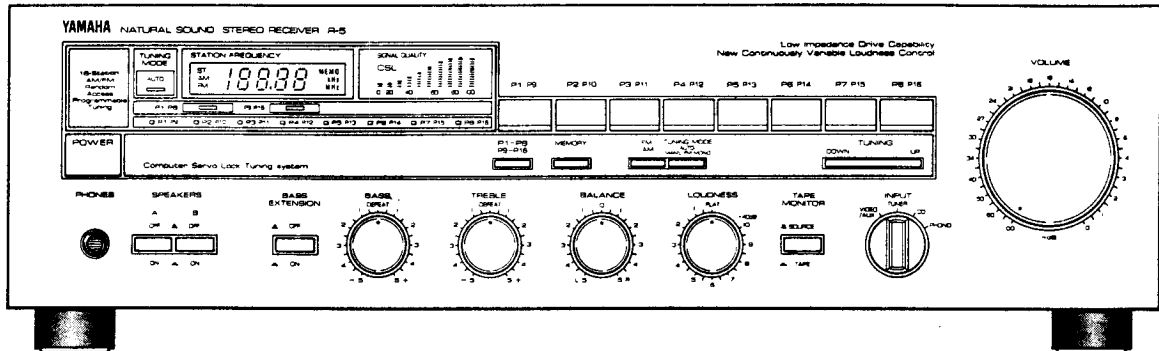


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STEREO RECEIVER

R-5

SERVICE MANUAL



R-5

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 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel:- 01844-351694 Fax:- 01844-352554
 Email:- enquiries@mauritron.co.uk

IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification, recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and changes in specification are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

CONTENTS

TO SERVICE PERSONNEL	1	LSI DATA	10 ~ 12
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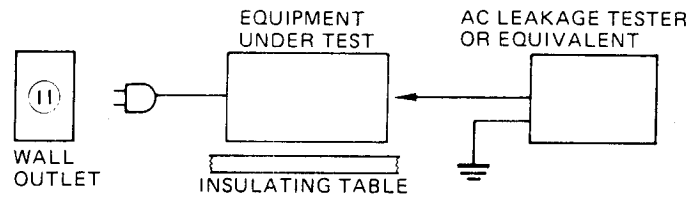
YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

0.1k-087 Printed in Japan '86.4

■ TO SERVICE PERSONNEL

- Critical Components Information.
Components having special characteristics are marked β and must be replaced with parts having specifications equal to those originally installed.
- Leakage Current Measurement (For 120V Model Only).
When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.
 - Meter impedance should be equivalent to 1500 ohm shunted by 0.15 μ F
 - Leakage current must not exceed 0.5mA.
 - Be sure to test for leakage with the AC plug in both polarities.



■ SPECIFICATIONS

■ AUDIO SECTION

Continuous Power Per Channel	
20Hz ~ 20kHz, 0.015% THD, 8 Ω	50W (U)(C)
	48W (R)(A)(G)(B)
0.05% THD, 6 Ω	55W (U)(C)
	53W (R)(A)(G)(B)
1kHz, 0.01% THD, 8 Ω (IEC Rated Power) 6 Ω	57W (R)(A)(G)(B)
	67W (R)(A)(G)(B)
DIN Standard Output Power per Channel	
1kHz, 1% THD, 4 Ω	65W (R)(A)(G)(B)
Dynamic Headroom	
8 Ω	1.76dB
Dynamic Power Channel	
8 Ω	75W
6 Ω	90W
4 Ω	100W
2 Ω	110W
Power Band Width	
0.1% THD, 25W, 8 Ω	10Hz ~ 50kHz
Damping Factor	
1kHz, 8 Ω	50
Input Sensitivity/Impedance	
Phono MM	2.5mV/47k Ω
CD/TAPE/VIDEO	150mV/50k Ω
Input Sensitivity (New IHF)	
Phono MM	0.42mV
CD/TAPE/VIDEO	25mV
Maximum-Input Signal	
1kHz, 0.01% THD, Phono	120mV
Output Level/Impedance	
REC OUT	150mV/1.5k Ω Except (G) 150mV/3k Ω (G)
Headphone Jack Rated Output/Impedance	
0.015% THD, 8 Ω	0.7V/220 Ω
Frequency Response	
20Hz ~ 20kHz, CD/TAPE/VIDEO	\pm 0.5dB
RIAA Equalization Deviation	
20Hz ~ 20kHz, Phono MM	\pm 0.5dB
Total Harmonic Distortion	
Phono to Rec Out 3V	0.01%
CD/TAPE/VIDEO to SP Out 25W/8 Ω	0.015%
Intermodulation Distortion	
CD/TAPE/VIDEO Rated Output /8 Ω	0.01%
Signal to Noise Ratio (IHF-A-Network)	
Phono (5mV, Input Shorted)	88dB (R)(U)(C) 82dB (A)(G)(B)
CD/TAPE/VIDEO (Input Shorted)	103dB
Signal to Noise Ratio (New IHF)	
Phono MM	74dB (R)(U)(C)
CD/TAPE/VIDEO	84dB (R)(U)(C)
Residual Noise (IHF-A-Network)	
Channel Separation	110 μ V
Channel Separation	
Phono 1kHz, (Input Shorted)	55dB
CD/TAPE/VIDEO 1kHz (5.1k Ω Shorted)	52dB
Tone Control Characteristics	
BASS boost/cut	\pm 10dB (at 50Hz)
turnover frequency	350Hz
TREBLE boost/cut	\pm 10dB (at 20kHz)
turnover frequency	3.5kHz
Filter Characteristics	
Bass Extension	60Hz +8dB
Continuous Loudness Control (Level-related equalization)	
Max. Attenuation	-40dB (at 1kHz)
Gain Tracking Error (0dB ~ -60dB)	2dB

■ FM SECTION

Tuning Range	87.5 to 108.0 MHz
--------------	-------------------

50dB Quieting Sensitivity (IHF)

Mono, 75 Ω	1.55 μ V (15.1dBf) Except (G)
Stereo, 75 Ω	21 μ V (37.7dBf) Except (G)
Usable Sensitivity	
30dB S/N Quieting 75 Ω	0.8 μ V (9.3dBf) Except (G)
Usable Sensitivity (DIN)	
Mono, 75 Ω (S/N 26dB)	1.4 μ V (G)
Stereo, 75 Ω (S/N 46dB)	30 μ V (G)
Image Response Ratio	
40dB Except (G) 75dB (G)	
IF Response Ratio	
90dB Except (G) 75dB (G)	
Spurious Response Ratio	
70dB	
AM Suppression Ratio	
55dB	
Capture Ratio	
1.5dB	
Alternate Channel Selectivity	
55dB (R, U, C, A, B)	
Selectivity (two Signals)	
DIN 40kHz DEV. \pm 300kHz	60dB (G)
Signal to Noise Ratio	
Mono	85dB (R, U, C, A, B)
Stereo	81dB (R, U, C, A, B)
Signal to Noise Ratio (DIN-Weighted)	
Mono	80dB (G)
Stereo	76dB (G)
Harmonic Distortion	
Mono 1kHz	0.07% (R, U, C, A, B)
	0.1% (G)
Stereo 1kHz	0.1% (R, U, C, A, B)
(40kHz Dev) 1kHz	0.2% (G)
Stereo Separation	
1kHz	50dB/40dB (G)
Frequency Response	
30Hz to 13kHz	\pm 0.5dB
Output Level Impedance (Rec Out)	
100% MOD, 1kHz	500mV/2.8k Ω Except (G)
40kHz DEV. 1kHz	400mV/4.4k Ω (G) (40kHz Dev.)

■ AM SECTION

Tuning Range	
510 to 1620kHz (U)(C)	
513 to 1620kHz (G)(A)(B)	
510 to 1620kHz or	
513 to 1620kHz (R)	
Usable Sensitivity	
250 μ V/m	
Selectivity	
24dB	
Signal to Noise Ratio	
50dB	
Image Response Ratio	
40dB	
Spurious Response Ratio	
50dB	
Harmonic Distortion 400Hz	
0.3%	
Output Level/Impedance (Rec Out)	
30% MOD 400Hz	150mV/2.8k Ω Except (G) 150mV/4.4k Ω (G)

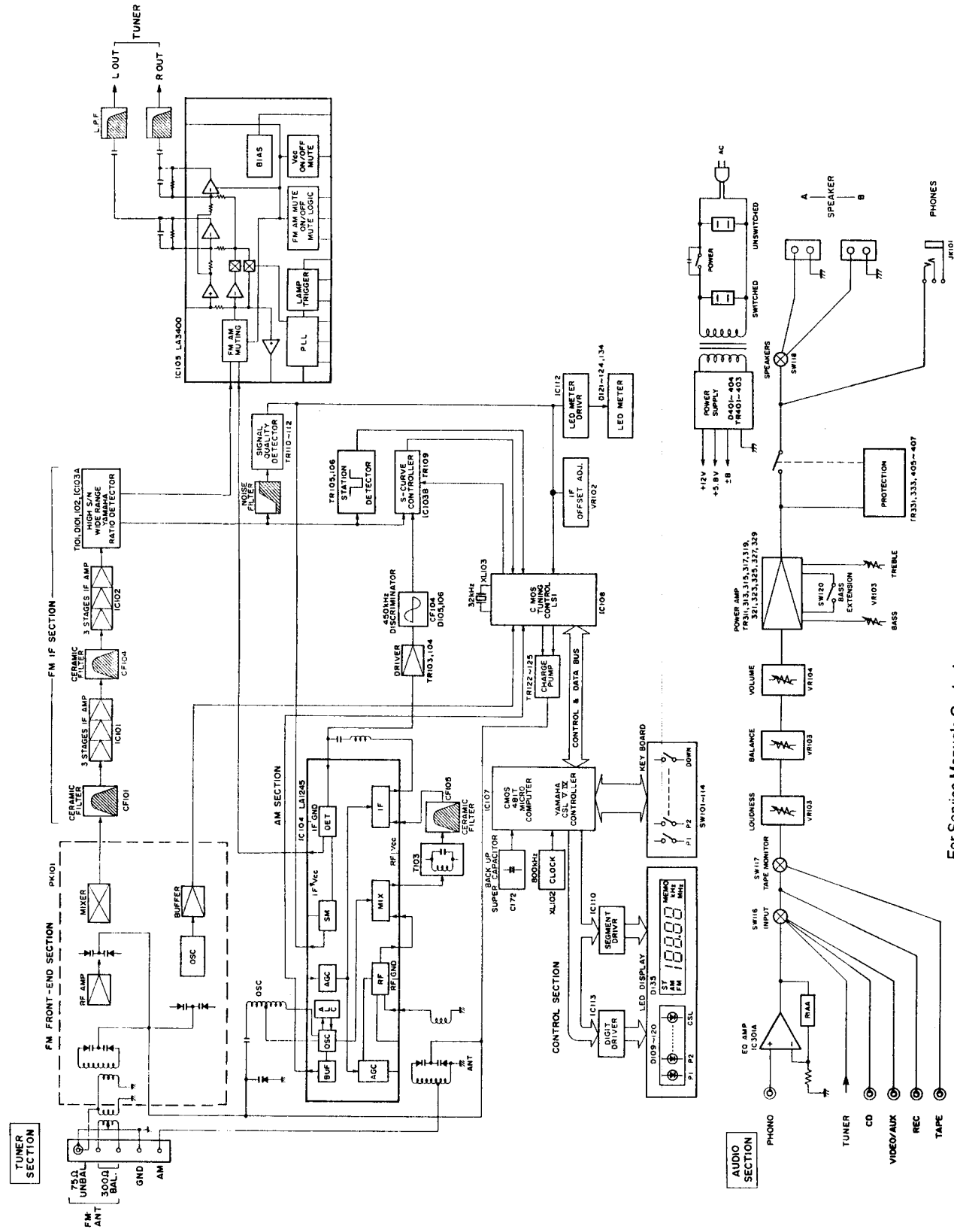
■ GENERAL

Power Supply	
U.S.A. & Canadian models	120V AC, 60Hz
General model	110V/120V/220V/240V AC, 50Hz/60Hz
European model	220V AC, 50Hz
Australian & British models	240V AC, 50Hz
Power Consumption	
U.S.A. & Canadian models	210W, 250VA
General model	210W
Australian, European & British models	350W
AC Outlet (U) (C) (R)	
Switched x 1	100W max.
Unswitched x 1	200W max.
Dimensions (W x H x D)	
	435 x 126 x 289 mm (17-1/8" x 4-15/16" x 11-3/8")
Weight	
	5.6 kg (12 lbs 5 oz)

*Specifications subject to change without notice.

(U)	U.S.A. model	(G)	European model
(C)	Canadian model	(B)	British model
(A)	Australian model	(R)	General model

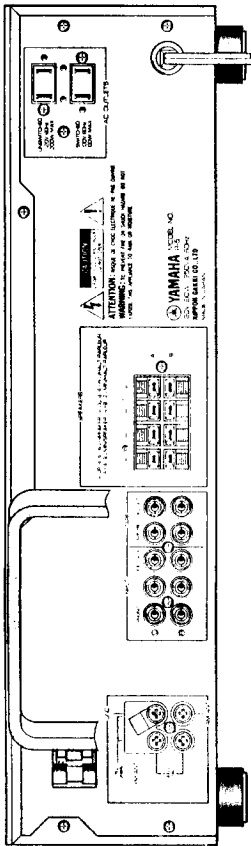
■ BLOCK DIAGRAM



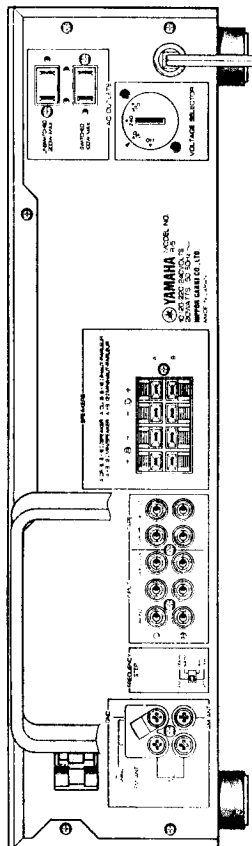
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REAR PANELS

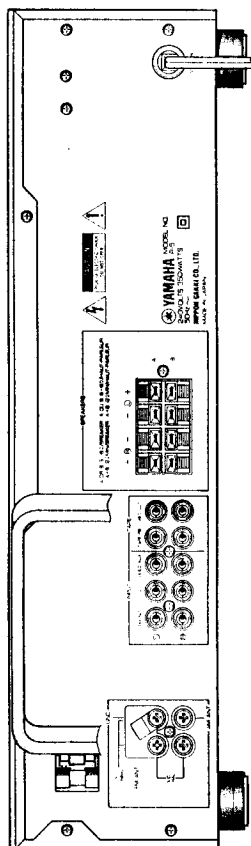
▼ U.S.A. & Canadian models



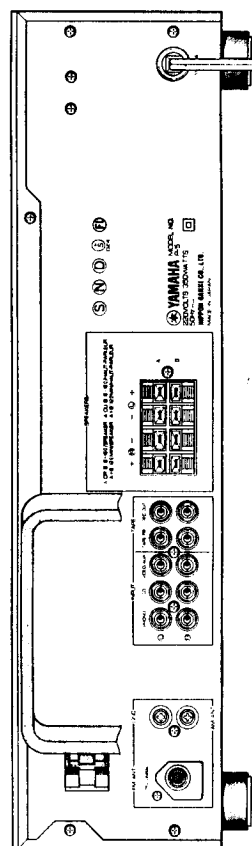
▼ General model



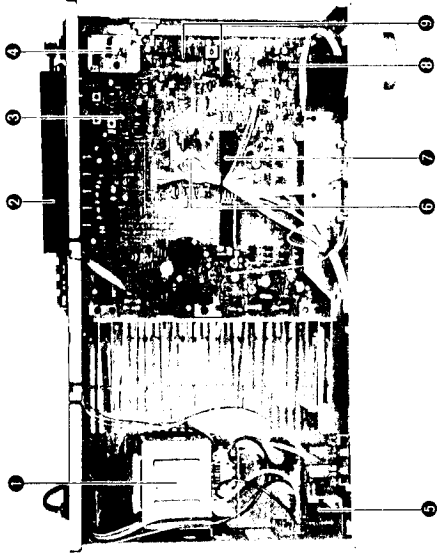
▼ Australian & British models



▼ European model



INTERNAL VIEW



- 1 POWER TRANSFORMER
U.S.A. model: GA68850
Canadian model: GA68860
General model: GA68870
European model: GA68880
Australian & British models: GA68890
- 2 AM LOOP ANTENNA
- 3 FRONT END PACK
- 4 POWER SWITCH
- 5 POWER CONTROLLER IC: IG14770 (LC6510C-695)
- 6 PLL IC: LC7210
- 7 MPX IC: LA3400
- 8 IF IC: μ PC577H (E, F)

DISASSEMBLY PROCEDURES

1. Removal of Top Cover
Remove 7 screws (1) in Fig. 1, and slide the Top Cover back.
2. Removal of Front Panel
Remove 4 screws and 4 hooks in Fig. 1, and pull the Front Panel forward.

3. Check of Main Circuit Board (1) & replacement of parts.
 - a. Remove 12 screws (3) in Fig. 1.
 - b. Push the Power switch on.
 - c. Remove the Main Chassis as shown in Fig. 2. In this condition it is possible for you check the Main Circuit Board (1) and replace the parts.

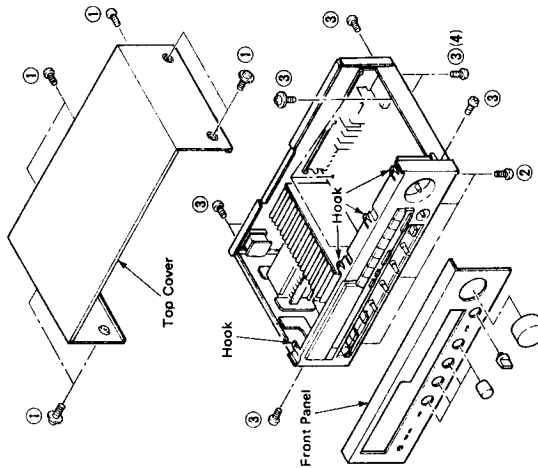


Fig. 1

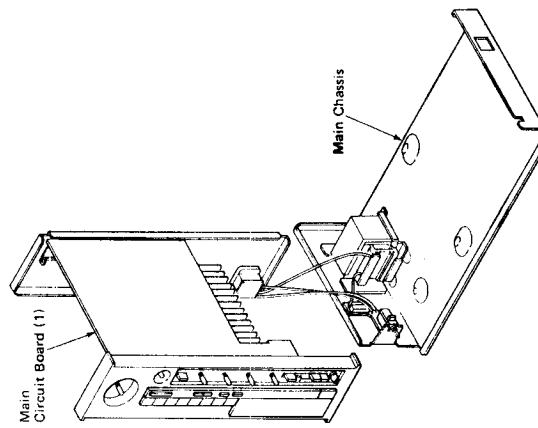


Fig. 2

ADJUSTMENTS

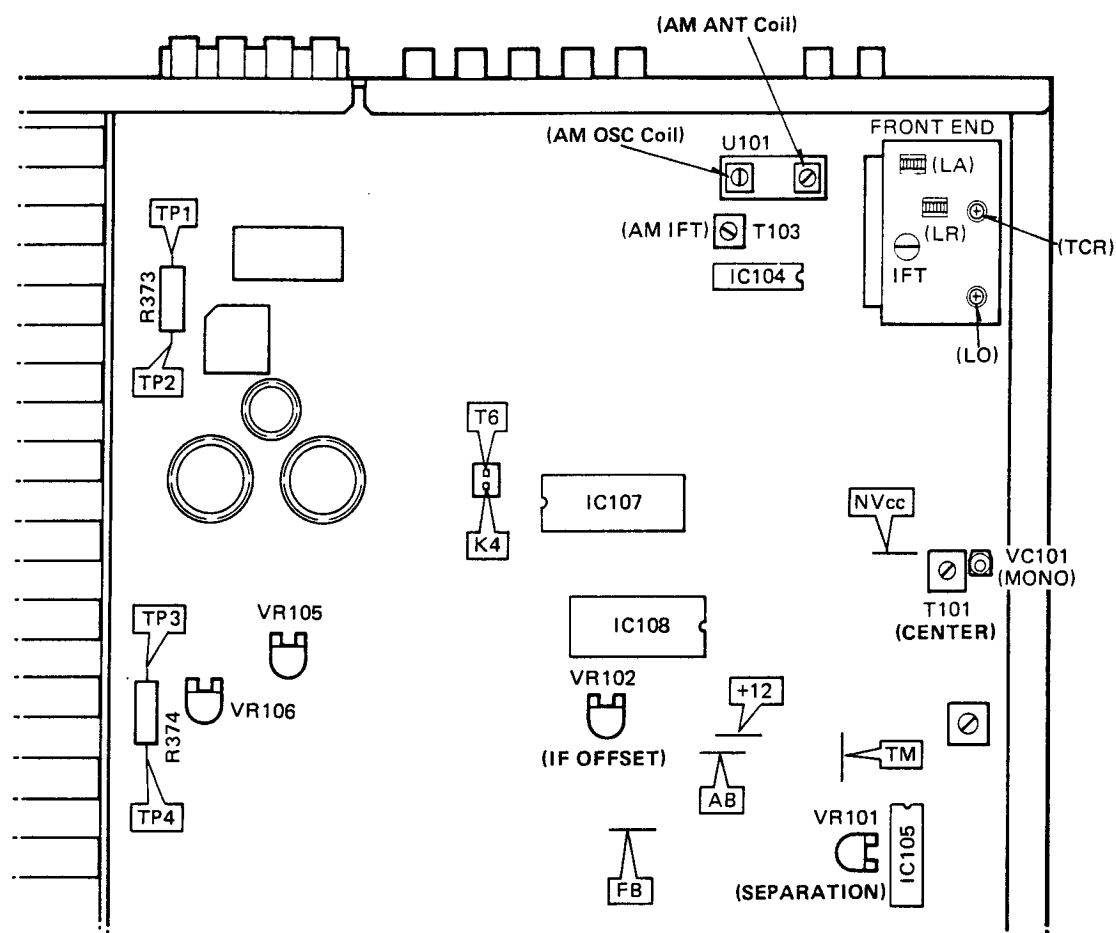
1. Before adjustment

- 1) After the power switch is pushed on, wait for 5 minutes before measuring, to be sure of the most stable operation.
- 2) Adjust the OSC coil and IFT with a nonferrous screw driver.
- 3) Set the switches to the following positions.
TUNING MODE AUTO
- 4) Proceed with the AM section adjustments after having finish the FM section adjustment.
- 5) $0\text{dB}\mu = 1\mu\text{V}$ $\text{Ex: } 60\text{dB}\mu = 1\text{mV}$

2. Measuring instruments abbreviation

- FM SG : FM signal generator
 SSG : Stereo signal generator
 AM SG : AM signal generator
 DIST. M : Distortion meter
 A.C.V.M. : AC voltmeter
 D.C.V.M. : DC voltmeter

TEST POINTS



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<POWER SUPPLY CHECK>

Check that the following voltages are obtained respectively across each test point and ground on main circuit.

Test Point	Rating or standard	Remark									
+12	+12.0V ± 1.0V	Make sure that AC line voltage comes within									
+5.6	+5.6V ± 0.5V										
-12	-12V ± 1.0V										
FB	At FM reception mode +12V ± 1V		<table border="1"> <thead> <tr> <th>Models</th> <th>AC line voltage</th> </tr> </thead> <tbody> <tr> <td>U, C</td> <td>120V ± 10%</td> </tr> <tr> <td>G</td> <td>220V ± 10%</td> </tr> <tr> <td>A, B</td> <td>240V ± 10%</td> </tr> </tbody> </table>	Models	AC line voltage	U, C	120V ± 10%	G	220V ± 10%	A, B	240V ± 10%
	Models		AC line voltage								
U, C	120V ± 10%										
G	220V ± 10%										
A, B	240V ± 10%										
	At AM reception mode 0V										
AB	At FM reception mode 0V										
	At AM reception mode +12V ± 1V										

<AUDIO SECTION>

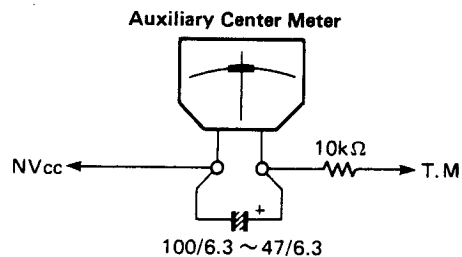
● Idling Current Adjustment

When replacing the power and drive transistors, adjust idling current. After the power has been turned on, age about 5 minutes in non loaded condition. Adjust VR105 (Lch) and VR106 (Rch) so that the voltage across the terminals of R373 (TP1 - TP2) and R374 (TP3 - TP4) come to 8mV ~ 15mV DC.

Test points	Adjustment points	Rating
Lch Across the terminals of R373 (TP1 - TP2)	VR105	8mV ~ 15mV DC.
Rch Across the terminals of R374 (TP3 - TP4)	VR106	8mV ~ 15mV DC.

< FM TUNER SECTION >

- Use 19kHz L.P.F. to measure the REC OUT.
- On step 1 and 2 connect the auxiliary center meter (ji00036 or similar) to confirm the best tuned point.
- 100% modulation means that the Frequency Deviation is 75kHz. (R) (U) (C) (A) (B)
- For the G model, Frequency Deviation is 40kHz.
- For the G model, install the Matching Transformer and connect FM SG.



Step	Item to be Adjusted	Connection terminal	Instrument required	Adjustment locations	Adjustment method	Rating or standard	Remarks
1	Discriminator balance	NVcc ~ T.M	Auxiliary center meter	T101 (CENTER)	Adjust the pointer of the auxiliary center meter point to "0" at detuned point.		After the adjustment of step 1 to 5, confirm it again.
2	Confirmation of station center set	300Ω FM ANT	FM SG [98MHz ± 1kHz 70dBμ (75.2dBf) MONO 1kHz 100% MOD]	TUNING key →UP or DOWN	Confirm that the auxiliary center meter deflects to "0" when tuned to signal of FM SG.		
		NVcc ~ T.M	Auxiliary center meter				
3	Monaural distortion	300Ω FM ANT	FM SG [98MHz ± 1kHz 70dBμ (75.2dBf) MONO 100Hz 100% MOD]	VC101 (MONO)	Reduce distortion to minimum.	Less than -55dB (G model only) Less than -46dB.	
		OUTPUT L, R	DIST. M L.P.F.				
4	Stereo distortion	300Ω FM ANT	FM SG, SSG [98MHz ± 1kHz 70dBμ (75.2dBf) STEREO L, R 1kHz, 100% MOD]	Front end IFT ST indicator	Same as step 3.	Less than -46dB (G model only) Less than -36dB	Confirm that ST indicator lights up.
		OUTPUT L, R	DIST. M L.P.F.				
5	Separation	300Ω FM ANT	FM SG, SSG [98MHz ± 1kHz 70dBμ (75.2dBf) STEREO L, R 1kHz, 100% MOD]	VR101 (SEPARATION)	Reduce output level to minimum.	Separation more than 40dB (G model only more than 30dB)	
		OUTPUT L, R	A.C.V.M L.P.F.				

R-5

Step	Item to be Adjusted	Connection terminal	Instrument required	Adjustment locations	Adjustment method	Rating or standard	Remarks
6	Confirmation of Full-scale signal quality level	300Ω FM ANT	FM SG, SSG [98MHz ± 1kHz 70dBμ (75.2dBf) STEREO L, R 1kHz, 100% MOD]	SIGNAL QUALITY indicator	Confirm that all signal quality indicators light up.		Confirm that all signal quality indicators goes out at detuned point.
7	IF Offset	300Ω FM ANT K4 ~ T6	FM SG, [98MHz ± 1kHz 70dBμ (75.2dBf) STEREO L, R 1kHz 30% MOD] Short	VR102 (IF OFFSET) Frequency display	By shorting across terminals K4 and T6, the frequency display shifts 1 digit. Therefore, adjust VR102 until 10kHz digit becomes 9 or 0.		After adjustment open across K4 and T6.
8	Confirmation of auto search reception	300Ω FM ANT	FM SG [98MHz ± 1kHz 15dBμ (20.2dBf) MONO 1kHz 100% MOD]	TUNING key UP or DOWN	Confirm that auto search reception is possible with the tuning key.		Confirm that muting is performed at auto reception.

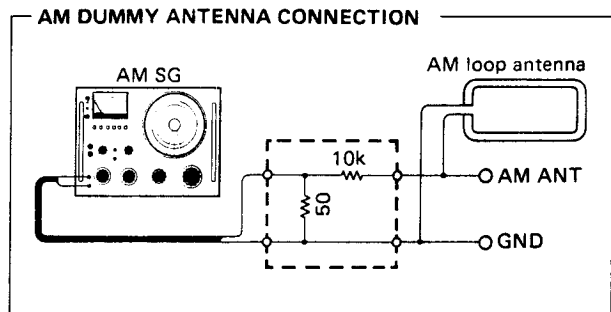
Note: X dBμ = X + 5.2dBμf

- Shorting K4 and T6 while set at FM will result in automatic memory of each preset from P1/P9 to P9/P16 as given in the right table. This is convenient when making an adjustment.

P1/P9	P2/P10	P3/P11	P4/P12	P5/P13
AM 630kHz	AM 1080kHz	AM 1440kHz	FM 87.5MHz	FM 95.1MHz
P6/P14	P7/P15	P8/P16		
FM 98.1MHz	FM 101.5MHz	FM 108.0MHz		

< AM TUNER SECTION >

- Connect the AM loop antenna to the AM ANT terminals.
- Connect the AM dummy antenna for adjustment.



Step	Item to be Adjusted	Connection terminal	Instrument required	Adjustment locations	Adjustment method	Rating or standard
1	AM IFT	AM ANT OUTPUT	AM SG AM dummy antenna [630kHz ± 0.1kHz 50dBμ 400Hz, 30% MOD] A.C.V.M.	T103	Adjust T103 to maximize detector output.	
2	Confirmation of sensitivity	AM ANT OUTPUT	AM SG AM dummy antenna [630kHz ± 0.1kHz 1080kHz ± 0.1kHz 1440kHz ± 0.1kHz 400Hz, 30% MOD] A.C.V.M. DST. M.	PRESET STATION key P1/P9 P2/P10 P3/P11	Obtain AM SG output level where distortion become 10%.	Less than 58dBμ
3	Confirmation Full-scale signal quality level	AM ANT	AM SG. AM dummy antenna [1080kHz ± 0.1kHz 80dBμ 400Hz, 30% MOD]	PRESET STATION key P2/P10 SIGNAL QUALITY indicator	Confirm that all signal quality indicators light up.	
4	Confirmation of auto search reception	AM ANT	AM SG AM dummy antenna [1080kHz ± 0.1kHz 60dBμ 400Hz, 30% MOD]	TUNING key UP or DOWN		Confirm the auto search reception with the tuning key

< DIGITAL CONTROL SECTION >

Step	Confirmation item	Connection terminal	Instrument required	Operation key	Confirmation method
1	Preset memory	300Ω FM ANT	FM SG, SSG [98MHz ± 1kHz 70dBμ (75.2 dBf) STEREO, L, R 1kHz, 100% MOD]	FUNCTION key TUNING MODE key TUNING key (UP or DOWN) MEMORY key PRESET STATION key	① Receive FM 98MHz by means of auto search. ② Set P1-P8 → P1-P8 indicator lights. ③ Press MEMORY key → MEMORY indicator flashes about 5 seconds. ④ Press P1 → MEMORY indicator goes OFF P1 of PRESET STATION indicator lights.
		AM ANT	AM SG AM dummy antenna [1080kHz ± 0.1kHz 80dBμ 400Hz, 30% MOD]	P1-P8/P9-P16	⑤ Receive AM 1080kHz ⑥ Press MEMORY key → MEMORY indicator flashes about 5 seconds. ⑦ Press P2 → MEMORY indicator goes OFF P2 of PRESET STATION indicator lights.
		300Ω FM ANT AM ANT	FM SG, SSG AM SG AM dummy antenna		⑧ Press P1 and P2 and check that content is read out. → P1 and P2 of PRESET STATION indicator lights. ⑨ Set P9-P16 → P9-P16 indicator flashes. ⑩ Press MEMORY key → MEMORY indicator flashes. ⑪ Press P9 → MEMORY indicator goes OFF. P9-P16 indicator lights. P9 indicator lights. ⑫ Press P9 and check that content is read out.
2	Tuning mode	Same as step 1	Same as step 1	FUNCTION key TUNING MODE key TUNING key (UP or DOWN)	Tune to FM 98MHz and AM 1080kHz, and check that when receiving MAN'L/MONO, FM reception become forced mono TUNING MODE indicator → Goes out ST indicator → Goes out
				PRESET STATION key P1, P2	Check that tuning operation stops when tuned while AUTO searching. TUNING MODE indicator → lights up ST indicator → lights up
3	Last channel memory			POWER key	① Read out P1. ② Turn OFF POWER Switch. ③ Turn ON POWER Switch after 5 seconds. ④ P1 content should come out. P1 of PRESET STATION indicator lights.

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LSI DATA

● IC108 : LC7210

This is the CMOS LSI utilized to tune the CSL (Computer Servo Lock) tuning system for FM/AM radio which has realized stable station selection by PLL (Phase Locked Loop) synthesizer, precise automatic station search (applicable to all areas of the world and multiple bands) by SL² (Signal Locked Loop) voltage synthesizer, and optimum tuning point reception by AFC operation.

When combined with a prescaler ($\div 100$), this LSI can be controlled by a 4-bit microcomputer in the controller.

The functions are:

- SL² auto search control
- PLL control
- Analog switch for S-curve AFC
- Station-originated frequency counter
- Data generation for FM band IF offset adjustment (5 bits)

Terminal No.	Description	I/O	Function
1	Xin	IN	Oscillation terminals. By connecting Quartz across Xin and Xout, and load capacity across both terminals and Vss, basic clock signal is generated (32kHz).
2	Xout	OUT	
3	Vss	—	Ground terminal
4	DI/DO	IN	Pull-up feature. Input terminal which controls whether data terminal (D ₀ ~ 3) signal is input mode (DI/DO = 1) or output mode. (DI/DO = 0).
5	STB	IN	Pull-up feature. Determines the timing of internal latch, FF clock pulse and set/reset signal which are determined by control input (C ₀ ~ 3).
6	D ₃	I/O	I/O terminals. Push-pull output. Transfers (DI/DO = 1) data to internal data bus (4 bits) or outputs the contents of internal data bus.
7	D ₂		
8	D ₁		
9	D ₀		
10	C ₃	IN	Pull-up feature. Input used to create signal which specifies which logic is to be connected with internal data bus.
11	C ₂		
12	C ₁		
13	C ₀		
14	M/L	OUT	Outputs "1" only when received band is MW. NC.
15	PLL	OUT	Push-pull. Outputs "1" while PLL operation is made.
16	Sout	OUT	Tri-state. Connected with push-pull output and analog switch. ● PLL mode: Charge pump output can be obtained. ● SEARCH mode: Auto search output can be obtained. ● AFC mode: Conducts to Sin terminal via analog switch. High impedance state in other modes
17	\overline{SD}	IN	Controls whether reception is made by SL ² or PLL when FM is received.
18	Sin	IN	Connected with analog switch or comparator input. ● AFC mode: Conducts to Sout terminal via analog switch and makes reception by AFC. ● AUTO SEARCH mode: Discriminates S signal between SH and SL via wind comparator and uses as input which controls search speed limit and stop.
19	AFC	OUT	Outputs "1" in AFC mode. Outputs "0" in other than AFC mode.
20	SMK	IN	Prohibits search stop and speed control by SH and SL in AUTO SEARCH mode ("1"). Controls when "0" is input.
21	F/A	OUT	Band data output terminal. Outputs "1" in FM mode.
22	Ain	IN	AM (FM) local oscillator frequency input terminal. Pull-down transistor is turned on in FM mode.
23	Fin	IN	1/100 dividing output of AM (FM) local oscillator frequency is input. Pull-down transistor is turned off in FM mode in which reception is not made by AFC.
24	VDD	—	Power source +5V
25	A/D	IN	Input used to generate data for compensating the shift of center frequency of FM IF filter.
26	Vref	—	Power source for setting wind comparator level (Sin) and power source for A/D converter ladder network of FM fine.
27	\overline{PSC}	OUT	Outputs "0" when PLL or counter is operated in FM mode. Outputs "1" in other cases (other than when reception is made in FM mode, and other than in FM mode).
28	LOC	I/O	Detects the locking of CSL operation, connected with CR integration circuit. Judges as LOCK state when "1" is input and as UNLOCK state when "0" is input.

● IC107 : iG14770 CSL Controller V4.0 695 (LC6510C-695)

1-chip type 4-bit microcomputer which incorporates 4096 x 8 bit ROM (for programming) and 256 x 4 bit RAM (for data memory)

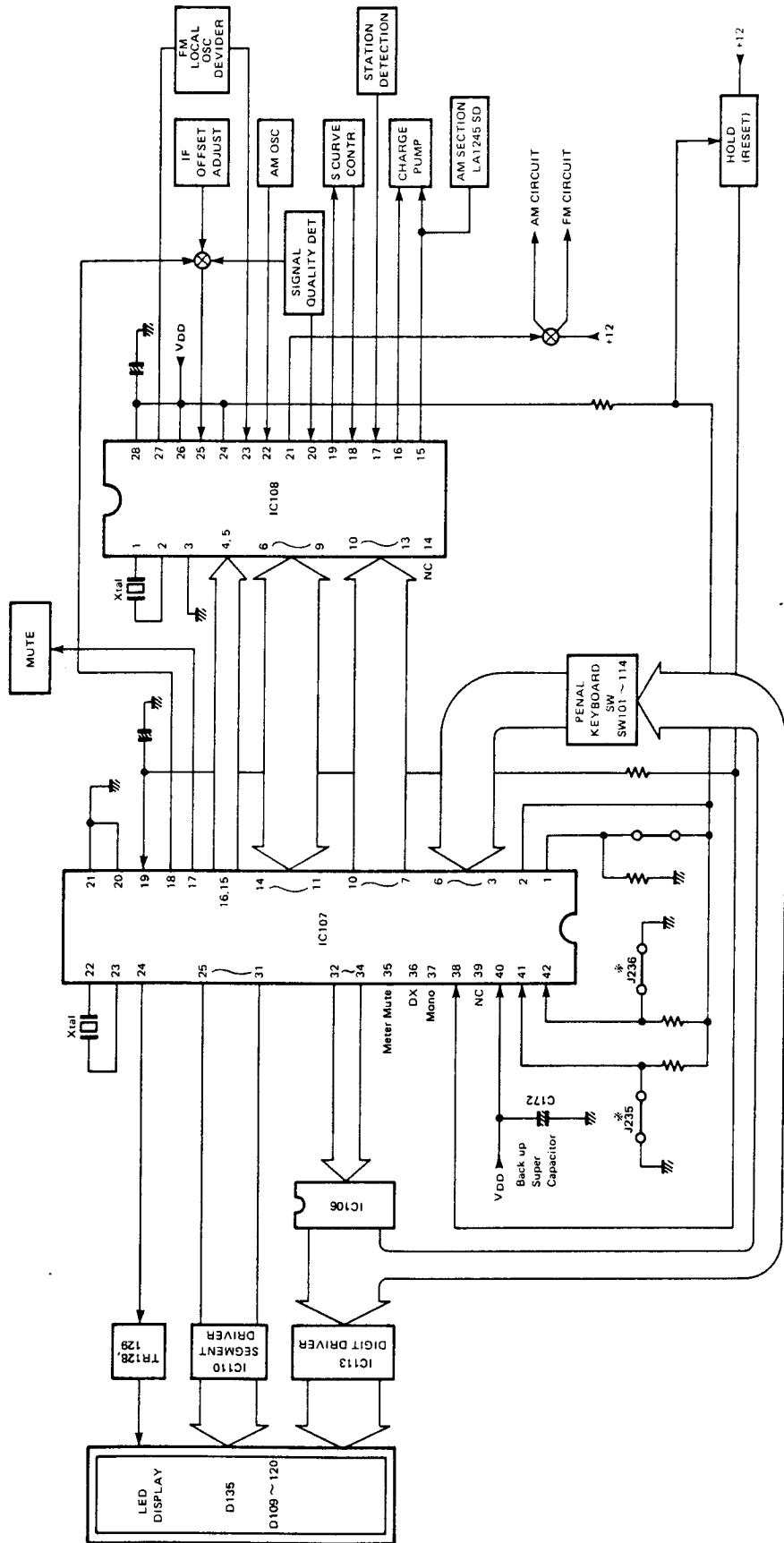
R-5

Terminal No.	Description	I/O	Function	
1	PA2 AWAM9K	IN	Destination symbol. 42 Pin = "1" : U model AM in 10kHz increments.	
2	PA3 REM REQ	IN	Destination symbol. REM REQ = "1" : Remote Control Request	
3	PB ₀ K1	IN	Key matrix input. Judges the switches 101 to 114.	
4	PB ₁ K2	IN		
5	PB ₂ K3	IN		
6	PB ₃ K4	IN		
7	PC ₀ C0	OUT	Control output. Specifies which logic of LC7210 is connected with data bus.	
8	PC ₁ C1	OUT		
9	PC ₂ C2	OUT		
10	PC ₃ C3	OUT		
11	PD ₀ D0	I/O	Data bus. Sends and receives data to and from LC7210.	
12	PD ₁ D1	I/O		
13	PD ₂ D2	I/O		
14	PD ₃ D3	I/O		
15	PE _n STB	OUT	Strobe output.	
16	PE ₁ DI/DO	OUT	Specifies the direction of I/O of data bus.	
17	PE ₂ MUT	OUT	Muting output. +4.5V (reference value) in MUTING mode.	
18	PE ₃ A/D	OUT	Signal Quality/IF Offset select. Signal Quality at "1" IF Offset at "0"	
19	RES	IN	Reset input. +5V in normal condition.	
20	TEST	-		
21	V _{ss}	-	Power ground.	
22	OSC1	IN	Terminals for clock oscillating circuit.	
23	OSC2	OUT		
24	PF ₀ H	OUT	Display, segment output.	
25	PF ₁ G	OUT		h segment.
26	PF ₂ F	OUT		g segment.
27	PF ₃ E	OUT		f segment.
28	PG ₀ D	OUT		e segment.
29	PG ₁ C	OUT		d segment.
30	PG ₂ B	OUT		c segment.
31	PG ₃ A	OUT	b segment.	
32	PH ₀ TA	OUT	Display, digit output	
33	PH ₁ TB	OUT		
34	PH ₂ TC	OUT		
35	PH ₃ Mute	OUT	Meter Mute Control	
36	PI ₀ DX	OUT	DX Mode Control	
37	PI ₁ MONO	OUT	Mono Mode Control	
38	HOLD	IN	Hold mode demand input terminal.	
39	INT	-	TNTVAL	
40	V _{dd}	-	Power source +5V.	
41	PA ₀ U	IN	Destination symbol.	
42	PA ₁ G	IN		

42 pin	0	1
41 pin	J	U
0	G	W
1		

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● Block Diagram of Microcomputer Peripheral Circuit

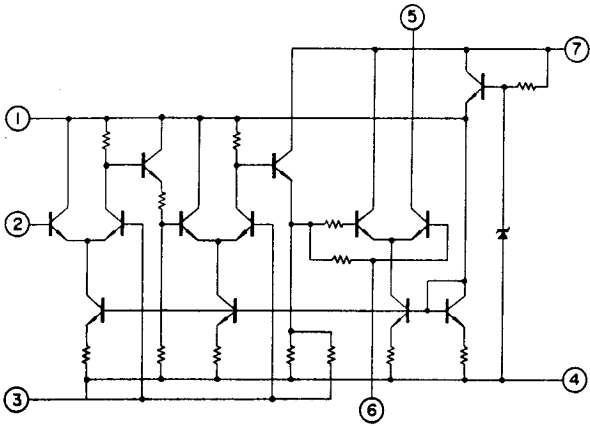


※ Marked

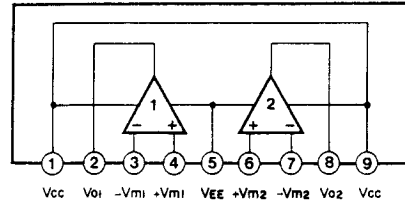
	R	U.C	A	G	B
J235	OPEN	SHORT	OPEN	OPEN	OPEN
J236	OPEN	OPEN	SHORT	SHORT	SHORT

IC BLOCK

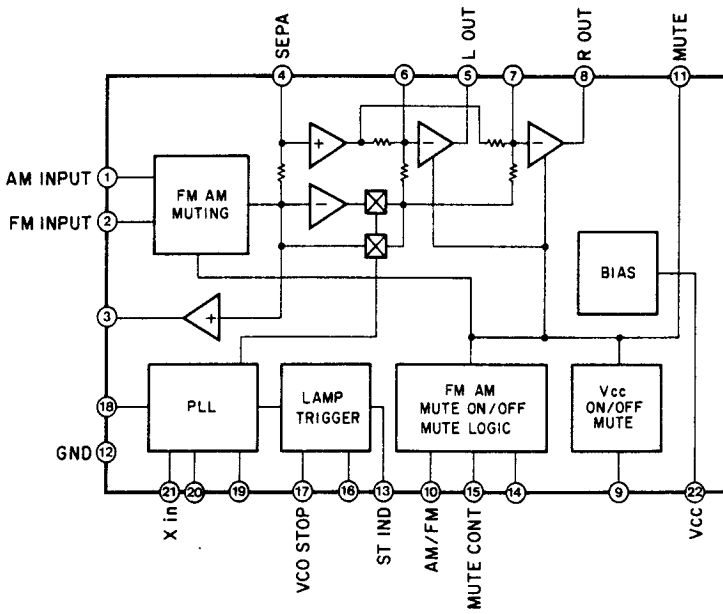
IC101, 102 : μ PC577H (E, F)



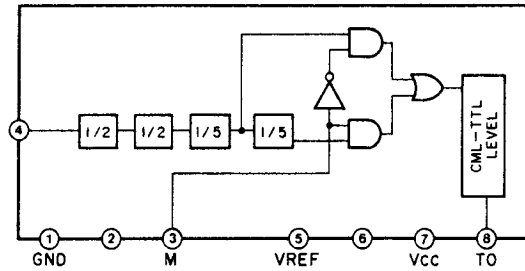
IC103 : AN6551, NJM4558S or BA715
 IC301 : NJM2043S, AN6557 or M5220L



IC105 : LA3400



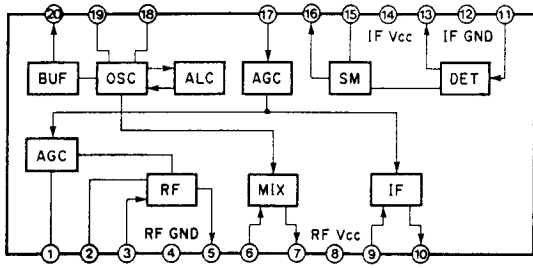
IC109 : M54459L



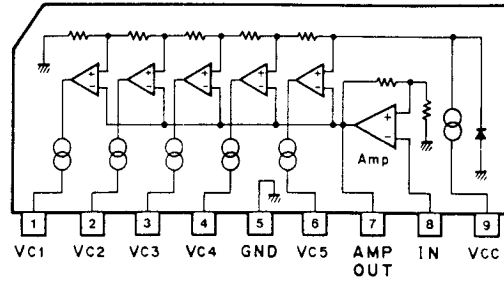
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R-5

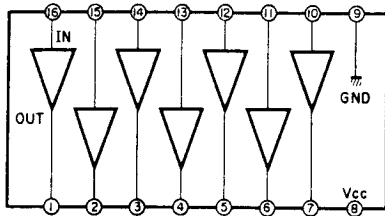
IC104 : LA1245



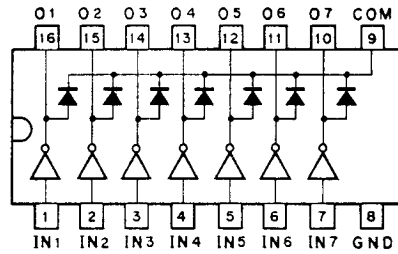
IC112 : LB1413



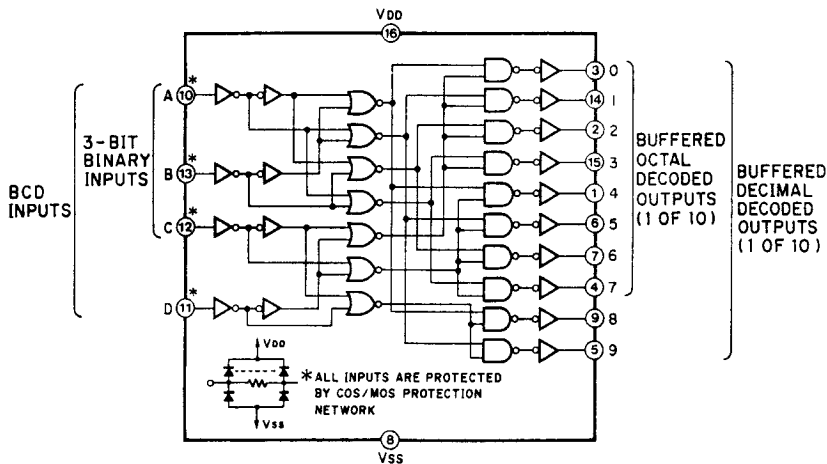
IC110 : BA618



IC113 : M54526P, LB1234 or BA12004



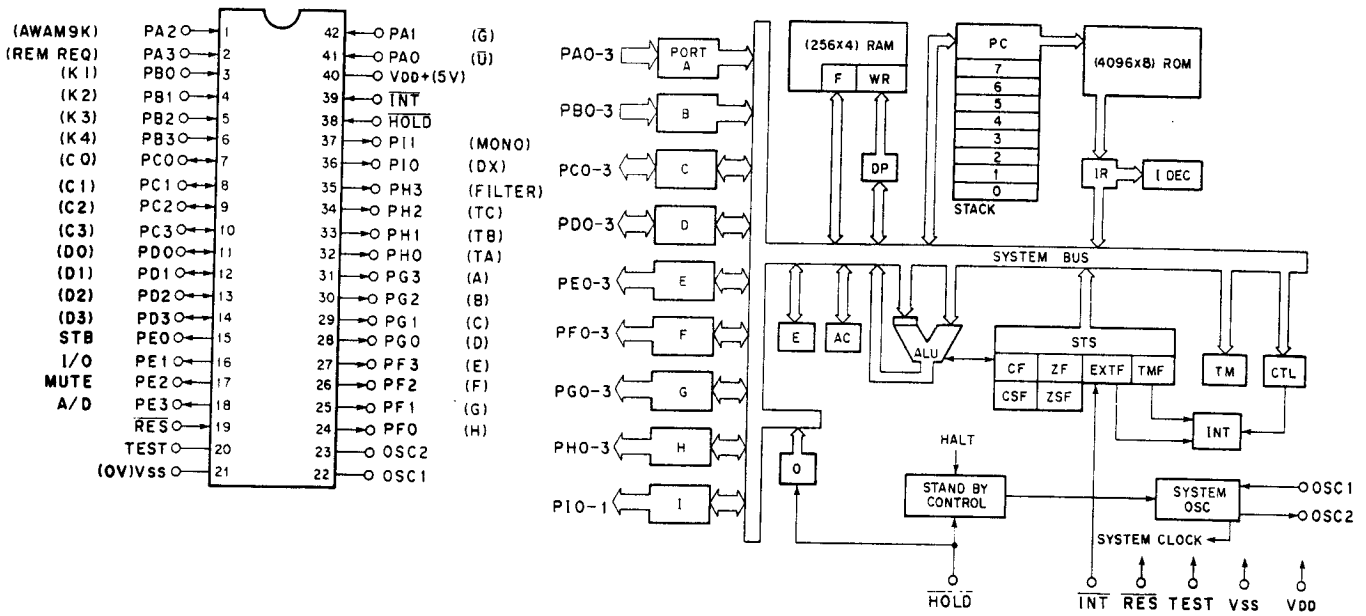
IC106 : TC4028BP or BU4028B



Data Table

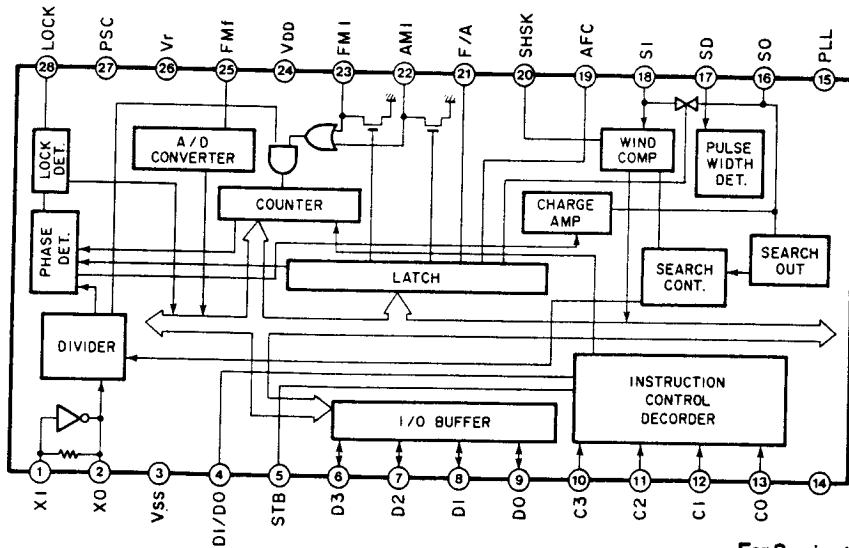
D	C	B	A	0	1	2	3	4	5	6	7	8	9
0	0	0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	1	0	1	0	0	0	0	0	0	0	0
0	0	1	0	0	0	1	0	0	0	0	0	0	0
0	0	1	1	0	0	0	1	0	0	0	0	0	0
0	1	0	0	0	0	0	0	1	0	0	0	0	0
0	1	1	0	0	0	0	0	0	1	0	0	0	0
0	1	1	1	0	0	0	0	0	0	1	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	1	0
1	0	1	0	0	0	0	0	0	0	0	0	0	1
1	0	1	1	0	0	0	0	0	0	0	0	0	0
1	1	0	0	0	0	0	0	0	0	0	0	0	0
1	1	0	1	0	0	0	0	0	0	0	0	0	0
1	1	1	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	0	0	0	0	0	0	0	0	0	0

IC107 : LC6510C-695



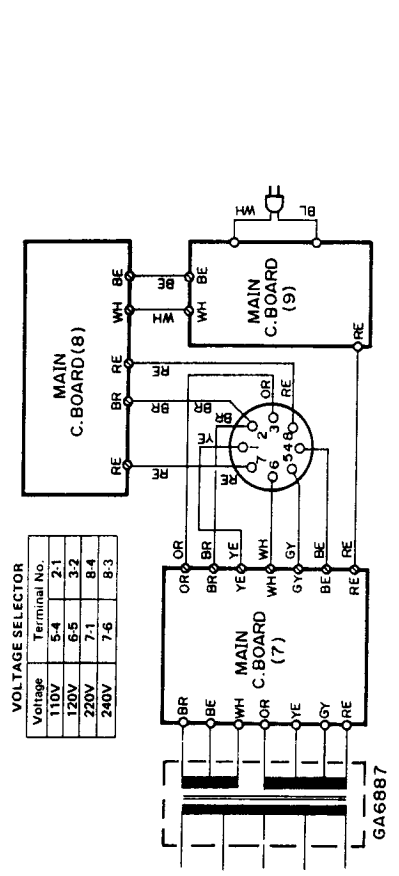
R-5

IC108 : LC7210



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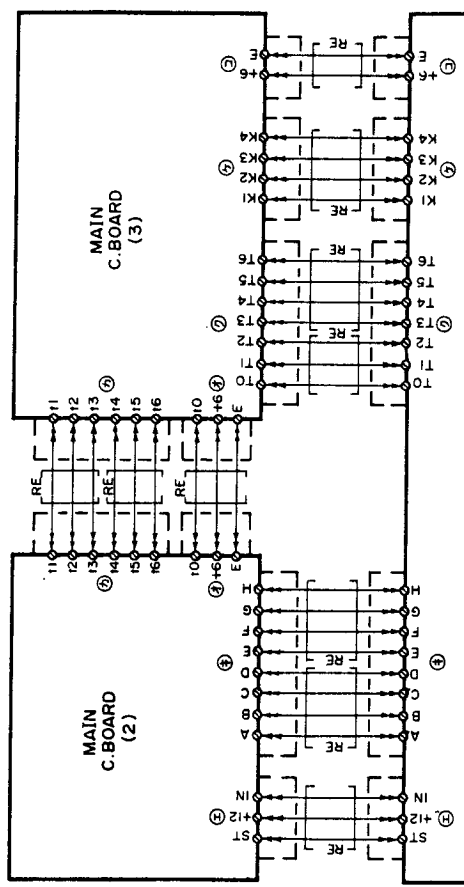
WIRING



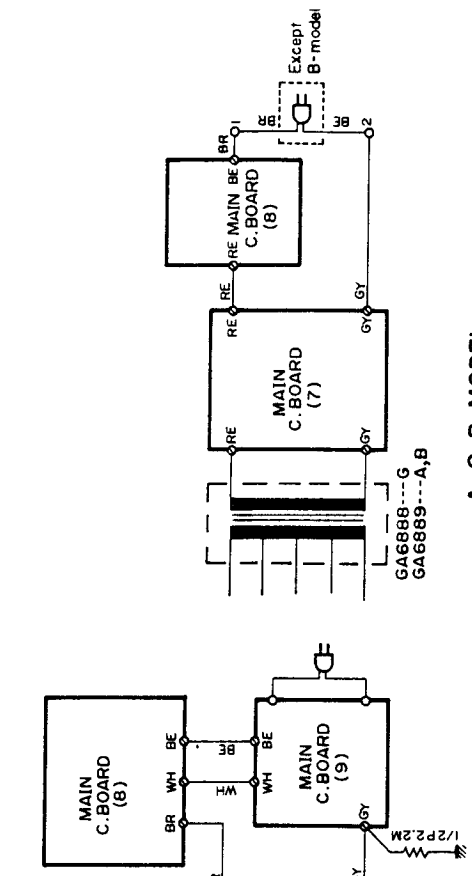
VOLTAGE SELECTOR

Voltage	Terminal No.
110V	5-4 2-1
120V	6-5 3-2
220V	7-1 8-4
240V	7-6 8-3

R MODEL



U. C MODEL

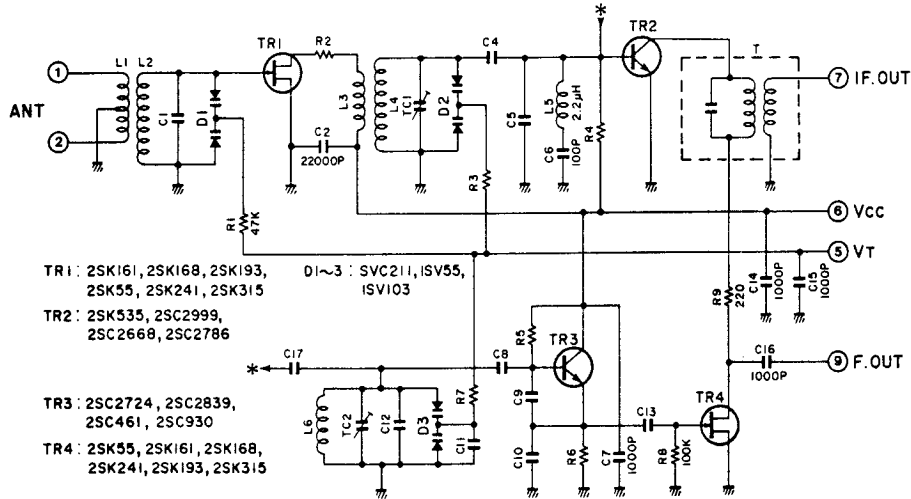


A. G. B MODEL

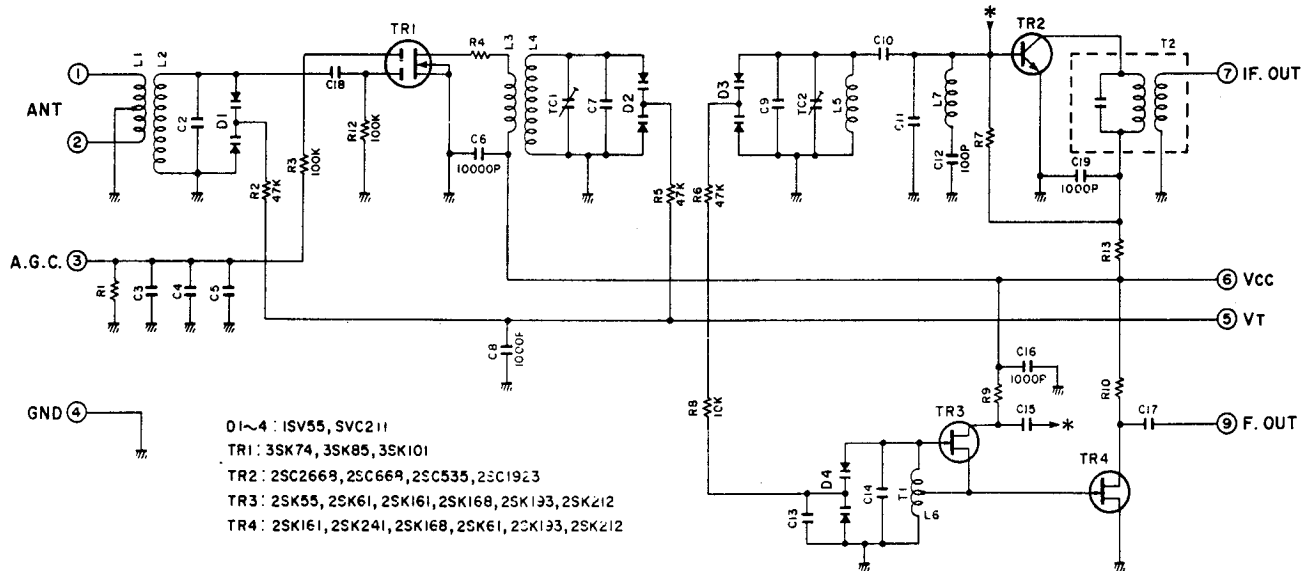
SCHEMATIC DIAGRAM

FRONT END PACK (PK101)

R, U, C, A, B models (PA00081)



G model (PA00085)

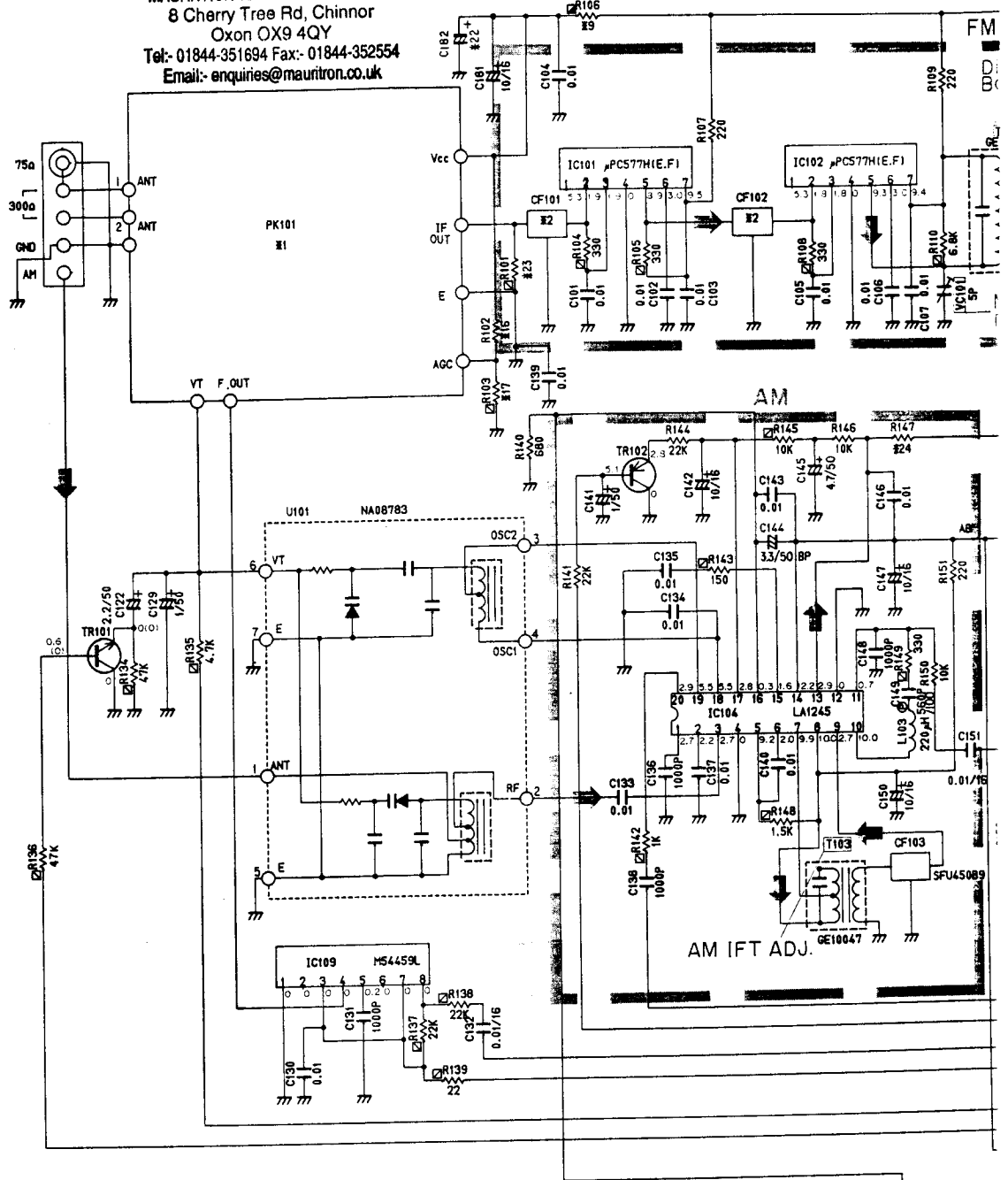


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SCHEMATIC DIAGRAM

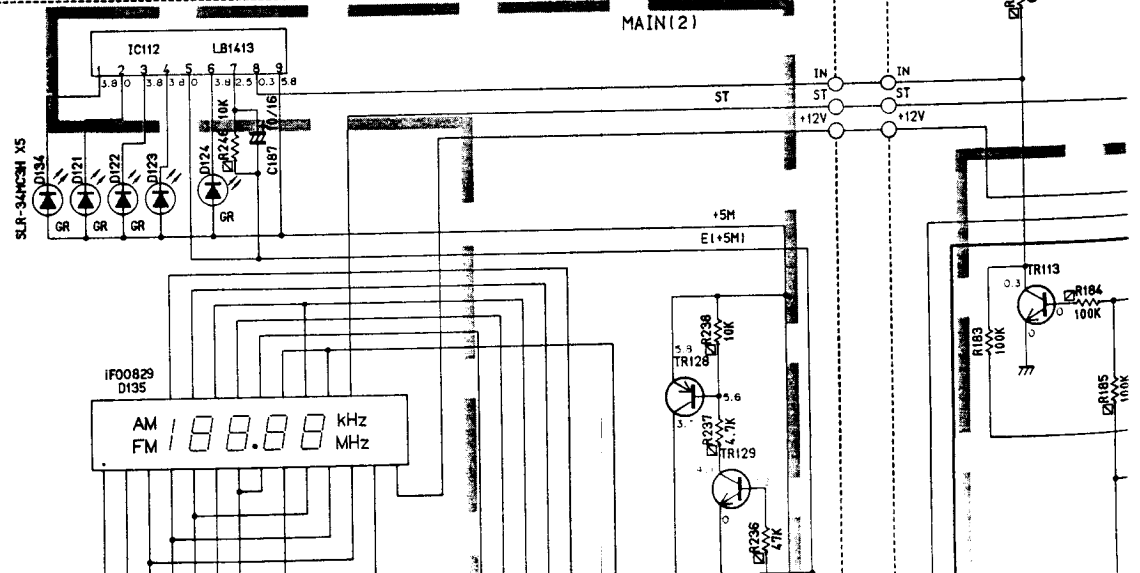
MAIN(1)

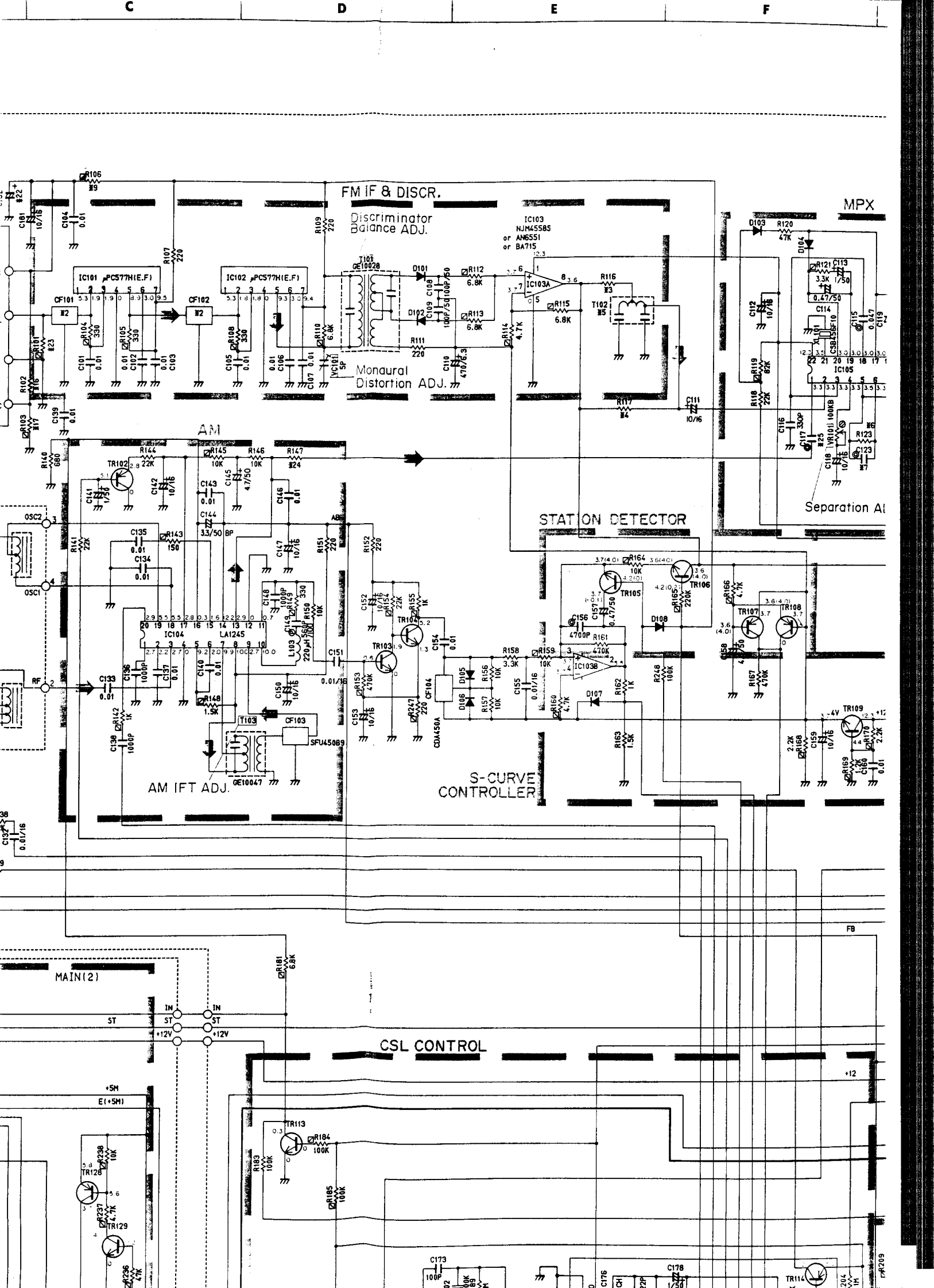
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DRIVER

MAIN(2)





FM IF & DISCR.

Discriminator Balance ADJ.

Monaural Distortion ADJ.

MPX

Separation Adj

STATION DETECTOR

S-CURVE CONTROLLER

AM

AM IFT ADJ.

MAIN(2)

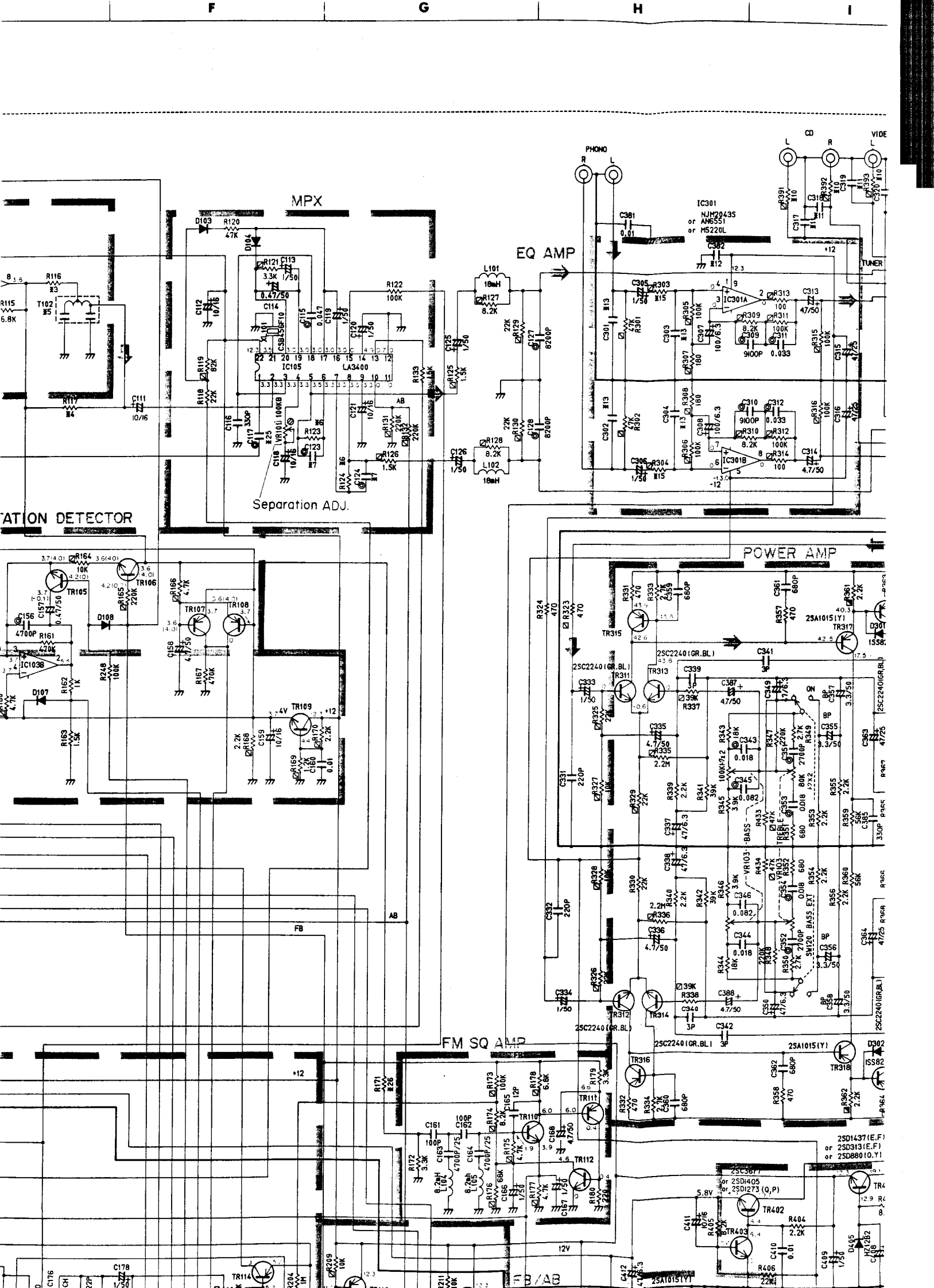
CSL CONTROL

FB

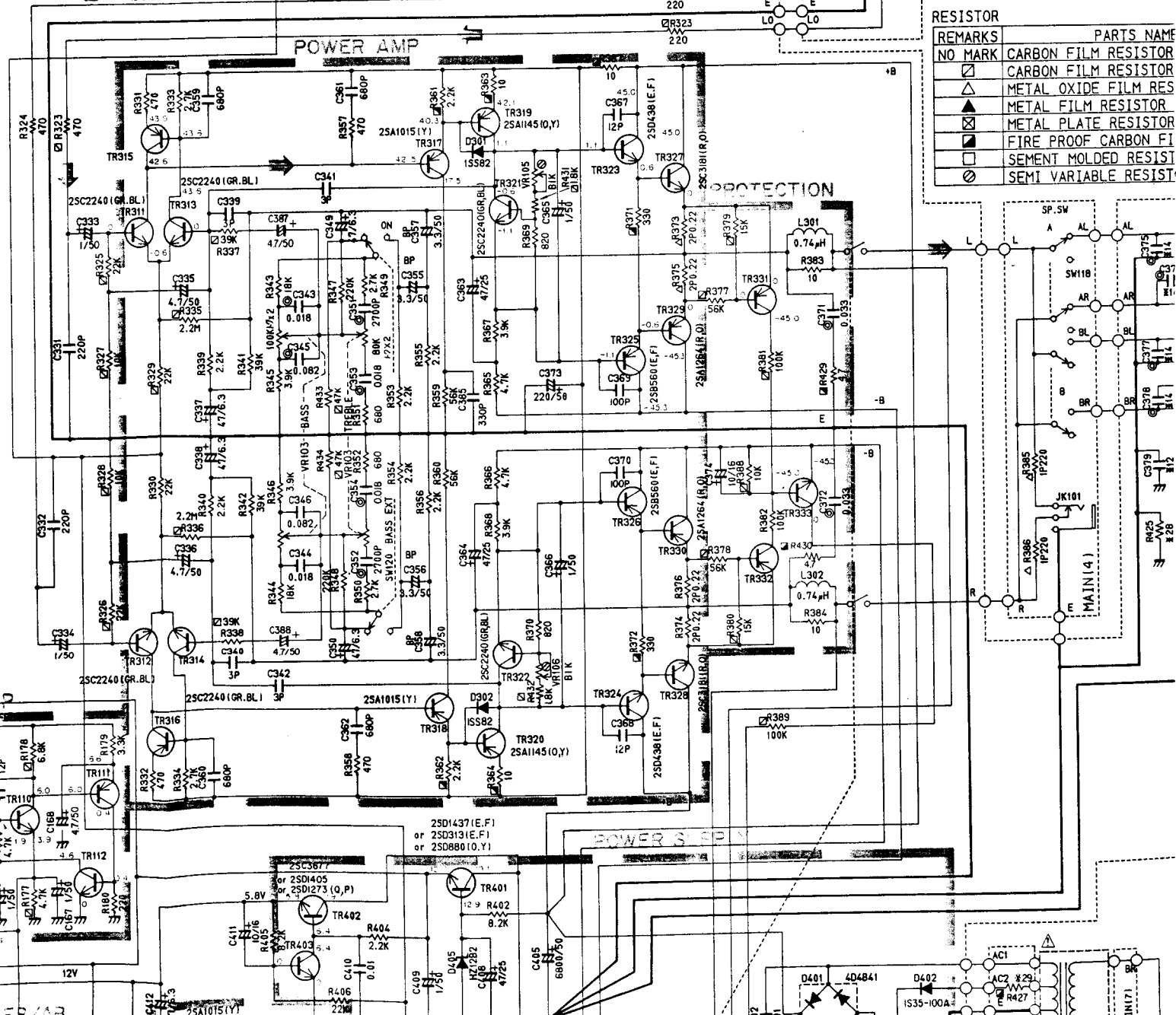
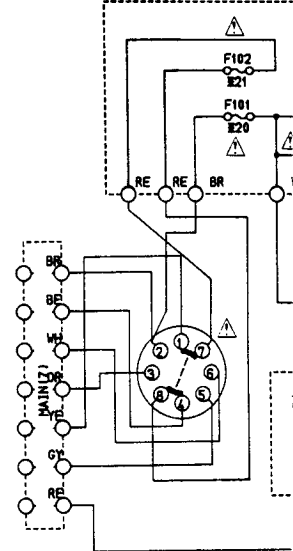
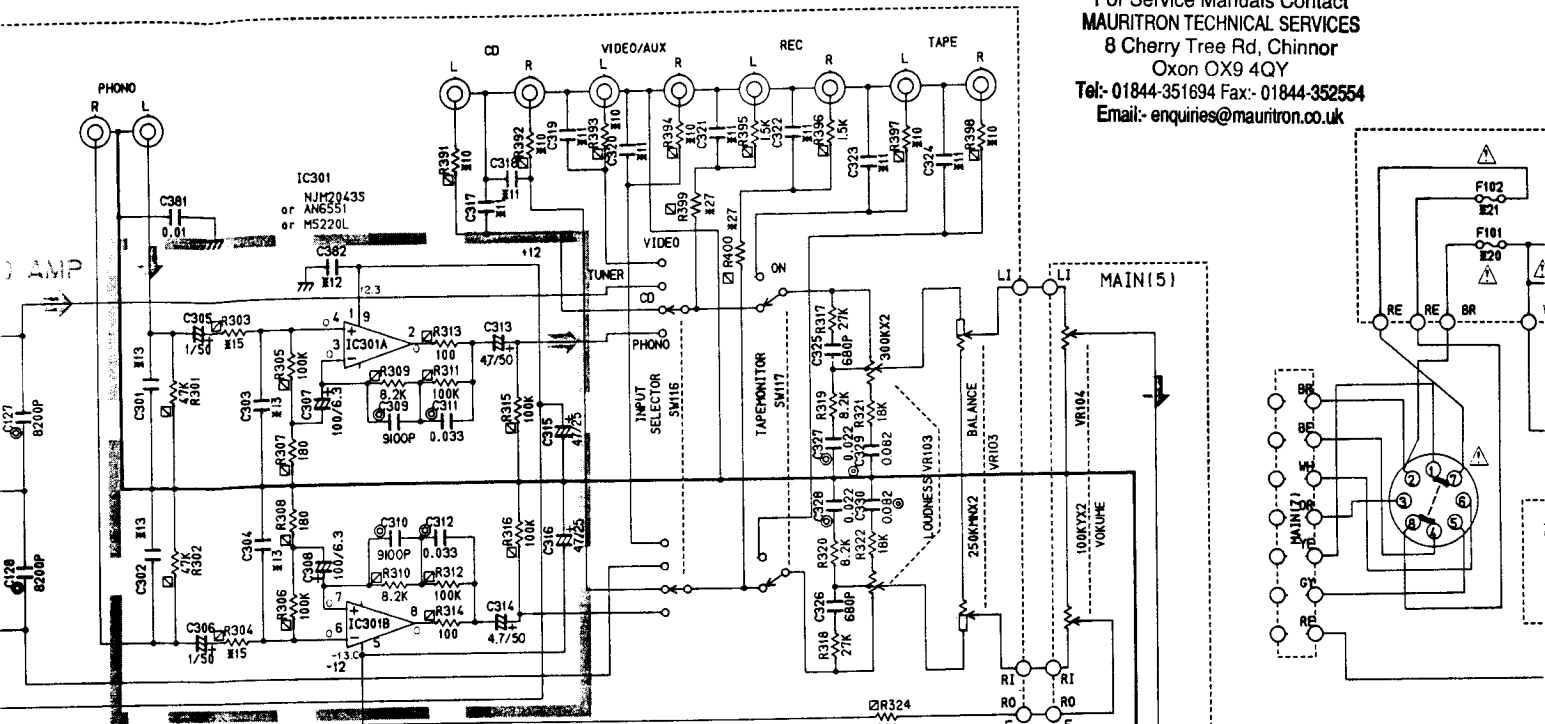
+5M

+12

-4V

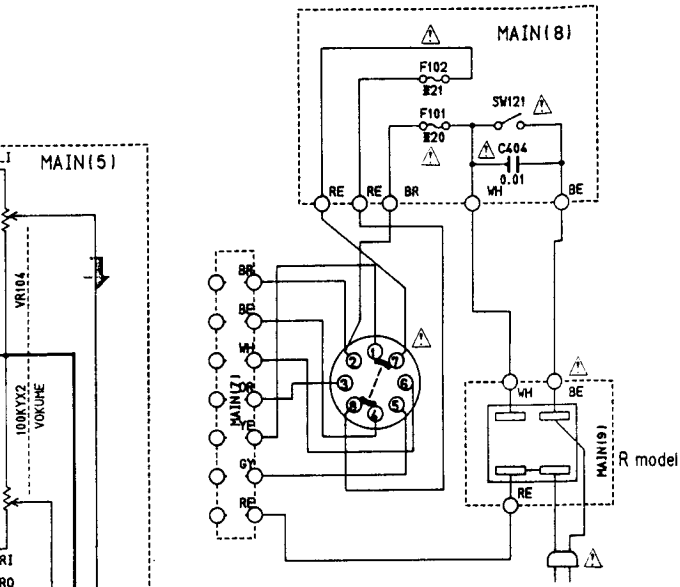


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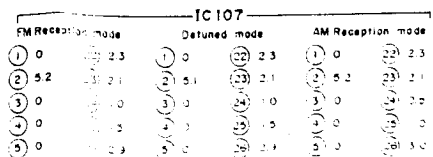
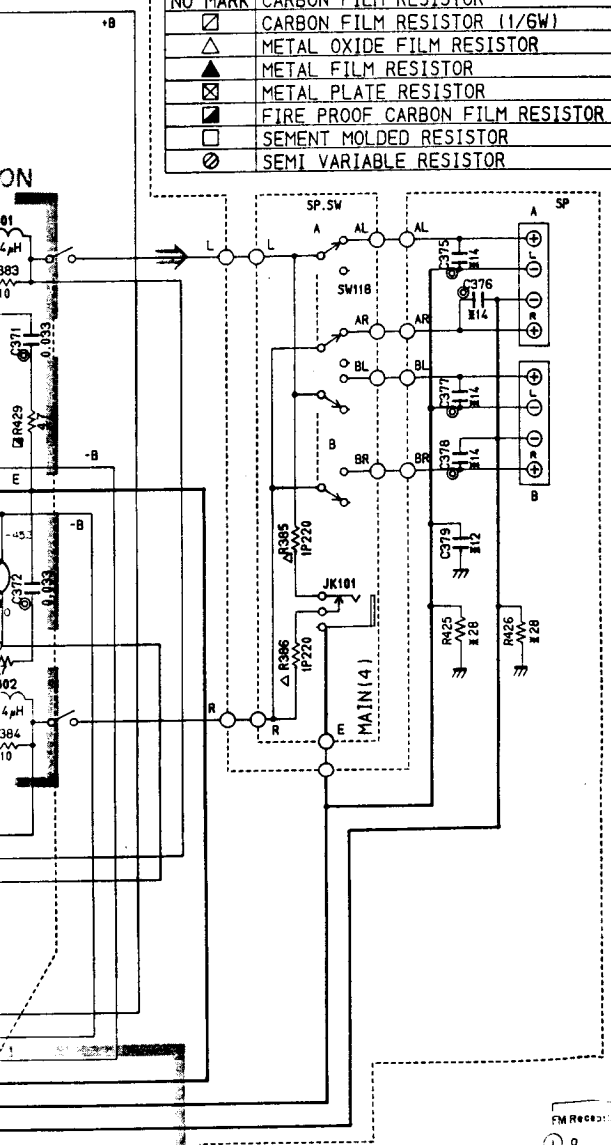


RESISTOR

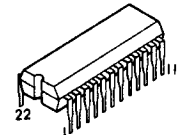
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR
☒	CARBON FILM RESISTOR
△	METAL OXIDE FILM RES
▲	METAL FILM RESISTOR
☒	METAL PLATE RESISTOR
■	FIRE PROOF CARBON FI
□	SEMENT MOLDED RESIST
⊗	SEMI VARIABLE RESIST



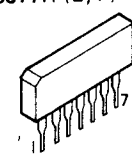
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR
☑	CARBON FILM RESISTOR (1/6W)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
☒	METAL PLATE RESISTOR
■	FIRE PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
⊙	SEMI VARIABLE RESISTOR



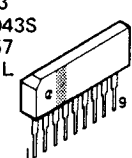
LA3400



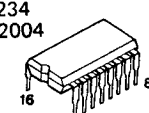
μPC577H (E, F)



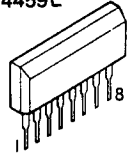
AN6551
NJM4558S
BA715
LB1413
NJM2043S
AN6557
M5220L



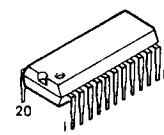
TC4028BP
BU4028B
BA618
M54526P
LB1234
BA12004



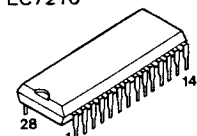
M54459L



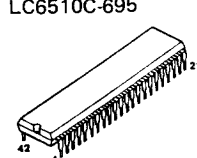
LA1245



LC7210

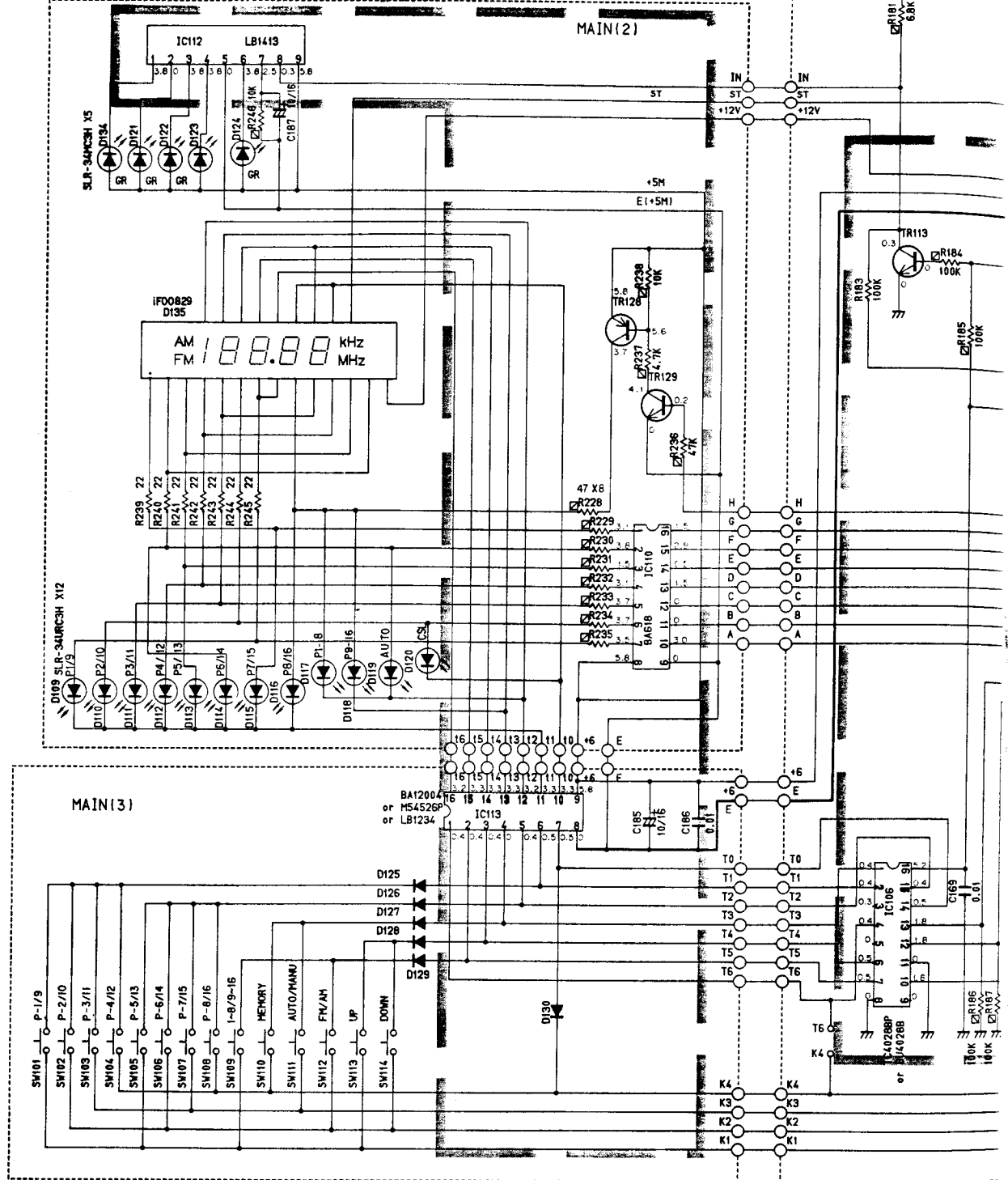


LC6510C-695

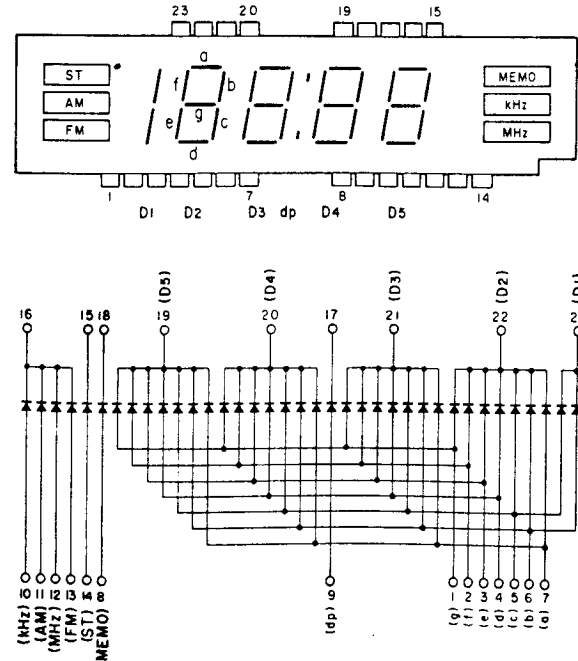


2SA1115 (E, F)
2SA1310 (R, S, T)
2SA1145 (O, Y)
2SA1015 (Y)
2SC1815 (O, Y)
2SC2240 (GR, BL)

5
6
7
8
9
10



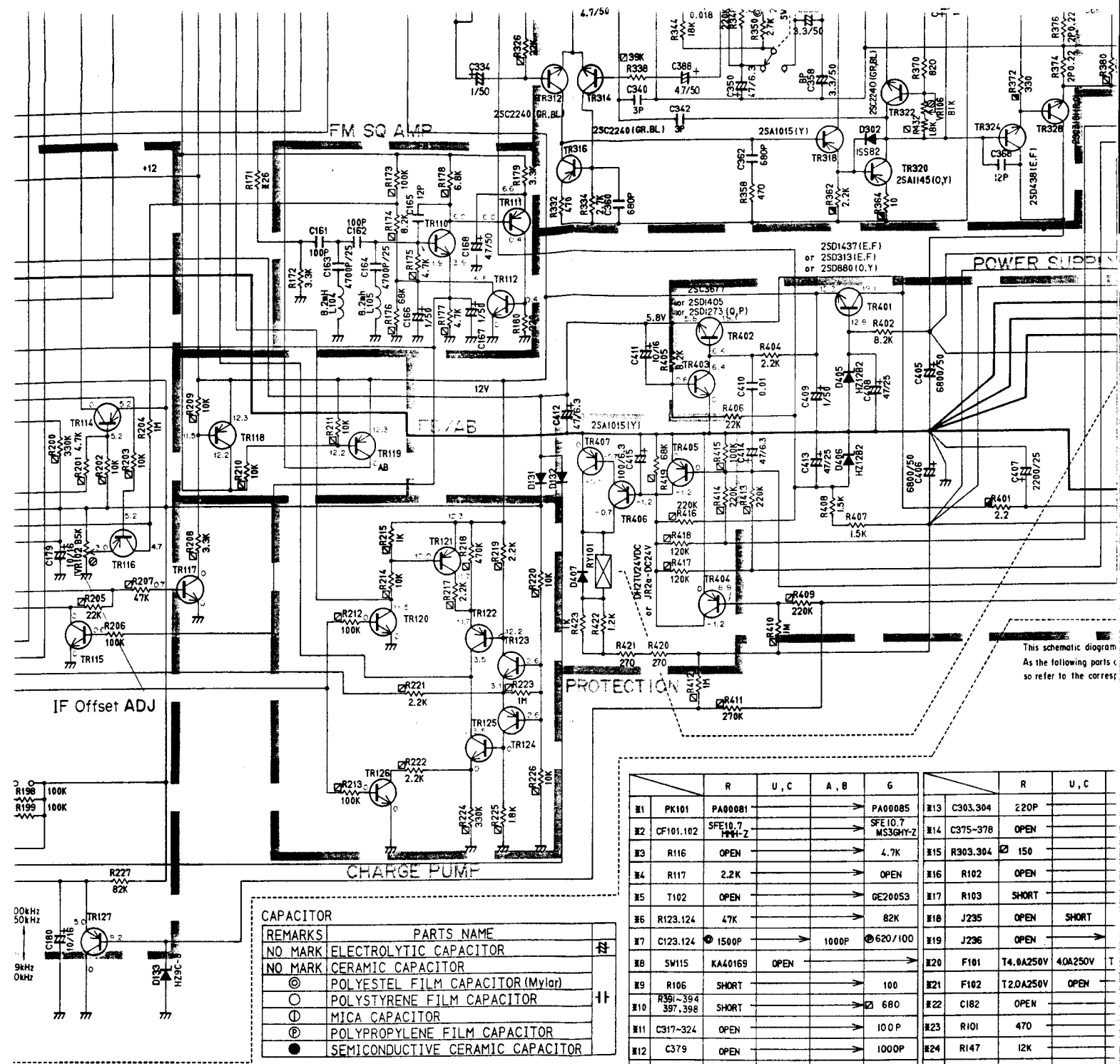
• D135 (Frequency Display)



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UNLESS OTHERWISE
 DIODES ARE 1S155E
 PNP TRANSISTORS
 NPN TRANSISTORS

Pin No.	Function	Pin No.	Function
1	segment "g" Anode	13	"F"
2	segment "f" Anode	14	"S"
3	segment "e" Anode	15	"S"
4	segment "d" Anode	16	"AM"
5	segment "c" Anode	17	decima
6	segment "b" Anode	18	"ME"
7	segment "a" Anode	19	digit
8	"MEMO" Anode	20	digit
9	decimal point Anode	21	digit
10	"kHz" Anode	22	digit
11	"AM" Anode	23	digit
12	"MHz" Anode		



	R	U, C	A, B	G		R	U, C
#1	PK101	PA00081		PA00085	#13	C303,304	220P
#2	CF101,102	SFE10.7 100-Z		SFE10.7 MS3GHY-Z	#14	C375-378	OPEN
#3	R116	OPEN		4.7K	#15	R303,304	150
#4	R117	2.2K		OPEN	#16	R102	OPEN
#5	T102	OPEN		GE20053	#17	R103	SHORT
#6	R123,124	47K		82K	#18	J235	OPEN SHORT
#7	C123,124	1500P		1000P	#19	J236	OPEN
#8	SW115	KA40169	OPEN		#20	F101	T4,0A250V 40A250V T
#9	R106	SHORT		100	#21	F102	T2,0A250V OPEN
#10	R391-394 397,398	SHORT		680	#22	C182	OPEN
#11	C317-324	OPEN		100 P	#23	R101	470
#12	C379	OPEN		1000P	#24	R147	12K
					#25	C117	⊙ 0.047
					#26	R171	22K
					#27	R399,400	SHORT
					#28	R425,426	OPEN
					#29	R427,428	SHORT

D109 ~ D120)

D [28 Pin]	E [27 Pin]	F [26 Pin]	G [25 Pin]	H [24 Pin]
D5 d	D5 e	D5 f	D5 g	
D4 d	D4 e	D4 f	D4 g	
D3 d	D3 e	D3 f	D3 g	FM DOT
D2 d	D2 e	D2 f	D2 g	P9-16 (D118)
		AUTO (D119)		P1-8 (D117)
P-4/12 (D112)	P-5/13 (D113)	P6/14 (D114)	P-7/15 (D115)	P-8/16 (D116)
AM	MHz	FM		

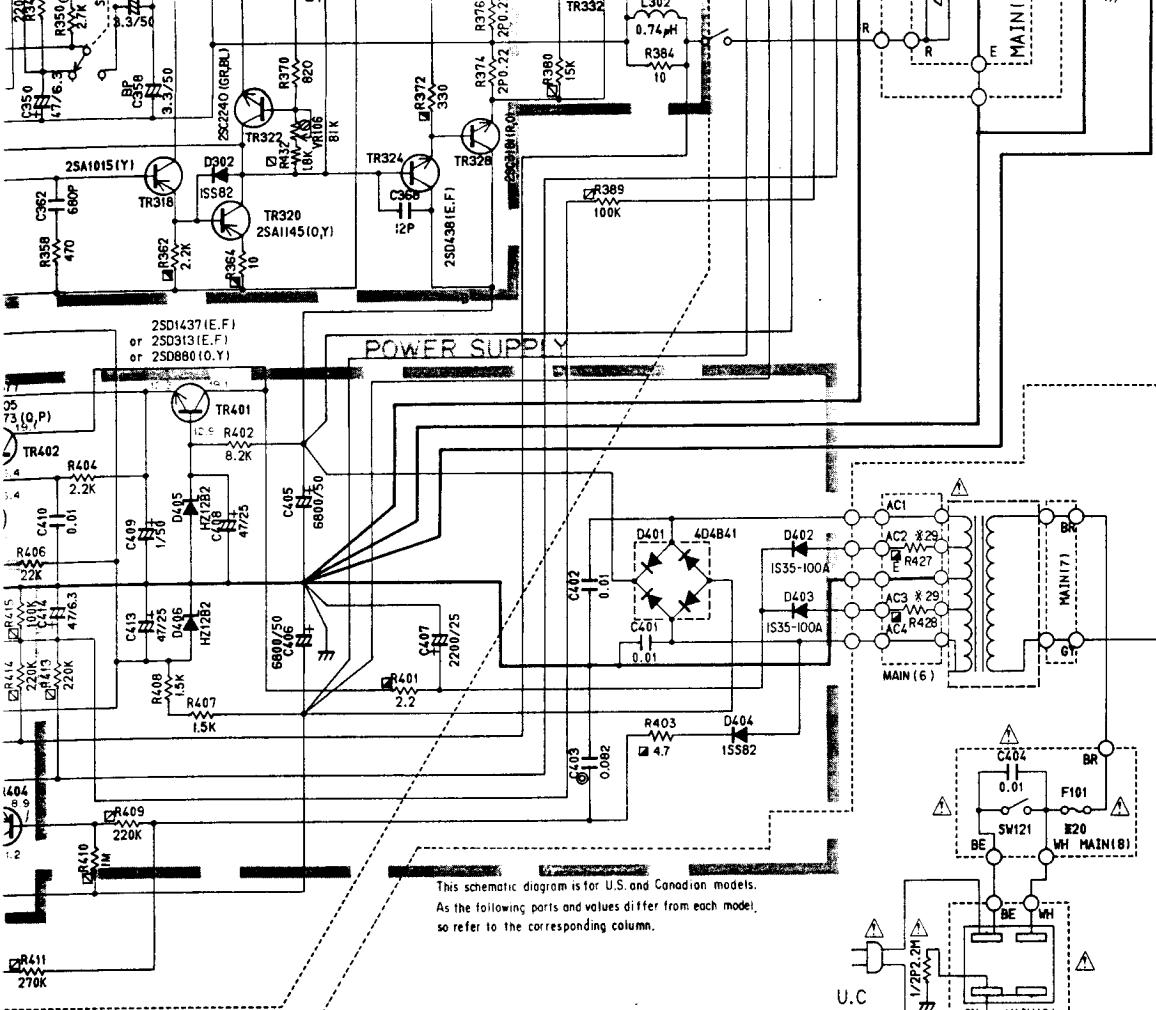
• MATRIX OF INPUT KEY

IC106 IC107	T1 [2 Pin]	T2 [15 Pin]	T3 [1 Pin]	T4 [6 Pin]	T5 [7 Pin]	T6 [4 Pin]
K1 [3 Pin]	P1/9	P5/13		UP	P1-8/ P9-16	
K2 [4 Pin]	P2/10	P6/14		DOWN	FM/AM	
K3 [5 Pin]	P3/11	P7/15	AUTO/ MAN'L			
K4 [6 Pin]	P4/12	P8/16	MEMORY			TEST (OFFSET)

• IC106 DA

TC [12 Pin]	TE [13 Pin]
0	0
0	0
0	1
0	1
1	0
1	0
1	1
1	1

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This schematic diagram is for U.S. and Canadian models. As the following parts and values differ from each model, so refer to the corresponding column.

R	U,C	A,B	G	R	U,C	A,B	G
PA00081			PA00085	#13	C303.304	220P	330P
SFE10.7			SFE10.7	#14	C375-378	OPEN	0.01B
MS3GHY-2			MS3GHY-2	#15	R303.304	150	2.2K
OPEN			4.7K	#16	R102	OPEN	1M
2.2K			OPEN	#17	R103	SHORT	100K
OPEN			GE20053	#18	J235	OPEN	SHORT
47K			82K	#19	J236	OPEN	SHORT
1500P			1000P	#20	F101	T4.0A250V	40A250V
			620/100	#21	F102	T2.0A250V	T1.6A250V
KA40169			OPEN	#22	C182	OPEN	10/16
SHORT			100	#23	R101	470	OPEN
SHORT			680	#24	R147	12K	47K
OPEN			100P	#25	C117	0.047	0.022
OPEN			1000P	#26	R171	22K	10K
				#27	R399,400	SHORT	1.5K
				#28	R425,426	OPEN	1
				#29	R427,428	SHORT	1

• IC106 DATA TABLE

F3 Pin	T4 [6 Pin]	T5 [7 Pin]	T6 [4 Pin]
	UP	P1-8/ P9-16	
	DOWN	FM/AM	
TO/ N'L			
MEMORY			TEST (OFFSET)

INPUT			OUTPUT						
TC [12 Pin]	TB [13 Pin]	TA [10 Pin]	T0 [14 Pin]	T1 [2 Pin]	T2 [15 Pin]	T3 [1 Pin]	T4 [6 Pin]	T5 [7 Pin]	T6 [4 Pin]
0	0	0	0	0	0	0	0	0	0
0	0	1	1	0	0	0	0	0	0
0	1	0	0	1	0	0	0	0	0
0	1	1	0	0	1	0	0	0	0
1	0	0	0	0	0	1	0	0	0
1	0	1	0	0	0	0	1	0	0
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1	1	1	0	0	0	0	0	0	1

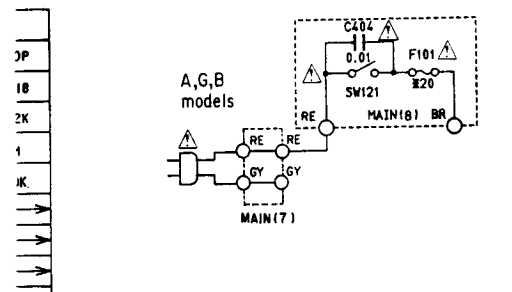
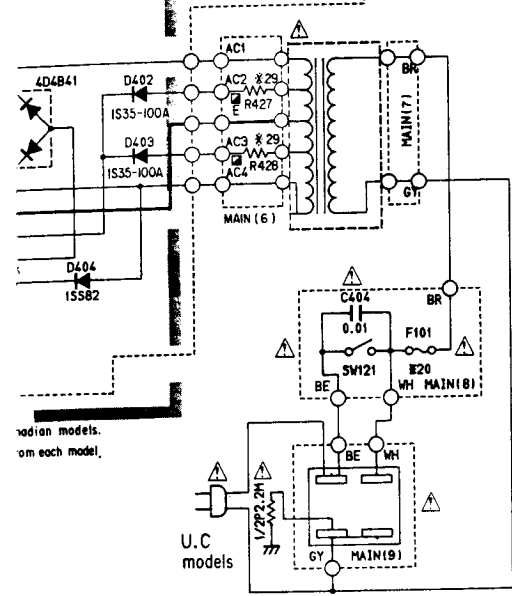
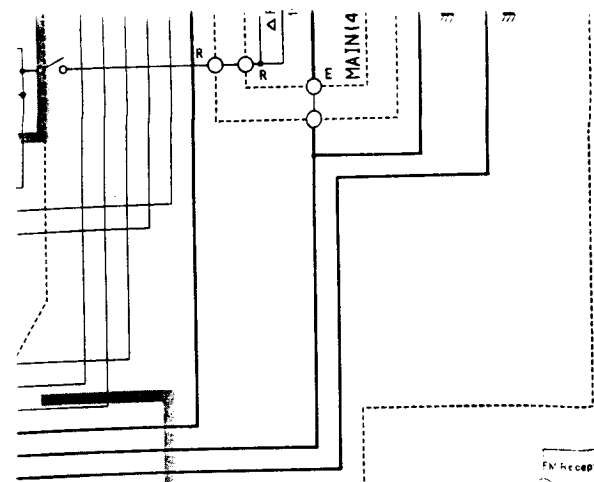
- All voltages me condition.
- The voltages ar detuned mode, reception mode
- Components ha with parts havi
- Schematic Diag

IC 107

FM Reception mode	Detuned mode	AM Rec
1 0	22 2.3	1 0
2 5.2	23 2.1	2 5.2
3 0	24 1.0	3 0
4 0	25 1.5	4 0
5 0	26 2.9	5 0
6 0.5	27 1.0	6 0.5
7 5.2	28 1.5	7 0
8 0	29 2.9	8 0
9 0	30 2.9	9 5.2
10 5.1	31 1.6	10 0
11 0	32 1.8	11 0.6
12 0.9	33 1.8	12 0.4
13 0.9	34 1.9	13 0.2
14 1.1	35 3.2	14 1.0
15 0	36 5.2	15 0
16 5.2	37 0	16 5.1
17 0	38 5.1	17 2.2
18 5.2	39 5.2	18 5.2
19 5.1	40 5.2	19 4.9
20 0	41 0	20 0
21 0	42 5.2	21 0

IC 109

FM Reception mode	Detuned mode	AM Rec
1 1.6	17 1.7	1 1.6
2 2.7	18 1.8	2 2.7
3 0	19 0	3 0
4 5.2	20 1.9	4 5.2
5 0	21 5.2	5 0
6 0.9	22 0	6 1.0
7 0	23 5.0	7 0.7
8 0	24 0.8	8 0.7
9 0	25 0.1	9 0.7
10 0	26 0.8	10 0.7
11 0	27 0	11 0.8
12 0	28 5.2	12 2.5
13 0	29 1.6	13 5.1
14 0	30 4.7	14 0
15 0	31 5.2	15 1.1
16 5.1	32 5.1	16 5.1
17 0	33 0	17 0.3
18 0	34 4.7	18 0
19 0	35 0	19 5.2
20 0	36 0	20 0
21 0	37 0	21 0
22 0	38 0	22 0
23 0	39 0	23 0
24 0	40 0	24 0
25 0	41 0	25 0
26 0	42 0	26 0
27 0	43 0	27 0
28 0	44 0	28 0
29 0	45 0	29 0
30 0	46 0	30 0
31 0	47 0	31 0
32 0	48 0	32 0
33 0	49 0	33 0
34 0	50 0	34 0
35 0	51 0	35 0
36 0	52 0	36 0
37 0	53 0	37 0
38 0	54 0	38 0
39 0	55 0	39 0
40 0	56 0	40 0
41 0	57 0	41 0
42 0	58 0	42 0
43 0	59 0	43 0
44 0	60 0	44 0
45 0	61 0	45 0
46 0	62 0	46 0
47 0	63 0	47 0
48 0	64 0	48 0
49 0	65 0	49 0
50 0	66 0	50 0
51 0	67 0	51 0
52 0	68 0	52 0
53 0	69 0	53 0
54 0	70 0	54 0
55 0	71 0	55 0
56 0	72 0	56 0
57 0	73 0	57 0
58 0	74 0	58 0
59 0	75 0	59 0
60 0	76 0	60 0
61 0	77 0	61 0
62 0	78 0	62 0
63 0	79 0	63 0
64 0	80 0	64 0
65 0	81 0	65 0
66 0	82 0	66 0
67 0	83 0	67 0
68 0	84 0	68 0
69 0	85 0	69 0
70 0	86 0	70 0
71 0	87 0	71 0
72 0	88 0	72 0
73 0	89 0	73 0
74 0	90 0	74 0
75 0	91 0	75 0
76 0	92 0	76 0
77 0	93 0	77 0
78 0	94 0	78 0
79 0	95 0	79 0
80 0	96 0	80 0
81 0	97 0	81 0
82 0	98 0	82 0
83 0	99 0	83 0
84 0	100 0	84 0



IC 107

FM Reception mode		Detuned mode		AM Reception mode			
1	0	22	2.3	1	0	22	2.3
2	5.1	23	2.1	2	5.2	23	2.1
3	0	24	1.0	3	0	24	0.5
4	0	25	1.5	4	0	25	1.0
5	0	26	2.9	5	0	26	3.0
6	0.5	27	1.0	6	0.5	27	1.0
7	5.1	28	1.5	7	5.1	28	1.5
8	2.9	29	3.5	8	2.9	29	3.6
9	2.9	30	1.5	9	2.9	30	3.0
10	1.6	31	1.5	10	0	31	1.0
11	1.8	32	1.8	11	0.6	32	1.8
12	0.9	33	1.8	12	0.4	33	1.9
13	1.9	34	1.8	13	0.2	34	1.9
14	5.2	35	0.9	14	1.0	35	5.2
15	5.2	36	5.2	15	0	36	0
16	5.2	37	0	16	5.2	37	5.2
17	0	38	5.1	17	2.2	38	5.1
18	5.2	39	5.2	18	5.2	39	5.2
19	5.1	40	5.2	19	4.9	40	5.2
20	0	41	0	20	0	41	0
21	0	42	5.1	21	0	42	5.1

IC 109

FM Reception mode		Detuned mode		AM Reception mode			
1	1.8	15	0	1	1.8	15	5.1
2	2.7	16	1.8	2	2.7	16	2.6
3	0	17	0	3	0	17	0.6
4	5.2	18	1.9	4	5.2	18	0.8
5	0	19	5.2	5	0	19	0
6	0.5	20	0	6	1.0	20	0
7	0.7	21	5.0	7	0.8	21	0
8	0.8	22	0.1	8	0.8	22	0.1
9	0.5	23	0	9	0.8	23	2.5
10	5.2	24	5.2	10	1.6	24	5.1
11	0	25	4.7	11	1.5	25	1.4
12	5.2	26	5.2	12	1.7	26	5.1
13	5.1	27	5.2	13	5.1	27	0.3
14	0	28	0	14	0	28	4.7

20

LC7210

LC6510C-695

2SA1115 (E, F)
2SA1310 (R, S, T)
2SA1145 (O, Y)
2SA1015 (Y)
2SC1815 (O, Y)
2SC2240 (GR, BL)
2SC2603 (E, F)
2SC3312 (R, S, T)

2SC3677
2SD1405
2SD1437 (E, F)
2SD313 (E, F)
2SD880 (O, Y)

2SB560 (E, F)
2SD438 (E, F)

4D4B41

1S2473
1S1555
HZ12B-2
HZ9C-3
1SS82
1SR35-100A

BLE

Pin	OUTPUT						
	T0 [14 Pin]	T1 [2 Pin]	T2 [15 Pin]	T3 [1 Pin]	T4 [6 Pin]	T5 [7 Pin]	T6 [4 Pin]
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0
0	0	1	0	0	0	0	0
0	0	0	1	0	0	0	0
0	0	0	0	1	0	0	0
0	0	0	0	0	1	0	0
0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	1

- All voltages measured with a 10MΩ/VDC electric volt meter, under no-signal condition.
- The voltages are measured at FM reception mode. The voltages () are at detuned mode, but the voltages at TR102 ~ TR104 and IC104 are at AM reception model.
- Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- Schematic Diagram is subject to change without notice.

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 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
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PARTS LIST

■ WARNING

Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

- Carbon resistors of this stereo receiver are 1/6W. There is no discription about them in this parts list. Use the "Part No." HF85○○○○ or equivalent.

R-5

■ ELECTRICAL PARTS

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
*	NA 08 69 40	Main Circuit Board	メ イ ン シ ー ト			R	
*	NA 08 69 60	"	"			U	
*	NA 08 69 70	"	"			C	
*	NA 08 69 80	"	"			A, B	
*	NA 08 70 00	"	"			G	
	FG 20 03 00	Ceramic Cap.	セ ラ コ ン	C339~342			
	FG 21 11 20	"	"	C165,367,368			
	FG 21 21 00	"	"	C161,162,173,174,369,370			
	FG 21 22 20	"	"	C331,332			
	FG 21 22 20	"	"	C303,304		R, U, C, A, B	
	FG 21 23 30	"	"	"		G	
	FG 21 23 30	"	"	C385,116			
	FG 21 21 00	"	"	C317~324		G	
	FG 21 26 80	"	"	C325,326,359~362			
	FG 21 31 00	"	"	C379		G	
	FG 21 31 00	"	"	C131,136,138,148			
	FG 24 41 00	"	"	C101~107,130,133~135,137,140,143,410,146,154,160,169,170,186,381,401,402			
	Fi 19 12 20	"	"	C176,177			
	Fi 41 41 00	"	"	C404			Δ
	Fi 19 21 00	"	"	C108,109			
	Fi 17 34 70	"	"	C163,164			
	FG 44 41 00	"	"	C132,151,155			
	FZ 00 35 80	Electrolytic Cap.	ス ー パ ー キ ャ パ シ ャ	C172	Inter-changeable		
	FZ 00 64 00	"	"	"			
	UA 25 32 70	Mylar Cap.	マ イ ラ ー コ ン	C351,352			
	UA 25 34 70	"	"	C156			
	UA 25 38 20	"	"	C127,128			
	UA 25 39 10	"	"	C309,310			
	UA 25 41 80	"	"	C375~378		G	
	UA 25 41 80	"	"	C343,344,353,354			
	UA 25 42 20	"	"	C327,328			
	UA 25 43 30	"	"	C311,312,371,372			
	UA 25 44 70	"	"	C115			
	UA 25 42 20	"	"	C117		G	
	UA 25 44 70	"	"	"		R, U, C, A, B	
	FA 15 48 20	"	"	C345,346,329,330,403			
	FG 21 31 00	Ceramic Cap.	セ ラ コ ン	C123,124		A, B	
	UA 25 31 50	Mylar Cap.	マ イ ラ ー コ ン	"		R, U, C	
	UT 45 26 20	Polypropylene Film Cap.	ポ リ プ ロ コ ン	"		G	
	UT 45 25 60	"	"	C149			
	FZ 00 39 40	Electrolytic Cap.	ブ ロ ッ ク ケ ミ コ ン	C405,406			
	Ui 91 84 70	"	超 小 型 ケ ミ コ ン	C110			
	UK 16 63 30	"	B P コ ン	C355~358,144			
	UK 16 54 70	"	"	C157			
	UL 46 61 00	"	ロ ー ノ イ ズ ケ ミ コ ン	C129			
	UL 46 62 20	"	"	C122			
	UW 91 74 70	"	ケ ミ コ ン	C337,338,349,350,412,414			
	UW 91 81 00	"	"	C307,308,415			
	UW 93 71 00	"	"	C182		G	
	UW 93 71 00	"	"	C112,118,121,142,147,150,152,153,159,171,179~181,185,187,374,411,111			
	UW 94 74 70	"	"	C315,316,363,364,408,413			
	UW 96 54 70	"	"	C114			
	UJ 16 61 00	"	"	C113,119,120,125,126,141,166,167,178,305,306,365,366,409,333,334			

* New Parts (新規部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
	UW:96:64:70	Electrolytic Cap.	4.7 μ F 50V	ケ ミ コ ン	C145,158,168,175,313,314, 335,336,387,388		
	UW:84:92:20	"	2200 μ F 25V	"	C407		
	UW:86:82:20	"	220 μ F 50V	"	C373		
	FY:00:01:90	Variable Cap.	5pF	ト リ マ ー コ ン	VC101		
	GD:90:06:80	Coil	0.74 μ H	空 芯 コ イ ル	L301,302		
	GE:90:06:90	"	8.2mH	固 定 コ イ ル	L104,105		
	GE:90:05:50	"	18mH	"	L101,102		
	GE:30:04:30	RF Inductor	220 μ H	R F イ ン ダ ク タ ー	L103		
	GE:10:02:80	Discri. Coil	FM	FMディスクリコイル	T101		
	GE:10:04:70	AM IFT Coil	AM	AM IFTコ イ ル	T103		
	GE:20:05:30	Anti-Birdie Filter	114kHz	ア ン チ バ ー デ ィ ー フ ィ ル タ ー	T102	G	
	GG:00:04:20	AM Ceramic Discriminator	CDA450A	AMセラミックディスクリ	CF104		
	GG:00:06:20	FM Ceramic Filter	SFE 10.7MS3GHY-Z	F M セ ラ ミ ッ ク フ ィ ル タ ー	CF101,102	G	
	GG:00:06:30	"	SFE 10.7MMH-Z	"	"	R,U,C,A,B	
	GG:00:06:60	AM Ceramic Filter	SFU 450B9	AMセラミックフィルタ	CF103		
	GG:00:07:40	Ceramic Resonator	CSB456F10	セ ラ ミ ッ ク 振 動 子	XL101		
	GG:00:07:60	"	CSB800K	"	XL102		
	QU:00:39:00	Quartz Crystal Unit	32kHz	水 晶 振 動 子	XL103		
	HJ:35:41:00	Carbon Resistor	10 Ω 1/4W	カ ー ボ ン 抵 抗	R383,384		
	HJ:35:42:20	"	22 Ω "	"	R239~245		
	HJ:35:52:20	"	220 Ω "	"	R107,109,111,151,152,180		
	HJ:35:52:70	"	270 Ω "	"	R420,421		
	HJ:35:54:70	"	470 Ω "	"	R331,332		
	HJ:35:56:80	"	680 Ω "	"	R140,351,352		
	HJ:35:58:20	"	820 Ω "	"	R369,370		
	HJ:35:61:20	"	1.2k Ω "	"	R422		
	HJ:35:61:00	"	1k Ω "	"	R423,162		
	HJ:35:61:50	"	1.5k Ω "	"	R133,407,408,163		
	HJ:35:62:20	"	2.2k Ω "	"	R339,340,353~356, 404		
	HJ:35:62:70	"	2.7k Ω "	"	R333,334,349,350		
	HJ:35:63:30	"	3.3k Ω "	"	R158,172,179		
	HJ:35:64:70	"	4.7k Ω "	"	R116	G	
	HJ:35:64:70	"	4.7k Ω "	"	R365,366		
	HJ:35:63:90	"	3.9k Ω "	"	R345,346,367,368		
	HJ:35:62:20	"	2.2k Ω "	"	R117	R,U,A,C,B	
	HJ:35:68:20	"	8.2k Ω "	"	R319,320,402		
	HJ:35:71:00	"	10k Ω "	"	R146,150,156,157,		
	HJ:35:72:20	"	22k Ω "	"	R118,141,144,330,406		
	HJ:35:72:70	"	27k Ω "	"	R317,318		
	HJ:35:73:90	"	39k Ω "	"	R341,342		
	HJ:35:74:70	"	47k Ω "	"	R120		
	HJ:35:75:60	"	56k Ω "	"	R359,360		
	HJ:35:78:20	"	82k Ω "	"	R227		
	HJ:35:71:80	"	18k Ω "	"	R321,322,343,344		
	HJ:35:81:00	"	100k Ω "	"	R122,183,198,199,206, 248,382		
	HJ:35:74:70	"	47k Ω "	"	R123,124	R,U,A,C,B	
	HJ:35:78:20	"	82k Ω "	"	"	G	

*New Parts (新規部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
	HJ 35:82:20	Carbon Resistor	220kΩ 1/4W	カーボン抵抗	R347,348		
	HJ 35:84:70	"	470kΩ "	"	R167		
	HJ 35:72:20	"	22kΩ "	"	R171	R,U,A,C,B	
	HJ 35:71:00	"	10kΩ "	"	"	G	
	HJ 35:91:00	"	1MΩ "	"	R102	G	
	HJ 35:91:00	"	1MΩ "	"	R204		
	HJ 35:71:20	"	12kΩ "	"	R147	R,U,A,C,B	
	HJ 35:74:70	"	47kΩ "	"	"	G	
	HL 71:52:20	Metal Oxide Film Resistor	220Ω 1W	酸金抵抗	R385,386		
	HL 32:22:20	"	0.22Ω 2W	"	R373~376		
	HV 45:32:20	Flame Proof Carbon Resistor	2.2Ω ERD25FV	不燃化カーボン抵抗	R401		
	HV 45:41:00	"	10Ω "	"	R363,364,387		
	HV 45:34:70	"	4.7Ω "	"	R403,429,430		
	HV 45:51:00	"	100Ω "	"	R106	G	
	HV 45:53:30	"	330Ω "	"	R371,372		
	HV 45:31:00	"	1Ω "	"	R425,426	G	
	HV 45:31:00	"	1Ω "	"	R427,428	U,C,A,B,G	
	HV 45:62:20	"	2.2kΩ "	"	R361,362		
※	HS 41:25:40	Potentiometer	100kY×2	可変抵抗器	VR104 VOL.		
※	HS 41:25:30	" (4-Ganged)	^{250kMN,300k†2×2} 100k†2×2,30k†2×2	"	VR103 LOAD BAL. TPE.BAS.		
	HT 37:03:70	Pre-Set Potentiometer	B5K	半固定抵抗	VR102		
	HT 37:04:20	"	B100K	"	VR101		
	HT 37:03:40	"	B1K	"	VR105,106		
	iA 11:15:10	Transistor	2SA1115 (E,F)	トランジスタ	TR102,107,108,111,114,116,118,119,121,122, 124,127,128,315,316,331,332,404~406	} Inter-changeable	
	iX 60:31:70	"	2SA1310 (R,S,T)	"	"		
	iA 11:45:00	"	2SA1145 (φ,Y)	"	TR319,320		
	iA 10:15:20	"	2SA1015 (Y)	"	TR317,318,407		
	iC 18:15:20	"	2SC1815 (Y)	"	TR321,322		
	iC 22:40:00	"	2SC2240 (GR,BL)	"	TR311~314		
	iC 26:03:10	"	2SC2603 (E,F)	"	TR101,103~106,109,110,112,113,115, 117,120,123,125,126,129,333,403	} Inter-changeable	
	iX 60:31:80	"	2SC3312(R,S,T)	"	"		
※	iC 36:77:00	"	2SC3677	"	TR402	} Inter-changeable	
※	iD 14:05:00	"	2SD1405	"	"		
	iD 14:37:00	"	2SD1437 (E,F)	"	TR401	} Inter-changeable	
	iD 03:13:00	"	2SD313 (E,F)	"	"		
	iD 08:80:20	"	2SD880 (φ,Y)	"	"		
	iB 05:60:10	"	2SB560 (E,F)	"	TR325,326		
	iD 04:38:10	"	2SD438 (E,F)	"	TR323,324		
	iF 00:06:70	Diode	IS2473	ダイオード	D101~108,125~132, 407	} Inter-changeable	
	iF 00:00:40	"	IS1555	"	"		
	iF 00:14:00	"	ISS82	"	D301,302,304		
	iH 00:14:30	"	ISR35-100	"	D402,403		
	iF 00:35:50	Zener Diode	HZ12-B-2	ツェナーダイオード	D405,406		
	iF 00:33:20	"	HZ9C-3	"	D133		
	iH 00:08:70	Diode	4D4B41	ダイオードブリッジ	D401		
※	iF 00:87:30	LED (Red)	SLR-34URC3H	L E D	D109~120		
※	iF 00:87:40	" (Green)	SLR-34MC3H	"	D121~124,134		
※	iF 00:82:90	Frequency Display		周波数表示器	D135		
	iG 03:45:00	IC	UPC577H	I C	IC101,102		

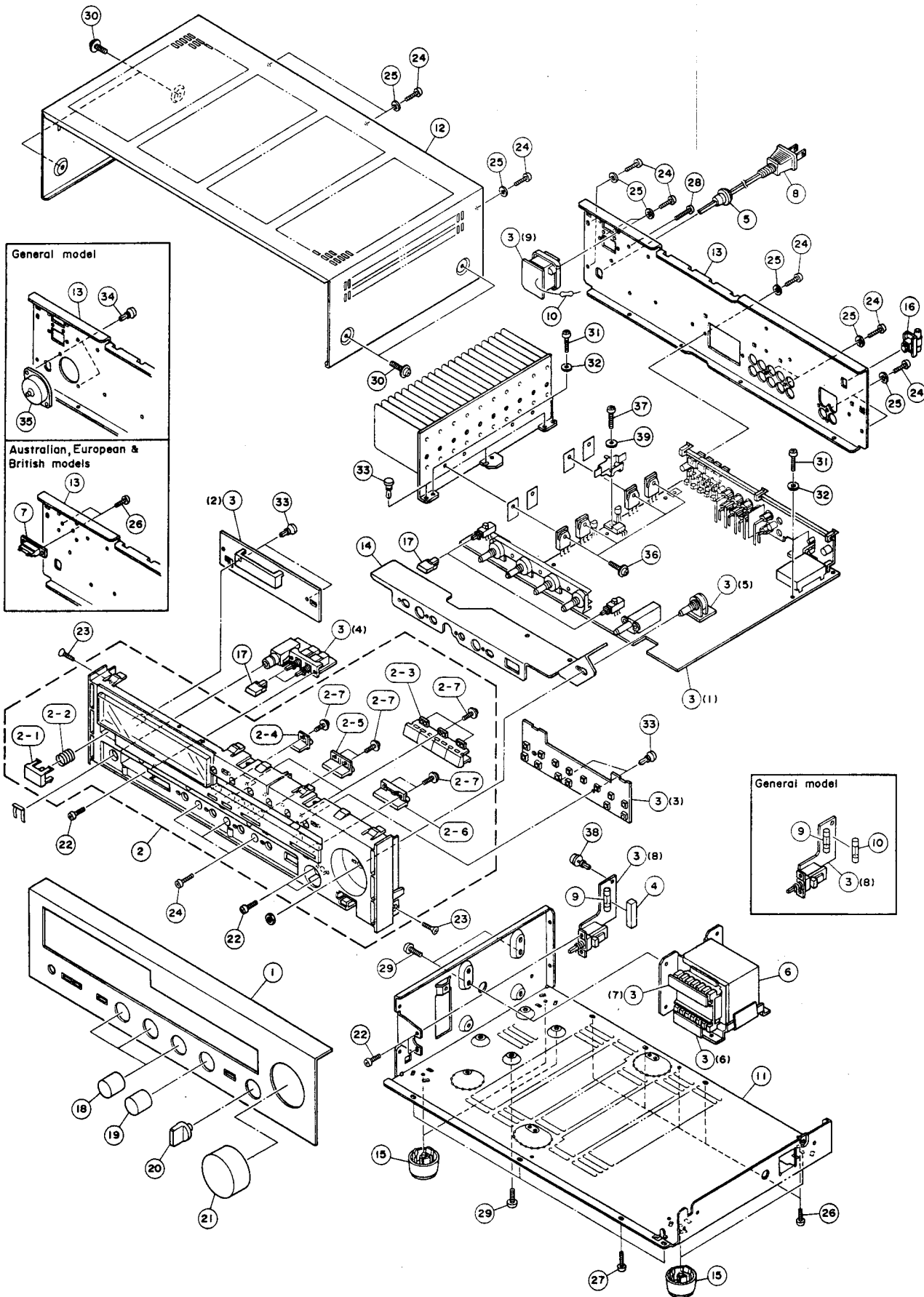
※ New Parts (新規部品)

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Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
	iG 03:47:00	IC	AN6551	I C	IC103		
	iG 07:68:00	"	NJM4558S	"	"	Inter-changeable	
	iG 13:22:00	"	BA715	"	"		
	iG 03:55:00	"	TC4028BP	"	IC106		Inter-changeable
	iG 14:87:00	"	BU4028B	"	"		
	iG 04:14:00	"	M54459L	"	IC109		
	iG 04:78:00	"	LA1245	"	IC104		
	iG 04:91:00	"	LC7210	"	IC108		
	iG 08:02:00	"	NJM2043S	"	IC301	Inter-changeable	
	iG 08:52:00	"	AN6557	"	"		
	iG 09:20:00	"	M5220L	"	"		
	iG 11:71:00	"	M54526P	"	IC113	Inter-changeable	
	iG 14:54:00	"	LB1234	"	"		
	iG 14:72:00	"	BA12004	"	"		
	iG 13:20:00	"	BA618	"	IC110		
	iG 14:25:00	"	LA3400	"	IC105		
	iG 14:67:00	"	LB1413	"	IC112		
	iG 14:77:00	"	LC6510C-695	"	IC107		
	KA 40:16:90	Slide Switch		スライドスイッチ	SW115		R
	KA 50:20:80	Rotary Switch	SRZ-2 4-4NS	ロータリースイッチ	SW116		
	KA 80:37:90	Push Switch		プッシュスイッチ	SW118		
	KA 80:51:10	"	SUN 2-2NS	"	SW117		
	KA 80:51:20	"	SUN 2-2S	"	SW120		
	KA 80:32:10	"	SDL 1P	"	SW121		
	KA 90:63:80	"	EVQ-QRB-04M	ライトタッチスイッチ	SW101~114		
	KC 00:19:40	Relay	DH2TU24VDC	リ レ -	RY401	Inter-changeable	
	KC 00:20:00	"	JR2a-DC24V	"	"		
	LB 30:17:20	Jack, Head Phone		ホーンジャック	JK101		
	NA 08:78:30	Coil Pack	AM	A M コイルパック	U101		
	PA 00:08:10	FM Front End Pack	FE343U	FMフロントエンドパック	PK101		R,U,C,A,B
	PA 00:08:50	"	BFE446U16	"	"		G
	iX 60:35:60	Transistor	2SA1264 (O,R)	トランジスタ	TR329,330		
	iX 60:35:70	"	2SC3181 (O,R)	"	TR327,328		
	iL 00:05:70	Insulation Washer	MT-100	マイカベース			
	BA 09:22:70	Heat Sink		放 熱 板			
	EZ 00:13:50	Cup Screw	3×14FCM3-BI	カップスクリュー			
	LA 00:54:90	Terminal	834T-1100	ボードインタイ			R
	LB 20:14:80	Voltage Selector		電 圧 切 換 器			R
	LB 40:14:50	AC Outlet		A C アウトレット			R,U
	LB 40:14:60	"		"			C
	LB 20:13:90	Base Pin	B2P-SHF TE Type	2.5 ピッチベースピン			
	LB 20:18:80	Pin, Fuse Holder	PC-FHI	ヒューズホルダーピン			
	NB 62:58:50	Terminal Unit		ターミナルユニット			R,U,C,A,B
	NB 62:58:60	"		"			G
	BB 06:83:70	Metal, Earth		アース金具			
	BB 07:09:10	TR Pusher		T R プッシャー			
	CB 60:56:20	Plastic Rivet		プラスチックリベット			

* New Parts (新規部品)

EXPLODED VIEW



MECHANISM PARTS

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
* 1	NB 62 57 40	Panel Unit	パネルユニット	Silver			
* "	NB 62 57 50	"	"	Black			
* 2	NB 62 57 60	Sub Chassis Unit	サブシャーシユニット	Silver			
* "	NB 62 57 70	"	"	Black			
2-1	CB 63 51 20	Button	ボ タ ン	POWER Silver	A-520		
"	CB 63 51 30	"	"	" Black	A-520		
2-2	AA 61 78 80	Spring	ス プ リ ン グ				
2-3	CB 63 99 00	Button, Push	4P ボタンプッシュ	P1~P8 Silver	R-3		
"	CB 63 99 10	"	"	" Black	R-3		
2-4	CB 63 99 20	"	1P	MEMORY Silver	R-3		
"	CB 63 99 30	"	"	" Black	R-3		
2-5	CB 63 99 40	"	2P	TUNING MODE Silver	R-3		
"	CB 63 99 50	"	"	" Black	R-3		
2-6	CB 63 99 60	Button, Seesaw	ボ タ ン シ ー ソ ー	TUNING Silver	R-3		
"	CB 63 99 70	"	"	" Black	R-3		
* 2-7	EX 60 02 00	Cup Screw	2x6 FCM3-BI カップスクリュー				
* 3	NA 08 69 40	Main Circuit Board	メ イン シ ー ト			R	
* "	NA 08 69 60	"	"			U	
* "	NA 08 69 70	"	"			C	
* "	NA 08 69 80	"	"			A, B	
* "	NA 08 70 00	"	"			G	
4	CB 09 95 80	Fuse Holder	SB-0664U ヒューズホルダー			LA	
5	CB 61 68 10	Cord Stopper	CM-22A コードストッパー	} Inter-changeable		U	
"	CB 62 01 90	"	CM-22B			R, A, G, B	
"	CB 62 02 00	"	CM-22C			C	
* 6	GA 68 85 00	Power Transformer	電 源 ト ラ ン ス	} Inter-changeable		U	△
* "	GA 68 86 00	"	"			C	△
* "	GA 68 87 00	"	"			R	△
* "	GA 68 88 00	"	"			G	△
* "	GA 68 89 00	"	"			A, B	△
7	LA 00 29 50	Terminal Board	2P 中 継 端 子 台			A, G, B	
8	MG 00 08 40	Power Cord	10A125V 2 m 電 源 コ ー ド	} Inter-changeable		U	△
"	MG 00 12 40	"	10A125V 2 m			U	△
"	MG 00 09 20	"	7.5A250V 2.5m	} Inter-changeable		A	△
"	MG 00 14 90	"	7.5A250V 2.5m			A	△
"	MG 00 09 60	"	2.5A250V 2 m	} Inter-changeable		G	△
"	MG 00 16 20	"	2.5A250V 2 m			G	△
"	MG 00 18 60	"	2.5A250V 2 m			B	△
"	MG 00 16 30	"	6A250V 2 m		R	△	
"	MG 00 22 20	"	10A250V 1.98m		R-3	C	△
9	KB 00 03 80	Fuse	T4.0A 250V ヒ ュ ー ズ			R	△
"	KB 00 07 40	"	T1.6A 250V			A, G, B	△
"	KB 00 25 70	"	4.0A 250V			U, C	△
"	KB 00 03 50	"	T2.0A 250V			R	△
10	HG 30 92 20	Carbon Resistor	2.2MΩ 1/2W カ ー ボ ン 抵 抗			U, C	
11	AA 62 55 00	Chassis	シ ャ ー シ		R-3		
12	AA 62 55 10	Top Cover	ト ッ プ カ バ ー	Silver	R-3		
"	AA 62 55 20	"	"	Black	R-3		
* 13	AA 62 55 80	Rear Panel	リ ア パ ネ ル			R	
* "	AA 62 55 90	"	"			U, C	
* "	AA 62 56 00	"	"			G	
* "	AA 62 56 10	"	"			A, B	
14	AA 62 56 30	Plate, Shield	シ ー ル ド プ レ ー ト		R-3		

* New Parts (新規部品)

For Service Manuals Contact
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 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel:- 01844-351694 Fax:- 01844-352554
 Email:- enquiries@mauritron.co.uk

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets	ランク
15	CB 62:07:30	Leg		トランレック			
16	CB 60:74:70	Holder, Antenna		アンテナホルダー			
17	CB 63:42:40	Button, Push		ブッシュボタン	TAPE MONITOR Silver	A-520	
"	CB 63:42:30	"		"	" Black	A-520	
18	CB 63:82:30	Knob		ツ マ ミ	BASS/TREBLE BALANCE Silver	A-520	
"	CB 63:82:40	"		"	" Black	A-520	
19	CB 63:82:50	"		"	LOUDNESS Silver	R-3	
"	CB 63:82:60	"		"	" Black	R-3	
20	CB 63:82:70	"		"	INPUT Silver	A-520	
"	CB 63:82:80	"		"	" Black	A-520	
21	BA 09:28:60	"		"	VOLUME Silver	R-3	
"	BA 09:28:70	"		"	" Black	R-3	
22	ED 33:00:66	Binding Head Screw	3×6 FCM3-BI	バインド小ネジ	PACK		
23	EO 33:00:86	Flat Head Tapping Screw	3×8 FCM3-BI	皿タッピングネジ	PACK		
24	Ei 33:00:86	Binding Head Tapping Screw	3×8 FCM3-BI	バインドタッピングネジ	PACK		
25	EV 41:30:36	Toothed Locked Washer	φ3 FCM3-BI	歯付座金	PACK		
26	Ei 03:00:66	Binding Head Tapping Screw	3×6 ZMC2-Y	バインドタッピングネジ	PACK		
27	Ei 33:01:06	"	3×10 ZMC2-Y	"	PACK		
28	Ei 13:01:20	"	3×12 FNM3-3g	"		U,C	
29	Ei 34:00:86	"	4×8 FCM3-BI	"	PACK		
30	EK 13:00:20	BW Head Screw	4×8 FNM3-3g	ブレザー小ネジ	Silver		
"	EK 36:50:40	"	4×8 FCM3-BI	"	Black		
31	Ei 13:00:86	Binding Head Tapping Screw	3×8 FNM3-3g	バインドタッピングネジ	PACK		
32	EV 20:10:36	Plain Washer	φ3 FNM3-3g	平座金	PACK		
33	CB 60:56:20	Plastic Rivet		プラスチックリベット			
34	CB 06:88:80	"		"		R	
35	LB 20:14:80	Voltage Selector		電圧切換器		R	
36	EZ 00:13:50	Cup Screw	3×14FCRM3-BI	カップスクリュー			
37	EJ 33:01:06	Pan Head Tapping Screw	3×10FCRM3-BI	ナベタッピングネジ	PACK		
38	CB 09:80:00	Holder, Board		シートホルダー			
39	EV 20:30:36	Plain Washer	φ3 FCRM3-BI	平座金	PACK		
	CB 06:92:50	Binding Tie	BK-1	インシュロックタイ			
		Accessories		付 属 品			
	Mi 06:44:00	FM Q matching Antenna	FM	FMQマッチアンテナ			
	Mi 08:29:10	Loop Antenna	AM	ループアンテナ			
	LB 60:59:30	Matching Transformer	FM(300Ω→75Ω)	整合器		G	

*New Parts (新規部品)