SERVICING PRECAUTIONS

1. General Servicing Precautions

(1) Always disconnect the power source before:

1) Removing or reinstalling any component, circuit board, module or any other instr

2) Disconnecting or reconnecting any instrument electrical plug or other electrical

3) Connecting a test substitute in parallel with an electrolytic capacitor in the i

Caution A wrong part substitution or incorrect polarity installation of electrolyti
explosion hazard.

(2) Do not defeat any plug/socket B+ voltage interlocks with which instruments covere
might be equipped.

(3) Do not apply power to this instrument and or any of its electrical assemblies unl
heat sinks are correctly installed.

(4) Always connect a test instrument's ground lead to the instrument chassis ground b
instrument positive lead. Always remove the test instrument ground lead last.

1) The service precautions are indicated or printed on the cabinet, chassis or comp
follow the printed or indicated service precautions and service materials.

2) The Components used in the unit have a specified conflammability and dielectric
replacing any components, use components which have the same ratings. Components
the circuit diagram are important for safety or for the characteristics of the un
exact components.

3) An insulation tube or tape is sometimes used and some components are raised abov
board for safety. The internal wiring is sometimes clamped to prevent contact wit
Install them as they were.

4) After servicing always check that the removed screws, components and wiring have
correctly and that the portion around the service part has not been damaged. Furt
between the blades of attachment plug and accessible conductive parts.

ESD PRECAUTIONS

1. Electrostatically Sensitive Devices (ESD)

Some semiconductor (solid state) devices can be damaged easily by static electricity. commonly are called Electrostatically Sensitive Devices (ESD). Examples of typical ES circuits and some field-effect transistors and semiconductor chip components. The fol be used to help reduce the incidence of component damage caused by static electricity

(1) Immediately before handling any semiconductor component or semiconductor-equipped any electrostatic charge on your body by touching a known earth ground. Alternative commercially available discharging wrist strap device, which should be removed for prior to applying power to the unit under test.

(2) After removing an electrical assembly equipped with ESD devices, place the assembl surface such as aluminum foil, to prevent electrostatic charge buildup or exposure

(3) Use only a grounded-tip soldering iron to solder or unsolder ESD devices.

(4) Use only an anti-static solder removal device. Some solder removal devices not cl can generate electrical charges sufficient to damage ESD devices.

(5) Do not use freon-propelled chemicals. These can generate electrical charges suffi devices.

(6) Do not remove a replacement ESD device from its protective package until immediat ready to install it. (Most replacement ESD devices are packaged with leads electric conductive foam, aluminum foil or comparable conductive material).

(7) Immediately before removing the protective material from the leads of a replaceme protective material to the chassis or circuit assembly into which the device will b

CAUTION : Be sure no power is applied to the chassis or circuit, and observe all ot

(8) Minimize bodily motions when handling unpackaged replacement ESD devices. (Otherw motion such as the brushing together of your clothes fabric or the lifting of your can generate static electricity sufficient to damage an ESD device).

SPECIFICATIONS

1. GENERAL

Power requirements	12V-15V DC
Ground system	Negative
Dimension (W x H x D)	182mm x 53mm x 159mm
Weight	1.8kg (with detachable case)

2. RADIO SECTION

	FM	AM(MW)	LW
Frequency range	87.5~108MHz	520-1,710kHz or 520(522)-1,620kHz	144-281 kHz
Intermediate frequency	10.7MHz	450kHz	450kHz
Usable sensitivity1 OdBuV	10dBS-	28dBS-	35dBS-
Signal to noise ratio	60dB	50dB	50dB

3. TAPE SECTION

Tape type	4 track 2 channel system
Tape speed	4.75cm/sec
Wow and flutter	0.15% (WRMS)
Signal to noise ratio	50dB

4. AUDIO SECTION

Maximum output power	2.5W per channel
Frequency response	50Hz to 14,000Hz
Speaker impedance	4Ω x 4
Signal to noise ratio	60dB

NOTE : The design and specifications are subject to change without notice in the improvement.

ADJUSTMENTS

1.TEST & ADJUSTMENT POINT

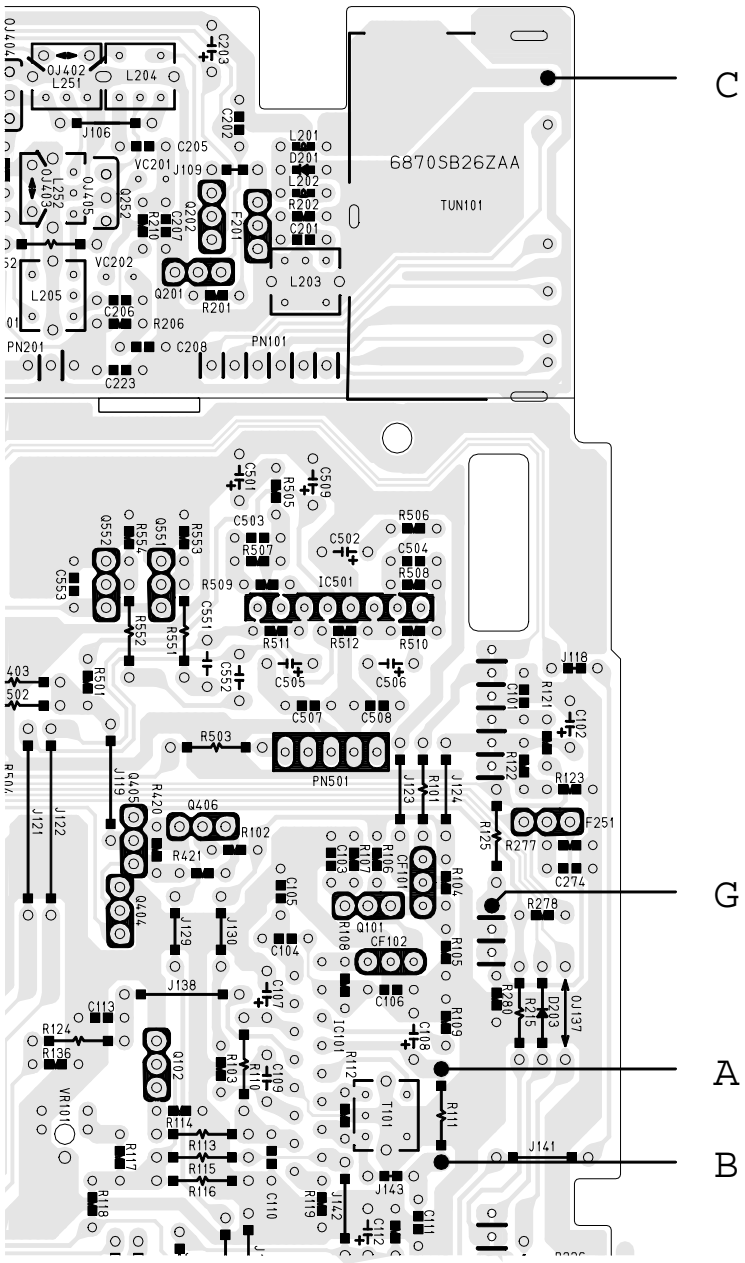


Figure 1.

2.FM ADJUSTMENT

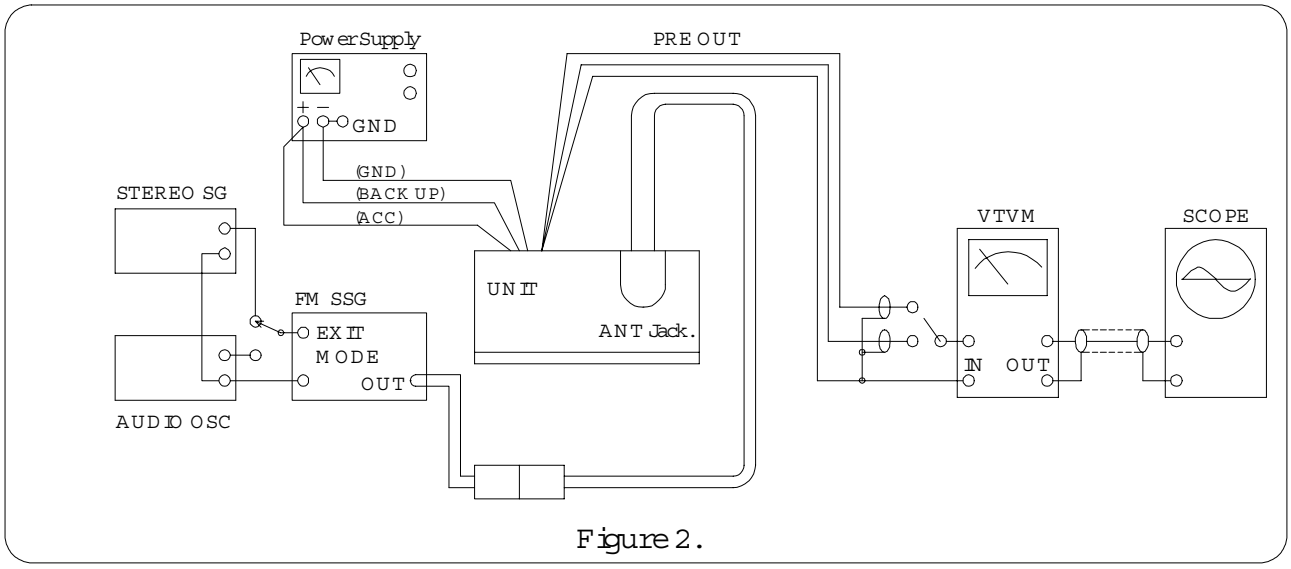


Figure 2.

(1) The impedance of FM antenna terminal is 75Ω.
Therefore, connect coaxial cable (3C-2V etc.) between FM SG and antenna terminal when wiring.

Item / Type	FM SSG Attenuator Indication	Available Power Rato	Antenna Terminal Voltage
Open indication type	0dB	5.2dBf	6dB/uV
	60dB	65.2dBf	66dB/uV
Load or close indication type	0dB	11.2dBf	12dB/uV
	54dB	65.2dBf	66dB/uV

(2) There are two kind in indication of FM SG output attenuator
1) Attenuator with marking of 75Ω open ... open indication type.
2) Attenuator with marking of 75Ω load or close ... load or close indication type.

(3) FM SG output level in this FM adjustment are described as open indication type. The left table shows relations among FM SG attenuator indication (dB), available power ratio (dBf) and antenna terminal voltage (dB/uV) in each indication type.

NOTE: 1. BAND Switch ..... FM
2. BALANCE ..... Center
3. TREB/BASS ..... Center
4. Connect as shown in figure 2.
5. Refer to figure 1 for Adjustment Points.

STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUSTMENT	ADJUST FOR	REMARK
		FROM	TO				
1	Discriminator	98MHz 60dB No Dev. FM SSG	ANT Jack or Point C	Between Point A & Point B, DC VoltMeter.	T101	DC 0V ±10mV	

3.AM (MW) ADJUSTMENT

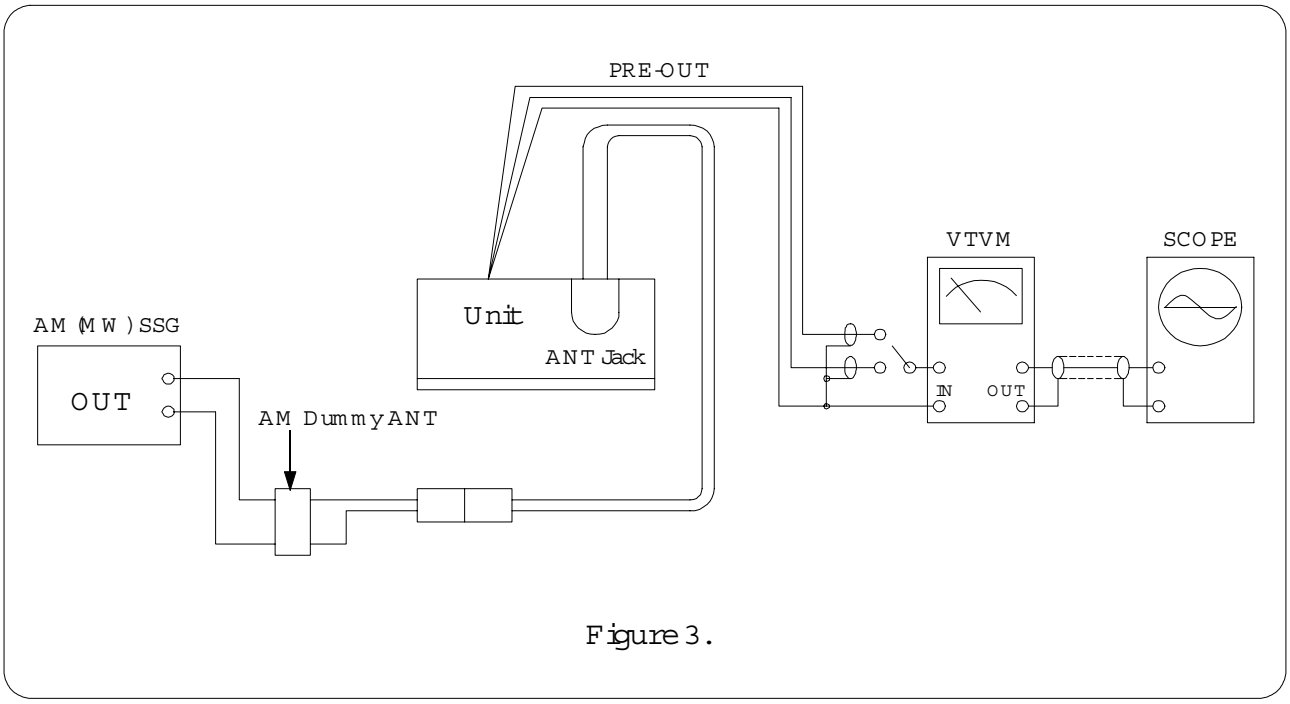


Figure 3.

NOTE: 1.BAND Switch .....AM (MW)

2.Connect as shown in figure 3.

3.Refer to figure 1 for Adjustment Points.

STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUSTMENT	ADJUST FOR	REMARK
		FROM	TO				
1	520 or 522kHz Tuning Voltage Adj.	No Input		FL Display (Reception Frequency)	Tuning (Up/Down) Switch	520 or 522kHz	
				Between Point G & GND, DC VoltMeter.	L206	DC 1.2V ±0.1V	
2	IF Coil Adj.	600kHz ANT input, 30dB, 400Hz (30% MOD) AM SSG.	ANT Jack or Point C	Output L or R ch, VTVM & Oscilloscope	T201 & T202	Max. Output	
3	600kHz RF Adj.	600kHz ANT input, 30dB, 400Hz (30% MOD) AM SSG.	Same as above	FL Display (Reception Frequency)	Tuning (Up/Down) Switch		
				Output L or R ch, VTVM & Oscilloscope	L204 & L205	Max. Output	

4.LW ADJUSTMENT

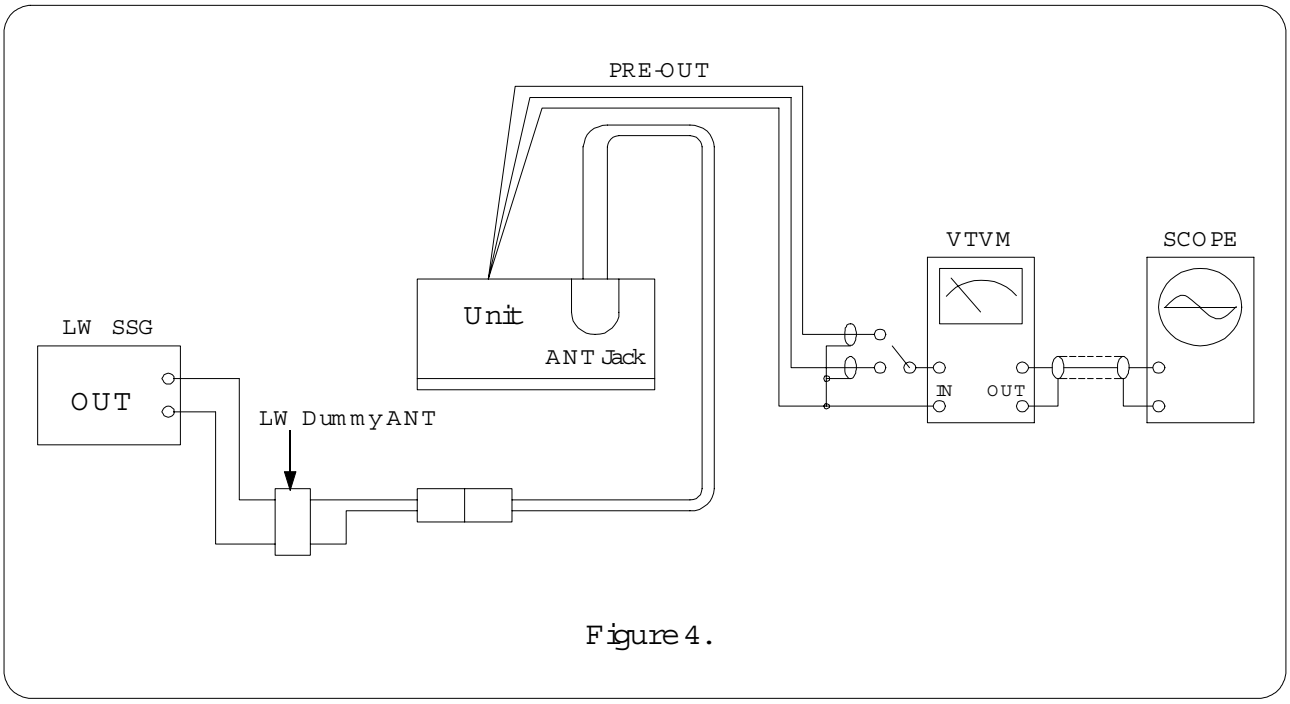


Figure 4.

NOTE: 1.BAND Switch .....LW

2.Connect as shown in figure 4.

3.Refer to figure 1 for Adjustment Points.

STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUSTMENT	ADJUST FOR	REMARK
		FROM	TO				
1	144kHz Tuning Voltage Adj.	No Input		FL Display (Reception Frequency)	Tuning (Up/Down) Switch	144kHz	
				Between Point G & GND, DC VoltMeter.	L253	DC 1.2V ±0.1V	
2	160kHz RF Adj.	160kHz ANT input, 30dB, 400Hz(30% MOD) AM SSG.	Same as above	FL Display (Reception Frequency)	Tuning (Up/Down) Switch		
				Output L or R ch, VTVM & Oscilloscope	L251 & L252	Max. Output	

5.CASSETTE DECK ADJUSTMENT

(1) Before this adjustment, clean PLAYBACK head surface.

(2) For this adjustment, use test tape MTT-114.

(3) VOLUME .....Maximum

(4) BALANCE .....Center

(5) TREB/BASS .....Center

(6) Connect as shown in figure 5.

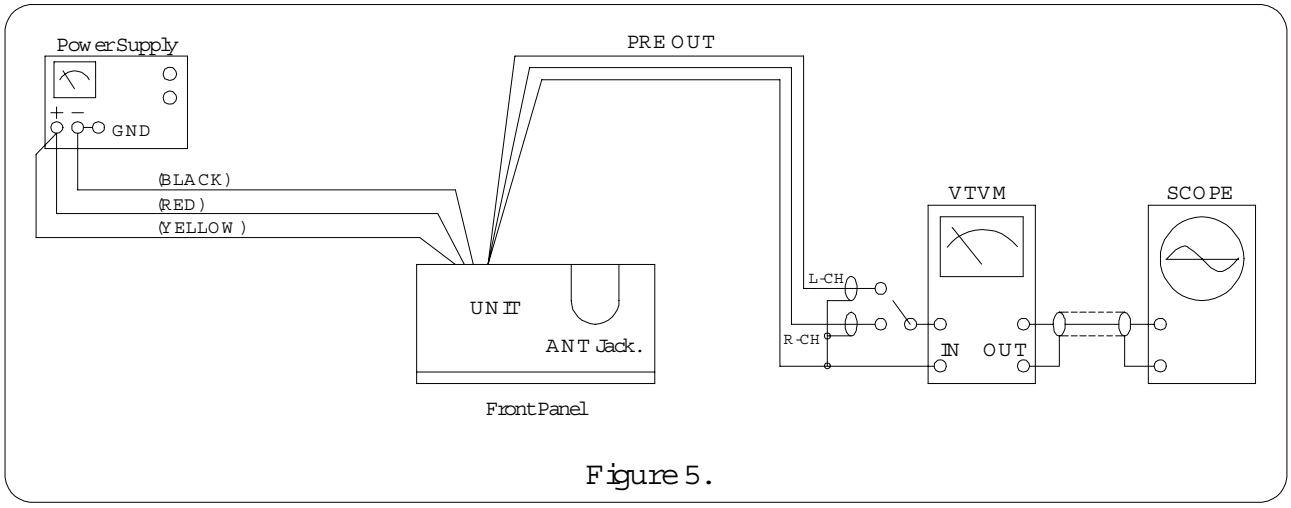


Figure 5.

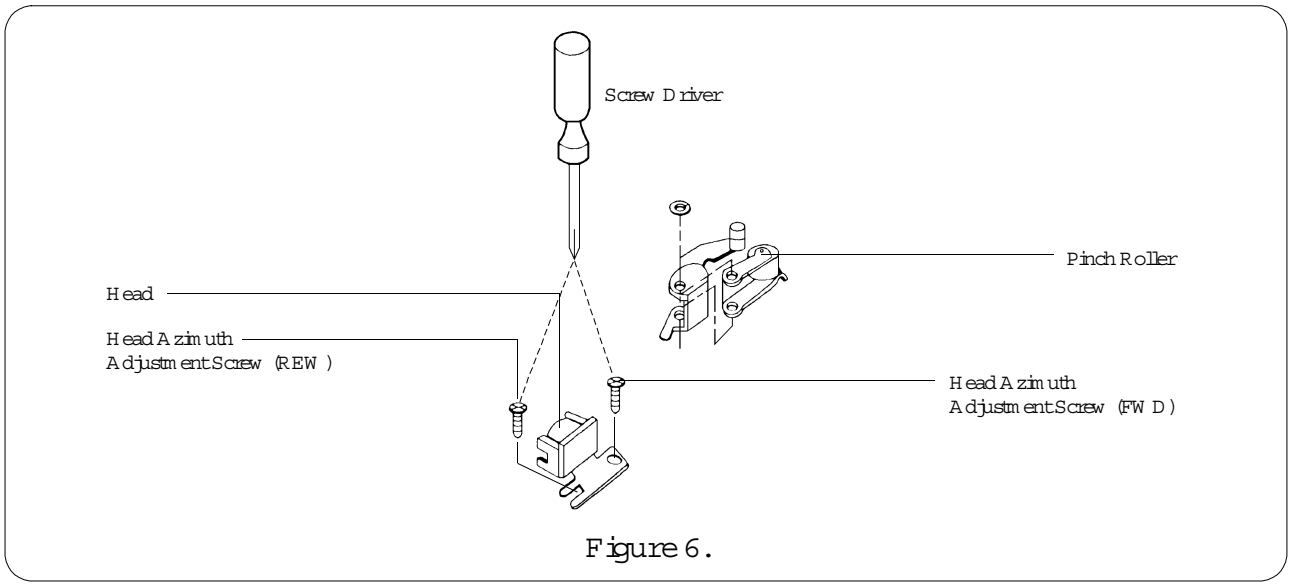
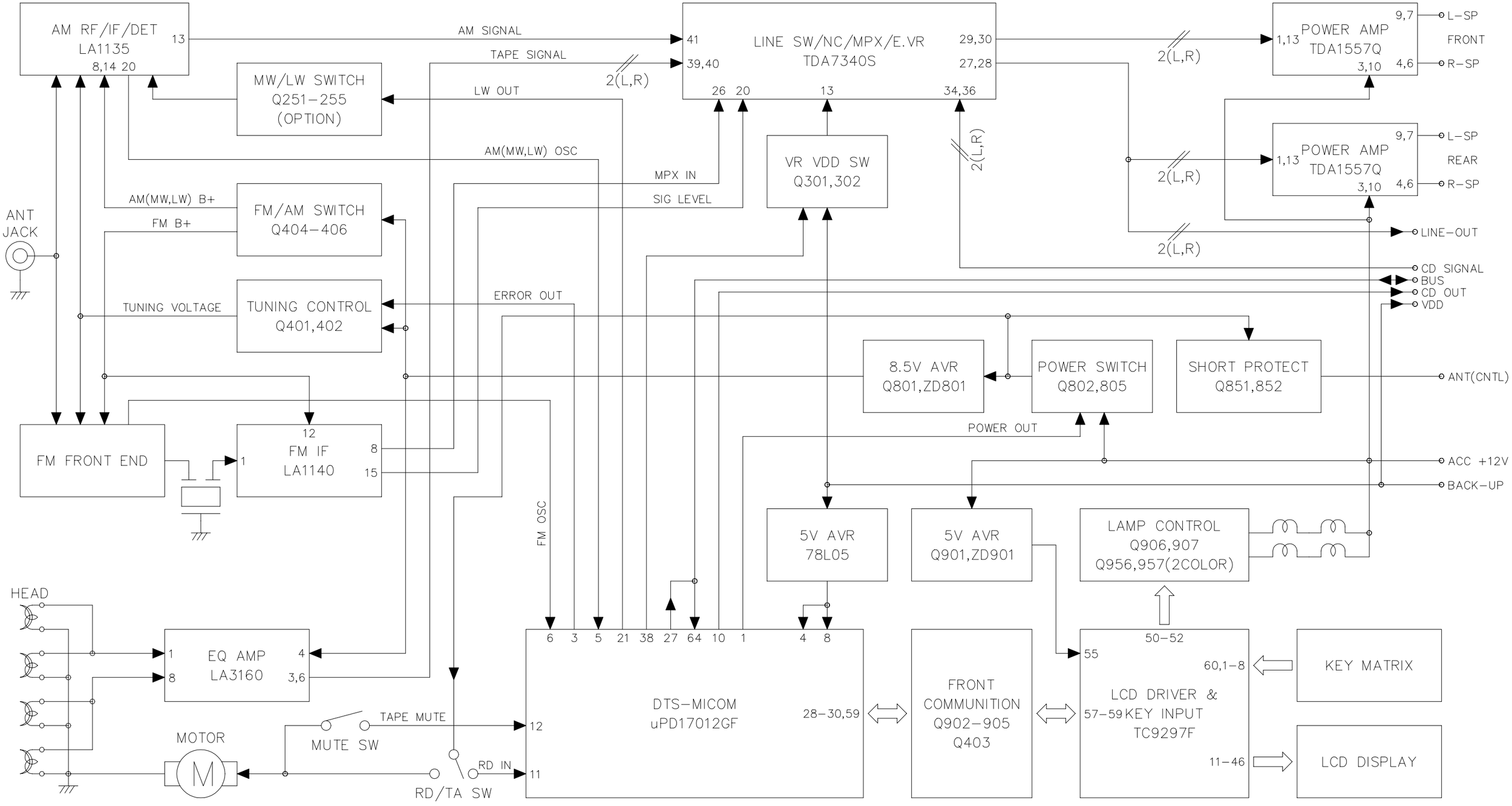
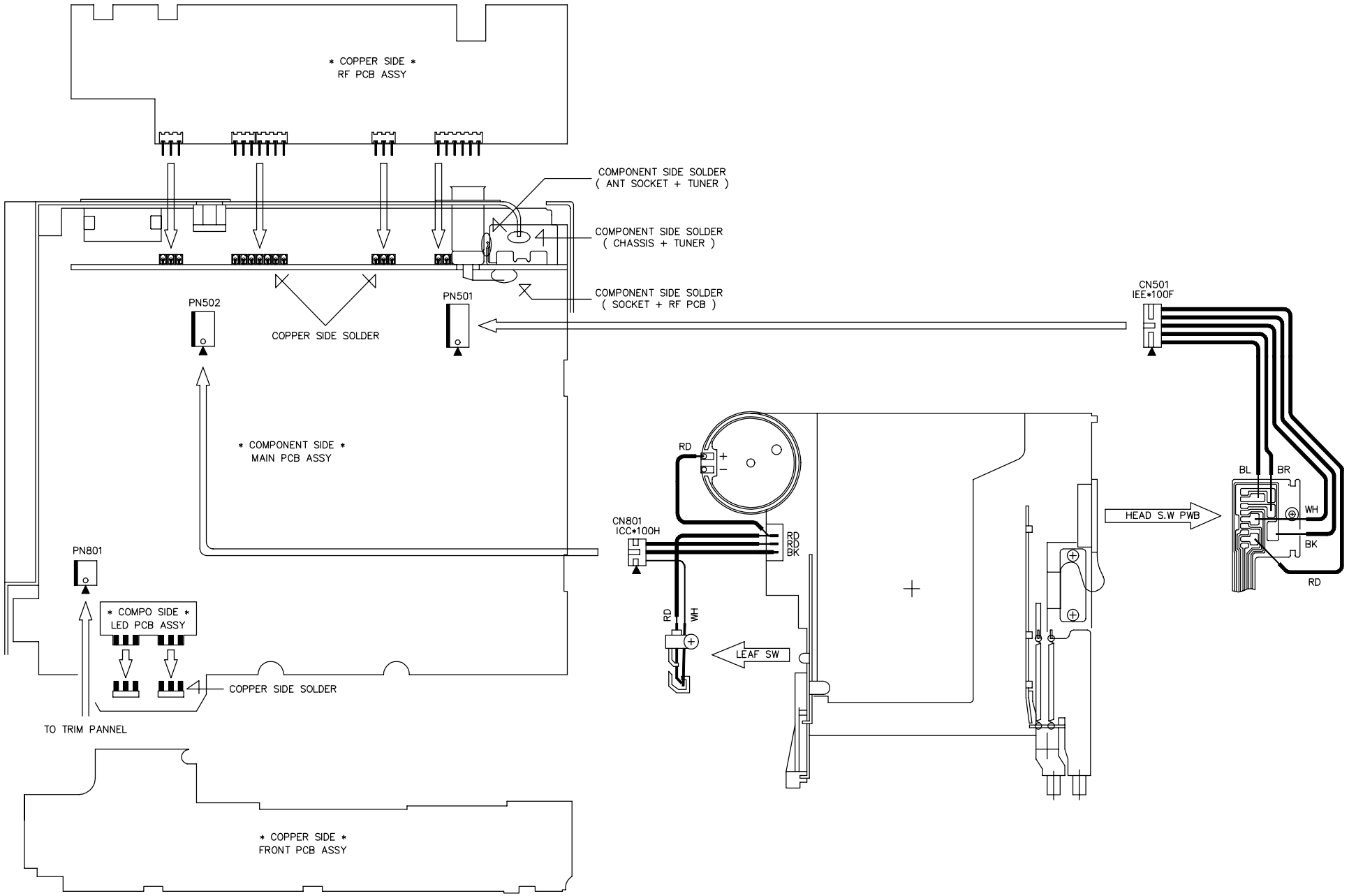


Figure 6.

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARK
	PB.Head Adj .	L-CH, R-CH, VTVM and Scope See figure 5.	Playback (FWD & REW) the TEST TAPE MTT-114	Adjust the azimuth adjusting screw (in figure 6.)	MAX. Output both channels on FWD and REW PLAY	After this adjustment, lock the screw with paint


AM RF/IF/DET
LA1135
13
8,14 20
AM SIGNAL
TAPE SIGNAL
2(L,R)
LINE SW/NC/MPX/E.VR
TDA7340S
41
39,40
29,30
27,28
26 20
13
34,36
MW/LW SWITCH
Q251–255
(OPTION)
LW OUT
AM(MW,LW) OSC
MPX IN
SIG LEVEL
VR VDD SW
Q301,302
2(L,R)
POWER AMP
TDA1557Q
1,13
9,7
3,10
4,6
L–SP
FRONT
R–SP
POWER AMP
TDA1557Q
REAR
LINE–OUT
ANT
JACK
AM(MW,LW) B+
FM B+
FM/AM SWITCH
Q404–406
CD SIGNAL
BUS
CD OUT
VDD
TUNING VOLTAGE
TUNING CONTROL
Q401,402
ERROR OUT
8.5V AVR
Q801,ZD801
POWER SWITCH
Q802,805
SHORT PROTECT
Q851,852
ANT(CNTL)
FM FRONT END
12
FM IF
LA1140
1
8
15
POWER OUT
ACC +12V
BACK–UP
FM OSC
5V AVR
78L05
5V AVR
Q901,ZD901
LAMP CONTROL
Q906,907
Q956,957(2COLOR)
HEAD
EQ AMP
LA3160
1
8
4
3,6
6 3 5 21 38 27 64 10 1 4 8
50–52
55
60,1–8
KEY MATRIX
DTS–MICOM
uPD17012GF
28–30,59
FRONT
COMMUNITION
Q902–905
Q403
LCD DRIVER &
57–59KEY INPUT
TC9297F
11–46
LCD DISPLAY
MOTOR
M
TAPE MUTE
MUTE SW
RD IN
RD/TA SW
12
11

❑ WIRING DIAGRAM



IC201
LA1135

IC301
TDA7340S

IC801
TDA1557Q

IC802
TDA1557Q

IC101
LA1140

IC501
LA3160

IC401
uPD17012GF-537-3BE

IC901
TC9297F

IC402
KIA78S05

TUN101
FM TUNER

FM FRONT END &
AM RF PCB ASSY

"DECK ASSY"

"MAIN PCB ASSY"

"FRONT PCB ASSY"

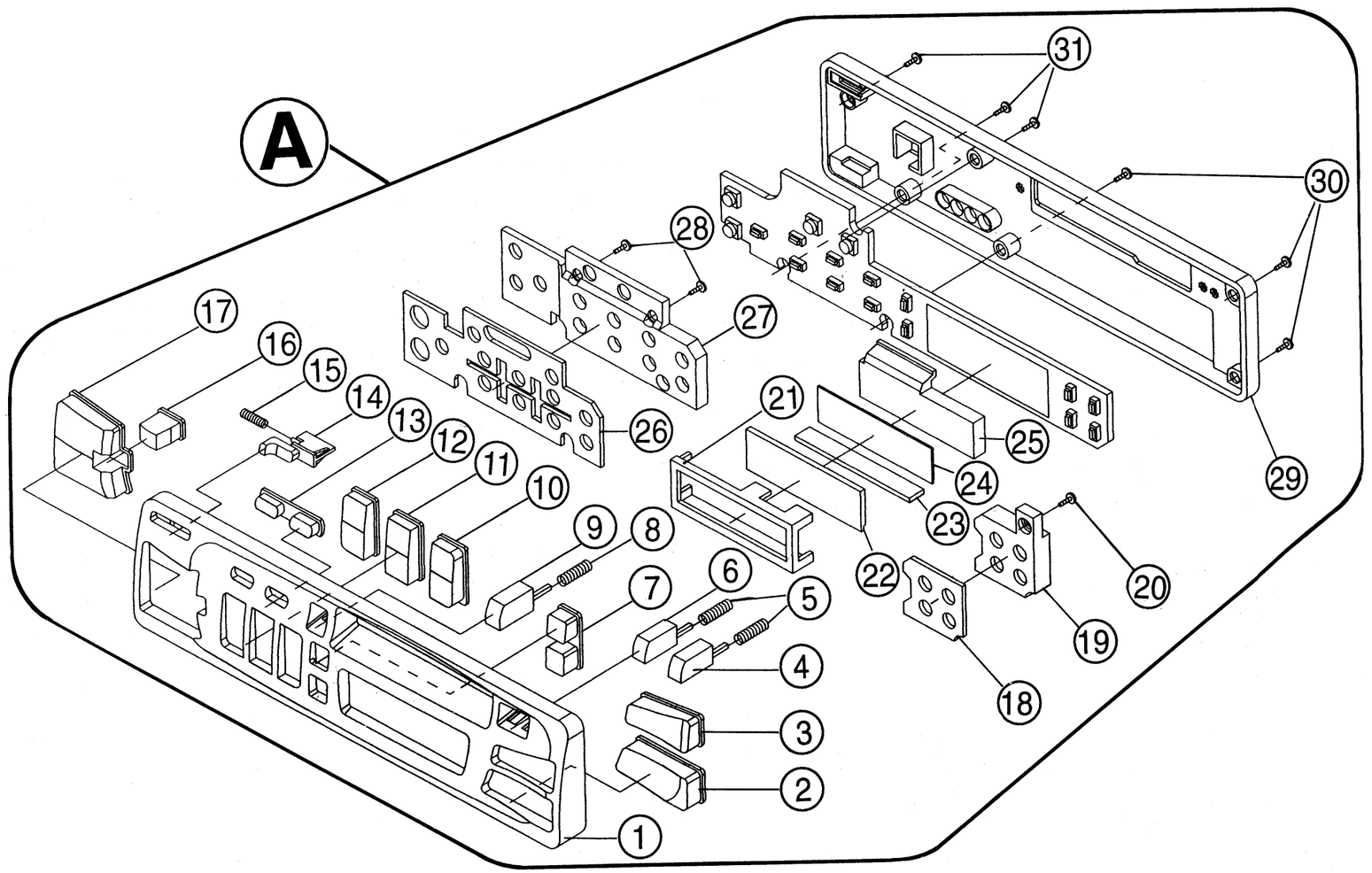
OPTION: FRONT CH LINE-OUT

*OPTION: CD CHANGER CONTROL
TO CD CHANGER
MINI DIN JACK

OPTION: 2COLOR

EXPLODED VIEW

1 REMOTE CONTROLLER SECTION



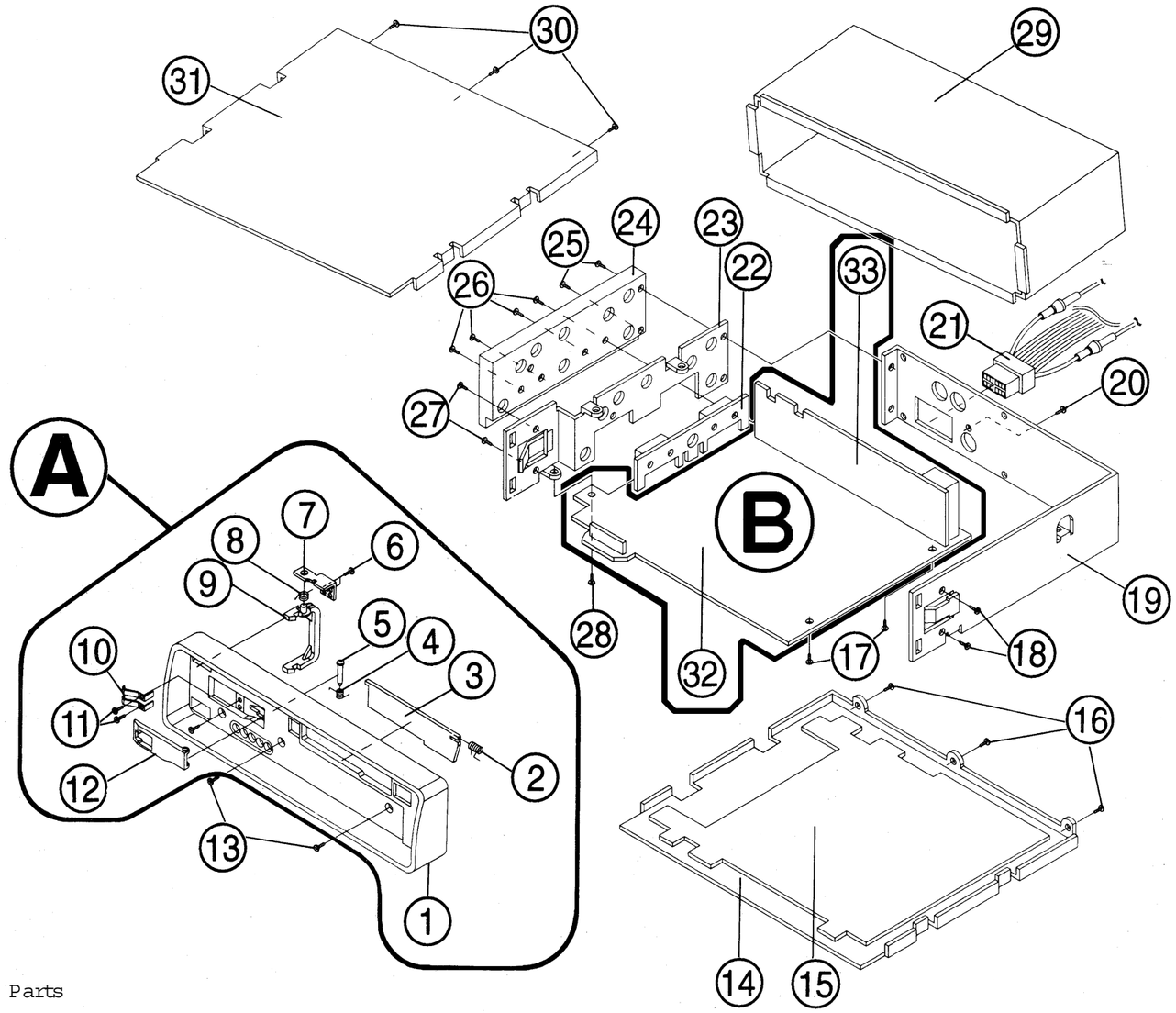
(1) Assembly Parts

Ref. No.	Part No.	Description	
A	6710S-670AA	REMOCON ASSY (1~31)	TCC-670, 2 COLOR-AMBER/GREEN
	6710S-670BA		TCC-670, 1 COLOR-GREEN
	6710S-670CA		DH6000, 1 COLOR-AMBER
	6710S-570AA		TCC-570, 2 COLOR-AMBER/GREEN
	6710S-570BA		BECO:CR-1280, 1 COLOR-GREEN
B	6871SA26YAA	FRONT PCB ASSY	2 COLOR-AMBER/GREEN
	6871SA26YAC		1 COLOR-GREEN
	6871SA26YAD		1 COLOR-AMBER

(2) Individual Parts

Ref. No.	Part No.	Description	
1	3720S-0671A	FRONT PANEL	TCC-670, 2 COLOR
	3720S-0671C		TCC-670, 1 COLOR
	3720S-0671D		DH6000, 1 COLOR
	3720S-0671G		TCC-570, 2 COLOR
	3720S-0671H		BECO:CR-1280, 1 COLOR
2	4940S-0693A	KNOB SKIP	TCC-670, DH6000
	4940S-0693C		TCC-570, CR-1280
3	4940S-0692A	KNOB AS/PS	
4	4940S-0689A	KNOB FF	
5	442-690A	SPRING	
6	4940S-0690A	KNOB REW	
7	4940S-0691A	KNOB FUNCTION BD/LD	
8	442-690A	SPRING	
9	4940S-0688A	KNOB EJECT	
10	4940S-0684A	KNOB PRESET #3, 6	TCC-670, DH6000
	4940S-0684C		TCC-570, CR-1280
11	4940S-0683A	KNOB PRESET #2, 5	TCC-670, DH6000
	4940S-0683C		TCC-570, CR-1280
12	4940S-0682A	KNOB PRESET #1, 4	TCC-670, DH6000
	4940S-0682C		TCC-570, CR-1280
13	4940S-0681A	KNOB POWER	TCC-670, DH6000
	4940S-0681C		TCC-570, CR-1280
14	4940S-0687A	KNOB RELEASE	
15	442-690B	SPRING	
16	4940S-0686A	KNOB LEVER	
17	4940S-0685A	KNOB MODE	
18	447-674A	CUSHION-L	
19	464-672A	REFLECTOR SUB-R/R	
20	353-028A	SCREW 2 x 6	
21	3110S-0673A	CASE HOUSING	
22	659-148E	DISPLAY KXN19552AAN	
23	563-013G	RUBBER CONNECTOR	
24	231-836S	LCD SHEET	
25	464-670A	REPLECTOR LCD-R	
26	447-673A	CUSHION MAIN-L	
27	464-671A	REPLECTOR MAIN-R/L	
28	353-028A	SCREW 2 x 6	
29	3720S-0672A	REAR PANEL	
30	353-645A	SCREW 2 x 8	
31	353-645A	SCREW 2 x 8	

2. MAIN SECTION



(1) Assembly Parts

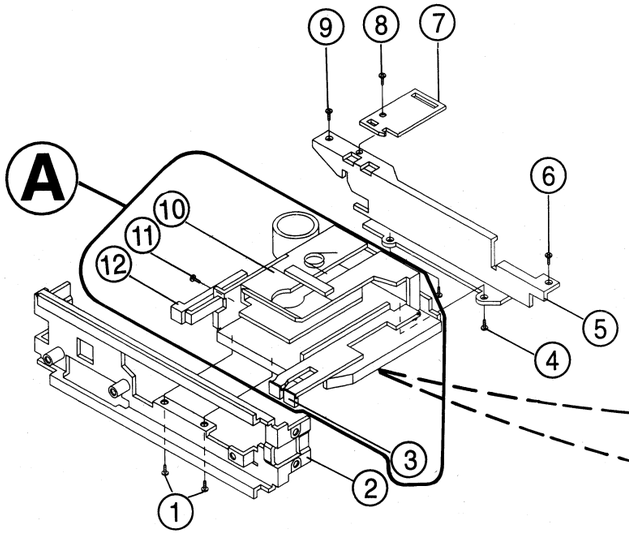
Ref. No.	Part No.	Description	
A	3720S-0670A	TRIM PANEL ASSY (1~12)	TCC-670
	3720S-0670D		DH6000
	3720S-0670Y		CR-1280
	3720S-0670Z		TCC-570
B	6871S-26ZAC	MAIN+RF PCB ASSY (32+33)	TCC-670, FOR LGEPS
	6871S-26ZAD		DH6000, FOR PROFILE
	6871S-26ZAE		TCC-670, FOR MANDARIN/BORTHERS
	6871S-26ZAF		TCC-570, FOR BROTHERS
	6871S-26ZAG		CR-1280, FOR GECO

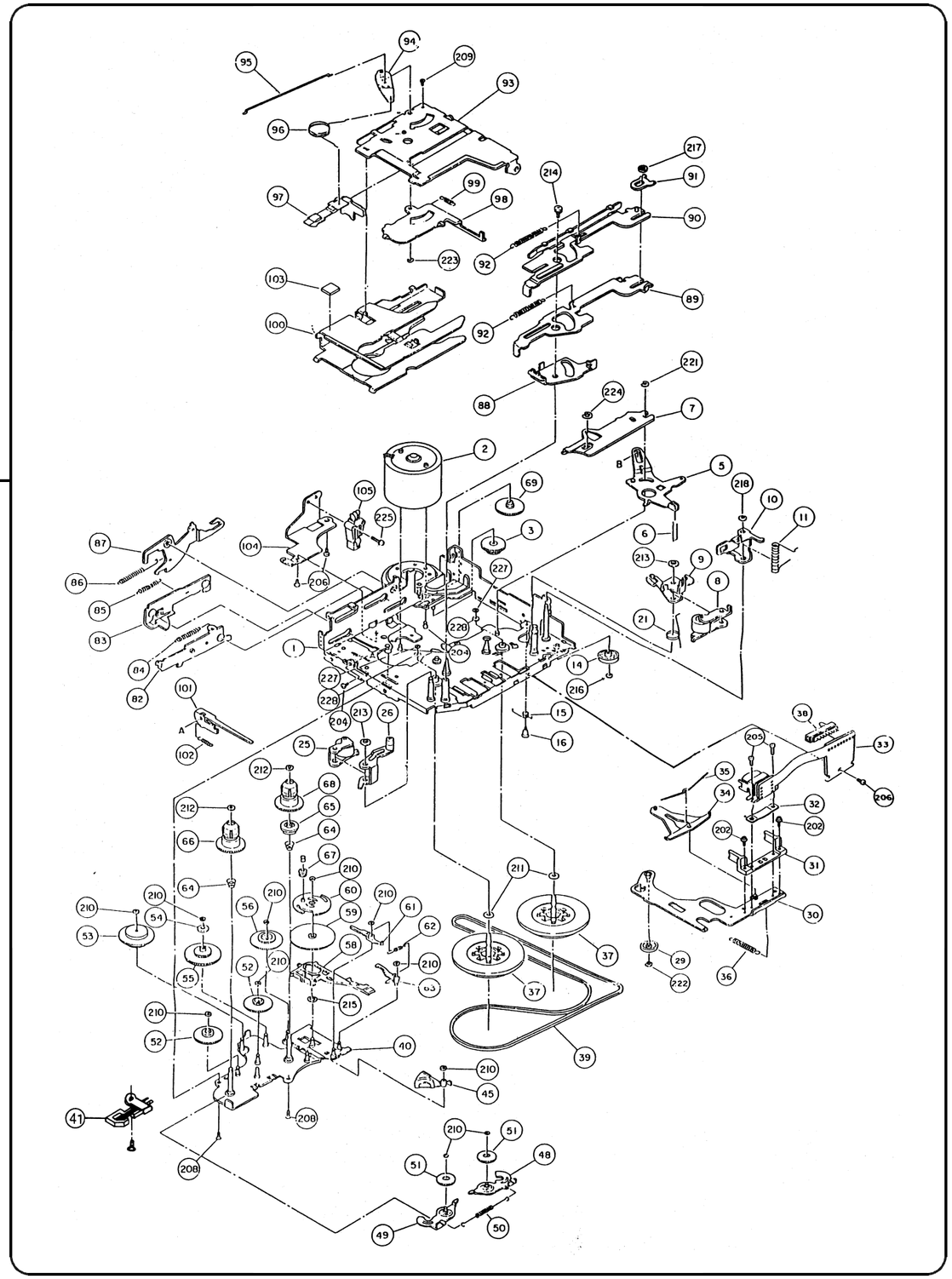
(2) Individual Parts

Ref. No.	Part No.	Description	
1	3720S-0670A	TRIM PANEL	
2	442-330B	SPRING DOOR	
3	226-668A	DOOR CST	TCC-670
	226-668D		DH6000
	226-668F		TCC-570
	226-668G		CR-1280

Ref. No.	Part No.	Description	
4	442-566B	SPRING UNIT-PUSH	
5	423-561B	SHAFT UNIT-PUSH	
6	353-028A	SCREW 2 x 6	
7	4810S-0674A	BRACKET HOLDER GUIDE-B	
8	442-691A	SPRING HOLDER GUIDE-S	
9	324-675A	HOLDER GUIDE-H	
10	442-567A	SPRING POWER	
11	353-028A	SCREW 2 x 6	
12	333-562A	LEVER UNIT PUSH	
13	1MBC0261416	SCREW 2.6 x 4	
14	221-340F	COVER BOTTOM	
15	231-973A	SHEET INSULATION	
16	353-022B	SCREW 2.6 x 6	
17	353-052P	SCREW 2.6 x 6	
18	353-022B	SCREW 2.6 x 6	
19	3141S-0670A	CHASSIS MAIN COMMON	
20	353-022B	SCREW 2.6 x 6	
21	563-957B	POWER CONNECTOR (12PIN)	
22	4810S-0330A	BRACKET IC HOLD	
23	3141S-0074A	CHASSIS SIDE ASSY	
24	255-326A	HEAT SINK	
25	1MRC0262418	SCREW 2.6 x 8	
26	1MRC0302818	SCREW 3 x 12	
27	353-022B	SCREW 2.6 x 6	
28	353-052P	SCREW 2.6 x 6	
29	217-124A	DIN SLEEVE CASE	
30	353-022B	SCREW 2.6 x 6	
31	221-339F	TOP COVER	
32	6871SA26ZAC	MAIN PCB ASSY	TCC-670, FOR LGEPS
	6871SA26ZAD		DH6000, FOR PROFILE
	6871SA26ZAE		TCC-670, FOR MANDARIN/BROTHERS
	6871SA26ZAF		TCC-570, FOR BROTHERS
	6871SA26ZAG		CR-1280, FOR BECO
33	6871SB26ZAC	RF PCB ASSY	TCC-670, FOR LGEPS
	6871SB26ZAD		DH6000, FOR PROFILE
	6871SB26ZAE		TCC-670, FOR MANDARIN/BROTHERS
	6871SB26ZAF		TCC-570, FOR BROTHERS
	6871S26ZAG		CR-1280, FOR BECO

3 DECK SECTION





(1) Assembly Parts

Ref. No.	Part No.	PART NAME
A	410-670A	DECK ASSY (3+10+11+12)

(2) Individual Parts

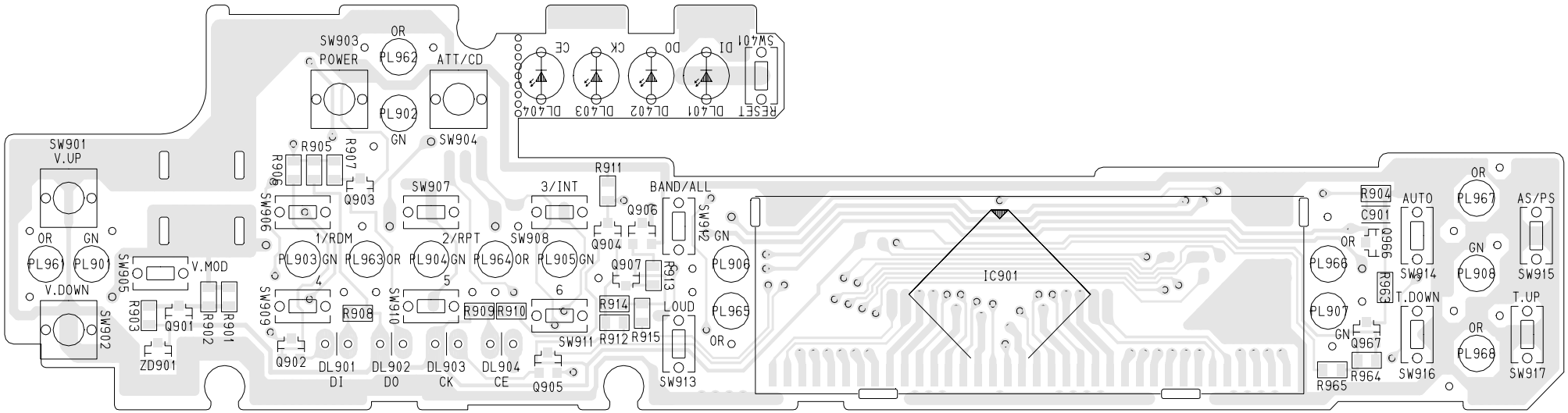
Ref. No.	Part No.	PART NAME
1	1MPC0301418	SCREW 3 x 4
2	3140S-0673A	CHASSIS FRONT-C
3	324-674A	HOLDER FF/REW-H
4	1MPC0301418	SCREW 3 x 4
5	4810S-0673A	BRACKET DECK-B
6	1MPC0301418	SCREW 3 x 4
7	4810S-0675A	BRACKET PCB
8	353-022B	SCREW 2.6 x 6
9	1MPC0301418	SCREW 3 x 4
10	419-020P	DECK TN-717MH-231
11	353-022B	SCREW 2.6 x 6
12	324-673A	HILDER EJECT-H

Ref. No.	Part No.	PART NAME
B	419-020P	DECK TN-717MH-231
2	99T-0848	MOTOR ASSY
3	99T-0849	MAIN GEAR
8	99T-0850	PR ARM ASSY-F
14	99T-0851	CENTER PULLEY B
25	99T-0852	PR ARM ASSY-R
33	99T-0853	HEAD P5044SD-99H
37	99T-0854	FLYWHEEL CAP ASSY
38	99T-0855	MODE SW MIS-AC-3-2S
39	99T-0856	MAIN BELT
41	99T-0868	MUTE SW MSW-1547N
60	99T-0857	TURN OVER GEAR
67	99T-0858	TURN OVER GEAR COLARR
69	99T-0859	CENTER GEAR
92	99T-0860	FR LEVER SPRING
96	99T-0862	TURN OVER SPRING
97	99T-0863	PACK SLIDER
105	99T-0864	SKELTON SW SKD-12AR
210	99T-0865	WASHER 1.2 x 3.0 x 0.25
211	99T-0866	WASHER 2.1 x 5.0 x 0.13
216	99T-0867	WASHER 0.85 x 2.8 x 0.2

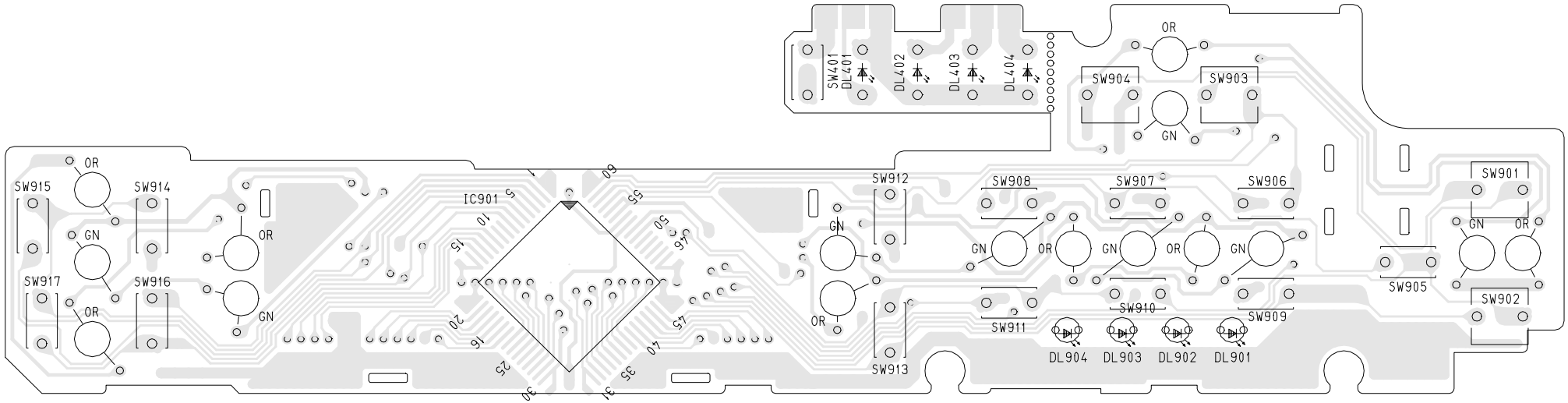
❑ FRONT SECTION (2 COLOR)

Drawing No. : 6870S-26YAA

➧ TOP VIEW



➧ BOTTOM VIEW



❑ MAIN SECTION

Drawing No. : 6870S-26ZAA

➧ TOP VIEW