

# DENON

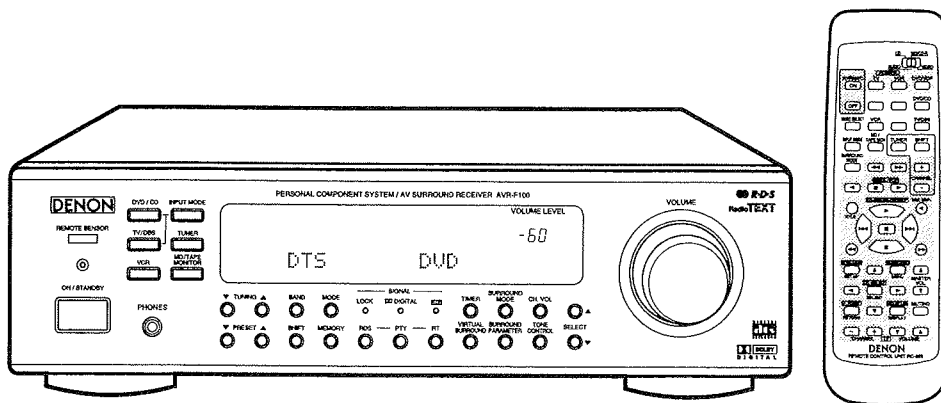
For Europe & U.K. model

Hi-Fi Component

## SERVICE MANUAL

# MODEL AVR-F100

### AV SURROUND RECEIVER



#### — TABLE OF CONTENTS —

|                                       |       |                                           |       |
|---------------------------------------|-------|-------------------------------------------|-------|
| SAFETY PRECAUTIONS .....              | 2     | EXPLODED VIEW .....                       | 28    |
| SPECIFICATIONS .....                  | 2     | PARTS LIST OF EXPLODED VIEW .....         | 29    |
| DISASSEMBLY .....                     | 3,4   | PACKING VIEW .....                        | 30    |
| ADJUSTMENT .....                      | 5     | PARTS LIST OF PACKING & ACCESSORIES ..... | 30    |
| BLOCK DIAGRAM .....                   | 6     | WIRING DIAGRAM .....                      | 31    |
| LEVEL DIAGRAM .....                   | 7     | SCHEMATIC DIAGRAMS .....                  | 33~36 |
| SEMICONDUCTORS .....                  | 8~13  | (1/4) MAIN UNIT .....                     | 33    |
| PRINTED WIRING BOARDS .....           | 14~19 | (2/4) DSP UNIT .....                      | 34    |
| NOTE FOR PARTS LIST .....             | 20    | (3/4) CPU UNIT .....                      | 35    |
| PARTS LIST OF P.W.B. UNIT ASS'Y ..... | 20~27 | (4/4) FRONT UNIT .....                    | 36    |

● Some illustrations using this service manual are slightly different from the actual set.

## NIPPON COLUMBIA CO., LTD.

## SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

### LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

## SPECIFICATIONS

### ■ Audio section

#### ● Power amplifier

|                   |               |                                  |
|-------------------|---------------|----------------------------------|
| Rated output:     | 20W + 20W     | (6Ω/ohms, 1kHz with 0.08% T.H.D) |
|                   | 25W + 25W     | (6Ω/ohms, 1kHz with 10% T.H.D)   |
| Output terminals: | 6 to 16Ω/ohms |                                  |

#### ● Analog

##### LINE input - PRE OUT

|                                    |                       |
|------------------------------------|-----------------------|
| Input Sensitivity/input impedance: | 110mV/47kΩ/kohms      |
| Frequency response:                | 10Hz~50kHz: +1, -3dB  |
| S/N ratio:                         | 90dB (IHF-A weighted) |

### ■ Video section

#### ● Standard video jacks

|                                   |                      |
|-----------------------------------|----------------------|
| Input/output level and impedance: | 1Vp-p, 75Ω/ohms      |
| Frequency response:               | 5Hz~10MHz — +1, -3dB |

### ■ Tuner section

|                     |                                                                          |                |
|---------------------|--------------------------------------------------------------------------|----------------|
|                     | <b>[FM]</b> (note: μV at 75Ω/ohms, 0dBf = $1 \times 10^{-15} \text{W}$ ) | <b>[AM]</b>    |
| Receiving range:    | 87.50MHz~108.00MHz                                                       | 522kHz~1611kHz |
| Usable sensitivity: | 1.0 μV (11.2dBf)                                                         | 26 μV          |

### ■ General

|                              |                              |
|------------------------------|------------------------------|
| Power supply:                | AC230V, 50Hz                 |
| Power consumption:           | 60W                          |
| Maximum external dimensions: | 270 (W) × 84 (H) × 277 (D)mm |
| Mass:                        | 4.2kg                        |

### ■ Remote control unit (RC-889)

|                      |                               |
|----------------------|-------------------------------|
| Batteries:           | R6P/AA Type(two batteries)    |
| External dimensions: | 54 (W) × 172 (H) × 27.2 (D)mm |
| Mass:                | 100g (including batteries)    |

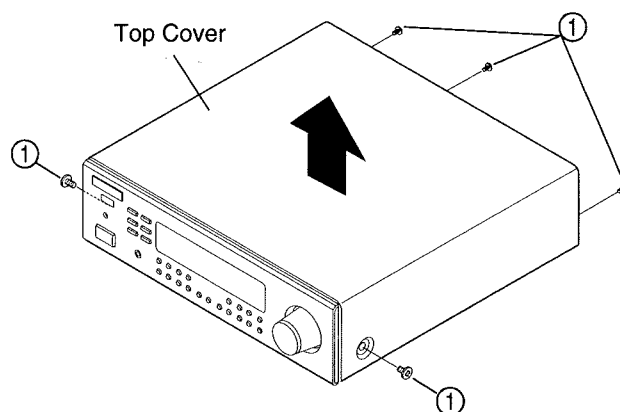
\* For purposes of improvement, specifications and design are subject to change without notice.

## DISASSEMBLY

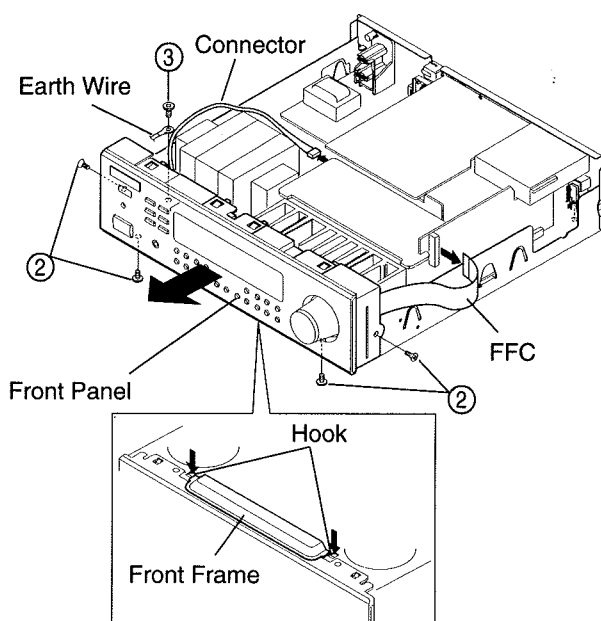
(Follow the procedure below in reverse order when reassembling)

### 1. Top Cover & Front Panel

- (1) Remove 5 screws ① fixing the Top Cover.
- (2) Detach the Top Cover to the arrow direction.

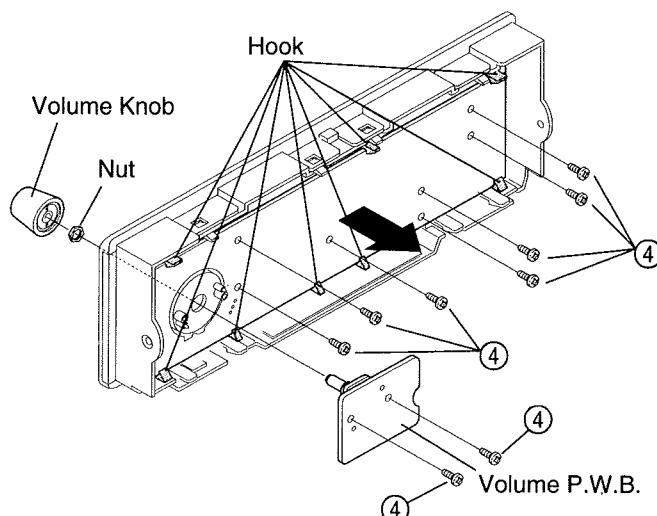


- (3) Remove 4 screws ② from the bottom and both sides.
- (4) Disconnect FFC and connector.
- (5) Remove 1 screw ③ to disconnect earth wire.
- (6) Detach the Front Panel with releasing its hooks from the Chassis as shown in the arrow direction.



### 2. Front P.W.B.

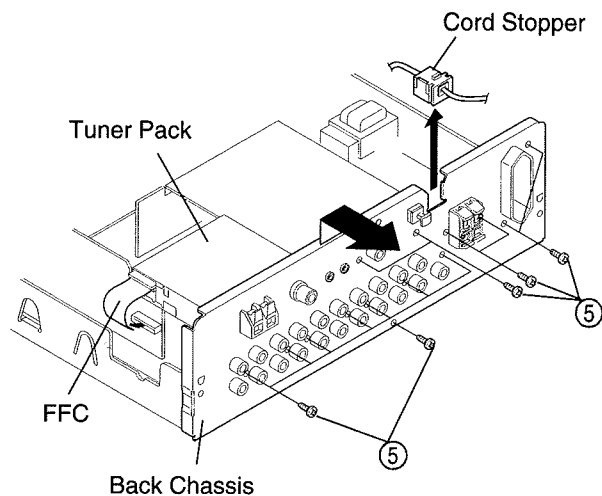
- (1) Pull out the volume knob.
- (2) Remove the nut.
- (3) Remove 9 screws ④ and detach the Volume P.W.B.
- (4) Release 8 hooks and detach the Front P.W.B. in the arrow direction.



### 3. Back Chassis & Each P.W.B.

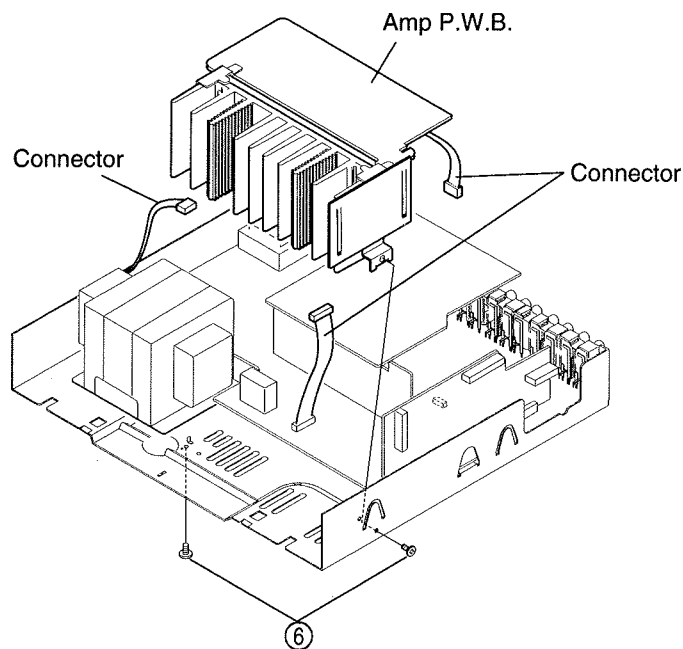
#### Back Chassis

- (1) Disconnect FFC.
- (2) Remove 14 screws (5) fixing the Back Chassis.
- (3) Detach the Back Chassis with Tuner Pack.



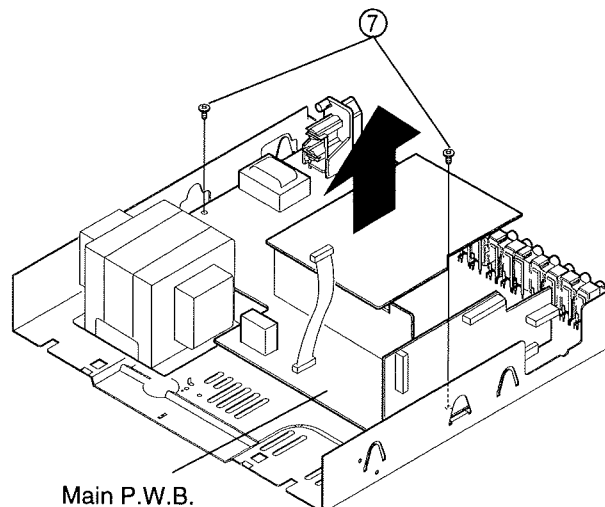
#### Amp P.W.B.

- (4) Remove 2 screws (6) fixing the Heat Sink Bracket.
- (5) Disconnect connectors from their connector bases.
- (6) Detach the Amp P.W.B. with the Heat Sink.



#### Main P.W.B.

- (7) Remove 2 screws (7), to detach the Main P.W.B. in the arrow direction.



# ADJUSTMENT

## Idling Current

Required measurement equipment : DC Voltmeter

## Preparation

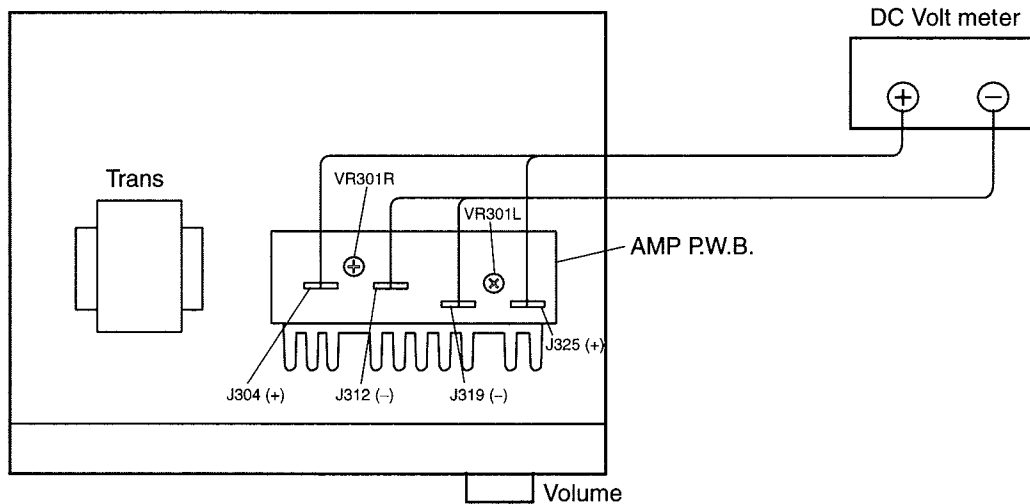
- (1) Avoid direct blow from an air conditioner or an electric fan, and adjust the unit at normal room temperature 15 °C ~ 30 °C (59 °F ~ 86 °F).
- (2) Presetting
  - POWER (Power source switch) → OFF
  - SPEAKER (Speaker terminal) → No load (Do not connect speaker, dummy resistor, etc.)

**Note:** The following adjustment should be performed from the foil side of the P.W.B.

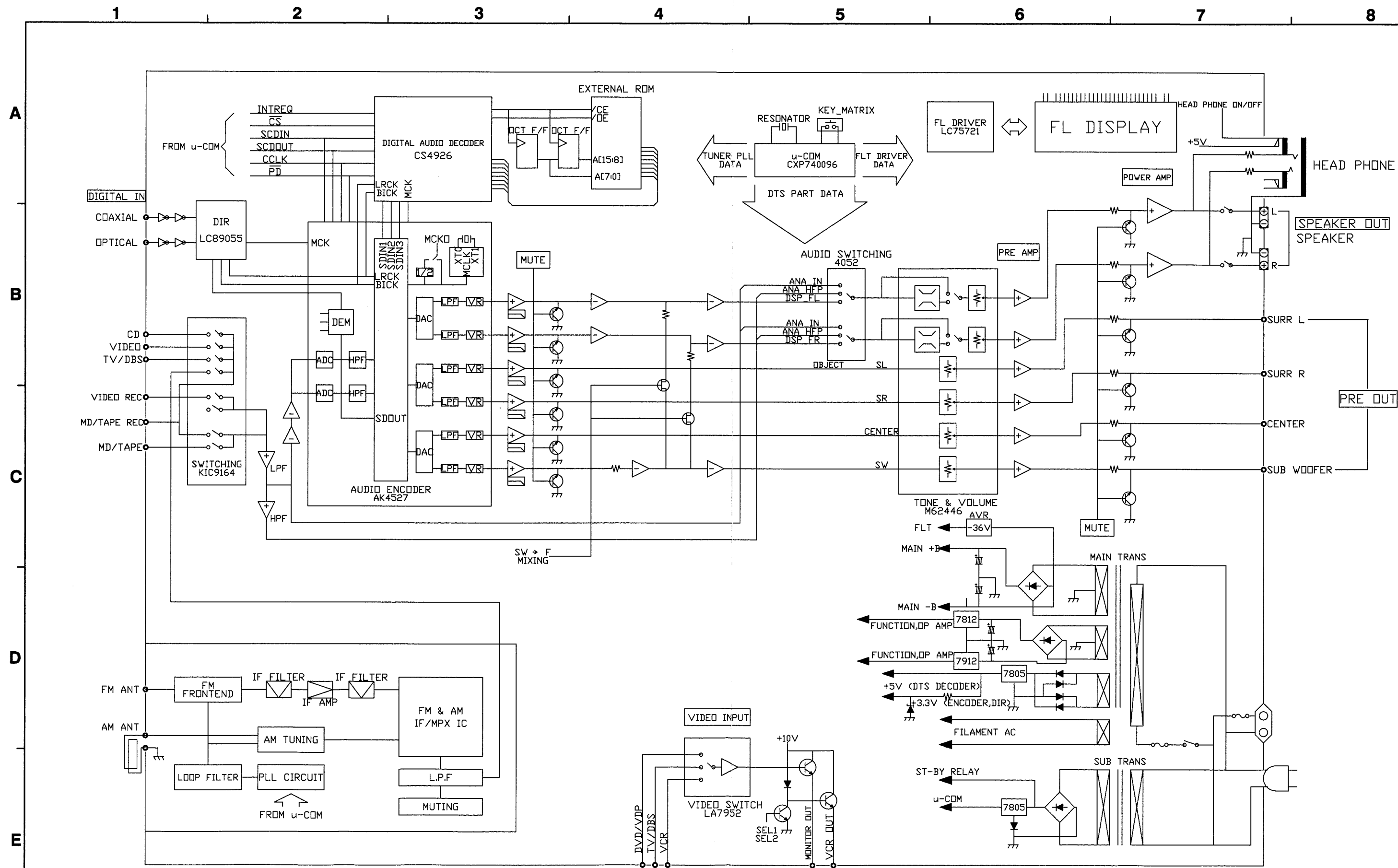
## Adjustment

- (1) Remove top cover and set VR301L, VR301R on Amp. Unit at center position.
- (2) Connect DC Voltmeter to test points, Lch: J319 (-), J325 (+), Rch: J312 (-), J304 (+).
- (3) Connect power cord to AC Line, and turn power switch "ON".
- (4) Presetting.

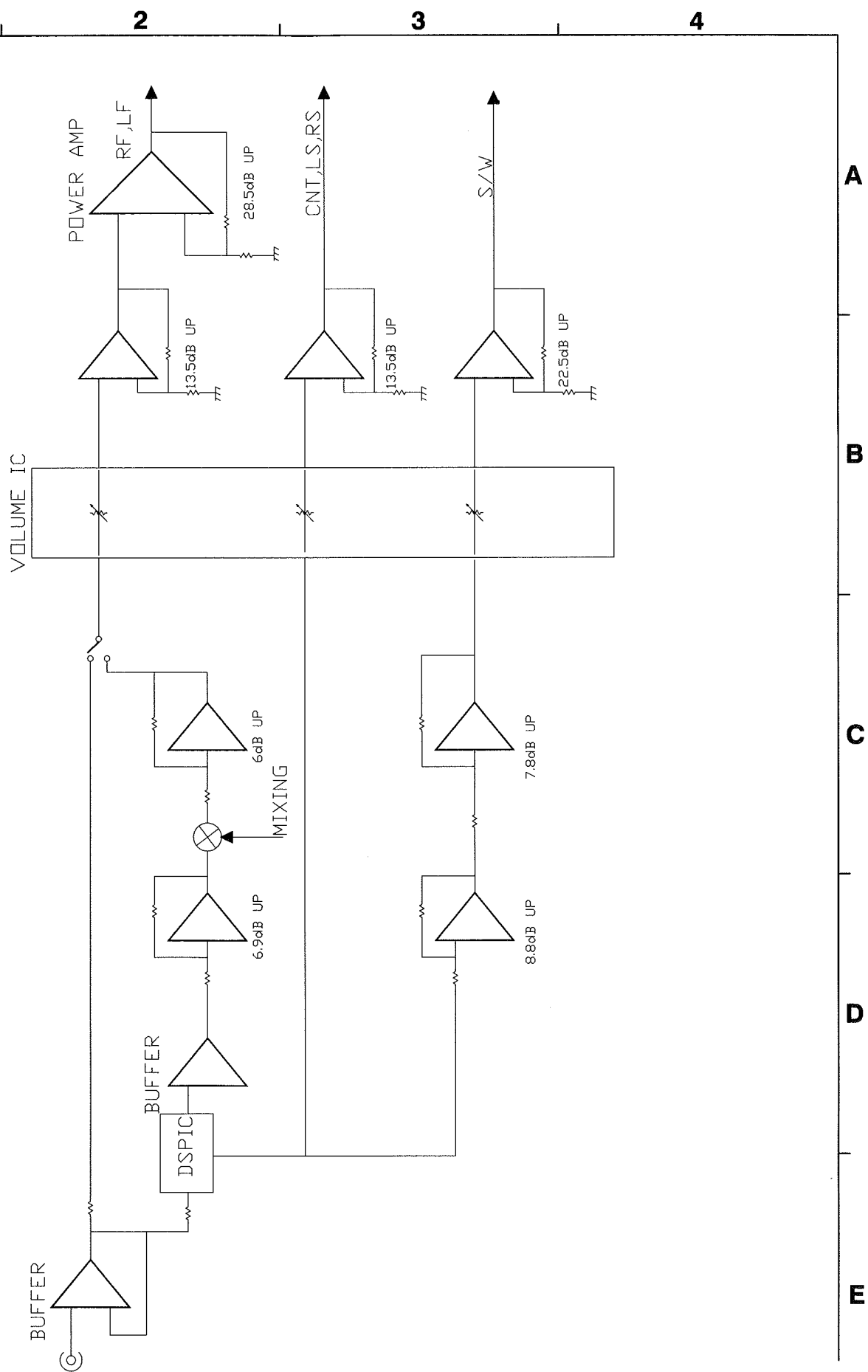
|               |                                   |
|---------------|-----------------------------------|
| MASTER VOLUME | : "---" counterclockwise (⤿ min.) |
| MODE          | : STEREO                          |
| FUNCTION      | : CD                              |
- (5) Within 2 minutes after the power on, turn VR301L to adjust the TEST POINT voltage to 4.5 mV  $\pm 1.0$  mV DC.
- (6) Adjust the Variable Resistors of other channels in the same way.



## BLOCK DIAGRAM

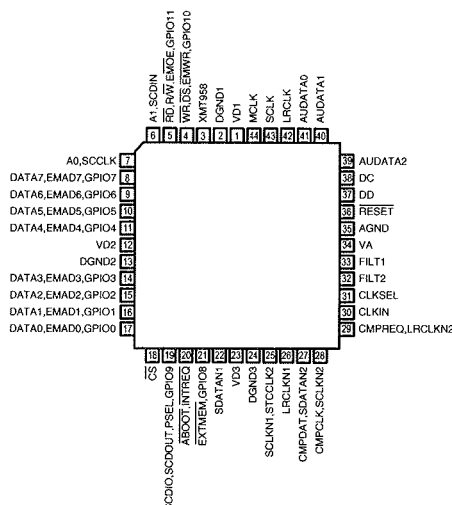


# LEVEL DIAGRAM



## SEMICONDUCTORS

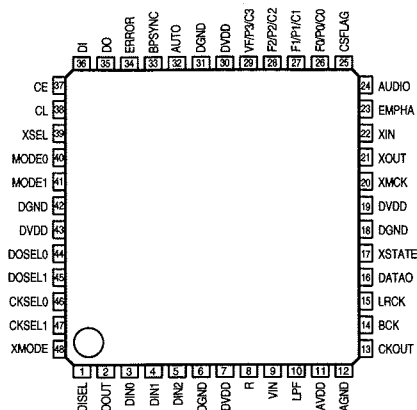
## ● ICs

**CS492604-CLR  
(IC807)****CS492604-CLR Terminal Function**

| Pin No. | Pin Name                           | Function                                                                                                                      |
|---------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 1       | VD1                                | Digital positive supply                                                                                                       |
| 2       | DGND1                              | Digital supply ground                                                                                                         |
| 3       | XMT958                             | SPDIF transmitter output                                                                                                      |
| 4       | WR, $\overline{DS}$ , EMWR, GPIO10 | Host write strobe or host data strobe or external memory write enable or general purpose input & output number 10             |
| 5       | RD, R/W, EMOE, GPIO11              | Host parallel output enable or host parallel R/W or external memory output enable or general purpose input & output number 11 |
| 6       | A1, SCDIN                          | Host address bit one or SPI serial control data input                                                                         |
| 7       | A0, SCCLK                          | Host parallel address bit zero or serial control port clock                                                                   |
| 8       | DATA7, EMAD7, GPIO7                |                                                                                                                               |
| 9       | DATA6, EMAD6, GPIO6                |                                                                                                                               |
| 10      | DATA5, EMAD5, GPIO5                |                                                                                                                               |
| 11      | DATA4, EMAD4, GPIO4                |                                                                                                                               |
| 12      | VD2                                | Digital positive supply                                                                                                       |
| 13      | DGND2                              | Digital supply ground                                                                                                         |
| 14      | DATA3, EMAD3, GPIO3                |                                                                                                                               |
| 15      | DATA2, EMAD2, GPIO2                |                                                                                                                               |
| 16      | DATA1, EMAD1, GPIO1                |                                                                                                                               |
| 17      | DATA0, EMAD0, GPIO0                |                                                                                                                               |
| 18      | $\overline{CS}$                    | Host parallel chip select, host serial SPI chip select                                                                        |
| 19      | SCDIO, SCDOUT, PSEL, GPIO9         | Serial control port data input and output, parallel port type select                                                          |
| 20      | INTREQ, $\overline{ABOOT}$         | Control port interrupt request, automatic boot enable                                                                         |
| 21      | EXTMEM, GPIO8                      | External memory chip select or general purpose input & output number 8                                                        |
| 22      | SDATAN1                            | PCM audio data input number one                                                                                               |
| 23      | VD3                                | Digital positive supply                                                                                                       |
| 24      | DGND3                              | Digital supply ground                                                                                                         |
| 25      | SCLKN1, STCLK2                     | PCM audio input bit clock                                                                                                     |
| 26      | LRCLKN1                            | PCM audio input sample rate clock                                                                                             |
| 27      | CMPDAT, SDATAN2                    | PCM audio data input number two                                                                                               |
| 28      | CMPCLK, SCLKN2                     | PCM audio input bit clock                                                                                                     |
| 29      | CMPREQ, LRCLKN2                    | PCM audio input sample rate clock                                                                                             |
| 30      | CLKIN                              | Master clock input                                                                                                            |
| 31      | CLKSEL                             | DSP clock select                                                                                                              |
| 32      | FILT2                              | Phase locked loop filter                                                                                                      |
| 33      | FILT1                              | Phase locked loop filter                                                                                                      |
| 34      | VA                                 | Analog positive supply                                                                                                        |
| 35      | AGND                               | Analog supply ground                                                                                                          |
| 36      | RESET                              | Master reset input                                                                                                            |
| 37      | DD                                 | Reserved                                                                                                                      |
| 38      | DC                                 | Reserved                                                                                                                      |
| 39      | AUDATA2                            | Digital audio output 2                                                                                                        |
| 40      | AUDATA1                            | Digital audio output 1                                                                                                        |
| 41      | AUDATA0                            | Digital audio output 0                                                                                                        |
| 42      | LRCLK                              | Audio output sample rate clock                                                                                                |
| 43      | SCLK                               | Audio output bit clock                                                                                                        |
| 44      | MCLK                               | Audio master clock                                                                                                            |



## LC89055W (IC806)

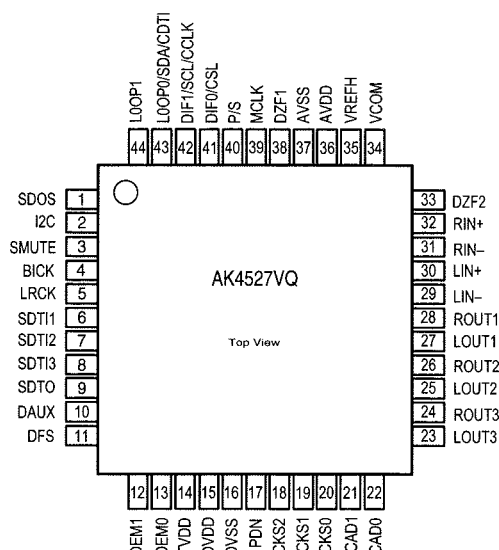


## LC89055W Terminal Function

| Pin No. | Pin Name | I/O | Function                                                                                      |
|---------|----------|-----|-----------------------------------------------------------------------------------------------|
| 1       | DISEL    | I   | Data input terminal (select input pin of DIN0, DIN1)                                          |
| 2       | DOUT     | O   | Input bi-phase data through output terminal                                                   |
| 3       | DIN0     | I   | Amp built-in coaxial/optical input correspond data input terminal                             |
| 4       | DIN1     | I   | Amp built-in coaxial/optical input correspond data input terminal                             |
| 5       | DIN2     | I   | Optical input correspond data input terminal                                                  |
| 6       | DGND     |     | Digital GND                                                                                   |
| 7       | DVDD     |     | Digital power supply                                                                          |
| 8       | R        | I   | VCO gain control input terminal                                                               |
| 9       | VIN      | I   | VCO free-run frequency setting input terminal                                                 |
| 10      | LPF      | O   | PLL loop filter setting terminal                                                              |
| 11      | AVDD     |     | Analog power supply                                                                           |
| 12      | AGND     |     | Analog GND                                                                                    |
| 13      | CKOUT    | O   | Clock output terminal (256fs, 384fs, 512fs, X'tal osc., VCO free-run osc.)                    |
| 14      | BCK      | O   | 64fs clock output terminal                                                                    |
| 15      | LRCK     | O   | fs clock output terminal (L: Rch, H: Lch, I <sup>2</sup> S: Reverse)                          |
| 16      | DATAO    | O   | Data output terminal                                                                          |
| 17      | XSTATE   | O   | Input data detecting result output terminal                                                   |
| 18      | DGND     |     | Digital GND                                                                                   |
| 19      | DVDD     |     | Digital power supply                                                                          |
| 20      | XMCK     | O   | X'tal osc. clock output terminal (24.576MHz or 12.288MHz)                                     |
| 21      | XOUT     | O   | X'tal osc. connection output terminal                                                         |
| 22      | XIN      | I   | X'tal osc. connection input terminal, external signal input possible (24.576MHz or 12.288MHz) |
| 23      | EMPHA    | O   | Emphasis information output terminal of channel status                                        |
| 24      | AUDIO    | O   | Bit1 output terminal of channel status                                                        |
| 25      | CSFLAG   | O   | Top 40bit revise flag output terminal of channel status                                       |
| 26      | F0/P0/C0 | O   | Input fs cal. sig. out/data type out/input word inf. output terminal                          |
| 27      | F1/P1/C1 | O   | Input fs cal. sig. out/data type out/input word inf. output terminal                          |
| 28      | F2/P2/C2 | O   | Input fs cal. sig. out/data type out/input word inf. output terminal                          |
| 29      | VF/P3/C3 | O   | Validity flag out/data type out/input word inf. output terminal                               |
| 30      | DVDD     |     | Digital power supply                                                                          |
| 31      | DGND     |     | Digital GND                                                                                   |
| 32      | AUTO     | O   | Non PCM burst data transfer detect sig. output terminal                                       |
| 33      | BPSYNC   | O   | Non PCM burst data preamble Pa, Pb, Pc, Pd sync sig. output terminal                          |
| 34      | ERROR    | O   | PLL lock error, data error flag output terminal                                               |
| 35      | DO       | O   | CPU/IFD read data output terminal                                                             |
| 36      | DI       | I   | CPU I/F write data input terminal                                                             |
| 37      | CE       | I   | CPU I/F chip enable input terminal                                                            |
| 38      | CL       | I   | CPU I/F chip enable input terminal                                                            |
| 39      | XSEL     | I   | Frequency select input pin of XIN X'tal osc. (24.576MHz or 12.288MHz)                         |
| 40      | MODE0    | I   | Mode setting input terminal                                                                   |
| 41      | MODE1    | I   | Mode setting input terminal                                                                   |
| 42      | DGND     |     | Digital GND                                                                                   |
| 43      | DVDD     |     | Digital power supply                                                                          |
| 44      | DOSEL0   | I   | Data output format select input terminal                                                      |
| 45      | DOSEL1   | I   | Data output format select input terminal                                                      |
| 46      | CKSEL0   | I   | Output clock select input terminal                                                            |
| 47      | CKSEL1   | I   | Output clock select input terminal                                                            |
| 48      | XMODE    | I   | Reset input terminal                                                                          |

- For latch-up countermeasure, set digital (DVDD) and analog (AVDD) power on/off in the same timing.

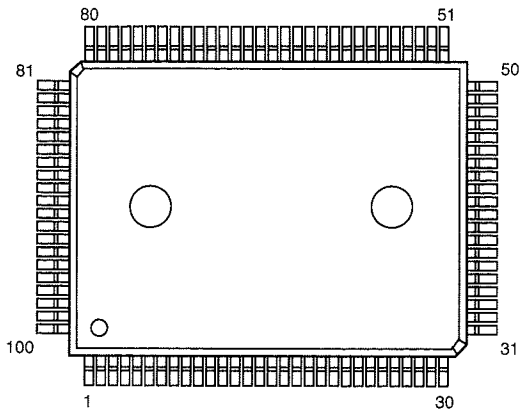
## AK4527VQ (IC810)



## AK4527VQ Terminal Function

| Pin No. | Pin Name | I/O | Function                                                                                                                              |
|---------|----------|-----|---------------------------------------------------------------------------------------------------------------------------------------|
| 1       | SDOS     | I   | SDTO source select pin, L: Internal ADC output, H: DAUX input                                                                         |
| 2       | I2C      | I   | Serial control mode select pin, L: 3-core serial, H: I <sup>2</sup> C bus                                                             |
| 3       | SMUTE    | I   | Soft mute pin, H: Soft mute start, L: Release                                                                                         |
| 4       | BICK     | I   | Audio serial data clock pin                                                                                                           |
| 5       | LRCK     | I   | Input channel clock pin                                                                                                               |
| 6       | SDTI1    | I   | DAC1 audio serial data input pin                                                                                                      |
| 7       | SDTI2    | I   | DAC2 audio serial data input pin                                                                                                      |
| 8       | SDTI3    | I   | DAC3 audio serial data input pin                                                                                                      |
| 9       | SDTO     | O   | Audio serial data output pin                                                                                                          |
| 10      | DAUX     | I   | Auxiliary audio serial data input pin                                                                                                 |
| 11      | DFS      | I   | Double speed sampling mode pin, L: Normal, H: Double                                                                                  |
| 12      | DEM1     | I   | De-emphasis-1 pin                                                                                                                     |
| 13      | DEM0     | I   | De-emphasis-2 pin                                                                                                                     |
| 14      | TVDD     | —   | Power pin for output buffer, 2.7V~5.5V                                                                                                |
| 15      | DVDD     | —   | Digital power pin, 4.5V~5.5V                                                                                                          |
| 16      | DVSS     | —   | Digital GND pin, 0V                                                                                                                   |
| 17      | PDN      | I   | Power down & reset pin, L: Powered-down and register initialized, Reset with PDN when switching CAD0-1                                |
| 18      | ICKS2    | I   | Input clock select-2 pin                                                                                                              |
| 19      | ICKS1    | I   | Input clock select-1 pin                                                                                                              |
| 20      | ICKS0    | I   | Input clock select-0 pin                                                                                                              |
| 21      | CAD1     | I   | Chip address-1 pin                                                                                                                    |
| 22      | CAD0     | I   | Chip address-0 pin                                                                                                                    |
| 23      | LOUT3    | O   | DAC3L channel analog out pin                                                                                                          |
| 24      | ROUT3    | O   | DAC3R channel analog out pin                                                                                                          |
| 25      | LOUT2    | O   | DAC2L channel analog out pin                                                                                                          |
| 26      | ROUT2    | O   | DAC2R channel analog out pin                                                                                                          |
| 27      | LOUT1    | O   | DAC1L channel analog out pin                                                                                                          |
| 28      | ROUT1    | O   | DAC1R channel analog out pin                                                                                                          |
| 29      | LIN-     | I   | L-ch analog inverted input pin                                                                                                        |
| 30      | LIN+     | I   | L-ch analog non-inverted input pin                                                                                                    |
| 31      | RIN-     | I   | R-ch analog inverted input pin                                                                                                        |
| 32      | RIN+     | I   | R-ch analog non-inverted input pin                                                                                                    |
| 33      | DZF2     | O   | 0 input detect 2 pin, H: Input data of G2 is 8192 times "0" in a raw or RSTN bit "0", L: When P/S= "0"                                |
| 34      | VCOM     | O   | Common V-out pin, AVDD/2, connect large capacitor to avoid noise                                                                      |
| 35      | VREFH    | I   | Ref. V input pin, AVDD                                                                                                                |
| 36      | AVDD     | —   | Analog GND pin, 4.5V~5.5V                                                                                                             |
| 37      | AVSS     | —   | Analog GND pin, 0V                                                                                                                    |
| 38      | DZF1     | O   | 0 input detect pin, H: Input data of G1 is 8192 times "0" in a raw or RSTN bit "0", L: When P/S= "0"                                  |
| 39      | MCLK     | I   | Master clock input pin                                                                                                                |
| 40      | P/S      | I   | Parallel/Serial select pin, L: Serial control                                                                                         |
| 41      | DIF0     | I   | Audio data I/F format 0 pin (parallel control)                                                                                        |
| 41      | CSN      | I   | Chip select pin (3-wire serial control), connect to DVDD when I <sup>2</sup> C bus control                                            |
| 42      | DIF1     | I   | Audio data I/F format 1 pin (parallel control)                                                                                        |
| 42      | SCL/CCLK | I   | Control data clock pin (serial control), I <sup>2</sup> C="L": CCLK (3-wire serial), I <sup>2</sup> C="H": SCL (I <sup>2</sup> C bus) |
| 43      | LOOP0    | I   | Loop back mode 0 pin (parallel control), effects digital loop back ADC to all DAC                                                     |
| 43      | SDA/CDTI | I/O | Control data input pin (serial control), I <sup>2</sup> C="L": CCT1 (3-wire serial), I2C="H" SDA (I <sup>2</sup> C bus)               |
| 44      | LOOP1    | I   | Loop back mode 1 pin, from SDTI1 to all DAC                                                                                           |

CXP7400P10 (IC1)

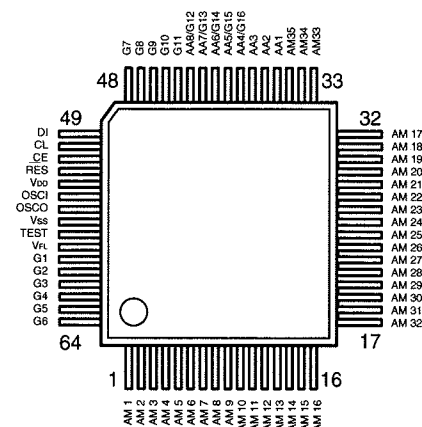


CXP7400P10 Terminal Function

| Pin No. | Pin Name                  | I/O | Function                                               |
|---------|---------------------------|-----|--------------------------------------------------------|
| 1       | TC9164_DATA               | O   | Analog switching IC TC9164 data function switch        |
| 2       | TC9164_CE                 | O   | Analog switching IC TC9164 chip enable function switch |
| 3       | TC9164_CLOCK              | O   | Analog switching IC TC9164 clock function switch       |
| 4       | SUB_W_SUM (S/W)           | O   | Sub woofer sum switch control                          |
| 5       | SEL_SCL (D/A S/W)         | O   | D/A switch control                                     |
| 6       | SERIAL_CLK_OUT            | O   | DENON BUS clock out                                    |
| 7       | SERIAL_IN                 | I   | DENON BUS data input                                   |
| 8       | SERIAL_OUT                | O   | DENON BUS data output                                  |
| 9       | SERIAL_CLK                | I   | DENON BUS clock input                                  |
| 10      | DIR_SDATA                 | I   | DIR IC LC89055 data input                              |
| 11      | PB3                       | O   | N.C.                                                   |
| 12      | ROM3 (U5)                 | O   | EEPROM 3                                               |
| 13      | ROM30 (U7)                | O   | EEPROM 30                                              |
| 14      | ROM2 (U6)                 | O   | EEPROM 2                                               |
| 15      | CS4926_RST                | O   | DSP IC CS4296 reset                                    |
| 16      | CS4926_RST                | O   | DSP IC CS4296 chip enable                              |
| 17      | LC89055/AK4527/CS4926_SCK | O   | DIR IC LC89055, CODEC IC AK4527, DSP IC CS4926 clock   |
| 18      | LC89055_CS                | O   | DIR IC LC89055 chip select                             |
| 19      | AK4527_CS                 | O   | CODEC IC AK4527 chip enable                            |
| 20      | LC89055_PDN               | O   | DIR IC LC89055 power down (reset)                      |
| 21      | PJ1                       | I/O | N.C.                                                   |
| 22      | SW_MUTE                   | O   | Sub woofer mute                                        |
| 23      | PD7                       | I/O | N.C.                                                   |
| 24      | SPEAKER_RELAY             | O   | Speaker relay On (H), Off (L)                          |
| 25      | H/P_IN                    | I   | Headphone input                                        |
| 26      | REAR_MUTE                 | O   | Audio rear channel mute                                |
| 27      | H/P_MUTE                  | O   | Headphone mute                                         |
| 28      | STANDBY_RELAY             | O   | Standby relay control                                  |
| 29      | CENTER_MUTE               | O   | Audio center channel mute                              |
| 30      | FRONT_MUTE                | O   | Audio front channel mute                               |
| 31      | PH7                       | O   | N.C.                                                   |
| 32      | PH6                       | O   | N.C.                                                   |
| 33      | DIGITAL_LED               | O   | Digital LED                                            |
| 34      | LOCK_LED                  | O   | Lock LED                                               |
| 35      | DTS_LED                   | O   | DTS LED                                                |
| 36      | STANDBY_LED (R)           | O   | Standby LED red                                        |
| 37      | STANDBY_LED (G)           | O   | Standby LED green                                      |
| 38      | PH0                       | O   | N.C.                                                   |
| 39      | SUB_W_ATT (S/W)           | O   | Sub woofer attenuator switch                           |
| 40      | RESET                     | I   | μcom reset, H: Normal operation, L: Reset              |
| 41      | Vss                       |     | μcom main ground                                       |
| 42      | XTAL                      | O   | μcom main OSC                                          |

| Pin No. | Pin Name                    | I/O | Function                                                                                    |
|---------|-----------------------------|-----|---------------------------------------------------------------------------------------------|
| 43      | EXTAL                       | I   | μcom main OSC                                                                               |
| 44      | FL_DRV_RST                  | O   | FLT driver IC reset                                                                         |
| 45      | FL_DRV_CLK                  | O   | FLT driver IC clock                                                                         |
| 46      | FL_DRV_DATA                 | O   | FLT driver IC data                                                                          |
| 47      | FL_DRV_CE                   | O   | FLT driver IC chip enable                                                                   |
| 48      | ENC_VOL_DN                  | I   | Encoder volume down                                                                         |
| 49      | ENC_VOL_UP                  | I   | Encoder volume up                                                                           |
| 50      | PF5/AN9                     | I/O | N.C.                                                                                        |
| 51      | AK4527_RST                  | I/O | CODEC IC AK4527 reset                                                                       |
| 52      | AVss                        |     | μcom A/D ground                                                                             |
| 53      | AVREF                       |     | μcom A/D reference voltage (+5V)                                                            |
| 54      | AVDD                        |     | μcom A/D main voltage (+5V)                                                                 |
| 55      | PF3/AN7                     | I/O | N.C.                                                                                        |
| 56      | S_LEVEL                     | I   | Tuner signal level (A/D input)                                                              |
| 57      | STEP_OPTION                 | I   | Step option (A/D input)<br><0.94Volt→USA, <2.37Volt→ASIA, <3.61Volt→JAPAN, ≥3.61Volt→Europe |
| 58      | SET_OPTION                  | I   | Set option (A/D input) <2.4Volt→Non RDS, ≥2.4Volt→RDS                                       |
| 59      | AN3                         | I   | Pull down                                                                                   |
| 60      | KEY_IN3                     | I   | Key return 3 (A/D input)                                                                    |
| 61      | KEY_IN2                     | I   | Key return 2 (A/D input)                                                                    |
| 62      | KEY_IN1                     | I   | Key return 1 (A/D input)                                                                    |
| 63      | PG7/CINT                    | I/O | N.C.                                                                                        |
| 64      | PROTECTION                  | I   | Protection detect                                                                           |
| 65      | PG5/INT3                    | O   | N.C.                                                                                        |
| 66      | LC89055/AK4527/CS4926_SDIN  | O   | LC89055, AK4527, CS4926 data input                                                          |
| 67      | LC89055/AK4527/CS4926_SDOUT | I   | LC89055, AK4527, CS4926 data out                                                            |
| 68      | LC89055_EMPHA               | I   | DIR IC LC89055 emphasis detect                                                              |
| 69      | LC89055_AUDIO               | I   | DIR IC LC89055 audio detect                                                                 |
| 70      | LC79055_AUTO                | I   | DIR IC LC89055auto detect                                                                   |
| 71      | PE7                         | O   | N.C.                                                                                        |
| 72      | PE6                         | O   | N.C.                                                                                        |
| 73      | PE5                         | O   | N.C.                                                                                        |
| 74      | PE4                         | O   | N.C.                                                                                        |
| 75      | PE3/PWM1                    | O   | N.C.                                                                                        |
| 76      | DSP (ERR_MUTE)              | O   | DIR IC LC89055 error → DSP mute                                                             |
| 77      | POWER_DOWN                  | I   | AC OFF detect / 50Hz, 60Hz detect                                                           |
| 78      | RDS_CLK                     | I   | RDS clock interrupt                                                                         |
| 79      | RDS_DATA                    | I   | RDS data input                                                                              |
| 80      | PLL_CE                      | O   | PLL IC chip enable                                                                          |
| 81      | PLL_CLK                     | O   | PLL IC clock control                                                                        |
| 82      | CS4926_INTREQ               | I   | DSP IC CS4926 INT request input                                                             |
| 83      | PLL_DATA                    | O   | PLL IC control                                                                              |
| 84      | MD/TAPE_S/W                 | O   | TAPE/MD input circuit switch                                                                |
| 85      | REMOCON                     | I   | Remocon interrupt                                                                           |
| 86      | PK2/TEX                     | I   | Pull down                                                                                   |
| 87      | PK1/TX                      | I   | Pull down                                                                                   |
| 88      | Vss                         |     | μcom main ground                                                                            |
| 89      | VDD                         |     | μcom main power (+5V)                                                                       |
| 90      | N.C                         |     | Open                                                                                        |
| 91      | M62446_CE                   | O   | VR IC M62446 chip enable                                                                    |
| 92      | M62446_DATA                 | O   | VR IC M62446 data control                                                                   |
| 93      | M62446_CLK                  | O   | VR IC M62446 clock control                                                                  |
| 94      | PLL_IF_COUNT                | I   | Tuner PLL IF count input                                                                    |
| 95      | TUNER_MUTE                  | O   | Tuner mute control                                                                          |
| 96      | STEREO_INDICATOR            | I   | Tuner stereo indicator                                                                      |
| 97      | TUNED                       | I   | Tuner tuned input                                                                           |
| 98      | PA0                         | I/O | N.C.                                                                                        |
| 99      | VIDEO_SEL1                  | O   | Video output control                                                                        |
| 100     | VIDEO_SEL2                  | O   | Video output control                                                                        |

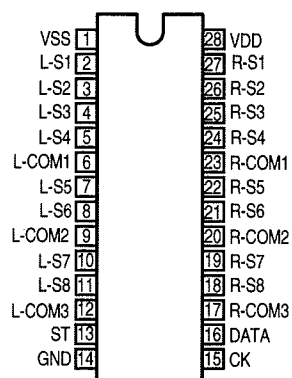
## LC75721E (IC401)



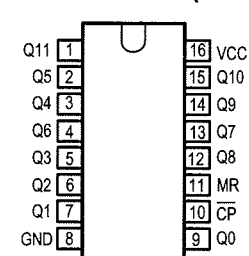
### ● LC75721E Terminal Function

| Symbol   | Function                        |
|----------|---------------------------------|
| VDD      | Power terminal +5V              |
| VSS      | Power terminal GND              |
| VFL      | Power terminal FL drive         |
| DI       | Serial data transfer terminal   |
| CL       | DI: Data                        |
| CE       | CL: Clock                       |
| CE       | CE: Chip enable                 |
| OSCI     | External CR connecting terminal |
| OSCO     | System reset terminal           |
| RES      | System reset terminal           |
| AM1~AM35 | Anode output terminal           |
| AA1~AA3  | Anode/Grid output terminal      |
| AA4/G16  | Anode/Grid output terminal      |
| AA5/G15  | Anode/Grid output terminal      |
| AA6/G14  | Anode/Grid output terminal      |
| AA7/G13  | Anode/Grid output terminal      |
| AA8/G12  | Anode/Grid output terminal      |
| G1~G11   | Grid output terminal            |
| TEST     | LSI test terminal               |

## KIC9164AN (IC104)



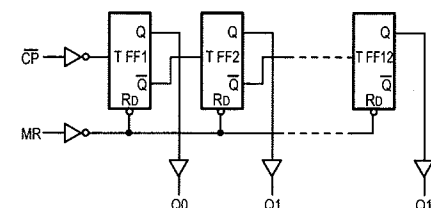
## SN74LV4040 (IC813)



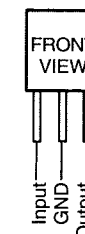
### Function

| INPUTS | OUTPUTS   |
|--------|-----------|
| CP     | MR        |
| ↑      | L         |
| ↓      | L         |
| X      | H         |
|        | no change |
|        | count     |
|        | L         |

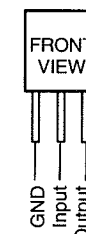
H=HIGH voltage level  
L=LOW voltage level  
X=don't care  
↑=LOW-to-HIGH clock transition  
↓=HIGH-to-LOW clock transition



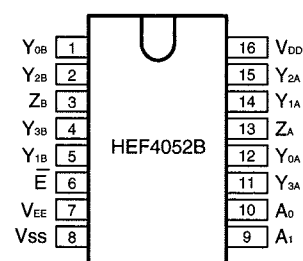
## BA033T (IC811) KIA7805 (IC108,112) KIA7812 (IC106)



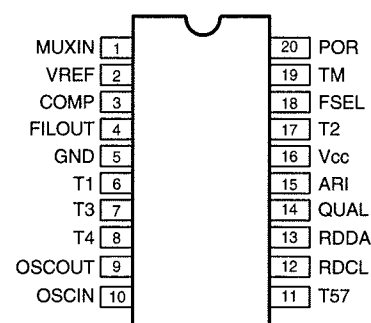
## KIA7905 (IC120) KIA7912 (IC107)



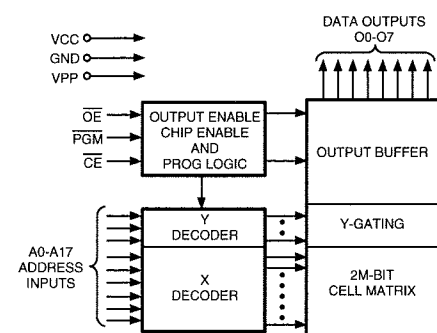
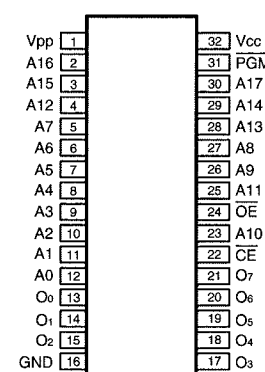
## HEF4052B (IC103)



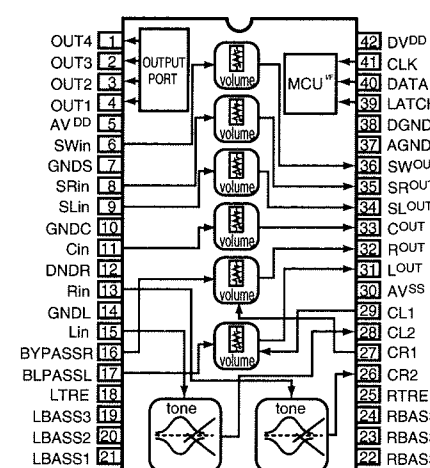
## TDA7330B (IC2)



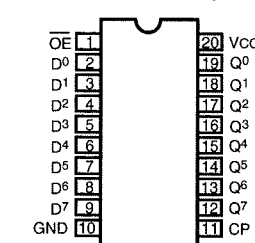
## W27C020 (IC802)



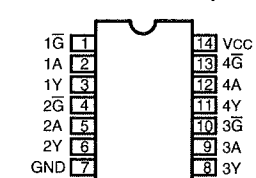
## M62446FP (IC114)



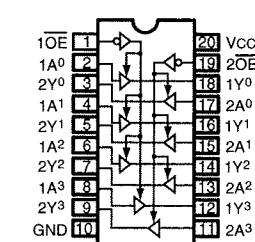
## PC74HCT574 (IC804,805)



## TC74HC125D (IC803)

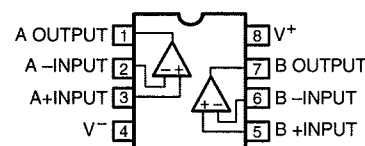


## TC74HCT244 (IC808,809)

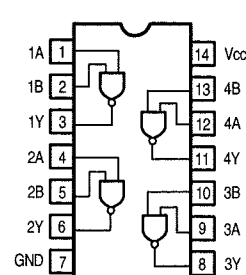


## NJM2068DD

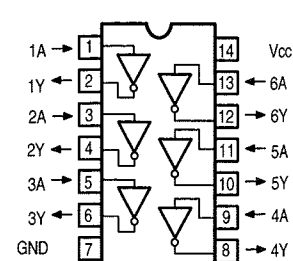
(IC101, 102, 113, 115~119, 880~884)



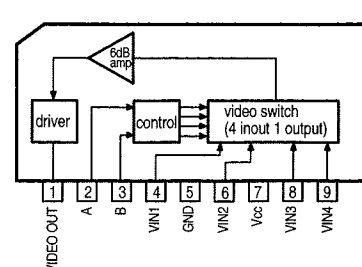
## SN74LV00APW (IC812)



## MC74HCU04AD (IC801)

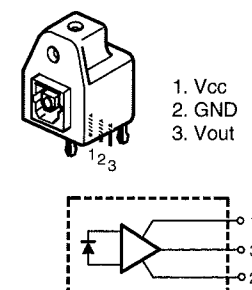


## LA7952 (IC105)



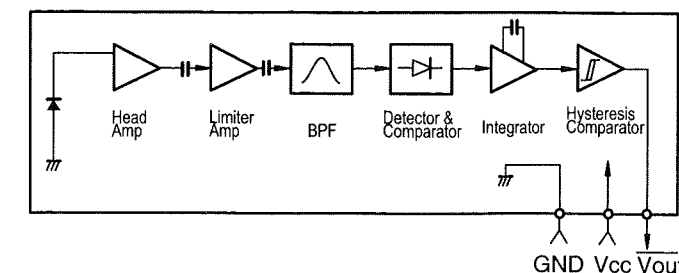
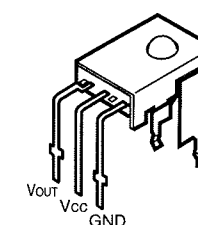
### ● OPTICAL OUT

#### GP1F37R1 (JACK801)



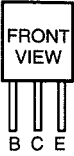
### ● OTHERS

#### GP1U271X (Remote Control Sensor) (RM401)



● TRANSISTOR

2SB1559  
2SD2389



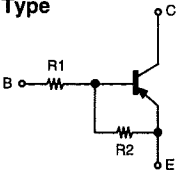
E (Emitter)  
C (Collector)  
B (Base)

KTC2874 (B)  
KSC1845 (F)  
KTC3198(Y)  
KSA992 (F)  
KSA916(Y)  
2SC1740S  
2SC4137  
DTA114ES  
DTC143ES



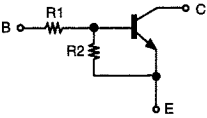
B (Base)  
C (Collector)  
E (Emitter)

DTA114ES  
PNP Type



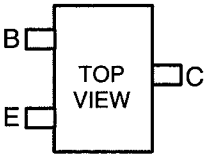
|          | R1       | R2       |
|----------|----------|----------|
| DTA114ES | 10kohm/Ω | 10kohm/Ω |

DTC143ES  
NPN Type

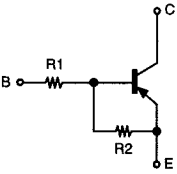


|          | R1        | R2        |
|----------|-----------|-----------|
| DTC143ES | 4.7kohm/Ω | 4.7kohm/Ω |

2SA1037K  
KTC2875  
2SC2412K  
DTA124EK  
DTA144EK  
DTA114YK  
DTC114EK  
DTC124EK  
DTC114YK  
DTC343TK

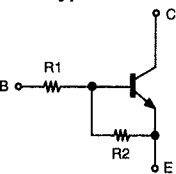


PNP Type



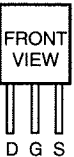
|          | R1       | R2       |
|----------|----------|----------|
| DTA124EK | 22kohm/Ω | 22kohm/Ω |
| DTA144EK | 47kohm/Ω | 47kohm/Ω |
| DTA114YK | 10kohm/Ω | 47kohm/Ω |

NPN Type



|          | R1        | R2       |
|----------|-----------|----------|
| DTC114EK | 10kohm/Ω  | 10kohm/Ω |
| DTC124EK | 22kohm/Ω  | 22kohm/Ω |
| DTC114YK | 10kohm/Ω  | 47kohm/Ω |
| DTC343TK | 4.7kohm/Ω | —        |

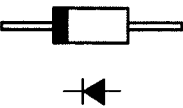
2SK117



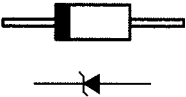
S (Source)  
G (Gate)  
D (Drain)

● DIODES

1SS133  
1N4004



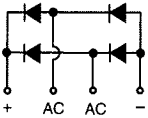
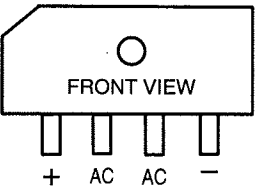
MTZJ4.7B  
MTZJ5.1B  
MTZJ5.6B  
MTZJ6.2B  
MTZJ6.8B  
MTZJ7.5B  
MTZJ9.1B  
MTZJ10B  
MTZJ18B  
MTZJ20B



1SS355

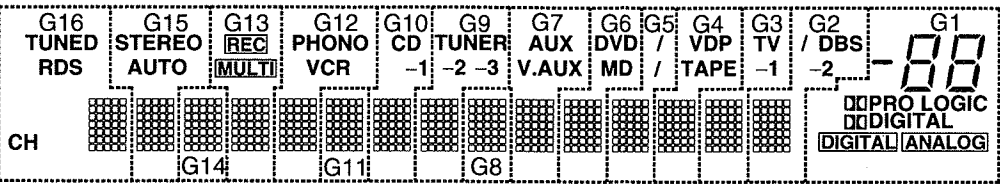
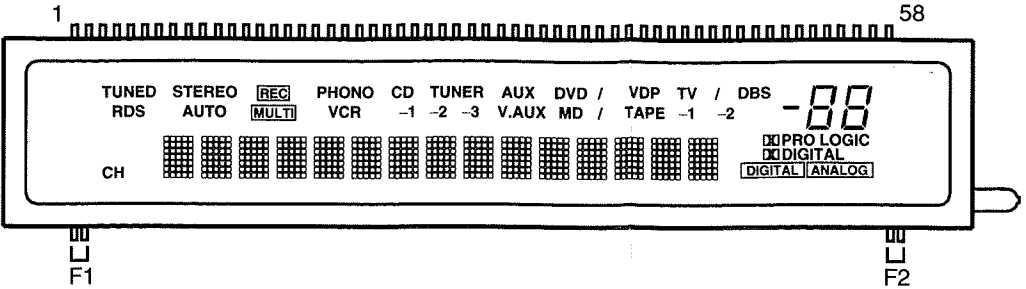


D3SB20



● FL DISPLAY

16-ST-42GNSK (FLT401)



Pin Assignment

| Pin No.    | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Connection | F1  | F1  | S1  | S2  | S3  | S4  | S5  | S6  | S7  | S8  | S9  | S10 | S11 | S12 | S13 | S14 | S15 | S16 | S17 | S18 |
| Pin No.    | 21  | 22  | 23  | 24  | 25  | 26  | 27  | 28  | 29  | 30  | 31  | 32  | 33  | 34  | 35  | 36  | 37  | 38  | 39  | 40  |
| Connection | S19 | S20 | S21 | S22 | S23 | S24 | S25 | S26 | S27 | S28 | S29 | S30 | S31 | S32 | S33 | S34 | S35 | S36 | S37 | S38 |
| Pin No.    | 41  | 42  | 43  | 44  | 45  | 46  | 47  | 48  | 49  | 50  | 51  | 52  | 53  | 54  | 55  | 56  | 57  | 58  |     |     |
| Connection | G16 | G15 | G14 | G13 | G12 | G11 | G10 | G9  | G8  | G7  | G6  | G5  | G4  | G3  | G2  | G1  | F2  | F2  |     |     |

F1,F2 : Filament  
G1~G16 : Grid  
S1~S38 : Anode

Anode & Grid Assignment

|    | G1 | G2~G16 |     | G1      | G2~G16 |     | G1 | G2~G16 |     | G1 | G2~G16 |
|----|----|--------|-----|---------|--------|-----|----|--------|-----|----|--------|
| S1 | S1 | S1     | S10 | S10     | S10    | S19 | —  | S19    | S28 | —  | S28    |
| S2 | S2 | S2     | S11 | S11     | S11    | S20 | —  | S20    | S29 | —  | S29    |
| S3 | S3 | S3     | S12 | S12     | S12    | S21 | —  | S21    | S30 | —  | S30    |
| S4 | S4 | S4     | S13 | S13     | S13    | S22 | —  | S22    | S31 | —  | S31    |
| S5 | S5 | S5     | S14 | S14     | S14    | S23 | —  | S23    | S32 | —  | S32    |
| S6 | S6 | S6     | S15 | S15     | S15    | S24 | —  | S24    | S33 | —  | S33    |
| S7 | S7 | S7     | S16 | —       | S16    | S25 | —  | S25    | S34 | —  | S34    |
| S8 | —  | S8     | S17 | DIGITAL | S17    | S26 | —  | S26    | S35 | —  | S35    |
| S9 | S9 | S9     | S18 | DIGITAL | S18    | S27 | —  | S27    |     |    |        |

|     | G1      | G2  | G3 | G4   | G5     | G6  | G7    | G8 | G9    | G10 | G11 | G12   | G13   | G14 | G15    | G16   |
|-----|---------|-----|----|------|--------|-----|-------|----|-------|-----|-----|-------|-------|-----|--------|-------|
| S36 | DIGITAL | /   | TV | VDP  | /(DVD) | DVD | AUX   | —  | TUNER | CD  | —   | PHONO | REC   | —   | STEREO | TUNED |
| S37 | ANALOG  | -2  | -1 | TAPE | /(MD)  | MD  | V.MAX | —  | -2    | -1  | —   | VCR   | MULTI | —   | AUTO   | RDS   |
| S38 | S38     | DBS | —  | —    | —      | —   | —     | —  | -3    | —   | —   | —     | —     | —   | —      | CH    |

AUX

1

2

3

4

5

6

7

8

## A

**B**

C

D

## E





1 2 3 4 5 6 7 8

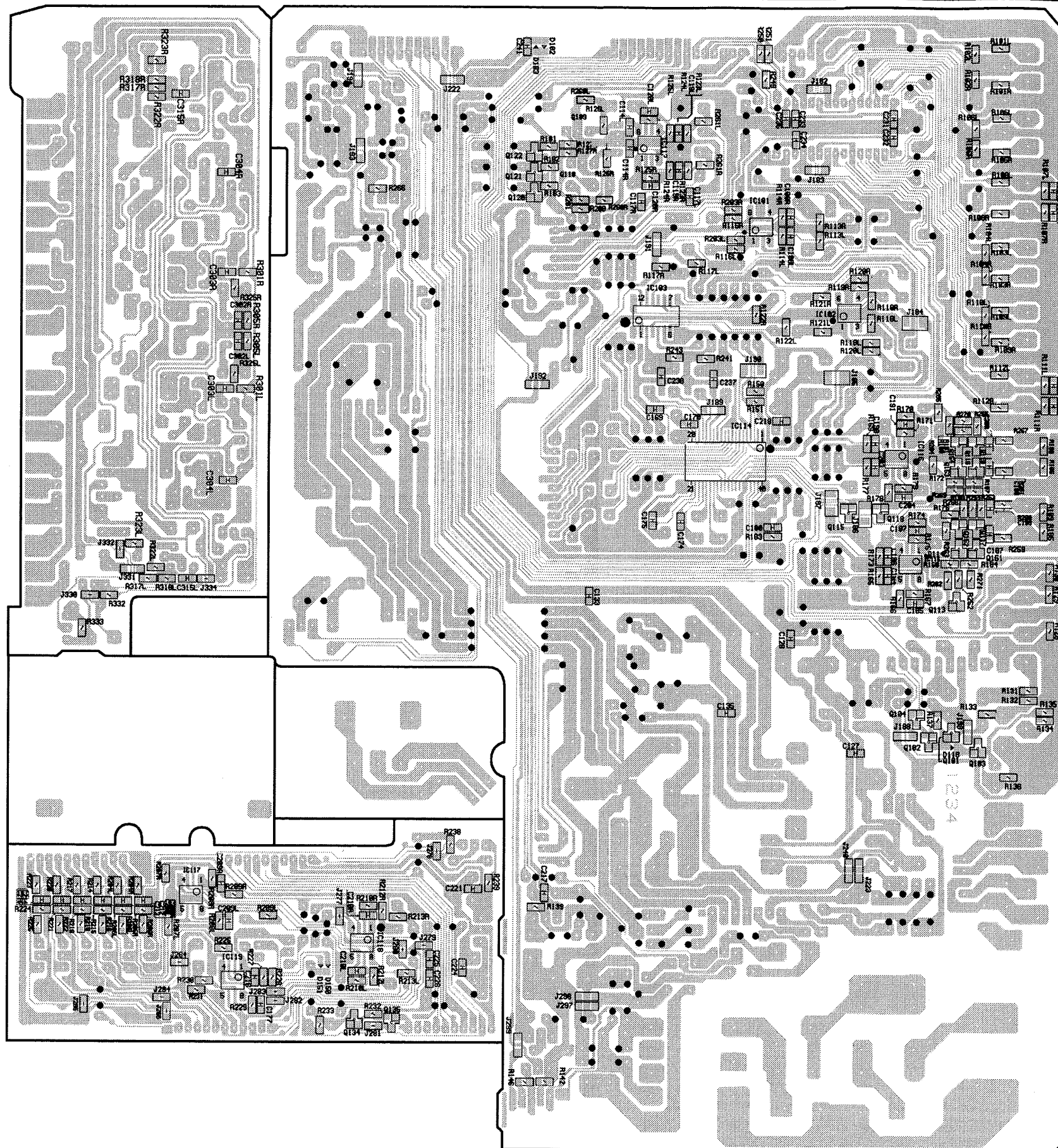
A

B

C

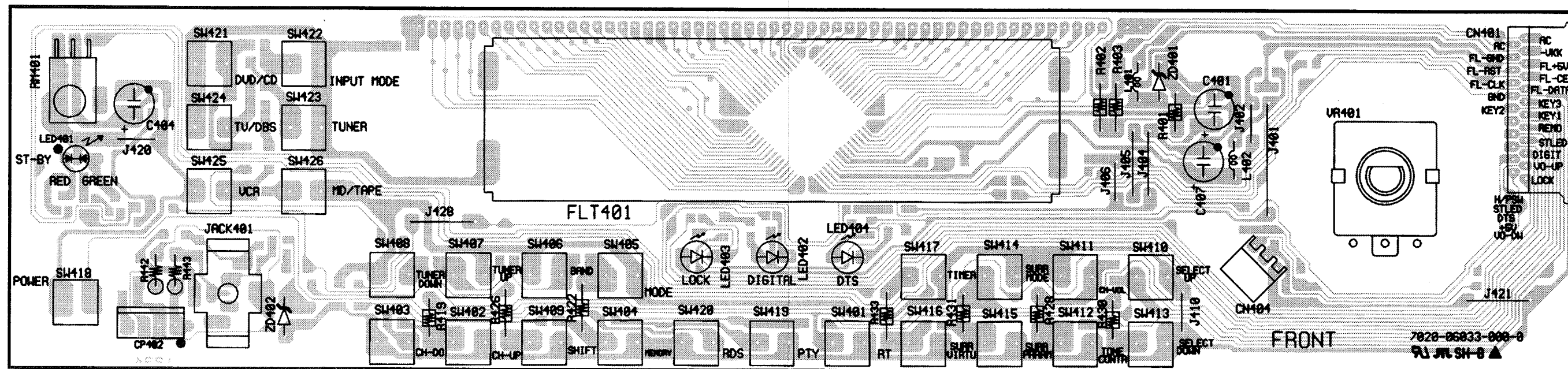
D

E



FOIL SIDE

FRONT P.W.B UNIT





1 2 3 4 5 6 7 8

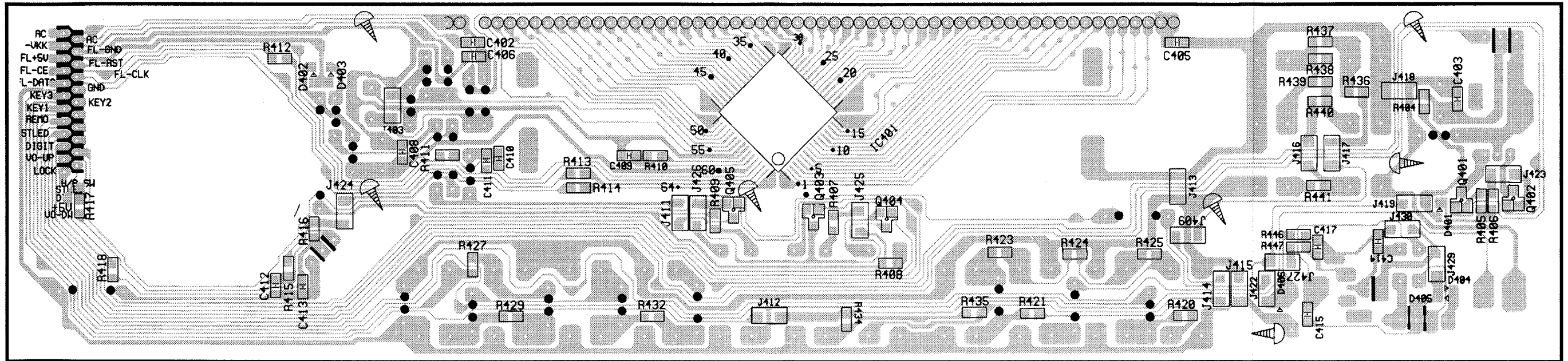
A

B

C

D

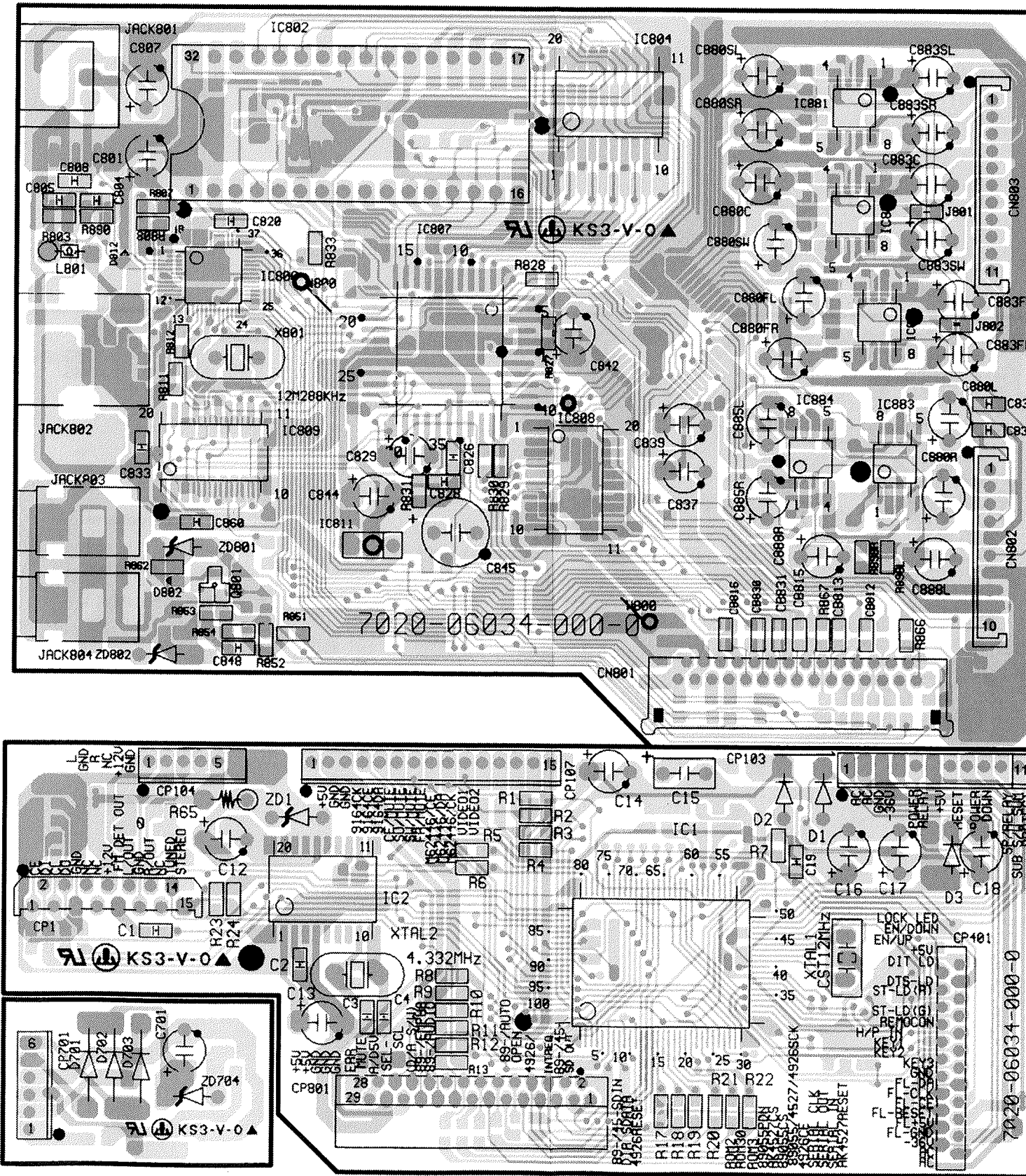
E



FOIL SIDE

1 2 3 4 5 6 7 8

CPU P.W.B UNIT





1 2 3 4 5 6 7 8

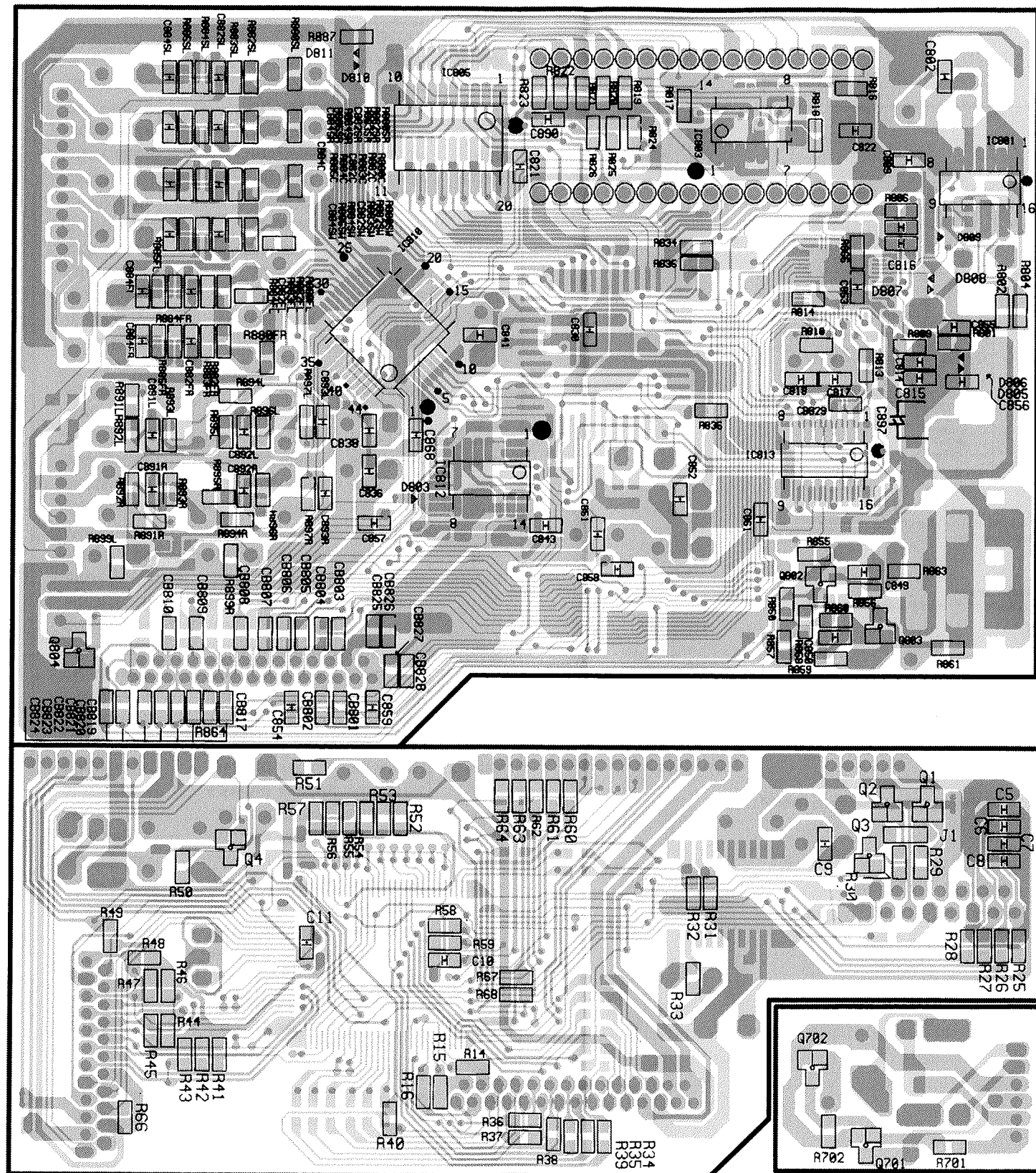
A

B

C

D

E



FOIL SIDE

NOTE FOR PARTS LIST

- Part indicated with the mark "⊙" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol  have critical characteristics.  
Use ONLY replacement parts recommended by the manufacturer.

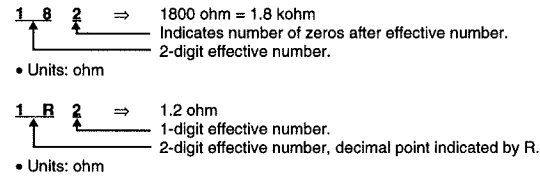
● Resistors

Ex.: 

|      |                       |       |             |                 |        |
|------|-----------------------|-------|-------------|-----------------|--------|
| RN   | 14K                   | 2E    | 182         | G               | FR     |
| Type | Shape and performance | Power | Resist-ance | Allowable error | Others |

|                                                                                                                   |                                                                                 |                                                  |                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| RD : Carbon<br>RC : Composition<br>RS : Metal oxidé film<br>RW : Winding<br>RN : Metal film<br>RK : Metal mixture | 2B : 1/8W<br>2E : 1/4W<br>2H : 1/2W<br>3A : 1W<br>3D : 2W<br>3F : 3W<br>3H : 5W | F : 1%<br>G : 2%<br>J : 5%<br>K : 10%<br>M : 20% | P : Pulse-resistant type<br>NL : Low noise type<br>NB : Non-burning type<br>FR : Fuse-resistor<br>F : Lead wire forming |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|

\* Resistance



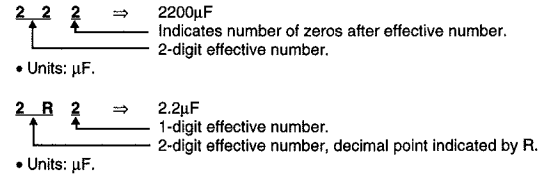
● Capacitors

Ex.: 

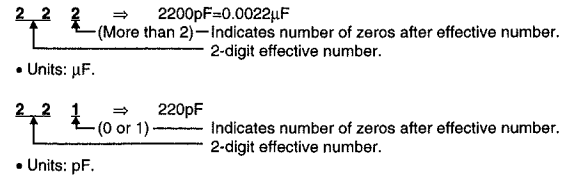
|      |                       |                     |          |                 |        |
|------|-----------------------|---------------------|----------|-----------------|--------|
| CE   | 04W                   | 1H                  | 2R2      | M               | BP     |
| Type | Shape and performance | Dielectric strength | Capacity | Allowable error | Others |

|                                                                                                                                                                                                               |                                                                                                                                                                  |                                                                                                                                     |                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CE : Aluminum foil electrolytic<br>CA : Aluminum solid electrolytic<br>CS : Tantalum electrolytic<br>CQ : Film<br>CK : Ceramic<br>CC : Ceramic<br>CP : Oil<br>CM : Mica<br>CF : Metallized<br>CH : Metallized | 0J : 6.3V<br>1A : 10V<br>1C : 16V<br>1E : 25V<br>1V : 35V<br>1H : 50V<br>2A : 100V<br>2B : 125V<br>2C : 160V<br>2D : 200V<br>2E : 250V<br>2H : 500V<br>2J : 630V | F : 1%<br>G : 2%<br>J : 5%<br>K : 10%<br>M : 20%<br>Z : +80%<br>-20%<br>P : +100%<br>-0%<br>C : ±0.25pF<br>D : ±0.5pF<br>= : Others | HS : High stability type<br>BP : Nonpolar type<br>HR : Ripple-resistant type<br>DL : For change and discharge<br>HF : For assuring high frequency<br>U : UL part<br>C : CSA part<br>W : UL-CSA type<br>F : Lead wire forming |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

\* Capacity (electrolyte only)



\* Capacity (except electrolyte)



● When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

PARTS LIST OF P.W.B. UNIT  
MAIN P.W.B. UNIT ASS'Y

| Ref. No.             | Part No.     | Part Name               | Remarks       | Q'ty | Ref. No.        | Part No.     | Part Name                   | Remarks       |
|----------------------|--------------|-------------------------|---------------|------|-----------------|--------------|-----------------------------|---------------|
| *                    | 960 0215 513 | Main P.W.B. Total Ass'y | 7025MM9902010 | 1    | Q311            | 960 0005 202 | Transistor KTC3198Y         | J5023198Y0000 |
| SEMICONDUCTORS GROUP |              |                         |               |      | D101            | 963 0020 309 | Diode 1SS133                | K000013300520 |
| IC101,102            | 263 0896 909 | IC NJM2068MD            | J121206800030 |      | D102,103        | 960 0117 501 | Diode 1SS355                | K005035500010 |
| IC103                | 262 2012 908 | IC BU4052BCF            | J040405200060 |      | D104~107        | 963 0058 407 | Diode 1N4007                | K000400700520 |
| IC104                | 960 0080 201 | IC KIC9164AN            | J040916400020 |      | D109            | 963 0020 309 | Diode 1SS133                | K000013300520 |
| IC105                | 960 0180 101 | IC LA7952               | J171795200000 |      | D110,111        | 963 0058 407 | Diode 1N4007                | K000400700520 |
| IC106                | 960 0222 506 | IC KIA7812AP            | J126781200170 |      | D112            | 960 0039 508 | Diode D3SB20                | K047004000010 |
| IC107                | 960 0216 800 | IC KIA7912PI            | J126791200060 |      | D113            | 963 0020 309 | Diode 1SS133                | K000013300520 |
| IC108                | 963 0057 709 | IC KIA7805AP            | J126780500360 |      | D114~117        | 963 0058 407 | Diode 1N4007                | K000400700520 |
| IC112                | 960 0159 501 | IC KIA7805PI            | J126780500110 |      | D118            | 960 0117 501 | Diode 1SS355                | K005035500010 |
| IC113                | 263 0896 909 | IC NJM2068MD            | J121206800030 |      | D119~121        | 963 0020 309 | Diode 1SS133                | K000013300520 |
| IC114                | 960 0179 604 | IC M62446FP             | J084624460010 |      | D122~125        | 963 0058 407 | Diode 1N4007                | K000400700520 |
| IC115,116            | 263 0896 909 | IC NJM2068MD            | J121206800030 |      | D129            | 963 0020 309 | Diode 1SS133                | K000013300520 |
| IC117~119            | 263 0896 909 | IC NJM2068MD            | J121206800030 |      | D150,151        | 960 0117 501 | Diode 1SS355                | K005035500010 |
| IC120                | 960 0159 501 | IC KIA7805PI            | J126780500110 |      | D152            | 963 0020 309 | Diode 1SS133                | K000013300520 |
| Q101                 | 963 0045 902 | Transistor 2SC2412K (S) | J5222412K0210 |      | D301L,R         | 963 0020 309 | Diode 1SS133                | K000013300520 |
| Q102                 | 269 0144 905 | Transistor DTC114YK     | J5220114Y0210 |      | D302L,R         | 963 0020 309 | Diode 1SS133                | K000013300520 |
| Q103                 | 963 0045 902 | Transistor 2SC2412K (S) | J5222412K0210 |      | D303L,R         | 963 0020 309 | Diode 1SS133                | K000013300520 |
| Q104                 | 269 0144 905 | Transistor DTC114YK     | J5220114Y0210 |      | ZD101           | 963 0058 708 | Zener diode MTZJ20B         | K06020R044520 |
| Q105                 | 960 0189 005 | Transistor KSA916Y      | J5000916Y0050 |      | ZD102,103       | 963 0046 202 | Zener diode MTZJ18B         | K06018R044520 |
| Q106                 | 960 0196 409 | Transistor 2SC1740SR    | J5021740S0010 |      | ZD104           | 960 0211 106 | Zener diode MTZJ10B         | K06010R044520 |
| Q107                 | 960 0196 904 | Transistor DTC114YS     | J6020114Y0050 |      | ZD105,106       | 960 0222 603 | Zener diode MTZJ7.5A        | K06007R544530 |
| Q108                 | 269 0018 002 | Transistor DTC143ES     | J6020143E0010 |      | ZD109           | 960 0132 803 | Zener diode MTZJ4.7B        | K06004R744520 |
| Q109,110             | 960 0196 603 | Transistor KTC2874B     | J502287400010 |      | ZD301           | 960 0095 801 | Zener diode MTZJ6.8B        | K06006R844520 |
| Q111                 | 269 0046 003 | Transistor DTA114ES     | J6000114E0010 |      | ZD410,411       | 960 0095 607 | Zener diode MTZJ5.6B        | K06005R644520 |
| Q113                 | 269 0101 906 | Transistor DTA114YK     | J5200114Y0210 |      | RESISTORS GROUP |              |                             |               |
| Q114                 | 963 0044 301 | Transistor KTC2875B     | J5222875B0010 |      | R101L,R         |              | Carbon chip 470ohm-J,1/10W  | C200047160200 |
| Q115                 | 269 0101 906 | Transistor DTA114YK     | J5200114Y0210 |      | R102L,R         |              | Carbon chip 2.7Mohm-J,1/10W | C200027560200 |
| Q116,117             | 963 0044 301 | Transistor KTC2875B     | J5222875B0010 |      | R103L,R         |              | Carbon chip 470ohm-J,1/10W  | C200047160200 |
| Q118                 | 269 0101 906 | Transistor DTA114YK     | J5200114Y0210 |      | R104L,R         |              | Carbon chip 2.7Mohm-J,1/10W | C200027560200 |
| Q119                 | 963 0044 301 | Transistor KTC2875B     | J5222875B0010 |      | R105L,R         |              | Carbon chip 470ohm-J,1/10W  | C200047160200 |
| Q120~122             | 269 0144 905 | Transistor DTC114YK     | J5220114Y0210 |      | R106L,R         |              | Carbon chip 2.7Mohm-J,1/10W | C200027560200 |
| Q123                 | 269 0018 002 | Transistor DTC143ES     | J6020143E0010 |      | R107L,R         |              | Carbon chip 2.7Mohm-J,1/10W | C200027560200 |
| Q124                 | 960 0196 205 | Transistor KSA992F      | J5000992F0050 |      | R108L,R         |              | Carbon chip 470ohm-J,1/10W  | C200047160200 |
| Q125~127             | 960 0196 506 | Transistor KSC1845F     | J5021845F0000 |      | R109L,R         |              | Carbon chip 2.7Mohm-J,1/10W | C200047160200 |
| Q128                 | 960 0196 205 | Transistor KSA992F      | J5000992F0050 |      | R110L,R         |              | Carbon chip 470ohm-J,1/10W  | C200027560200 |
| Q129L,R              | 960 0196 603 | Transistor KTC2874B     | J502287400010 |      | R111L,R         |              | Carbon chip 2.7Mohm-J,1/10W | C200047160200 |
| Q130~133             | 960 0196 603 | Transistor KTC2874B     | J502287400010 |      | R112L,R         |              | Carbon chip 470ohm-J,1/10W  | C200047160200 |
| Q134                 | 269 0055 900 | Transistor DTA144EK     | J5200144E0210 |      | R113L,R         |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| Q135                 | 269 0054 901 | Transistor DTC144EK     | J5220144E0210 |      | R114L,R         |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| Q136,137             | 960 0196 807 | FET 2SK117Y             | J5441170Y0050 |      | R116L,R         |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
| Q138                 | 269 0046 003 | Transistor DTA114ES     | J6000114E0010 |      | R117L,R         |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| Q151~154             | 963 0044 301 | Transistor KTC2875B     | J5222875B0010 |      | R118L,R         |              | Carbon chip 39kohm-J,1/10W  | C200039360200 |
| Q301L,R              | 960 0196 205 | Transistor KSA992F      | J5000992F0050 |      | R119L,R         |              | Carbon chip 39kohm-J,1/10W  | C200039360200 |
| Q302L,R              | 960 0196 205 | Transistor KSA992F      | J5000992F0050 |      | R120            |              | Metal film 68ohm-J,1/4W     | C060068063050 |
| Q303L,R              | 960 0196 506 | Transistor KSC1845F     | J5021845F0000 |      | R120L,R         |              | Carbon chip 39kohm-J,1/10W  | C200039360200 |
| Q304L,R              | 960 0196 506 | Transistor KSC1845F     | J5021845F0000 |      |                 |              |                             |               |
| Q305L,R              | 960 0196 205 | Transistor KSA992F      | J5000992F0050 |      |                 |              |                             |               |
| Q309L,R              | 960 0196 506 | Transistor KSC1845F     | J5021845F0000 |      |                 |              |                             |               |

| Ref. No. | Part No.     | Part Name                   | Remarks       | Ref. No. | Part No.     | Part Name                   | Remarks       |
|----------|--------------|-----------------------------|---------------|----------|--------------|-----------------------------|---------------|
| R121L,R  |              | Carbon chip 100ohm-J,1/10W  | C200010160200 | R203L,R  |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
| R122L,R  |              | Carbon chip 100kohm-J,1/10W | C200010460200 | R204L,R  |              | Carbon chip 1kohm-J,1/10W   | C200010260200 |
| R123L,R  |              | Carbon chip 47kohm-J,1/10W  | C200047360200 | R205L,R  |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| R124L,R  |              | Carbon chip 1.5kohm-J,1/10W | C200015260200 | R206L,R  |              | Carbon chip 2.2kohm-F,1/10W | C200022240200 |
| R125L,R  |              | Carbon chip 5.6kohm-J,1/10W | C200056260200 | R207L,R  |              | Carbon chip 3.9kohm-J,1/10W | C200039260200 |
| R126L,R  |              | Carbon chip 2.2kohm-F,1/10W | C200022240200 | R208L,R  |              | Carbon chip 4.7kohm-J,1/10W | C200047260200 |
| R127L,R  |              | Carbon chip 22kohm-J,1/10W  | C200022360200 | R209L,R  |              | Carbon chip 15kohm-J,1/10W  | C200015360200 |
| R128~130 |              | Carbon chip 75ohm-J,1/10W   | C200075060200 | R210L,R  |              | Carbon chip 15kohm-J,1/10W  | C200015360200 |
| R131     |              | Carbon chip 68ohm-J,1/10W   | C200068060200 | R212L,R  |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
| R132     |              | Carbon chip 47kohm-J,1/10W  | C200047360200 | R213L,R  |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| R133     |              | Carbon chip 390ohm-J,1/10W  | C200039160200 | R214     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 |
| R134     |              | Carbon chip 68ohm-J,1/10W   | C200068060200 | R215     |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| R136     |              | Carbon chip 390ohm-J,1/10W  | C200039160200 | R216     |              | Carbon chip 2.2kohm-F,1/10W | C200022240200 |
| R137     |              | Carbon chip 33kohm-J,1/10W  | C200033360200 | R217     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 |
| R138     |              | Metal film 47ohm-J,1/4W     | C060047063050 | R218     |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| R139     |              | Carbon chip 2.2kohm-F,1/10W | C200022240200 | R219     |              | Carbon chip 2.2kohm-F,1/10W | C200022240200 |
| R140     |              | Metal film 100ohm-J,1/4W    | C060010163050 | R220     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 |
| R142     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 | R221     |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| R146     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 | R222     |              | Carbon chip 2.2kohm-F,1/10W | C200022240200 |
| R147     |              | Metal film 100ohm-J,1/4W    | C060010163050 | R223     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 |
| R150,151 |              | Carbon chip 22kohm-J,1/10W  | C200022360200 | R224     |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| R162     | 244 2051 958 | Metal film 220ohm-J,1W      | C060022165050 | R225     |              | Carbon chip 2.2kohm-F,1/10W | C200022240200 |
| R163     |              | Carbon chip 2.7kohm-J,1/10W | C200027260200 | R226     |              | Carbon chip 3.9kohm-J,1/10W | C200039260200 |
| R164     |              | Metal film 220ohm-J,1W      | C060022165050 | R227     |              | Carbon chip 6.8kohm-F,1/10W | C200068240200 |
| R165     |              | Carbon chip 47kohm-J,1/10W  | C200047360200 | R228     |              | Carbon chip 5.6kohm-J,1/10W | C200056260200 |
| R165     |              | Carbon chip 47kohm-J,1/10W  | C200047360200 | R229     |              | Carbon chip 8.2kohm-J,1/10W | C200082260200 |
| R166     |              | Carbon chip 2.7kohm-J,1/10W | C200027260200 | R230     |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
| R167     |              | Carbon chip 33kohm-J,1/10W  | C200033360200 | R231     |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| R168     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 | R232     |              | Carbon chip 2.2kohm-F,1/10W | C200022240200 |
| R169     |              | Carbon chip 47kohm-J,1/10W  | C200047360200 | R233     |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| R170     |              | Carbon chip 2.7kohm-J,1/10W | C200027260200 | R238     |              | Carbon chip 220kohm-J,1/10W | C200022460200 |
| R171     |              | Carbon chip 10kohm-J,1/10W  | C200010360200 | R239     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 |
| R172     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 | R241     |              | Carbon chip 220kohm-J,1/10W | C200022460200 |
| R173     |              | Carbon chip 47kohm-J,1/10W  | C200047360200 | R243     |              | Carbon chip 220kohm-J,1/10W | C200022460200 |
| R174     |              | Carbon chip 2.7kohm-J,1/10W | C200027260200 | R244~247 |              | Metal film 1ohm-J,1/4W      | C060001063050 |
| R175     |              | Carbon chip 10kohm-J,1/10W  | C200010360200 | R249~251 |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
| R176     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 | R252~255 |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| R177     |              | Carbon chip 47kohm-J,1/10W  | C200047360200 | R256     | 244 2043 940 | Metal film 2.2kohm, 1W      | C060022265100 |
| R178     |              | Carbon chip 2.7kohm-J,1/10W | C200027260200 | R259~261 |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
| R179     |              | Carbon chip 10kohm-J,1/10W  | C200010360200 | R260L,R  |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| R180     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 | R261L,R  |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
| R181~183 |              | Carbon chip 4.7kohm-J,1/10W | C200047260200 | R262,265 |              | Carbon chip 33kohm-J,1/10W  | C200033360200 |
| R184     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 | R266     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 |
| R185,186 |              | Carbon chip 100kohm-J,1/10W | C200010460200 | R267     |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
| R187,188 |              | Carbon chip 1kohm-J,1/10W   | C200010260200 | R268~271 |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| R189,190 |              | Carbon chip 100kohm-J,1/10W | C200010460200 | R301L,R  |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| R191     |              | Carbon chip 1kohm-J,1/10W   | C200010260200 | R302L,R  |              | Metal film 220ohm-J,1/4W    | C060022163050 |
| R192     | 244 2051 958 | Metal film 220ohm-J,1W      | C060022165050 | R303L,R  |              | Metal film 220ohm-J,1/4W    | C060022163050 |
| R194,195 |              | Metal film 10ohm-J,1/4W     | C060010063520 | R305L,R  |              | Carbon chip 56kohm-J,1/10W  |               |
| R198,199 | 244 2043 034 | Metal film 10ohm-J,1W       | C060010065050 | R309L,R  |              | Metal film 270ohm-J,1/4W    | C060027163050 |
| R200     |              | Carbon chip 100kohm-J,1/10W | C200010460200 | R312L,R  |              | Metal film 47ohm-J,1/4W     | C060047063050 |

| Ref. No. | Part No.     | Part Name                      | Remarks       |
|----------|--------------|--------------------------------|---------------|
| R313L,R  | 244 2043 982 | Metal film 0.22ohm-J,1W        | C060R22065070 |
| R314L,R  | 244 2043 982 | Metal film 0.22ohm-J,1W        | C060R22065070 |
| R317L,R  |              | Carbon chip 1.2kohm-J,1/10W    | C200012260200 |
| R318L,R  |              | Carbon chip 2.7kohm-J,1/10W    | C200027260200 |
| R319L,R  |              | Metal film 47ohm-J,1/4W        | C060047063050 |
| R321L    |              | Metal film 100ohm-J,1/4W       | C060010163050 |
| R321R    |              | Metal film 47ohm-J,1/4W        | C060047063050 |
| R322L,R  |              | Carbon chip 18kohm-J,1/10W     | C200018360200 |
| R323L,R  |              | Carbon chip 22kohm-J,1/10W     | C200022360200 |
| R325L,R  |              | Carbon chip 100ohm-J,1/10W     | C200010160200 |
| R332     |              | Carbon chip 47kohm-J,1/10W     | C200047360200 |
| R333     |              | Carbon chip 100kohm-J,1/10W    | C200010460200 |
| VR301L,R | 960 0221 109 | Semi fixed resistor 1KB-H      | C541102115000 |
| VR401    | 960 0216 101 | Rotary encorder (EC16B24204A5) | G121162420410 |
| J182~194 |              | Carbon chip 0ohm-J,1/8W        | C200000061300 |
| J198     |              | Carbon chip 0ohm-J,1/8W        | C200000061300 |
| J222,223 |              | Carbon chip 0ohm-J,1/8W        | C200000061300 |
| J240     |              | Carbon chip 0ohm-J,1/8W        | C200000061300 |
| J264~266 |              | Carbon chip 0ohm-J,1/10W       | C200000060200 |
| J277~284 |              | Carbon chip 0ohm-J,1/10W       | C200000060200 |
| J297~299 |              | Carbon chip 0ohm-J,1/8W        | C200000061300 |
| J330     |              | Carbon chip 0ohm-J,1/10W       | C200000060200 |
| J331     |              | Carbon chip 0ohm-J,1/8W        | C200000061300 |
| J332     |              | Carbon chip 0ohm-J,1/10W       | C200000060200 |
| J334     |              | Carbon chip 0ohm-J,1/10W       | C200000060200 |

**CAPACITORS GROUP**

|          |  |                           |               |
|----------|--|---------------------------|---------------|
| C104L,R  |  | Ceramic chip 100pF-J/50V  | D010101167200 |
| C106L,R  |  | Ceramic chip 100pF-J/50V  | D010101167200 |
| C107L,R  |  | Electrolytic 10μF-M/35V   | D040100085100 |
| C109     |  | Electrolytic 470μF-M/16V  | D040471083020 |
| C110L,R  |  | Electrolytic 10μF-M/35V   | D040100085100 |
| C111L,R  |  | Film 0.068μF-J/100V       | D02068306C060 |
| C112L,R  |  | Film 0.068μF-J/100V       | D02068306C060 |
| C114L,R  |  | Ceramic chip 0.1μF-K/50V  | D011104777200 |
| C115L,R  |  | Electrolytic 10μF-M/35V   | D040100085100 |
| C117L,R  |  | Ceramic chip 2200pF-K/50V | D01122277200  |
| C118L,R  |  | Electrolytic 10μF-M/35V   | D040100085100 |
| C119L,R  |  | Ceramic chip 220pF-J/50V  | D010221167200 |
| C120L,R  |  | Ceramic chip 82pF-J/50V   | D010820167200 |
| C121~123 |  | Electrolytic 47μF-M/50V   | D040470087060 |
| C124,125 |  | Electrolytic 470μF-M/16V  | D040471083020 |
| C126     |  | Electrolytic 47μF-M/16V   | D040470083080 |
| C127,128 |  | Ceramic chip 0.01μF-K/50V | D011103777200 |
| C129     |  | Electrolytic 2200μF-M/16V | D040222083080 |
| C130     |  | Electrolytic 470μF-M/16V  | D040471083020 |
| C131,132 |  | Electrolytic 1000μF-M/25V | D040102084060 |

|          |  |                              |               |
|----------|--|------------------------------|---------------|
| C133     |  | Ceramic chip 0.01μF-K/50V    | D011103777200 |
| C134     |  | Electrolytic 2200μF-M/16V    | D040222083080 |
| C135     |  | Ceramic chip 0.01μF-K/50V    | D011103777200 |
| C136     |  | Electrolytic 3300μF-M/16V    | D040332083010 |
| C137,138 |  | Ceramic 0.01μF-Z/500V        | D00410359D050 |
| C139     |  | Electrolytic 1μF-M/50V       | D040010087080 |
| C140,141 |  | Electrolytic 10μF-M/50V      | D040100087230 |
| C142     |  | Electrolytic 47μF-M/50V      | D040470087060 |
| C143,144 |  | Ceramic 0.01μF-Z/500V        | D00410359D050 |
| C145,146 |  | Electrolytic 3300μF-M/35V    | D040332085030 |
| C149     |  | Electrolytic 100μF-M/10V     | D040101082060 |
| C150     |  | Electrolytic 4.7μF-M/50V     | D0404R7087100 |
| C151     |  | Electrolytic 2200μF-M/25V    | D040222084000 |
| C152     |  | Ceramic 0.01μF-Z/500V        | D00410359D050 |
| C153     |  | Ceramic 0.0047μF-M/250V (AC) | D008472089000 |
| C154~157 |  | Film 0.047μF-J/100V          | D02047306C060 |
| C158     |  | Electrolytic 330μF-M/16V     | D040331083200 |
| C159     |  | Electrolytic 10μF-M/50V      | D040100087230 |
| C161~164 |  | Film 0.0047μF-J/100V         | D02047206C060 |
| C165~168 |  | Electrolytic 4.7μF-M/50V     | D0404R7087100 |
| C169     |  | Ceramic chip 8200pF-K/50V    | D01182277200  |
| C170     |  | Ceramic chip 0.015μF-K/50V   | D011153777200 |
| C171     |  | Electrolytic 0.33μF-M/50V    | D040R33087070 |
| C172,173 |  | Electrolytic 3.3μF-M/50V     | D0403R3087100 |
| C174     |  | Ceramic chip 8200pF-K/50V    | D01182277200  |
| C175     |  | Ceramic chip 0.015μF-K/50V   | D011153777200 |
| C176     |  | Electrolytic 0.33μF-M/50V    | D040R33087070 |
| C177     |  | Ceramic chip 47pF-J/50V      | D010470167200 |
| C178     |  | Electrolytic 10μF-M/50V      | D040100087230 |
| C179     |  | Electrolytic 100μF-M/10V     | D040101082060 |
| C180     |  | Ceramic chip 0.01μF-K/50V    | D011103777200 |
| C181     |  | Electrolytic 100μF-M/10V     | D040101082060 |
| C183     |  | Electrolytic 4.7μF-M/50V     | D0404R7087100 |
| C184,185 |  | Ceramic chip 100pF-J/50V     | D010101167200 |
| C186     |  | Electrolytic 4.7μF-M/50V     | D0404R7087100 |
| C187,188 |  | Ceramic chip 100pF-J/50V     | D010101167200 |
| C190     |  | Ceramic chip 100pF-J/50V     | D010101167200 |
| C191     |  | Ceramic chip 39pF-J/50V      | D010390167200 |
| C192,193 |  | Electrolytic 4.7μF-M/50V     | D0404R7087100 |
| C195     |  | Electrolytic 4.7μF-M/50V     | D0404R7087100 |
| C196     |  | Ceramic chip 100pF-J/50V     | D010101167200 |
| C197     |  | Ceramic chip 39pF-J/50V      | D010390167200 |
| C198     |  | Electrolytic 4.7μF-M/50V     | D0404R7087100 |
| C199,200 |  | Ceramic chip 100pF-J/50V     | D010101167200 |
| C202     |  | Electrolytic 4.7μF-M/50V     | D0404R7087100 |
| C203     |  | Ceramic chip 100pF-J/50V     | D010101167200 |
| C204     |  | Ceramic chip 39pF-J/50V      | D010390167200 |
| C205     |  | Electrolytic 4.7μF-M/50V     | D0404R7087100 |
| C208L,R  |  | Ceramic chip 3300pF-K/50V    | D011332777200 |
| C209L,R  |  | Ceramic chip 100pF-J/50V     | D010101167200 |
| C210L,R  |  | Ceramic chip 33pF-J/50V      | D010330167200 |

| Ref. No.                 | Part No.     | Part Name                        | Remarks        | Q'ty        |
|--------------------------|--------------|----------------------------------|----------------|-------------|
| C211L,R                  |              | Electrolytic 10 $\mu$ F-M/50V    | D040100087230  |             |
| C212~215                 |              | Ceramic chip 3300pF-K/50V        | D011332777200  |             |
| C216                     |              | Ceramic chip 100pF-J/50V         | D010101167200  |             |
| C217,218                 |              | Ceramic chip 0.01 $\mu$ F-K/50V  | D011103777200  |             |
| C219                     |              | Electrolytic 0.47 $\mu$ F-M/50V  | D040R47087050  |             |
| C221                     |              | Ceramic chip 0.1 $\mu$ F-K/50V   | D011104777200  |             |
| C222                     |              | Electrolytic 220 $\mu$ F-M/10V   | D040221082020  |             |
| C223                     |              | Electrolytic 10 $\mu$ F-M/50V    | D040100087230  |             |
| C224~226                 |              | Ceramic chip 0.01 $\mu$ F-K/50V  | D011103777200  |             |
| C227~230                 |              | Electrolytic 4.7 $\mu$ F-M/50V   | D0404R7087100  |             |
| C231,232                 |              | Ceramic chip 0.01 $\mu$ F-K/50V  | D011103777200  |             |
| C233                     |              | Ceramic chip 220pF-J/50V         | D010221167200  |             |
| C234                     |              | Ceramic chip 1000pF-K/50V        | D011102777200  |             |
| C235                     |              | Ceramic chip 220pF-J/50V         | D010221167200  |             |
| C236                     |              | Ceramic 0.01 $\mu$ F-Z/500V      | D00410359D050  |             |
| C237,238                 |              | Ceramic chip 100pF-J/50V         | D010101167200  |             |
| C239L,R                  |              | Electrolytic 4.7 $\mu$ F-M/50V   | D0404R7087100  |             |
| C240                     |              | Ceramic 0.01 $\mu$ F-Z/500V      | D00410359D050  |             |
| C241                     |              | Ceramic chip 0.1 $\mu$ F-K/50V   | D011104777200  |             |
| C301L,R                  |              | Electrolytic 1 $\mu$ F-M/50V     | D040010087080  |             |
| C302L,R                  |              | Ceramic chip 1200pF-K/50V        | D011122777200  |             |
| C303L,R                  |              | Ceramic chip 100pF-J/50V         | D010101167200  |             |
| C304L,R                  |              | Ceramic chip 470pF-J/50V         | D010471167200  |             |
| C305L,R                  |              | Electrolytic 1 $\mu$ F-M/50V     | D040010087080  |             |
| C307L,R                  |              | Ceramic 150pF-K/50V              | D005151177530  |             |
| C308L,R                  |              | Electrolytic 100 $\mu$ F-M/10V   | D040101082060  |             |
| C309L,R                  |              | Ceramic 8.2pF-K/50V              | D0018R2177520  |             |
| C310L,R                  |              | Ceramic 220pF-K/50V              | D005221277520  |             |
| C311L,R                  |              | Electrolytic 22 $\mu$ F-M/35V    | D040220085050  |             |
| C312L,R                  |              | Ceramic 150pF-K/50V              | D005151177530  |             |
| C313L,R                  |              | Ceramic 0.01 $\mu$ F-M/16V       | D005103773530  |             |
| C314L,R                  |              | Electrolytic 47 $\mu$ F-M/50V    | D040470087060  |             |
| C315L,R                  |              | Ceramic chip 0.022 $\mu$ F-K/50V | D011223777200  |             |
| C320                     |              | Electrolytic 10 $\mu$ F-M/16V    | D040100083050  |             |
| <b>OTHER PARTS GROUP</b> |              |                                  |                | <b>Q'ty</b> |
| CL101~104                | —            | Wire clasper                     | 4330000120000  | 4           |
| CN101                    | 963 0047 104 | 11P connector base               | L101353361110  | 1           |
| CN102                    | 963 0047 007 | 10P connector base               | L101353361010  | 1           |
| CN103                    | 963 0047 104 | 11P connector base               | L101353361110  | 1           |
| CN104                    | 963 0048 705 | 6P connector base                |                | 1           |
| CN105                    | 960 0118 704 | 7P connector base                | L102526700700  | 1           |
| CN106                    | 960 0217 553 | 4P connector base                | L102526700400  | 1           |
| CN107                    | 963 0049 209 | 15P connector base               | L101353361510  | 1           |
| CN108                    | 960 0134 005 | 4P connector base                | L101530140410  | 1           |
| CN109                    | 960 0118 704 | 7P connector base                | L102526700700  | 1           |
| CN110                    | 963 0049 102 | 3P connector base                | L102526803010  | 1           |
| CN111                    | 960 0217 553 | 4P connector base                | L102526700400  | 1           |
| CN310                    | 960 0123 207 | 3P connector base                | L102526700300  | 1           |
| CN701                    | 963 0048 705 | 6P connector base                | L101353360610  | 1           |
| CP101                    | 963 0046 600 | 11P connector base               | L101352371110  | 1           |
| CP102                    | 963 0046 503 | 10P connector base               | L101352371010  | 1           |
| CP108                    | 960 0217 605 | 4P connector cord (L=100)        | L000101040040  | 1           |
| CP109                    | 960 0217 618 | 7P connector cord (L=150)        | L000151070040  | 1           |
| CP111                    | 960 0217 621 | 4P connector cord (L=200)        | L000201040070  | 1           |
| CP404                    | 960 0217 537 | 3P connector base                | L102302200310  | 1           |
| CP802                    | 963 0046 503 | 10P connector base               | L101352371010  | 1           |
| CP803                    | 963 0046 600 | 11P connector base               | L101352371110  | 1           |
| $\Delta$ F101            | 960 0142 602 | Fuse T2.5A/250V                  | G650252251160  | 1           |
| $\Delta$ F102            | 960 0142 709 | Fuse T1A/250V                    | G650102251160  | 1           |
| GND101,102               | 960 9006 600 | GND terminal                     | 3790040876010  | 2           |
| JACK101                  | 960 0004 504 | 4P RCA terminal                  | G602040045000  | 1           |
| JACK102,103              | 960 0005 406 | 6P RCA terminal                  | G603060046020  | 2           |
| JACK104                  | 960 0216 509 | 4P RCA terminal                  | G602040045030  | 1           |
| JACK105                  | 960 0216 208 | 4P SP terminal                   | G594040470000  | 1           |
| JACK106                  | 960 0221 905 | 1P RCA terminal                  | G600100555020  | 1           |
| JACK107                  | 960 0143 203 | AC outlet                        | G435040110000  | 1           |
| L101,102                 | 960 0005 008 | Inductor 0.15 $\mu$ H            | D330R150000000 | 2           |
| RY101                    | 960 0181 702 | Relay (G5PA-28)                  | G680240502020  | 1           |
| RY102                    | 960 0181 605 | Relay (G5PA-1-8)                 | G680120502010  | 1           |
| $\Delta$ T101            | 960 0209 309 | Power trans. Mini                | 8200280004000  | 1           |
| W101                     | 960 0118 908 | 2P connector base                | L108039602010  | 1           |
| W102                     | 960 0123 304 | 2P connector base                | L104353280200  | 1           |
| —                        | —            | Heat sink                        | 2120044348010  | 1           |
| —                        | —            | Heat sink                        | 2120044348020  | 2           |
| 963 0018 007             | —            | Screw 3 $\times$ 8 (B)           | B020030081B10  | 3           |
| 960 0005 804             | —            | Fuse holder (F101L,R)            | G645000050010  | 2           |
| 960 0005 804             | —            | Fuse holder (F102L,R)            | G645000050010  | 2           |



## CPU P.W.B. UNIT ASS'Y

| Ref. No.                    | Part No.     | Part Name                       | Remarks       | Q'ty | Ref. No. | Part No.     | Part Name                   | Remarks       |
|-----------------------------|--------------|---------------------------------|---------------|------|----------|--------------|-----------------------------|---------------|
| *                           | 960 0221 714 | CPU P.W.B. Total Ass'y          | 7025MM9902012 | 1    | R17~22   |              | Carbon chip 47ohm-J,1/10W   | C200047060200 |
| <b>SEMICONDUCTORS GROUP</b> |              |                                 |               |      | R23,24   |              | Carbon chip 47kohm-J,1/10W  | C200047360200 |
| IC1                         | 960 0222 302 | IC CXP740096-126Q               | J020740091260 |      | R25~30   |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
| IC2                         | 963 0057 602 | IC TDA7330BD                    | J080733000010 |      | R31,32   |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| IC801                       | 963 0023 500 | IC MC74HCU04AD                  | J040740400200 |      | R33      |              | Carbon chip 2.2Mohm-J,1/10W | C200022560200 |
| IC802                       | 960 0195 002 | IC W27C020                      | J000270200010 |      | R34~40   |              | Carbon chip 47ohm-J,1/10W   | C200047060200 |
| IC803                       | 960 0195 206 | IC 74HC125D                     | J040741250130 |      | R41~43   |              | Carbon chip 12kohm-J,1/10W  | C200012360200 |
| IC804,805                   | 960 0179 206 | IC 74HCT574                     | J040745740040 |      | R44~49   |              | Carbon chip 47kohm-J,1/10W  | C200047360200 |
| IC806                       | 960 0195 507 | IC LC89055W                     | J046890550010 |      | R50      |              | Carbon chip 220kohm-J,1/10W | C200022460200 |
| IC807                       | 960 0195 701 | IC CS492604-CL                  | J080492604010 |      | R51      |              | Carbon chip 47ohm-J,1/10W   | C200047060200 |
| IC808,809                   | 963 0043 409 | IC 74HCT244                     | J040742440080 |      | R52,53   |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| IC810                       | 960 0195 604 | IC AK4527-VQ                    | J080452700010 |      | R55      |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| IC811                       | 263 1048 002 | IC BA033T                       | J12603R300010 |      | R57~59   |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| IC812                       | 960 0216 606 | IC GD74HC00D                    | J040740000040 |      | R60~62   |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
| IC813                       | 960 0216 703 | IC PC74HC4040D                  | J040744040040 |      | R63,64   |              | Carbon chip 47ohm-J,1/10W   | C200047060200 |
| IC880~884                   | 263 0896 909 | IC NJM2068MD                    | J121206800030 |      | R65      | 244 2051 958 | Metal film 220ohm-J,1W      | C060022165050 |
| Q1,2                        | 269 0104 903 | Transistor DTC343TK             | J5220343T0210 |      | R66      |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| Q3                          | 269 0119 901 | Transistor DTA124EK             | J5200124E0210 |      | R67,68   |              | Carbon chip 47kohm-J,1/10W  | C200047360200 |
| Q4                          | 269 0102 905 | Transistor DTC124EK             | J5220124E0210 |      | R701,702 |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| Q701                        | 273 0384 900 | Transistor 2SC2412K (S)         | J5222412K0210 |      | R801     |              | Carbon chip 75ohm-J,1/10W   | C200075060200 |
| Q702                        | 269 0102 905 | Transistor DTC124EK             | J5220124E0210 |      | R802     |              | Carbon chip 2.2kohm-J,1/10W | C200022260200 |
| Q801                        | 271 0238 908 | Transistor 2SA1037K (S/R)       | J5201037K0210 |      | R803     |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| Q802,803                    | 273 0384 900 | Transistor 2SC2412K (S)         | J5222412K0210 |      | R804     |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| Q804                        | 269 0082 902 | Transistor DTC114EK             | J5220114E0210 |      | R806     |              | Carbon chip 8.2kohm-J,1/10W | C200082260200 |
| D1~3                        | 276 0401 002 | Diode 1SS133                    | K000013300520 |      | R807     |              | Carbon chip 5.1kohm-J,1/10W | C200051260200 |
| D701~703                    | 963 0058 408 | Diode 1N4007                    | K000400700520 |      | R808     |              | Carbon chip 3kohm-J,1/10W   | C200030260200 |
| D802,803                    | 960 0117 501 | Diode 1SS355                    | K005035500010 |      | R809     |              | Carbon chip 75ohm-J,1/10W   | C200075060200 |
| D805~812                    | 960 0117 501 | Diode 1SS355                    | K005035500010 |      | R810     |              | Carbon chip 1Mohm-J,1/10W   | C200010560200 |
| ZD1                         | 960 0095 500 | Zener diode MTZJ5.1B            | K06005R144520 |      | R811~813 |              | Carbon chip 47ohm-J,1/10W   | C200047060200 |
| ZD704                       | 960 0211 106 | Zener diode MTZJ10B             | K06010R044520 |      | R814     |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| ZD801,802                   | 960 0095 704 | Zener diode MTZJ6.2B            | K06006R244520 |      | R816,817 |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| JACK801                     | 960 0180 800 | Optical digital input (GP1F37R) | E100137000010 |      | R818     |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| <b>RESISTORS GROUP</b>      |              |                                 |               |      | R819~828 |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| R1~4                        |              | Carbon chip 47ohm-J,1/10W       | C200047060200 |      | R829,830 |              | Carbon chip 4.7kohm-J,1/10W | C200047260200 |
| R5,6                        |              | Carbon chip 1kohm-J,1/10W       | C200010260200 |      | R831     |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| R7                          |              | Carbon chip 680ohm-J,1/10W      | C200068160200 |      | R833     |              | Carbon chip 4.7kohm-J,1/10W | C200047260200 |
| R8,9                        |              | Carbon chip 47ohm-J,1/10W       | C200047060200 |      | R834,835 |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| R10~13                      |              | Carbon chip 47ohm-J,1/10W       | C200047060200 |      | R836     |              | Carbon chip 10ohm-J,1/10W   | C200010060200 |
|                             |              |                                 |               |      | R850~852 |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
|                             |              |                                 |               |      | R853~856 |              | Carbon chip 22kohm-J,1/10W  | C200022360200 |
|                             |              |                                 |               |      | R857     |              | Carbon chip 2.2kohm-J,1/10W | C200022260200 |
|                             |              |                                 |               |      | R858     |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
|                             |              |                                 |               |      | R859,860 |              | Carbon chip 22kohm-J,1/10W  | C200022360200 |
|                             |              |                                 |               |      | R861     |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
|                             |              |                                 |               |      | R862     |              | Carbon chip 47kohm-J,1/10W  | C200047360200 |
|                             |              |                                 |               |      | R863     |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
|                             |              |                                 |               |      | R864     |              | Carbon chip 220ohm-J,1/10W  | C200022160200 |
|                             |              |                                 |               |      | R865     |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
|                             |              |                                 |               |      | R866,867 |              | Carbon chip 220ohm-J,1/10W  | C200022160200 |
|                             |              |                                 |               |      | R880C    |              | Carbon chip 100kohm-J,1/10W | C200010460200 |



| Ref. No.                | Part No.     | Part Name                         | Remarks       | Ref. No.  | Part No. | Part Name                  | Remarks       |
|-------------------------|--------------|-----------------------------------|---------------|-----------|----------|----------------------------|---------------|
| R880FL,FR               |              | Carbon chip 100kohm-J,1/10W       | C200010460200 | C802      |          | Ceramic chip 0.047μF-K/50V | D01147377200  |
| R880SL,SR               |              | Carbon chip 100kohm-J,1/10W       | C200010460200 | C804      |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| R880SW                  |              | Carbon chip 100kohm-J,1/10W       | C200010460200 | C805      |          | Ceramic chip 22pF-J/50V    | D010220167200 |
| R882C                   |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C807      |          | Electrolytic 100μF-M/6.3V  | D040101081100 |
| R882FL,FR               |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C808,809  |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| R882SL,SR               |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C813      |          | Ceramic chip 0.01μF-K/50V  | D011103777200 |
| R882SW                  |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C814      |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| R883C                   |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C815      |          | Ceramic chip 0.01μF-K/50V  | D011103777200 |
| R883FL,FR               |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C816      |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| R883SL,SR               |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C817,818  |          | Ceramic chip 27pF-J/50V    | D010270167200 |
| R883SW                  |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C820~822  |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| R884C                   |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C826      |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| R884FL,FR               |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C828      |          | Ceramic chip 0.22μF-Z/50V  | D011224597200 |
| R884SL,SR               |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C829      |          | Electrolytic 2.2μF-M/50V   | D0402R2087250 |
| R884SW                  |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C830      |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| R885C                   |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C833~836  |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| R885FL,FR               |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C837      |          | Electrolytic 100μF-M/6.3V  | D040101081100 |
| R885SL,SR               |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C838      |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| R885SW                  |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C839      |          | Electrolytic 2.2μF-M/50V   | D0402R2087250 |
| R887                    |              | Carbon chip 5.1kohm-J,1/10W       | C200051260200 | C840      |          | Ceramic chip 100pF-J/50V   | D010101167200 |
| R890                    |              | Carbon chip 100ohm-J,1/10W        | C200010160200 | C841      |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| R891L,R                 |              | Carbon chip 47kohm-J,1/10W        | C200047360200 | C842      |          | Electrolytic 100μF-M/6.3V  | D040101081100 |
| R892L,R                 |              | Carbon chip 18kohm-J,1/10W        | C200018360200 | C843      |          | Ceramic chip 0.01μF-K/50V  | D011103777200 |
| R893L,R                 |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C844      |          | Electrolytic 100μF-M/6.3V  | D040101081100 |
| R894L,R                 |              | Carbon chip 470ohm-J,1/10W        | C200047160200 | C845      |          | Electrolytic 220μF-M/6.3V  | D040221081050 |
| R895L,R                 |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C848      |          | Ceramic chip 100pF-J/50V   | D010101167200 |
| R896L,R                 |              | Carbon chip 4.7kohm-J,1/10W       | C200047260200 | C849,850  |          | Ceramic chip 1000pF-K/50V  | D011102777200 |
| R897L,R                 |              | Carbon chip 470ohm-J,1/10W        | C200047160200 | C851~853  |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| R898L,R                 |              | Carbon chip 6.2kohm-J,1/10W       | C200062260200 | C854      |          | Ceramic chip 0.01μF-K/50V  | D011103777200 |
| R899L,R                 |              | Carbon chip 6.2kohm-J,1/10W       | C200062260200 | C855      |          | Ceramic chip 22pF-J/50V    | D010220167200 |
| J1                      |              | Carbon chip 0ohm-J,1/8W           | C200000061300 | C856,857  |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| J801-804                |              | Carbon chip 0ohm-J,1/10W          | C200000060200 | C858      |          | Ceramic chip 0.01μF-K/50V  | D011103777200 |
| <b>CAPACITORS GROUP</b> |              |                                   |               | C859~861  |          | Ceramic chip 0.1μF-Z/50V   | D011104597200 |
| C1                      |              | Ceramic chip 270pF-J/50V          | D010271167200 | C868      |          | Ceramic chip 1000pF-K/50V  | D011102777200 |
| C2                      |              | Ceramic chip 0.01μF-K/50V         | D011103777200 | C880L,R   |          | Electrolytic 10μF-M/35V    | D040100085050 |
| C3~8                    |              | Ceramic chip 22pF-J/50V           | D010220167200 | C880C     |          | Electrolytic 10μF-M/35V    | D040100085050 |
| C9,10                   |              | Ceramic chip 0.01μF-K/50V         | D011103777200 | C880FL,FR |          | Electrolytic 10μF-M/35V    | D040100085050 |
| C11                     |              | Ceramic chip 0.1μF-Z/50V          | D011104597200 | C880SL,SR |          | Electrolytic 10μF-M/35V    | D040100085050 |
| C12                     |              | Electrolytic 47μF-M/16V           | D040470083080 | C880SW    |          | Electrolytic 10μF-M/35V    | D040100085050 |
| C13                     |              | Electrolytic 10μF-M/50V           | D040100087230 | C882C     |          | Ceramic chip 680pF-J/50V   | D010681167200 |
| C14                     |              | Electrolytic 100μF-M/10V          | D040101082060 | C882FL,FR |          | Ceramic chip 680pF-J/50V   | D010681167200 |
| C15                     | 960 0186 503 | Electric double layer 0.047F/5.5V | D090473904010 | C882SL,SR |          | Ceramic chip 680pF-J/50V   | D010681167200 |
| C16                     |              | Electrolytic 1μF-M/50V            | D040010087080 | C882SW    |          | Ceramic chip 680pF-J/50V   | D010681167200 |
| C17                     |              | Electrolytic 100μF-M/10V          | D040101082060 | C883C     |          | Electrolytic 10μF-M/35V    | D040100085050 |
| C18                     |              | Electrolytic 1μF-M/50V            | D040010087080 | C883FL,FR |          | Electrolytic 10μF-M/35V    | D040100085050 |
| C19                     |              | Ceramic chip 0.22μF-Z/50V         | D011224597200 | C883SL,SR |          | Electrolytic 10μF-M/35V    | D040100085050 |
| C701                    |              | Electrolytic 1μF-M/50V            | D040010087070 | C883SW    |          | Electrolytic 10μF-M/35V    | D040100085050 |
| C801                    |              | Electrolytic 100μF-M/6.3V         | D040101081100 | C884C     |          | Ceramic chip 680pF-J/50V   | D010681167200 |
|                         |              |                                   |               | C884FL,FR |          | Ceramic chip 680pF-J/50V   | D010681167200 |
|                         |              |                                   |               | C884SL,SR |          | Ceramic chip 680pF-J/50V   | D010681167200 |
|                         |              |                                   |               | C884SW    |          | Ceramic chip 680pF-J/50V   | D010681167200 |
|                         |              |                                   |               | C885L,R   |          | Electrolytic 10μF-M/35V    | D040100085050 |

## FRONT P.W.B. UNIT ASS'Y

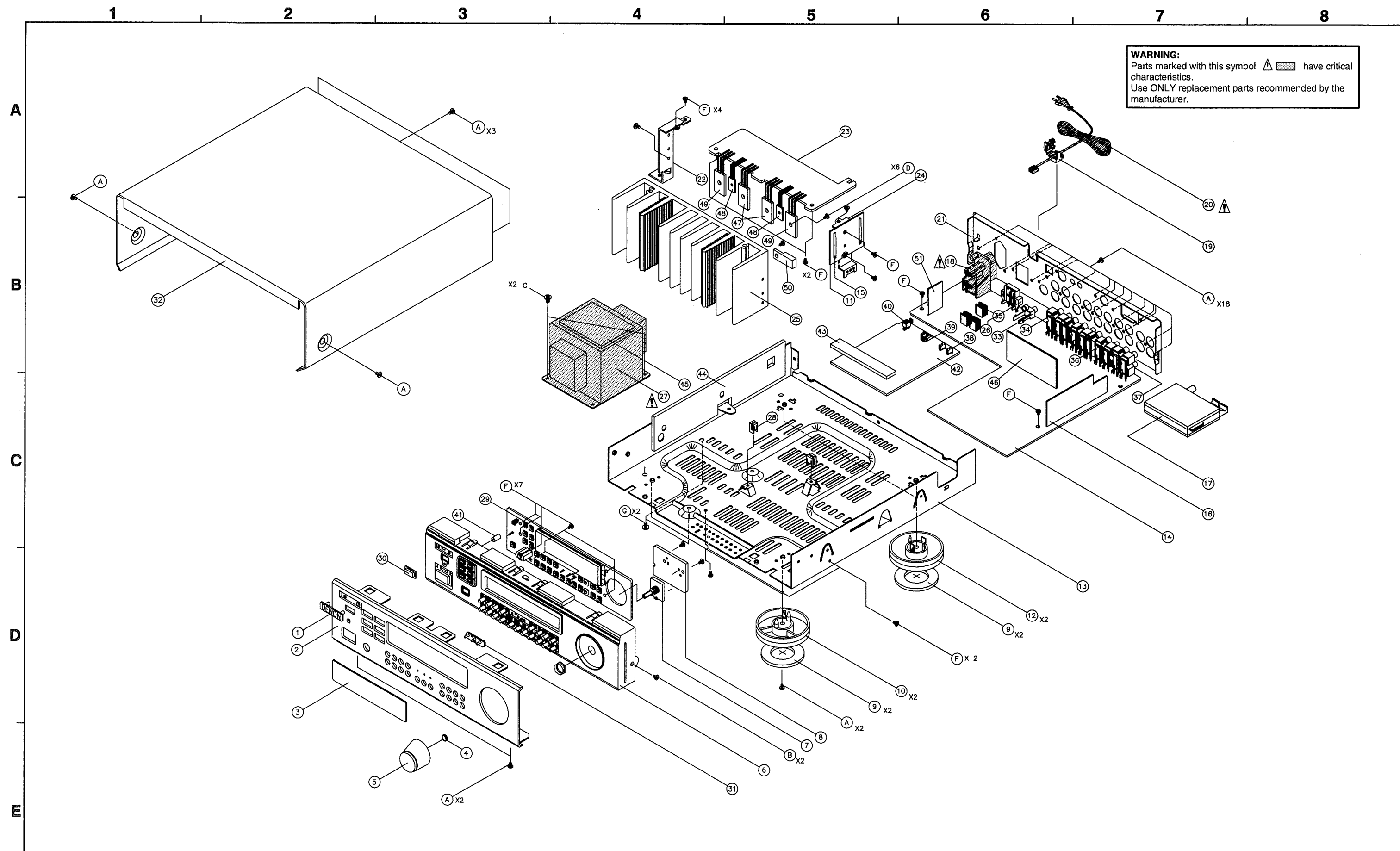
| Ref. No. | Part No.     | Part Name                          | Remarks       |
|----------|--------------|------------------------------------|---------------|
| C888L,R  |              | Electrolytic 10 $\mu$ F-M/35V      | D040100085050 |
| C890     |              | Ceramic chip 0.1 $\mu$ F-Z/50V     | D011104597200 |
| C891L,R  |              | Ceramic chip 100pF-J/50V           | D010101167200 |
| C892L,R  |              | Ceramic chip 100pF-J/50V           | D010101167200 |
| C893L,R  |              | Ceramic chip 1000pF-K/50V          | D011102777200 |
| C897     | 960 0222 409 | Electrolytic 47 $\mu$ F-M/10V (BP) | D042470082200 |

| OTHER PARTS GROUP |              |                              | Q'ty             |
|-------------------|--------------|------------------------------|------------------|
| CB801~810         | 963 0050 502 | Chip beads                   | 7611010000020 10 |
| CB812,813         | 963 0050 502 | Chip beads                   | 7611010000020 2  |
| CB815~817         | 963 0050 502 | Chip beads                   | 7611010000020 3  |
| CB819~826         | 963 0050 502 | Chip beads                   | 7611010000020 8  |
| CB829~831         | 963 0050 502 | Chip beads                   | 7611010000020 3  |
| CN801             | 960 0162 307 | 29P FPC connector base       | L130528072910 1  |
| CN802             | 963 0047 007 | 10P connector base           | L101353361010 1  |
| CN803             | 963 0047 104 | 11P connector base           | L101353361110 1  |
| CP1               | 960 0217 524 | 15P FPC connector base       | L131520451545 1  |
| CP103             | 963 0046 600 | 11P connector base           | L101352371110 1  |
| CP104             | 963 0050 308 | 6P connector base            | L101352370610 1  |
| CP107             | 963 0049 607 | 15P connector base           | L101352371510 1  |
| CP401             | 960 0217 508 | 23P FPC connector base       | L130528062310 1  |
| CP701             | 963 0050 308 | 6P connector base            | L101352370610 1  |
| CP801             | 960 0162 307 | 29P FPC connector base       | L130528072910 1  |
| JACK802           | 960 0216 305 | 1P RCA terminal (ORANGE)     | G600010011000 1  |
| JACK803,804       | 960 0187 007 | Jack (D3.5)                  | G401031102010 2  |
| L801              | 963 0050 900 | Inductor 2.2 $\mu$ H         | D3302R2000150 1  |
| WIRE              | —            | 1P wire                      | L042241008060 1  |
| XTAL1             | 960 0181 003 | Ceramic resonator CST12.0MTW | E830120000050 1  |
| XTAL2             | 960 0091 818 | Crystal 4.332MHz             | E8004R3320051 1  |
| XTAL801           | 960 0180 907 | Crystal 12.288MHz            | E80012R288020 1  |
|                   | 963 0025 508 | 32P IC socket (for IC802)    | G450320000010 1  |

| Ref. No.             | Part No.     | Part Name                   | Remarks       |
|----------------------|--------------|-----------------------------|---------------|
| *                    | 960 0215 403 | Front P.W.B. Total Ass'y    | 7025MM9902011 |
| SEMICONDUCTORS GROUP |              |                             |               |
| IC401                | 960 0180 004 | IC LC75721E                 | J127757210010 |
| Q401~405             | 269 0119 901 | Transistor DTA124EK         | J5200124E0210 |
| D401~406             | 960 0117 501 | Diode 1SS355                | K005035500010 |
| ZD402                | 960 0095 500 | Zener diode MTZJ5.1B        | K06005R144520 |
| ZD401                | 960 0047 405 | Zener diode MTZJ7.5B        | K06007R544520 |
| LED401               | 960 0050 202 | LED SPR39MVW3               | K500032500010 |
| LED402~404           | 960 0189 209 | LED HL-30RDRF3              | K500032002080 |
| RM401                | 960 0208 601 | Remocon sensor GP1U271R     | E940000140020 |
| FLT401               | 960 0217 100 | FLT 16-ST-42GNSK            | K530160420010 |
| RESISTORS GROUP      |              |                             |               |
| R404                 |              | Carbon chip 47ohm-J,1/10W   | C200047060200 |
| R405~409             |              | Carbon chip 330ohm-J,1/10W  | C200033160200 |
| R410                 |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| R411~414             |              | Carbon chip 1kohm-J,1/10W   | C200010260200 |
| R415,416             |              | Carbon chip 10kohm-J,1/10W  | C200010360200 |
| R417,418             |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
| R420                 |              | Carbon chip 1.2kohm-J,1/10W | C200012260200 |
| R421                 |              | Carbon chip 1.5kohm-J,1/10W | C200015260200 |
| R423                 |              | Carbon chip 2.2kohm-F,1/10W | C200022240200 |
| R424                 |              | Carbon chip 2.7kohm-J,1/10W | C200027260200 |
| R425                 |              | Carbon chip 4.3kohm-J,1/10W | C200043260200 |
| R427                 |              | Carbon chip 1kohm-J,1/10W   | C200010260200 |
| R429                 |              | Carbon chip 1.5kohm-J,1/10W | C200015260200 |
| R432                 |              | Carbon chip 2.7kohm-J,1/10W | C200027260200 |
| R434                 |              | Carbon chip 1kohm-J,1/10W   | C200010260200 |
| R435                 |              | Carbon chip 1.2kohm-J,1/10W | C200012260200 |
| R436                 |              | Carbon chip 1.5kohm-J,1/10W | C200015260200 |
| R437                 |              | Carbon chip 1.8kohm-J,1/10W | C200018260200 |
| R438                 |              | Carbon chip 2.2kohm-F,1/10W | C200022240200 |
| R439                 |              | Carbon chip 2.7kohm-J,1/10W | C200027260200 |
| R440                 |              | Carbon chip 4.3kohm-J,1/10W | C200043260200 |
| R441                 |              | Carbon chip 5.6kohm-J,1/10W | C200056260200 |
| R442,443             | 244 2052 973 | Metal film 560ohm-J,1W      | C060056165050 |
| R446                 |              | Carbon chip 100ohm-J,1/10W  | C200010160200 |
| R447                 |              | Carbon chip 100kohm-J,1/10W | C200010460200 |
| J403                 |              | Carbon chip 0ohm-J,1/8W     | C200000061300 |
| J409                 |              | Carbon chip 0ohm-J,1/8W     | C200000061300 |
| J411~419             |              | Carbon chip 0ohm-J,1/8W     | C200000061300 |
| J422~427             |              | Carbon chip 0ohm-J,1/8W     | C200000061300 |
| J429,430             |              | Carbon chip 0ohm-J,1/8W     | C200000061300 |

| Ref. No.                 | Part No.     | Part Name                  | Remarks          |
|--------------------------|--------------|----------------------------|------------------|
| <b>CAPACITORS GROUP</b>  |              |                            |                  |
| C401                     |              | Electrolytic 100μF-M/10V   | D040101082050    |
| C402                     |              | Ceramic chip 0.1μF-Z/50V   | D011104597200    |
| C403                     |              | Ceramic chip 0.047μF-K/50V | D011473777200    |
| C404                     |              | Electrolytic 100μF-M/10V   | D040101082050    |
| C405,406                 |              | Ceramic chip 0.047μF-K/50V | D011473777200    |
| C407                     |              | Electrolytic 10μF-M/16V    | D040100083110    |
| C408                     |              | Ceramic chip 0.047μF-K/50V | D011473777200    |
| C409                     |              | Ceramic chip 100pF-J/50V   | D010101167200    |
| C410                     |              | Ceramic chip 1000pF-K/50V  | D011102777200    |
| C411                     |              | Ceramic chip 220pF-J/50V   | D010221167200    |
| C412,413                 |              | Ceramic chip 0.01μF-K/50V  | D011103777200    |
| C414,415                 |              | Ceramic chip 220pF-J/50V   | D010221167200    |
| C417                     |              | Ceramic chip 0.1μF-Z/50V   | D011104597200    |
| <b>OTHER PARTS GROUP</b> |              |                            |                  |
|                          |              |                            | <b>Q'ty</b>      |
| CN401                    | 960 0217 511 | 21P FPC connector base     | L130528072310 1  |
| CN404                    | 960 0217 540 | 3P connector base          | L102421400300 1  |
| CP402                    | 960 0217 634 | 4P connector cord (L=280)  | L000281040010 1  |
| JACK401                  | 960 0069 400 | Headphone jack             | G401035180010 1  |
| L401,402                 | 960 0215 908 | Inductor 4.7μH             | D3304R7001020 2  |
| SW401~426                | 960 0194 207 | Tact switch                | G180000270010 26 |
|                          | 960 0143 300 | FL supporter               | 4070210006000 1  |

# EXPLODED VIEW

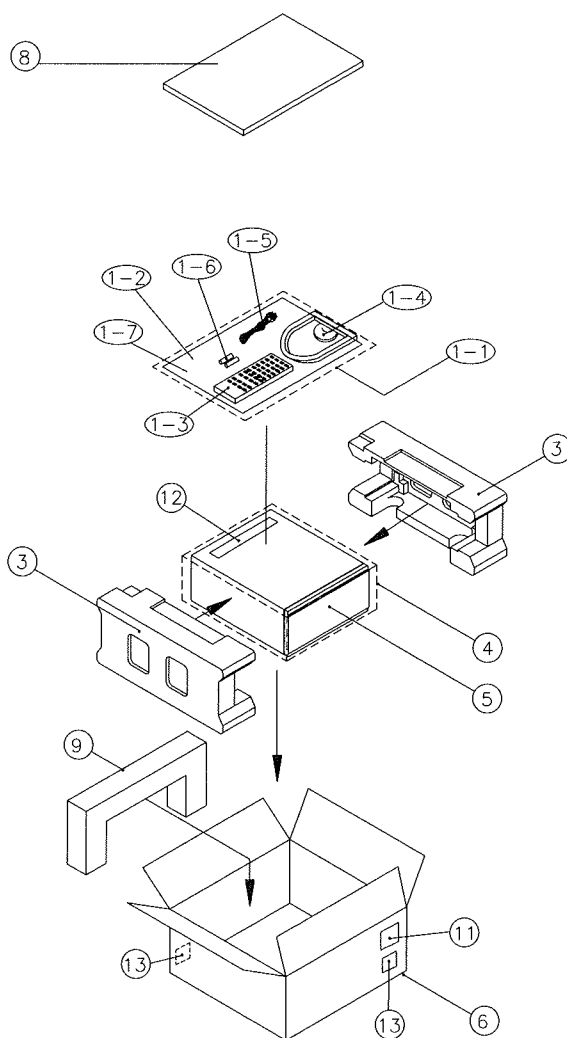


## PARTS LIST OF EXPLODED VIEW

Note : The symbols in the column "Remarks" indicate the following destinations.  
 E2 : Europe model  
 EK : U.K. model

| Ref. No. | Part No.     | Part Name                | Remarks                  | Q'ty | Ref. No. | Part No.     | Part Name                       | Remarks                  | Q'ty |
|----------|--------------|--------------------------|--------------------------|------|----------|--------------|---------------------------------|--------------------------|------|
| 8        | 960 0215 513 | Main P.W.B. Total Ass'y  | 7025MM9902010            | 1    | 26       | 960 0216 208 | 4P SP terminal                  | G594040470000<br>JACK105 | 1    |
| 11       |              | Encoder VR P.W.B. unit   |                          |      | △ 27     | 960 0215 610 | Power trans                     | 8200660550030            | 1    |
| 14       |              | Clamp P.W.B. unit        |                          |      | 28       | 960 0003 301 | P.W.B. support                  | 4070001601010            | 2    |
| 23       |              | Main P.W.B. unit         |                          |      | 30       | 960 0114 708 | Remocon window                  | 5070210033000            | 1    |
| 46       |              | Amp. P.W.B. unit         |                          |      | 31       | 960 0214 501 | Function lens                   | 3710210143000            | 1    |
|          |              | Mix P.W.B. unit          |                          |      | 32       | 960 0214 006 | Top cabinet                     | 3000210006200            | 1    |
|          |              |                          |                          |      |          |              |                                 | Gold model               |      |
| 29       | 960 0215 403 | Front P.W.B. Total Ass'y | 7025MM9902011            | 1    | 32       | 960 0214 019 | Top cabinet                     | 3000210006210            | 1    |
|          |              | Front P.W.B. unit        |                          |      |          |              |                                 | Black model              |      |
| 16       | 960 0221 714 | CPU P.W.B. Total Ass'y   | 7025MM9902012            | 1    | 33       | 960 0221 905 | 1P RCA terminal                 | G600100555020            | 1    |
| 42       |              | CPU P.W.B. unit          |                          |      |          |              |                                 | JACK106                  |      |
| 51       |              | DSP P.W.B. unit          |                          |      | 34       | 960 0216 509 | 4P RCA terminal                 | G602040045030            | 1    |
|          |              | Clock P.W.B. unit        |                          |      |          |              |                                 | JACK104                  |      |
| 1        | 960 0115 707 | DENON badge              | 5630210008000            | 1    | 35       | —            | Heat sink                       | 2120044348010            |      |
|          |              |                          | Gold model               |      | 36       | 960 0005 406 | 6P RCA terminal                 | G603060046020            | 2    |
| 1        | 960 0115 710 | DENON badge              | 5630210008010            | 1    |          |              |                                 | JACK102,103              |      |
|          |              |                          | Black model              |      | 37       | 960 0004 504 | 4P RCA terminal                 | G602040045000            | 1    |
| 2        | 960 0214 116 | Front panel              | 3067210048200            | 1    |          |              |                                 | JACK101                  |      |
|          |              |                          | Gold model               |      | 38       | 960 0004 407 | Jack (D3.5)                     | G401031102010            | 2    |
| 2        | 960 0214 129 | Front panel              | 3067210048210            | 1    |          |              |                                 | JACK803,804              |      |
|          |              |                          | Black model              |      | 39       | 960 0216 305 | 1P RCA terminal (ORANGE)        | G600010011000            | 1    |
| 3        | 960 0115 309 | Display window           | 5077210043010            | 1    |          |              |                                 | JACK802                  |      |
| 4        | 960 0214 909 | Knob ring                | 4700210000000            | 1    | 40       | 960 0180 800 | Optical digital input (GP1F37R) | E100137000010            | 1    |
| 5        | 960 0215 005 | Volume knob              | 5080210051200            | 1    |          |              |                                 | JACK801                  |      |
|          |              |                          | Gold model               |      | 41       | 960 0207 408 | Power lens                      | 3710210133000            | 1    |
| 5        | 960 0215 018 | Volume knob              | 5080210051210            | 1    | 43       | 960 0214 802 | P.W.B. cushion (85×10×2)        | 4050000020010            | 1    |
|          |              |                          | Black model              |      | 44       | 960 0222 001 | Chassis cushion (160×36×2)      | 4050210030000            | 1    |
| 6        | 960 0214 404 | Front frame              | 3217210091000            | 1    | 45       | 960 0222 014 | Trans cushion (20×30×4.5)       | 4050210075000            | 1    |
|          |              |                          | Gold model               |      | 47       | 960 0180 208 | Transistor 2SB1559Y             | J5011559Y0170            | 2    |
| 6        | 960 0214 417 | Front frame              | 3217210091010            | 1    |          |              |                                 | Q308L,R                  |      |
|          |              |                          | Black model              |      | 48       | 960 0114 300 | Transistor 2SC4137              | J5024137V0130            | 2    |
| 7        | 960 0216 101 | Rotary encoder           | G121162420410            | 1    |          |              |                                 | Q306L,R                  |      |
| 9        | 960 0003 505 | Foot cushion             | 4050020075010            | 4    | 49       | 960 0180 305 | Transistor 2SD2389Y             | J5032389Y0170            | 2    |
| 10       | 960 0003 408 | Foot (Front)             | 4007000061010            | 2    |          |              |                                 | Q307L,R                  |      |
| 12       | 960 0115 008 | Foot (Rear)              | 4000210001000            | 2    | 50       | 960 0222 108 | Posistor P43T7D330BW9           | F320900001010            | 1    |
| 13       | 960 0131 804 | Main chassis             | 3200210086000            | 1    |          |              |                                 | TH301                    |      |
| 15       | 960 0155 301 | Clamper                  | 4330040343010            | 2    | ★        | 960 0217 207 | 23P FFC cable                   | L301101230011            | 1    |
| 17       | 960 0216 017 | Tuner pack (TFCE1E915A)  | E903191500000            | 1    | ★        | 960 0217 304 | 15P FFC cable                   | L301400150010            | 1    |
| △ 18     | 960 0143 203 | AC outlet                | G435040110000<br>JACK107 | 1    | ★        | 960 0217 401 | 29P FFC cable                   | L301800290011            | 1    |
|          |              |                          |                          |      | ★        | 960 0222 027 | Guide cushion (30×30×2)         | 4050000020020            | 1    |
| 19       | 960 0135 305 | Cord stopper             | 4380040162010            | 1    | ★        | —            | P.V.C. sheet (30×10×0.5)        | 1210000140000            | 1    |
| △ 20     | 960 0165 304 | AC cord                  | L068040011010<br>for E2  | 1    | SCREWS   |              |                                 |                          | Q'ty |
| △ 20     | 960 0143 009 | AC cord                  | L068000000040<br>for EK  | 1    | A        | 960 0108 604 | Screw 3×8 (B) BK                | B020030083B10            | 24   |
| 21       | 960 0214 213 | Back chassis             | 3207210016300            | 1    | B        | 960 9008 006 | Flat Screw 3×8 (B) BK           | B020030083F10            | 2    |
| 22       | 960 0214 608 | Heat sink bracket (L)    | 4010210516000            | 1    | D        | 963 9004 009 | Screw 3×14 (B) SW W             | B018230141H10            | 6    |
| 24       | 960 0214 705 | Heat sink bracket (R)    | 4010210526000            | 1    | F        | 963 0018 007 | Screw 3×8 (B)                   | B020030081B10            | 23   |
| 25       | —            | Heat sink (main)         | 2120210188000            | 1    | G        | 960 9008 417 | Screw 4×8 (S) SW W              | B028940081B10            | 4    |

# PACKING VIEW



## PARTS LIST OF PACKING & ACCESSORIES

**Note :** The symbols in the column "Remarks" indicate the following destinations.  
 E2 : Europe model  
 EK : U.K. model

| Ref. No. | Part No.     | Part Name                | Remarks                 | Q'ty | Ref. No. | Part No.     | Part Name        | Remarks                                | Q'ty |
|----------|--------------|--------------------------|-------------------------|------|----------|--------------|------------------|----------------------------------------|------|
| 1-1      | 960 0107 809 | Poly bag (for accessory) | 6337000240010           | 1    | 8        | 960 0210 327 | Pad              | 6240210164010<br>for EK                | 1    |
| 1-2      | 960 0215 225 | Instruction manual       | 5707210380000<br>for E2 | 1    | 9        | 960 0210 301 | Cushion pad      | 6240210014000<br>for EK                | 1    |
| 1-2      | 960 0215 238 | Instruction manual       | 5707210380010<br>for EK | 1    | 11       | —            | EAN label        | 5507005000040<br>Gold model ,for E2    | 2    |
| 1-3      | 960 0215 704 | Remocon (RC-889)         | 8300000520050           | 1    | 11       | —            | EAN label        | 5507005000050<br>Black model ,for E2   | 2    |
| 1-4      | 960 0004 106 | AM loop antenna          | E601000050000           | 1    | 11       | —            | EAN label        | 5507005000060<br>for EK                | 2    |
| 1-5      | 960 0004 203 | FM antenna wire          | E605000030000           | 1    | 12       | 960 0222 205 | DOLBY/DTS label  | 5507004010011<br>Gold model ,for E2/EK | 1    |
| 1-6      | —            | Battery                  | G670001R50010           | 2    | 12       | 960 0222 218 | DOLBY/DTS label  | 5507004010021<br>Black model ,for E2   | 1    |
| 1-7      | —            | S.S. list (EX)           | —                       | 1    | 13       | —            | Control label    | 5500014920010                          | 2    |
| 3        | 960 0116 007 | Cushion                  | 6230210014000           | 1    | ★ 14     | 960 0222 807 | Black ver. label | 5507007000050<br>Black model ,for E2   | 4    |
| 4        | 960 0116 104 | Poly bag (for set)       | 6337200029010           | 1    |          |              |                  |                                        |      |
| 5        | —            | Set                      | —                       | 1    |          |              |                  |                                        |      |
| 6        | 960 0215 319 | Carton case              | 6007210010200<br>for E2 | 1    |          |              |                  |                                        |      |
| 6        | 960 0215 322 | Carton case              | 6007210010210<br>for EK | 1    |          |              |                  |                                        |      |
| 8        | 960 0210 314 | Pad                      | 6240210164000<br>for E2 | 1    |          |              |                  |                                        |      |

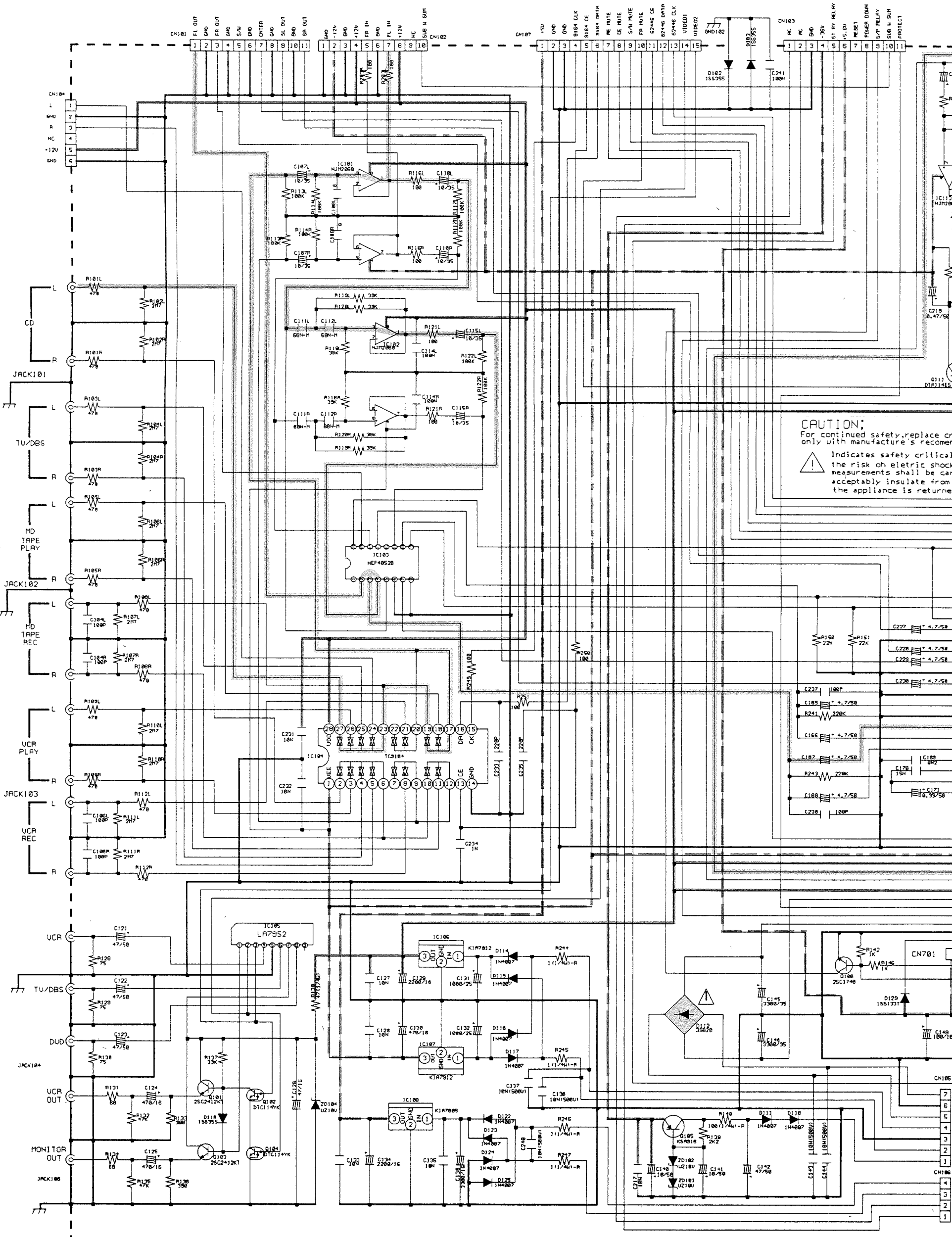




## MEMO

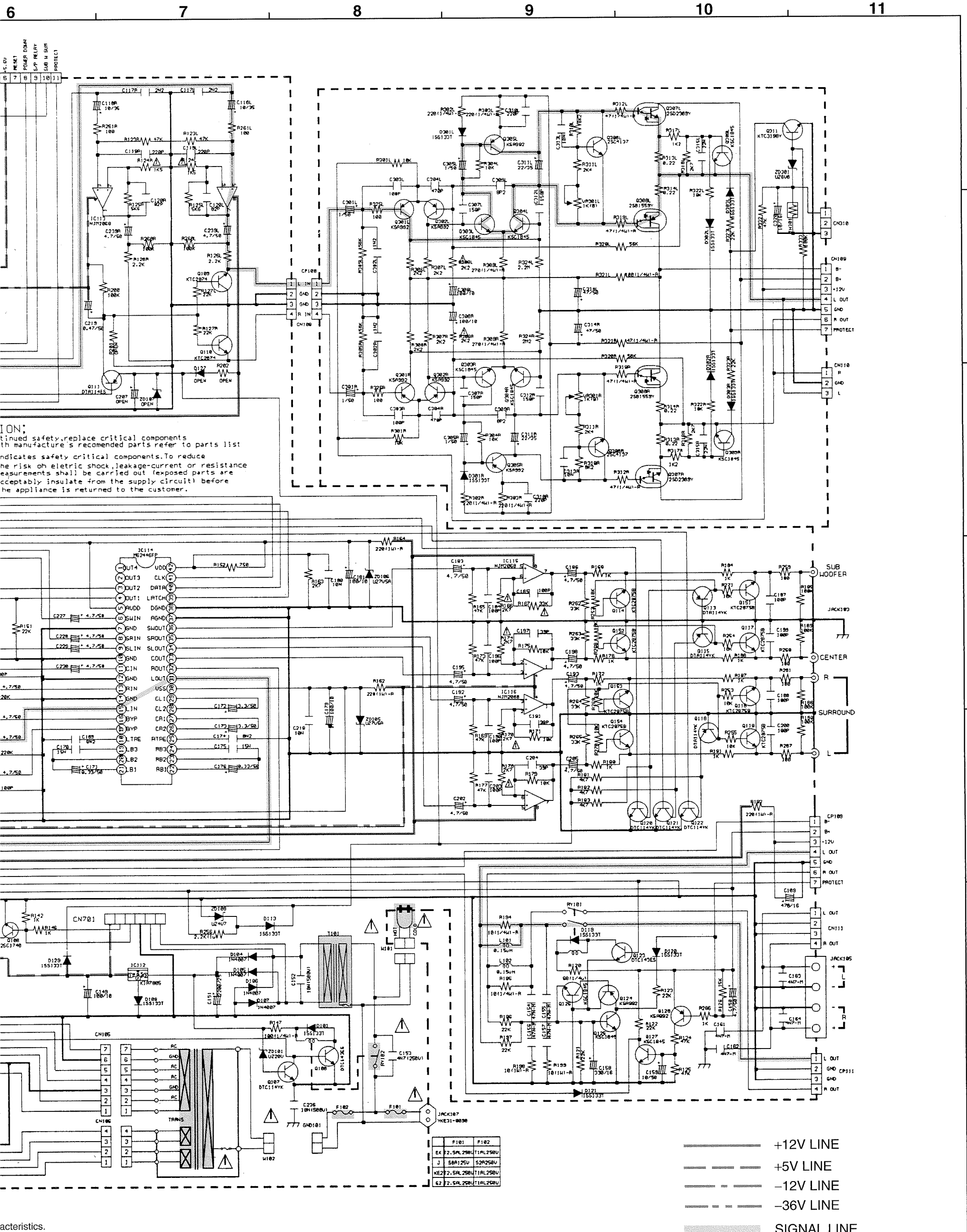
SCHEMATIC DIAGRAMS (1/4)

1 2 3 4 5 6



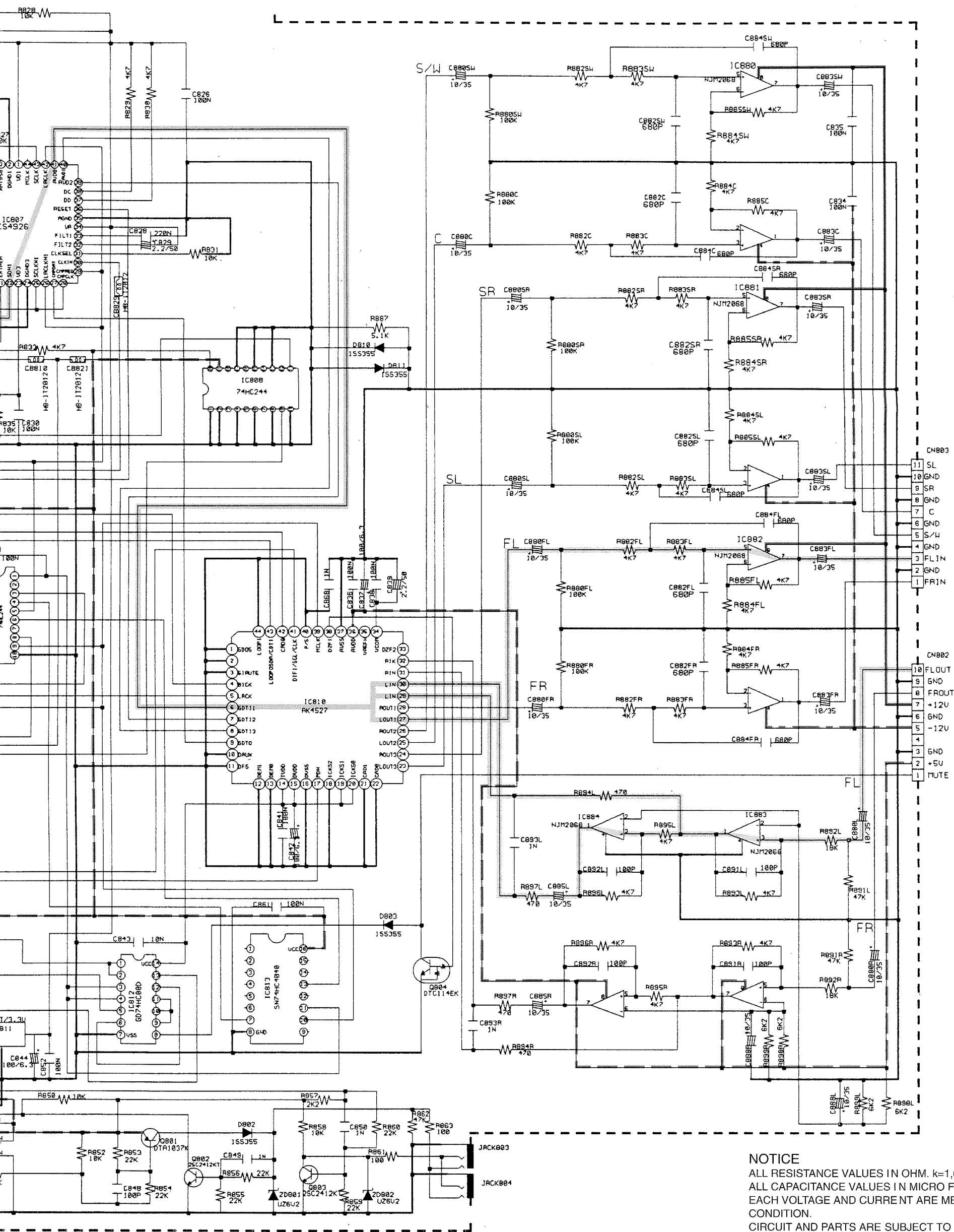
NOTICE  
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM  
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD  
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT  
CONDITION.  
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR  
NOTICE.

WARNING:  
Parts marked with this symbol  have critical characteristics.  
Use ONLY replacement parts recommended by the manufacturer.  
CAUTION:  
Before returning the unit to the customer, make sure you make either (1) a  
leakage current check or (2) a line to chassis resistance check. If the leakage  
current exceeds 0.5 milliamps, or if the resistance from chassis to either side  
of the power card is less than 460 kohms, the unit is defective.  
WARNING:  
DO NOT return the unit to the customer until the problem is located and  
corrected.



SCHEMATIC DIAGRAMS (1/4)  
MAIN UNIT





**NOTICE**  
 ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM  
 ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD  
 EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT  
 CONDITION.  
 CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR  
 NOTICE.

**WARNING:**  
 Parts marked with this symbol  have critical characteristics.  
 Use ONLY replacement parts recommended by the manufacture.

**CAUTION:**  
 Before returning the unit to the customer, make sure you make either (1) a  
 leakage current check or (2) a line to chassis resistance check. If the leakage  
 current exceeds 0.5 milliamps, or if the resistance from chassis to either side  
 of the power card is less than 460 kohms, the unit is defective.

**WARNING:**  
 DO NOT return the unit to the customer until the problem is located and  
 corrected.

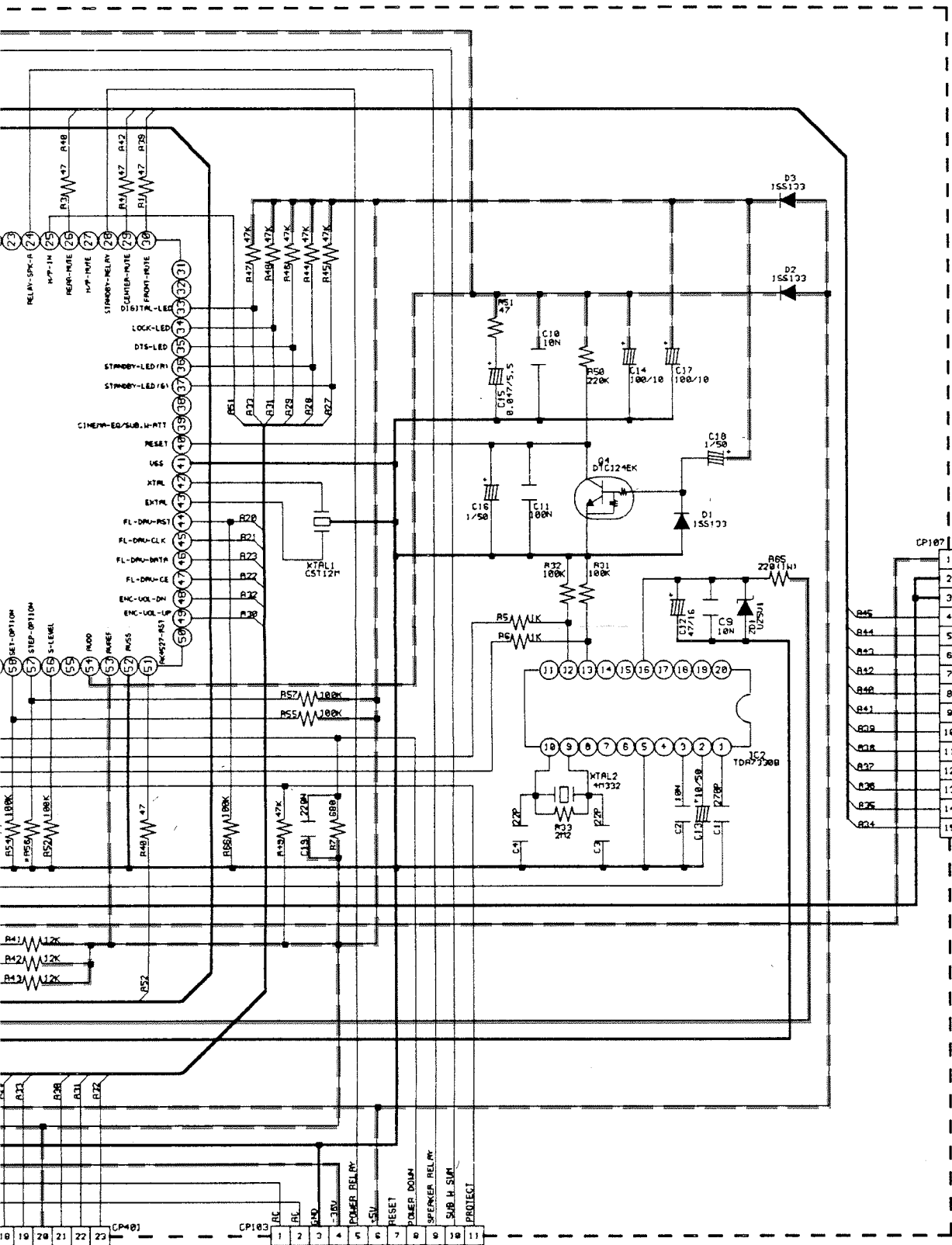
- +12V LINE
- +5V LINE
- -12V LINE
- SIGNAL LINE

SCHEMATIC DIAGRAMS (2/4)  
 DSP UNIT





6 7 8 9 10 11



OPTION TABLE

|       | R54 | R55 | R56  | R57 |
|-------|-----|-----|------|-----|
| JAPAN | 0   | X   | 150K | 0   |
| EK,E2 | X   | 0   | X    | 0   |

- +12V LINE
- +5V LINE
- -12V LINE
- -36V LINE
- SIGNAL LINE

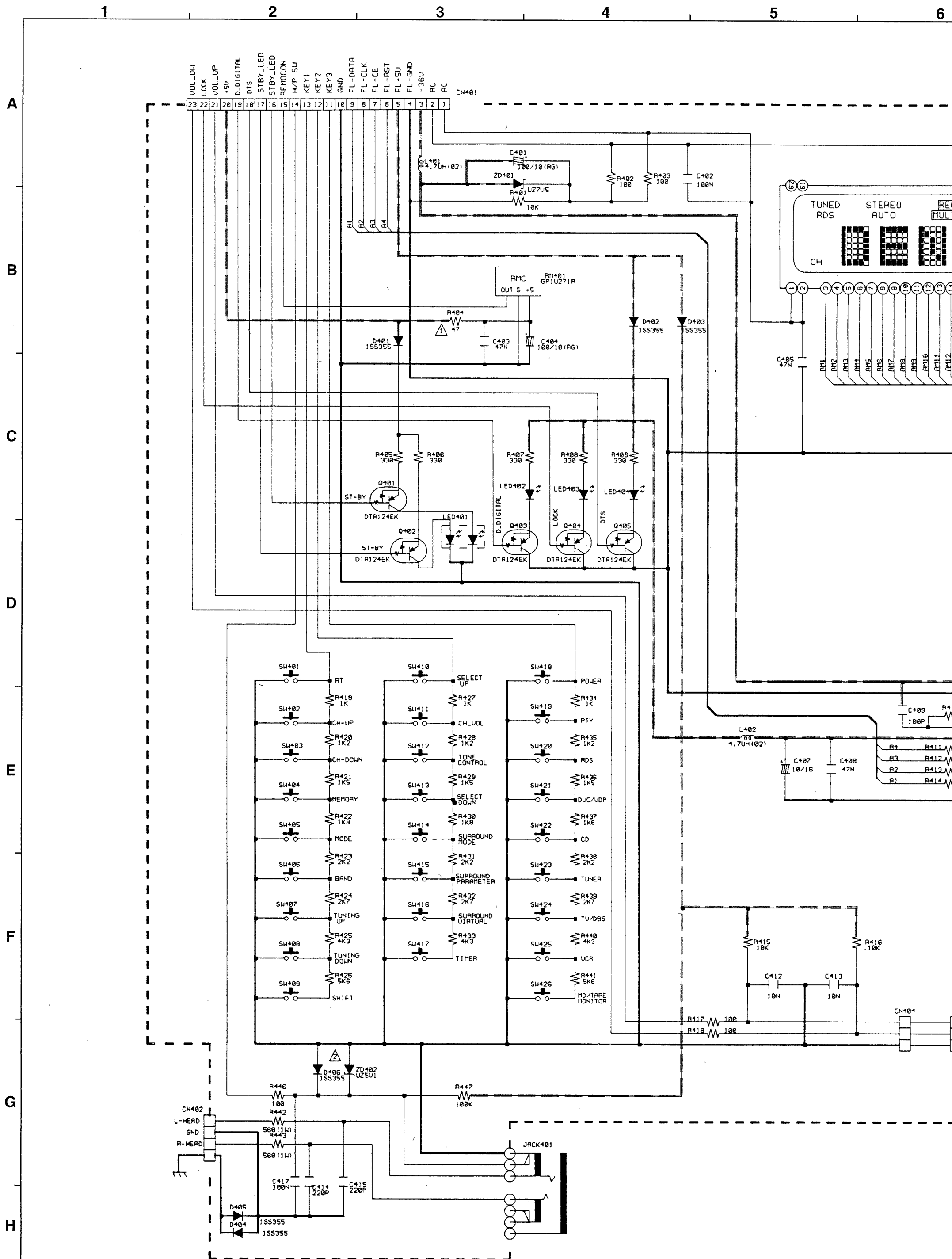
**NOTICE**  
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM  
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD  
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT  
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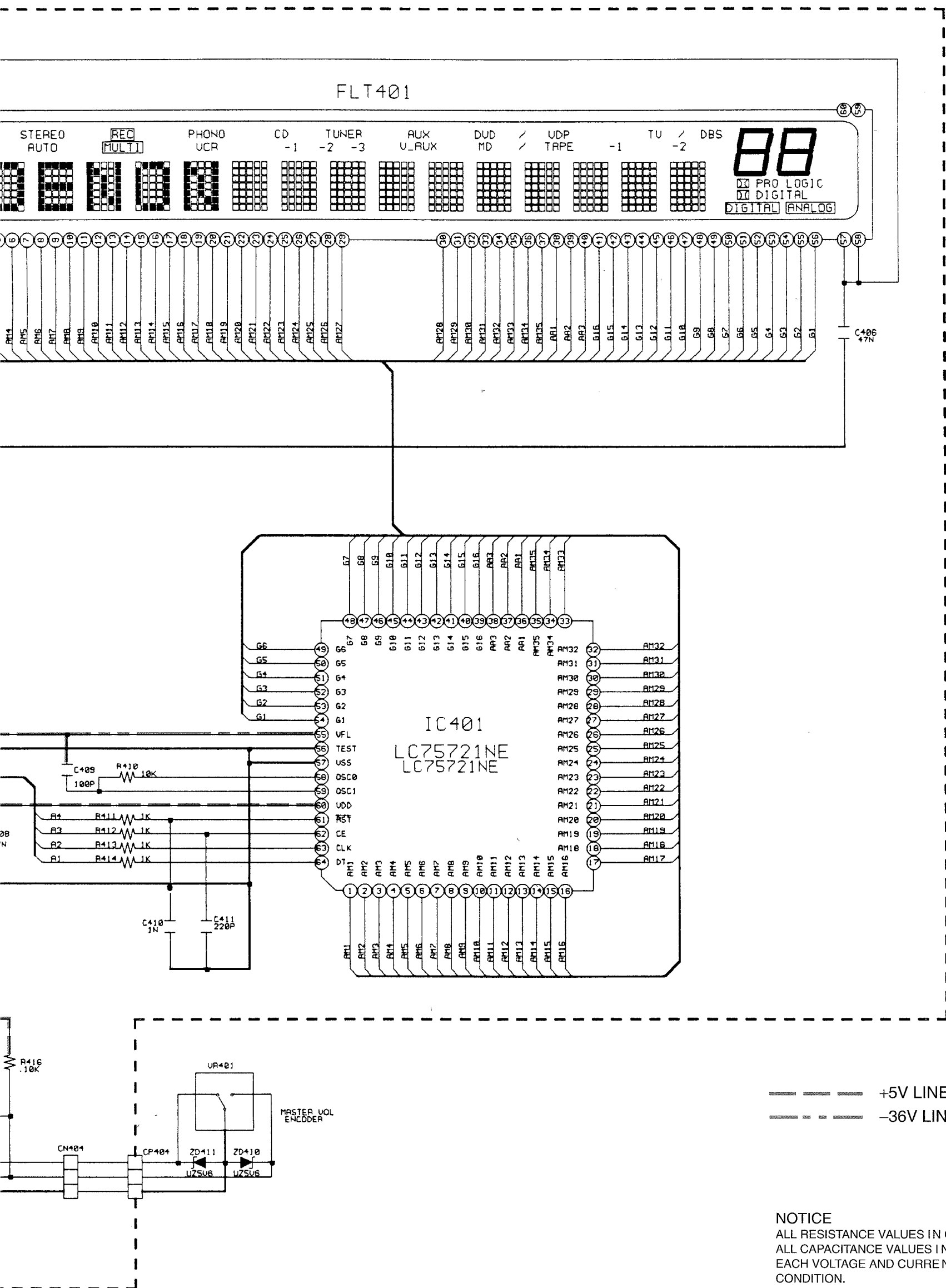
**WARNING:**  
Parts marked with this symbol  have critical characteristics.  
Use ONLY replacement parts recommended by the manufacture.

**CAUTION:**  
Before returning the unit to the customer, make sure you make either (1) a  
leakage current check or (2) a line to chassis resistance check. If the leakage  
current exceeds 0.5 milliamps, or if the resistance from chassis to either side  
of the power card is less than 460 kohms, the unit is defective.

**WARNING:**  
DO NOT return the unit to the customer until the problem is located and  
corrected.

## SCHEMATIC DIAGRAMS (4/4)





#### NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM  
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD  
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT  
CONDITION.  
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR  
NOTICE.

#### WARNING:

Parts marked with this symbol have critical characteristics.  
Use ONLY replacement parts recommended by the manufacture.

#### CAUTION:

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460 kohms, the unit is defective.

#### WARNING:

DO NOT return the unit to the customer until the problem is located and corrected.

# DENON

## **NIPPON COLUMBIA CO., LTD.**

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