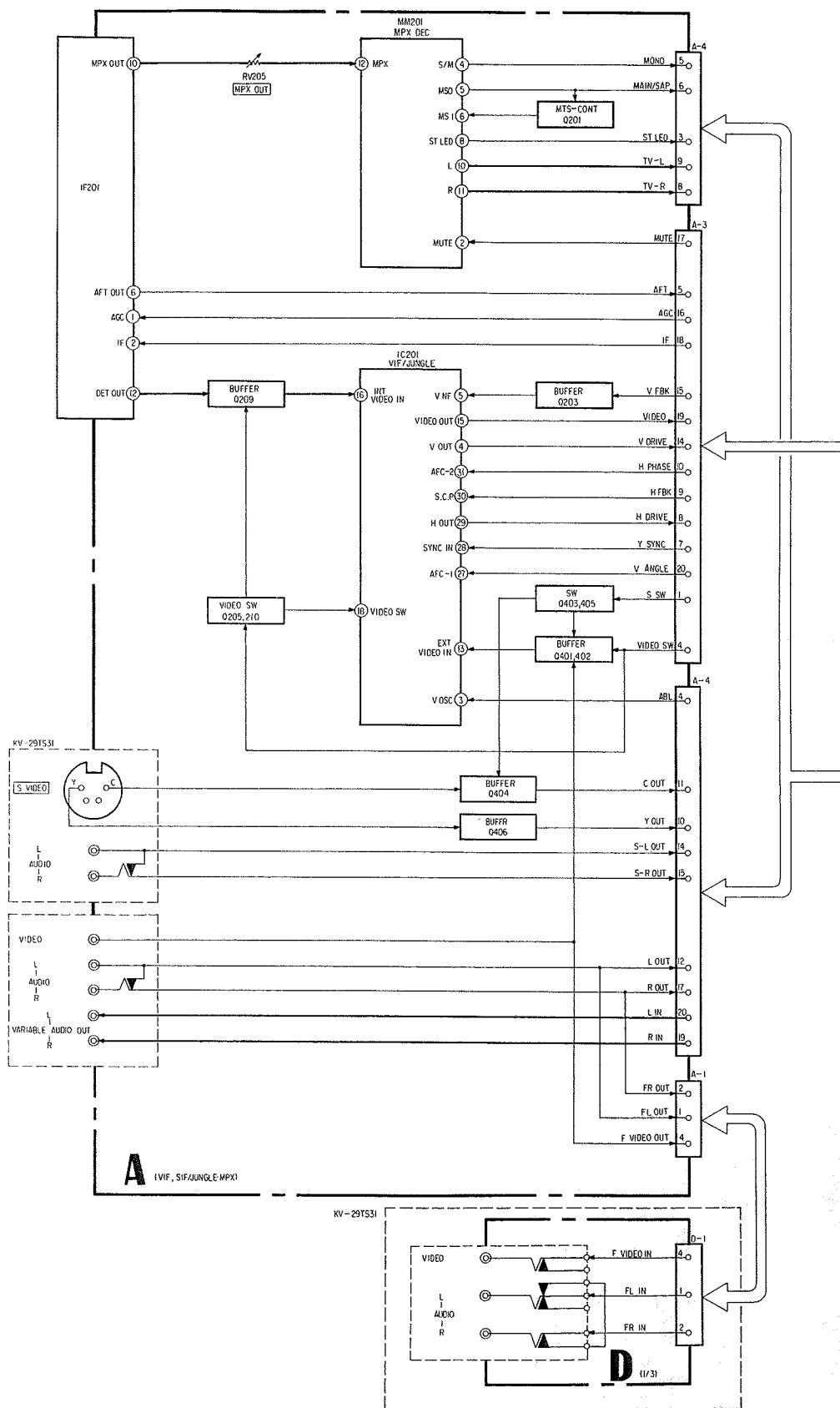
1. Receive a color-bar signal.
2. Set the PICTURE control to maximum setting and set the BRIGHTNESS control to center click position.
3. Press the PICTURE control button until this picture level becomes maximum.
4. Adjust RV101 as shown in Fig. 1.



Fig. 1

SECTION 6 DIAGRAMS

6-1. BLOCK DIAGRAM



1
01

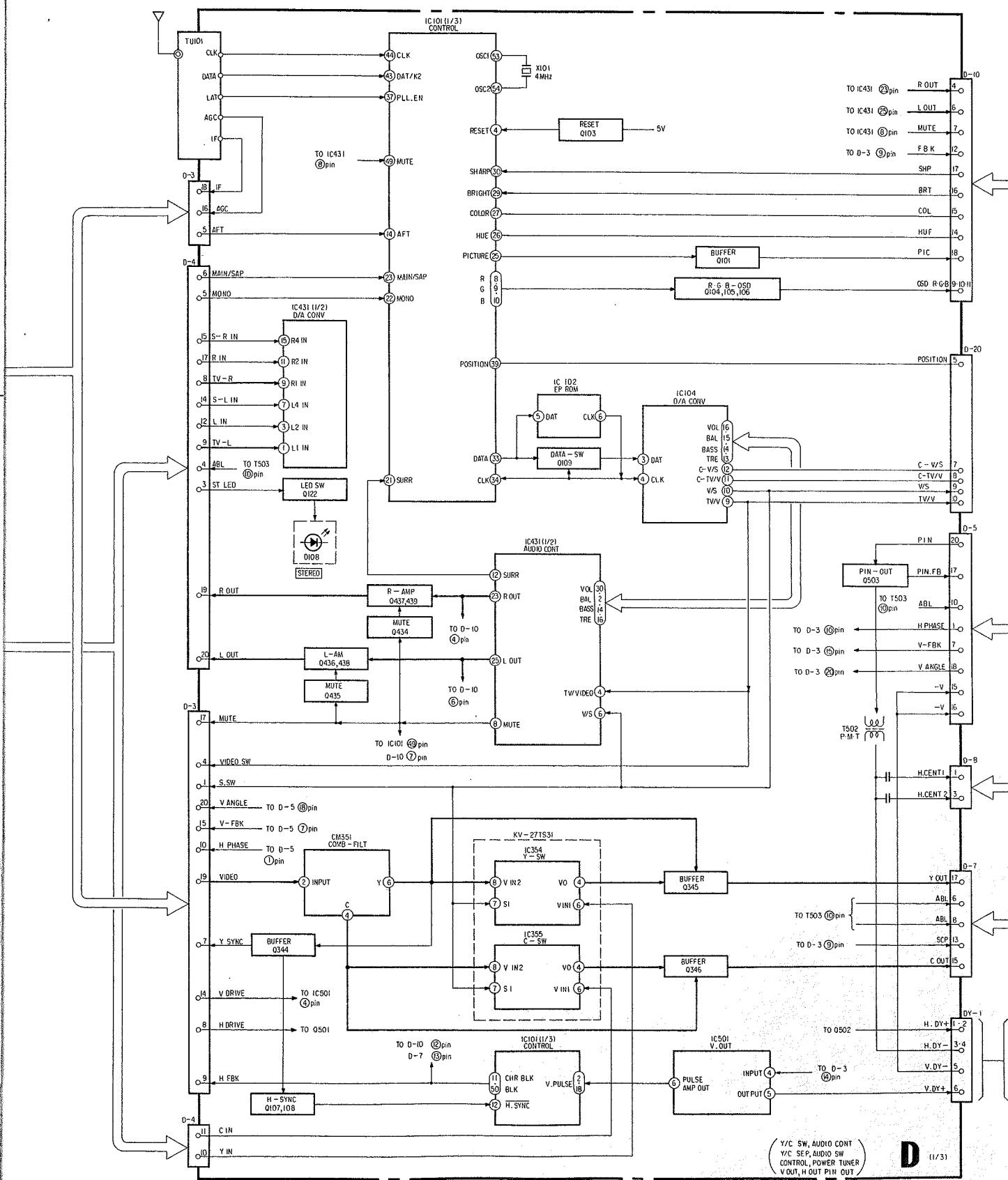
del
TS27
4A-A
TS31
4B-A
del
TS27
5A-A
TS31
5B-A

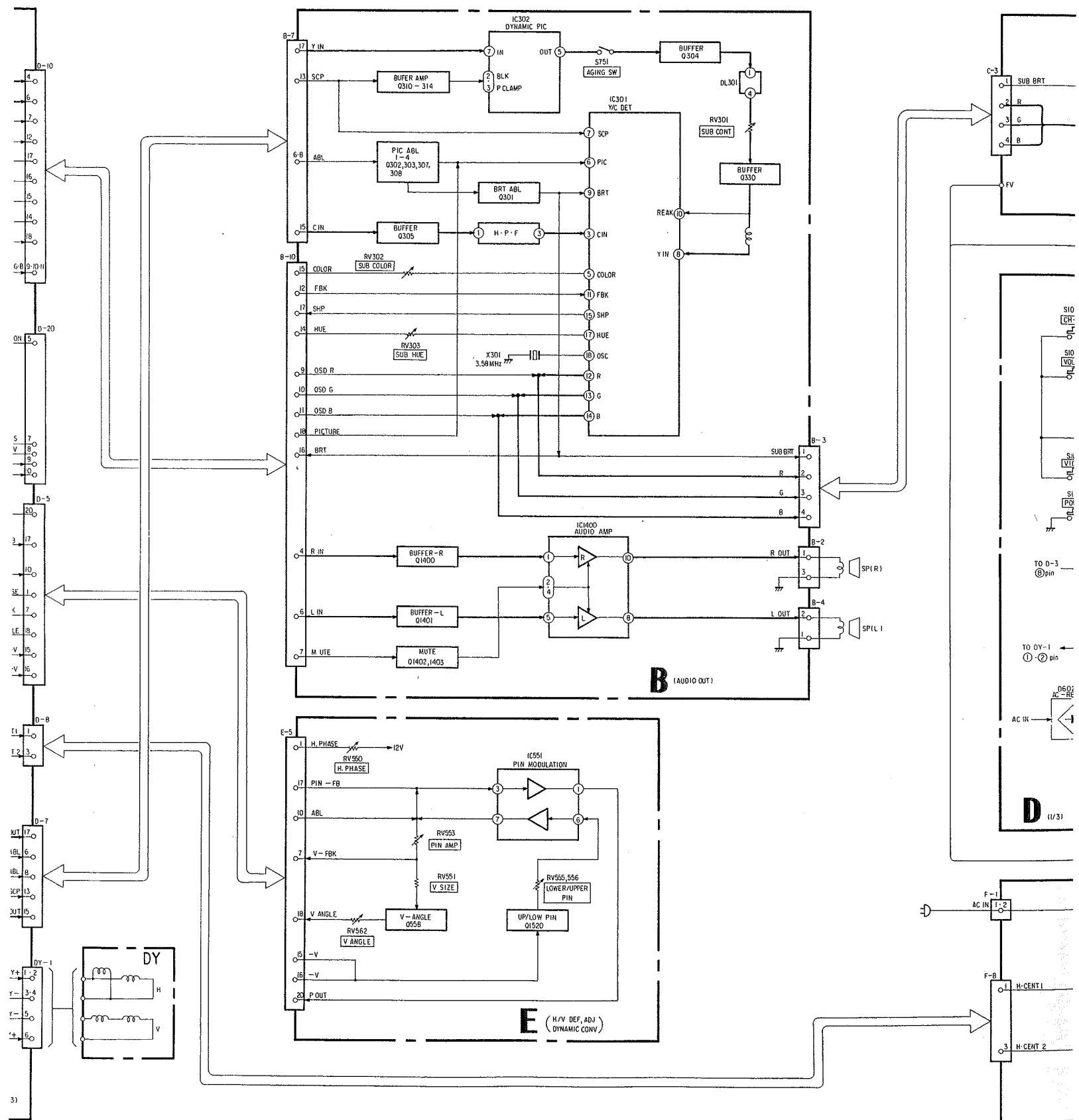
IS

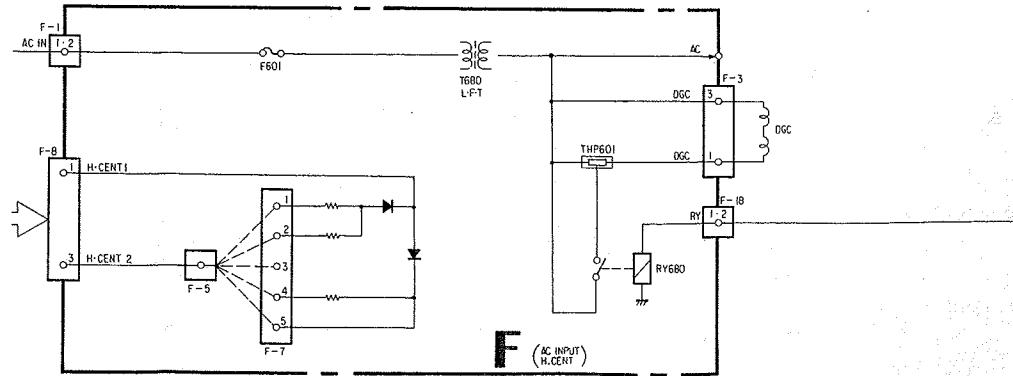
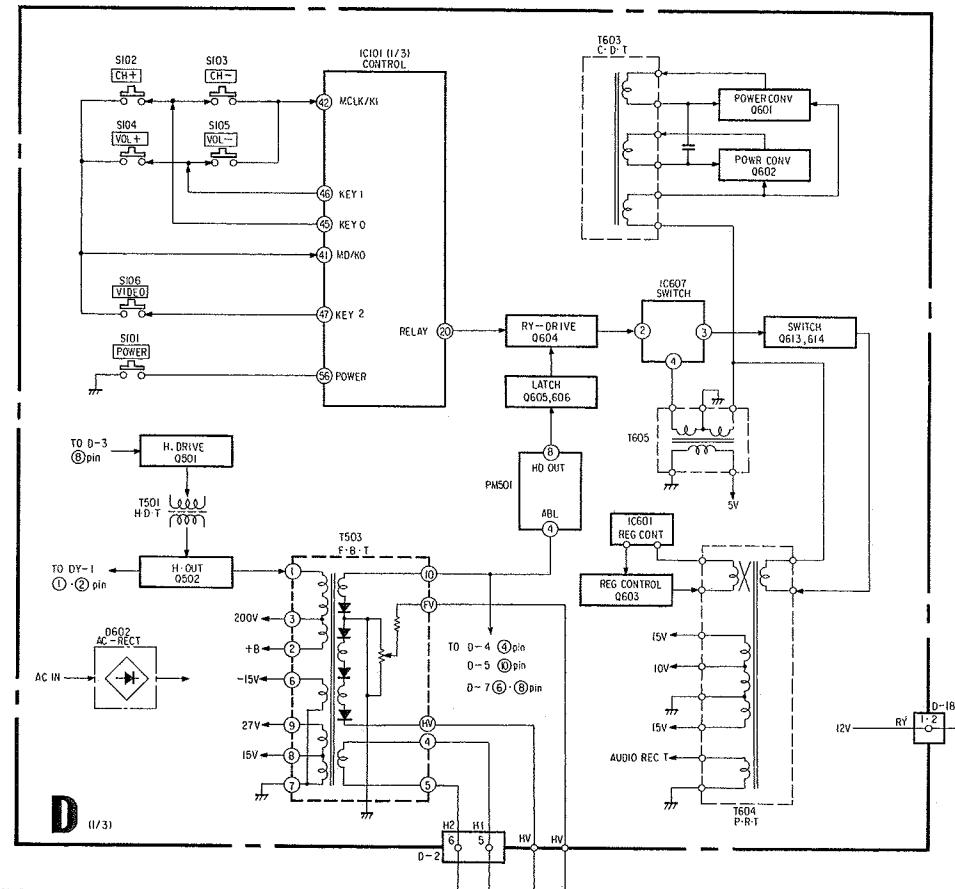
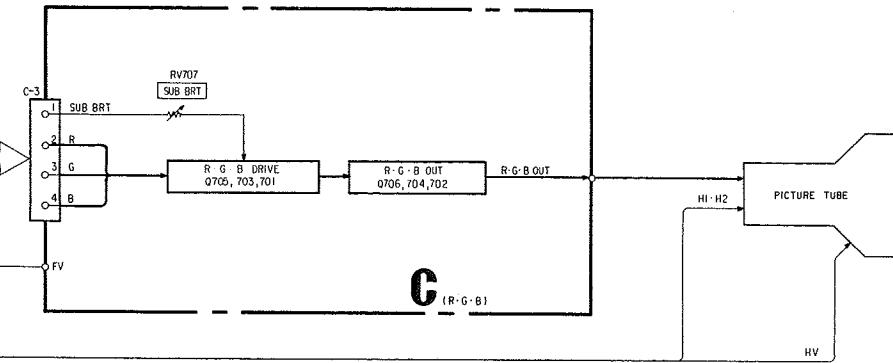
A

ze

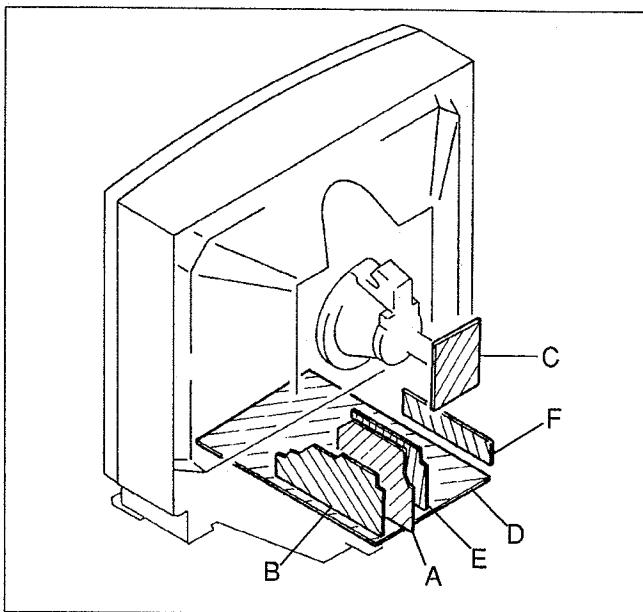
IV
Z
®







6-2. CIRCUIT BOARDS LOCATION



Part replaced (☒)	Adjustment (☒)
IC601, PM501, Q605, Q606, C536, R639, R630, R629, R621, R620, R546, R542	R542 (HOLD-DOWN)
IC601, PM501, Q606, Q605, D507, T503, C639, C536, C535, R630, R629, R621, R620, R543, R546, R520	R543 (HOLD-DOWN)

- All voltages are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a $10\text{ M}\Omega$ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerance.
- : B+ bus.
- : B- bus.
- : signal path.

6-3. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note:

- All capacitors are in μF unless otherwise noted.
 μF : μF 50WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm
Rating electrical power 1/4W

- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved. (Refer to R542 and R543 on page 30-31 in the Service Manual.)
- When replacing the part in below table be sure to perform the related adjustment.

Reference information

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

Note:

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

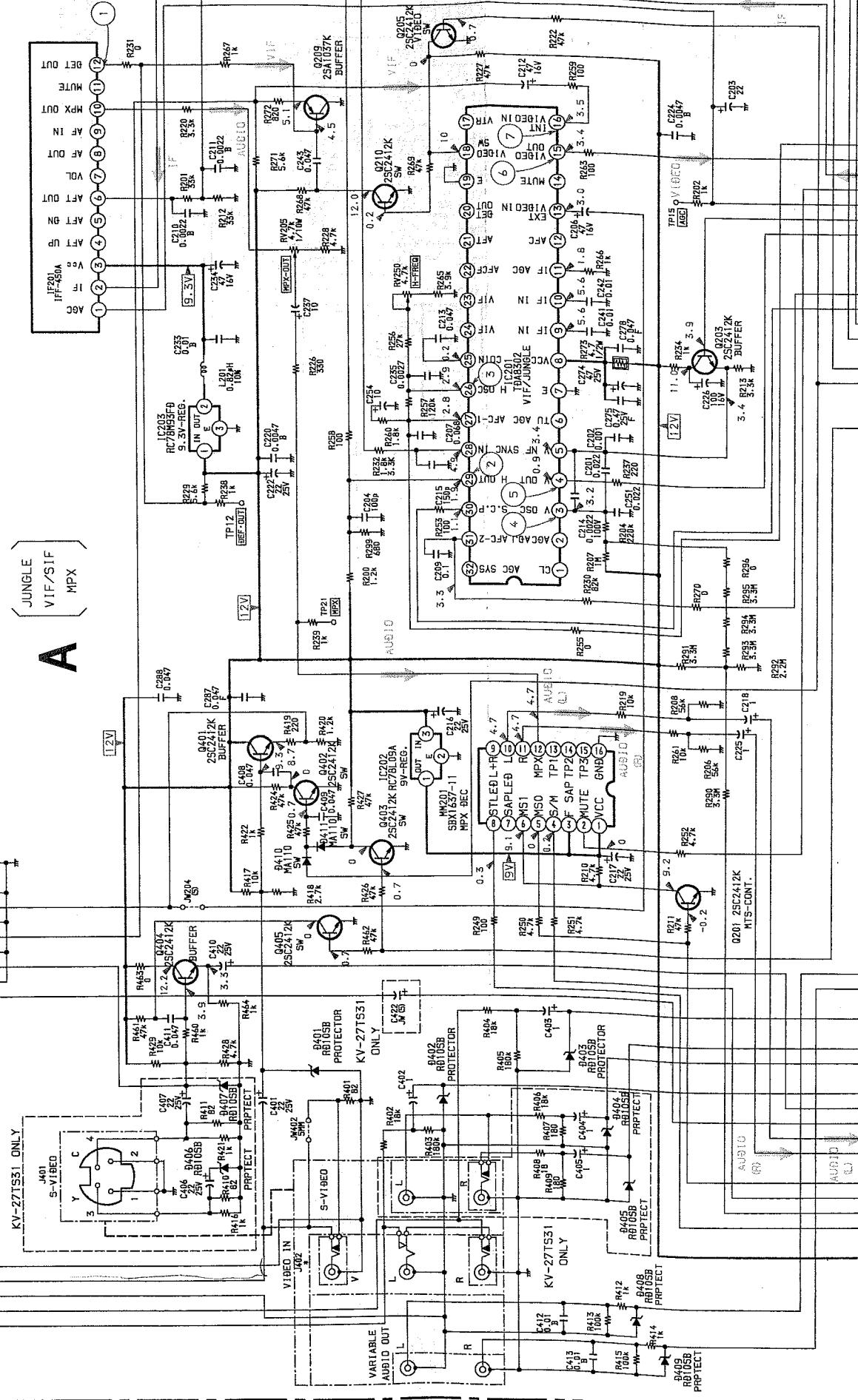
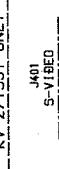
Note:

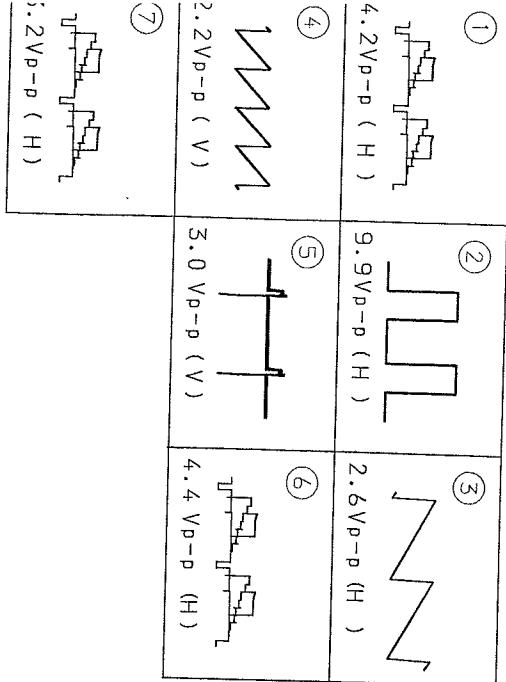
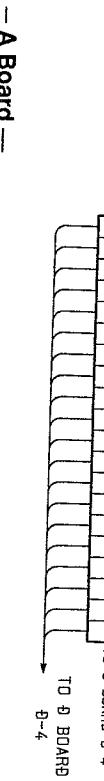
Les composants identifiés par un trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

TO D BOARD B-1

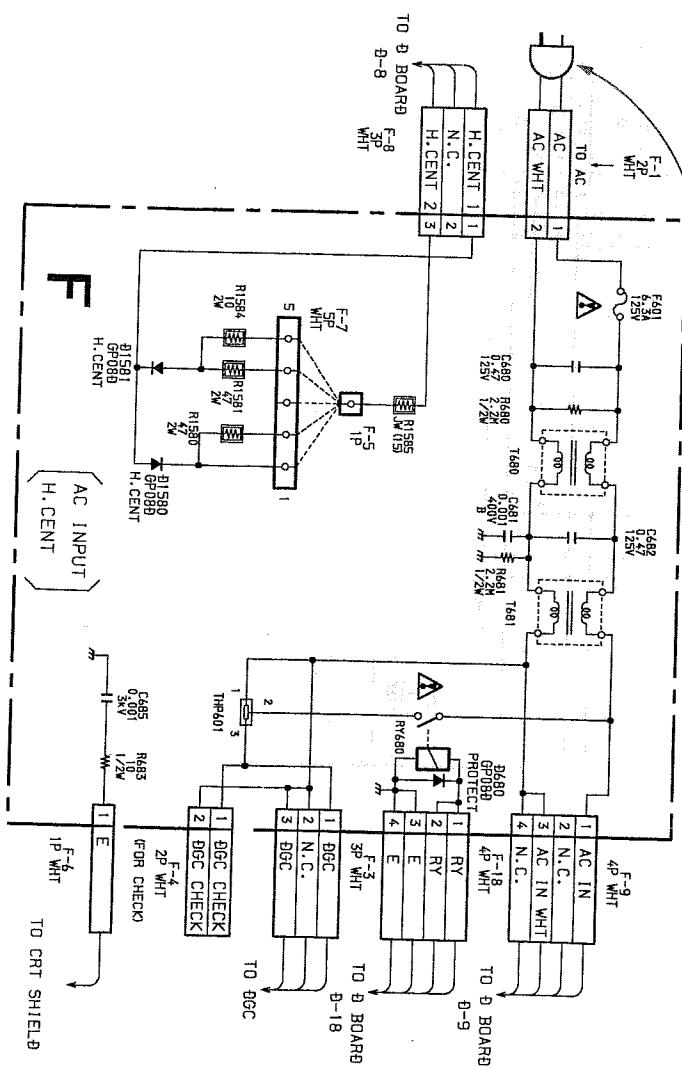


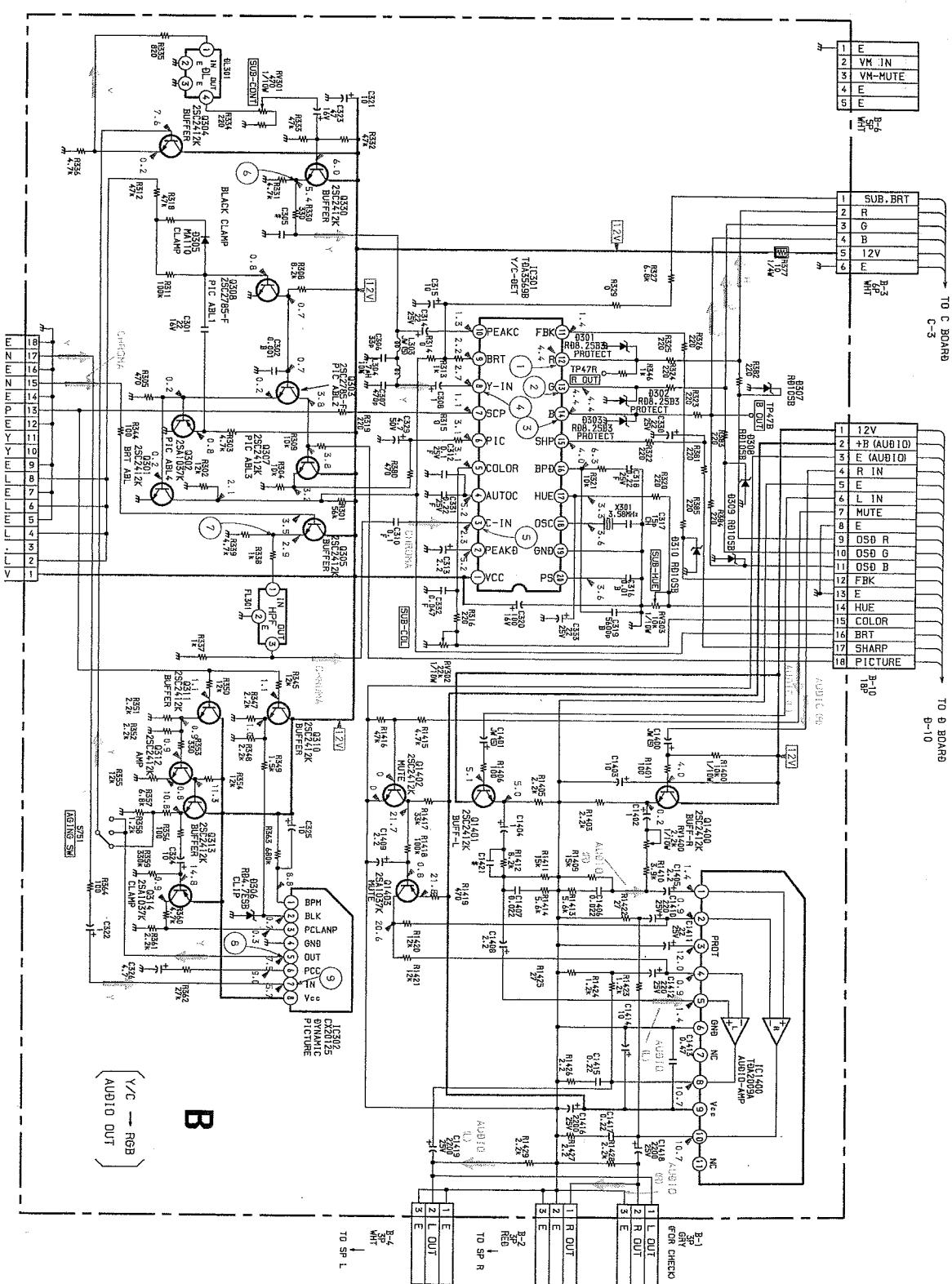
KV-271S31 ONLY

A-3
TO D BOARD B-4A-3
TO D BOARD B-4



CAUTION (US MODEL ONLY)
This set is equipped with a polarized ac power cord (one blade of the plug is wider than the other). When replacing the ac power cord, be sure to connect it with specified part number as shown in this diagram.

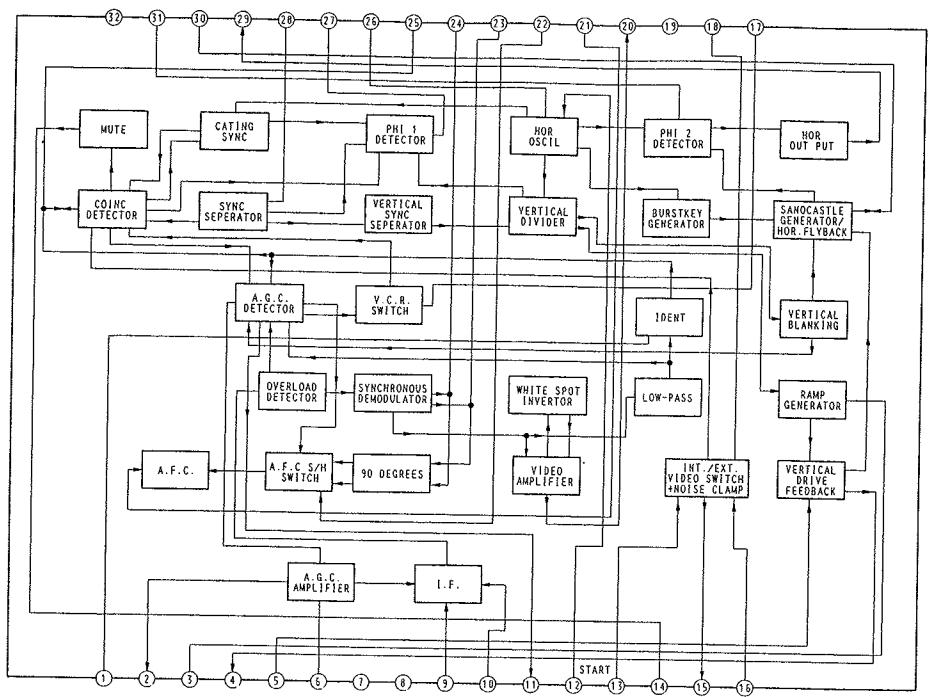




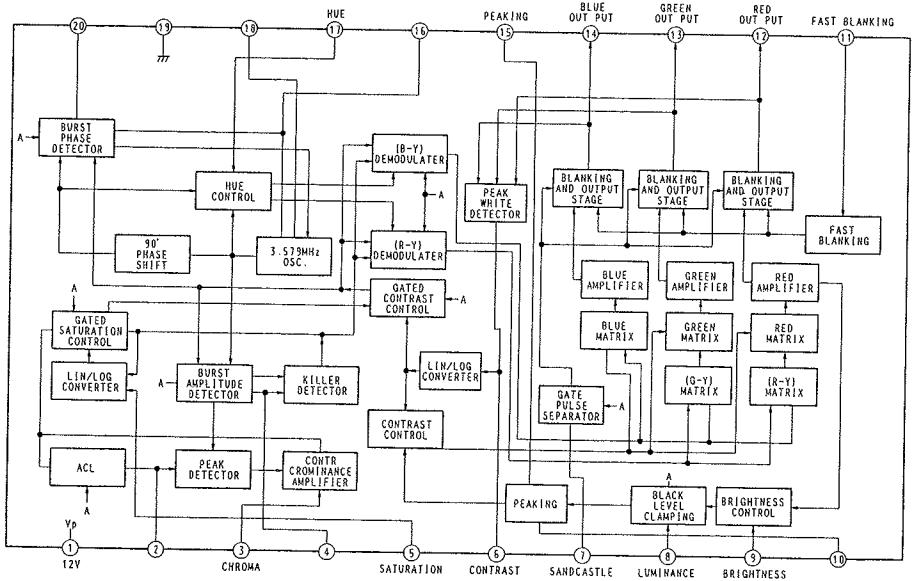
B

$\left[\begin{matrix} Y/C \rightarrow RGB \\ AUDIO OUT \end{matrix} \right]$

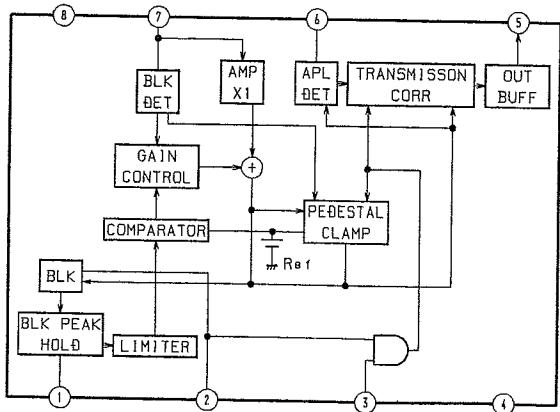
A BOARD IC201 TDA8302

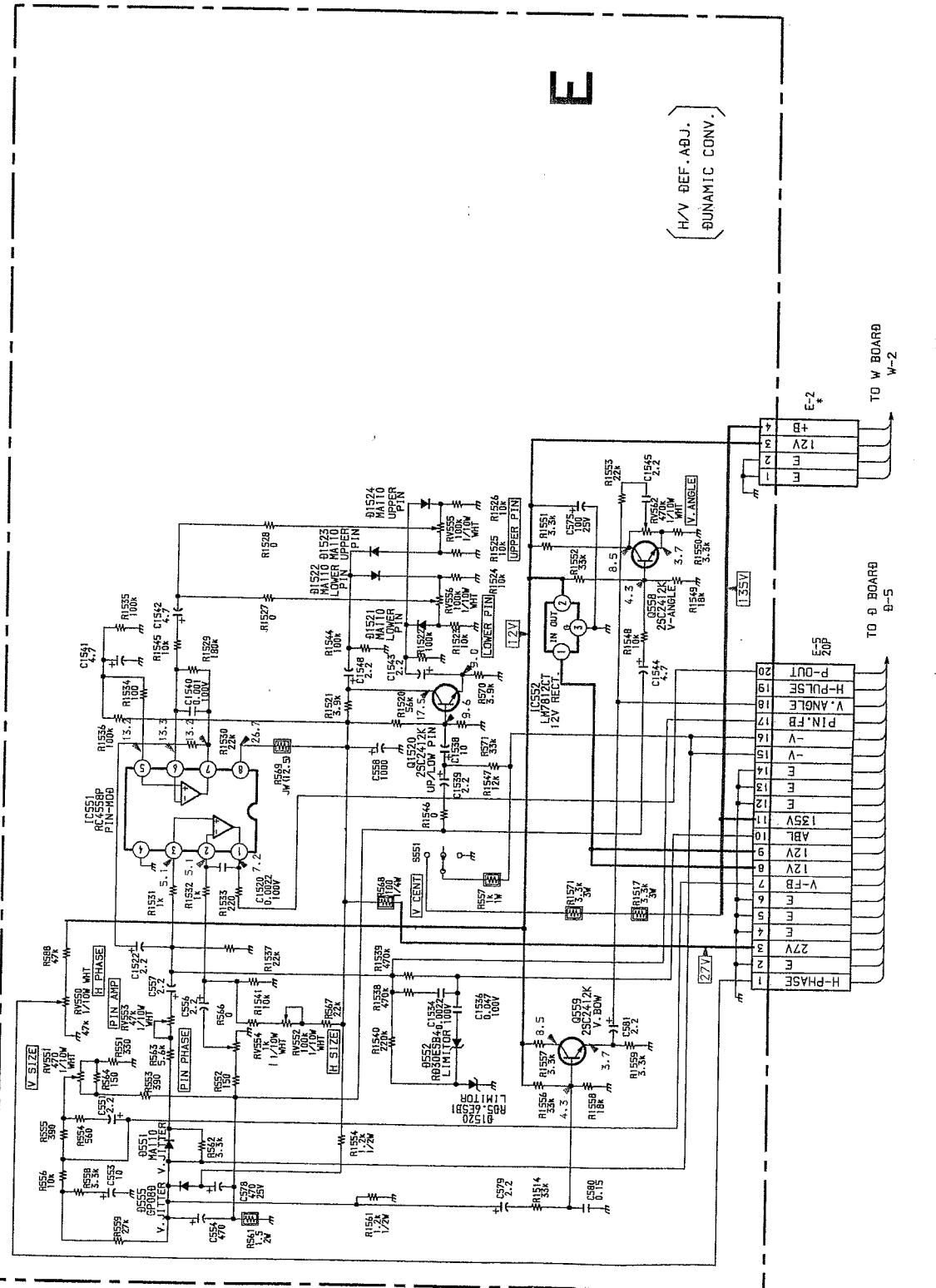


B BOARD IC301 TDA3569B



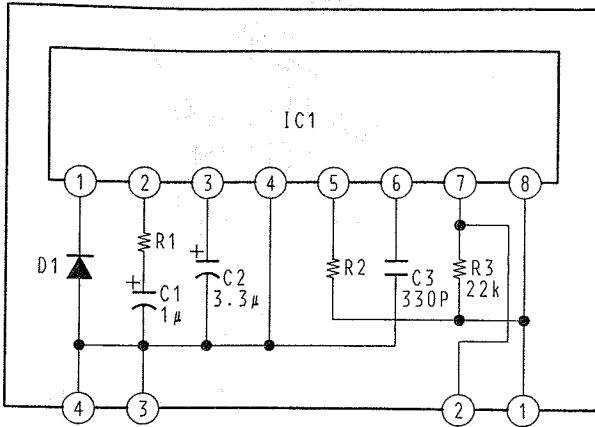
B BOARD IC302 CX20125



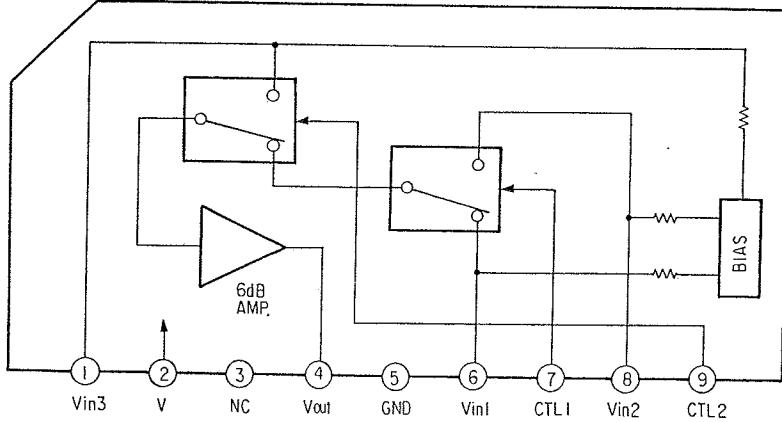


— 46 —

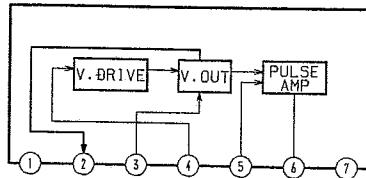
D BOARD IC103 SBX1618-51



D BOARD IC354/355 NJM2245S

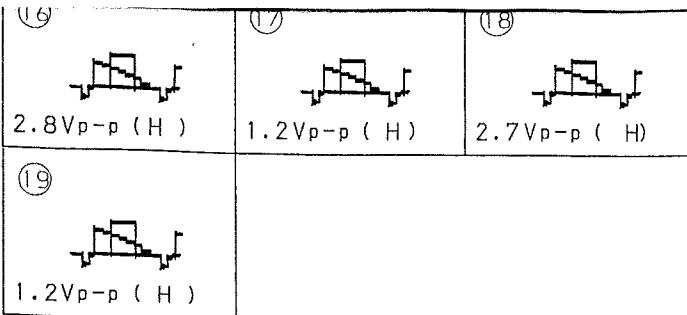


D BOARD IC501 AN5521

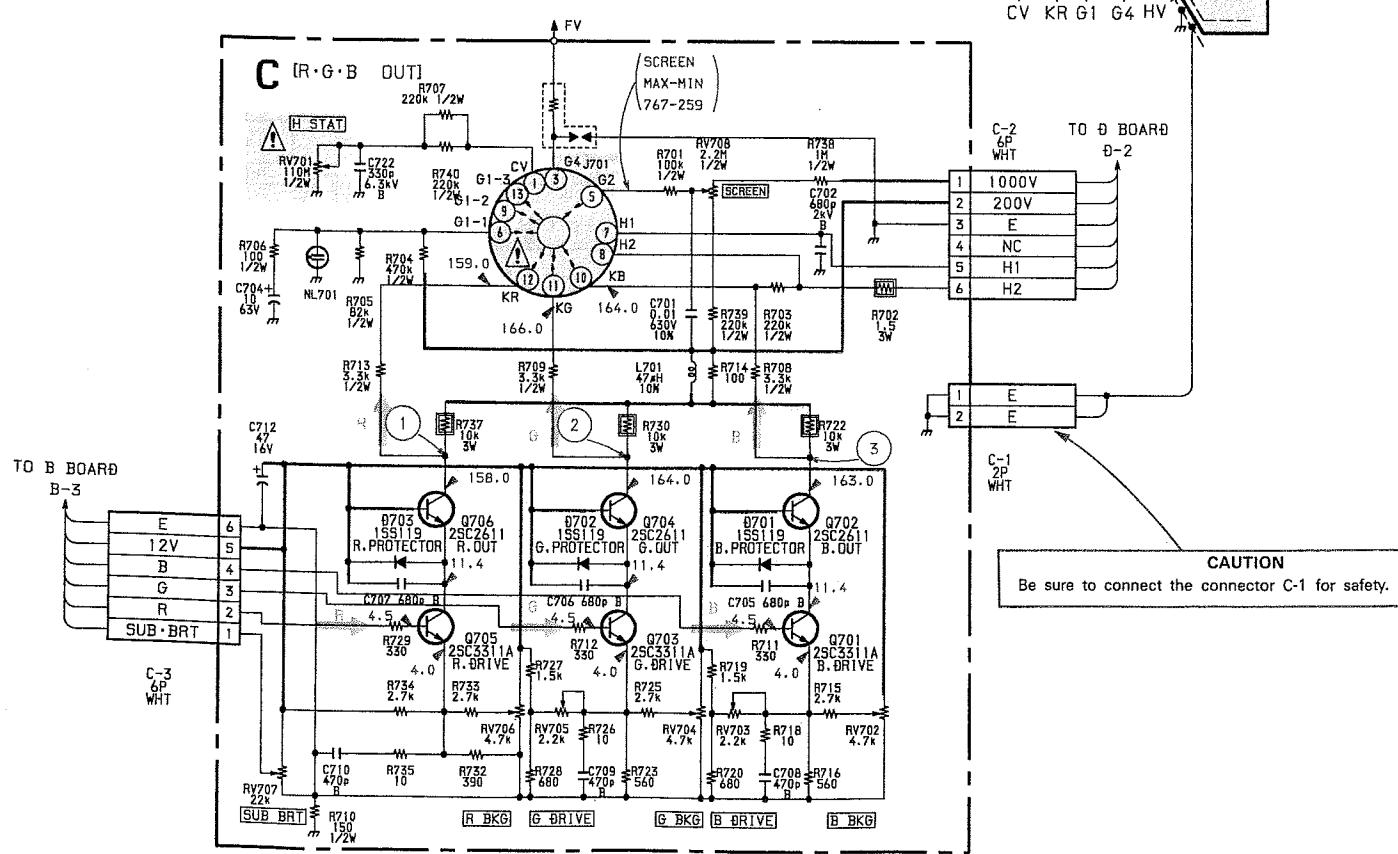
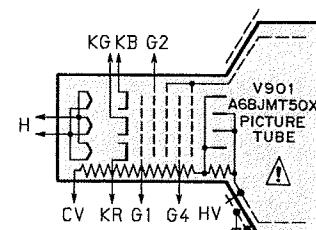
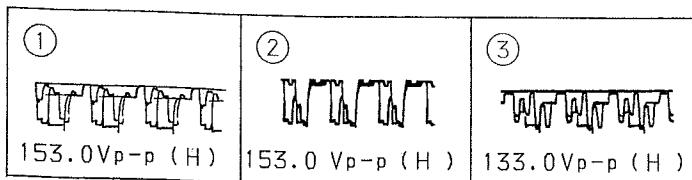


— D Board —

IC	DIODE	VARI RESI
IC101	B-3	B619
IC102	C-3	B620
IC103	C-1	B621
IC104	B-6	B622
IC105	C-8	
IC352	B-12	
IC354	A-12	
IC355	A-11	
IC431	B-7	RV101
IC501	B-8	
IC601	E-3	
IC602	F-2	
IC605	E-2	
IC606	F-2	
IC607	F-5	
TRANSISTOR		
Q101	B-5	
Q103	A-2	
Q104	A-3	
Q105	A-4	
Q106	A-3	
Q107	A-9	
Q108	A-8	
Q109	C-5	
Q122	C-7	
Q344	A-9	
Q345	A-10	
Q346	A-10	
Q434	B-9	
Q435	B-10	
Q436	B-9	
Q437	B-9	
Q438	A-9	
Q439	B-9	
Q501	G-7	
Q502	G-10	
Q503	F-6	
Q601	G-4	
Q602	G-6	
Q603	E-3	
Q604	E-6	
Q605	B-6	
Q606	B-6	
Q610	B-4	
Q613	F-6	
Q614	F-6	
Q615	E-5	
Q617	E-5	
Q618	E-5	



— C Board —



SECTION 7

EXPLODED VIEWS

NOTE:

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

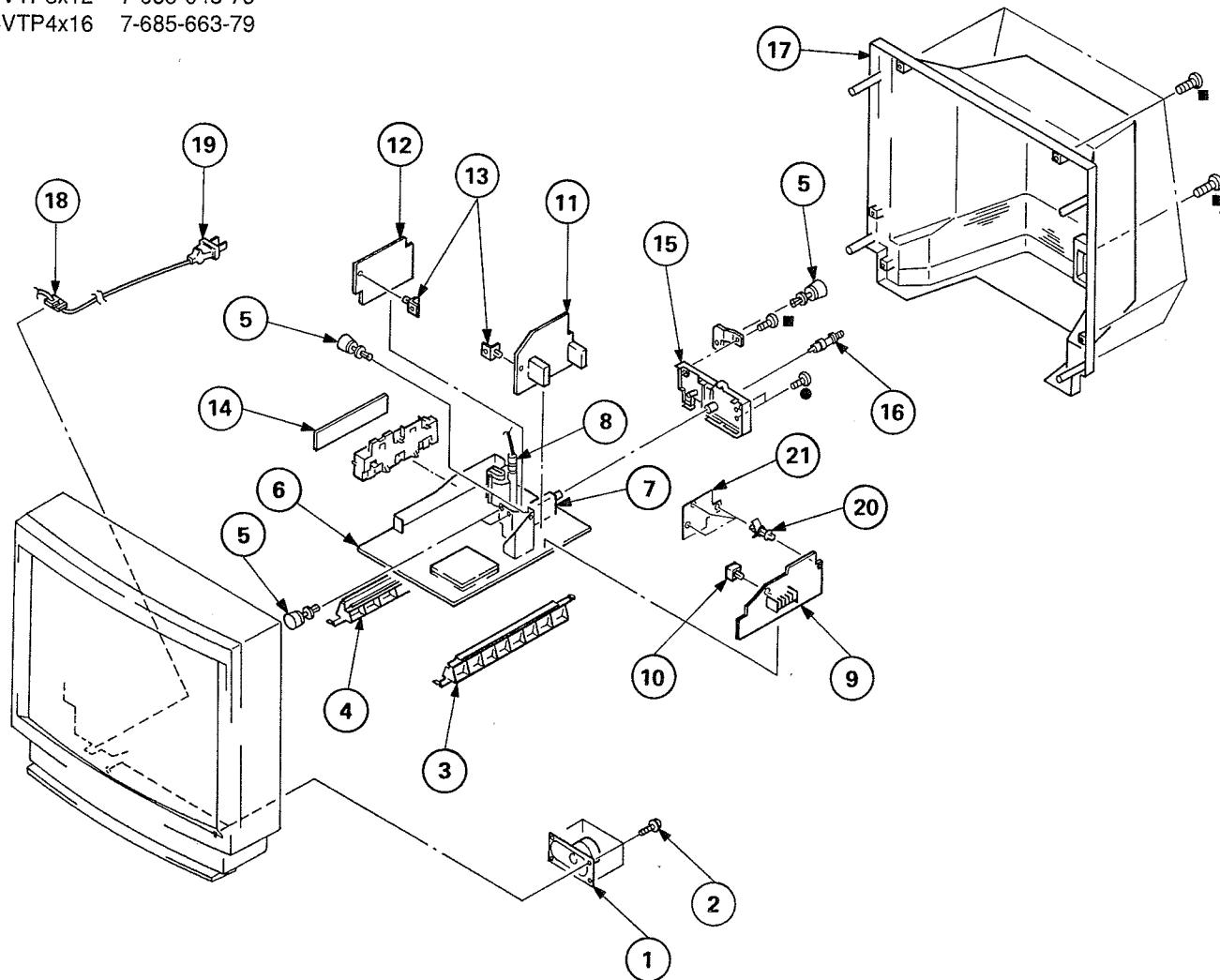
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

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

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

7-1. CHASSIS

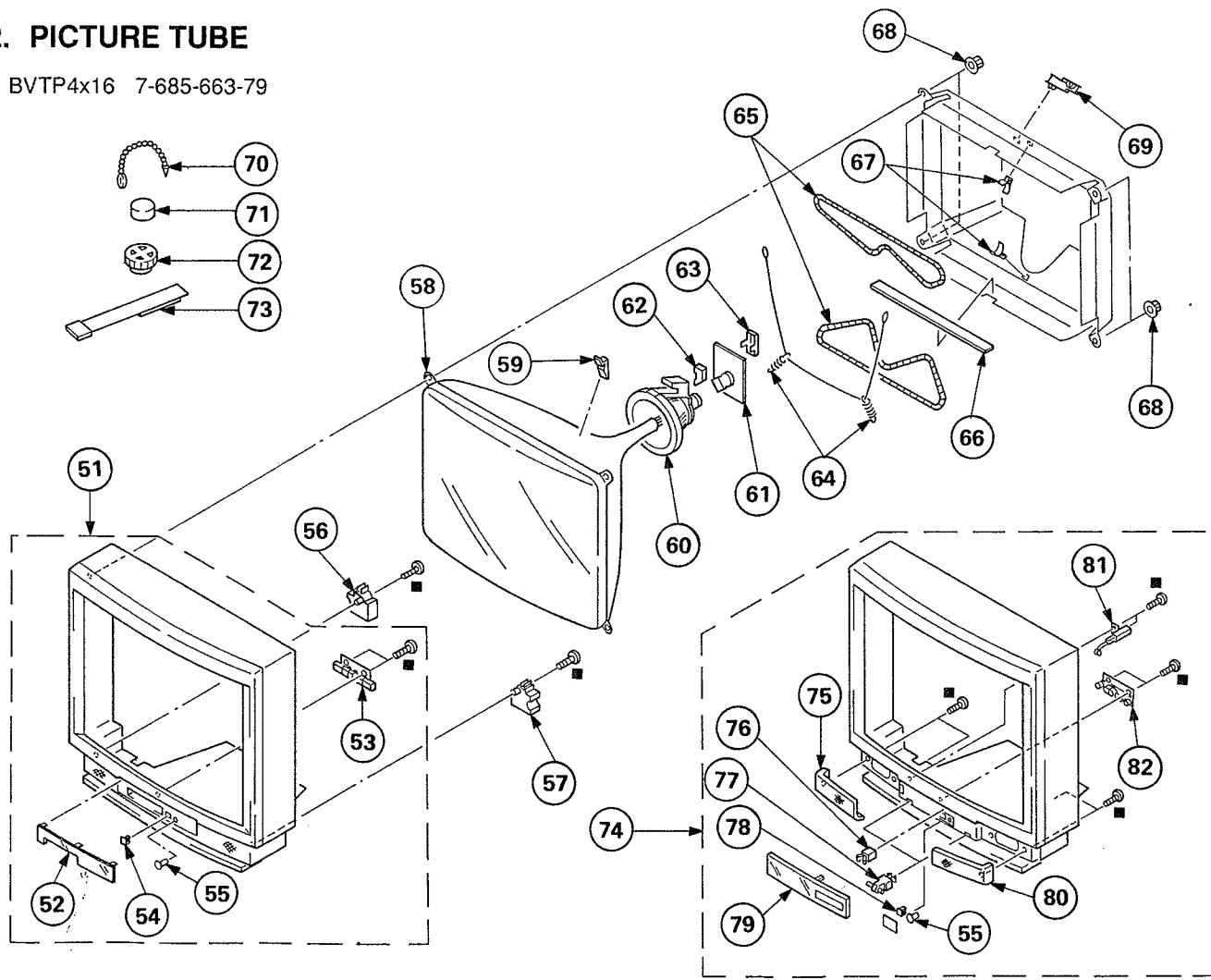
- : BVTP3x12 7-685-648-79
- : BVTP4x16 7-685-663-79



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	1-544-549-11	SPEAKER		11	A-1296-831-A	A BOARD, COMPLETE (KV-27TS31(U/C) ONLY)	
2	4-388-477-01	SCREW(3X16), TAPPING, +BV WASHER		12	A-1296-848-A	A BOARD, COMPLETE (KV-27TS27(U/C) ONLY)	
3	*4-031-417-01	GUIDE (RIGHT), PC BOARD		13	A-1345-953-A	E BOARD, COMPLETE	
4	*4-031-418-01	GUIDE (LEFT), PC BOARD		14	*1-638-095-11	F BOARD	
5	*4-397-418-01	RIVET, T TYPE		15	X-4029-750-1	TERMINAL BOARD ASSY, ANTENNA (KV-27TS27(U/C) ONLY)	
6	*A-1345-952-A	D BOARD, COMPLETE (KV-27TS31(U) ONLY)					
	*A-1345-963-A	D BOARD, COMPLETE (KV-27TS27(U) ONLY)					
	*A-1345-989-A	D BOARD, COMPLETE (KV-27TS27(C) ONLY)					
	*A-1345-990-A	D BOARD, COMPLETE (KV-27TS31(C) ONLY)					
7 Δ	1-465-371-11	TUNER, ET (BTP-RA401) (KV-27TS27(U), KV-27TS31(U) ONLY)		16	1-573-657-11	PLUG, F-PIN	
	1-465-371-21	TUNER, ET (BTP-RA401) (KV-27TS27(C), KV-27TS31(C) ONLY)		17	4-031-608-01	COVER, REAR	
8 Δ	1-439-502-11	TRANSFORMER ASSY, FLYBACK (NX-2600A3)		18 Δ	4-388-328-01	GROMMET, AC CORD	
9	A-1135-670-A	B BOARD, COMPLETE		19 Δ	1-590-492-21	CORD, POWER (WITH CONNECTOR)	
10	*4-032-236-01	HOLDER (B), PC BOARD		20	*3-703-353-03	SUPPORT, PC BOARD	
				21	4-033-125-01	PLATE, SHIELD	

7-2. PICTURE TUBE

■ : BVTP4x16 7-685-663-79



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

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

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	X-4029-752-1	CABINET ASSY (WITH BEZEL ASSY) (KV-27TS27(U/C) ONLY)	52-55	68	4-387-204-01	NUT, SPECIAL, PICTURE TUBE	
52	X-4029-751-1	PANEL ASSY, CONTROL (KV-27TS27(U/C) ONLY)		69	*4-387-284-01	HOLDER, LEAD	
53	X-4029-806-1	BUTTON ASSY, MULTI (KV-27TS27(U/C) ONLY)		70	4-308-870-00	CLIP, LEAD WIRE	
54	*4-031-413-01	GUIDE, LIGHT (KV-27TS27(U/C) ONLY)		71	1-452-032-00	MAGNET, DISK; 10MM ϕ	
55	*4-389-517-01	GUIDE (R), LIGHT		72	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
56	*4-031-603-01	SUPPORT (LEFT), PICTURE TUBE		73	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
57	*4-031-604-01	SUPPORT (RIGHT), PICTURE TUBE		74	X-4029-760-1	CABINET ASSY (WITH BEZEL ASSY) (KV-27TS31(U/C) ONLY)	55, 75-82
58	Δ 8-737-753-05	PICTURE TUBE (A68JMT50X)		75	X-4029-757-1	FRAME ASSY (LEFT), SPEAKER (KV-27TS31(U/C) ONLY)	
59	3-704-495-01	SPACER, DY		76	4-392-036-01	CATCHER, PUSH (KV-27TS31(U/C) ONLY)	
60	Δ 1-451-275-31	DEFLECTION YOKE (Y28PFA)		77	3-703-035-11	SHAFT, LID (KV-27TS31(U/C) ONLY)	
61	*A-1331-128-A	C BOARD, COMPLETE		78	*4-032-397-01	GUIDE, LIGHT (KV-27TS31(U/C) ONLY)	
62	*4-379-167-01	COVER (MAIN), CV		79	X-4029-759-1	DOOR ASSY, CONTROL (KV-27TS31(U/C) ONLY)	
63	*4-379-160-01	COVER (REAR LID), CV		80	X-4029-758-1	FRAME ASSY (RIGHT), SPEAKER (KV-27TS31(U/C) ONLY)	
64	4-369-318-00	SPRING, TENSION		81	*4-032-393-01	DAMPER (KV-27TS31(U/C) ONLY)	
65	Δ 1-426-350-11	COIL, DEMAGNETIZATION		82	X-4029-805-1	BUTTON ASSY, MULTI (KV-27TS31(U/C) ONLY)	
66	4-385-725-01	SHEET, BLOTTING					
67	*4-371-629-01	STOPPER, WIRE					

SECTION 8

ELECTRICAL PARTS LIST

B

NOTE:

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

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

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

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

RESISTORS

- All resistors are in ohms
- F: nonflammable

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

CAPACITORS

- MF: μ F, PF: $\mu\mu$ F
- MMH: mH, UH: μ H
- The components identified by \blacksquare in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
- Should replacement be required, replace only with the value originally used.

COILS

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

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
	A-1135-670-A	B BOARD, COMPLETE *****		C1409	1-124-925-11	ELECT	2.2MF 20% 50V
*4-341-752-01	EYELET (BY1-BY3)			C1410	1-124-120-11	ELECT	220MF 20% 25V
4-382-854-11	SCREW (M3X10), P, SW (+)			C1411	1-126-233-11	ELECT	22MF 20% 25V
	<CONNECTOR>			C1412	1-124-120-11	ELECT	220MF 20% 25V
B1	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P		C1413	1-136-173-00	FILM	0.47MF 5% 50V
B2	*1-564-506-11	PLUG, CONNECTOR 3P		C1414	1-124-907-11	ELECT	10MF 20% 50V
B3	*1-564-509-11	PLUG, CONNECTOR 6P		C1415	1-136-169-00	FILM	0.22MF 5% 50V
B4	*1-564-506-11	PLUG, CONNECTOR 3P		C1416	1-124-563-11	ELECT	2200MF 20% 25V
B6	*1-564-508-11	PLUG, CONNECTOR 5P		C1417	1-136-169-00	FILM	0.22MF 5% 50V
B7	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P		C1418	1-124-563-11	ELECT	2200MF 20% 25V
B10	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P		C1419	1-124-563-11	ELECT	2200MF 20% 25V
	<CAPACITOR>				<DIODE>		
C301	1-124-282-00	ELECT	22MF 20% 16V	D301	8-719-158-39	DIODE	RD10S-B
C302	1-163-009-11	CERAMIC CHIP	0.001MF 10% 50V	D302	8-719-158-39	DIODE	RD10S-B
C303	1-126-233-11	ELECT	22MF 20% 25V	D303	8-719-158-39	DIODE	RD10S-B
C306	1-163-105-00	CERAMIC CHIP	33PF 5% 50V	D304	8-719-404-46	DIODE	MA110
C307	1-163-133-00	CERAMIC CHIP	470PF 5% 50V	D305	8-719-404-46	DIODE	MA110
C308	1-124-903-11	ELECT	1MF 20% 50V	D306	8-719-109-81	DIODE	RD4.7ES-B2
C310	1-163-038-00	CERAMIC CHIP	0.1MF 25V	D307	8-719-158-39	DIODE	RD10S-B
C312	1-163-038-00	CERAMIC CHIP	0.1MF 25V	D308	8-719-158-39	DIODE	RD10S-B
C313	1-124-925-11	ELECT	2.2MF 20% 50V	D309	8-719-158-39	DIODE	RD10S-B
C314	1-126-233-11	ELECT	22MF 20% 25V	D310	8-719-158-39	DIODE	RD10S-B
C315	1-124-907-11	ELECT	10MF 20% 50V		<DELAY LINE>		
C316	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V	DL301	1-415-851-11	DELAY LINE	
C317	1-163-097-00	CERAMIC CHIP	15PF 5% 50V		<FILTER>		
C318	1-164-222-11	CERAMIC CHIP	0.22MF 25V	FL301	1-239-151-11	FILTER, HIGH PASS	
C319	1-163-018-00	CERAMIC CHIP	0.0056MF 10% 50V		<IC>		
C320	1-126-101-11	ELECT	100MF 20% 16V	IC301	8-759-518-39	IC	TDA3569B/N2
C321	1-124-907-11	ELECT	10MF 20% 50V	IC302	8-752-012-52	IC	CX20125
C322	1-124-903-11	ELECT	1MF 20% 50V	IC1400	8-759-980-43	IC	TDA2009A
C323	1-124-477-11	ELECT	47MF 20% 16V		<COIL>		
C324	1-124-907-11	ELECT	10MF 20% 50V	L304	1-408-405-00	INDUCTOR	4.7UH
C325	1-124-907-11	ELECT	10MF 20% 50V		<TRANSISTOR>		
C326	1-124-927-11	ELECT	4.7MF 20% 50V	Q301	8-729-920-74	TRANSISTOR	2SC2412K-QR
C329	1-124-927-11	ELECT	4.7MF 20% 50V	Q302	8-729-216-22	TRANSISTOR	2SA1162-G
C330	1-126-233-11	ELECT	22MF 20% 25V	Q303	8-729-119-78	TRANSISTOR	2SC2785-HFE
C331	1-164-222-11	CERAMIC CHIP	0.22MF 25V	Q304	8-729-920-74	TRANSISTOR	2SC2412K-QR
C332	1-163-035-00	CERAMIC CHIP	0.047MF 50V	Q305	8-729-920-74	TRANSISTOR	2SC2412K-QR
C333	1-126-233-11	ELECT	22MF 20% 25V	Q306	8-729-216-22	TRANSISTOR	2SA1162-G
C1402	1-124-903-11	ELECT	1MF 20% 50V				
C1403	1-124-907-11	ELECT	10MF 20% 50V				
C1404	1-124-903-11	ELECT	1MF 20% 50V				
C1405	1-124-925-11	ELECT	2.2MF 20% 50V				
C1406	1-136-153-00	FILM	0.01MF 5% 50V				
C1407	1-136-153-00	FILM	0.01MF 5% 50V				
C1408	1-124-925-11	ELECT	2.2MF 20% 50V				

B

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
Q307	8-729-920-74	TRANSISTOR 2SC2412K-QR		R352	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
Q308	8-729-119-78	TRANSISTOR 2SC2785-HFE		R353	1-216-037-00	METAL GLAZE	330 5% 1/10W
Q309	8-729-920-74	TRANSISTOR 2SC2412K-QR		R354	1-216-075-00	METAL GLAZE	12K 5% 1/10W
Q310	8-729-920-74	TRANSISTOR 2SC2412K-QR		R355	1-216-075-00	METAL GLAZE	12K 5% 1/10W
Q311	8-729-920-74	TRANSISTOR 2SC2412K-QR		R356	1-216-025-00	METAL GLAZE	100 5% 1/10W
Q312	8-729-920-74	TRANSISTOR 2SC2412K-QR		R357	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
Q313	8-729-920-74	TRANSISTOR 2SC2412K-QR		R358	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
Q314	8-729-216-22	TRANSISTOR 2SA1162-G		R359	1-216-109-00	METAL GLAZE	330K 5% 1/10W
Q330	8-729-920-74	TRANSISTOR 2SC2412K-QR		R360	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
Q1400	8-729-920-74	TRANSISTOR 2SC2412K-QR		R361	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
Q1401	8-729-920-74	TRANSISTOR 2SC2412K-QR		R362	1-216-083-00	METAL GLAZE	27K 5% 1/10W
Q1402	8-729-920-74	TRANSISTOR 2SC2412K-QR		R363	1-216-117-00	METAL GLAZE	680K 5% 1/10W
Q1403	8-729-216-22	TRANSISTOR 2SA1162-G		R364	1-216-025-00	METAL GLAZE	100 5% 1/10W
<RESISTOR>				R377	1-247-688-11	CARBON	10 5% 1/4W F
R301	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R380	1-216-041-00	METAL GLAZE	470 5% 1/10W
R302	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R381	1-216-033-00	METAL GLAZE	220 5% 1/10W
R303	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R382	1-216-033-00	METAL GLAZE	220 5% 1/10W
R304	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R383	1-216-033-00	METAL GLAZE	220 5% 1/10W
R305	1-216-041-00	METAL GLAZE	470 5% 1/10W	R384	1-216-033-00	METAL GLAZE	220 5% 1/10W
R306	1-216-107-00	METAL GLAZE	270K 5% 1/10W	R385	1-216-033-00	METAL GLAZE	220 5% 1/10W
R307	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R386	1-247-903-00	CARBON	1M 5% 1/4W
R308	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R1401	1-216-025-00	METAL GLAZE	100 5% 1/10W
R309	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1403	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R310	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R1405	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R311	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1406	1-216-025-00	METAL GLAZE	100 5% 1/10W
R312	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1409	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R313	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1410	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R314	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1411	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R315	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1412	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R316	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1413	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R318	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1414	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R319	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1415	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R320	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1416	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R321	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1417	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R322	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1418	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R323	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1419	1-216-041-00	METAL GLAZE	470 5% 1/10W
R324	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1420	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R325	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1421	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R326	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1422	1-216-011-00	METAL GLAZE	27 5% 1/10W
R327	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1423	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R329	1-216-295-00	METAL GLAZE	0 5% 1/10W	R1424	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R330	1-216-037-00	METAL GLAZE	330 5% 1/10W	R1425	1-216-011-00	METAL GLAZE	27 5% 1/10W
R331	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R1426	1-216-298-00	METAL GLAZE	2.2 5% 1/10W
R332	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1427	1-216-298-00	METAL GLAZE	2.2 5% 1/10W
R333	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R1428	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R334	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1429	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R335	1-216-045-00	METAL GLAZE	680 5% 1/10W	<VARIABLE RESISTOR>			
R336	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	RV301	1-238-011-11	RES, ADJ, CARBON	470
R337	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RV302	1-238-017-11	RES, ADJ, CARBON	22K
R338	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RV303	1-238-016-11	RES, ADJ, CARBON	10K
R339	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	RV1400	1-238-016-11	RES, ADJ, CARBON	10K
R340	1-216-097-00	METAL GLAZE	100K 5% 1/10W	<SWITCH>			
R342	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	S751	1-554-186-00	SWITCH, LEVER	
R343	1-216-049-00	METAL GLAZE	1K 5% 1/10W	<CRYSTAL>			
R344	1-216-025-00	METAL GLAZE	100 5% 1/10W	X301	1-567-505-11	OSCILLATOR, CRYSTAL	
R345	1-216-075-00	METAL GLAZE	12K 5% 1/10W	*****			
R346	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R347	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W				
R348	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W				
R349	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W				
R350	1-216-075-00	METAL GLAZE	12K 5% 1/10W				
R351	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W				

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

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

F A

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK				
	*1-638-095-11	F BOARD	*****	A1	*1-564-508-11	PLUG, CONNECTOR 5P (KV-27TS31(U/C) ONLY)					
	1-533-223-11	CLIP, FUSE		A3	1-573-301-11	CONNECTOR, BOARD TO BOARD 20P					
	*4-341-751-01	EYELET (EY3-EY12)		A4	1-573-301-11	CONNECTOR, BOARD TO BOARD 20P					
	*4-341-752-01	EYELET (EY1,EY2,EY13)		A12	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P					
<CAPACITOR>											
C680 Δ	1-136-311-51	FILM	0.47MF	20%	125V	C201	1-130-487-00	MYLAR	0.022MF	5%	50V
C681 Δ	1-161-741-51	CERAMIC	0.001MF	10%	400V	C202	1-130-471-00	MYLAR	0.001MF	5%	50V
C682 Δ	1-136-311-51	FILM	0.47MF	20%	125V	C203	1-126-233-11	ELECT	22MF	20%	50V
C685	1-161-754-00	CERAMIC	0.001MF	10%	3KV	C204	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
				C206	1-124-477-11	ELECT	47MF	20%	16V		
<DIODE>											
D680	8-719-911-55	DIODE U05G		C207	1-136-163-00	FILM	0.068MF	5%	50V		
D1580	8-719-911-55	DIODE U05G		C208	1-136-015-00	CERAMIC CHIP	0.0033MF	5%	50V		
D1581	8-719-911-55	DIODE U05G		C209	1-136-165-00	FILM	0.1MF	5%	50V		
				C210	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V		
				C211	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V		
<CONNECTOR>											
F1	*1-580-843-11	PIN, CONNECTOR (POWER)		C212	1-124-477-11	ELECT	47MF	20%	16V		
F3	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		C213	1-136-161-00	FILM	0.047MF	5%	50V		
F4	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		C214	1-106-351-00	MYLAR	0.0022MF	10%	100V		
F5	*1-559-991-21	CONNECTOR ASSY 1P		C215	1-163-121-00	CERAMIC CHIP	150PF	5%	50V		
F7	*1-508-767-00	PIN, CONNECTOR (5MM PITCH) 5P		C216	1-126-233-11	ELECT	22MF	20%	25V		
F8	*1-564-506-11	PLUG, CONNECTOR 3P		C217	1-126-233-11	ELECT	22MF	20%	25V		
F9	*1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P		C218	1-124-903-11	ELECT	1MF	20%	50V		
F18	*1-564-507-11	PLUG, CONNECTOR 4P		C220	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V		
				C222	1-126-233-11	ELECT	22MF	20%	25V		
				C224	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V		
<FUSE>											
F601 Δ	1-532-748-11	FUSE, GLASS TUBE 6.3A/125V		C225	1-124-903-11	ELECT	1MF	20%	50V		
<RESISTOR>											
R680 Δ	1-202-723-91	SOLID	2.2M	10%	1/2W	C226	1-126-101-11	ELECT	100MF	20%	16V
R681 Δ	1-202-723-91	SOLID	2.2M	10%	1/2W	C233	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
R683	1-202-525-00	SOLID	10	10%	1/2W	C234	1-124-477-11	ELECT	47MF	20%	16V
R1580	1-215-884-11	METAL OXIDE	47	5%	2W	C235	1-130-729-00	FILM	0.0027MF	5%	50V
R1581	1-215-884-11	METAL OXIDE	47	5%	2W	F					
R1584	1-215-880-00	METAL OXIDE	10	5%	2W	F					
<RELAY>											
RY680 Δ	1-515-684-22	RELAY		C237	1-124-907-11	ELECT	10MF	20%	50V		
<TRANSFORMER>											
T680 Δ	1-424-220-21	TRANSFORMER, LINE FILTER		C241	1-136-153-00	FILM	0.01MF	5%	50V		
T681 Δ	1-424-546-11	TRANSFORMER, LINE FILTER		C242	1-136-153-00	FILM	0.01MF	5%	50V		
				C243	1-163-035-00	CERAMIC CHIP	0.047MF	50V			
				C251	1-130-487-00	MYLAR	0.022MF	5%	50V		
<THERMISTOR>											
THP601 Δ	1-808-081-14	THERMISTOR, POSITIVE		C254	1-124-907-11	ELECT	10MF	20%	50V		

A-1296-831-A	A	BOARD, COMPLETE (KV-27TS31(U/C) ONLY)	*****	C274	1-124-477-11	ELECT	47MF	20%	25V		
A-1296-848-A	A	BOARD, COMPLETE (KV-27TS27(U/C) ONLY)	*****	C275	1-164-005-11	CERAMIC CHIP	0.47MF	25V			
				C278	1-101-006-00	CERAMIC	0.047MF	50V			
				C287	1-101-006-00	CERAMIC	0.047MF	50V			
<CONNECTOR>											
				C288	1-101-006-00	CERAMIC	0.047MF	20%	50V		
				C401	1-126-233-11	ELECT	22MF	20%	25V		
				C402	1-124-903-11	ELECT	1MF	20%	50V		
				C403	1-124-903-11	ELECT	1MF	20%	50V		
				C404	1-124-903-11	ELECT	1MF	20%	50V		
				C405	1-124-903-11	ELECT	1MF	20%	(KV-27TS31(U/C) ONLY)		
				C406	1-126-233-11	ELECT	22MF	20%	(KV-27TS31(U/C) ONLY)		
				C407	1-126-233-11	ELECT	22MF	20%	(KV-27TS31(U/C) ONLY)		
				C408	1-163-035-00	CERAMIC CHIP	0.047MF	50V			
				C409	1-163-035-00	CERAMIC CHIP	0.047MF	50V			
				C410	1-126-233-11	ELECT	22MF	20%	25V		
				C411	1-163-035-00	CERAMIC CHIP	0.047MF	50V			
				C412	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V		
				C413	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V		

A

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<DIODE>							
D401	8-719-158-39	DIODE RD10S-B		R202	1-216-049-00	METAL GLAZE 1K	5% 1/10W
D402	8-719-158-39	DIODE RD10S-B		R204	1-216-105-00	METAL GLAZE 220K	5% 1/10W
D403	8-719-158-39	DIODE RD10S-B		R206	1-216-091-00	METAL GLAZE 56K	5% 1/10W
D404	8-719-158-39	DIODE RD10S-B (KV-27TS31(U/C) ONLY)		R207	1-216-121-00	METAL GLAZE 1M	5% 1/10W
D405	8-719-158-39	DIODE RD10S-B (KV-27TS31(U/C) ONLY)		R208	1-216-091-00	METAL GLAZE 56K	5% 1/10W
D406	8-719-158-39	DIODE RD10S-B (KV-27TS31(U/C) ONLY)		R209	1-216-049-00	METAL GLAZE 1K	5% 1/10W
D407	8-719-158-39	DIODE RD10S-B (KV-27TS31(U/C) ONLY)		R210	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
D408	8-719-158-39	DIODE RD10S-B		R211	1-216-089-00	METAL GLAZE 47K	5% 1/10W
D409	8-719-158-39	DIODE RD10S-B		R212	1-216-085-00	METAL GLAZE 33K	5% 1/10W
D410	8-719-404-46	DIODE MA110		R213	1-216-061-00	METAL GLAZE 3.3K	5% 1/10W
D411	8-719-404-46	DIODE MA110		R219	1-216-073-00	METAL GLAZE 10K	5% 1/10W
				R220	1-216-061-00	METAL GLAZE 3.3K	5% 1/10W
				R222	1-216-089-00	METAL GLAZE 47K	5% 1/10W
				R226	1-216-037-00	METAL GLAZE 330	5% 1/10W
				R227	1-216-089-00	METAL GLAZE 47K	5% 1/10W
<IC>							
IC201	8-759-510-90	IC TDA8302		R228	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
IC202	8-759-982-25	IC RC78L09A		R229	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W
IC203	8-759-982-37	IC RC78M93FD		R230	1-216-095-00	METAL GLAZE 82K	5% 1/10W
MM201	8-741-637-11	IC SBX1637-11		R231	1-216-295-00	METAL GLAZE 0	5% 1/10W
				R232	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W
<IF BLOCK>							
IF201	1-464-756-21	IF BLOCK (IFF-450A)		R234	1-216-049-00	METAL GLAZE 1K	5% 1/10W
				R237	1-216-033-00	METAL GLAZE 220	5% 1/10W
				R238	1-216-049-00	METAL GLAZE 1K	5% 1/10W
				R239	1-216-049-00	METAL GLAZE 1K	5% 1/10W
				R249	1-216-025-00	METAL GLAZE 100	5% 1/10W
<JACK>							
J401	1-566-846-11	CONNECTOR, (S) TERMINAL 4P (KV-27TS31(U/C) ONLY)		R250	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
J402	1-573-656-11	JACK BLOCK, PIN 5P (KV-27TS27(U/C) ONLY)		R251	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
	1-573-658-11	JACK BLOCK, PIN 7P (KV-27TS31(U/C) ONLY)		R252	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
				R253	1-216-025-00	METAL GLAZE 100	5% 1/10W
				R255	1-216-295-00	METAL GLAZE 0	5% 1/10W
<COIL>							
L201	1-410-792-31	INDUCTOR	0.82UH	R256	1-216-083-00	METAL GLAZE 27K	5% 1/10W
				R257	1-216-099-00	METAL GLAZE 120K	5% 1/10W
				R258	1-216-025-00	METAL GLAZE 100	5% 1/10W
				R259	1-216-025-00	METAL GLAZE 100	5% 1/10W
				R260	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W
<TRANSISTOR>							
Q201	8-729-920-74	TRANSISTOR 2SC2412K-QR		R261	1-216-073-00	METAL GLAZE 10K	5% 1/10W
Q203	8-729-920-74	TRANSISTOR 2SC2412K-QR		R263	1-216-025-00	METAL GLAZE 100	5% 1/10W
Q205	8-729-920-74	TRANSISTOR 2SC2412K-QR		R265	1-216-063-00	METAL GLAZE 3.9K	5% 1/10W
Q209	8-729-216-22	TRANSISTOR 2SA1162-G		R266	1-216-049-00	METAL GLAZE 1K	5% 1/10W
Q210	8-729-920-74	TRANSISTOR 2SC2412K-QR		R267	1-216-049-00	METAL GLAZE 1K	5% 1/10W
Q401	8-729-920-74	TRANSISTOR 2SC2412K-QR		R268	1-216-089-00	METAL GLAZE 47K	5% 1/10W
Q402	8-729-920-74	TRANSISTOR 2SC2412K-QR		R269	1-216-089-00	METAL GLAZE 47K	5% 1/10W
Q403	8-729-920-74	TRANSISTOR 2SC2412K-QR		R270	1-216-295-00	METAL GLAZE 0	5% 1/10W
Q404	8-729-920-74	TRANSISTOR 2SC2412K-QR		R271	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W
Q405	8-729-920-74	TRANSISTOR 2SC2412K-QR		R272	1-216-047-00	METAL GLAZE 820	5% 1/10W
<RESISTOR>							
JR201	1-216-295-00	METAL GLAZE 0	5%	R273	1-249-482-11	CARBON 4.7	5% 1/2W F
JR202	1-216-295-00	METAL GLAZE 0	5%	R290	1-216-133-00	METAL GLAZE 3.3M	5% 1/10W
JR207	1-216-295-00	METAL GLAZE 0	5%	R291	1-216-133-00	METAL GLAZE 3.3M	5% 1/10W
JR211	1-216-295-00	METAL GLAZE 0	5%	R292	1-216-129-00	METAL GLAZE 2.2M	5% 1/10W
JR217	1-216-295-00	METAL GLAZE 0	5%	R293	1-216-133-00	METAL GLAZE 3.3M	5% 1/10W
JR220	1-216-295-00	METAL GLAZE 0	5%	R294	1-216-133-00	METAL GLAZE 3.3M	5% 1/10W
JR221	1-216-295-00	METAL GLAZE 0	5%	R295	1-216-133-00	METAL GLAZE 3.3M	5% 1/10W
JR222	1-216-295-00	METAL GLAZE 0	5%	R296	1-216-295-00	METAL GLAZE 0	5% 1/10W
JR223	1-216-295-00	METAL GLAZE 0	5%	R401	1-216-023-00	METAL GLAZE 82	5% 1/10W
JR224	1-216-295-00	METAL GLAZE 0	5%	R402	1-216-079-00	METAL GLAZE 18K	5% 1/10W
JR230	1-216-295-00	METAL GLAZE 0	5%	R403	1-216-103-00	METAL GLAZE 180K	5% 1/10W
JR231	1-216-295-00	METAL GLAZE 0	5%	R404	1-216-079-00	METAL GLAZE 18K	5% 1/10W
JR232	1-216-295-00	METAL GLAZE 0	5%	R405	1-216-103-00	METAL GLAZE 180K	5% 1/10W
R200	1-216-051-00	METAL GLAZE 1.2K	5%	R406	1-216-079-00	METAL GLAZE 18K	5% 1/10W
R201	1-216-085-00	METAL GLAZE 33K	5%				(KV-27TS31(U/C) ONLY)
				R407	1-216-103-00	METAL GLAZE 180K	5% 1/10W
				R408	1-216-079-00	METAL GLAZE 18K	5% 1/10W
							(KV-27TS31(U/C) ONLY)
							(KV-27TS31(U/C) ONLY)

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

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

A C

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R409	1-216-103-00	METAL GLAZE	180K 5% 1/10W (KV-27TS31(U/C) ONLY)	C722	1-162-622-11	CERAMIC	330PF 10% 6.3KV
R410	1-216-023-00	METAL GLAZE	82 5% 1/10W (KV-27TS31(U/C) ONLY)			<DIODE>	
R411	1-216-023-00	METAL GLAZE	82 5% 1/10W (KV-27TS31(U/C) ONLY)	D701	8-719-911-19	DIODE 1SS119	
R412	1-216-049-00	METAL GLAZE	1K 5% 1/10W (KV-27TS31(U/C) ONLY)	D702	8-719-911-19	DIODE 1SS119	
R413	1-216-097-00	METAL GLAZE	100K 5% 1/10W	D703	8-719-911-19	DIODE 1SS119	
R414	1-216-049-00	METAL GLAZE	1K 5% 1/10W			<JACK>	
R415	1-216-097-00	METAL GLAZE	100K 5% 1/10W				
R416	1-216-049-00	METAL GLAZE	1K 5% 1/10W (KV-27TS31(U/C) ONLY)	J701	Δ 1-540-071-13	SOCKET, PICTURE TUBE	
R417	1-216-073-00	METAL GLAZE	10K 5% 1/10W			<COIL>	
R418	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	L701	1-408-417-00	INDUCTOR 47UH	
R419	1-216-033-00	METAL GLAZE	220 5% 1/10W			<NEON LAMP>	
R420	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	NL701	1-519-108-99	LAMP, NEON ASSY	
R421	1-216-049-00	METAL GLAZE	1K 5% 1/10W (KV-27TS31(U/C) ONLY)			<TRANSISTOR>	
R422	1-216-049-00	METAL GLAZE	1K 5% 1/10W	Q701	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
R424	1-216-089-00	METAL GLAZE	47K 5% 1/10W	Q702	8-729-326-11	TRANSISTOR 2SC2611	
R425	1-216-089-00	METAL GLAZE	47K 5% 1/10W	Q703	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
R426	1-216-089-00	METAL GLAZE	47K 5% 1/10W	Q704	8-729-326-11	TRANSISTOR 2SC2611	
R427	1-216-089-00	METAL GLAZE	47K 5% 1/10W	Q705	8-729-423-37	TRANSISTOR 2SC3311A-QRS	
R428	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	Q706	8-729-326-11	TRANSISTOR 2SC2611	
R429	1-216-073-00	METAL GLAZE	10K 5% 1/10W			<RESISTOR>	
R431	1-216-295-00	METAL GLAZE	0 5% 1/10W (KV-27TS31(U/C) ONLY)	R701	1-202-838-00	SOLID 100K 10% 1/2W	
R460	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R702	1-216-391-11	METAL OXIDE 1.5 5% 3W F	
R461	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R703	1-202-842-11	SOLID 220K 10% 1/2W	
R462	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R704	1-202-846-00	SOLID 470K 10% 1/2W	
R463	1-216-295-00	METAL GLAZE	0 5% 1/10W	R705	1-202-837-00	SOLID 82K 10% 1/2W	
R464	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R706	1-202-549-00	SOLID 100 10% 1/2W	
			<VARIABLE RESISTOR>	R707	1-202-842-11	SOLID 220K 10% 1/2W	
RV205	1-238-015-11	RES, ADJ, CARBON 4.7K		R708	1-202-824-00	SOLID 3.3K 10% 1/2W	
RV250	1-226-772-11	RES, ADJ, METAL GLAZE 4.7K		R709	1-202-824-00	SOLID 3.3K 10% 1/2W	
				R710	1-202-553-31	SOLID 150 10% 1/2W	
			*A-1331-128-A C BOARD, COMPLETE				

			*4-379-160-01 COVER (REAR LID), CV	R711	1-249-411-11	CARBON 330 5% 1/4W	
			*4-379-167-01 COVER (MAIN), CV	R712	1-249-411-11	CARBON 330 5% 1/4W	
				R713	1-202-824-00	SOLID 3.3K 10% 1/2W	
				R714	1-249-405-11	CARBON 100 5% 1/4W	
				R715	1-249-422-11	CARBON 2.7K 5% 1/4W	
			<CONNECTOR>				
C1	*1-506-371-00	PIN, CONNECTOR 2P		R716	1-249-414-11	CARBON 560 5% 1/4W	
C2	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P		R718	1-249-393-11	CARBON 10 5% 1/4W	
C3	*1-564-509-11	PLUG, CONNECTOR 6P		R719	1-249-419-11	CARBON 1.5K 5% 1/4W	
				R720	1-249-415-11	CARBON 680 5% 1/4W	
				R722	1-215-923-00	METAL OXIDE 10K 5% 3W F	
			<CAPACITOR>				
C701	1-136-601-11	FILM	0.01MF 10% 630V	R723	1-249-414-11	CARBON 560 5% 1/4W	
C702	1-162-116-00	CERAMIC	680PF 10% 2KV	R725	1-249-422-11	CARBON 2.7K 5% 1/4W	
C704	1-124-915-11	ELECT	10MF 20% 63V	R726	1-249-393-11	CARBON 10 5% 1/4W	
C705	1-164-083-11	CERAMIC	680PF 10% 50V	R727	1-249-419-11	CARBON 1.5K 5% 1/4W	
C706	1-164-083-11	CERAMIC	680PF 10% 50V	R728	1-249-415-11	CARBON 680 5% 1/4W	
C707	1-164-083-11	CERAMIC	680PF 10% 50V	R729	1-249-411-11	CARBON 330 5% 1/4W	
C708	1-164-081-11	CERAMIC	470PF 10% 50V	R730	1-215-923-00	METAL OXIDE 10K 5% 3W F	
C709	1-164-081-11	CERAMIC	470PF 10% 50V	R732	1-249-412-11	CARBON 390 5% 1/4W	
C710	1-164-081-11	CERAMIC	470PF 10% 50V	R733	1-249-422-11	CARBON 2.7K 5% 1/4W	
C712	1-124-477-11	ELECT	47MF 20% 16V	R734	1-249-422-11	CARBON 2.7K 5% 1/4W	
C721	1-161-754-00	CERAMIC	0.001MF 10% 2KV	R735	1-249-393-11	CARBON 10 5% 1/4W	
				R737	1-215-923-00	METAL OXIDE 10K 5% 3W F	

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R114	1-249-409-11	CARBON	220 5% 1/4W	R182	1-249-409-11	CARBON	220 5% 1/4W
R116	1-249-409-11	CARBON	220 5% 1/4W	R184	1-249-429-11	CARBON	10K 5% 1/4W
R117	1-249-409-11	CARBON	220 5% 1/4W	R186	1-247-903-00	CARBON	1M 5% 1/4W
R118	1-249-409-11	CARBON	220 5% 1/4W	R187	1-249-441-11	CARBON	100K 5% 1/4W
R119	1-249-429-11	CARBON	10K 5% 1/4W	R188	1-247-903-00	CARBON	1M 5% 1/4W
R120	1-249-409-11	CARBON	220 5% 1/4W	R189	1-249-429-11	CARBON	10K 5% 1/4W
R121	1-249-425-11	CARBON	4.7K 5% 1/4W	R190	1-249-429-11	CARBON	10K 5% 1/4W
R122	1-249-409-11	CARBON	220 5% 1/4W	R191	1-249-429-11	CARBON	10K 5% 1/4W
R123	1-249-409-11	CARBON	220 5% 1/4W	R192	1-249-427-11	CARBON	6.8K 5% 1/4W
R124	1-249-409-11	CARBON	220 5% 1/4W	R193	1-249-425-11	CARBON	4.7K 5% 1/4W
R125	1-249-430-11	CARBON	12K 5% 1/4W	R194	1-249-429-11	CARBON	10K 5% 1/4W
R126	1-249-423-11	CARBON	3.3K 5% 1/4W	R195	1-249-429-11	CARBON	10K 5% 1/4W
R127	1-249-419-11	CARBON	1.5K 5% 1/4W	R196	1-249-429-11	CARBON	10K 5% 1/4W
R128	1-249-431-11	CARBON	15K 5% 1/4W	R197	1-249-423-11	CARBON	3.3K 5% 1/4W
R129	1-249-417-11	CARBON	1K 5% 1/4W	R199	1-249-429-11	CARBON	10K 5% 1/4W
R130	1-249-421-11	CARBON	2.2K 5% 1/4W	R345	1-249-425-11	CARBON	4.7K 5% 1/4W
R131	1-249-429-11	CARBON	10K 5% 1/4W	R346	1-249-436-11	CARBON	39K 5% 1/4W
R132	1-249-429-11	CARBON	10K 5% 1/4W	R347	1-249-435-11	CARBON	33K 5% 1/4W
R133	1-249-409-11	CARBON	220 5% 1/4W	R348	1-249-429-11	CARBON	10K 5% 1/4W
R134	1-249-409-11	CARBON	220 5% 1/4W	R349	1-249-429-11	CARBON	10K 5% 1/4W
R135	1-249-409-11	CARBON	220 5% 1/4W	R350	1-249-429-11	CARBON	10K 5% 1/4W
R136	1-249-409-11	CARBON	220 5% 1/4W	R351	1-249-429-11	CARBON	10K 5% 1/4W
R137	1-249-409-11	CARBON	220 5% 1/4W	R352	1-249-425-11	CARBON	4.7K 5% 1/4W
R140	1-249-409-11	CARBON	220 5% 1/4W	R353	1-249-417-11	CARBON	1K 5% 1/4W
R141	1-249-409-11	CARBON	220 5% 1/4W	R354	1-249-414-11	CARBON	560 5% 1/4W
R142	1-249-409-11	CARBON	220 5% 1/4W				(KV-27TS31(U/C) ONLY)
R143	1-249-409-11	CARBON	220 5% 1/4W	R355	1-249-414-11	CARBON	560 5% 1/4W
R144	1-249-409-11	CARBON	220 5% 1/4W				(KV-27TS31(U/C) ONLY)
R145	1-249-421-11	CARBON	2.2K 5% 1/4W				(KV-27TS27(U/C) ONLY)
R146	1-249-421-11	CARBON	2.2K 5% 1/4W	R356	1-249-414-11	CARBON	560 5% 1/4W
R147	1-249-421-11	CARBON	2.2K 5% 1/4W				(KV-27TS31(U/C) ONLY)
R148	1-249-409-11	CARBON	220 5% 1/4W	R357	1-249-414-11	CARBON	560 5% 1/4W
R149	1-249-409-11	CARBON	220 5% 1/4W				(KV-27TS31(U/C) ONLY)
R150	1-249-409-11	CARBON	220 5% 1/4W				(KV-27TS31(U/C) ONLY)
R151	1-249-429-11	CARBON	10K 5% 1/4W				(KV-27TS27(U/C) ONLY)
R152	1-249-409-11	CARBON	220 5% 1/4W	R358	1-249-417-11	CARBON	1K 5% 1/4W
R153	1-249-429-11	CARBON	10K 5% 1/4W	R359	1-249-414-11	CARBON	560 5% 1/4W
R154	1-249-437-11	CARBON	47K 5% 1/4W	R360	1-249-415-11	CARBON	680 5% 1/4W
R155	1-249-417-11	CARBON	1K 5% 1/4W	R361	1-249-417-11	CARBON	1K 5% 1/4W
R156	1-249-409-11	CARBON	220 5% 1/4W	R363	1-249-405-11	CARBON	100 5% 1/4W
R157	1-249-417-11	CARBON	1K 5% 1/4W	R364	1-249-429-11	CARBON	10K 5% 1/4W
R158	1-249-429-11	CARBON	10K 5% 1/4W	R365	1-249-437-11	CARBON	47K 5% 1/4W
R159	1-249-429-11	CARBON	10K 5% 1/4W	R367	1-249-415-11	CARBON	680 5% 1/4W
R160	1-249-405-11	CARBON	100 5% 1/4W	R369	1-249-405-11	CARBON	100 5% 1/4W
R161	1-215-923-00	METAL OXIDE	10K 5% 3W F	R431	1-249-425-11	CARBON	4.7K 5% 1/4W
R162	1-249-417-11	CARBON	1K 5% 1/4W	R432	1-249-425-11	CARBON	4.7K 5% 1/4W
R163	1-247-883-00	CARBON	150K 5% 1/4W	R433	1-249-425-11	CARBON	4.7K 5% 1/4W
R164	1-249-437-11	CARBON	47K 5% 1/4W	R434	1-249-426-11	CARBON	5.6K 5% 1/4W
R165	1-247-883-00	CARBON	150K 5% 1/4W	R435	1-249-426-11	CARBON	5.6K 5% 1/4W
R166	1-249-437-11	CARBON	47K 5% 1/4W	R436	1-249-426-11	CARBON	5.6K 5% 1/4W
R167	1-247-883-00	CARBON	150K 5% 1/4W	R437	1-249-426-11	CARBON	5.6K 5% 1/4W
R168	1-249-437-11	CARBON	47K 5% 1/4W	R438	1-249-423-11	CARBON	3.3K 5% 1/4W
R169	1-249-427-11	CARBON	6.8K 5% 1/4W	R439	1-249-425-11	CARBON	4.7K 5% 1/4W
R170	1-249-429-11	CARBON	10K 5% 1/4W	R440	1-249-428-11	CARBON	8.2K 5% 1/4W
R171	1-249-435-11	CARBON	33K 5% 1/4W	R441	1-249-428-11	CARBON	8.2K 5% 1/4W
R172	1-249-429-11	CARBON	10K 5% 1/4W	R442	1-249-421-11	CARBON	2.2K 5% 1/4W
R173	1-249-425-11	CARBON	4.7K 5% 1/4W	R443	1-249-417-11	CARBON	1K 5% 1/4W
R174	1-249-428-11	CARBON	8.2K 5% 1/4W	R444	1-249-423-11	CARBON	3.3K 5% 1/4W
R175	1-249-425-11	CARBON	4.7K 5% 1/4W	R445	1-249-429-11	CARBON	10K 5% 1/4W
R176	1-249-440-11	CARBON	82K 5% 1/4W	R446	1-249-429-11	CARBON	10K 5% 1/4W
R177	1-249-426-11	CARBON	5.6K 5% 1/4W	R447	1-249-405-11	CARBON	100 5% 1/4W
R178	1-249-425-11	CARBON	4.7K 5% 1/4W	R448	1-249-417-11	CARBON	1K 5% 1/4W
R179	1-249-427-11	CARBON	6.8K 5% 1/4W				
R181	1-249-425-11	CARBON	4.7K 5% 1/4W				

E

Les composants identifiés par une trame et une marque **Δ** sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

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

REF. NO.	PART NO.	DESCRIPTION	REMARK
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<SWITCH>

S551 1-554-186-00 SWITCH, LEVER

MISCELLANEOUS

- Δ 1-426-350-11 COIL, DEMAGNETIZATION
- Δ 1-451-275-31 DEFLECTION YOKE (Y28PFA)
- 1-452-032-00 MAGNET, DISK; 10MM ϕ
- 1-452-094-00 MAGNET, ROTATABLE DISK; 15MM ϕ
- 1-544-549-11 SPEAKER
- 1-573-657-11 PLUG, F-PIN
- Δ 1-590-492-21 CORD, POWER (WITH CONNECTOR)

V901 Δ 8-737-753-05 PICTURE TUBE (A68JMT50X)

ACCESORIES AND PACKING MATERIALS

PART NO.	DESCRIPTION	REMARK
1-417-182-11	CONVERTER (EAC-25) (KV-27TS27(C), KV-27TS31(C) ONLY)	
1-562-443-11	CONNECTOR, ANTENNA (KV-27TS27(U), KV-27TS31(U) ONLY)	
4-032-388-21	MANUAL, INSTRUCTION	
4-032-388-31	MANUAL, INSTRUCTION (KV-27TS27(C), KV-27TS31(C) ONLY)	
*4-032-763-01	CUSHION (UPPER) (ASSY)	
*4-032-764-01	CUSHION (LOWER) (ASSY)	
*4-032-765-01	INDIVIDUAL CARTON (FOR SDP)	
*4-032-862-01	INDIVIDUAL CARTON (FOR VTM)	
*4-384-027-01	BAG, PROTECTION	

REMOTE COMMANDER

- 1-465-772-11 REMOTE COMMANDER (RM-Y101)
(KV-27TS31(U/C) ONLY)
- 1-465-806-11 REMOTE COMMANDER (RM-791)
(KV-27TS27(U/C) ONLY)
- 9-900-029-01 COVER, BATTERY (FOR RM-791)
- 9-998-985-01 COVER, BATTERY (FOR RM-Y101)