

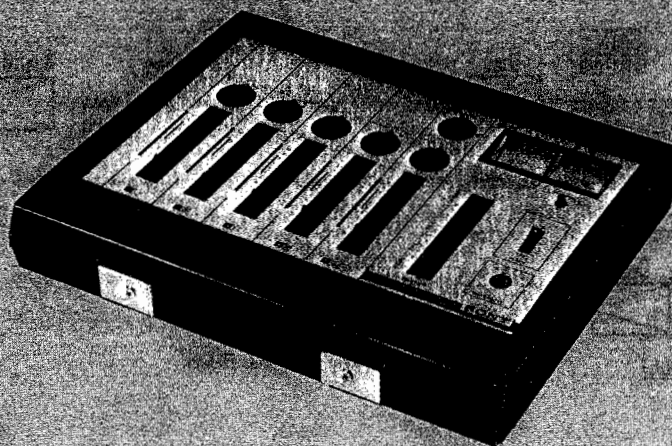
MX-510

AEP Model

USA Model

UK Model

E Model



5-CHANNEL MIXER

SPECIFICATIONS

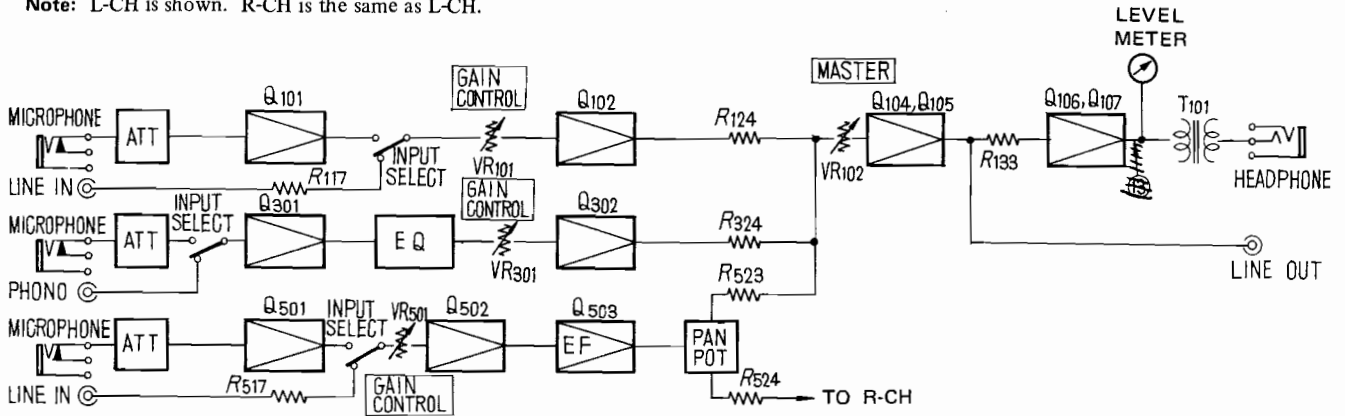
Power Requirement:	12 V DC — size "C" battery (1.5 V) x 8 AC operation with the use of Sony Power Adaptor AC-12 (optional)	Outputs:	LINE OUT (phono type) 2 Rated output level: 0.435 V (–5 dB) Load impedance: more than 10 k Ω HEADPHONE (binaural type) 1 Rated output level: 49 mV (–24 dB) Load impedance: 8 Ω
Power Consumption:	0.4 W	Frequency Response:	30 – 25,000 Hz
Battery Life:	Approx. 60 hours of continuous operation (with Sony long-life batteries, size "C")	Distortion:	0.5 %
Inputs:	MICROPHONE (phone type) 5 Sensitivity: 0.2 mV (–72 dB) Accept low impedance microphones. LINE IN (phono type) 3 Sensitivity: 60 mV (–22 dB) Input impedance: 100 k Ω PHONO (phono type) 2 Sensitivity: 2.2 mV (–51 dB) Input impedance: 50 k Ω Built-in RIAA equalization network	Signal-to-Noise Ratio:	60 dB
		Dimensions:	Including projecting parts and controls. Approx. 348 (w) x 75 (h) x 240 (d) mm 13 $\frac{3}{4}$ (w) x 3 (h) 9 $\frac{1}{2}$ (d) inches
		Weight:	Approx. 3 kg (6 lb 10 oz) with batteries

SONY[®]
SERVICE MANUAL

SECTION 1 OUTLINE

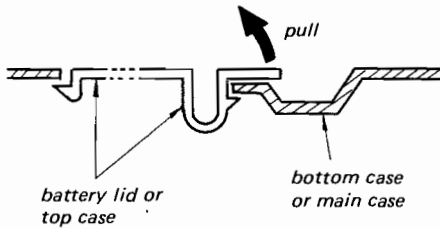
1-1. BLOCK DIAGRAM

Note: L-CH is shown. R-CH is the same as L-CH.



1-2. DISASSEMBLY

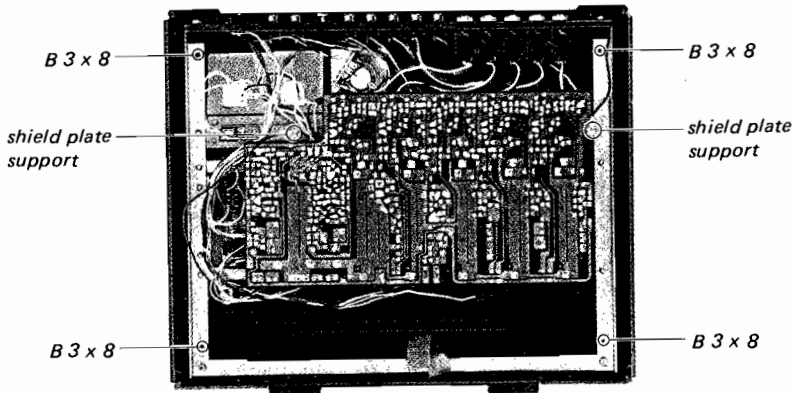
1) Top Case and Battery Lid Removals



2) Bottom Case and Main Chassis Removals

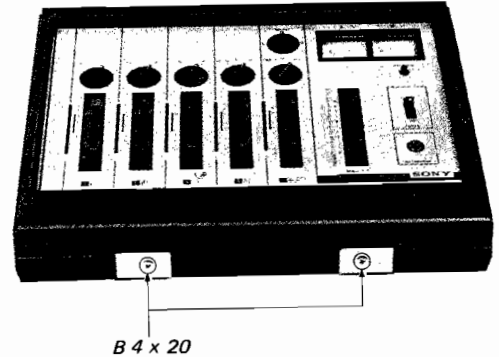
— Bottom Case —

First, remove the battery lid and batteries and remove four screws B 3 x 8 which secures the bottom case.

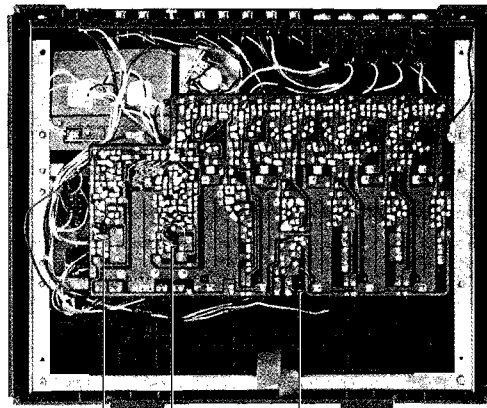


— Main Chassis —

- Remove the shield plate by removing two screws PS 3 x 6 and two solder lugs.
- Remove two shield plate supports as shown in the above photograph.
- Remove the carrying handle by removing two screws B 4 x 20.



**SECTION 2
ADJUSTMENTS**



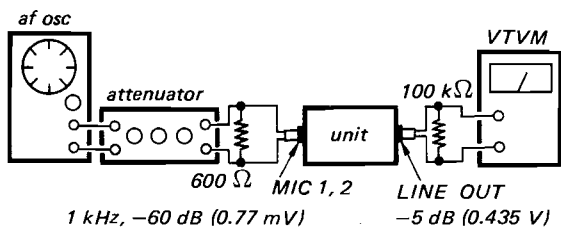
VR103 VR203 VR601
(L-CH) (R-CH)

1. LEVEL METER CALIBRATION

Setting:

Power source: 12 V DC
 MASTER control: maximum
 MIC-ATT-LINE IN switch: MIC
 POWER switch: ON

Procedure:

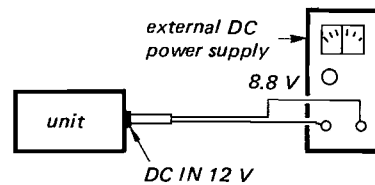


1. Adjust GAIN control to obtain -5 dB (0.435 V) at LINE OUT.
2. Adjust VR103 and VR203 to obtain 0 dB indication on the VU meters.

2. BATT CHECK ADJUSTMENT

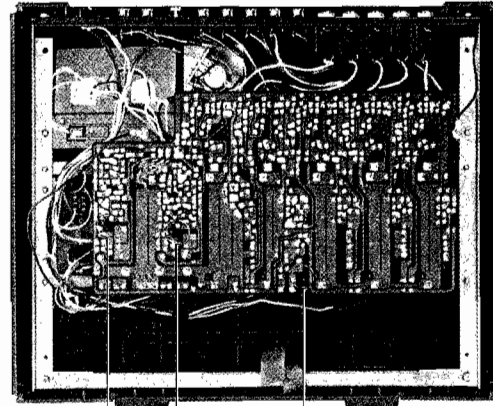
Setting:

Power source: external 8.8 V DC
 BATT CHECK switch: pushed
 POWER switch: ON



Adjust VR601 to obtain 0 dB indication on the VU R meter.

**SECTION 2
ADJUSTMENTS**



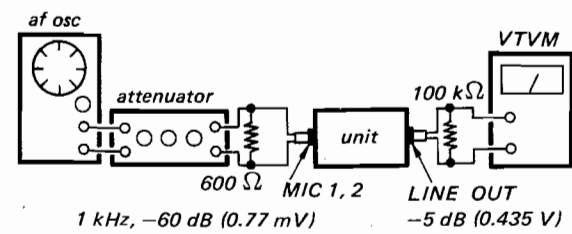
VR103 VR203 VR601
(L-CH) (R-CH)

1. LEVEL METER CALIBRATION

Setting:

Power source: 12 V DC
 MASTER control: maximum
 MIC-ATT-LINE IN switch: MIC
 POWER switch: ON

Procedure:

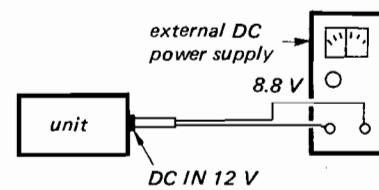


1. Adjust GAIN control to obtain -5 dB (0.435 V) at LINE OUT.
2. Adjust VR103 and VR203 to obtain 0 dB indication on the VU meters.

2. BATT CHECK ADJUSTMENT

Setting:

Power source: external 8.8 V DC
 BATT CHECK switch: pushed
 POWER switch: ON



Adjust VR601 to obtain 0 dB indication on the VU R meter.

SECTION 3
DIAGRAMS

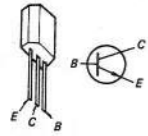
3-1. MOUNTING DIAGRAM

— Conductor Side —

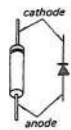
Q D	Q205 D202	Q204 Q206 D201		Q106 Q107 D102	Q501 Q104 Q105		Q401 Q502	Q503		Q301 D601 Q402 Q601		Q201 Q302		Q101 Q202		Q102
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Q101, 102, 104,
201, 202, 204,
301, 302, 401,
402, 501, 502) 2SC631A

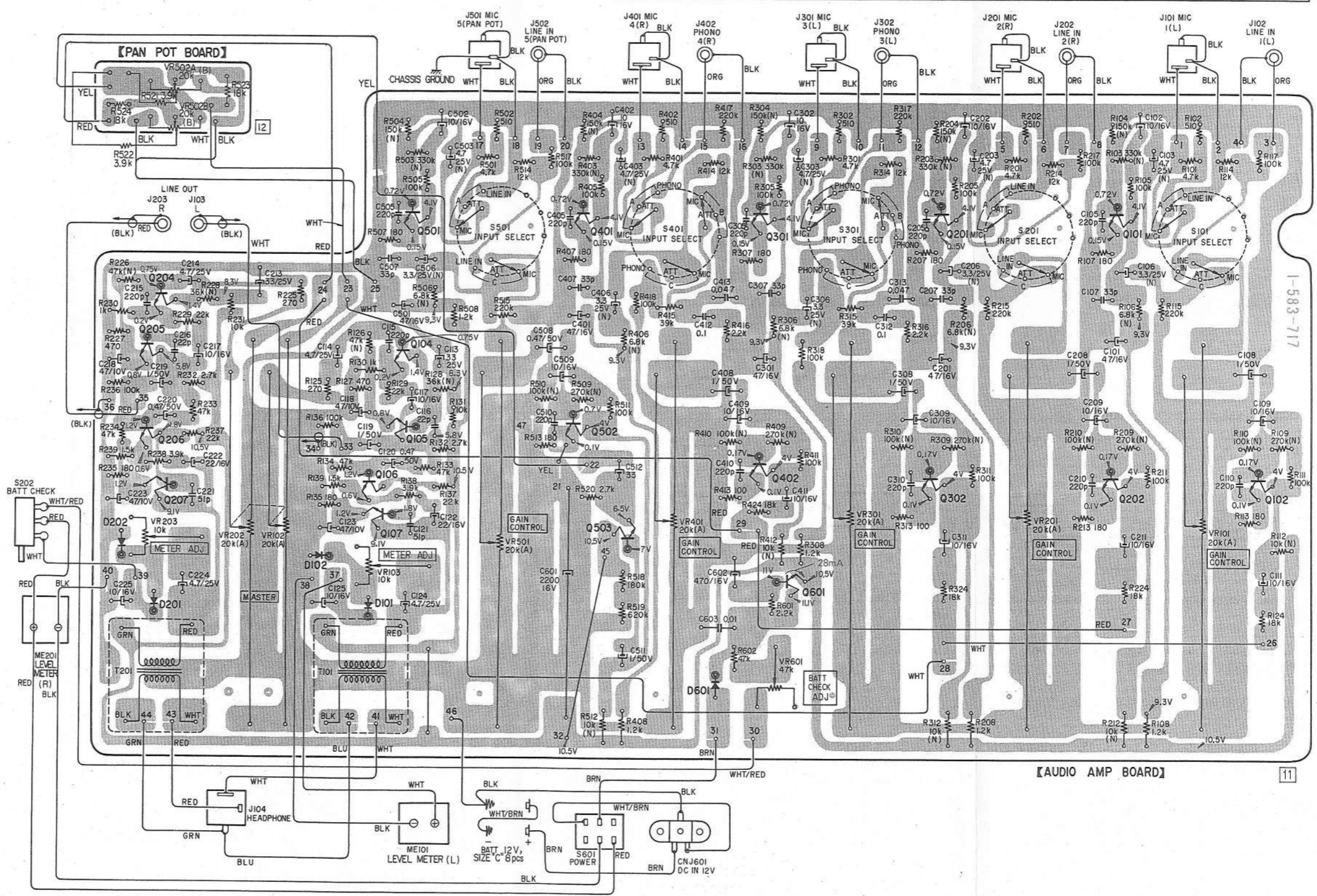
Q105, 106, 107,
205, 206, 207) 2SC633A
503, 601



D101, 102,) 1T22
201, 202



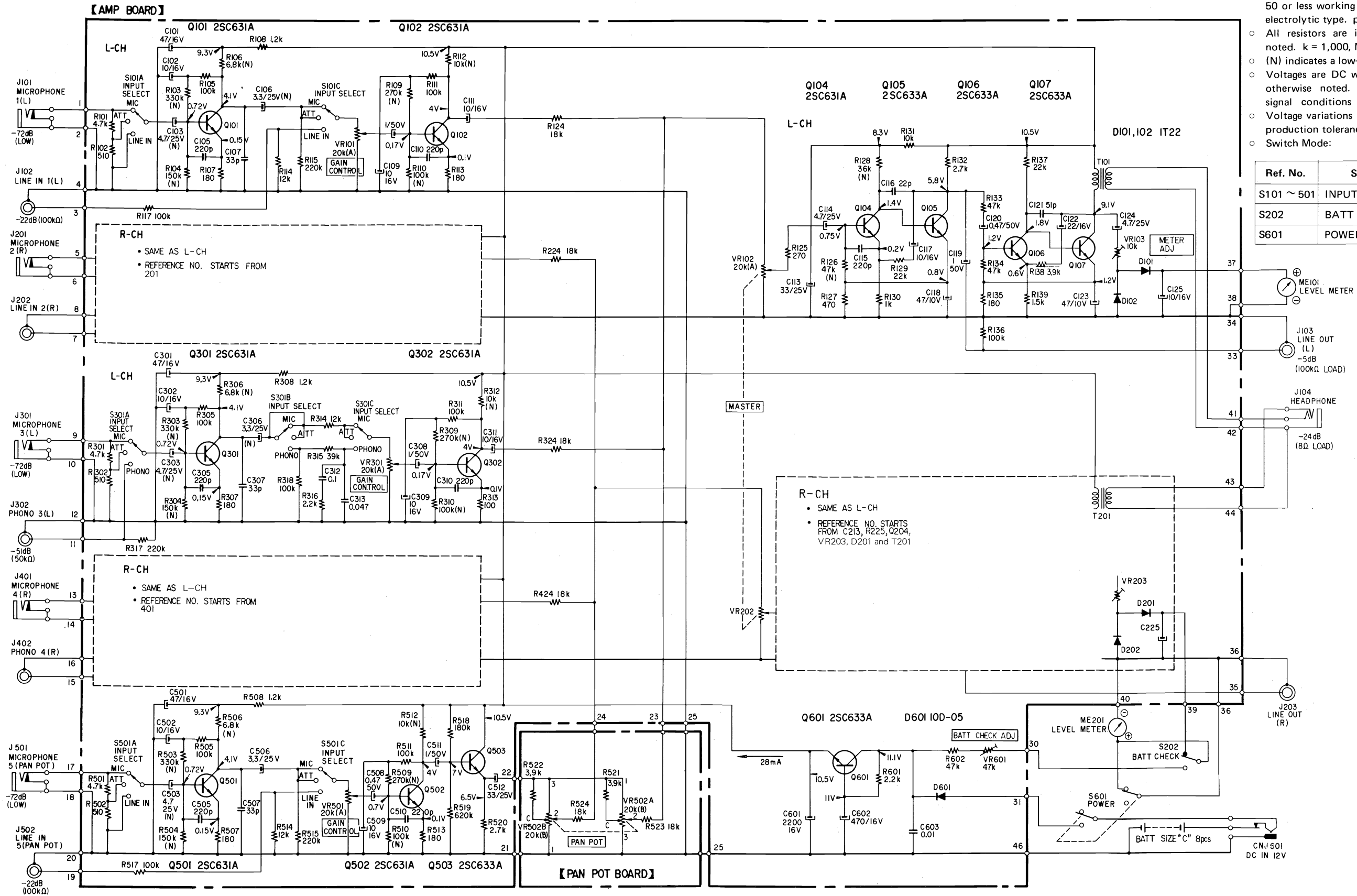
D601: 10D-05



1-583-717

[AUDIO AMP BOARD] 11

3-2. SCHEMATIC DIAGRAM

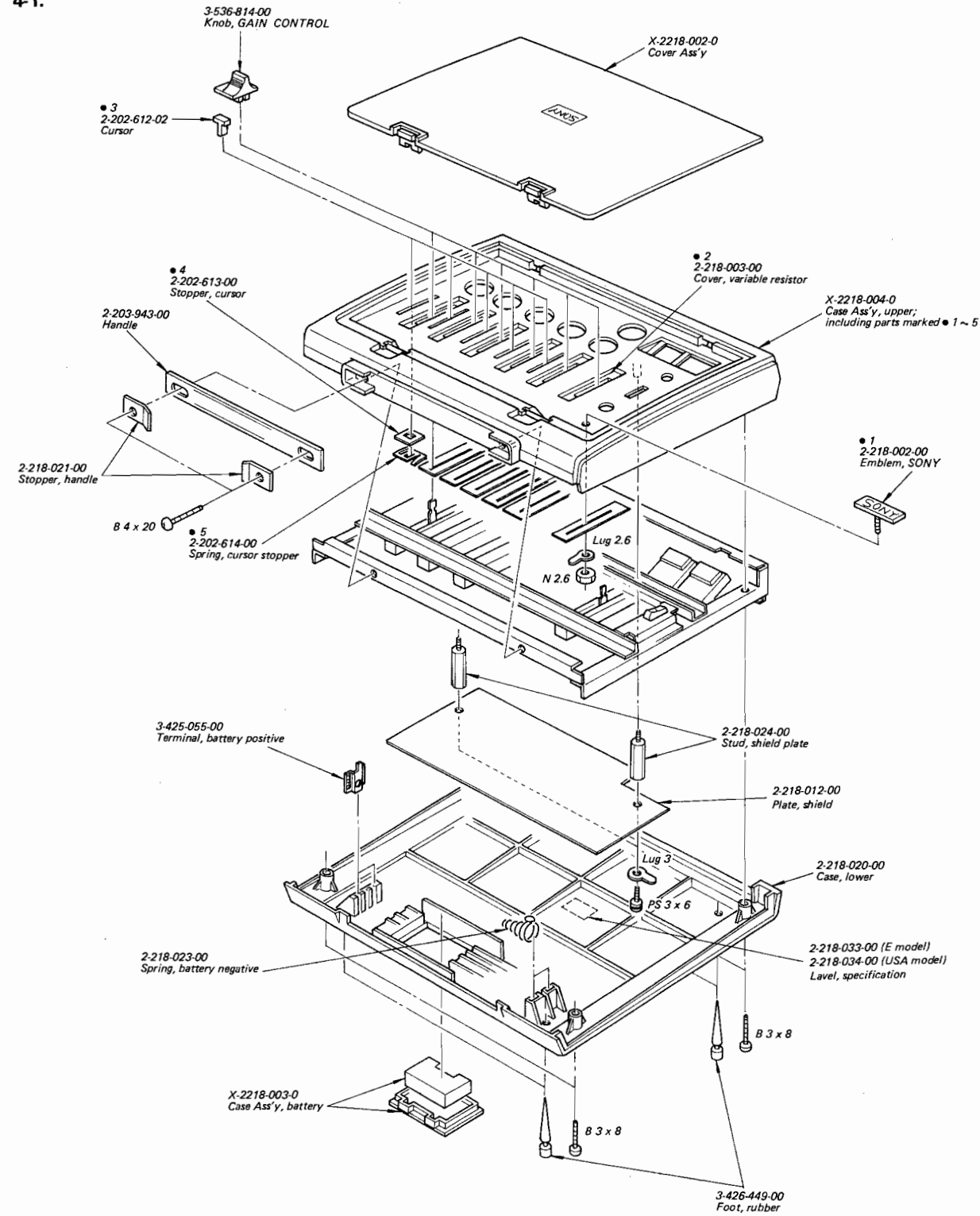


- Note:**
- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. $p = \mu\text{F}$
 - All resistors are in Ω , $\frac{1}{4}\text{W}$, unless otherwise noted. $k = 1,000$, $M = 1,000\text{ k}$
 - (N) indicates a low-noise resistor.
 - Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20 $k\Omega/V$).
 - Voltage variations may be noted due to normal production tolerances.
 - Switch Mode:

Ref. No.	Switch	Position
S101 ~ 501	INPUT SELECT	MIC
S202	BATT CHECK	OFF (LEVEL)
S601	POWER	OFF

SECTION 4
EXPLODED VIEWS

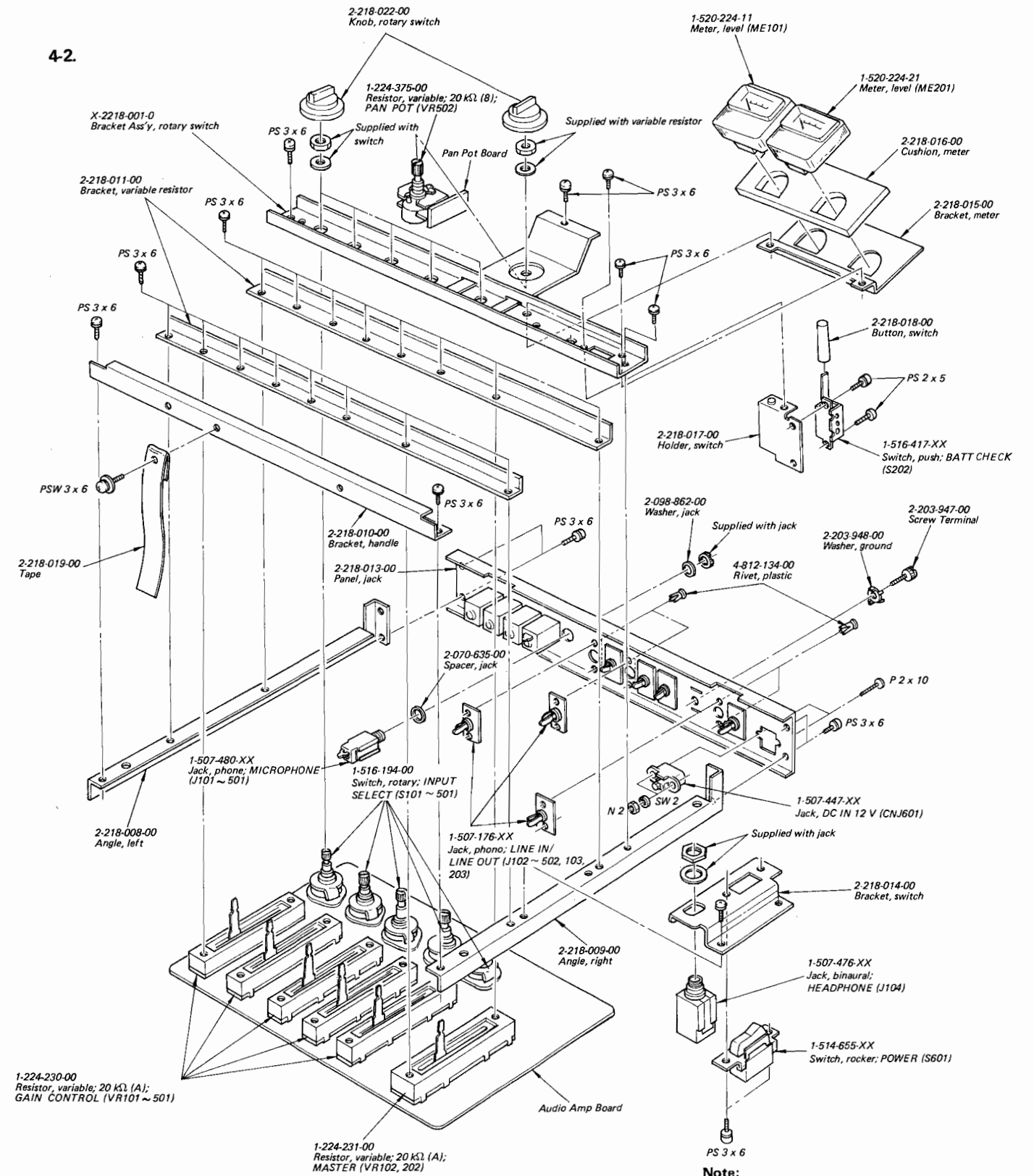
4-1.



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
- (-) = slotted head

4-2.



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
- (-) = slotted head

**SECTION 5
ELECTRICAL PARTS LIST**

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
SEMICONDUCTORS			C123, 223	1-121-352-11	47 10V
			C124, 224	1-121-395-11	4.7 25V
			C125, 225	1-121-651-11	10 16V
Transistors			C312, 412	1-106-049-12	0.1 mylar
Q101 ~ 501: Q101, 201, 301 , Q501			C313, 413	1-106-041-12	0.047 mylar
Q101 ~ 501			C508	1-121-726-11	0.47 50V
202 ~ 502	2SC631A		C511	1-121-391-11	1 50V
104, 204			C512	1-121-404-11	33 25V
Q105 ~ 107			C601	1-119-140-11	2200 16V
205 ~ 207	2SC633A		C602	1-121-426-11	470 16V
503, 601			C603	1-106-082-12	0.01 mylar
Diodes			RESISTORS		
D101, 102	1T22		All resistors are in ohms. Regular type		
201, 202			¼W carbon and composition resistors are omitted. Check the schematic diagram for the resistance values. (k = 1000, M = 1000 k)		
D601	10D-05		R103 ~ 503: R103, 203, 303 , R503		
CAPACITORS			R102 ~ 503	1-242-733-11	330k ¼W carbon low noise
All capacitors are in µF and of electrolytic unless otherwise noted. (p = µµF)			R104 ~ 504	1-242-725-11	150k ¼W carbon low noise
50 or less working volts are omitted except for electrolytic type.			R106 ~ 506	1-242-693-11	6.8k ¼W carbon low noise
C101 ~ 501: C101, 201, 301 , C501			R109 ~ 509	1-242-731-11	270k ¼W carbon low noise
C101 ~ 501	1-121-409-11	47 16V	R110 ~ 510	1-242-721-11	100k ¼W carbon low noise
C102 ~ 502	1-121-651-11	10 16V	R112 ~ 512	1-242-697-11	10k ¼W carbon low noise
C103 ~ 503	1-121-915-11	4.7 25V low noise	R126, 226	1-242-713-11	47k ¼W carbon low noise
C105 ~ 505	1-107-139-11	220p silvered mica	R128, 228	1-242-710-11	36k ¼W carbon low noise
C106 ~ 506	1-121-913-11	3.3 25V low noise	VR101 ~ 501	1-224-230-00	20k (A), variable; GAIN CONTROL
C107 ~ 507	1-107-119-11	33p silvered mica	VR102, 202	1-224-231-00	20k (A), variable; MASTER
C108 ~ 408	1-121-391-11	1 50V	VR103, 203	1-224-645-XX	10k (A), adjustable; level meter
C109 ~ 509	1-121-651-11	10 16V	VR502	1-224-375-00	20k (B), variable; PAN POT
C110 ~ 510	1-107-139-11	220p silvered mica	VR601	1-224-647-XX	47k, adjustable; BATT CHECK
C111 ~ 411	1-121-651-11	10 16V	SWITCHES		
C113, 213	1-121-404-11	33 25V	S101 ~ 501: S101, 201, 301 , S501		
C114, 214	1-121-395-11	4.7 25V	S101 ~ 501	1-516-194-00	rotary, INPUT SELECT
C115, 215	1-107-139-11	220p silvered mica	S202	1-516-417-XX	push, BATT CHECK
C116, 216	1-107-115-11	22p silvered mica	S601	1-514-655-XX	rocker, POWER
C117, 217	1-121-651-11	10 16V			
C118, 218	1-121-352-11	47 10V			
C119, 219	1-121-391-11	1 50V			
C120, 220	1-121-726-11	0.47 50V			
C121, 221	1-107-124-11	51p silvered mica			
C122, 222	1-121-479-11	22 16V			

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
JACKS			MISCELLANEOUS		
	J101 ~ 501: J101, 201, 301 , J501		ME101	1-520-224-11	meter, level
CNJ601	1-507-447-XX	DC IN 12V	ME201	1-520-224-21	meter, level
J101 ~ 501	1-507-480-XX	phone, MICROPHONE	T101, 201	1-427-359-00	transformer, output
J102 ~ 502	1-507-176-XX	phone, LINE IN/LINE OUT			
103, 203					
J104	1-507-476-XX	binaural, HEADPHONE			

ACCESSORIES

X-2218-005-0	cushion ass'y
1-528-026-00	battery, size C, SUM-2
1-534-049-31	cord, RK-74
3-780-558-21	manual, instruction

**SECTION 6
HARDWARE**

Part No. Description

SCREWS

All screws are Phillips (cross recess) type
unless otherwise noted. (-): slotted head

7-628-253-03	PS	2 x 5
7-682-128-05	P	2 x 10
7-682-548-05	B	3 x 8
7-682-566-04	B	4 x 20
7-682-647-01	PS	3 x 6
7-682-947-01	PSW	3 x 6

MISCELLANEOUS

7-622-105-05	nut 2
7-623-205-12	spring washer 2
7-623-508-11	earth lug 3

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9-954-366-01

5H0469-1
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