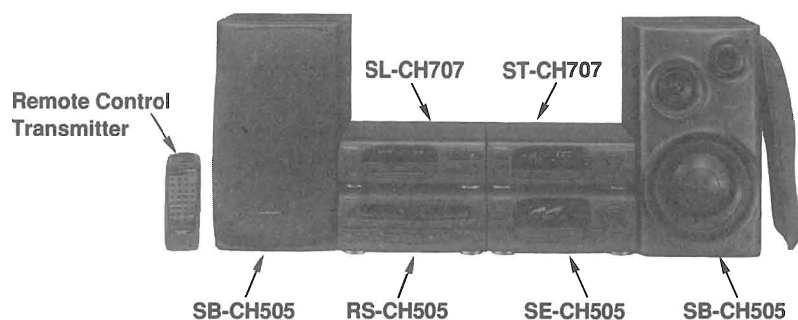


Service Manual

Tuner/Sound Processor

Tuner



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

ST-CH707

Colour

(K) Black Type

Area

Suffix for Model No.	Area	Colour
(GC)	Asia, Latin America, Middle Near East and Africa	(K)

System: **SC-CH404**
SC-CH505

Specification

■ Pre-amplifier section

Input sensitivity/impedance

AUX	250 mV/15 k Ω
DCC	250 mV/15 k Ω

Output level

DCC RECOUT	150 mV/1.5 k Ω
------------	-----------------------

Frequency response

AUX	30 Hz–20 kHz
DCC	30 Hz–20 kHz

■ EQ, SFP section

Center frequency

80, 250, 1 k, 4 k, 12.5 k(Hz)

Fixed mode

SPACE	3 modes (DISCO, LIVE, HALL)
GEQ	5 modes (HEAVY, CLEAR, SOFT, CAR, HP ST)

Mic echo

1.0–1.6 sec

■ FM tuner section

Frequency range

87.50–108.00 MHz (0.05 MHz steps)

Sensitivity 1.8 μ V (IHF usable)S/N 26 dB 1.5 μ V (75 Ω)

S/N MONO 70 dB (75 dB, IHF)

Stereo separation 1 kHz

35 dB

Antenna terminal(s)

75 Ω (unbalance)

■ AM tuner section

Frequency range

MW	522–1611 kHz (9 kHz step)
LW	530–1620 kHz (10 kHz step)
LW	144–288 kHz (9 kHz step)

Sensitivity (S/N 20 dB)

MW	500 μ V/m
LW	50 μ V

■ Timer section

Clock

Quartz-lock type

Function

24-hour programmable;
Play timer (1 time), Rec timer (1 time),
Sleep (120 min, 1 min intervals)
1 minute–23 hours 59 minutes
(1 min, intervals)

Setting

■ General

Dimensions (W×H×D)

270×89×274 mm

Weight

1.75 kg

Notes:

- Weights and dimensions shown are approximate.
- Design and specifications are subject to change without notice.

System	Tuner	Compact disc player	Amplifier	Cassette deck	Speakers
SC-CH404	ST-CH707	SL-CH505	SE-CH404	RS-CH404	*SB-CH404
SC-CH505	ST-CH707	SL-CH707	SE-CH505	RS-CH505	SB-CH505

*Made in NABEL

Technics

■ Contents

	Page		Page
●LOCATION OF CONTROLS	2	●WIRING CONNECTION DIAGRAM	18
●SETTING THE TIME	3	●BLOCK DIAGRAM	19~21
●DISASSEMBLY INSTRUCTIONS	4, 5	●FUNCTION OF IC TERMINALS	13~17
●POWER SUPPLY WITH TUNER ST-CH707	6	●REPLACEMENT PARTS LIST	23~27
●SCHEMATIC DIAGRAM	7~14	●CABINET PARTS LOCATION	28
●PRINTED CIRCUIT BOARD DIAGRAM	15~18		

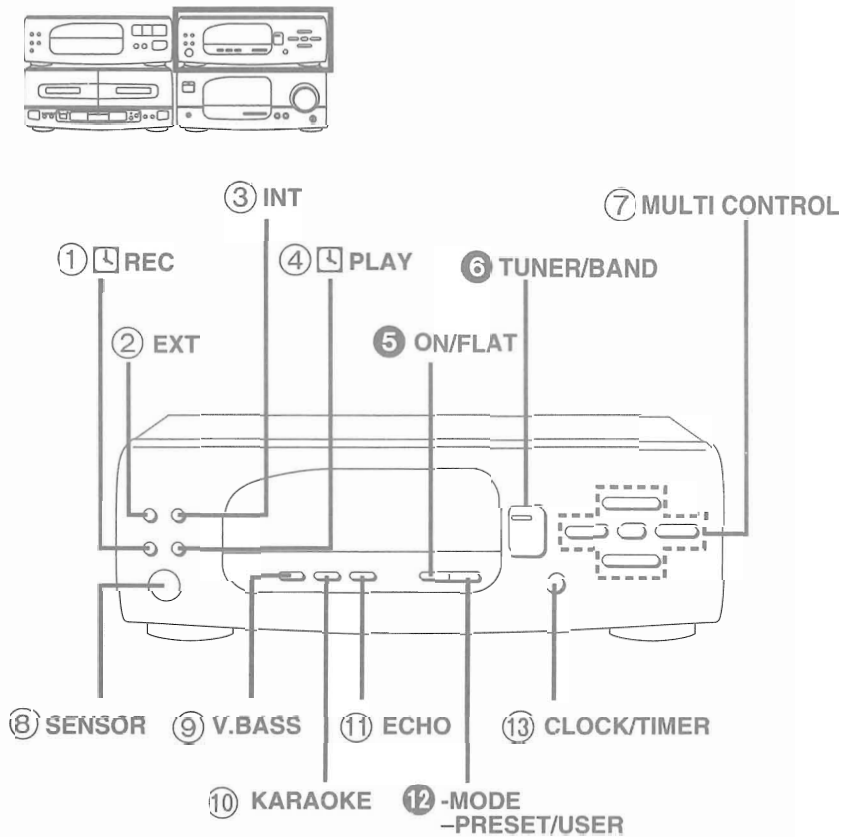
NOTE:

Refer to the service manual for Model No. SE-CH404 (Order No. AD9307218C8) or SE-CH505 (Order No. AD9309283C3) for information on "ACCESSORIES", "STACKING THE COMPONENTS", "CONNECTIONS" and "PACKAGING".

■ Location of Controls

The functions indicated by the numbers with black background (for example ⑤) can also be activated from the remote control.

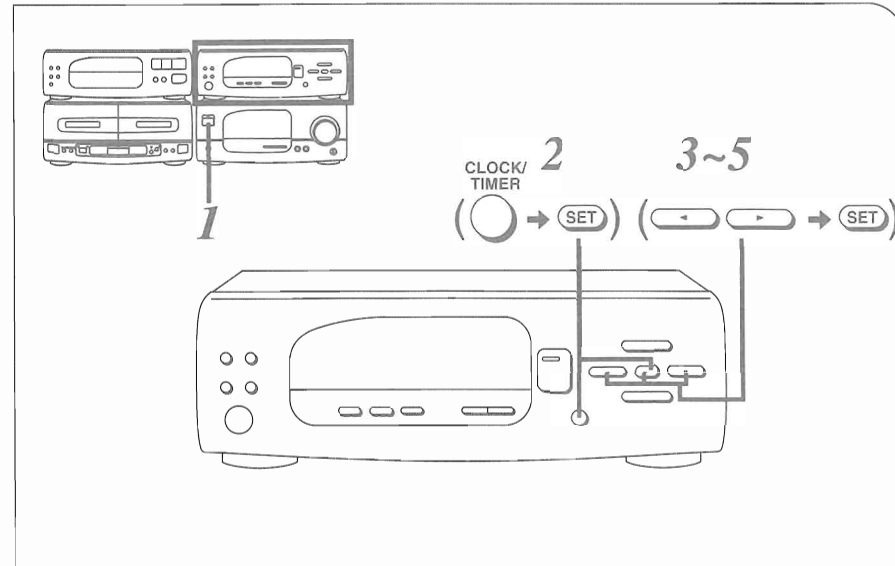
- ① Record timer button
- ② External source input select button
- ③ Internal source input select button
- ④ Play timer button
- ⑤ EQ/SPACE mode ON/FLAT button
- ⑥ Tuner source/band select button
- ⑦ Multi-control buttons
- ⑧ Remote control signal sensor
- ⑨ V. bass button
- ⑩ Voice mute button
- ⑪ Echo button
- ⑫ EQ/SPACE mode select button
- ⑬ Clock/timer button



■ Setting the Time

This is a 24-hours display clock.
These instructions explain how to set the timer for 16:25 (4:25 p.m.) on Wednesday.

- 1 Switch on the power on the amplifier.
- 2 ① Press **CLOCK/TIMER** to select "CLOCK".
Within 7 seconds
② Press **SET**.
- 3 ① Press **▶** or **◀** to select "WED".
② Press **SET**.
- 4 ① Press **▶** or **◀** to select "16".
② Press **SET**.
- 5 ① Press **▶** or **◀** to select "25".
② Press **SET** to finish setting the time.
The display will return to the previous display after about 2 seconds.



When "E:" appears on the display:

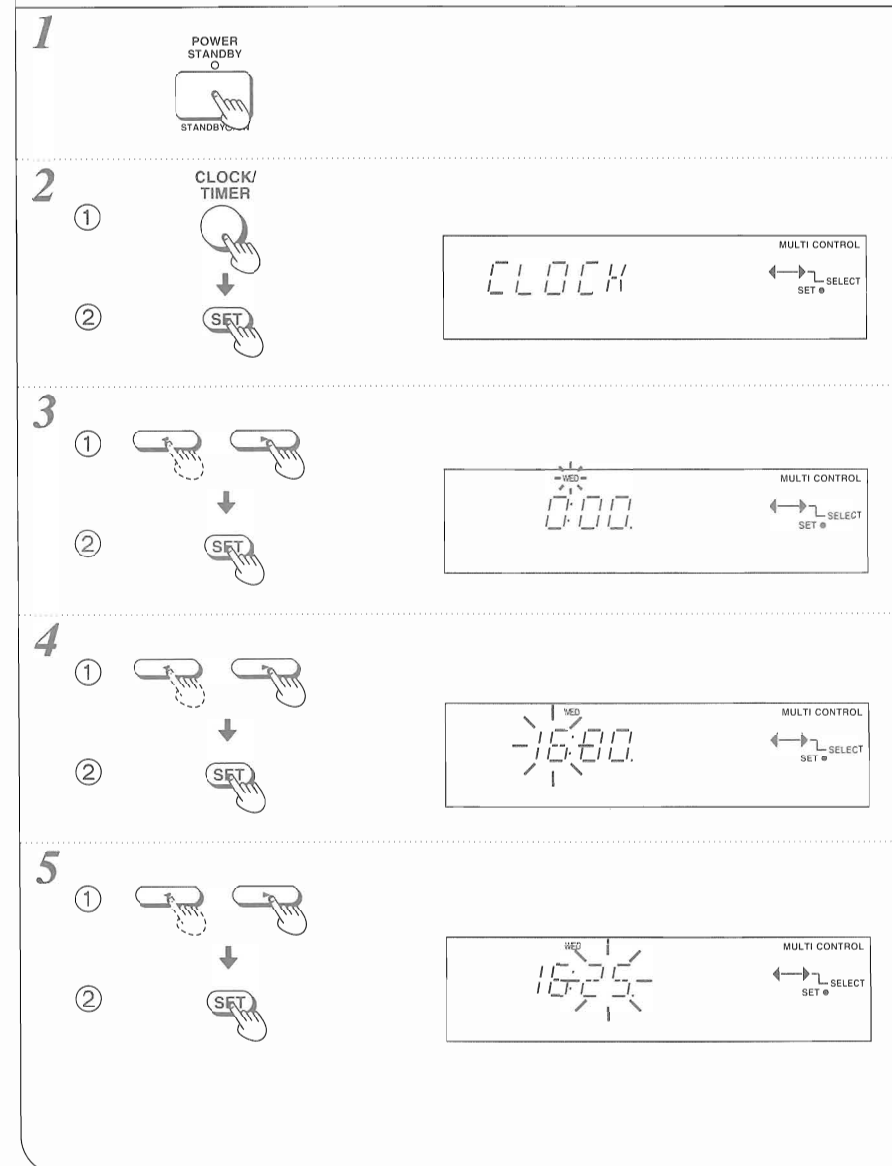
It appears when you connect the power supply cord for the first time or if there has been a power failure.
If this happens, reset the time.

If the minutes setting has gone wrong:

1. Press **CLOCK/TIMER**.
2. Press **SET** 3 times.
3. Press **▶** or **◀** to set the minute, and then press **SET**.

For your reference:

To display the clock again:
Press **CLOCK/TIMER**.
The clock display will appear for about 7 seconds.

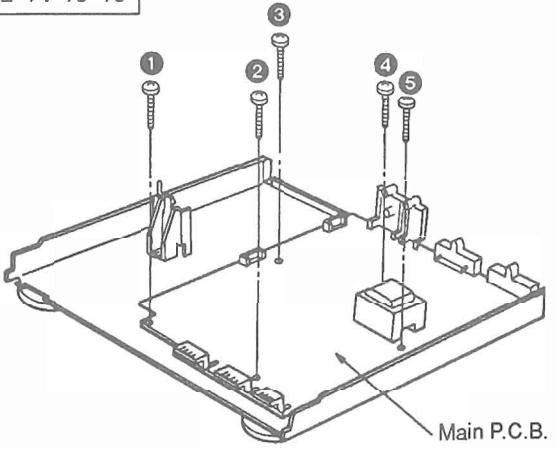
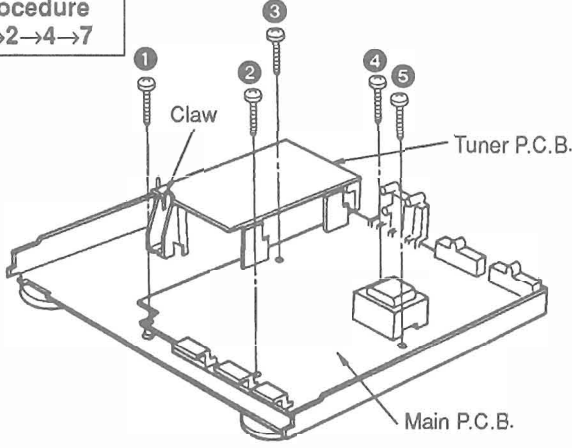
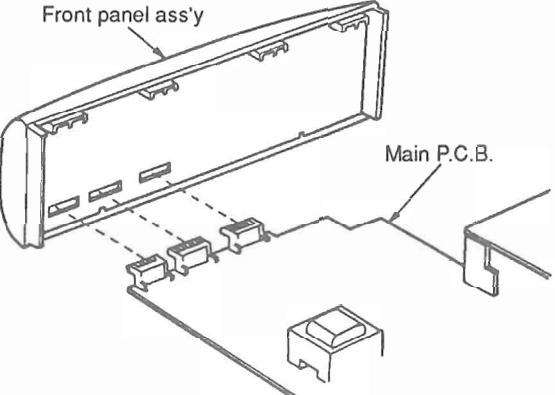
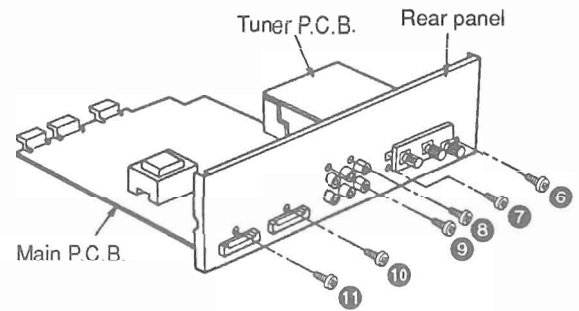
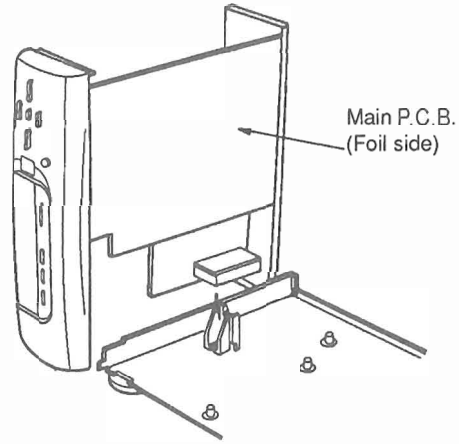
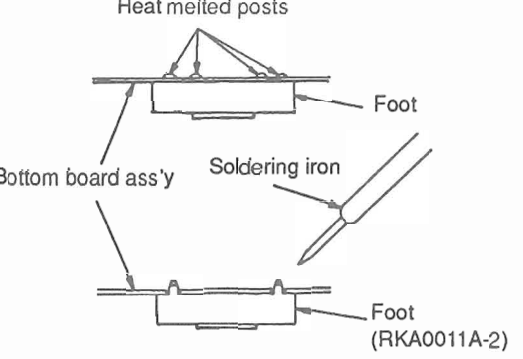


■ Disassembly Instructions

"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>1. Remove the 5 screws (①~⑤). 2. Remove the cabinet in the direction of arrow.</p>	Procedure 1→2	<p>1. Remove the 2 screws (①, ②). 2. Remove the front panel ass'y in the direction of arrow.</p>
Ref. No. 3	Removal of the Operation P.C.B.	Ref. No. 4	Removal of the Rear Panel
Procedure 1→2→3	<p>• Remove the 7 screws (①~⑦).</p>	Procedure 1→4	<p>1. Remove the 8 screws (①~⑧). 2. Pull the rear panel in both directions of arrow ① to unlock it from the projection of the bottom board ass'y. 3. Remove the rear panel in the direction of arrow ②.</p>
Ref. No. 5	Removal of the Connection (1) P.C.B., Connection (2) P.C.B. and Tuner P.C.B.		
Procedure 1→4→5	<p>1. Release the 1 claw. 2. Lift up the tuner P.C.B. in the direction of arrow ①, and then remove the 2 connectors (CN201A/B, CN202A/B).</p>	<p>3. Remove the connection (1) P.C.B. and connection (2) P.C.B. in the direction of arrow ②.</p>	

Ref. No. 6	Removal of the Main P.C.B.	Ref. No. 7	How to check the Main P.C.B.
Procedure 1→2→4→5→6	 <p>● Remove the 5 screws (1~5).</p>	Procedure 1→2→4→7	 <p>1. Remove the 5 screws (1~5). 2. Release the 1 claw. 3. Remove the main P.C.B. and tuner P.C.B.</p>
Procedure 5	 <p>5. Reinstall the front panel ass'y to the main P.C.B.</p>	Procedure 4	 <p>4. Reinstall the rear panel to the main P.C.B. and tuner P.C.B. and then tighten 6 screws (6~11).</p>
Procedure 6	 <p>6. Check the main P.C.B. (foil side) as shown above.</p>	Procedure Replacement of the Foot.	<p>● Replacement of the Foot.</p> <ol style="list-style-type: none"> Remove the 4 heat melted posts on the bottom board ass'y with a pair of nippers or similar tool. To replace the foot (RKA0011A-2) on the bottom board ass'y, melt the 4 posts with a soldering iron. 

Power Supply with Tuner ST-CH707

- This unit ST-CH707 is designed to operate on power supplied from the Amplifier SE-CH404 or SE-CH505.
- When operating the unit ST-CH707 alone for testing and servicing, without having power supplied from the Amplifier SE-CH404 or SE-CH505, use the following method.

Power Supply to Main Circuit

- Short the section between the test points **TP903** and **TP904** on the resistor R951 as well as the section between the test points **TP902** (Anode side) and **TP901** (Cathode side) of the diode D919.
- Apply 11 V AC power to the section between the points **AC 11 V (AC)** and **CT (CT)** of the condenser C901 as well as the section between points **AC 11 V (AC)** and **CT (CT)** of the condenser C902. (10 V AC power can be also applied when using power supply tool.) This unit comes to stand-by mode.
- Short the section between cathode side of the diode D908 and the point **P-SW** of the jumper J716 for a moment. The main circuit comes to power ON mode. (Whenever this operation is performed, power ON/OFF mode is repeated.)

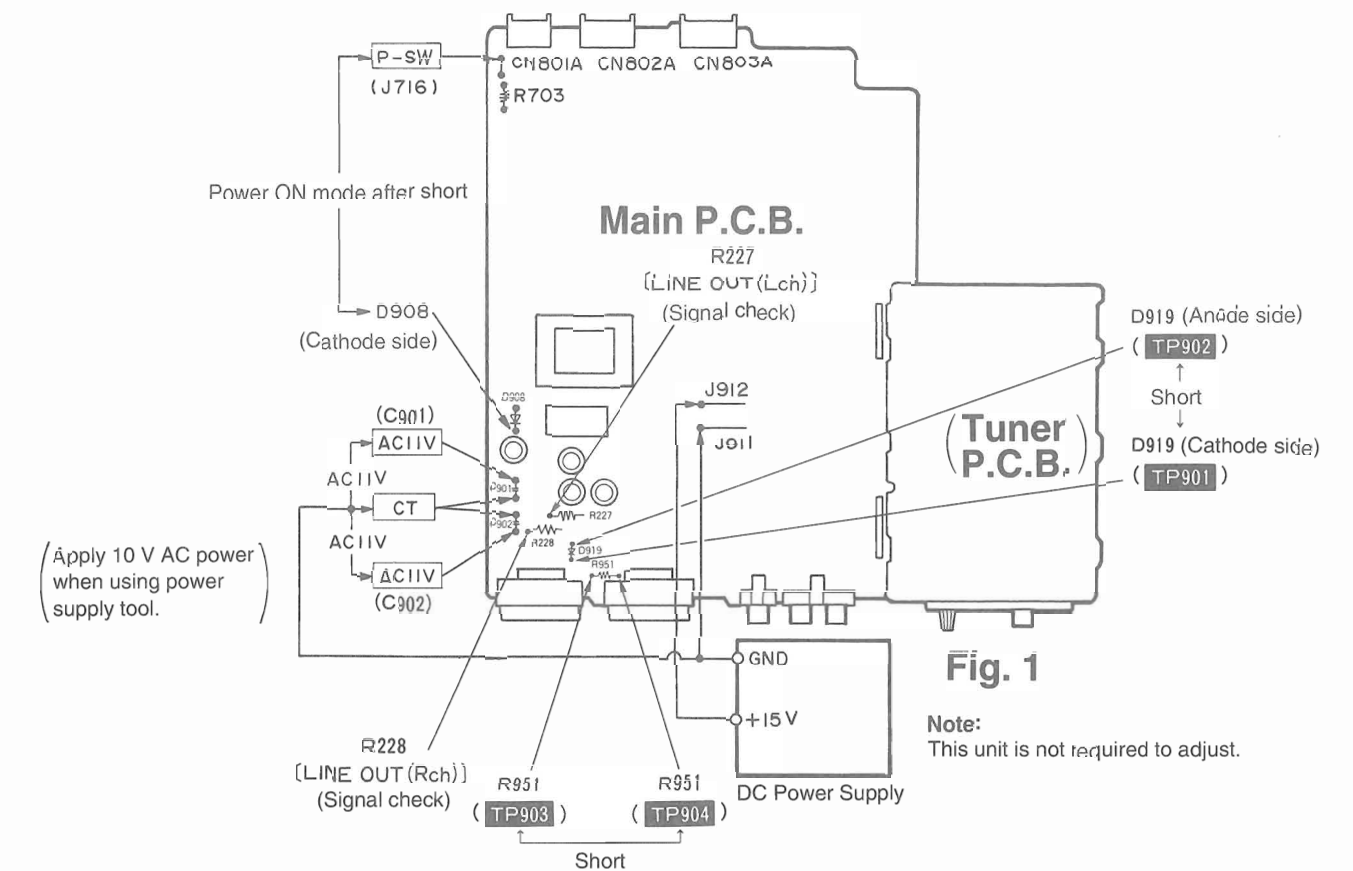
Power Supply to Tuner Circuit

- Apply power source to main circuit.
- Connect the DC +15 V terminal to the jumper J912, and the GND terminal to both the jumper J911 and the point **CT** of the condenser C901 or C902 using DC power supply tool.

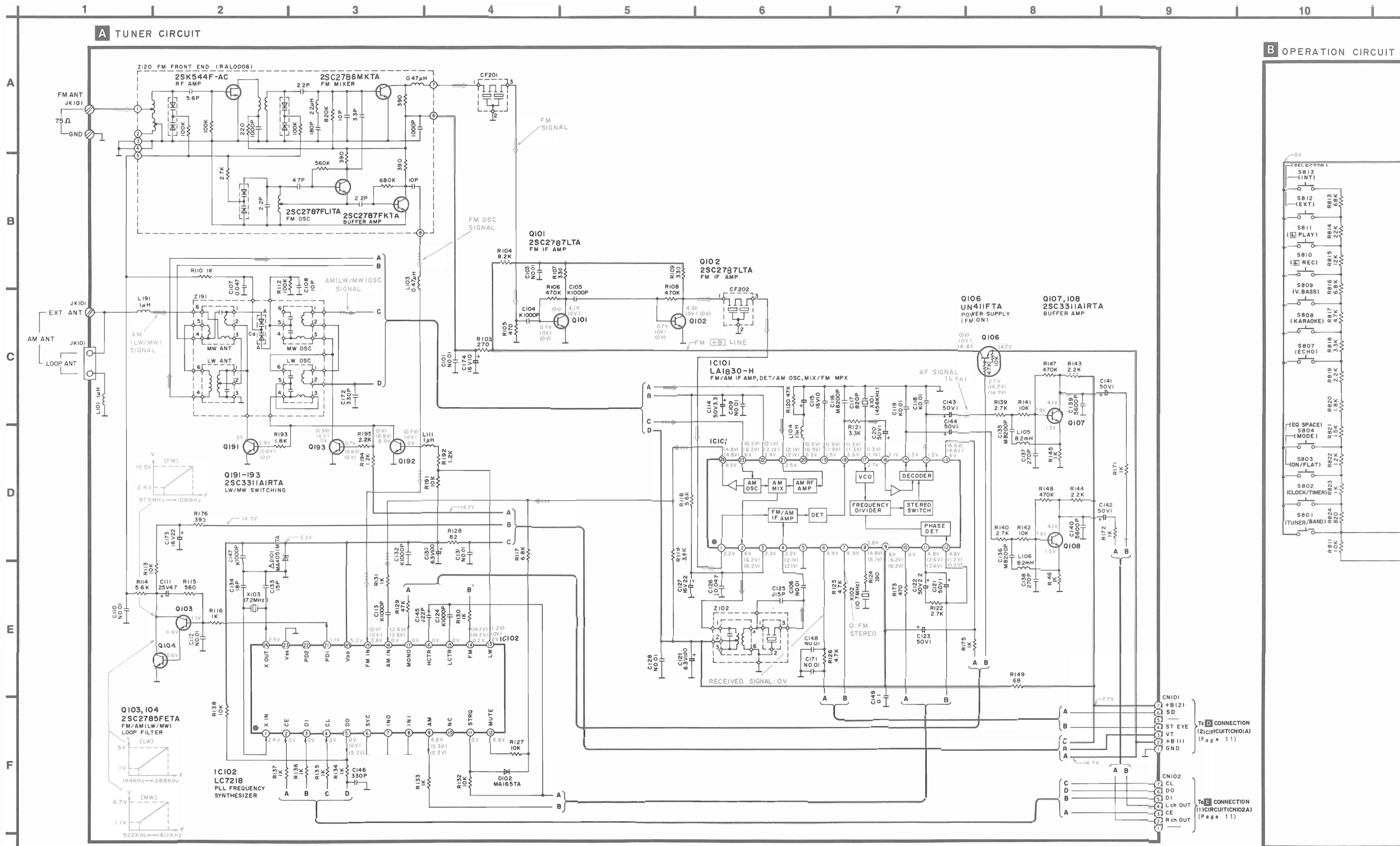
Note: If the GND terminal of the DC power supply tool is connected to the point **CT** of the condenser C901, an error occurs in measurement values for voltage and waveform.

To Check Signals

Connect the oscilloscope or the speaker with built-in amplifier to the section between LINE OUT (Rch) of the resistor R228 and test point **TP904** of the resistor R951 as well as the section between LINE OUT (Lch) of the resistor R227 and the test point **TP904** of the resistor R951 and check if the signals are outputting from this unit.

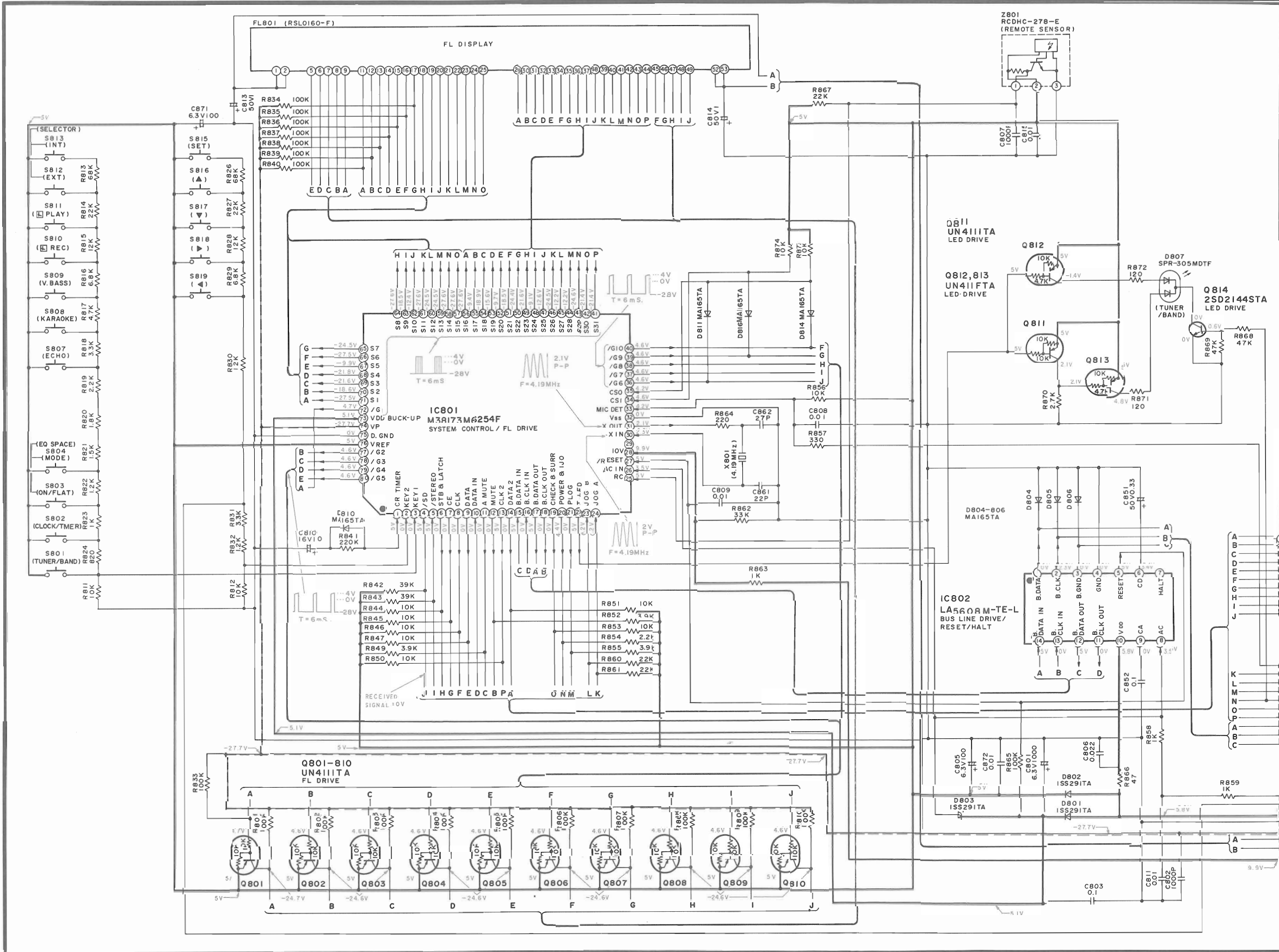


Schematic Diagram • Tuner/Operation circuit (Parts list on pages 23~27)





B OPERATION CIRCUIT



- Notes:**
- S801 : Tuner source/band select switch (TUNER/BAND)
 - S802 : Clock/timer switch (CLOCK/TIMER)
 - S803 : EQ/SPACE mode ON/FLAT switch (ON/FLAT)
 - S804 : EQ/SPACE mode select switch (MODE)
 - S807 : Echo switch (ECHO)
 - S808 : Voice mute switch (KARAOKE)
 - S809 : V. bass switch (V. BASS)
 - S810 : Record timer switch (REC)
 - S811 : Play timer switch (PLAY)
 - S812 : External source input select switch (EXT)
 - S813 : Internal source input select switch (INT)
 - S815 : Multi-control switch (SET)
 - S816 : Multi-control switch (▲)
 - S817 : Multi-control switch (▼)
 - S818 : Multi-control switch (◀)
 - S819 : Multi-control switch (▶)

● 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.
 ● Voltage values and waveforms are measured as indicated in the schematic diagram when test points between TP901 and TP902, and between TP903 and TP904 are shorted.
 No mark: FM mode (); MW mode
 < > : LW mode

Important safety notice:
 Components identified by ▲ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution!
 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.

● This schematic diagram may be modified at time with the development of new technology.

● The supply part number is described alone in the replacement parts list.

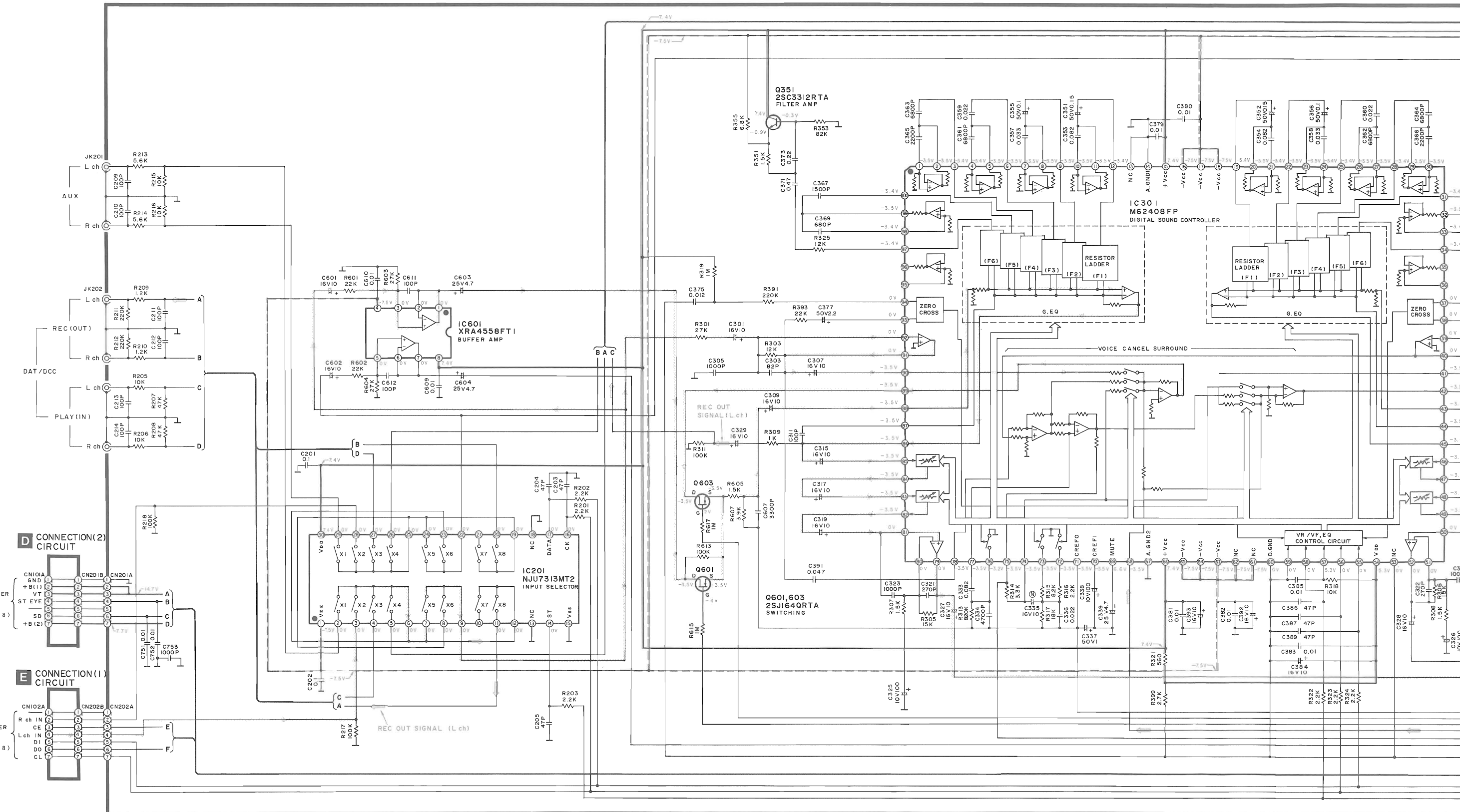
Ref. No.	Production Parts No.	Supply Parts No.
Z801	RCDHC-278-E	RCDHC-278

Schematic Diagram • Main/Connection (1)/(2) (Parts list on pages 23~27)

1 2 3 4 5 6 7 8 9 10

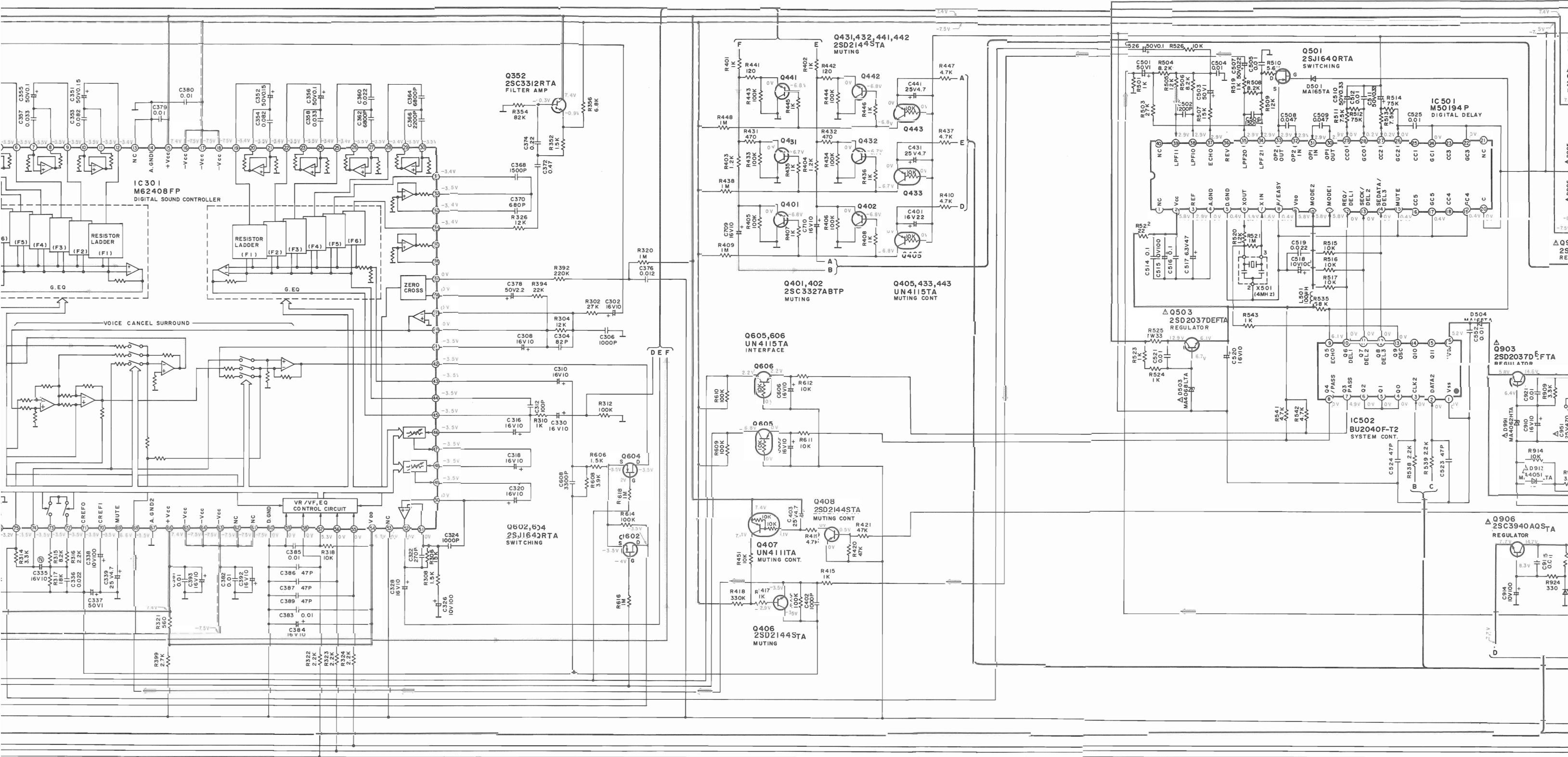
C MAIN CIRCUIT (DIGITAL DELAY/INPUT SELECTOR/DIGITAL SOUND CONTROLLER/BUFFER AMP/MUTING/REGULATOR)

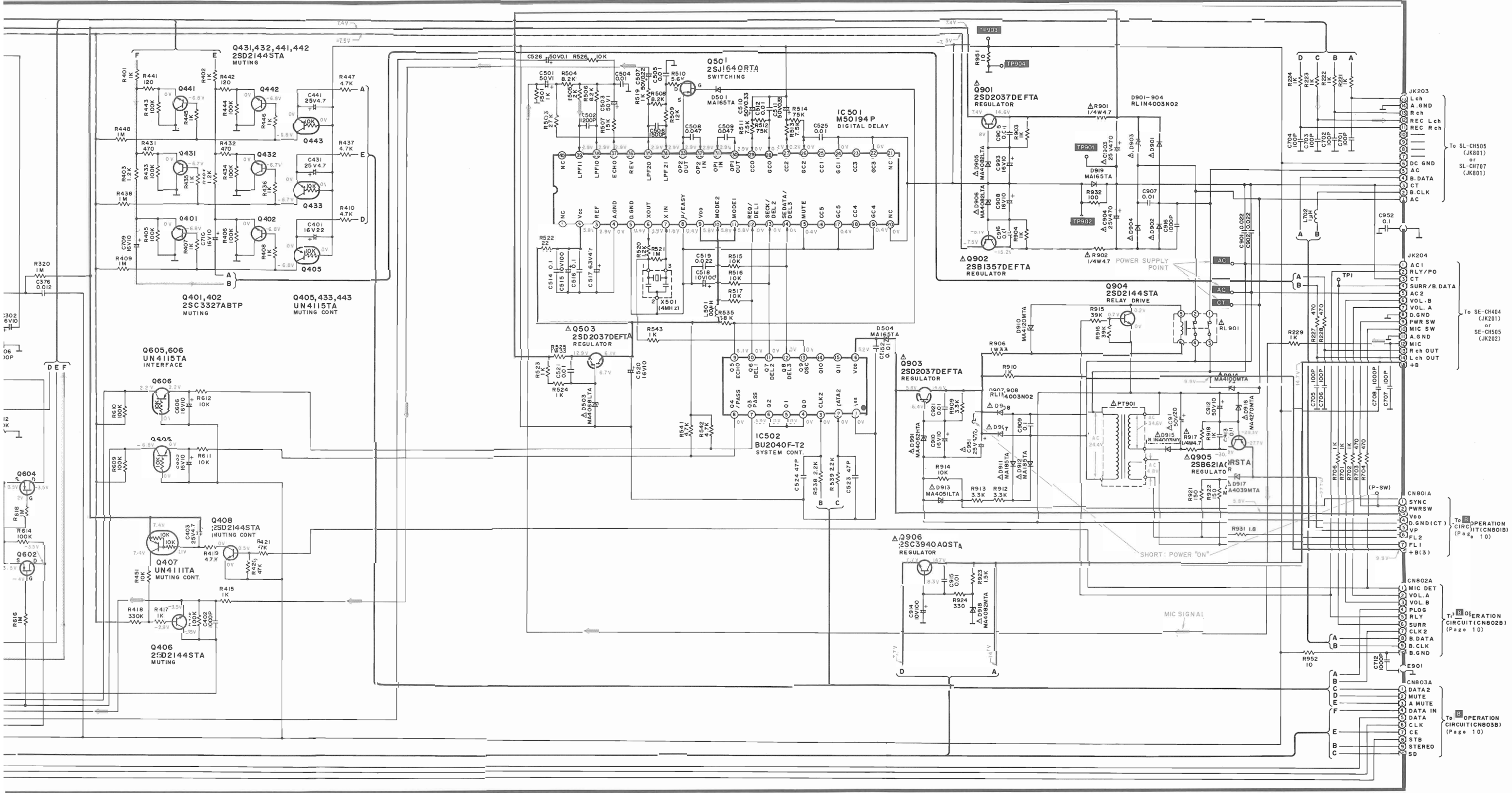
A
B
C
D
E
F



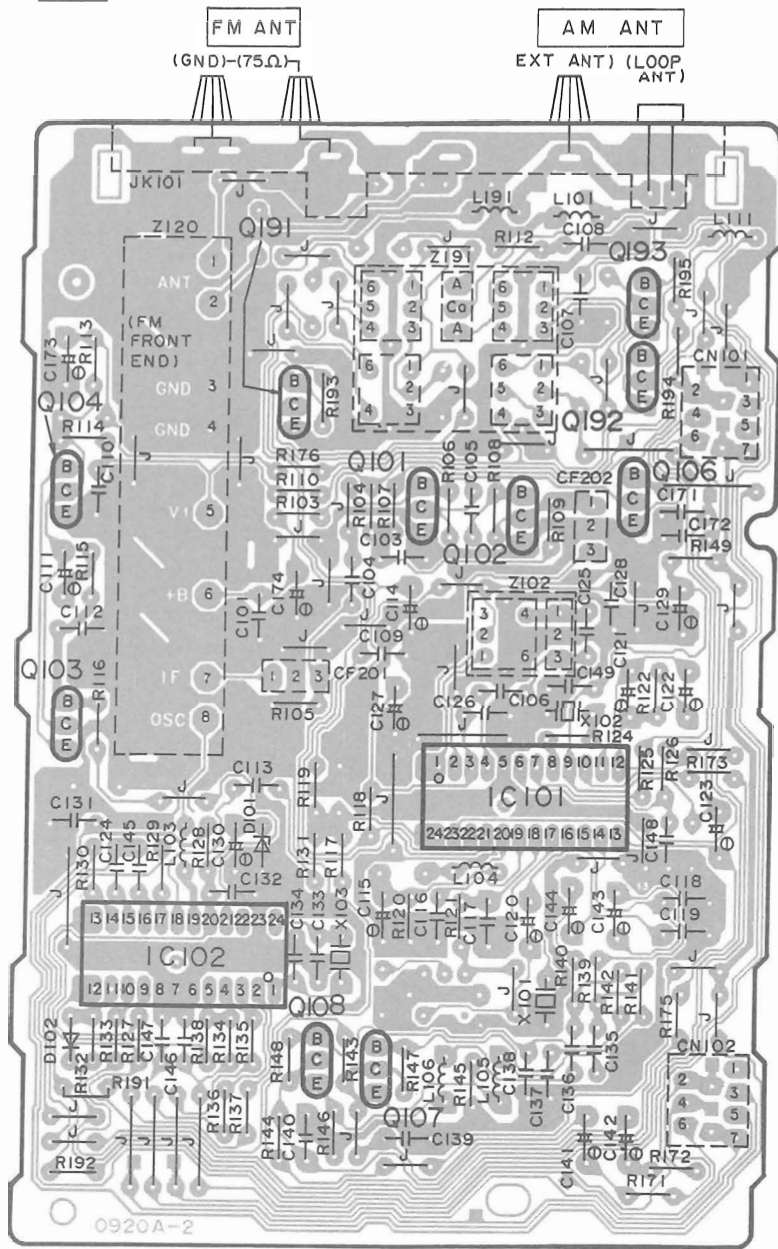
D CONNECTION (2) CIRCUIT

E CONNECTION (1) CIRCUIT

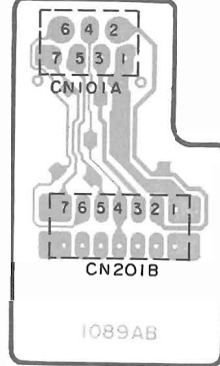




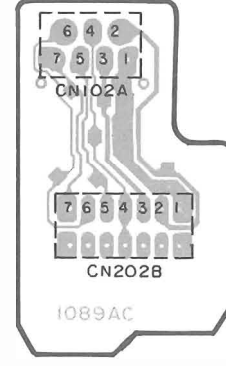
A TUNER P.C.B. (REPI452E-T)



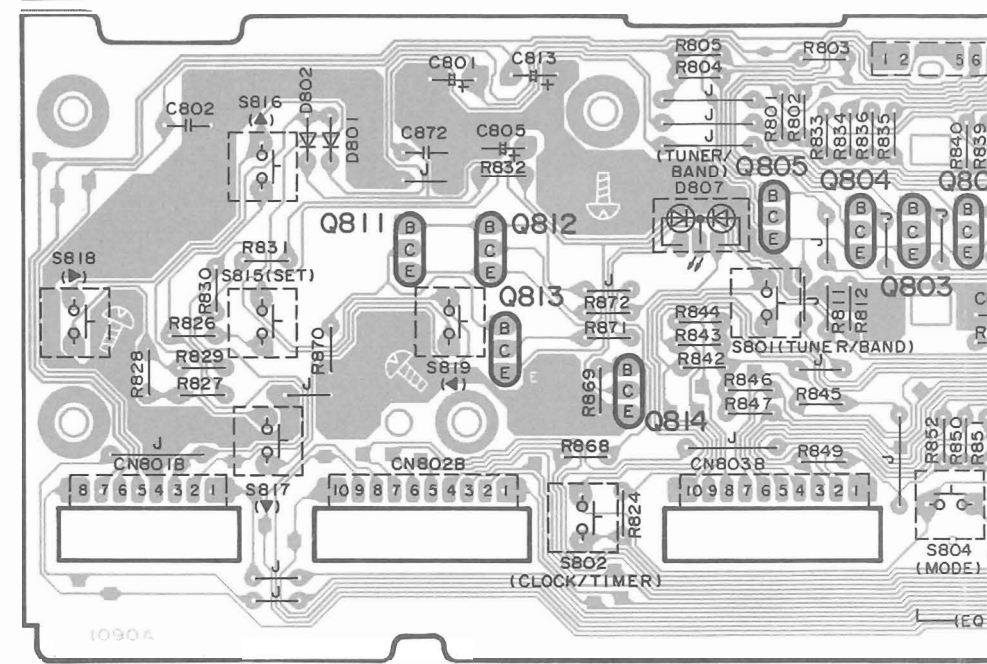
D CONNECTION (2) P.C.B. (REPI663C-M)



E CONNECTION (1) P.C.B. (REPI663C-M)



B OPERATION P.C.B. (REPI664E-S)

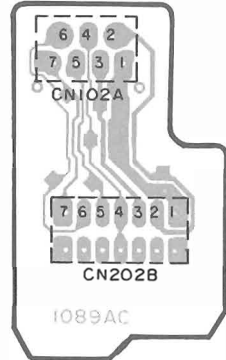


• Terminal guide of IC's, transistors and diodes

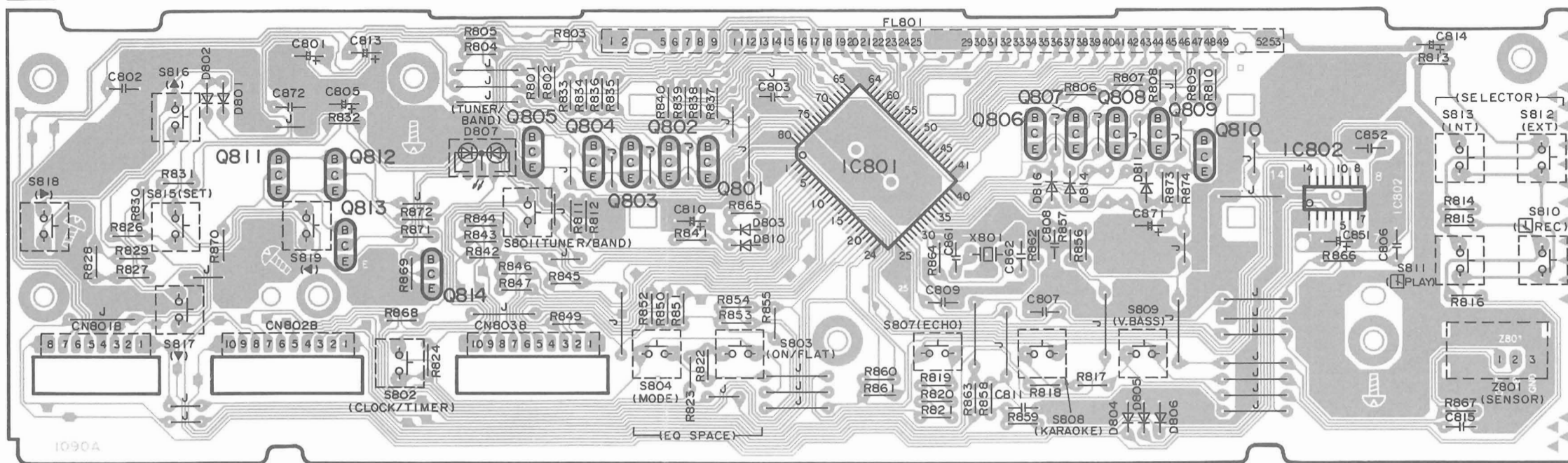
<p>XRA4558FT1</p>	<p>BU2040F-T2 16Pin LA5608M-TE-L 14Pin NJU7313MT2 30Pin</p>	<p>M38173M6254F 80Pin M62408FP 100Pin</p>	<p>LA1830-H LC7218</p>	<p>M50194P</p>		
<p>2SR621AQRSTA</p>	<p>2SC3327ABTP</p>	<p>2SC3940AQSTA</p>	<p>2SD2144STA</p>	<p>2SB1357DEFTA 2SD2037DEFTA</p>	<p>2SJ164QRTA</p>	<p>2SC2785FETA 2SC2787LTA 2SC3311AIRTA 2SC3312RTA 1JN4111FTA UN4111TA UN4115TA</p>
<p>MA4039MTA MA4051LTA MA4051MTA MA4062HTA MA4082LTA MA4082MTA MA4068LTA</p>	<p>MA4100MTA MA4120MTA MA4270MTA</p>	<p>RL1N4003N02</p>	<p>SPR-305MDTF</p>	<p>MA165TA</p>	<p>MA185TA 1SS291TA</p>	

ION
-M)

E CONNECTION
(1) P.C.B.
(REP1663C-M)



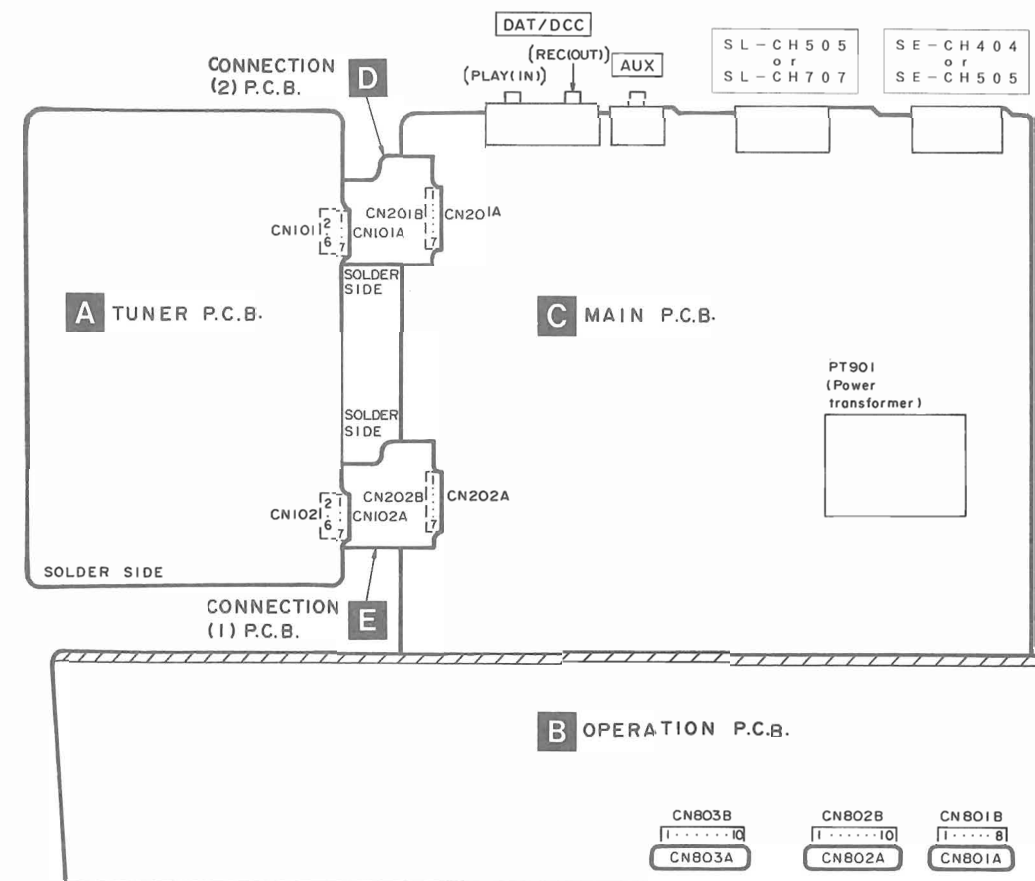
B OPERATION P.C.B. (REP1664E-S)



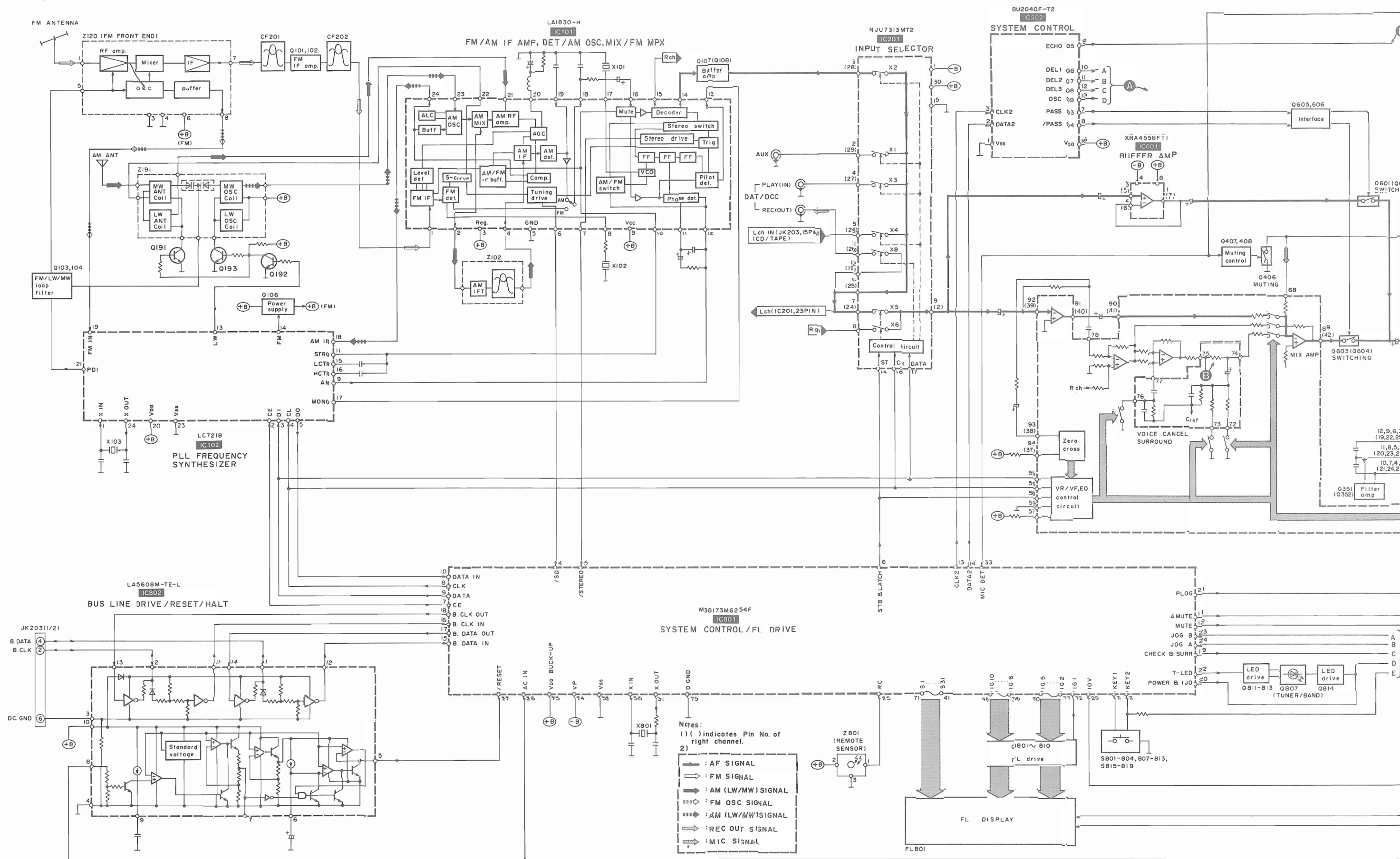
■ Wiring Connection Diagram

Resistors, capacitors, transistors and diodes

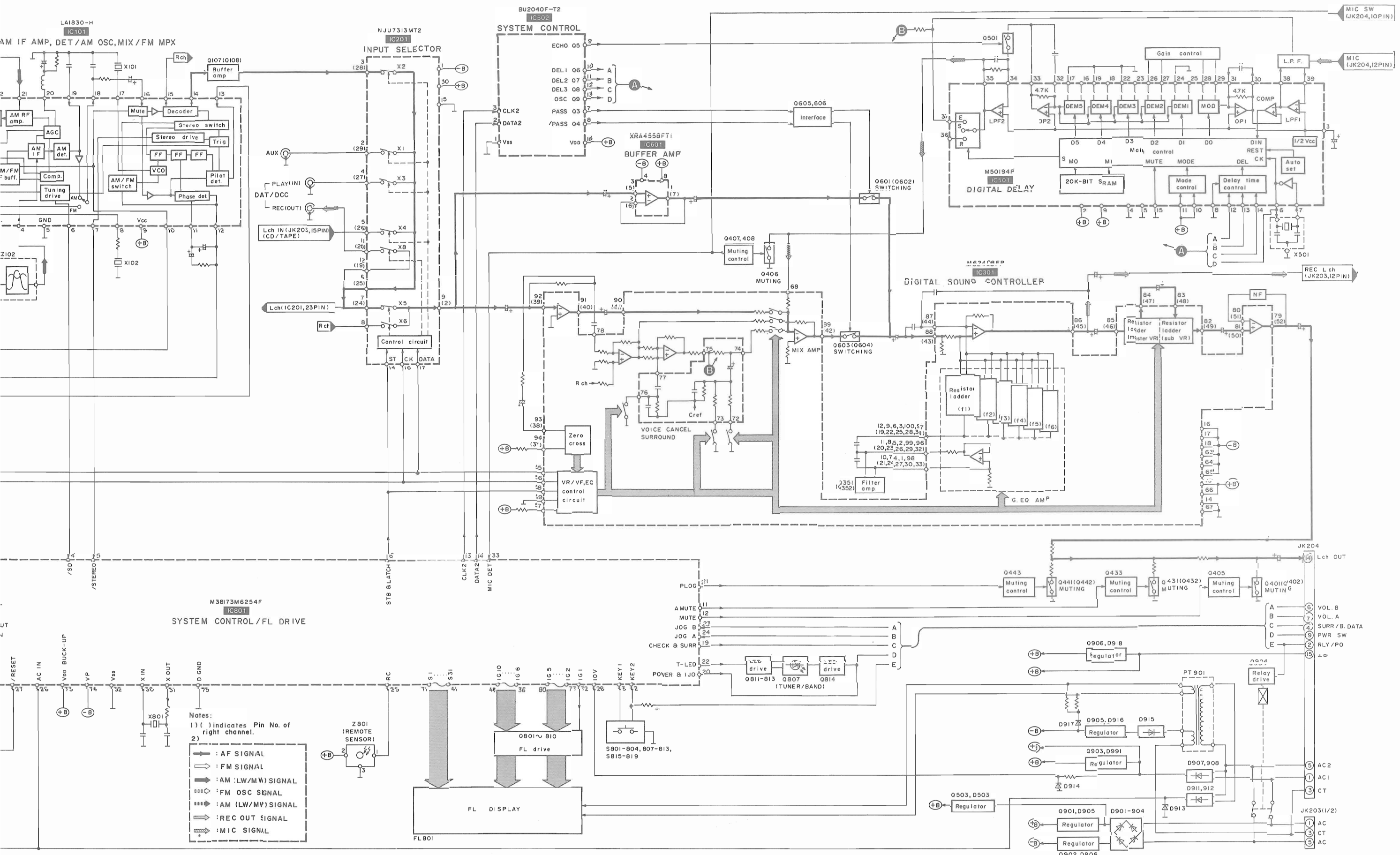
<p>BU2040F-T2 16Pin LA5608M-TE-L 14Pin NJU7313MT2 30Pin</p>	<p>M38173M6254F 80Pin M62408FP 100Pin</p>	<p>LA1830-H LC7218</p>	<p>M50194P</p>	<p>M38173M6252F 80 Pin</p>	<p>2SC3327ABTP</p>	<p>2SC3940AQSTA</p>	<p>2SD2144STA</p>	<p>2SB1357DEFTA 2SD2037DEFTA</p>	<p>2SJ164QRTA</p>	<p>2SC2785FETA 2SC2787LTA 2SC3311AIRTA 2SC3312RTA UN411FTA UN4111TA UN4115TA</p>
<p>MA4039MTA MA4051LTA MA4051MTA MA4062HTA MA4082LTA MA4082MTA MA4068LTA</p>	<p>MA4100MTA MA4120MTA MA4270MTA</p>	<p>RL1N4003N02</p>	<p>SPR-305MDTF</p>	<p>MA165TA</p>	<p>MA185TA 1SS291TA</p>					



Block Diagram



- Notes:
 1) () indicates Pin No. of right channel.
 2)
- : AF SIGNAL
 - : FM SIGNAL
 - : AM (LW/MW) SIGNAL
 - : FM OSC SIGNAL
 - : AM (LW/MW) SIGNAL
 - : REC OUT SIGNAL
 - : MIC SIGNAL



- Notes:
- 1) () indicates Pin No. of right channel.
 - 2)
 - : AF SIGNAL
 - : FM SIGNAL
 - : AM (LW/MW) SIGNAL
 - : FM OSC SIGNAL
 - : AM (LW/MV) SIGNAL
 - : REC OUT SIGNAL
 - : MIC SIGNAL

■ Functions of IC Terminals

●IC801 (M38173M6254F)

Pin No.	Terminal Name	I/O	Function
1	CR TIMER	I/O	Condenser/resistance oscillation terminal for an electronic failure detection
2	KEY2	I	Operation (MULTI CONTROL) key signal input
3	KEY1	I	Operation key signal input
4	/SD	I	SD signal input for tuner
5	/STEREO	I	STEREO signal input for tuner
6	STB&LATCH	O	Latch signal output to M62408 (IC301) and strobe signal output to NJU7313 (IC201)
7	CE	O	Chip enable signal output to LC7218 (IC102)
8	CLK	O	Clock signal output to M62408 (IC301)/NJU7313 (IC201)/LC7218 (IC102)
9	DATA	O	Data signal output to M62408 (IC301)/NJU7313 (IC201)/LC7218 (IC102)
10	DATA IN	I	Data signal input from LC7218 (IC102)
11	A MUTE	O	Audio muting signal output (Volume of -10 dB and less: "H")
12	MUTE	O	Main muting signal output (Normally "L")
13	CLK2	O	Serial clock output for M62408 (IC301)
14	DATA2	O	Serial data output for M62408 (IC301)
15	B.DATA IN	I	Data input from bus
16	B.CLK IN	I	Clock input from bus
17	B.DATA OUT	O	Data output to bus (Normally "H")
18	B.CLK OUT	O	Clock output to bus (Normally "L")
19	CHECK & SURR	O	POWER ON mode: Output for SUR ON/OFF (During POWER ON: "H") POWER OFF mode: Demultiplier output for clock control
20	POWER & IJO	I/O	Power control output (During POWER ON: "H") Heat detection input (Unusual situation: "H")
21	PLOG	O	Audio muting 2 signal output (Volume of -70 dB and less: "H")
22	T-LED	O	Selector TUNER output (Output in level "H")
23	JOG B	I	Rotary encoder input for main volume
24	JOG A		

Pin No.	Terminal Name	I/O	Function
25	RC	I	Input for remote control
26	AC IN	I	AC power source input terminal for an electricity failure/clock
27	/RESET	I	Reset input terminal
28	10 V	I	Power source for pull up (+10 V)
29	—	—	—
30	XIN	I	Connected to a ceramic oscillator for system clock X801 (4.194304 MHz)
31	XOUT	O	
32	V _{SS}	—	Connected to GND
33	MIC DET	I	Input for MIC detection (Connection: "L")
34	CS1	I	Input for chip selection
35	CS0		
36 ?	/G6	O	Grid output for FL display tube
40	/G1C		
41 ?	S31	O	Segment output for FL display tube (Tuner/Amplifier)
56	S16		
57 ?	S15	O	Segment output for FL display tube (GEO)
71	S1		
72	/G1	O	Grid output for FL display tube
73	V _{DD} BUCK-UP	I	+5 V impression
74	VP	—	-VP impression for FL display tube
75	D.GND	—	Connected to GND
76	VREF	—	Standard voltage for A/D converter (Connected to V _{CC})
77 ?	/G2	O	Grid output for FL display tube
80	/G5		

■ Replacement Parts List

Notes: *Important safety notice.

Components identified by Δ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list. 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. The "(SF)" mark denotes the standard part.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)		D102	MA185	DIODE	
				D501	MA185	DIODE	
				D503	MA4068L	DIODE	Δ
				U504	MA165	DIODE	
				D801-803	1S291TA	DIODE	
				D804-806	MA165	DIODE	
				D807	SPR-305MCTF	LED	
				D810, 811	MA165	DIODE	
				D814	MA165	DIODE	
				D816	MA165	DIODE	
				D901-904	RL1N4003N02	DIODE	Δ
				D905, 906	MA4082LTA	DIODE	Δ
				D907, 908	RL1N4003N02	DIODE	Δ
				D910	MA4120	DIODE	
				D911, 912	MA185TA	DIODE	Δ
				D913	MA4051-L	DIODE	Δ
				D914	MA4100MTA	DIODE	Δ
				D915	RL1N4003N02	DIODE	Δ
				D916	MA4270	DIODE	Δ
				D917	MA4039M1A	DIODE	Δ
				D918	MA4082MTA	DIODE	Δ
				D919	MA165	DIODE	
				D991	MA4062-H	DIODE	Δ
						COMPONENT COMBINATION(S)	
				Z102	RL12006M-T	COMPONENT COMBINATION	
				Z120	RAL0006	FM FRONT END	
				Z191	RLA6Z005M-T	COMPONENT COMBINATION	
				Z801	RCDHC-278	REMOTE SENSOR	
						COIL(S)	
				L101	ELESN1ROMA	COIL	
				L103	ELEXT47MA9	COIL	
				L104	ELEXT100KA9	COIL	
				L105, 106	RLQZB822KT-D	COIL	
				L111	ELEXT1ROKA9	COIL	
				L191	ELESN1ROMA	COIL	
				L501	ELEXT101KA9	COIL	
				L702	ELEXT1ROKA9	COIL	
						FILTER(S)	
				CF201, 202	RLFFETWNO1M	CERAMIC FILTER	
						OSCILLATOR(S)	
D101	MA4051MTA	DIODE	Δ				

Replacement Parts List

Notes: Important safety notice:
 Components identified by Δ mark have special characteristics important for safety.
 Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
 When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
 *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.
 *The "(SF)" mark denotes the standard part.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)		D1C2	MA165	DIODE	
				D501	MA165	DIODE	
				D5C3	MA4068L	DIODE	Δ
				D504	MA165	DIODE	
IC101	LA1830-H	I. C. FM/AM IF AMP. /AM OSC		D801-803	1SS291TA	DIODE	
IC102	LC7218	I. C. PLL. FREQ. SYNTHESIZER		D804-806	MA165	DIODE	
IC201	NJU7313MT2	I. C. INPUT SELECTOR		D807	SPR-305MDTF	LED	
IC301	M62408FP	I. C. DIGITAL SOUND CONTROL		D810, 811	MA165	DIODE	
IC501	M50194P	I. C. DIGITAL DELAY		D814	MA165	DIODE	
IC502	BU2040F-T2	I. C. SYSTEM CONT.		D816	MA165	DIODE	
IC601	XRA4558FT1	I. C. BUFFER AMP.		D901-904	RL1N4003N02	DIODE	Δ
IC801	M38173M6254F	I. C. SYSTEM CONT. /FL DRIVE		D905, 906	MA4082LTA	DIODE	Δ
IC802	LA5608M-TE-L	I. C. BUS LINE/HAULT/RESET		D907, 908	RL1N4003N02	DIODE	Δ
		TRANSISTOR(S)		D910	MA4120	DIODE	
				D911, 912	MA185TA	DIODE	Δ
Q101, 102	2SC2787L	TRANSISTOR		D913	MA4051-L	DIODE	Δ
Q103, 104	2SC2785FE	TRANSISTOR		D914	MA4100MTA	DIODE	Δ
Q106	UN411FTA	TRANSISTOR		D915	RL1N4003N02	DIODE	Δ
Q107, 108	2SC3311ARSTA	TRANSISTOR		D916	MA4270	DIODE	Δ
Q191-193	2SC3311ARSTA	TRANSISTOR		D917	MA4039MTA	DIODE	Δ
Q351, 352	2SC3312RSTA	TRANSISTOR		D918	MA4082MTA	DIODE	Δ
Q401, 402	2SC3327-A	TRANSISTOR		D919	MA165	DIODE	
Q405	UN4115	TRANSISTOR		D991	MA4062-H	DIODE	Δ
Q406	2SD2144S	TRANSISTOR				COMPONENT COMBINATION(S)	
Q407	UN4111	TRANSISTOR		Z102	RL122006M-T	COMPONENT COMBINATION	
Q408	2SD2144S	TRANSISTOR		Z120	RAL0006	FM FRONT END	
Q431, 432	2SD2144S	TRANSISTOR		Z191	RLA62005M-T	COMPONENT COMBINATION	
Q433	UN4115	TRANSISTOR		Z201	RCDHC-278	REMOTE SENSOR	
Q441, 442	2SD2144S	TRANSISTOR				COIL(S)	
Q443	UN4115	TRANSISTOR		L101	ELESN1ROMA	COIL	
Q501	2SJ164QRTA	TRANSISTOR		L103	ELEXT47MA9	COIL	
Q503	2SD2037DEFTA	TRANSISTOR	Δ	L104	ELEXT100KA9	COIL	
Q601-604	2SJ164QRTA	TRANSISTOR		L105, 106	RLQB822KT-D	COIL	
Q605, 606	UN4115	TRANSISTOR		L111	ELEXT1ROKA9	COIL	
Q801-811	UN4111	TRANSISTOR		L191	ELESN1ROMA	COIL	
Q812, 813	UN411FTA	TRANSISTOR		L501	ELEXT101KA9	COIL	
Q814	2SD2144S	TRANSISTOR		L702	ELEXT1ROKA9	COIL	
Q901	2SD2037DEFTA	TRANSISTOR	Δ			FILTER(S)	
Q902	2SB1357DEFTA	TRANSISTOR	Δ	CF201, 202	RLFFETWNO1M	CERAMIC FILTER	
Q903	2SD2037DEFTA	TRANSISTOR	Δ			OSCILLATOR(S)	
Q904	2SD2144S	TRANSISTOR					
Q905	2SB621A-R	TRANSISTOR	Δ				
Q906	2SC3940AQSTA	TRANSISTOR	Δ				
		DIODE(S)					
D101	MA4051MTA	DIODE	Δ				

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
				PT901	RTP114G004	POWER TRANSFORMER	Δ
X101	RSXZ456KMO7M	OSCILLATOR(456KHz)				RELAY	
X102	RLFDFTD03M1	OSCILLATOR(10.7MHz)					
X103	SVQ49U722-S	OSCILLATOR(7.2MHz)					
X501	EFOEC4004T4	OSCILLATOR(4MHz)		RL901	RSY0017M-0	RELAY	Δ
X801	RSXA4M19S03	OSCILLATOR(4.19MHz)				JACK(S)	
		DISPLAY					
FL801	RSL0160-F	FL DISPLAY		JK101	RJH4405-1M	ANTENNA TERMINAL	
		SWITCH(ES)		JK201	SJF3068N	ALX	
S801	EVQ21405R	SW. TUNER/BAND		JK202	SJF3069-5N	DAT/DCC	
S802	EVQ21405R	SW. CLOCK/TIMER		JK203	RJT065K15	CONNECTOR(15P) (BLACK TYPE)	
S803	EVQ21405R	SW. ON/FLAT		JK204	RJT065W15	CONNECTOR(15P) (WHITE TYPE)	
S804	EVQ21405R	SW. MODE					
S807	EVQ21405R	SW. ECHO					
S808	EVQ21405R	SW. KARAOKE					
S809	EVQ21405R	SW. V. BASS					
S810	EVQ21405R	SW. TIMER REC					
S811	EVQ21405R	SW. TIMER PLAY					
S812	EVQ21405R	SW. SELECTOR (EXT)					
S813	EVQ21405R	SW. SELECTOR (INT)					
S815	EVQ21405R	SW. MULTI CONTROL (SET)					
S816	EVQ21405R	SW. MULTI CONTROL (UP)					
S817	EVQ21405R	SW. MULTI CONTROL (DOWN)					
S818	EVQ21405R	SW. MULTI CONTROL (RIGHT)					
S819	EVQ21405R	SW. MULTI CONTROL (LEFT)					
		CONNECTOR(S)					
CN101, 102	RJU063W07T	SOCKET (7P)					
CN101A	RJT063W07T	CONNECTOR (7P)					
CN102A	RJT063W07T	CONNECTOR (7P)					
CN201A	RJT057W007-1	CONNECTOR (7P)					
CN202A	RJT057W007-1	CONNECTOR (7P)					
CN801A	RJU003K008M1	SOCKET (8P)					
CN802A	RJU003K010M1	SOCKET (10P)					
CN803A	RJU003K010M1	SOCKET (10P)					
CN201B	RJU057W007	SOCKET (7P)					
CN202B	RJU057W007	SOCKET (7P)					
CN801B	RJT003K008-1	CONNECTOR (8P)					
CN802B	RJT003K010-1	CONNECTOR (10P)					
CN803B	RJT003K010-1	CONNECTOR (10P)					
		EARTH TERMINAL					
E901	SNE1004-1	GND PLATE					
		TRANSFORMER					

Notes : * Capacity values are in microfarads (μF) 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)

Table with columns: Ref. No., Part No., Values & Remarks. Contains resistor data for parts R209 through R443.

Table with columns: Ref. No., Part No., Values & Remarks. Contains capacitor data for parts C101 through C311.

■ Cabinet Parts Location

Ref. No.	Part No.	Values & Remarks
C520	ECEA1CKA100B	16V 10U
C521	ECBT1E103ZF	25V 0.01U
C523, 524	ECBT1H470J5	50V 47P
C525	ECBT1C103MS5	16V 0.01U
C526	ECEA1HKA0R1B	50V 0.1U
C552	ECBT1E103ZF	25V 0.01U
C601, 602	ECEA1CKA100B	16V 10U
C603, 604	ECEA1EKA4R7B	25V 4.7U
C605, 606	ECEA1CKA100B	16V 10U
C607, 608	ECBT1C332KR5	16V 3300P
C609, 610	ECBT1E103ZF	25V 0.01U
C611, 612	ECBT1H101KB5	50V 100P
C701-707	ECBT1H101KB5	50V 100P
C708	ECBT1H102KB5	50V 1000P
C709, 710	ECEA1CKA100B	16V 10U
C712	ECBT1H102KB5	50V 1000P
C751, 752	ECBT1E103ZF	25V 0.01U
C753	ECBT1H102KB5	50V 1000P
C801	ECEA0JU102	6.3V 1000U
C802	ECBT1H102KB5	50V 1000P
C803	ECBT1H104ZF5	50V 0.1U
C805	ECEA0JKA101B	6.3V 100U
C806	ECBT1E223ZF	25V 0.022U
C807	ECBT1H102KB5	50V 1000P
C808, 809	ECBT1E103ZF	25V 0.01U
C810	ECEA1CKA100B	16V 10U
C811	ECBT1E103ZF	25V 0.01U
C813, 814	ECEA1HKA010B	50V 1U
C815	ECBT1E103ZF	25V 0.01U
C851	ECEA1HKA033B	50V 0.33U
C852	ECQV1H104JM3	50V 0.1U
C861	ECBT1H220JC5	50V 22P
C862	ECBT1H270JU5	50V 27P
C871	ECEA0JKA101B	6.3V 100U
C872	ECBT1E103ZF	25V 0.01U
C901, 902	ECKT1H223ZF	50V 0.022U
C903, 904	ECA1EM471B	25V 470U Δ
C905-907	ECBT1E103ZF	25V 0.01U
C908	ECEA1CKA100B	16V 10U
C909	ECBT1H104ZF5	50V 0.1U
C910	ECEA1CKA100B	16V 10U
C911	ECA1HM221B	50V 220U Δ
C912	ECEA1HKA100B	50V 10U
C913	ECBT1E103ZF	25V 0.01U
C914	ECEA1AKA101B	10V 100U
C915	ECBT1E103ZF	25V 0.01U
C916	ECBT1H102KB5	50V 1000P
C921	ECBT1E103ZF	25V 0.01U
C951	ECA1EM471B	25V 470U Δ
C952	ECBT1H104ZF5	50V 0.1U
C993	ECEA1CKA100B	16V 10U

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	RKMO203-1K	CABINET	
2	RGR0176A-F1	REAR PANEL	
3	RFKJSCH404EK	BOTTOM BOARD ASS'Y	
3-1	RKA0011A-2	FOOT	
4	RMNO231	HOLDER	
5	RMNO195	FL SPACER	
6	RMNO230	FL HOLDER	
7	RFKGTCH707GC	FRONT PANEL ASS'Y	
7-1	RKWO297-V	FL PANEL	
8	RGL0218-Q	PANEL LIGHT	
9	RGU0959-K	BUTTON, MULTI CONTROL etc.	
10	RGU0960-K	BUTTON, EQ SPACE etc.	
11	SHE185-2	P. C. B. SPACER	
12	XTB3+16JFZ	SCREW	
13	RHD30007	SCREW	
14	XTB3+8JFZ	SCREW	
15	XTBS26+8J	SCREW	
16	XTBS3+8JFZ1	SCREW	

