

STR-V1

US Model
Canadian Model



FM STEREO/FM-AM RECEIVER

SPECIFICATIONS

GENERAL

Power Requirements: 120V ac, 60Hz
Power Consumption: 70W
AC Outlet: 1 unswitched, 200W
Dimensions: Approx. 465 (w) x 145 (h) x 345 (d) mm
18 1/8 (w) x 5 3/4 (h) x 13 5/8 (d) inches
Weight: Approx. 8.1 kg, 17 lb 14 oz (net)
10 kg, 22 lb 1 oz (in shipping carton)

FM TUNER SECTION

Antenna: 300Ω balanced
75Ω unbalanced
Frequency Range: 87.5 MHz–108 MHz
Intermediate Frequency: 10.7 MHz
Sensitivity at 50 dB Quieting: 18.3 dBf, 4.5μV (13 dB) (MONO)
38.3 dBf, 45μV (33 dB) (STEREO)
Usable Sensitivity: 12.1 dBf, 2.2μV (6.8 dB)
S/N Ratio: 70 dB (MONO)
65 dB (STEREO)

Harmonic Distortion:

	MONO	STEREO
100 Hz	0.2%	0.8%
1 kHz	0.2%	0.8%
10 kHz	0.3%	1.5%

IM Distortion:

MONO	STEREO
0.2%	0.8%

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UN TRAMÉ ET UNE MARQUE  SUR LES DIAGRAMMES SCHEMATIQUES, LES VUES EXPLOSÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DES SUPPLÉMENTS PUBLIÉS PAR SONY.

— Continued on page 2 —

SONY®

SERVICE MANUAL

Separation: 35 dB at 100 Hz
 40 dB at 1 kHz
 30 dB at 10 kHz
Frequency Response: 30 Hz–15 kHz $\begin{smallmatrix} +1 \\ -2 \end{smallmatrix}$ dB
Selectivity: 60 dB at 400 kHz
Capture Ratio: 2.5 dB
AM Suppression Ratio: 45 dB
Image Response Ratio: 45 dB
IF Response Ratio: 90 dB
Spurious Response Ratio: 75 dB
RF Intermodulation: 60 dB
Sub-carrier Product Ratio: 45 dB
Muting Threshold: Approx. 5 μ V

AM TUNER SECTION

Antenna: Built-in ferrite-rod antenna
Frequency Range: 530 kHz–1,605 kHz
Intermediate Frequency: 455 kHz
Usable Sensitivity: 300 μ V/m (49.5 dB/m), built-in antenna
S/N Ratio: 50 dB at 50 mV/m
Harmonic Distortion: 0.5% at 50 mV/m, 400 Hz
Selectivity: 30 dB
Image Response Ratio: 30 dB at 1,000 Hz
IF Response Ratio: 50 dB at 1,000 Hz

AUDIO AMPLIFIER SECTION

Power Output and Total Harmonic Distortion: With 8 Ω loads, both channels driven from 30–20,000 Hz; rated 15W per channel minimum RMS power, with no more than 0.2% total harmonic distortion from 250mW to rated output.
Damping Factor: 30 at 1 kHz, 8 Ω
IM Distortion: Less than 0.2% at rated output
 (60 Hz:7 kHz = 4:1) Less than 0.1% at 1W output
Residual Noise: Less than 0.3 mV (A-network)
Frequency Response: PHONO
 RIAA equalization curve ± 1.5 dB
 TAPE
 20 Hz–50 kHz $\begin{smallmatrix} +0.5 \\ -3 \end{smallmatrix}$ dB
Inputs: Measured with rated output power into 8 Ω loads (both channels driven simultaneously) at 1 kHz.

	Sensitivity	Impedance	S/N	Weighting Network
PHONO	2.5 mV (–50 dB)	50 k Ω	75 dB	A
TAPE	150 mV (–14.5 dB)	100 k Ω	85 dB	A

Outputs: With rated input, FM 30% modulation, speaker rated output.

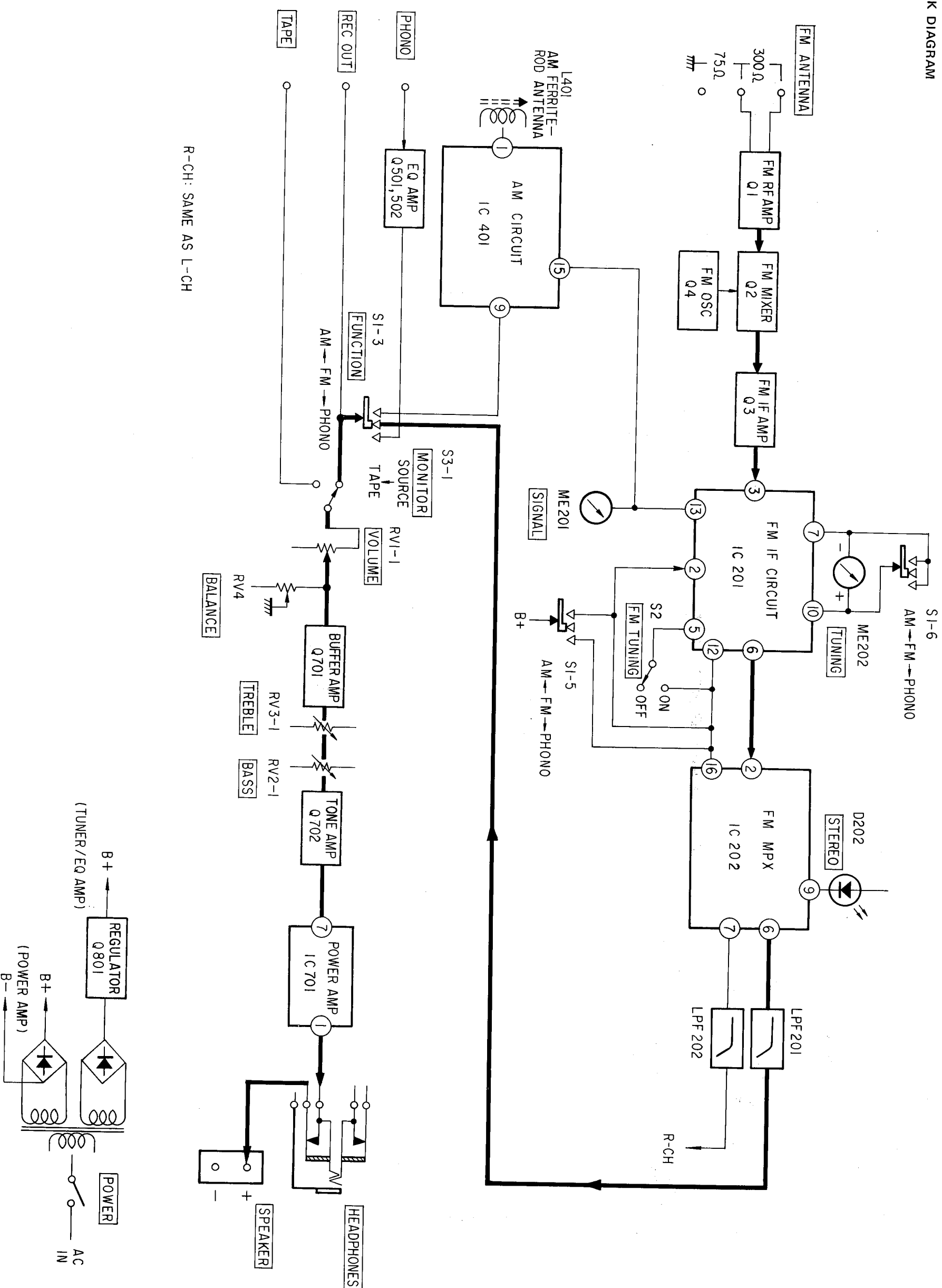
	Voltage	Impedance
REC OUT 1, 2	150 mV (–14.5 dB)	10 k Ω
HEADPHONES	Accepts 8 Ω to 10 k Ω headphones	
SPEAKER	8 Ω to 16 Ω speakers are suitable	

Tone Controls: BASS ± 10 dB at 100 Hz
 TREBLE ± 10 dB at 10 kHz
Loudness Control: +6 dB at 100 Hz (automatic)
 (att. 30 dB)

SECTION 1 OUTLINE

STR-V1 STR-V1

1-1. BLOCK DIAGRAM

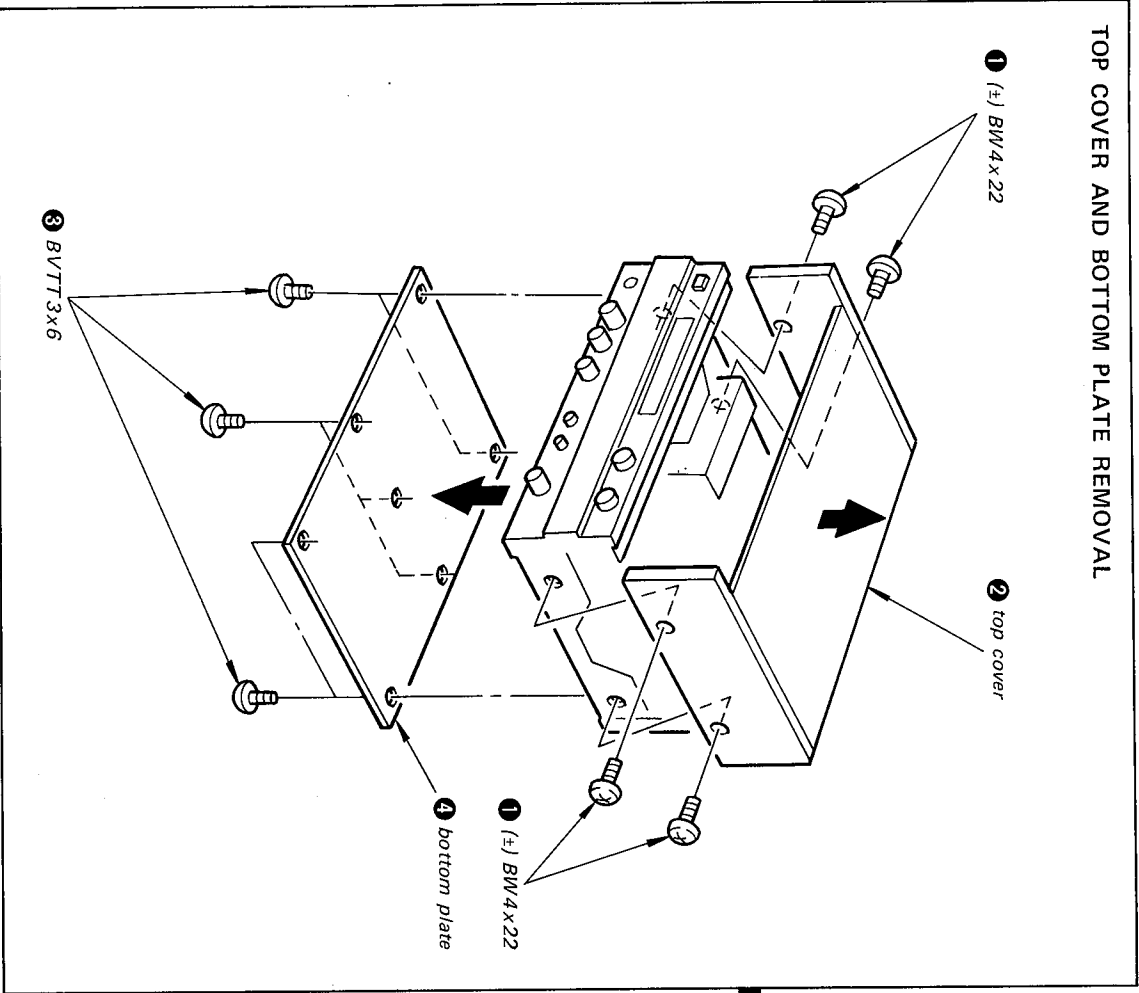


SECTION 2
DISASSEMBLY

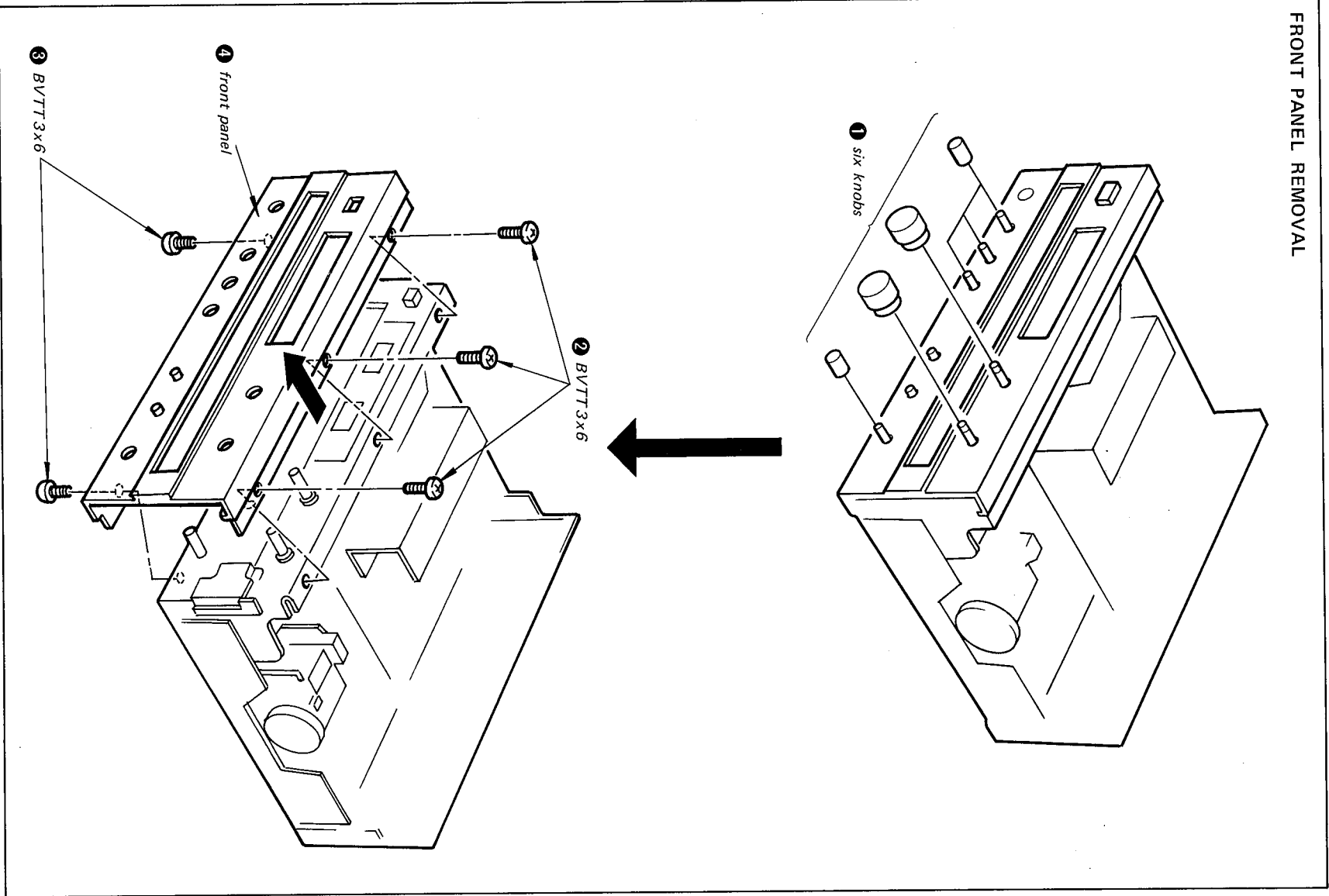
2.1. REMOVAL

- Follow the disassembly procedure in the numerical order given.

TOP COVER AND BOTTOM PLATE REMOVAL

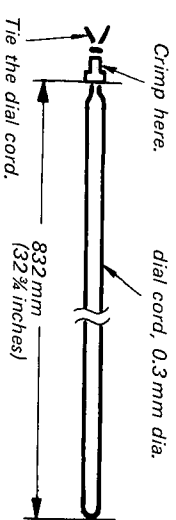


FRONT PANEL REMOVAL

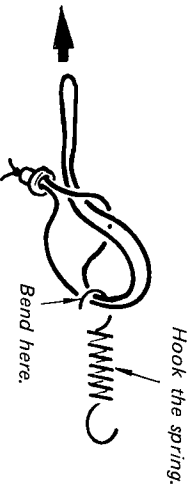


2.2. DIAL CORD STRINGING

1. Dial Cord Preparation

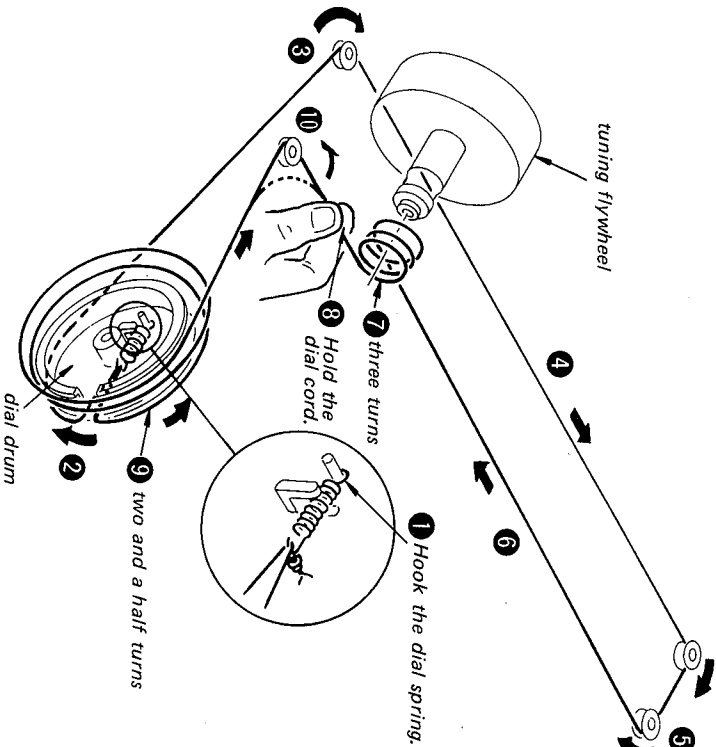


2. Dial Spring Installation

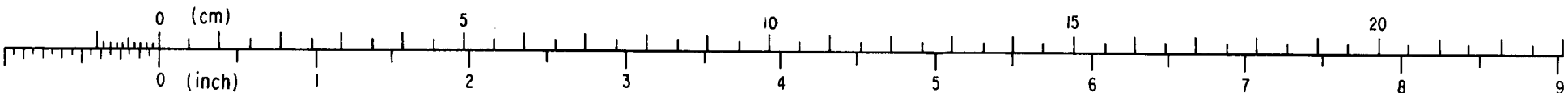
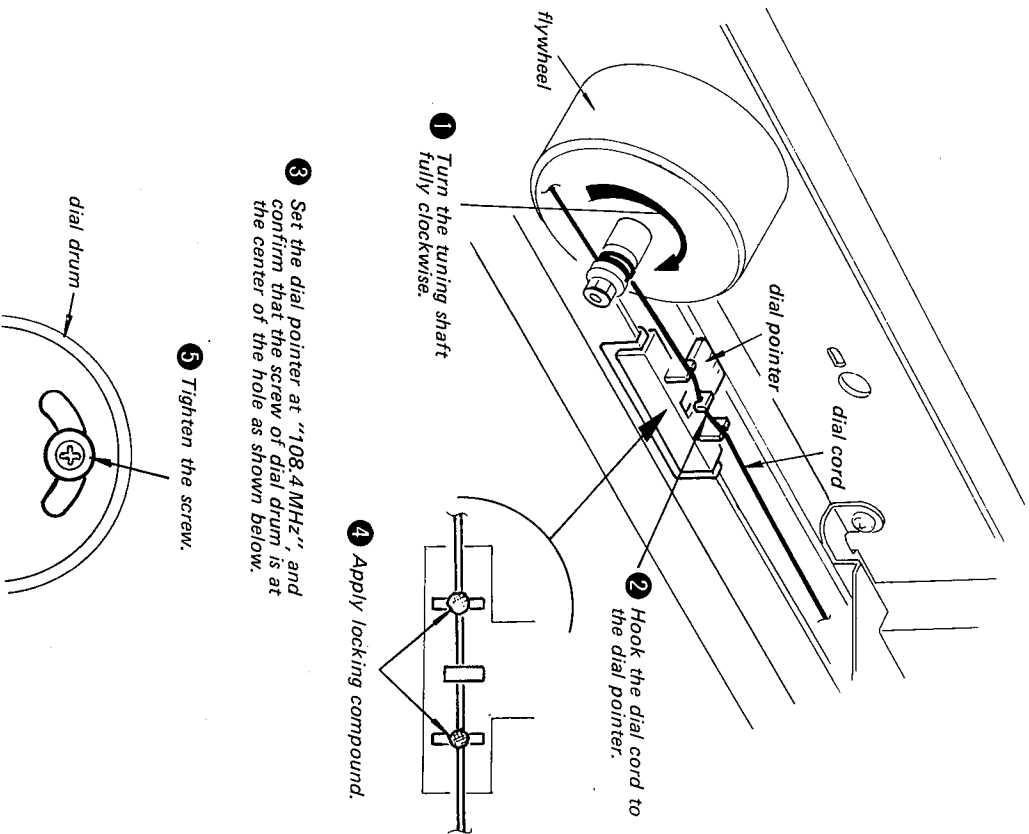


3. Dial Cord Stringing

Turn the dial drum fully counterclockwise.



4. Dial Pointer Installation

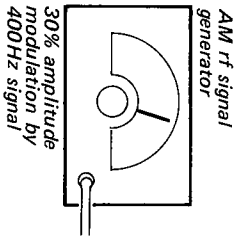


SECTION 3
ADJUSTMENTS

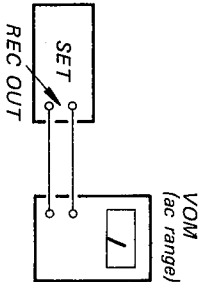
AM SECTION

Test Setup:

FUNCTION selector: AM



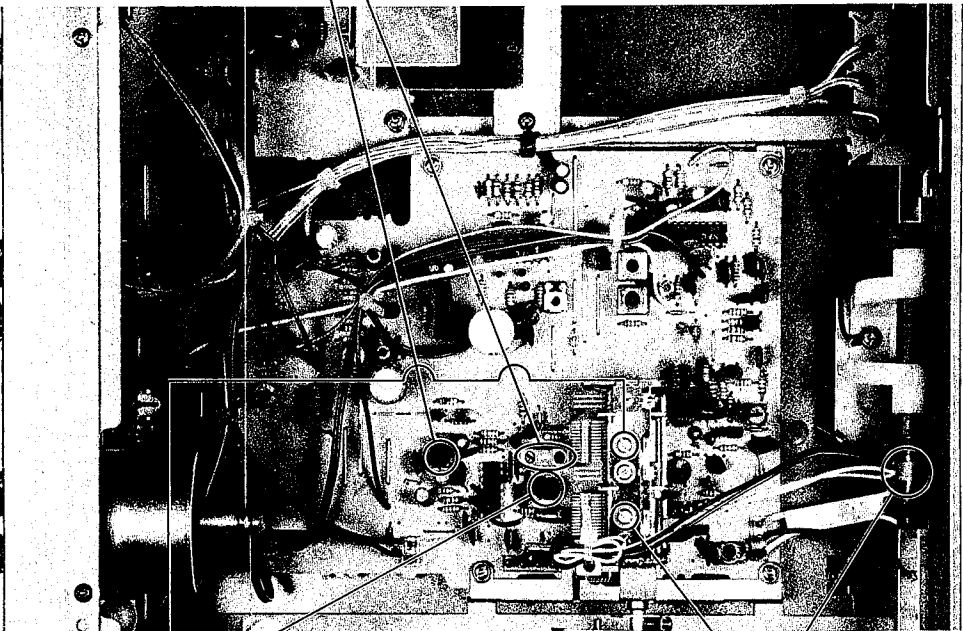
- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM.	
L401	600 kHz
CT401	1,400 kHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM.	
L402	520 kHz
CT402	1,680 kHz

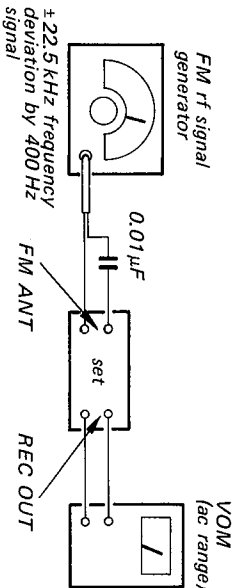
AM IF ALIGNMENT	
Adjust for a maximum reading on VOM.	
455 kHz	CT401 IFT401



FM SECTION

Test Setup:

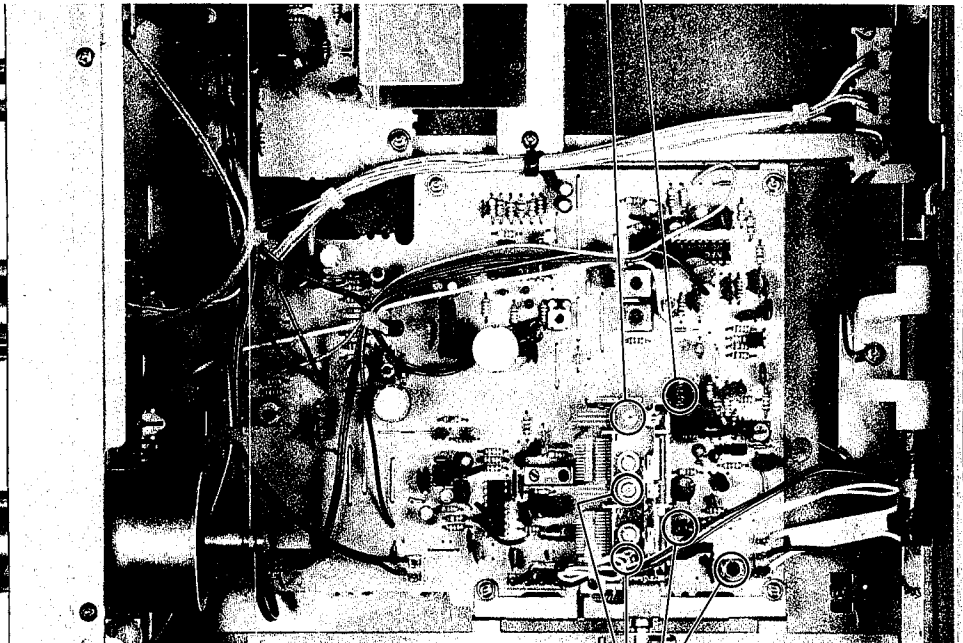
FUNCTION selector: FM

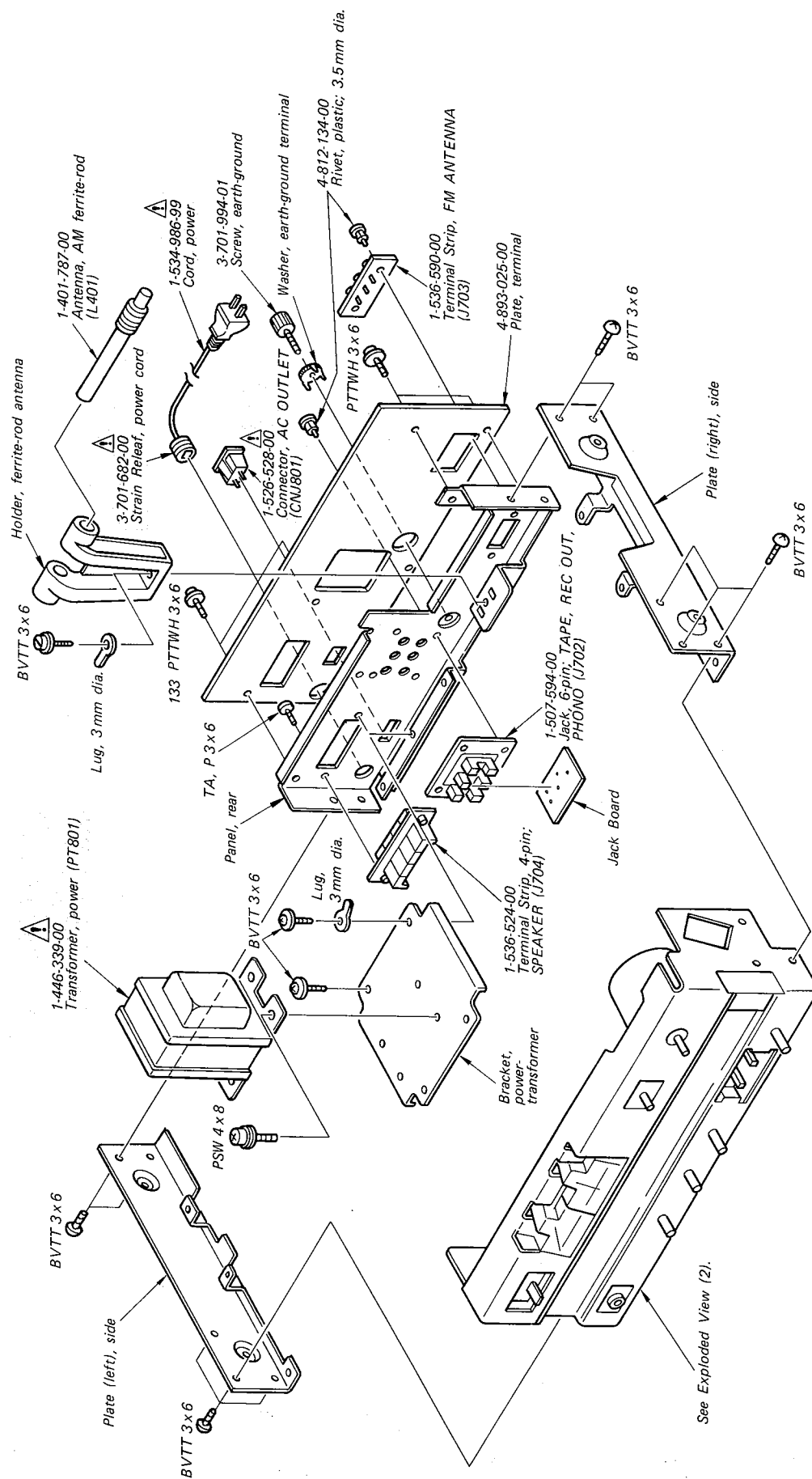


- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM.	
87.2 MHz	L4
108.4 MHz	CT-O

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM.	
L1-3	87.2 MHz
CT-A, -R	108.4 MHz



**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

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.

SECTION 6 ELECTRICAL PARTS LIST

Ref. No. Part No. Description

SEMICONDUCTORS

Transistors

⇒ Q1-4	8-729-671-13	2SC710
⇒ Q401,402	8-729-663-47	2SC1364
⇒ Q501,551 ⇒ Q502,552	8-729-665-47	2SC1362
⇒ Q701,751 ⇒ Q702,752	8-729-663-47	2SC1364
⇒ Q801	8-729-316-12	2SC1096
⇒ Q802	8-729-663-47	2SC1364

ICs

IC201	8-759-111-67	μPC1167C
IC202	1-800-750-11	μPC1161C
IC401	1-800-749-11	μPC1178C
IC701,751		HA1370

Diodes

⇒ D1	8-719-923-76	1S2076A
⇒ D201	8-719-139-07	RD3.9E
D202	8-719-901-41	SLP141D
⇒ D401	8-719-923-76	1S2076A
D402	8-719-168-07	RD6.8E
⇒ D801	8-719-500-34	S3VC40
⇒ D802	8-719-501-34	S3VC40R
⇒ D803-806	8-719-200-02	10E2
D807	1-800-824-11	RD27
⇒ D808-811	8-719-923-76	1S2076A

COILS AND TRANSFORMERS

CFT401	1-404-188-00	Transformer, ceramic-filter; AM IF
--------	--------------	------------------------------------

Ref. No. Part No. Description

IFT1	1-404-187-00	IFT, FM
IFT201	1-404-185-00	IFT, FM
IFT202	1-404-186-00	IFT, FM
IFT401	1-404-189-00	IFT, AM
L201	1-407-741-00	Microinductor, 18μH
L401	1-401-787-00	Antenna, AM ferrite-rod
L402	1-405-864-00	Coil, AM osc
PT801	 1-446-339-00	Transformer, power

CAPACITORS

All capacitors are in μF and ceramic unless otherwise noted.
50WV or less are not indicated except for electrolytics. p: μμF, elect: electrolytic

C1	1-102-942-00	5p
C2	1-102-954-00	10p
C3,4	1-101-924-00	0.022
C5	1-102-941-00	4p
C6	1-102-951-00	15p
C7	1-102-943-00	6p
C8	1-102-106-00	100p
C9-11	1-101-924-00	0.022
C12	1-102-644-00	30p
C13	1-102-941-00	4p
C14	1-102-505-00	6p
C15	1-102-514-00	22p
C16	1-102-508-00	10p
C17,18	1-101-924-00	0.022
C202-206	1-101-924-00	0.022
C207	1-121-391-00	1 50V elect
C209	1-121-391-00	1 50V elect
C210-213	1-101-924-00	0.022
C214	1-121-391-00	1 50V elect
C215	1-121-726-00	0.47 50V elect

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

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.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>			
C216	1-101-924-00	0.022			
C217	1-108-595-00	0.047	mylar		
C218	1-101-924-00	0.022			
C219	1-104-069-00	470p	styrol		
C220	1-131-368-00	3.3	16 V	tantalum	
C221	1-121-245-00	1000	16 V	elect	
C222	1-131-416-00	1.5	16 V	tantalum	
C223	1-121-391-00	1	50 V	elect	
C224	1-131-453-00	0.22	16 V	tantalum	
C225,226	1-121-651-00	10	16 V	elect	
C227,228	1-102-113-00	390p			
C229,230	1-121-651-00	10	16 V	elect	
C231,232	1-101-924-00	0.022			
C233	1-101-003-00	0.0047			
C401	1-102-943-00	6p			
C402	1-101-924-00	0.022			
C403	1-101-923-00	0.01			
C404	1-121-403-00	33	16 V	elect	
C405	1-121-391-00	1	50 V	elect	
C406	1-121-450-00	2.2	50 V	elect	
C407,408	1-108-587-00	0.022	mylar		
C409	1-131-454-00	0.33	16 V	tantalum	
C410	1-104-066-00	360p	styrol		
C411-413	1-101-924-00	0.022			
C414	1-102-512-00	16p			
C415,416 C418	1-101-005-00	0.022			
C419,420	1-101-924-00	0.022			
C501,551	1-121-395-00	4.7	25 V	elect	
C502,552	1-102-074-00	0.001			
C503,553	1-101-880-00	47p			
C504,554	1-121-414-00	100	10 V	elect	
C505,555	1-108-559-00	0.0015	mylar		
C506,556	1-108-573-00	0.0056	mylar		
C507,557	1-121-391-00	1	50 V	elect	
C509	1-121-414-00	100	10 V	elect	
C510	1-121-654-00	330	25 V	elect	
C701,751	1-121-593-00	1	50 V	elect	
C702,752	1-121-395-00	4.7	25V	elect	

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>			
C703,753 C704,754	1-108-360-00	0.039	mylar		
C705,755	1-108-563-00	0.0022	mylar		
C706,756	1-121-395-00	4.7	25 V	elect	
C707,757	1-131-415-00	0.68	16 V	tantalum	
C708,758	1-102-821-00	360p			
C709,759	1-108-251-00	0.1	mylar		
C710,760	1-121-409-00	47	16 V	elect	
C711,761	1-102-951-00	15p			
C712,762 C713,763	1-108-251-00	0.1	mylar		
C714,764	1-108-242-00	0.022	mylar		
C715,765	1-121-413-00	100	6.3 V	elect	
C716,766	1-102-962-00	30p			
C717,767	1-108-575-00	0.0068	mylar		
C718	1-121-422-00	220	25 V	elect	
C801	1-121-655-00	330	35 V	elect	
C802	1-121-361-00	470	35 V	elect	
C803	1-121-261-00	220	35 V	elect	
C804,805	1-125-155-00	6,800	35 V	elect	
C806	1-121-450-00	2.2	50 V	elect	
C807	1-121-357-00	100	35 V	elect	
C809,810	1-108-242-00	0.022	mylar		
C811,812	1-101-924-00	0.022			
C813-815	1-102-074-00	0.001			
CT-A, -O, -R, CT-401, 402 CV1-3 CV401,402	1-151-359-00	Variable, TUNING			

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted.
Refer to the list on page 27 for their part numbers.
kΩ: 1000Ω, MΩ: 1000 kΩ

R718,768	⚠ 1-244-999-00	10	¼W	nonflammable
R719,769	1-244-824-00	9.1	½W	
R720,770	1-244-937-00	470	½W	
R723	1-247-009-00	470	¼W	nonflammable
R802	⚠ 1-202-725-00	3.3 M	½W	composition
R804	⚠ 1-213-088-00	150	1W	fusible

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.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
R805	△ 1-212-958-00	10 ½W fusible
RT201	1-226-236-00	10 k-B, adjustable; VCO 19 kHz
RV1-1,-2	1-226-503-00	250 k/250 k-B, variable; VOLUME
RV2-1,-2	1-226-505-00	50 k/50 k-B, variable; BASS
RV3-1,-2	1-226-505-00	50 k/50 k-B, variable; TREBLE
RV4-1,-2	1-226-504-00	250 k-B, variable; BALANCE

MISCELLANEOUS

CNJ801	△ 1-526-528-00	Connector, AC OUTLET
CP801	△ { 1-231-326-11	Encapsulated Component (US model)
	1-231-341-00	Encapsulated Component (Canadian model)
F801	△ 1-532-268-XX	Fuse, 2 A
J701	1-507-564-00	Jack, stereo-binaural; HEADPHONES
J702	1-507-594-00	Jack, 6-pin; TAPE, REC OUT, PHONO
J703	1-536-590-00	Terminal Strip, FM ANTENNA
J704	1-536-524-00	Terminal Strip, 4-pin; SPEAKER
LPF201,202	1-231-224-00	Filter, low-pass
ME201	1-520-405-00	Meter, TUNING
ME202	1-520-404-00	Meter, SIGNAL
PL1	1-518-374-00	Lamp, dial
PL2,3	1-518-372-00	Lamp, meter
PL4	1-518-374-00	Lamp, dial
S1	1-552-832-00	Switch, rotary-slide; FUNCTION
S2,3	1-552-831-00	Switch, pushbutton; FM MUTING, MONITOR
S4	△ 1-552-018-00	Switch, pushbutton; POWER
	1-517-072-00	Holder, fuse
	△ 1-534-986-XX	Cord, power

ACCESSORIES & PACKING MATERIALS

<u>Part No.</u>	<u>Description</u>
1-501-161-00	Antenna, FM ribbon
3-770-770-21	Manual, instruction (US model)
3-770-770-21 3-794-425-31	Manual, instruction (Canadian model)
3-794-233-21	Leaflet
4-837-003-00	Bag, protection
4-893-031-00	Carton
4-893-032-00	Cushion

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.

1/4 WATT CARBON RESISTORS

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-576-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-577-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-578-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-579-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-580-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-581-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-582-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-583-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-584-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-585-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-586-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-587-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw:

P 3 x 10

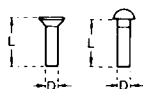
L: Length in mm

D: Diameter in mm

Type of head

Indicated slotted-head only.

Unless otherwise indicated, it means cross-recessed head (Phillips type).



Nut, Washer, Retaining ring:

N 3

Diameter of usable screw or shaft

Reference designation

Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

Sony Corporation

© 1979

— 28 —