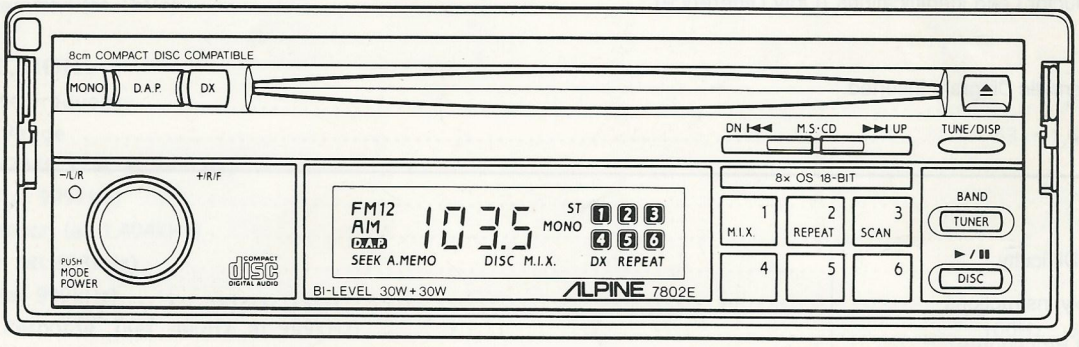
ALPINE SERVICE MANUAL

D.K SOUND SERVICE
1 WHITLEY CRES
CRAIGIEBURN 3064
PH 03 3081660

FM/AM Compact Disc Receiver

COMPACT disc DIGITAL AUDIO

- The model described in the manual is developed from Model 7915/7915E. For information that is not mentioned in this service manual, refer to the Service Manual 7915/7915E (68P40468W02).
- For the CD player mechanism parts (DP24A210) of this model, refer to the Service Manual • DP-S Series (68P13315W04).



7802E

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— Refer to the Service Manual 7915/7915E (68P40468W02).

Specifications

<CD SECTION>

System	Optical (Compact Disc System)
Quantizing Bit Number	16 Bit Linear System
Channels	2 channels
Distortion (at 1kHz)	0.03%
Frequency Response (Ref. 1kHz)	0 ± 3dB (17Hz)
	0 ± 2dB (127Hz~10.007kHz)
	0 ± 4dB (19.997kHz)
S/N Ratio	85dB
Separation (at 1kHz)	60dB
De-Emphasis (Ref. 1kHz)	4kHz : -20 ± 3dB
	16kHz : -20 ± 3dB
Noise Level (at VOL. Min)	0.1mV
Currents (at Play)	1.2A

<FM SECTION>

Intermediate Frequency	10.7 ± 0.1MHz
Frequency Range	87.5~108MHz
Usable Sensitivity (Mono 30dB S/N, at 98.1MHz)	15.2dBf
-10dB Limiting Sensitivity (Mono)	17.2 ± 6dBf
S/N Ratio (Stereo at 98.1MHz)	48dB
Image Rejection (Ref. -3dB Limiting, at 106.1MHz)	40dB
IF Rejection (Ref. -3dB Limiting, at 90.1MHz)	60dB
Distortion (Input 1mV at 98.1MHz)	1%
Frequency Response (Ref. 400Hz, at 98.1MHz)	100Hz : 0 ± 3dB
	10kHz : -12 ± 3dB
Stereo Separation (at 1kHz)	25dB

<AM SECTION>

Intermediate Frequency	450kHz
Frequency Range	531~1,602kHz
Sensitivity (20dB S/N, at 999kHz)	34dB
S/N Ratio (at 999kHz)	44dB
Image Rejection (at 1,404kHz)	50dB
IF Rejection (at 603kHz)	60dB
Distortion (at 999kHz)	2%
Frequency Response (Ref. 400Hz, at 999kHz)	100Hz : -3 ± 4dB
	4kHz : -12 ± 6dB

<GENERAL>

Power Supply	DC14.4V
Output Power (T.H.D. 10% at 1kHz)	2 Speaker Mode : 13W/ch/4ohm
	4 Speaker Mode : 4W/ch/4ohm
Pre-Output Voltage/Impedance	1.6V/10kohm
Semiconductors	34 IC's, 62 Transistors, 28 Diodes, 12 Zener Diodes
Dimensions (W×H×D)	Chassis : 178×50×153mm
	Nose : 178×50×15mm
Weight	2.2kg

<COMPACT DISC>

Track Pich	1.6μm
Modulation Frequency	44.1kHz
Transfer Rate	4.3218Mbit / sec.
Dimensions	120 / 80 × 1.2mm

Notes : Due to Continuing product improvement, specifications and designs are subject to change without notice.

FEATURES

- **FULL FRONT DIN™ CHASSIS**
- **HIGH POWER TUNER COMPACT DISC RECEIVER**
- **SELECTABLE FADER**
  This system allows you to use either the pre-amp or power amp fader. The pre-amp fader controls the signal level between the unit's internal amplifier and the pre-amp output going to an external amplifier. The power fader controls the signal between the front and rear speaker outputs.
- **30W+30W MAXIMUM POWER OUTPUT**
- **S.T.M. (SOURCE TONE MEMORY)**
  Automatically memorizes the settings of your Bass/Treble Controls for each source.
- **REAR PRE-AMP OUTPUT**
- **Q.R.B. (QUICK RELEASE BRACKET)**

< COMPACT DISC PLAYER FEATURES >

- **8 TIMES OVERSAMPLING DIGITAL FILTER**
- **HYBRID IDAC**
  Alpine's 18-bit Hybrid interpolative DAC combines 1-bit D/A conversion technology (for excellent low level linearity) and a multi-bit D/A converter (for best Dynamic Range, Signal-to-Noise Ratio, and lowest distortion and noise characteristics).
  The result is flawless accurate performance, outstanding resolution and detail along with superb Dynamic Range.
- **DUAL DAC SYSTEM**
- **MUSIC SENSOR UP/DOWN**
  For locating the beginning of the next track (up), or the track currently in playback (down).
- **FAST FORWARD/FAST BACKWARD**
- **M.I.X.**
  When the M.I.X. button is pressed, the microprocessor inside the 7802E will randomly select tracks for playback.

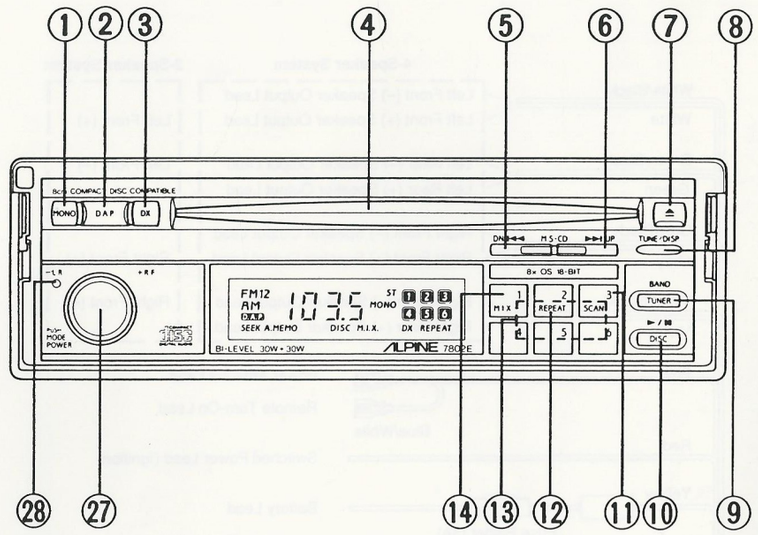
FEATURES

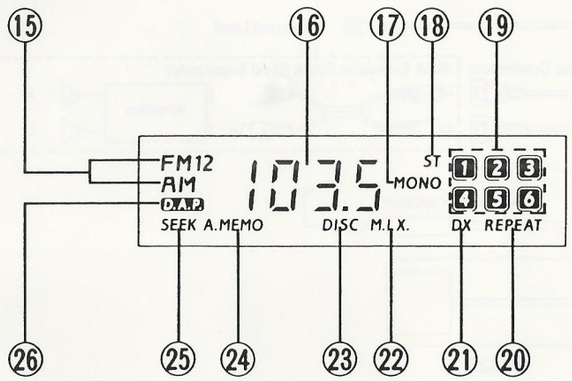
- **REPEAT**
- **3-INCH DISC COMPATIBLE**
  This unit plays 3-inch compact discs without using an adapter ring.
- **DISC SCAN**
  Locates the beginning of each track and plays the 10 seconds.
- **AUTOMATIC EJECT/RELOAD**
- **PAUSE**

< TUNER FEATURES >

- **T-10 II SP TUNER**
  Alpine's premier tuner utilizes a number of innovations to ensure stable, noise-free FM reception in both strong and weak signal areas.
- **A. MEMO (INTELLIGENT AUTO MEMORY)**
  In the Auto Memory mode, the 6 strongest stations each band will be stored automatically in the memory presets.
- **D.A.P. (DIRECT ACCESS PRESET)**
  D.A.P. allows storing both FM and AM stations on the same band, eliminating the need to press the band select button. Up to 6 stations can be stored in the D.A.P. band.
- **ETR/PLL DIGITAL FREQUENCY SYNTHESIZER**
- **LITETOUCH™ 24-STATION PRESETS**
  6 FM1, 6 FM2, 6 AM, 6 D.A.P.

CONTROLS AND INDICATORS

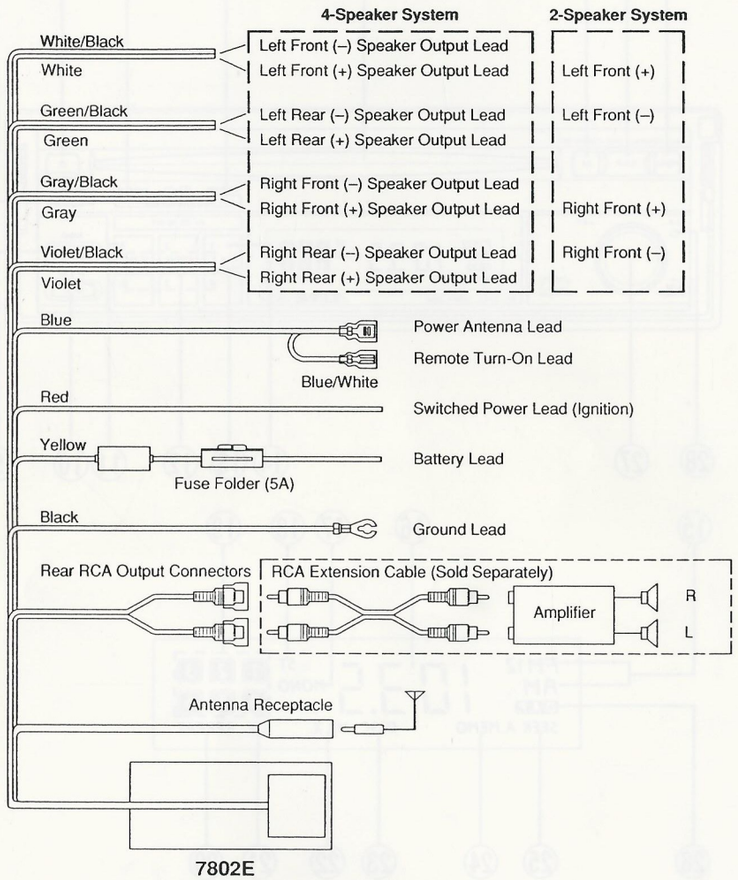




Listed below are all the Controls and their Indicators. Please see the Operation Section for explanations.

① **MONO Switch**
② **D.A.P. (Direct Access Presets) Button**
③ **DX (Local/Distance) Switch**
④ **Disc Slot**
⑤ **M.S. · CD DowN (⏮) Switch**
⑥ **M.S. · CD UP (⏭) Switch**
⑦ **Eject Button**
⑧ **TUNE/DISP Switch**
⑨ **BAND/TUNER Button**
⑩ **DISC Play/Pause Button (▶/II)**
⑪ **SCAN Button**
⑫ **REPEAT Button**
⑬ **Station Preset Buttons**
⑭ **M.I.X. Button**
⑮ **Band Indicator**
⑯ **Digital Display**
⑰ **MONO Indicator**
⑱ **STereo Indicator**
⑲ **Preset Address Indicators**
⑳ **REPEAT Indicator**
㉑ **DX (Distant) Indicator**
㉒ **M.I.X. Indicator**
㉓ **DISC Indicator**
㉔ **Auto MEMOry Indicator**
㉕ **SEEK Indicator**
㉖ **D.A.P. Indicator**
㉗ **POWER Button/Audio MODE Select Switch**
㉘ **Reset Switch**

CONNECTIONS



CAUTIONS ON SPEAKER LEADS:
- Do not connect a minus (–) lead to the other minus (–) lead in common.
- Do not connect the minus (–) lead to the chassis GND.

CONNECTIONS

This unit is designed for 12-volt DC negative ground operation. Check to be sure that your vehicle has this type of system before connecting the power cable.

Rear Output RCA Connectors
RED is Right and WHITE is Left.

Power Antenna Lead (BLUE)
When used with a power antenna, connect to the +B terminal of the power antenna. This lead provides a (+)12V output to the power antenna relay (when applicable). DO NOT USE WITH A NEGATIVE TRIGGER (GROUNDING-TYPE) OR LOGIC LEVEL (+5V) TRIGGER POWER ANTENNA. THIS MAY DAMAGE THE 7802E OR THE POWER ANTENNA.

Ground Lead (BLACK)
Connect this lead to a good chassis ground on the vehicle. Make sure the connection is made to bare metal and is securely fastened using a sheet metal screw. To avoid ground loops (which cause noise problems), always connect the ground leads of all audio components to the same point on the vehicle's chassis.

Remote Turn-On Lead (BLUE/WHITE)
Connect this lead to the remote turn-on lead of your amplifier or signal processor.

NOTE:
To protect the 7802E from damage caused by a shorted remote turn-on lead, this unit's remote turn-on circuitry will not provide more than 300 mA of current. Alpine power amplifiers and signal processors draw less than 5 mA on their remote turn-on lines, so using the 7802E to turn on several Alpine products should not be a problem. However, some other brands of amps and processors may require a turn on current in excess of 300 mA. In that case, a SPST relay should be used, with the 7802E remote turn-on lead as its driver, and the relay sending a fused (3A recommended) battery voltage to the amplifiers and processors.

Switched Power Lead (RED)
Connect this lead to an open terminal on the vehicle's fuse box or another unused power source which provides (+)12V only when the ignition is turned on or in the accessory position.

CAUTION:
You must be very careful when connecting wires to the vehicle's electrical system. Be sure you do not interface leads that are being used for factory components in the vehicle (like an on-board computer). When making connections at the fuse box, make sure there is an appropriate value fuse on the circuit you plan to use. Failure to do so may result in damage to the unit and/or the vehicle.

Battery Lead (YELLOW)
Connect this lead to the positive (+) terminal of the vehicle's battery. Install an additional 7A in-line fuse as close as possible to the battery's positive (+) terminal.

Fuse Holder (5A)

Antenna Receptacle

OPERATION

< BASIC OPERATION >

Initial System Start
When operating the system for the first time after installation or after the vehicle's battery has been disconnected and reconnected, set the volume level to its minimum, then carefully press the Reset switch ㉘ with a ball-point pen or any other pointed object.

How to adjust the volume and tone
1. Turn On the system by pushing the POWER On/Off switch ㉗ or any button (other then Eject ⑦ or Reset ㉘.)
2. Press the Audio MODE Select switch ㉗ to select each adjusting mode.
   VOL → TRE → BAS → BAL → FAD → VOL · · · ·
   Everytime this switch is pressed, the mode changes. Each mode indicator is then On. The mode indicator changes as each mode is selected.
3. Once the desired mode appears in the display, rotate the Audio MODE Select switch to make your adjustment. The display will return to the previous mode indication after five seconds.

Power Off
Press and hold down the POWER button ㉗ for more than two seconds to turn the unit off.

Cautions During CD Playback
Playing a disc while driving on a very bumpy road may result in skipping, but this will not scratch the disc or damage the player.

Mode Switching of the 7802E
1. Radio Mode
   Press the TUNER button ⑨ to put the unit into the radio mode. The Band indicator ⑮ (FM or AM) will appear in the display.
2. CD Mode
   Press the DISC button ⑩ to put the unit into the CD mode.

OPERATION

Indication example	Turn the Audio MODE Select switch.	
	Left	Right
VOL adjust. (–oo ~ 0) -26	Volume Minimum -oo	Volume Maximum 0
TRE adjust. (–7 ~+7) TR-4	Treble Minimum TR-7	Treble Maximum TR+7
BAS adjust. (–7 ~ +7) BS-3	Bass Minimum BS-7	Bass Maximum BS+7
BAL adjust. (– ~ 8) B---	Output at Left Channels only BL 8	Output at Right Channels only BR 8
FAD adjust. (– ~ 8) F---	Output at Rear Channels only FR 8	Output at Front Channels only FF 8

NOTES:

1. Your player accepts only one disc at a time for playback. Do not attempt to load more than one disc.
2. Make sure the label side is facing up when you insert the disc. Your player will automatically eject any disc that is inserted incorrectly. If the player continues to eject a correctly inserted disc, push the Reset switch ㉘ with a pointed object such as a ball-point pen.
3. You can play 3-inch CDs in this player without using an adapter ring.
4. Make sure your discs are labeled as shown below:

5. Playing a disc while driving on a very bumpy road may result in skipping, but this will not scratch the disc or damage the player.

S.T.M. (Source Tone Memory)

The Bass and Treble controls can be individually set for each source (FM, AM and CD). Once set, their positions are automatically memorized. Whenever the source is reselected, the Bass and Treble controls will return to their preset configuration for that source.

OPERATION

< TUNER OPERATION >

MANUAL and AUTOMATIC SEEK TUNING

The radio does not operate in the CD play mode. To listen to the radio, press the TUNER button ⑨.

1. Turn the power on by pressing the Power button ㉗. Continue to rotate it until the desired volume level is reached.
2. Press the TUNER button ⑨ to activate the radio mode.
3. Press the TUNER button ⑨ to select the band (AM, FM1, FM2). The Radio Band indicator ⑮ will be on, and the ST (stereo) indicator ⑱ will also be on during FM stereo reception.
4. To automatically tune, press the TUNE switch ⑧ until the SEEK indicator ㉕ is displayed. Press the UP ⑥ or DN ⑤ switch and the frequency changes to the next receivable station. Repeat the procedure until your desired station is obtained. When the radio reaches the upper or lower end of the band, it automatically starts scanning from the opposite end. To return to manual tuning, press the TUNE switch ⑧ a second time (the SEEK indicator ㉕ disappears).
5. To manually tune, press the TUNE switch ⑧ until the SEEK ㉕ and A. MEMO ㉔ indicators disappear in the display. Press the Tuning UP switch ⑥ for higher frequency broadcasts, and press the Tuning DN switch ⑤ for lower frequency broadcasts.
6. Adjust the volume ㉗, bass ㉗, treble, balance, and fader to suit your listening preference.
7. To switch from FM to AM or vice versa, press the BAND/TUNER button ⑨.

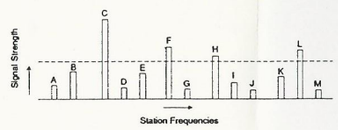
FM Stereo/Mono Switching

You can select the Stereo/Mono - Auto Switching or Mono mode for FM reception by pressing the MONO switch ①. In the Auto switching mode, you can receive stereo broadcasting in Stereo, and monaural broadcasting in MONO.

In the Mono mode you will always receive the broadcast in Mono even if the broadcast is stereo. The Mono only mode quiets the noisy stereo signal of weaker broadcasts. The STereo indicator ⑱ will not appear while the Mono mode is selected.

Local/Distant (DX) Sensitivity Switching for FM and AM

You can select the radio SEEK sensitivity (local or distant (DX)) by pressing the DX switch ③ for more than two seconds. In the distant mode, with DX indication ㉑ in the display, the radio tunes in both strong and weak stations (all stations from A to M in the illustration). In the local mode, with no DX indication ㉑, the radio tunes in only strong stations (stations C, F, H and L in the illustration below).



OPERATION

Manual Memory Preset

Follow the instructions below to enter stations into preset memory:

1. Select the tuning band (FM1, FM2 or AM) with the BAND/TUNER button ⑨.
2. Tune in your desired station using Manual or Auto Seek tuning.
3. Press Preset button number 1 ⑬ for more than two seconds. The matrix display ⑲ will begin to blink. The tuning band (FM1, FM2) can be changed by pressing the BAND button ⑨ if you wish to change bands. Press that preset button again while the display is blinking (within 5 seconds).
4. The station you selected will be placed into Preset Memory number 1 and will appear in the display.

   NOTE:

   If a preset memory has already been set in the same address, it will be cleared and the new station will be memorized.
5. Follow steps 2-3 for the remaining presets (2 - 6). This procedure should be followed for FM1, FM2, and AM.

NOTE:

While setting the memory presets you can switch back and forth between FM1 and FM2. However, while in this mode you cannot switch back and forth from AM to FM.

OPERATION

Auto Memory Preset

1. Press the TUNE switch ⑧ to light up the A. MEMO indicator ㉔.
2. Select the desired tuning band (FM1, FM2 or AM) with the BAND/TUNER button ⑨.
3. Press the UP ⑥ or DN ⑤ switch. The tuner will automatically seek the six strongest stations in the selected band and memorize them in order of their signal strength. These stations are automatically placed in the preset memory with the strongest station in Preset No. 1 and the 6th strongest station in Preset No. 6. When seeking stations, the tuner first seeks in the local tuning mode. If less than 6 stations are memorized, the tuner seeks again in the distant (DX) mode.
4. After finishing the Auto Memory Preset, the tuner goes to the station placed in Preset Memory No. 1. If no stations are memorized, it returns to the original station you were listening to before the Auto Memory Preset procedure began.

Preset Tuning

After the preset stations have been memorized, you can tune in your desired station (within the band displayed) with one touch of a button.

1. Select the tuning band (FM1, FM2 or AM) with the BAND/TUNER button ⑨.
2. Press any one of the Preset buttons ⑬ and the number of that preset will illuminate in the matrix display.
3. The frequency of the station placed in the selected preset location will appear in the display and the station will be tuned in.

NOTE:

For D.A.P. tuning, please see below.

D.A.P. (Direct Access Preset)

This feature allows the storage of FM and AM presets on the same band. Press the D.A.P. button ② to light up the D.A.P. indicator ㉖. To program stations into the D.A.P. band, follow steps 1 - 3 as described in the Manual Memory Preset section.

NOTE:

The Auto Memory Preset procedure works in the D.A.P. mode.

However, it will only store FM (if FM is selected at that time) or AM (if AM is selected) in all 6 D.A.P. memory locations.

Accessing the D.A.P. Presets

1. Press the D.A.P. button ② for more than two seconds. The D.A.P. indicator ㉖ will illuminate in the display.
2. Press one of the Preset buttons ⑬.
3. The frequency of the station placed in the selected D.A.P. location will appear in the display.

OPERATION

< CD OPERATION >

Normal Play

1. Load the disc, or if there already is a disc in the player, press the DISC (▶/II) button ⑩.
2. The Display ⑯ will show "T-00" for a second, then "T-01" will be displayed and the first track on the first disc will begin playback.
3. After the last track on the last disc is played back, the pickup will return to the beginning of the first track of the first disc and begin playback from that point.

Pause

While the disc is playing, press the DISC (▶/II) button ⑩ to temporarily stop playback. The Display ⑯ will show "PAU". To resume playback, press the DISC button (▶/II) ⑩ again.

Track/Elapsed Time Display Switching

Press the DISP switch ⑧ for the Track Number being played and the Elapsed Time for the current track to be shown in the Digital Display ⑯. See below.

T-03	8'35
Track Mode	Time Mode

Music Sensor (Skip)

This feature allows you to access the beginning of your musical track selection simply and quickly. It is functional in the play or pause mode. The Digital Display ⑯ shows the track number you have selected.

OPERATION

- To advance to the next track on the disc, press and release the ▶▶I side of the M.S.· CD switch ⑥.

1. Playback stops, the pickup moves up to the beginning of the next track. That track number appears in the Digital Display ⑯.
2. Playback begins immediately.
3. If you wish to access a track further ahead on the disc, continue pressing and releasing the ▶▶I side of the M.S.· CD switch ⑥ until you reach the track of your choice.

- To replay the track that is currently playing, press and release the I◀◀ side of the M.S.· CD switch ⑤.

1. Playback stops, and the pickup moves back to the beginning of the current track. The track number in the Digital Display ⑯ remains the same.
2. Playback begins immediately from the beginning of the track.
3. If you wish to access a track further towards the beginning on the disc, continue pressing and releasing the I◀◀ side of the M.S.· CD switch ⑤ until you reach the track of your choice.

Fast Forward/Fast Backward

The Fast Forward/Backward feature works in both play and pause modes.

1. To rapidly move the pickup forward, press the M.S. UP (▶▶I) switch ⑥ and hold it down for more than one second while scanning begins.
2. To rapidly move the pickup backward, press the M.S. DN (I◀◀) switch ⑤ and continue holding it down while the unit scans.
3. Continue holding the UP (▶▶I) ⑥ or DN (I◀◀) ⑤ switch until you reach the point where you want to resume playback, then release the switch.
4. When the pickup reaches the end of the disc, if will begin playback from the beginning of the first track on the next disc.

Repeat (One)

This feature allows you to continuously playback a single track.

1. Press the REPEAT button ⑫. The REPEAT indicator ⑳ will illuminate.
2. The musical track shown in the display will be played back repeatedly.
3. To defeat the repeat function, press the REPEAT button ⑫ a second time.

Disc Scan

Press the SCAN button ⑪ and the unit will playback the first 10 seconds of each track in succession. This function is useful in searching ahead on a disc for a specific selection. Pressing the SCAN button ⑪ a second time deactivates the function.

M.I.X. (Random Play)

Press the M.I.X. button ⑭ while the unit is in the play or pause mode. Musical tracks on the selected disc will be played back in a random sequence generated by the microprocessor. After all the tracks on the disc have been played back once, the player will begin a new random sequence.

Operation Check

Note : For details on operation, refer to Owner's Manual.

1. Radio Operations

(1) Push the Encoder Rotary Volume more than 2 sec. ..... The set should be turned off.
To be changed in order of TRE→BAS→BAL→FAD→VOL, each time the Encoder Rotary Volume is pushed.
(2) To be changed in order of FM1→FM2→AM, each time the **BAND** key is pushed.
(3) To be changed in order of SEEK→A.MEMO→Manual SEEK, each time the **TUNE** key is pushed.
(4) Check SEEK and Manual SEEK operations using **UP / DN** keys.
(5) Push **D.A.P.** key. ..... **D.A.P.** indicator should be turned on.
FM and AM can be memorized at random.
(6) Check Preset status with keys 1 to 6.
(7) **MONO** key on ..... **MONO** indicator should be turned on.
(8) Check Auto Memory operation.
(9) **DX** key on ..... **DX** indicator should be turned on.
(10) Check Balance operation.
(11) Check Fader operation.

2. CD Operations

For CD Operations, refer to the Service Manual 7915 / 7915E (68P40468W02).

Description of IC Terminal

35139W01 (IC601)

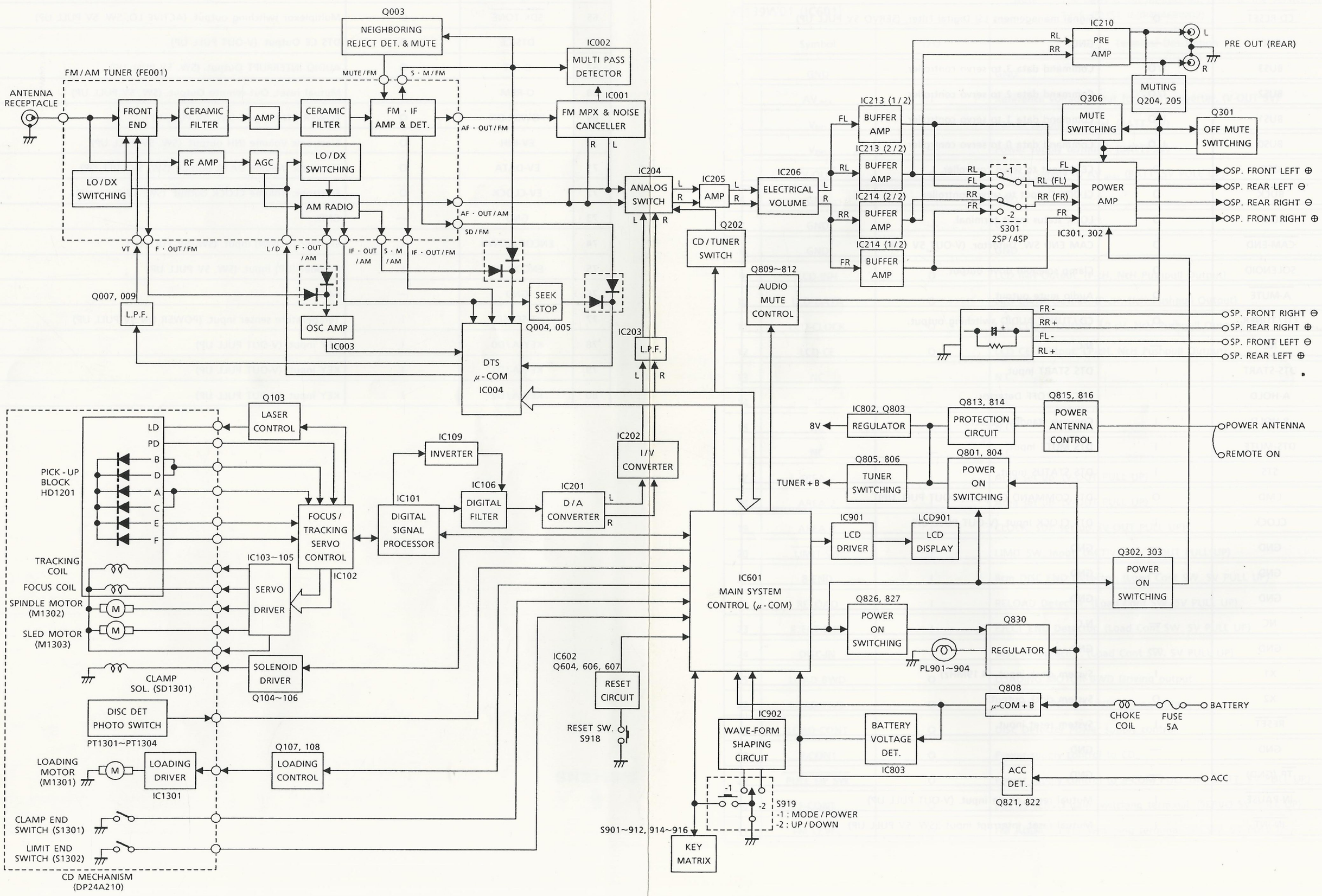
Note : The parts is not mentioned, refer to the Service Manual 7915/7915E (68P40468W02).

No.	Symbol	I/O	Terminal Description
1	GND	—	GND.
2	AV_{REF}	I	Reference voltage input for A/D converter. (V-OUT 5V)
3	V_{DD}	—	Power supply terminal. (BATT. 5V)
4	V_{DD}	—	Power supply terminal. (BATT. 5V)
5	$\overline{\text{V-OUT}}$	O	Output Supply to AV_{REF}. (BATT. 5V PULL UP)
6	GND	—	GND.
7	GND	—	GND.
8	GND	—	GND.
9	LCD-INH	O	LCD INH Output. (P-cH, NcH Pushpull Output)
10	LCD-DATA	O	LCD DATA Output. (P-cH, NcH Pushpull Output)
11	LCD-CLOCK	O	LCD CLOCK Output. (P-cH, NcH Pushpull Output)
12	LCD-CE	O	LCD CE Output. (P-cH, NcH Pushpull Output)
13	NC	—	N.C.
14	NC	—	N.C.
15	NC	—	N.C.
16	NC	—	N.C.
17	AREA 1	I	Area set up. (V-OUT PULL UP)
18	AREA 2	I	Area set up. (V-OUT PULL UP)
19	AREA 3	I	CLOCK, SDK set up. (V-OUT PULL UP)
20	$\overline{\text{LIMIT-SW}}$	I	LIMIT SW. Input. (ACTIVE LO, V-OUT PULL UP)
21	8-END	I	8cm DISC END Detector. (Load Cont SW. 5V PULL UP)
22	RELOAD	I	RELOAD Detector. (Load Cont SW. 5V PULL UP)
23	EJECT-END	I	EJECT END Detector. (Load Cont SW. 5V PULL UP)
24	DISC-IN	I	DISC IN Detector. (Load Cont SW. 5V PULL UP)
25	LOAD-BWD	O	LOADING MOTOR BWD Driving output.
26	LOAD-FWD	O	LOADING MOTOR FWD Driving output.
27	LOAD-CONT	O	DISC Detector Power supply control.
28	V-CONT	O	Power supply control to CD.
29	$\overline{\text{PULL UP SW}}$	O	Power supply control to μ-COM PULL UP. (BATT. 5V PULL UP)
30	F-CONT	O	FOCUS SERVO gain switching terminal. (SERVO 5V PULL UP)
31	FM LEVEL	O	FM AUDIO LEVEL switching terminal. (Hi SW. 5V PULL UP)

No.	Symbol	I/O	Terminal Description
32	$\overline{\text{CD-RESET}}$	O	Signal management LSI Digital Filter. (SERVO 5V PULL UP)
33	GND	—	GND.
34	BUS3	I/O	Command data 3 to servo controller.
35	BUS2	I/O	Command data 2 to servo controller.
36	BUS1	I/O	Command data 1 to servo controller.
37	BUS0	I/O	Command data 0 to servo controller.
38	CCE	O	CE Output to servo controller.
39	BUCK	O	CLOCK Output to servo controller.
40	LOCK	O	LOCK status input terminal.
41	$\overline{\text{CAM-END}}$	O	CAM END SW. Detector. (V-OUT 5V PULL UP)
42	SOLENOID	O	Clamp solenoid drive output.
43	$\overline{\text{A-MUTE}}$	O	Audio mute output.
44	$\overline{\text{CD}}$/TUNER	O	CD/TUNER AUDIO switching output.
45	NC	—	N.C.
46	DTS-START	I	DTS START Input.
47	A-HOLD	I	ACC ON/OFF Detector.
48	B-HOLD	I	Coercive standby Detector.
49	DTS-MUTE	I	DTS MUTE Input.
50	STS	I	DTS STATUS Input.
51	CMD	O	DTS COMMAND Output. (V-OUT PULL UP)
52	CLOCK	I	DTS CLOCK Input. (V-OUT PULL UP)
53	GND	—	GND.
54	GND	—	GND.
55	GND	—	GND.
56	NC	—	N.C.
57	GND	—	GND.
58	X1	I	System clock input. (4.19MHz)
59	X2	O	System clock output.
60	$\overline{\text{RESET}}$	I	System reset input.
61	GND	—	GND.
62	$\overline{\text{TP}}$ (GND)	—	GND.
63	$\overline{\text{IN-PAUSE}}$	I	Mutual reset, pause input. (V-OUT PULL UP)
64	$\overline{\text{IN-INT}}$	I	Mutual reset, interrupt input. (SW. 5V PULL UP)

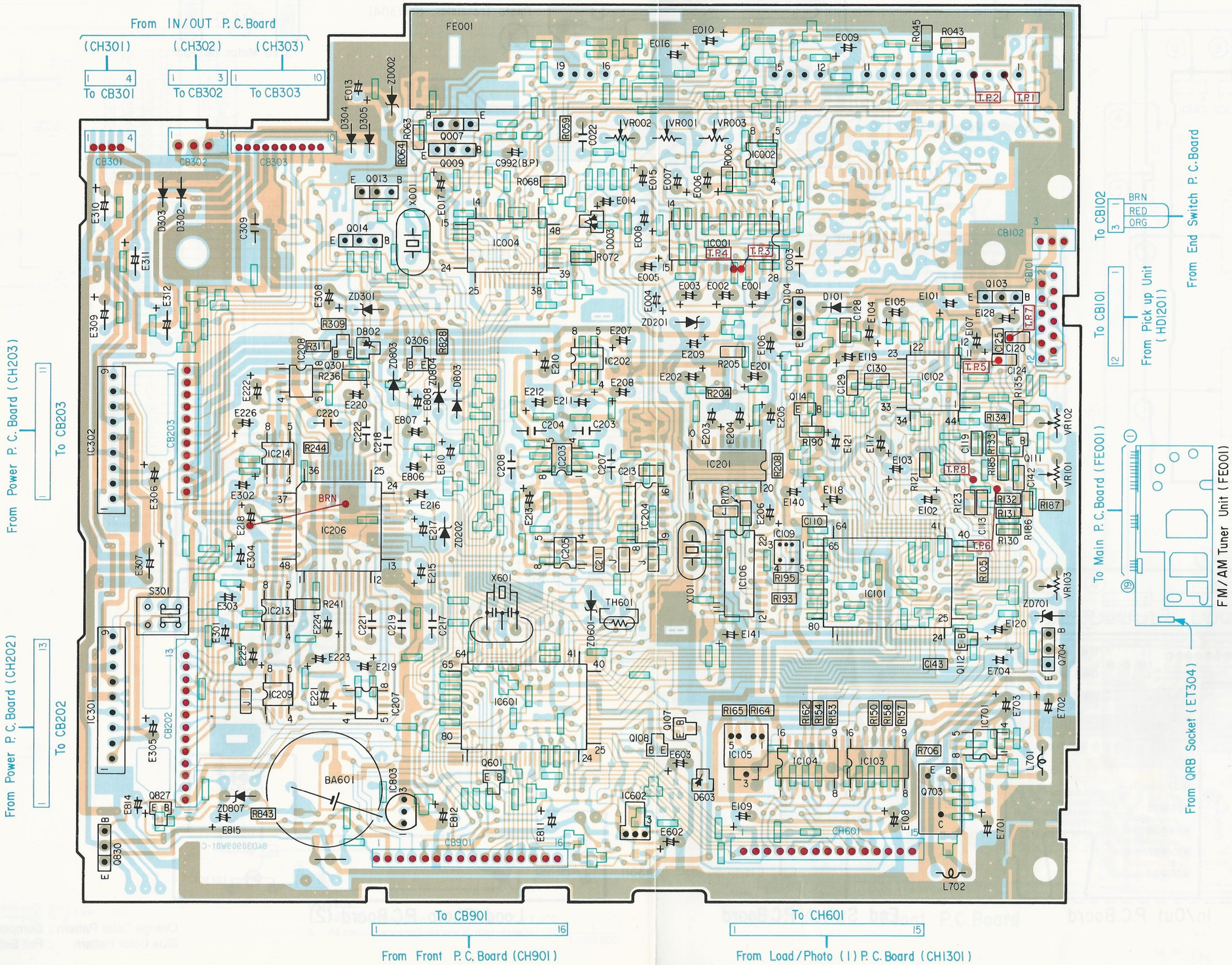
No.	Symbol	I/O	Terminal Description
65	$\overline{\text{SDK-TONE}}$	O	Multiplexor switching output. (ACTIVE LO, SW. 5V PULL UP)
66	DTS-CE	O	DTS CE Output. (V-OUT PULL UP)
67	O-INT	O	AUDIO INTERRUPT Output. (SW. 5V PULL UP)
68	O-REM	O	Mutual reset, Out remote Output. (SW. 5V PULL UP)
69	POWER-ON	O	POWER ON Output. (SW. 5V PULL UP)
70	EV-INH	O	Electronic Volume INH output. (SW. 5V PULL UP)
71	EV-DATA	O	Electronic Volume DATA output. (SW. 5V PULL UP)
72	EV-CLOCK	O	Electronic Volume CLOCK output. (SW. 5V PULL UP)
73	GND	—	GND.
74	ENCOD-DOWN	I	Encoder (DOWN) input. (SW. 5V PULL UP)
75	ENCOD-UP	I	Encoder (UP) input. (SW. 5V PULL UP)
76	GND	—	GND.
77	T-SENSE	I	Temperature senser input. (POWER ON 5V PULL UP)
78	KEY-A/D0	I	KEY input. (V-OUT PULL UP)
79	KEY-A/D1	I	KEY input. (V-OUT PULL UP)
80	KEY-A/D2	I	KEY input. (V-OUT PULL UP)

Block Diagram



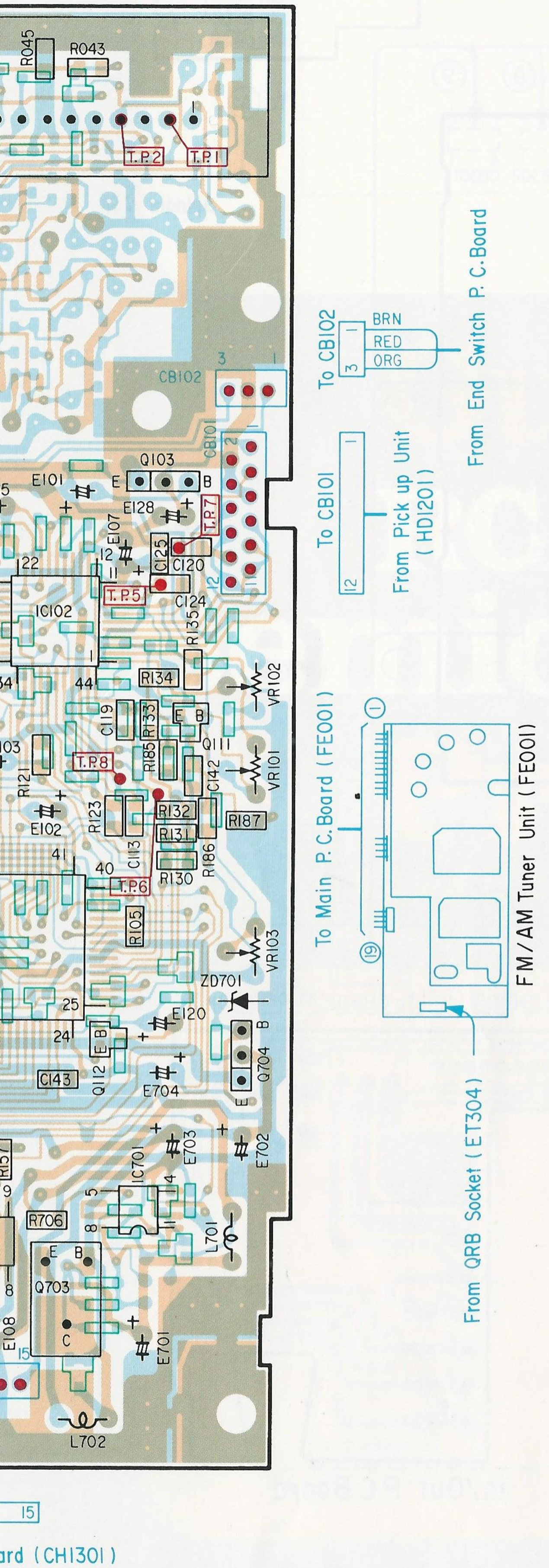
Parts Layout on P.C. Boards and Wiring Diagram (1/2)

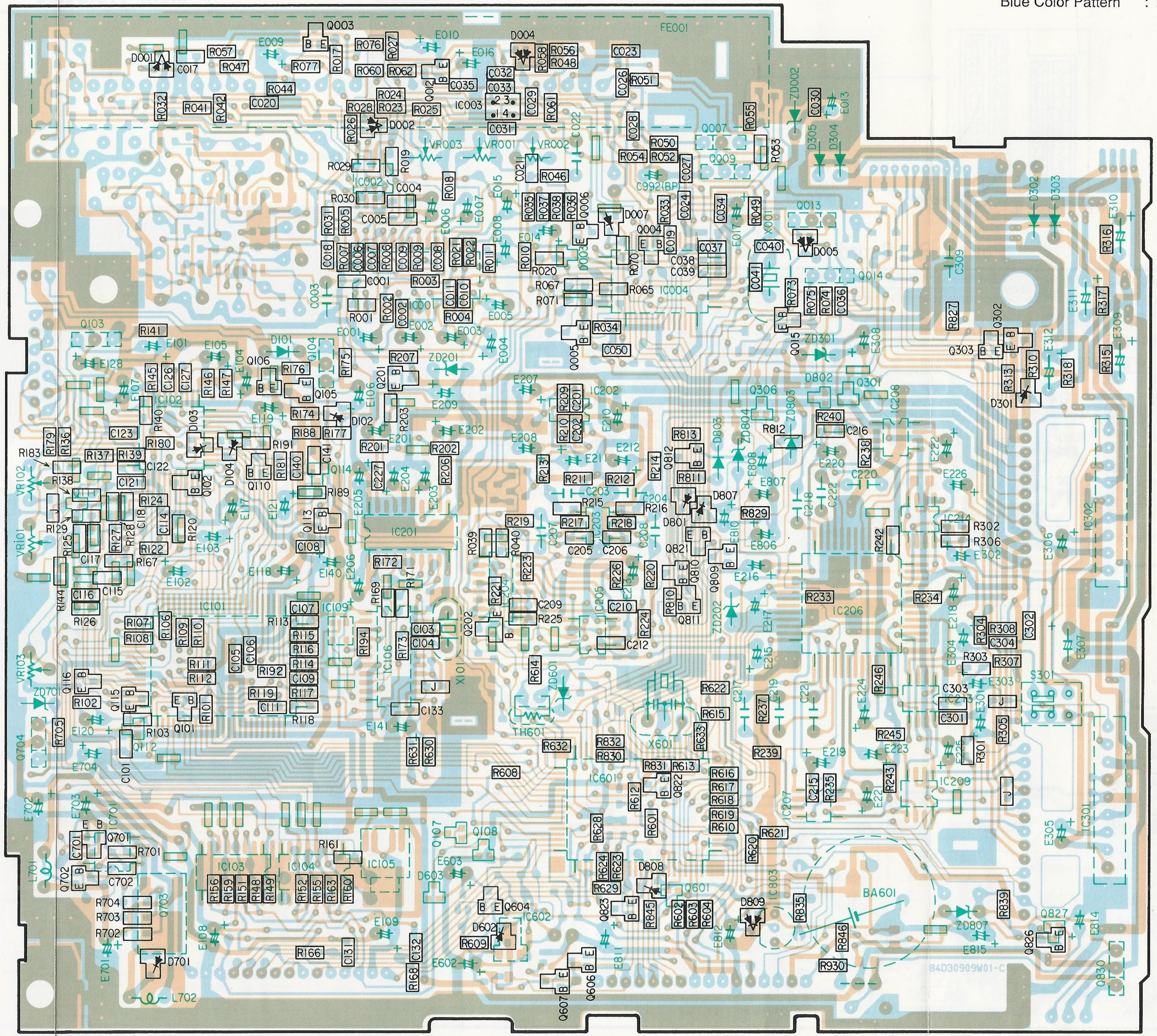
Main P. C. Board (Component Side View)



Main P. C. Board (Foil Side View)

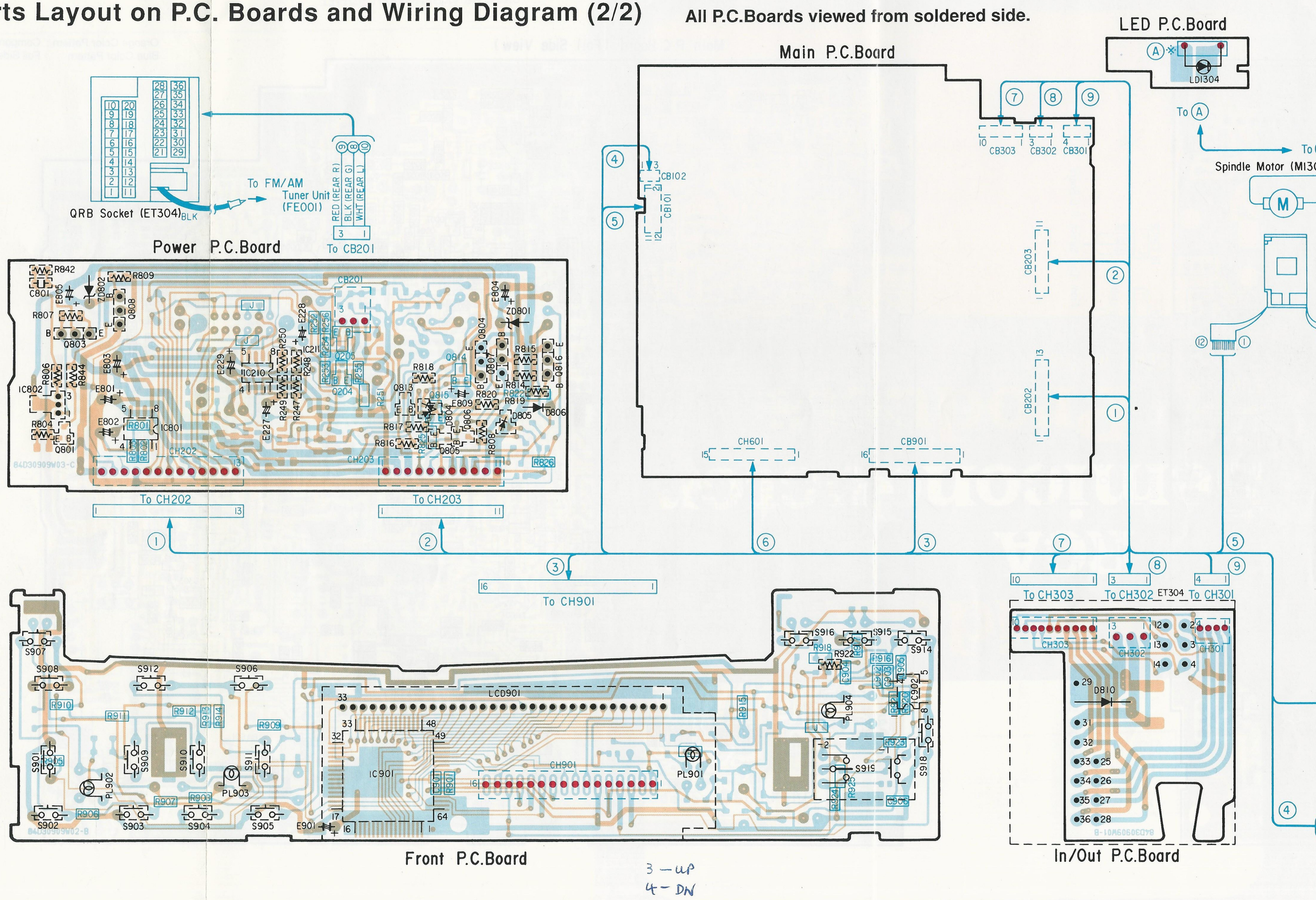
Orange Color Pattern : Component Side Pattern
Blue Color Pattern : Foil Side Pattern



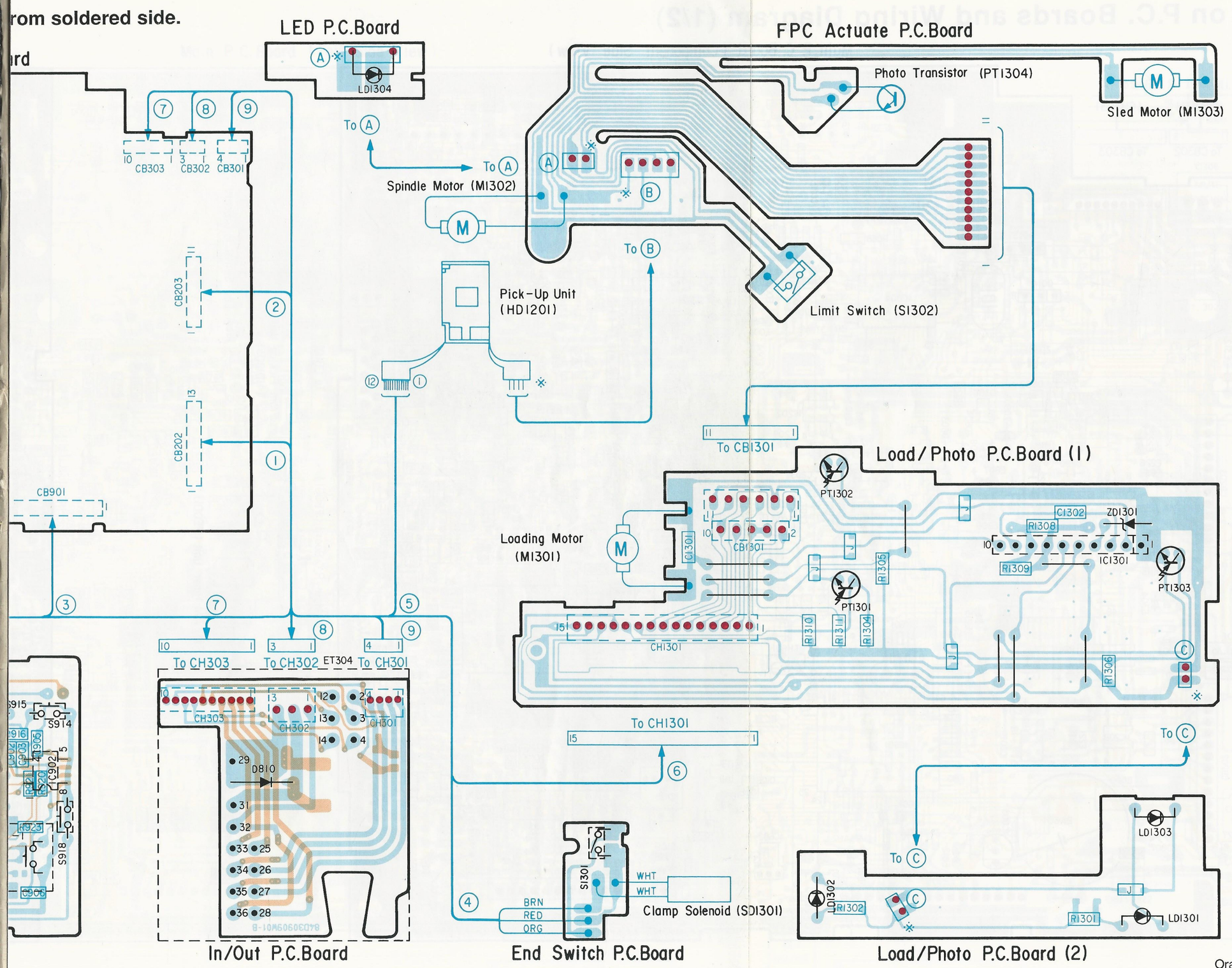


Parts Layout on P.C. Boards and Wiring Diagram (2/2)

All P.C.Boards viewed from soldered side.

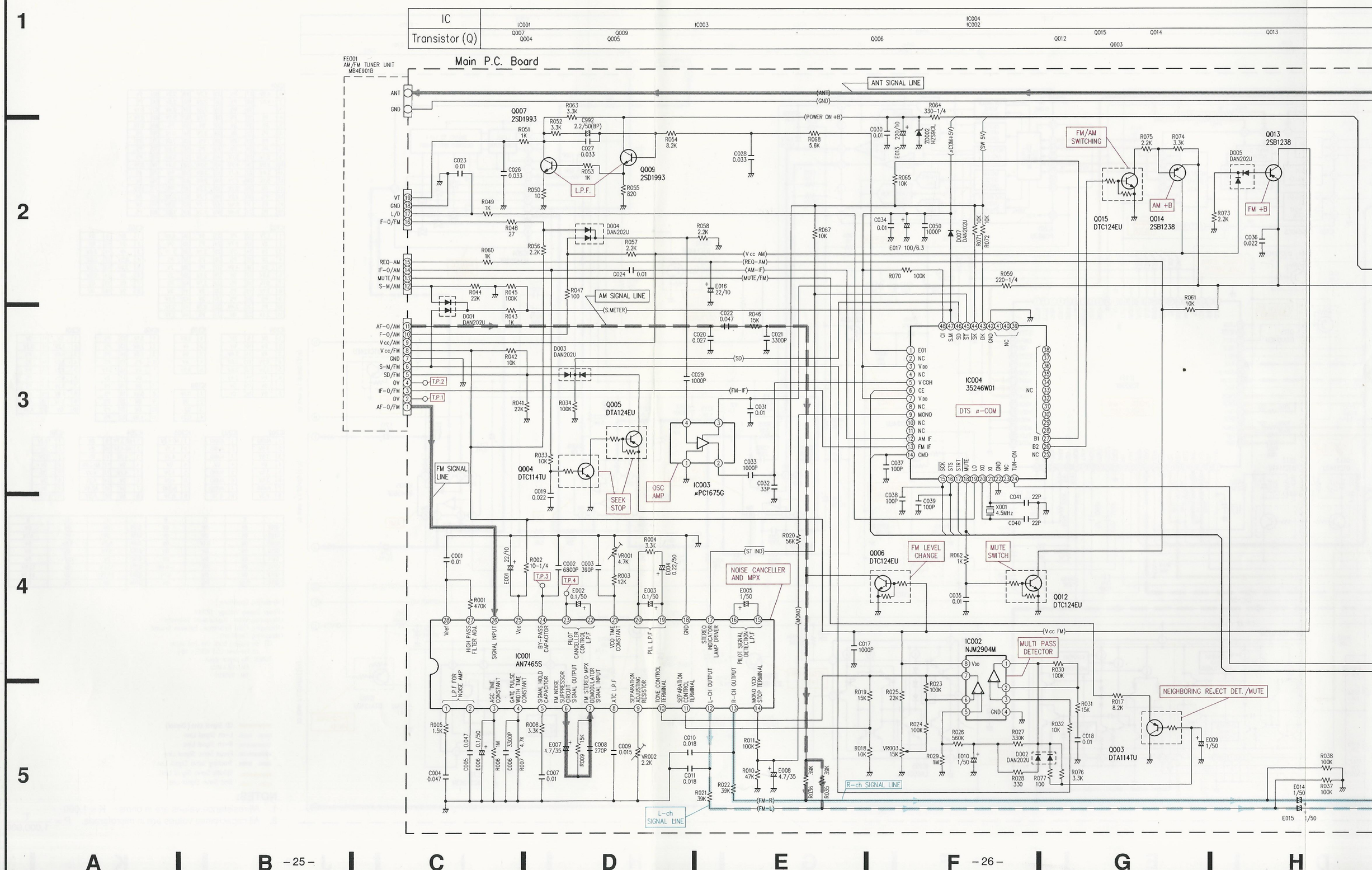


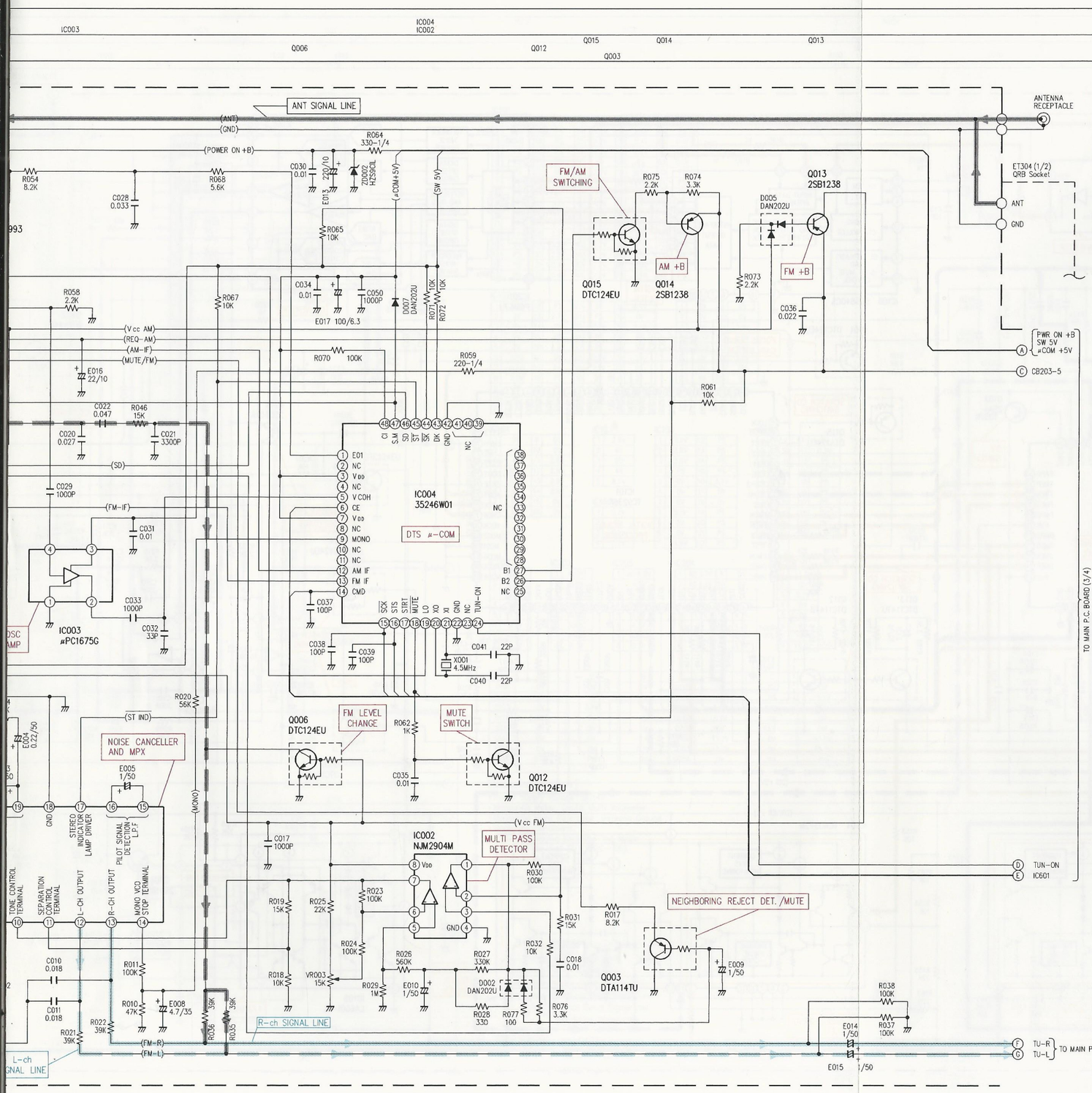
3 — up
4 — DN



Orange Color Pattern : Component Side Pattern
Blue Color Pattern : Foil Side Pattern

Schematic Diagram (1/4)





IC001

1	2.3V	15	2.3V
2	1.7V	16	2.3V
3	1.3V	17	4.8V
4	0V	18	0V
5	2.4V	19	2.4V
6	1.3V	20	2.4V
7	1.1V	21	1.3V
8	0V	22	2.1V
9	0.25V	23	2.1V
10	4.5V	24	2.4V
11	1.7V	25	8.8V
12	2.8V	26	2.3V
13	2.8V	27	1.6V
14	0V	28	2.4V

IC002

1	0.1V
2	0.2V
3	0.2V
4	0V
5	0.2V
6	0.8V
7	0V
8	8.6V

IC003

1	3.9V
2	0V
3	1.1V
4	4.8V

IC004

1	1.2V	16	PS	30	NC	46	4.5V
2	1.4V	17	PS	31	NC	47	4.6V
3	5.1V	18	5.1V	32	NC	48	4.6V
4	1.7V	19	0V	33	NC		
5	3.2V	20	PS	34	NC		
6	5.1V	21	PS	35	NC		
7	0V	22	0V	36	NC		
8	0V	23	0V	37	NC		
9	0V/5.1V ST/MONO	24	5.1V/0V TUNER ON/OFF	38	NC		
				39	NC		
10	0V			40	NC		
11	0V	25	4.7V	41	NC		
12	0V	26	0V	42	0V		
13	0V	27	1.1V	43	0V		
14	PS	28	NC	44	4.2V		
15	PS	29	NC	45	4.2V		

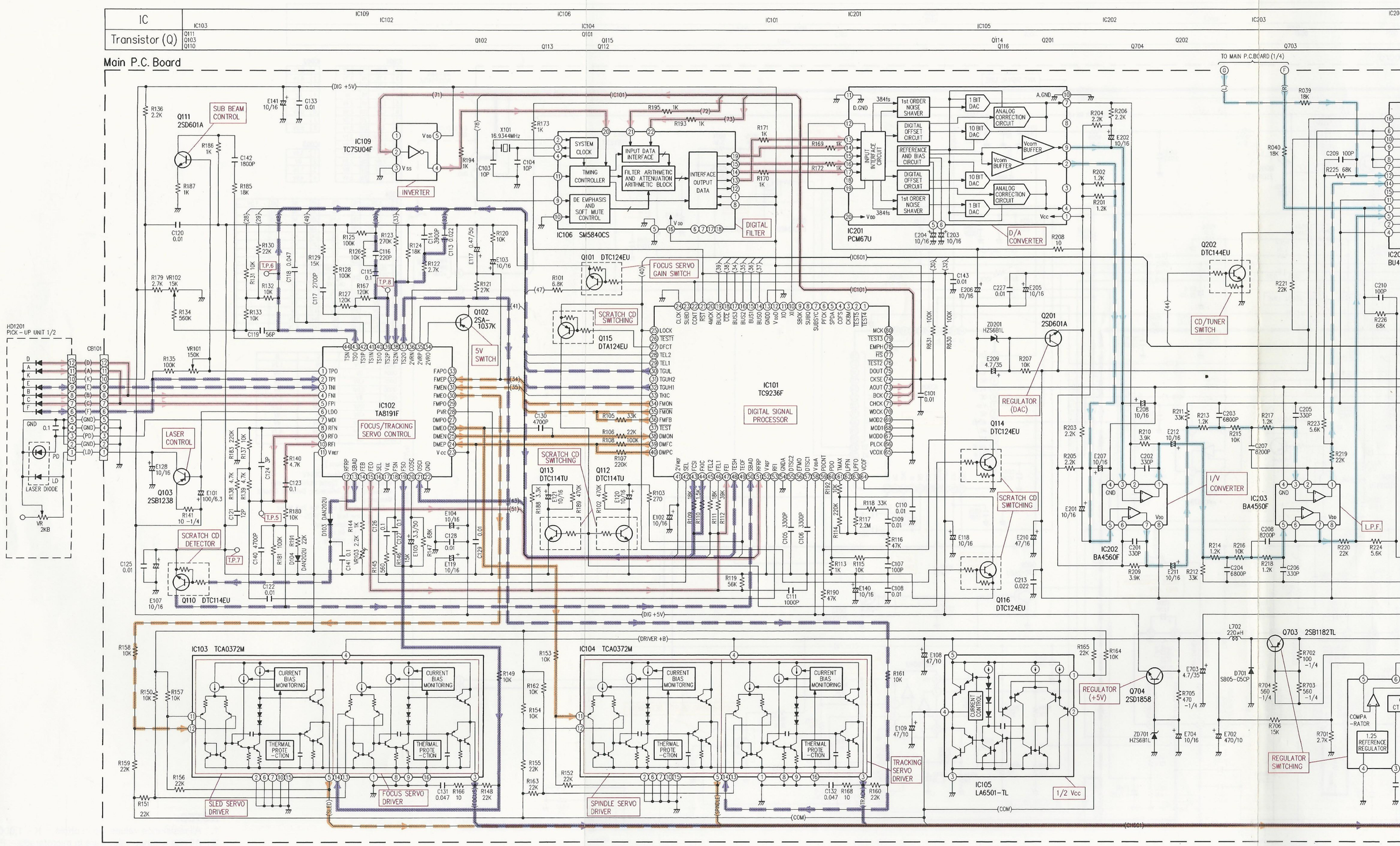
	E	C	B
Q003	0.7V	0V	1.2V
Q004	0V	4.9V	0V
Q005	4.8V	0.2V	5V
Q006	8.6V	0V	0V
Q007	8V	8.6V	8.7V
Q009	0.6V	9.3V	1.2V
Q012	4.9V	0V	0V
Q013	8.7V	8.6V	8V
Q014	8.7V	0.5V	8.7V
Q015	0V	8.7V	0V

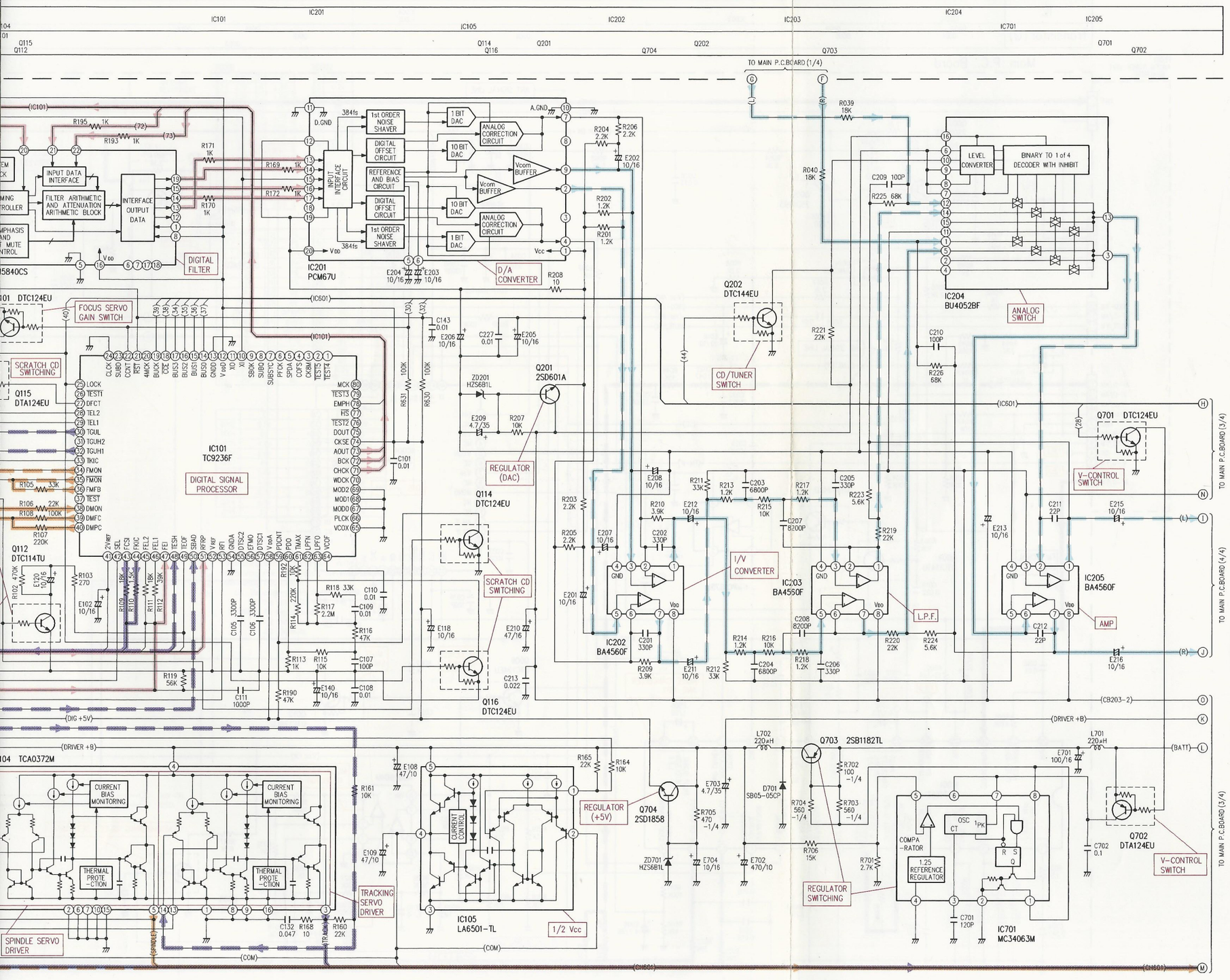
[Measuring Conditions]
* Power Supply Voltage : DC14V
* Measuring Meter : Digital Multi Voltmeter
* Measuring Point Reference : Between Ground
* Measuring Conditions :
  CD : Be playing back the 2nd Music of the test CD (YEDS – 18).
  TUNER : No signal input
  FM : 98.1 MHz
  AM : 999kHz

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (2/4)





IC101

1	4.8V	17	PS	33	1.7V	49	2.2V	65	0V
2	4.8V	18	PS	34	2.2V	50	2.5V	66	PS
3		19	PS	35	2.2V	51	2.4V	67	0.1V
4	PS	20	PS	36	2.1V	52	2.2V	68	0.1V
5	PS	21	5V	37	5V	53	PS	69	0.1V
6	PS	22	0V	38	2.2V	54	0.1V	70	PS
7	PS	23	PS	39	PS	55	2.6V	71	PS
8	PS	24	0V	40	PS	56	2.6V	72	PS
9	5.1V	25	5.1V	41	4.3V	57	5.6V	73	PS
10	2.5V	26	4.8V	42	5.1V	58	5.1V	74	5.1V
11	2.4V	27	4.7V	43	2.6V	59	PS	75	0V
12	5.1V	28	2.2V	44	2.6V	60	PS	76	5V
13	0V	29	2.2V	45	2.2V	61	PS	77	5.1V
14	PS	30	2.2V	46	2.2V	62	2.3V	78	0V
15	PS	31	0.4V	47	2.2V	63	2.5V	79	5V
16	PS	32	0.4V	48	2.2V	64	1.6V	80	PS

IC102

1	1.7V	12	PS	23	5V	34	4.4V
2	2V	13	2.7V	24	PS	35	0V
3	2V	14	2V	25	2.1V	36	2.1V
4	2V	15	PS	26	PS	37	PS
5	2V	16	4.9V	27	PS	38	2V
6	3.9V	17	0V	28	2.1V	39	2V
7	0.1V	18	PS	29	2.1V	40	PS
8	2.1V	19	PS	30	2V	41	2V
9	PS	20	PS	31	2V	42	2.1V
10	PS	21	2.4V	32	2.1V	43	2.1V
11	2.1V	22	0V	33	PS	44	2.1V

IC103

1	0V	9	0V
2	0V	10	0V
3	4V	11	2.6V
4	8.5V	12	2.6V
5	3.5V	13	2.6V
6	0V	14	2.6V
7	0V	15	0V
8	0V	16	0V

IC104

1	0V	9	0V
2	0V	10	0V
3	4V	11	2.6V
4	8.5V	12	2.6V
5	3.5V	13	2.6V
6	0V	14	2.6V
7	0V	15	0V
8	0V	16	0V

IC105

1	2.6V
2	4V
3	0V
4	4V
5	8.5V

IC109

1	0.1V
2	0V
3	0.1V
4	0.2V

IC106

1	5.1V	12	PS
2	2.6V	13	PS
3	2.6V	14	PS
4	PS	15	PS
5	0V	16	5.1V
6	0V	17	0V
7	0V	18	0V
8	5.1V	19	PS
9	0V	20	PS
10	0V	21	PS
11	4.9V	22	PS

IC201

1	5V	11	0V
2	3.5V	12	0.3V
3	0.4V	13	PS
4	3.5V	14	PS
5	3.2V	15	PS
6	4.2V	16	PS
7	3.5V	17	PS
8	0.4V	18	0V
9	3.5V	19	0V
10	0V	20	4.9V

IC202

1	AUDIO
2	3.5V
3	3.5V
4	0V
5	3.5V
6	3.5V
7	AUDIO
8	8.3V

IC203

1	AUDIO
2	AUDIO
3	AUDIO
4	0V
5	AUDIO
6	AUDIO
7	AUDIO
8	8.3V

IC205

1	AD 4.2V
2	4.2V
3	4.2V
4	0V
5	4.2V
6	4.2V
7	AUDIO
8	8.3V

IC204

1	AD 3.7V	9	0V
2	AD 4.1V	10	8V
3	4.2V	11	0V
4	0V	12	AD 3.7V
5	4.2V	13	4.2V
6	0V	14	4.2V
7	0V	15	AD 4V
8	0V	16	8.3V

IC701

1	13.7V
2	0V
3	0.2V
4	0V
5	0V
6	0V
7	0V
8	13.7V

	E	C	B		E	C	B
Q101	0V	0V	0V	Q115	0V	0V	0V
Q102	0V	0V	0V	Q116	0V	PS	5.1V
Q103	0V	0.1V	0V	Q201	5.7V	8.9V	5V
Q110	0V	0V	0V	Q202	5.1V	0V	0V
Q111	0V	0V	0V	Q701	0V	13.2V	0V
Q112	0V	0V	−0.4V	Q702	13.2V	0V	13.8V
Q113	0V	0V	0.1V	Q703	13.7V	0V	13.7V
Q114	0.1V	PS	0V	Q704	0V	0V	0V

[Measuring Conditions]

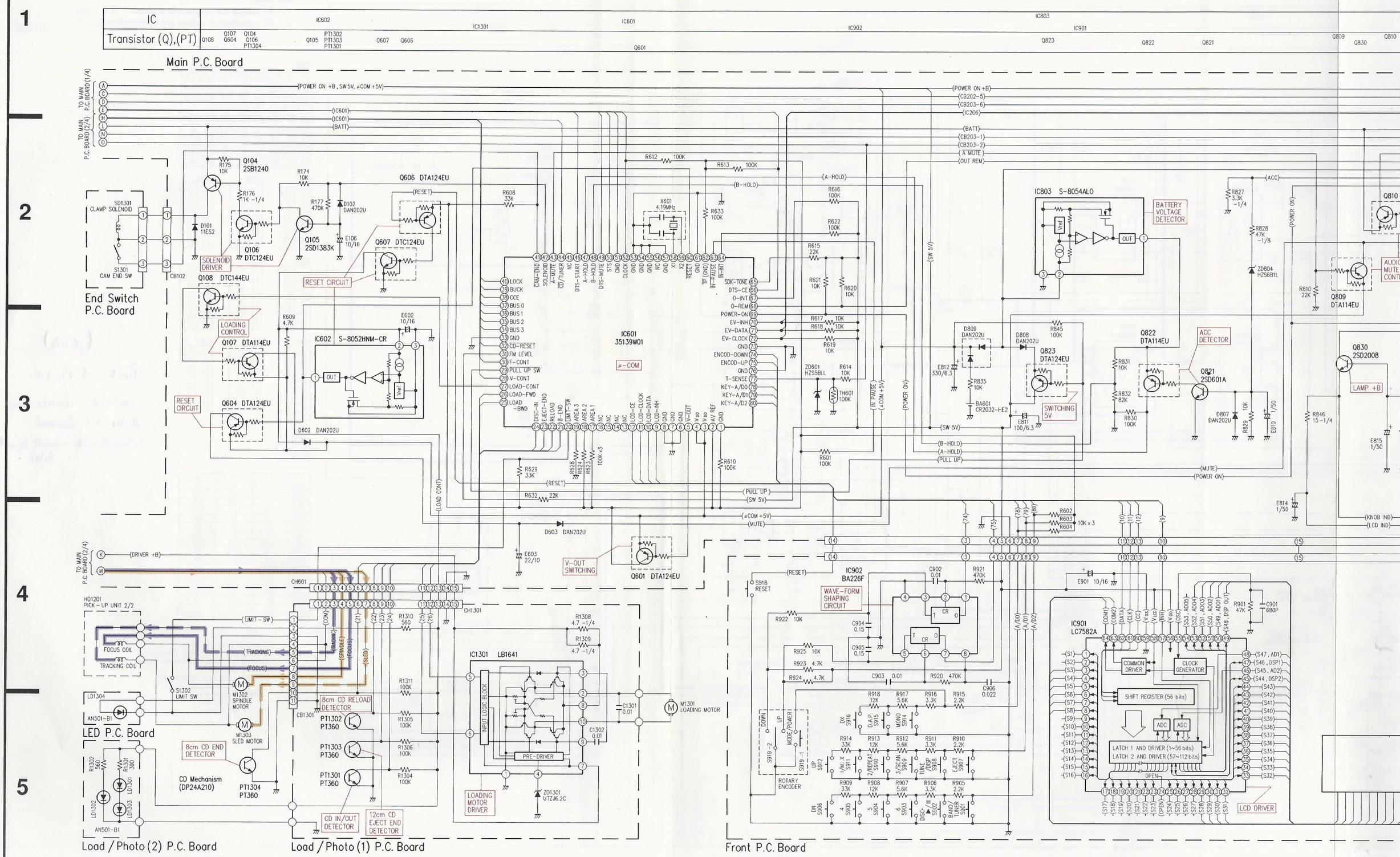
- Power Supply Voltage : DC14V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions :
  - CD : Be playing back the 2nd Music of the test CD (YEDS − 18).
  - TUNER : No signal input
  - FM : 98.1 MHz
  - AM : 999kHz

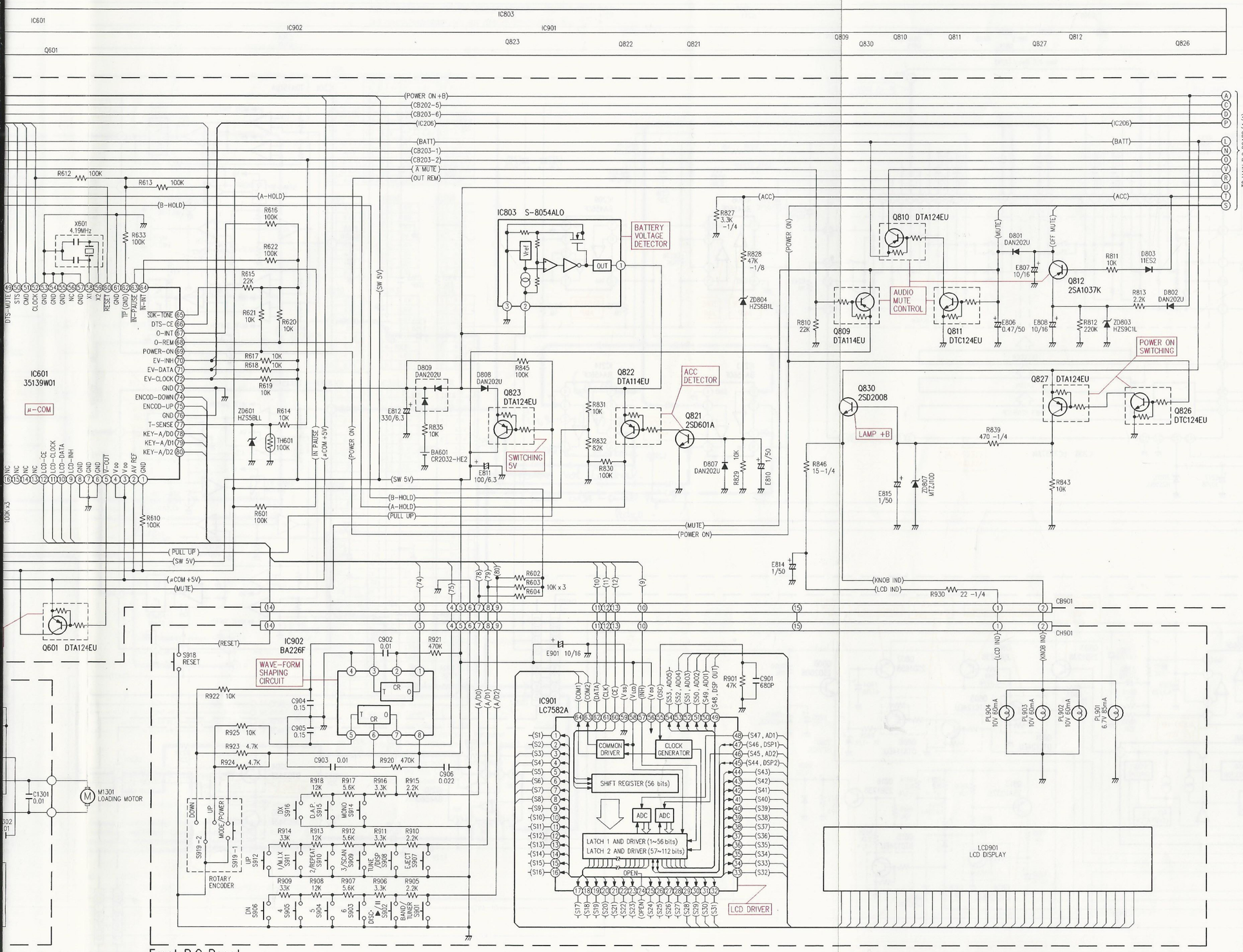
CD Signal Line (Digital)
L−ch Signal Line
R−ch Signal Line
Focus Servo Signal Line
Tracking Servo Signal Line
Spindle Servo Signal Line
Sled Servo Signal Line

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1{,}000{,}000}$

Schematic Diagram (3/4)





IC601

1	4.6V/0V	18	5V	33	0V	42	0V	59	PS	68	0V/5V
2	5.1V/0V	19	5V	34	PS	43	5.1V/0V	60	5V		0–REM OFF/ON
3	5V/5V	20	0V/4.6V		CD	44	5.1V/0V	61	0V	69	2.8V/0V
4	5V/5V	21	0V	35	PS	45	0V/PS	62	5V		POW ON/OFF
5	0V/5.3V	22	0V		CD	46	PS		5V/0V	70	PS
6	0V	23	0V	36	PS	47	5.4V/0V	63	IN–INT OFF/ON	71	PS
7	0V	24	0V		CD	48	4.8V/0V			72	PS
8	0V	25	0V	37	PS	49	PS	64	5V/0V	73	0V
9	5.1V	26	0V		CD	50	PS		IN–PAUSE OFF/ON	74	PS
10	PS	27	5V	38	PS	51	PS			75	PS
11	PS	28	0V/5.1V TUNER/CD		CD	52	PS		5V/0V	76	0V
12	PS			39	PS	53	0V	65	SDK–TONE OFF/ON	77	5V
13	0V	29	0V		CD	54	0V			78	5V
14	0V	30	0V	40	5.1V	55	0V	66	PS	79	5V
15	5.1V/0V	31	5.1V/0V		CD	56	0V		0V/5V	80	5V
16	PS	32	0V/5V TUNER/CD	41	0V/5.1V DISC IN/OUT	57	0V	67	0–INT OFF/ON		
17	5V					58	PS				

IC602

1	5.1V
2	5.1V
3	0V

IC803

1	5.4V
2	5.8V
3	0V

IC901

1	NC	17	NC	33	PS	49	PS
2	NC	18	NC	34	PS	50	PS
3	PS	19	NC	35	PS	51	PS
4	PS	20	NC	36	PS	52	PS
5	PS	21	NC	37	PS	53	PS
6	PS	22	NC	38	PS	54	NC
7	PS	23	NC	39	PS	55	0V
8	PS	24	NC	40	PS	56	5V
9	NC	25	NC	41	PS	57	PS
10	NC	26	NC	42	PS	58	5V
11	NC	27	NC	43	PS	59	PS
12	NC	28	NC	44	PS	60	0V
13	NC	29	PS	45	PS	61	PS
14	NC	30	PS	46	PS	62	PS
15	NC	31	PS	47	PS	63	PS
16	NC	32	PS	48	PS	64	PS

IC902

1	0.1V
2	0V
3	0V
4	0V
5	0V
6	0V
7	0.1V
8	0V

IC1301

1	0V
2	6V
3	0V
4	0V
5	0V
6	0V
7	0V
8	0V
9	0V
10	6V

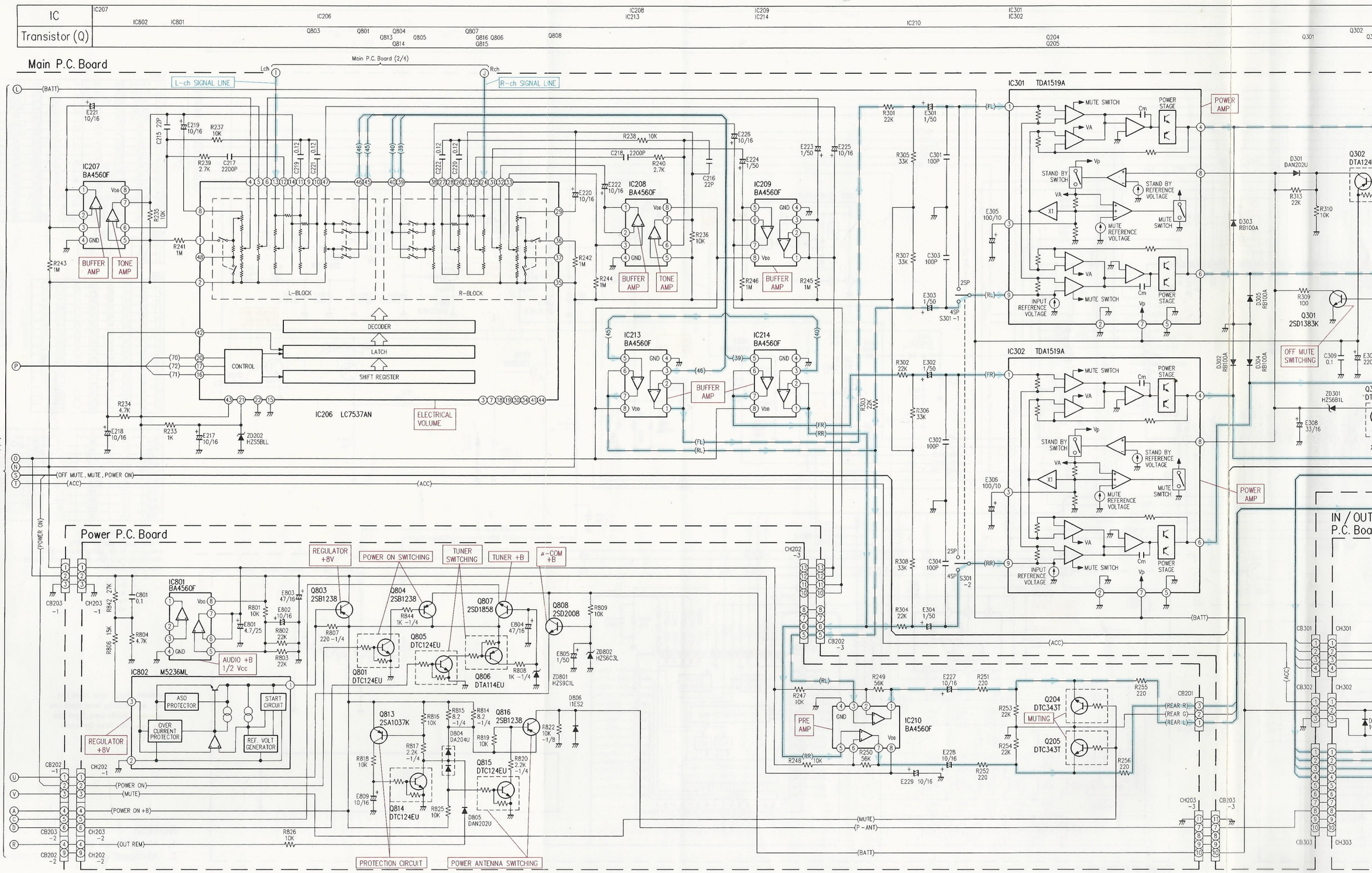
	E	C	B		E	C	B
Q104	14V	0V	0V	Q810	13.7V	3.3V	13.7V
Q105	0V	0V	0V	Q811	0V	13.7V	0V
Q106	0V	13.6V	0V	Q812	8.5V	0.1V	9.1V
Q107	5.1V	−0.1V	5.1V	Q821	0.6V	0V	0V
Q108	0V	5.1V	0V	Q822	0V	5.4V	5.4V
Q601	0V	5.1V	5.1V	Q823	0.2V	5.2V	5.2V
Q604	5.2V	0V	5.1V	Q826	2.7V	0V	0V
Q606	5.1V	0V	4.9V	Q827	14V	0V	14V
Q607	0V	4.9V	0V	Q830	9.3V	13.8V	10V
Q809	5.1V	0V	5.1V				

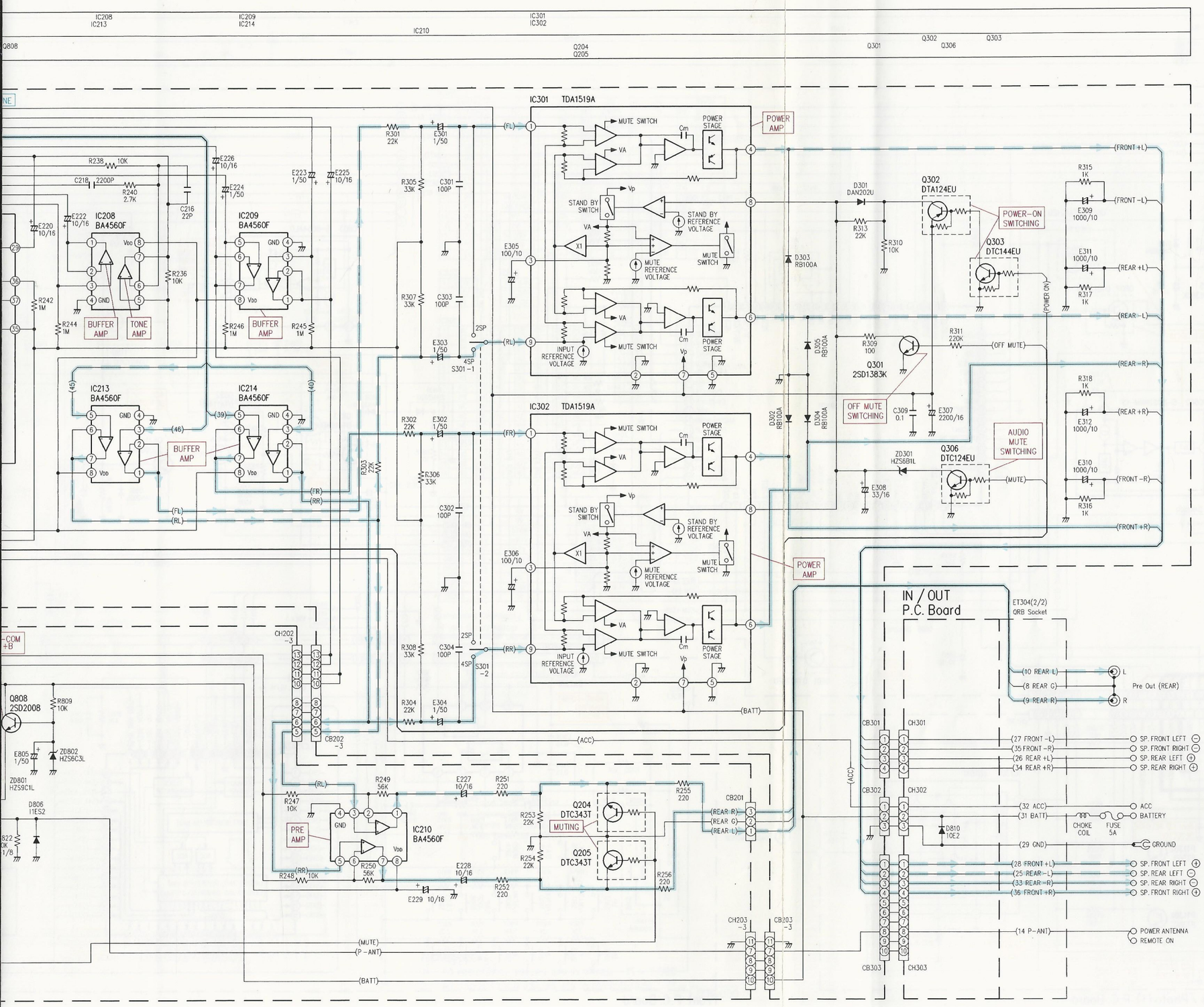
[Measuring Conditions]
- Power Supply Voltage : DC14V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions :
  CD : Be playing back the 2nd Music of the test CD (YEDS – 18).
  TUNER : No signal input
  FM : 98.1 MHz
  AM : 999kHz

Focus Servo Signal Line
Tracking Servo Signal Line
Spindle Servo Signal Line
Sled Servo Signal Line

NOTES:
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (4/4)





NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

IC206

1	3.8V	13	AD 4.4V	25	AD 4.4V	37	4.4V
2	4.1V	14	AD 4.4V	26	4.4V	38	AD 4.4V
3	0V	15	0V	27	AD 4.4V	39	AD 4.4V
4	AD 4.1V	16	0V	28	4.4V	40	AD 4.4V
5	AD 3.9V	17	0V	29	AD 4.4V	41	NC
6	3.9V	18	0V	30	NC	42	8.3V
7	NC	19	8.3V	31	AD 4.4V	43	8.3V
8	AD 4.4V	20	0V	32	AD 4.4V	44	NC
9	4.4V	21	5V	33	AD 4.4V	45	AD 4.4V
10	AD 4.4V	22	5.1V	34	NC	46	AD 4.4V
11	AD 4.4V	23	0V	35	4.4V	47	AD 4.4V
12	4.4V	24	AD 4.4V	36	3.7V	48	NC

IC207

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC208

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC209

1	4.7V
2	4.7V
3	4.3V
4	0V
5	4.3V
6	4.7V
7	4.7V
8	8.9V

IC210

1	4.7V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.7V
8	8.9V

IC213

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC214

1	4.6V
2	4.6V
3	4.6V
4	0V
5	4.6V
6	4.6V
7	4.6V
8	8.9V

IC301

1	2V
2	0V
3	6.7V
4	6.6V
5	0V
6	6.7V
7	14.1V
8	7.5V
9	2V

IC302

1	2V
2	0V
3	6.7V
4	6.7V
5	0V
6	6.7V
7	14.1V
8	7.5V
8	2V

IC801

1	0V
2	0V
3	0V
4	0V
5	4.1V
6	4.1V
7	4.1V
8	8.3V

IC802

1	12.5V
2	0V
3	12.7V

	E	C	B
Q204	13.7V	0V	0V
Q205	13.7V	0V	0V
Q301	0V	7.4V	0.3V
Q302	0V	13.7V	13.8V
Q303	2.7V	0V	0V
Q306	5V	0V	0V
Q801	0V	0V	2.7V
Q803	13.5V	8V	12.5V
Q804	14.4V	13.5V	0V
Q805	0V	0V	0V
Q806	13.5V	9.5V	0V
Q807	9V	13.5V	9.5V
Q808	5.8V	13.8V	6.4V
Q813	13.5V	0V	13.5V
Q814	0V	13.7V	0V
Q815	9.7V	0V	0V
Q816	13.7V	13.7V	13.1V

[Measuring Conditions]

- Power Supply Voltage : DC14V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions :
  - CD : Be playing back the 2nd Music of the test CD (YEDS – 18).
  - TUNER : No signal input
    - FM : 98.1 MHz
    - AM : 999 kHz

(IC206)

Pins 16, 17, 20

nothing until you turn vol Control.

(small ripple – small signal Pulse.)

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.
Capacitor : μF = microfarads, pF = picofarads

Abbreviations

RES. =	Resistor	CAP. =	Capacitor
C.F. =	Carbon Film	ELY. =	Electrolytic
M.F. =	Metal Film	CER. =	Ceramic
M.O. =	Metal Oxide Film	MYL. =	Mylar
M.P. =	Metal Plate	TAN. =	Tantalum
TR. =	Transistor	POLY. =	Polystyrol
TRANS. =	Transformer	PP. =	Polypropylene
CP. =	Chip	PLT. =	Polyethylene
		PF. =	Polyester Film

Main P. C. Board

IC's

Symbol No.	Part No.	Description
IC001	51T94316F02	AN7465S
IC002	51T93333F01	NJM2904M
IC003	51T96030F01	μPC1675G
IC004	51T35246W01	35246W01
IC101	51T25985W01	TC9236F
IC102	51T25984W01	TA8191F
IC103	51T15264W01	TCA0372M
IC104	51T15264W01	TCA0372M
IC105	51T90889F03	LA6501-TL
IC106	51T35105W02	SM5840CS
IC109	51T35229W01	TC7SU04F
IC201	51T35409W03	PCM67U
IC202	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC203	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC204	51T15270W01	BU4052BF
IC205	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC206	51T72016F02	LC7537AN
IC207	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC208	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC209	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC213	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC214	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC301	51T35408W01	TDA1519A
IC302	51T35408W01	TDA1519A
IC601	51T35139W01	35139W01
IC602	51T95014F13	S-8052HNM-CR
IC701	51T15510W01	MC34063M
IC803	51T92166F02	S-8054ALO

Transistors

Symbol No.	Part No.	Description
Q003	48T94606F55	CP., DTA114TU
Q004	48T94606F05	CP., DTC114TU
Q005	48T94606F53	CP., DTA124EU
Q006	48T94606F03	CP., DTC124EU
Q007	48T90181F05	2SD1993
Q009	48T90181F05	2SD1993
Q012	48T94606F03	CP., DTC124EU
Q013	48T84234F03	2SB1238
Q014	48T84234F03	2SB1238
Q015	48T94606F03	CP., DTC124EU
Q101	48T94606F03	CP., DTC124EU
Q102	48T63420F01	CP., 2SA1037K
Q103	48T84234F03	2SB1238
Q104	48T84234F03	2SB1240
Q105	48T81552F01	CP., 2SD1383K
Q106	48T94606F03	CP., DTC124EU
Q107	48T94606F56	CP., DTA114EU
Q108	48T94606F01	CP., DTC144EU
Q110	48T94606F06	CP., DTC114EU
Q111	48T52438F01	CP., 2SD601A
Q112	48T94606F05	CP., DTC114TU
Q113	48T94606F05	CP., DTC114TU
Q114	48T94606F03	CP., DTC124EU
Q115	48T94606F53	CP., DTA124EU
Q116	48T94606F03	CP., DTC124EU
Q201	48T52438F01	CP., 2SD601A
Q202	48T94606F01	CP., DTC144EU
Q301	48T81552F01	CP., 2SD1383K
Q302	48T94606F53	CP., DTA124EU
Q303	48T94606F01	CP., DTC144EU
Q306	48T94606F03	CP., DTC124EU
Q601	48T94606F53	CP., DTA124EU
Q604	48T94606F53	CP., DTA124EU
Q606	48T94606F53	CP., DTA124EU
Q607	48T94606F03	CP., DTC124EU
Q701	48T94606F03	CP., DTC124EU
Q702	48T94606F53	CP., DTA124EU
Q703	48T35437W01	2SB1182TL
Q704	48T83415F03	2SD1858
Q809	48T94606F56	CP., DTA114EU
Q810	48T94606F53	CP., DTA124EU
Q811	48T94606F03	CP., DTC124EU
Q812	48T63420F01	CP., 2SA1037K
Q821	48T52438F01	CP., 2SD601A
Q822	48T94606F56	CP., DTA114EU
Q823	48T94606F53	CP., DTA124EU
Q826	48T94606F03	CP., DTC124EU

Symbol No.	Part No.	Description
Q827	48T94606F53	CP., DTA124EU
Q830	48T15289W03	2SD2008
Diodes		
D001	48T94608F03	CP., DAN202U
D002	48T94608F03	CP., DAN202U
D003	48T94608F03	CP., DAN202U
D004	48T94608F03	CP., DAN202U
D005	48T94608F03	CP., DAN202U
D007	48T94608F03	CP., DAN202U
D101	48T84052F11	11ES2
D102	48T94608F03	CP., DAN202U
D103	48T94608F03	CP., DAN202U
D104	48T94608F03	CP., DAN202U
D301	48T94608F03	CP., DAN202U
D302	48T25664W02	RB100A
D303	48T25664W02	RB100A
D304	48T25664W02	RB100A
D305	48T25664W02	RB100A
D602	48T94608F03	CP., DAN202U
D603	48T94608F03	CP., DAN202U
D701	48T15702W01	CP., SB05-05CP
D801	48T94608F03	CP., DAN202U
D802	48T94608F03	CP., DAN202U
D803	48T84052F11	11ES2
D807	48T94608F03	CP., DAN202U
D808	48T94608F03	CP., DAN202U
D809	48T94608F03	CP., DAN202U
ZD002	48T25766W24	Zener, HZS9C1L
ZD201	48T25766W04	Zener, HZS6B1L
ZD202	48T25801W11	Zener, HZS5BLL
ZD301	48T25766W04	Zener, HZS6B1L
ZD601	48T25801W11	Zener, HZS5BLL
ZD701	48T25766W04	Zener, HZS6B1L
ZD803	48T25766W24	Zener, HZS9C1L
ZD804	48T25766W04	Zener, HZS6B1L
ZD807	48T45012W47	Zener, MTZJ10D
or	48T25766W29	Zener, HZS11A3L

Symbol No.	Part No.	Description
Coils / Switch		
L701	24T71179F05	Inductor, 220μH
L702	24T16271W13	220μH
S301	40T72577F02	Switch, Slide SSSS-2H (2SP / 4SP)
Crystals / Thermistor		
X001	91T25806W23	4.5MHz
X101	91T25806W92	16.9344MHz
X601	91T15285W01	CER., Lock 4.19MHz
TH601	48T93439F06	Thermistor, 100K ohm
Capacitors		
C001	08S65128F69	CP., 0.01μF
E001	23S61523F09	ELY., 22μF / 10V
C002	08S65128F67	CP., 6800pF
E002	23S61523F25	ELY., 0.1μF / 50V
C003	08T35388W30	TF, 390pF
E003	23S61523F25	ELY., 0.1μF / 50V
C004	08S65128F74	CP., 0.047μF
E004	23S61523F26	ELY., 0.22μF / 50V
C005	08S65128F74	CP., 0.047μF
E005	23S61523F29	ELY., 1μF / 50V
C006	08S65128F63	CP., 3300pF
E006	23S61523F25	ELY., 0.1μF / 50V
C007	08S65128F69	CP., 0.01μF
E007	23T25149W15	ELY., 4.7μF / 35V
C008	08S82122F47	CP., 270pF
E008	23T25149W15	ELY., 4.7μF / 35V
C009	08S65128F71	CP., 0.015μF
E009	23S61523F29	ELY., 1μF / 50V
C010	08S65128F77	CP., 0.018μF
E010	23S61523F29	ELY., 1μF / 50V

Symbol No.	Part No.	Description
C011	08S65128F77	CP., 0.018μF
E013	23T16086W01	ELY., 220μF / 10V
E014	23S61523F29	ELY., 1μF / 50V
E015	23S61523F29	ELY., 1μF / 50V
E016	23S61523F09	ELY., 22μF / 10V
C017	08S65128F57	CP., 1000pF
E017	23S61523F08	ELY., 100μF / 6.3V
C018	08S65128F69	CP., 0.01μF
C019	08S65128F72	CP., 0.022μF
C020	08S65128F79	CP., 0.027μF
C021	08S65128F63	CP., 3300pF
C022	08T90316F25	TF, 0.047μF
C023	08S65128F69	CP., 0.01μF
C024	08S65128F69	CP., 0.01μF
C026	08T15399W02	CP., 0.033μF
C027	08T15399W02	CP., 0.033μF
C028	08T15399W02	CP., 0.033μF
C029	08S65128F57	CP., 1000pF
C030	08S65128F69	CP., 0.01μF
C031	08S65128F69	CP., 0.01μF
C032	08S82122F25	CP., 33pF
C033	08S65128F57	CP., 1000pF
C034	08S65128F69	CP., 0.01μF
C035	08S65128F69	CP., 0.01μF
C036	08S65128F72	CP., 0.022μF
C037	08S82122F37	CP., 100pF
C038	08S82122F37	CP., 100pF
C039	08S82122F37	CP., 100pF
C040	08S82122F21	CP., 22pF
C041	08S82122F21	CP., 22pF
C050	08S65128F57	CP., 1000pF
C101	08S65128F69	CP., 0.01μF
E101	23S61523F08	ELY., 100μF / 6.3V
E102	23S61523F12	ELY., 10μF / 16V
C103	08S82122F13	CP., 10pF
E103	23S61523F12	ELY., 10μF / 16V
C104	08S82122F13	CP., 10pF
E104	23T74437F32	TAN., 10μF / 16V
C105	08S65128F63	CP., 3300pF
E105	23S61523F31	ELY., 3.3μF / 50V
C106	08S65128F63	CP., 3300pF
E106	23S61523F12	ELY., 10μF / 16V
C107	08S82122F37	CP., 100pF
E107	23T74437F32	TAN., 10μF / 16V
C108	08S65128F69	CP., 0.01μF
E108	23S61523F11	ELY., 47μF / 10V
C109	08S65128F69	CP., 0.01μF
E109	23S61523F11	ELY., 47μF / 10V
C110	08S65128F69	CP., 0.01μF
C111	08S65128F57	CP., 1000pF
C113	08S65128F78	CP., 0.022μF
C114	08S65128F64	CP., 3900pF

Symbol No.	Part No.	Description
C115	08T15807W05	CP., 0.1μF
C116	08S82122F45	CP., 220pF
C117	08S65128F62	CP., 2700pF
E117	23S61523F28	ELY., 0.47μF / 50V
C118	08T15399W03	CP., 0.047μF
E118	23T74437F32	TAN., 10μF / 16V
C119	08S82122F31	CP., 56pF
E119	23T74437F32	TAN., 10μF / 16V
C120	08S65128F69	CP., 0.01μF
E120	23S61523F12	ELY., 10μF / 16V
C121	08S82122F15	CP., 12pF
E121	23S61523F12	ELY., 10μF / 16V
C122	08S65128F69	CP., 0.01μF
C123	08T15807W05	CP., 0.1μF
C124	08S82122F06	CP., 3pF
C125	08S65128F69	CP., 0.01μF
C126	08T15807W05	CP., 0.1μF
C127	08T15807W05	CP., 0.1μF
C128	08S65128F69	CP., 0.01μF
E128	23T74437F32	TAN., 10μF / 16V
C129	08S65128F69	CP., 0.01μF
C130	08S65128F65	CP., 4700pF
C131	08S65128F74	CP., 0.047μF
C132	08S65128F74	CP., 0.047μF
C133	08S65128F69	CP., 0.01μF
C140	08S65128F65	CP., 4700pF
E140	23T74437F32	TAN., 10μF / 16V
C141	08T15807W05	CP., 0.1μF
E141	23T74437F32	TAN., 10μF / 16V
C142	08S65128F60	CP., 1800pF
C143	08S65128F69	CP., 0.01μF
C201	08S82122F49	CP., 330pF
E201	23T25149W09	ELY., 10μF / 16V
C202	08S82122F49	CP., 330pF
E202	23T25149W09	ELY., 10μF / 16V
C203	08T90316F15	TF, 6800pF
E203	23T25149W09	ELY., 10μF / 16V
C204	08T90316F15	TF, 6800pF
E204	23T25149W09	ELY., 10μF / 16V
C205	08S82122F49	CP., 330pF
E205	23T25149W09	ELY., 10μF / 16V
C206	08S82122F49	CP., 330pF
E206	23T25149W09	ELY., 10μF / 16V
C207	08T90316F16	TF, 8200pF
E207	23T25149W09	ELY., 10μF / 16V
C208	08T90316F16	TF, 8200pF
E208	23T25149W09	ELY., 10μF / 16V
C209	08S82122F37	CP., 100pF
E209	23T25149W15	ELY., 4.7μF / 35V
C210	08S82122F37	CP., 100pF
E210	23T25149W12	ELY., 47μF / 16V
C211	08S82122F21	CP., 22pF

Symbol No.	Part No.	Description
E211	23T25149W09	ELY., 10μF/16V
C212	08S82122F21	CP., 22pF
E212	23T25149W09	ELY., 10μF/16V
C213	08S65128F78	CP., 0.022μF
E213	23T74437F32	TAN., 10μF/16V
C215	08S82122F21	CP., 22pF
E215	23T25149W09	ELY., 10μF/16V
C216	08S82122F21	CP., 22pF
E216	23T25149W09	ELY., 10μF/16V
C217	08T90316F09	TF, 2200pF
E217	23T25149W09	ELY., 10μF/16V
C218	08T90316F09	TF, 2200pF
E218	23T25149W09	ELY., 10μF/16V
C219	08T90316F30	TF, 0.12μF
E219	23T25149W09	ELY., 10μF/16V
C220	08T90316F30	TF, 0.12μF
E220	23T25149W09	ELY., 10μF/16V
C221	08T90316F30	TF, 0.12μF
E221	23T25149W09	ELY., 10μF/16V
C222	08T90316F30	TF, 0.12μF
E222	23T25149W09	ELY., 10μF/16V
E223	23T25149W05	ELY., 1μF/50V
E224	23T25149W05	ELY., 1μF/50V
E225	23T25149W09	ELY., 10μF/16V
E226	23T25149W09	ELY., 10μF/16V
C227	08S65128F69	CP., 0.01μF
C301	08S82122F37	CP., 100pF
E301	23T25149W05	ELY., 1μF/50V
C302	08S82122F37	CP., 100pF
E302	23T25149W05	ELY., 1μF/50V
C303	08S82122F37	CP., 100pF
E303	23T25149W05	ELY., 1μF/50V
C304	08S82122F37	CP., 100pF
E304	23T25149W05	ELY., 1μF/50V
E305	23T94181F08	ELY., 100μF/10V
E306	23T94181F08	ELY., 100μF/10V
E307	23T35505W02	ELY., 2200μF/16V
E308	23S61523F14	ELY., 33μF/16V
C309	08T90316F29	TF, 0.1μF
E309	23T35463W18	ELY., 1000μF/10V
E310	23T35463W18	ELY., 1000μF/10V
E311	23T35463W18	ELY., 1000μF/10V
E312	23T35463W18	ELY., 1000μF/10V
E602	23S61523F12	ELY., 10μF/16V
E603	23S61523F09	ELY., 22μF/10V
C701	08S82122F39	CP., 120pF
E701	23S82482F02	ELY., 100μF/16V
C702	08S65128F76	CP., 0.1μF
E702	23T90882F18	ELY., 470μF/10V
E703	23T25149W15	ELY., 4.7μF/35V
E704	23S61523F12	ELY., 10μF/16V
E806	23S61523F28	ELY., 0.47μF/50V

Symbol No.	Part No.	Description
E807	23S61523F12	ELY., 10μF/16V
E808	23S61523F12	ELY., 10μF/16V
E810	23S61523F29	ELY., 1μF/50V
E811	23S61523F08	ELY., 100μF/6.3V
E812	23T16086W02	ELY., 330μF/6.3V
E814	23S61523F29	ELY., 1μF/50V
E815	23S61523F29	ELY., 1μF/50V
C992	23T82372F19	ELY., (B.P) 2.2μF/50V

Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)

R001	06S64996F18	470K ohm
R002	06T70072F05	10 ohm 1/4W
R003	06S64995F79	12K ohm
R004	06S64995F65	3.3K ohm
R005	06S64995F57	1.5K ohm
R006	06S64996F26	1M ohm
R007	06S64995F69	4.7K ohm
R008	06S64995F65	3.3K ohm
R009	06S64995F81	15K ohm
R010	06S64995F93	47K ohm
R011	06S64996F02	100K ohm
R017	06S64995F75	8.2K ohm
R018	06S64995F77	10K ohm
R019	06S64995F81	15K ohm
R020	06S64995F95	56K ohm
R021	06S64995F91	39K ohm
R022	06S64995F91	39K ohm
R023	06S64996F02	100K ohm
R024	06S64996F02	100K ohm
R025	06S64995F85	22K ohm
R026	06S64996F20	560K ohm
R027	06S64996F14	330K ohm
R028	06S64995F41	330 ohm
R029	06S64996F26	1M ohm
R030	06S64996F02	100K ohm
R031	06S64995F81	15K ohm
R032	06S64995F77	10K ohm
R033	06S64995F77	10K ohm
R034	06S64996F02	100K ohm
R035	06S64995F91	39K ohm

Symbol No.	Part No.	Description
R036	06S64995F91	39K ohm
R037	06S64996F02	100K ohm
R038	06S64996F02	100K ohm
R039	06S64995F83	18K ohm
R040	06S64995F83	18K ohm
R041	06S64995F85	22K ohm
R042	06S64995F77	10K ohm
R043	06S64995F53	1K ohm
R044	06S64995F85	22K ohm
R045	06S64996F02	100K ohm
R046	06S64995F81	15K ohm
R047	06S64995F29	100 ohm
R048	06S64995F15	27 ohm
R049	06S64995F53	1K ohm
R050	06S64995F05	10 ohm
R051	06S64995F53	1K ohm
R052	06S64995F65	3.3K ohm
R053	06S64995F53	1K ohm
R054	06S64995F75	8.2K ohm
R055	06S64995F51	820 ohm
R056	06S64995F61	2.2K ohm
R057	06S64995F61	2.2K ohm
R058	06S64995F61	2.2K ohm
R059	06T70072F37	220 ohm 1/4W
R060	06S64995F53	1K ohm
R061	06S64995F77	10K ohm
R062	06S64995F53	1K ohm
R063	06S64995F65	3.3K ohm
R064	06T70072F41	330 ohm 1/4W
R065	06S64995F77	10K ohm
R067	06S64995F77	10K ohm
R068	06S64995F71	5.6K ohm
R070	06S64996F02	100K ohm
R071	06S64995F77	10K ohm
R072	06S64995F77	10K ohm
R073	06S64995F61	2.2K ohm
R074	06S64995F65	3.3K ohm
R075	06S64995F61	2.2K ohm
R076	06S64995F65	3.3K ohm
R077	06S64995F29	100 ohm
R101	06S64995F73	6.8K ohm
R102	06S64996F18	470K ohm
R103	06S64995F39	270 ohm
R105	06S64995F89	33K ohm
R106	06S64995F85	22K ohm
R107	06S64996F10	220K ohm
R108	06S64996F02	100K ohm
R109	06S64995F83	18K ohm
R110	06S64995F57	1.5K ohm
R111	06S64995F83	18K ohm
R112	06S64995F91	39K ohm
R113	06S64995F53	1K ohm

Symbol No.	Part No.	Description
R114	06S64996F10	220K ohm
R115	06S64995F77	10K ohm
R116	06S64995F93	47K ohm
R117	06S64996F30	2.2M ohm
R118	06S64995F89	33K ohm
R119	06S64995F95	56K ohm
R120	06S64995F77	10K ohm
R121	06S64995F87	27K ohm
R122	06S64995F63	2.7K ohm
R123	06S64996F12	270K ohm
R124	06S64995F83	18K ohm
R125	06S64996F02	100K ohm
R126	06S64995F77	10K ohm
R127	06S64996F04	120K ohm
R128	06S64996F02	100K ohm
R129	06S64995F81	15K ohm
R130	06S64995F85	22K ohm
R131	06S64995F77	10K ohm
R132	06S64995F77	10K ohm
R133	06S64995F77	10K ohm
R134	06S64996F20	560K ohm
R135	06S64996F02	100K ohm
R136	06S64995F61	2.2K ohm
R137	06S64995F77	10K ohm
R138	06S64995F69	4.7K ohm
R139	06S64995F69	4.7K ohm
R140	06S64995F69	4.7K ohm
R141	06T70072F05	10 ohm 1/4W
R144	06S64995F53	1K ohm
R145	06S64995F47	560 ohm
R146	06S64995F81	15K ohm
R147	06S64995F97	68K ohm
R148	06S64995F85	22K ohm
R149	06S64995F77	10K ohm
R150	06S64995F77	10K ohm
R151	06S64995F85	22K ohm
R152	06S64995F85	22K ohm
R153	06S64995F77	10K ohm
R154	06S64995F77	10K ohm
R155	06S64995F85	22K ohm
R156	06S64995F85	22K ohm
R157	06S64995F77	10K ohm
R158	06S64995F77	10K ohm
R159	06S64995F85	22K ohm
R160	06S64995F85	22K ohm
R161	06S64995F77	10K ohm
R162	06S64995F77	10K ohm
R163	06S64995F85	22K ohm
R164	06S64995F77	10K ohm
R165	06S64995F85	22K ohm
R166	06S64995F05	10 ohm
R167	06S64996F04	120K ohm

Symbol No.	Part No.	Description
R168	06S64995F05	10 ohm
R169	06S64995F53	1K ohm
R170	06S64995F53	1K ohm
R171	06S64995F53	1K ohm
R172	06S64995F53	1K ohm
R173	06S64995F53	1K ohm
R174	06S64995F77	10K ohm
R175	06S64995F77	10K ohm
R176	06T70072F53	1K ohm 1/4W
R177	06S64996F18	470K ohm
R179	06S64995F63	2.7K ohm
R180	06S64995F77	10K ohm
R181	06S64996F02	100K ohm
R183	06S64996F10	220K ohm
R185	06S64995F83	18K ohm
R186	06S64995F53	1K ohm
R187	06S64995F53	1K ohm
R188	06S64995F65	3.3K ohm
R189	06S64996F18	470K ohm
R190	06S64995F93	47K ohm
R191	06S64995F85	22K ohm
R192	06S64995F77	10K ohm
R193	06S64995F53	1K ohm
R194	06S64995F53	1K ohm
R195	06S04995F53	1K ohm
R201	06S64995F55	1.2K ohm
R202	06S64995F55	1.2K ohm
R203	06S64995F61	2.2K ohm
R204	06S64995F61	2.2K ohm
R205	06S64995F61	2.2K ohm
R206	06S64995F61	2.2K ohm
R207	06S64995F77	10K ohm
R208	06S64995F05	10 ohm
R209	06S64995F67	3.9K ohm
R210	06S64995F67	3.9K ohm
R211	06S64995F89	33K ohm
R212	06S64995F89	33K ohm
R213	06S64995F55	1.2K ohm
R214	06S64995F55	1.2K ohm
R215	06S64995F77	10K ohm
R216	06S64995F77	10K ohm
R217	06S64995F55	1.2K ohm
R218	06S64995F55	1.2K ohm
R219	06S64995F85	22K ohm
R220	06S64995F85	22K ohm
R221	06S64995F85	22K ohm
R223	06S64995F71	5.6K ohm
R224	06S64995F71	5.6K ohm
R225	06S64995F97	68K ohm
R226	06S64995F97	68K ohm
R233	06S64995F53	1K ohm
R234	06S64995F69	4.7K ohm

Symbol No.	Part No.	Description
R235	06S64995F77	10K ohm
R236	06S64995F77	10K ohm
R237	06S64995F77	10K ohm
R238	06S64995F77	10K ohm
R239	06S64995F63	2.7K ohm
R240	06S64995F63	2.7K ohm
R241	06S64996F26	1M ohm
R242	06S64996F26	1M ohm
R243	06S64996F26	1M ohm
R244	06S64996F26	1M ohm
R245	06S64996F26	1M ohm
R246	06S64996F26	1M ohm
R301	06S64995F85	22K ohm
R302	06S64995F85	22K ohm
R303	06S64995F85	22K ohm
R304	06S64995F85	22K ohm
R305	06S64995F89	33K ohm
R306	06S64995F89	33K ohm
R307	06S64995F89	33K ohm
R308	06S64995F89	33K ohm
R309	06S64995F29	100 ohm
R310	06S64995F77	10K ohm
R311	06S64996F10	220K ohm
R313	06S64995F85	22K ohm
R315	06S64995F53	1K ohm
R316	06S64995F53	1K ohm
R317	06S64995F53	1K ohm
R318	06S64995F53	1K ohm
R601	06S64996F02	100K ohm
R602	06S64995F77	10K ohm
R603	06S64995F77	10K ohm
R604	06S64995F77	10K ohm
R608	06S64995F89	33K ohm
R609	06S64995F69	4.7K ohm
R610	06S64996F02	100K ohm
R612	06S64996F02	100K ohm
R613	06S64996F02	100K ohm
R614	06S64995F77	10K ohm
R615	06S64995F85	22K ohm
R616	06S64996F02	100K ohm
R617	06S64995F77	10K ohm
R618	06S64995F77	10K ohm
R619	06S64995F77	10K ohm
R620	06S64995F77	10K ohm
R621	06S64995F77	10K ohm
R622	06S64996F02	100K ohm
R623	06S64996F02	100K ohm
R624	06S64996F02	100K ohm
R628	06S64996F02	100K ohm
R629	06S64995F89	33K ohm
R630	06S64996F02	100K ohm
R631	06S64996F02	100K ohm

Symbol No.	Part No.	Description
R632	06S64995F85	22K ohm
R633	06S64996F02	100K ohm
R701	06S64995F63	2.7K ohm
R702	06T70072F29	100 ohm 1/4W
R703	06T70072F47	560 ohm 1/4W
R704	06T70072F47	560 ohm 1/4W
R705	06T70072F45	470 ohm 1/4W
R706	06S64995F81	15K ohm
R810	06S64995F85	22K ohm
R811	06S64995F77	10K ohm
R812	06S64996F10	220K ohm
R813	06S64995F61	2.2K ohm
R827	06T70072F65	3.3K ohm 1/4W
R828	06S53330F93	47K ohm 1/8W
R829	06S64995F77	10K ohm
R830	06S64996F02	100K ohm
R831	06S64995F77	10K ohm
R832	06S64995F99	82K ohm
R835	06S64995F77	10K ohm
R839	06T70072F45	470 ohm 1/4W
R843	06S64995F77	10K ohm
R845	06S64996F02	100K ohm
R846	06T70072F09	15 ohm 1/4W
R930	06T70072F13	22 ohm 1/4W
VR001	18T15355W11	Variable, 4.7K ohm
VR002	18T15356W09	Variable, 2.2K ohm
VR003	18T15356W14	Variable, 15K ohm
VR101	18T15355W20	Variable, 150K ohm
VR102	18T15356W14	Variable, 15K ohm
VR103	18T15356W09	Variable, 2.2K ohm

Power P. C. Board

IC's

IC210	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC801	51T92001F01	BA4560F
or	51T93338F01	NJM4560E
IC802	51T90890F01	M5236ML

Symbol No.	Part No.	Description
Transistors		
Q204	48T62967F33	CP., DTC343T
Q205	48T62967F33	CP., DTC343T
Q801	48T94606F03	CP., DTC124EU
Q803	48T84234F03	2SB1238
Q804	48T84234F03	2SB1238
Q805	48T94606F03	CP., DTC124EU
Q806	48T94606F56	CP., DTA114EU
Q807	48T83415F03	2SD1858
Q808	48T15289W03	2SD2008
Q813	48T63420F01	CP., 2SA1037K
Q814	48T94606F03	CP., DTC124EU
Q815	48T94606F03	CP., DTC124EU
Q816	48T84234F03	2SB1238
Diodes		
D804	48T94608F01	CP., DA204U
D805	48T94608F03	CP., DAN202U
D806	48T84052F11	11ES2
ZD801	48T25766W24	Zener, HZS9C1L
ZD802	48T25766W09	Zener, HZS6C3L
Capacitors		
E227	23T25149W09	ELY., 10μF/16V
E228	23T25149W09	ELY., 10μF/16V
E229	23T25149W09	ELY., 10μF/16V
C801	08S65128F76	CP., 0.1μF
E801	23T25057W09	ELY., 4.7μF/25V
E802	23T25057W05	ELY., 10μF/16V
E803	23T25057W08	ELY., 47μF/16V
E804	23T25057W08	ELY., 47μF/16V
E805	23T25057W14	ELY., 1μF/50V
E809	23T25057W05	ELY., 10μF/16V

Symbol No.	Part No.	Description
Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)		
R247	06S64995F77	10K ohm
R248	06S64995F77	10K ohm
R249	06S64995F95	56K ohm
R250	06S64995F95	56K ohm
R251	06S64995F37	220 ohm
R252	06S64995F37	220 ohm
R253	06S64995F85	22K ohm
R254	06S64995F85	22K ohm
R255	06S64995F37	220 ohm
R256	06S64995F37	220 ohm
R801	06S64995F77	10K ohm
R802	06S64995F85	22K ohm
R803	06S64995F85	22K ohm
R804	06S64995F69	4.7K ohm
R806	06S64995F81	15K ohm
R807	06T70072F37	220 ohm 1/4W
R808	06T70072F53	1K ohm 1/4W
R809	06S64995F77	10K ohm
R814	06T70072F04	8.2 ohm 1/4W
R815	06T70072F04	8.2 ohm 1/4W
R816	06S64995F77	10K ohm
R817	06T70072F61	2.2K ohm 1/4W
R818	06S64995F77	10K ohm
R819	06S64995F77	10K ohm
R820	06T70072F61	2.2K ohm 1/4W
R822	06S53330F77	10K ohm 1/8W
R825	06S64995F77	10K ohm
R826	06S64995F77	10K ohm
R842	06S64995F87	27K ohm
R844	06T70072F53	1K ohm 1/4W
Front P. C. Board		
IC's		
IC901	51T83905F01	LC7582A
IC902	51T35410W02	BA226F

Symbol No.	Part No.	Description
Lamps		
PL901	65T25230W01	Pilot, 6.7V-85mA
PL902	65T35507W01	10V-60mA
PL903	65T35507W01	10V-60mA
PL904	65T35507W01	10V-60mA
Switches		
S901	40T10876W12	Tact, SKHLAJ (BAND / TUNER)
S902	40T10876W12	Tact, SKHLAJ (DISC · ▶ / II)
S903	40T10876W12	Tact, SKHLAJ (6)
S904	40T10876W12	Tact, SKHLAJ (5)
S905	40T10876W12	Tact, SKHLAJ (4)
S906	40T10876W12	Tact, SKHLAJ (DN)
S907	40T10876W12	Tact, SKHLAJ (▲)
S908	40T10876W12	Tact, SKHLAJ (TUNE / DISP.)
S909	40T10876W12	Tact, SKHLAJ (3 / SCAN)
S910	40T10876W12	Tact, SKHLAJ (2 / REPEAT)
S911	40T10876W12	Tact, SKHLAJ (1 / M.I.X.)
S912	40T10876W12	Tact, SKHLAJ (UP)
S914	40T10876W12	Tact, SKHLAJ (MONO)
S915	40T10876W12	Tact, SKHLAJ (D.A.P.)
S916	40T10876W12	Tact, SKHLAJ (DX)
S918	40T10876W12	Tact, SKHLAJ (RESET)
S919	40T35390W01	Rotary, Encoder (MODE / POWER)
Capacitors		
C901	08S65128F55	CP., 680pF
E901	23S61523F12	ELY., 10μF / 16V
C902	08S65128F69	CP., 0.01μF
C903	08S65128F69	CP., 0.01μF
C904	08S53332F60	CP., 0.15μF
C905	08S53332F60	CP., 0.15μF
C906	08S65128F72	CP., 0.022μF

Symbol No.	Part No.	Description
Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)		
R901	06S64995F93	47K ohm
R905	06S64995F61	2.2K ohm
R906	06S64995F65	3.3K ohm
R907	06S64995F71	5.6K ohm
R908	06S64995F79	12K ohm
R909	06S64995F89	33K ohm
R910	06S64995F61	2.2K ohm
R911	06S64995F65	3.3K ohm
R912	06S64995F71	5.6K ohm
R913	06S64995F79	12K ohm
R914	06S64995F89	33K ohm
R915	06S64995F61	2.2K ohm
R916	06S64995F65	3.3K ohm
R917	06S64995F71	5.6K ohm
R918	06S64995F79	12K ohm
R920	06S64996F18	470K ohm
R921	06S64996F18	470K ohm
R922	06S64995F77	10K ohm
R923	06S64995F69	4.7K ohm
R924	06S64995F69	4.7K ohm
R925	06S64995F77	10K ohm

Load / Photo P. C. Board

Symbol No.	Part No.	Description
IC / Transistors		
IC1301	51T15267W01	IC, LB1641
PT1301	48T92913F01	Photo, PT360
PT1302	48T92913F01	Photo, PT360
PT1303	48T92913F01	Photo, PT360
Diode / LED's		
ZD1301	48T15440W12	Zener, UTZJ6.2C
LD1301	48T16057W02	LED, AN501-B1 (RED)
LD1302	48T16057W02	LED, AN501-B1 (RED)
LD1303	48T16057W02	LED, AN501-B1 (RED)

Symbol No.	Part No.	Description
Capacitors		
C1301	08S65128F69	CP., 0.01 μF
C1302	08S65128F69	CP., 0.01 μF
Resistors (All resistors are chip 1/8W ± 5% unless otherwise noted.)		
R1301	06S53330F43	390 ohm
R1302	06S53330F47	560 ohm
R1304	06S53331F02	100K ohm
R1305	06S53331F02	100K ohm
R1306	06S53331F02	100K ohm
R1308	06T70072F01	4.7 ohm 1/4W
R1309	06T70072F01	4.7 ohm 1/4W
R1310	06S53330F47	560 ohm
R1311	06S53331F02	100K ohm

Miscellaneous

Symbol No.	Part No.	Description
BA601	60T91060F01	Battery, Lit. CR2032-HE2
D810	48T81044F01	Diode, 10E2
ET304	01T25803W08	QRB Socket
LCD901	65T35391W01	LCD Display
HD1201	88T15309W01	Pick Up Unit
M1301	01V13100W97	Assy., Loading Motor 6V-210mA
M1302	59T91005F01	Motor, Spindle 2V-90mA
M1303	59T52973F03	Motor, Sled 6V-210mA
S1301	40T71025F03	Switch, Detector (CAM END)
S1302	40T71025F01	Switch, Detector (LIMIT)
PT1304	48T92913F01	Transistor, Photo PT360
LD1304	48T16057W02	LED, AN501-B1 (RED)
SD1301	01A90816F01	Assy., Clamp Solenoid

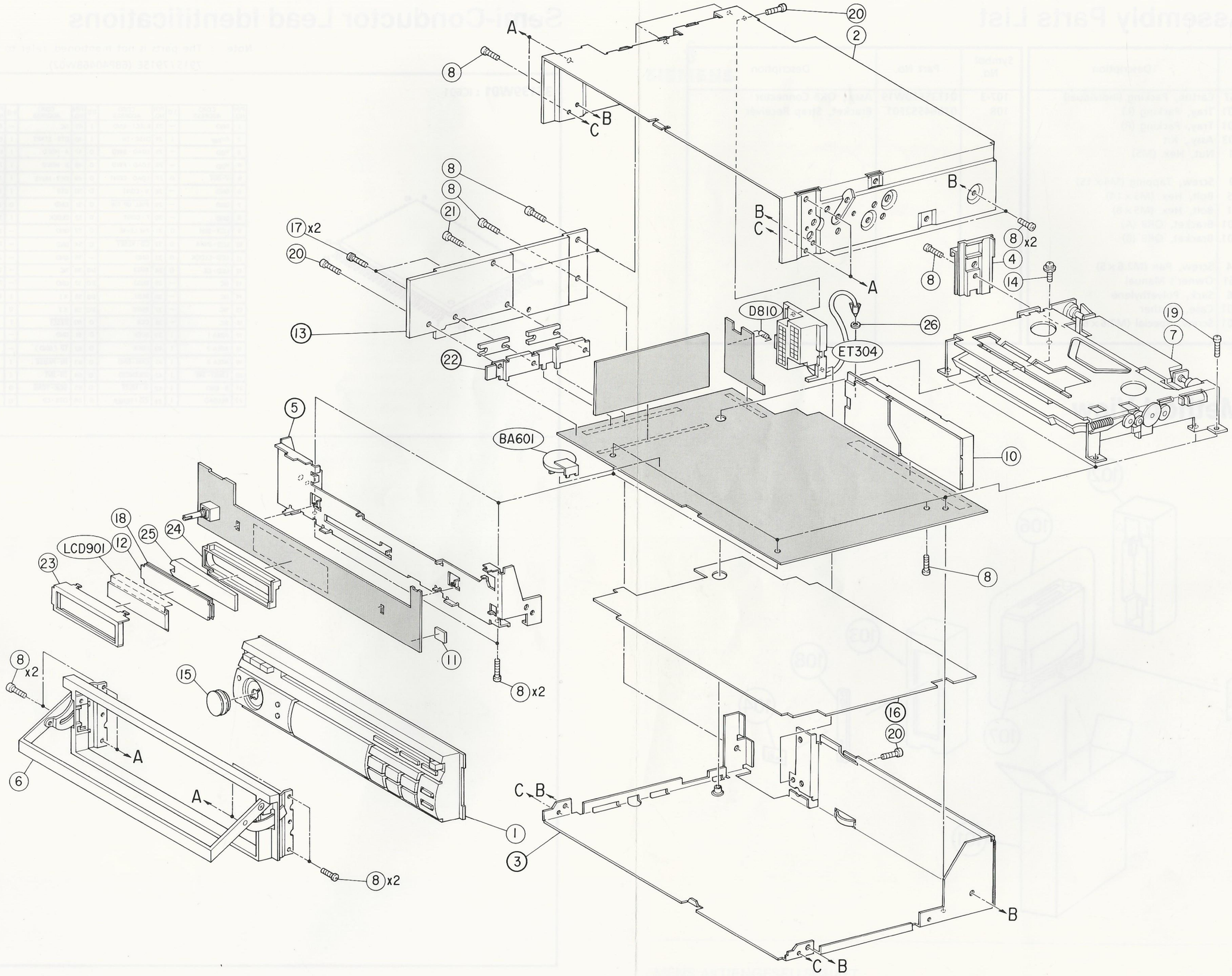
Cabinet Assembly Parts List

Notes : ● The parts without parts list are not supplied.
● Parts marked * will need a long delivery time, or may be not supplied in some cases.

Symbol No.	Index	Part No.	Description
1	5-D	13D32016W02	Assy., Nosepiece
2	1-F	15C31091W01	Cover, Top
4	2-F	15B31095W01	Cover, P.C.Board
6	4-A	07C21606W01	Assy., Bracket Handle
*7	2-G	81D30153W01	CD Mechanism, DP24A210
8		03S44205G34	Screw, Pan (M2.6×5)
10	3-F	77C30987W01	FM/AM Tuner Unit, MB4E901B (FE001)
11	4-C	75S62361F49	Cushion, Rubber
12	3-B	26A31090W02	Reflector, Sheet
14	2-F	03D40121T43	Screw, W/Double Washer (M2.6×6)
15	4-B	36A31085W01	Knob, Rotary
17	2-C	03S40014G74	Screw, W/Washer (M2.6×16)
18	3-B	26A31090W03	Reflector, Sheet
19	2-G	03S44205G29	Screw, Pan (M2.6×6)
20		03S52360F78	Screw, Pan (M2.6×8)
21	2-C	03S38013W04	Screw, Pan (M2.6×12)
23	3-A	26A31087W01	Shield, LCD
24	3-B	15B31088W01	Cover, LCD
25	3-B	61A31089W01	Lens, LCD
26	2-F	04B41345P11	Washer, Lock (M1.2)

Symbol No.	Index	Part No.	Description

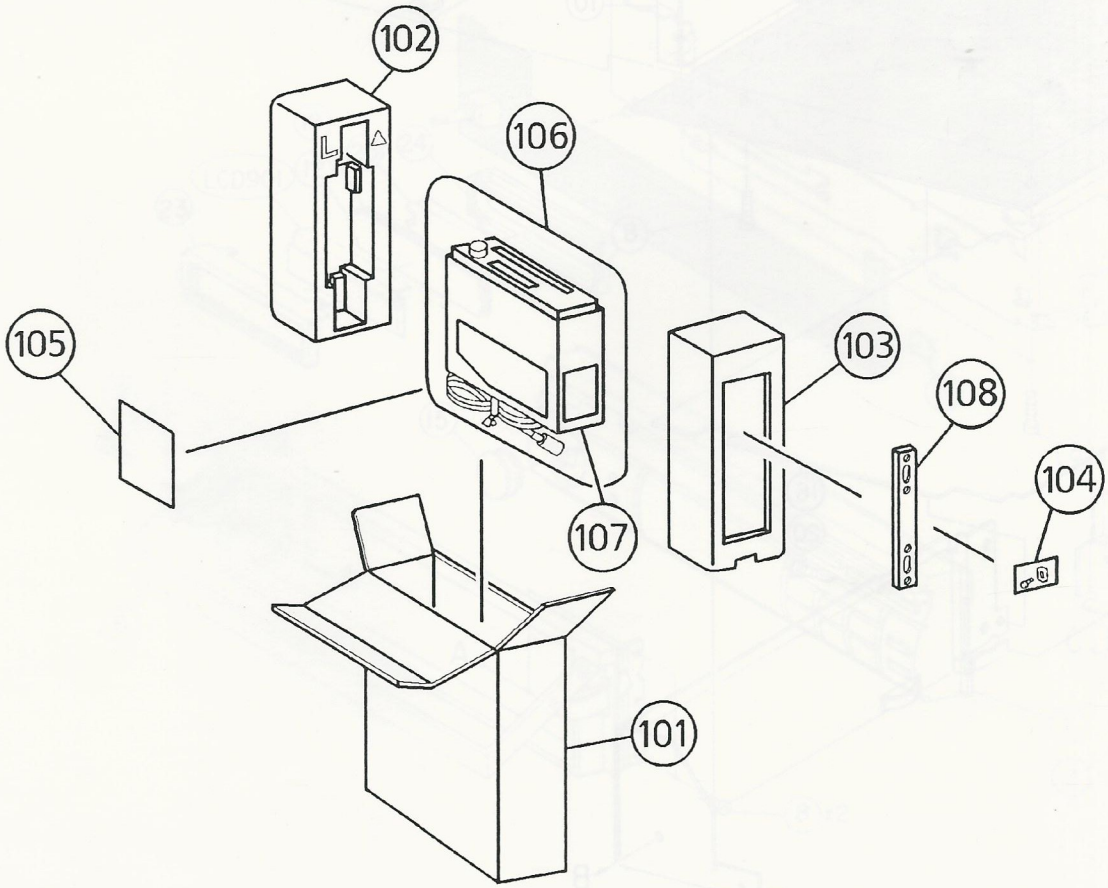
Exploded View (Cabinet)



Packing Assembly Parts List

Symbol No.	Part No.	Description
101	56S30003W67	Carton, Packing (Individual)
102	56D22122W01	Tray, Packing (L)
103	56D22122W01	Tray, Packing (R)
104	01V34100W03	Assy., Kit
104-1	02B47353F01	Nut, Hex. (M5)
104-2	03S63857F59	Screw, Tapping (M4×15)
104-3	03A40155F05	Bolt, Hex. (M5×14)
104-4	03A40155F01	Bolt, Hex. (M5×8)
104-5	07A30081W01	Bracket, QRB (A)
104-6	07A30082W01	Bracket, QRB (B)
104-7	03S44205G34	Screw, Pan (M2.6×5)
105	68P32052W61	Owner's Manual
106	56C40990T36	Sack, Polyethylene
107-1	15D21598W01	Case, Mother
107-2	03A28015W01	Screw, Special (M2.6×6.7)
107-3	01T35620W19	Assy., QRB Connector
108	07B64552F01	Bracket, Strap Receiver

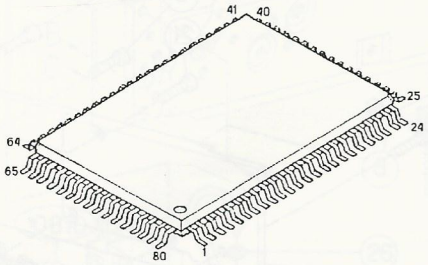
Packing Method View



Semi-Conductor Lead Identifications

Note : The parts is not mentioned, refer to the Service Manual 7915 / 7915E (68P40468W02).

35139W01 : IC601



PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O	PIN NO.	CORD ADDRESS	I/O
1	GND	—	23	EJECT - END	I	45	NC	—	67	O - INT	O
2	AV_{REF}	I	24	DISC - IN	I	46	DTS - START	I	68	O - REM	O
3	V_{DD}	—	25	LOAD - BWD	O	47	A - HOLD	I	69	POWER - ON	O
4	V_{DD}	—	26	LOAD - FWD	O	48	B - HOLD	I	70	EV - INH	O
5	$\overline{V\text{-}OUT}$	O	27	LOAD - CONT	O	49	DTS - MUTE	I	71	EV - DATA	O
6	GND	—	28	V - CONT	O	50	STS	I	72	EV - CLOCK	O
7	GND	—	29	$\overline{PULL\ UP\ SW}$	O	51	CMD	O	73	GND	—
8	GND	—	30	F - CONT	O	52	CLOCK	I	74	ENCOD - DOWN	I
9	LCD - INH	O	31	FM LEVEL	O	53	GND	—	75	ENCOD - UP	I
10	LCD - DATA	O	32	$\overline{CD\text{-}RESET}$	O	54	GND	—	76	GND	—
11	LCD - CLOCK	O	33	GND	—	55	GND	—	77	T - SENSE	I
12	LCD - CE	O	34	BUS3	I/O	56	NC	—	78	KEY - A/D 0	I
13	NC	—	35	BUS2	I/O	57	GND	—	79	KEY - A/D 1	I
14	NC	—	36	BUS1	I/O	58	X1	I	80	KEY - A/D 2	I
15	NC	—	37	BUS0	I/O	59	X2	O			
16	NC	—	38	CCE	O	60	$\overline{RESET}$	I			
17	AREA 1	I	39	BUCK	O	61	GND	—			
18	AREA 2	I	40	LOCK	O	62	$\overline{TP}$ (GND)	—			
19	AREA 3	I	41	$\overline{CAM\text{-}END}$	O	63	$\overline{IN\text{-}PAUSE}$	I			
20	$\overline{LIMIT\text{-}SW}$	I	42	SOLENOID	O	64	$\overline{IN\text{-}INT}$	I			
21	8 - END	I	43	$\overline{A\text{-}MUTE}$	O	65	$\overline{SDK\text{-}TONE}$	O			
22	RELOAD	I	44	$\overline{CD}$ / TUNER	O	66	DTS - CE	O			