ORDER NO. AD9004080C1
A2

Service Manual

Receiver

QUARTZ Synthesizer AM/FM Stereo Receiver

SA-GX100

Color

(K)... Black Type

Area

Country Code	Area	Color
(P)	U.S.A.	(K)
(PC)	Canada.	

SPECIFICATIONS
(IHF '78)

■ AMPLIFIER SECTION

Rated minimum sine wave
RMS power output
20 Hz~20 kHz both channels driven
0.5% total harmonic distortion
40 W per channel (8 ohms)

1 kHz continuous power output	
both channels driven	
0.5% total harmonic distortion	42 W per channel (8 ohms)
Dynamic headroom	1.2 dB (8 ohms)
Total harmonic distortion	
rated power at 20 Hz~20 kHz	0.5% (8 ohms)
half power at 1 kHz	0.07% (8 ohms)
SMPTE intermodulation distortion	0.5% (8 ohms)
Frequency response	
PHONO	RIAA standard curve ±0.8 dB
CD, VCR 1, TAPE/VCR 2	10 Hz~70 kHz, ±3 dB
Input sensitivity	
PHONO	0.4 mV (3 mV, IHF '66)
CD, VCR 1, TAPE/VCR 2	27 mV (200 mV, IHF '66)
S/N (IHF, A)	
PHONO	68 dB (71 dB, IHF '66)
CD, VCR 1, TAPE/VCR 2	70 dB (85 dB, IHF '66)
Maximum input voltage	
PHONO	160 mV (IHF '66)
Input impedance	
PHONO	47 kilohms
CD, VCR 1, TAPE/VCR 2	22 kilohms
Tone controls	
BASS	50 Hz, +10 dB~−10 dB
TREBLE	20 kHz, +10 dB~−10 dB
Loudness control (volume at −30 dB)	50 Hz, +9 dB
Low frequency damping factor	20 (8 ohms)
Load impedance	
A or B	8~16 ohms
A and B	8~16 ohms

■ FM TUNER SECTION

Frequency range	87.9~107.9 MHz
Sensitivity	11.2 dBf (2 µV, IHF '58)
50 dB quieting sensitivity	
MONO	20.2 dBf (5.6 µV, IHF '58)
STEREO	40.2 dBf (56 µV, IHF '58)
Total harmonic distortion	0.2% (MONO), 0.3% (STEREO)
S/N	
MONO	75 dB
STEREO	70 dB
Frequency response	20 Hz~15 kHz, +1 dB, −2 dB
Alternate channel selectivity	65 dB
Capture ratio	1.0 dB
Image rejection at 98 MHz	45 dB
IF rejection at 98 MHz	80 dB
Spurious response rejection at 98 MHz	75 dB
AM suppression	50 dB
Stereo separation	
1 kHz	40 dB
10 kHz	30 dB
Carrier leak	
19 kHz	−35 dB
38 kHz	−50 dB
Antenna terminals	300 ohms (balanced) 75 ohms (unbalanced)

Technics

Matsushita Services Company
Division of Matsushita Electric Corporation of America
50 Meadowland Parkway,
Secaucus, New Jersey 07094

Panasonic Sales Company,
Division of Matsushita Electric of Puerto Rico, Inc.
San Gabriel Industrial Park
65th Infantry Ave. Km.9.5
Carolina, P.R. 00630

Matsushita Electric of Canada Limited
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3

■ AM TUNER SECTION

Frequency range	530~1720 kHz
Sensitivity	20 μV, 330 μV/m
Selectivity	55 dB
Image rejection at 1000 kHz	40 dB
IF rejection at 1000 kHz	60 dB

■ GENERAL

Power consumption	170 W
Power supply	AC 120V, 60Hz
Dimensions (W × H × D)	430 × 124 × 300 mm
	(16-15/16" × 4-7/8" × 11-13/16")
Weight	5.9 kg (13.1 lb.)

Note:
Total harmonic distortion is measured by the digital spectrum analyzer.

■ CONTENTS

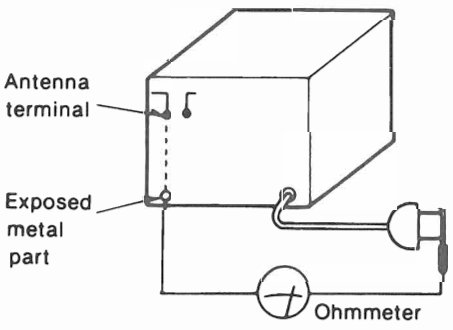
■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

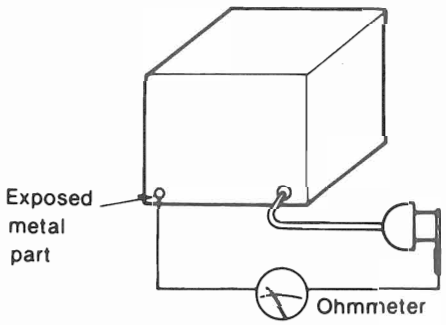
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ



(Fig. B)

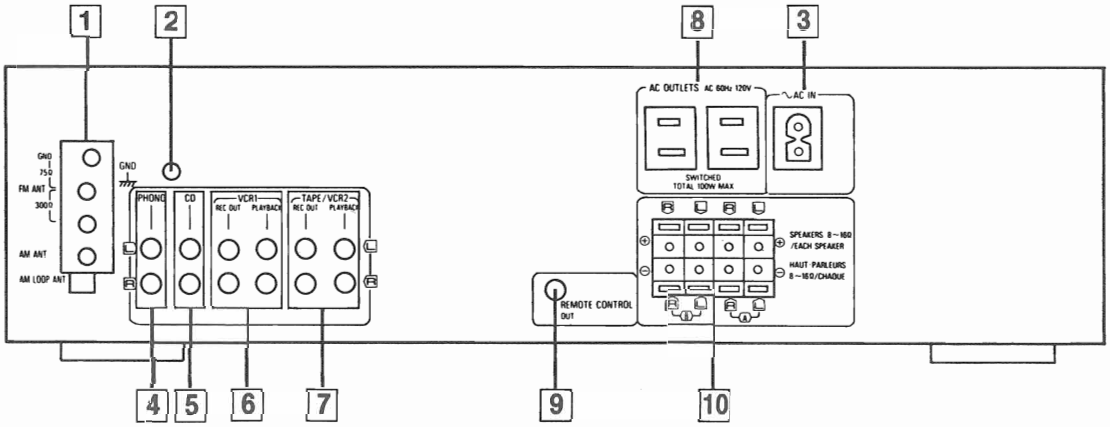
Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

■ ACCESSORIES

- AC power supply cord
  (SJA172-1) (P) ..... 1pc.
  (SJA172) (PC) ..... 1pc.
- Remote control transmitter
  (RAK-SA301P) ..... 1pc.
- FM indoor antenna
  (SSA272M) ..... 1pc.
- AM loop antenna
  (SPB1163T) ..... 1pc.
- AM antenna holder
  (SMA233-1M) ..... 1pc.
- Screws
  (XTN3+10AFZ) ..... 2pcs.

■ REAR PANEL TERMINALS AND FUNCTIONS



1 Antenna connection terminals

2 "GND" terminal

Connect the turntable's ground wire to this terminal (if applicable).

3 AC IN socket (AC IN)

Connect this socket to an AC outlet on the wall using the power supply cord.

4 "PHONO" terminals

Connect a turntable only. Do not connect any other sound source to these terminals.

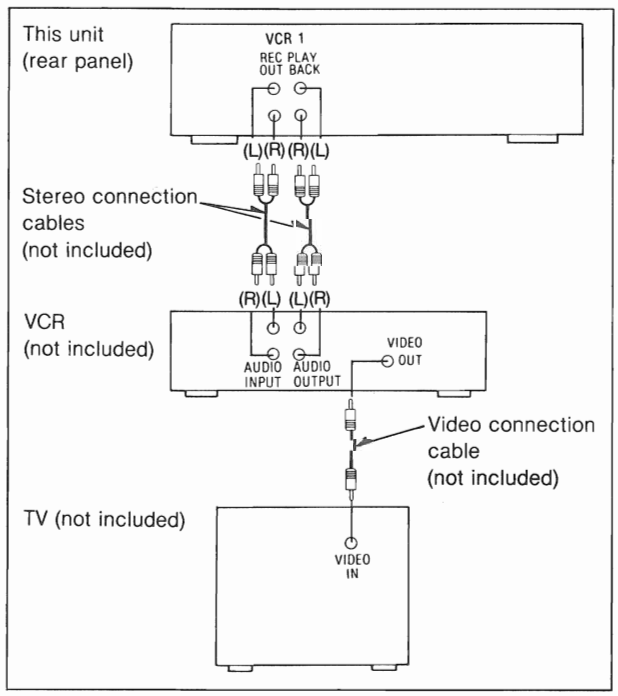
※ Phono input capacitance is about 100 pF.

5 "CD" terminals

Connect a compact disc player or other sound source.

6 "VCR 1" terminals

Connect a video cassette recorder or an audio tape deck, etc.

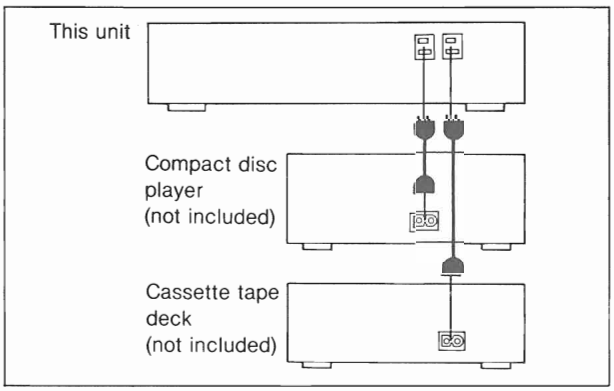


7 "TAPE/VCR 2" terminals

Connect a tape deck or second video cassette recorder.

8 Outlets "SWITCHED"

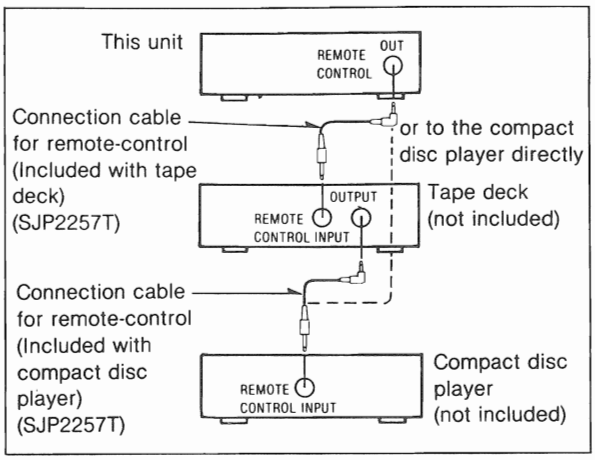
Power to these outlets is controlled by the power switch of this unit. Audio equipment rated up to 100 W (total for all outlets) can be connected here. For proper remote-control operation, connect the power cords of the tape deck and compact disc player to these outlets as indicated below:



9 Remote-control OUT terminal (REMOTE CONTROL/OUT)

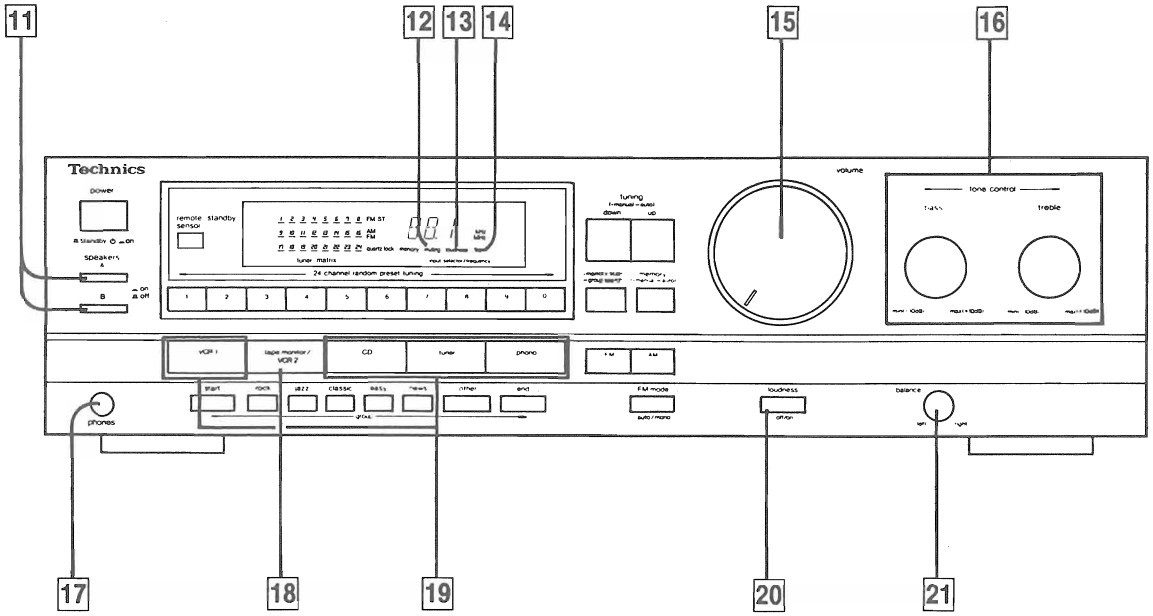
This terminal can be used only with Technics components which have the appropriate remote-control terminal.
(Consult your dealer for details.)
Proper connection with remote-control connection cables SJP2257T will allow control of some functions from this unit's remote-control transmitter.

Connect to a tape deck and/or compact disc player as shown below.



10 Speaker connection terminals

■ FRONT PANEL CONTROLS AND FUNCTIONS



Amplifier section

11 Speaker selectors (speakers)
These selectors are used to select the speaker system(s) (A and/or B).

12 Muting indicator (muting)
This indicator will illuminate when the muting button (on the remote-control transmitter) is pressed.

13 Loudness indicator (loudness)
This indicator will illuminate when the loudness switch is pressed.

14 Tape indicator (tape)
This indicator will illuminate when the tape-monitor switch is pressed.

15 Volume control/indicator (volume)

16 Tone controls (bass/treble)
The bass control is used to adjust the low-frequency sound range, and the treble control is used to adjust the high-frequency sound range.

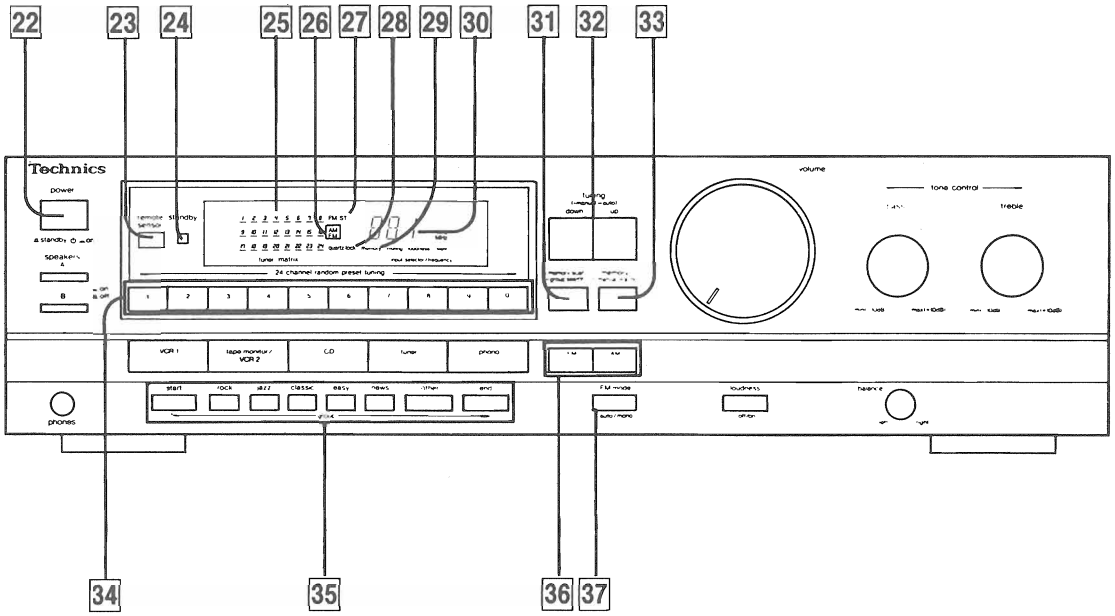
17 Headphone jack (phones)

18 Tape-monitor/VCR 2 switch (tape monitor/VCR 2)
Press this button to listen to a tape or an equipment connected to the "TAPE/VCR2" terminals.
To listen to some other source, press this button once again (so that the indicator is switched OFF).

19 Input selector buttons
These buttons are used to select the sound source to be heard, such as a disc, radio broadcasts, etc. The selected sound source is shown on the audio input selector/frequency display. The "phono" input selector has two functions: when pressed momentarily it selects "PHONO". when pressed and held for about 5 seconds, it de-activates the muting function.

20 Loudness switch (loudness)
Set to the "on" position (the loudness indicator will illuminate); when listening to music at low volume. Auditory perception of sound in the low frequency range falls off at low volume, but when the switch is in this position, this deficiency is compensated for, so that the full impact of the musical performance can be enjoyed.

21 Balance control (balance)



Tuner section

22 Power "standby ⏻/on" switch (power/■ standby ⏻ ▬ on)

If the power was switched OFF from the remote control, to switch the power ON from the unit set the switch to OFF and then ON again.

Note:

The power can not be controlled from the remote control unless this switch is set to ON.

23 Remote-control signal receptor (remote sensor)

Receives the signals from the remote-control.

24 "standby" indicator (standby)

This indicator illuminates when the power switch of this unit or that of the remote control is switched "OFF". Its purpose is to alert the user of the constant supply voltage to the internal circuitry even with the power switch OFF.

25 Preset channel matrix display (tuner matrix)

When an entry is made into memory, the bar under the figure illuminates.

The bar of the "channel" now being received flashes continuously.

26 Band indicators (AM/FM)

Indicates the selected band.

27 FM stereo indicator (FM ST)

This indicator automatically illuminates when an FM stereo broadcast is being received.

Note:

It will not illuminate if the FM mode selector is set to the monaural mode.

28 Quartz-lock indicator (quartz lock)

This indicator illuminates when the unit is tuned precisely to a broadcast station.

29 Memory indicator (memory)

This indicator illuminates when the memory button is pressed.

30 Audio input selector/frequency display (input selector/frequency)

Displays the selected source or broadcast frequency.

31 Memory-scan/group-search button (-memory scan/−group search)

This button is used to scan the memory presets within a group (for about three seconds each) or to search for the desired group.

32 Tuning buttons (tuning)

These buttons are used for tuning to the desired broadcast station. The frequency will change at intervals of 0,1 MHz for FM and 10 kHz for AM.

33 Memory button (memory)

This button is used when presetting broadcast station frequencies into memory.

34 Preset-tuning buttons (1−0) (24 channel random preset tuning)

These buttons are used to preset broadcast frequencies into the memory of this unit and to recall the desired preset stations.

35 Group registration buttons (group)

These buttons are used to assign memory presets to the desired group or to select the desired group.

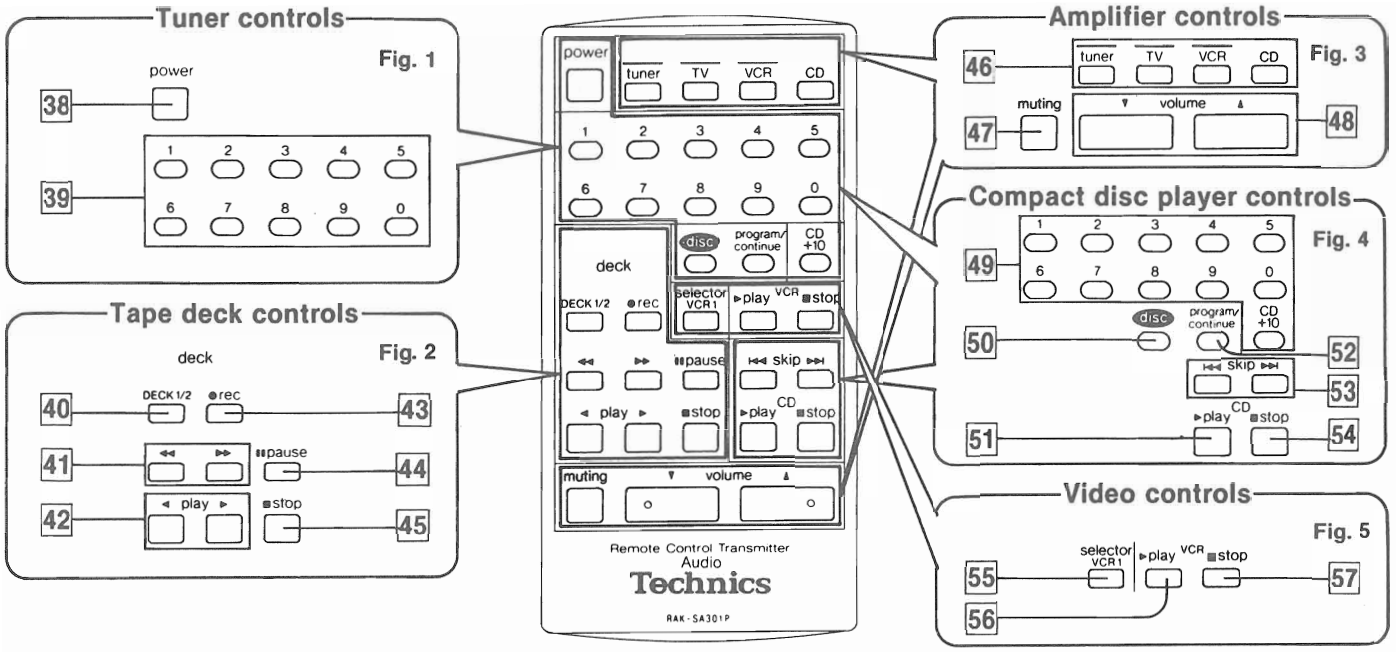
36 Band selectors

FM: Press this button to listen to an FM broadcast.

AM: Press this button to listen to an AM broadcast.

37 FM mode selector (FM mode)

This unit automatically switches to the stereo mode when an FM stereo broadcast is received. This selector is used to select the mode (stereo or monaural) of FM broadcast signals.



Remote control section

Tuner controls (Fig. 1)

38 Power switch (power)

This power switch can be used for ON and OFF switching of this unit as well as any Panasonic remote controlled TV and/or VCR. When switching the power ON and OFF of each unit, be sure to first press the appropriate input selector button on amplifier controls.

39 Preset-tuning buttons (1 – 0)

These buttons are used to tune to broadcast stations that have been preset to the unit's memory.
When these buttons are used, be sure to first press the "tuner" button of the input selector buttons on amplifier controls.

Tape deck controls (Fig. 2)

40 Deck 1/Deck 2 selector (DECK 1/2)

This button is used to select the deck to be operated by remote control.

41 First-forward/rewind buttons (◀◀, ▶▶)

Press this button to advance or rewind the tape while the unit is in the stop mode.
Press this button to select the desired tune while the unit is in the play mode.
(Only applicable to a Technics tape deck with the "music select" functions.)

42 Playback buttons (◀ play ▶)

▶: For the "A"-side of the tape
◀: For the "B"-side of the tape
Press one of these buttons to begin the playback or recording, pressing the button corresponding to the side of the tape to be played (or recorded).
Note:
Depending on which Technics tape deck is used in combination with this unit, tape deck B might be the "A"-side playback-only type.

43 Record button (● rec)

Press this button to change to the recording stand-by mode.

44 Pause button (▮▮ pause)

Press this button to temporarily stop playback or recording.
Press the playback button to resume the play or recording.

45 Stop button (■ stop)

To stop tape play or tape recording.

Amplifier controls (Fig. 3)

46 Input selector buttons (tuner/TV/VCR/CD)
These buttons are used to select the sound source to be heard, such as a disc, radio broadcasts, etc.

47 Muting button (muting)
This button is used to temporarily attenuate ("mute") the volume level.

48 Volume control (volume)
These buttons are used to adjust the volume level.
▼: To reduce the volume level.
▲: To increase the volume level.

Compact disc player controls (Fig. 4)

49 Numeric buttons (1−0, +10)
These buttons are used to select the track or the disc number (only 1~6).
When these buttons are used, be sure to first press the "CD" button of the input selector buttons on amplifier controls.

50 Disc button (disc)
This button is used when selecting the disc.

51 Play button (▶ play)
To start compact disc play.

52 Program/continue button (program/continue)
This button is used to select either the sequential play or program play mode.

53 Skip buttons (I◀◀ skip ▶▶I)
Press one of these buttons briefly to move the pickup (backward and forward) to the beginning of a specific track.

54 Stop button (■ stop)
To stop compact disc play.

Video controls (Fig.5)

55 Selector button (VCR 1)
This button is used when a TV broadcast is to be received at the VCR.

56 Play button (▶ play)
To start VCR play.

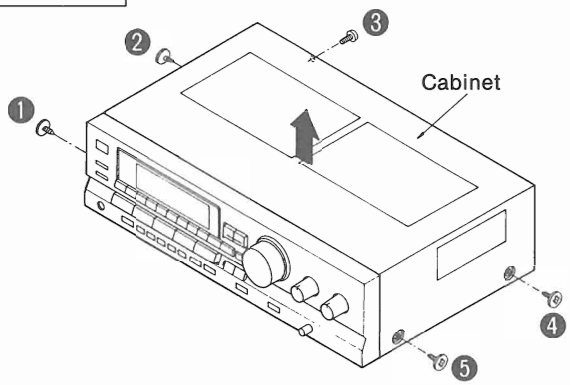
57 Stop button (■ stop)
To stop VCR play.

DISASSEMBLY INSTRUCTIONS

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

Ref. No. 1	Removal of the cabinet

Procedure 1

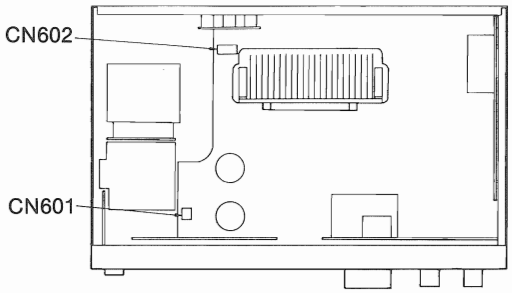


• Remove the 5 screws (❶~❺).

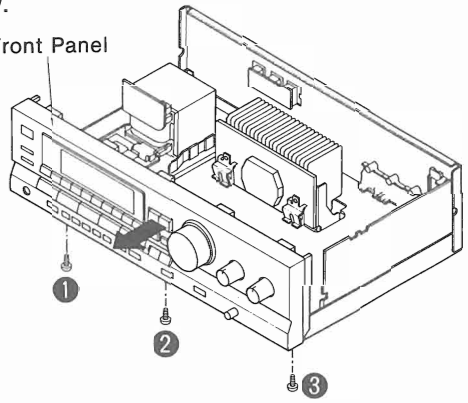
Ref. No. 2	Removal of the front panel

Procedure 1→2

1. Remove the 2 flat cables (CN601, CN602)

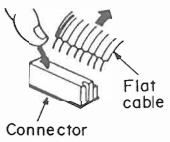


2. Remove the 3 screws (❶~❸).
3. Remove the front panel in the direction of the arrow.

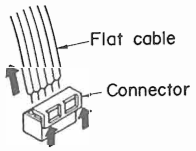


How to remove the flat cable (Two Types)

• Pull out the flat cable while pressing the connector.

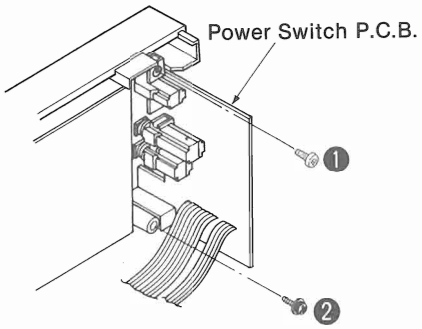


1. Lift the connector.
2. Pull out the flat cable.



Ref. No. 3	Removal of the power switch P.C.B.

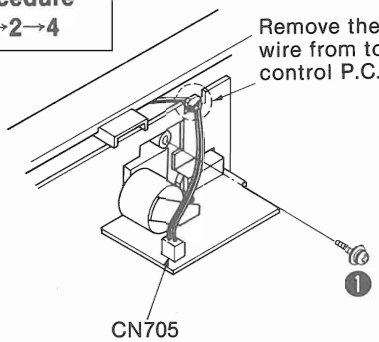
Procedure 1→2→3



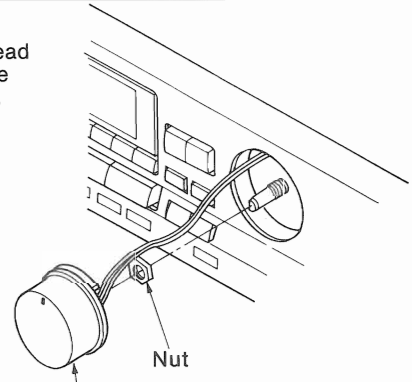
• Remove the 2 screws (❶, ❷).

Ref. No. 4	Removal of the volume P.C.B.

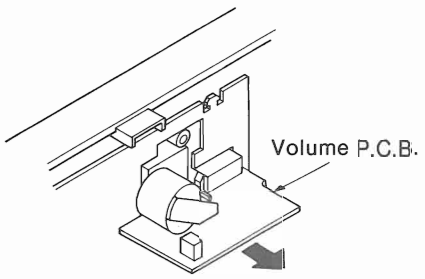
Procedure 1→2→4



1. Remove the 1 connector (CN705).
2. Remove the 1 screw (❶).

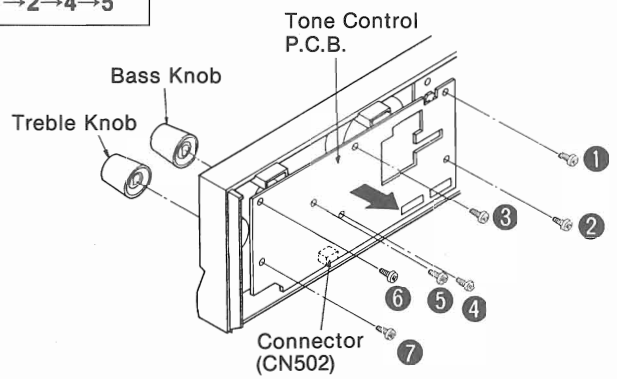


3. Pull out the volume knob.
4. Remove the nut.



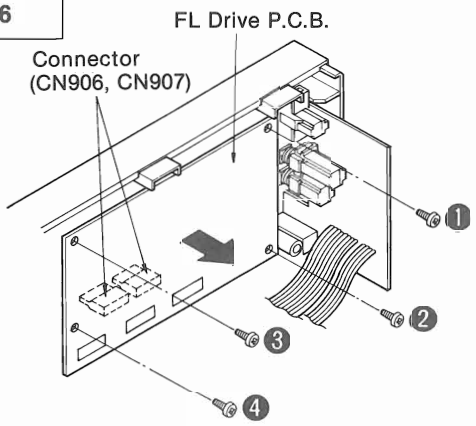
5. Remove the volume P.C.B. in the direction of the arrow.

Ref. No. 5	Removal of the tone control P.C.B.
Procedure 1→2→4→5	



1. Pull out the bass knob and treble knob.
2. Remove the 7 screws (❶~❼).
3. Remove the tone control P.C.B. in the direction of the arrow. (Take care of CN502.)

Ref. No. 6	Removal of the FL drive P.C.B.
Procedure 1→2→6	

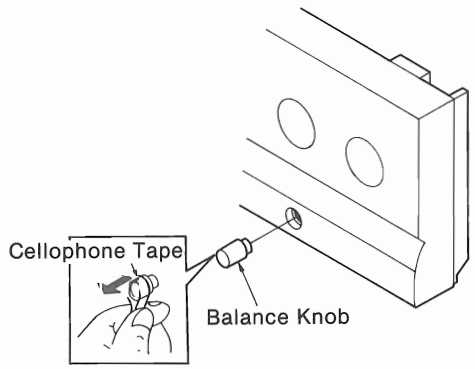


1. Remove the 4 screws (❶~❹).
2. Remove the FL drive P.C.B. in the direction of the arrow. (Take care of CN906, CN907.)

Ref. No. 7	Removal of the operation P.C.B. and balance VR P.C.B.
Procedure 1→2→4→5 →6→7	

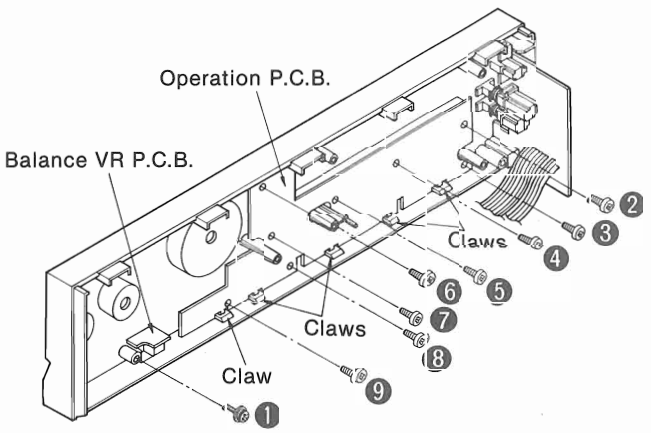
■ Balance VR P.C.B.

1. Pull out the balance knob.
2. Remove the 1 screw (❶).

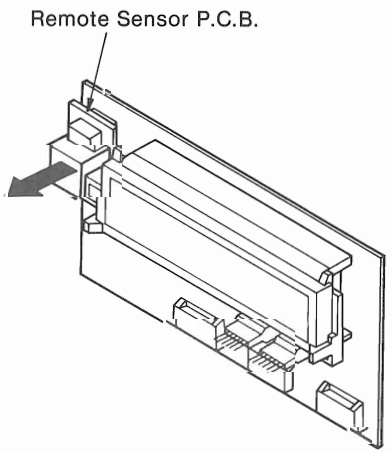


■ Operation P.C.B.

1. Remove the 8 screws (❷~❾).
2. Release the 5 claws.

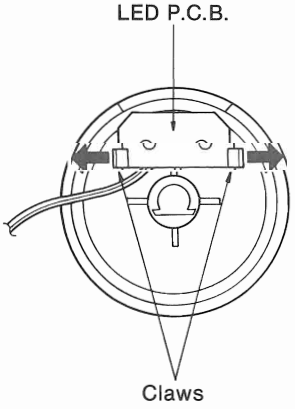


Ref. No. 8	Removal of the remote sensor P.C.B.
Procedure 1→2→6→8	



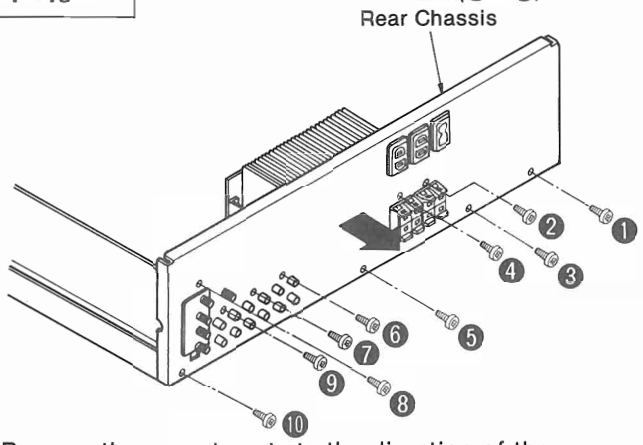
•Remove the remote sensor P.C.B. in the direction of the arrow.

Ref. No 9	Removal of the LED P.C.B.
Procedure 1→2→4→9	



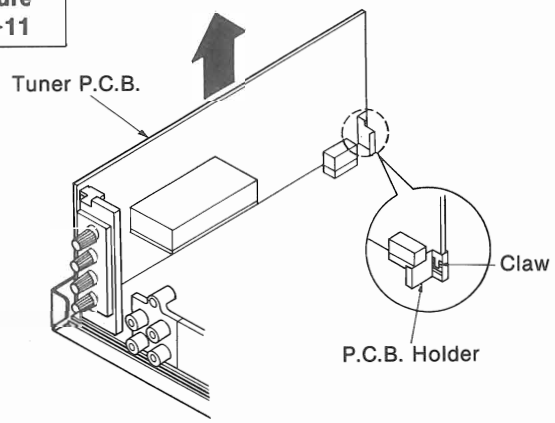
•Release the 2 claws.

Ref. No. 10	Removal of the rear chassis
Procedure 1→10	1. Remove the 1 connector (CN651). 2. Remove the 10 screws (❶~⑩).



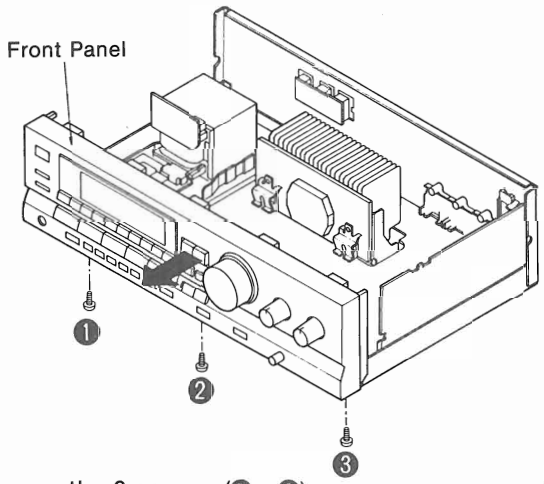
3. Remove the rear chassis in the direction of the arrow.

Ref. No. 11	Removal of the tuner P.C.B.
Procedure 1→10→11	

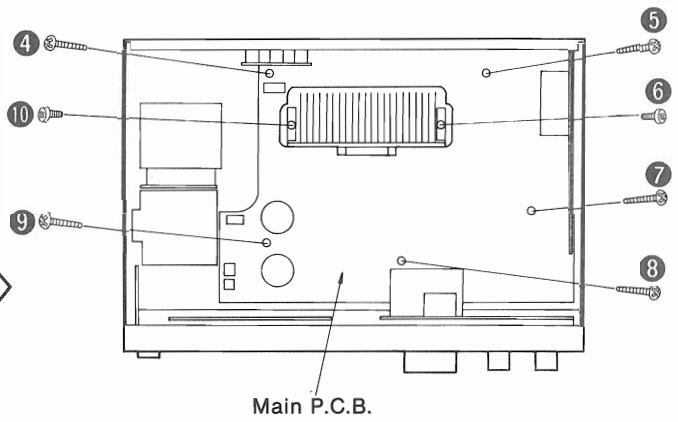


1. Release the 1 claw.
2. Remove the tuner P.C.B. in the direction of the arrow.

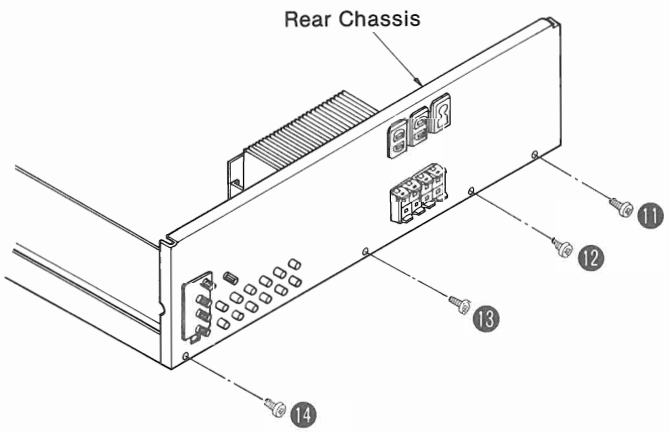
Ref. No. 12	How to check the main P.C.B.
Procedure 1→12	



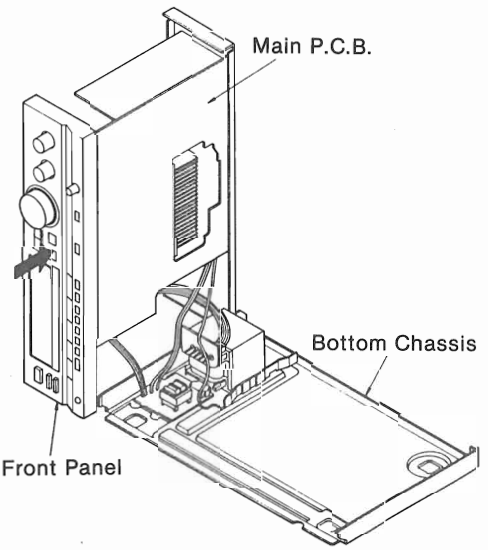
1. Remove the 3 screws (❶~❸).
2. Remove the front panel in the direction of the arrow.



3. Remove the 7 screws (❹~⑩).

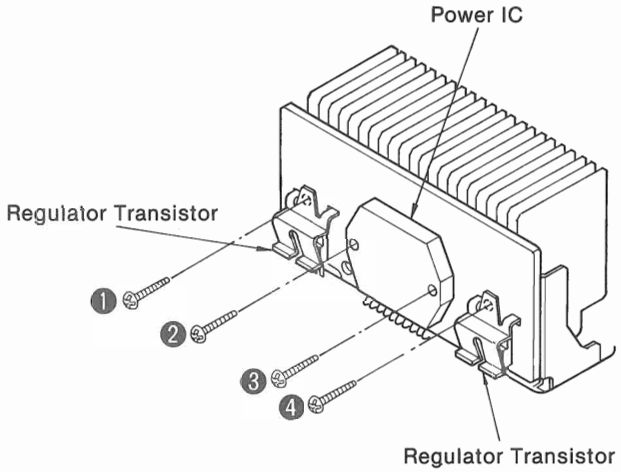


4. Remove the 4 screws (⑪~⑭).



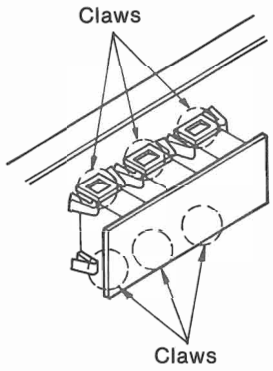
5. Remove the bottom chassis.
6. Reinstall the front panel to the main P.C.B.

Ref. No. 13	Removal of the power IC and regulator transistor
Procedure 1→12→13	1. Unsolder the power IC or regulator transistor. 2. Remove the 4 screws (❶~❹).



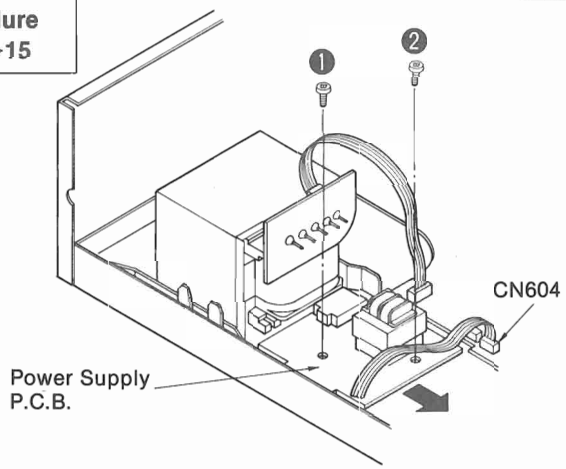
- When mounting the power IC or regulator transistor, apply silion thermal compound (SZZ0L15 or equivalent) to the rear of the power IC or regulator transistor.

Ref. No. 14	Removal of the AC IN/AC OUTLETS P.C.B.
Procedure 1→10→14	



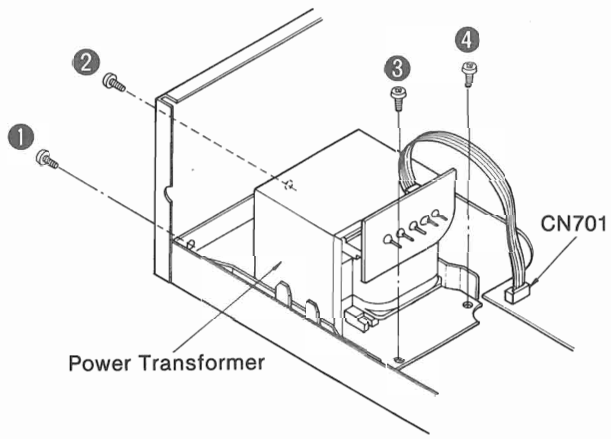
- Release the 6 claws.

Ref. No. 15	Removal of the power supply P.C.B.
Procedure 1→2→15	



1. Remove the 1 flat cable (CN604).
2. Remove the 2 screws (❶, ❷).
3. Remove the power supply P.C.B. in the direction of the arrow.

Ref. No. 16	Removal of the power transformer
Procedure 1→2→15→16	



1. Remove the 1 flat cable (CN701).
2. Remove the 4 screws (❶~❹).

■ PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:
- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:
1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

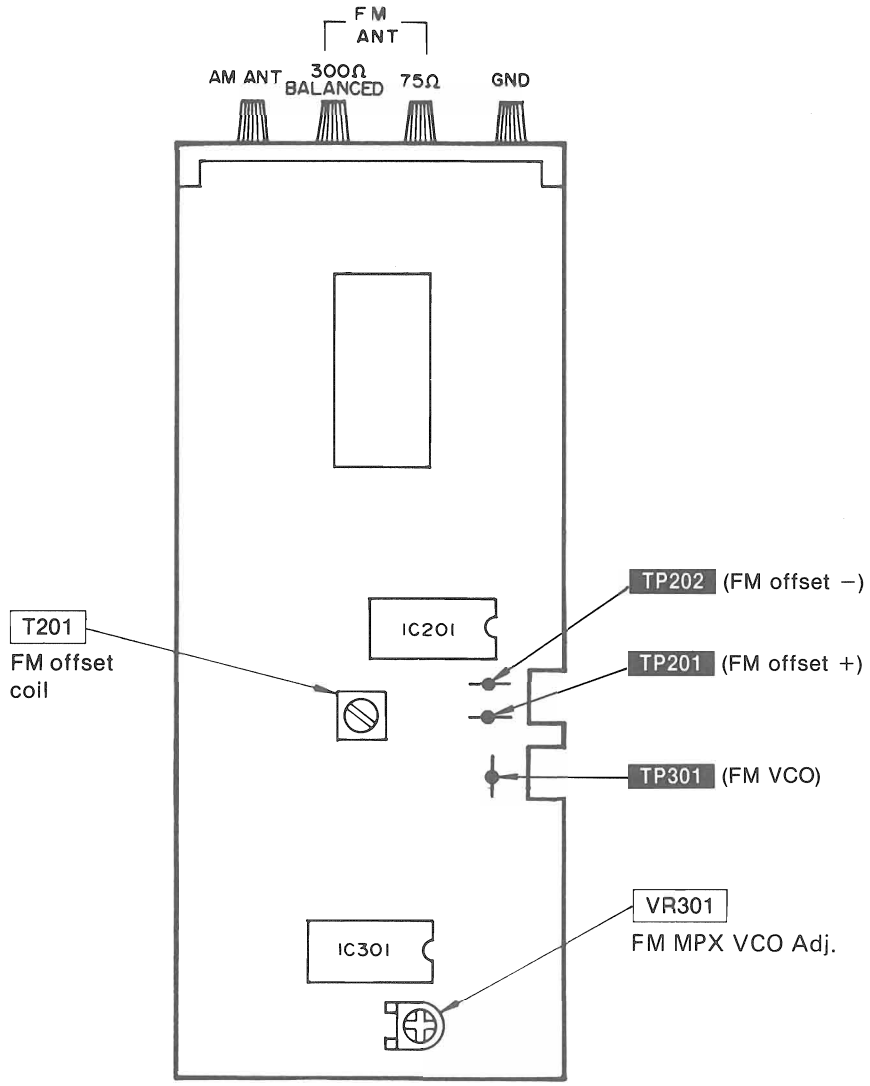
■ BEFORE REPAIR AND ADJUSTMENT

Disconnect AC power, Discharge both Power Supply Capacitors C701 and C702 through a 10Ω, 5W resistor to ground.
DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may distroy solid state devices.
After repairs are completed, restore power gradually using a variac, to avoid overcurrent.
Current consumption at 120V, 60Hz in NO SIGNAL mode should be 200 ~ 500 mA.

■ MEASUREMENTS AND ADJUSTMENTS

Note: For Z202 (AM-IFT), and Z201 (AM ANT and OSC coil), they are supplied as adjusted parts. So, do not turn the cores of the parts. It is not necessary to adjust the AM circuit.

• ADJUSTMENT POINTS



• FM ADJUSTMENT

Control positions and equipment used

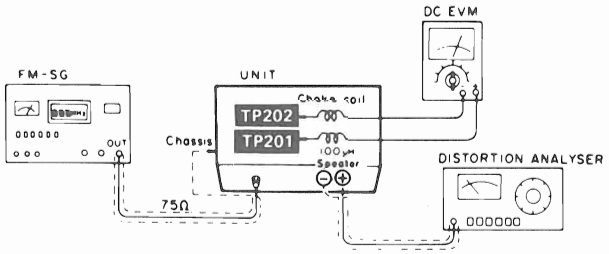
- FM signal generator (FM-SG).
- Distortion analyser
- Oscilloscope
- DC electronic voltmeter (EVM)
- Frequency counter
- Choke coil (100μH)
- Resistor (100kΩ)

FM MONO DISTORTION ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to "**FM**" position.
3. Set the radio frequency display and signal generator to **100.10MHz.**
4. Adjust **T201** core so that voltage measured in signal mode is **0mV** (0±20mV) in **300mV** range.
5. Repeat step 4 a few times.
6. Make sure that the distortion factors of Lch and Rch are nearly the same with each other to minimum.

Note:
The adjusting screwdriver used should be made of resin.

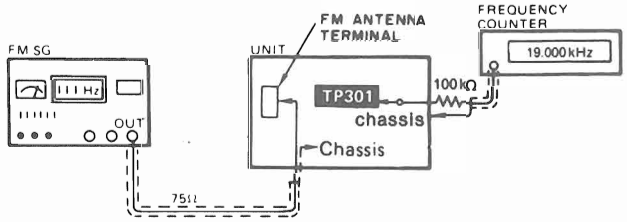
FM SIGNAL GENERATOR CONDITION
Modulation.....100%
Modulation frequency.....1kHz
(MONO)
Output level.....66dB



FM MPX VCO ADJUSTMENT

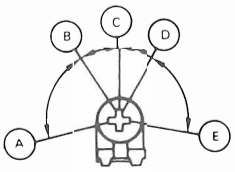
1. Test equipment connection is shown in figure.
2. Set the unit to "**FM auto**" position.
3. Place the radio frequency display and signal generator setting to **100.10MHz.**
4. Adjust **VR301** for **19.00±0.03kHz** on frequency counter reading.

FM SIGNAL GENERATOR CONDITION
Modulation.....0%
(non-modulation)
Output level.....66dB



★USING ALTERNATE SYSTEM

1. Apply stereo signal from generator or receive the stereo broadcast.
2. Adjust **VR301** until stereo indicator lights up. Cement arm of **VR301** as shown in figure.



VR301

Ⓐ – Ⓑ Ⓓ – Ⓔ : Stereo OFF position
Ⓑ – Ⓓ : Stereo ON position (indicator lighting)
Ⓒ : Adjust point of pilot circuit

■ TERMINAL FUNCTION OF IC

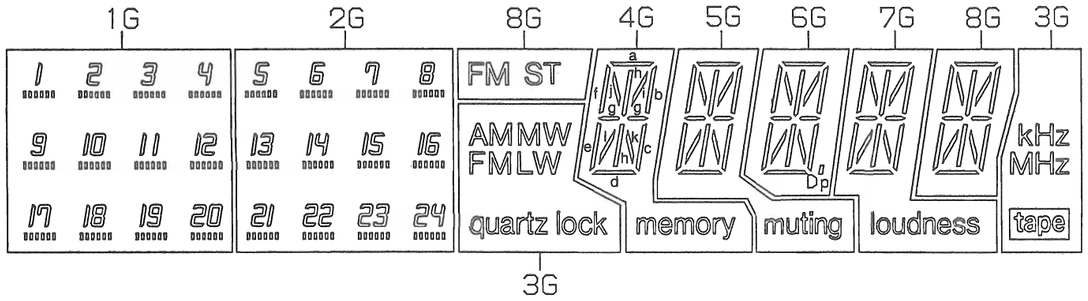
• IC901 (LC6554H4280): Microcomputer

Pin No.	Mark	I/O Division	Function
1	S13	O	Segment signal output
2 ~ 5	PA0 ~ PA3	I	Key return signal input
6 ~ 8	PB0 ~ PB2	I	Key return signal input
9	STAND BY	I	Power supply terminal
10	OFF	I	Power ON/OFF det. terminal (Not used, open)
11	STEREO	I	Stereo signal det. terminal
12	SD	I	Received signal det. terminal
13	DP	I/O	Cassette deck control terminal
14	RELAY	O	Relay control output
15	DECK	I	Cassette deck control terminal (Not used, connected to GND)
16	OPT1 (IN)	—	Not used, connected to GND
17	OPT1 (OUT)		
18	MONO	O	FM AUTO/MONO select signal output
19	RFM	O	Muting control output for tuner circuit
20	AT	O	Muting control output for amplifier circuit
21	AFM	O	Muting control output for amplifier circuit
22	TEST	—	Not used, connected to GND
23	Vss	—	Ground terminal
24	OSC1	I	Oscillator terminal
25	OSC2	O	
26	RES	I	Reset signal input
27	DATA (PF0)	O	Serial data output
28	CL (PF1)	O	Clock signal terminal for serial data
29	CE (PF2)	I/O	Chip enable terminal
30	INT	I	Remote control input
31	L	—	Not used, connected to GND
32	L	—	Not used, connected to GND

Pin No.	Mark	I/O Division	Function
33	ST	O	Level shift control output
34	L	—	Not used, connected to GND
35	V		
36	TUNING 0	O	LED drive control signal for rotary tuning (Not used, connected to GND)
37	TUNING 1		
38	LOUDNESS	O	Loudness ON/OFF signal output
39	R	O	Volume motor drive output
40	F		
41	A	O	Rotary tuning control signal output (Not used, connected to GND)
42	B		
43	Vp	I	Power supply terminal (negative voltage)
44 ~ 55	S1 ~ S12	O	Segment signal output
56	VDD	I	Power supply terminal (positive voltage)
57 ~ 64	D1 ~ D8	O	Digit signal and key scan signal output

INTERNAL CONNECTION OF FL

• Grid assignment diagram



• Anode connection table

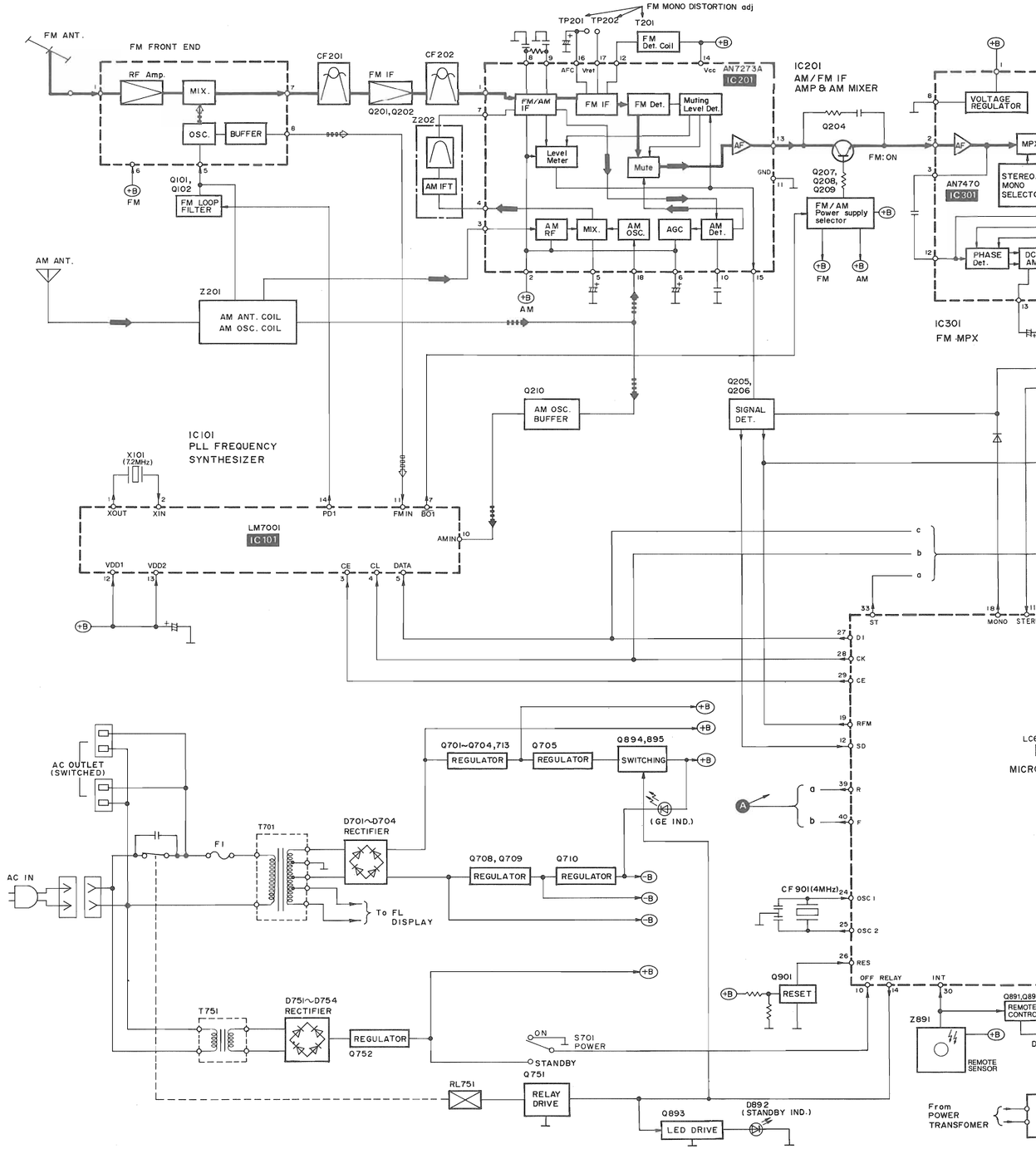
	1G	2G	3G	4G	5G	6G	7G	8G
a	(1)	(5)	KHz	a	a	a	a	a
b	(10)	(14)	LW	b	b	b	b	b
c	(17)	(21)	quartz lock	c	c	c	c	c
d	(19)	(23)	-	d	d	d	d	d
e	(12)	(16)	tape	e	e	e	e	e
f	(9)	(13)	FM	f	f	f	f	f
g	(11)	(15)	-	g	g	g	g	g
h	(3)	(7)	AM	h	h	h	h	h
i	(4)	(8)	MW	i	i	i	i	i
j	(2)	(6)	MHz	j	j	j	j	j
k	(20)	(24)	-	k	k	k	k	k
ℓ	(18)	(22)	-	ℓ	ℓ	ℓ	ℓ	ℓ
m	1~4 9~12 17~20	5~8 13~16 21~24	-	memory	muting	D.P	loudness	FM ST

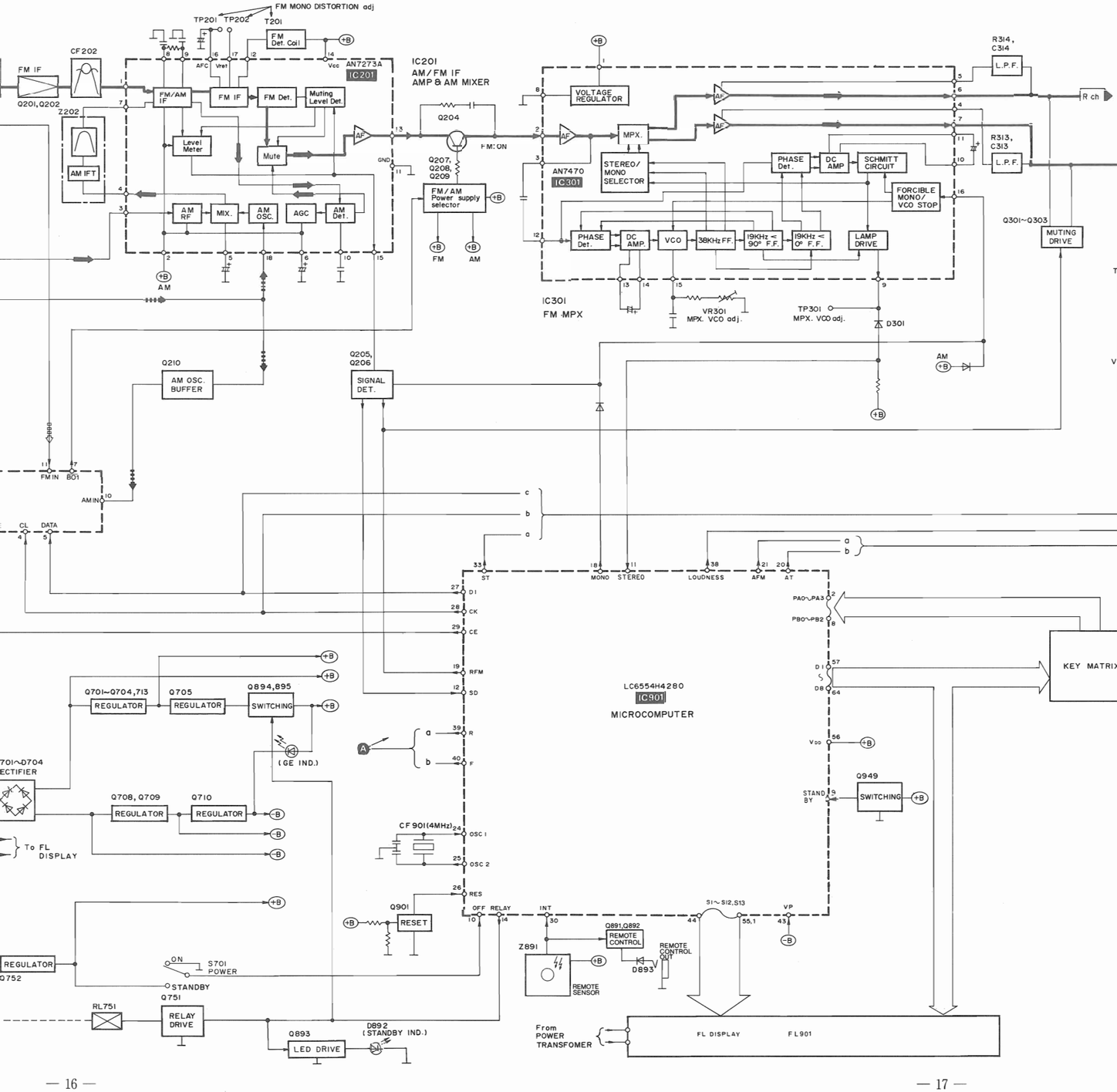
• Pin connection

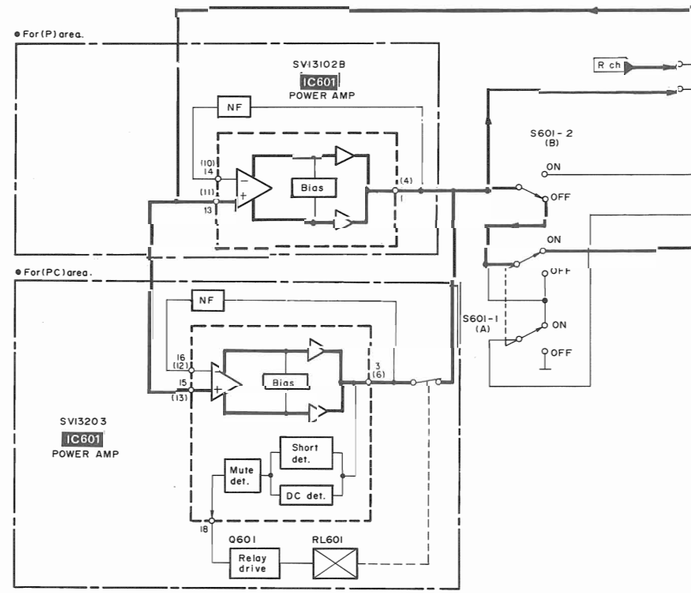
PIN NO.	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	NP	F2	NP	NP	NP	k	d	ℓ	c	e	g	b	f	i	h	j	a	NP	NP	NP	NP	NP	NP	NP	NP	NP	1G	2G	3G	4G	5G	6G	7G	8G	m	NP	NP	NP	F1	NP

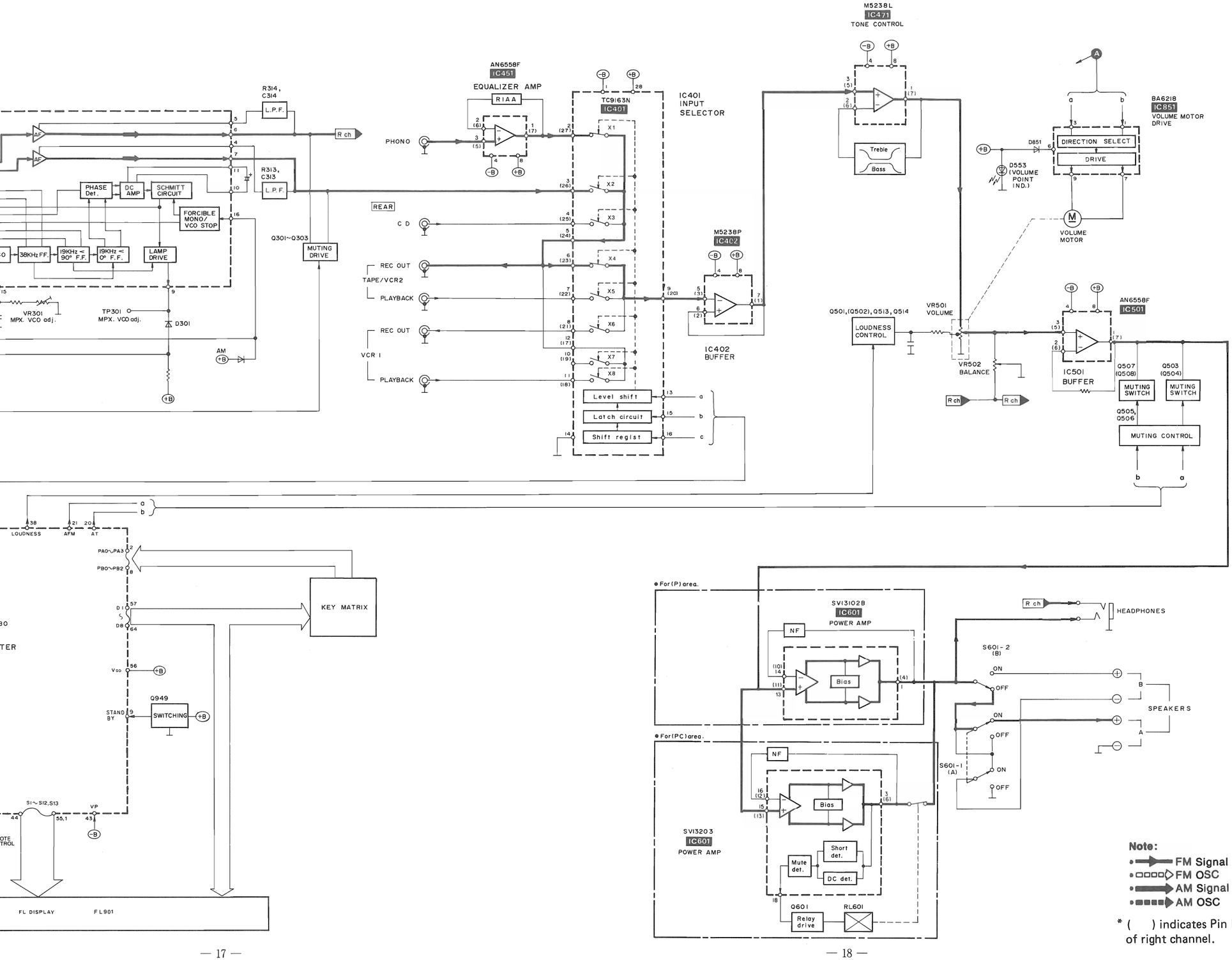
Note 1.) NP : No pin.
2.) 1G~8G : Grid
3.) F1,F2 : Filament

BLOCK DIAGRAM

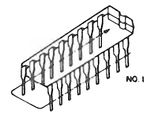



FM IF
Q201, Q202
CF202
Z202
AM IFT
TP201
TP202
FM MONO DISTORTION adj
T201
FM Det. Coil
AN7273A
IC201
FM/AM IF
FM IF
FM Det.
Muting Level Det.
Level Meter
Mute
AF
AM RF
MIX.
AM OSC.
AGC
AM Det.
AFC
Vref
Vcc
GND
IC201
AM/FM IF AMP & AM MIXER
Q204
FM:ON
Q207, Q208, Q209
FM/AM Power supply selector
FM
AM
VOLTAGE REGULATOR
AN7470
IC301
MPX.
STEREO/ MONO SELECTOR
PHASE Det.
DC AMP.
VCO
38KHz F.F.
19KHz = 90° F.F.
19KHz = 0° F.F.
LAMP DRIVE
PHASE Det.
DC AMP
SCHMITT CIRCUIT
FORCIBLE MONO/ VCO STOP
IC301
FM MPX
VR301
MPX. VCO adj.
TP301
MPX. VCO adj.
D301
R314, C314
L.P.F.
R313, C313
L.P.F.
R ch
Q301~Q303
MUTING DRIVE
AM
AN6558F
IC451
EQUALIZER AMP
RIAA
TC9163N
IC401
IC401
INPUT SELECTOR
PHONO
REAR
CD
REC OUT
TAPE/VCR2
PLAYBACK
REC OUT
VCR 1
PLAYBACK
X1
X2
X3
X4
X5
X6
X7
X8
Level shift
Latch circuit
Shift regist
M5238P
IC402
IC402
BUFFER
M5238L
IC471
TONE CONTROL
Treble
Bass
D851
D553 (VOLUME POINT IND.)
VOLUME MOTOR
Q501, (Q502), Q513, Q514
LOUDNESS CONTROL
VR501 VOLUME
VR502 BALANCE
R ch
R ch
IC501
BUFFE
Q210
AM OSC. BUFFER
Q205, Q206
SIGNAL DET.
FM IN
AM IN
CL
DATA
c
b
a
LC6554H4280
IC901
MICROCOMPUTER
D1
CK
CE
RFM
SD
R
F
OSC 1
OSC 2
RES
OFF
RELAY
INT
ST
MONO
STEREO
LOUDNESS
AFM
AT
PA0~PA3
PB0~PB2
D1
D8
Vdd
STAND BY
S1~S12, S13
VP
KEY MATRIX
Q949
SWITCHING
CF901(4MHz)
Q901
RESET
Q891, Q892
REMOTE CONTROL
REMOTE CONTROL OUT
D893
Z891
REMOTE SENSOR
FL DISPLAY
FL901
From POWER TRANSFOMER
Q701~Q704, 713
REGULATOR
Q705
REGULATOR
Q894, 895
SWITCHING
(GE IND.)
Q701~Q704
RECTIFIER
Q708, Q709
REGULATOR
Q710
REGULATOR
To FL DISPLAY
REGULATOR
Q752
ON
S701
POWER
STANDBY
RL751
Q751
RELAY DRIVE
Q893
LED DRIVE
D892
(STANDBY IND.)


• For (P) area.
SVI31028
IC601
POWER AMP
NF
Bias
S601-2 (B)
ON
OFF
• For (PC) area.
SVI3203
IC601
POWER AMP
NF
Bias
Short det.
Mute det.
DC det.
Q601
Relay drive
RL601
S601-1 (A)
R ch

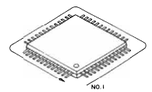


TERMINAL GUIDE OF IC'S, TRANSISTERS AND DIODES

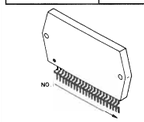


M5238P	8 PIN	AN7470	16 PIN
AN6558F	8 PIN	AN7273A	18 PIN
LM7001	8 PIN	TC9163N	28 PIN

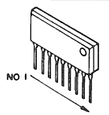
LC6554H4280
64 PIN



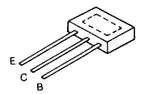
SVI3102B	14 PIN
SVI3203	18 PIN



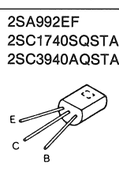
BA6218	9 PIN		
M5238L	8 PIN		



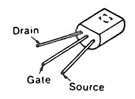
2SA933SQRSTA
2SC2785FETA
2SC2787LTA
2SD1450QRSTA
2SC3327ABTP
2SC3311AQSTA
2SA1309AQSTA



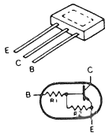
2SA992EF
2SC1740SQSTA
2SC3940AQSTA



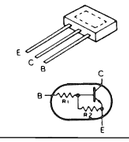
2SJ40CDTA



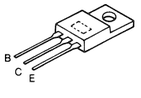
UN4113TA



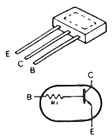
UN4211TA
UN4214TA



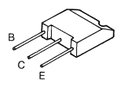
2SB1185DEF
2SD1761DEF



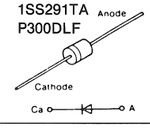
UN4215TA



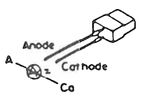
2SB1240PRTV6

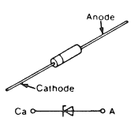


MA165TA
MA29WATA
SVDS5688GT3
1SS291TA
P300DLF



LN846RP-LS





MA4051MTA
MA4062MTA
MA4150MTA
MA4068MTA
MA4110MTA
MA4270MTA

■ SCHEMATIC DIAGRAM

(Parts list on pages 40～44)

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

Note 1:

- **S601-1, S601-2** : Speaker selectors switch.
  S601-1: A S601-2: B
- **S701** : Power "**Standby ⏻ /on**" switch.
- **S901 ～S910** : Preset-tuning (1-0) switches.
  [S901 : CH1, S902 : CH2, S903 : CH3, S904 : CH4, S905 : CH5, S906 : CH6, S907 : CH7, S908 : CH8, S909 : CH9, S910 : CH0]
- **S911** : Memory scan/group-search switch.
- **S912** : FM mode selector.
- **S913, S914** : Band selectors.
  S913 : FM, S914 : AM
- **S915, S916** : Tuning switches.
  S915 : down, S916: up
- **S917** : Memory switch.
- **S918** : Loudness switch.
- **S919 ～S926** : Group registration switches.
  [S919 : start, S920 : rock, S921 : jazz, S922 : classic, S923 : easy, S924 : news, S925 : other, S926 : end]
- **S927～S929, S932** : Input selector switches.
  [S927 : phono, S928 : tuner, S929 : CD, S932: VCR1]
- **S931** : Tape-monitor/VCR 2 switch.

- Signal line
  - : FM OSC
  - : AM OSC
  - : Phono signal
  - : Positive voltage lines
  - : Negative voltage lines
  - : FM signal
  - : AM signal
  - : AF signal (Lch)
- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts. Indicated boltage values are 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 internal impedance of the DC circuit tester.
- All voltage values shown in circuitry are DC voltage in FM signal (Stereo signal) reception mode.

* Figures in ( ) Stand for DC-voltage in AM signal reception mode.

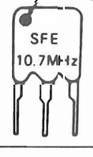
* **Caution!**
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
* Cover the parts boxes made of plastics with alminum foil.
* Ground the soldering iron.
* Put a conductive mat on the work table.
* Do not touch the legs of IC or LSI with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

Note2:

- **Use of ceramic filters in pairs**

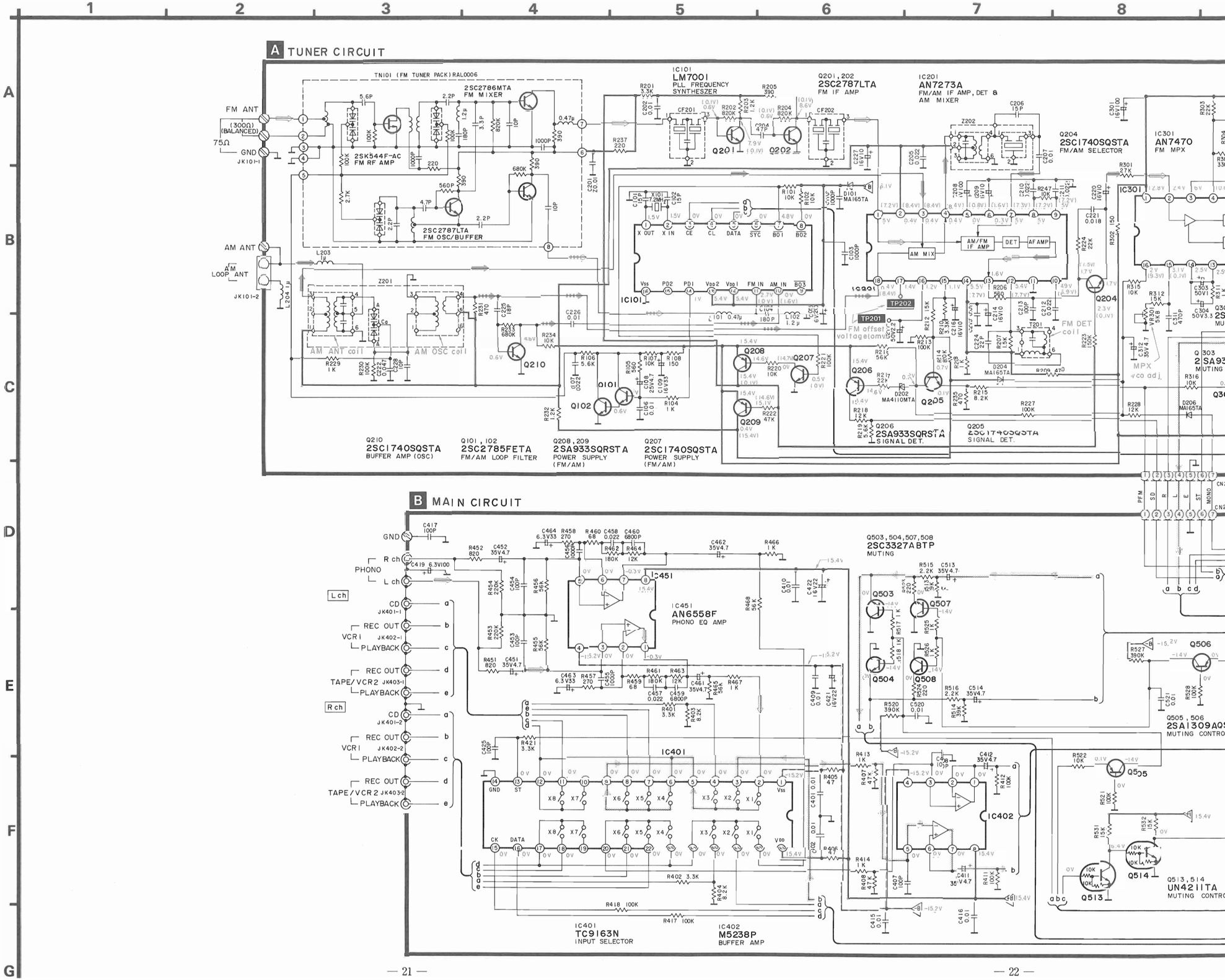
The ceramic filters (CF201, CF202) for FM-IF circuit are available in three ranks. For this circuit, be sure to use the ceramics of the same rank in a pair.
At repairing and replacement, pay close attention to the diodes (D914, D915) for use as different diodes must be used depending on each rank of the ceramic filters.

Color marking (Blue, Red or Orange)



RANK (Color)	D914	D915	CENTER FREQUENCY
Blue	○	×	10.675MHz
Red	×	×	10.700MHz
Orange	×	○	10.725MHz

Note: ○ mark: Diode is used.
× mark: Diode is not used.



5 6 7 8 9 10 11 12 13 14 15

IC101
LM7001
PLL FREQUENCY SYNTHESZER

Q201, 202
2SC2787LTA
FM IF AMP

IC201
AN7273A
FM/AM IF AMP, DET & AM MIXER

Q204
2SC1740SQSTA
FM/AM SELECTOR

IC301
AN7470
FM MPX

IC451
AN6558F
PHONO EQ AMP

Q503, 504, 507, 508
2SC3327ABTP
MUTING

Q505, 506
2SA1309AQSTA
MUTING CONTROL

Q513, 514
UN4211TA
MUTING CONTROL

Q303
2SA933SQRSTA
MUTING CONTROL

Q301, 302
2SD1450QRSTA
MUTING

Q207
2SC1740SQSTA
POWER SUPPLY (FM/AM)

Q206
2SA933SQRSTA
SIGNAL DET.

Q205
2SC1740SQSTA
SIGNAL DET.

IC402
M5238P
BUFFER AMP

C FL DRIVE CIRCUIT

FL901 (RSL0043-F)
FL DISPLAY

Q902
UN4215TA
FL DRIVE

IC901
LC6554H4280
MICRO COMPUTER

Q901
2SC1740SQSTA
SWITCHING (REST)

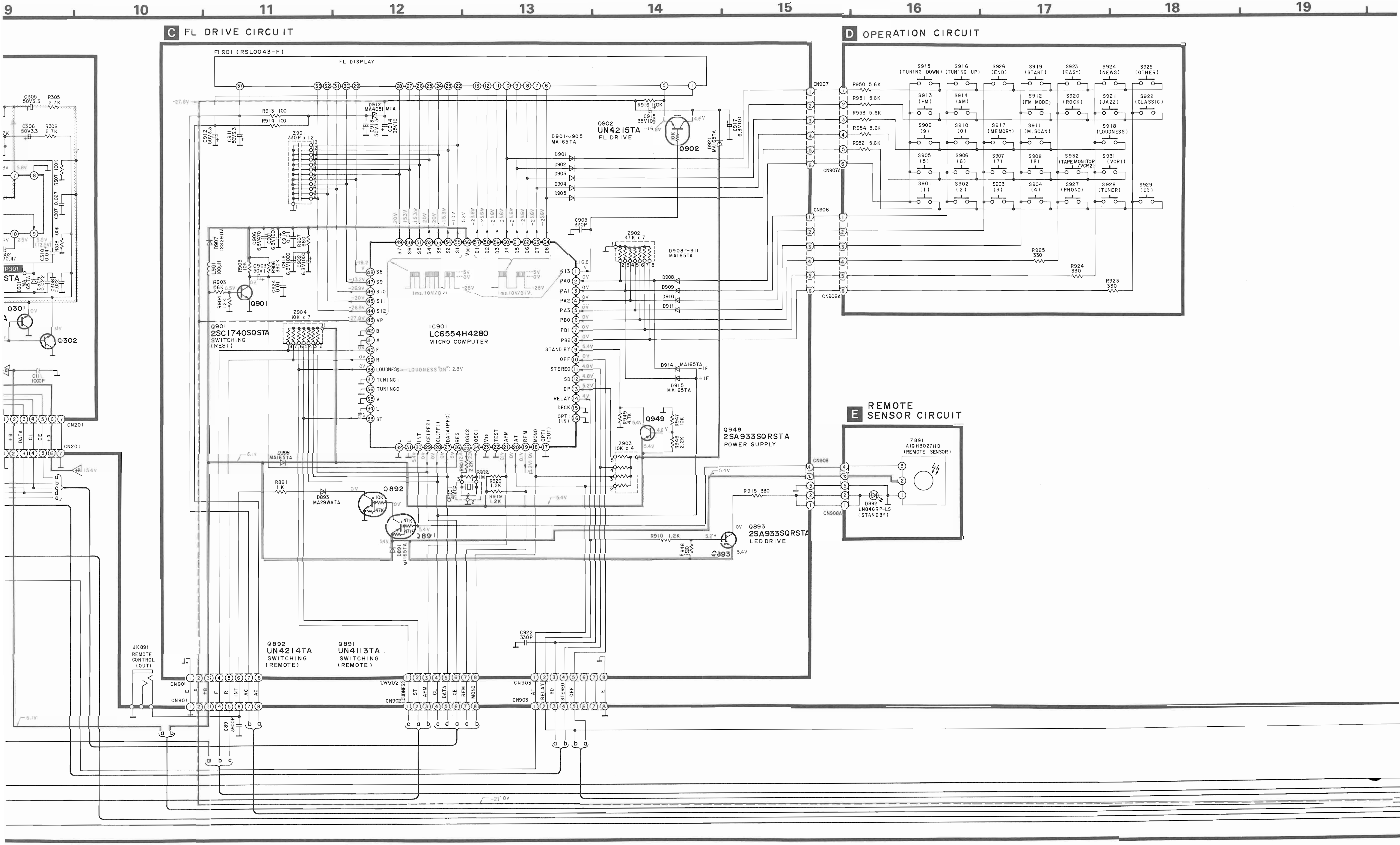
Q892
UN4214TA
SWITCHING (REMOTE)

Q891
UN4113TA
SWITCHING (REMOTE)

Q949
2SA933SQRSTA
POWER SUPPLY

Q893
2SA933SQRSTA
LED DRIVE

JK891
REMOTE CONTROL (OUT)



C FL DRIVE CIRCUIT
FL901 (RSL0043-F)
FL DISPLAY
Q902
UN4215TA
FL DRIVE
D901~905
MA165TA
IC901
LC6554H4280
MICRO COMPUTER
Q901
2SC1740SQSTA
SWITCHING
(REST)
Q892
Q891
D908~911
MA165TA
Q949
2SA933SQRSTA
POWER SUPPLY
Q893
2SA933SQRSTA
LED DRIVE
Q892
UN4214TA
SWITCHING
(REMOTE)
Q891
UN4113TA
SWITCHING
(REMOTE)
JK891
REMOTE
CONTROL
(OUT)
CN901
CN902
CN903
D OPERATION CIRCUIT
S915 (TUNING DOWN)
S916 (TUNING UP)
S926 (END)
S919 (START)
S923 (EASY)
S924 (NEWS)
S925 (OTHER)
S913 (FM)
S914 (AM)
S912 (FM MODE)
S920 (ROCK)
S921 (JAZZ)
S922 (CLASSIC)
S909 (9)
S910 (0)
S917 (MEMORY)
S911 (M. SCAN)
S918 (LOUDNESS)
S905 (5)
S906 (6)
S907 (7)
S908 (8)
S932 (TAPE MONITOR/VCR2)
S931 (VCR1)
S901 (1)
S902 (2)
S903 (3)
S904 (4)
S927 (PHONO)
S928 (TUNER)
S929 (CD)
CN907
CN906
E REMOTE SENSOR CIRCUIT
Z891
AIQH3027HD
(REMOTE SENSOR)
D892
LN846RP-LS
(STANDBY)
CN908

G VOLUME CIRCUIT

IC851
BA6218
MOTOR DRIVE

Q501, 502
2SJ40CDTA
MUTING

H LED CIRCUIT

D553
LN846RP-LS
(VOLUME POINT)

F TONE AMP CIRCUIT

IC471
M5238L
TONE AMP

I BALANCE VR CIRCUIT

VR502
100KG
(BALANCE)

Q895
2SB1240PRTV6
POWER SUPPLY

Q894
UN4211TA
POWER SUPPLY CONT.

POWER AMP CIRCUIT FOR (PC) AREA.

IC601
SV13203
POWER AMP

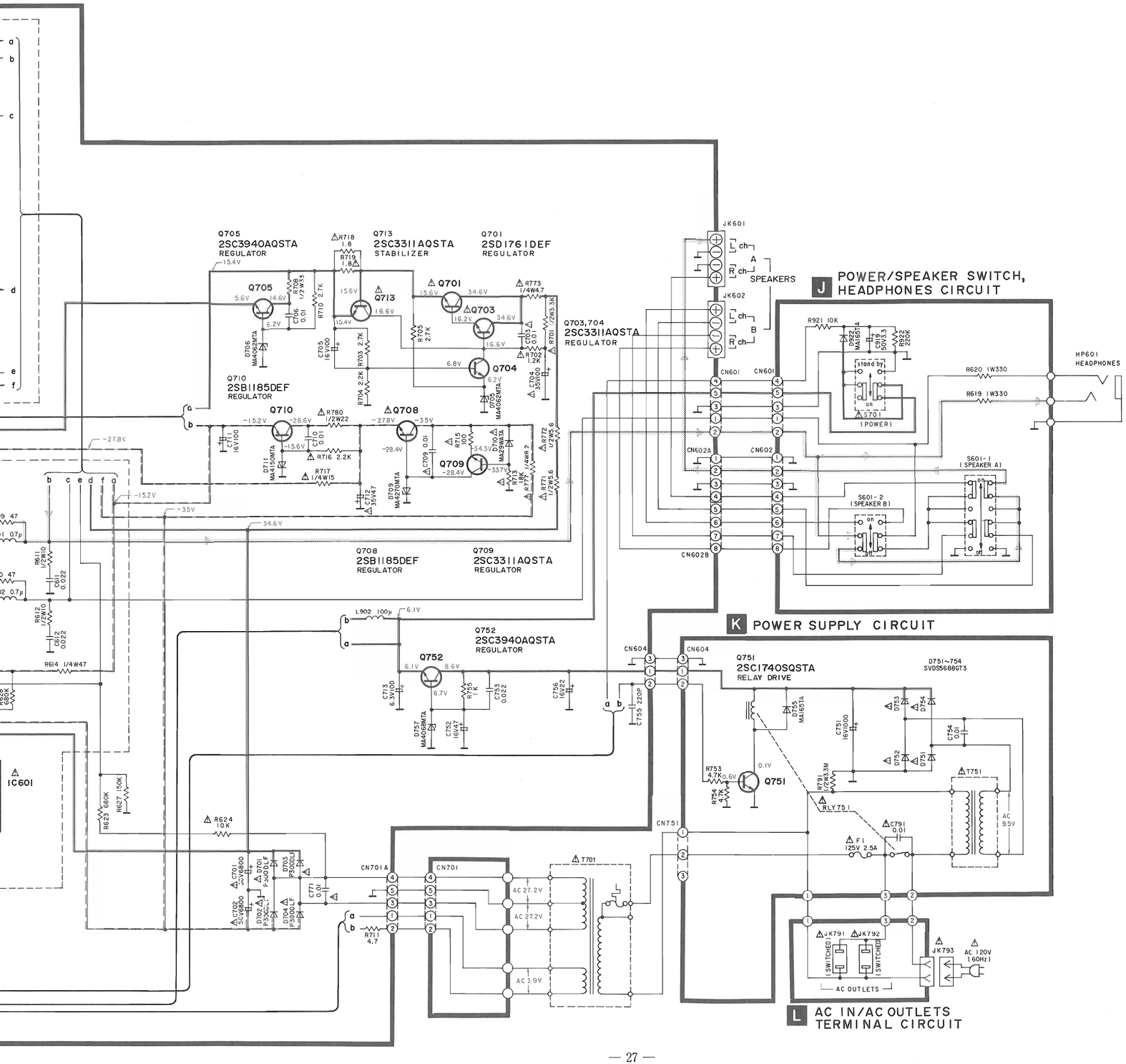
Q601
2SA922EF
RELAY DRIVE

Q705
2SC3940AQSTA
REGULATOR

Q710
2SB1185DEF
REGULATOR

IC601
SV13102B
POWER AMP

POWER AMP CIRCUIT FOR (P) AREA.



CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE 2.5A 125V FUSE.

RISK OF FIRE-REPLACE FUSE AS MARKED.

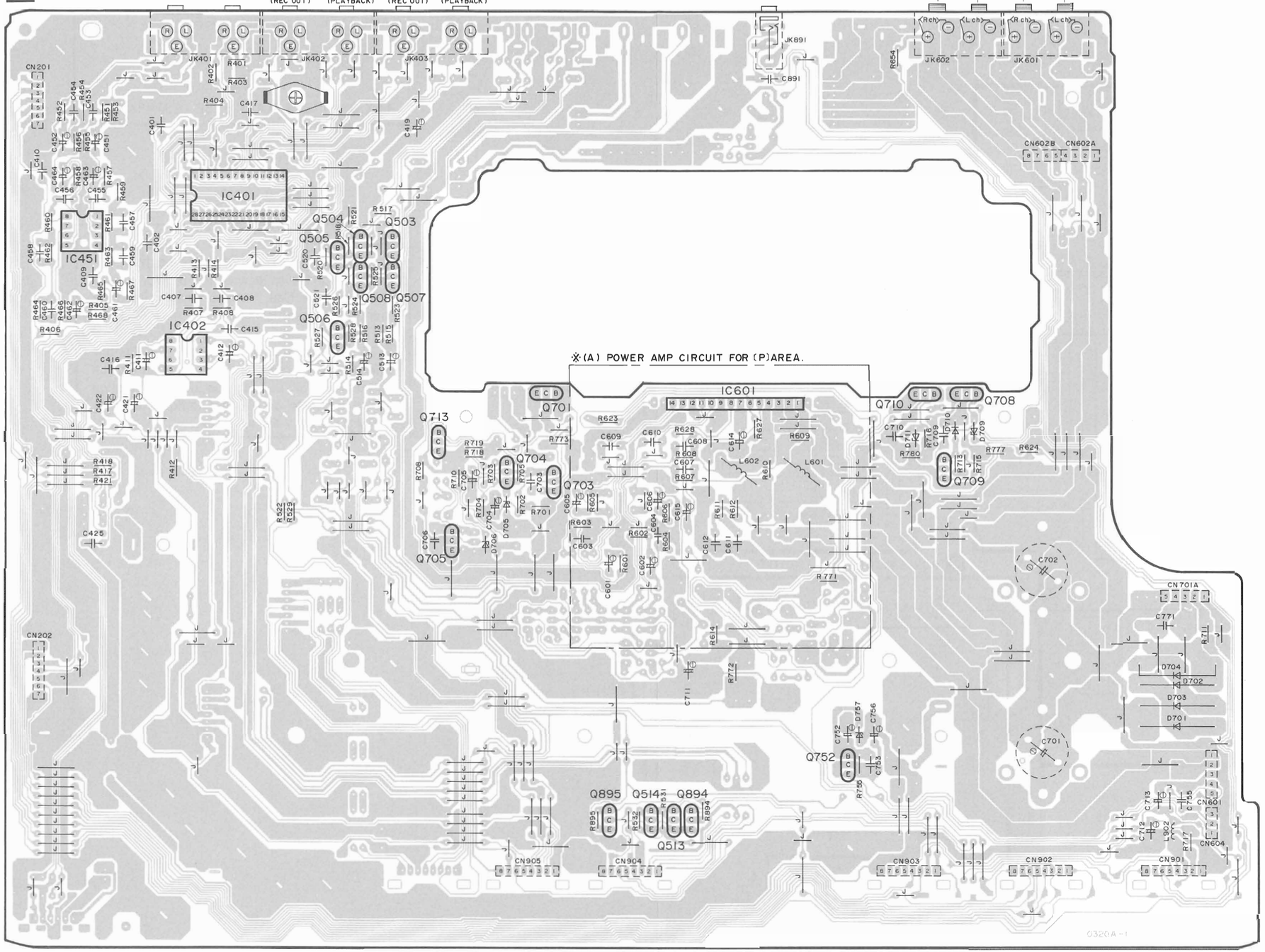
FUSE CAUTION

This symbol located near the fuse indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

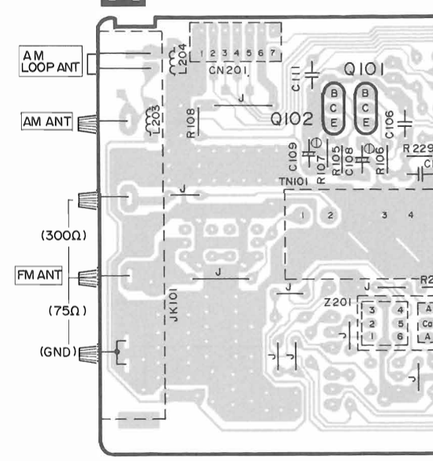
Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là qù le présent symbole est apposé.

■ PRINTED CIRCUIT BOARDS

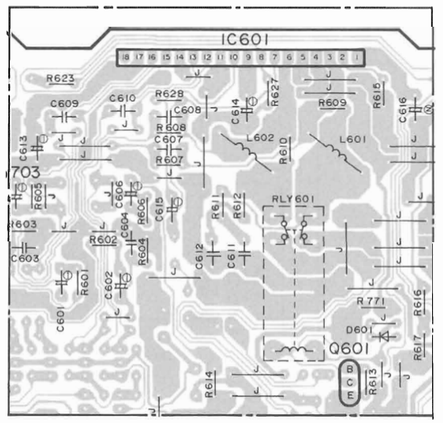
B MAIN P.C.B.



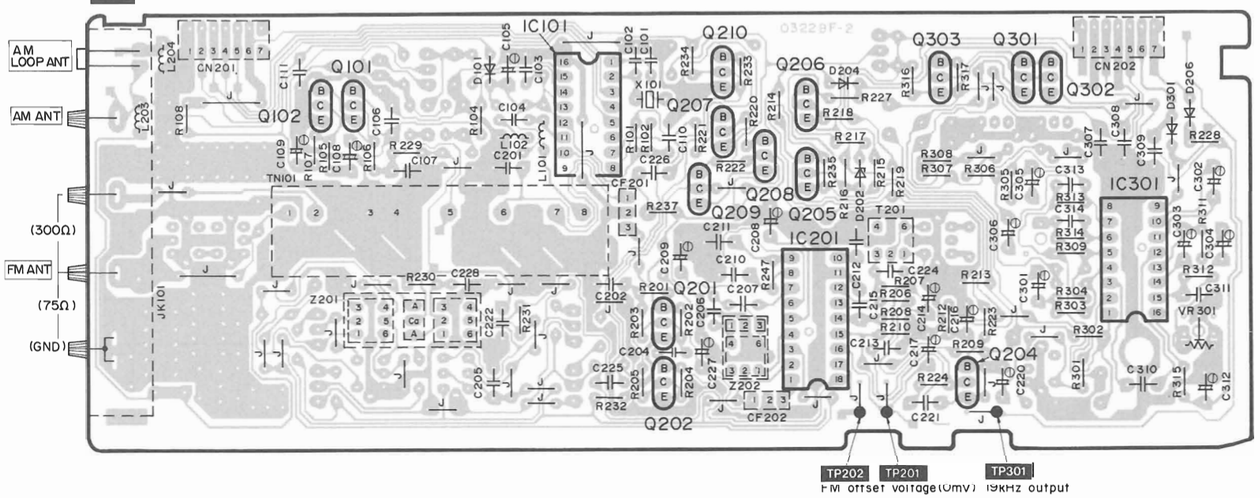
A TUNER P.C.B.



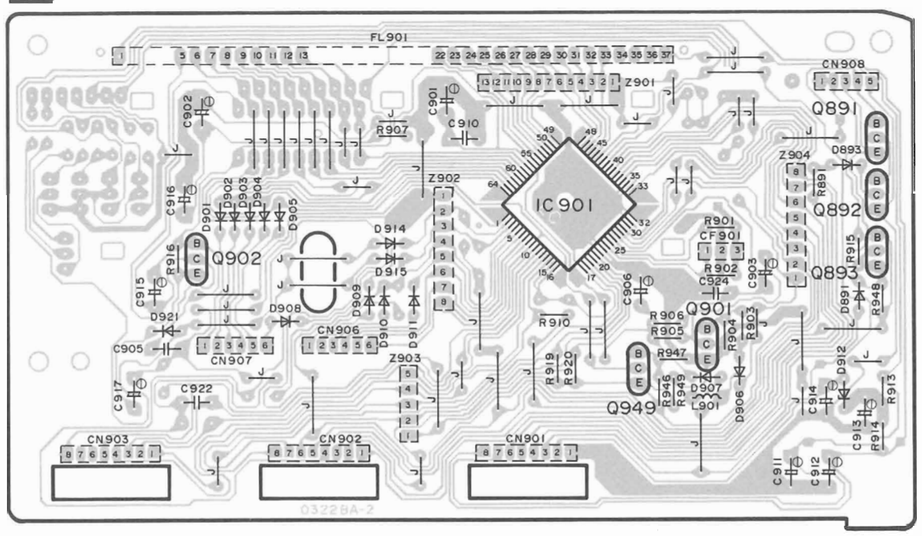
※(A) POWER AMP CIRCUIT FOR (PC) AREA.



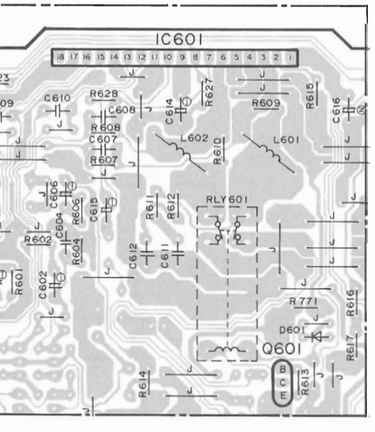
A TUNER P.C.B.



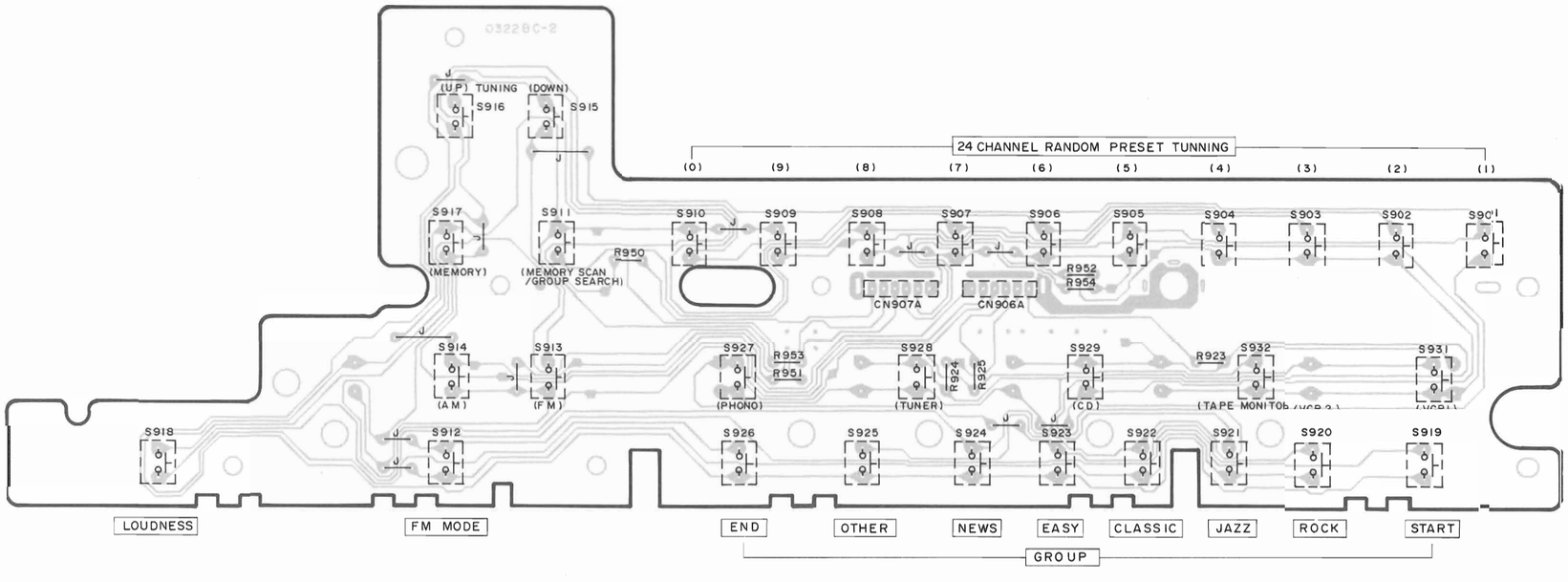
C FL DRIVE P.C.B.



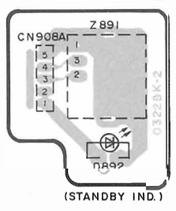
POWER AMP CIRCUIT FOR (PC) AREA.



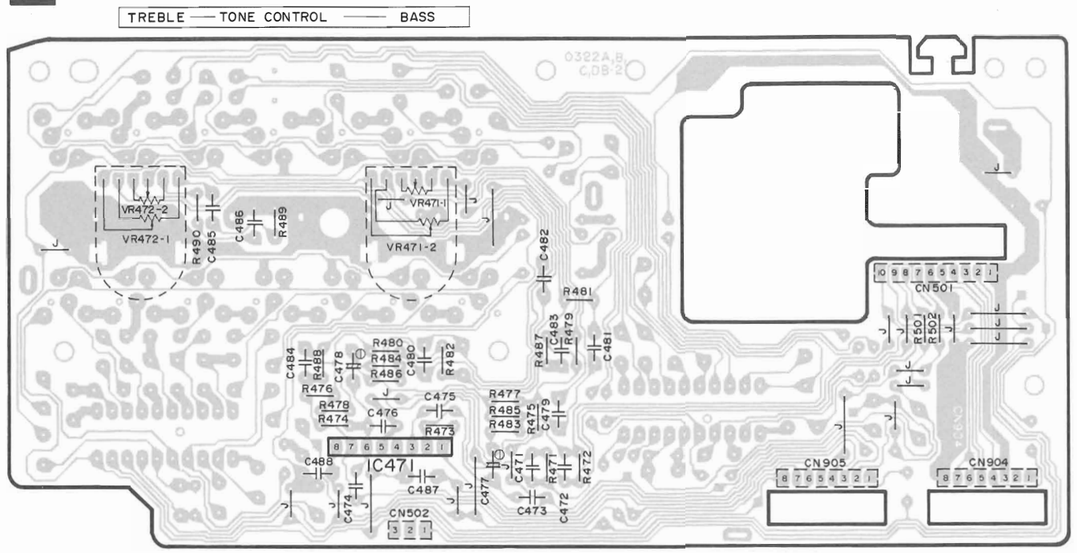
D OPERATION P.C.B.



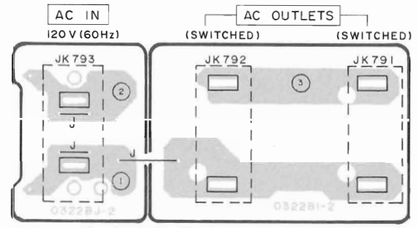
E REMOTE SENSOR P.C.B.

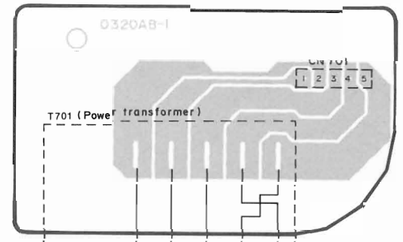


F TONE AMP P.C.B.

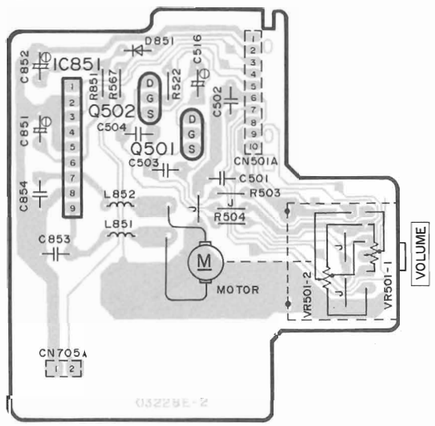


L AC IN/AC OUTLETS TERMINAL P.C.B.

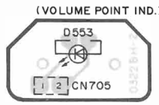




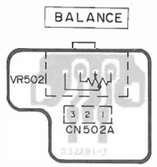
G VOLUME P.C.B.



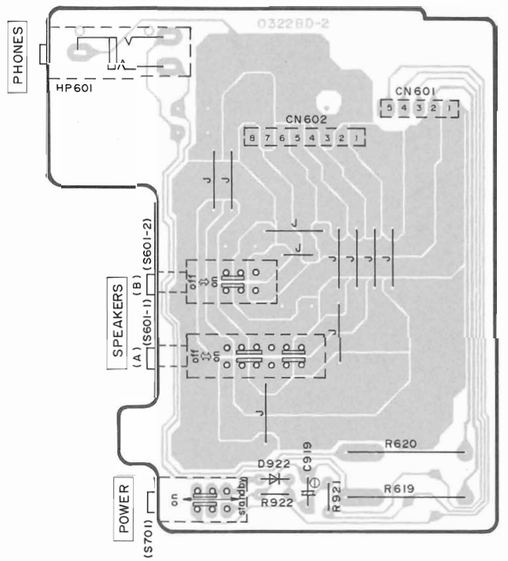
H LED P.C.B.



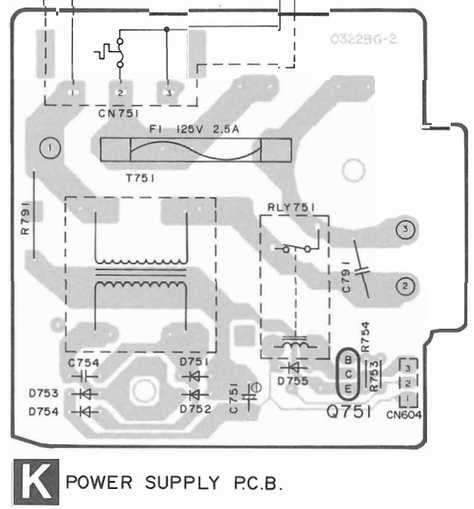
I BALANCE VR P.C.B.

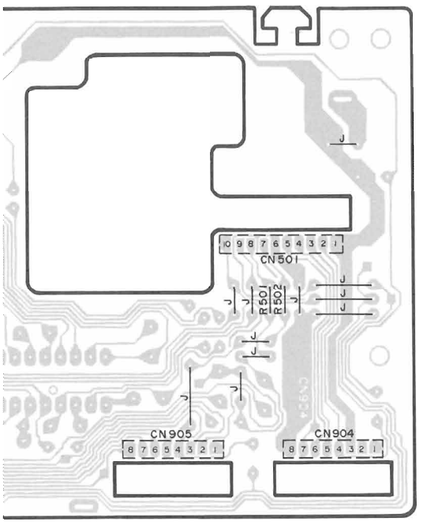


J POWER/SPEAKER SWITCH, HEDPHONES P.C.B.

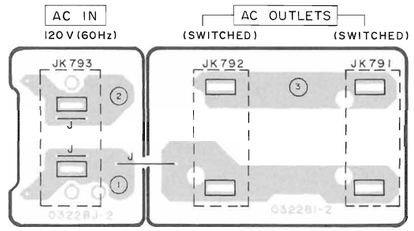


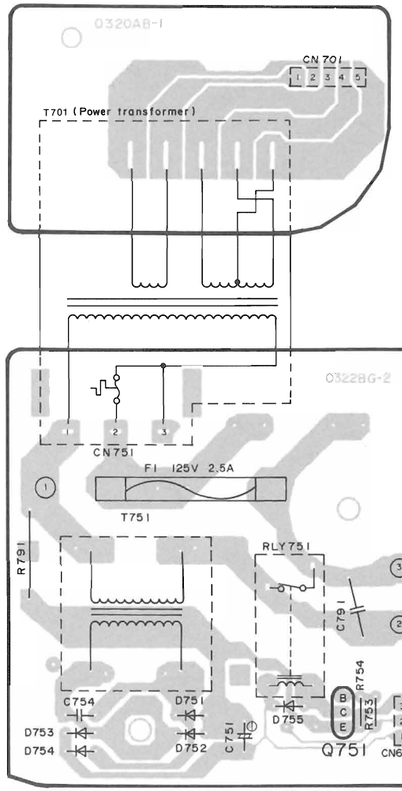
K POWER SUPPLY P.C.B.





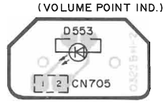
L AC IN/AC OUTLETS TERMINAL P.C.B.



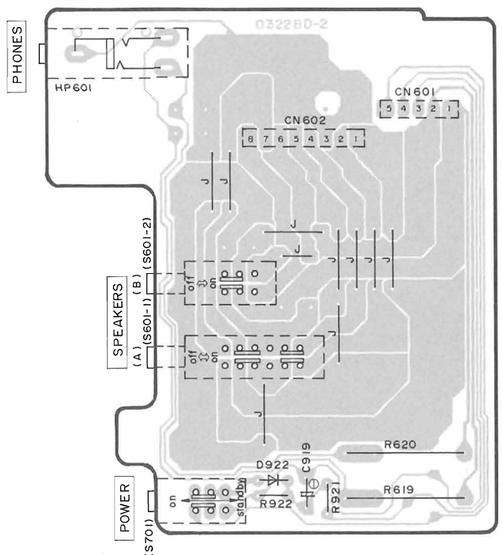


K POWER SUPPLY P.C.B.

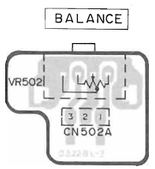
H LED P.C.B.



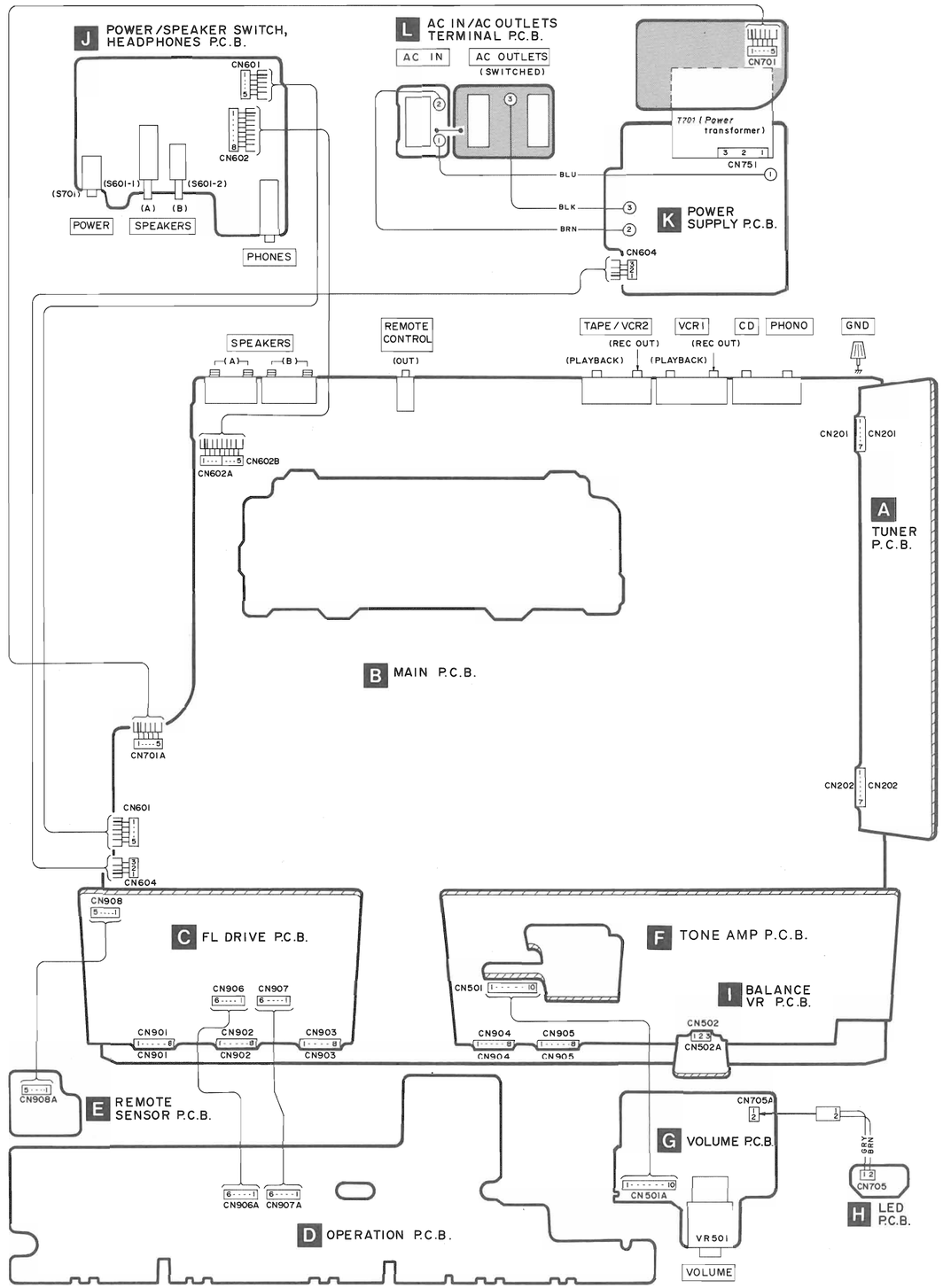
J POWER/SPEAKER SWITCH, HEDPHONES P.C.B.



I BALANCE VR P.C.B.

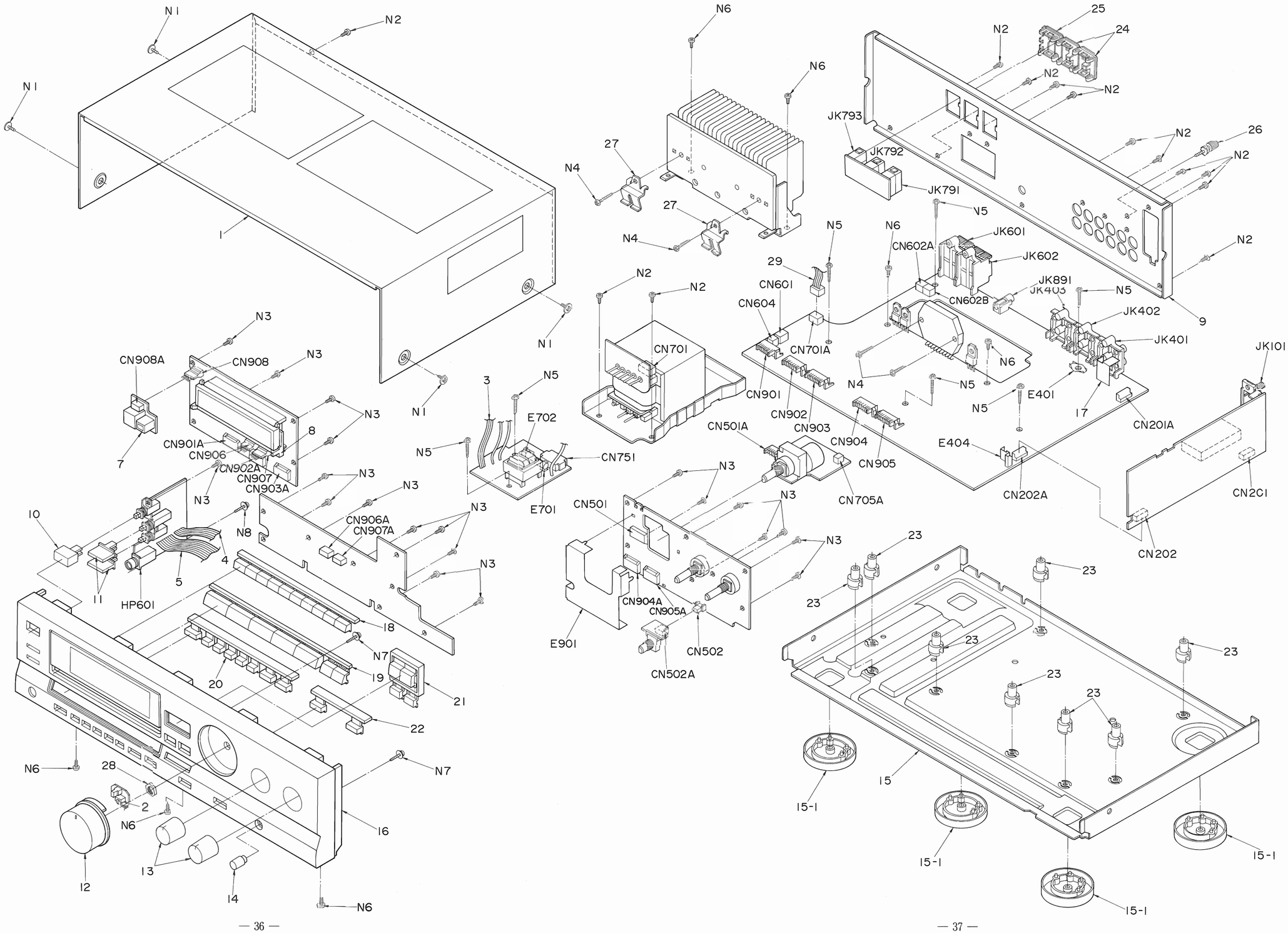


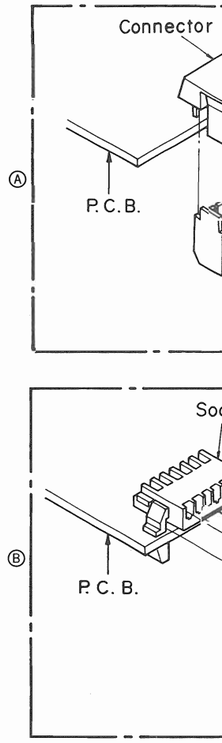
WIRING CONNECTION DIAGRAM



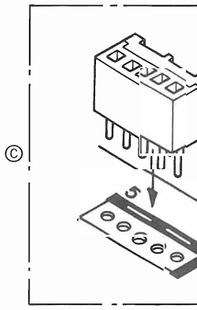
SA-GX100 SA-GX100

■ EXPLODED VIEW

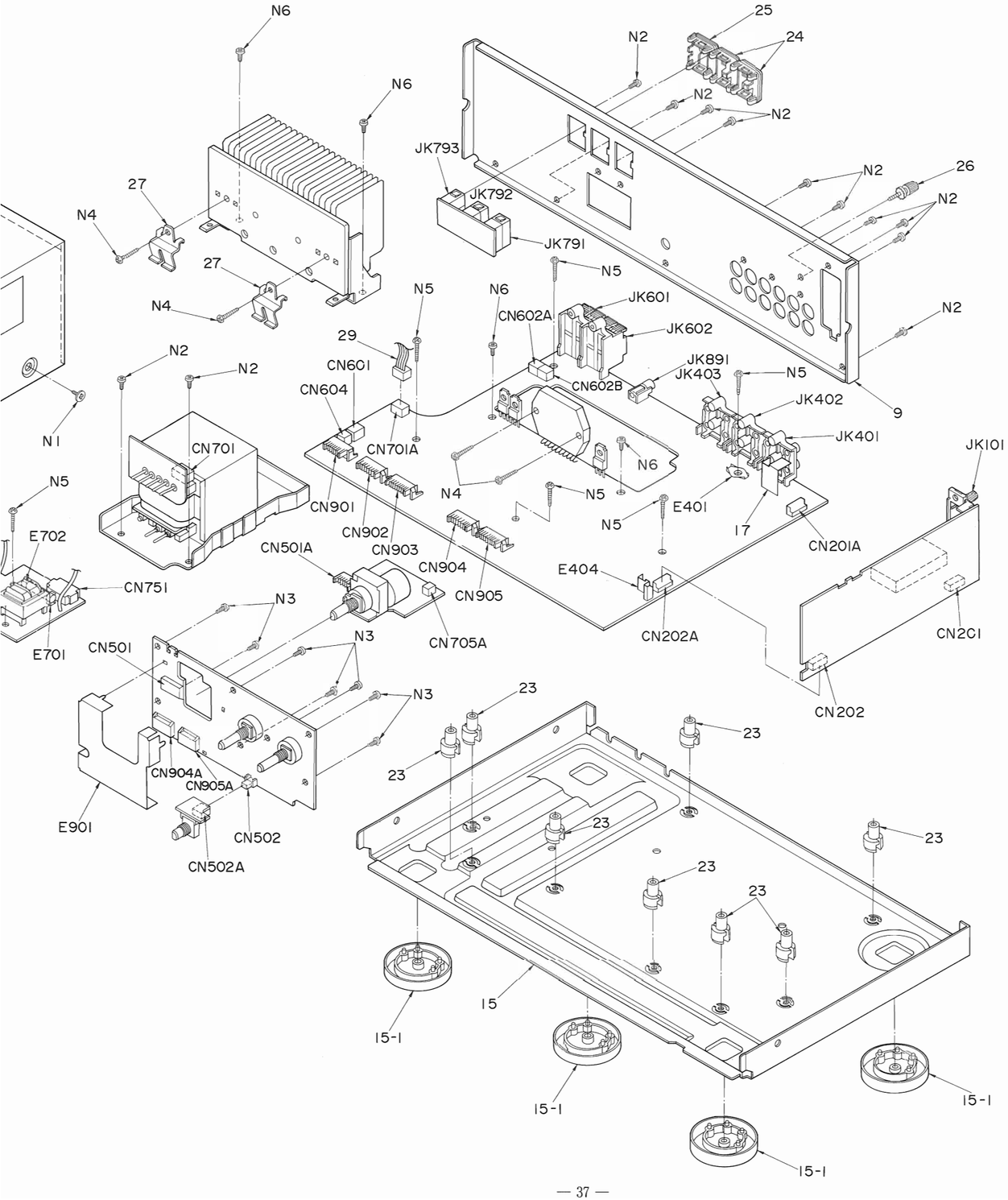


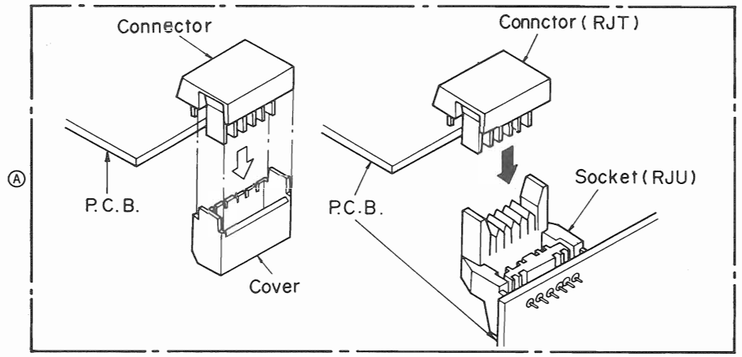


•Regarding Ref. No.
CN905A, there are t
•Be sure to order the
•The type-A connecto
after soldering the c

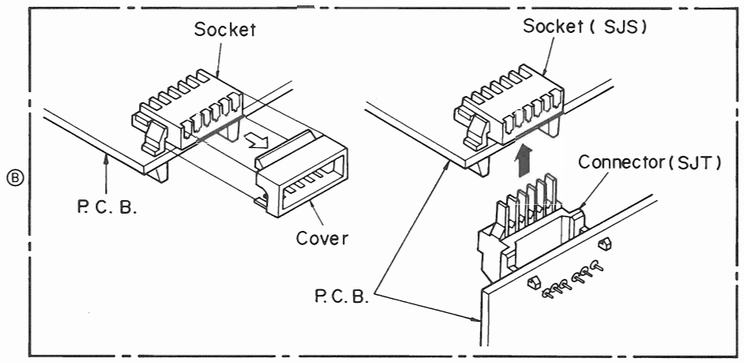


•Regarding Ref. No.



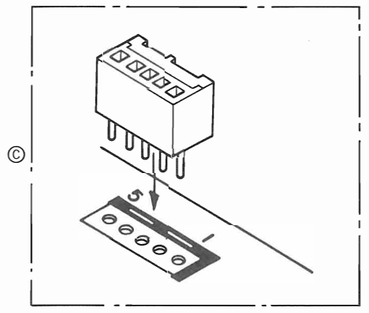


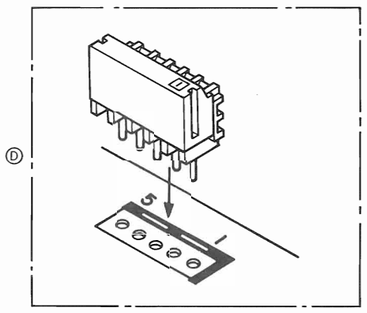
Pins	Part No.	
8 Pin	RJT003K008M1	(Black or Gray)
8 Pin	RJU003K008M1	(Black)
10 Pin	RJT003K010M1	(Black or Gray)
10 Pin	RJU003K010M1	(Black)



Pins	Part No.	
8 Pin	SJS50887WF	(Ivory)
8 Pin	SJT30854WF	(Ivory)
	SJT30845WF	
10 Pin	SJS51087WF	(Ivory)
10 Pin	SJT31054WF	(Ivory)

- Regarding Ref. No. CN501, CN501A, CN901, CN901A, CN902, CN902A, CN903, CN903A, CN904, CN904A, CN905, CN905A, there are two types (Ⓐ and Ⓑ).
- Be sure to order the replacement parts of the desired color by the corresponding part numbers.
- The type-A connector and the type-B socket are protected with covers when they are supplied. Remove the cover after soldering the connector or socket to the P.C.B. (Then discard it.)





- Regarding Ref. No. CN601, CN701, CN701A, there are two types (Ⓒ and Ⓓ).

REPLACEMENT PARTS LIST

Notes : * Important safety notice:
Components identified by ⚠ 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
		CABINET AND CHASSIS	
1	RKM0036A-K	CABINET	
2	REE0177	CONNECTOR ASS'Y (2P) (CN705)	
3	RWJ1803150QK	FLAT CABLE (3P)	
4	RWJ1805150QK	FLAT CABLE (5P)	
5	RWJ1808330QK	FLAT CABLE (8P)	
7	RMN0069	LED HOLDER	
8	RMN0070	FL HOLDER	
9	RGR0079A-A	REAR PANEL	
10	RGU0030	BUTTON, POWER	
11	RGU0101	BUTTON, SPEAKER SELECTOR	
12	RGW0070	KNOB, MAIN VOLUME	
13	RGW0072	KNOB, BASS/TREBLE	
14	RGW0073	KNOB, BALANCE	
15	RFKJAGX300P	CHASSIS ASS'Y	
15-1	RKA0009-1	FOOT	
16	RFKGAGX100P	FRONT PANEL ASS'Y	
17	RSC0105	SHIELD PLATE	
18	RGU0344A	BUTTON, PRESET	
19	RGU0345A	BUTTON, SELECTOR	
20	RGU0346	BUTTON, GROUP	
21	RGU0347	BUTTON, UP-DOWN	
22	RGU0348A	BUTTON, MODE	
23	SHE187-2	P. C. B. SUPPORT	
24	SJS9233A	AC OUTLET COVER	
25	SJS9234A	AC INLET COVER	
26	SNE2123	GND TERMINAL	
27	SUS894-1	ANGLE, TRANSISTOR	
28	XNS7	NUT	
29	RWJ1805140QQ	CONNECTOR ASS'Y	
		SCREWS	
N1	SNE2129-3	SCREW	
N2	XTBS3+8JFZ1	SCREW	
N3	XTBS26+8J	SCREW	
N4	XTB3+16JFZ	SCREW	
N5	XTB3+20JFZ	SCREW	
N6	XTB3+8JFZ	SCREW	
N7	XTWS3+8T	SCREW	
N8	XTWS3+10Q	SCREW	
		PACKING MATERIAL	
P1	XZB24X33C04	PROTECTION BAG (F. B.)	(P)

Ref. No.	Part No.	Part Name & Description	Remarks
P1	SPB1061	PROTECTION BAG (F. B)	(PC)
P2	SPSD152	ACCESSORIES BOX	
P3	RPG0453	PACKING CASE	
P4	RPN0328A	PAD	
P5	RPN0328B	PAD	
P6	RPN0328C	PAD	
P7	RPN0328D	PAD	
P8	SPP723	PROTECTION BAG (UNIT)	
		ACCESSPORIES	
A1	RQT0411-P	INSTRUCTION MANUAL	(P)
A1	RQT0412-C	INSTRUCTION MANUAL	(PC)
A2	SJA172-1	POWER CORD	(P) ⚠
A2	SJA172	POWER CORD	(PC) ⚠
A3	SPB1163T	AM LOOP ANTENNA	
A3-1	SSA272M	FM ANTENNA	
A3-2	SMA233-1M	AM ANTENNA HOLDER	
A3-3	XTN3+10AFZ	SCREWS	
A7	SQX7147	WARRANTY CARD	(P)
A7	SQX7183	WARRANTY CARD	(PC)
A8	SQX9131	SERVICENTER LIST	(PC)
A9	RAK-SA301P	REMOTE CONTROL TRANSMITTER	
A10	RKK0008	BATTERY COVER	

Notes : * Important safety notice:
Components identified by ⚠ 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
		INTEGRATED CIRCUIT(S)	
IC101	LM7001	I. C, PLL FREQ. SYNTHESIZER	
IC201	AN7273A	I. C, FM/AM IF AMP & MIXER	
IC301	AN7470	I. C, FM MPX	
IC401	TC9163N	I. C, INPUT SELECTOR	
IC402	M5238P	I. C, BUFFER AMP	
IC451	AN6558F	I. C, PHONO EQ. AMP	
IC471	M5238L	I. C, TONE CONTROL	
IC601	SVI3102B	I. C, POWER AMP	(P) ⚠
IC601	SVI3203	I. C, POWER AMP	(PC) ⚠
IC851	BA6218	I. C, MOTOR DRIVE	
IC901	LC6554H4280	I. C, MICRO COMPUTER	
		TRANSISTOR(S)	
Q101, 102	2SC2785FETA	TRANSISTOR	
Q201, 202	2SC2787LTA	TRANSISTOR	
Q204, 205	2SC1740SQSTA	TRANSISTOR	
Q206	2SA933SQRSTA	TRANSISTOR	
Q207	2SC1740SQSTA	TRANSISTOR	
Q208, 209	2SA933SQRSTA	TRANSISTOR	
Q210	2SC1740SQSTA	TRANSISTOR	
Q301, 302	2SD1450QRSTA	TRANSISTOR	
Q303	2SA933SQRSTA	TRANSISTOR	
Q501, 502	2SJ40CDTA	TRANSISTOR	
Q503, 504	2SC3327ABTP	TRANSISTOR	
Q505, 506	2SA1309AQSTA	TRANSISTOR	
Q507, 508	2SC3327ABTP	TRANSISTOR	
Q513, 514	UN4211TA	TRANSISTOR	
Q601	2SA992EF	TRANSISTOR	(PC)
Q701	2SD1761DEF	TRANSISTOR	⚠
Q703, 704	2SC3311AQSTA	TRANSISTOR	⚠ (Q703)
Q705	2SC3940AQSTA	TRANSISTOR	
Q708	2SB1185DEF	TRANSISTOR	⚠
Q709	2SC3311AQSTA	TRANSISTOR	
Q710	2SB1185DEF	TRANSISTOR	
Q713	2SC3311AQSTA	TRANSISTOR	⚠
Q751	2SC1740SQSTA	TRANSISTOR	
Q752	2SC3940AQSTA	TRANSISTOR	
Q891	UN4113TA	TRANSISTOR	
Q892	UN4214TA	TRANSISTOR	
Q893	2SA933SQRSTA	TRANSISTOR	
Q894	UN4211TA	TRANSISTOR	
Q895	2SB1240PRTV6	TRANSISTOR	
Q901	2SC1740SQSTA	TRANSISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
Q902	UN4215TA	TRANSISTOR	
Q949	2SA933SQRSTA	TRANSISTOR	
		DIODE(S)	
D101	MA165TA	DIODE	
D202	MA4110MTA	DIODE	
D204	MA165TA	DIODE	
D206	MA165TA	DIODE	
D301	MA165TA	DIODE	
D553	LN846RP-LS	DIODE	
D601	MA165TA	DIODE	(PC)
D701-704	P300DLF	DIODE	⚠
D705, 706	MA4062MTA	DIODE	
D709	MA4270MTA	DIODE	
D710	MA29WATA	DIODE	⚠
D711	MA4150MTA	DIODE	
D751-754	SVDS5688GT3	DIODE	⚠
D755	MA165TA	DIODE	
D757	MA4068MTA	DIODE	
D851	SVDS5688GT3	DIODE	
D891	MA165TA	DIODE	
D892	LN846RP-LS	DIODE	
D893	MA29WATA	DIODE	
D901-906	MA165TA	DIODE	
D907	1SS291TA	DIODE	
D908-911	MA165TA	DIODE	
D912	MA4051MTA	DIODE	
D914, 915	MA165TA	DIODE	
D921, 922	MA165TA	DIODE	
		VARIABLE RESISTOR(S)	
VR301	EVNDXAA00B53	V. R, MPX VCO ADJ.	
VR471, 472	EWC2XAF25C15	V. R, TONE CONTROL	
VR501	EUWMN0F20B15	V. R, MAIN VOLUME	
VR502	EVJ01CF01G15	V. R, BALANCE	
		COMPONENT COMBINATION(S)	
Z201	RLA2Z001-T	COIL	
Z202	SLI7Z101-T	COMPONENT COMBINATION	
Z891	A1QH3027H0	REMOTE CONT. SENSOR	
Z901	EXFP12331MF	COMPONENT COMBINATION	
Z902	EXBF8E473J	COMPONENT COMBINATION	
Z903	EXBF5E103J	COMPONENT COMBINATION	
Z904	EXBF8E103J	COMPONENT COMBINATION	

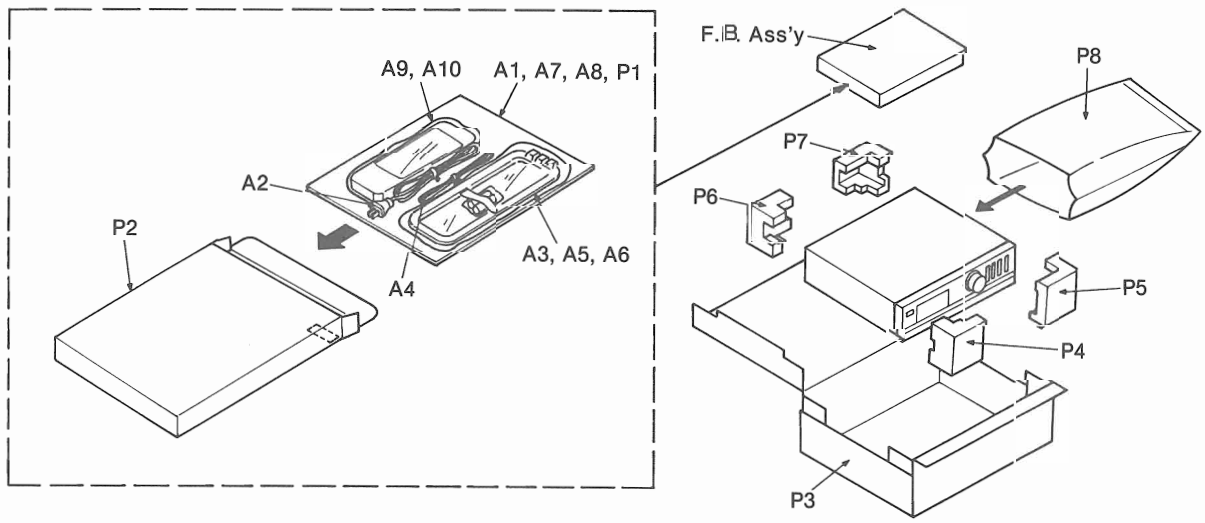
Ref. No.	Part No.	Part Name & Description	Remarks
		COIL (S)	
L1	RLQZP1R2KT-Y	COIL	
L2	RLQZPR47KT-Y	COIL	
L101	RLQZPR47KT-Y	COIL	
L102	RLQZP1R2KT-Y	COIL	
L203, 204	ELEPK1R0MA	COIL	
L601, 602	SLQY07G-40	COIL	
L851, 852	RLQZP1R0KT-Y	COIL	
L901, 902	ELEPK101KA	COIL	
		TRANSFORMER (S)	
T201	RLI4B007-Z	I.F.T.	
T701	RTP1M5C001AV	POWER TRANSFORMER	⚠
T751	SLT5H2	TRANSFORMER	⚠
		FUSE (S)	
F1	XBA1F25NU14	FUSE, 125V, 2.5A	⚠
		FILTER (S)	
CF201, 202	RLFETNGM02L	CERAMIC FILTER	
CF901	EF0GC4004T4	CERAMIC FILTER	
		OSCILLATOR (S)	
X101	SVQ49U722T-S	OSCILLATOR	
		DISPLAY TUBE	
FL901	RSL0043-F	DISPLAY TUBE	
		SWITCH (ES)	
S601	SSH2137	SW, SPEAKERS	
S701	SSH1238	SW, POWER	⚠
S901	EVQ21405R	SW, PRESET TUNING 1	
S902	EVQ21405R	SW, PRESET TUNING 2	
S903	EVQ21405R	SW, PRESET TUNING 3	
S904	EVQ21405R	SW, PRESET TUNING 4	
S905	EVQ21405R	SW, PRESET TUNING 5	
S906	EVQ21405R	SW, PRESET TUNING 6	
S907	EVQ21405R	SW, PRESET TUNING 7	
S908	EVQ21405R	SW, PRESET TUNING 8	
S909	EVQ21405R	SW, PRESET TUNING 9	
S910	EVQ21405R	SW, PRESET TUNING 0	
S911	EVQ21405R	SW, MEMORY SCAN	
S912	EVQ21405R	SW, FM MODE	
S913	EVQ21405R	SW, FM	

Ref. No.	Part No.	Part Name & Description	Remarks
S914	EVQ21405R	SW, AM	
S915	EVQ21405R	SW, TUNING DOWN	
S916	EVQ21405R	SW, TUNING UP	
S917	EVQ21405R	SW, MEMORY	
S918	EVQ21405R	SW, LOUDNESS	
S919	EVQ21405R	SW, START	
S920	EVQ21405R	SW, ROCK	
S921	EVQ21405R	SW, JAZZ	
S922	EVQ21405R	SW, CLASSIC	
S923	EVQ21405R	SW, EASY	
S924	EVQ21405R	SW, NEWS	
S925	EVQ21405R	SW, OTHER	
S926	EVQ21405R	SW, END	
S927	EVQ21405R	SW, PHONO	
S928	EVQ21405R	SW, TUNER	
S929	EVQ21405R	SW, CD	
S931	EVQ21405R	SW, TAPE MONITOR/VCR2	
S932	EVQ21405R	SW, VCR1	
		CONNECTOR (S) &SOCKET (S)	
CN201	RJT057W007	CONNECTOR (7P)	
CN201A	RJU057W007	SOCKET (7P)	
CN202	RJT057W007	CONNECTOR (7P)	
CN202A	RJU057W007	SOCKET (7P)	
CN501	RJT003K010M1	CONNECTOR (10P)	
CN501	SJS51087WF	SOCKET (10P)	
CN501A	RJU003K010M1	SOCKET (10P)	
CN501A	SJT31054WF	CONNECTOR (10P)	
CN502	SJS5037&JQ	SOCKET (3P)	
CN502A	SJT30345JQ	CONNECTOR (3P)	
CN601	RJS1A1705	CONNECTOR (5P)	
CN601	SJT30543-V	CONNECTOR (5P)	
CN602A	RJS1A1704	CONNECTOR (4P)	
CN604	RJS1A1703	CONNECTOR (3P)	
CN701	RJS1A1705	CONNECTOR (5P)	
CN701	SJT30543-V	CONNECTOR (5P)	
CN701A	RJS1A1705	CONNECTOR (5P)	
CN701A	SJT30543-V	CONNECTOR (5P)	
CN705A	SJT3213	CONNECTOR (2P)	
CN751	SJS305-1	CONNECTOR (3P)	
CN901	RJT003K008M1	CONNECTOR (8P)	
CN901	SJS50887WF	SOCKET (8P)	
CN901A	RJU003K008M1	SOCKET (8P)	
CN901A	SJT30854WF	CONNECTOR (8P)	(P)
CN901A	SJT30845WF	CONNECTOR (8P)	(PC)
CN902	RJT003K008M1	CONNECTOR (8P)	
CN902	SJS50887WF	SOCKET (8P)	
CN902A	RJU003K008M1	SOCKET (8P)	
CN902A	SJT30854WF	CONNECTOR (8P)	(P)
CN902A	SJT30845WF	CONNECTOR (8P)	(PC)
CN903	RJT003K008M1	CONNECTOR (8P)	

Ref. No.	Part No.	Part Name & Description	Remarks
CN903	SJS50887WF	SOCKET (8P)	
CN903A	RJU003K008M1	SOCKET (8P)	
CN903A	SJT30854WF	CONNECTOR (8P)	(P)
CN903A	SJT30845WF	CONNECTOR (8P)	(PC)
CN904	RJT003K008M1	CONNECTOR (8P)	
CN904	SJS50887WF	SOCKET (8P)	
CN904A	RJU003K008M1	SOCKET (8P)	
CN904A	SJT30854WF	CONNECTOR (8P)	(P)
CN904A	SJT30845WF	CONNECTOR (8P)	(PC)
CN905	RJT003K008M1	CONNECTOR (8P)	
CN905	SJS50887WF	SOCKET (8P)	
CN905A	RJU003K008M1	SOCKET (8P)	
CN905A	SJT30854WF	CONNECTOR (8P)	(P)
CN905A	SJT30845WF	CONNECTOR (8P)	(PC)
CN906, 907	SJT30648BB1	CONNECTOR (6P)	
CN908	SJT30549BB1	CONNECTOR (5P)	
CN906A	SJS50681BB	SOCKET (6P)	
CN907A	SJS50681BB	SOCKET (6P)	
CN908A	SJS50581BB	SOCKET (5P)	
CN602B	RJS1A1704	CONNECTOR (4P)	
		SHIELD PART (S)	
E401	SNE1004-1	GND PLATE	
E404	SME103-6	P. C. B. HOLDER	
E701, 702	RJR0011	FUSE HOLDER	
E901	RSC0111	SHIELD PLATE	
		JACK (S)	
HP601	SJJ146B	JACK, HEADPHONE	
JK101	RJH4405	JACK, ANTENNA	

Ref. No.	Part No.	Part Name & Description	Remarks
JK401	SJF3069N	JACK, PHONO/CD	
JK402	SJF3069N	JACK, VCR1	
JK403	SJF3069N	JACK, TAPE/VCR2	
JK601	RJR0054	JACK, SPEAKER	
JK602	RJR0054	JACK, SPEAKER	
JK791	SJS9233B	AC OUTLET	⚠
JK792	SJS9233B	AC OUTLET	⚠
JK793	SJS9234B	AC INLET	⚠
JK891	RJJ33TR01	JACK, REMOTE CONTROL OUT	
		RELAY (S)	
RLY601	SSY134	RELAY	(PC)
RLY751	RSY0005-C	RELAY	⚠
		FRONT END PACK ASS' Y	
TN101	RAL0006	FM FRONT END	

PACKING



RESISTORS & CAPACITORS

Notes : * Capacity valuse 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
		RESISTORS
R1	ERDS2TJ104T	1/4W 100K
R2	ERDS2TJ104T	1/4W 100K
R3	ERDS2TJ221T	1/4W 220
R4	ERDS2TJ104T	1/4W 100K
R5	ERDS2TJ564T	1/4W 560K
R6	ERDS2TJ391T	1/4W 390
R7	ERDS2TJ272T	1/4W 2.7K
R8	ERDS2TJ474T	1/4W 470K
R9	ERDS2TJ391T	1/4W 390
R10	ERDS2TJ391T	1/4W 390
R11	ERDS2TJ684T	1/4W 680K
R101, 102	ERDS2TJ103T	1/4W 10K
R104	ERDS2TJ102T	1/4W 1K
R105	ERDS2TJ561T	1/4W 560
R106	ERDS2TJ562T	1/4W 5.6K
R107	ERDS2TJ103T	1/4W 10K
R108	ERDS2TJ151T	1/4W 150
R201	ERDS2TJ332T	1/4W 3.3K
R202	ERDS2TJ824T	1/4W 820K
R203	ERDS2TJ122T	1/4W 1.2K
R204	ERDS2TJ824T	1/4W 820K
R205	ERDS2TJ391T	1/4W 390
R206	ERDS2TJ561T	1/4W 560
R207	ERDS2TJ152T	1/4W 1.5K
R208	ERDS2TJ102T	1/4W 1K
R209	ERDS2TJ471T	1/4W 470
R210	ERDS2TJ332T	1/4W 3.3K
R212	ERDS2TJ153T	1/4W 15K
R213	ERDS2TJ104T	1/4W 100K
R214	ERDS2TJ824T	1/4W 820K
R215	ERDS2TJ822T	1/4W 8.2K
R216	ERDS2TJ563T	1/4W 56K
R217	ERDS2TJ223T	1/4W 22K
R218	ERDS2TJ123T	1/4W 12K
R219	ERDS2TJ562T	1/4W 5.6K
R220	ERDS2TJ103T	1/4W 10K
R221	ERDS2TJ104T	1/4W 100K
R222	ERDS2TJ473T	1/4W 47K
R223	ERDS2TJ154T	1/4W 150K
R224	ERDS2TJ223T	1/4W 22K
R227	ERDS2TJ104T	1/4W 100K
R228	ERDS2TJ123T	1/4W 12K
R229	ERDS2TJ102T	1/4W 1K
R230	ERDS2TJ104T	1/4W 100K
R231	ERDS2TJ471T	1/4W 470
R232	ERDS2TJ122T	1/4W 1.2K
R233	ERDS2TJ684T	1/4W 680K
R234	ERDS2TJ103T	1/4W 10K
R235	ERDS2TJ471T	1/4W 470
R237	ERDS2TJ221T	1/4W 220
R247	ERDS2TJ103T	1/4W 10K
R301	ERDS2TJ273T	1/4W 27K
R302	ERDS2TJ151T	1/4W 150
R303, 304	ERDS2TJ223T	1/4W 22K
R305, 306	ERDS2TJ272T	1/4W 2.7K
R307, 308	ERDS2TJ104T	1/4W 100K
R309	ERDS2TJ334T	1/4W 330K
R311	ERDS2TJ102T	1/4W 1K
R312	ERDS2TJ153T	1/4W 15K
R313, 314	ERDS2TJ473T	1/4W 47K
R315, 316	ERDS2TJ103T	1/4W 10K
R317	ERDS2TJ473T	1/4W 47K
R401, 402	ERDS2TJ332T	1/4W 3.3K
R403, 404	ERDS2TJ822T	1/4W 8.2K
R405, 406	ERDS2TJ470T	1/4W 47
R407, 408	ERDS2TJ473T	1/4W 47K
R411, 412	ERDS2TJ104T	1/4W 100K
R413, 414	ERDS2TJ102T	1/4W 1K
R417, 418	ERDS2TJ104T	1/4W 100K
R421	ERDS2TJ332T	1/4W 3.3K
R451, 452	ERDS2TJ821T	1/4W 820
R453, 454	ERDS2TJ224T	1/4W 220K
R455, 456	ERDS2TJ563T	1/4W 56K
R457, 458	ERDS2TJ271T	1/4W 270
R459, 460	ERDS2TJ680T	1/4W 68
R461, 462	ERDS2TJ184T	1/4W 180K
R463, 464	ERDS2TJ123T	1/4W 12K
R465, 466	ERDS2TJ563T	1/4W 56K
R467, 468	ERDS2TJ102T	1/4W 1K
R471, 472	ERDS2TJ104T	1/4W 100K
R473, 474	ERDS2TJ474T	1/4W 470K
R475, 476	ERDS2TJ392T	1/4W 3.9K
R479, 480	ERDS2TJ223T	1/4W 22K
R481, 482	ERDS2TJ392T	1/4W 3.9K
R483, 484	ERDS2TJ222T	1/4W 2.2K
R485, 486	ERDS2TJ473T	1/4W 47K
R487, 488	ERDS2TJ122T	1/4W 1.2K
R489, 490	ERDS2TJ821T	1/4W 820
R501, 502	ERDS2TJ222T	1/4W 2.2K
R503, 504	ERDS2TJ103T	1/4W 10K
R513, 514	ERDS2TJ393T	1/4W 39K
R515, 516	ERDS2TJ222T	1/4W 2.2K
R517, 518	ERDS2TJ102T	1/4W 1K
R520	ERDS2TJ394T	1/4W 390K
R521	ERDS2TJ104T	1/4W 100K
R522	ERDS2TJ103T	1/4W 10K
R522A	ERDS2TJ153T	1/4W 15K
R523, 524	ERDS2TJ221T	1/4W 220
R525, 526	ERDS2TJ102T	1/4W 1K
R527	ERDS2TJ394T	1/4W 390K
R528	ERDS2TJ104T	1/4W 100K
R529	ERDS2TJ222T	1/4W 2.2K
R531, 532	ERDS2TJ153T	1/4W 15K
R567	ERDS2TJ331T	1/4W 330
R601, 602	ERDS2TJ102T	1/4W 1K
R603, 604	ERDS2TJ563T	1/4W 56K
R605, 606	ERDS2TJ272T	1/4W 2.7K
R607, 608	ERDS2TJ563T	1/4W 56K
R609, 610	ERDS2TJ470T	1/4W 47
R611, 612	ERDS1FVJ100T	1/2W 10
R613	ERDS2TJ223T	1/4W 22K (PC)
R614	ERD25FVJ470T	1/4W 47
R615	ERDS2TJ473T	1/4W 47K (PC)
R616, 617	ERDS1FVJ471T	1/2W 470 (PC)
R619, 620	ERG1ANJP331S	1W 330
R623	ERDS2TJ684T	1/4W 680K
R624	ERDS2TJ103T	1/4W 10K ⚠
R627	ERDS2TJ154T	1/4W 150K
R628	ERDS2TJ684T	1/4W 680K
R701	ERDS1FVJ332T	1/2W 3.3K ⚠
R702	ERDS2TJ122T	1/4W 1.2K ⚠
R703	ERDS2TJ272T	1/4W 2.7K
R704	ERDS2TJ222T	1/4W 2.2K
R705	ERDS2TJ272T	1/4W 2.7K
R708	ERDS1FVJ330T	1/2W 33
R710	ERDS2TJ272T	1/4W 2.7K
R711	ERDS2TJ4R7T	1/4W 4.7
R713	ERDS2TJ183T	1/4W 18K ⚠
R715	ERDS2TJ101T	1/4W 100 ⚠
R716	ERDS2TJ222T	1/4W 2.2K ⚠
R717	ERD25FVJ150T	1/4W 15 ⚠
R718, 719	ERDS2TJ1R8	1/4W 1.8 ⚠
R753, 754	ERDS2TJ472T	1/4W 4.7K
R755	ERDS2TJ102T	1/4W 1K
R771, 772	ERDS1FVJ5R6T	1/2W 5.6 ⚠
R773	ERD25FVJ4R7T	1/4W 4.7 ⚠
R777	ERD25FVJ8R2T	1/4W 8.2
R780	ERDS1FVJ220T	1/2W 22 ⚠
R791	ERC12ZGK335D	1/2W 3.3M
R851	ERDS1FVJ2R2T	1/2W 2.2 ⚠
R891	ERDS2TJ102T	1/4W 1K
R894	ERDS2TJ102T	1/4W 1K
R895	ERDS2TJ103T	1/4W 10K
R901	ERDS2TJ222T	1/4W 2.2K

Ref. No.	Part No.	Values & Remarks
R902	ERDS2TJ105T	1/4W 1M
R903	ERDS2TJ563T	1/4W 56K
R904	ERDS2TJ123T	1/4W 12K
R905	ERDS2TJ103T	1/4W 10K
R906	ERDS2TJ334T	1/4W 330K
R907	ERDS2TJ681T	1/4W 680
R910	ERDS2TJ122T	1/4W 1.2K
R913, 914	ERDS2TJ101T	1/4W 100
R915	ERDS2TJ331T	1/4W 330
R916	ERDS2TJ104T	1/4W 100K
R919, 920	ERDS2TJ122T	1/4W 1.2K
R921	ERDS2TJ103T	1/4W 10K
R922	ERDS2TJ224T	1/4W 220K
R923-925	ERDS2TJ331T	1/4W 330
R946	ERDS2TJ222T	1/4W 2.2K
R947	ERDS2TJ103T	1/4W 10K
R948	ERDS2TJ221T	1/4W 220
R949	ERDS2TJ472T	1/4W 4.7K
R950-954	ERDS2TJ562T	1/4W 5.6K
		CAPACITORS
C1	ECBT1H5R6KC5	50V 5.6P
C2	ECBT1H102KB5	50V 1000P
C3	ECBT1H2R2JC5	50V 2.2P
C4	ECBT1H181KB5	50V 180P
C5	ECBT1H5R6KC5	50V 5.6P
C6	ECBT1H3R3KC5	50V 3.3P
C7	ECBT1H4R7KC5	50V 4.7P
C8	ECBT1H3R3KC5	50V 3.3P
C9	ECBT1H2R2JC5	50V 2.2P
C10	ECBT1H180J5	50V 18P
C11	ECBT1H102KB5	50V 1000P
C101, 102	ECBT1H150JC5	50V 15P
C103	ECBT1H102KB5	50V 1000P
C104	ECBT1H181KB5	50V 180P
C105	ECEA0JU221B	6.3V 220U
C106	ECKR1H103ZF5	50V 0.01U
C107	ECKR1H223ZF5	50V 0.022U
C108	ECEA25M4R7RB	25V 4.7U
C109	ECEA1CU330B	16V 33U
C110, 111	ECBT1H102KB5	50V 1000P
C201, 202	ECKR1H103ZF5	50V 0.01U
C204	ECBT1H470J5	50V 47P
C205	ECKR1H223ZF5	50V 0.022U
C206	ECBT1H150JC5	50V 15P
C207	ECBT1C103MS5	16V 0.01U
C208	ECEA0JU101B	6.3V 100U
C209	ECEA1CK100B	16V 10U
C210-212	ECKR1H223ZF5	50V 0.022U
C213	ECBT1H101KB5	50V 100P
C214	ECEA1CK100B	16V 10U

Ref. No.	Part No.	Values & Remarks
C215	ECKR1H103ZF5	50V 0.01U
C216	ECEA1CK100B	16V 10U
C217	ECEA1HK2R2B	50V 2.2U
C220	ECEA1CK100B	16V 10U
C221	ECFR1E183KR	25V 0.018U
C222	ECQM1H473KV3	50V 0.047U
C224	ECBT1H220JU5	50V 22P
C225	ECBT1H180JC5	50V 18P
C226	ECKR1H103ZF5	50V 0.01U
C227	ECEA1CK100B	16V 10U
C228	ECBT1H100JC5	50V 10P
C301	ECEA1CU101B	16V 100U
C302	ECEA1HKR47B	50V 0.47U
C303	ECEA1HK010B	50V 1U
C304-306	ECEA1HK3R3B	50V 3.3U
C307, 308	ECFR1E273KR	25V 0.027U
C309	ECKR1H223ZF5	50V 0.022U
C310	ECFR1E473KR	25V 0.047U
C311	ECQP1471JZ3	50V 470P
C312	ECEA1VK4R7B	35V 4.7U
C313, 314	ECBT1H181KB5	50V 180P
C401, 402	ECKR1H103ZF5	50V 0.01U
C407, 408	ECBT1H101KB5	50V 100P
C409, 410	ECKR1H103ZF5	50V 0.01U
C411, 412	ECEA1VPS4R7B	35V 4.7U
C415, 416	ECKR1H103ZF5	50V 0.01U
C417	ECBT1H101KB5	50V 100P
C419	ECEA0JU101B	6.3V 100U
C421, 422	ECEA1CPS220B	16V 22U
C425	ECBT1H101KB5	50V 100P
C451, 452	ECEA1VPS4R7B	35V 4.7U
C453, 454	ECBT1H101KB5	50V 100P
C455, 456	ECBT1H102KB5	50V 1000P
C457, 458	ECFR1E223KR	25V 0.022U
C459, 460	ECFR1E682KR	25V 6800P
C461, 462	ECEA1VPS4R7B	35V 4.7U
C463, 464	ECEA0JPS330B	6.3V 33U
C471, 472	ECBT1H150JC5	50V 15P
C473, 474	ECBT1H100JC5	50V 10P
C475, 476	ECBT1H221KB5	50V 220P
C477, 478	ECEA1CK100B	16V 10U
C479, 480	ECFR1E123KR	25V 0.012U
C481, 482	ECFR1E683KR	25V 0.068U
C483, 484	ECFR1E562KR	25V 5600P
C485, 486	ECFR1E273KR	25V 0.027U
C487, 488	ECKR1H103ZF5	50V 0.01U
C501, 502	ECBT1H331KB5	50V 330P
C503, 504	ECFR1E333KR	25V 0.033U
C513, 514	ECEA1VPS4R7B	35V 4.7U
C516	ECEA1HK3R3B	50V 3.3U
C520, 521	ECKR1H103ZF5	50V 0.01U
C601, 602	ECEA1VPS4R7B	35V 4.7U

Ref. No.	Part No.	Values & Remarks
C603, 604	ECKR1H391KB5	50V 390P
C605, 606	ECEA1CPS220B	16V 22U
C607, 608	ECCR1H120K5	50V 12P (P)
C607, 608	ECCR1H100K5	50V 10P (PC)
C609, 610	ECKR1H102KB5	50V 1000P (P)
C609, 610	ECCR1H151K	50V 150P (PC)
C611, 612	ECKR1H223ZF5	50V 0.022U
C613	ECEA1VU470B	35V 47U (PC)
C614	ECEA1HU330B	50V 33U
C615	ECEA2AU100B	100V 10U
C616	ECEA2AN2R2SB	100V 2.2U (PC)
C701, 702	ECETS1HV682U	50V 6800U ⚠
C703	ECKR1H103ZF5	50V 0.01U ⚠
C704	ECEA1VU101B	35V 100U ⚠
C705	ECEA1CU101B	16V 100U
C706	ECKR1H103ZF5	50V 0.01U
C709, 710	ECKR1H103ZF5	50V 0.01U ⚠ (C709)
C711	ECEA1CU101B	16V 100U
C712	ECEA1VU470B	35V 47U ⚠
C713	ECEA0JU101B	6.3V 100U
C751	ECEA1CU102E	16V 1000U
C752	ECEA1CU470B	16V 47U
C753, 754	ECKR1H103ZF5	50V 0.01U
C755	ECBT1H221KB5	50V 220P
C756	ECEA1CPS220B	16V 22U
C771	ECKR2H103ZU	500V 0.01U ⚠
C791	ECKWNS103ZV	125V 0.01U ⚠
C851, 852	ECEA0JU101B	6.3V 100U
C853, 854	ECFR1E104KR	25V 0.1U
C891	ECFR1E392KR	25V 3900P
C901, 902	ECEA0JU102B	6.3V 1000U
C903	ECEA1HK010B	50V 1U
C905	ECKR1H331KB5	50V 330P
C906	ECEA0JU471B	6.3V 470U
C910	ECKR1H103ZF5	50V 0.01U
C911-913	ECEA1HK3R3B	50V 3.3U
C914	ECEA1VK100B	35V 10U
C915	ECEA1VU101B	35V 100U
C916	ECEA0JU102B	6.3V 1000U
C917	ECEA0JU101B	6.3V 100U
C919	ECEA1HK3R3B	50V 3.3U
C922	ECKR1H331KB5	50V 330P
C924	ECKR1H103ZF5	50V 0.01U

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