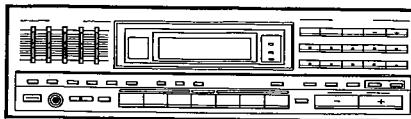


Service Manual



ORDER NO.
ARP1307

AUDIO/VIDEO STEREO RECEIVER

VSX-3000

- This service manual is applicable to the KUC type.

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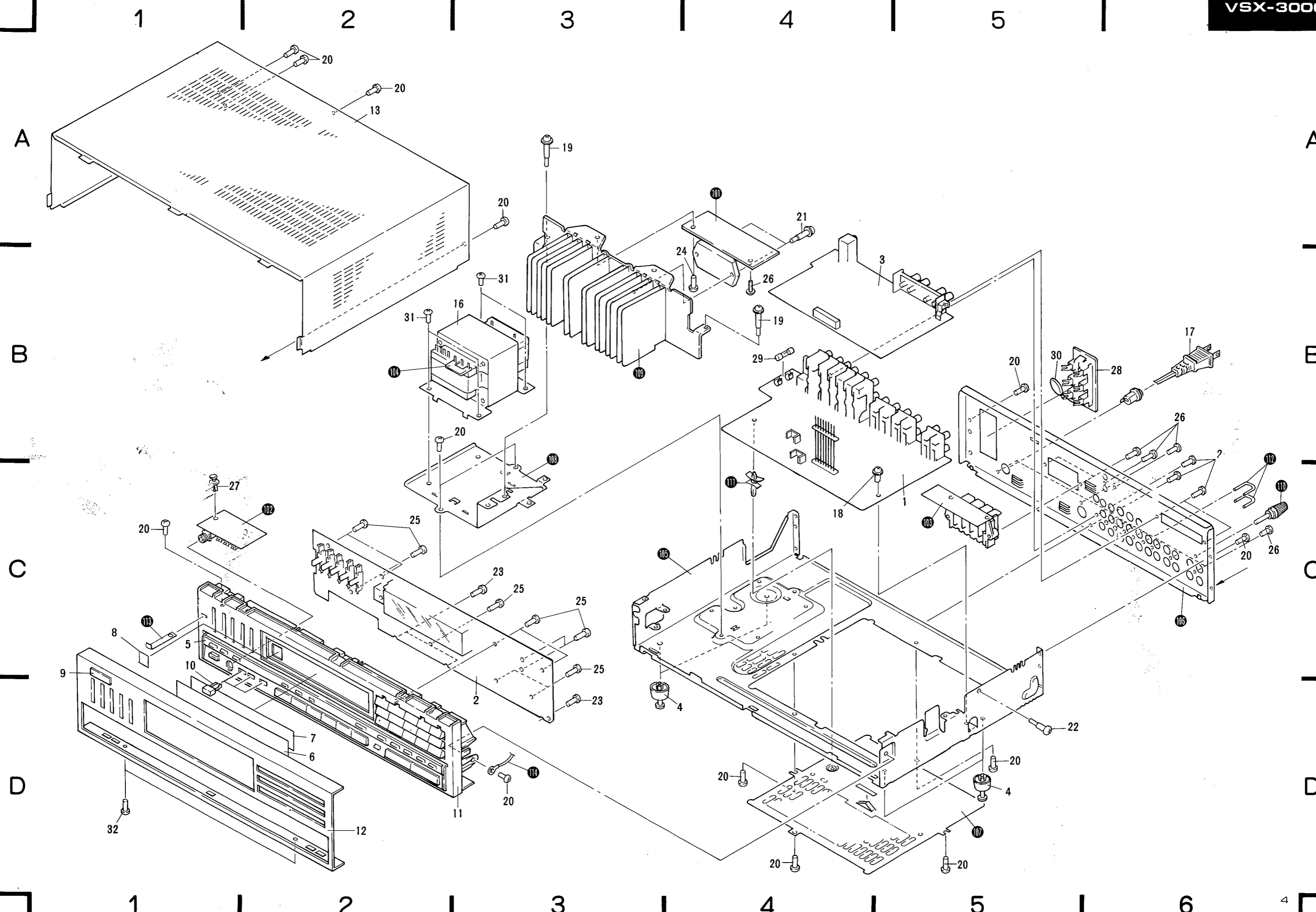
1. EXPLODED VIEW

NOTES:

- Parts without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your Parts Stock Control, the fast moving items are indicated with the marks $\star\star$ and \star .
 $\star\star$ **GENERALLY MOVES FASTER THAN \star**
 This classification should be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts marked by " \odot " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Parts List

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	1	AWZ1276	Small signal, Video assembly		26	BBZ30P080FZK	Screw
	2	AWZ1277	Control assembly		27	AMR1066	Plastic rivet
	3	AWZ1281	Tuner assembly	Δ	28	AKP-515	AC Socket (AC OUTLET)
	4	AEC-784	Leg assembly			(AKP-504)	
	5	AAH1019	Aluminum sash	Δ $\star\star$	29	AEK-100	Fuse (4A, FU1)
	6	AAK1173	PVC panel	Δ	30	ACG-502	Capacitor (0.01 μ F/AC400V,C1)
	7	AAK1174	FL filter		31	ABA-298	Screw
	8	AAK1175	IR filter		32	BPZ30P080FZK	Screw
	9	AAM-030	Friction plate				
	10	AAV-306	Push knob A (Speaker)		101		Power Amp assembly
	11	AMB1123	Front panel base		102		SP Switch assembly
	12	ANB1071	Aluminum panel		103		SP Terminal assembly
	13	ANE1024	Bonnet		104		Terminal assembly
	14			105		Chassis
	15			106		Rear panel
Δ \star	16	ATS1055	Power transformer (AC120V, T1)		107		Bottom plate
Δ	17	ADG-089	AC power cord		108		Transformer frame
	18	ABA-252	Screw		109		Heat sink
	19	ABA-297	Screw		110		GND terminal
	20	ABA1009	Screw		111		PCB holder
	21	ABA1022	Screw		112		Pin jack jumper plug
	22	ABA-176	Screw		113		Ground plate
	23	ATZ26P120FZK	Screw		114		Ground wire
	24	BBT30P080FMC	Screw				
	25	BBZ26P080FMC	Screw				



2. ELECTRICAL PARTS LIST

NOTES:

- When ordering resistors, first convert resistance values into code form as shown in the following examples:
 Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).
 560Ω 56 × 10¹ 561.....RD¼PS 561 J
 47kΩ 47 × 10³ 473.....RD¼PS 473 J
 0.5Ω 0R5RN2H 0R5 K
 1Ω 010RS1P 010 K
 Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
 5.62kΩ 562 × 10¹ 5621RN¼SR 5621 F
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your Parts Stock Control, the fast moving items are indicated with the marks **★★** and **★**.
★★ GENERALLY MOVES FASTER THAN ★
 This classification should be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

**Miscellaneous Parts
P.C.BOARD ASSEMBLIES**

Mark	Symbol & Description	Part No.
⊙	Small signal, Video assembly	AWZ1276
⊙	Control assembly	AWZ1277
⊙	Tuner assembly	AWZ1281
	Power Amp assembly	Non supply
	SP Switch assembly	Non supply
	SP Terminal assembly	Non supply
	Terminal assembly	Non supply

OTHERS

Mark	Symbol & Description	Part No.
Δ ★	T1 Power transformer (AC 120V)	ATS1055
Δ	AC Socket (AC OUTLET)	AKP-515 (AKP-504)
Δ ★★	FU1 Fuse (4A)	AEK-100
Δ	AC power cord	ADG-089
Δ	Remote control unit	AXD1015
Δ	C1 Capacitor (0.01μF/AC400V)	ACG-502

**Small signal, Video assembly (AWZ1276)
SEMICONDUCTORS**

Mark	Symbol & Description	Part No.
★★	IC102	CX-7977
★★	IC201—IC203	CX-894
★★	IC104	CXD1120P-1
★★	IC107	M5201P
★★	IC101	M5218P
★★	IC105, IC106	M5218PF
★★	IC301	NJM78M13A
★★	IC103	TC9162N
★★	IC204	μPC78L05
★★	IC302	μPC78M05H

Mark	Symbol & Description	Part No.
★★	Q208	RN1203
★★	Q207	RN2201
★★	Q201, Q203, Q205	2SA933S (2SA1115)
★★	Q302	2SB560
★★	Q202, Q204, Q206, Q303—Q305	2SC1740S (2SC2603)
★★	Q101, Q102	2SC2878
★★	Q306—Q308	2SC1845
★★	Q301	2SD438
Δ ★	D316	RBV602
★	D303, D308	RD13ESB3
★	D101	RD5.1ESB
★	D302, D306	RD6.2ESB
Δ ★	D315	S1WB20
★	D201, D202, D307, D309, D311, D314, D111, D112	1SS131
★	D213, D312	11E2

RELAIIES

Mark	Symbol & Description	Part No.
★★	RY302 Relay	ASR-112
★★	RY301 Relay	ASR1011 (ASR1009)

COIL

Mark	Symbol & Description	Part No.
	L201 Inductor	ATH-050

CAPACITORS

Mark	Symbol & Description	Part No.
Δ	C313 (0.01μF/AC400V)	ACG-502 (ACG1002)
Δ	C311, C312 (0.01μF/AC150V)	ACG1005
	C315 (22000μF/5.5V)	ACH1023
	C309, C310 (5600μF/50V)	ACH1031
	C113—C120, C125—C128	CCDSL221J50
	C131, C132	CCDSL390J50
	C137, C138, C156	CEAS010M50
	C147, C149, C150, C101, C102	CEAS100M25
	C155	CEAS100M50
	C123, C314, C153, C154	CEAS101M10
	C419, C420	CEAS100M63
	C121, C122, C207, C208, C301	CEAS101M16
	C304, C305, C307, C308, C204	CEAS222M10
	C205, C206	CEAS102M10
	C109, C110, C129, C130, C141, C142	CEAS2R2M50
	C302	CEAS222M25
	C205, C206	CEAS331M10
	C201—C203	CEAS470M16
	C303	CEAS471M25
	C107, C108	CEAS471M6
	C151, C157	CKDYF102Z50
	C306	CKDYX123M25
	C143, C144	CQMA153K50
	C133—C136	CQMA223K50
	C145, C146	CQMA823J50
	C103, C104	CQMA243J50
	C140	CQMA332K50
	C139	CQMA333J50
	C105, C106	CQMA823K50

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	R317 (2.2M, 1/2W)	ACN-209
	R307, R223	RD1/2PM□□□J
Δ	R304, R302, R308, R313	RD1/4PMF□□□J
	R206, R207	RD1/4PM121J
Δ	R310, R316	RS1LMF122J
Δ	R305	RS2LMF121J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	4P Terminal	AKB1007
	3P Terminal	AKB1021
	1P Terminal	AKB1022
	5P DIN Socket	AKP-081

**Control assembly (AWZ1277)
SEMICONDUCTORS**

Mark	Symbol & Description	Part No.
★★	IC504, IC505	BA3812L
★★	IC502	M74LS145P
★★	IC503	PDG002
★★	Q501, Q502	RN1201
★★	Q503, Q506	RN1203
★★	Q505	RN2201
★★	Q504	RN2203
★	D505, D506, D517	AEL1017
★	D501, D502, D509, D513	1SS131

SWITCHES

Mark	Symbol & Description	Part No.
★★	S501, S502, S504—S535, S537, S540—S545 Tact switch (VOL+, MUTE, VOL-, DISPLAY, TUNE+, 1-10/11-20, AM, TUNE, FM, 5/15, 3/13, 2/12, 4/14, 1/11, 10/20, 8/18, 7/17, 9/19, 6/16, BAL-R, MONO, AUTO/MANU, BAL-L, MEMORY, NOISE FILTER, R SEL, ANT A/B, V SEL, POWER, VDP, TUNER, TAPE, PHONO, CD, VCR2, VCR1, SS, MOD ON/OFF, SET/NEXT, CLK ADJ, LOUDNESS)	ASG-711 (ASG-703)

COIL

Mark	Symbol & Description	Part No.
	L501 Inductor (1mH)	ATH-098

CAPASITORS

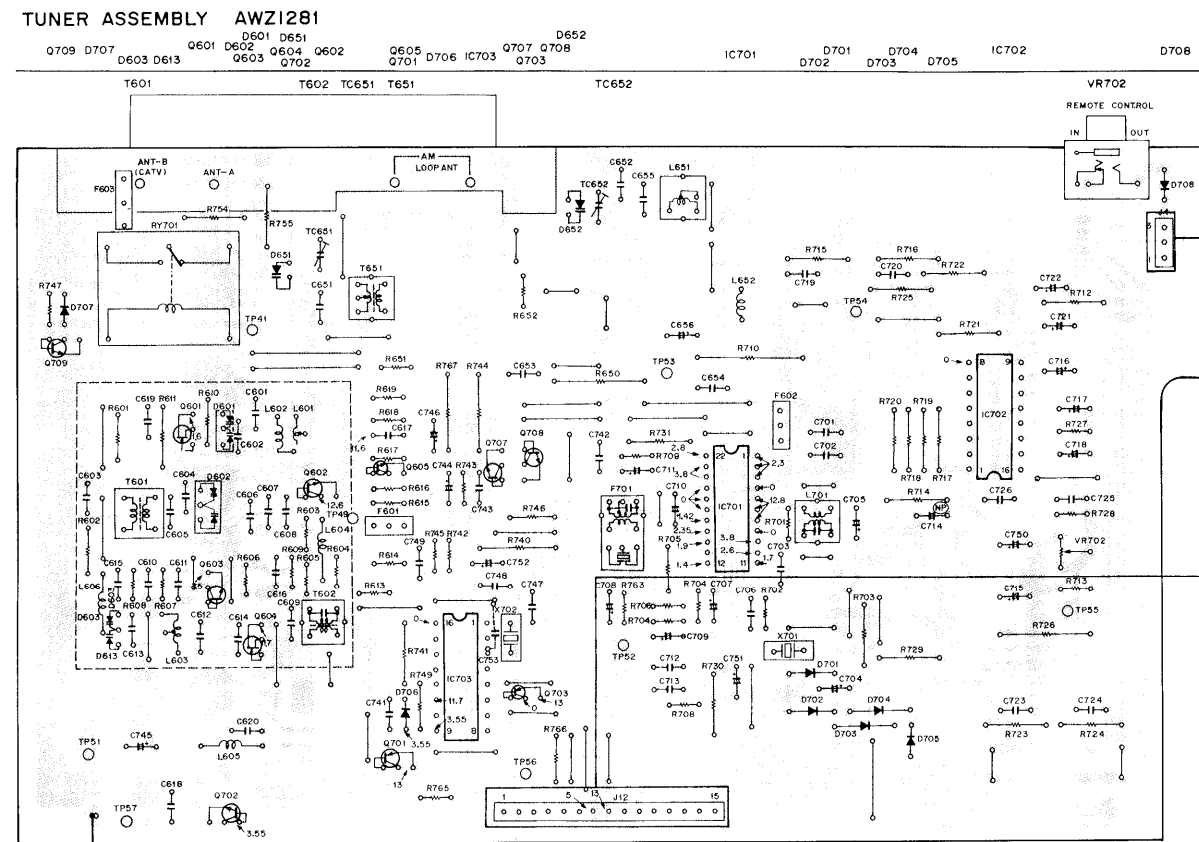
Mark	Symbol & Description	Part No.
	C505, C506	CCDCH330J50
	C518, C530	CCDSL101J50
	C509, C520	CEJAR22M50
	C527, C529, C534	CEJAR47M50
	C533	CEJA010M50
	C513	CEJA100M50
	C504	CEJA101M10
	C532	CEJA220M25
	C502	CEJA4R7M50
	C519, C531	CEJA470M16
	C514, C516	CKDYB122K50
	C511, C512	CKDYB391K50
	C524, C525	CKDYB392K50
	C507, C508	CKDYB682K50
	C510, C523	CKDYX123M25
	C503, C515, C517	CKDYX223M25
	C526, C528	CKDYX393M25
	C521, C522	CQMA683J50

4. P.C.BOARDS CONNECTION DIAGRAM

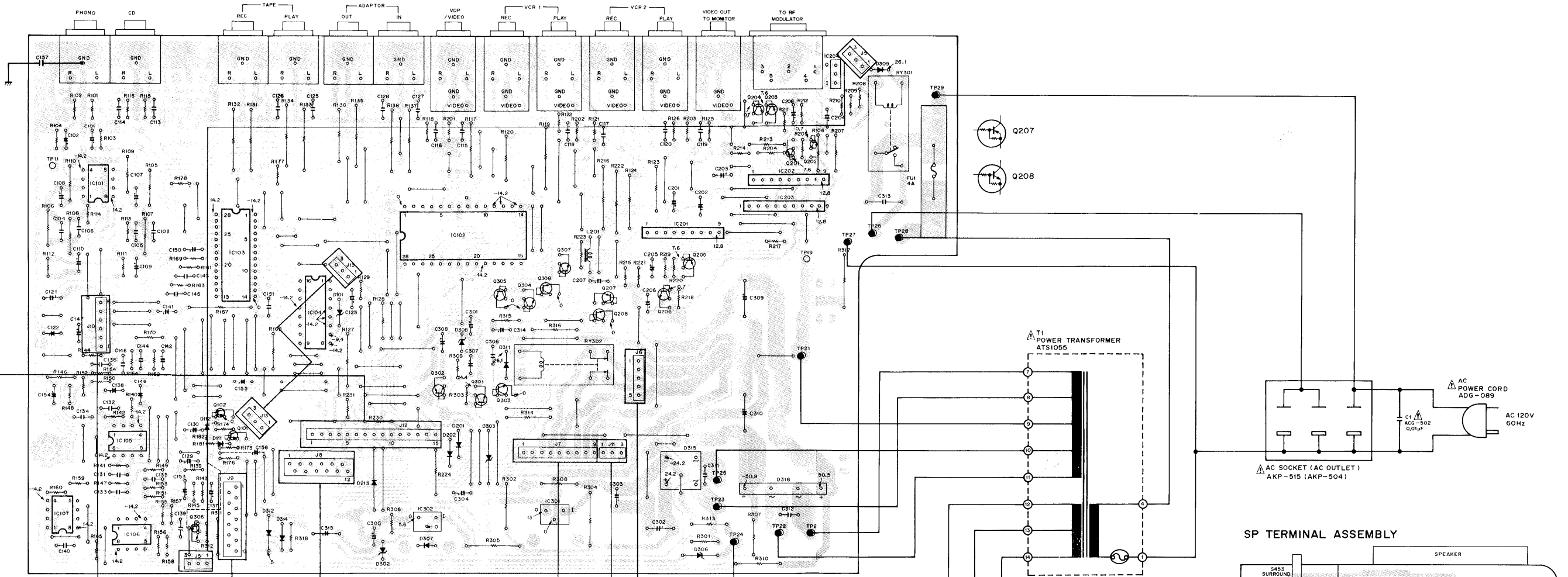
SMALL SIGNAL, VIDEO ASSEMBLY AWZ1276

IC107 IC105 IC106 Q306 Q101 Q102 IC103 D312 D314 IC104 D101 D213 D302 Q302 IC102 Q305 Q304 Q308 Q307 Q208 Q207 IC201 Q206 D315 D306 Q204 IC202 Q203 IC203 D316 D309

A



B

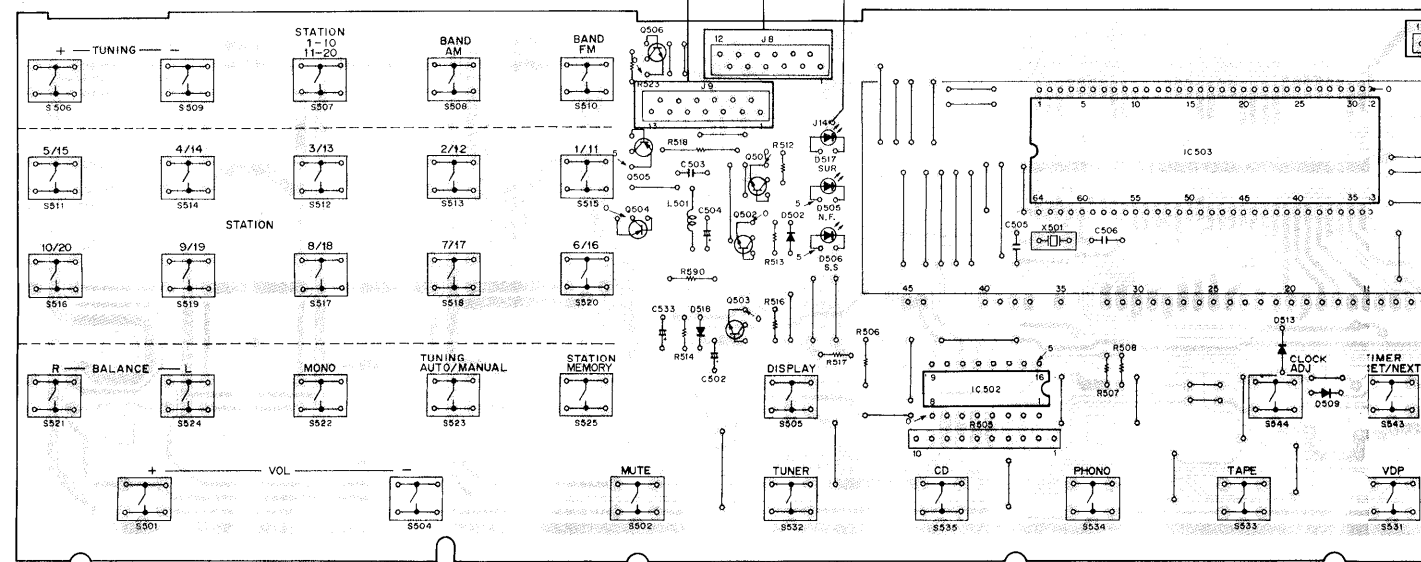


A

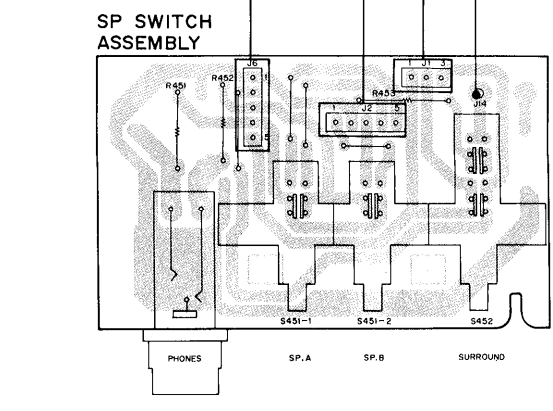
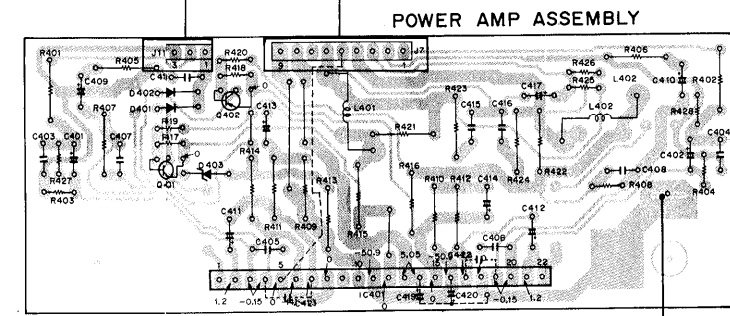
B

C

CONTROL ASSEMBLY AWZ1277



D

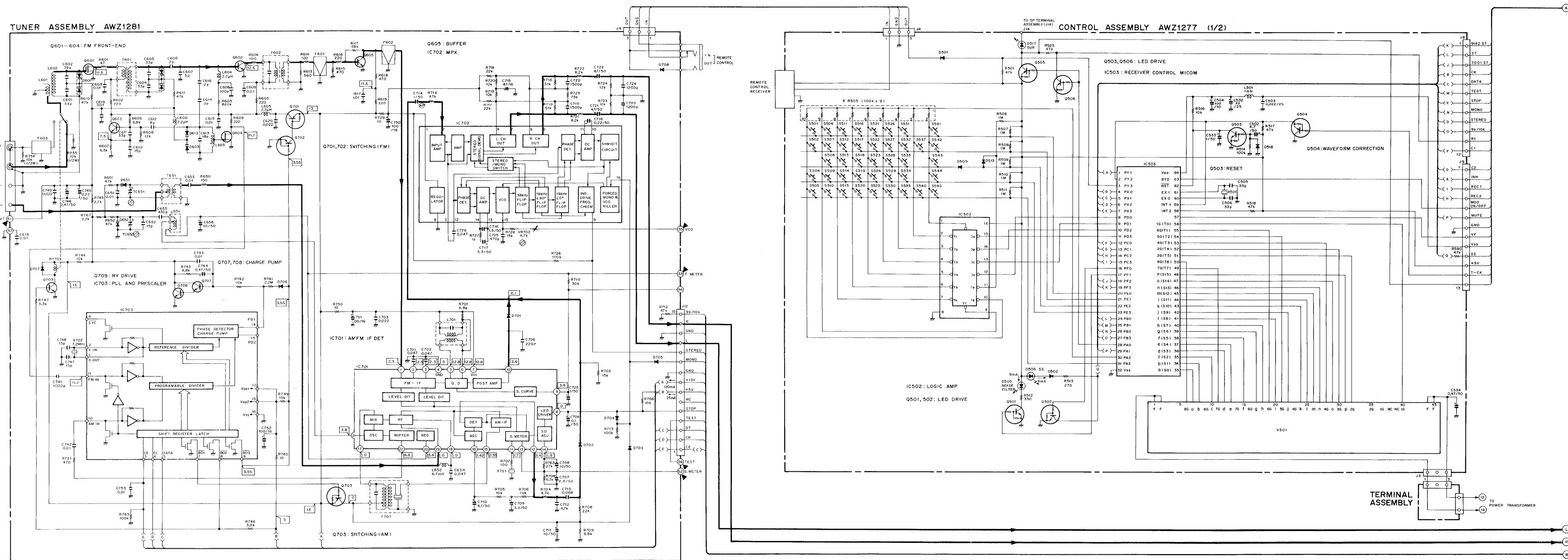


C

D

1 2 3 4 5 6 7 8 9 13

5. SCHEMATIC DIAGRAM



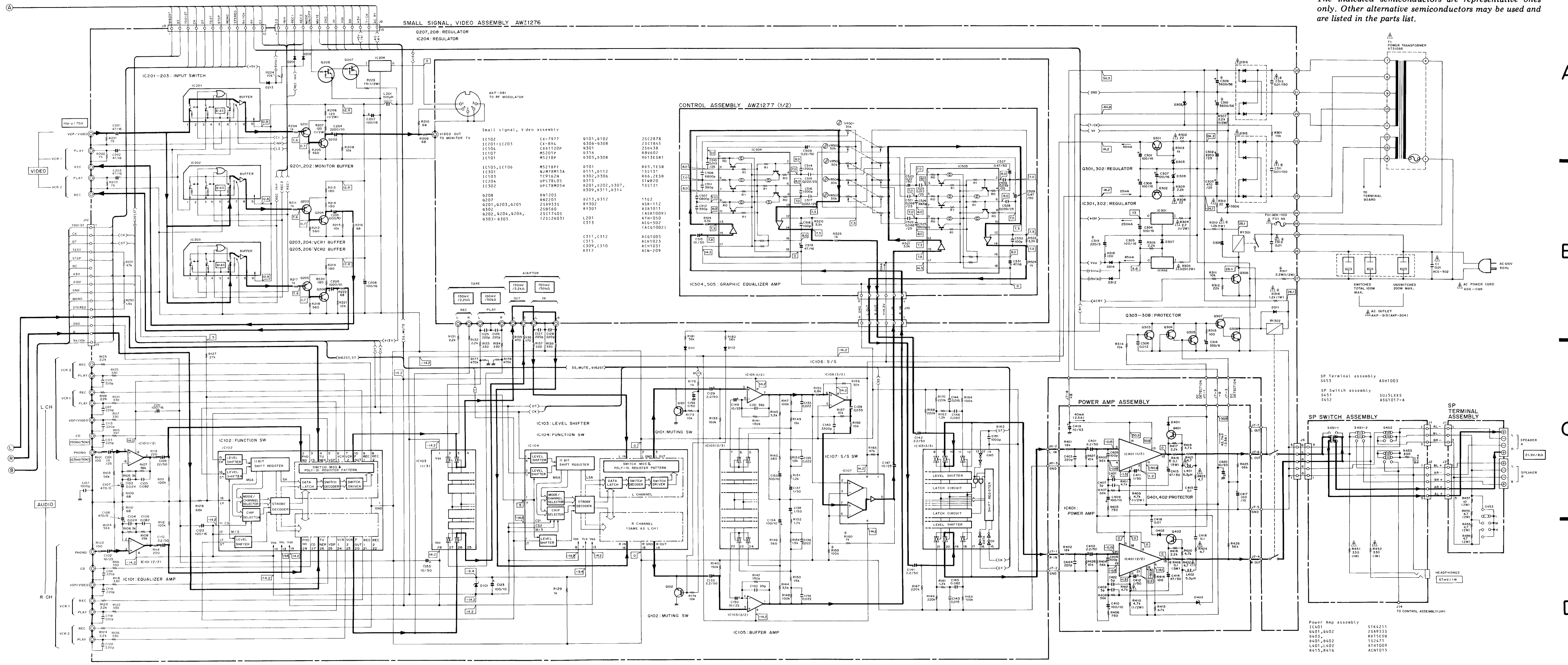
Tuner assembly	Control assembly	Remote control receiver
IC702	IC504, IC505	AXX1002
L1271	IC502	ASS1004
L12703	IC503	AAV1013
3732	Q501, Q502	
3701, 3703	Q503, Q506	
Q739	Q505	
Q707, Q708	Q504	
Q603, Q605	Q505, Q506, Q517	
Q602	Q501, Q502, Q509, Q513	
Q604		
Q601	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
Q701-Q708	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
Q651, Q652	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
Q601-Q603	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
RY701	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
L651	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
L601	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
L602	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
L603	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
L701	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
L604-L606	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
L652	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
T651	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
T601	Q501, Q502, Q504-Q506, Q517, Q540-Q545	
T602	Q501, Q502, Q504-Q506, Q517, Q540-Q545	

- RESISTORS:** Indicated in Ω, 1/4W, 1/8W and 1/8W, ±5% tolerance unless otherwise noted k: kΩ, M: MΩ, (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% tolerance
 - CAPACITORS:** Indicated in capacity (pF)/voltage (V) unless otherwise noted μF. Indication without voltage is 50V except electrolytic capacitor.
 - VOLTAGE, CURRENT:** [V]: Signal voltage at 60 W + 60 W, 8Ω output (1 kHz) [V]: DC voltage (V) at no input signal Value in () is DC voltage at rated power. [mA]: DC current at no input signal [mV]: Signal voltage at FM 400 Hz ± 75 kHz DEV.
 - OTHERS:** []: Signal route. []: Adjusting point. The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation. * marked capacitors and resistors have parts numbers. The underlined indicates the switch position.
- This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

- SWITCHES:** Underline indicates the switch position.
- | | |
|---------------------------------|----------------------------|
| Control assembly | SP terminal assembly |
| S501: VOLUME+ | S530: POWER |
| S502: MUTE | S531: VOP |
| S504: VOLUME- | S532: TUNER |
| S505: DISPLAY | S533: TAPE |
| S506: TUNING | S534: PHONO |
| S507: STATION 1-10/11-20 | S535: CD |
| S508: BAND AM | S537: VCR2 |
| S509: TUNING | S540: VCR1 |
| S510: BAND FM (ANT-A/B) | S541: SIMULATED STEREO |
| S511: STATION CALL 5/15 | S542: TIMER ON/OFF |
| S512: 3/15 | S543: TIMER SET/NEXT |
| S513: 2/12 | S544: CLOCK ADJ |
| S514: 4/14 | S545: LOUNNESS |
| S515: 1/11 | |
| S516: 10/20 | SP switch assembly |
| S517: 8/18 | S451: SPEAKER A-B |
| S518: 7/17 | S452: SURROUND ON-OFF |
| S519: 9/19 | |
| S520: 6/16 | |
| S521: BALANCE-R | SP terminal assembly |
| S522: MONO | S453: SURROUND LEVEL L-M-H |
| S523: TUNING AUTO/MANUAL | |
| S524: BALANCE-L | |
| S525: STATION MEMORY | |
| S526: VCR NOISE FILTER | |
| S527: R SEL | |
| S528: RF MOD ON/OFF (ANT/VIDEO) | |
| S529: VIDEO SIGNAL SELECTOR | |

A B C D

NOTE: The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.



6. ADJUSTMENTS

FM Tuner Section

- Connect the FM signal generator (FM SG) to the FM ANTENNA 75Ω terminal through a 75Ω dummy antenna.
- Set the AUTO/MANUAL switch to the MANUAL position and the FUNCTION switch to the FM.

FM MONO ADJUSTMENT

Step	FM SG (1 kHz ± 75 kHz dev.)		Frequency display	Adjustment point	Adjustment procedure
	Frequency	Level			
1	No signal		87.5 MHz	—	Check pin VT (3.4 ± 1.5V) of tuner assembly.
2	No signal		108.0 MHz		Check pin VT (8.7 \pm 2.5V / -2.0V) of tuner assembly.
3	98 MHz	20~30 dB	98 MHz	T601, T602	Set the output from R763 of tuner assembly to maximum level.
4	98 MHz	60 dB	98 MHz	L701	Adjust voltage across pins 53 and 54 of tuner assembly to T meter center. (± 50 mV)
5	Repeat step 3 until specification ratings are satisfied.				

FM MPX ADJUSTMENT

6	98 MHz	80 dB	98 MHz	VR702	Adjust the frequency at pin 55 of tuner assembly to 76.0 kHz (± 100 Hz)
	No modulation				
7	98 MHz	60 dB	98 MHz	T602	Minimize distortion in both left and right channel outputs (adjust T602 to within ± 90°)
	Stereo modulation*				
8	98 MHz	10 dB	98 MHz	—	Confirm that TUNER IND and STEREO IND are extinguished.
	Stereo modulation*				

* Stereo modulation: Main 1 kHz L+R ± 68.25 kHz dev. Pilot 19 kHz ± 6.75 kHz dev.

AM (MW) Tuner Section

- Connect loop antenna to the AM signal generator (AM SG), and connect the Loop antenna (of the set) to AM ANTENNA terminal.
- Set the FUNCTION switch to the AM (MW).

Step	AM SG (400Hz, 30% MOD)		Frequency display	Adjustment pint	Adjustment procedure
	Frequency	Level			
1	No signal		531 kHz	L651	Set pin VT of tuner assembly to 1.3V (± 0.1V)
2	No signal		1602 kHz	TC652	Set pin VT tuner assembly to 10.0V (± 0.5V)
3	Repeat steps 1 and 2 until both specification ratings are satisfied.				
4	603 kHz	40 dB	603 kHz	T651	Set the output from R763 of tuner assembly to maximum level.
5	1395 kHz	40 dB	1395 kHz	TC651	
6	Repeat steps 4 and 5 until both specification ratings are satisfied.				
7	999 kHz	55dB	999kHz	—	Confirm that TUNER IND becomes lit.

- The distance between AM SG side loop antenna A and the receiver side (VSX-3000) loop antenna B, that is, from the center of A side loop antenna to that of B side loop antenna should be 60 cm.

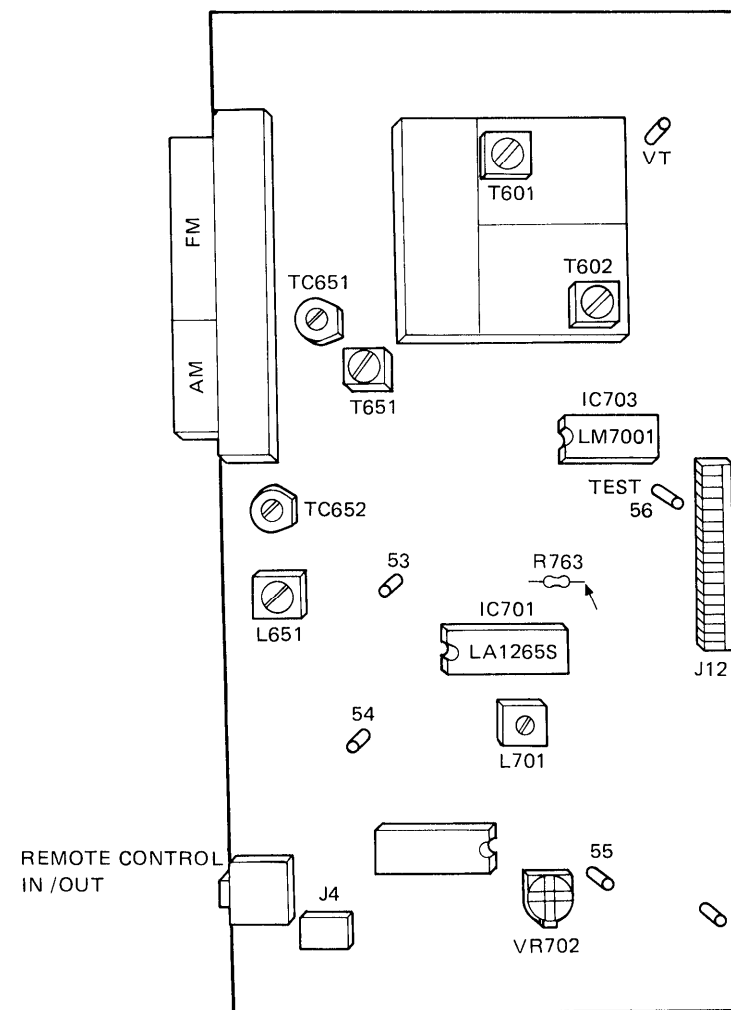
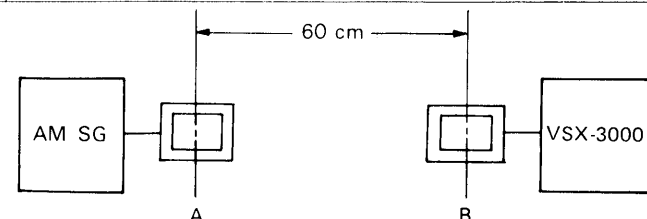
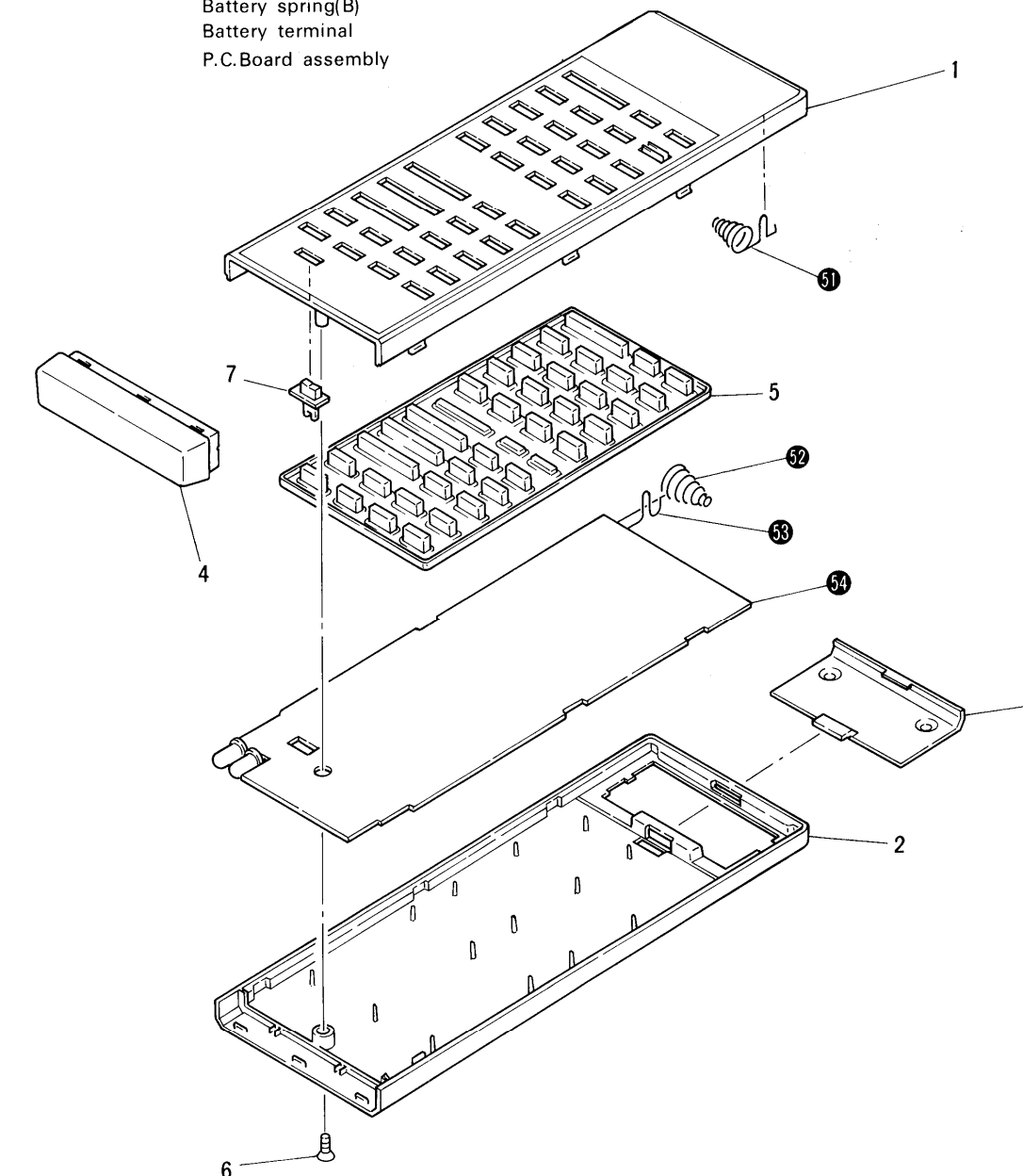


Fig.6-1 Adjustment Points

7. REMOTE CONTROL UNIT (AXD1015)

7.1 EXPLODED VIEW

Parts Mark	No.	Part No.	Description
	1	AZH1019	Case(A)
	2	AZH1016	Case(B)
	3	AZH1017	Case(C)
	4	AZH1200	Filter
	5	AZH1052	Rubber switch
	6	AZB1057	Screw
	7	AZS1021	Knob (A-V)
	51		Battery spring(A)
	52		Battery spring(B)
	53		Battery terminal
	54		P.C.Board assembly



8. SAFETY INFORMATION

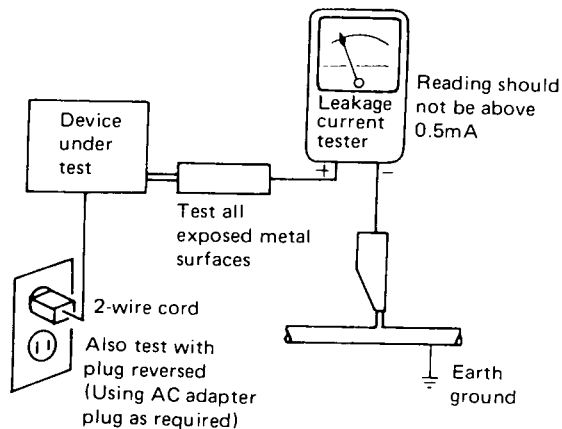
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, the PIONEER Service Manual may be obtained at a nominal charge from PIONEER.