

Service Manual

Sound Processor

Sound Processor

SH-CH700



Colour

(K) Black Type

Area

Suffix for Model No.	Area	Colour
(E)	Continental Europe, Great Britain, Germany, Italy, Asia, Latin America, Middle Near East, Africa and Oceania.	(K)

System: SC-CH700

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

SPECIFICATIONS

■ PRE AMP. SECTION

Input sensitivity and impedance

PHONO 2.5 mV/47 k Ω VCR/VDP (input with PHONO PIN) 250 mV/18 k Ω

Total harmonic distortion

1 kHz, -3 dB output 0.08%

■ EQUALIZER, SOUND FIELD PROCESSOR SECTION

Equalizer

Center frequency

LOW 31.5, 40, 50, 63,

80, 100, 125, 160, 220 (Hz)

HIGH1, 2 315, 450, 630, 800,

1 k, 1.25 k, 1.6 k, 2.2 k, 3.15 k,

4.5 k, 6.3 k, 8 k, 10 k, 12.5 k, 16 k (Hz)

Level control LOW, HIGH1, 2 ± 12 dB

(Q) control Narrow 1.8

Wide 0.7

Fixed mode

Equalizer (6 modes)

HEAVY, CLEAR, SOFT, VOCAL
HEADPHONE STEREO, CAR STEREO

Sound Field Processor (6 modes)

HALL, LIVE, DISCO, CHURCH
STADIUM, THEATER

Frequency response

PHONO

RIAA STANDARD CURVE

(30 Hz-15 kHz) ± 1.0 dB

TUNER, TAPE, VCR

15 Hz-20 kHz, -1 dB

CD, DAT, VDP

15 Hz-20 kHz, -1 dB

S/N

PHONO

64 dB (DIN)

85 dB (IHF, at full scale input, IHF A)

TUNER, TAPE, VCR

71 dB (DIN)

90 dB (IHF, at full scale input, IHF A)

CD, DAT, VDP

93 dB

Video output

MONITOR

1 Vpp/75 Ω

VCR REC OUT

1 Vpp/75 Ω

■ GENERAL

Dimensions (W×H×D)

215×83×292 mm

Weight

1.65 kg

Notes:

1. Specifications are subject to change without notice.
2. Weight and dimensions shown are approximate.
3. Total harmonic distortion is measured by the digital spectrum analyzer.

System	Tuner/CD player	Sound Processor	Power Amplifier	Cassette Deck	Speakers
SC-CH700	SL-CH700	SH-CH700	SU-CH700	RS-CH700	*SB-CH700

*Continental Europe, Great Britain,

Germany and Italy areas Made in PAES

Technics

CONTENTS

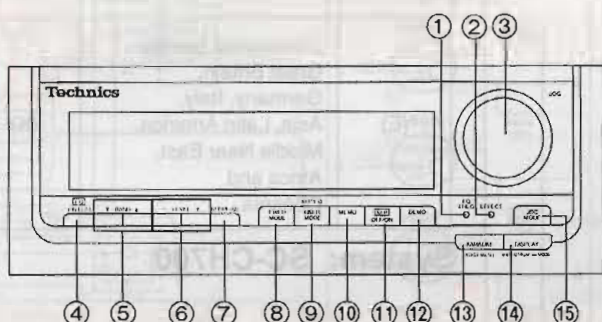
	Page
LOCATION OF CONTROLS	2
DISASSEMBLY INSTRUCTION	3, 4
SCHEMATIC DIAGRAM (FL/Operation circuit)	5, 6
SCHEMATIC DIAGRAM (Main/Input-Output circuit)	7~10
PRINTED CIRCUIT BOARDS	11~13

	Page
WIRING CONNECTION DIAGRAM	14
MEASUREMENTS	15
FUNCTION OF IC TERMINALS	16, 17
BLOCK DIAGRAM	17~19
DESCRIPTION OF FL PANEL [FL801 (RSL0113-F)]	20
REPLACEMENT PARTS LIST	21~25
CABINET PARTS LOCATION	25

NOTES:

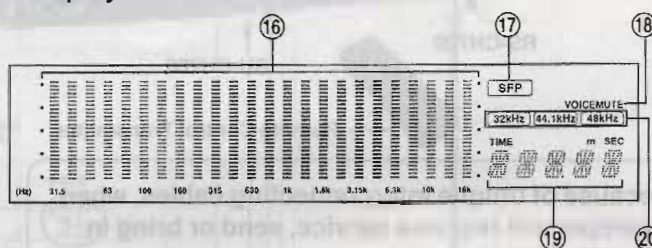
Refer to the service manual for Model No. SU-CH700, Order No. AD9202022C8 for information on ACCESSORIES, CONNECTIONS and PACKAGING.

LOCATION OF CONTROLS



- ① Equalizer frequency indicator (EQ, FREQ)
- ② Effect indicator (EFFECT)
- ③ Sound effect level control (JOG)
- ④ Equalizer ON/FLAT button (EQ, ON/FLAT)
- ⑤ Equalizer frequency select buttons (▼ BAND ▲)
- ⑥ Equalizer level-control buttons (– LEVEL +)
- ⑦ Slope (Q) select button [SLOPE (Q)]
- ⑧ Fixed mode select button (FIXED MODE)
- ⑨ User mode select button (USER MODE)
- ⑩ Memory button (MEMO)
- ⑪ SFP OFF/ON button (SFP, OFF/ON)
- ⑫ Demonstration button (DEMO)
- ⑬ Voice mute button (KARAOKE)
- ⑭ Display mode select button (DISPLAY, -SPECTRUM -MODE)
- ⑮ Jog mode button (JOG MODE)

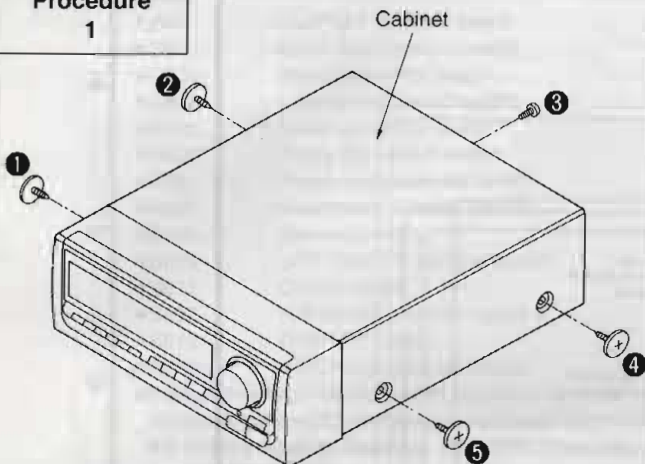
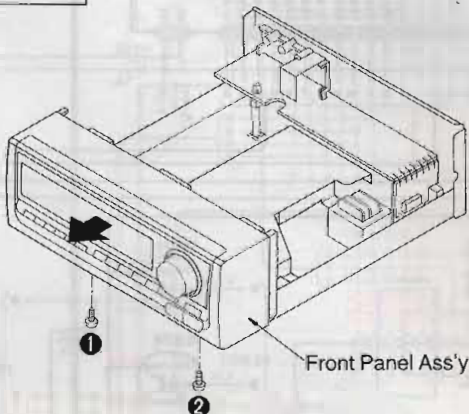
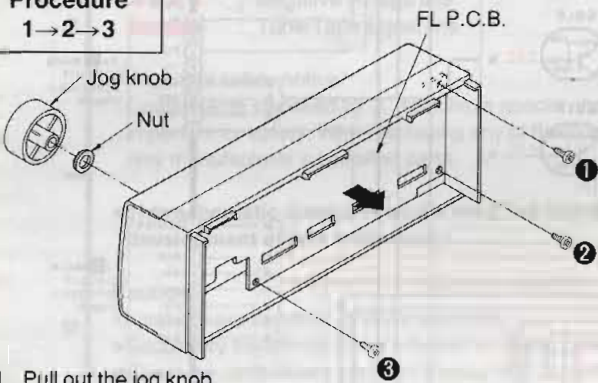
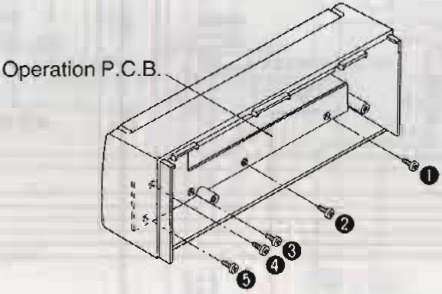
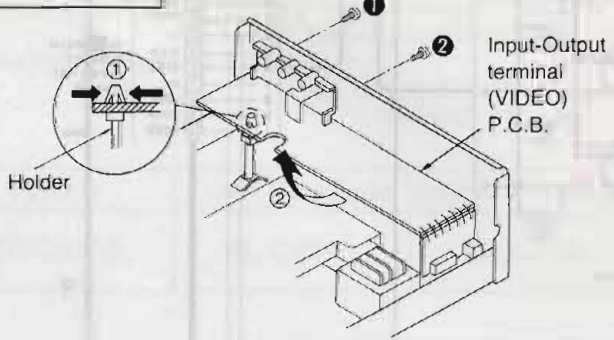
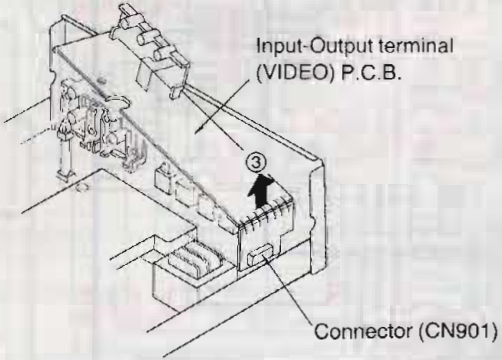
Display



- ⑯ Multi level display
- ⑰ SFP indicator (SFP)
- ⑱ Voice mute indicator (VOICE MUTE)
- ⑲ Sound effect display
- ⑳ Sampling frequency indicator

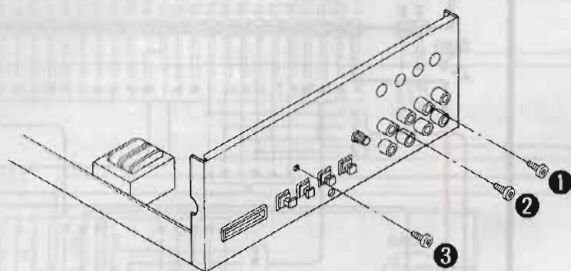
DISASSEMBLY INSTRUCTIONS

"ATTENTION SERVICER" Some chassis components may have sharp edges. Be careful when disassembling and servicing.

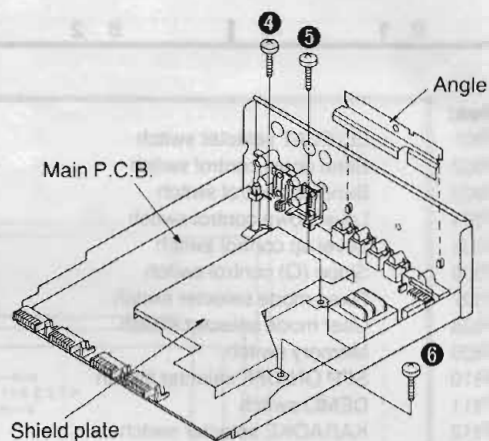
Ref. No. 1	Removal of the Cabinet	Ref. No. 2	Removal of the Front Panel Ass'y
Procedure 1	 <p>• Remove the 5 screws (1~5).</p>	Procedure 1→2	 <p>1. Remove the 2 screws (1, 2). 2. Remove the Front panel ass'y in the direction of the arrow.</p>
Ref. No. 3	Removal of the FL P.C.B.	Ref. No. 4	Removal of the Operation P.C.B.
Procedure 1→2→3	 <p>1. Pull out the jog knob. 2. Remove the nut. 3. Remove the 3 screws (1~3). 4. Remove the FL P.C.B. in the direction of arrow.</p>	Procedure 1→2→3→4	 <p>• Remove the 5 screws (1~5).</p>
Ref. No. 5	Removal of the Input/Output (AV) P.C.B.		
Procedure 1→5	 <p>1. Remove the 2 screws (1, 2). 2. Push the 2 claws in the direction of the arrow ①. 3. Remove the Input/Output P.C.B. in the direction of the arrow ②.</p>	 <p>4. Remove the connector (CN901) in the direction of the arrow ③.</p>	

Ref. No.
6

Removal of the Main P.C.B.

Procedure
1→5→6

1. Remove the 3 screws (1~3).



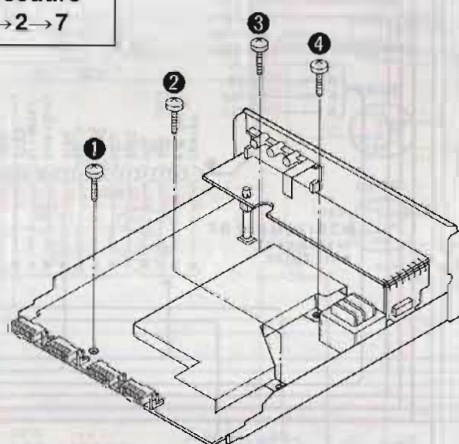
2. Remove the Angle.

3. Remove the 4 screws (4~6).

4. Remove the shield plate.

Ref. No.
7

Check of the Main P.C.B.

Procedure
1→2→7

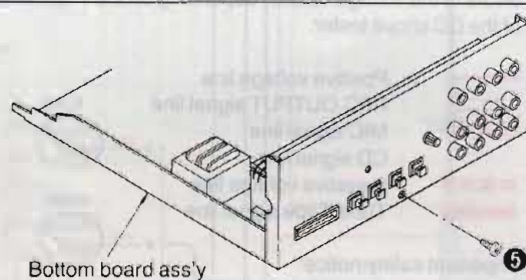
1. Remove the 5 screws (1~5).

2. Remove the bottom board ass'y.

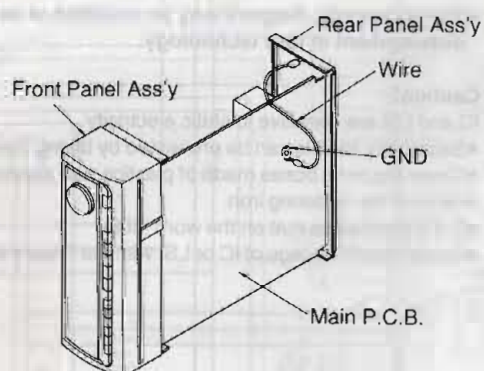
3. Reinstall the front panel ass'y to the main P.C.B.

4. Connect the G.N.D. terminal to the rear panel by the lead wire.

5. Check the main P.C.B. as shown in the figure.



Bottom board ass'y



Front Panel Ass'y

Rear Panel Ass'y

Wire

GND

Main P.C.B.

SCHEMATIC DIAGRAM (FL/Operation circuit) (Parts list on pages 21~24.)

- Notes:**
- S801 : EQ/FLAT selector switch
 - S802 : Band down control switch
 - S803 : Band up control switch
 - S804 : Level down control switch
 - S805 : Level up control switch
 - S806 : Slope (Q) control switch
 - S807 : Fixed mode selector switch
 - S808 : User mode selector switch
 - S809 : Memory switch
 - S810 : SFP ON/OFF selector switch
 - S811 : DEMO switch
 - S812 : KARAOKE selector switch
 - S818 : DISPLAY switch
 - S819 : JOG mode selector switch
- B**
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

- C**
-  : Positive voltage line
 -  : REC OUTPUT signal line
 -  : MIC signal line
 -  : CD signal line
 -  : Negative voltage line
 -  : Tune/Tape signal line

- Important safety notice:**
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

- This schematic diagram may be modified at any time with the development of new technology.**

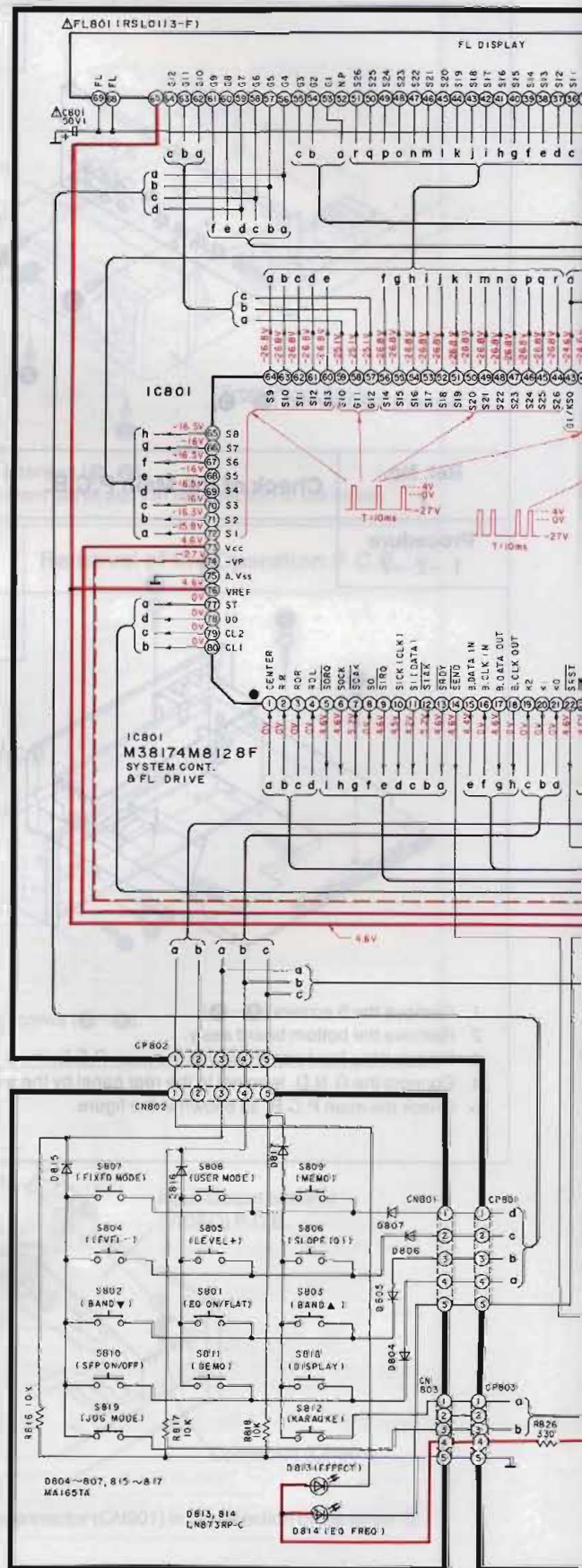
Caution!

- D**
- IC and LSI are sensitive to static electricity.
- Secondary trouble can be prevented by taking care during repair.
 - Cover the parts boxes made of plastics with aluminum foil.
 - Ground the soldering iron.
 - Put a conductive mat on the work table.
 - Do not touch the legs of IC or LSI with the fingers directly.

E

F

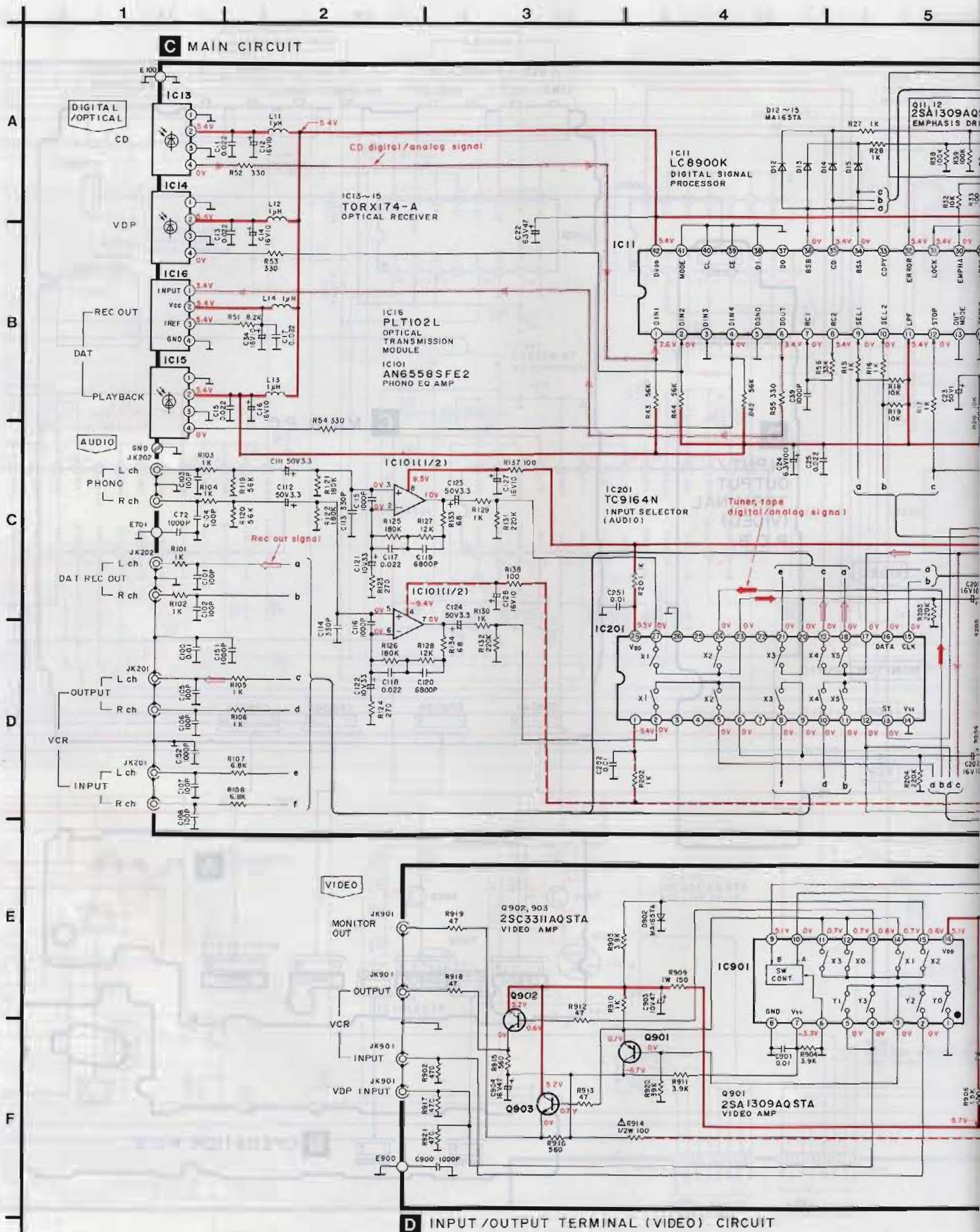
A FL CIRCUIT



B OPERATION CIRCUIT



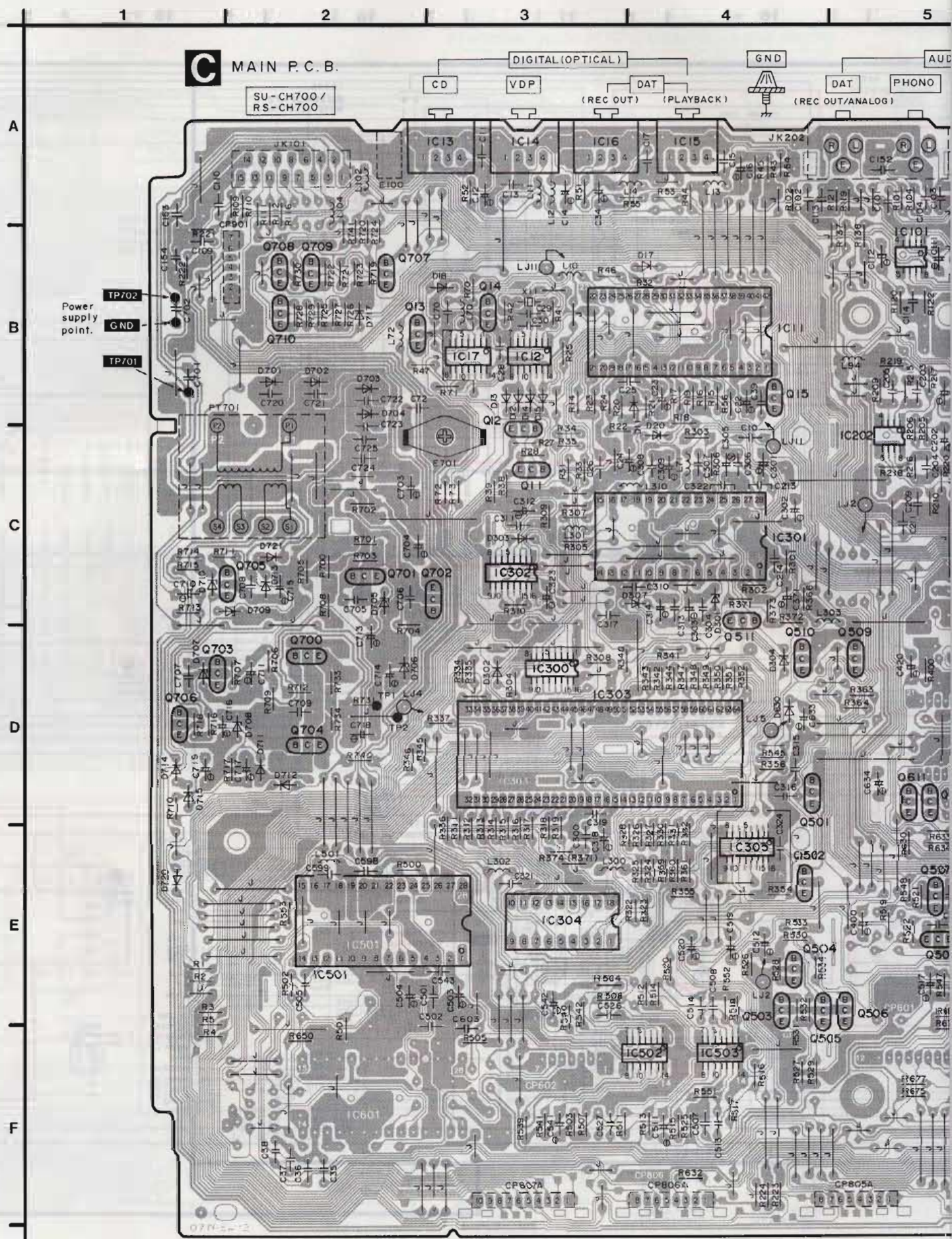
SCHEMATIC DIAGRAM (Main/Input-Output circuit) (Parts list on pages 21~24.)

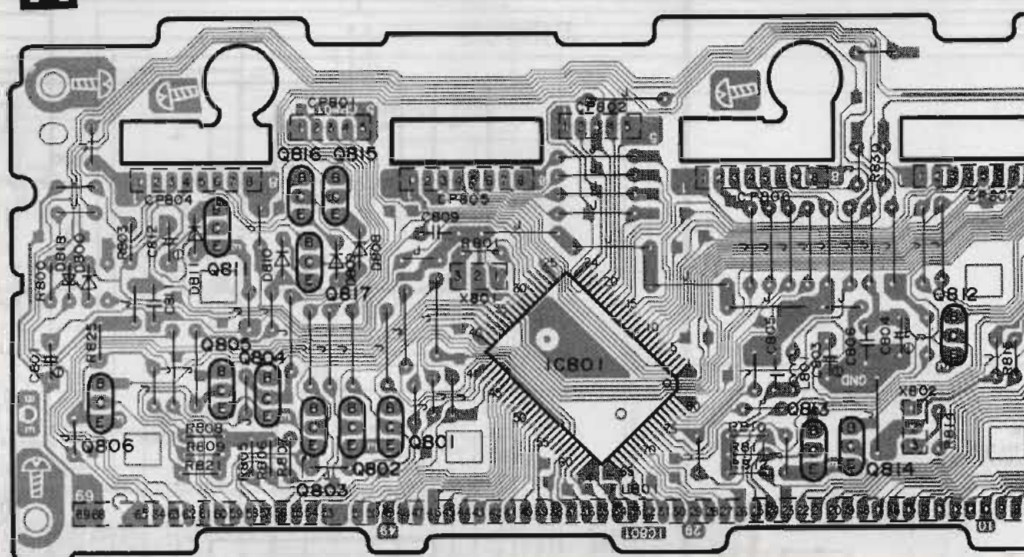
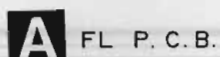




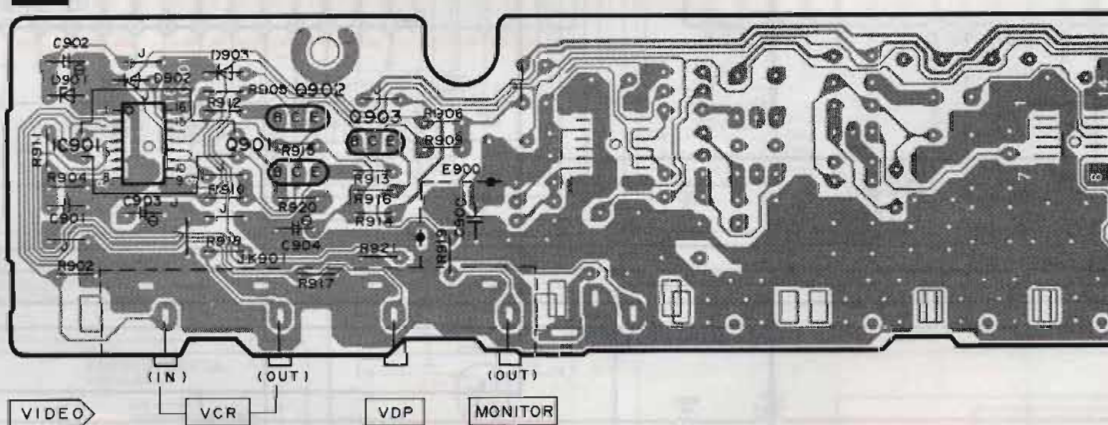


PRINTED CIRCUIT BOARDS

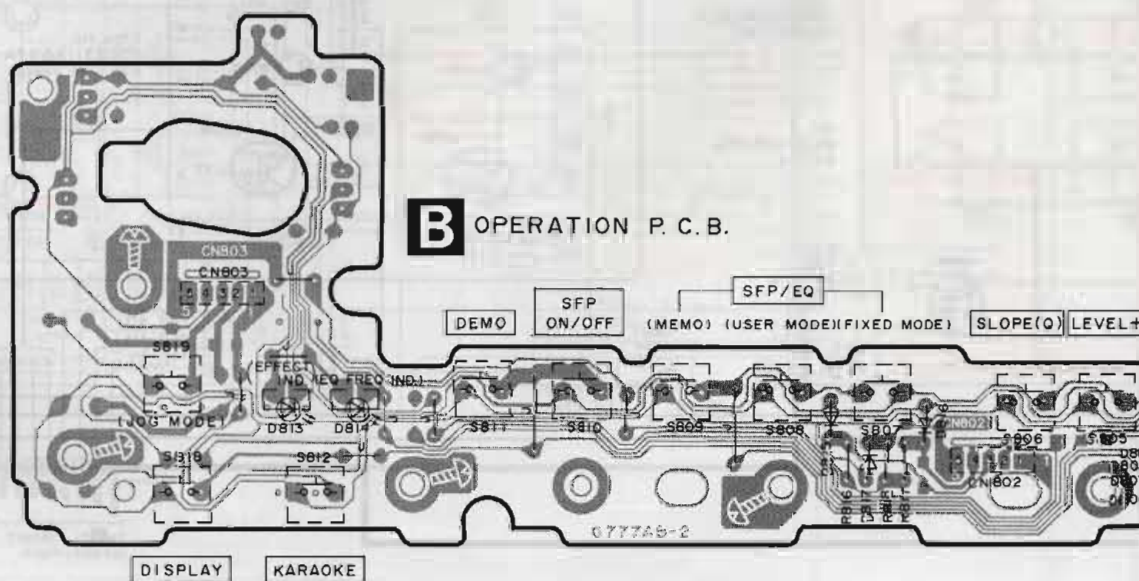




D INPUT/OUTPUT TERMINAL (VIDEO) P.C.B.



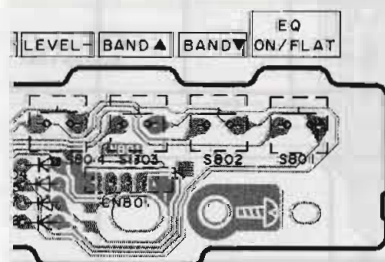
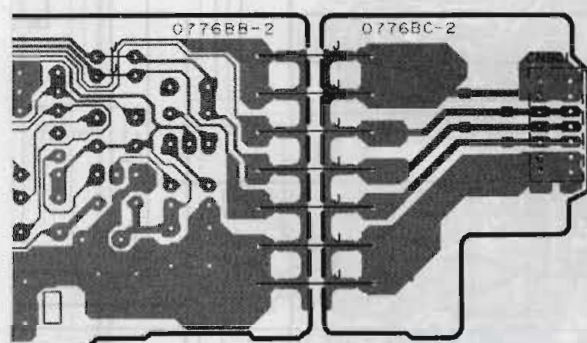
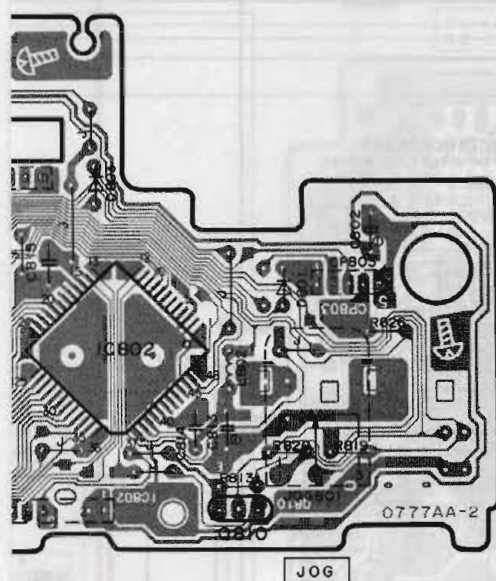
B OPERATION P. C. B.



PRINTED CIRCUIT BOARDS

0 | 11 | 12 | 13 | 14

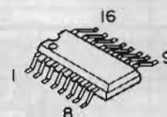
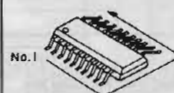
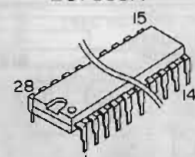
•Terminal guide of IC's, transistors and diodes.



BA4558FDXT1

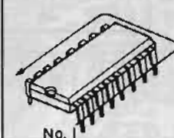
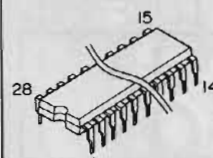


TC74HC123AFT

CS5339-KP
LC7883K

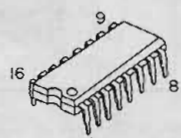
AN6558SFE2	8Pin
AN6554NSFE2	14Pin
MC74HCU04FEL	14Pin
MC74HC126AFR	14Pin
BU2040F-T2	16Pin
MC14052BFR2	16Pin

TC9164N

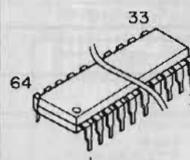


KM41C464P-10	18Pin
LC8900K	42Pin

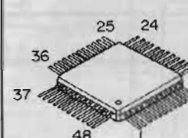
TC74HC157AFT



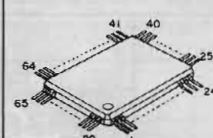
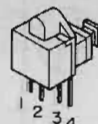
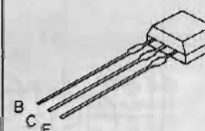
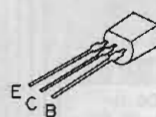
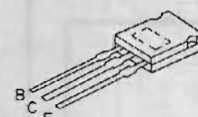
LC83012N



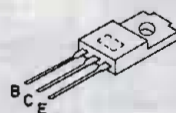
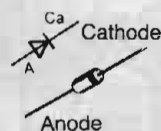
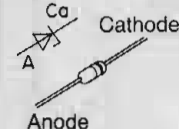
LC6514B4752



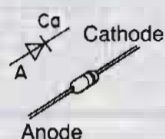
M38174M8128F

PLT102L
TORX174-ADTA114ESTP
DTC114ESTP
DTC144ESTP
2SC3327-A
2SD2144S
DTC114YSTPKSB564ACYGTA
KSD471ACYGTA2SA1309A-R
2SC3311A-Q2SB1357DEFTA
2SD2037DEFTA

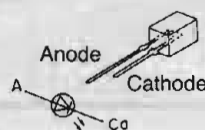
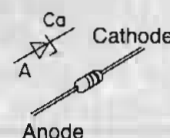
2SD1762EF

MA165
MA167
MA700
1SR35200TBMA4100MTA
MA4270

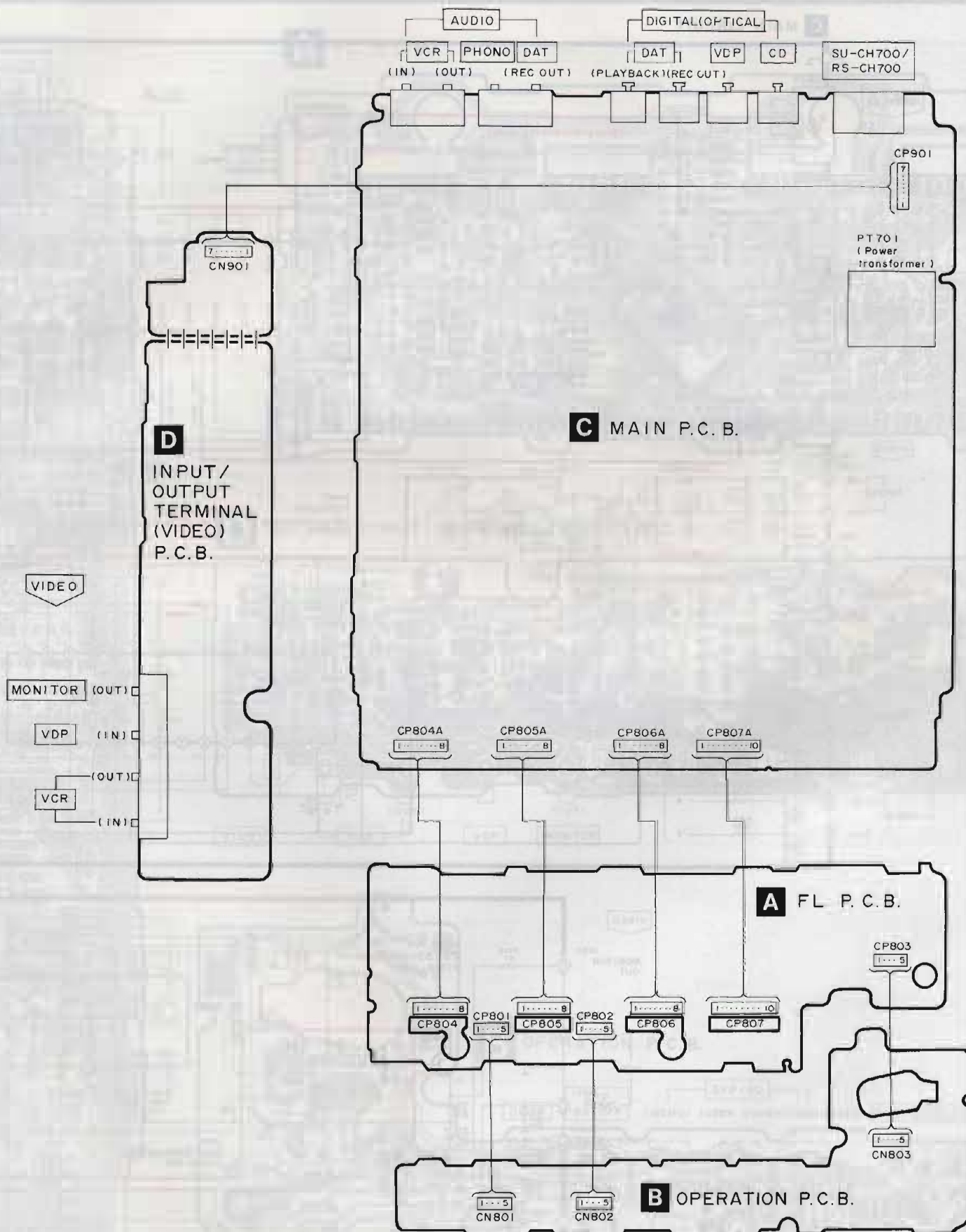
1SS291TA



LN873RP-C

MA4043M
MA4051MTA
MA4056HTA
MA4062MTA

■ WIRING CONNECTION DIAGRAM



MEASUREMENTS

How to supply power

This Sound Processor (SH-CH700) is powered by amplifier (SU-CH700).

To adjust or check operations on the sound processor as a separate unit, follow the instructions below.

• Apply a power supply voltage of AC 10 V to **AC** (D704) (or **TP701**), **AC** (D701) (or **TP702**) and **GND** (D721 or C702). (Shown in Fig. 1 and Fig. 2)

Check the analog signal

To measure an analog signal of SH-CH700, make connection SH-CH700 with Tuner/CD player SL-CH700, Amplifier SU-CH700, and Cassette Deck RS-CH700. If you wish to measure the analog signal of SL-CH700 singly without connecting to the other units, short-circuit between **TP1** and **TP2** as shown in Fig. 1.

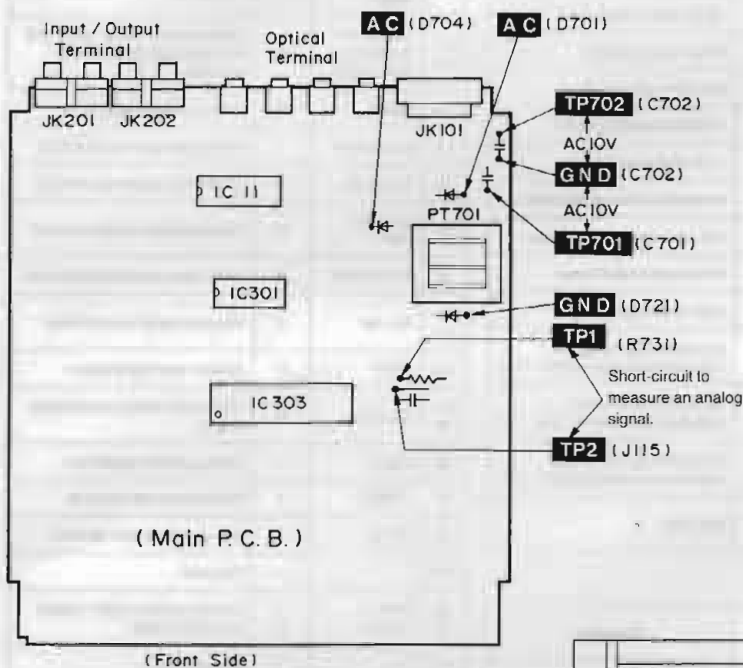


Fig. 1

BAND (▲) Button
BAND (▼) Button
EQ. ON/FLAT Button

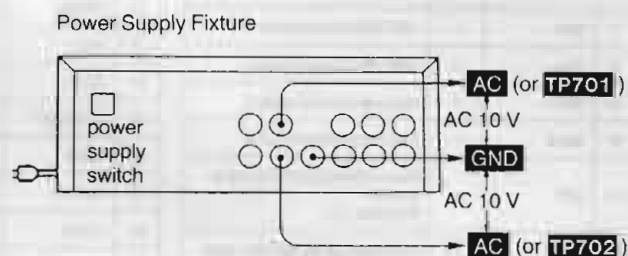


Fig. 2

Power Supply Fixture
Continental Europe,
Germany and Italy areas SZZA1062C
Great Britain area SZZA1063C
Asia, Latin America,
Middle Near East and
Africa areas SZZA1065C
Oceania area SZZA1064C

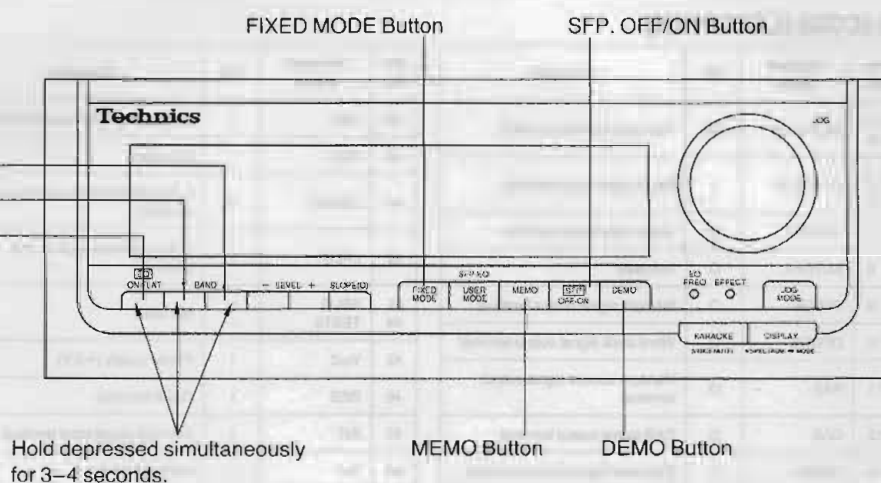


Fig. 3

How to Select Input Signal

The SH-CH700 is not equipped with the Input Signal Selector since the input signal is selected on the Amplifier SU-CH700. However, you can select signal source on SH-CH700 by following the operating procedures mentioned in Fig. 3.

1. Press the EQ. ON/FLAT, BAND (▼), and BAND (▲) Buttons simultaneously and hold for 3-4 seconds.
2. Afterwards, the following buttons allow you to select the desired source.
 - EQ. ON/FLAT Button → DAT mode
 - BAND (▼) Button → CD mode
 - BAND (▲) Button → YDP mode
(The indicator "BS" appears on the display.)
 - PIXBD MODE Button → VCR mode
 - MEMO Button → TAPE mode
 - SFP. OFF/ON Button → TUNER mode
 - DEMO Button → PHONO mode

FUNCTION OF IC TERMINALS

IC11 (LC8900)

Pin No.	Terminal Name	I/O	Function
1	DIN1	I	Data input terminal (CD signal)
2	DIN2	I	Data input terminal (BS signal)
3	DIN3	I	Not used (connect to GND)
4	DIN4	I	Data input terminal (DAT signal)
5	DGND	—	Digital GND
6	DOUT	O	Data (DIN1~4) process signal output terminal
7	RC1	I	OSC (RC) input terminal
8	RC2	O	OSC (RC) output terminal
9	SEL1	I	Input signal select terminal
10	SEL2	I	Input signal select terminal
11	LPF	I	Output data signal format select terminal Fix mode="H"
12	STOP	I	VCO Stop signal input "H"...stop
13	OUTMODE	I	Output data signal format select terminal (The terminal is "LOW") "H"=20 bit LSB Fast "L"=16 bit MSB Fast
14	TEST2	—	Connected to GND
15	XMODE	I	PLL Starting signal input terminal
16	AV _{cc}	I	Power supply
17	R	I	VCO Oscillator band adjustment
18	AGND	—	Analog GND

IC303 (LC83012N)

Pin No.	Terminal Name	I/O	Function
1, 4, 6	P0, P3, P5	I/O	Not used (connect to GND)
2, 3, 5	P1, P2, P4	I	Mode signal input terminal
7	AOTDF1	O	Audio data output terminal
8	AOTDF2	O	Not used
9	DFBCK	O	Bit clock signal output terminal
10	DFWCK	O	Word clock signal output terminal
11	RAS	O	Random access signal output terminal
12	CAS	O	CAS signal output terminal
13	DREAD	O	Data read signal output terminal
14	DWRT	O	Data writing signal output terminal
15	V _{cc} 1	I	Power supply (+5 V)
16	OSC1	I	Clock signal input terminal (384fs)
17	OSC2	O	Not used
18	V _{ss} 1	I	GND terminal
19	384FS	O	Not used
20~23	D0~D3	I/O	IC304 (DRAM) Data signal input/output terminal
24~27	D4~D7	I/O	Not used
28~35	A0~A7	O	IC304 (DRAM) Address data signal output terminal
36	A8	O	Not used
37	BCK1	I	Bit clock signal output terminal
38	BCK2	I	Bit clock signal output terminal

Pin No.	Terminal Name	I/O	Function
19	VIN	I	VCO Establish osc terminal
20	VCO	O	LPF output signal terminal
21	DGND	—	Digital GND
22	TEST1	I	Not used
23	V	O	Not used
24	FS256	O	256Fs clock output signal
25	FS384	O	384Fs clock output signal
26	DV _{cc}	—	Power supply (digital)
27	BCLK	O	Bit clock output signal
28	DATAOUT	O	AUDIO data output signal
29	LRCK	O	L+R Clock output signal
30	EMPHA	O	Emphasis control signal output
31	LOCK	O	PLL Lock control signal output
32	ERROR	O	Error control signal output
33	COPY	O	Data (copy) signal output
34	BAS	O	BS control signal output (sampling frequency 32 kHz: "H")
35	CD	O	CD control signal output (sampling frequency 44.1 kHz: "H")
36	BSB	O	BS control signal output (sampling frequency 48 kHz: "H")
37~41	—	—	Not used

Pin No.	Terminal Name	I/O	Function
39	ASI1	I	Audio data signal input terminal
40	ASI2	I	Not used
41	LRCK0	O	L-R ch Identifier signal output terminal
42	LRCK1	I	L-R ch Identifier signal input terminal
43, 44	SELCTEST5	—	Not used
45	V _{cc} 2	I	Power supply (+5 V)
46	RES	I	Reset terminal
47	INT	I	Interrupt signal input terminal
48	V _{ss}	I	GND terminal
49~52	TEST1~TEST5	I	Not used
53~55	—	—	Not used
56	SO	O	8 bit serial data output terminal
57	SOCK	I	Serial clock signal input terminal
58	SORQ	I	Serial data control signal input terminal (request signal input)
59	SOAK	O	Predict (serial data output) control signal output terminal
60	SI	I	8 bit serial data input terminal
61	SICK	I	Serial clock signal input terminal
62	SIRQ	I	Serial data request signal input
63	SIK	O	Predict (serial data input) control signal output terminal
64	SRDY	I	Ready signal input terminal

IC801 (M38174M8121F)

Pin No.	Terminal Name	I/O	Function
1	CENTER	I	Center control signal input
2	R.R	I	Rera control signal input
3	ROR	I	Record signal control input (R ch)
4	ROL	I	Record signal control input (L ch)
5~9	SORQ, SOCK, SOAK, SO, SIRQ	I/O	Display control signal input-output terminal
10~13	SICK (CLK), SI (DATA), SIAK, SRDY	I/O	Display control signal, data signal and clock signal input-output terminal
14	SEND	O	Display control signal output
15	B. DATA IN	I	Data bass signal input terminal
16	B. CLK IN	I	Clock bass signal input terminal
17	B. DATA OUT	O	Data bass signal output terminal
18	B. CLK OUT	O	Clock bass signal output terminal
19~21	K2~K0	I	Key scan signal input terminal
22	SRET	O	System reset signal output
23~25	L3, L2, L1	O	JOG mode display control signal output
26	HALT	I	Backup detctro signal input
27	RESET	I	Reset signal input terminal
28	XC IN	I	Pull-up voltage input terminal
29	—	—	Not used
30, 31	X IN, X OUT	I/O	Crystal oscillator (X801 4 MHz) connect terminal
32	V _{ss}	I	GND terminal
33, 34	JOG2, JOG1	I	JOG Encoder signal input terminal
35	G9	O	FL Grid control signal output
36~43	G8/KS7~G1/KS0	O	FL Grid control signal and key scan control signal output
44~56	S26~S14	O	FL Segment control signal output
57~59	G12~G10	O	FL Grid control signal output
60~72	S13~S1	O	FL Segment control signal output
73	V _{cc}	I	Power supply (+5 V)
74	-VP	I	FL Pull-up voltage input
75	A. V _{ss}	I	GND terminal
76	VREF	I	A/D Converter reference voltage input terminal
77	ST	O	Strobe signal output terminal
78	DO	O	Data signal output terminal
79, 80	CL2, CL1	O	Clock signal output terminal

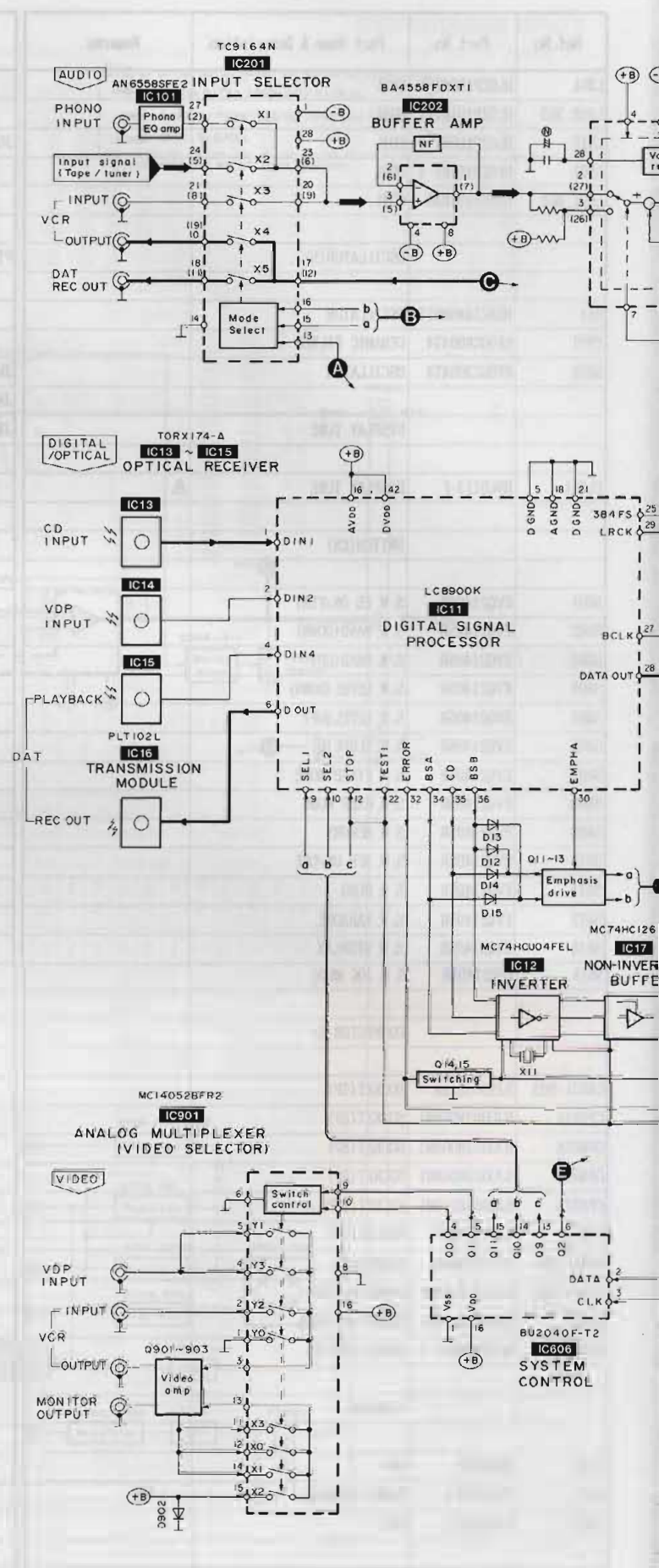
■ IC802 (LC6514B4752)

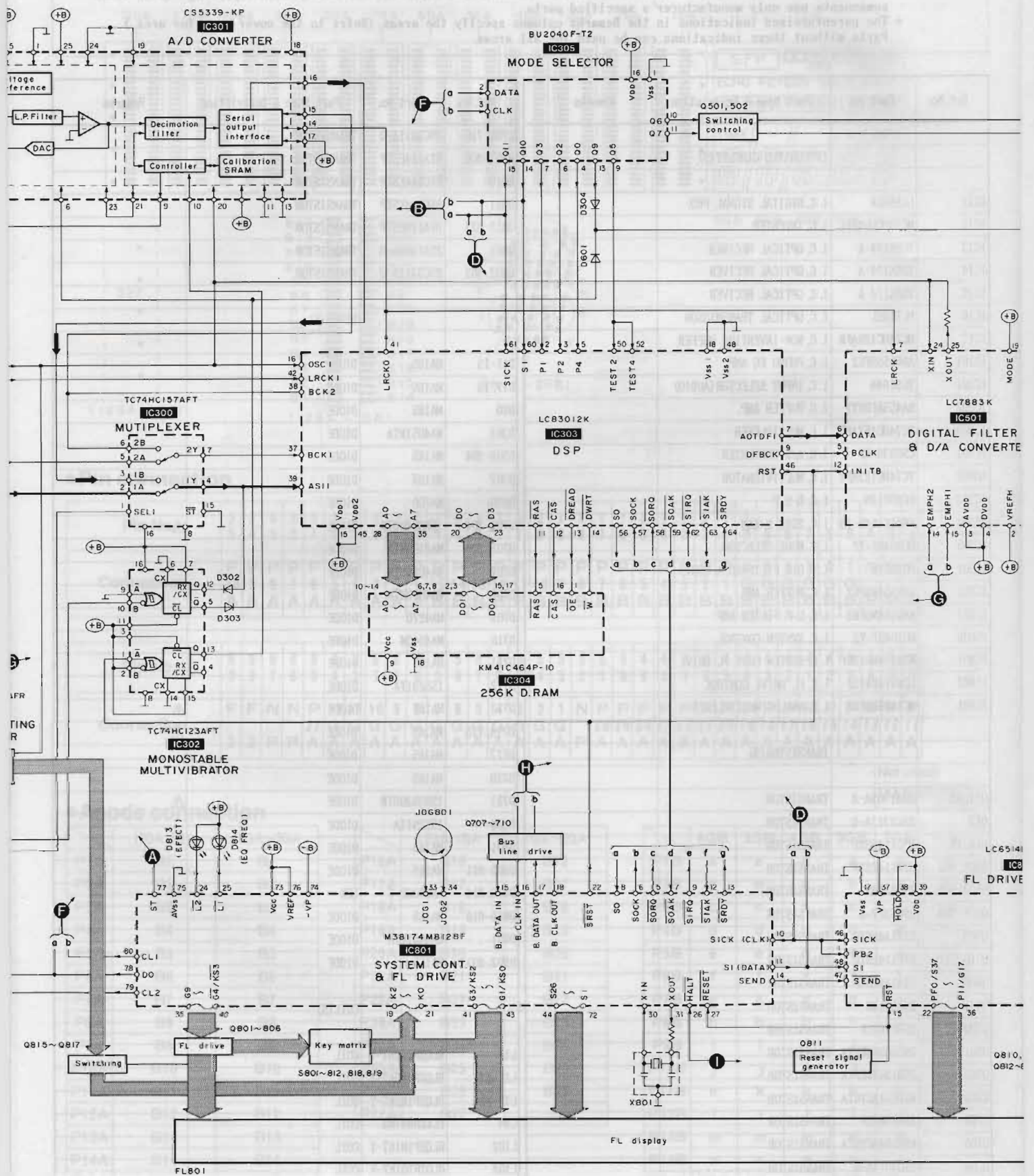
Pin No.	Terminal Name	I/O	Function
1, 46	PB2, SICK	I	Clock signal input terminal
2~5	PC0~PC3	I/O	Not used
6, 7	NC, PD0	I/O	Not used
8~10	PD0~PD2	O	FL Segment control signal output terminal
11	PE0	O	FL Grid control signal output terminal
12~14	PE1, PE2, PE3	O	FL Grid control signal output terminal
15	RST	I	Reset terminal
16	TST	I	Not used
17	Vss	I	GND terminal
18, 19	NC	—	Not used
20, 21	OSC1, OSC2	I	Crystal oscillator (X802 3 MHz) connect terminal
22~25	PF0~PF3	O	FL Segment control signal output terminal
26~29	PG0~PG3	O	FL Grid control signal output terminal
30	NC	—	Not used
31~34	PH0~PH3	O	FL Segment control signal output terminal
35, 36	PI0, PI1	O	FL Grid control signal output terminal
37	VP	I	FL Pull-down voltage input
38	HOLD	I	Connect V _{DD}
39	V _{DD}	I	Power supply (+5 V)
40~45	—	—	Not used
47	SEND	I	Display control signal input
48	SI	I	Serial data input terminal

■ IC501 (LC7883K)

Pin No.	Terminal Name	I/O	Function
1	CH1OUT	O	DAC signal output (L-ch out)
2	DREFH	I	Reference voltage input
3	AV _{DD}	I	Analog power supply
4	DV _{DD}	I	Digital power supply
5	BCLK	I	Bit-clock signal input
6	DATA	I	Digital audio tape signal input
7	LRCK	I	L-R Clock signal input
8~11	—	—	Not used
12	INITB	I	Initial signal input
13	TEST	I	Not used
14, 15	EMPH2, EMPH1	I	Deemphasis institute signal input
16~18	—	—	Not used
19	MODE	I	Mode select signal input
20~23	—	—	Not used
24, 25	XIN, XOUT	I, O	Clock signal input/output terminal
26, 27	—	—	Not used
28	CH2OUT	O	DAC signal output (R-ch out)

■ BLOCK DIAGRAM





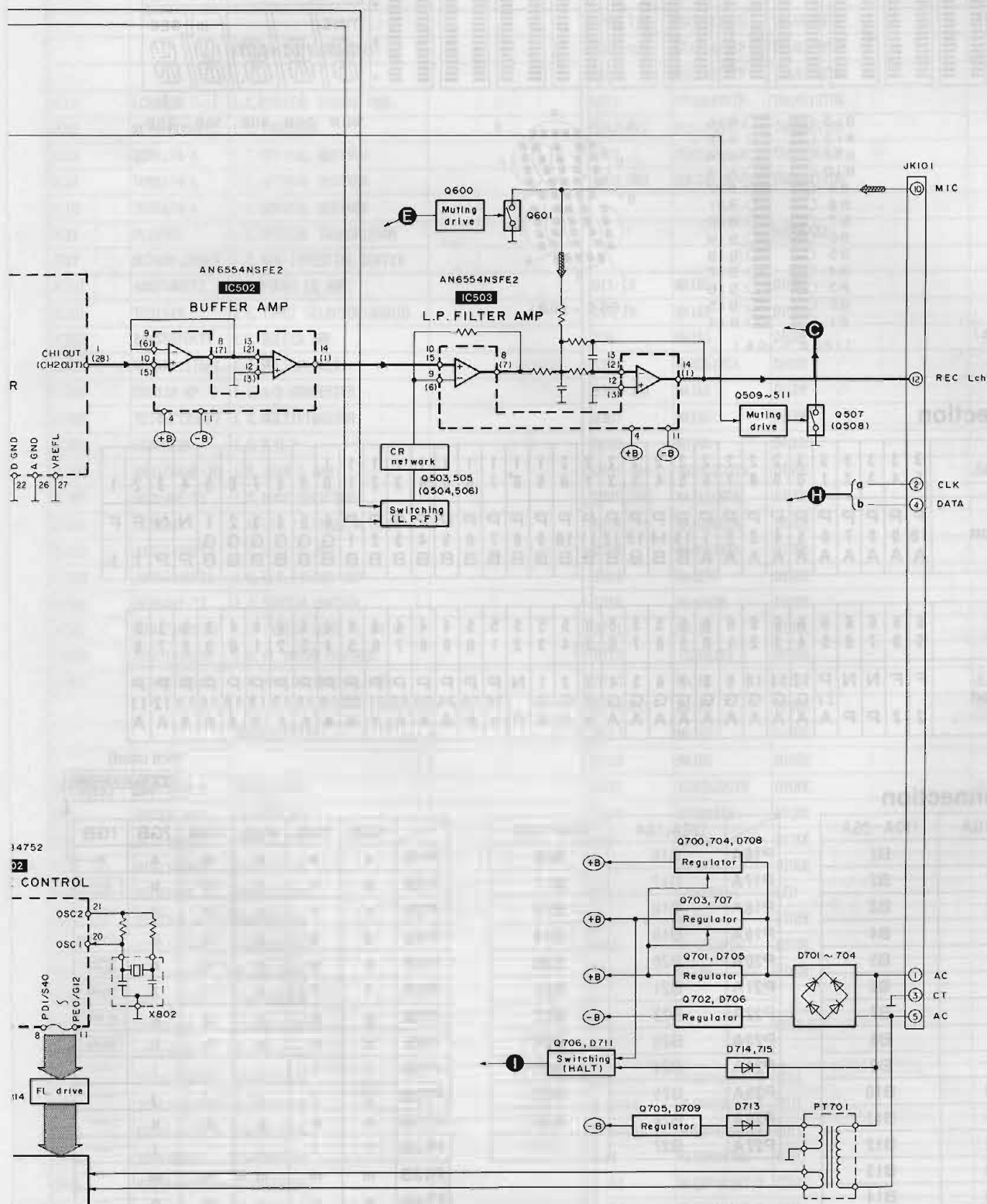
Note:

→ : CD (DIGITAL/ANALOG) SIGNAL

→ : TUNER / TAPE (DIGITAL/ANALOG) SIGNAL

▨ : MIC SIGNAL

() indicates pin No. of right channel.



REPLACEMENT PARTS LIST

Notes : * Important safety notice:

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.) Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)		Q709, 710	2SC3311A-Q	TRANSISTOR	
				Q801-806	DTA114ESTP	TRANSISTOR	
				Q810	DTC144ESTP	TRANSISTOR	
IC11	LC8900K	I. C. DIGITAL SIGNAL PRO.		Q811	DTC114YSTP	TRANSISTOR	
IC12	MC74HC04FEL	I. C. INVERTER		Q812-817	DTA114ESTP	TRANSISTOR	
IC13	TORX174-A	I. C. OPTICAL RECIVER		Q901	2SA1309A-R	TRANSISTOR	
IC14	TORX174-A	I. C. OPTICAL RECIVER		Q902, 903	2SC3311A-Q	TRANSISTOR	
IC15	TORX174-A	I. C. OPTICAL RECIVER					
IC16	PLT102L	I. C. OPTICAL TRANSMISSION				DIODE(S)	
IC17	MC74HC126AFR	I. C. NON-INVERTING BUFFER					
IC101	AN6558SFE2	I. C. PHONO EQ AMP.		D11-15	MA165	DIODE	
IC201	TC9164N	I. C. INPUT SELECTOR (AUDIO)		D17, 18	MA165	DIODE	
IC202	BA4558FDXT1	I. C. BUFFER AMP.		D20	MA165	DIODE	
IC300	TC74HC157AF-T	I. C. MULTIPLEXER		D301	MA4051MTA	DIODE	
IC301	CS5339-KP	I. C. A/D CONVERTER		D302-304	MA165	DIODE	
IC302	TC74HC123AFT	I. C. MULTIVIBRATOR		D307	MA165	DIODE	
IC303	LC83012N	I. C. D. S. P		D630	MA700	DIODE	
IC304	KM41C464P-10	I. C. 256K D. RAM		D701-704	1SR35200TB	DIODE	Δ
IC305	BU2040F-T2	I. C. MODE SELECTOR		D705, 706	MA4100MTA	DIODE	
IC501	LC7883K	I. C. DIG. FILTER&D/A CONV.		D707	MA4056HTA	DIODE	
IC502	AN6554NSFE2	I. C. BUFFER AMP.		D708	MA4062MTA	DIODE	
IC503	AN6554NSFE2	I. C. L. P. FILTER AMP		D709	MA4270	DIODE	
IC606	BU2040F-T2	I. C. SYSTEM CONTROL		D710	MA4043M	DIODE	
IC801	M38174M8128F	I. C. SYSTEM CONT. FL. DRIVE		D711	MA165	DIODE	
IC802	LC6514B4752	I. C. FL. DRIVE CONTROL		D712	1SS291TA	DIODE	
IC901	MC14052BFR2	I. C. ANALOG MULTIPLEXER		D713	MA167	DIODE	Δ
		TRANSISTOR(S)		D714, 715	MA165	DIODE	Δ
				D717	MA165	DIODE	
				D720	MA165	DIODE	
Q11, 12	2SA1309A-R	TRANSISTOR		D721	1SR35200TB	DIODE	Δ
Q13	2SC3311A-Q	TRANSISTOR		D800	1SS291TA	DIODE	
Q14, 15	DTC114ESTP	TRANSISTOR		D801	MA165	DIODE	
Q501, 502	DTA114ESTP	TRANSISTOR		D803-811	MA165	DIODE	
Q503-506	2SD2144S	TRANSISTOR		D813, 814	LN873RP-C	LED	
Q507, 508	2SC3327-A	TRANSISTOR		D815-818	MA165	DIODE	
Q509	DTA114ESTP	TRANSISTOR		D901	MA4051MTA	DIODE	
Q510, 511	DTC114ESTP	TRANSISTOR		D902, 903	MA165	DIODE	
Q600	DTA114ESTP	TRANSISTOR					
Q611	2SD2144S	TRANSISTOR				COIL(S)	
Q700	2SD1762EF	TRANSISTOR					
Q701	2SD2037DEFTA	TRANSISTOR		L10	RLQZP1R2KT-Y	COIL	
Q702	2SB1357DEFTA	TRANSISTOR		L11-14	RLQZP1R0KT-Y	COIL	
Q703	KSD471ACYGTA	TRANSISTOR		L70-72	RLQZP1R2KT-Y	COIL	
Q704	2SD1762EF	TRANSISTOR		L94	ELESNR47MA	COIL	
Q705	KSB564ACYGTA	TRANSISTOR		L102	RLQZP101KT-Y	COIL	
Q706	2SC3311A-Q	TRANSISTOR		L104	RLQZP101KT-Y	COIL	
Q707, 708	DTC144ESTP	TRANSISTOR		L300	ELESN101KA	COIL	

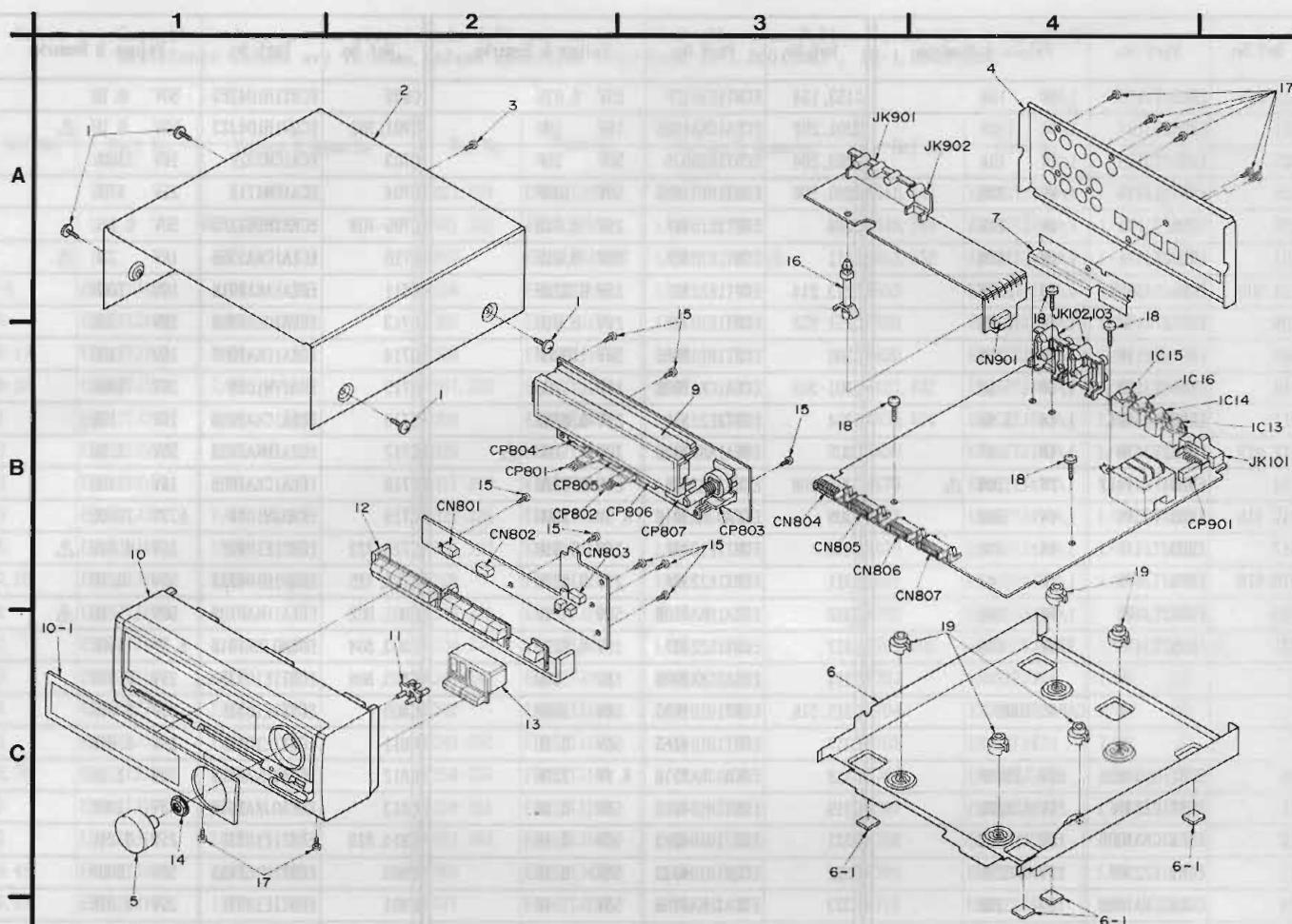
Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
L301	RLQZP1R0KT-Y	COIL				VARIABLE RESISTOR	
L302, 303	RLQZP101KT Y	COIL					
L310	RLQZP100KT-Y	COIL		JOG801	EVQWPA02224B	JOG VOLUME	
L501	RLQZP101KT-Y	COIL				POWER TRANSFORMER	
L801, 802	ELEXT101KA9	COIL					
		OSCILLATOR(S)		PT701	RTP114G002	POWER TRANSFORMER	△
						JACK(S)	
X11	RSXZ16M9M01T	OSCILLATOR					
X801	EF0GC6004T4	CERAMIC FILTER		JK101	RJT055K015-1	CONNECTOR(15P)	
X802	EF0GC3004T4	OSCILLATOR		JK201, 202	SJF3069-5N	JACK, PHONO/VCR/DAT	
		DISPLAY TUBE		JK901	SJF3061N	JACK, VCR/VDP(VIDEO)	
FL801	RSL0113-F	DISPLAY TUBE	△				
		SWITCH(ES)					
S801	EVQ21405R	S. W. EQ ON/FLAT					
S802	EVQ21405R	S. W. BAND (DOWN)					
S803	EVQ21405R	S. W. BAND (UP)					
S804	EVQ21405R	S. W. LEVEL (DOWN)					
S805	EVQ21405R	S. W. LEVEL (UP)					
S806	EVQ21405R	S. W. SLOPE (Q)					
S807	EVQ21405R	S. W. FIXED MODE					
S808	EVQ21405R	S. W. USER MODE					
S809	EVQ21405R	S. W. MEMORY					
S810	EVQ21405R	S. W. SFP ON/OFF					
S811	EVQ21405R	S. W. DEMO					
S812	EVQ21405R	S. W. KARAOKE					
S818	EVQ21405R	S. W. DISPLAY					
S819	EVQ21405R	S. W. JOG MODE					
		CONNECTOR(S)					
CN801-803	SJS50581BB	SOCKET(5P)					
CP804A	RJU003K008M1	SOCKET(8P)					
CP805A	RJU003K008M1	SOCKET(8P)					
CP806A	RJU003K008M1	SOCKET(8P)					
CP807A	RJU003K010M1	SOCKET(10P)					
CN901	RJU057W007	SOCKET(7P)					
CP801-803	SJT30549BB1	CONNECTOR					
CP804-806	RJT003K008M1	CONNECTOR(8P)					
CP807	RJT003K010M1	CONNECTOR(10P)					
CP901	RJT057W007-1	CONNECTOR(7P)					
		TERMINAL					
E100	RMC0073	GND					
E701	SNE1004-1	EARTH TERMINAL					
E900	RJR0008-1	GND					

Notes : * Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
 * Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM) , 1M=1,000k (OHM)

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
		RESISTORS	R223, 224	ERDS2TJ223	1/4W 22K	R546, 547	ERDS2TJ104	1/4W 100K
			R301, 302	ERDS2TJ222	1/4W 2.2K	R548, 549	ERDS2TJ102	1/4W 1K
			R303	ERDS1FVJ820T	1/2W 82 Δ	R551, 552	ERDS2TJ222	1/4W 2.2K
R1-5	ERDS2TJ102	1/4W 1K	R304	ERDS2TJ102	1/4W 1K	R553	ERDS2TJ100	1/4W 10
R14	ERDS2TJ184T	1/4W 180K	R305	ERDS2TJ103	1/4W 10K	R600	ERDS2TJ332	1/4W 3.3K
R15-17	ERDS2TJ102	1/4W 1K	R306	ERDS2TJ560T	1/4W 56	R630	ERDS2TJ682T	1/4W 6.8K
R18-20	ERDS2TJ103	1/4W 10K	R307, 308	ERDS2TJ101	1/4W 100	R631, 632	ERDS2TJ102	1/4W 1K
R21	ERDS2TJ243T	1/4W 24K	R309	ERDS2TJ474	1/4W 470K	R633, 634	ERDS2TJ683	1/4W 68K
R22	ERDS2TJ512T	1/4W 5.1K	R310	ERDS2TJ105T	1/4W 1M	R650	ERDS2TJ103	1/4W 10K
R23	ERDS2TJ151	1/4W 150	R311-319	ERDS2TJ101	1/4W 100	R675	ERDS2TJ473	1/4W 47K
R24	ERDS2TJ392T	1/4W 3.9K	R322-325	ERDS2TJ101	1/4W 100	R677	ERDS2TJ473	1/4W 47K
R25	ERDS2TJ103	1/4W 10K	R326, 327	ERDS2TJ102	1/4W 1K	R679	ERDS2TJ473	1/4W 47K
R27, 28	ERDS2TJ102	1/4W 1K	R328	ERDS2TJ221	1/4W 220	R681	ERDS2TJ473	1/4W 47K
R31	ERDS2TJ102	1/4W 1K	R330-332	ERDS2TJ102	1/4W 1K	R700	ERX1SJ3R9E	1W 3.9
R32	ERDS2TJ103	1/4W 10K	R334-337	ERDS2TJ101	1/4W 100	R701, 702	ERD2FCVJ4R7T	1/4W 4.7 Δ
R33	ERDS2TJ101	1/4W 100	R340, 341	ERDS2TJ102	1/4W 1K	R703	ERDS2TJ391	1/4W 390
R34	ERDS2TJ331	1/4W 330	R342	ERDS2TJ103	1/4W 10K	R704	ERDS2TJ821	1/4W 820
R35	ERDS2TJ561	1/4W 560	R343-352	ERDS2TJ102	1/4W 1K	R705	ERD25FJ470	1/4W 47 Δ
R38, 39	ERDS2TJ104	1/4W 100K	R354-356	ERDS2TJ103	1/4W 10K	R706	ERDS2TJ102	1/4W 1K
R41	ERDS2TJ105T	1/4W 1M	R359-361	ERDS2TJ103	1/4W 10K	R707	ERDS2TJ331	1/4W 330
R42	ERDS2TJ102	1/4W 1K	R363, 364	ERDS2TJ102	1/4W 1K	R708	ERX1SJ3R9E	1W 3.9
R43-45	ERDS2TJ563	1/4W 56K	R366	ERDS2TJ4R7T	1/4W 4.7	R709	ERDS2TJ471	1/4W 470
R46, 47	ERDS2TJ103	1/4W 10K	R371	ERDS2TJ222	1/4W 2.2K	R710	ERDS2TJ561	1/4W 560
R51	ERDS2TJ822	1/4W 8.2K	R372	ERDS2EJ121	1/4W 120	R711	ERDS2TJ332	1/4W 3.3K
R52-55	ERDS2TJ331	1/4W 330	R373	ERDS2TJ100	1/4W 10	R712	ERX1SJ3R9E	1W 3.9
R56	ERDS2TJ333	1/4W 33K	R374	ERDS2TJ102	1/4W 1K	R713	ERDS2TJ102	1/4W 1K Δ
R70	ERDS2TJ151	1/4W 150	R400	ERDS2TJ104	1/4W 100K	R714, 715	ERDS2TJ101	1/4W 100 Δ
R71-73	ERDS2TJ102	1/4W 1K	R402	ERDS2TJ561	1/4W 560	R716	ERDS2TJ153	1/4W 15K
R101-106	ERDS2TJ102	1/4W 1K	R500	ERDS2TJ105T	1/4W 1M	R717	ERDS2TJ103	1/4W 10K
R107, 108	ERDS2TJ682T	1/4W 6.8K	R501	ERDS2TJ103	1/4W 10K	R718	ERDS2TJ102	1/4W 1K
R109-112	ERDS2TJ102	1/4W 1K	R502	ERDS2TJ102	1/4W 1K	R719	ERDS2TJ393	1/4W 39K
R116	ERDS2TJ102	1/4W 1K	R503, 504	ERDS2TJ152	1/4W 1.5K	R720	ERDS2TJ470	1/4W 47
R119, 120	ERDS2TJ563	1/4W 56K	R505	ERDS2TJ221	1/4W 220	R721, 722	ERDS2TJ393	1/4W 39K
R121, 122	ERDS2TJ184T	1/4W 180K	R507, 508	ERDS2TJ123	1/4W 12K	R723	ERDS2TJ223	1/4W 22K
R123, 124	ERDS2TJ271	1/4W 270	R511, 512	ERDS2TJ223	1/4W 22K	R724, 725	ERDS2TJ470	1/4W 47
R125, 126	ERDS2TJ184T	1/4W 180K	R513, 514	ERDS2TJ512T	1/4W 5.1K	R726-728	ERDS2TJ393	1/4W 39K
R127, 128	ERDS2TJ123	1/4W 12K	R515, 516	ERDS2TJ242	1/4W 2.4K	R729	ERDS2TJ223	1/4W 22K
R129, 130	ERDS2TJ102	1/4W 1K	R517, 518	ERDS2TJ103	1/4W 10K	R730	ERDS2TJ470	1/4W 47
R131, 132	ERDS2TJ224T	1/4W 220K	R519, 520	ERDS2TJ561	1/4W 560	R731	ERDS2TJ101	1/4W 100
R133, 134	ERDS2TJ680T	1/4W 68	R521, 522	ERDS2TJ563	1/4W 56K	R733, 734	ERDS2TJR47T	1/4W 0.47
R137, 138	ERDS2TJ101	1/4W 100	R525, 526	ERDS2TJ223	1/4W 22K	R740	ERDS1FVJ2R2T	1/2W 2.2 Δ
R201, 202	ERDS2TJ102	1/4W 1K	R527, 528	ERDS2TJ332	1/4W 3.3K	R741	ERDS2TJ101	1/4W 100
R203, 204	ERDS2TJ224T	1/4W 220K	R529, 530	ERDS2TJ103	1/4W 10K	R800	ERDS2TJ223	1/4W 22K
R205, 206	ERDS2TJ562	1/4W 5.6K	R531-534	ERDS2TJ102	1/4W 1K	R801	ERDS2TJ122	1/4W 1.2K
R209, 210	ERDS2TJ562	1/4W 5.6K	R539, 540	ERDS2TJ822	1/4W 8.2K	R803	ERDS2TJ103	1/4W 10K
R215, 216	ERDS2TJ223	1/4W 22K	R541, 542	ERDS2TJ272T	1/4W 2.7K	R805-813	ERDS2TJ104	1/4W 100K
R217, 218	ERDS2TJ101	1/4W 100	R543	ERDS2TJ472	1/4W 4.7K	R814	ERDS2TJ122	1/4W 1.2K
R219, 220	ERDS2TJ682T	1/4W 6.8K	R544	ERDS2TJ104	1/4W 100K	R815	ERDS2TJ105T	1/4W 1M
R221, 222	ERDS2TJ104	1/4W 100K	R545	ERDS2TJ103	1/4W 10K	R816-818	ERDS2TJ103	1/4W 10K

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
R819, 820	ERDS2TJ153	1/4W 15K	C153, 154	ECBT1E103ZF	25V 0.01U	C635	ECBT1H104ZF5	50V 0.1U
R821	ERDS2TJ104	1/4W 100K	C201, 202	ECEA1CKA100B	16V 10U	C701, 702	ECQV1H104JZ3	50V 0.1U Δ
R825	ERDS2TJ103	1/4W 10K	C203, 204	ECBT1H300J5	50V 30P	C703	ECA1CM332E	16V 3300U
R826	ERDS2TJ331	1/4W 330	C205, 206	ECBT1H101KB5	50V 100P	C704	ECA1EM471B	25V 470U
R830	ERDS2TJ103	1/4W 10K	C209	ECBT1E103ZF	25V 0.01U	C705-709	ECR1H103ZF5	50V 0.01U
R902	ERDS2TJ471	1/4W 470	C211	ECBT1E103ZF	25V 0.01U	C710	ECEA1CKA330B	16V 33U Δ
R904, 905	ERDS2TJ392T	1/4W 3.9K	C213, 214	ECBT1E223ZF	25V 0.022U	C711	ECEA1AKA101B	10V 100U
R906	ERDS2TJ152	1/4W 1.5K	C251, 252	ECBT1E103ZF	25V 0.01U	C713	ECEA1CKA330B	16V 33U
R909	ERG1SJ151E	1W 150	C300	ECBT1H102KB5	50V 1000P	C714	ECEA1CKA100B	16V 10U
R910	ERDS2TJ102	1/4W 1K	C301-303	ECEA1CKA100B	16V 10U	C715	ECA1VM101B	35V 100U
R911	ERDS2TJ392T	1/4W 3.9K	C304	ECBT1E223ZF	25V 0.022U	C716	ECEA1CKA100B	16V 10U
R912, 913	ERDS2TJ470	1/4W 47	C305	ECEA1AKN100B	10V 10U Δ	C717	ECEA1HKA2R2B	50V 2.2U
R914	ERDS1FVJ101T	1/2W 100 Δ	C306-308	ECBT1E223ZF	25V 0.022U	C718	ECEA1CKA100B	16V 10U
R915, 916	ERDS2TJ561	1/4W 560	C309	ECEA0JKA101B	6.3V 100U	C719	ECA0JM102B	6.3V 1000U
R917	ERDS2TJ471	1/4W 470	C310	ECBT1E103ZF	25V 0.01U	C720-723	ECBT1E103ZF	25V 0.01U Δ
R918, 919	ERDS2TJ470	1/4W 47	C311	ECBT1E223ZF	25V 0.022U	C724, 725	ECQV1H104JZ3	50V 0.1U
R920	ERDS2TJ393	1/4W 39K	C312	ECEA1HKA010B	50V 1U	C801, 802	ECEA1HKA010B	50V 1U Δ
R921	ERDS2TJ471	1/4W 470	C313	ECBT1E223ZF	25V 0.022U	C803, 804	ECEA0JKA101B	6.3V 100U
			C314	ECEA1CKA100B	16V 10U	C805, 806	ECBT1E103ZF	25V 0.01U
		CAPACITORS	C315, 316	ECBT1H101KB5	50V 100P	C809	ECBT1E103ZF	25V 0.01U
			C317	ECBT1H104ZF5	50V 0.1U	C811	ECBT1E103ZF	25V 0.01U
C10	ECBT1H102KB5	50V 1000P	C318	ECEA0JKA221B	6.3V 220U	C812	ECEA1HKA2R2B	50V 2.2U
C11	ECBT1E223ZF	25V 0.022U	C319	ECBT1H104ZF5	50V 0.1U	C813	ECEA0JKA101B	6.3V 100U
C12	ECEA1CKA100B	16V 10U	C321	ECBT1H104ZF5	50V 0.1U	C814, 815	ECBT1E103ZF	25V 0.01U
C13	ECBT1E223ZF	25V 0.022U	C322	ECQV1H104JZ3	50V 0.1U	C900	ECBT1H102KB5	50V 1000P
C14	ECEA1CKA100B	16V 10U	C323	ECEA1HKA010B	50V 1U	C901	ECBT1E103ZF	25V 0.01U
C15	ECBT1E223ZF	25V 0.022U	C324	ECBT1H104ZF5	50V 0.1U	C902	ECEA0JKA221B	6.3V 220U
C16	ECEA1CKA100B	16V 10U	C371	ECEA0JKA101B	6.3V 100U	C903	ECEA1AKA470B	10V 47U
C17	ECBT1E223ZF	25V 0.022U	C400	ECEA1HKA3R3B	50V 3.3U	C904	ECEA1CKA470B	16V 47U
C22	ECEA0JKA470B	6.3V 47U	C420	ECEA1HKA010B	50V 1U			
C23	ECEA1HKA010B	50V 1U	C501	ECBT1C103KS5	16V 0.01U			
C24	ECEA0JKA101B	6.3V 100U	C502	ECQV1H104JZ3	50V 0.1U			
C25	ECBT1E223ZF	25V 0.022U	C503	ECEA0JKA221B	6.3V 220U			
C26	ECQB1H103JF3	50V 0.01U	C504	ECEA1CKA101B	16V 100U			
C28	ECBT1C103KS5	16V 0.01U	C505	ECBT1E103ZF	25V 0.01U			
C29, 30	ECBT1H300J5	50V 30P	C507, 508	ECBT1H331KB5	50V 330P			
C34	ECEA1CKA100B	16V 10U	C510	ECEA0JKA101B	6.3V 100U			
C35-38	ECBT1E103ZF	25V 0.01U	C511, 512	ECEA1CKA100B	16V 10U			
C39	ECBT1H102KB5	50V 1000P	C513, 514	ECBT1H680J5	50V 68P			
C70	ECBT1H101KB5	50V 100P	C517, 518	ECEA1HKA2R2B	50V 0.22U			
C72	ECBT1H102KB5	50V 1000P	C519, 520	ECEA1CKA100B	16V 10U			
C100	ECBT1C103KS5	16V 0.01U	C521, 522	ECBT1H102KB5	50V 1000P			
C101-110	ECBT1H101KB5	50V 100P	C526	ECBT1E103ZF	25V 0.01U			
C111, 112	ECEA1HKA3R3B	50V 3.3U	C527	ECBT1H104ZF5	50V 0.1U			
C113, 114	ECBT1H331KB5	50V 330P	C541, 542	ECEA1CKA100B	16V 10U			
C115, 116	ECBT1H102KB5	50V 1000P	C543	ECBT1H104ZF5	50V 0.1U			
C117, 118	ECFR1E223KR	25V 0.022U	C598, 599	ECBT1C103KS5	16V 0.01U			
C119, 120	ECFR1H682KR	50V 6800P	C600	ECEA1CKA100B	16V 10U			
C121, 122	ECEA1AKA330B	10V 33U	C603	ECBT1E223ZF	25V 0.022U			
C123, 124	ECEA1HKA3R3B	50V 3.3U	C631, 632	ECBT1H101KB5	50V 100P			
C127, 128	ECEA1CKA100B	16V 10U	C633	ECEA1CKA100B	16V 10U			
C151, 152	ECBT1H102KB5	50V 1000P	C634	ECEA0JKA101B	6.3V 100U			

CABINET PARTS LOCATION



Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	RHD30007	SCREW	
2	RKMO131-1K	CABINET	
3	XTB3+8JF2	SCREW	
4	RGR0134B-C1	REAR PANEL	
5	RGW0137-K1	KNOB, JOG	
6	RFKJSC7N-K	BOTTOM BOARD ASS'Y	
6-1	SHG1654	FOOT	
7	RMN0161	ANGLE	
8	SNE2123	EARTH TERMINAL	
9	RMN0156	FL HOLDER	
10	RFGKIC11700EA	FRONT PANEL ASS'Y	
10-1	RFGKIC11700EB	FL PANEL	
11	RGL0156-C	PANEL LIGHT	
12	RGU0687-K1	BUTTON, EQ/SFP	
13	RGU0688-K1	BUTTON, MODE	
14	SNE4021-1	NUT	
15	XTBS26+8J	SCREW	
16	SHR9683	HOLDER	
17	XTBS3+8JF21	SCREW	
18	XTB3+12JF2	SCREW	
19	SHE170-2	P. C. B. SPACER	