

STR-7035

USA Model
Canada Model
AEP Model
E Model
UK Model



FM STEREO / FM-AM RECEIVER

SPECIFICATIONS

FM SECTION

Frequency Range:	87.5 – 108 MHz
Intermediate Frequency:	10.7 MHz
Antenna Terminals:	300 ohm balanced 75 ohm unbalanced
Sensitivity:	2.2 μ V (6.5 dB), IHF 1.7 μ V (4.5 dB), S/N = 26 dB
Image Rejection:	55 dB
IF Rejection:	90 dB
Spurious Rejection:	78 dB
AM Suppression:	55 dB
Capture Ratio:	1.5 dB
Selectivity:	60 dB, IHF
S/N Ratio:	68 dB
Harmonic Distortion:	Mono 0.3% at 400 Hz, 75 kHz deviation (100%) mod Stereo 0.8% at 400 Hz, 75 kHz deviation (100%) mod
Stereo Separation:	35 dB at 400 Hz
Frequency Response:	30 Hz – 15 kHz \pm 2 dB

AM SECTION

Frequency Range:	530 – 1,605 kHz
Intermediate Frequency:	455 kHz (USA, Canada Model) 468 kHz (AEP, E and UK Model)
Antenna:	Built-in ferrite-bar antenna and external antenna terminal
Sensitivity:	250 μ V/m (48 dB/m), built-in antenna 30 μ V (29 dB), external antenna
Image Rejection:	56 dB at 1,000 kHz
IF Rejection:	40 dB at 1,000 kHz
S/N Ratio:	50 dB
Harmonic Distortion:	0.8%

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SONY
SERVICE MANUAL

STR-7035

AMPLIFIER SECTION

Continuous RMS Power Output: At 40 Hz – 20 kHz
 (Less than 0.8 % THD, both channel driven simultaneously)
 24 + 24 watts (8 ohms)
 At 1 kHz
 26 + 26 watts (8 ohms)
 28 + 28 watts (4 ohms)
 According to DIN 45500
 24 + 24 watts (8 ohms)
 25 + 25 watts (4 ohms)

Dynamic Power Output: 65 watts (8 ohms)
 (IHF constant power supply method) 80 watts (4 ohms)

Power Bandwidth (IHF): 10 Hz – 25 kHz

Harmonic Distortion: Less than 0.8 % at rated output
 Less than 0.1 % at 1 watt output

IM Distortion: Less than 0.8 % at rated output
 (60 Hz: 7 kHz = 4:1) Less than 0.1 % at 1 watt output

Residual Noise: Less than 0.08 μ W

Damping Factor: 25 at 1 kHz, 8 ohms

Input Sensitivity, Impedance and S/N Ratio:

Input	Sensitivity	Impedance	S/N	Weighting Network
PHONO	2.5 mV	47 k Ω	60 dB	B
MIC	2 mV	47 k Ω	60 dB	B
AUX	250 mV	100 k Ω	70 dB	A
TAPE 1, 2 REC/PB (input)	250 mV	100 k Ω	80 dB	A

Measured with specified RMS power output into 8-ohm loads (both channels driven simultaneously) at 1 kHz.

Output Voltage and Impedance:

Output	Voltage	Impedance	Input Level
REC OUT 1, 2	250 mV	10 k Ω	PHONO 2.5 mV MIC 2 mV
REC/PB (output)	30 mV	82 k Ω	AUX, TAPE 1, 2 REC/PB (input) 250 mV

Headphone: Accepts 8 Ω – 10 k Ω headphones

Speaker: 4 – 16 Ω speakers are suitable

Frequency Response: PHONO RIAA equalization curve ± 2 dB
 MIC 30 Hz – 10 kHz ± 0.3 dB
 AUX, TAPE 1, 2 } 30 Hz – 40 kHz ± 0.3 dB
 REC/PB (input) }

Tone Control: BASS: ± 10 dB at 100 Hz
 TREBLE: ± 10 dB at 10 kHz

High Filter: 6 dB/oct. above 5 kHz

Loudness: +6 dB at 50 Hz, +4 dB at 10 kHz
 (Volume control attenuation 30 dB)

GENERAL

Power Requirements: 120 volts ac, 60 Hz (USA, Canada Model)
 110, 127, 220, 240 volts ac, 50/60 Hz (AEP, UK and E Model)

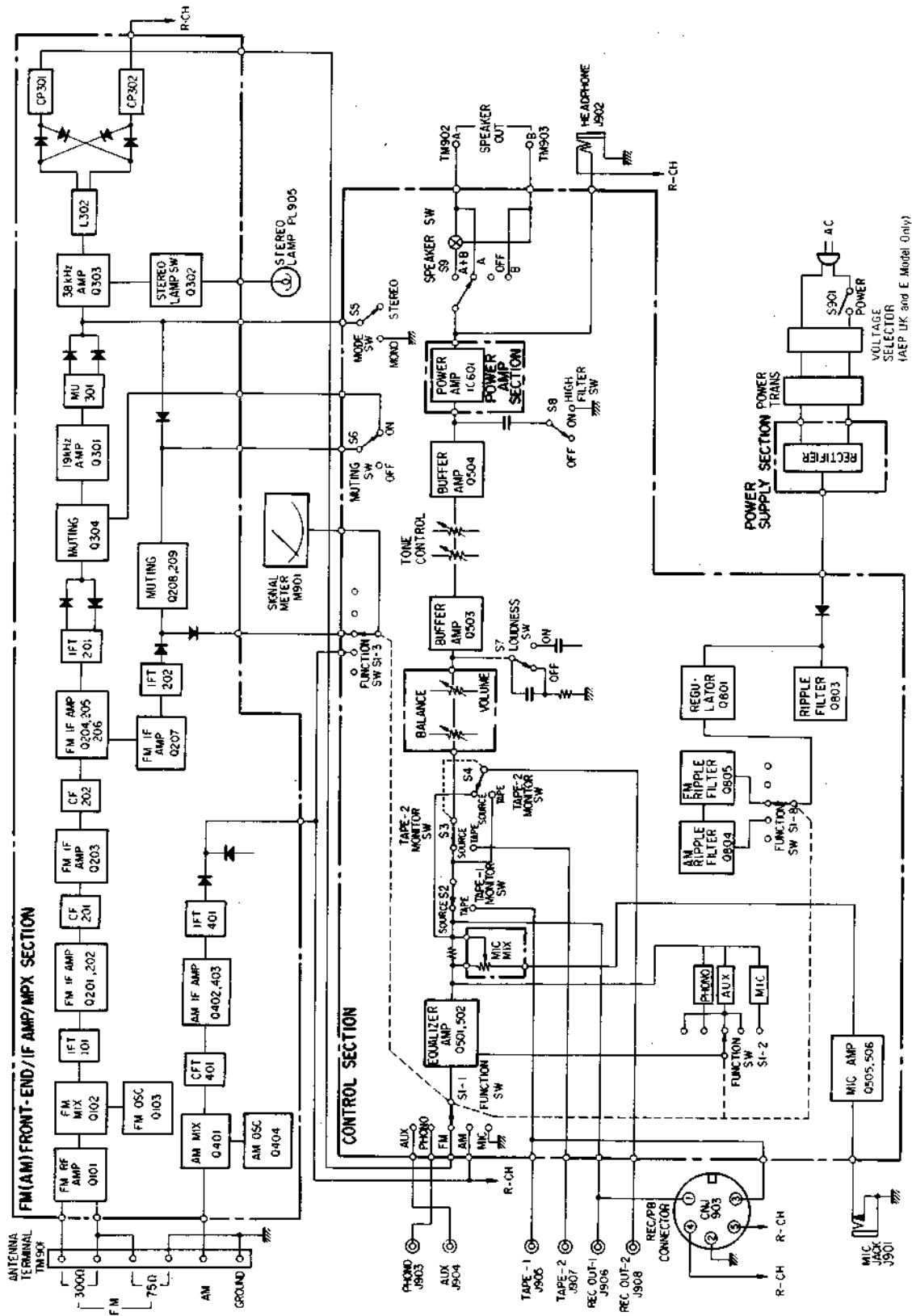
Power Consumption: 80 watts (USA Model)
 120 watts (Canada Model)
 230 watts (AEP, UK and E Model)

Ac Outlets: 2 unswitched, total 300 watts

Dimensions: 427(w) x 149(h) x 340(d) mm } (USA,
 16 $\frac{7}{8}$ (w) x 5 $\frac{7}{8}$ (h) x 13 $\frac{3}{8}$ (d) inches } Canada Model)
 427(w) x 149(h) x 345(d) mm } (AEP, UK and
 16 $\frac{7}{8}$ (w) x 5 $\frac{7}{8}$ (h) x 13 $\frac{5}{8}$ (d) inches } E Model)
 including projecting parts and controls

Weight: Approx. 8.6 kg (18 lb 15 oz), net
 Approx. 11.1 kg (24 lb 8 oz), with shipping carton

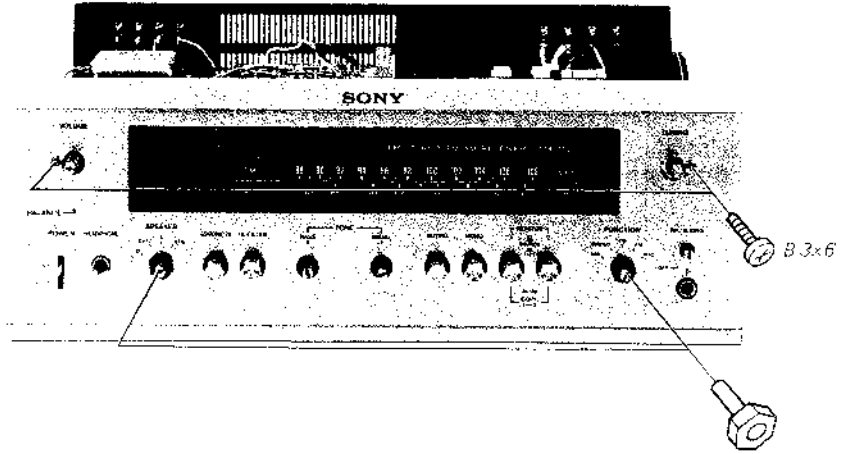
SECTION 1
BLOCK DIAGRAM



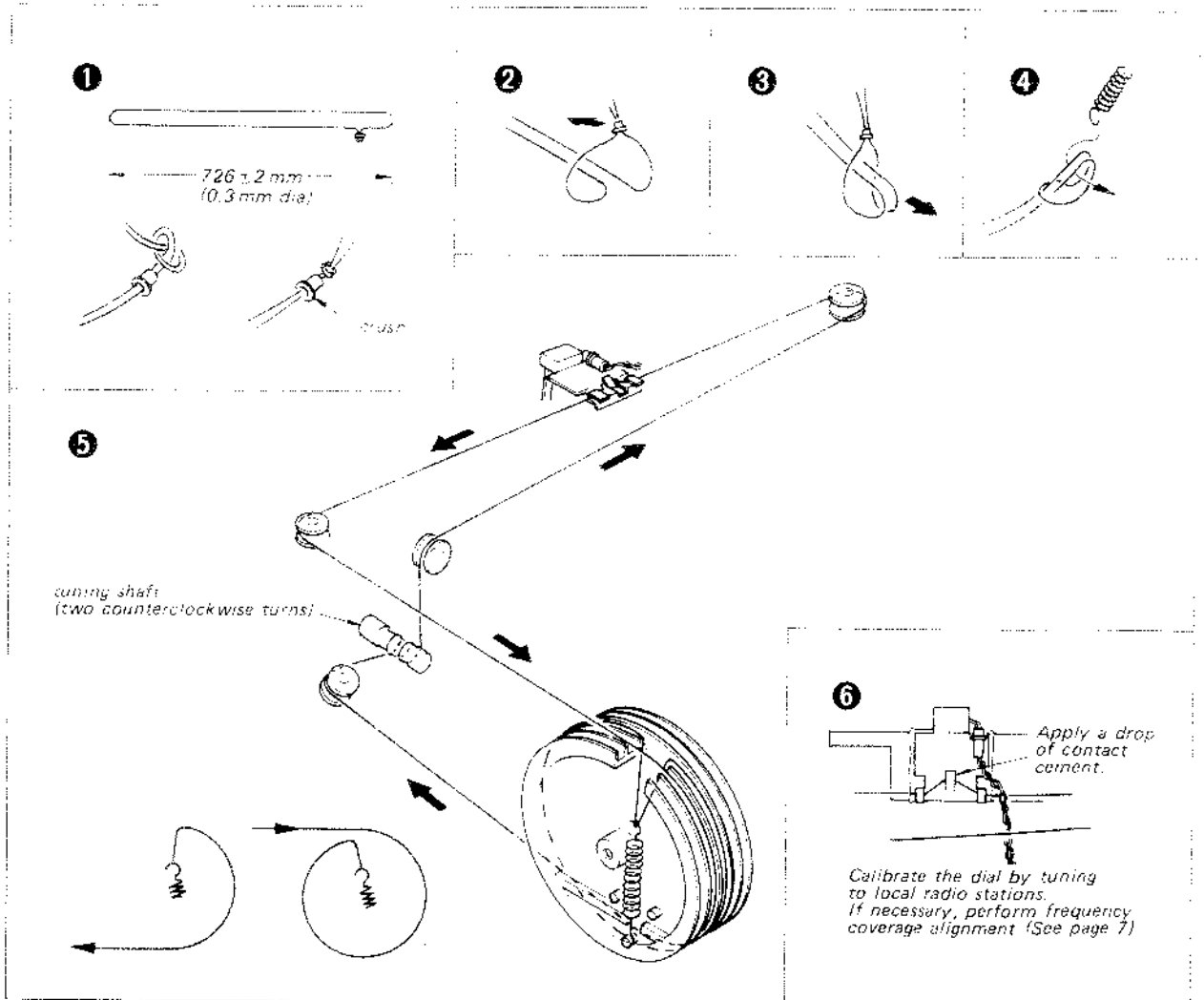
(AEP UK and E Model Only)

**SECTION 2
DISASSEMBLY AND REPLACEMENT**

2-1. FRONT PANEL REMOVAL



2-2. DIAL CORD STRINGING

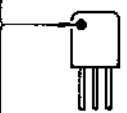


SECTION 3
ALIGNMENT AND ADJUSTMENT

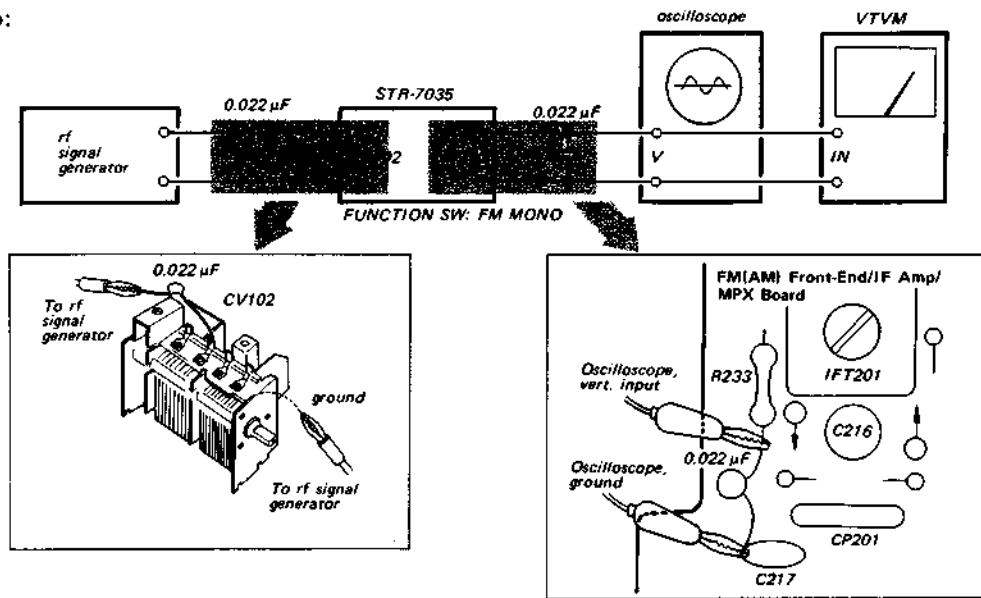
3-1. FM IF AND DISCRIMINATOR ALIGNMENT (See p.6 for the procedure.)

The ceramic filters used in the fm i-f circuit are color coded according to their specified center frequencies.

Part No.	Specified Center Freq.	Color
1-527-220-11	10.70 MHz	red
1-527-220-21	10.67 MHz	blue
1-527-220-31	10.73 MHz	orange
1-527-220-41	10.64 MHz	black
1-527-220-51	10.76 MHz	white

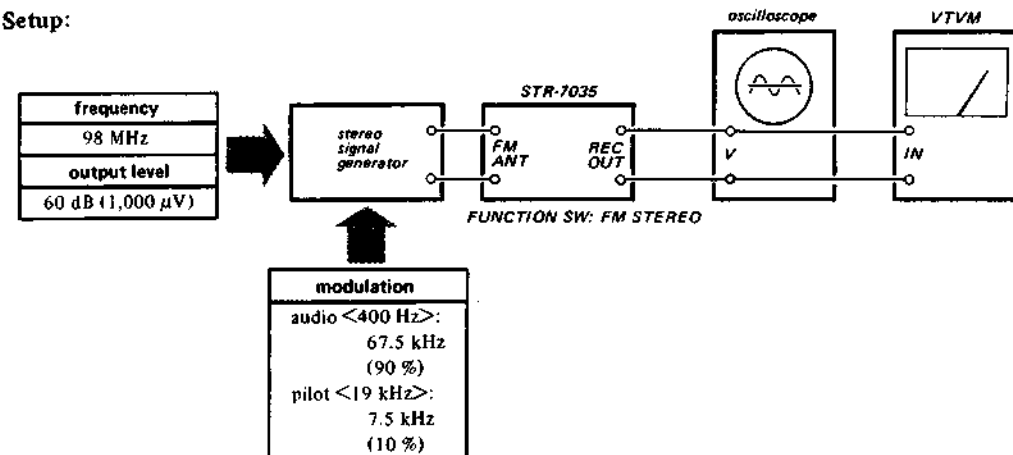



Setup:

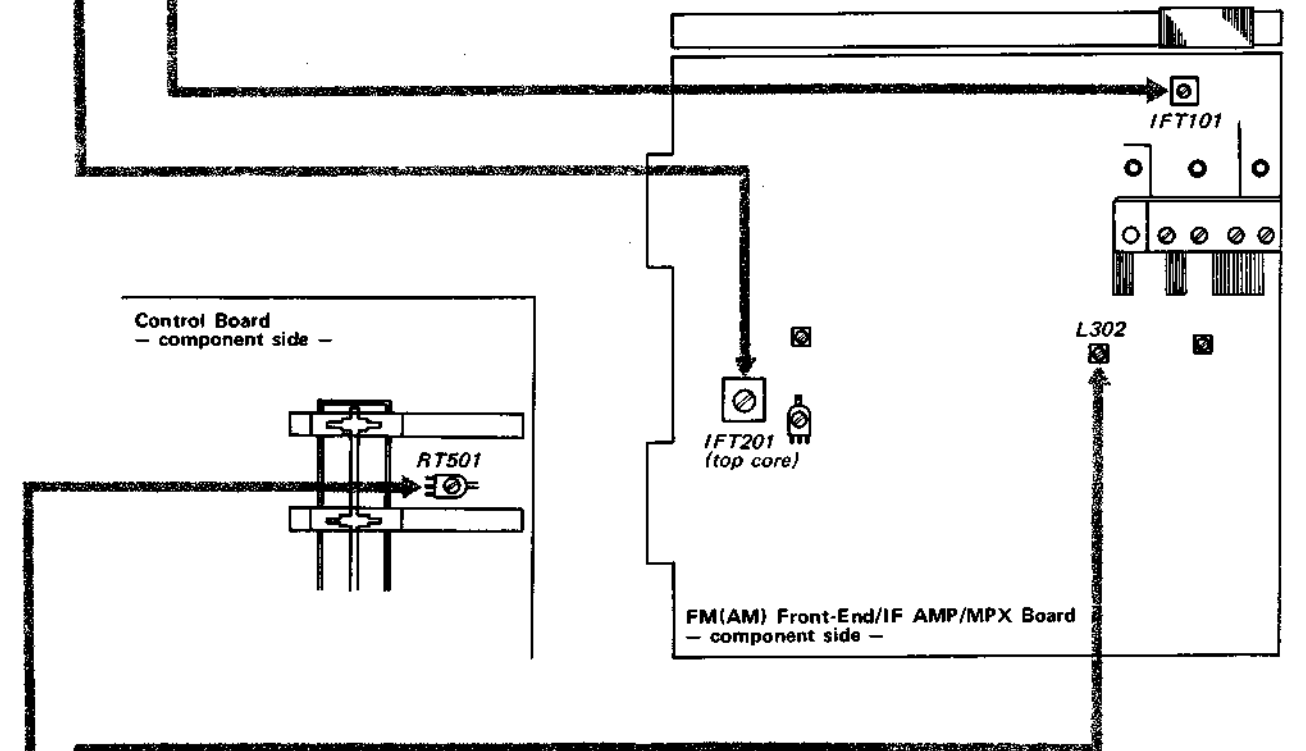


3-2. FM STEREO SEPARATION ADJUSTMENT (See p.6 for the procedure.)

Setup:



FM IF AND DISCRIMINATOR		
Step	Signal Generator Setting: Frequency = (center freq. of ceramic filter) Modulation	Procedure
1	FM 400 Hz 75 kHz deviation (100 %)	Tune STR-7035 to SG signal.
	AM 400 Hz 30 %	Oscilloscope  Adjust
	FM 400 Hz 75 kHz deviation (100 %)	Adjust for maximum reading on VTVM.



FM STEREO SEPARATION				
Step	FM SG signal mode	Read receiver's output at	VTVM reading	Remarks
				Adjust for maximum reading on VTVM.
2	1) L-CH	L-CH REC OUT	(A)	Adjust for maximum reading on VTVM.
	2) R-CH	L-CH REC OUT	(B)	
	3) R-CH	R-CH REC OUT	(C)	
	4) L-CH	R-CH REC OUT	(D)	
	Readjust for (A) - (B) = (C) - (D).			

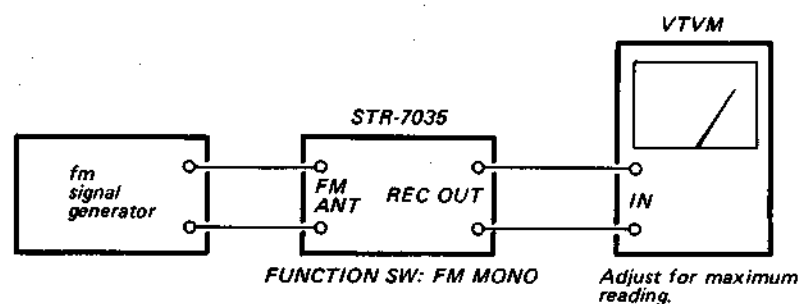
3-3. FM TRACKING ALIGNMENT

Never attempt alignment of the front-end section except for the frequency-coverage and dial-calibration adjustments. The front-end section of the tuner has been carefully adjusted at the factory, so that very little adjustment is necessary in the field.

If an rf-stage adjustment is required, ask your nearest SONY Service Station to send your unit to the Factory Service Center for a complete front-end alignment.

3-4. FM FREQUENCY COVERAGE ALIGNMENT (See p. 8 for the procedure.)

Setup:

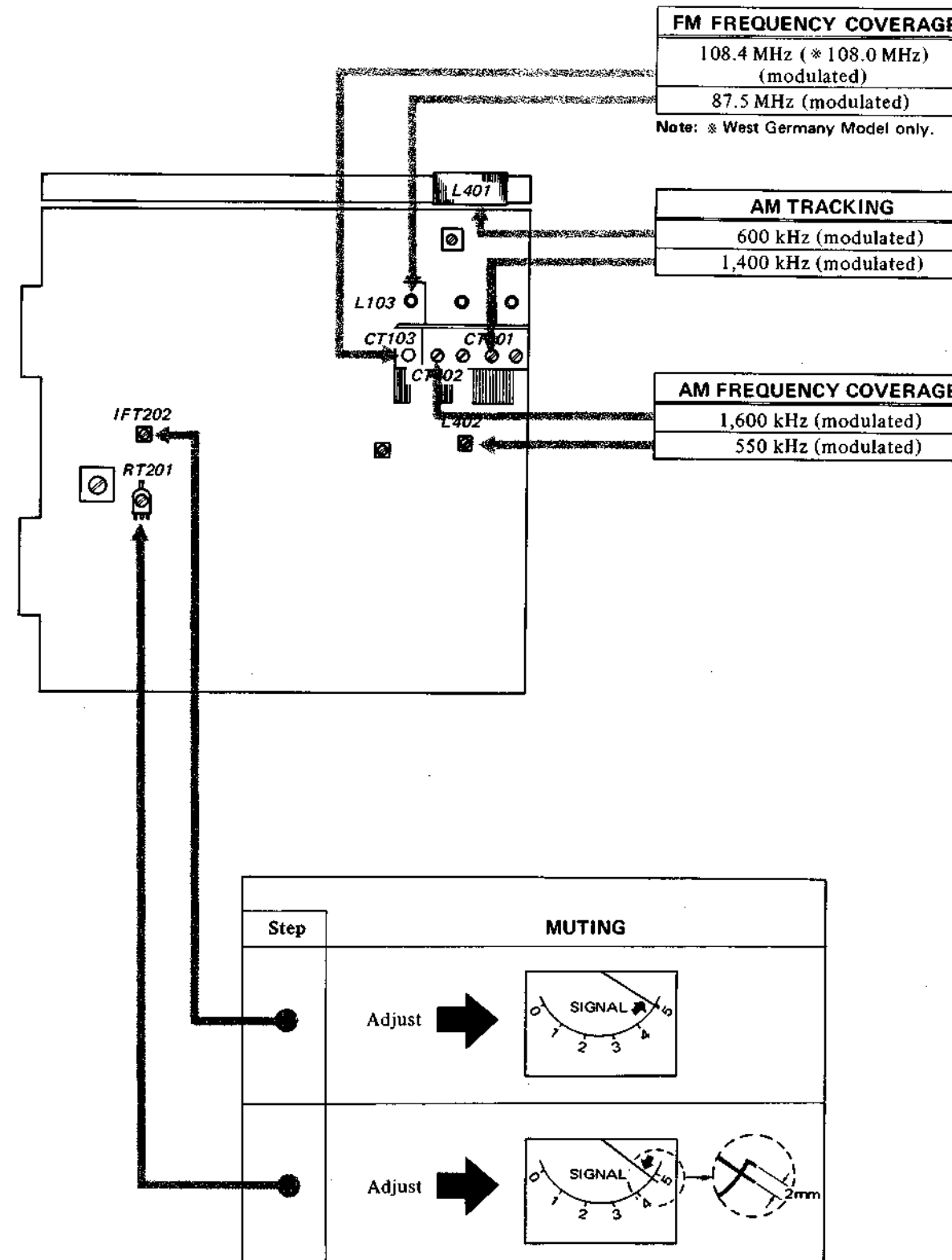


FM FREQUENCY COVERAGE
108.4 MHz (* 108.0 MHz) (modulated)
87.5 MHz (modulated)

Note: * West Germany Model only.

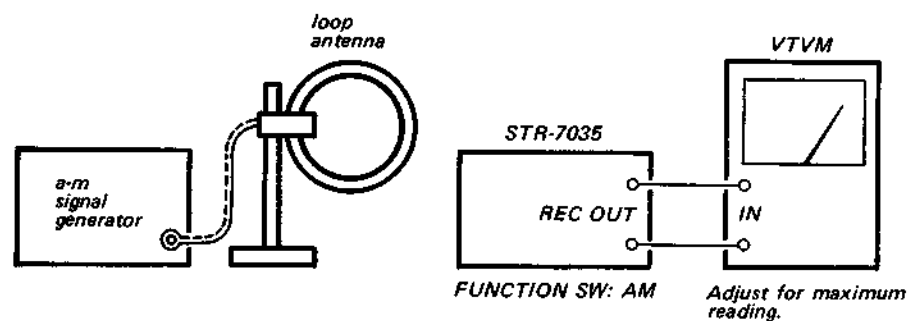
AM TRACKING
600 kHz (modulated)
1,400 kHz (modulated)

AM FREQUENCY COVERAGE
1,600 kHz (modulated)
550 kHz (modulated)



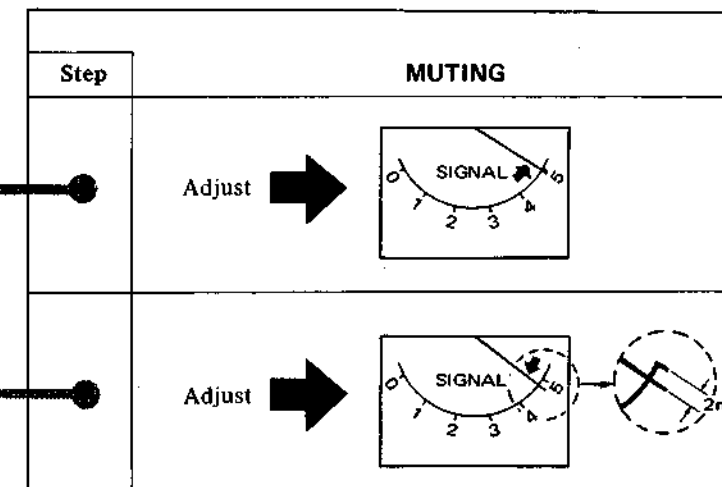
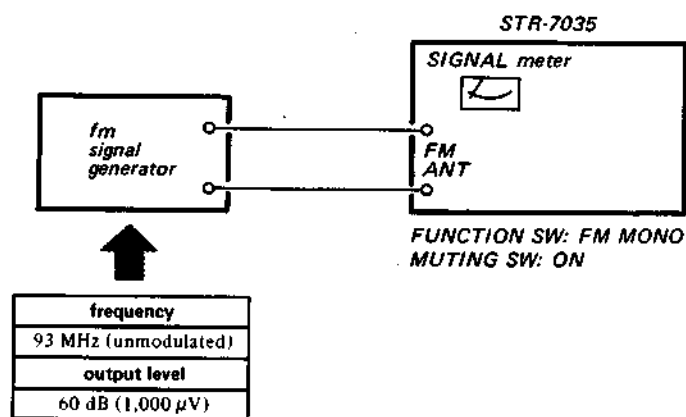
3-5. AM FREQUENCY COVERAGE AND TRACKING ALIGNMENT (See p. 8 for the procedure.)

Setup:



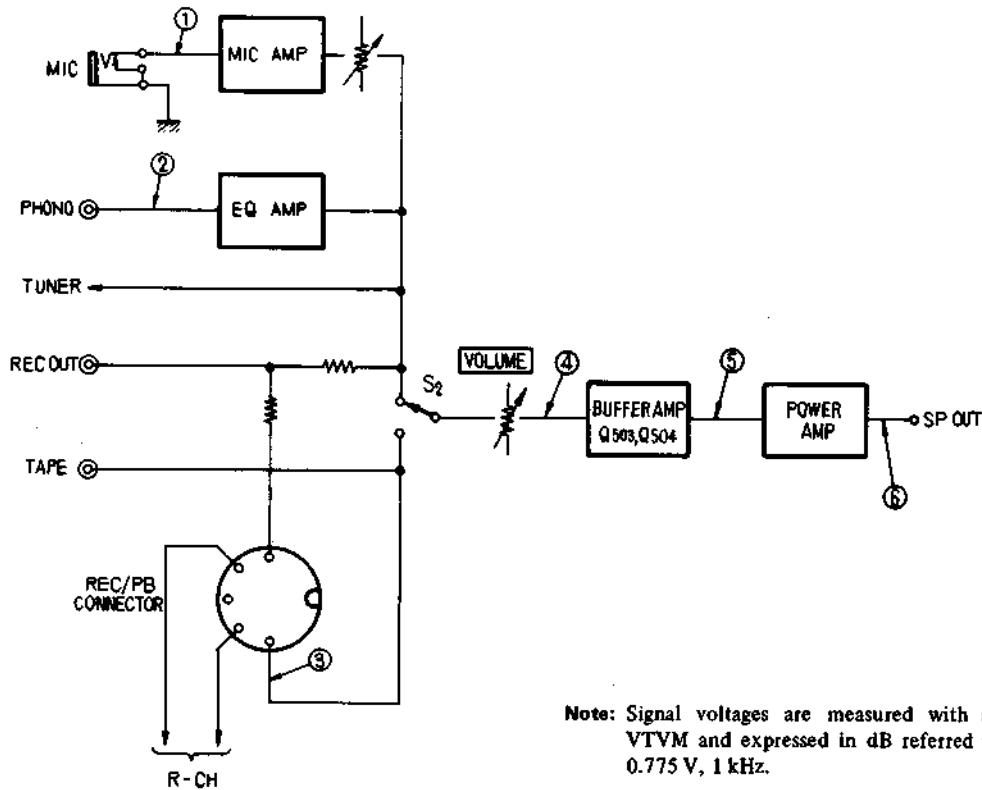
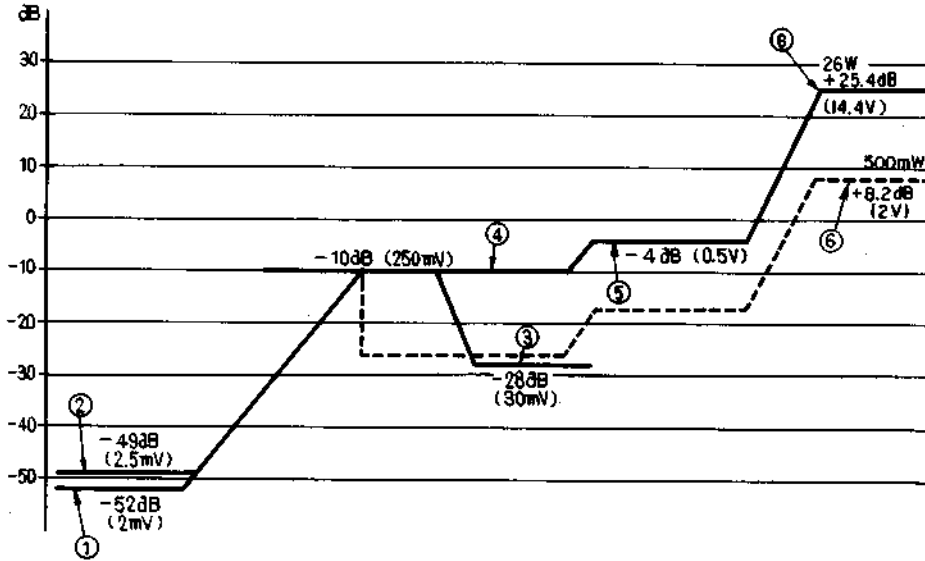
3-6. MUTING ADJUSTMENT (See p. 8 for the procedure.)

Setup:



SECTION 4
DIAGRAMS

4-1. LEVEL DIAGRAM

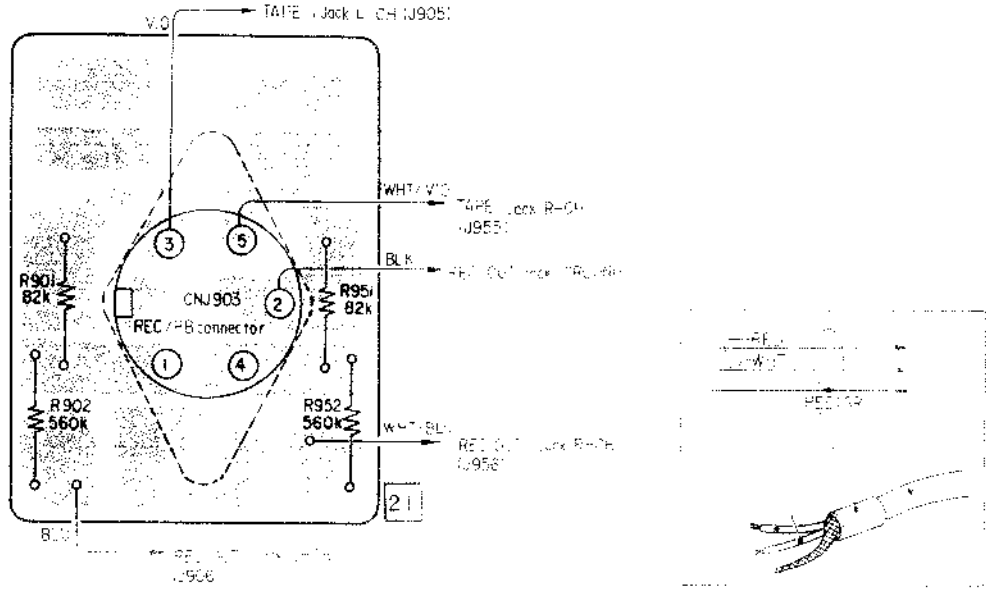


Note: Signal voltages are measured with ac VTVM and expressed in dB referred to 0.775 V, 1 kHz.

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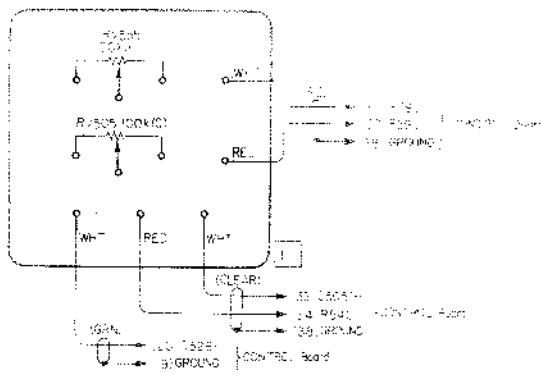
4-2. MOUNTING DIAGRAM – REC/PB Connector Board –

– Conductor Side –



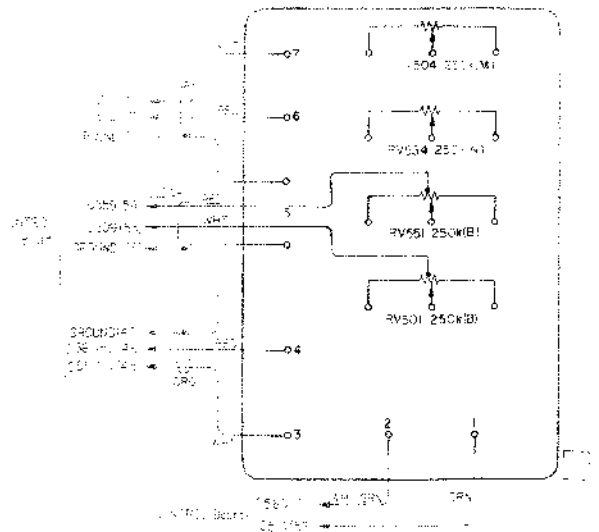
4-3. MIC Level Control Board

– Conductor Side



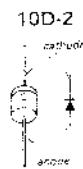
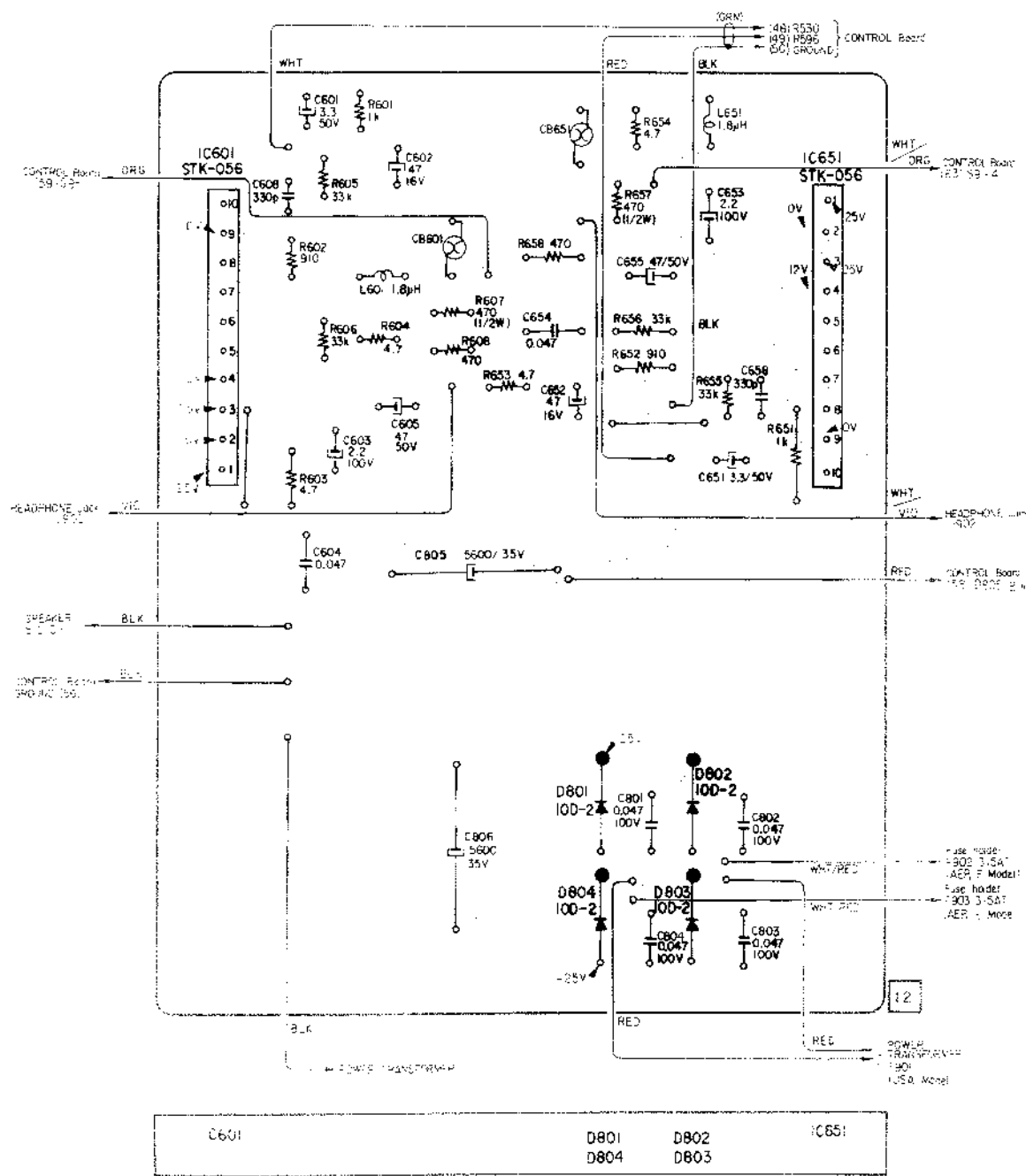
4-4. VOLUME Control Board

– Conductor Side



4-5. MOUNTING DIAGRAM - Power Amp/Power Supply Board -

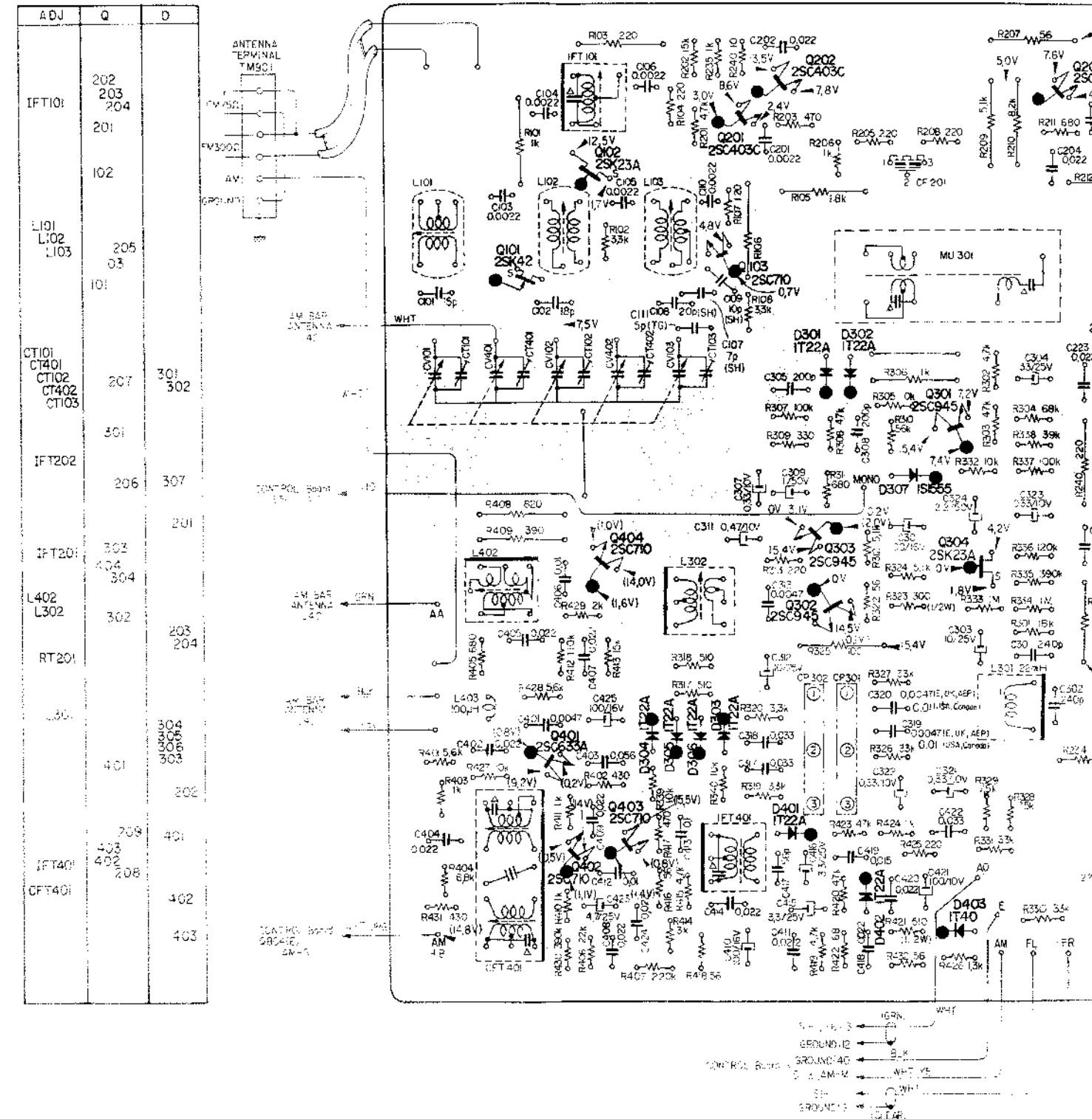
Conductor Side



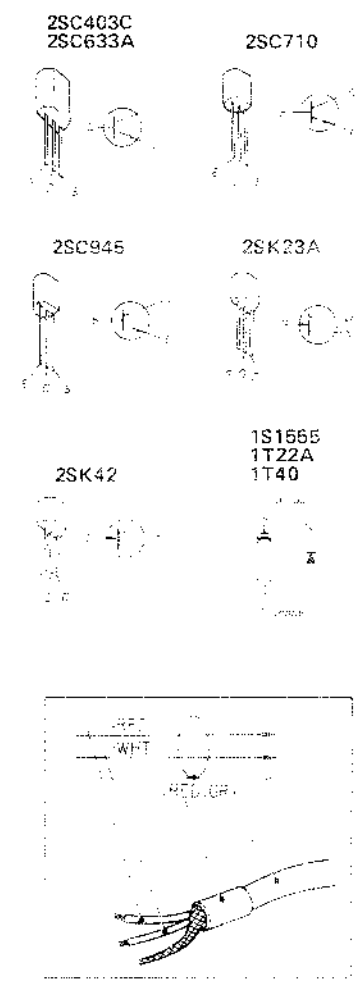
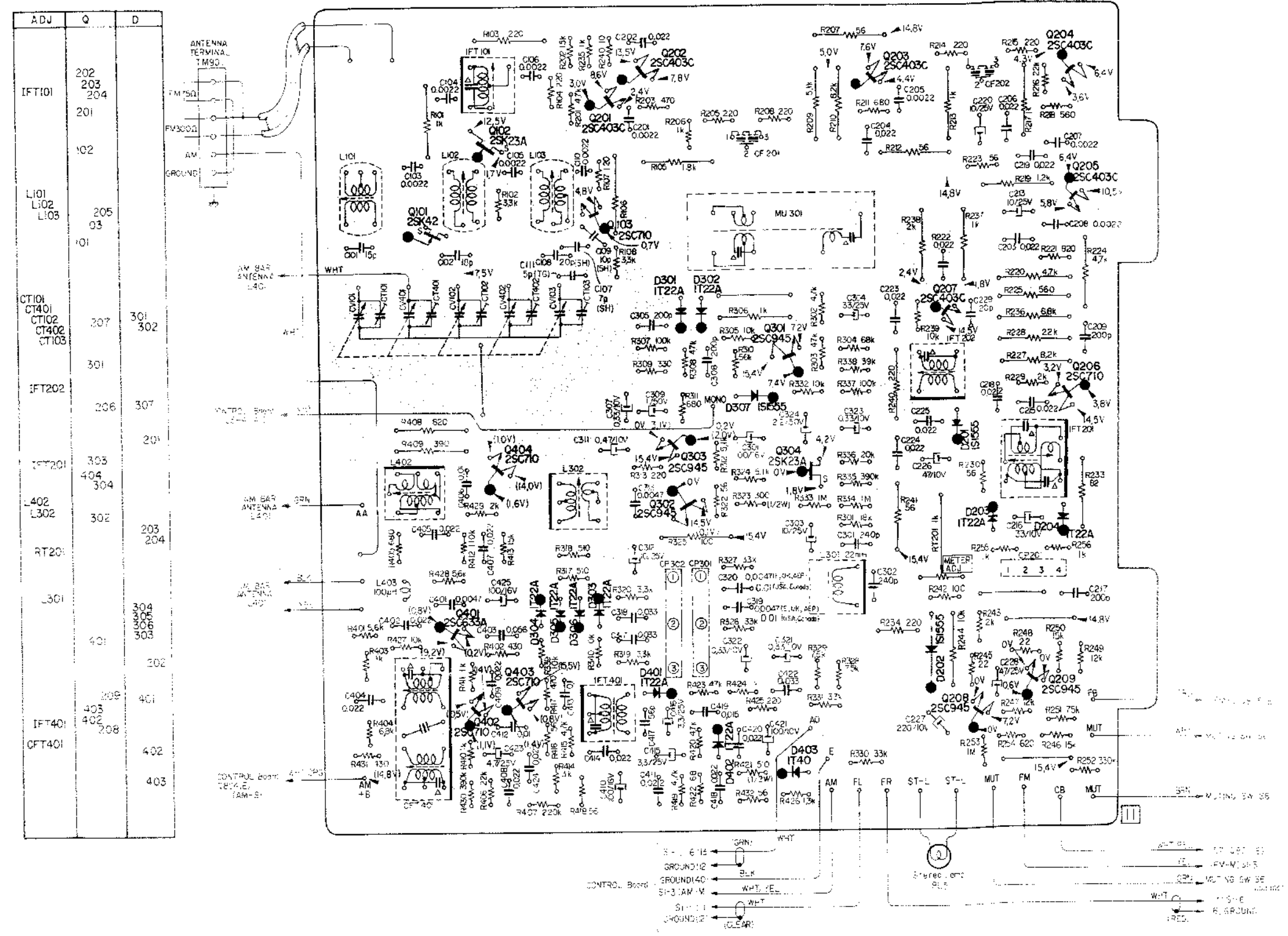
Note:
 All resistance values are in ohms. k = 1,000, M = 1,000 k
 All capacitance values are in μ F except as indicated with p, which means pF.
 All voltages are dc measured with a VOM which has an input impedance of 20k ohms/volt. No signal in.
 Voltage variations may be noted due to normal production tolerances.

4-6. MOUNTING DIAGRAM - Fm(A-m) Front End/I-f Amp/MPX Board -

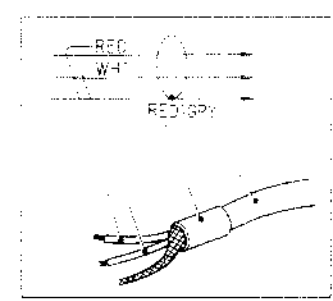
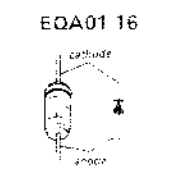
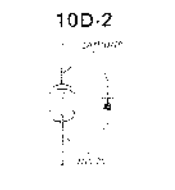
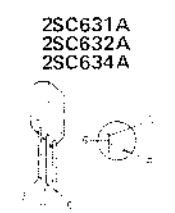
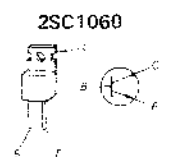
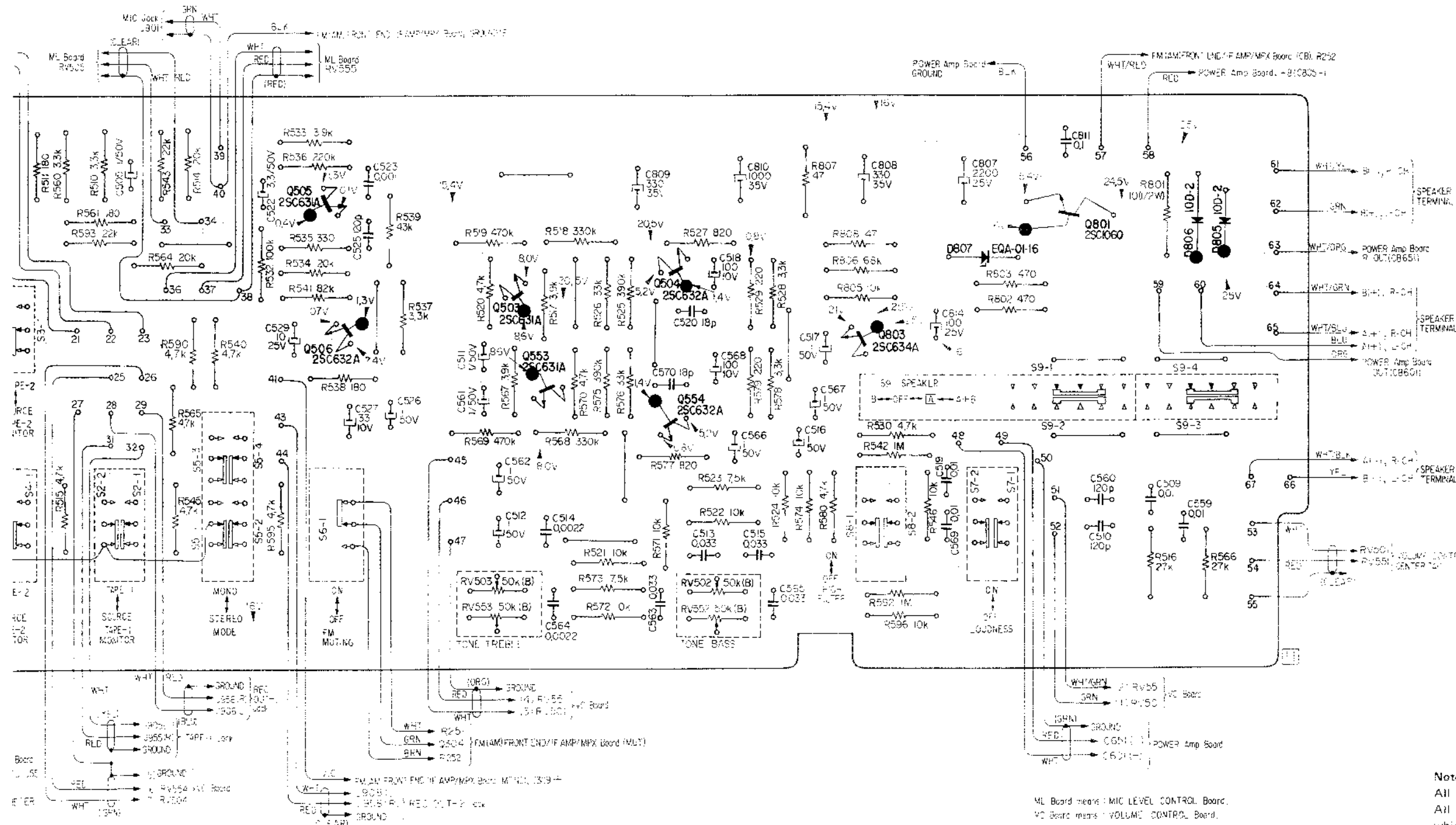
Conductor Side



4-6. MOUNTING DIAGRAM - Fm(A-m) Front End/I-f Amp/MPX Board -
 - Conductor Side -



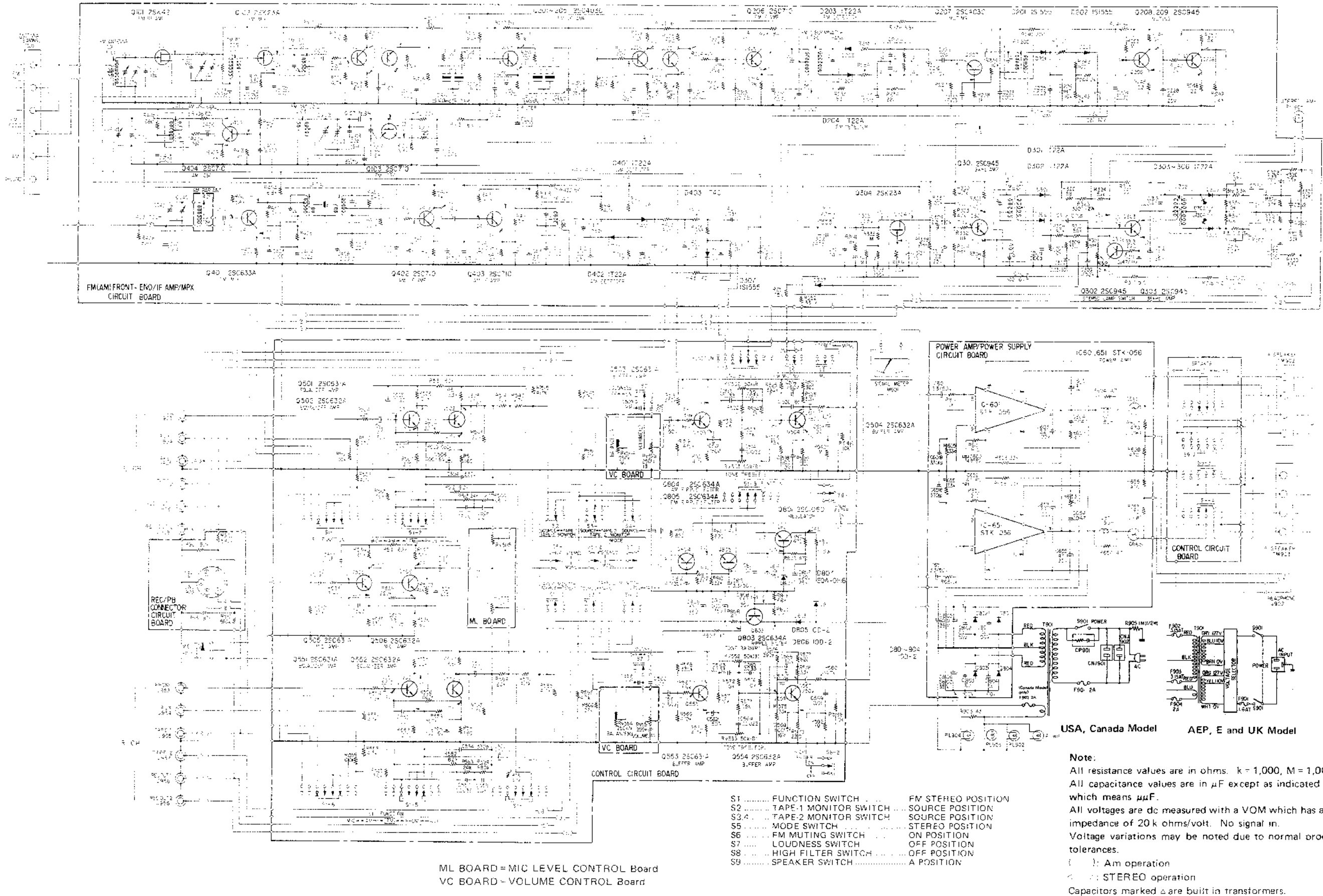
Note:
 All resistance values are in ohms k = 1,000 M = 1,000 k
 All capacitance values are in μ F except as indicated with p, which means μ F.
 All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.
 Voltage variations may be noted because of normal production tolerances.
 () : AM operation
 () : STEREO operation
 Capacitors marked () are built-in transformers.
 A bold line by a coil (or a transformer) shows the face of the coil (or a transformer) with its stenciled part number.



Q505	Q503	Q504	Q803	D807	Q801	D806	D805
Q506	Q553	Q554					

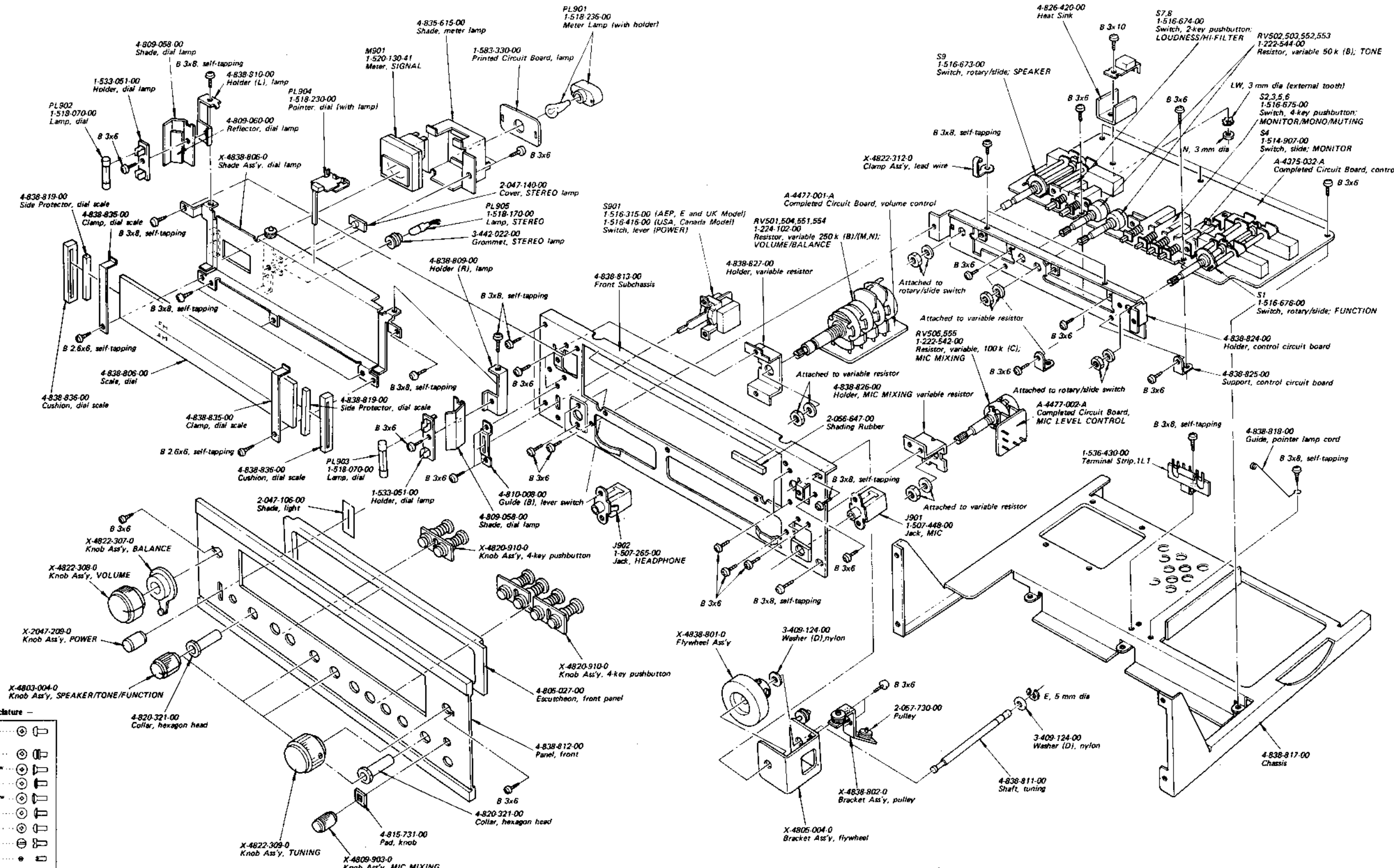
Note:
 All resistance values are in ohms. k = 1,000, M = 1,000k
 All capacitance values are in μF except as indicated with p, which means μF .
 All voltages are dc measured with a VOM which has an input impedance of 20k ohms/volt. No signal in.
 Voltage variations may be noted due to normal production tolerances.
 : : Am operation
 < : STEREO operation

4-8. SCHEMATIC DIAGRAM



SECTION 5 EXPLODED VIEWS

(1)



Hardware Nomenclature

P	— Pan Head Screw	
PS	— Pan Head Screw with Spring Washer	
K	— Flat Counterbunk Head Screw	
B	— Binding Head Screw	
RK	— Oval Counterbunk Head Screw	
T	— Truss Head Screw	
R	— Round Head Screw	
F	— Flat Filister Head Screw	
SC	— Set Screw	
E	— Retaining Ring (E Washers)	
W	— Washer	
SW	— Spring Washer	
LW	— Lock Washer	
N	— Nut	

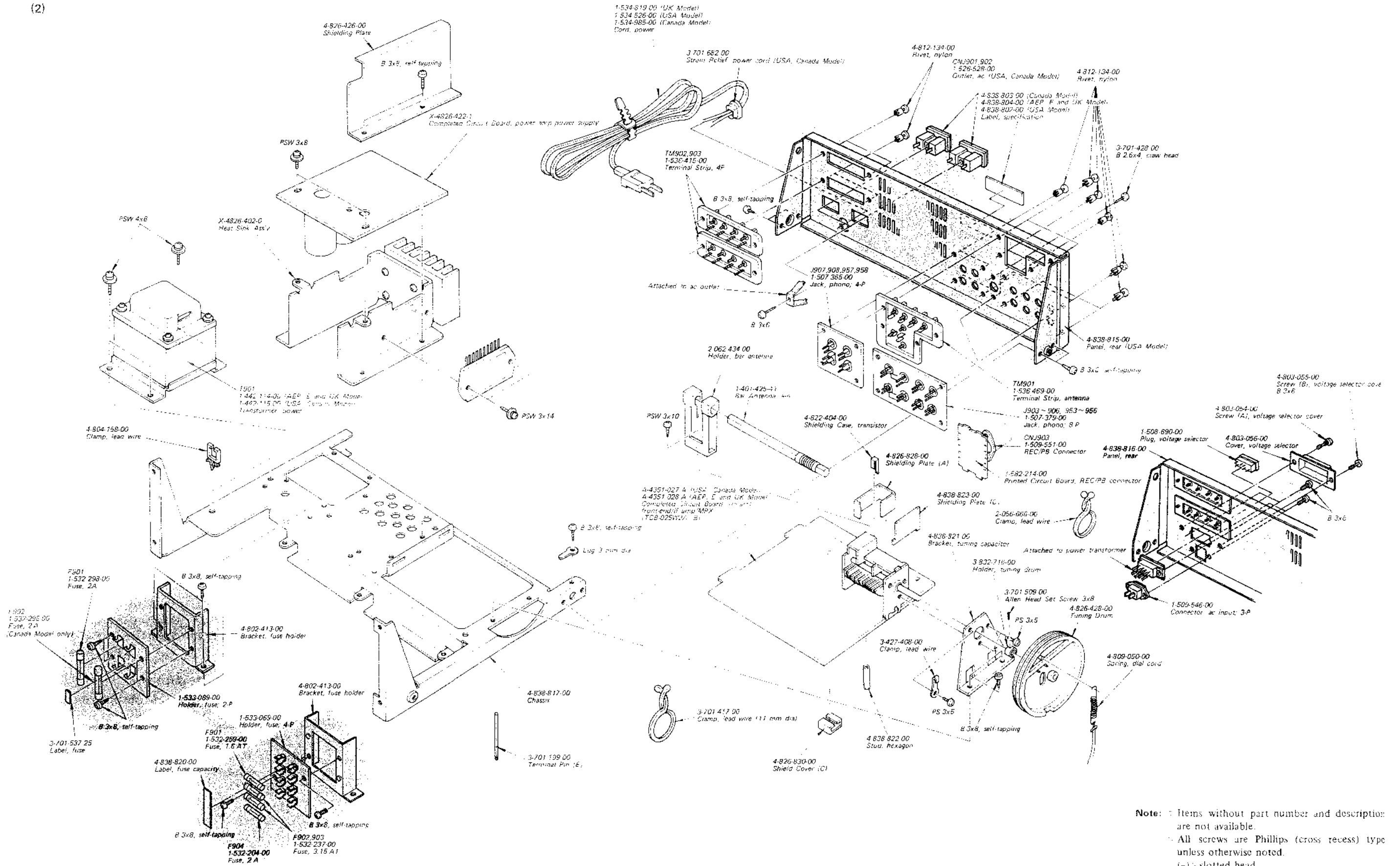
Example

— Type of Slot
 P 3x10
 Length in mm (L)
 Diameter in mm (D)
 Type of Head

Note: ◦ Items without part number and description are not available.
◦ All screws are Phillips (cross recess) type unless otherwise noted.
(-)= slotted head

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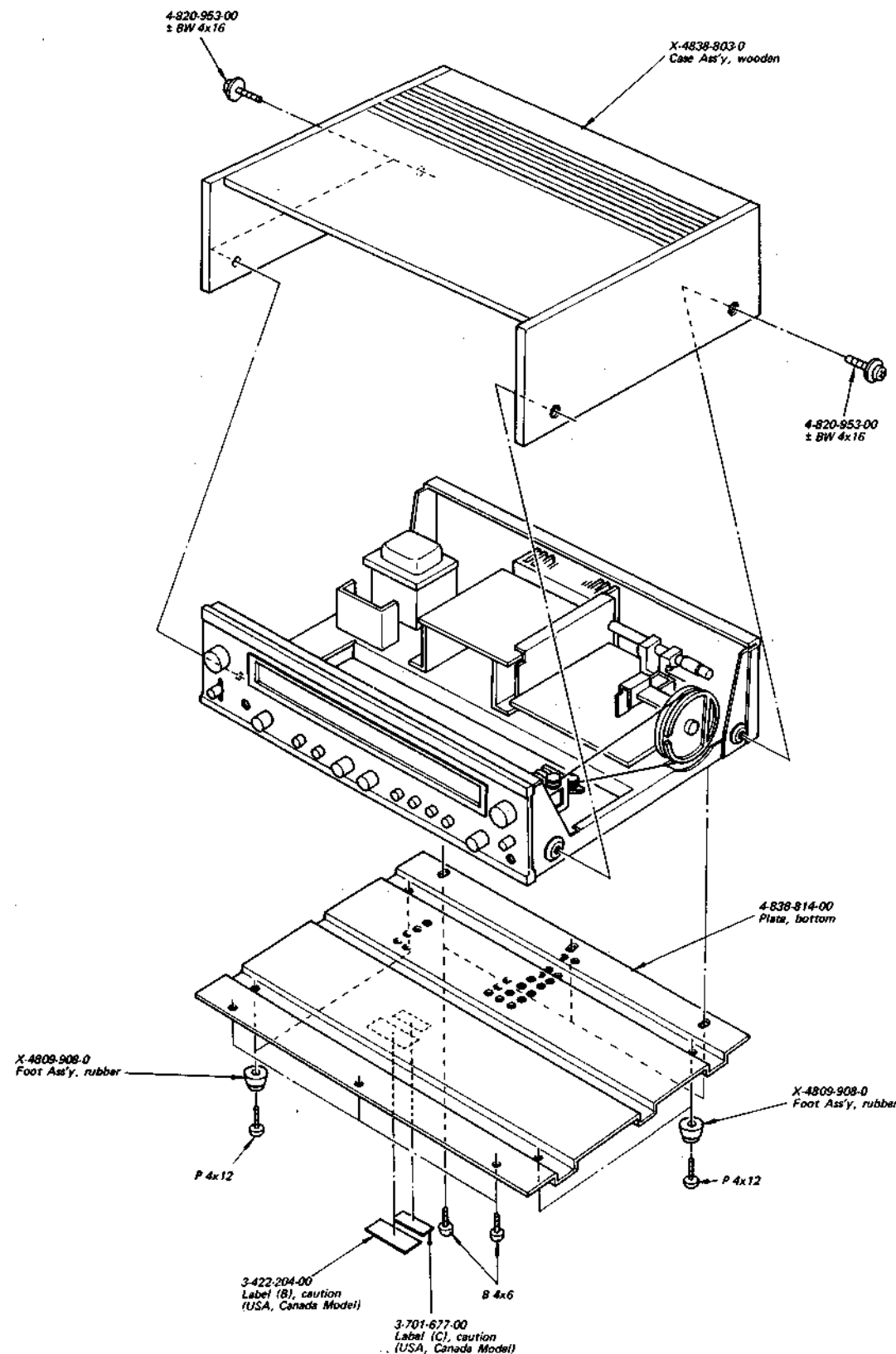
(2)



Note: - Items without part number and description are not available.
- All screws are Phillips (cross recess) type unless otherwise noted.
- (-) - slotted head

SECTION 6
ELECTRICAL PARTS LIST

(3)



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
CIRCUIT BOARDS					
A-4351-027-A	Fm (A-m) Front-end/I-f Amp/MPX (TCB-025W2A), complete (USA, Canada Model)	D201,D202	1S1555		
A-4351-028-A	Fm (A-m) Front-end/I-f Amp/MPX (TCB-025W2B), complete (AEP, E and UK Model)	D203,D204	1T22A		
A-4375-032-A	Control, complete	D301~D306	1T22A		
A-4477-001-A	Volume Control, complete	D307	1S1555		
A-4477-002-A	MIC Level Control, complete	D401,D402	1T22A		
X-4826-422-1	Power Amp/Power Supply, complete	D403	1T40		
1-582-214-00	REC/PB Connector	D801~D806	10D-2		
1-583-330-00	Lamp				
SEMICONDUCTORS					
Transistors					
Q101	2SK42 (FET)				
Q102	2SK23A (FET)				
Q103	2SC710				
Q201~Q205	2SC403C				
Q206	2SC710				
Q207	2SC403C				
Q208,Q209	2SC945				
Q301~Q303	2SC945				
Q304	2SK23A (FET)				
Q401	2SC633A				
Q402,Q403	2SC710				
Q501	2SC631A				
Q551	2SC632A				
Q502(Q552)	2SC632A				
Q503(Q553)	2SC631A				
Q504(Q554)	2SC632A				
Q505	2SC631A				
Q506	2SC632A				
Q801	2SC1060				
Q803~Q805	2SC634A				
ICs					
IC601(IC651)	STK-056				
Diodes					
TRANSFORMERS, COILS AND INDUCTORS					
CFT401	1-403-830-00 I-f Trans./Ceramic Filter, 468 kHz (AEP, E and UK Model)				
CFT401	1-403-150-00 I-f Trans./Ceramic Filter, 455 kHz (USA, Canada Model)				
IFT101	1-403-914-00 IFT, 10.7 MHz				
IFT201	1-403-291-00 Transformer, discriminator				
IFT202	1-403-295-00 IFT, fm; 10.7 MHz				
IFT401	1-403-149-00 IFT, 455 kHz				
L101	1-401-541-00 Coil, fm antenna				
L102	1-405-599-00 Coil, fm rf				
L103	1-405-598-00 Coil, fm osc				
L301	1-407-418-00 Inductor, shielded; 22 mH				
L302	1-425-683-00 Transformer, switching				
L401	1-401-425-41 Bar Antenna, a-m				
L402	1-405-444-00 Coil, a-m osc				
L403	1-407-169-00 Microinductor, 100 μH				
L601(L651)	1-407-592-00 Microinductor, 1.8 μH				
MU301	1-425-548-00 Unit, MPX				
T901	1-442-114-00 Transformer, power (AEP, E and UK Model)				
T901	1-442-115-00 Transformer, power (USA, Canada Model)				
CAPACITORS					
Capacitors are in μF, ceramic type unless otherwise noted. (p = pF, elect = electrolytic)					
50 or less working volts are omitted except for electrolytic type.					
C101	1-102-951-11	15p			
C102	1-102-953-11	18p			

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Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
C103~C106	1-102-257-11	0.0022	C401	1-105-669-12	0.0047	C518(C568)	1-121-414-11	100	R801	1-244-825-11	10 ½W carbon
C107	1-102-875-11	7p	C402	1-101-924-11	0.022	C519(C569)	1-105-673-12	0.01	R905	1-202-719-11	1M ½W composition (USA, Canada Model)
C108	1-101-973-11	20p	C403	1-105-682-12	0.056	C520(C570)	1-102-957-11	18p	RT201	1-222-761-00	1 k, adjustable (meter adj.)
C109	1-101-978-11	10p	C404	1-101-924-11	0.022	C521	1-121-414-11	100	RT501	1-222-763-00	4.7 k, adjustable (separation adj.)
C110	1-102-257-11	0.0022	C405	1-105-677-12	0.022	C522	1-121-914-11	3.3	RV501	1-224-102-00	250 k (B)/(M,N), variable (VOLUME, BALANCE)
C111	1-102-872-11	5p	C406	1-105-673-12	0.01	C523	1-105-661-12	0.001	RV504		
C201	1-102-257-11	0.0022	C407	1-105-677-12	0.022	C525	1-102-816-11	120p	RV502		
C202~C204	1-101-924-11	0.022	C408,C409	1-101-924-11	0.022	C526	1-121-912-11	1	RV503	1-222-544-00	50 k (B), variable (BASS)
C205	1-102-257-11	0.0022	C410	1-121-415-11	100	C527	1-121-402-11	33	RV505		
C206	1-101-924-11	0.022	C411	1-101-924-11	0.022	C529	1-121-748-11	10	(RV555)	1-222-542-00	100 k (C), variable (MIC MIXING)
C207,C208	1-102-257-11	0.0022	C412	1-101-923-11	0.01	C601(C651)	1-121-914-11	3.3	SWITCHES		
C209	1-102-977-11	200p	C413	1-105-685-12	0.1	C602(C652)	1-121-409-11	47	S1	1-516-676-00	Rotary/Slide (FUNCTION)
C213	1-121-398-11	10	C414	1-101-924-11	0.022	C603(C653)	1-123-025-11	2.2	S2,S3	1-516-675-00	Pushbutton, 4-key (MONITOR, MONO, MUTING)
C215	1-101-924-11	0.022	C415,C416	1-121-392-11	3.3	C604(C654)	1-105-681-12	0.047	S4		
C216	1-121-402-11	33	C417	1-101-884-11	56p	C605(C655)	1-123-058-11	47	S7,S8	1-516-674-00	Pushbutton, 2-key (LOUDNESS, HI-FILTER)
C217	1-102-977-11	200p	C418	1-101-924-11	0.022	C608(C658)	1-102-112-11	330p	S9	1-516-673-00	Rotary/Slide (SPEAKER)
C218,C219	1-101-924-11	0.022	C419	1-105-675-12	0.015	C801~C804	1-105-725-12	0.1	S901	1-516-315-00	Lever (POWER) (AEP, E and UK Model)
C220	1-121-398-11	10	C420	1-105-677-12	0.022	C805,C806	1-123-135-11	5600		1-516-416-00	Lever (POWER) (USA, Canada Model)
C222~C225	1-101-924-11	0.022	C421	1-121-414-11	100	C807	1-123-067-11	2200	FILTERS		
C226	1-121-352-11	47	C422	1-105-679-12	0.033	C808,C809	1-123-064-11	330	CF201	1-527-220-00	Fm I-f, ceramic; 10.7 MHz
C227	1-121-420-11	220	C423	1-121-395-11	4.7	C810	1-121-945-11	1000	CF202		
C228	1-121-395-11	4.7	C424	1-101-924-11	0.022	C811	1-105-685-12	0.1	FUSES		
C229	1-102-958-11	20p	C425	1-121-415-11	100	C812	1-121-410-11	47	F901	1-532-259-00	1.6 AT (AEP, E and UK Model)
C301,C302	1-107-140-11	240p	C501(C551)	1-121-914-11	3.3	C813	1-121-914-11	3.3	F902	1-532-298-00	2 A (USA, Canada Model)
C303	1-121-398-11	10	C502(C552)	1-105-661-12	0.001	C814	1-121-935-11	100	F902,F903	1-532-237-00	3.15 AT (AEP, E and UK Model)
C304	1-121-404-11	33	C503	1-121-748-11	10	RESISTORS					
C305	1-102-977-11	200p	C504(C554)	1-102-112-11	330p	All resistors are in Ω. ¼ W, ±5%, carbon resistors (except special type) are omitted. Check schematic diagram for the resistance values. (k = 1000, M = 1000 k)					
C307	1-127-021-11	0.33	C505(C555)	1-121-912-11	1	R323	1-202-560-11	300	F904	1-532-204-00	2 A (AEP, E and UK Model)
C308	1-102-977-11	200p	C506(C556)	1-121-415-11	100	R418	1-211-516-11	56			
C309	1-121-391-11	1	C507(C557)	1-105-667-12	0.0033	R421	1-202-566-11	510			
C310	1-121-415-11	100	C508(C558)	1-105-673-12	0.01	R432	1-211-516-11	56			
C311	1-127-022-11	0.47	C509(C559)	1-105-673-12	0.01	R607(R657)	1-202-565-11	470			
C312	1-121-398-11	10	C510(C560)	1-102-816-11	120p						
C313	1-103-575-11	0.0047	C511(C561)	1-121-912-11	1						
C317,C318	1-105-679-12	0.033	C512(C562)	1-121-912-11	1						
C319,C320	1-105-673-12	0.01	C513(C563)	1-105-679-12	0.033						
C319,C320	1-105-669-12	0.0047	C514(C564)	1-105-665-12	0.0022						
C321~C323	1-127-021-11	0.33	C515(C565)	1-105-679-12	0.033						
C324	1-123-050-11	2.2	C516(C566)	1-121-912-11	1						
			C517(C567)	1-121-912-11	1						

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
LAMPS		
PL901	1-518-236-00	Meter
PL902)	1-518-070-00	Dial, 8 V 300 mA
PL903		
PL904	1-518-230-00	Pointer, dial
PL905	1-518-170-00	Stereo, 4.5 V 40 mA
MISCELLANEOUS		
CB601)	1-532-380-41	Circuit Breaker, 2.2A
(CB651)		
CNJ901)	1-526-528-00	Outlet, ac (USA, Canada Model)
CNJ902		
CNJ903	1-509-551-00	Connector, REC/PB
CP201	1-231-278-00	Encapsulated Component
CP301)	1-231-224-00	Encapsulated Component
CP302		
CP901	1-231-057-00	Encapsulated Component (USA, Canada Model)
J901	1-507-448-00	Jack, MIC
J902	1-507-265-00	Jack, HEADPHONE
J903~J906)	1-507-379-00	Jack, phono; 8-P
J953~J956		
J907(J957))	1-507-365-00	Jack, phono; 4-P
J908(J958)		

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
M901	1-520-130-41	Meter, SIGNAL
TM901	1-536-469-00	Terminal Strip (ANTENNA)
TM902)	1-536-415-00	Terminal Strip, 4-P
TM903		
	1-509-546-00	Connector, ac input; 3-P (AEP, E and UK Model)
	1-508-690-00	Plug, voltage selector (AEP, E and UK Model)
	1-533-051-00	Holder, dial lamp
	1-533-069-00	Holder, fuse; 4-P (AEP, E and UK Model)
	1-533-089-00	Holder, fuse; 2-P (USA, Canada Model)
	1-534-526-00	Cord, power (USA Model)
	1-534-819-00	Cord, power (UK Model)
	1-534-985-00	Cord, power (Canada Model)
	1-536-430-00	Terminal Strip, 1L1
	1-535-089-00	Pin, terminal

ACCESSORIES AND PACKING MATERIALS

X-3701-029-0	Card Ass'y, warranty (USA Model)
X-4490-002-0	Cloth Ass'y, polishing
1-501-161-11	Ribbon Antenna, fm
1-534-754-00	Cord, power (E Model)
3-429-126-00	Bag, polyethylene; receiver
3-701-020-00	Bag, polyethylene; instruction manual
3-701-730-00	Bag, polyethylene; IBM card (USA Model)
3-701-742-00	Card, IBM (USA Model)
3-780-481-13	Manual, instruction (Canada, AEP, E and UK Model)
3-780-481-23	Manual, instruction (USA Model)
4-838-830-00	Carton
4-838-831-00	Cushion