ST-P7J

US Model F
AEP Model
UK Model

FM STEREO TUNER

SPECIFICATIONS

GENERAL

System: PLL crystal-locked digital synthesizer system

Power Requirements: 120 V ac, 60 Hz (US model)
240 V ac, 50/60 Hz (UK model)
220 V ac, 50/60 Hz (AEP model)

Power Consumption: 13 W

Dimensions: Approx. 215 (w) x 80 (h) x 330 (d) mm
8 ½ (w) x 3 ⅛ (h) x 13 (d) inches
including projecting parts and controls

Weight: Approx. 3.2 kg, 7 lb 2 oz (net)
Approx. 3.4 kg, 7 lb 8 oz (in shipping carton) (US model)
Approx. 3.6 kg, 7 lb 15 oz (net)
Approx. 3.8 kg, 8 lb 6 oz (in shipping carton) (AEP, UK model)

TUNER SECTION

Tuning Range: 87.5 MHz – 107.9 MHz (US model)
87.5 MHz – 108 MHz (AEP, UK model)

Antenna Terminals: 300 Ω balanced
75 Ω, unbalanced coaxial input

Intermediate Frequency: 10.7 MHz

Sensitivity: at 50 dB quieting (US model)
(40kHz deviation): 16.1 dBf, 3.5μV (mono)
37.3 dBf, 40 μV (stereo)
at 46 dB quieting (AEP, UK model)
3.2 μV (mono)
35 μV (stereo)

Usable Sensitivity: 10.3 dBf, 1.8 μV (IHF)
1.2 μV (S/N = 26 dB, 40kHz deviation) (AEP, UK model)

Signal-to-Noise Ratio:
(40kHz deviation): 77 dB (mono), 72 dB (stereo) (US model)
68 dB (mono), 64 dB (stereo) (AEP, UK model)

– Continued on page 2 –

SAFETY-RELATED COMPONENT WARNING!!

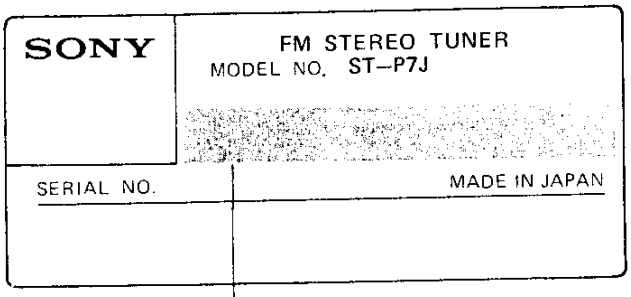
COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SONY®
SERVICE MANUAL

Harmonic Distortion: (40kHz deviation):	at 100 Hz 0.06 % (mono), 0.08 % (stereo) (US model) 0.1 % (mono), 0.3 % (stereo) (AEP, UK model) at 1 kHz 0.06 % (mono), 0.08 % (stereo) (US model) 0.1 % (mono), 0.2 % (stereo) (AEP, UK model) at 10 kHz 0.06 % (mono), 0.15 % (stereo) (US model) 0.1 % (mono), 0.5 % (stereo) (AEP, UK model)
IM Distortion: (40kHz deviation):	0.06 % (mono), 0.08 % (stereo) (US model) 0.1 % (mono), 0.2 % (stereo) (AEP, UK model)
Separation:	at 100 Hz 48 dB at 1 kHz 50 dB at 10 kHz 40 dB
Frequency Response:	40 Hz – 12.5 kHz $\pm$0.2 dB (AEP, UK model) 30 Hz – 15 kHz $^{+0.2}_{-0.5}$ dB
Selectivity:	at 400 kHz 85 dB (US model) at 300 kHz 80 dB (AEP, UK model)
Capture Ratio:	1.0 dB
AM Suppression Ratio:	60 dB
Image Response Ratio:	85 dB
IF Response Ratio:	95 dB
Spurious Response Ratio:	100 dB
RF Intermodulation:	70 dB
Sub-Carrier Product Ratio:	70 dB (US model) 64 dB (AEP, UK model)
Muting and Auto-Tuning Threshold:	Approx. 5 μV
Output Level: (75kHz deviation):	750 mV, 4 kΩ

MODEL IDENTIFICATION

Specification Label



AC 220V~ 50/60Hz 13W . . . . . AEP model
AC 240V~ 50/60Hz 13W . . . . . UK model
AC 120V~ 60Hz 13W . . . . . US model

Handling Precautions for MOS ICs (CX761)

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.)

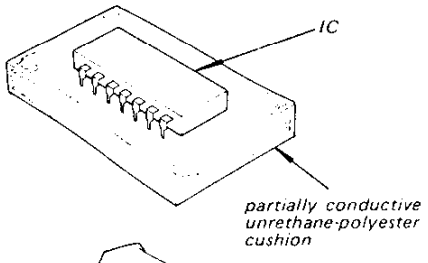


Fig. A

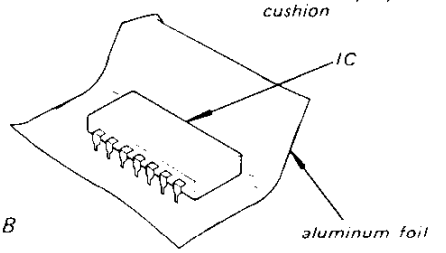


Fig. B

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.

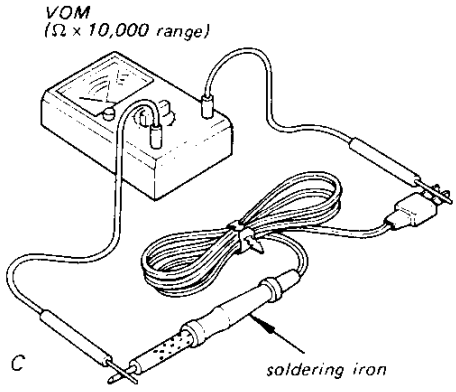


Fig. C

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.

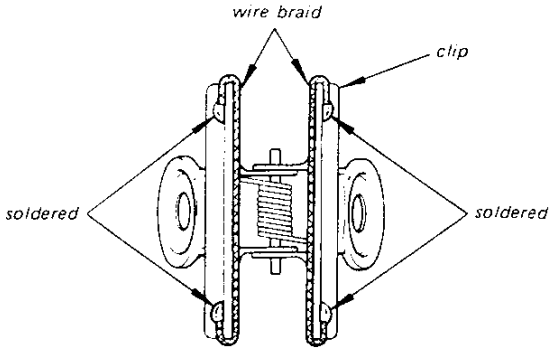


Fig. D

Make sure that there is no solder on the inside.

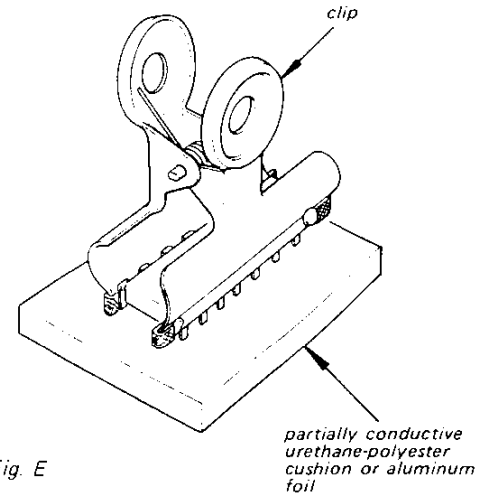
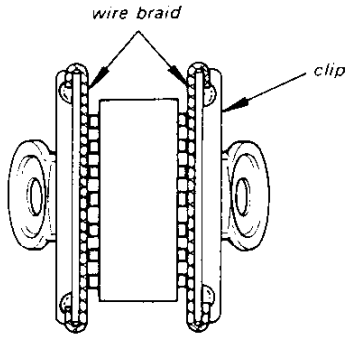


Fig. E



Make sure that all the pins are in contact with the wire braid (all the pins will then be at the same potential.).

Fig. F

- 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.

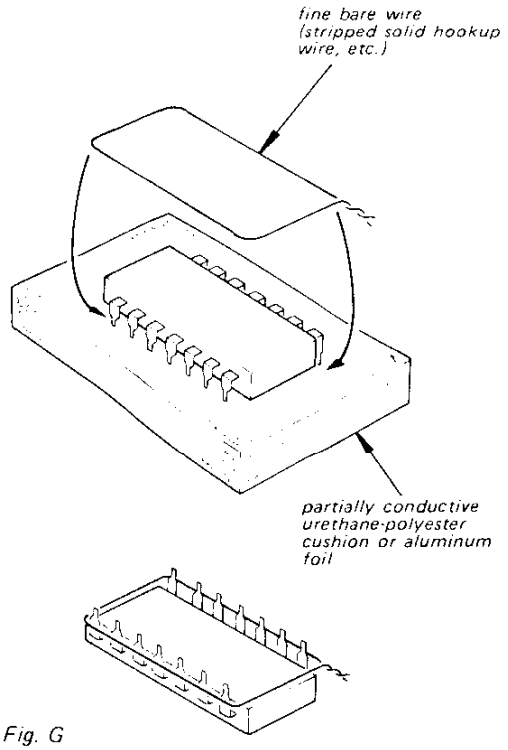


Fig. G

- 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.

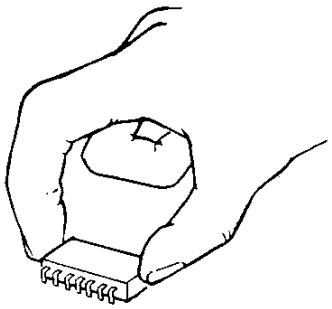


Fig. H

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:

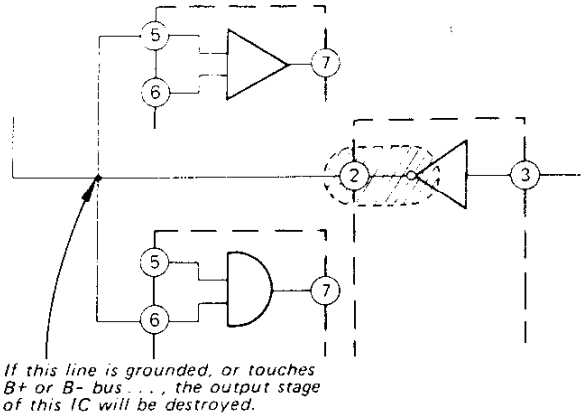


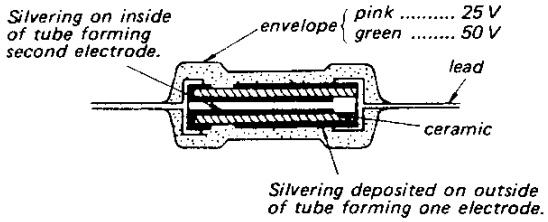
Fig. I

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.

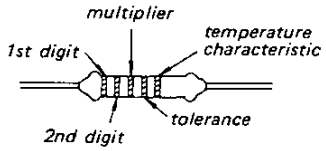
Disc-type ceramic capacitors can be used for replacing those originally used in the set.

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.

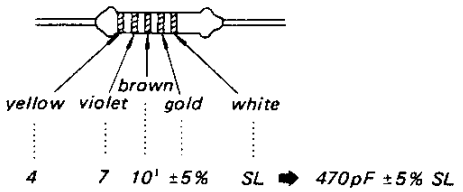


COLOR CODE (in pF)

Color	1st or 2nd Digit	Multiplier	Tolerance	Temperature charac-teristic
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		±30%	X
white	9			SL
black	0	10^0	±20%	CH
gold		10^{-1}	± 5%	V
silver		10^{-2}	±10%	B



Example:



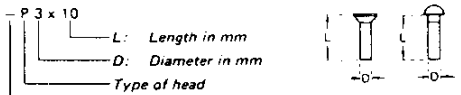
1/4 WATT CARBON RESISTORS Ⓐ

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

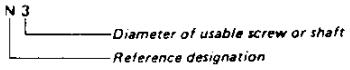
Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	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	1-246-576-00	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	1-246-588-00	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	1-246-589-00	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:



Nut, Washer, Retaining ring:

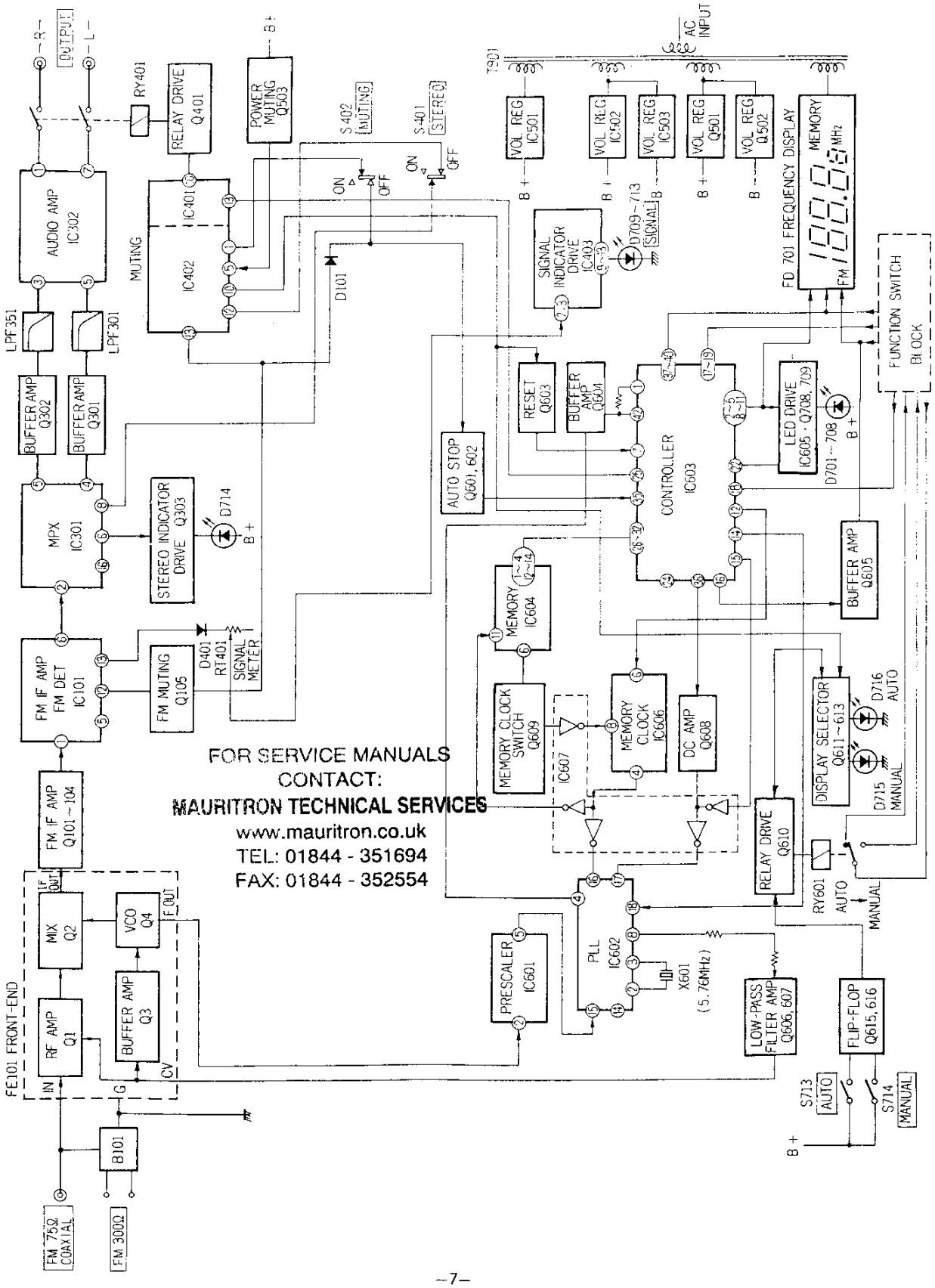


Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
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	

SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM



1-2. FUNCTION OF ST-P7J

The ST-P7J FM stereo tuner employs a crystal-locked digital synthesizer system. Frequencies can be displayed digitally and tuned in either manually or set in a memory and tuned in automatically. The tuner functions as follows:

1. When the POWER switch (S901) is turned ON, the frequency which had been received for more than four seconds just before the POWER switch was turned off is received and is displayed on the frequency counter.
   This is because the last station memory circuit contained in the nonvolatile IC (IC604) operates to memorize the last received frequency.
2. Manual tuning
   Set the MANUAL switch (S714), MUTING switch (S402) and STEREO switch (S401) to off. Vary the received frequency with the TUNING button (UP for a higher frequency and DOWN for a lower.)

1) One step tuning
   By pressing the TUNING button once, the frequency changes one step. Each step is 0.05 MHz on the FM band. (UP for a higher frequency and DOWN for a lower)
2) Rapid tuning
   By keeping the TUNING button depressed, the frequency changes rapidly up or down in 0.05MHz steps.
3) When the frequency counter figures reach the end of the tuning range, either 87.5MHz or 108MHz, the frequency count starts again from the opposite end of the tuning range.

3. Automatic tuning
   Press the AUTO switch (S713). If the TUNING button is now pressed the frequency shown on the counter will be scanned automatically. When a signal of sufficient strength is received, the frequency counter figures automatically stop.
4. MEMORY tuning
   A total of 8 stations can be memorized with the MEMORY circuit employing the nonvolatile IC (IC604).
   With this system, it is possible to change the memory contents.

1) To memorize a station
   Tune in the station to be memorized with the TUNING button. Press the MEMORY switch. The MEMORY indicator will appear on the frequency counter. While the MEMORY indicator is illuminated, press the desired station button to memorize the frequency.
   The lamp (LED) above the station button lights up and the frequency is committed to memory.

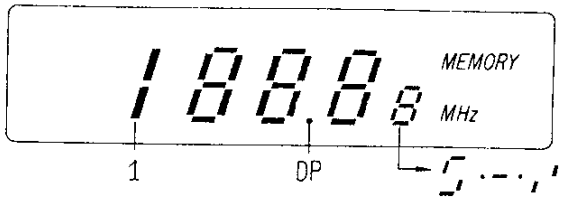
Note: The MEMORY indicator on the frequency counter will go off automatically after 3.5 seconds even if the station button is not pressed. The memory circuit operates each time the MEMORY indicator is illuminated.

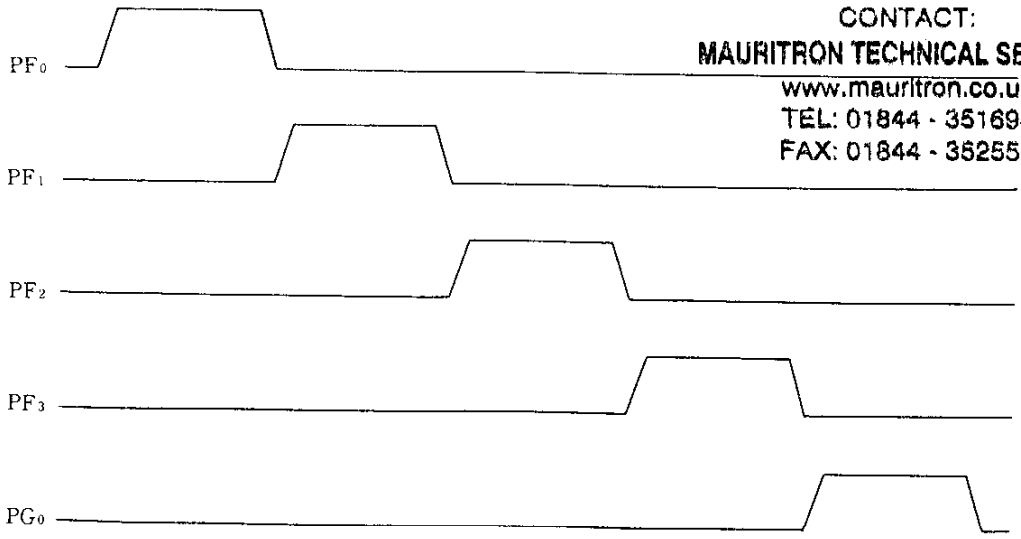
2) To receive a pre-memorized station
   Press the station button on which the desired station is pre-memorized.
3) To change a pre-memorized station
   The memory of a button will be erased when a new frequency is committed to its memory.
   Tune in the new station to be memorized. Press the station button to be changed using the same procedure as in step 1).

5. MEMORY SCAN
   When the MEMORY SCAN switch is pressed, the automatic memory scanning system operates and the frequencies which are memorized on the station buttons will be automatically received for 3.5 seconds one by one. When the desired program is received, stop the scanning by pressing the station button whose lamp is illuminated. MEMORY scanning will also stop if any of the station buttons is pressed.

KEY/DISPLAY MATRIX

	PF_0	PF_1	PF_2	PF_3	PG_0
KEY					
PB_0	MEMORY 1	MEMORY 5		DOWN (AUTO)	
PB_1	〃 2	〃 6	MEMORY	UP (AUTO)	
PB_2	〃 3	〃 7	MEMORY SCAN	UP	
PB_3	〃 4	〃 8		DOWN	
DISPLAY					
PC_0	MEMORY	a	a	a	MEMORY 1
PC_1	1	b	b	b	〃 2
PC_2	-	c	c	c	〃 3
PC_3	'	d	d	d	〃 4
PD_0	FM	e	e	e	〃 5
PD_1	MHz	f	f	f	〃 6
PD_2	5	g	g	g	〃 7
PD_3			DP		〃 8
		first digit	second digit	third digit	





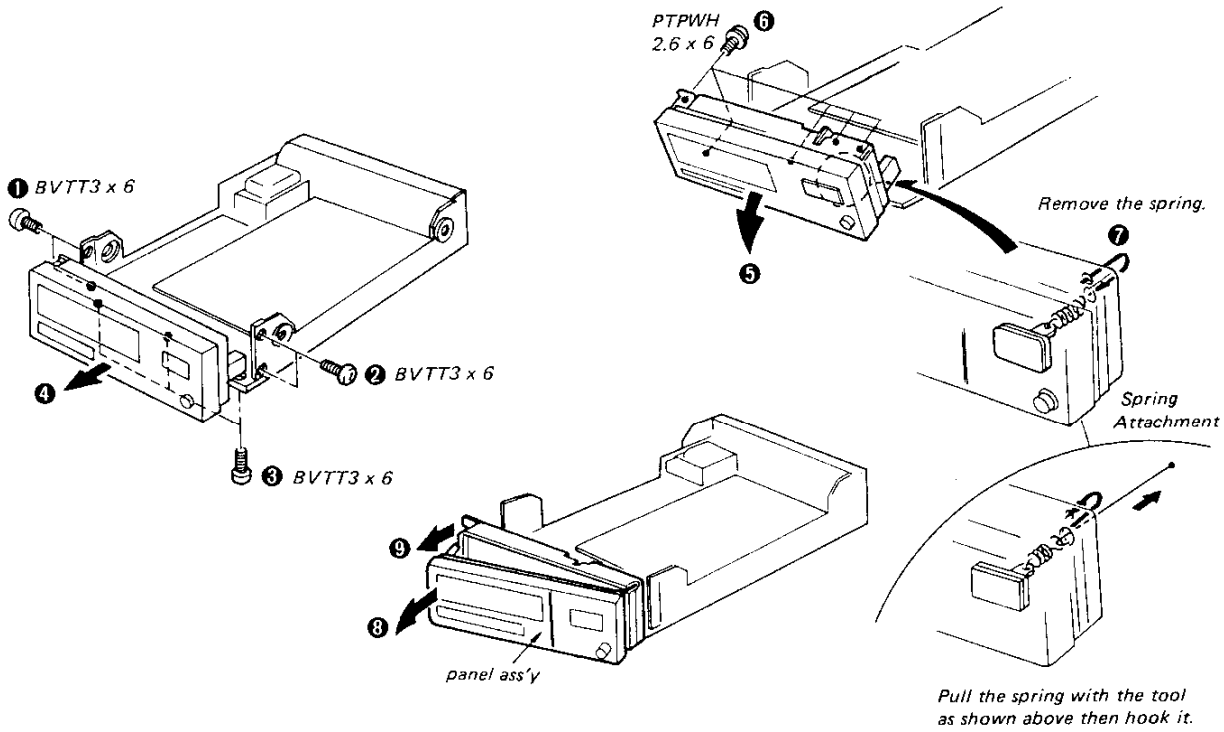
On repairing IC603

Make sure that the signals from the output terminals (PF_0 – PF_3, PG_0) are applied to the input terminals (PB_0 – PB_3) during the operation of each switch.

SECTION 2
DISASSEMBLY

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

FRONT PANEL REMOVAL



SECTION 3
ADJUSTMENTS

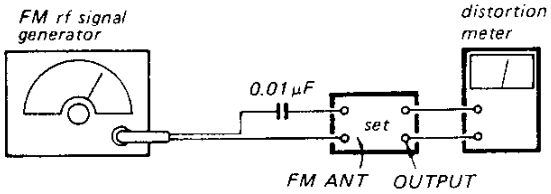
ELECTRICAL ADJUSTMENTS

Discriminator Adjustment

- Secondary-side Adjustment

Setting: STEREO switch: OFF

Procedure:

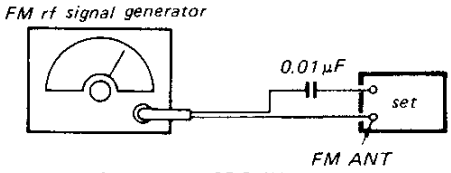


Carrier frequency: 97.9MHz
Modulation: 400Hz, 75kHz deviation (100%)
Output level: 1mV (60dB)
Monaural

Adjust the secondary-side core (black) of IFT101 for a minimum reading on the distortion meter.

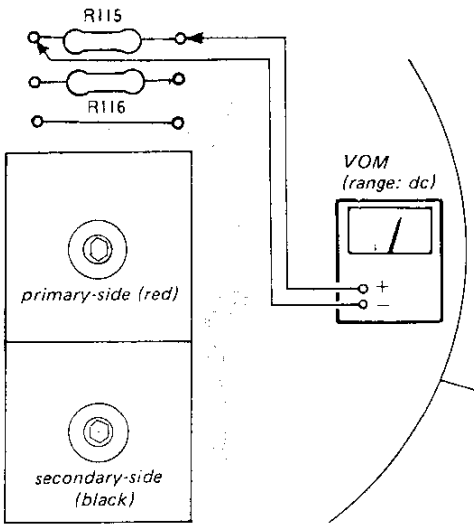
- Primary-side Adjustment

Procedure:



Carrier frequency: 97.9MHz
Modulation: no modulation
Output level: 1mV (60dB)
Monaural

Adjust the primary-side core (red) of IFT101 for 0V dc reading on the VOM.



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

IFT101 primary-side (red)

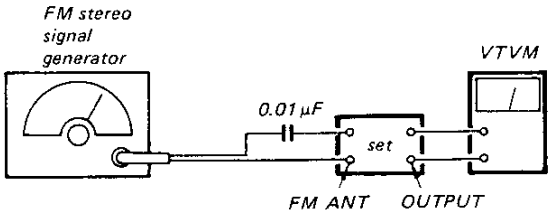
IFT101 secondary-side (black)

RT301

Pilot Signal (19kHz) Cancel Adjustment

Setting: STEREO switch: ON

Procedure:



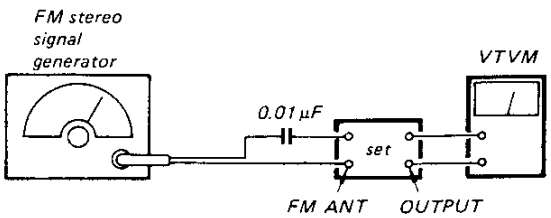
Carrier frequency: 97.9MHz
Output level: 1mV (60dB)
Mode: stereo
Modulation:
Audio (400Hz): 33.75kHz deviation (45%)
Pilot (19kHz) : 7.5kHz deviation (10%)

1. Set the modulation selector of FM stereo signal generator to the position L-R.
2. Adjust RT301 so that VTVM readings of L-CH and R-CH are minimum and equal.

FM Output Level Adjustment

Setting: STEREO switch: ON

Procedure:



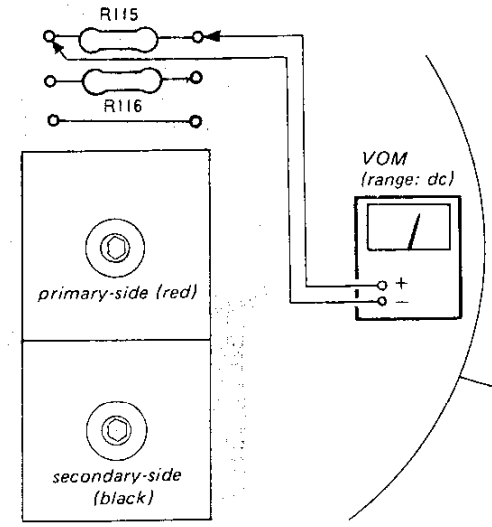
Carrier frequency: 97.9MHz
Modulation: 400Hz, 75kHz deviation (100%)
Output level: 1mV (60dB)
Mode: stereo

Adjust RT305 (L-CH) and RT355 (R-CH) for 0.775V (0dB) on the VTVM.

RT355
RT305

ECTION 3
IUSTMENTS

Adjust the primary-side core (red) of IFT101 for 0V dc reading on the VOM.

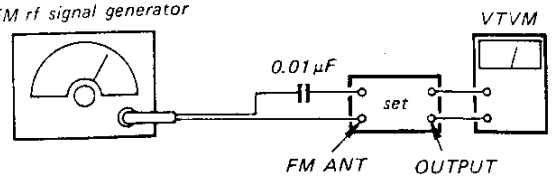


Note: Repeat the secondary-side and primary-side adjustments several times.

Muting Level Adjustment

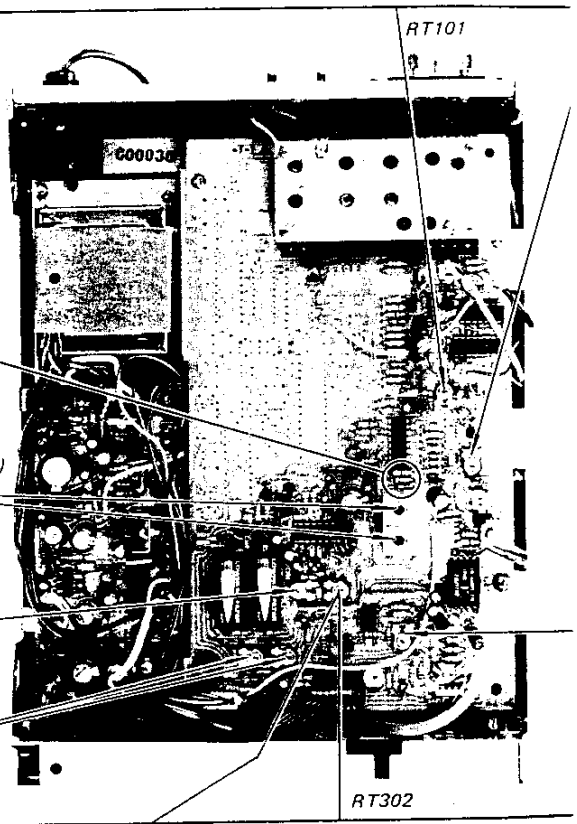
Setting: MUTING switch: ON

Procedure:



Carrier frequency: 97.9MHz
Modulation: 400Hz, 75kHz deviation (100%)
Output level: 10μV (20dB)

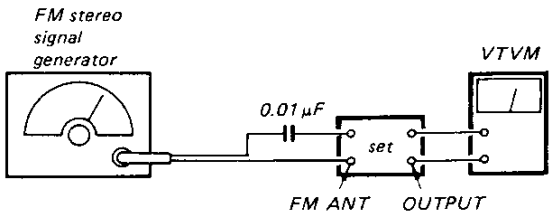
Turn RT101 and stop it just when the VTVM indication suddenly decreases.



FM Output Level Adjustment

Setting: STEREO switch: ON

Procedure:

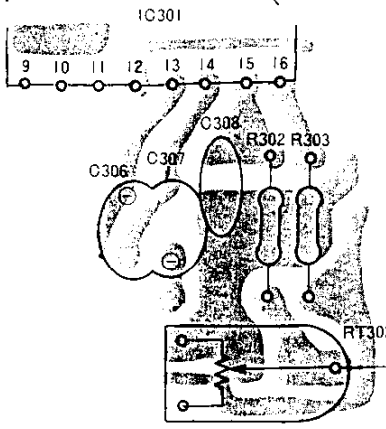


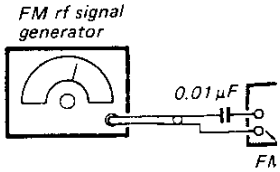
Carrier frequency: 97.9MHz
Modulation: 400Hz, 75kHz deviation (100%)
Output level: 1mV (60dB)
Mode: stereo

Adjust RT305 (L-CH) and RT355 (R-CH) for 0.775V (0dB) on the VTVM.

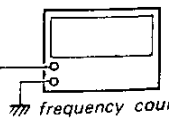
76kHz Adjustment

Setting: STEREO switch:





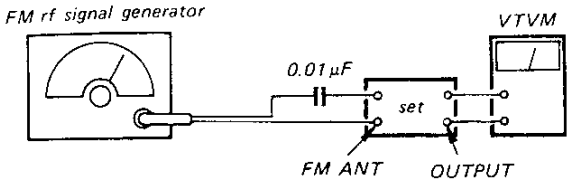
Carrier frequency: 97.9MHz
Modulation: no modul.
Output level: 1mV (60
Monaural



Muting Level Adjustment

Setting: MUTING switch: ON

Procedure:

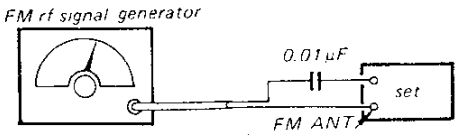


Carrier frequency: 97.9MHz
Modulation: 400Hz, 75kHz deviation (100%)
Output level: 10μV (20dB)

Turn RT101 and stop it just when the VTVM indication suddenly decreases.

Signal Meter Adjustment

Procedure:



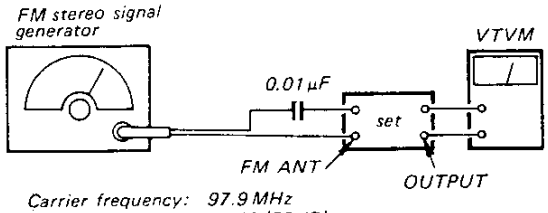
Carrier frequency: 97.9MHz
Modulation: 400Hz, 75kHz deviation (100%)
Output level: 3.2mV (70dB)

Adjust RT401 so that all the signal meters are lit.

FM Stereo Separation Adjustment

Setting: STEREO switch: ON

Procedure:

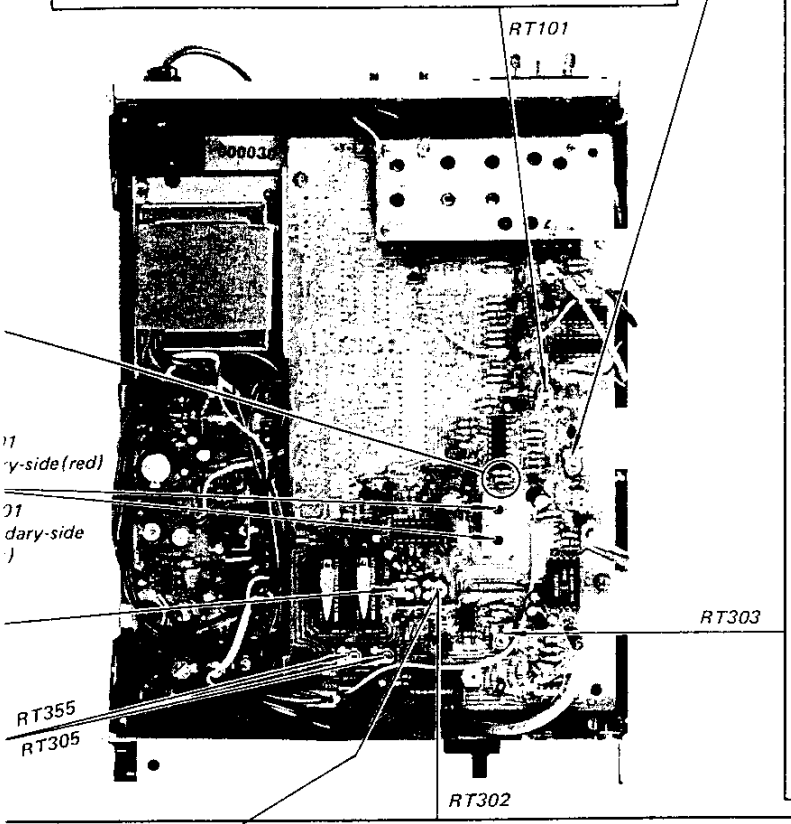


Carrier frequency: 97.9 MHz
Output level: 1 mV (60 dB)
Mode: Stereo
Modulation:
Audio (400 Hz): 33.75kHz deviation (45%)
Pilot (19 kHz): 7.5 kHz deviation (10%)

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RT303 for minimum VTVM reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RT303 for minimum VTVM reading.

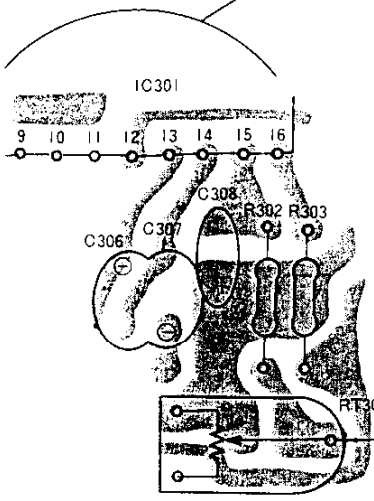
L-CH Stereo separation: Ⓐ − Ⓑ
R-CH Stereo separation: Ⓒ − Ⓓ

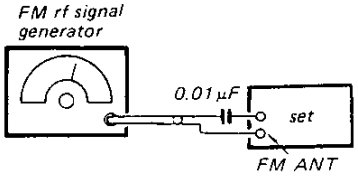
The separations of both channels should be equal.



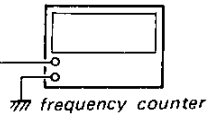
76kHz Adjustment

Setting: STEREO switch: ON





Carrier frequency: 97.9MHz
Modulation: no modulation
Output level: 1mV (60dB)
Monaural



A) With Frequency Counter

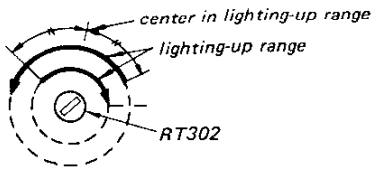
Procedure:

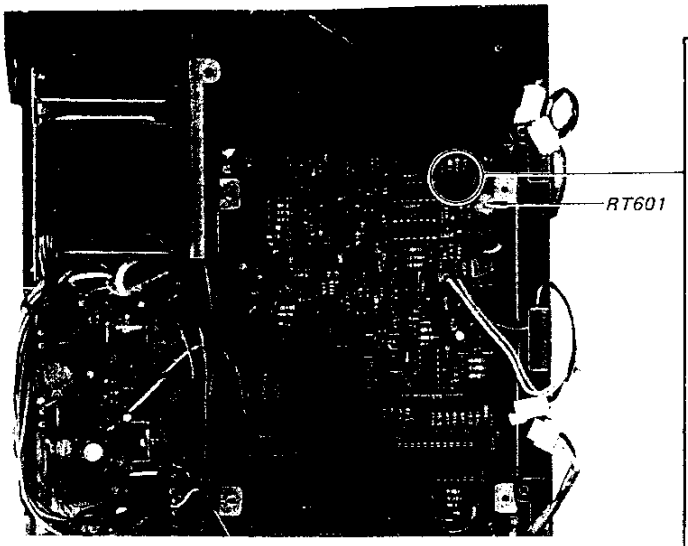
Adjust RT302 for 76 kHz on the counter.

B) Without Frequency Counter

Procedure:

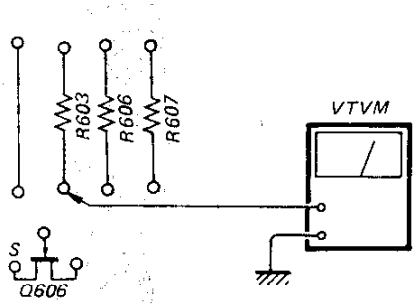
1. Tune the set to FM stereo signals.
2. Turn RT302 clockwise or counterclockwise and secure RT302 at the center in lighting-up range of stereo lamp as shown below.





Note: **FM Frequency Coverage Adjustment, FM Tracking Adjustment and FM IF Alignment.**
The front-end section has been carefully adjusted at the factory, so the adjustment is unnecessary in the field.

PLL Voltage Adjustment

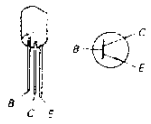


1. Receive the 87.5 MHz signal.
2. Adjust RT601 for the specified voltage at the gate of Q606.
   0.5 ± 0.05 V (US model)
   0.7 ± 0.05 V (AEP, UK model)

Replacement Semiconductors

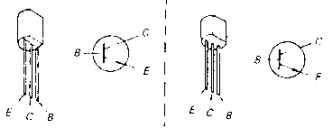
For replacement, use semiconductors except in ( ).

Q101–104: 2SC710-14

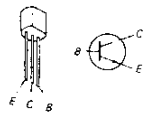


Q105
Q301–303, 401, 402
Q503, 601, 605
Q609–615 : 2SC1364 (2SC1815GR)

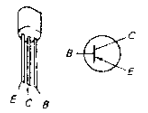
Q607 : 2SC1362 (2SC900)
Q701, 708, 709 : 2SC1364 (2SC1815BL)



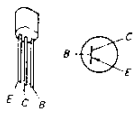
Q501: 2SC1475



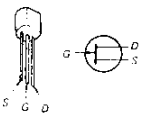
Q502: 2SA684 (2SA773)



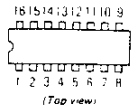
Q602 – 604
Q608 : 2SA1015



Q606: 2SK30A-GR3 (2SK30-GR)

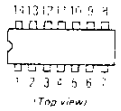


IC101: LA1231
IC301: KB4437

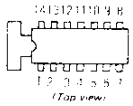


IC302: μPC4558C
IC601: μPB552C

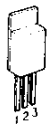
IC401 : TC4001BP (μPD4001C)
IC402, 607 : MSM4069 (μPD4069C)
IC604 : CX761
IC605 : μPA67C
IC606 : TC4001BP (μPD4001C)



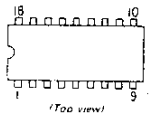
IC403: LB1416



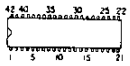
IC501: μPC14315H
IC502: μPC14305H
IC503: FS7905M



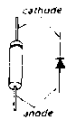
IC602: μPD2819C



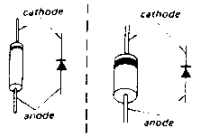
IC603: μPD552C024



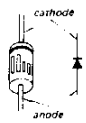
D101
D301, 401–403
D514, 601, 602, 607
D604 (AEP, UK model)
D603, 605 (US model)
D717–721
D728–737 : 1S1555



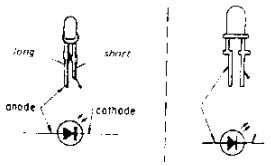
D501–508
D510, 511 : 10E2 (GP08B)



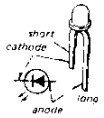
D509, 512 : EQB01-30 (EQA01-30R)
D513 : EQB01-06 (EQA01-06R)



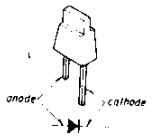
D701–708: TLR113 (TLR114R)



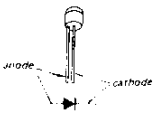
D709–713: TLG124



D714: SLP137B

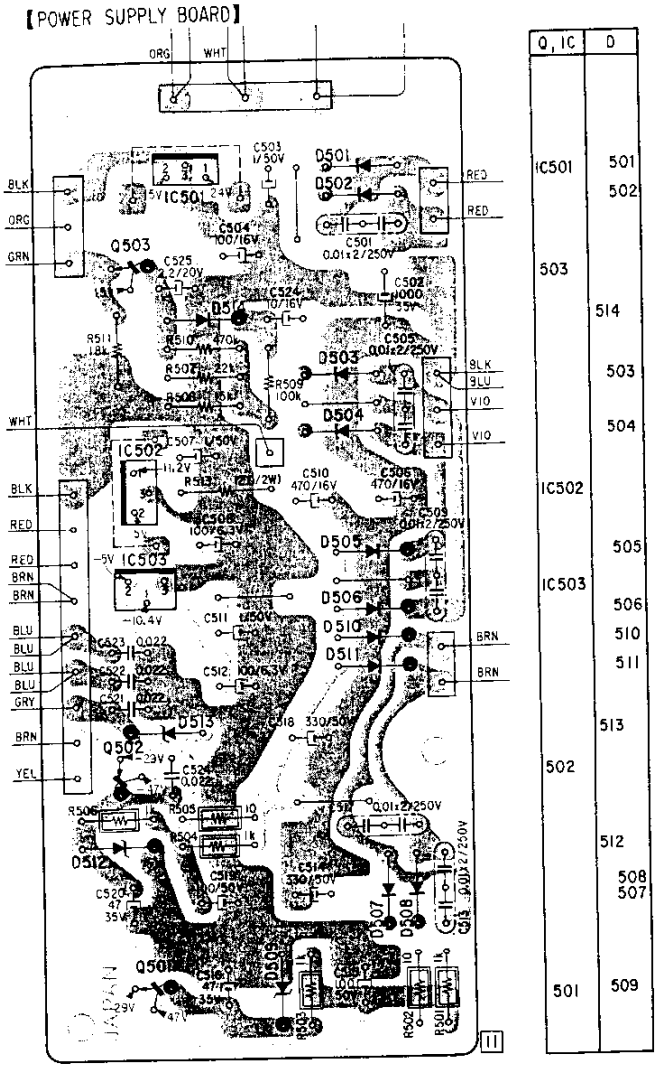


D715, 716: TLR102



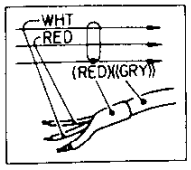
4-1. MOUNTING DIAGRAM

– Conductor Side –



Note:

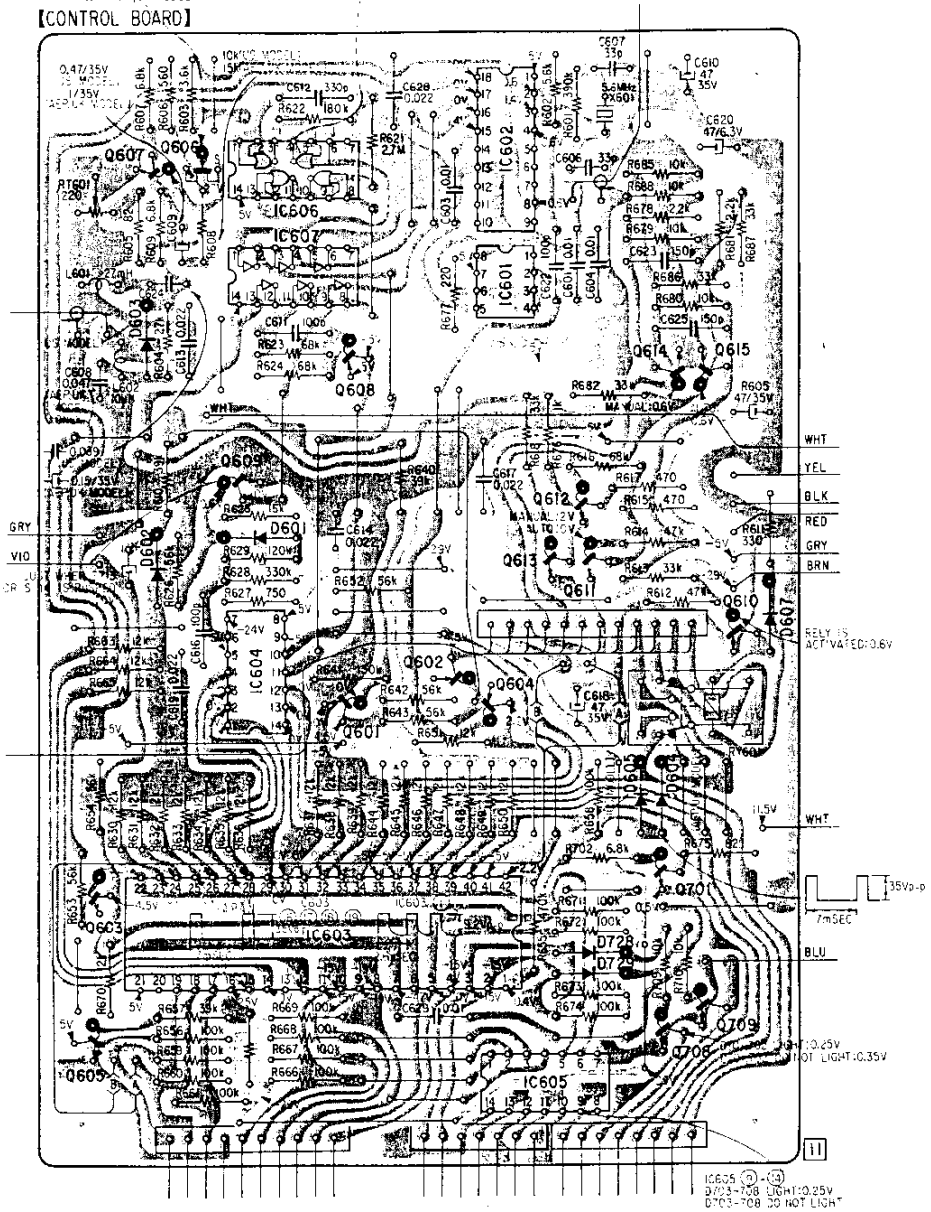
- Color code of sleeving over the end of the jacket.



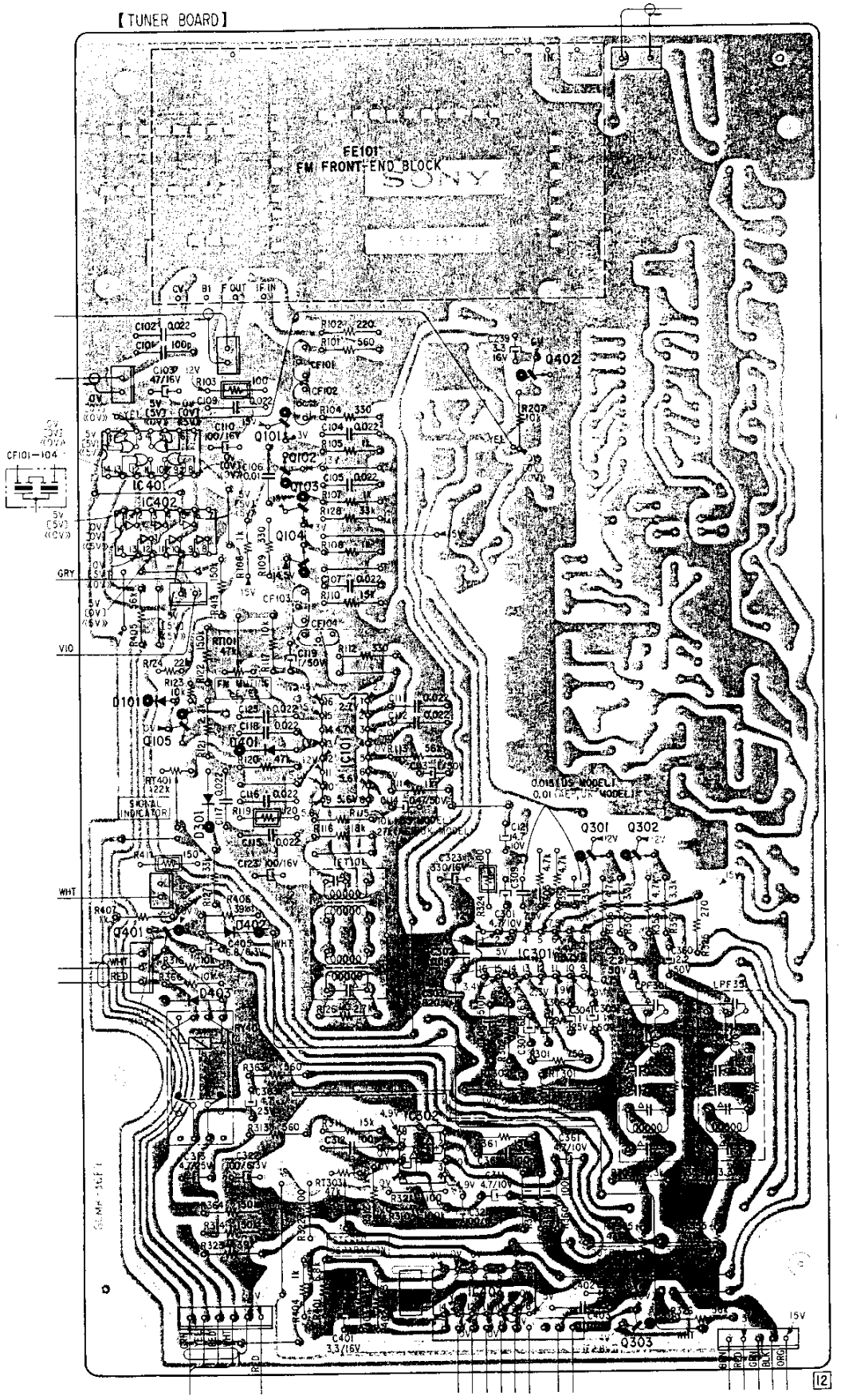
- : B+ pattern
- ■ : part mounted on the conductor side.
- component-side pattern
- Through hole
- Readings are taken under no-signal conditions with a VOM (20kΩ/V).
  - no mark : FM
  - ( ) : AM
  - [ ] : with signal input
  - < > : MUTING . . . ON
  - { } : STEREO . . . ON

D	Q, IC
	IC602
	607
	606
	IC606
	IC607
	IC601
603	
	608
	614,615
	609
	612
601	
602	613,611
607	
	610
	602
	IC604
	604
	601
604	
605	
	701
	603
	IC603
728	
729	
	709
	708
605	
	IC605

【CONTROL BOARD】



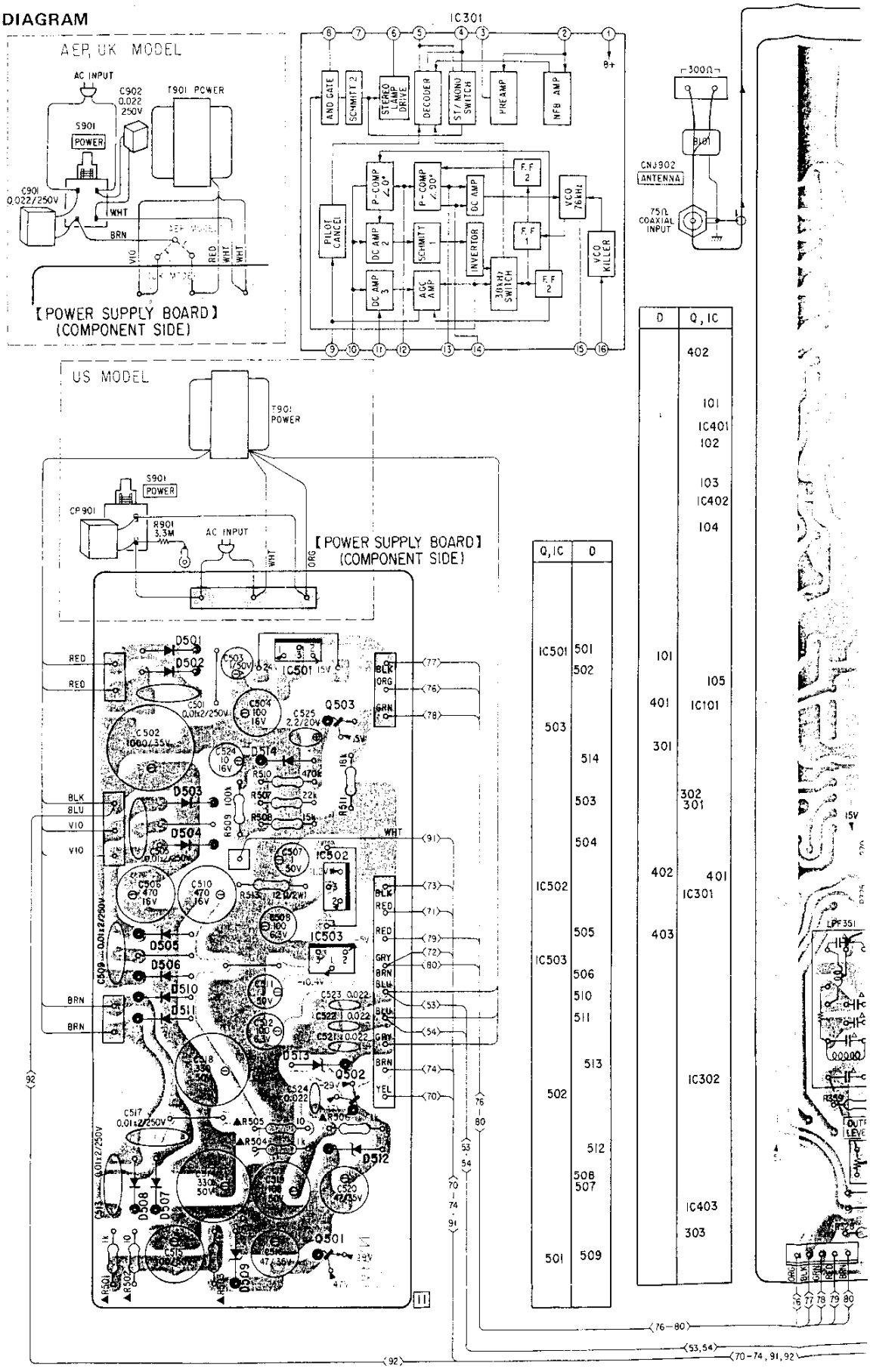
【TUNER BOARD】

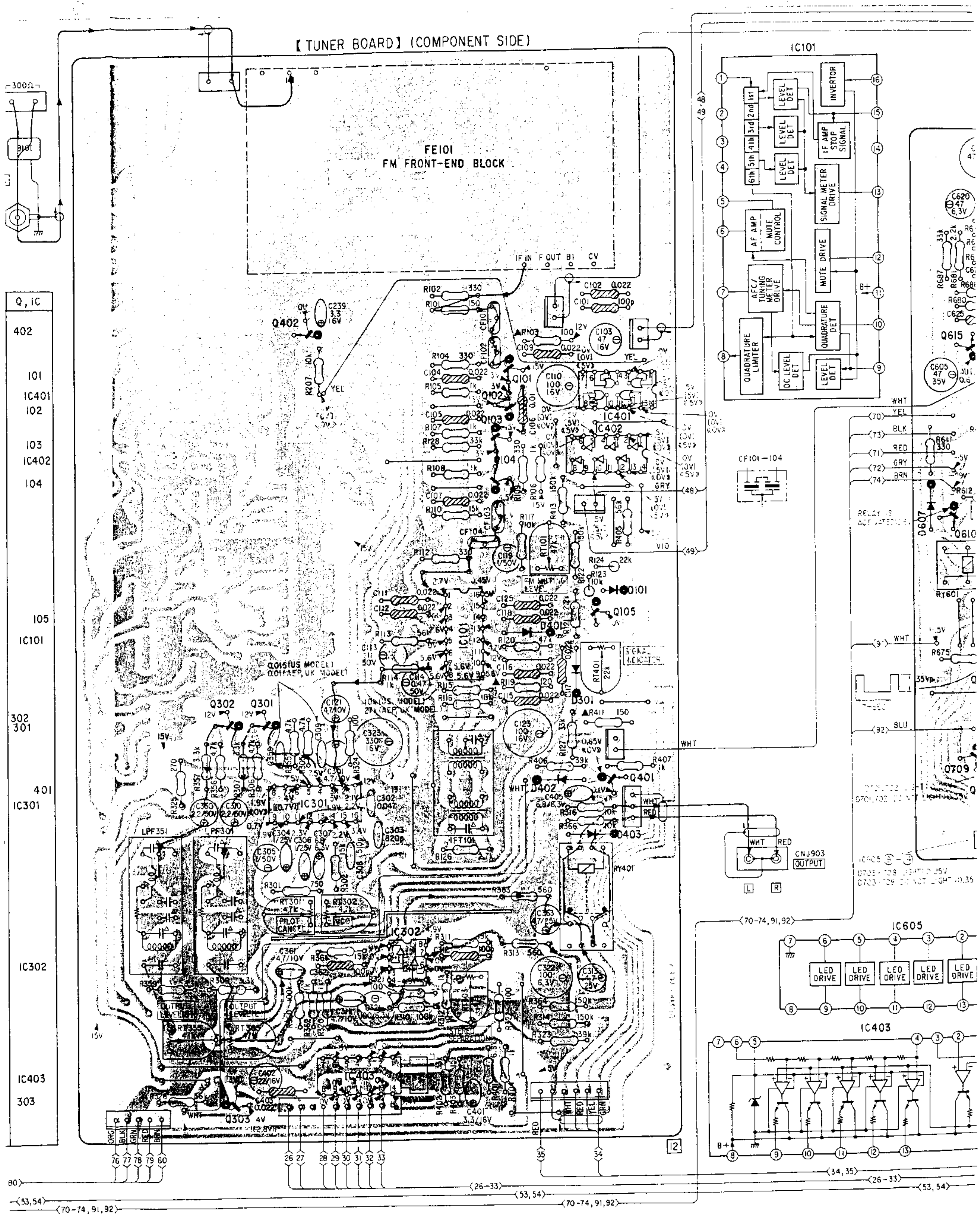


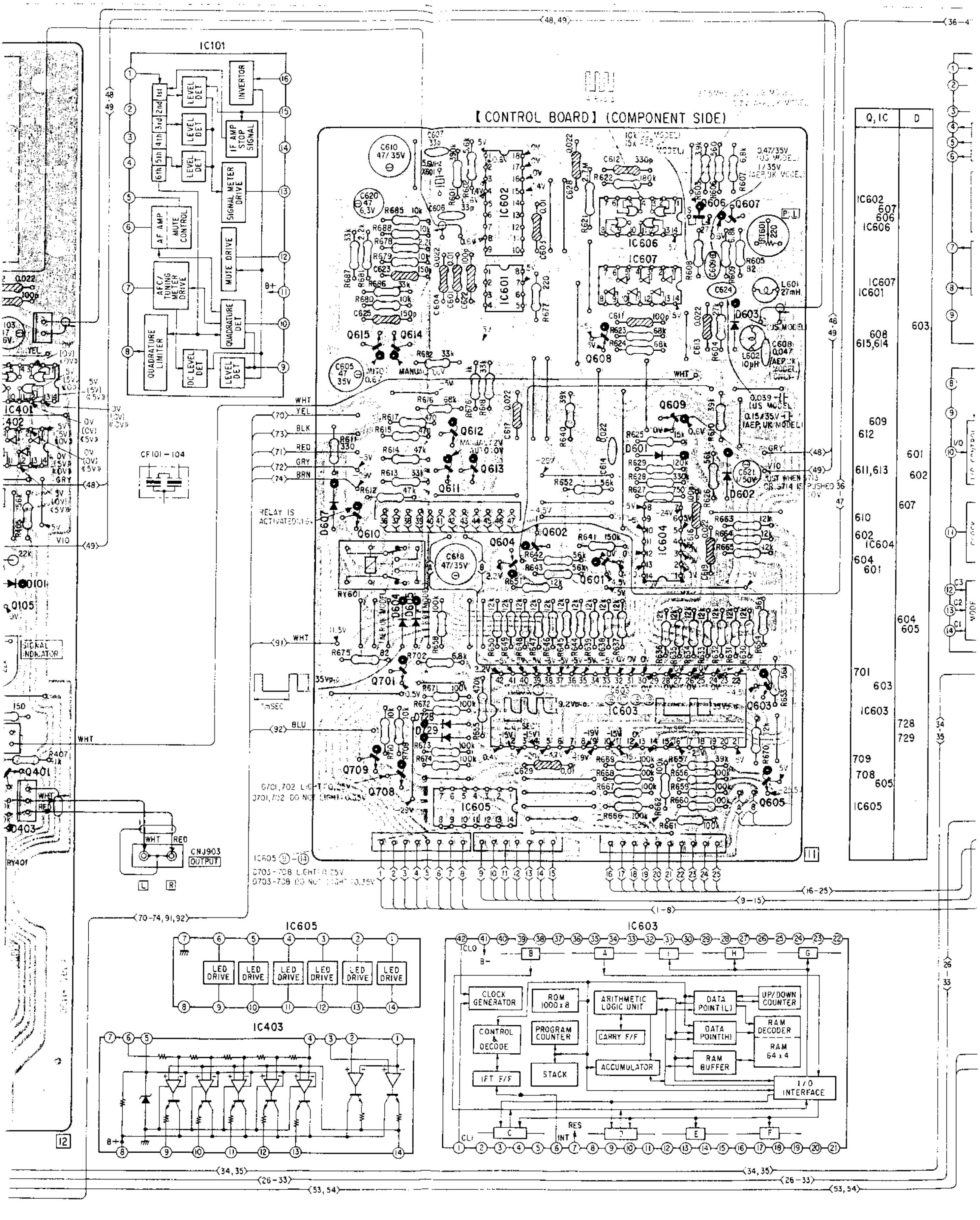
Q, IC	D
402	
101	
IC401	
102	
103	
IC402	
104	
	101
105	
IC101	401
	301
301	
302	
401	402
IC301	
	403
IC302	
IC403	
303	

MEMO

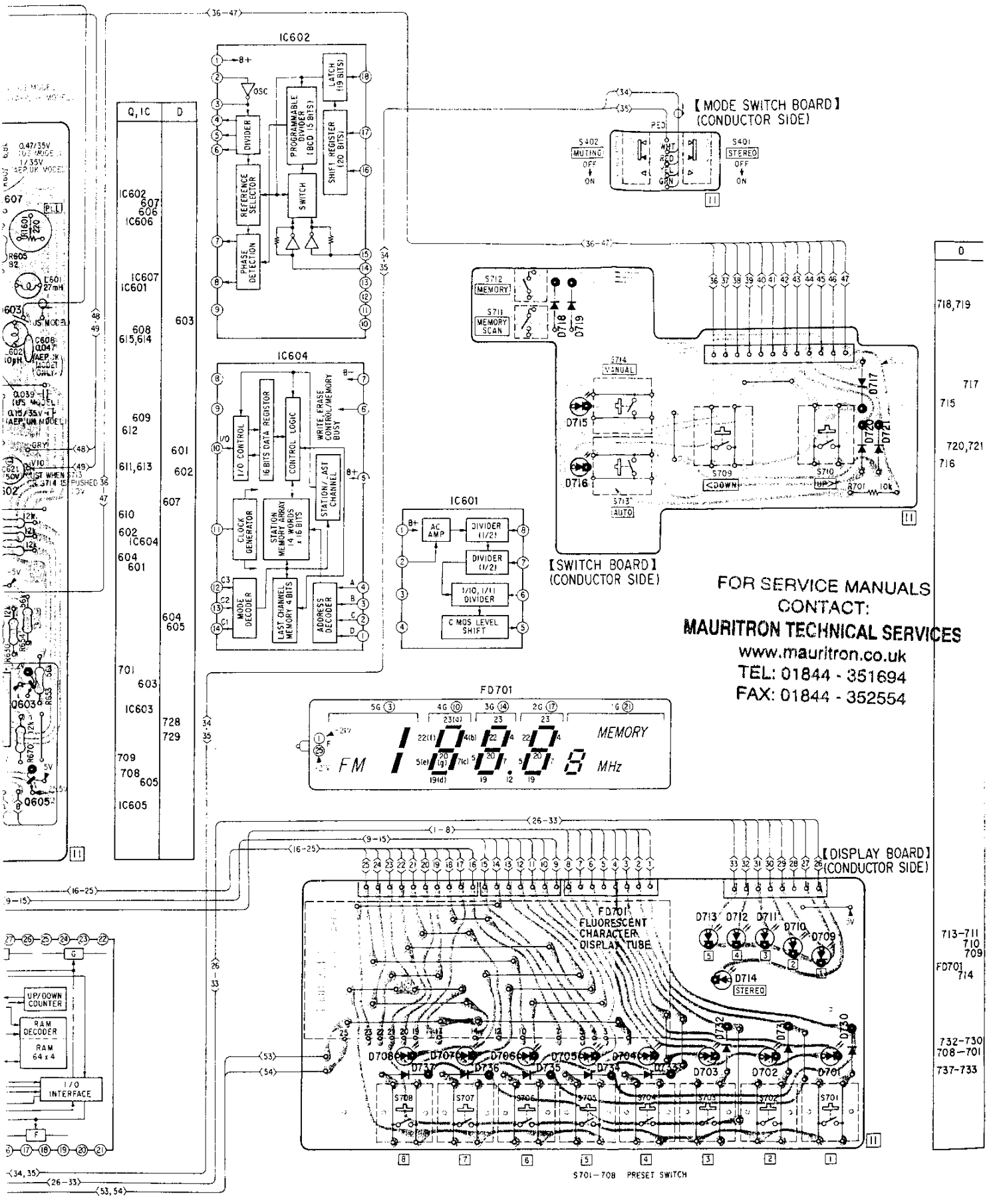
4-2. MOUNTING DIAGRAM

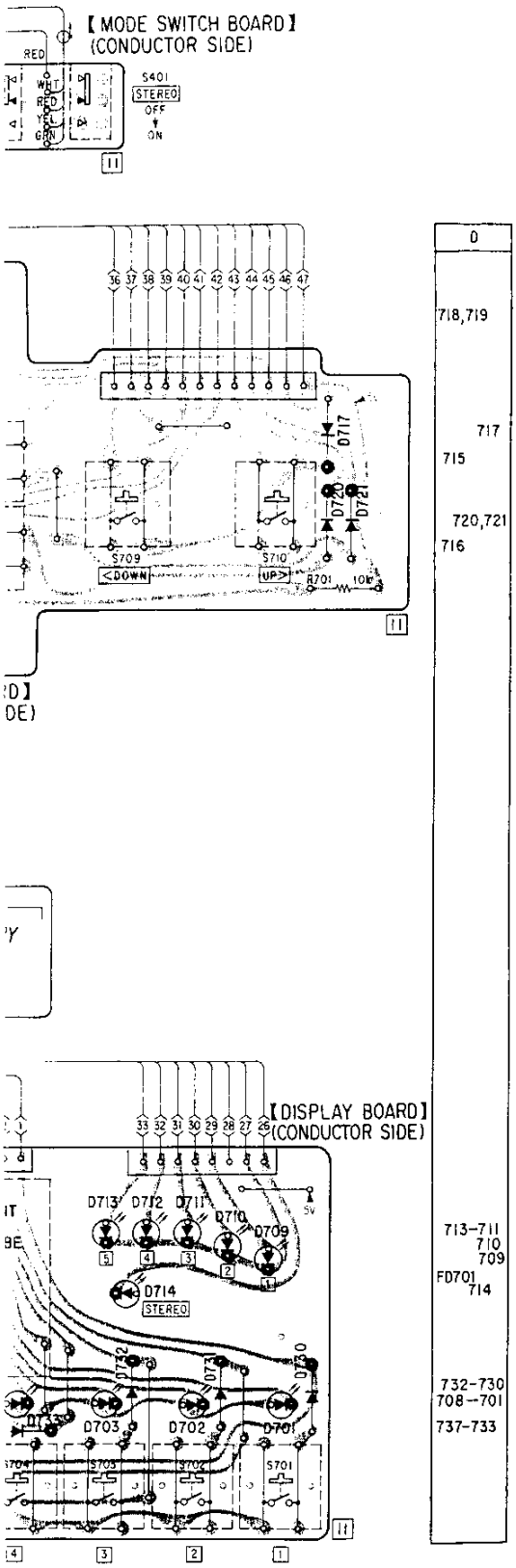



【TUNER BOARD】(COMPONENT SIDE)
FE101
FM FRONT-END BLOCK
IF IN
F OUT
B1
CV
IC101
LEVEL DET
INVERTOR
IF AMP STOP SIGNAL
SIGNAL METER DRIVE
AF AMP
MUTE CONTROL
MUTE DRIVE
AFC/ TUNING METER DRIVE
QUADRATURE DET
QUADRATURE LIMITER
DC LEVEL DET
CF101-104
IC401
IC402
IC301
IC302
IC403
IC605
LED DRIVE
CNJ903
OUTPUT
RY401
RY601
LPF351
LPF301
PILOT CANCEL
VCO
OUTPUT LEVEL
SIGNAL INDICATOR
FM MUTING LEVEL
IFT101
Q015(US MODEL)
0.011(AEP, UK MODEL)
RELAY IS ACTIVATED
Q, IC
402
101
IC401
102
103
IC402
104
105
IC101
302
301
401
IC301
IC302
IC403
303
(70-74, 91, 92)
(26-33)
(53, 54)
(34, 35)



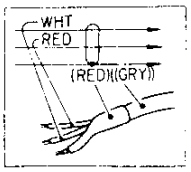
【CONTROL BOARD】 (COMPONENT SIDE)
IC101
INVERTOR
LEVEL DET
IF AMP STOP SIGNAL
SIGNAL METER DRIVE
AF AMP
MUTE CONTROL
MUTE DRIVE
AFC/ TUNING METER DRIVE
QUADRATURE DET
QUADRATURE LIMITER
DC LEVEL DET
CF101-104
RELAY IS ACTIVATED
CNJ903 OUTPUT
WHT
RED
YEL
BLK
GRY
BRN
BLU
IC602
IC601
IC606
IC607
IC604
IC603
IC605
Q,IC
D
IC605
LED DRIVE
IC403
IC603
CLOCK GENERATOR
ROM 1000 x 8
ARITHMETIC LOGIC UNIT
DATA POINT(L)
UP/DOWN COUNTER
CONTROL & DECODE
PROGRAM COUNTER
CARRY F/F
DATA POINT(H)
RAM DECODER
RAM 64 x 4
STACK
ACCUMULATOR
RAM BUFFER
IFT F/F
I/O INTERFACE





Note:

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



- : B+ pattern.
- : signal path
  : L-CH
  : R-CH
- component-side pattern
  Through hole
- ■ : part mounted on the conductor side.
- ▲ : nonflammable resistor.
- : ceramic capacitor.
- Readings are taken under no-signal conditions with a VOM (20kΩ/V).
  no mark : FM
  : AM
  : with signal input
  ( ) : MUTING . . . ON
  [ ] : STEREO . . . ON

NOTE FOR SCHEMATIC DIAGRAM

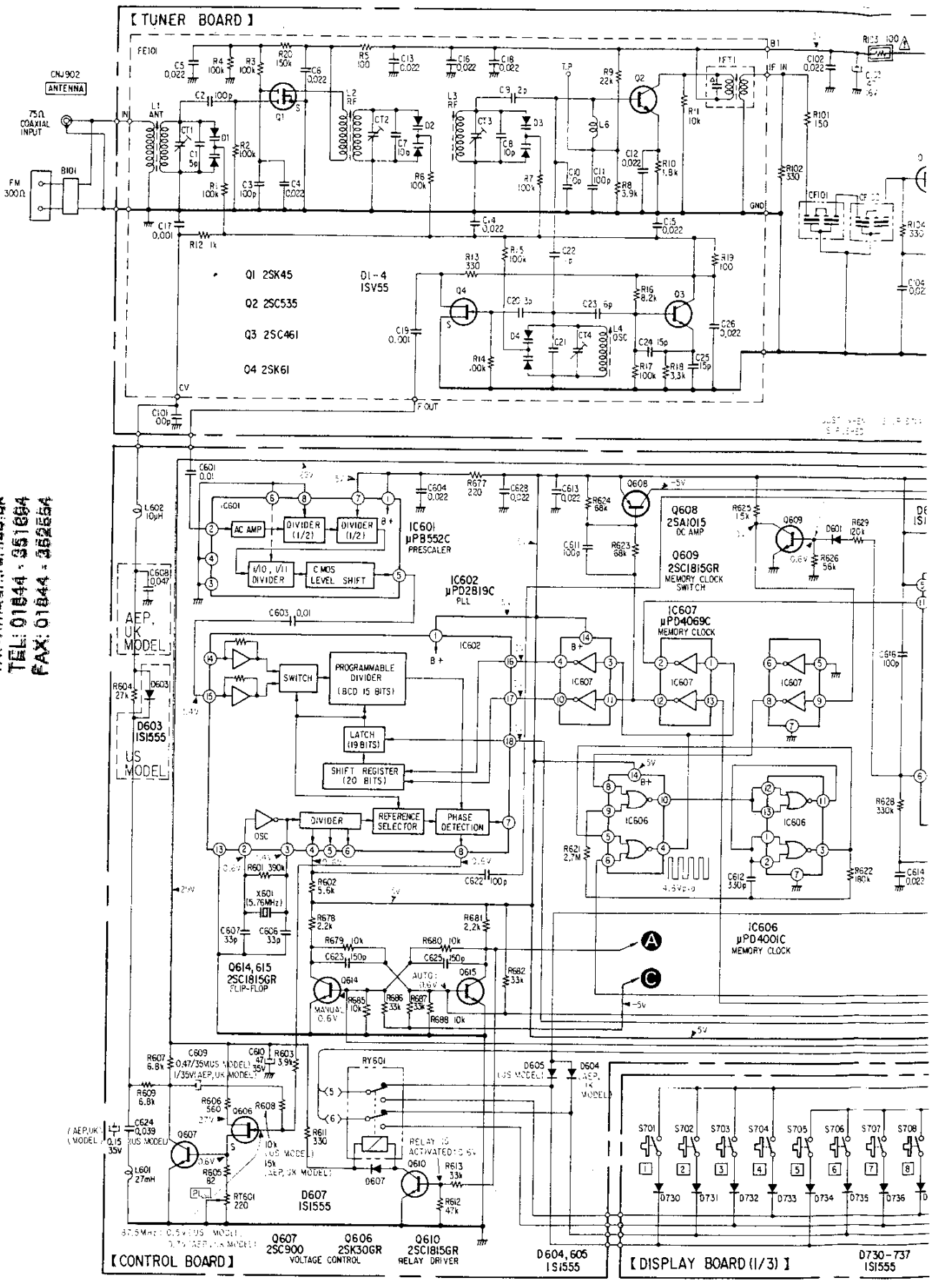
Note:

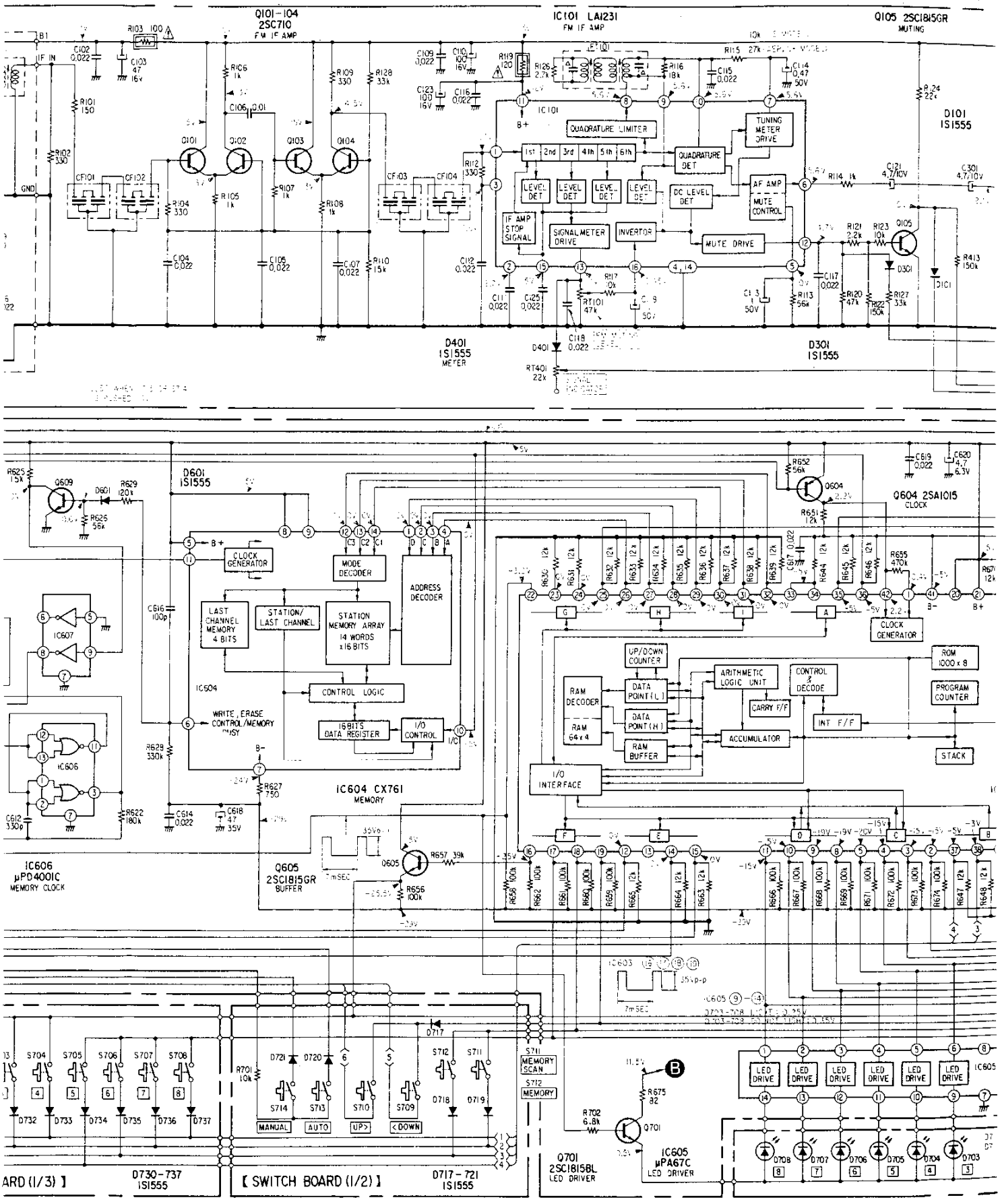
- All resistors are in ohms, ¼W unless otherwise noted.
  kΩ = 1000Ω, MΩ = 1000kΩ
- All adjustable resistors have characteristic curve B, unless otherwise noted.
- : nonflammable resistor.
- △ : internal component.
- ——— : B+ bus.
- – – – : B– bus.
- : panel designation.
- : adjustment for repair.
- Readings are taken under no-signal conditions with a VOM (20kΩ/V).
  no mark : FM
  : AM
  : with signal input
  : MUTING . . . ON
  [ ] : STEREO . . . ON

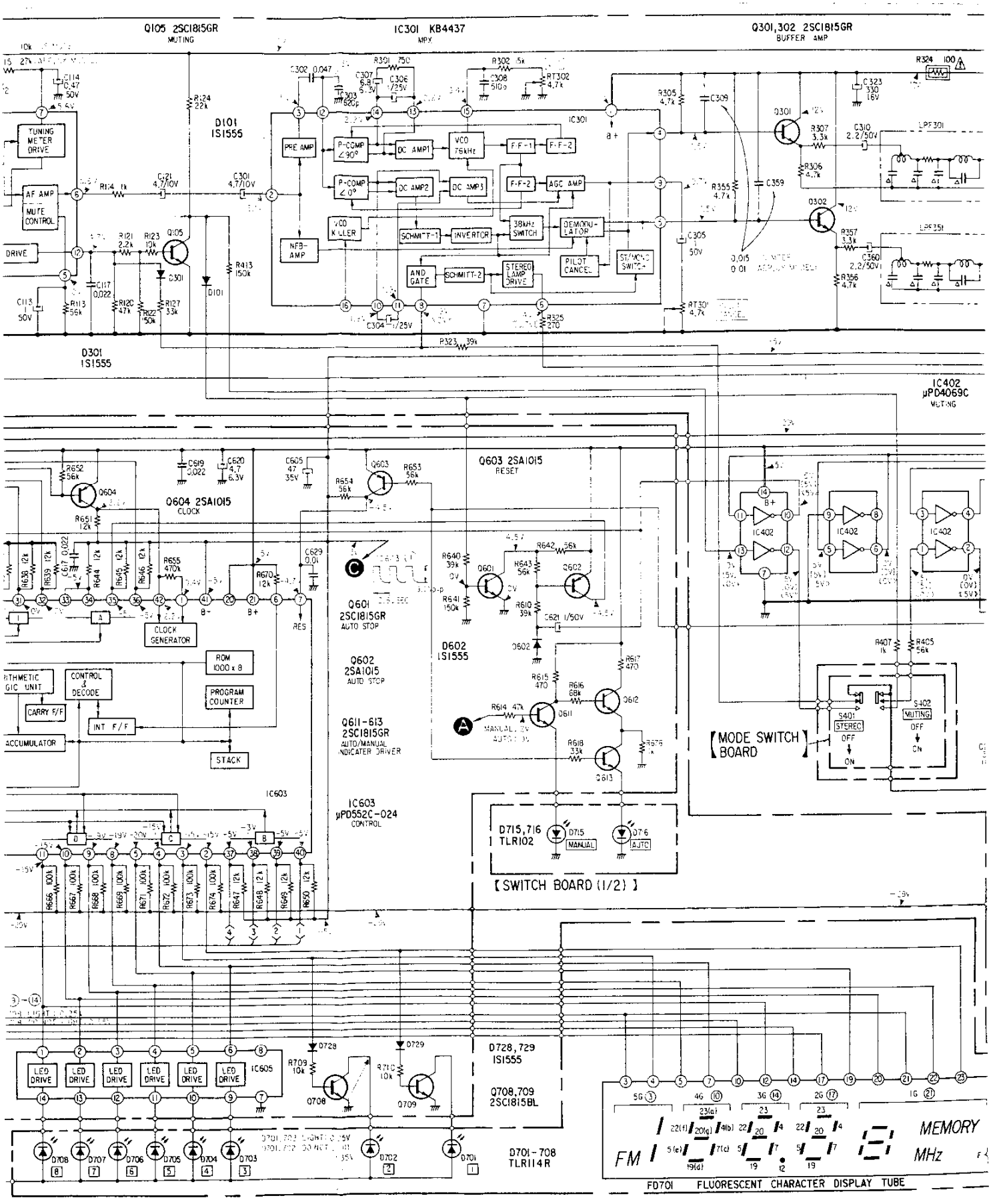
- Switch

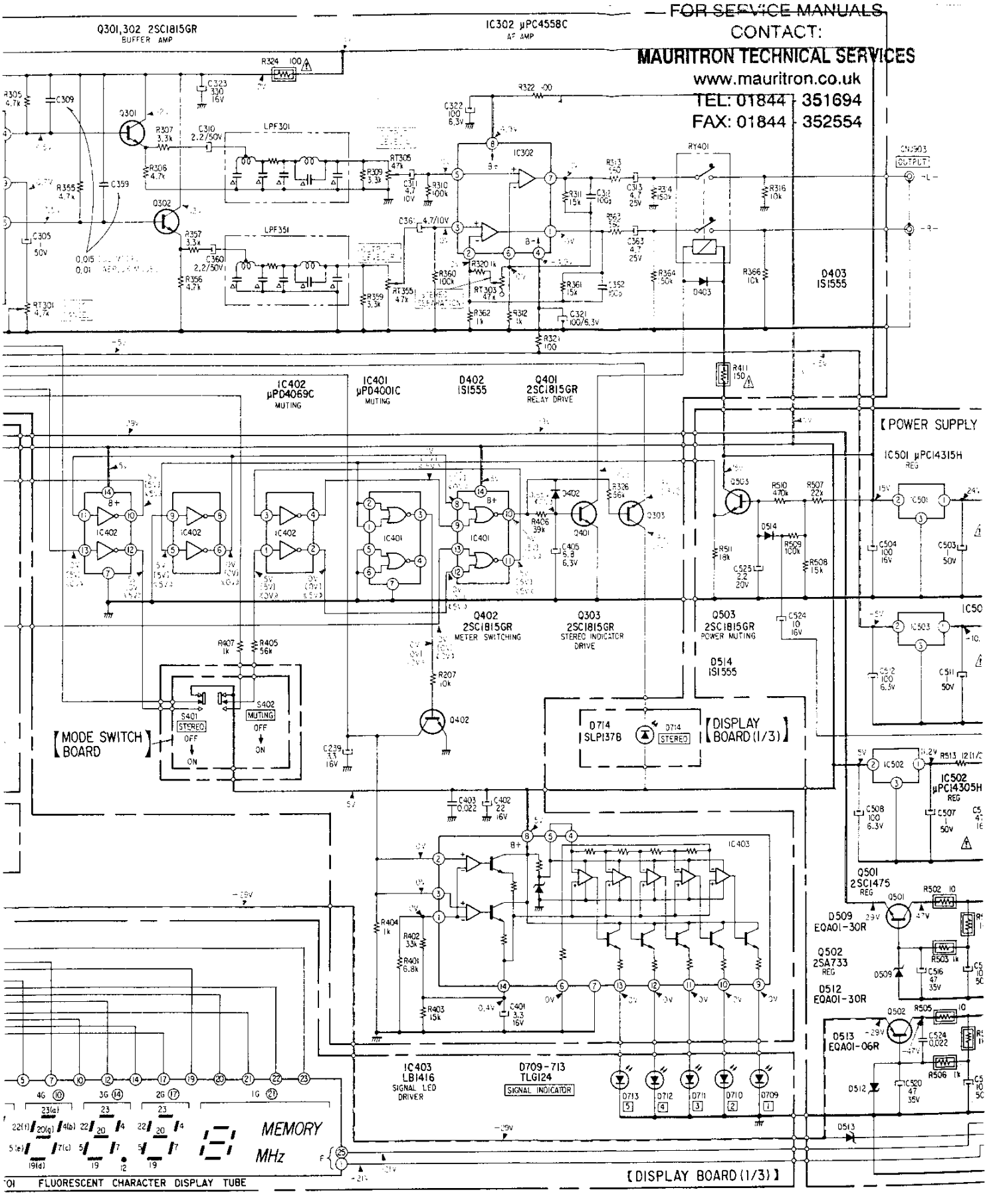
Ref. No.	Description	Position
S401	STEREO	OFF
S402	MUTING	OFF
S701–708	1 – 8	OFF
S709	DOWN	OFF
S710	UP	OFF
S711	MEMORY SCAN	OFF
S712	MEMORY	OFF
S713	AUTO	OFF
S714	MANUAL	OFF
S901	POWER	OFF

See page 22 for note.

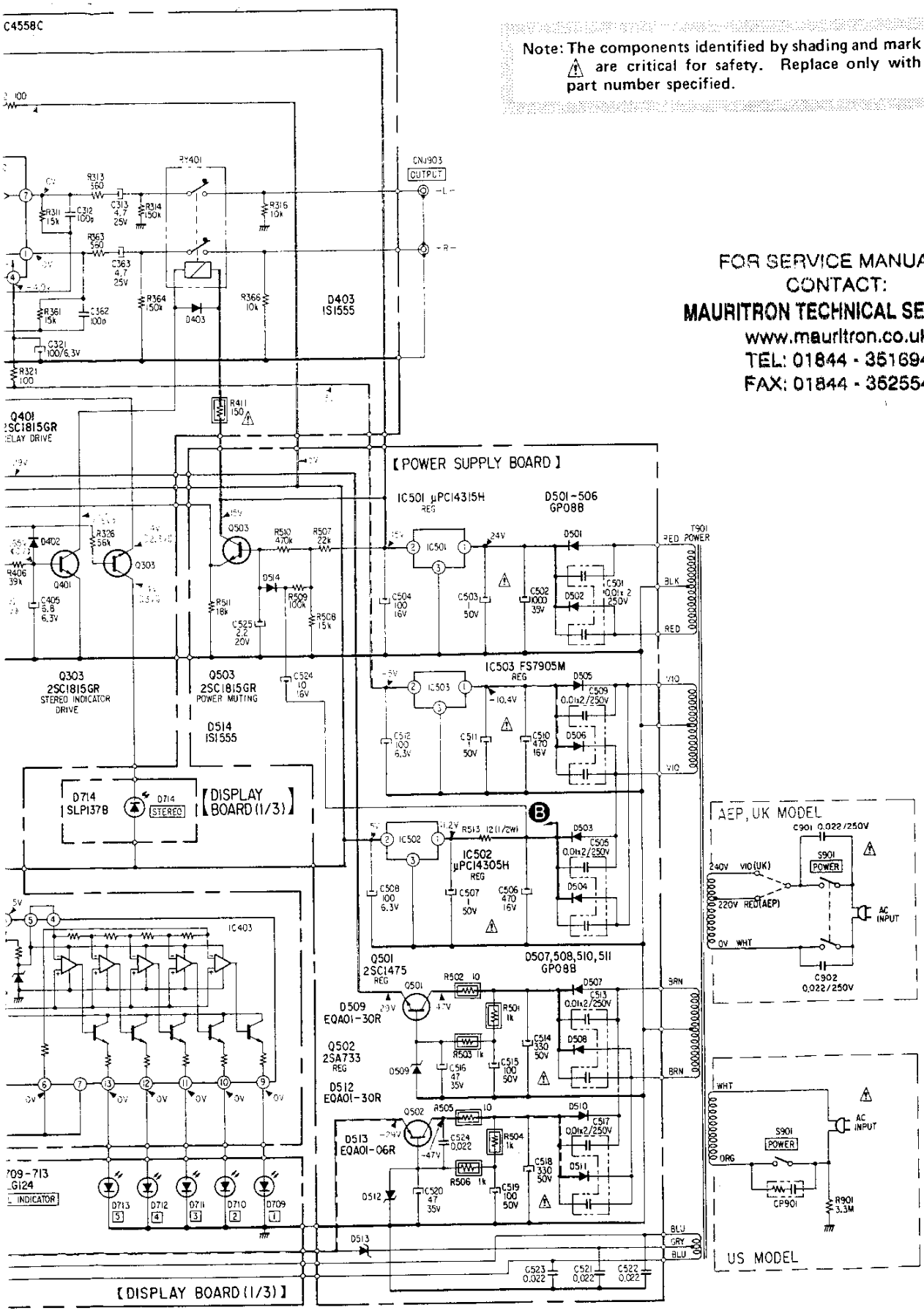



Q101-104
2SC710
FM IF AMP
IC101 LA1231
FM IF AMP
Q105 2SC1815GR
MUTING
D101
1S1555
D401
1S1555
METER
D301
1S1555
QUADRATURE LIMITER
TUNING METER DRIVE
QUADRATURE DET
AF AMP
MUTE CONTROL
MUTE DRIVE
DC LEVEL DET
SIGNAL METER DRIVE
INVERTER
IF AMP STOP SIGNAL
LEVEL DET
D601
1S1555
CLOCK GENERATOR
MODE DECODER
ADDRESS DECODER
LAST CHANNEL MEMORY 4 BITS
STATION/ LAST CHANNEL
STATION MEMORY ARRAY 14 WORDS x16 BITS
CONTROL LOGIC
16 BITS DATA REGISTER
I/O CONTROL
WRITE, ERASE CONTROL/MEMORY BUSY
IC604 CX761
MEMORY
IC606
μPD4001C
MEMORY CLOCK
Q605
2SC1815GR
BUFFER
Q604 2SA1015
CLOCK
CLOCK GENERATOR
UP/DOWN COUNTER
RAM DECODER
RAM 64x4
DATA POINT(L)
DATA POINT(H)
RAM BUFFER
ARITHMETIC LOGIC UNIT
CARRY F/F
ACCUMULATOR
CONTROL & DECODE
INT F/F
ROM 1000 x 8
PROGRAM COUNTER
STACK
I/O INTERFACE
S704
S705
S706
S707
S708
D732
D733
D734
D735
D736
D737
S714
S713
S710
S709
MANUAL
AUTO
UP>
<DOWN
S711
MEMORY SCAN
S712
MEMORY
Q701
2SC1815BL
LED DRIVER
IC605
μPA67C
LED DRIVER
LED DRIVE
D708
D707
D706
D705
D704
D703
D730-737
1S1555
D717-721
1S1555
[SWITCH BOARD (1/2)]

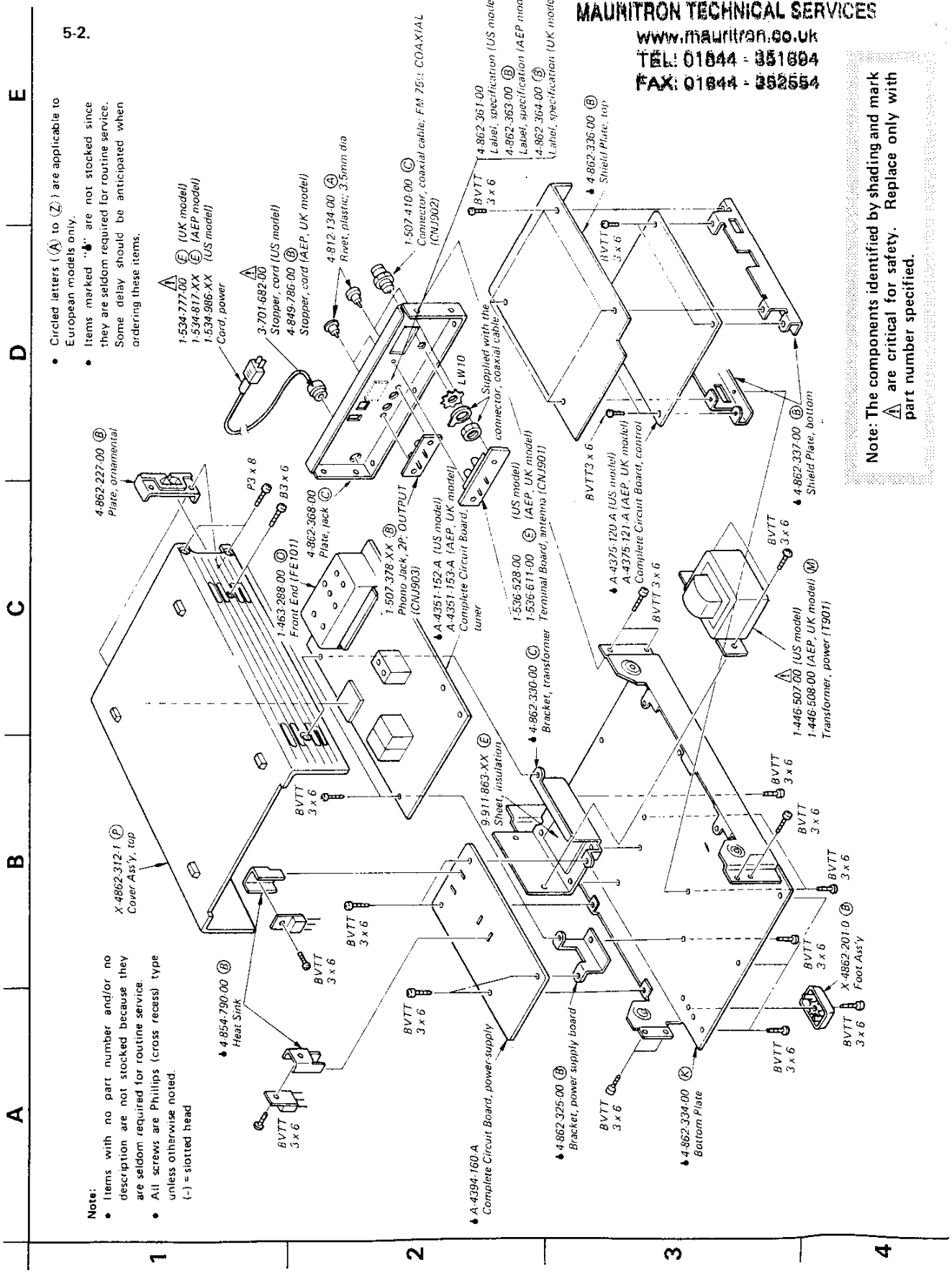

Q105 2SC1815GR
MUTING
IC301 KB4437
MPX
Q301,302 2SC1815GR
BUFFER AMP
D101
1S1555
D301
1S1555
IC402
μPD4069C
MUTING
Q603 2SA1015
RESET
Q604 2SA1015
CLOCK
Q601
2SC1815GR
AUTO STOP
Q602
2SA1015
AUTO STOP
Q611-613
2SC1815GR
AUTO/MANUAL
INDICATER DRIVER
D602
1S1555
IC603
μPD552C-024
CONTROL
CLOCK GENERATOR
ROM
1000 x 8
PROGRAM COUNTER
STACK
CONTROL & DECODE
INT F/F
CARRY F/F
ACCUMULATOR
MODE SWITCH BOARD
S401
STEREO
S402
MUTING
D715,716
1 TLR102
D715
MANUAL
D716
AUTO
SWITCH BOARD (1/2)
D728,729
1S1555
Q708,709
2SC1815BL
D701-708
TLR114R
LED DRIVE
IC605
FD701 FLUORESCENT CHARACTER DISPLAY TUBE
FM
MHz
MEMORY



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



5-2.



SECTION 6
ELECTRICAL PARTS LIST

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

Ref. No.	Part No.	Description
		SEMICONDUCTORS
		Transistors
Q101–104	8-729-671-14	Ⓑ 2SC710-14
⇒ Q105 ⇒ Q301–303 ⇒ Q401, 402	8-729-663-47	Ⓑ 2SC1364
Q501	8-760-413-10	Ⓑ 2SC1475
⇒ Q502	8-729-468-43	Ⓒ 2SA684
⇒ Q503 ⇒ Q601	8-729-663-47	Ⓑ 2SC1364
⇒ Q602–604	8-729-201-52	Ⓑ 2SA1015
⇒ Q605	8-729-663-47	Ⓑ 2SC1364
⇒ Q606	8-729-203-05	Ⓑ 2SK30A-GR3
⇒ Q607	8-729-665-47	Ⓑ 2SC1362
⇒ Q608	8-729-201-52	Ⓑ 2SA1015
⇒ Q609–615 ⇒ Q701 ⇒ Q708, 709	8-729-663-47	Ⓑ 2SC1364
		ICs
IC101	8-759-812-31	Ⓕ LA1231
IC301	8-759-944-37	Ⓖ KB4437
IC302	8-759-145-58	Ⓓ μPC4558C
⇒ IC401	8-759-240-01	Ⓓ TC4001BP
⇒ IC402	8-759-904-69	Ⓒ MSM4069
IC403	8-759-814-16	Ⓕ LB1416
IC501	8-759-143-15	Ⓕ μPC14315H
IC502	8-759-143-05	Ⓕ μPC14305H
IC503	8-759-379-05	Ⓕ FS7905M
IC601	8-759-155-21	Ⓚ μPB552C
IC602	8-759-128-19	Ⓛ μPD2819C
IC603	8-759-152-24	Ⓛ μPD552C024
IC604	8-757-610-00	Ⓚ CX761
IC605	8-759-100-67	Ⓔ μPA67C
⇒ IC606	8-759-240-01	Ⓓ TC4001BP
⇒ IC607	8-759-904-69	Ⓒ MSM4069
		Diodes
D101 D301 D401–403	8-719-815-55	Ⓑ 1S1555
⇒ D501–508	⚠ 8-719-200-02	Ⓑ 10E2
⇒ D509	8-719-931-30	Ⓑ EQB01-30
⇒ D510, 511	⚠ 8-719-200-02	Ⓑ 10E2
⇒ D512	8-719-931-30	Ⓑ EQB01-30
⇒ D513	8-719-931-06	Ⓑ EQB01-06
D514	8-719-815-55	Ⓑ 1S1555
D601, 602	8-719-815-55	Ⓑ 1S1555
D603	8-719-815-55	1S1555 (US model)
D604	8-719-815-55	Ⓑ 1S1555 (AEP, UK model)
D605	8-719-815-55	1S1555 (US model)
D607	8-719-815-55	Ⓑ 1S1555
⇒ D701–708	8-719-801-13	Ⓑ TLR113
D709–713	8-719-812-43	Ⓑ TLG124
D714	8-719-901-37	Ⓑ SLP137B
D715, 716	8-719-801-02	Ⓑ TLR102
D717–721 D728–737	8-719-815-55	Ⓑ 1S1555

CAPACITORS

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

C101	1-161-271-00	Ⓐ 100p		
C102	1-161-494-00	Ⓐ 0.022		
C103	1-123-319-00	Ⓑ 47	16V	elect
C104, 105	1-161-494-00	Ⓐ 0.022		
C106	1-161-379-00	Ⓐ 0.01		
C107	1-161-494-00	Ⓐ 0.022		
C109	1-161-494-00	Ⓐ 0.022		
C110	1-123-320-00	Ⓑ 100	16V	elect
C111, 112	1-161-494-00	Ⓐ 0.022		
C113	1-121-391-00	Ⓑ 1	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: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.		Description		
C114	1-121-726-00	Ⓑ	0.47	50V	elect
C115--118	1-161-494-00	Ⓐ	0.022		
C119	1-121-391-00	Ⓑ	1	50V	elect
C121	1-131-192-00	Ⓑ	4.7	10V	tantalum
C123	1-123-320-00	Ⓑ	100	16V	elect
C125	1-161-494-00	Ⓐ	0.022		
C239	1-131-197-00	Ⓑ	3.3	16V	tantalum
C301	1-131-192-00	Ⓑ	4.7	10V	tantalum
C302	1-108-595-00	Ⓑ	0.047		mylar
C303	1-104-075-00	Ⓑ	820p		styrol
C304	1-131-236-00	Ⓑ	1	25V	tantalum
C305	1-121-391-00	Ⓑ	1	50V	elect
C306	1-131-236-00	Ⓑ	1	25V	tantalum
C307	1-131-188-00	Ⓑ	6.8	6.3V	tantalum
C308	1-104-070-00	Ⓑ	510p		styrol
C309	1-108-583-00		0.015		mylar (US model)
C309	1-108-579-00	Ⓑ	0.01		mylar (AEP, UK model)
C310	1-121-450-00	Ⓑ	2.2	50V	elect
C311	1-131-192-00	Ⓑ	4.7	10V	tantalum
C312	1-161-271-00	Ⓐ	100p		
C313	1-121-395-00	Ⓑ	4.7	25V	elect
C321, 322	1-123-295-00	Ⓑ	100	6.3V	elect
C323	1-123-322-00	Ⓑ	330	16V	elect
C359	1-108-579-00	Ⓑ	0.01		mylar (AEP, UK model)
C359	1-108-583-00		0.015		mylar (US model)
C360	1-121-450-00	Ⓑ	2.2	50V	elect
C361	1-131-192-00	Ⓑ	4.7	10V	tantalum
C362	1-161-271-00	Ⓐ	100p		
C363	1-121-395-00	Ⓑ	4.7	25V	elect
C401	1-131-197-00	Ⓑ	3.3	16V	tantalum
C402	1-123-317-00	Ⓑ	22	16V	elect
C403	1-161-494-00	Ⓐ	0.022		
C405	1-131-188-00	Ⓑ	6.8	6.3V	tantalum

Ref. No.	Part No.		Description		
C501	⚠1-102-394-00	Ⓑ	0.01	250V	
C502	⚠1-123-349-00	Ⓒ	1000	35V	elect
C503	⚠1-121-391-00	Ⓑ	1	50V	elect
C504	1-123-320-00	Ⓑ	100	16V	elect
C505	⚠1-102-394-00	Ⓑ	0.01	250V	
C506	⚠1-123-323-00	Ⓑ	470	16V	elect
C507	⚠1-121-391-00	Ⓑ	1	50V	elect
C508	1-123-295-00	Ⓑ	100	6.3V	elect
C509	⚠1-102-394-00	Ⓑ	0.01	250V	
C510	⚠1-123-323-00	Ⓑ	470	16V	elect
C511	⚠1-121-391-00	Ⓑ	1	50V	elect
C512	1-123-295-00	Ⓑ	100	6.3V	elect
C513	⚠1-102-394-00	Ⓑ	0.01	250V	
C514	⚠1-123-362-00	Ⓑ	330	50V	elect
C515	⚠1-123-360-00	Ⓑ	100	50V	elect
C516	1-123-344-00	Ⓑ	47	35V	elect
C517	⚠1-102-394-00	Ⓑ	0.01	250V	
C518	⚠1-123-362-00	Ⓑ	330	50V	elect
C519	⚠1-123-360-00	Ⓑ	100	50V	elect
C520	1-123-344-00	Ⓑ	47	35V	elect
C521–524	1-101-005-00	Ⓐ	0.022		
C524	1-121-651-00	Ⓑ	10	16V	elect
C525	1-131-196-00	Ⓑ	2.2	20V	tantalum
C601, 603	1-161-379-00	Ⓐ	0.01		
C604	1-161-494-00	Ⓐ	0.022		
C605	1-123-294-00	Ⓑ	47	6.3V	elect
C606, 607	1-102-518-00	Ⓐ	33p		
C608	1-108-246-00	Ⓑ	0.047		mylar (AEP, UK model)
C609	1-131-213-00		0.47	35V	tantalum (US model)
C609	1-131-215-00	Ⓑ	1	35V	tantalum (AEP, UK model)
C610	1-123-344-00	Ⓑ	47	35V	elect
C611	1-161-271-00	Ⓐ	100p		
C612	1-161-317-00	Ⓐ	330p		
C613	1-161-494-00	Ⓐ	0.022		
C614	1-101-005-00	Ⓐ	0.022		
C616	1-161-271-00	Ⓐ	100p		

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

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

Ref. No.	Part No.		Description		
C617	1-161-494-00	Ⓐ	0.022		
C618	1-123-344-00	Ⓑ	47	35V	elect
C619	1-161-494-00	Ⓐ	0.022		
C620	1-123-294-00	Ⓑ	47	6.3V	elect
C621	1-121-391-00	Ⓑ	1	50V	elect (AEP, UK model)
C622	1-161-271-00	Ⓐ	100p		
C623	1-161-313-00	Ⓐ	150p		
C624	1-108-360-00		0.039		mylar (US model)
C624	1-131-210-00	Ⓑ	0.15	35V	tantalum (AEP, UK model)
C625	1-161-313-00	Ⓐ	150p		
C628	1-161-494-00	Ⓐ	0.022		
C629	1-161-379-00	Ⓐ	0.01		
C901, 902	⚠1-130-456-00	Ⓒ	0.022	250V	film (AEP, UK model)

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted. Check schematic diagram for their values.

R103	⚠1-247-107-00	Ⓐ	100	¼W	carbon (nonflammable)
R119	⚠1-247-109-00	Ⓐ	120	¼W	carbon (nonflammable)
R324	⚠1-247-107-00	Ⓐ	100	¼W	carbon (nonflammable)
R411	⚠1-247-111-00	Ⓐ	150	¼W	carbon (nonflammable)
R501	⚠1-247-131-00	Ⓐ	1k	¼W	carbon (nonflammable)
R502	⚠1-247-083-00	Ⓐ	10	¼W	carbon (nonflammable)
R503, 504	⚠1-247-131-00	Ⓐ	1k	¼W	carbon (nonflammable)
R505	⚠1-247-083-00	Ⓐ	10	¼W	carbon (nonflammable)
R506	⚠1-247-131-00	Ⓐ	1k	¼W	carbon (nonflammable)
R513	⚠1-247-194-00	Ⓐ	12	½W	carbon (nonflammable)
R655	1-244-937-00	Ⓐ	470k	½W	
R901	⚠1-202-725-00		3.3M	½W	composition (US model)
RT101	1-226-238-00	Ⓑ	47k, adjustable; FM MUTING LEVEL		
RT301,302	1-226-235-00	Ⓑ	4.7k, adjustable; PILOT CANCEL, VCO		
RT303,305 RT355	1-226-238-00	Ⓑ	47k, adjustable; STEREO SEPARATION OUTPUT LEVEL (L) OUTPUT LEVEL (R)		
RT401	1-226-237-00	Ⓑ	22k, adjustable; SIGNAL INDICATOR		
RT601	1-224-550-21	Ⓑ	220, adjustable; PLL		

SWITCHES

S401, 402	1-552-571-00	Ⓑ	Pushbutton; STEREO, MUTING
S701–708	1-552-539-00	Ⓑ	Keyboard; 1–8
S709, 710	1-552-539-00	Ⓑ	Keyboard; DOWN, UP
S711, 712	1-552-785-00	Ⓑ	Kyeboard; MEMORY SCAN, MEMORY
S713, 714	1-552-541-00	Ⓑ	Pushbutton; AUTO, MANUAL
S901	⚠1-552-018-00		Pushbutton; POWER (US model)
S901	⚠1-552-992-00	Ⓓ	Pushbutton; POWER (AEP, UK model)

MISCELLANEOUS

CF101,102	1-527-307-99	Ⓒ	Filter, ceramic
CF103,104	1-527-307-12		Filter, ceramic (US model)
CF103,104	1-527-344-11	Ⓒ	Filter, ceramic (AEP, UK model)
CNJ901	1-536-528-00		Terminal Board, antenna (US model)
CNJ901	1-536-611-00	Ⓔ	Terminal Board, antenna (AEP, UK model)

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

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

Ref. No.	*Part No.*		*Description*
CNJ902	1-507-410-00	Ⓒ	Connector, coaxial cable; FM 75Ω COAXIAL
CNJ903	1-507-378-XX	Ⓑ	Phono Jack, 2P; OUTPUT
CP901	⚠1-231-326-11		Encapsulated Component (US model)
FD701	1-519-188-00	Ⓛ	Display Tube, fluorescent
FE101	1-463-288-00	Ⓞ	Front End
IFT101	1-404-170-00	Ⓓ	IFT
L601	1-407-878-00	Ⓑ	Coil, microinductor
L603	1-407-178-XX	Ⓑ	Coil, microinductor
LPF301,351	1-231-420-00	Ⓓ	Filter, low-pass
RY401	1-515-297-00	Ⓕ	Relay
T901	⚠1-446-507-00		Transformer, power (US model)
T901	⚠1-446-508-00	Ⓜ	Transformer, power (AEP, UK model)
X601	1-527-404-00	Ⓔ	X'tal
	1-501-161-00	Ⓒ	Antenna, feeder
	1-506-305-00	Ⓓ	F Type Plug, FP-33
	1-515-328-00	Ⓖ	Relay
	⚠1-534-777-00	Ⓔ	Cord, power (UK model)
	⚠1-534-817-XX	Ⓔ	Cord, power (AEP model)
	⚠1-534-986-XX		Cord, power (US model)
	♦1-535-114-00	Ⓐ	PC Connector, wire-wrap; 1P
	♦1-535-115-00	Ⓐ	PC Connector, wire-wrap; 2P
	♦1-535-116-00	Ⓐ	PC Connector, wire-wrap; 3P
	♦1-535-122-00	Ⓑ	PC Connector, wire-wrap; 9P
	♦1-535-140-00	Ⓐ	PC Connector, wire-wrap;
	1-551-734-11	Ⓓ	Cord, connection; RK-74A
	♦1-588-979-00	Ⓓ	Printed Circuit Board, power-supply
	♦1-588-981-00		Printed Circuit Board, tuner (US model)
	♦1-601-234-00	Ⓒ	Printed Circuit Board, display
	♦1-601-235-00		Printed Circuit Board, switch
	♦1-601-236-00		Printed Circuit Board, mode
	♦1-601-238-00		Printed Circuit Board, control (US model)

ACCESSORIES AND PACKING MATERIALS

Part No.		*Description*
2-057-975-01	Ⓐ	Bag, accessory
3-701-625-00	Ⓐ	Bag, plastic
⚠3-701-682-00		Stopper, cord (US model)
3-701-730-00		Bag, plastic (US model)
3-770-742-11	Ⓓ	Manual, instruction (AEP, UK model)
3-770-742-21		Manual, instruction (US model)
3-794-233-21		Leaflet, instruction (US model)
⚠4-849-786-00	Ⓑ	Stopper, cord (AEP, UK model)
4-862-351-00	Ⓑ	Cushion, front
4-862-352-00	Ⓑ	Cushion, rear
4-862-353-00	Ⓑ	Bag, protection
4-862-365-01	Ⓑ	Leaflet (AEP, UK model)
4-862-371-02	Ⓑ	Leaflet (AEP, UK model)
4-862-366-00		Leaflet (US model)
4-862-361-00		Label, specification (US model)
4-862-363-00	Ⓑ	Label, specification (AEP model)
4-862-364-00	Ⓑ	Label, specification (UK model)

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

Note:

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

9-958-605-11

Sony Corporation

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