

SERVICE MANUAL



MODEL 4VR-5456

FM/AM 4CHANNEL STEREO RECEIVER WITH CD-4 DEMODULATOR

DIMENSIONS : H-7-1/8", W-20", D-15-7/8" WEIGHT : 44lbs.
(18cm) (50.8cm) (40.5cm)

SPECIFICATIONS

POWER AMPLIFIER SECTION

Circuit	: Pure Complementary O.C.L.
Total Dynamic Power	: 280W at 8Ω, 400W at 4Ω
RMS Power (1kHz)	
All Channel Driven	: at 8Ω 180W (45W x 4) at 4Ω 232W (58W x 4)
BTL	: at 8Ω 220W (110W x 2)
IHF Power Bandwidth	: 20Hz~30kHz
RMS Power	
All Channel Driven	:
20~20kHz Power	
Bandwidth	: at 8Ω 42W/CH. at 4Ω 48W/CH.
Total Harmonic Distortion	
(at Rated Output)	: Input Aux 0.5%
Intermodulation Distortion	
(at Rated Output)	: Input Aux 0.8%
Frequency Response	: Input Aux 10Hz to 50kHz ± 1dB
Load Impedance	: 4~16Ω, (BTL, 4Ch 1+2) 8~16Ω
Damping Factor	: 40 at 8Ω

PREAMPLIFIER SECTION

Circuit	: Direct Coupled Amplifier
Signal to Noise Ratio	: Phono (Low) 70dB Phono (High) 65dB Aux-1 75dB Aux-2 75dB Tape Play 75dB
Input Sensitivity for Rate Power	: Phono (Low) 3.0mV Phono (High) 1.5mV Aux-1 (4ch) 150mV Aux-2 (4ch) 150mV Tape Moni. (DIN-2ch) 200mV Tape Moni. (Pin-4ch) 150mV Tape Rec. (DIN-2ch) 30mV Tape Rec. (Pin-4ch) 200mV
Recording Output	: Tape Rec. (DIN-2ch) 30mV Tape Rec. (Pin-4ch) 200mV
SEA Center Frequency (Front, Rear)	: 40, 250, 1k, 5k, 15kHz

SEA Control Range (Front, Rear)	: ±12dB
Loudness Control	: +11dB at 50Hz + 6dB at 10kHz
Low Cut Filter	: -10dB at 50Hz
High Cut Filter	: -10dB at 10kHz
Crosstalk	: 50dB at 1kHz

FM TUNER SECTION

Tuning Range	: 88MHz to 108MHz
Usable Sensitivity	: 1.8μV (IHF)
Total Harmonic Distortion (at 40Hz, 100% Mod.)	: Mono 0.3% Stereo 0.4%
Signal to Noise Ratio	: 65dB
Selectivity	: 65dB (IHF)
Capture Ratio	: 1.2dB (IHF)
Image Rejection	: 80dB
IF Rejection	: 90dB
Spurious Signal Rejection	: 85dB
Stereo Separation	: 38dB
AM Suppression	: 50dB
Sub Carrier Suppression	: 50dB
SCA Carrier Suppression	: 55dB
Stereo Auto Switching Level	: 10μV
Muting Level	: 10μV
Frequency Response	: 20Hz to 15kHz ±1dB
Antenna Input Impedance	: 300Ω Balanced, 75Ω Unbalanced
Inter Station Muting	: Yes
FM Detector	
Output Voltage (at 400Hz, 100% Mod.)	: 130mV
Output Impedance	: 80kΩ
IF Stage	: 3IC, 6 Element Mechanical Filters
Front End	: 4 Gang, 1FET

MW TUNER SECTION

Tuning Range	: 525 kHz to 1605kHz
Usable Sensitivity	: $30\mu\text{V}$, $200\mu\text{V/m}$
Signal to Noise Ratio	: 50dB
Selectivity	: 30dB
Image Rejection	: 45dB
IF Rejection	: 50dB
Antenna	: Built-in Ferrite Core Antenna
Front End	: 2 Gang
IF Stage	: 1 Mechanical Filter

FRONT PANEL ATTACHMENTS

Power Switch	: Lever Switch
Function Selector	: AM, FM, Phono (CD-4), Aux-1, Aux-2
Audio Muting	: Yes (-20dB)
FM Muting	: Yes
Loudness	: Yes
Low Cut Filter	: Yes
High Cut Filter	: Yes
Tape Monitor	: Yes (1,2)
Mono	: Mode Switch
Volume Control	: Yes
Mode	: Mono, 2Ch, Discrete 4Ch, Matrix-1, Matrix-2
SEA Slide Controls	: Yes (Front, Rear)
SEA Recording Switch	: Yes
Speaker Selector	: BTL 1+2, BTL-2, BTL-1, Off, 4Ch-1, 4Ch-2, 4Ch 1 + 2
Balance Control	: Yes (4-Independent)
Signal Meter	: Yes
Center Tuning Meter	: Yes
FM Stereo Only Switch	: Yes

Mode Indicator	: Yes (Mono, 2Ch Discrete 4Ch Matrix-1, Matrix-2)
Source Indicator	: Yes (AM, FM, Phono, Aux-1, Aux-2)
CD-4 Indicator	: Yes
Jacks	
Head Phono Jack	: Yes (Front, Rear)
Tape Monitor Jack	: Yes
Remote Control Jack	: Yes

REAR PANEL TERMINAL & CONTROLS

FM Antenna Terminal	: Yes (300Ω , 75Ω)
AM Antenna Terminal	: Yes
Speaker Terminals	: System-1, System-2, (One Touch Type)
FM Det Out	: Yes
AC Outlet	: Yes (Switched, Unswitched)
DIN Jack	: Yes
Input Terminals (2CH)	: Phono
(4CH)	: Aux-1, Aux-2, Tape-1 Tape-2 FM 4Ch input
CD-4 Separation Control	
Volume	: Yes
CD-4.30kHz Level Adjust	: Yes
Phono Sensitivity Switch	: High, Low
FM 4Ch Input Switch	: Yes
FM INT Antenna Switch	: Yes
4Ch Scope Out Terminals	: Yes

REMOVAL OF THE TOP COVER AND BOTTOM PLATE

1. Remove 4 screws through the Both Sides of the top cover.
2. Remove the top cover.
3. Remove screws from Bottom plate and remove the bottom plate from the chassis.

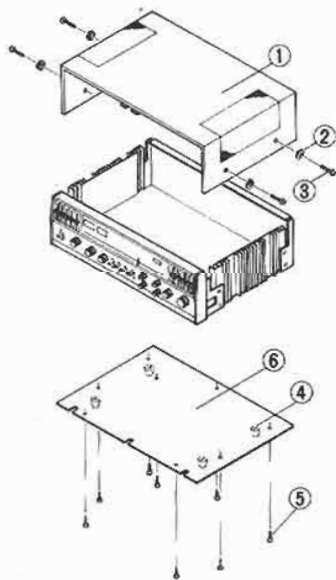


Fig. 1

Dwg. No.	Parts No.	Parts Name
1	DL-ED92383	Wooden Case
2	E48193-001	Washer
3	SDSP4020RS	Screw
4	E48599-001	Foot
5	SDSB4010N	Tapping Screw
6	E21316-001	Bottom Plate

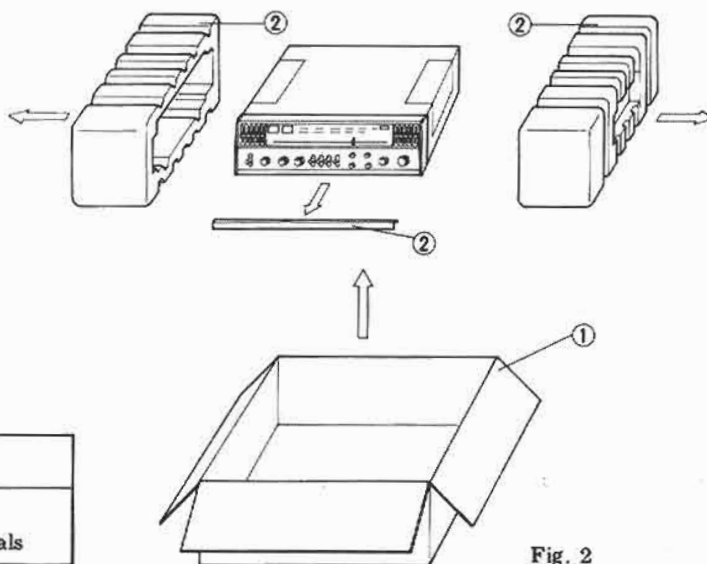


Fig. 2

FINAL PACKING ASS'Y

Dwg. No.	Parts No.	Parts Name
1	4VR-5456-PK	Carton Case
2	4VR-5456-NZ	Packing Materials

MAIN PARTS ARRANGEMENT

TOP VIEW

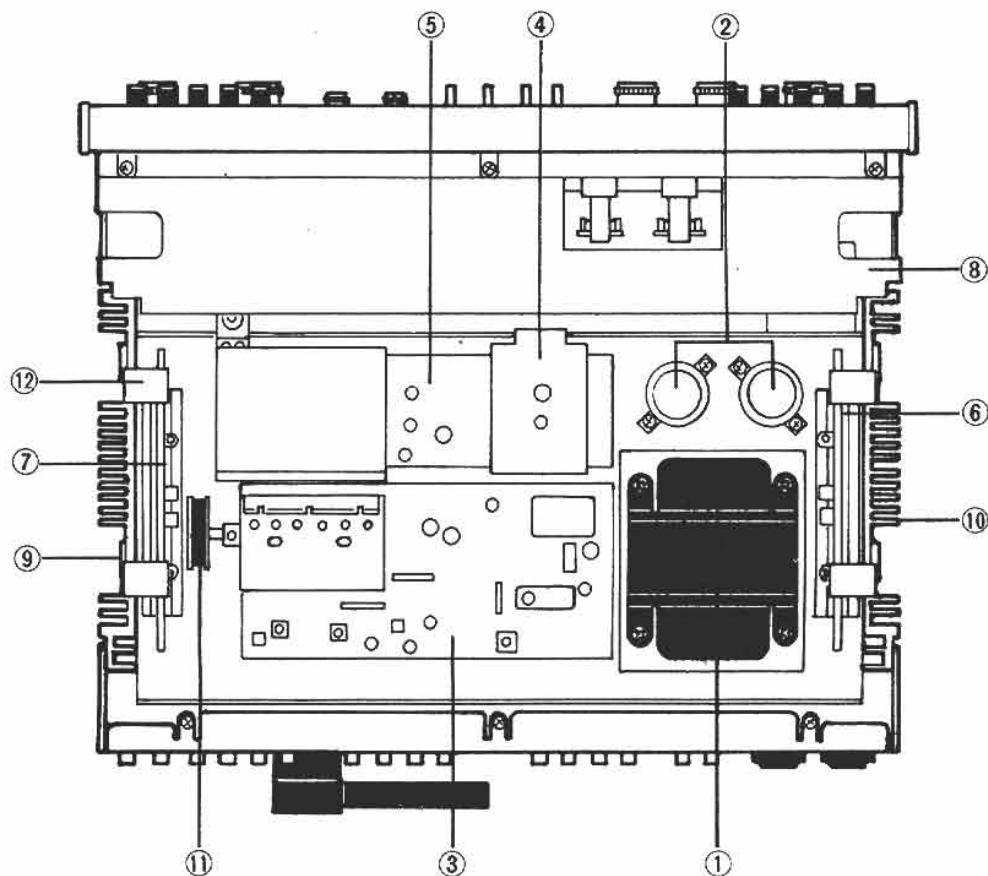


Fig. 3

Dwg. No.	Parts No.	Parts Name	
1	E03077-16B	Power Trans	15000 μ /50WV
2	QEY5008-121	E. Capacitor	
3	TFM905GUA-1	FM/AM Stereo Tuner Ass'y	CH-1, CH-2 CH-3, CH-4
4	TAC-309	MTX. CD-4 Auto Select SW. C.B.	
5	TAE-84	Equalizer MTX. C.B. Ass'y	
6	TAD-140A	Driver Amp. C.B. Ass'y	
7	TAD-140B	Driver Amp. C.B. Ass'y	
8	E21479-001	Wire Cover	
9	2SC1030C or B	Power Transistor	
10	E21360-001	Heat Sink	
11	E33543-001	Dial Drum Ass'y	
12	E48627-001	C.B. Stopper	

BOTTOM VIEW

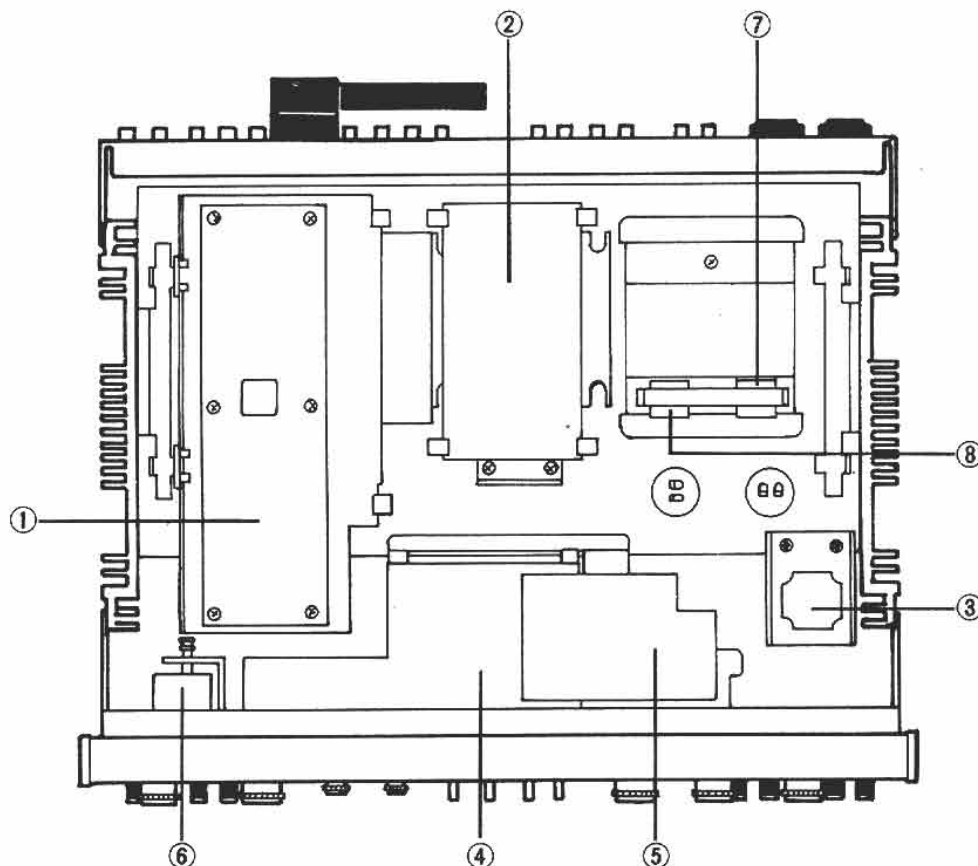


Fig. 4

Dwg. No.	Parts No.	Parts Name	
1	TDM-13A	CD-4 Demodulator C.B. Ass'y	Forward Reverse
2	TAP-206	Power Supply C.B. Ass'y	
3	TAC-310	Relay C.B. Ass'y	
4	TAC-307	Control SEA Amp. C.B. Ass'y	
5	TAC-308	Tape Monitor C.B. Ass'y	
6	E33510-002	Tuning Shaft Ass'y	
7	ESAC02-03C	Si. Diode	
8	ESAC02-03N	Si. Diode	

HOW TO FIT THE DIAL CORD

1. Set the variable capacitor on maximum capacity.
2. Be sure dial drum is firmly fixed to the shaft.
3. Fit the dial cord in accordance with arrow marks.
4. Wind the cord around the tuning shaft 3 turns and dial drum 3 turns.
5. Place the pointer on the rail and fix to the dial cord.

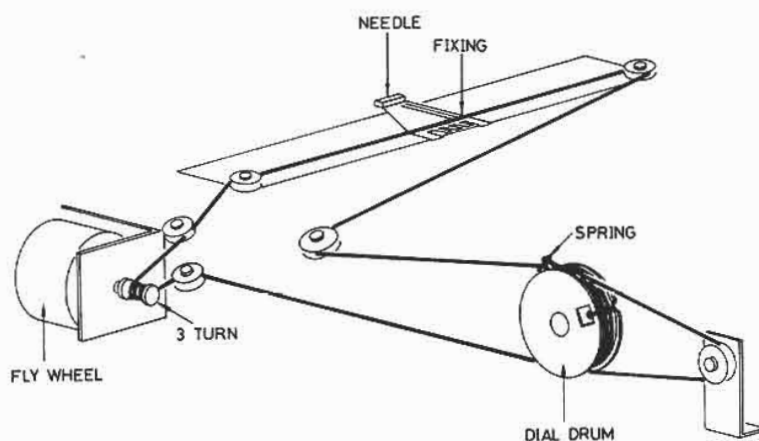


Fig. 5

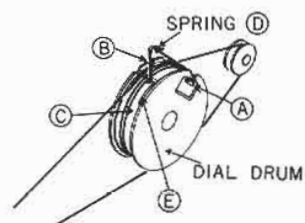


Fig. 6

Wiring Procedure

1. Hook the start of the wire onto (A).
2. Lead the wire to the truck on the drum through (B).
3. Turn once along the drum and lead the wire to the needle.
4. Wind the wire from tuning shaft to the drum by way of (C).
5. After two winds of the wire to the drum, tie the wire to the spring (D).
6. Set the spring (D) onto the ditch (E) to complete the wiring.

POWER TRANSFORMER VOLTAGE & WIRE COLOR

POWER TRANS VOLTAGE

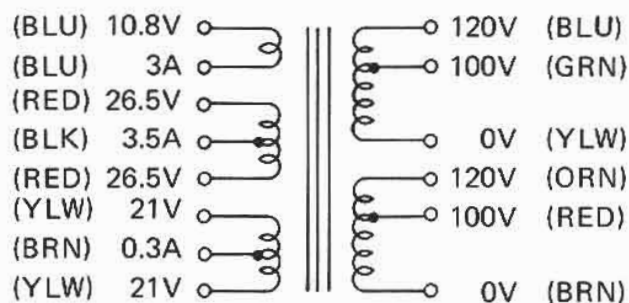


Fig. 7

REMOVAL OF THE POWER AMPLIFIER CIRCUIT BOARD and POWER TRANSISTOR

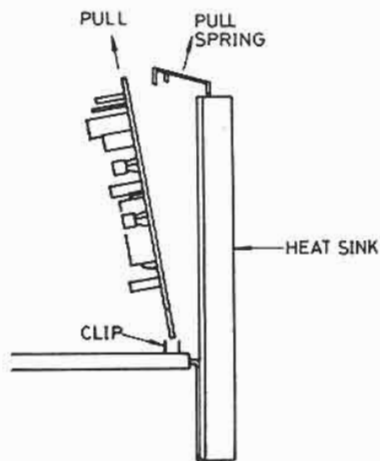


Fig. 8

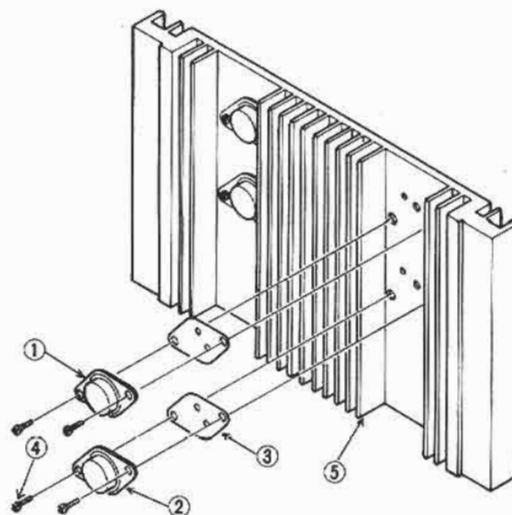


Fig. 9

Dwg. No.	Parts No.	Parts Name
1	2SC1030C or B	Power Transistor
2	2SA757C or B	" "
3	E41542-2	Insulator Film
4	SPSP3012NS	Screw
5	E21360-001	Heat Sink

HOW TO REPAIR, CHECK THE CD-4 CIRCUIT BOARD ASS'Y

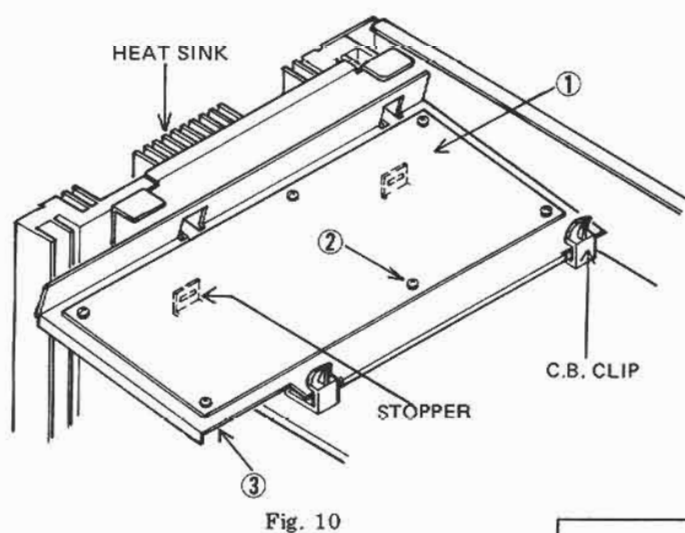


Fig. 10

Dwg. No.	Parts No.	Parts Name
1	TDM-13A	CD-4 C.B. Ass'y
2	SDSB3008N	Tapping Screw
3	E33466-001	Circuit Board Bracket

USED TRANSISTORS IC & DIODES

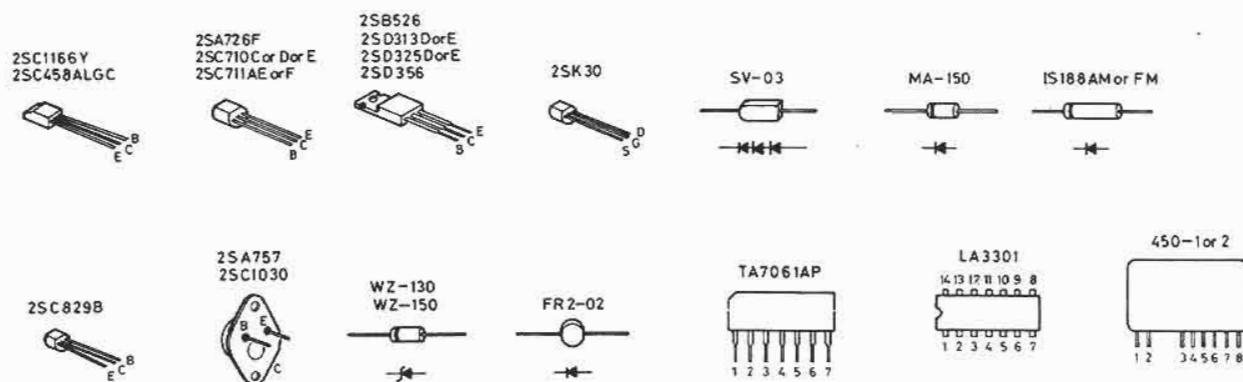


Fig. 11

TUNER ALIGNMENT

BEFORE ADJUSTMENT

1. Tuning dial is set to the proper point corresponding to no radio station.
2. Connecting the RF generator to antenna terminal use the antenna refer to figure.
3. Use the insulated screw-driver adjusting the IFT.

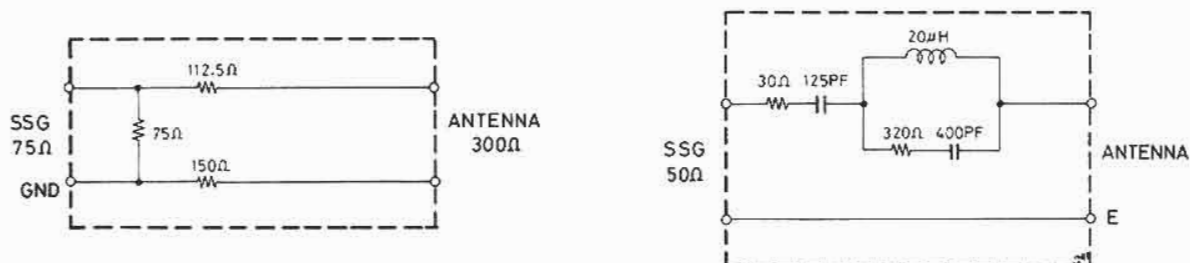


Fig. 12

AM ALIGNMENT

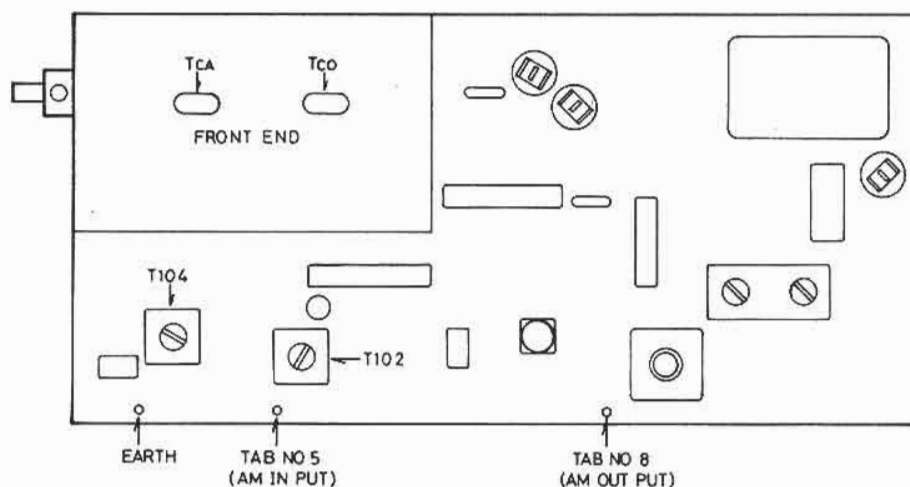


Fig. 13

ADJUSTING IF STAGE

1. Connect the output of sweep generator set to 455kHz to the AM input (TAB No 5) of Tuner Circuit Board Ass'y (TFM-905GUA).
2. Connect the input of Sweep generator to the AM out (TAB No. 8).
3. Adjust the core of IFT T102 so that output is at max and symmetry wave form as figure 14.

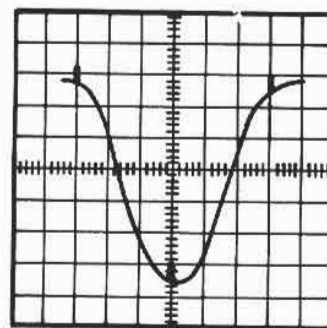


Fig. 14

ADJUSTING TRACKING & SENSITIVITY

LOW FREQUENCY

1. Connect the RF generator set to 600kHz modulation of 30% at 400Hz to the antenna terminal on the rear panel.
2. Connect VTVM to REC jack or speaker terminals.
3. Set dial pointer to 600kHz on the dial calibrations.
4. Adjust the OSC trans T104 and ferrit bar antenna so that output signal is at max.

HIGH FREQUENCY

1. Connect the RF generator set to 1400kHz modulation of 30% at 400Hz to antenna terminal on the rear panel.
 2. Connect VTVM to REC jack or speaker terminals.
 3. Set dial pointer to 1400kHz on the dial calibrations.
 4. Adjust trimmer TCO and TCA on the AM FRONT END so that output signal is at max.
- *Repeat above steps as necessary to obtain maximum sensitivity.

FM ALIGNMENT

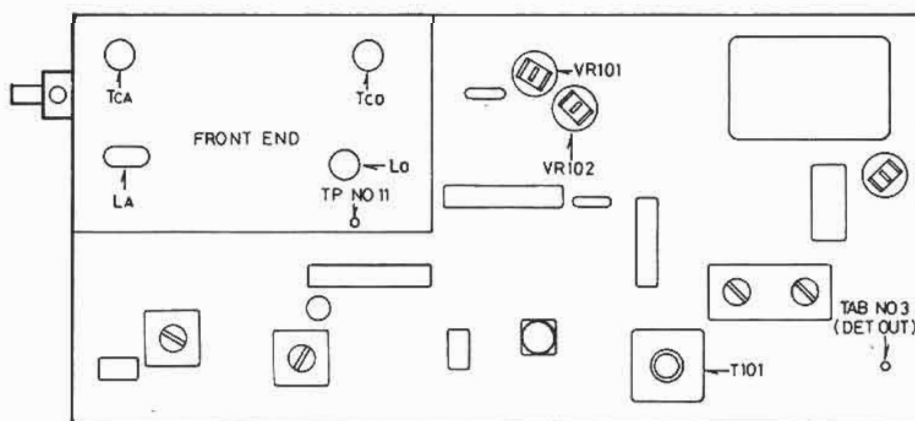


Fig. 15

ADJUSTING DISCRIMINATOR

1. Connect sweep generator set to 10.7MHz to FM test point (Front-end IF Out) through resistor 33k Ω .
2. Connect oscilloscope to the FM DET OUT (TP-2).
3. Adjust the primary and secondary of T101 so that wave form to be "S" curve as figure 16 and to be maximum gain.

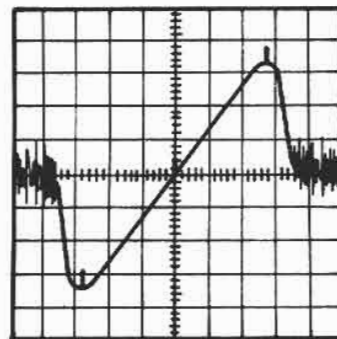


Fig. 16

ADJUSTING CENTER METER & DISTORTION

1. Connect RF generator the modulation of 400Hz, the deviation of 75kHz to the antenna terminal of the rear panel through the dummy antenna.
2. Connect the oscilloscope, distortion meter and VTVM to REC jack or speaker terminal.
3. Set the dial pointer to the proper position so as not to be tuned.
4. Adjust the secondary of T101 so that the center meter indicates just "0".
5. Set the generator to 98MHz just tuned.
6. Set the dial pointer 98MHz just tuned.
7. Adjust the primary core of T101 so that distortion is at minimum less than 0.3%.

ADJUSTING TRACKING & SENSITIVITY

LOW FREQUENCY

1. Connect RF generator to the antenna terminal of the rear panel through dummy antenna.
2. Set RF generator to 88MHz the modulation of 400Hz, the deviation of 75kHz and input 10 μ V.
3. Connect VTVM and oscilloscope to REC jack or speaker terminal.
4. Set dial pointer to 88MHz on dial calibrations.
5. Adjust coil LO and LA of front-end so that output is at max.

HIGH FREQUENCY

1. Set RF generator to 108MHz, the modulation of 400Hz, the deviation of 75kHz and the input of 10 μ V.
2. Set dial pointer to 108MHz on dial calibrations.
3. Adjust trimmer FM TCO and TCA of front-end so that output is at max.
*Repeat above steps as necessary to obtain maximum sensitivity.

ADJUSTING MUTING LEVEL

1. Connect VTVM and oscilloscope to REC jack or speaker terminals.
2. Set RF generator to 98MHz modulation of 400Hz, deviation of 75kHz and input of 22 μ V.
3. FM MUTING. switch to the ON.
4. Turn VR101 clockwise so that muting does not operate and memorize output level.
5. Turn VR101 counter-clockwise slightly so that output level drops down by 1 μ V.
6. Reset RF generator input to 18 μ V and ensure muting operates.

ADJUSTING OF MPX

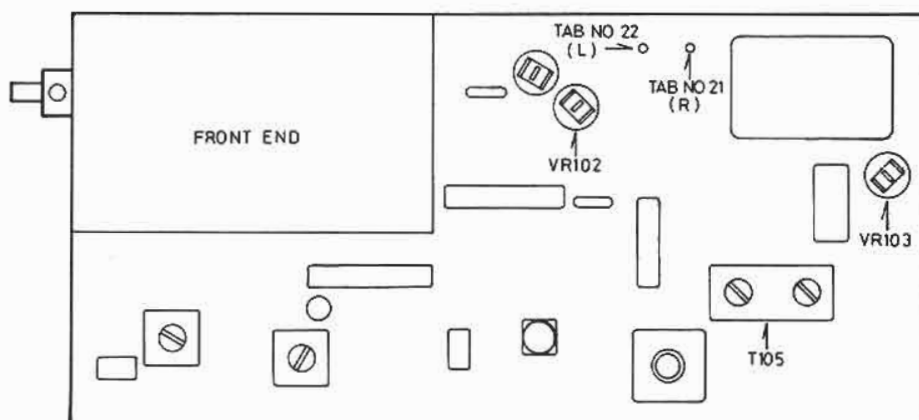


Fig. 17

1. Set stereo signal modulator to the following. Modulation frequency — 1000Hz Deviation Pilot only — 7.5kHz Main & SUB — 67.5kHz Output-EXT jack of RF signal generator Fig. 18.
2. Connect RF generator to the antenna terminal of the rear panel through dummy antenna.
3. Connect VTVM, Oscilloscope and distortion meter to REC jack or speaker terminal as Fig.17.
4. Set RF generator to 98MHz, and the input 1mV.
5. Set dial pointer to 98MHz on dial calibrations.
6. Connect oscilloscope to TP-3 (Tab No. T21,22).
7. Adjust T105 (Block core) so that 19kHz level is at max.
8. Set stereo demodulator sub and pilot.
9. Adjust T105 (yellow core) so that L-channel or R-channel output is at maximum gain and at minimum distortion.

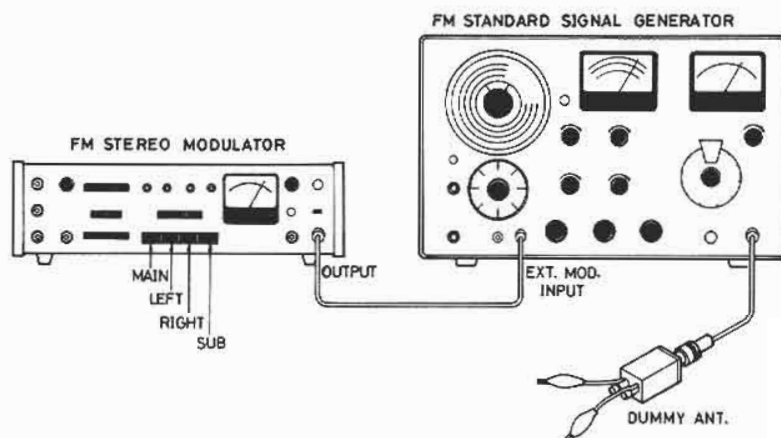


Fig. 18

ADJUSTING SEPARATION

10. Switch selector of stereo modulator to left.
11. Adjust VR103 so that RIGHT channel output is at min.
12. Switch selector of stereo modulator to RIGHT.
13. Adjust VR103 so that LEFT channel output is at min.
14. In case of difference between right and left, set VR103 to average.

CD-4 ADJUSTMENT

CD-4 adjustment is to match cartridge and stylus with built-in demodulator. Once it has been done it need not be done again until cartridge or stylus is changed.

1. Set source select CD-4/PHONO.
2. Set mode select to discrete 4CH.

30kHz LEVEL ADJUSTMENT

The 30kHz sub-channel carrier output differs between cartridges and this screw on the rear panel is to adjust the level.

1. Turn the 30kHz level screw clockwise until the stop position.
2. On the inside band of CD-4 adjustment record there is a 400Hz sub channel signal (4kHz deviation). If the signal is distorted play BAND 4 on adjustment record and turn the screw counterclockwise until a position is reached where distorted sound is not heard. Although distorted sound may still be heard, it might be acceptable in sound quality when playing CD-4 music records with setting remaining in the start position.
If the sound is still unsatisfactory with CD-4 music record, the cartridge is then considered inadequate for CD-4 record production.

SEPARATION ADJUSTMENT

1. Lower the volume of front speakers so that sound is only heard from the rear speakers.
2. Left channel (CH1,CH2) adjust : Turn the left control of separation adjust so that the volume of rear left(CH-2) is as low as possible while playing BAND 1 on the outside band of CD-4 demodulator adjustment record (4DE-202).
3. Right channel (CH3,CH4) adjust : Turn the right channel, in the same way, by turning Right Control to minimize the volume of rear right while playing BAND 2.
4. When operation have been completed, the adjustment is over and the volume of the front speakers should be turned up.

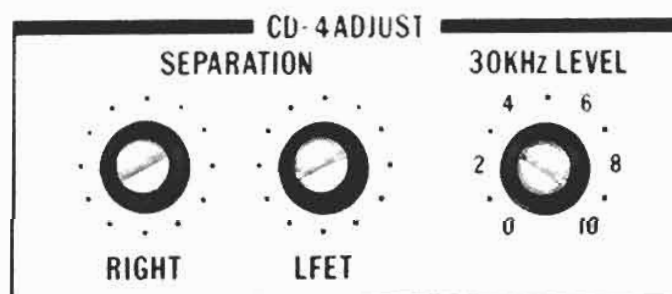


Fig. 21

WIRE CONNECTION

SPEAKER SELECT SWITCH

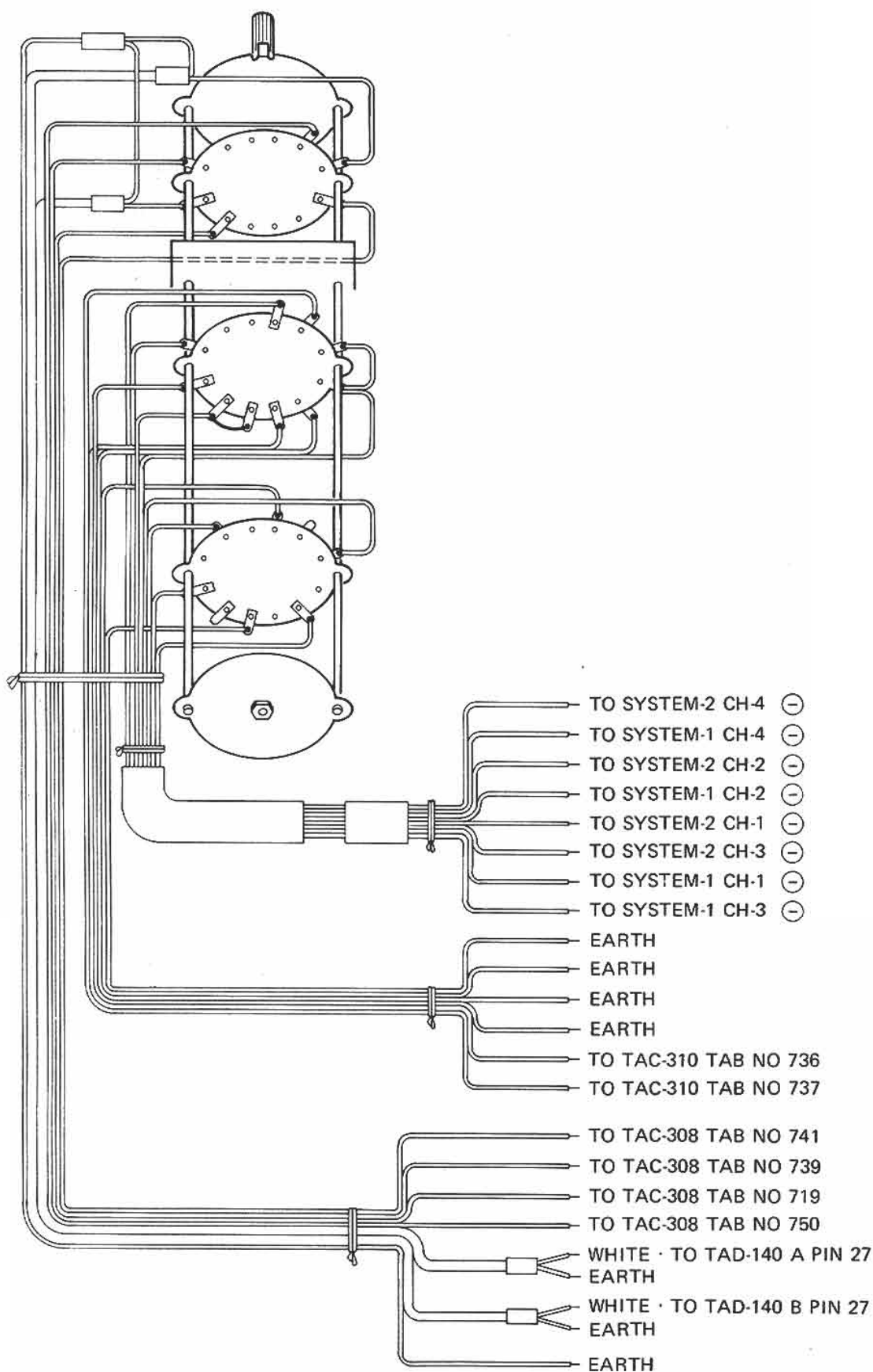


Fig. 22

MODE SELECT SWITCH

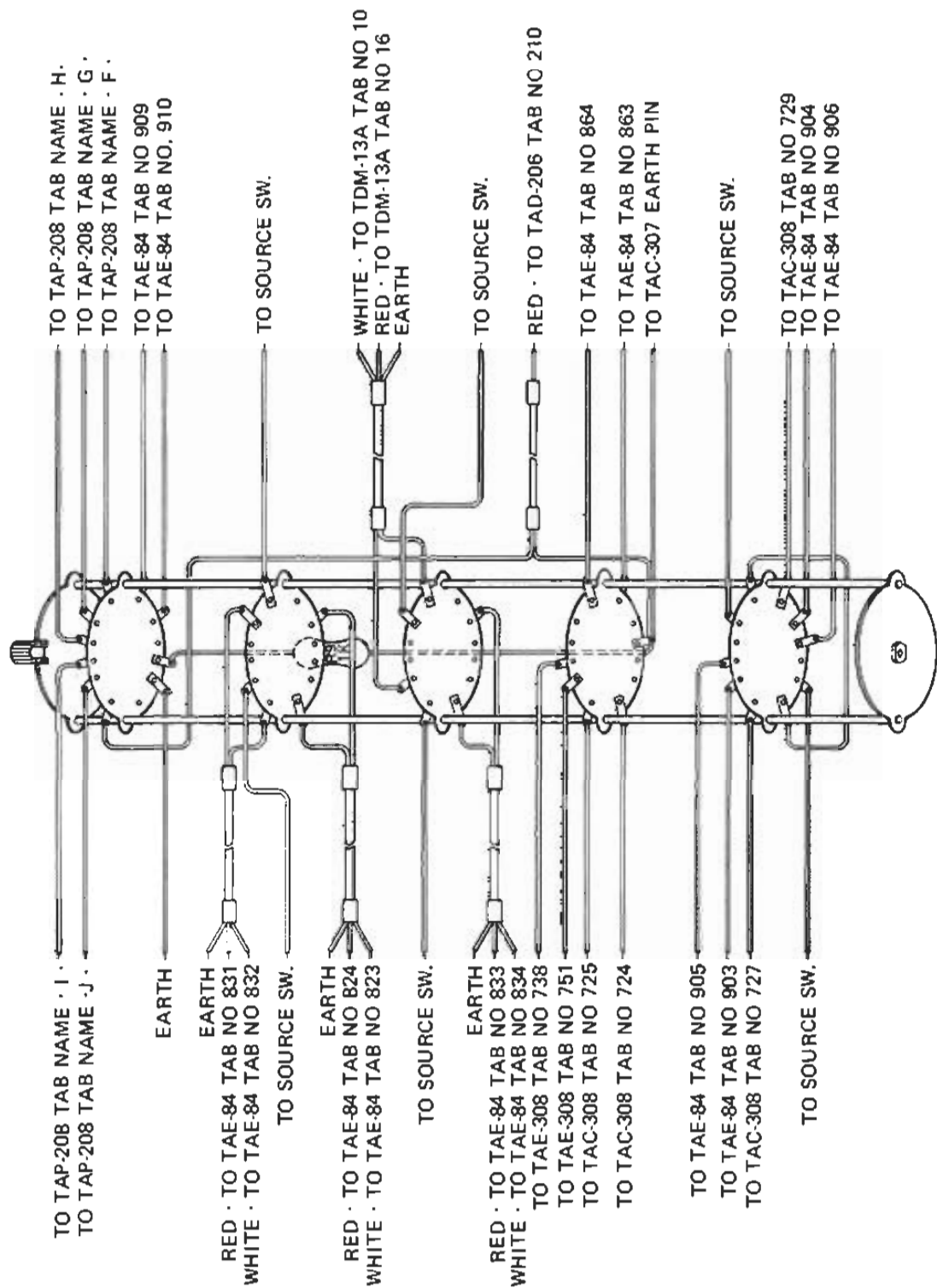


Fig. 23

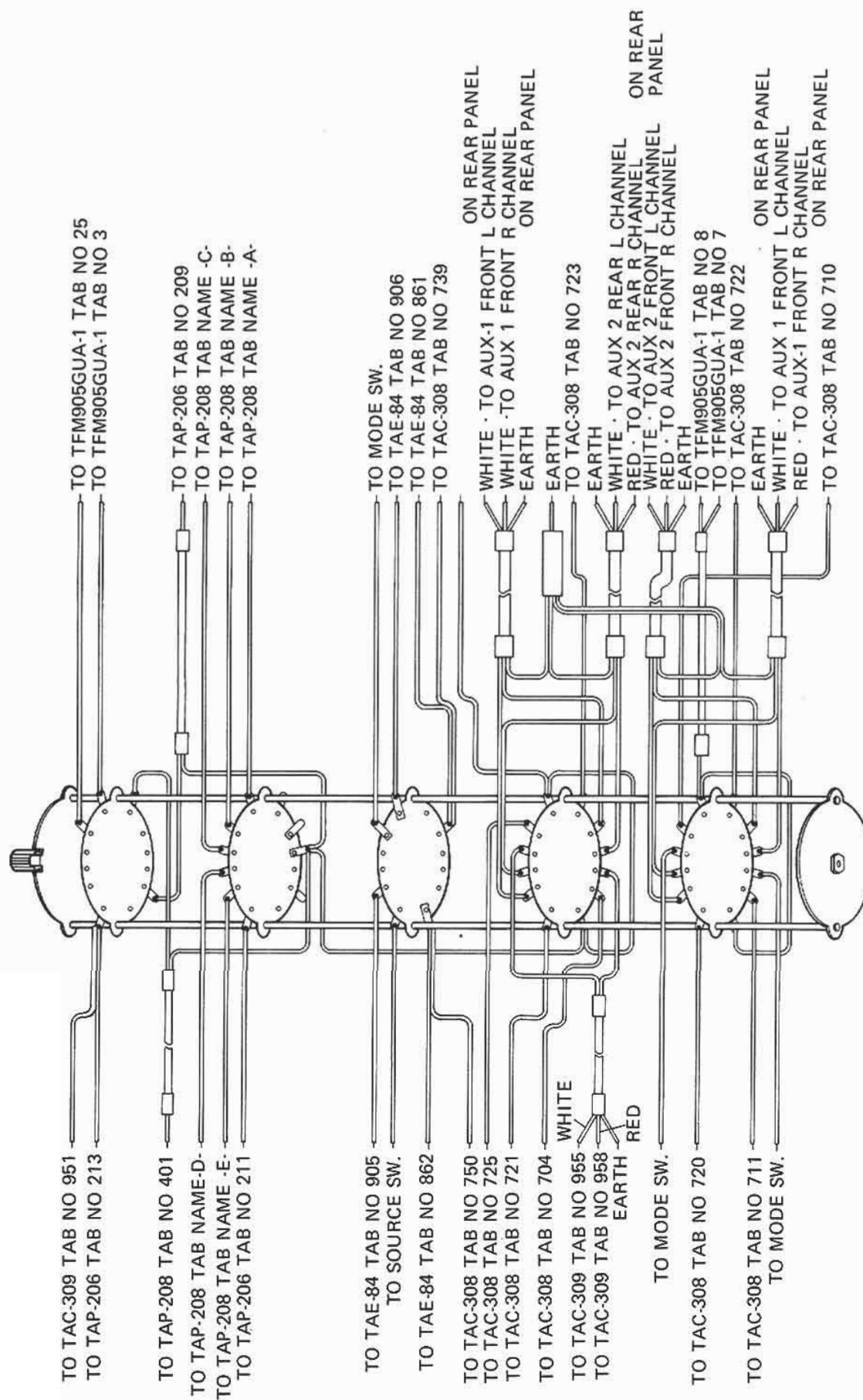


Fig. 24

THE LIST OF FRONT PANEL PARTS FOR REPLACEMENT

Dwg. No.	Parts No.	Parts Name	Description
1	E1761-001	Front Panel Ass'y	
2	E48628-001	Volume Knob	
3	E48600-001	Tuning Knob	
4	E48631-001	Mini Knob	
5	E48629-001	Level Knob	
6	E48753-001	Select Knob	
7	E48864-001	Sea Knob	
8	E47957-001	Push Knob	
9	E33591-001	Magnet Ass'y	
10	E1760-003	F. Bracket Ass'y	
11	E45979-013	Spacer	Lever Switch Use TV-511 S1
12	QMC0889-001	Spin Socket Ass'y	Remote Control
13	QSU1222-001	Level Switch	Power TV-5 S1
14	E03595-001	Push Switch	Door Opener Use
15	E03567-001	Rotary Switch	12C-7P Speaker Select
16	E03582-002	Rotary Switch	Mode Sou
17	E03582-003	Rotary Switch	Source
18	E03468-002	H. Phone Jack Ass'y	Tape Monitor & H. Phone
19	TAC-307	Control Sea Amp. C.B. Ass'y	
20	E03558-001	Volume	Separation Control
21	QSP0221-004	Push Switch	Muting, Stereo Only
22	E33510-002	Tuning Shaft Ass'y	
23	E48815-001	Roller Bracket Ass'y	
24	E33460-001	SEA Bracket	
25	TAC-314	SEA Control C.B. Ass'y	Right & Left
26	E33593-001	Needle Ass'y	
27	E48618-001	Jack Bracket	H. Phone
28	E47205-001	Speed nut	Phone Bracket Use
29	E48617-001	Push Sw. Bracket	
30	TAC-308	Tape Monitor C.B. ass'y	
31	E33451-001	Dial Scale	
32	E33511-004	Color Screen	White
33	QMG1121-004	Fuse Holder	Lamp Use UL SE-1
34	Q04964-001	Pilot Lamp	12.6V 300mA
35	E48587-003	Mini Screen	CD-4
36	E48587-002	Mini Screen	Stereo
37	E1776-001	Reflector	
38	E03176-010	Center Meter	
39	E03176-011B	Tuning Indicator	
40	E48615-003	Meter Holder	
41	QLP4101-004	Pilot Lamp	12V 150mA
42	TAP-208	Indicator Lamp C.B. Ass'y	

EXPLODED VIEW OF FRONT PANEL PARTS

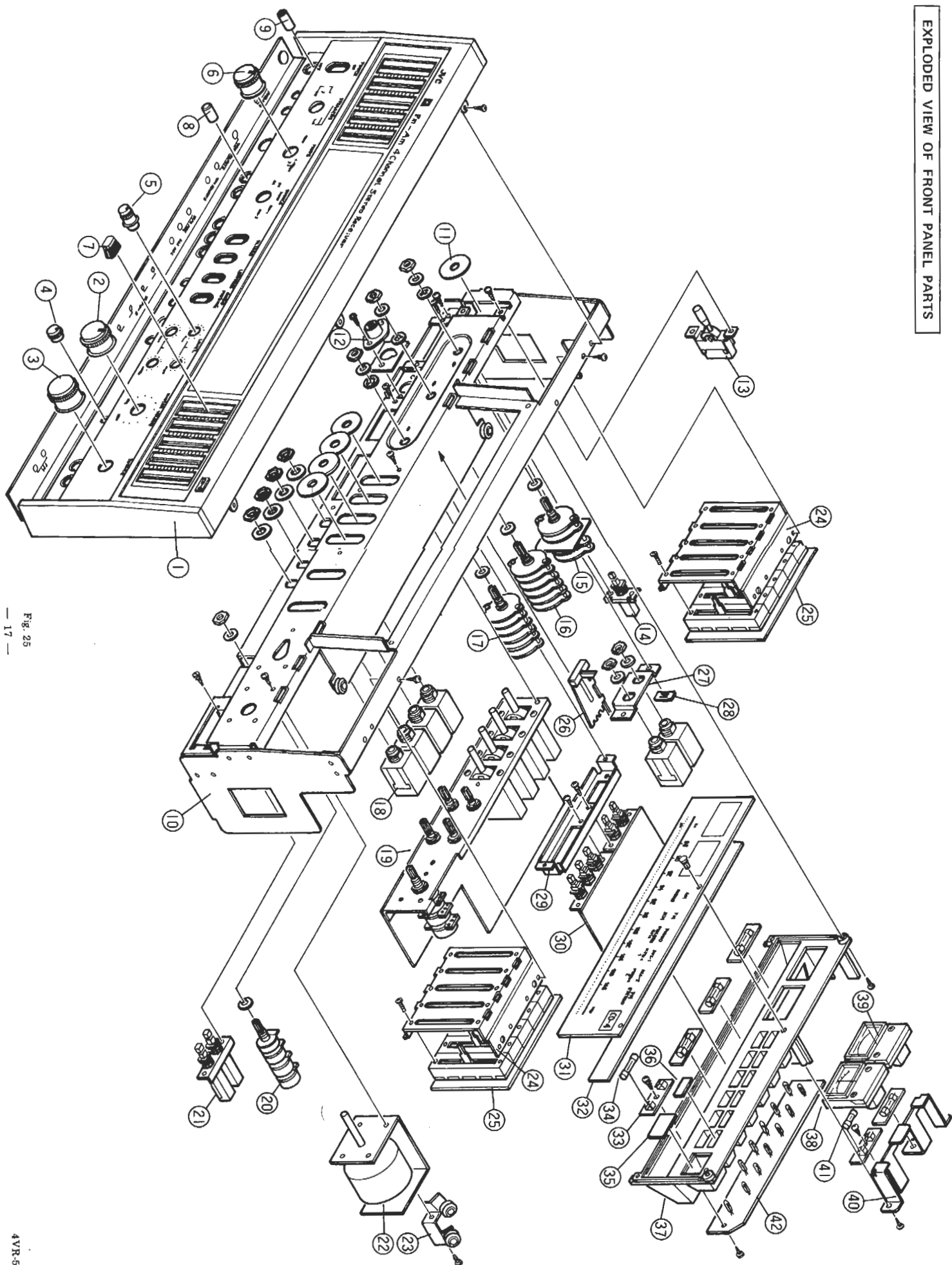


Fig. 25
— 17 —

EXPLODED VIEW OF REAR PANEL PARTS

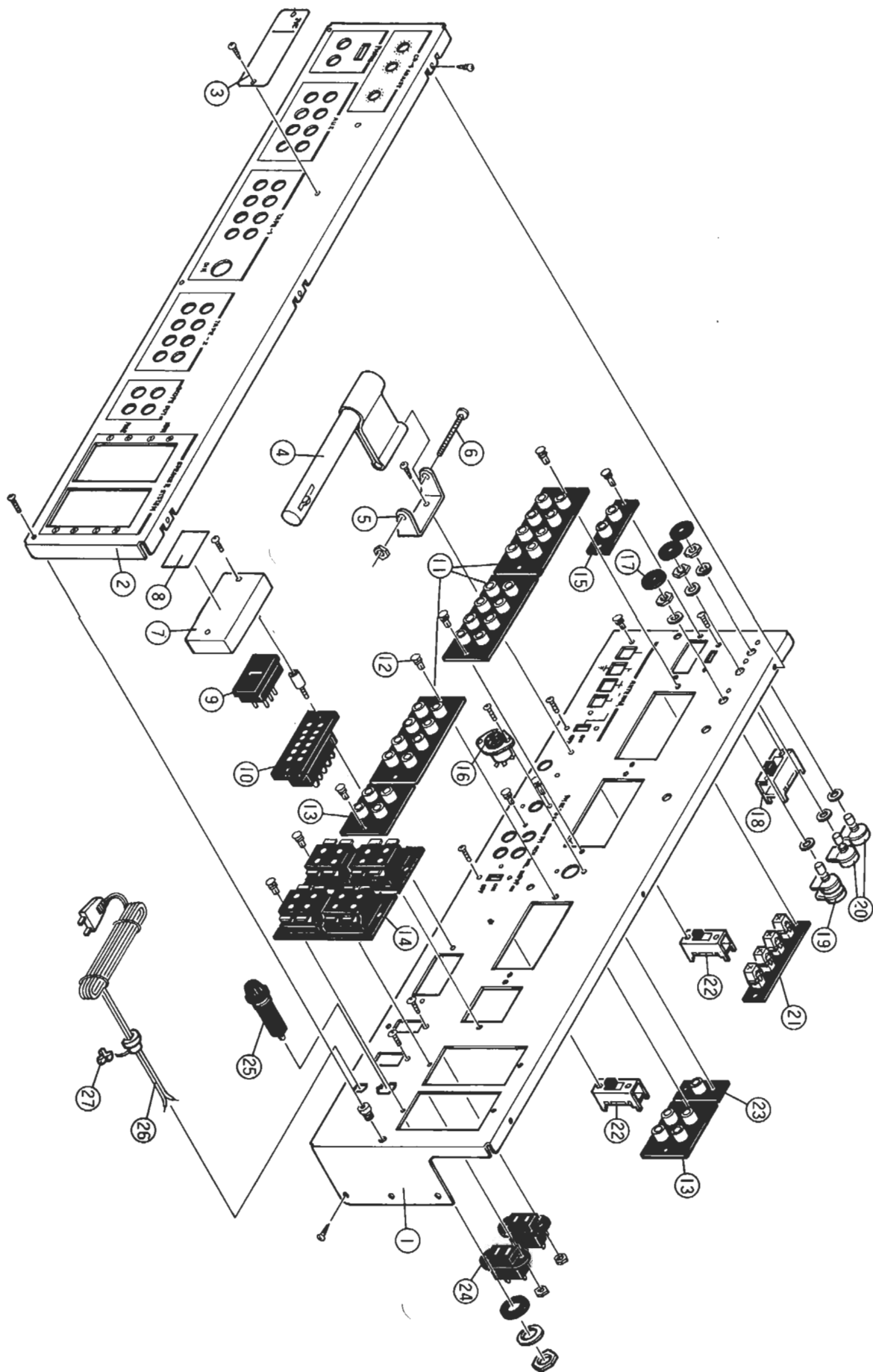


Fig. 26

THE LIST OF REAR PANEL PARTS FOR REPLACEMENT

Dwg. No.	Parts No.	Parts Name	Description
1	E1764-001	Rear Panel	
2	E1765-001	Decoration Panel	
3	E48761-016	Rating Panel	
4	E03037-28	Bar Ant Coil	
5	E41021	Bar Ant Holder	
6	SPSP4050NS	Screw	Bar Ant Use
7	E46603-002	Cover	Voltage Selector
8	E46789-002	Caution Label	
9	E04085	Voltage Select Plug	
10	E04084	Voltage Select Socket	
11	E03043-80	Pin Jack Ass'y	8 Pin
12	E48729-001	Plastic Rivet	
13	E03043-40	Pin Jack Ass'y	4 Pin
14	E03410-002	Speaker Terminal Ass'y	
15	E03043-20	Pin Jack Ass'y	2 Pin
16	E03571-001	Din Socket Ass'y	
17	E42000-014	Spacer	Mini Volume
18	QSS4224-005	Slide Switch	Phono Sensitivity
19	E03504-004	Volume	30kHz Carrier
20	E03415-003	Volume	Separation Control
21	E03358-43	Terminal Ass'y	Ant
22	QSS4224-002	Slide Switch	FM 4Ch FM Int Ant.
23	E03043-10	Pin Jack	1 Pin
24	Q30120-001	AC Socket	
25	Q30210-001	Fuse Socket	
26	Q03056-14	Power Cord With Plug	
27	E31704-001	Power Cord Stopper	

Tab No.	Tab Name	Connection
T551		
T552	Output	To TAC-314 Tab No. 501
T553	Output	To TAC-314 Tab No. 502
T554	Earth	
T555	Output	To TAC-314 Tab No. T504
T556	Output	To TAC-314 Tab No. T503
T557		
T558	Earth	
T559	Earth	
T560	Earth	
T561	Earth	
T562	Earth	
T563	Earth	
T564	+B	From TAP-206 Tab No. 226
T565	+B	From TAP-206 Tab No. 226
T566		
T567		
T568		
T569		
T570		
T571		
T572	Output	To TAC-314 Tab No. T501
T573	Output	To TAC-314 Tab No. T502
T574	Earth	
T575	Output	To TAC-314 Tab No. T504
T576	Output	To TAC-314 Tab No. T503
T577		
T630		
T631	Input	From Tape monitor SW. S702a
T632	Input	From Tape monitor SW. S702b
T633	Input	From Tape monitor SW. S702c
T634	Input	From Tape monitor SW. S702d
T635	Level control	To Level control R645
T636	Level control	To Level control R646
T637	Level control	To Level control R647
T638	Level control	To Level control R648
T639	Earth	
T640	Output	To Separation Control R10b
T641	Output	To Separation Control R10b
T642	Output	To Separation Control R10c
T643	Output	To Separation Control R10c
T644	Output	To Separation Control R10d
T645	Output	To Separation Control R10a
T646	Output	To Separation Control R10a
T647	Output	To Separation Control R10d
T648	Earth	
T649	Earth	

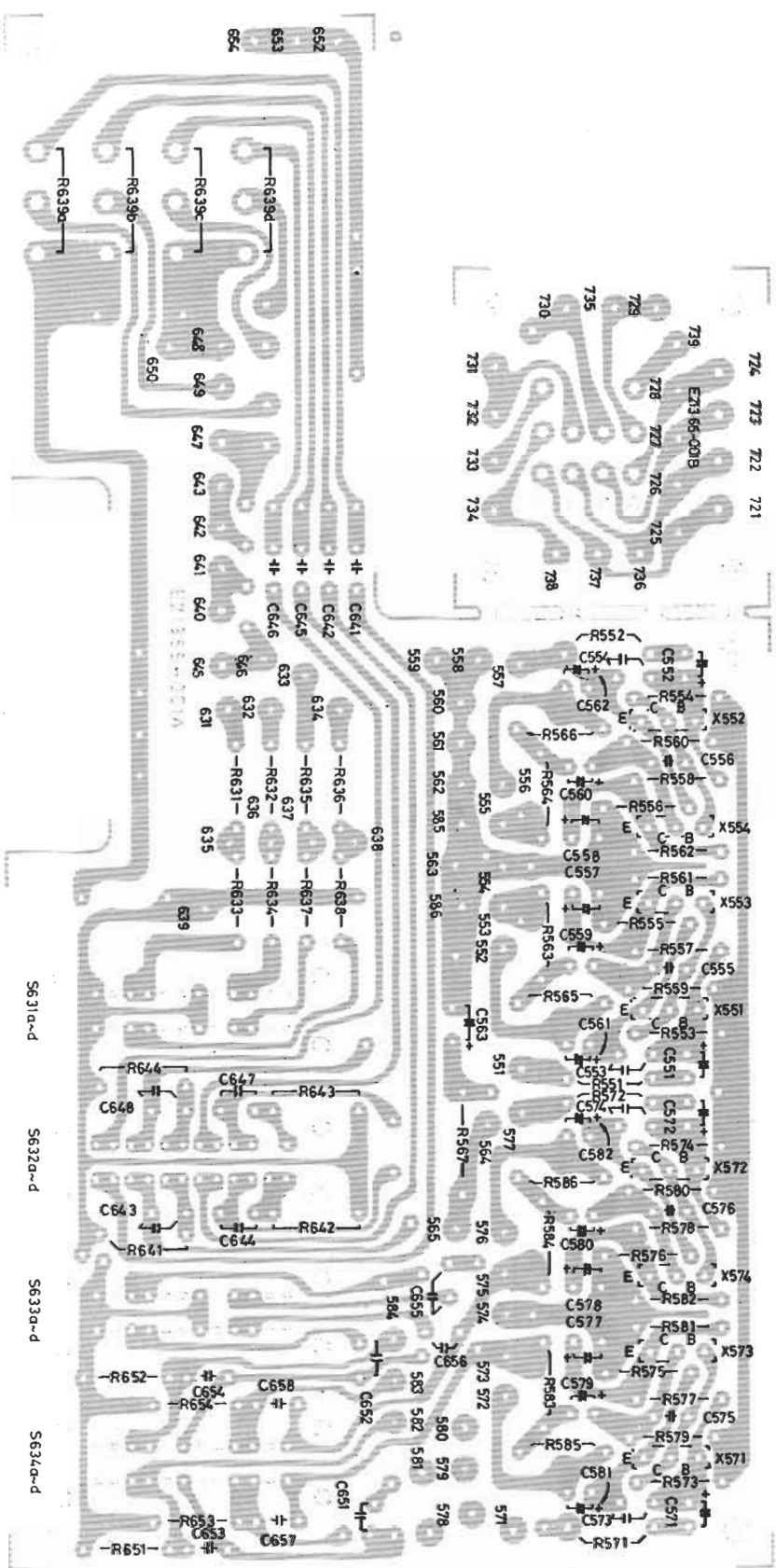
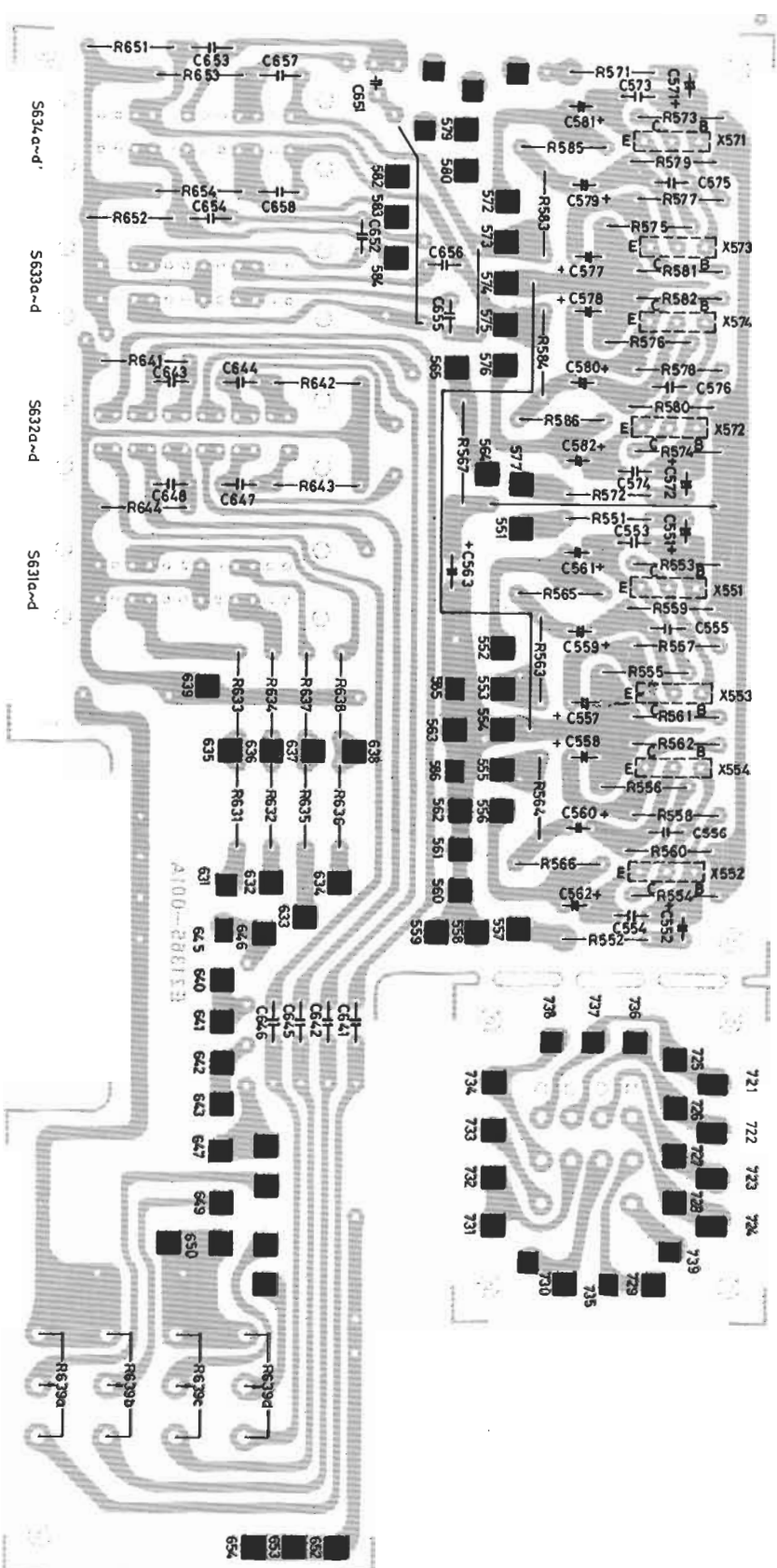


Fig. 27



500
Fig. 28

TRANSISTOR

Ref. No.	PARTS NAME	DESCRIPTION
X551~X554	2SC458ALGC	Silicon
X571~X574	"	Silicon (HITACHI)

RESISTOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
R551, R552	Q04800	Carbon	2.2K 1/4W
R553, R554	"	"	47K "
R555, R556	"	"	3.3K "
R557, R558	"	"	330K "
R559, R560	"	"	5.6K "
R561, R562	"	"	1K "

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
R563, R564	Q04800	Carbon	3.3K 1/4W
R565, R566	"	"	15K "
R567, R568	Q0491	Comp	330Ω 1/4W
R571, R572	Q04800	Carbon	2.2K 1/4W
R573, R574	"	"	47K "
R575, R576	"	"	3.3K "
R577, R578	"	"	330K "
R579, R580	"	"	5.6K "
R581, R582	"	"	1K "
R583, R584	"	"	3.3K "
R585, R586	"	"	15K "
R587, R588	"	"	3.3K "
R589, R590	"	"	5.6K "
R591, R592	"	"	820Ω "
R593, R594	"	"	3.3K "
R595, R596	"	"	15K "
R597, R598	"	"	3.3K "
R599, R600	"	"	5.6K "
R601, R602	"	"	820Ω "
R603, R604	"	"	22K "
R605, R606	"	"	10K "

VARIABLE RESISTOR

Ref. No.	PARTS No.	DESCRIPTION
R639a~R639b R645~R648	E03583-001 E03576-001	250K B. Curve Master 25K B. Curve Level

CAPACITOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
C551, C552	Q03112-1	Electrolytic	1 μ 50V
C553, C554	Q03244-102	Mylar	1000pF 50V
C555, C556	Q04051-33	Ceramic	33p 50V
C557, C558	Q03106-50	Electrolytic	47 μ 10V
C559, C560	Q03110-30	"	33 μ 25V
C561, C562	Q03108-30	"	33 μ 16V
C563	Q03112-50	"	47 μ 50V
C571, C572	Q03112-1	"	1 μ 50V
C573, C574	Q03244-102	Mylar	1000p 50V
C575, C576	Q04051-33	Ceramic	33p 50V
C577, C578	Q03106-50	Electrolytic	47 μ 10V
C579, C580	Q03110-30	"	33 μ 25V
C581, C582	Q03108-30	"	33 μ 16V
C641, C642	Q04051-330	Ceramic	330p 50V
C643, C644	Q03244-103	Mylar	0.01 μ 50V
C645, C646	Q04051-330	Ceramic	330p 50V
C647, C648	Q03244-103	Mylar	0.01 μ 50V
C651, C652	" -333	"	0.033 μ 50V
C653, C654	" -823	"	0.082 μ 50V
C655, C656	" -333	"	0.033 μ 50V
C657, C658	" -823	"	0.082 μ 50V

OTHERS

Ref. No.	PARTS No.	DESCRIPTION
S631 ~ S634	QSL0001-001	Lever Switch

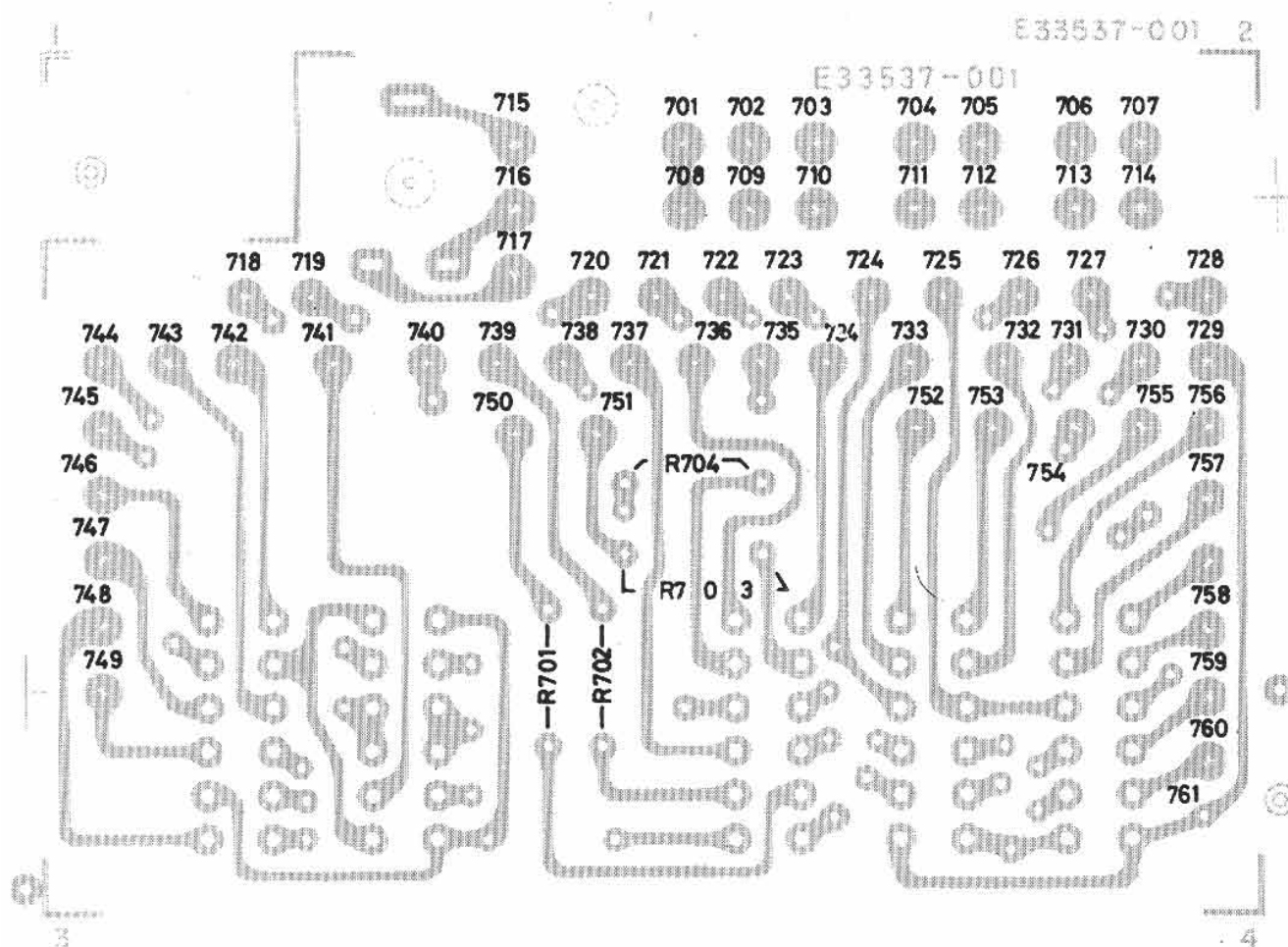


Fig. 29

Tab No.	Tab Name	Connection
T701	Earth	
T702	BTL Out	From TAD-140 Pin No. 2
T703	FM 4Ch SW.	From FM 4CH SW. S7c on rear panel
T704	FM 4Ch SW.	From FM 4CH SW. S7d on rear panel
T705	Earth	
T706	Tape 2	To Tape Monitor Jack 2 CH-2
T707	Tape 2	To Tape Monitor Jack 2 CH-4
T708	Earth	
T709	BTL Out	From TAD-140 Pin No. 29
T710	FM 4Ch SW.	From FM 4CH SW. S7a on rear panel
T711	FM 4Ch SW.	From FM 4CH SW. S7b on rear panel
T712	Earth	
T713	Tape 2	To Tape Monitor Jack 2 CH-1
T714	Tape 2	To Tape Monitor Jack 2 CH-3
T715		
T716		
T717		
T718	Out Put	To TAD-140 Pin No. 27
T719	Out Put	To Speake Select SW. S5a
T720	Tape-1	From Source SW. S2a
T721	Tape-1	From Source SW. S2c
T722	Tape-1	From Source SW. S2b
T723	Tape-1	From Source SW. S2d

Tab No.	Tab Name	Connection
T724	Mode SW.	From Mode SW.S3d
T725	Mode SW.	From Mode SW.S3c
T726	Tape 2	To Tape REC Jack 2 CH-1
T727	Mode SW.	From Mode SW.S2a
T728	Scope Out	From Scope out CH-1 on rear panel
T729	Mode SW.	From Mode SW.S3b
T730	Out Put	To TAC-307 Input Tab No. T631
T731	Out Put	To TAC-307 Input Tab No. T632
T732	Out Put	To TAC-307 Input Tab No. T633
T733	Out Put	To TAC-307 Input Tab No. T634
T734	Tape-1	To Tape Monitor Jack 1 CH-4
T735	Tape-1	To Tape Monitor Jack 1 CH-3
T736	Tape-1	To Tape Monitor Jack 1 CH-2
T737	Tape-1	To Tape Monitor Jack 1 CH-1
T738	Mode	To Mode SW.S3c
T739	Source SW.	To Source SW.S2f
T740	Out Put	To TAD-140 Pin No. 27
T741	BTL Out	To TAD-140 Pin No. 2
T742	Remote Socket	From Remote Socket CH-2
T743	Remote Socket	To Remote Socket CH-2
T744	Remote Socket	From Remote Socket CH-3
T745	Remote Socket	To Remote Socket CH-3
T746	Remote Socket	From Remote Socket CH-4
T747	Remote Socket	To Remote Socket CH-4
T748	Remote Socket	To Remote Socket CH-1
T749	Remote Socket	From Remote Socket CH-1
T750	Source SW.	To Source SW.S2e
T751	Mode SW.	To Mode SW.S3d
T752	Tape 2	To Tape Monitor Jack 2 CH-4
T753	Tape 2	To Tape Monitor Jack 2 CH-2
T754	Tape 2	To Tape Monitor Jack 2 CH-3
T755	Tape 2	To Tape Monitor Jack 2 CH-1
T756	Scope Out	From Scope out CH-3 on rear panel
T757	Tape-2	To Tape REC Jack 2 CH-2
T758	Scope Out	From Scope out CH-4 on rear panel
T759	Tape-2	To Tape REC Jack 2 CH-4
T760	Scope Out	From Scope out CH-3 on rear panel
T761	Tape-2	To Tape REC Jack 2 CH-3

RESISTOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
R701~R704	Q04800-5.6K	Carbon	5.6K ¼W

OTHERS

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
S701~S703	Q30520-001	Push Switch Ass'y	4C 3Key
S704~S705	QSP0221-001	Push Switch Ass'y	4C 2Key

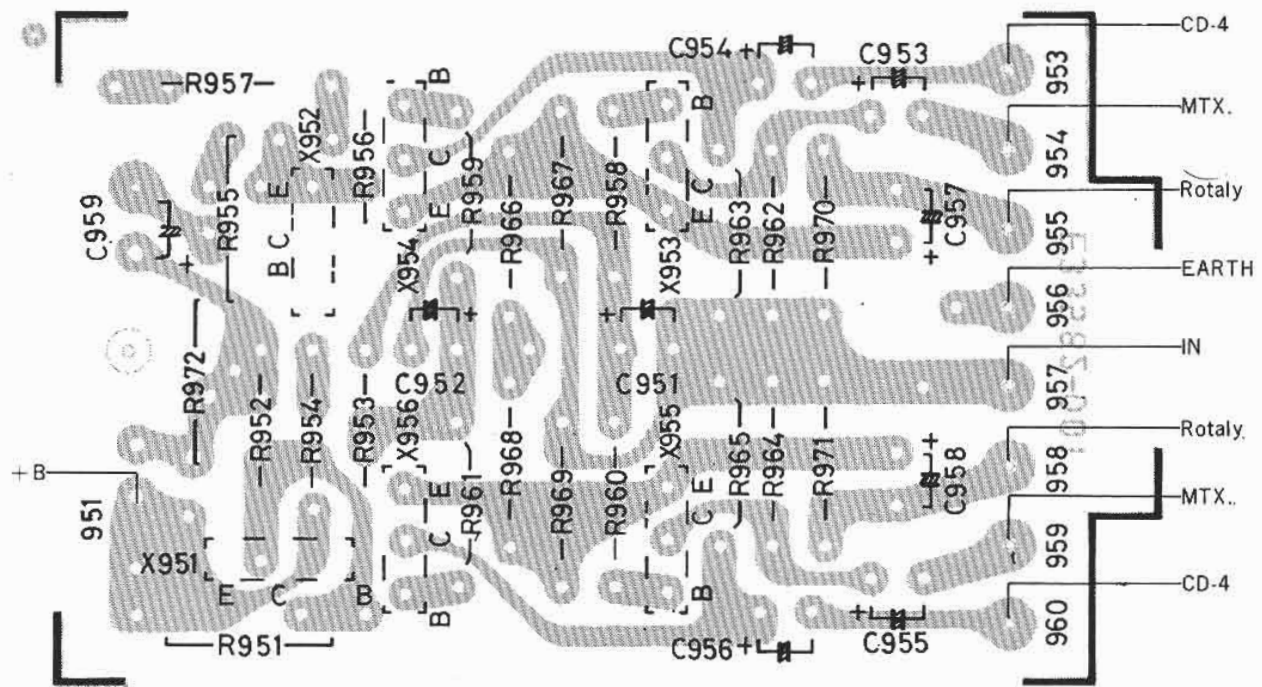


Fig. 30

Tab No.	Tab Name	Connection
T951	+B Supply	From TAP-206 power supply T241
T952	Earth	
T953	CD-4 Input	From TDM-13A (CD-4) out put
T954	MATRIX Input	From TAE-84 (MATRIX) out T863
T955	Output	To Source SW. S2
T956	Earth	
T957	Marker Input	From TDM-13A Tab No. T21
T958	Output	To Source SW. S2
T959	MATRIX Input	From TAE-84 (MATRIX) out T864
T960	CD-4 Input	From TDM-13A (CD-4) out put

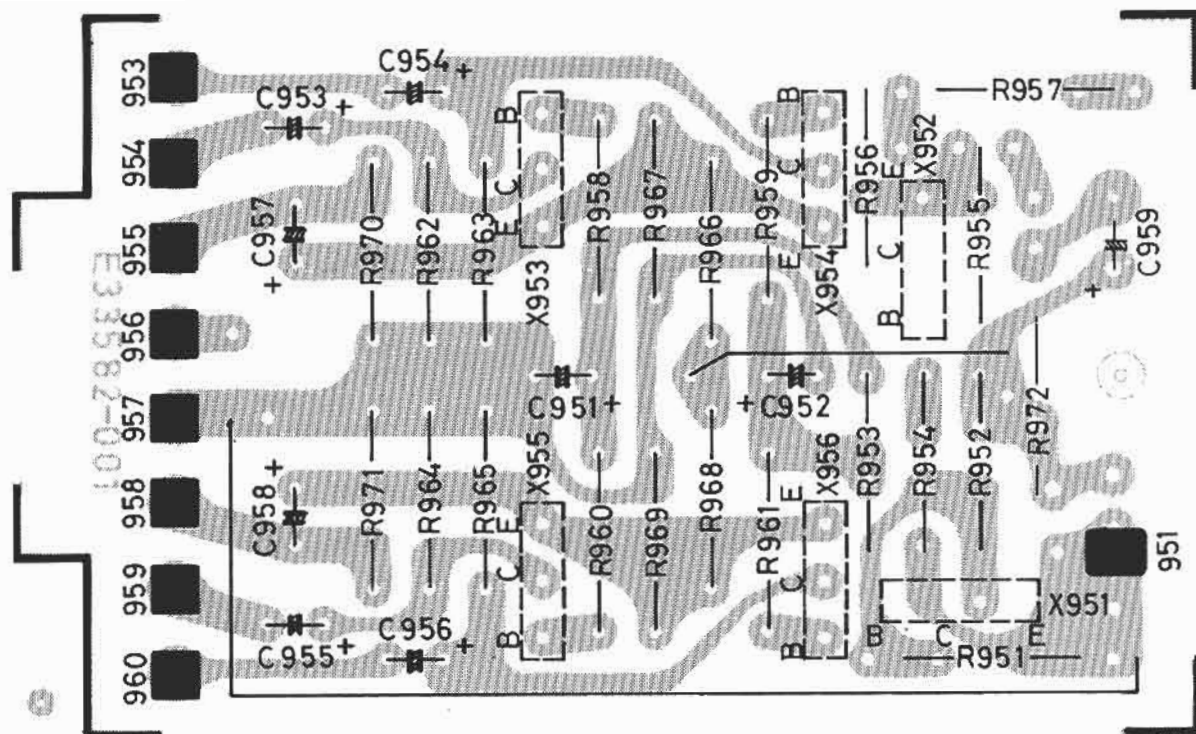


Fig. 31

TRANSISTOR

Ref. No.	PARTS No.	DESCRIPTION
X951~956	2SC710B	Silicon (MITSUBISHI)

RESISTOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
R951	Q04800-47k	Carbon	47k ¼W
R952~R956	" -22k	"	22k "
R957	" -47k	"	47k "
R958~R961	" -82k	"	82k "
R962~R965	" -47k	"	47k "
R966	" -560k	"	560k "
R967	" -56k	"	56k "
R968	" -560k	"	560k "
R969	" -56k	"	56k "
R970, R971	" -100k	"	100k "
R972	" -3.3k	"	3.3k "

CAPACITOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
C951	Q03112-5	Electrolytic	4.7μ 50V
C952	Q03108-30	"	33μ 16V
C953~C956	Q03108-10	"	10μ 16V
C967, C958	QEB41EM-105	LLC. E.	3.3μ 50V
C959	Q03110-50	Electrolytic	47μ 25V

E33536-001

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Tab No.	Tab Name	Connection
T1	Earth	
T2	BTL Out	To Rotaly SW. S5
T3	Earth	
T4	Input	From Revers Switch S705
T5	DC Pick up	To TAP-206 Tab No. 220, 221
T6	+B or Biase	To TAP-206 Tab No. 226 or T215
T7	-B	From (-B) C6
T8	Earth	
T9	Driver Out	To Power TR (2 SA) Base
T10	Driver Out	To Power TR (2 SC) Base
T11	Output	To TAC-310 Input
T12	Protector Output	To TAP-206 Tab No. 216, 217
T13	Driver Out	To Power TR (2 SA) Emitter
T14	Driver Out	To Power TR (2 SC) Emitter
T15	+B	From (+B) C5
T16	+B	From (+B) C5
T17	Driver Out	To Power TR (2 SC) Emitter
T18	Driver Out	To Power TR (2 SA) Emitter
T19	Protector Out	To TAP-206 Tab No. 216, 217
T20	Output	To TAC-310 Input
T21	Driver Out	To Power TR (2 SC) Base
T22	Driver Out	To Power TR (2 SA) Base
T23	Earth	
T24	-B	From (-B) C6
T25	+B or Biase	To TAP-206 Tab No. T226 or T215
T26	DC Pick up	To TAP-206 Tab No. 220, 221
T27	Input	From Revers Switch S705
T28	Earth	
T29	BTL Out	To Rotaly SW. S5
T30	Earth	

Fig. 32

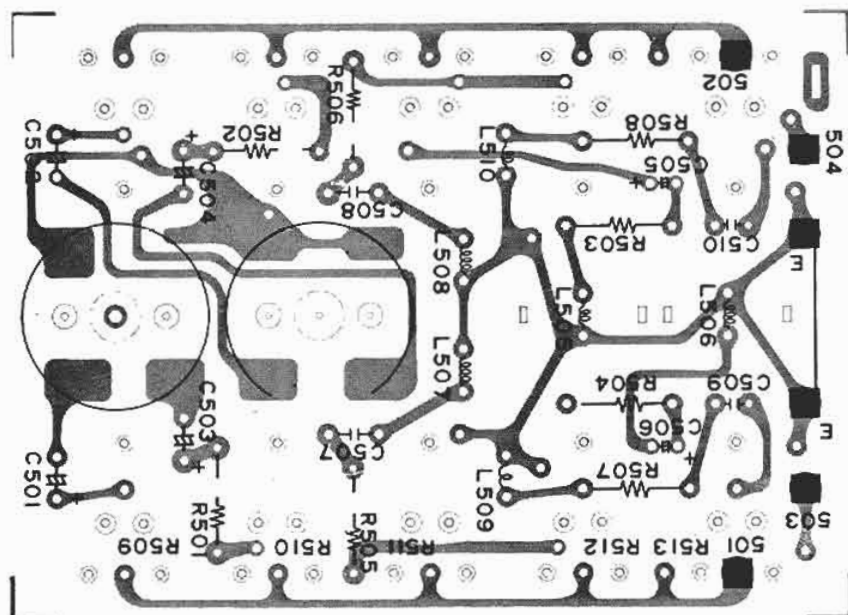


Fig. 33

Tab No.	Tab Name	Connection
T501	Control Out	To TAC-307 Control SEA amp. Tab No. 552 or 572
T502	Control Out	To TAC-307 Control SEA amp. Tab No. 553 or 573
T503	Control Out	To TAC-307 Control SEA amp. Tab No. 556 or 576
T504	Control Out	To TAC-307 Control SEA amp. Tab No. 555 or 575
E		

RESISTOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
R501,R502	Q04800-330	Carbon	330Ω ¼W
R503,R504	Q04800-470	"	470Ω "
R505~R508	Q04800-560	"	560Ω "

VARIABLE RESISTOR

Ref. No.	PARTS No.	DESCRIPTION
R509~R513	E03554-001	50k (SPE. W)

CAPASITOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
C501,C502	QEB41EM-106	LLC E.	10μ 25V
C503,C504	QEB41EM-684	"	0.68μ 25V
C505,C506	QEB41EM-224	"	0.22μ 25V
C507,C508	Q03244-473	Mylar	0.047μ 50V
C509,C510	Q03244-103	"	0.01μ 50V

OTHERS

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
L501~L504	E03108-19A	Choke Coil	2H, 0.6H
L505,L506	E0747-11	Ferri Inductor	100mH
L507,L508	E0747-12	"	22mH
L509,L510	E0747-9	"	10mH

Tab No.	Tab Name	Connection
T1	Carrier Level Control	From 30kHz Level Control R12a
T2	Carrier Level Control	To 30kHz Level Control R12a
T3	Sub Signal In	From TAE-84 ½ EQ. out T813
T4	Earth	
T5	Earth	
T6	Sub Signal In	From TAE-84 ½ EQ. out T814
T7	Carrier Level Control	To 30kHz Level Control R12b
T8	Carrier Level Control	From 30kHz Level Control R12b
T9		
T10	Channel-1 out	To Mode Switch S3e
T11	Channel-2 out	To TAC-309 Tab No. T953
T12	Main In Ch-1	From TAE-84 Tab No. T834
T13	Earth	
T14	Main In Ch-3	From TAE-84 Tab No. 833
T15	Channel-4 out	To TAC-309 Tab No. T960
T16	Channel-3 out	To Mode Switch S3f
T17	+B	To TAP-206 Tab No. 225
T18	Muting	To Mode Switch S3k
T19	Earth	
T20	Rader	To TAP-208 Tab No. 48
T21	SW. out	To TAC-309 Tab No. 957

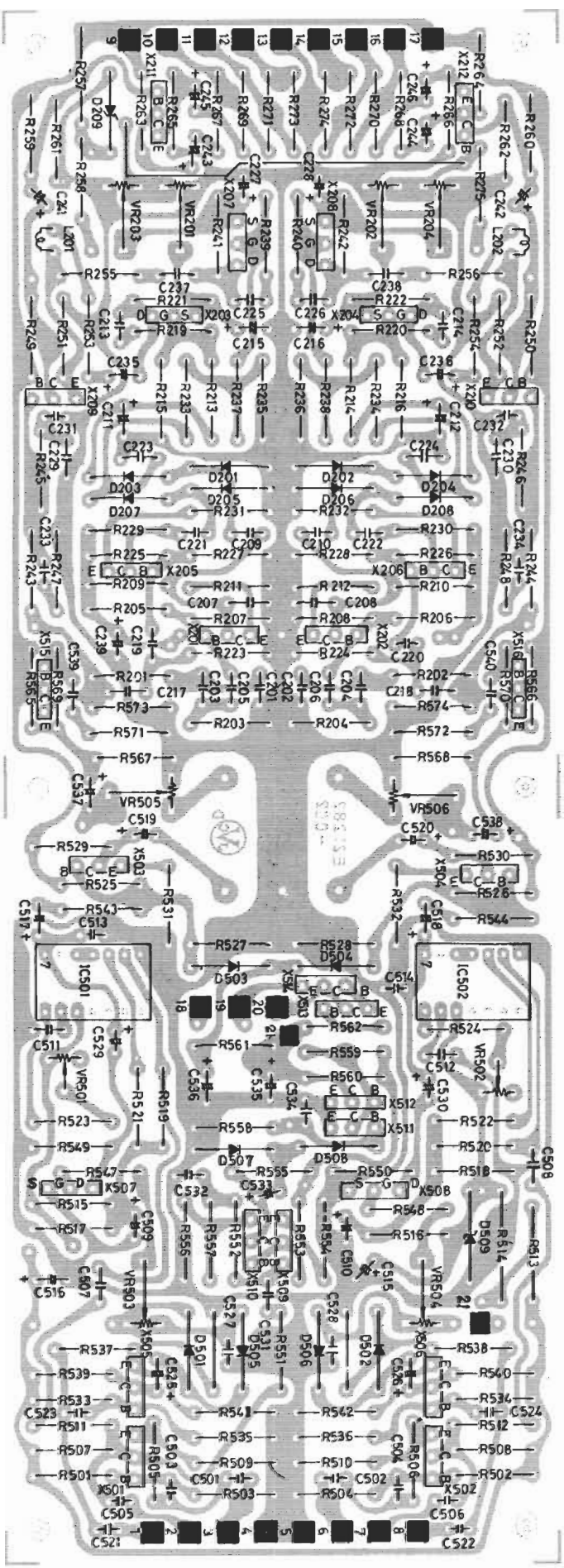


Fig. 34

TDM-13A CD-4 DEMODULATOR C.B. ASS'Y

Ref. No.	Parts No.	Description
• IC		
IC501	CD894	IC
IC502	CD894	IC
• RESISTOR		
R201, R202	Q04800-6.8K	Carbon 6.8KΩ ±10% 1/4W
R203, R204	" 18K	" 18KΩ " "
R205, R206	" 390K	" 390KΩ " "
R207, R208	" 47K	" 47KΩ " "
R209, R210	" 8.2K	" 8.2KΩ " "
R211, R212	" 100	" 100Ω " "
R213, R214	" 470K	" 470KΩ " "
R215, R216	" 150K	" 150KΩ " "
R219, R220	" 100K	" 100KΩ " "
R221, R222	" 27K	" 27KΩ " "
R223, R224	" 8.2K	" 8.2KΩ " "
R225, R226	" 270K	" 270KΩ " "
R227, R228	" 39K	" 39KΩ " "
R229, R230	" 4.7K	" 4.7KΩ " "
R231, R232	" 120	" 120Ω " "
R233, R234	" 68K	" 68KΩ " "
R235, R236	" 33K	" 33KΩ " "
R237~R240	" 100K	" 100KΩ " "

Ref. No.	Parts No.	Description
• TRANSISTOR		
X201, X202	2SC458LD	Silicon Transistor (HITACHI)
X203, X204	2SK40-1	PNP (HITACHI)
X205~X208	2SC458LD	Silicon Transistor (HITACHI)
X209, X210	2SC871F	Silicon Transistor (MITSUBISHI)
X211, X212	2SC711F	" " " "
X501, X502	2SC458LD	Silicon Transistor (HITACHI)
X503, X504	2SC871F	" " " "
X505, X506	2SC458LD	Silicon Transistor (HITACHI)
X507, X508	2SK30Y	PNP (TOSHIBA)
X509~X513	2SC458LD	Silicon Transistor (HITACHI)
X514	2SC1166Y	" " " "
X515, X516	2SC871F	" " " "
• DIODE		
D201~D208	1S188FM	Ge Diode (SANYO)
D209	E0771-7	Zener Diode (JRC)
D501, D502	1S980	Varistor (JRC)
D503, D504	1S188FM	Ge Diode (SANYO)
D505, D506	1S990	Varistor (JRC)
D507, D508	1S990	Varistor (JRC)
D509	E0771-7	Zener Diode (JRC)

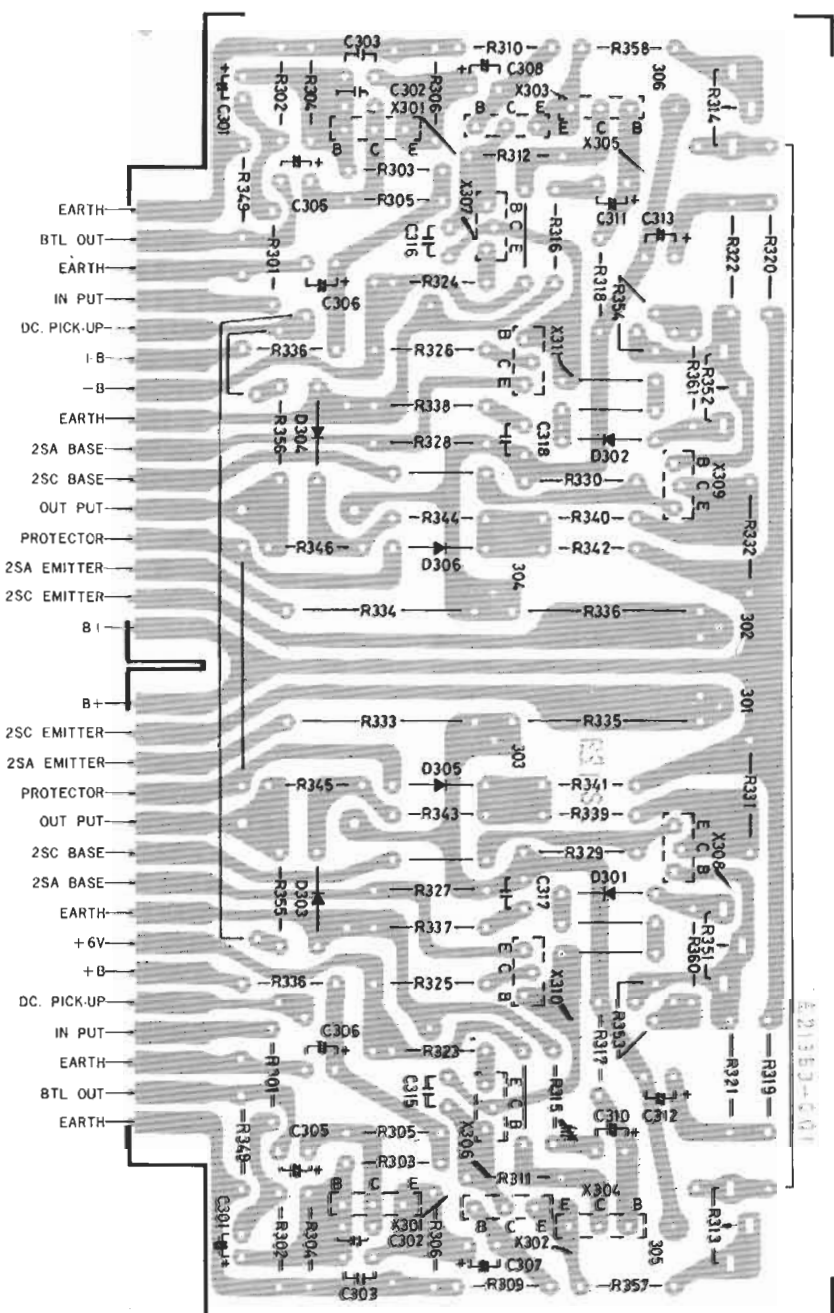


Fig. 35

Tab No.	Tab Name	Connection
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1-30	Earth	To Rotary SW. S5
2-29	BTL OUT	
3-28	Earth	
4-27	Input	From REV. Switch S705
5-26	DC Pick up	To TAP-206 Tab No. 220, 221
6-25	+B or Biase	To TAP-206 Tab No. 226
7-24	-B	From (-B) C6
8-23	Earth	
9-22	Driver Out	To Power Tr. (2SA) Base
10-21	Driver Out	To Power Tr. (2SC) Base
11-20	Output	To TAC-310 Input
12-19	Protector	To TAP-206 Tab No. 216, 217
13-18	Driver Out	To Power Tr. (2SA) Emitter
14-17	Driver Out	To Power Tr. (2SC) Emitter
15-16	+B	From (+B) C5

TRANSISTOR

Ref. No.	PARTS No.	DESCRIPTION
X301	2SC458ALGC	Silicon (HITACHI)
X302~X305	2SA726F	" (MITSUBISHI)
X306~X309	2SD357D	" (MITSUBISHI)
X310, X311	2SB527D	" (MITSUBISHI)

DIODE

Ref. No.	PARTS No.	PARTS NAME
D301, D302	SV-03	Silicon Varistor
D303~D306	MA-150	Silicon Diode

RESISTOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION	
R301	Q04800-2.2K	Carbon	2.2K	¼W
R302	" -56K	"	56K	"
R303	" -330K	"	330K	"
R304	" -120K	"	120K	"
R305,R306	" -5.6K	"	5.6K	"
R309,R310	" -68K	"	68K	"
R311,R312	" -3.3K	"	3.3K	"
R315,R316	" -1.5K	"	1.5K	"
R317,R318	" -56K	"	56K	"
R319,R320	04091-1.2K	Comp.	1.2K	½W
R321,R322	" -3.9K	"	3.9K	"
R323,R324	" -15	"	15Ω	"
R325,R326	" -22	"	22Ω	"
R329,R330	" -220	"	220Ω	"
R331,R332	" -22	"	22Ω	"
R333~R336	QRF031K-R22	Unflamable	0.22Ω	5W
R337,R338	04091-10	Comp.	10Ω	½W
R339,R340	Q04800-8.2K	Carbon	8.2K	¼W
R341,R342	" -2.7K	"	2.7K	"
R343,R344	" -47K	"	47K	"
R345,R346	" -4.7K	"	4.7K	"
R347	" -3.3K	"	3.3K	"
R355,R356	" -4.7K	"	4.7K	"
R357,R358	" -5.6K	"	5.6K	"
R359	" -3.3K	"	3.3K	"
R362	" -56K	"	56K	"

VARIABLE RESISTOR

Ref. No.	PARTS No.	DESCRIPTION	
R313,R314	Q04846-3	10KΩ	B Curve
R351,R352	Q04842-2	500Ω	B Curve

CAPACITOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION	
C301	QEB41EM-335	LLC Electrolytic	3.3μ	25V
C302	Q04051-56	Ceramic	56p	50V
C303	Q03244-102	Mylar	0.001μ	50V
C305	Q03112-5	Electrolytic	4.7μ	50V
C306	-50	"	47μ	50V
C307,C308	QEB41EM-106	LLC. Electrolytic	10μ	25V
C310,C311	Q03104-200	Electrolytic	220μ	6.3V
C312,C313	Q03112-50	Electrolytic	47μ	50V
C315,C316	Q04051-15	Ceramic	15p	50V
C317,C318	Q03244-683	Mylar	0.068μ	50V

THERMISTOR

Ref. No.	PARTS No.	PARTS NAME
R353,R354	E04026-4	SDT-20

Tab No.	Pin Name	Connection
T801	Phono Input	From Phono Input terminal
T802	Phono Input	From Phono Input terminal
T803	Earth	
T804	Earth	
T805	Earth	
T807	Sensitivity (low)	To Phono Sensitivity SW. S6
T808	Sensitivity (low)	To Phono Sensitivity SW. S6
T809	Sensitivity (high)	To Phono Sensitivity SW. S6
T810	Sensitivity (high)	To Phono Sensitivity SW. S6
T811	Sensitivity (Com.)	To Phono Sensitivity SW. S6
T812	Sensitivity (Com.)	To Phono Sensitivity SW. S6
T813	Output	To TDM-13 Sub in
T814	Output	To TDM-13 Sub in
T815	Earth	
T816	Earth	
T817	Earth	
T818		
T819	CD-4 Separation	To CD-4 Separation Control Volume
T820	CD-4 Separation	To CD-4 Separation Control Volume
T821	Output	To Mode SW.S3
T822	Output	To Mode SW.S3
T823	Output	
T824	Output	
T825		
T831	Input	From Mode SW. S3
T832	Input	From Mode SW. S3
T833	Output	To Mode SW. S3
T834	Output	To Mode SW. S3
T835	Earth	
T836	Earth	
T837	Earth	
T838		
T839		
T840		
T861	Input	From TAC-308 Tape monitor SW S701
T862	Input	From TAC-308 Tape monitor SW S701
T863	Output	To TAC-309 Tab No. 954
T864	Output	To TAC-309 Tab No. 959
T865	Earth	
T901	Input	
T902	Input	
T903	MTX-2 out	To Mode Switch S3
T904	MTX-1 out	To Mode Switch S3
T905	MTX-1 out	To Mode Switch S3
T906	MTX-2 out	To Mode Switch S3
T907	Earth	
T908	+B	From TAP-206 power supply Tab No. 226
T909		
T910		

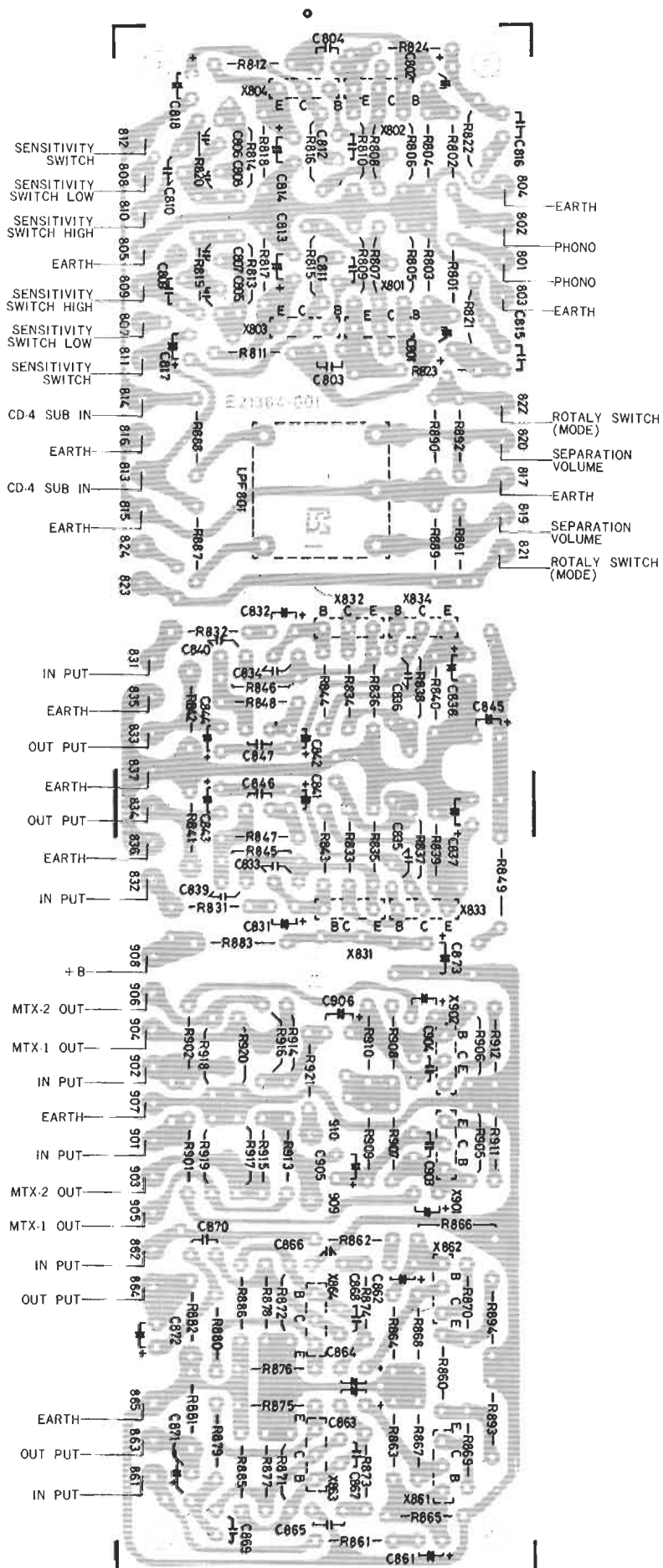


Fig. 36

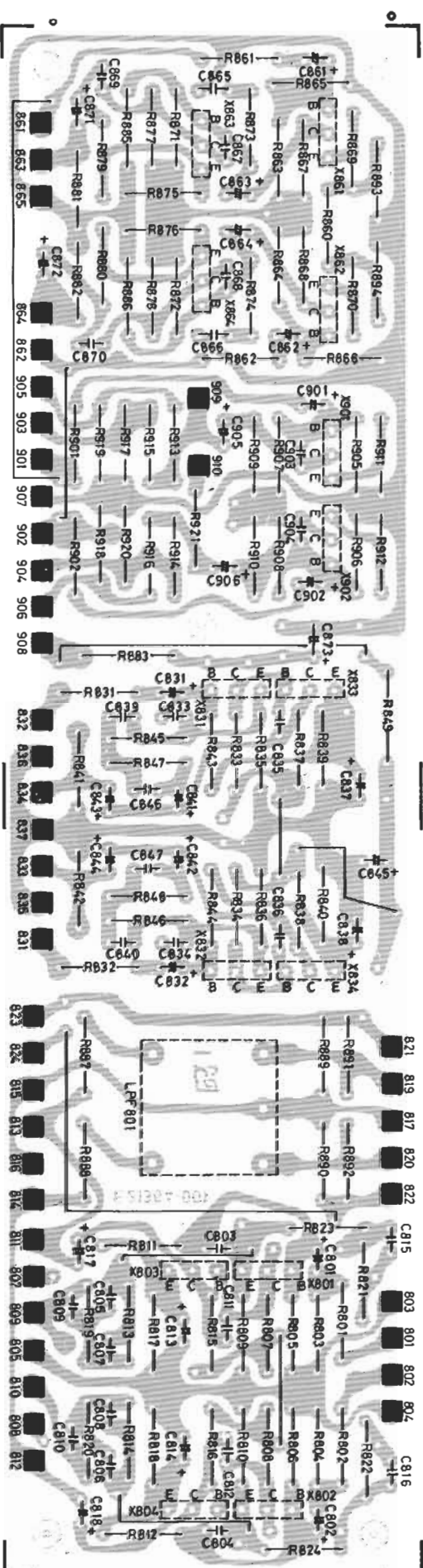


Fig. 37

TRANSISTOR

Ref. No.	PARTS No.	DESCRIPTION
X801~X804	2SC458ALGC	Silicon (HITACHI)
X831~X834	2SC458ALGC	"
X861~X864	2SC458ALGC	"
X901~X902	2SC458ALGC	"

RESISTOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
R801,R802	Q04800-2.2K	Carbon	2.2K 1/4W
R803,R804	" .56K	"	.56K "
R805,R806	" .120K	"	.120K "
R807,R808	" .330K	"	.330K "
R809,R810	" .470	"	.470K "
R811,R812	" .330K	"	.330K "
R813,R814	" .220K	"	.22K "
R815,R816	" .4.7K	"	4.7K "
R817,R818	" .560	"	.560K "
R819,R820	" .18K	"	.18K "
R821,R822	" .82K	"	.82K "
R823,R824	" .8.2K	"	8.2K "
R831,R832	" .2.2K	"	2.2K "
R833,R834	" .68K	"	.68K "
R835,R836	" .1.5K	"	1.5K "
R837,R838	" .4.7K	"	4.7K "
R839,R840	" .680	"	.680K "
R841,R842	" .56K	"	.56K "
R843,R844	" .470K	"	.470K "

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
R845,R846	Q04800-39K	Carbon	39K 1/4W
R847,R848	" .18K	"	.18K "
R849	Q04091	Comp.	330K 1/4W
R860	Q04800-8.20	Carbon	8.20K 1/4W
R861,R862	" .2.2K	"	2.2K "
R863,R864	" .470K	"	.470K "
R865,R866	" .270K	"	.270K "
R867,R868	" .5.6K	"	5.6K "
R869,R870	" .1.5K	"	1.5K "
R871,R872	" .560K	"	.560K "
R873,R874	" .8.2K	"	8.2K "
R875~R878	" .4.7K	"	4.7K "
R879	" .8.2K	"	8.2K "
R880	" .6.8K	"	6.8K "
R881,R882	" .68K	"	.68K "
R883	Q04091	Comp.	330K 1/4W
R885,R886	Q04800-470K	Carbon	470K 1/4W
R887,R888	" .4.7K	"	4.7K "
R889,R890	" .1.8K	"	1.8K "
R891,R892	" .5.6K	"	5.6K "
R893,R894	" .2.7K	"	2.7K "
R901,R902	" .10K	"	10K "
R905,R906	" .270K	"	.270K "
R907,R908	" .680K	"	.680K "
R909,R910	" .5.6K	"	5.6K "
R911,R912	" .2.7K	"	2.7K "
R913,R914	" .8.2K	"	8.2K "
R915,R916	" .12K	"	12K "
R917,R918	" .22K	"	22K "
R919,R920	" .68K	"	.68K "
R921	" .8.2K	"	8.2K "

CAPASITOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
C801,C802	Q03112-1	Electrolytic	1 μ 50V
C803,C804	Q04051-200	Ceramic	200p 50V
C805,C806	Q03244-183	Mylar	0.018 50V
C807,C808	Q03244-102	"	0.001 50V
C809,C810	Q04051-27	Ceramic	27p 50V
C811,C812	Q04051-56	"	56p 50V
C813,C814	Q03106-30	Electrolytic	33 μ 10V
C815,C816	Q03244-393	Mylar	0.039 50V
C817,C818	Q03112-5	Electrolytic	4.7 μ 50V
C831,C832	Q03112-1	Electrolytic	1 μ 50V
C833,C834	Q03244-102	Mylar	0.001 μ 50V
C835,C836	Q04051-56	Ceramic	56p 50V
C837,C838	Q03106-30	Electrolytic	33 μ 6V
C839,C840	Q03244-182	Mylar	0.0018 50V
C841,C842	QEB41EM-225	LLC. Electrolytic	2.2 μ 50V
C843,C844	Q03112-1	Electrolytic	1 μ 50V
C845	Q03112-50	"	47 μ 50V
C846,C847	Q03244-823	Mylar	0.082 μ 50V
C861~C864	Q03112-3	Electrolytic	1 μ 50V
C865,C866	Q03244-104	Mylar	0.1 μ 50V
C867,C868	Q04051-56	Ceramic	56p 50V
C869	Q03244-683	Mylar	0.068 μ 50V
C870	Q03244-153	"	0.015 μ 50V
C871,C872	Q03112-1	Electrolytic	1 μ 50V
C873	Q03112-50	"	47 μ 50V
C901,C902	Q03112-1	"	1 μ 50V
C903,C904	Q04051-56	Ceramic	56p 50V
C905,C906	Q03112-1	Electrolytic	1 μ 50V

OTHERS

Ref. No.	PARTS No.	PARTS NAME
L801	E03427-006	Low Pass Filter

Tab No.	Tab Name	Connection
T201	AC Input	From power trans (yellow wire)
T202	Earth	To E. Cap C5, C6, Earth
T203	Earth	
T204	AC Input	From power trans (yellow wire)
T205	AC Input	From power trans (brown)
T206	Earth	
T207	Earth	
T208	12V Out Put	To TFM C.B. Source SW. S2
T209	10V Out Put	To CD-4 Rader Lamp LA-462
T210	AC 10V Input	From power trans (blue)
T211	10V Out Put	To Source SW. S2
T212	10V Out Put	To Mode SW. S3
T213	Earth	
T214	+B Input	From (+B) 32V line
T215	Biase Out Put	To TAD-140 driver amp Pin No. 6 or 25
T216	Protector Input	From TAD-140 driver amp Pin No. 12 & 19
T217	Protector Input	From TAD-140 driver amp Pin No. 12 & 19
T218		
T219		
T220	Protector Input	From TAD-140 driver amp Pin No. 5 & 26
T221	Protector Input	From TAD-140 driver amp No. 5 & 26
T227	Earth	
T223	+B Out Put	To TAC-307 Tab No. 565 TAD-140 Pin 6 or 25
T224	Earth	
T225	+B Out Put	To TDM-13A (CD-4) (+B)
T226		
T227		
T228	+B Out Put	To TAE-84 Tab No. 908
T229	Filter TR	From Liple Tr X9 Emitter
T230		
T231	Earth	
T232	Filter TR	From Liple Tr X9 Base
T233	Filter TR	From Liple Tr X9 Colector
T234		
T235	Earth	
T236	Earth	
T237	+B Out	
T238	Relay Out	To TAC-310 Relay C.B. Relay Tab
T239	Filter TR	To Liple Tr. X251 Colector
T240	Filter TR	To Liple Tr. X251 Base
T241	Filter TR	From Liple Tr. X251 Emitter
T242		

TRANSISTOR

Ref. No.	PARTS No.	DESCRIPTION
X252, X253	2SC1211C or D	Silicon (MITSUBISHI)
X751~X753	2SC711AE	" (")
X754	2SC1166Y	" (TOSHIBA)

DIODE

Ref. No.	PARTS No.	PARTS NAME
D252, D254	FR2-02	Silicon
D255	E0771-12	Zener (WZ-130) (SINNIHON)
D256	E0771-14	Zener (WZ-150) (SINNIHON)
D257, D258	FR2-02	Silicon (FUJI)
D259	E0771-15	Zener (7V) (SHIN NIHON)
D750, D751	MA-150	Silicon (MATSUSHITA)

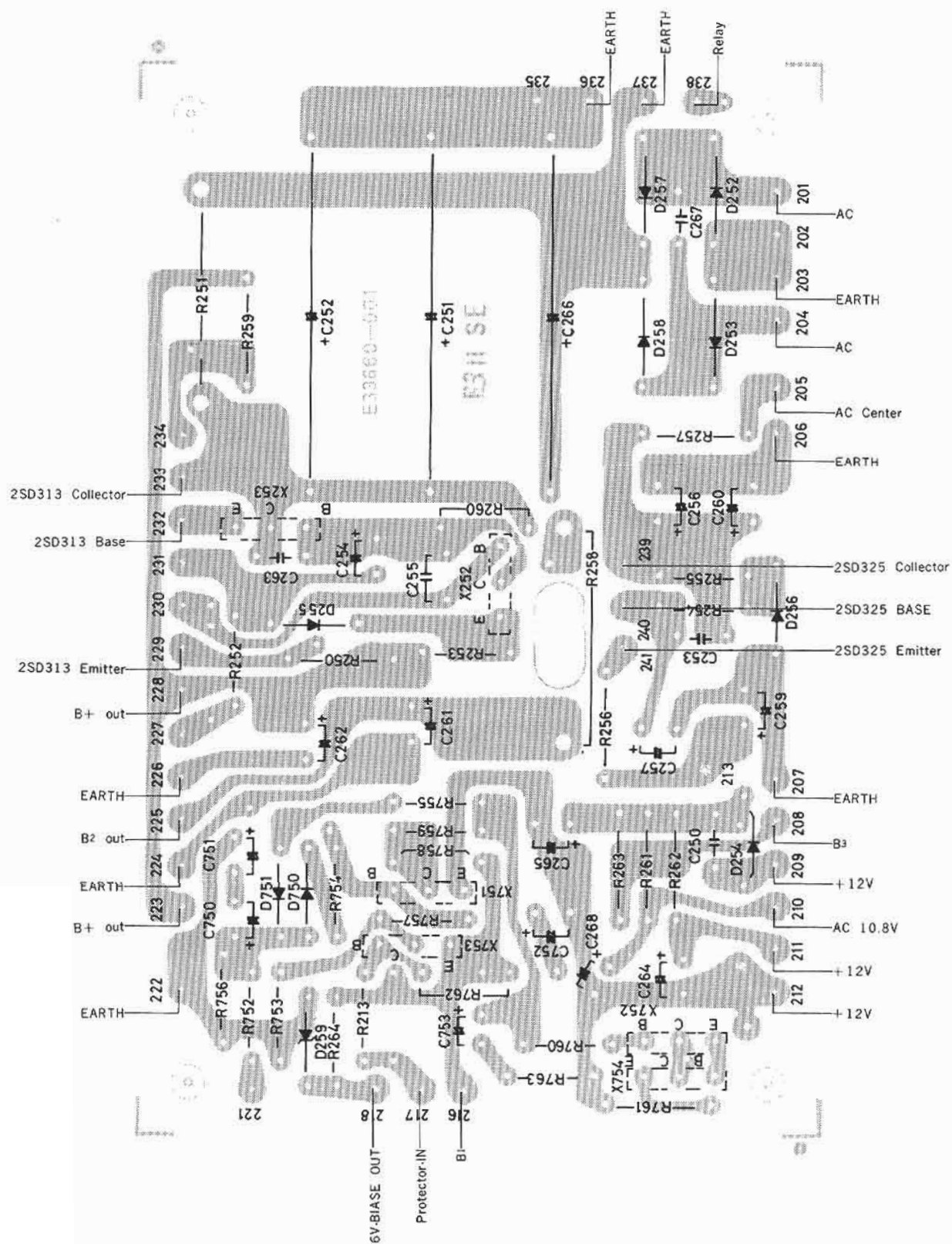
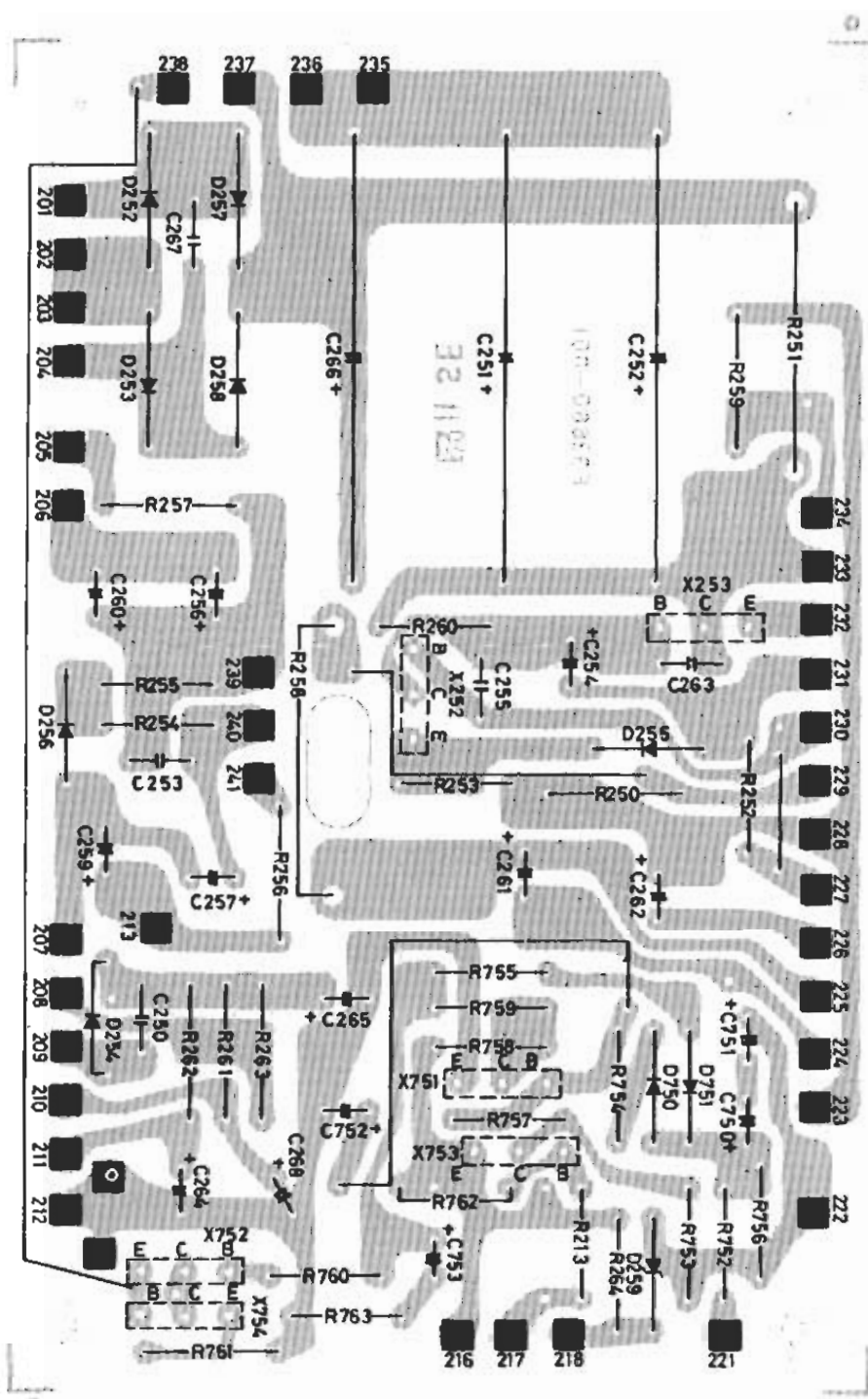


Fig. 38

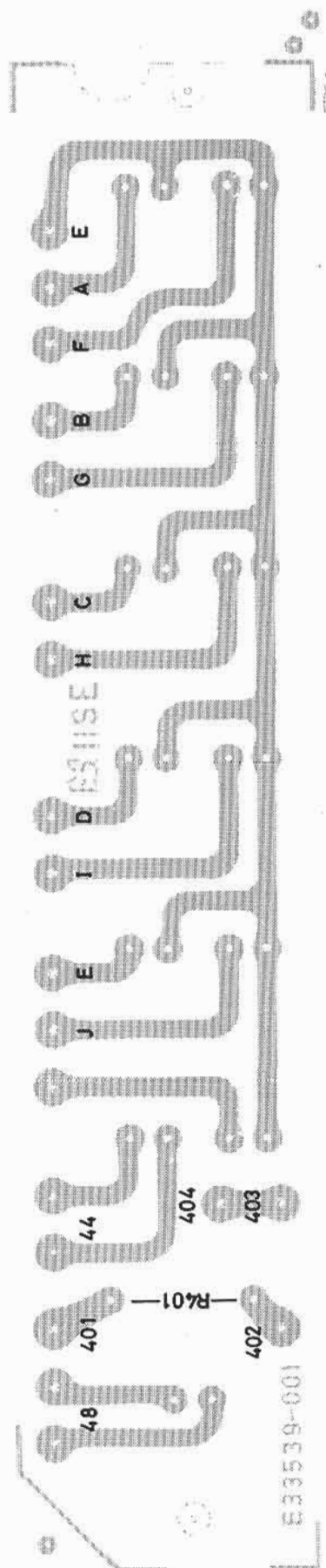


RESISTOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
R213	Q04800-5.6K	Carbon	5.6K ¼W
R250	04091-10	Comp.	10Ω ½W
R251	E04117-2-10	Unflamable	10Ω 2W
R252	Q04800-8.2K	Carbon	8.2K ¼W
R253	" -56K	"	56K "
R254	" -560	"	560Ω "
R255	" -5.6K	"	5.6K "
R256,R257	04091-10	Comp.	10Ω ½W
R258	E04117-5-220	Unflamable	220Ω 5W
R259	Q04800-27K	Carbon	27K ¼W
R260	" -8.2K	"	8.2K "
R261,R262	04091-15	Comp.	15Ω ½W
R263	" -33	"	33Ω "
R264	Q04800-4.7K	Carbon	4.7K ¼W
R752,R753	" -10K	"	10K "
R754	" -68K	"	68K "
R755	" -10K	"	10K "
R756	" -5.6K	"	5.6K "
R757	" -18K	"	18K "
R758	" -100K	"	100K "
R759	" -5.6K	"	5.6K "
R760	" -560	"	560Ω "
R761	Q04770-100	O. M. R.	100Ω 1W
R762	Q04800-4.7K	Carbon	4.7K ¼W
R763	" -680	"	680Ω "
R764	" -68K	"	68K "

CAPACITOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
C250	Q42309-01	Ceramic	0.01μ 500V
C251,C252	QEW21JA-227	Electrolytic	220μ 63V
C253	Q42309-01	Ceramic	0.01μ 500V
C254	Q03112-100	Electrolytic	100μ 50V
C255	Q46962-01	Ceramic	0.01μ 50V
C256	Q03138-220	Electrolytic	220μ 35V
C257	Q03110-30	"	33μ 25V
C259	Q03108-500N	"	470μ 16V
C260	Q03138-220	"	220μ 35V
C261,C262	Q03112-200	"	220μ 50V
C263	Q42309-01	Ceramic	0.01μ 500V
C265	Q03108-500N	Electrolytic	470μ 16V
C266	QEW21JA-227	"	220μ 63V
C267	Q42309-01	Ceramic	0.01μ 500V
C750,C751	Q03108-50	Electrolytic	47μ 16V
C752,C753	Q03108-100	"	100μ 16V



Tab No.	Tab Name	Connection
T40	Needle Lamp	To TAP-208 Tab No. E
T44	ST Rader	To TFM905GUA1 Tab No. T17 TAP-206 Tab No. 208
T48	CD-4 Rader	To TDM-13A Tab No. 20 & TAP-206 Tab No. 209
T402	Needle Lamp	To Needle Lamp LA-5
T403		
T404		
J	Mode Indicator	From Mode SW. S3j
E	Source Indicator	From Source SW. S2g
I	Mode Indicator	From Mode SW. S3j
D	Source Indicator	From Source SW. S2g
H	Mode Indicator	From Mode SW. S3j
C	Source Indicator	From Source SW. S2g
G	Mode Indicator	From Mode SW. S3j
B	Source Indicator	From Mode SW. S2g
F	Mode Indicator	From Mode SW. S3j
A	Source Indicator	From Mode SW. S2g
E	Common Tab	Earth

RESISTOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
R401	04091-82	Comp.	82Ω ½W

OTHERS

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
LA451	E44476-001	Pilot Lamp	6V 35mA
LA452~LA462	QLP3201-004	Pilot Lamp	12V 100mA

Fig. 40

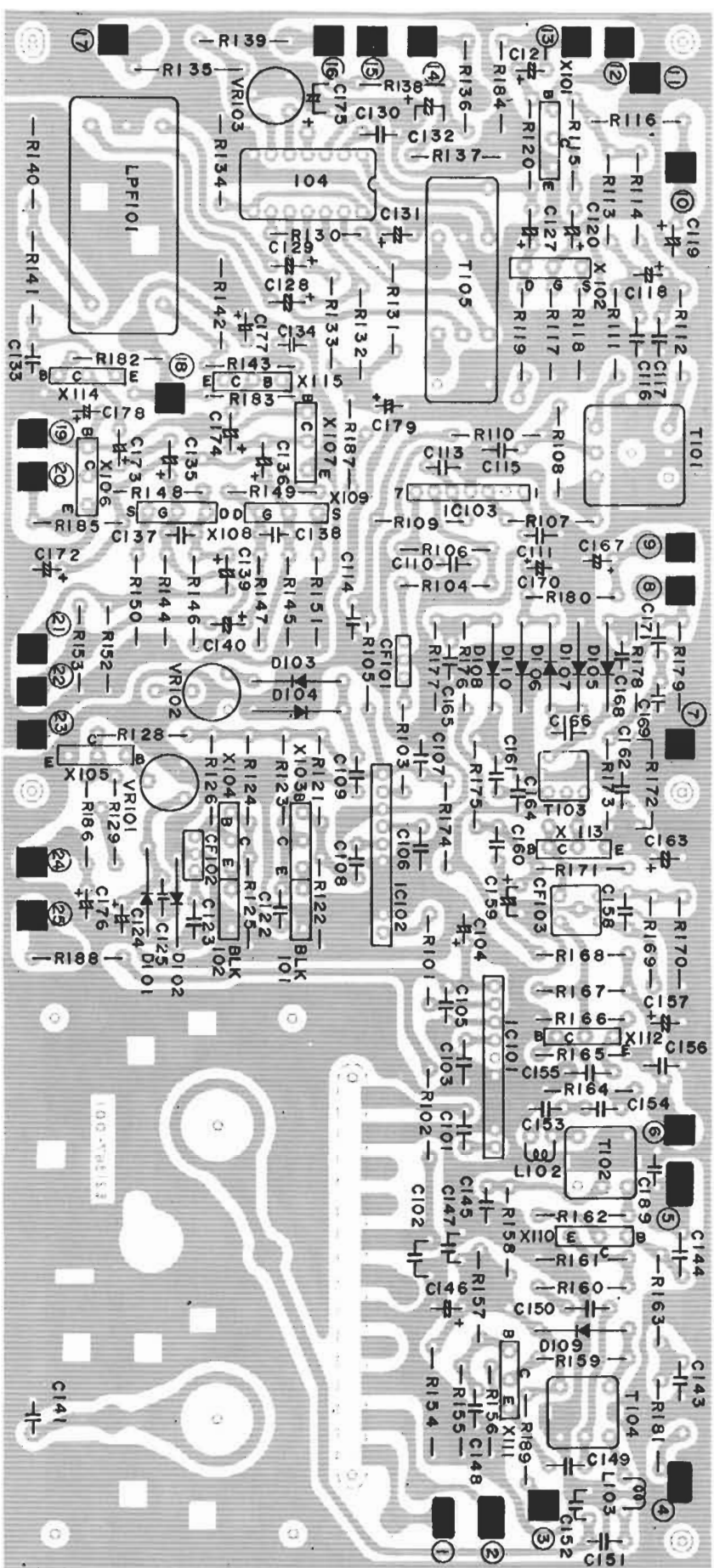


Fig. 41

Tab No.	Tab Name	Connection
T1	Ant (FM)	From FM Balun (L2)
T2	Ant (FM)	From FM Balun (L2)
T3	AM (+B)	From Source SW. S2K
T4	Earth	From Bar ant. (Yellow wire)
T5	AM input	From TAP-206 Tab No. 208
T6	IF (+B)	
T7	Earth	
T8	AM Out	To Source SW. S2a
T9	Tuning meter	To Tuning meter M-1
T10	Center meter	To Tuning meter M-2
T11	Earth	
T12	Muting Input	From Muting SW. S9 Common
T13	FM Det out	To FM Det Terminal on Rear Panel

Tab No.	Tab Name	Connection
T14	-B (30V)	From (-B) C6
T15	Stereo only	To Stereo only SW. S8 Off
T16	Stereo only	To Stereo only SW. S8 on
T17	Stereo Rader	From TAP-206 Tab No. T44
T18		
T19	Muting	To Stereo only SW. S8 Common
T20	+B (40V)	From TAP-206 Tab No. 226
T21	MPX Out (R)	To Source SW. S2b
T22	MPX Out (L)	To Source SW. S2a
T23	Earth	
T24	Muting	To Muting SW. S9 On
T25	FM (+B)	From TAP-206 Tab No. 208

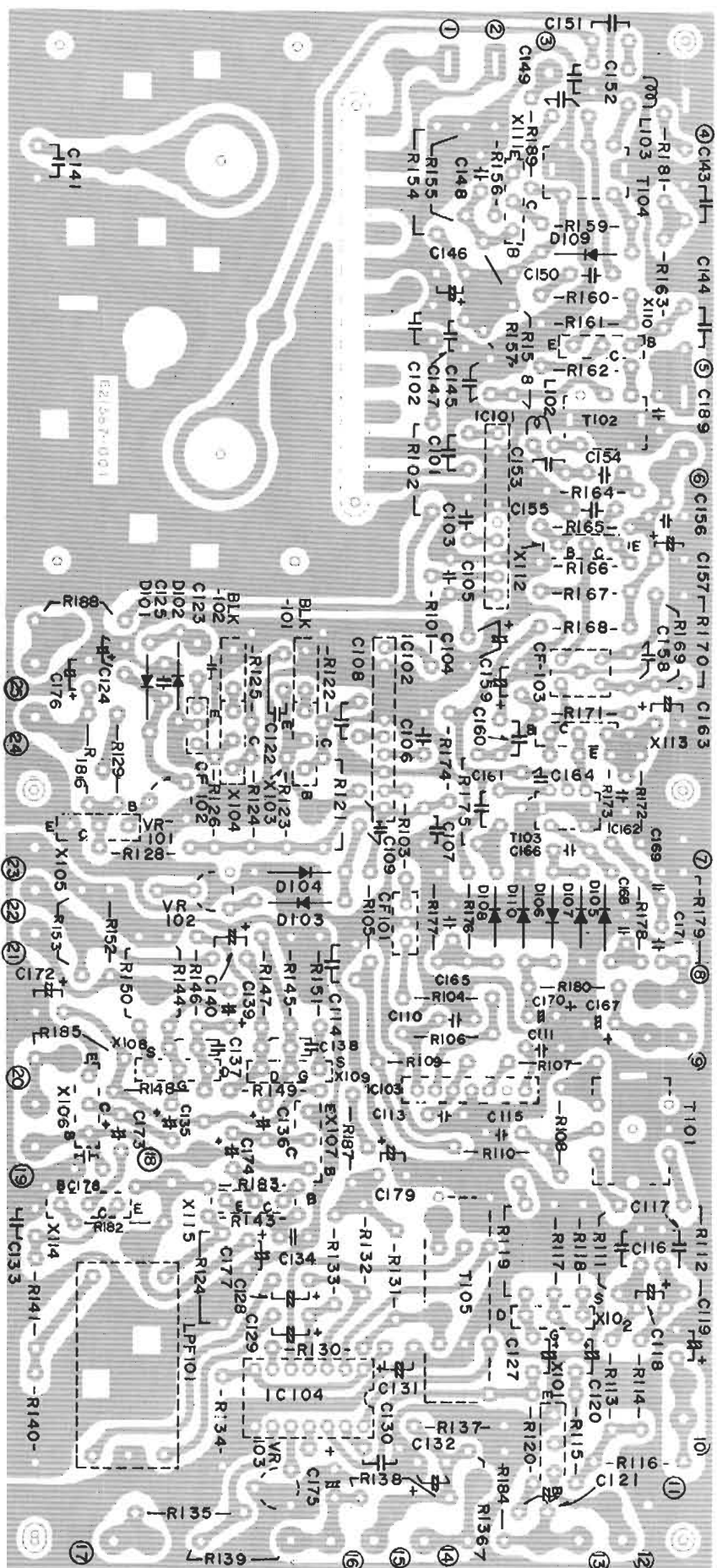


Fig. 42

TRANSISTOR

Ref. No.	PARTS No.	DESCRIPTION
X101	2SC711F	Silicon (MITSUBISHI)
X102	2SK30Y	FET (TOSHIBA)
X103, X104	2SC710B	Silicon (MITSUBISHI)
X105, C106	2SC711F	Silicon (MITSUBISHI)
X107	2SK30Y	FET (TOSHIBA)
X108	2SC711F	Silicon (MITSUBISHI)
X109	2SK30Y	FET (TOSHIBA)
X110	2SC710D	Silicon (MITSUBISHI)
X111	2SC711E	Silicon (MITSUBISHI)
X112	2SC710C	Silicon (MITSUBISHI)
X113	2SC829B	Silicon (MATSUSHITA)
X114, X115	2SA628E	Silicon (MITSUBISHI)

I.C

Ref. No.	PARTS No.	DESCRIPTION
IC101	E03450-001	450-1 IC (TAIYO YUDEN)
IC102	E03450-002	450-2 IC (TAIYO YUDEN)
IC103	TA7061AP	IC (TOSHIBA)
IC104	LA3301	MPX IC (SANYO)

DIODE

Ref. No.	PARTS No.	DESCRIPTION
D101	D103	1S188FM Ge (SANYO)
D104	MA-150	Si (MATSUSHITA)
D105	D109	1S188FM Ge (SANYO)
D110	MA-150	Si (MATSUSHITA)

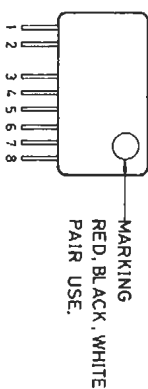


Fig. 43

RESISTOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION	
R101	Q04800-100	Carbon	100Ω	¼W
R102	" -10	"	10Ω	"
R103	" -220	"	220Ω	"
R104	" -330	"	330Ω	"
R105	" -10	"	10Ω	"
R106	" -470	"	470Ω	"
R107	" -1K	"	1K	"
R108	" -8.2K	"	8.2K	"
R109	" -470	"	470Ω	"
R110	" -10	"	10Ω	"
R111,R112	" -1K	"	1K	"
R113,R114	" -4.7K	"	4.7K	"
R115	" -33K	"	33K	"
R116	" -5.6K	"	5.6K	"
R117	" -1M	"	1M	"
R118	" -3.9K	"	3.9K	"
R119	" -8.2K	"	8.2K	"
R120	" -1K	"	1K	"
R121	" -12K	"	12K	"
R122	" -8.2K	"	8.2K	"
R123	" -470	"	470Ω	"
R124	" -12K	"	12K	"
R125	" -4.7K	"	4.7K	"
R126	" -560	"	560Ω	"
R128	" -2.7K	"	2.7K	"
R129	" -680	"	680Ω	"
R130	" -10	"	10Ω	"
R131	" -220	"	220Ω	"
R132,R134	" 4.7K	"	4.7K	"
R135	04091-220	Comp.	220Ω	¼W
R136	Q04800-100K	Carbon	100K	¼W
R137	" -8.2K	"	8.2K	"
R138	" -47K	"	47K	"
R139	" -180K	"	180K	"
R140	" -6.8K	"	6.8K	"
R141	" -3.3K	"	3.3K	"
R142	" -6.8K	"	6.8K	"
R143	" -33K	"	33K	"
R144,R145	" -1M	"	1M	"
R146,R147	" -2.2M	"	2.2M	"
R148,R149	" -8.2K	"	8.2K	"
R150,R151	" -820	"	820Ω	"
R152	" -120K	"	120K	"
R154	04091-560	Comp.	560Ω	¼W
R155	Q04800-8.2K	Carbon	8.2K	¼W
R157	" -680	"	680Ω	"
R157	" -47K	"	47K	"
R158	" -12K	"	12K	"
R159	" -180	"	180Ω	"
R160	" -6.8K	"	6.8K	"
R161	" -1.2K	"	1.2K	"
R162	" -680	"	680Ω	"
R163	" -1.5K	"	1.5K	"
R164	" -33K	"	33K	"
R165	" -120K	"	120K	"
R166	" -470	"	470Ω	"
R167	" -2.7K	"	2.7K	"
R169	" -3.3K	"	3.3K	"
R170	" -4.7K	"	4.7K	"
R171	" -3.9K	"	3.9K	"
R172	" -180	"	180Ω	"
R173	" -18K	"	18K	"
R175	" -1.8K	"	1.8K	"
R176	" -3.3K	"	3.3K	"
R177	" -680	"	680Ω	"
R178	" -1.8K	"	1.8K	"
R179	" -120K	"	120K	"
R180,R181	" -1.5K	"	1.5K	"
R182,R183	" -470K	"	470K	"
R184	" -68K	"	68K	"
R185	" -3.9K	"	3.9K	"
R186	" -120K	"	120K	"
R187	" -220	"	220Ω	"
R188,R189	" -47	"	47Ω	"

CAPACITOR

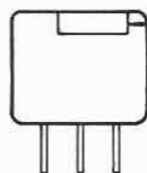
Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
C101,C102	Q46962-022(A)	Ceramic	0.022 μ 50V
C103	E03375-047		0.047 μ
C104	Q03108-50	Electrolytic	47 μ 16V
C105	Q46962-022(A)	Ceramic	0.022 μ 50V
C106	E03375-047	"	0.047 μ "
C107	Q46962-022(A)	"	0.022 μ "
C108	Q04051-39	"	39p "
C109	Q04051-10	"	10p "
C110,C111	Q46962-022(A)	"	0.022 μ "
C113,C115	Q46962-022(A)	"	0.022 μ "
C116,C117	Q04051-22	"	22p "
C118	Q03108-10	Electrolytic	10 μ 16V
C119	Q03106-50	"	47 μ 10V
C120	Q03108-10	"	10 μ 16V
C121	Q03112-1	"	1 μ 50V
C122,C123	Q46962-022(A)	Ceramic	0.022 μ 50V
C124	Q03112-0.5	Electrolytic	0.47 μ 50V
C125	Q46962-022(A)	Ceramic	0.022 μ 50V
C127	Q03108-10	Electrolytic	10 μ 25V
C128,C129	Q03112-1	"	1 μ 50V
C130	Q03244-272	Mylar	0.0027 μ 50V
C131	Q03112-5	Electrolytic	4.7 μ 16V
C132	Q03108-50	"	47 μ 16V
C133	Q03244-152	Mylar	0.0015 μ 50V
C135,C136	Q03112-1	Electrolytic	1 μ 50V
C137,C138	Q04051-56	Ceramic	56p 50V
C139,C140	QEB41EM-224	Electrolytic	0.22 μ 25V
C141	Q04051-3	Ceramic	3p 50V
C143	Q46962-022(A)	"	0.022 μ "
C144	E03375-047	"	0.047 μ "
C145	Q46962-022(A)	"	0.022 μ "
C146	Q03108-10	Electrolytic	10 μ 16V
C147,C148	Q46962-022(A)	Ceramic	0.022 μ 50V
C149	Q03244-103	Mylar	0.01 μ 50V
C150	E03375-047	Ceramic	0.047 μ 50V
C151	Q04051-470	"	470p 50V
C152	Q04051-18	"	18p "
C153	Q04051-330	"	330p "
C154	Q46962-022(A)	"	0.022 μ "
C155	E03375-047	"	0.047 μ "
C156	Q46962-022(A)	"	0.022 μ "
C157	Q03108-50	Electrolytic	47 μ 16V
C158	Q04051-120	Ceramic	120p 50V
C159	Q03106-50	Electrolytic	47 μ 10V
C160	Q46962-022(A)	Ceramic	0.022 μ 50V
C161	Q04051-82	Ceramic	82p "
C162	Q46962-022(A)	"	0.022 μ "
C163	Q03104-200	Electrolytic	220 μ 6.3V
C164,C165	Q46962-022(A)	Ceramic	0.022 μ 50V
C166	Q04051-220	"	220p "
C167	Q03104-100	Electrolytic	100 μ "
C168	Q03244-102	Mylar	0.001 μ 50V
C169	Q03244-103	"	0.01 μ "
C170	Q03106-50	Electrolytic	47 μ 10V
C171	Q03244-563	Mylar	0.056 μ 50V
C172	Q03112-50	Electrolytic	47 μ 50V
C173,C174	Q03112-1	"	1 μ 50V
C175	Q03108-10	"	10 μ 16V
C176	Q03112-5	"	4.7 μ 50V
C177	Q03112-0.5	"	0.47 μ "
C178	Q03112-3	"	3.3 μ "
C179	Q03108-50	"	47 μ 16V
C189	Q04051-150	Ceramic	150p 50V

VARIABLE RESISTOR

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
VR101	Q04878-47K	Volume	47K
VR102	Q04878-4.7K	"	4.7K
VR103	Q04878-1K	"	1K

OTHERS

Ref. No.	PARTS No.	PARTS NAME	DESCRIPTION
BLK101, BLK102	E03448-681	CR Block	(TAIYO YUDEN) (") (")
CF101	E03357-001	Ceramic Filter	
CF102	E03476-002	Ceramic Filter	
CF103	E03399-001	Ceramic Filter	(TAIYO YUDEN) (") (")
T101	E03134-017	Discri Trans	
T102	E03062-31	AM IFT	
T103	E03062-33	AM IFT	(TAIYO YUDEN) (") (")
T104	E03079-17	AM OSC Coil	
T105	E03117-020	MPX Coil	
LPF101	E03427-007	Low Pass Filter	390 μ H 12 μ H
L102	E03520-391	Choke Coil	
L103	E03522-120K	Choke Coil	



MARKING
RED, BLACK, WHITE
PAIR USE.

Fig. 44

NOTE : A sort of Resistor's Parts Number shown below.

Parts No.	Sort of Resistor
Q04800	Carbon Resistor $\frac{1}{4}$ W
04091	Composition Resistor $\frac{1}{2}$ W

When you order Resistor, write required Resistor value in addition to the right-hand of hyphen.

For example : Q04800-1K = Carbon Resistor 1K Ω $\frac{1}{4}$ W
 Q04800-4.7K = Carbon Resistor 4.7K Ω $\frac{1}{4}$ W
 04091-5.6K = Composition Resistor 5.6K Ω $\frac{1}{2}$ W

The List of JVC NIVICO Service Manual

(Phonograph)

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2131	STP-808A	2141	5320, 5340	2151(B)	5040 (R#-2)	2161	4333U	2171	5202
2132	ARC-41, 42	2142	L-311D	2152	SSL-46E	2162	MPX-18B	2172	5220
2133	TRE-666C	2143	6102, 6103, 6104	2153	SSL-46EA	2163	MCA-104E	2173	ARC-15A
2134(B)	4TR-990DX (a)	2144	ARC-10	2154	MSL-300ES	2164	SEA-100E/5100	2174	4344, 4344U
2135	5001	2145	5011/PST-1000E	2155	4330	2165	5240B	2175(B)	4450, 4450U
2136	SRP-B30E/5230	2146	5012/MST-1000E	2156(B)	N-404, N-404Y	2166	4330U	2176	CSL-130SE
2137	N-65F	2147	5201	2157	MSL-501E	2167	MCA-105E/5107	2177	5020/5020U
2138	4TR-511D, L511D	2148	MSL-300E	2158	N202, 303	2168	5030/5030U	2178	MTR-10ME
2139(B)	SRP-B40E/5240	2149	5310	2159(B)	4211	2169	SRC-900	2179	5010L
2140	5203	2150	MSL-110S	2160	4333U, 4333	2170	5200	2180	4TR-1000
			5205		5010				

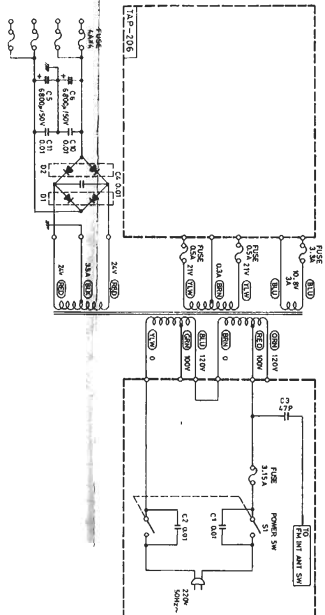
No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2181(B)	4400, 4400U	2191	MCM-105E/5111	2201	MSL-201L	2211	BLA-500E	2221	4431U
2182	ARC-50	2192	5395	2202	MSL-201S	2212	MCT-V7E	2222	4310U
2183	MCT-105E/5108	2193	MSL-201E	2203	4431	2213	5306	2223	N303FYE, N203FY
2184	SCR-500	2194	MCA-V7E	2204	4310	2214	N203/Run No. 2	2224	MCA-104Z
2185	4330M	2195	SRC-800	2205	N-303YE	2215	5250U	2225	MSL-501E
2186	N-404F Series	2196	5301/GB-2E	2206	5500	2216	5444/5444U	2226	MSL-201E
2187	5325, 5335	2197	5390	2207	5540	2217	5910	2227	MCP-105E
2188	MSL-501L	2198	5321	2208	MTR-15ME	2218	MCT-V5E	2228	MCA-V9E
2189	MSA-404E	2199	5341/5341K	2209	5550/5550U	2219	5100	2229	MCA-V5E
2190	N-202FMY	2200	5331/5331K	2210	5351/5351K	2220	5020/5020U 5030/5030U 5040/5040U	2230	ECA-102
									5345

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2231	CD4-1E	2241	4344U (R#-2)	2251	VR-5501	2261	VS-5307	2271	VN-700
2232	SRP-473E	2242	MS-4431, 4311U	2252	VN-5101	2262	VR-5511	2272	4MD-10X
2233	N-404FMY #3	2243	MF-4440	2253	VS-5308	2263	4DD-10	2273	VP-10, VB-10
2234	SEA-V7E	2244	MF-4451	2254	VS-5332	2264	5911	2274	VS-5313
2235	MSL-502ES	2245	QSL-F777E	2255	VS-5352	2265	VT-700	2275	VN-900
2236	VS-5391	2246	MF-4430	2256	VS-5342	2266	4ME-4801	2276	GB-1ED
2237	VS-5396	2247	4MM-4600	2257	VS-5322	2267	VS-5399	2277	MSL-602L
2238	5520/5520U	2248	VR-5501L	2258	VR-5541	2268	4VN-770	2278	MSL-302L
2239	VR-5521L	2249	VR-5521	2259	VR-5551	2269	VP-100	2279	4VN-550
2240	4ME-4800	2250	4VR-5445	2260(B)	4VR-5414	2270	VB-100	2280	VT-500

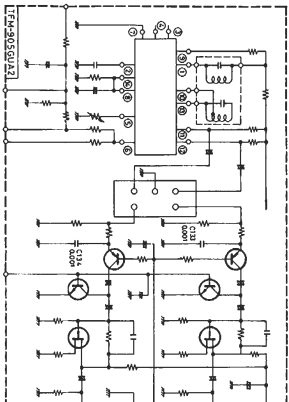
No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2281	4VN-990	2291	VR-5660	2301	4ME-4804	2311	SK12	2321	4VR-5456
2282	N-404FMY-4	2292	N-303FYE-2, N-203FY-2	2302	4MM-4604	2312	SK15	2322	
2283	4MM-1000	2293	SK-4430	2303	SEA-10	2313	VL-5	2323	
2284	4VN-880	2294	VL-8	2304	5944	2314	4VR-5446	2324	
2285	CSL-135E	2295	MF-4451U	2305	VS-5323	2315	4VR-5436	2325	
2286	VN-300	2296	4VC-5244	2306	VS-5333	2316	VR-5515	2326	
2287	MF-4430U	2297	5844	2307	SX-3	2317	VR-5515L	2327	
2288	4MD-20X	2298	VC-9	2308	4VR-5404	2318	VR-5505L	2328	
2289	4DD-5	2299	VS-5397	2309	VR-5505	2319	VR-5525	2329	
2290	VT-900	2300	4VR-1006	2310	DF-19E	2320	VR-5525L	2330	

(E) FOR EUROPE (SEMKO, SEV)

■ PRIMARY CIRCUIT (220V 50Hz~)

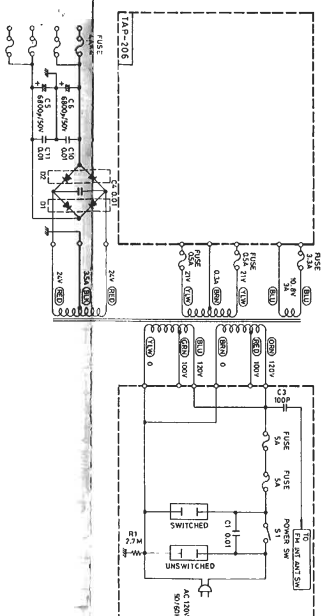


■ FM MPX CIRCUIT (DE-EMPHASIS 50uS)



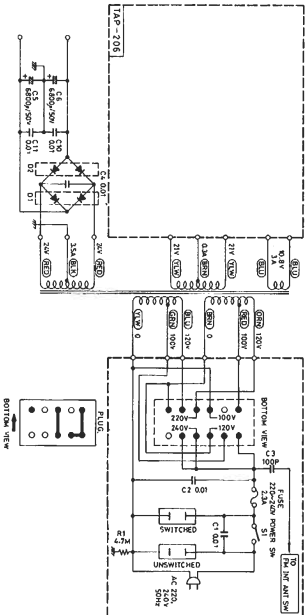
(M) FOR CANADA

■ PRIMARY CIRCUIT (AC 120V 50/60Hz)

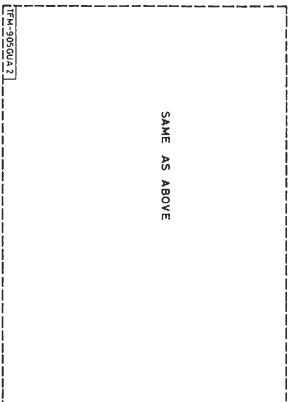


(F) FOR EUROPE EXCEPT SEMKO SEV

■ PRIMARY CIRCUIT (AC 220, 240V 50Hz)

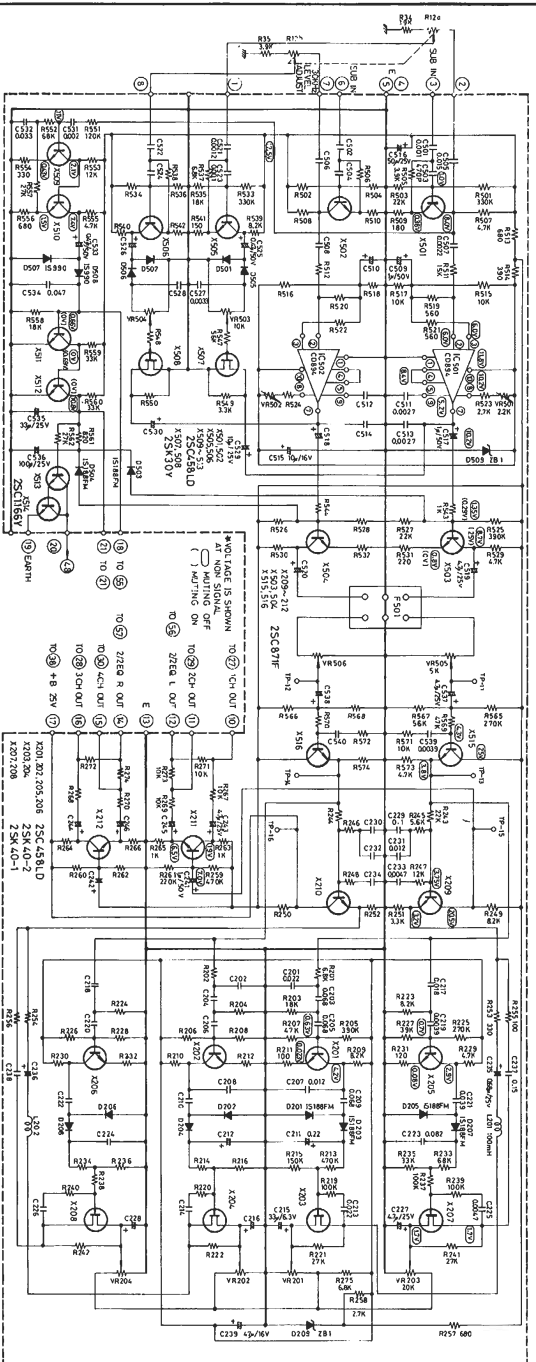


■ FM MPX CIRCUIT (DE-EMPHASIS 50uS)



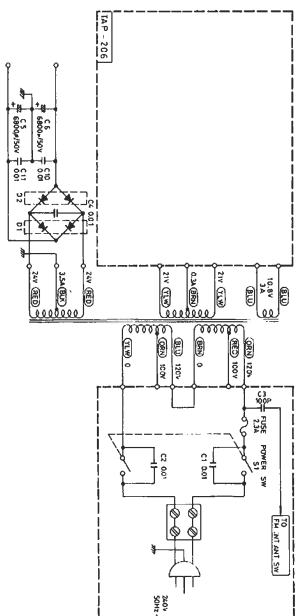
SAME AS ABOVE

IDM-13A CD-4 DEMODULATOR



(A) FOR AUSTRALIA

■ PRIMARY CIRCUIT (240V 50Hz ~)



(P)(U) FOR PACEX, NEX AND OTHER COUNTRIES EXCEPT U.S.A., CANADA, EUROPE AND AUSTRALIA

■ PRIMARY CIRCUIT (AC 100, 120, 220, 240V 50/60Hz)

