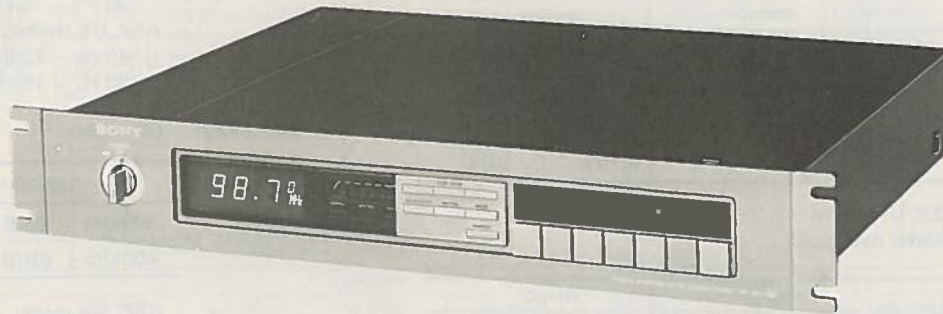


ST-J88B

US Model
AEP Model
UK Model



FM STEREO TUNER

SPECIFICATIONS

GENERAL


System:	PLL crystal locked digital synthesizer system
Power Requirements:	US model: 120 V ac, 60 Hz AEP, UK model: 110, 120, 220 or 240 V ac ~ adjustable, 50/60 Hz
Power Consumption:	25 W
Dimensions:	Approx. 480 (w) x 80 (h) x 370 (d) mm 19 (w) x 3¼ (h) x 14½ (d) inches including projecting parts and controls
Weight:	US model: Approx. 6.6 kg, 14 lb 9 oz (net) Approx. 7.6 kg, 16 lb 13 oz (in shipping carton) AEP, UK model: Approx. 6.7 kg, 14 lb 12 oz (net) Approx. 7.7 kg, 17 lb (in shipping carton)

TUNER SECTION

Tuning Range:	87.5 – 107.9 MHz (US model) 87.5 – 108 MHz (AEP, UK model)
Antenna Terminals:	300 Ω, balanced 75 Ω, unbalanced coaxial input
Intermediate Frequency:	10.7 MHz
Sensitivity at 50dB Quieting:	3.2 μV, 15.3 dBf (mono) } (US model) 35 μV, 36.1 dBf (stereo) }
Sensitivity at 46dB Quieting (40kHz deviation):	3.2 μV (mono) } (AEP, UK model) 35 μV (stereo) }
Usable Sensitivity:	US model: 1.8 μV, 10.3 dBf AEP, UK model: 1.2 μV (S/N = 26 dB, 40 kHz deviation) 1.8 μV, 10.3 dBf (IHF)

— Continued on page 2 —

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.

SONY
SERVICE MANUAL

ST-J88B

Limiting Threshold: 1 μ V (AEP, UK model)

S/N Ratio:	US model		AEP, UK model (40kHz deviation)	
	mono	stereo	mono	stereo
	80dB	75dB	75dB	70dB

Harmonic Distortion: US model:

	mono		stereo	
	NORMAL	NARROW	NORMAL	NARROW
100Hz	0.04%	0.1%	0.07%	0.3%
1kHz	0.04%	0.1%	0.07%	0.3%
10kHz	0.04%	0.1%	0.15%	0.6%

AEP, UK model:
(40kHz deviation)

	mono		stereo	
	NORMAL	NARROW	NORMAL	NARROW
100Hz	0.04%	0.1%	0.07%	0.3%
1kHz	0.04%	0.1%	0.07%	0.3%
10kHz	0.04%	0.1%	0.15%	0.6%

IM Distortion: US model:

	mono		stereo	
	NORMAL	NARROW	NORMAL	NARROW
	0.04%	0.1%	0.07%	0.3%

AEP, UK model:
(40kHz deviation)

	mono		stereo	
	NORMAL	NARROW	NORMAL	NARROW
	0.04%	0.1%	0.07%	0.3%

Separation:	NORMAL		NARROW	
	100Hz	50dB	1kHz	45dB
	50dB	45dB	45dB	40dB

Frequency Response: US model:
30 Hz – 15 kHz +0.2 dB
-0.5 dB
AEP, UK model:
40 Hz – 12.5 kHz \pm 0.2 dB
30 Hz – 15 kHz +0.2 dB
-0.5 dB

Selectivity: US model:

	NORMAL		NARROW	
	300kHz	25dB	400kHz	80dB
	25dB	80dB	65dB	—

AEP, UK model

	NORMAL		NARROW	
	300kHz	30dB	400kHz	85dB
	30dB	85dB	70dB	—

Capture Ratio: 1.0 dB (NORMAL)
1.7 dB (NARROW)

AM Suppression Ratio: 60 dB

Image Response Ratio: 110 dB

IF Response Ratio: 110 dB

Spurious Response Ratio: 110 dB

RF Intermodulation: 80 dB

Sub-carrier Product Ratio: 70 dB (US model)
65 dB (AEP, UK model)



Muting and Auto-tunig Threshold: Approx. 5 μ V, 19.2 dBf

Output Level: FIXED: 750 mV, 2 k Ω
VARIABLE: 0 – 1.2 V, 470 Ω



MODEL IDENTIFICATION

- Specification Label -


● AEP model

 	FM STEREO TUNER MODEL NO. ST-J88B FREQ. RANGE : FM 87.5-108MHz IF : FM 10.7MHz AC 110 120 220 240V ~ 50/60Hz 25W SERIAL NO. _____ <hr/> FTZ PRÜFNUMMER U185 <hr/> MADE IN JAPAN
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● UK model

 	FM STEREO TUNER MODEL NO. ST-J88B FREQ. RANGE : FM 87.5-108MHz IF : FM 10.7MHz AC 110 120 220 240V ~ 50/60Hz 25W SERIAL NO. _____ <hr/> MADE IN JAPAN
---	--

● US model

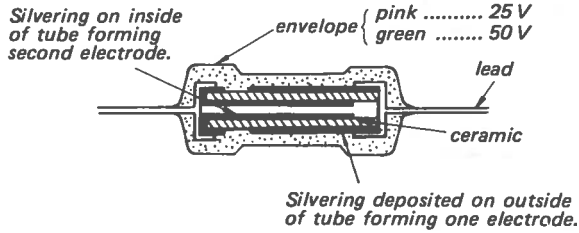
	FM STEREO TUNER MODEL NO. ST-J88B FREQ. RANGE : FM 87.5-107.9MHz IF : FM 10.7MHz AC 120V 60Hz 25W SERIAL NO. _____ <hr/> MADE IN JAPAN
	CERTIFICATION: DESIGN CERTIFIED AS COMPLYING WITH F.C.C. RULES PART 15, IN EFFECT AS OF DATE OF MANUFACTURE.

THE CERAMIC CAPACITORS

This set uses tube-type ceramic capacitors whose shape is identical with the carbon resistors. Be careful not to use resistors instead of capacitors in repairing.

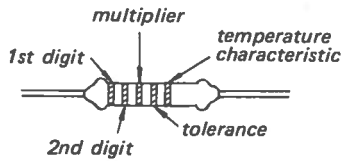
Disc-type ceramic capacitors can be used for replacing those originally used in the set.

Two kinds of drilled holes are provided in some patterns for mounting the tube-type and disc-type ceramic capacitors. Use appropriate holes where applicable.

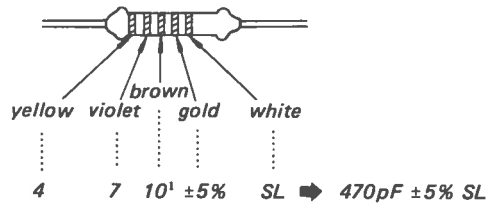


COLOR CODE (in pF)

Color	1st or 2nd Digit	Multiplier	Tolerance	Temperature characteristic
brown	1	10^1		Y
red	2	10^2		D
orange	3	10^3		
yellow	4	10^4		RH
green	5			
blue	6			
violet	7			UJ
gray	8		$\pm 30\%$	X
white	9			SL
black	0	10^0	$\pm 20\%$	CH
gold		10^{-1}	$\pm 5\%$	V
silver		10^{-2}	$\pm 10\%$	B



Example:



Handling Precautions for MOS ICs (IC106, 404-408, 502)

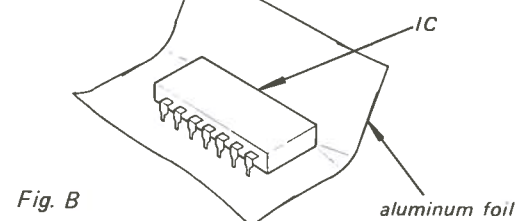
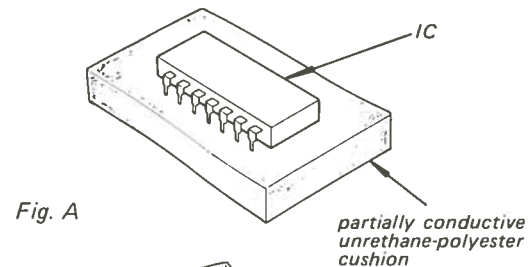
Generally, the insulation resistance of the oxide layer in MOS IC structures is very high, and the oxide layer is very thin. Because of this, it is possible that the static voltages usually present on clothes and the human body will be enough to generate a potential difference across the insulator, high enough to cause a breakdown of the insulating layer.

The following precautions should be taken while handling these ICs.

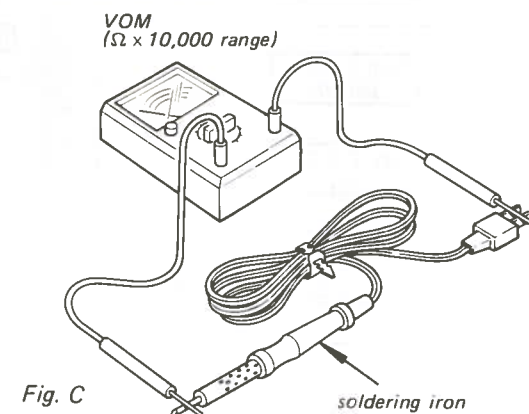
(Particular care should be taken under conditions of low humidity.)

Precautions in Replacing MOS ICs

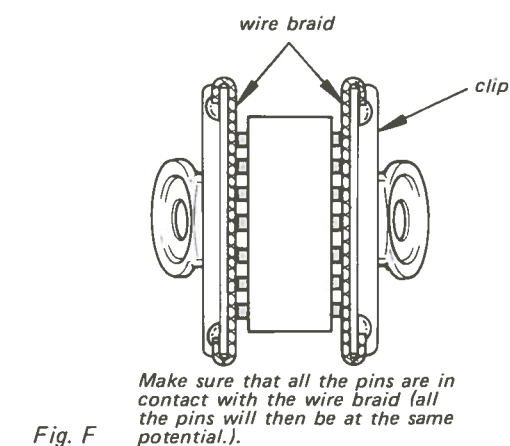
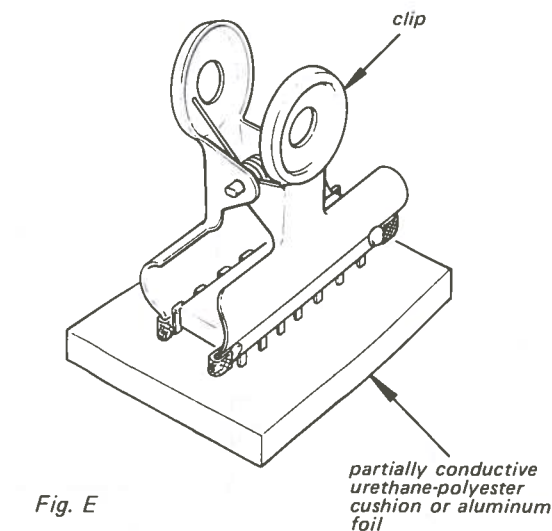
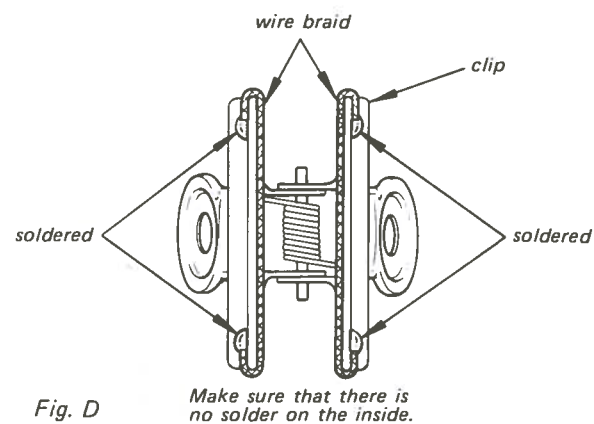
1. Store new ICs by inserting them into a urethane-polyester cushion (which is somewhat conductive), or wrapping it in aluminum foil, so that all the pins are at the same potential. (The ICs should be stored in that manner until mounted on the circuit board.)



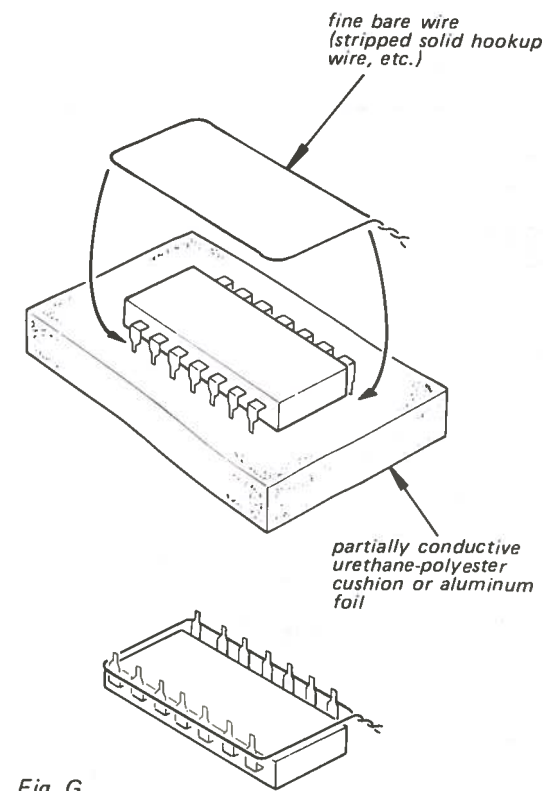
2. Check the soldering iron for possible power-line leakage current. Make sure that there is no leakage path by connecting an ohmmeter to the tip of the soldering iron and the plug as shown in Fig. C. If there is a leakage path, use some other soldering iron.



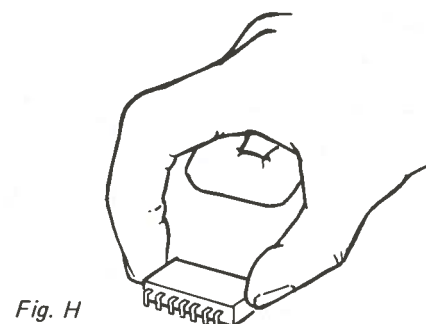
3. Equalize any potential difference between the clothes, the tools in use, the work bench, the set being worked on, and the packaged IC by touching them all in succession with the hands or a conductive wire or tool.
4. The following are effective methods for handling ICs that remove the potential difference across the oxide layer.
 - Use a paper clip modified by soldering in a wire braid insert.



- Take a short length of fine bare wire and wind it around the IC so that it shorts all the pins of the IC, while it is still in the urethane-polyester cushion or aluminum foil. This ensures that all the pins are at the same potential.



- When it is necessary to handle the IC with the fingers, do not touch any pin, and hold the IC at the ends of its plastic-package case as shown in Fig. H.



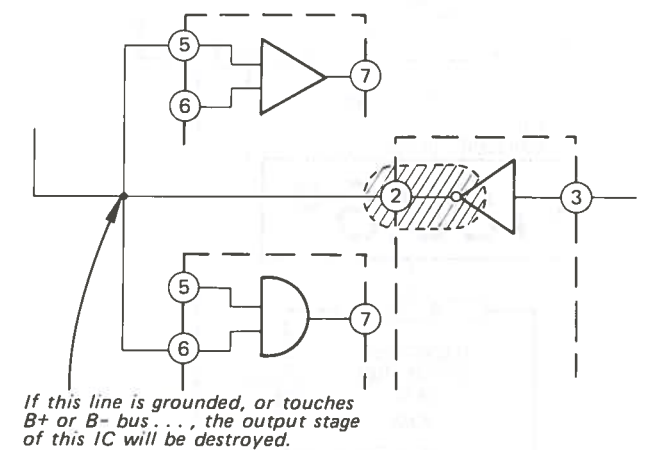
5. Method of Mounting
Insert the IC while holding it with the modified clip, and solder all the pins with the clip still shorting the pins. (Similarly, solder all the pins while the bare shorting wire is still wound around them.) Remove the clip or the bare shorting wire only after all the pins have been soldered.

Precaution while Checking C-MOS ICs

The C-MOS ICs (Complementary MOS) are MOS ICs that have their output sections made up of N-channel and P-channel push-pull stages to increase their speed of operation. If the output terminal of these ICs comes into contact with B+ or B- voltage, then the FET which is ON at that time will either become shorted or open.

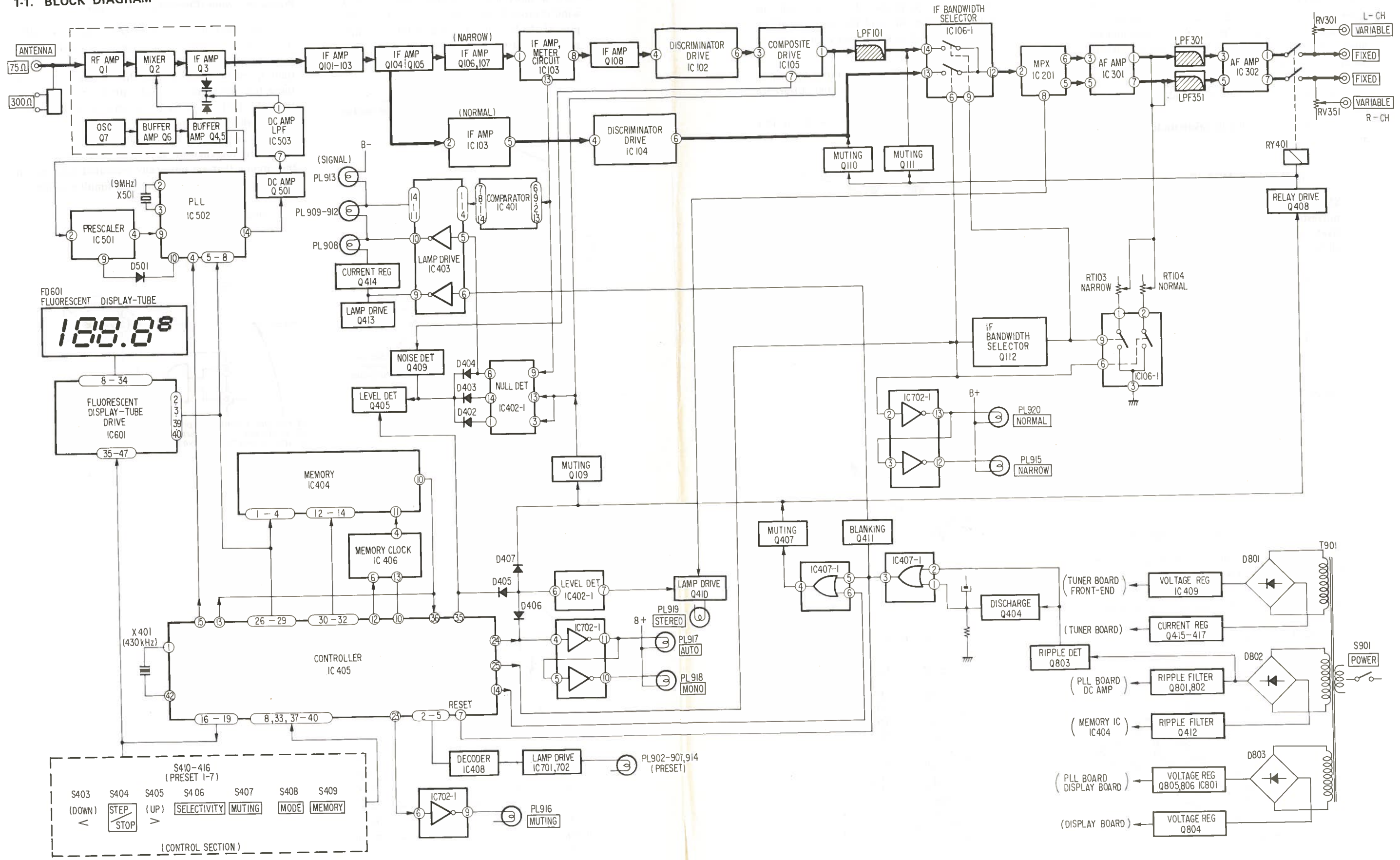
This is valid for all the output sections that are connected together by the interconnections. Even the circuits that are physically separated (and not on the same board) can be destroyed simultaneously.

Example:



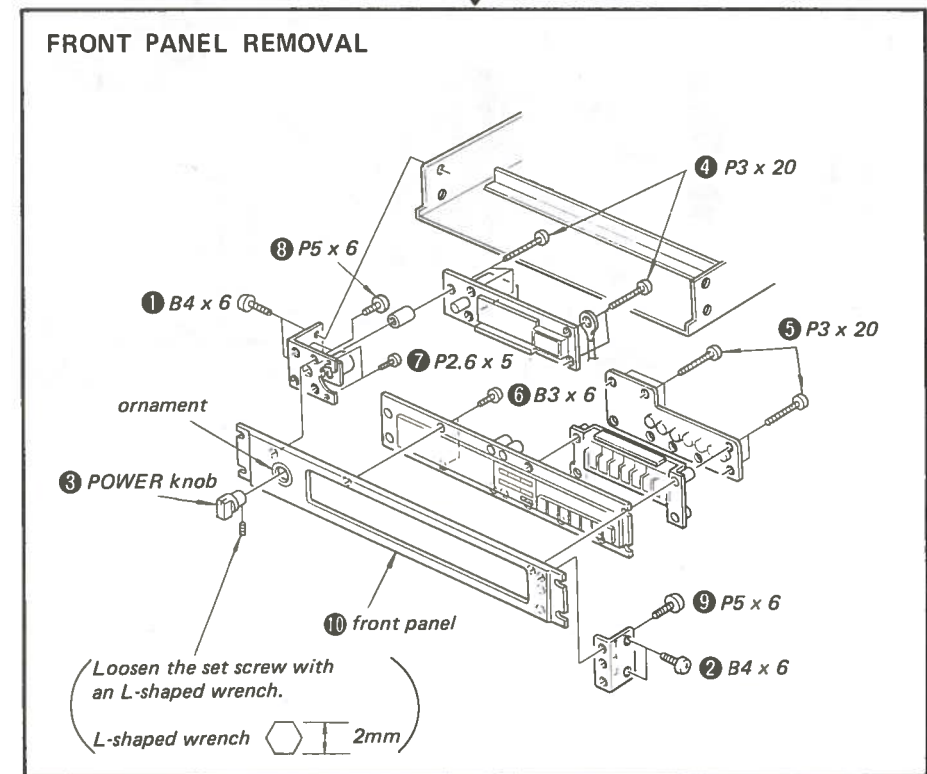
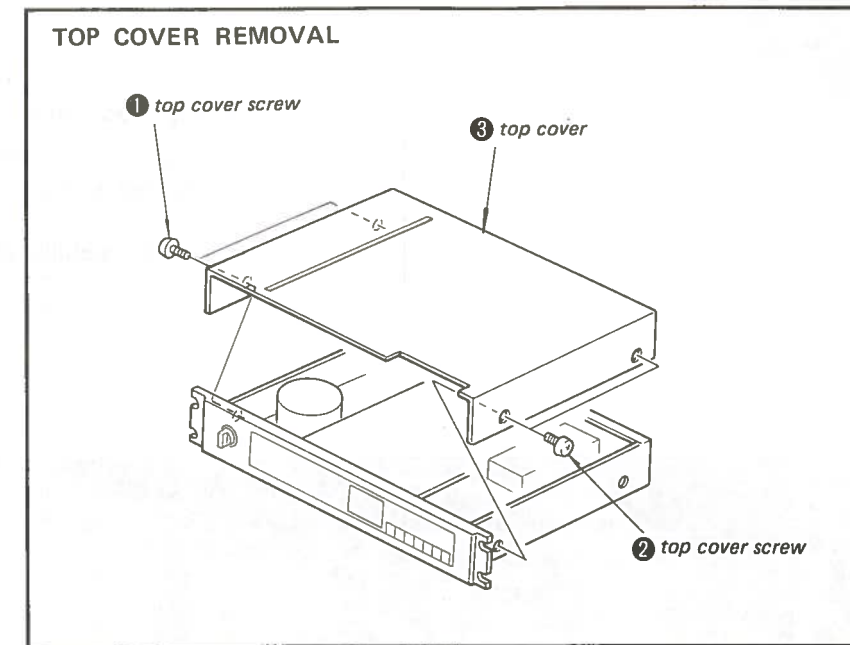
SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM



SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

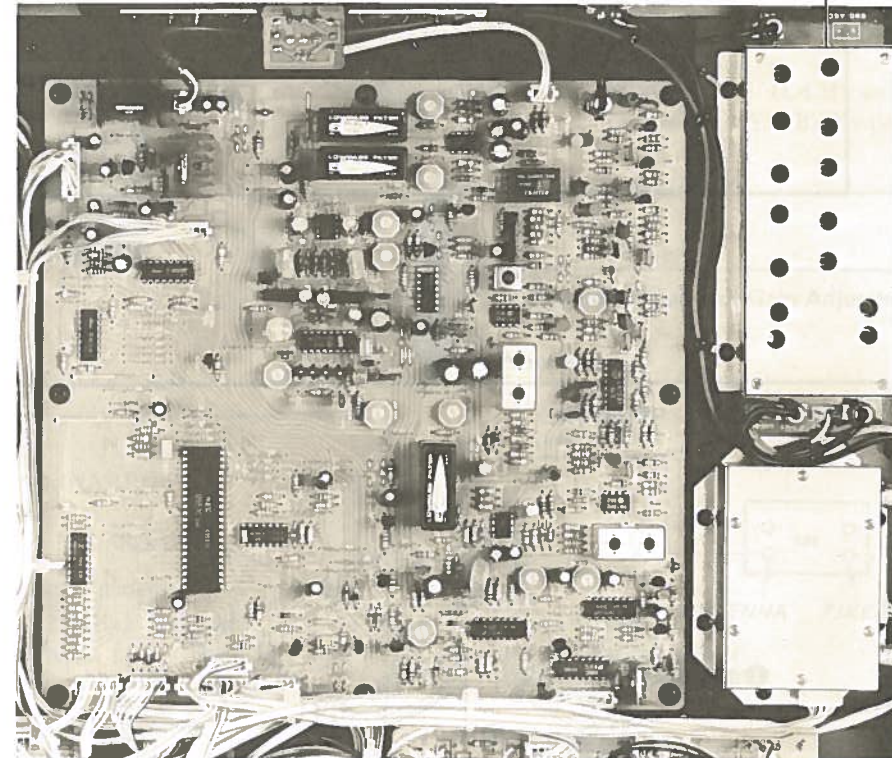


SECTION 3
ADJUSTMENTS

Servicing Precaution

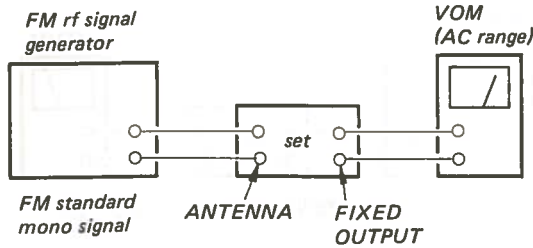
The front-end section can not be repaired and it is only supplied as the front-end block.

This section has been carefully adjusted at the factory.



Tuning Adjustment

Procedure:

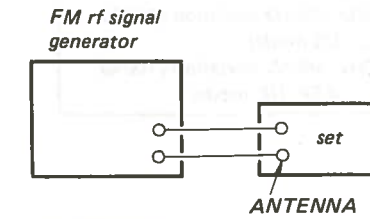


Output level: 2μV (6dB)

1. SELECTIVITY switch: NORMAL
MUTING switch: OFF
2. Adjust IFT102 for maximum reading on the VOM.

Signal Indicator Adjustment

Procedure:

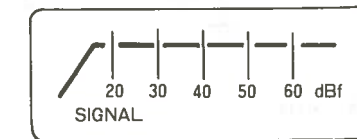


Carrier frequency: 98.1MHz
Modulation: no modulation

1. SELECTIVITY switch: NARROW

2.

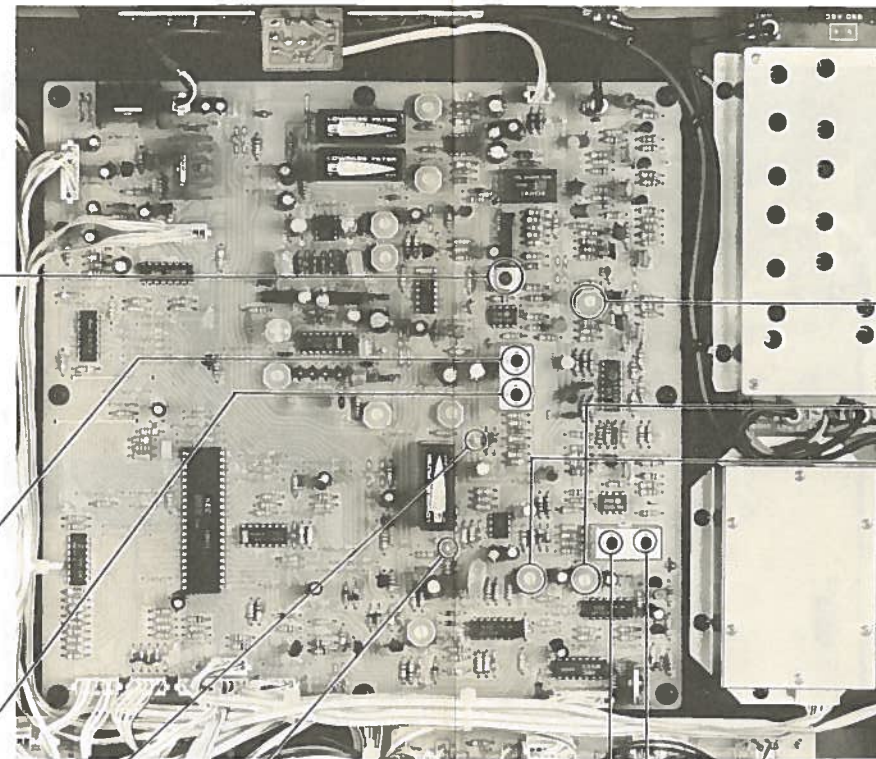
FM rf signal generator output level	Indication	Adjustment part
560μV (55dB)	The sixth lamp from the left lights up.	RT101
56μV (35dB)	The fourth lamp from the left light up.	RT401
5.6μV (15dB)	The second lamp from the left lights up.	RT402



signal indicator

FM Standard Mono Signal

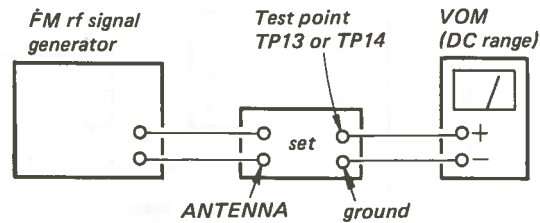
Carrier frequency: 98.1MHz
Modulation: 400Hz, 75kHz deviation (100%)
..... US model
400Hz, 40kHz deviation (100%)
..... AEP, UK model



Discriminator Alignment

A) Secondary Side

Procedure:



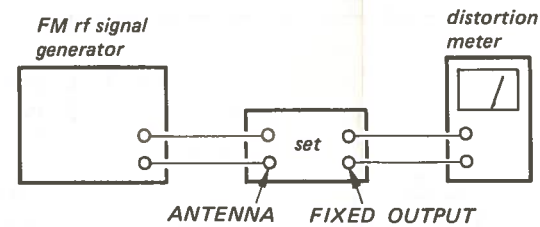
Carrier frequency: 98.1MHz
Modulation: no modulation
Output level: 1mV (60dB)

1. Connect the VOM to the test point TP13.
2. MODE switch: MONO
SELECTIVITY switch: NARROW
3. Turn the core (secondary side: black) of IFT101 for 0V reading on the VOM.
4. Connect the VOM to the test point TP14.
5. SELECTIVITY switch: NORMAL
6. Turn the core (secondary side: black) of IFT103 for 0V reading on the VOM.

Note: Repeat the secondary side and primary side adjustments several times.

B) Primary Side

Procedure:

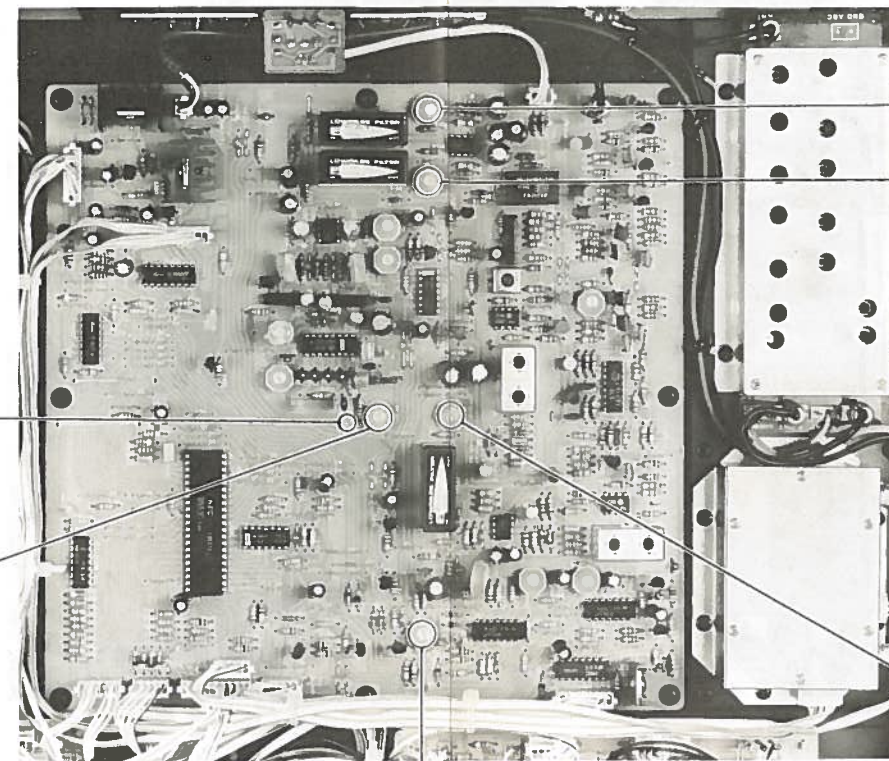


FM standard mono signal
Output level: 1mV (60dB)

1. MODE switch: MONO
SELECTIVITY switch: NARROW
2. Turn the core (primary side: orange) of IFT101 for minimum distortion reading on the distortion meter.
3. SELECTIVITY switch: NORMAL
4. Turn the core (primary side: orange) of IFT103 for minimum distortion reading on the distortion meter.

Note: Repeat the secondary side and primary side adjustments several times.

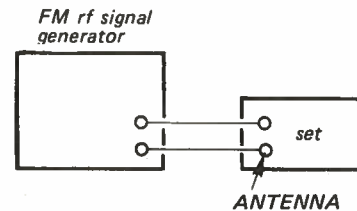
<i>FM Standard Mono Signal</i>	
Carrier frequency:	98.1MHz
Modulation:	400Hz, 75kHz deviation (100%) US model 400Hz, 40kHz deviation (100%) AEP, UK model



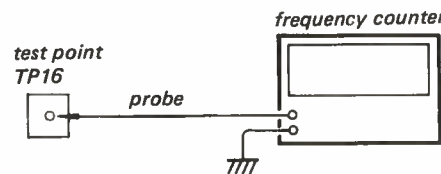
76kHz Adjustment

A) Regular Method

Procedure:



Carrier frequency: 98.1MHz
Modulation: no modulation
Output level: 1mV (60dB)

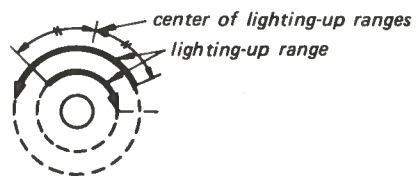


1. Tune the set to 98.1MHz.
2. Adjust RT202 for 76kHz \pm 50Hz on the counter.

B) Simple Method

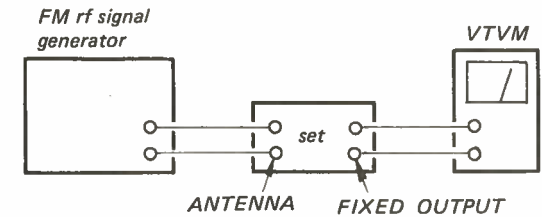
Procedure:

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RT202 clockwise or counterclockwise and memorize the lighting-up range of the stereo lamp.
3. Secure RT202 at the center of the lighting-up range of both turns as shown below.



Output Level Adjustment

Procedure:

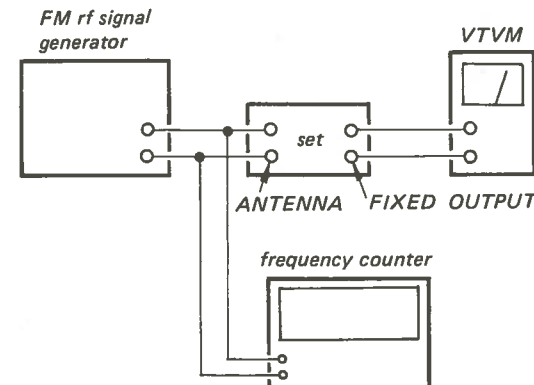


FM standard mono signal
Output level: 1mV (60dB)

1. SELECTIVITY switch: NORMAL
2. US model:
Adjust RT301 (L-CH) and RT351 (R-CH) for 0.775V (0dB) reading on the VTVM.
AEP, UK model:
Adjust RT301 (L-CH) and RT351 (R-CH) for 0.42V (-5.5dB) reading on the VTVM.

Muting Range Adjustment

Procedure:

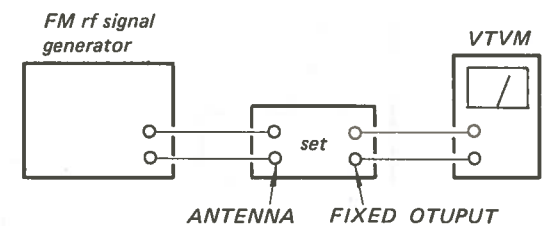


Carrier frequency: 98.1MHz
Modulation: 400Hz, 75kHz deviation (100%) (US model)
400Hz, 40kHz deviation (100%) (AEP, UK model)
Output level: 1mV (60dB)

1. SELECTIVITY switch: NARROW
MUTING switch: ON
2. US model:
Adjust FM rf signal generator for +70kHz (98.17MHz) on the frequency counter.
AEP, UK model:
Adjust FM rf signal generator for +30kHz (98.13MHz) on the frequency counter.
3. Adjust RT403 for 0V reading on the VTVM.

IF Bandwidth Selector Gain Adjustment

Procedure:



FM standard mono signal
Output level: 1mV (60dB)

1. MODE switch: MONO
SELECTIVITY switch: NORMAL
2. Memorize the VTVM reading.
3. SELECTIVITY switch: NARROW
4. Adjust RT102 for the same reading as obtained in step 2.

FM Standard Stereo Signal

Carrier frequency: 98.1MHz

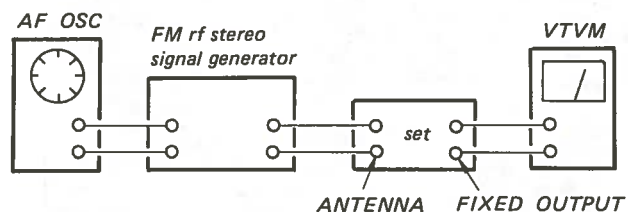
Modulation:

Audio (400Hz): 33.75kHz deviation (45%)
 Subchannel (38kHz): 33.75kHz deviation (45%)
 Pilot (19kHz): 7.5kHz deviation (10%) } **US model**

Audio (400Hz): 20kHz deviation
 Subchannel (38kHz): 20kHz deviation
 Pilot (19kHz): 7.5kHz deviation } **AEP, UK model**

Stereo Separation Adjustment

Procedure:



FM standard stereo signal
 Output level: 1mV (60dB)

1. MODE switch: STEREO
 SELECTIVITY switch: NARROW

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	(A)
R-CH	L-CH	(B) Adjust RT103 for minimum reading.
R-CH	R-CH	(C)
L-CH	R-CH	(D) Adjust RT103 for minimum reading.

L-CH Stereo separation: (A) - (B)
 R-CH Stereo separation: (C) - (D)

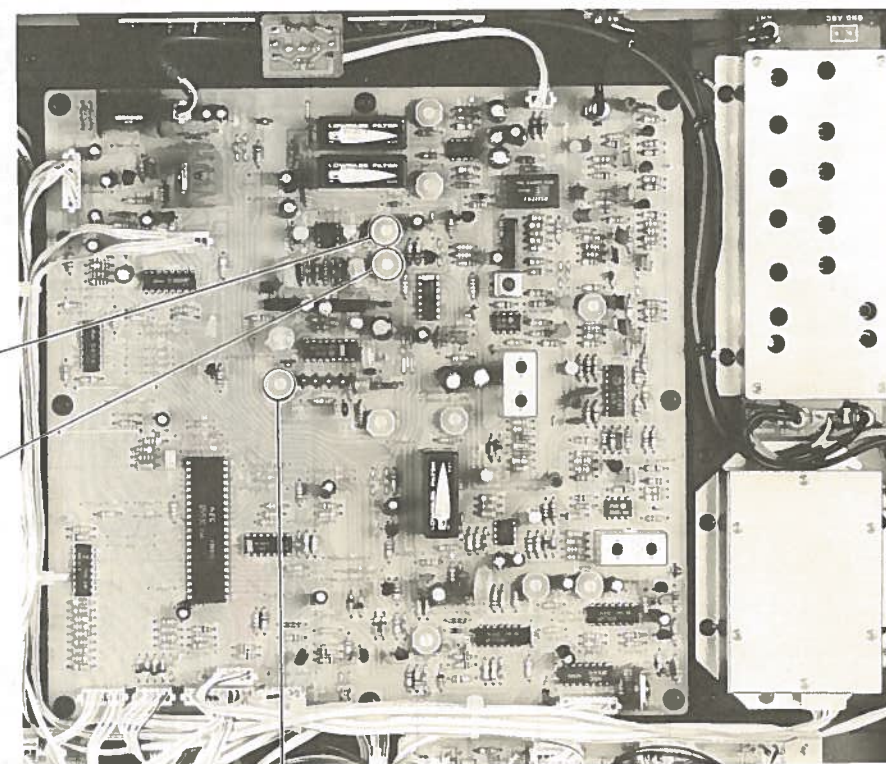
The difference between the separations of both channels should be within 2dB.

3. SELECTIVITY switch: NORMAL

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	(A)
R-CH	L-CH	(B) Adjust RT104 for minimum reading.
R-CH	R-CH	(C)
L-CH	R-CH	(D) Adjust RT104 for minimum reading.

L-CH Stereo separation: (A) - (B)
 R-CH Stereo separation: (C) - (D)

The separations of both channels should be equal.



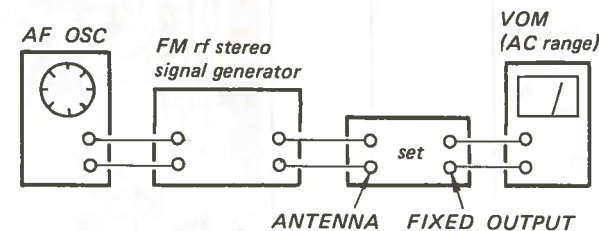
RT104
(NORMAL)

RT103
(NARROW)

RT201

19kHz Cancel Adjustment

Procedure:



FM standard stereo signal
 Output level: 1mV (60dB)

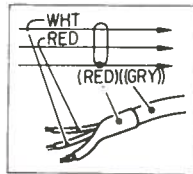
1. MODE switch: STEREO
 SELECTIVITY switch: NORMAL
2. Remove AF OSC.
 (19kHz pilot signal is only supplied.)
3. Adjust RT201 for the same FIXED OUTPUT levels of both channels.

4-1. MOUNTING DIAGRAM (TUNER BOARD)
— Conductor Side —

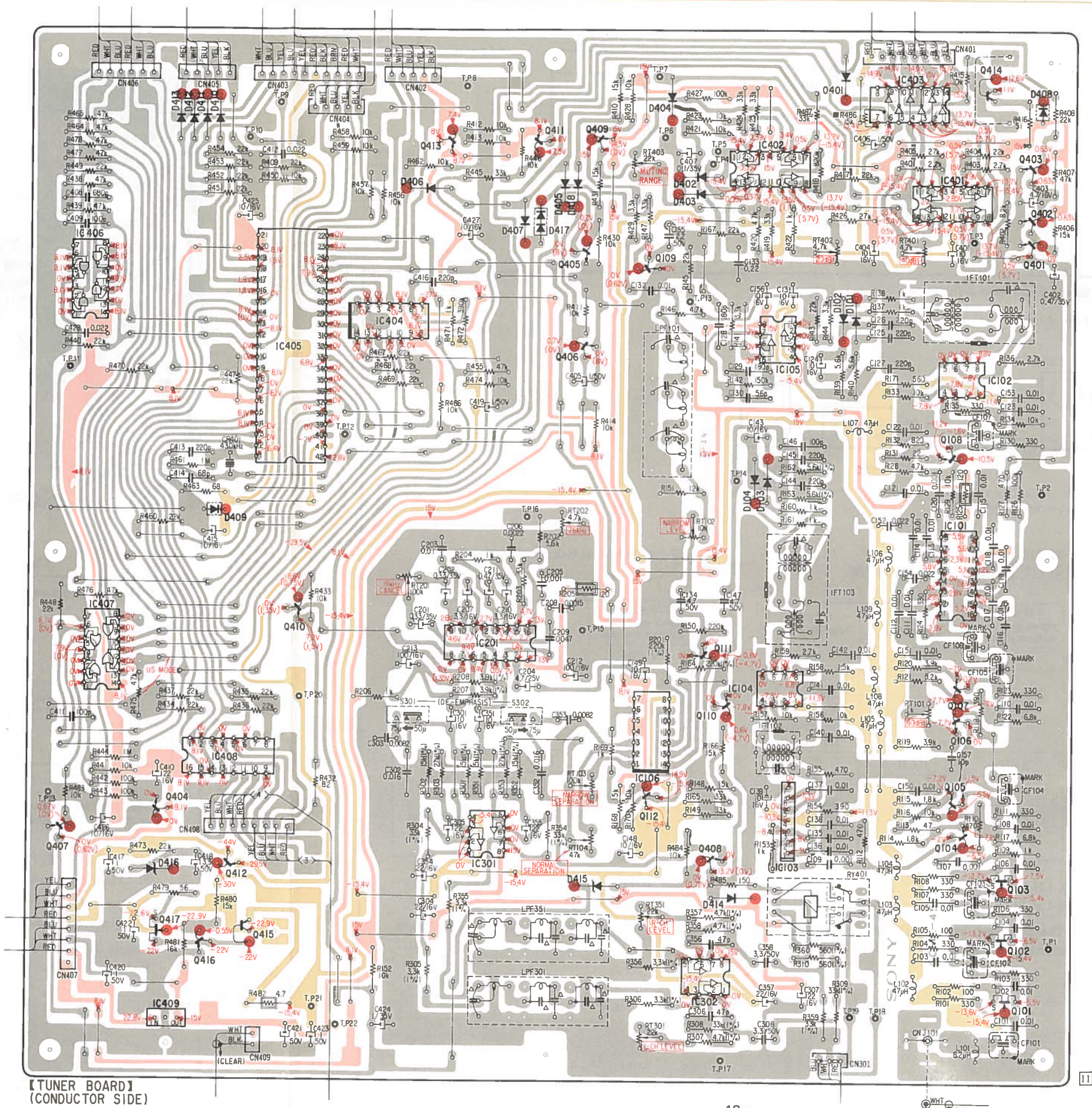
IC, Q	D
414	401
IC403	404 408
413 411 409	410-413
IC402	402
IC401	405, 418 403
402	407, 417
405	401
IC406	109
IC404	102, 101
IC405	IC105
IC102	406
108	104, 103
409	IC101
410	IC201
IC407	111
IC104	107
110	106
IC106	IC408
112	105
404	IC103
407	104
IC301	408
412	416
103	415 414
417, 415 416	102
IC302	101
IC409	
IC, Q	D

Note:

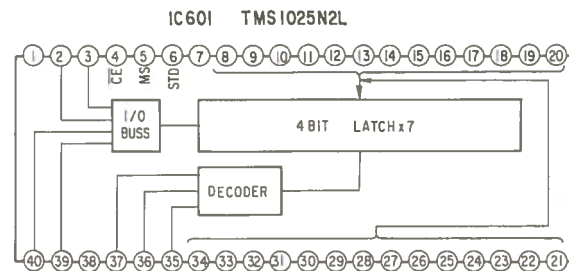
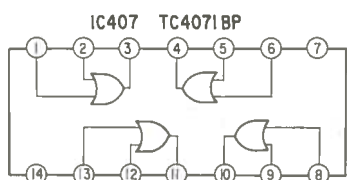
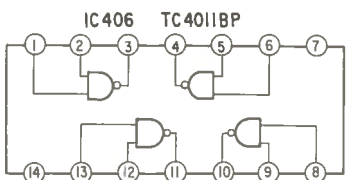
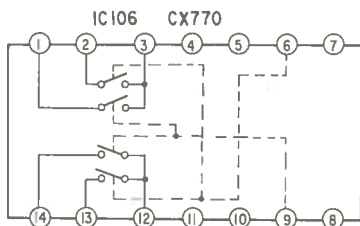
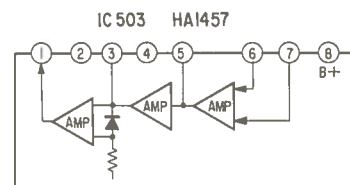
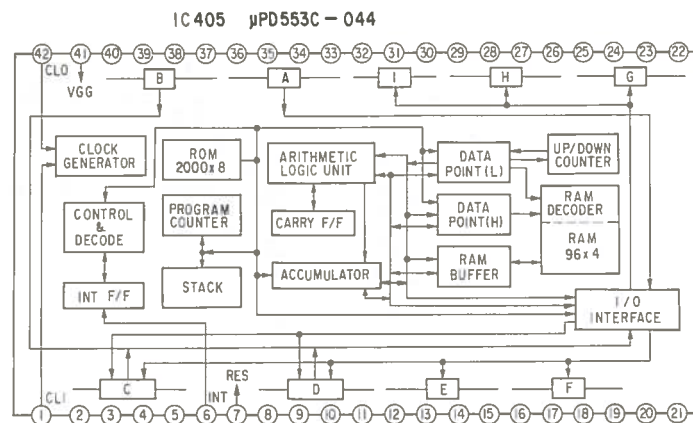
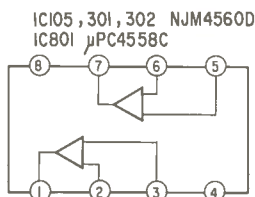
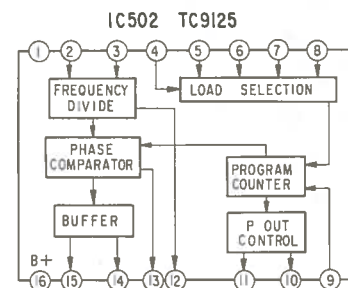
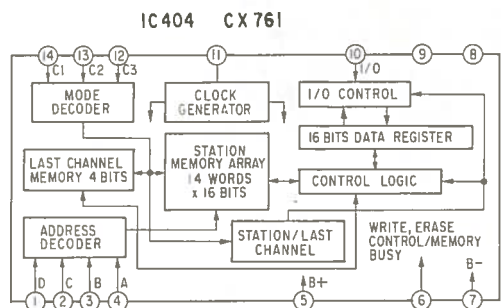
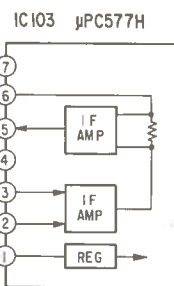
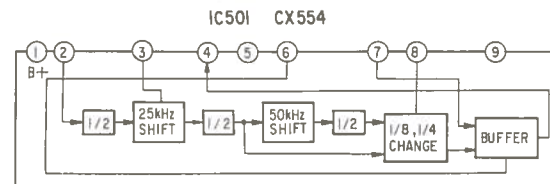
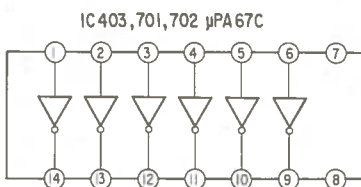
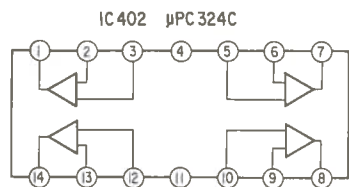
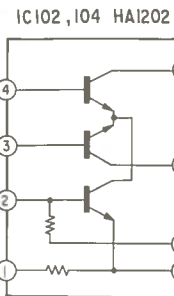
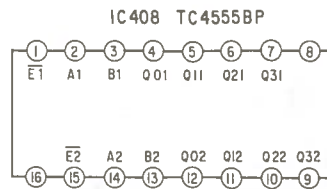
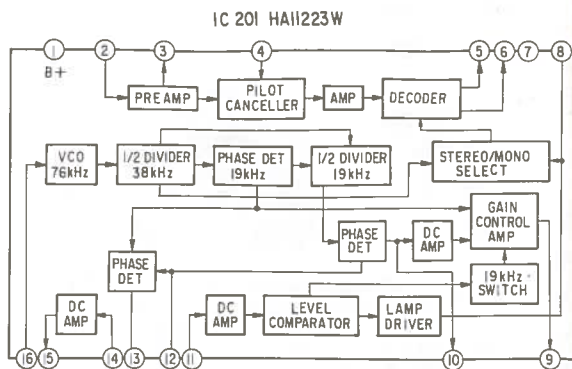
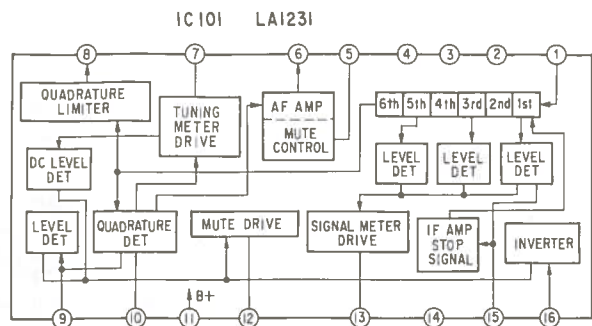
- Color code of sleeving over the end of the jacket.



- : parts extracted from the component side.
- : part mounted on the conductor side.
- : indicates side identified with part number.
- : Readings are taken with a VOM (20kΩ/V).
no mark: Detuned condition
(98.1MHz is indicated on the display.)
[] : Tuned condition
(Received signal: 98.1MHz, 60dBμ, stereo mode, 100% modulation)
- : B + pattern
- : B - pattern

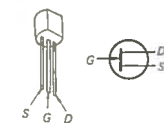
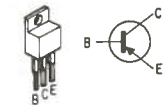
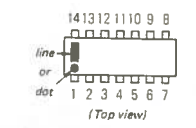
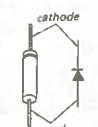
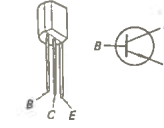
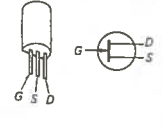
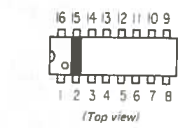
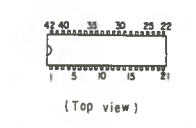
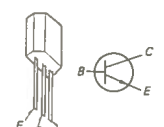
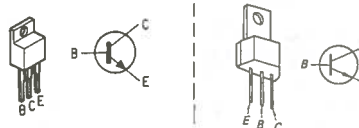
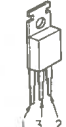
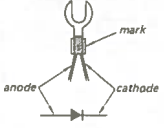
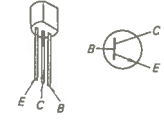
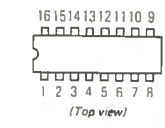
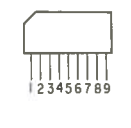
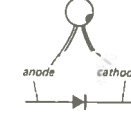
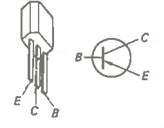
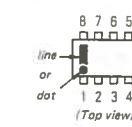
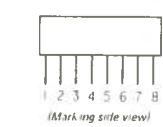
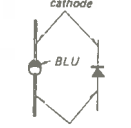
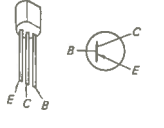
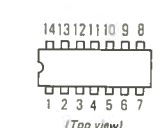
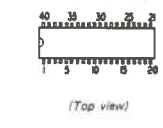

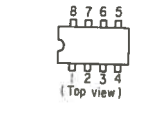
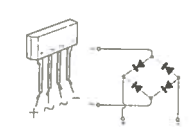


【TUNER BOARD】
(CONDUCTOR SIDE)



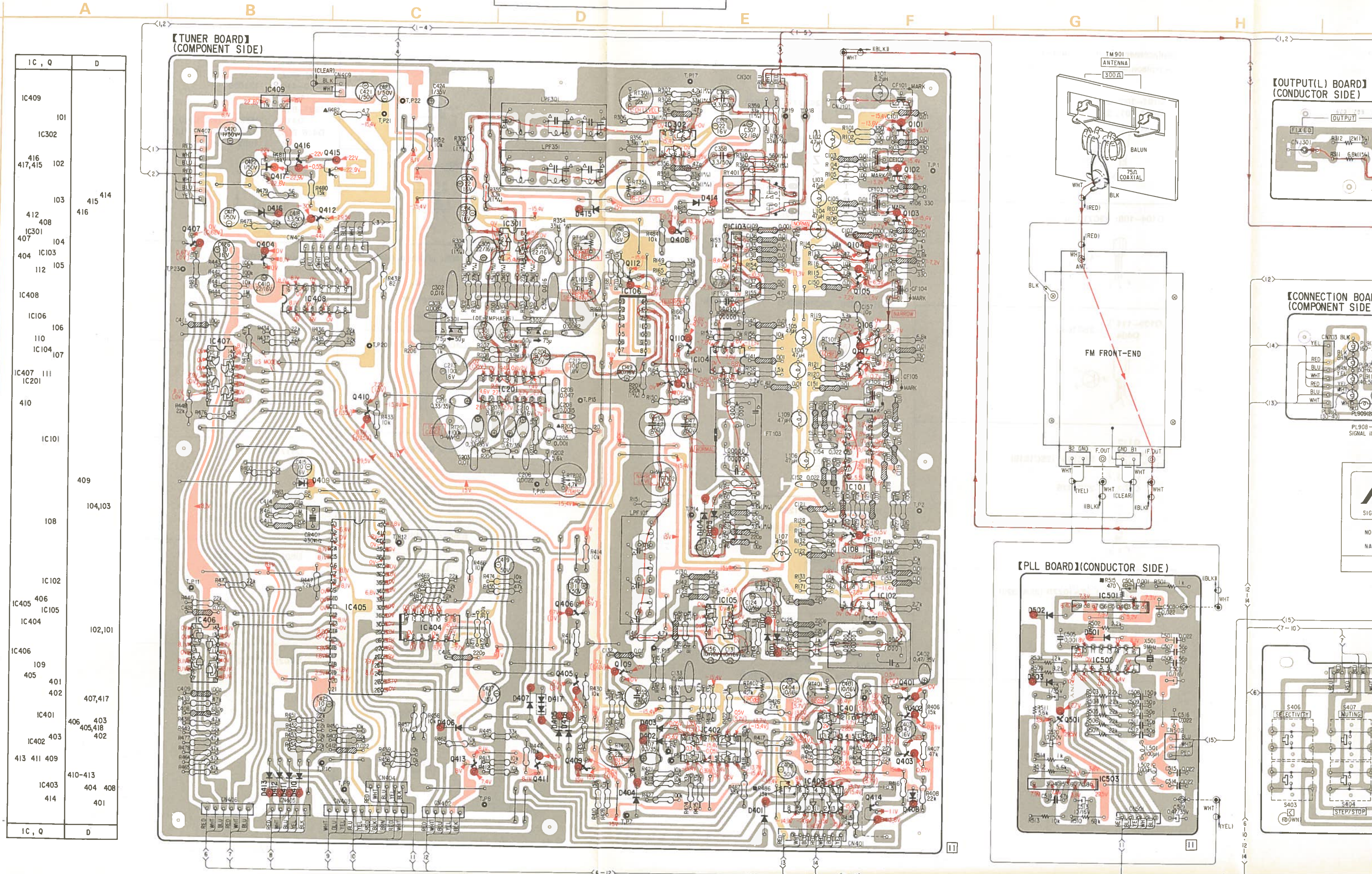
Replacement Semiconductors

For replacement, use semiconductors except in ().

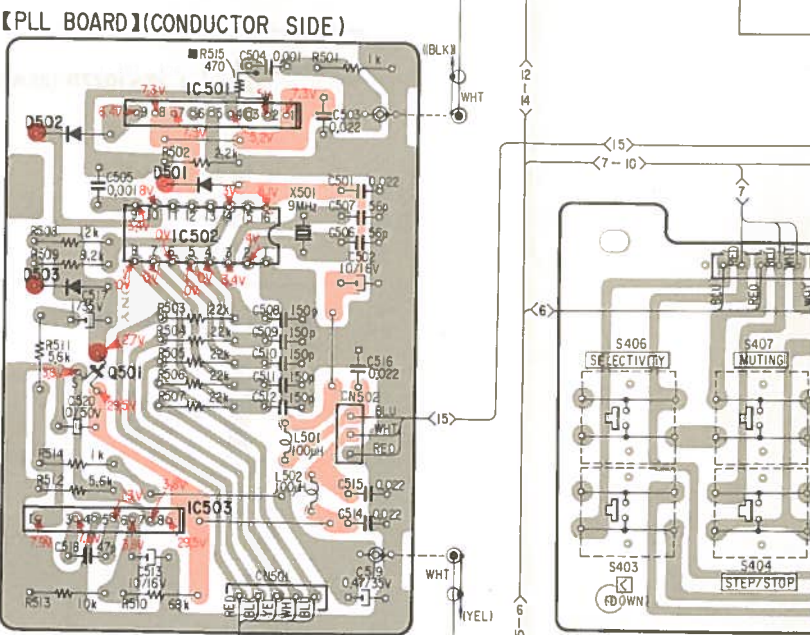
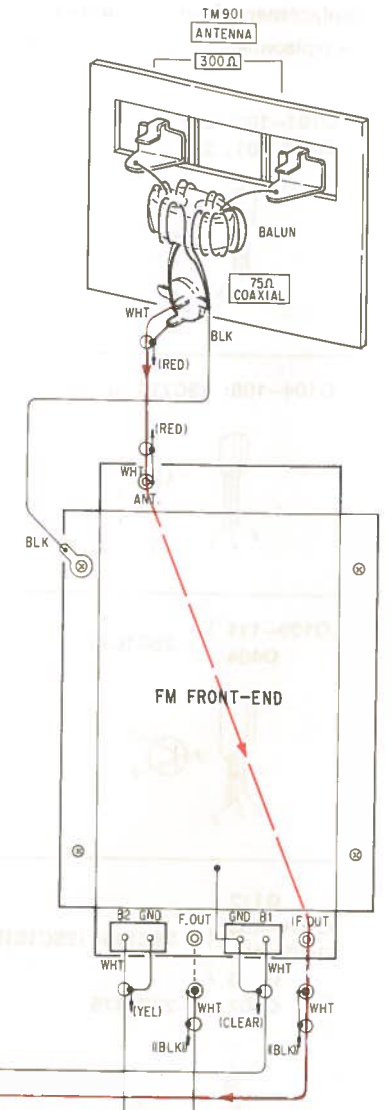
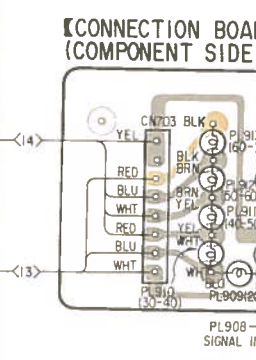
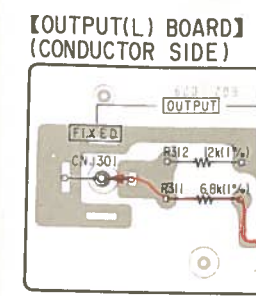
<p>Q101-103: 2SK125 Q417, 801: 2SK34</p> 	<p>Q414, 415 } : 2SA771 (2SA769) Q804 }</p> 	<p>IC106: CX770</p> 	<p>D101-104 } D401-407 } : 1S1555 D410-414 } D418 } D501-503 } D415 : HZ7C2L (HZ7C1L) D416, 805 : HZ30-2L (HZ30-1L) D804 : 10E2</p> 
<p>Q104-108: 2SC710-14 (2SC710)</p> 	<p>Q501: 2SK43-4 (2SK43)</p> 	<p>IC201: HA11223W</p> 	<p>IC405: μPD553C-044</p> 
<p>Q109-111 } : 2SC1636 Q404 }</p> 	<p>Q805, 806: 2SC1986D-O (2SC1826)</p> 	<p>IC409: μPC14315H</p> 	<p>D408: MV104V</p> 
<p>Q112 } Q401-403 } : 2SC1364 (2SC1815) Q405-408 } Q803 } Q802 : 2SC1475</p> 	<p>IC101: LA1231 IC408: TC4555BP IC502: TC9125P</p> 	<p>IC501: CX554</p> 	<p>D409: MV203V</p> 
<p>Q409-411 } : 2SA1027R (2SA1026) Q416 }</p> 	<p>IC102, 104 : HA1202 IC105 } : NJM4560D IC301, 302 }</p> 	<p>IC503: HA1457</p> 	<p>D417: MV12N</p> 
<p>Q412, 413: 2SA684 (2SA773)</p> 	<p>IC103 : μPC577H IC401, 402 : μPC324C IC403 } : μPA67C IC701, 702 } IC404 : CX761C (CX761) IC406 : TC4011BP IC407 : TC4071BP</p> 	<p>IC601: TMS1025N2L</p> 	<p>D801, 803: S1RB10</p> 
		<p>IC801: μPC4558C</p> 	<p>D802: S1VB20</p> 

4-2. MOUNTING DIAGRAM
- Component Side -

ST-J88B ST-J88B



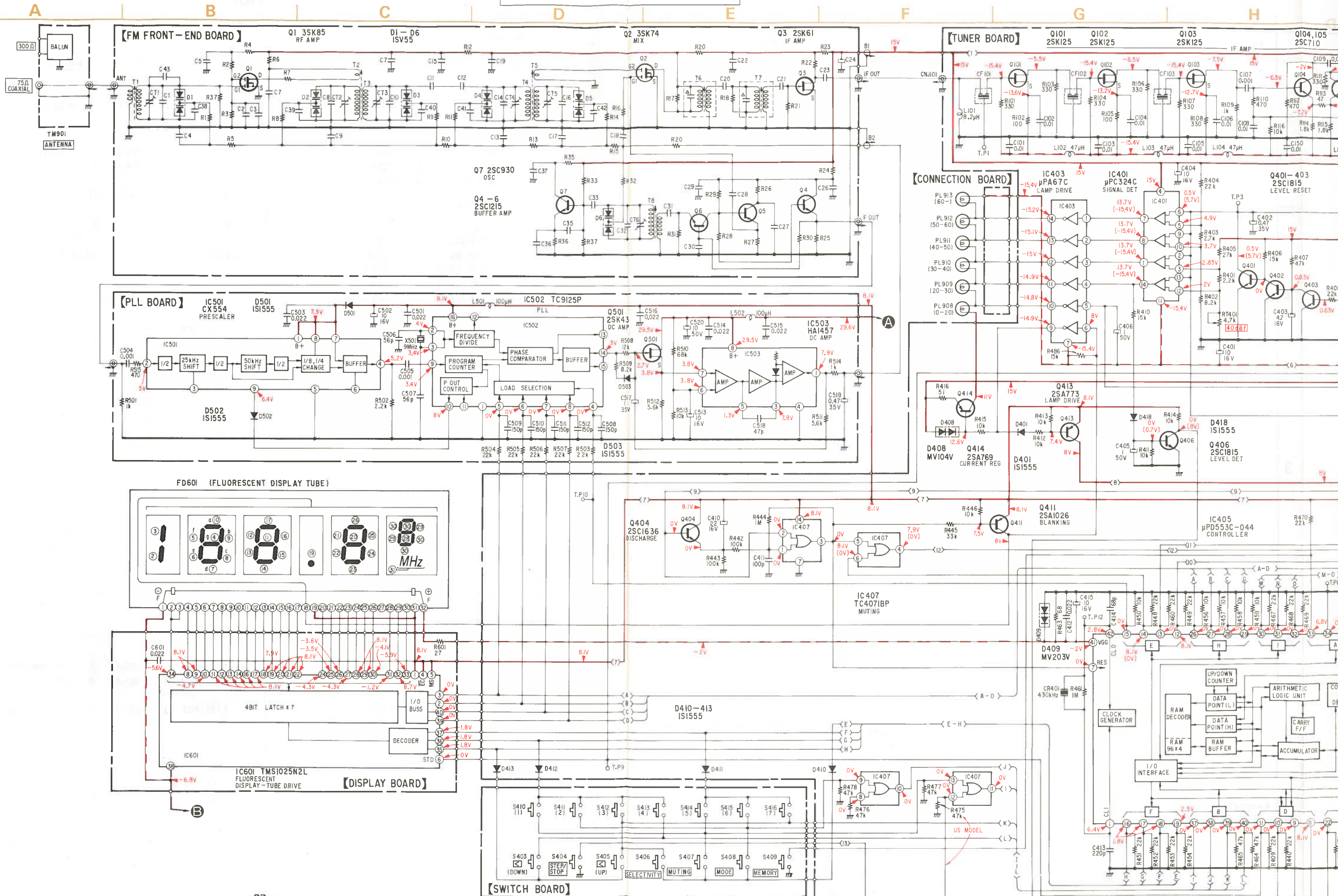
IC, Q	D
IC409	101
IC302	
416	102
417,415	
	103
412	414
408	416
IC301	
407	104
404	105
IC408	
IC106	106
110	
IC104	107
IC407	111
IC201	
410	
IC101	
	409
	104,103
	108
IC102	
IC405	406
IC105	
IC404	102,101
IC406	
109	
405	401
402	407,417
IC401	406
	403
IC402	405,418
	402
413	411
409	
IC403	410-413
	404
414	408
	401
IC, Q	D



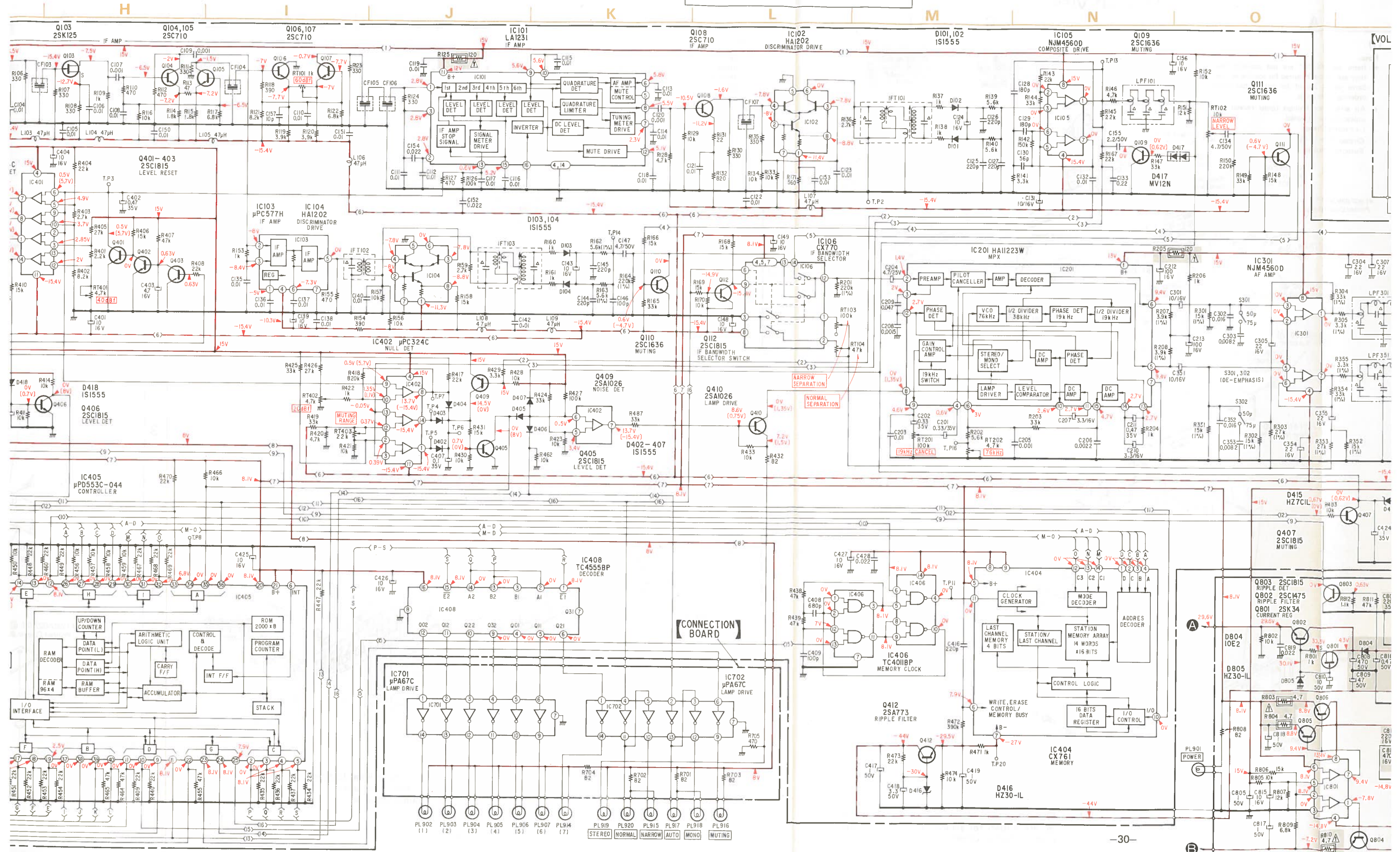
4.3. SCHEMATIC DIAGRAM

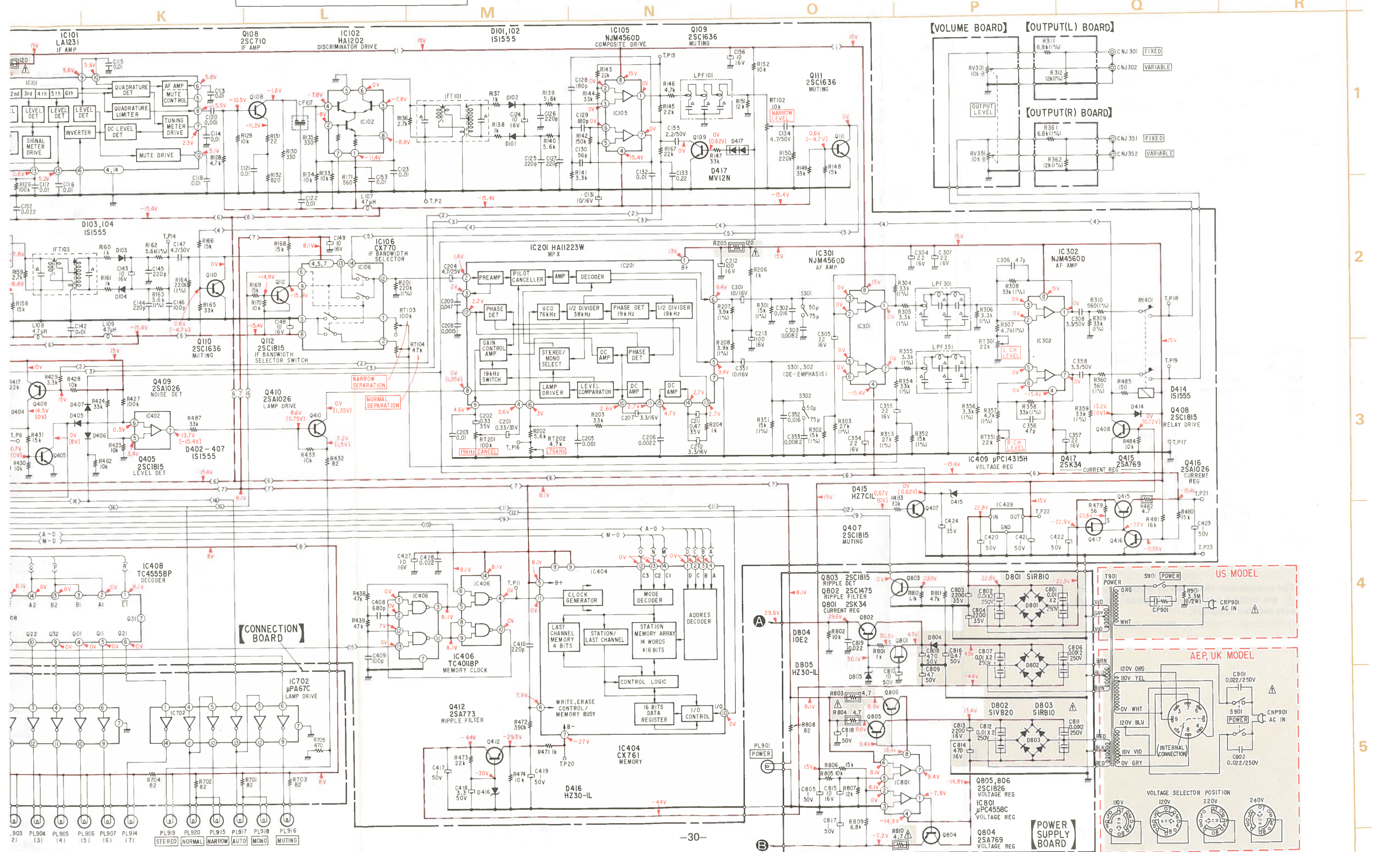
See page 32 for the notes and pages 21, 22 for replacement semiconductors.

ST-J88B ST-J88B



ST-J88B ST-J88B





1
2
3
4
5

Note: Circled letters (A to Z) are applicable to European models only.

Ref. No.	Part No.	Description
IFT103	1-404-250-00	(D) Discriminator
PT901	(A) 1-446-635-00	Power (US model)
	(M) 1-446-648-00	Power (AEP, UK model)
CAPACITORS		
All capacitors are in μ F and ceramic unless otherwise noted. 50WV or less are not indicated except for electrolytics and tantalums. p : μ F, elect : electrolytic Common capacitors are omitted. Refer to the lists on pages 40 and 41 for their part numbers.		
C107, 109, C120	1-161-323-00	(A) 0.001
C124	1-121-651-00	(B) 10 16V elect
C125-127	1-161-315-00	(A) 220p
C128, 129	1-161-314-00	(A) 180p
C134	1-123-232-00	(B) 4.7 50V elect (nonpolarized)
C143	1-121-651-00	(B) 10 16V elect
C144, 145	1-161-315-00	(A) 220p
C147	1-123-232-00	(B) 4.7 50V elect (nonpolarized)
C155	1-123-230-00	(B) 2.2 50V elect (nonpolarized)
C213	1-123-320-00	(B) 100 16V elect
C301, 351	1-121-651-00	(B) 10 16V elect
C302, 352	1-130-125-00	(B) 0.016 100V polyethylene
C308, 358	1-123-231-00	(B) 3.3 50V elect (nonpolarized)
C413-416	1-161-315-00	(A) 220p
C506, 507	1-101-884-00	(A) 56p
C801, 802	(A) 1-102-394-00	(B) 0.01/0.01 250V (dual type)
C803, 804	(A) 1-123-509-00	(C) 2200 35V elect
C806, 807	(A) 1-102-394-00	(B) 0.01/0.01 250V (dual type)
C808	(A) 1-123-516-00	(C) 470 50V elect
C809	(A) 1-123-512-00	(B) 47 50V elect
C811, 812	(A) 1-102-394-00	(B) 0.01/0.01 250V (dual type)
C813	(A) 1-123-489-00	(C) 2200 16V elect
C814	(A) 1-123-487-00	(B) 470 16V elect

Ref. No.	Part No.	Description
C816	(A) 1-121-726-00	(B) 0.47 50V elect
C901, 902	(A) 1-130-267-00	(C) 0.022 250V film (AEP, UK model)
RESISTORS		
All resistors are in ohms. Common $\frac{1}{4}$ W carbon resistors are omitted. Refer to the list on last page for their part numbers.		
R125	(A) 1-247-109-00	(A) 120 $\frac{1}{4}$ W carbon (nonflammable)
R162, 163	1-214-747-00	(A) 5.6k $\frac{1}{4}$ W metal oxide (1%)
R164, 201	1-214-785-00	(A) 220k $\frac{1}{4}$ W metal oxide (1%)
R205	(A) 1-247-109-00	(A) 120 $\frac{1}{4}$ W carbon (nonflammable)
R207, 208	1-214-743-00	(A) 3.9k $\frac{1}{4}$ W metal oxide (1%)
R301, 351, R302, 352	1-214-757-00	(A) 15k $\frac{1}{4}$ W metal oxide (1%)
R304, 354	1-214-765-00	(A) 33k $\frac{1}{4}$ W metal oxide (1%)
R305, 355, R306, 356	1-214-741-00	(A) 3.3k $\frac{1}{4}$ W metal oxide (1%)
R308, 358, R309, 359	1-214-765-00	(A) 33k $\frac{1}{4}$ W metal oxide (1%)
R310, 360	1-214-723-00	(A) 560 $\frac{1}{4}$ W metal oxide (1%)
R311, 361	1-214-749-00	(A) 6.8k $\frac{1}{4}$ W metal oxide (1%)
R312, 362	1-214-755-00	(A) 12k $\frac{1}{4}$ W metal oxide (1%)
R482	(A) 1-247-079-00	(A) 4.7 $\frac{1}{4}$ W carbon (nonflammable)
R803, 804	(A) 1-247-079-00	(A) 4.7 $\frac{1}{4}$ W carbon (nonflammable)
R810	(A) 1-247-079-00	(A) 4.7 $\frac{1}{4}$ W carbon (nonflammable)
R901	(A) 1-202-725-00	3.3M $\frac{1}{2}$ W composition (US model)
RT101	1-224-550-21	(B) 220-B, adjustable; 60dBf
RT102	1-224-252-XX	(B) 10k-B, adjustable; narrow level
RT103	1-224-255-XX	(B) 100k-B, adjustable; narrow separation
RT104	1-224-254-XX	(B) 47k-B, adjustable; normal separation
RT201	1-224-255-XX	(B) 100k-B, adjustable; 19kHz cancel

Note: The components identified by shading and mark (A) are critical for safety. Replace only with part number specified.

Note: Circled letters (A to Z) are applicable to European models only.

Ref. No.	Part No.	Description
RT202	1-224-251-XX	(B) 4.7k-B, adjustable; 76kHz
RT301, 351	1-224-253-XX	(B) 22k-B, adjustable; level
RT401, 402	1-224-251-XX	(B) 4.7k-B, adjustable; 40dBf, 20dBf
RT403	1-224-253-XX	(B) 22k-B, adjustable; muting range
RV301, 351	1-226-133-00	(D) 10k/10k-B, variable; OUTPUT LEVEL
SWITCHES		
S301, 351	1-552-430-00	(B) Slide, de-emphasis
S403-416	1-552-539-00	(B) Pushbutton, down, STEP/STOP, up, SELECTIVITY, MUTING MODE, MEMORY, preset
S901	(A) 1-552-974-00	Rotary, POWER (US model)
	(E) 1-552-975-00	Rotary, POWER (AEP, UK model)
LAMPS		
PL901	1-518-331-81	(B) 6V 35mA, POWER
PL902-920	1-518-169-XX	(B) 4.5V 40mA, preset, signal indicator, NARROW, MUTING, AUTO, MONO, STEREO, NORMAL
CONNECTORS		
● CN406	1-560-064-00	(B) 6p
● CN409	1-560-060-00	(A) 2p
● CN410	1-560-075-00	(B) 6p
● CN411	1-560-074-00	(B) 5p
● CN501	1-560-070-00	(B) 5p
● CN502	1-508-878-00	(A) 3p
● CN601	1-560-060-00	(A) 2p
● CN602	1-560-062-00	(B) 4p
● CN603	1-560-064-00	(B) 6p
● CN801	1-560-060-00	(A) 2p
	1-560-070-00	(B) 5p
MISCELLANEOUS		
CF101-103	1-527-405-00	(C) Filter, ceramic

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

Ref. No.	Part No.	Description
CF104-106	1-527-344-91	(C) Filter, ceramic
CF107	1-527-405-00	(C) Filter, ceramic
CNJ301,351, CNJ302,352	1-507-567-00	(B) Jack, 1p; L OUTPUT, R OUTPUT
CNJ501,502	1-507-456-00	(B) Jack, 1p
CNP901	(A) 1-534-817-XX	(D) Cord, power (AEP model)
	(A) 1-534-986-XX	Cord, power (US model)
	(A) 1-551-884-00	(E) Cord, power (UK model)
CP901	(A) 1-231-326-11	Encapsulated Component (US model)
CR401	1-527-522-00	(D) Ceramic, osc
FD601	1-519-172-00	(L) Fluorescent Display-tube
FE901	1-463-308-00	(S) FM Front-end
LPF101	1-231-422-00	(A) Filter, low-pass
LPF301,351	1-231-421-00	(A) Filter, low-pass
RY401	1-515-297-00	(F) Relay, reed
TM901	1-536-528-00	Terminal Plate, ANTENNA (US model)
	1-536-611-00	(E) Terminal Plate, ANTENNA (AEP, UK model)
VS901	(A) 1-552-963-00	(D) Voltage Selector (AEP, UK model)
X501	1-527-551-00	(E) Crystal, osc
	● A-4351-171-A	Complete Circuit Board, tuner
	● A-4394-177-A	Complete Circuit Board, power supply
	1-526-522-00	(B) Socket
	● 1-535-115-00	(A) Terminal Pin, 2p
	● 1-535-116-00	(A) Terminal Pin, 3p
	● 1-535-117-00	(A) Terminal Pin, 4p
	● 1-535-118-00	(A) Terminal Pin, 5p
	● 1-535-122-00	(A) Terminal Pin, 9p
	1-535-149-11	(A) Jumper Lead, 30mm
	● 1-602-025-00	(C) Printed Circuit Board, power supply
	● 1-602-026-00	(C) Printed Circuit Board, display
	● 1-602-027-00	(C) Printed Circuit Board, connection
	● 1-602-028-00	(C) Printed Circuit Board, PLL
	● 1-602-029-00	(C) Printed Circuit Board, output (L)
	● 1-602-030-00	(C) Printed Circuit Board, output (R)
	● 1-602-031-00	(C) Printed Circuit Board, control
	● 1-602-032-00	(C) Printed Circuit Board, switch

Note: The components identified by shading and mark (A) are critical for safety. Replace only with part number specified.

Note: Circled letters (A to Z) are applicable to European models only.

ACCESSORIES AND PACKING MATERIALS

Part No.	Description
X-4861-505-5	Sheet Ass'y, memory (US model)
X-4861-505-6	(H) Sheet Ass'y, memory (AEP, UK model)
1-501-161-00	(F) FM Ribbon Antenna
1-506-305-00	Plug, FP-33 (US model)
1-551-315-00	(H) Cord, connection; RK-112
3-701-620-00	(A) Bag, plastic; for accessories
3-701-630-00	(A) Bag, plastic; for instruction manual
3-770-676-11	(K) Manual, instruction (AEP, UK model)
3-770-676-21	Manual, instruction (US model)
3-794-233-21	Separate Sheet, consumer products (US model)
4-809-251-00	(A) Bag, plastic; for set
4-852-949-00	(C) Cushion
4-861-552-00	(C) Carton

ELECTROLYTIC CAPACITORS

Note: Circled letter (A to Z) are applicable to European models only.

CAP. (μF)	RATING → Use the high voltage rated one.					
	6.3 VOLT. PART No.	10 VOLT. PART No.	16 VOLT. PART No.	25 VOLT. PART No.	35 VOLT. PART No.	50 VOLT. PART No.
0.47						1-121-726-00 (A)
1.0						1-121-391-00 (A)
2.2						1-121-450-00 (A)
3.3	→	→	→	1-121-392-00 (A)	→	1-121-393-00 (A)
4.7	→	→	→	1-121-395-00 (A)	→	1-121-396-00 (A)
10	→	→	1-121-651-00 (A)	1-121-398-00 (A)	→	1-121-738-00 (A)
22	→	→	1-121-479-00 (A)	1-121-480-00 (A)	1-121-662-00 (A)	1-121-152-00 (A)
33	→	→	1-121-403-00 (A)	1-121-404-00 (A)	1-121-652-00 (B)	1-121-405-00 (A)
47	→	1-121-352-00 (A)	1-121-409-00 (A)	1-121-410-00 (A)	1-121-653-00 (B)	1-121-411-00 (A)
100	→	1-121-414-00 (A)	1-121-415-00 (A)	1-121-416-00 (A)	1-121-357-00 (B)	1-121-417-00 (B)
220	1-121-419-00 (B)	1-121-420-00 (B)	1-121-421-00 (A)	1-121-422-00 (B)	1-121-261-00 (C)	1-121-423-00 (B)
330	1-121-751-00 (B)	1-121-805-00 (B)	1-121-521-00 (C)	1-121-654-00 (B)	1-121-655-00 (D)	1-121-656-00 (C)
470	1-121-424-00 (B)	1-121-425-00 (C)	1-121-426-00 (C)	1-121-733-00 (B)	1-121-361-00 (E)	1-121-810-00 (D)
1000		1-121-736-00 (C)	1-121-245-00 (D)	1-121-657-00 (D)	1-121-388-00 (E)	1-123-061-00 (F)
2200	1-121-658-00 (B)	1-121-659-00 (C)	1-121-660-00 (D)	1-123-067-00 (F)	1-121-984-00 (F)	
3300	1-121-661-00 (D)	1-123-075-00 (E)	1-123-071-00 (F)			

CAP. (μF)	100 VOLT. PART No.	160 VOLT. PART No.	250 VOLT. PART No.	350 VOLT. PART No.
	0.47			
1.0	1-123-249-00 (A)	1-123-252-00 (A)	1-123-003-00 (B)	1-121-168-00 (B)
2.2	1-123-250-00 (A)	1-123-026-00 (B)		1-123-028-00 (B)
3.3	1-121-995-00 (A)		1-123-004-00 (B)	1-123-006-00 (C)
4.7	1-123-255-00 (A)	1-121-246-00 (B)	1-121-759-00 (B)	1-123-007-00 (D)
10	1-121-126-00 (B)	1-121-999-00 (B)	1-123-254-00 (C)	1-123-008-00 (D)
22	1-121-996-00 (C)	1-123-253-00 (C)	1-123-005-00 (D)	1-123-022-00 (D)
33	1-121-997-00 (C)	1-121-757-00 (C)		
47	1-123-251-00 (C)	1-121-919-00 (C)		
100	1-123-084-00 (E)			

CERAMIC CAPACITORS (A)

RATING							
CAP. (pF)	50 VOLT. PART No.	CAP. (pF)	50 VOLT. PART No.	CAP. (pF)	50 VOLT. PART No.	CAP. (μF)	50 VOLT. PART No.
	0.5		1-101-837-00		22		1-102-959-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

0.001μF = 1,000pF

CERAMIC (SEMICONDUCTOR) CAPACITORS (A)

RATING → Use the high voltage rated one.					
CAP. (μF)	25 VOLT. PART No.	50 VOLT. PART No.	CAP. (μF)	25 VOLT. PART No.	50 VOLT. PART No.
	0.001	→		1-161-039-00	0.018
0.0012	→	1-161-040-00	0.022	1-161-017-00	1-161-055-00
0.0015		1-161-041-00	0.027	1-161-018-00	1-161-056-00
0.0018		1-161-042-00	0.033	1-161-019-00	1-161-057-00
0.0022		1-161-043-00	0.039	1-161-010-00	1-161-058-00
0.0027	→	1-161-044-00	0.047	1-161-021-00	1-161-059-00
0.0033	→	1-161-045-00	0.056	→	1-161-060-00
0.0039	→	1-161-046-00	0.068	→	1-161-061-00
0.0047	→	1-161-047-00	0.082	1-161-024-00	1-161-062-00
0.0056	→	1-161-048-00	0.1	1-161-025-00	1-161-063-00
0.0068	→	1-161-049-00			
0.0082	1-161-012-00	1-161-050-00			
0.01	1-161-013-00	1-161-051-00			
0.012	→	1-161-052-00			
0.015	1-161-015-00	1-161-053-00			

MYLAR CAPACITORS (A)

Note: Circled letters (A) to (Z) are applicable to European models only.

CAP. (μF)	RATING										
	50 VOLT.			100 VOLT.			200 VOLT.				
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.		
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-377-00	1-108-421-00	0.1	1-108-251-00	1-108-389-00	1-108-433-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-378-00	1-108-422-00	0.12	1-108-363-00	1-108-390-00	1-108-434-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-379-00	1-108-423-00	0.15	1-108-252-00	1-108-391-00	1-108-435-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-380-00	1-108-424-00	0.18	1-108-364-00	1-108-392-00	1-108-436-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-381-00	1-108-425-00	0.22	1-108-254-00	1-108-393-00	1-108-437-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-382-00	1-108-426-00	0.27	1-108-854-00	-	-
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-383-00	1-108-427-00	0.33	1-108-855-00	-	-
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-384-00	1-108-428-00	0.39	1-108-856-00	-	-
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-385-00	1-108-429-00	0.47	1-108-857-00	-	-
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-386-00	1-108-430-00				
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-387-00	1-108-431-00				
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-388-00	1-108-432-00				

TANTALUM CAPACITORS



CAP. (μF)	RATING						
	3.15 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	25 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.01							1-131-396-00 (B)
0.015							1-131-397-00 (B)
0.022							1-131-398-00 (B)
0.033							1-131-399-00 (B)
0.047							1-131-400-00 (B)
0.068							1-131-401-00 (B)
0.1							1-131-402-00 (B)
0.15							1-131-403-00 (B)
0.22							1-131-404-00 (B)
0.33							1-131-405-00 (B)
0.47					1-131-412-00 (B)		1-131-406-00 (B)
0.68				1-131-415-00 (B)		1-131-410-00 (B)	1-131-407-00 (B)
1.0			1-131-418-00 (B)		1-131-413-00 (B)		1-131-408-00 (B)
1.5		1-131-421-00 (B)		1-131-416-00 (B)		1-131-411-00 (B)	1-131-348-00 (B)
2.2	1-131-424-00 (B)		1-131-419-00 (B)		1-131-414-00 (B)	1-131-355-00 (B)	1-131-349-00 (B)
3.3		1-131-422-00 (B)		1-131-417-00 (B)	1-131-362-00 (B)	1-131-356-00 (B)	1-131-350-00 (B)
4.7	1-131-425-00 (B)		1-131-420-00 (B)	1-131-369-00 (B)	1-131-363-00 (B)	1-131-357-00 (B)	1-131-351-00 (C)
6.8		1-131-423-00 (B)	1-131-376-00 (B)	1-131-370-00 (B)	1-131-364-00 (B)	1-131-358-00 (C)	1-131-352-00 (C)
10	1-131-426-00 (B)	1-131-383-00 (B)	1-131-377-00 (B)	1-131-371-00 (B)	1-131-365-00 (C)	1-131-359-00 (C)	1-131-353-00 (D)
15	1-131-390-00 (B)	1-131-384-00 (B)	1-131-378-00 (B)	1-131-372-00 (B)	1-131-366-00 (C)	1-131-360-00 (D)	
22	1-131-391-00 (B)	1-131-385-00 (B)	1-131-379-00 (C)	1-131-373-00 (C)	1-131-367-00 (D)		
33	1-131-392-00 (B)	1-131-386-00 (C)	1-131-380-00 (C)	1-131-374-00 (D)			
47	1-131-393-00 (C)	1-131-387-00 (C)	1-131-381-00 (D)				
68	1-131-394-00 (B)	1-131-388-00 (C)					
100	1-131-395-00 (D)						

TANTALUM CAPACITORS



CAP. (μF)	RATING					
	3 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.033						1-131-273-00 (E)
0.047						1-131-274-00 (E)
0.068						1-131-275-00 (E)
0.1						1-131-276-00 (D)
0.15						1-131-277-00 (D)
0.22					1-131-262-00 (D)	1-131-278-00 (D)
0.33					1-131-263-00 (D)	1-131-279-00 (D)
0.47			1-131-169-00 (D)		1-131-264-00 (D)	1-131-280-00 (D)
0.68				1-131-258-00 (D)	1-131-265-00 (D)	1-131-281-00 (D)
1.0			1-131-254-00 (D)		1-131-266-00 (D)	1-131-282-00 (D)
1.5		1-131-250-00 (D)			1-131-267-00 (D)	1-131-283-00 (E)
2.2				1-131-259-00 (D)	1-131-268-00 (D)	1-131-284-00 (E)
3.3			1-131-255-00 (D)		1-131-269-00 (D)	
4.7		1-131-251-00 (E)	1-131-171-00 (D)		1-131-270-00 (D)	
6.8				1-131-260-00 (D)	1-131-271-00 (E)	
10			1-131-256-00 (D)		1-131-272-00 (E)	
15		1-131-252-00 (D)		1-131-261-00 (E)		
22			1-131-257-00 (E)			
33	1-131-176-00 (D)	1-131-253-00 (E)	1-131-173-00 (C)			
47	1-131-288-00 (F)	1-131-174-00 (D)				
100	1-131-177-00 (D)					

1/4 WATT CARBON RESISTORS [Ⓐ]

Note: Circled letter [Ⓐ] is applicable to European models only.

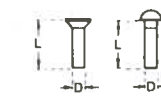
Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	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	1-246-476-00	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	1-246-477-00	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	1-246-478-00	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	1-246-479-00	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	1-246-480-00	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	1-246-481-00	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	1-246-482-00	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	1-246-483-00	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	1-246-484-00	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	1-246-485-00	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	1-246-486-00	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	1-246-487-00	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		brazer-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