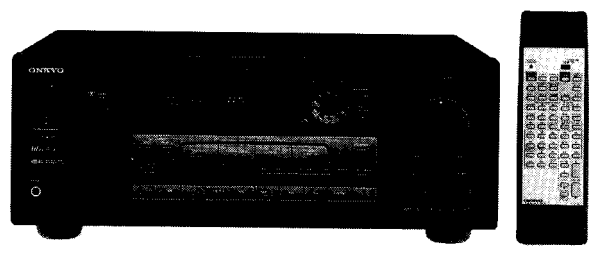
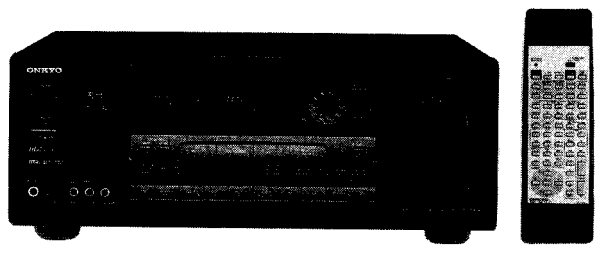


# ONKYO® SERVICE MANUAL

## AV DIGITAL AMPLIFIER MODEL TX-DS656

## AV DIGITAL AMPLIFIER MODEL TX-DS555



**Black and Golden models**

**Black, Silver, and Golden models**

|                        |                      |
|------------------------|----------------------|
| BMD                    | 120V AC, 60Hz        |
| BMP, BMPT, BMPA, GMPT  | 230-240V AC 50Hz     |
| BMWT, BMWR, GMWT, GMWR | 120/220V AC, 50/60Hz |

|                            |                      |
|----------------------------|----------------------|
| BMD                        | 120V AC, 60Hz        |
| BMP, BMPT, BMPA, SMP, GMPT | 230-240V AC 50Hz     |
| BMWT, BMWR, GMWT, GMWR     | 120/220V AC, 50/60Hz |

**SAFETY-RELATED COMPONENT WARNING!!**

COMPONENTS IDENTIFIED BY MARK  $\Delta$  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

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# SPECIFICATIONS

## AMPLIFIER SECTION

Continuous Average Power output (FTC)

Front Main L/R channels:

**85 watts per channel min. RMS at 8 ohms, both channels driven from 20Hz to 20kHz with no more than 0.08% total harmonic distortion.**

Center channel:

**85 watts min. RMS at 8 ohms, driven from 20Hz to 20kHz with no more than 0.08% total harmonic distortion.**

Surround L/R channels:

**85 watts per channel min. RMS at 8 ohms, both channels driven from 20Hz to 20kHz with no more than 0.08% total harmonic distortion.**

Front Remote L/R channels:

**85 watts per channel min. RMS at 8 ohms, both channels driven from 20Hz to 20kHz with no more than 0.08% total harmonic distortion.**

Continuous Power output (DIN)

Front Main L/R channels: 115W × 2 at 6 ohms

Center channel: 115W at 6 ohms

Surround L/R channels: 115W × 2 at 6 ohms

Front Remote L/R channels: 115W × 2 at 6 ohms

Maximum Power output (EIAJ)

Front Main L/R channels: 145W × 2 at 6 ohms

Center channel: 145W at 6 ohms

Surround L/R channels: 145W × 2 at 6 ohms

Front Remote L/R channels: 145W × 2 at 6 ohms

IM Distortion: 0.08% at rated power (FRONT)

Damping Factor: 60 at 8 ohms (FRONT)

Input Sensitivity/Impedance

PHONO : 2.5mV, 50 kohms

LINE (CD, TAPE-1, 2, DVD, VIDEO-1, 2, 3) : 200mV, 50 kohms

DIGITAL-2, 3 (COAXIAL) : 0.5 Vp-p, 75 ohms

Output Level and Impedance

Rec out (TAPE-1, 2, VIDEO-1, 2) : 200mV, 2.2 kohms

Pre out (FRONT L/R, CENTER, SURROUND L/R) : 1 V, 560 ohms

(SUBWOOFER) : 1 V, 2.2 kohms

Phono Overload: 120 μV RMS at 1,000 Hz, 0.5% THD.

Frequency Response: 20 to 30,000 Hz, +/-1 dB (STEREO)

RIAA Deviation: 20 to 20,000 Hz, +/-0.8 dB

Tone Control: BASS: +/-10 dB at 50 Hz

TREBLE: +/-10 dB at 10,000 Hz

Signal to Noise Ratio: PHONO: 80 dB (IHF A, 5 μV input)

CD/TAPE: 100 dB (IHF A)

## VIDEO SECTION

Television Format: NTSC (U.S. and Canadian models)

NTSC/PAL (Other models)

Input Sensitivity/Impedance

DVD, VIDEO-1,2,3 (Composite):

1 Vp-p/75 ohms

S-VIDEO (Y signal):

1 Vp-p/75 ohms

S-VIDEO (C signal):

0.28 Vp-p/75 ohms

Output Level/Impedance

VIDEO (VIDEO-1,2,MONI) (Composite):

1 Vp-p/75 ohms

S-VIDEO (Y signal):

1 Vp-p/75 ohms

S-VIDEO (C signal):

0.28 Vp-p/75 ohms

## TUNER SECTION

FM:

Tuning Range: 87.5 MHz to 108.0 MHz (50 kHz steps)

Usable Sensitivity: Mono: 11.2 dBf, 1.0 μV (75 ohms)

0.9 μV / 75 ohm DIN

Stereo: 17.2 dBf, 2.0 μV (75 ohms)

23 μV / 75 ohm DIN

50dB Quieting Sensitivity: Mono: 17.2 dBf, 2.0 μV (75 ohms)

Stereo: 37.2 dBf, 20 μV (75 ohms)

Capture Ratio: 1.5 dB

Image Rejection Ratio: U.S. & Canadian models: 40 dB

Other area models: 85 dB

IF Rejection Ratio: 90 dB

Signal-to-Noise Ratio: Mono: 76 dB

Stereo: 70 dB

Alternate Channel Attenuation: 55 dB, 50 dB (DIN)

AM Suppression Ratio: 50 dB

Total Harmonic Distortion: Mono: 0.15%

Stereo: 0.25%

Frequency Response: 30 – 15,000 Hz +/-1.0 dB

Stereo Separation: 45 dB at 1 kHz/30 dB at 100 – 10,000 Hz

Muting Level: 17.2 dBf, 2.0 μV (75 ohms)

AM:

Tuning Range: European models

522 kHz – 1611 kHz (9 kHz steps)

U.S. & Canadian models

530 kHz – 1710 kHz (10 kHz steps)

Worldwide model

531 kHz – 1602 kHz (9 kHz steps)

530 kHz – 1710 kHz (10 kHz steps)

Usable Sensitivity: 30 μV

Image Rejection Ratio: 40 dB

IF Rejection Ratio: 40 dB

Signal-to-Noise Ratio: 40 dB

Total Harmonic Distortion: 0.7%

## GENERAL

Power Supply: AC 120 V, 60 Hz

AC 230 V, 50 Hz

AC 120 and 220-230 V switchable, 50/60 Hz

Power Consumption: US and Canadian models: 4.8 A

Other area models: 460 W

Dimensions (W × H × D): 435 × 175 × 390 mm

17-1/8" × 6-7/8" × 15-3/8"

Weight: 12.0 kg (26.5 lbs) (AC 120 V, 60 Hz model)

12.9 kg (28.4 lbs) (Other models)

Specifications and features are subject to change without notice.

# SPECIFICATIONS

## AMPLIFIER SECTION

### Power Outputs

Continuous Average Power output (FTC)

#### Front Main L/R channels:

**70 watts per channel min. RMS at 8 ohms, both channels driven from 20Hz to 20kHz with no more than 0.08% total harmonic distortion.**

#### Center channel:

**70 watts min. RMS at 8 ohms, driven from 20Hz to 20kHz with no more than 0.08% total harmonic distortion.**

#### Surround L/R channels:

**70 watts per channel min. RMS at 8 ohms, both channels driven from 20Hz to 20kHz with no more than 0.08% total harmonic distortion.**

### Continuous Power output (DIN)

Front Main L/R channels: 100W×2 at 6 ohms

Center channel: 100W at 6 ohms

Surround L/R channels: 100W×2 at 6 ohms

Front Remote L/R channels: 100W×2 at 6 ohms

### Maximum Power output (EIAJ)

Front Main L/R channels: 130W×2 at 6 ohms

Center channel: 130W at 6 ohms

Surround L/R channels: 130W×2 at 6 ohms

Front Remote L/R channels: 130W×2 at 6 ohms

IM Distortion: 0.08% at rated power (Front)

Damping Factor: 60 at 8 ohms

### Input Sensitivity/Impedance

PHONO: 2.5 mV/20 kohms

CD/TAPE1,2/VIDEO1,2,DVD: 200 mV/50 kohms

### MULTICHANNEL INPUT (FRONT L/R, SURROUND)

L/R, CENTER): 200 mV/50 kohms

### MULTICHANNEL INPUT (SUBWOOFER):

36mV/50 kohms

### Output Level/Impedance

REC OUT: 200mV/2.2 kohms

PRE OUT: 1V/2.2 kohms

Phono Overload: 120mV RMS at 1 kHz, 0.5% T.H.D

Frequency Response: 20Hz to 30kHz, ±1dB (Surround OFF)

RIAA Deviation: 20Hz to 20kHz, ±0.8 dB

### Tone control

Bass: ±10 dB at 50 Hz

Treble: ±10 dB at 10 kHz

### Signal-to-Noise Ratio (Surround OFF)

Phono: 80dB (IHF A, 5mV input)

CD/Tape: 100dB (IHF A)

Muting: -∞ dB

## VIDEO SECTION

### Input Sensitivity and Impedance

Video Composite): 1Vp-p/75 ohms

### Output Level and Impedance

Video (Composite): 1Vp-p/75 ohms

## DIGITAL SECTION

### Digital input sampling

Frequency: 32, 44.1, 48 kHz

### Input sensitivity/Impedance

Coaxial: 0.5 Vp-p/75 ohms

## TUNER SECTION

### FM

Tuning Range: 87.50-108.00 MHz (50 kHz steps)

### Usable sensitivity

Mono: 11.2dBf, 1.0 μV (75 ohms)

Stereo: 17.2dBf, 2.0 μV (75 ohms)

### 50 dB Quieting Sensitivity

Mono: 17.2dBf, 2.0 μV (75 ohms)

Stereo: 37.2dBf, 20 μV (75 ohms)

### Capture Ratio:

1.5 dB

### Image Rejection Ratio

U.S. & Canadian models: 40dB

Other area models: 85 dB

### IF Rejection Ratio:

90 dB

### Signal-to- Noise Ratio

Mono: 76 dB

Stereo: 70 dB

### Alternate Channel Attenuation:

55 dB

### Selectivity:

50 dB (DIN)

### AM Suppression Ratio:

50 dB

### Total Harmonic Distortion

Mono: 0.15%

Stereo: 0.25%

### Frequency Response:

30-15kHz, ±1.0dB

### Stereo Separation:

45 dB at 1 kHz

30 dB at 100 Hz to 10 kHz

### Muting Level:

17.2 dBf

### AM

### Tuning Range

U.S. & Canadian models: 530-1,710 kHz (10 kHz steps)

European & Australian models: 522-1,611 kHz (9 Hz steps)

Worldwide models: 531-1,602 kHz (9kHz steps)

530-1,710 kHz (10 kHz steps)

### Usable sensitivity:

30 μV

### Image Rejection Ratio:

40 dB

### IF Rejection Ratio:

40 dB

### Signal-to- Noise Ratio:

40 dB

### Total Harmonic Distortion:

0.70%

## GENERAL

### Power supply

AC120V, 60 Hz

AC230V, 50 Hz

AC 220-230V and 120 V switchable,

50/60 Hz

### Power Consumption

U.S. & Canadian models: 4.1A

Other area models: 410 W

### Dimensions (W X H X D):

435 X 175 X 390 mm

17-1/8" X 6-7/8" X 15-3/8"

### Weight:

U.S. & Canadian models: 11.7 kg, 25.8 lbs.

Other area models: 12.0 kg, 26.5 lbs.

## REMOTE CONTROL(RC-374M)

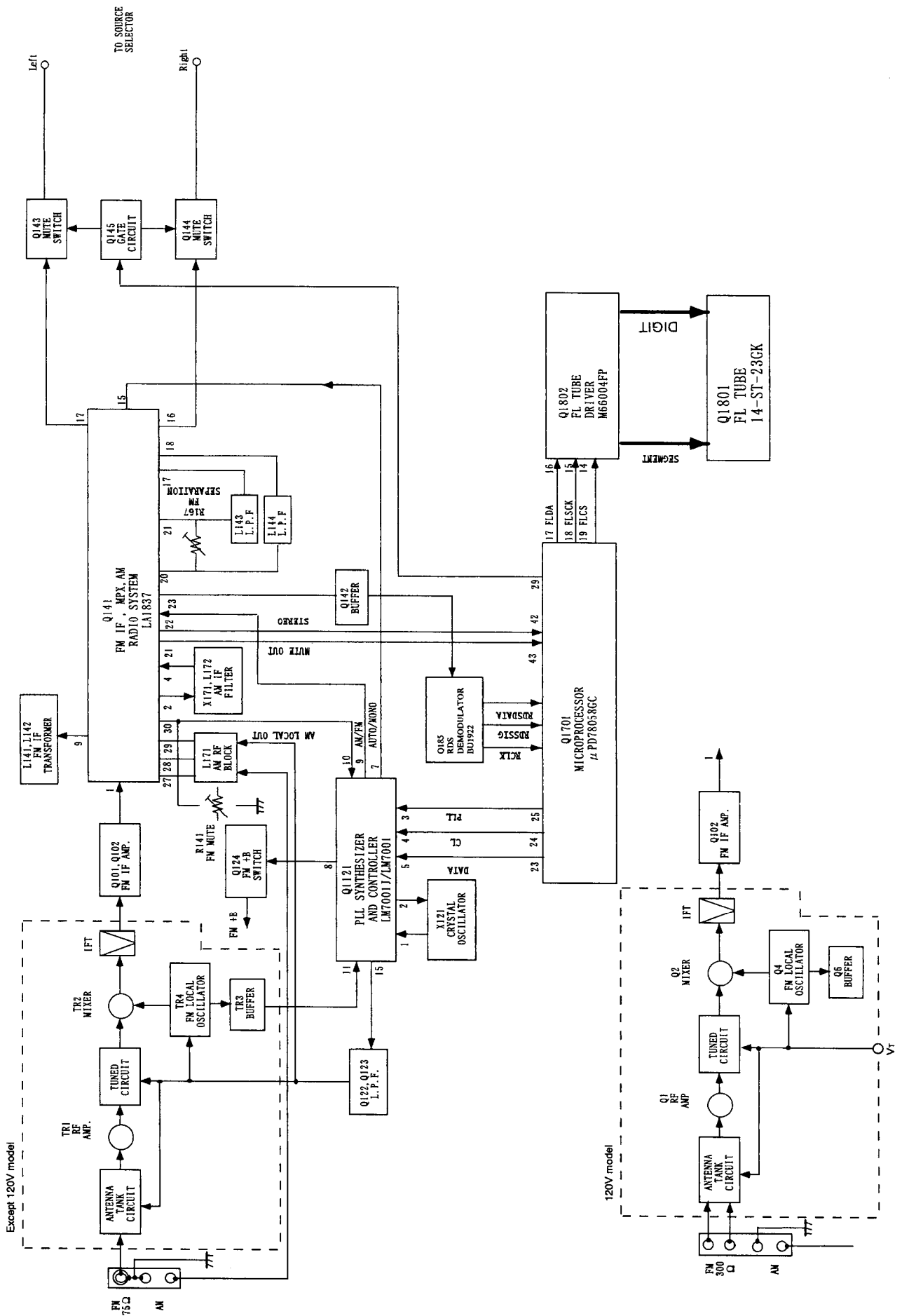
Transmitter: Infrared

Signal range: Approx. 5 meters, 16 ft.

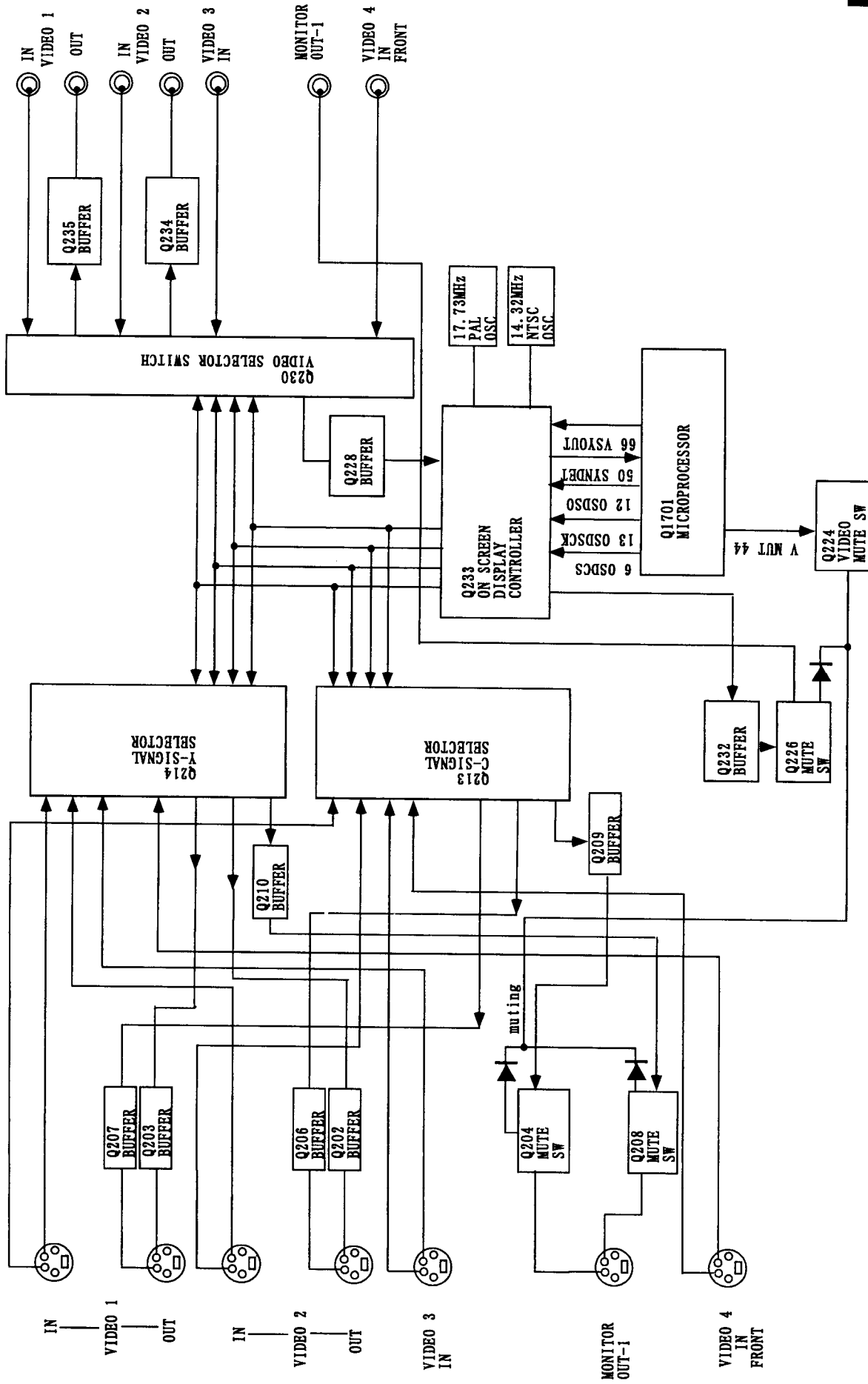
Power supply: Two "AA" batteries (1.5V X 2)

Specifications and features are subject to change without notice.

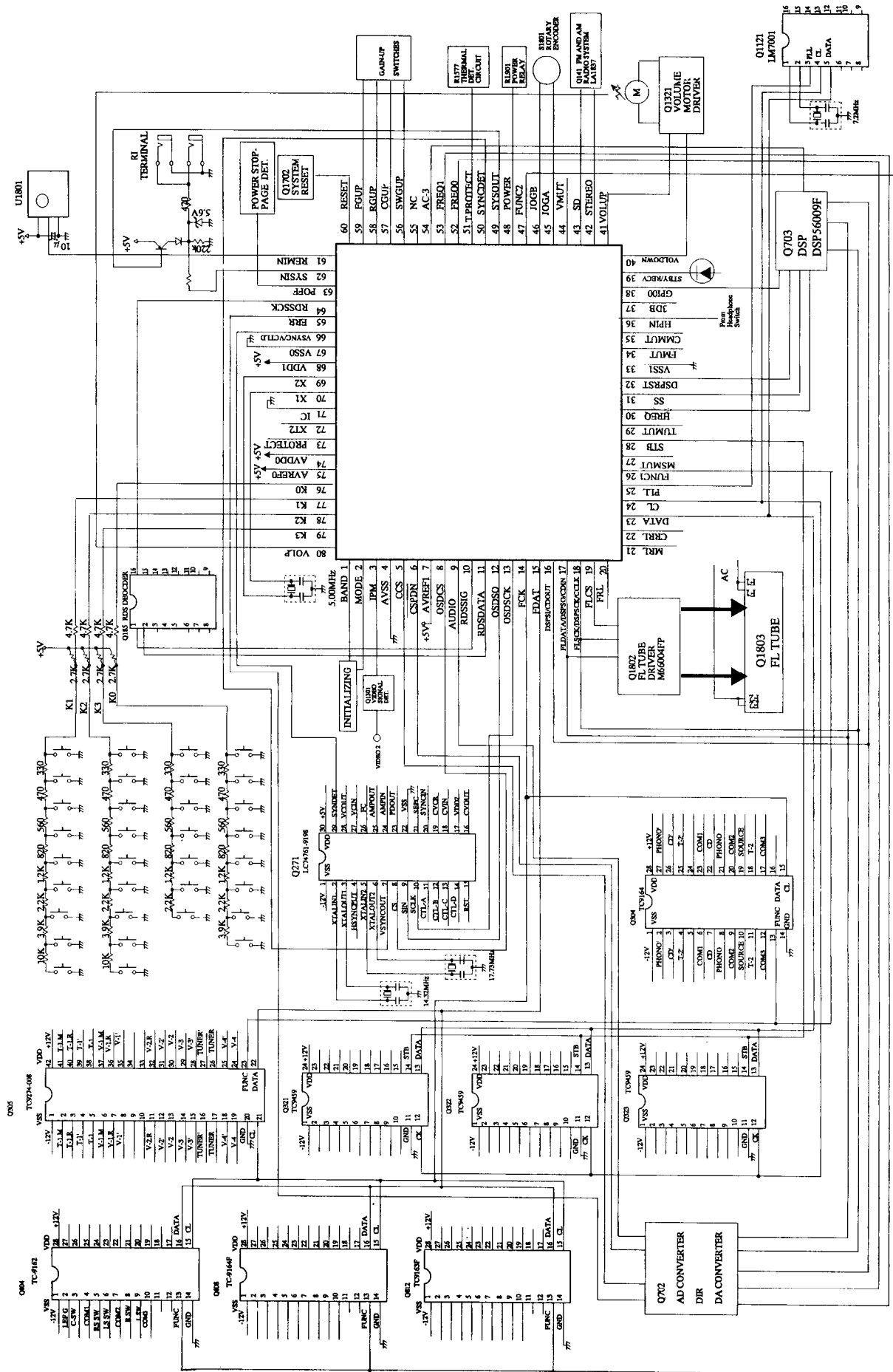
# BLOCK DIAGRAM TUNER SECTION



**VIDEO SECTION**



# MICROPROCESSOR CONNECTION DIAGRAM



# TERMINAL DESCRIPTION

| Pin No. | Function          | Description  |
|---------|-------------------|--|
| 1       | BAND              | Initializing input pin for switching of RDS function and FM/AM band  |
| 2       | MODE              | Initializing input pin for switching of operation mode   |
| 3       | IPM               | Detection input pin for operation of Intelligent Power Management  |
| 4       | AVSS              | Ground pin for AD converter  |
| 5       | CCS               | Chip select pin of DIR IC (CS4226)   |
| 6       | CSPDN             | Power Down pin of DIR IC   |
| 7       | AVREF1            | Reference voltage pin of DA converter  |
| 8       | OSDCS             | Output pin to connect the terminal CS of OSD controller (LC74761)  |
| 9       | AUDIO             | Audio signal input pin of DIR IC   |
| 10      | RDSSIG            | RDS broadcast detection input pin  |
| 11      | RDSDATA           | Data input pin to connect the terminal DATA OUT of RDS demodulator IC (BU1922)   |
| 12      | OSDSO             | Output pin to connect the terminal SIN of OSD controller (LC74761)   |
| 13      | OSDSCK            | Output pin to connect the terminal SCLK of OSD controller (LC74761)  |
| 14      | FGK               | Clock output pin to connect the terminals CK of Function switches (TC9162AN, TC9163AN, TC9164AN, TC9274N-008)                |
| 15      | FDAT              | Data output pin to connect the terminals DATA of Function switches (TC9162AN, TC9163AN, TC9164AN, TC9274N-008)               |
| 16      | DSFSI/CDOUT       | Serial data input pin to connect the terminals CDOUT of DIR IC and MISO of DSP56009  |
| 17      | FLDATA/DSPSO/CDIN | Serial data output pin to connect the terminals SDATA of FL tube driver IC (M66004FP), MOSI of DSP56009, and CDIN of DIR IC. |
| 18      | FLSCK/DSPSCK/CCLK | Serial clock output pin to connect the terminals SCK of FL tube driver IC (M66004FP), SCK of DSP56009, and CCLK of DIR IC.   |
| 19      | FLCS              | Output pin to connect the terminal CS of FL tube driver  |
| 20      | FRL               | Front speaker relay control output pin   |
| 21      | MRL               | Multi speaker relay control output pin   |
| 22      | CRR1              | Center and surround speaker relays control output pin  |
| 23      | DATA              | Data output pin to connect the terminals DATA of electric volume (TC9459P) and PLL IC (LM7001)                               |
| 24      | CL                | Clock output pin to connect the terminals CK of electric volume (TC9459P) and PLL IC (LM7001)                                |
| 25      | PLL               | Output pin to connect the terminal PLL of PLL IC (LM7001)  |
| 26      | FUNC1             | Output pin to connect the terminals STB of function switches (TC9162AN, TC9274N-008)   |
| 27      | MSMUT             | Muting output pin for surround multi amplifier   |
| 28      | STB               | Stereo output pin to connect the terminal STB of electric volume   |
| 29      | TUMUT             | Muting output pin for tuner section  |
| 30      | HREQ              | Request input pin to connect the terminal HREQ of DSP56009   |
| 31      | SS                | Output pin to connect the terminal SS of DSP56009  |
| 32      | DSPRST            | Reset input pin to connect the terminal RESET of DSP56009  |
| 33      | VSS1              | Ground pin for AD converter  |
| 34      | FMUT              | Muting output pin for front channel section  |
| 35      | CMMUT             | Muting output pin for center and subwoofer channels  |
| 36      | HPIN              | Input terminal to detect the insertion of headphone. When the headphone is inserted, the Surround mode turns OFF.            |
| 37      | 3DB               | 3-D BASS switching output pin  |
| 38      | GPI00             | Input terminal to connect the terminal GPI00 of DSP56009.  |
| 39      | STBY/REC          | Indicator output pin of Standby and Received   |

| Pin No. | Function  | Description   |
|---------|-----------|---|
| 40      | VOLDOWN   | Volume control output pins  |
| 41      | VOLUP     |   |
| 42      | STEREO    | Stereo broadcast detection input pin  |
| 43      | SD        | Detection input pin of broadcast more than muting level.  |
| 44      | VMUT      | Muting output pin for video section   |
| 45      | JOGA      | Jog A input pin   |
| 46      | JOGB      | Jog B input pin   |
| 47      | FUNC2     | Strobe output pin to connect the terminals ST of function switch Ics (TC9162F, TC9163F, TC9164F)            |
| 48      | POWER     | Power control output pin  |
| 49      | YSOUT     | System code output pin  |
| 50      | SYNCDDET  | External synchronizing judge input pin of OSD IC.   |
| 51      | T.PROTECT | Thermal detection input pin. When this pin is low level more than 10 seconds, the power source becomes off. |
| 52      | FREQ0     | Frequency check input pin of CS4226.  |
| 53      | FREQ1     | Frequency check input pin of CS4226.  |
| 54      | AC-3      | Data signal input pin of DIR IC   |
| 55      | NC        | Not used  |
| 56      | SWGUP     | Volume gain up signal output pin of subwoofer channel.  |
| 57      | CGUP      | Volume gain up signal output pin of center channel.   |
| 58      | RGUP      | Volume gain up signal output pin of surround channel.   |
| 59      | FGUP      | Volume gain up signal output pin of front channel.  |
| 60      | RESET     | System reset input pin  |
| 61      | REMIN     | Signal input pin from the remote controller   |
| 62      | YSIN      | System code input pin   |
| 63      | POFF      | Stoppage detection input pin  |
| 64      | RDSSCK    | Clock input pin to connect the terminal CLK OUT of RDS demodulator IC                                       |
| 65      | ERR       | Over level and error signal input pin of DIR IC   |
| 66      | VCTLD     | Vertical synchronizing signal input pin. This signal is used to the switching of NTSC/PAL.                  |
| 67      | VSS0      | Ground pin of port section  |
| 68      | VDD1      | Positive power supply (+5V)   |
| 69      | X2        | Ceramic oscillator connection pins of main system.  |
| 70      | X1        | Connect the 5MHz ceramic oscillator to these terminals.   |
| 71      | IC        | Internal connection terminal  |
| 72      | XT2       | Not used.   |
| 73      | PROTECT   | Detection input pin of protection circuit   |
| 74      | VDD0      | Positive power supply pin of port section   |
| 75      | AVREF0    | Reference voltage input pin of AD converter   |
| 76      | K0        |   |
| 77      | K1        | Operation key connection pins   |
| 78      | K2        |   |
| 79      | K3        |   |
| 80      | VOLP      | Position detection pin of master volume   |

# PRINTED CIRCUIT BOARD-PARTS LIST

## FRONT AND CENTER CHANNEL POWER AMPLIFIER PC BOARD(NAAF-6301-1A/1B/1C/1D)

| CIRCUIT NO. | PART NO.                                      | DESCRIPTION   | CIRCUIT NO.   | PART NO.                             | DESCRIPTION                             |
|-------------|---|---|---------------|--------------------------------------|---|
|             |   |   |               |                                      | <b>Diodes</b>                           |
|             |   |   | D581,D582     | 22380032,<br>22380035 or<br>22380260 | 1SR139-100,<br>GP104003E or<br>RL1N4003 |
| Q1501,Q1502 | 2211732,                                      | * 2SC1845-F,  |               | 224470512                            | MTZJ5.1B                                |
| Q501-Q504   | 2211733,<br>2215115 or<br>2215116             | * 2SC1845-E,<br>* 2SC1775-E or<br>* 2SC1775-F                 | D1573         |                                      |   |
|             |   |   |               |                                      | <b>Coils</b>                            |
| Q1503       | 2211732,                                      | 2SC1845-F,  | L1501         | 231176S                              | S-1.3C <P/T/W/R/A>                      |
| Q505,Q506   | 2211733,<br>2215115 or<br>2215116             | 2SC1845-E,<br>2SC1775-E or<br>2SC1775-F                       | L501,L502     | 231176S                              | S-1.3C <P/T/W/R/A>                      |
|             |   |   |               |                                      | <b>Capacitors</b>                       |
| Q1504,Q1572 | 2212115 or<br>2213284                         | 2SC2458-GR or<br>2SC1740S-R                                   | C1501         | 354744709                            | 47 $\mu$ F,16V,Elect.                   |
| Q1505-Q1507 | 2211353 or<br>2211354                         | 2SA949-O or<br>2SA949-Y                                       | C1504,C1552   | 354722219                            | 220 $\mu$ F,6.3V,Elect.                 |
| Q1508,Q1509 | 2211633 or<br>2211634                         | 2SC2229-O or<br>2SC2229-Y                                     | C1509,C1571   | 354781009                            | 10 $\mu$ F,50V,Elect.                   |
| Q1511       | 2203010                                       | 2SC5171   | C1512         | 374721044                            | 0.1 $\mu$ F $\pm$ 5%,50V,Plastic        |
| Q1512       | 2203000                                       | 2SA1930   | C1514,C1515   | 354771019                            | 100 $\mu$ F,63V,Elect.                  |
| Q1513       | 2201653,                                      | * 2SC3856-O,  | C1516,C1517   | 354774709                            | 47 $\mu$ F,63V,Elect.                   |
| Q525,Q526   | 2201654,<br>2201655,<br>2202842 or<br>2202843 | * 2SC3856-Y,<br>* 2SC3856-P,<br>* 2SC5242-R or<br>* 2SC5242-O | C1518         | 354742219                            | 220 $\mu$ F,16V,Elect.                  |
| Q1514       | 2201663                                       | * 2SA1492-O,  | C1572         | 354764709                            | 47 $\mu$ F,35V,Elect.                   |
| Q527,Q528   | 2201664<br>2201665<br>2202832<br>2202833      | * 2SA1492-Y,<br>* 2SA1492-P,<br>* 2SA1962-R or<br>* 2SA1962-O | C1574         | 354780109                            | 1 $\mu$ F,50V,Elect.                    |
| Q1515       | 2214984 or<br>2214985                         | 2SC2631-R or<br>2SC2631-S                                     | C501,C502     | 354744709                            | 47 $\mu$ F,16V,Elect.                   |
| Q1551       | 2211793 or<br>2211792                         | 2SA992-E or<br>2SA992-F                                       | C507,C508     | 354722219                            | 220 $\mu$ F,6.3V,Elect.                 |
| Q1552,Q1553 | 2214984 or<br>2214985                         | 2SC2631-R or<br>2SC2631-S                                     | C517,C518     | 354781009                            | 10 $\mu$ F,50V,Elect.                   |
| Q1571       | 2212445                                       | 2SK365-GR   | C523,C524     | 374721044                            | 0.1 $\mu$ F $\pm$ 5%,50V,Plastic        |
| Q1573       | 2212644 or<br>2212643                         | 2SA1358-Y or<br>2SA1358-O                                     | C527,C528     | 354742219                            | 220 $\mu$ F,16V,Elect.                  |
| Q1574,Q1591 | 2212115 or<br>2213284                         | 2SC2458-GR or<br>2SC1740S-R                                   | C581-C584     | 354771019                            | 100 $\mu$ F,63V,Elect.                  |
| Q507,Q508   | 2212115 or<br>2213284                         | 2SC2458-GR or<br>2SC1740S-R                                   | C585-C588     | 354774709                            | 47 $\mu$ F,63V,Elect.                   |
| Q509-Q514   | 2211353 or<br>2211354                         | 2SA949-O or<br>2SA949-Y                                       | C589          | 374721044                            | 0.1 $\mu$ F $\pm$ 5%,50V,Plastic        |
| Q515-Q518   | 2211633 or<br>2211634                         | 2SC2229-O or<br>2SC2229-Y                                     |               |                                      | <b>Resistors</b>                        |
| Q521,Q522   | 2203010                                       | 2SC5171   | R1512,R1514   | 443528204                            | 82 $\Omega$ $\pm$ 5%,1/2W,Metal oxide   |
| Q523,Q524   | 2203000                                       | 2SA1930   | R1513,R1515   | 443526804                            | 68 $\Omega$ $\pm$ 5%,1/2W,Metal oxide   |
| Q529,Q530   | 2214984 or<br>2214985                         | 2SC2631-R or<br>2SC2631-S                                     | R1516         | 443528204                            | 82 $\Omega$ $\pm$ 5%,1/2W,Metal oxide   |
| Q592        | 2213284 or<br>2212115                         | 2SC1740S-R or<br>2SC2458-GR                                   | R1519         | 5210288                              | N06HR2.2KBE,Trimming                    |
|             |   |   | R1522         | 443521514                            | 150 $\Omega$ $\pm$ 5%,1/2W,Metal oxide  |
|             |   |   | R1523,R1524   | 453530224                            | 2.2 $\Omega$ $\pm$ 5%,1/2W,Metal        |
|             |   |   | R1525         | 4000132                              | RGCS5 0.22,Metal plate                  |
|             |   |   | R1531         | 453630824                            | 8.2 $\Omega$ $\pm$ 5%,1W,Metal          |
|             |   |   | R1537,R1538   | 4500159                              | 0.22 $\Omega$ $\pm$ 5%,1/4W,Metal       |
|             |   |   | R523-R526     | 443528204                            | 82 $\Omega$ $\pm$ 5%,1/2W,Metal oxide   |
|             |   |   | R527-R530     | 443526804                            | 68 $\Omega$ $\pm$ 5%,1/2W,Metal oxide   |
|             |   |   | R531,R532     | 443528204                            | 82 $\Omega$ $\pm$ 5%,1/2W,Metal oxide   |
|             |   |   | R537,R538     | 5210288                              | N06HR2.2KBE,Trimming                    |
|             |   |   | R543,R544     | 443521514                            | 150 $\Omega$ $\pm$ 5%,1/2W,Metal oxide  |
|             |   |   | R545-R548     | 453530224                            | 2.2 $\Omega$ $\pm$ 5%,1/2W,Metal        |
|             |   |   | R549,R550     | 4000132                              | RGCS5 0.22,Metal plate                  |
|             |   |   | R561,R562     | 453630824                            | 8.2 $\Omega$ $\pm$ 5%,1W,Metal          |
|             |   |   | R581-R586     | 4500159                              | 0.22 $\Omega$ $\pm$ 5%,1/4W,Metal       |
|             |   |   | R593,R594     | 443623914                            | 390 $\Omega$ $\pm$ 5%,1W,Metal oxide    |
|             |   |   |               |                                      | <b>Relays</b>                           |
| D1571,D1572 | 223163 or                                     | 1SS133 or   | RL1591        | 25065510,                            | NRL-2P5A-DC24-095,                      |
| D1574,D1576 | 223205  | 1SS270A   | RL592         | 25065517 or                          | NRL-2P5A-DC24-098 or                    |
| D1591,D592  | 223163 or<br>223205                           | 1SS133 or<br>1SS270A  |               | 25065563                             | NRL-2P5A-DC24-129                       |
|             |   |   |               |                                      | <b>Sockets</b>                          |
|             |   |   | JL501a,JL507a | 25051110                             | NSCT-6P897                              |
|             |   |   | JL502a        | 25051111                             | NSCT-7P898                              |
|             |   |   | JL506a        | 25051095                             | NSCT-11P882                             |
|             |   |   | JL509a        | 25051087                             | NSCT-3P874                              |



NOTE: THE COMPONENTS IDENTIFIED BY MARK  $\Delta$  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CAUTION: Replacement of the transistor of mark \*, if necessary, must be made from the same beta group (HFE) as the original type.

| CIRCUIT NO. | PART NO.     | DESCRIPTION | CIRCUIT NO.   | PART NO.   | DESCRIPTION                            |
|-------------|--------------|-------------|---------------|--|--|
|             | <b>Plugs</b> |             |               | <b>Capacitors</b>  |  |
| JL503b      | 25055630     | NPLG-9P592  | C681-C684     | 354771019  | 100 $\mu$ F,63V,Elect.                 |
| JL508b      | 25055631     | NPLG-10P593 | C685-C688     | 354774709  | 47 $\mu$ F,63V,Elect.                  |
| P1501       | 25055038     | NPLG-2P29   | C689          | 354741009  | 10 $\mu$ F,16V,Elect.                  |
| P401a       | 25055139     | NPLG-9P123  |               | <b>Resistors</b>   |  |
| P501,P502   | 25055038     | NPLG-2P29   | R623-R626     | 443528204  | 82 $\Omega$ $\pm$ 5%,1/2W,Metal oxide  |
| P503        | 25055099     | NPLG-2P83   | R627-R630     | 443526804  | 68 $\Omega$ $\pm$ 5%,1/2W,Metal oxide  |
|             |              |             | R631,R632     | 443528204  | 82 $\Omega$ $\pm$ 5%,1/2W,Metal oxide  |
|             |              |             | R637,R638     | 5210288  | N06HR2.2KBE,Trimming                   |
|             |              |             | R643,R644     | 443521514  | 150 $\Omega$ $\pm$ 5%,1/2W,Metal oxide |
|             |              |             | R645-R648     | 453530224  | 2.2 $\Omega$ $\pm$ 5%,1/2W,Metal       |
|             |              |             | R649,R650     | 4000132  | RGCS5 0.22                             |
|             |              |             | R673,R674     | 453630824  | 8.2 $\Omega$ $\pm$ 5%,1W,Metal         |
|             |              |             | R681-R686     | 4500159  | 0.22 $\Omega$ $\pm$ 5%,1/4W,Metal      |
|             |              |             |               | <b>Relays</b>  |  |
|             |              |             | RL691,RL692   | 25065510,  | NRL-2P5A-DC24-095,                     |
|             |              |             |               | 25065517 or  | NRL-2P5A-DC24-098 or                   |
|             |              |             |               | 25065563   | NRL-2P5A-DC24-129                      |
|             |              |             |               | <b>Sockets</b>   |  |
|             |              |             | JL502b        | 25050284   | NSCT-7P112                             |
|             |              |             | JL507b        | 25050283   | NSCT-6P111                             |
|             |              |             | JL603a,JL942a | 25051110   | NSCT-6P897                             |
|             |              |             |               | <b>Plugs</b>   |  |
|             |              |             | JL506b        | 25055632   | NPLG-11P594                            |
|             |              |             | P601,P602     | 25055038   | NPLG-2P29                              |
|             |              |             |               |  |  |
|             |              |             |               | <b>POWER SUPPLY CIRCUIT PC BOARD (NAPS-6303-1A/1B/1C/1D)</b> |  |
|             |              |             |               | <b>CIRCUIT NO.</b>   | <b>PART NO.</b>                        |
|             |              |             |               |  | <b>DESCRIPTION</b>                     |
|             |              |             |               |  | <b>Transistor</b>                      |
|             |              |             | Q921          | 2212115 or   | 2SC2458-GR or                          |
|             |              |             |               | 2213284  | 2SC1740S-R                             |
|             |              |             |               |  | <b>Diodes</b>                          |
|             |              |             | D925          | 223163 or  | 1SS133 or                              |
|             |              |             |               | 223205   | 1SS270A                                |
|             |              |             | D921-D924     | 22380032,  | 1SR139-100,                            |
|             |              |             |               | 22380035 or  | GP104003E or                           |
|             |              |             |               | 22380260   | RL1N4003                               |
|             |              |             |               |  | <b>Power transformer</b>               |
|             |              |             | T902          | 2300670A   | $\Delta$ NPT-1111D <D>                 |
|             |              |             |               | 2300671A   | $\Delta$ NPT-1111P <P/T/A>             |
|             |              |             |               | 2300672A   | $\Delta$ NPT-1111DG <W/R>              |
|             |              |             |               |  | <b>Capacitors</b>                      |
|             |              |             | C901          | 3500191  | $\Delta$ DE7150F-103M, IS              |
|             |              |             | C922          | 354742219  | 220 $\mu$ F,16V,Elect.                 |
|             |              |             |               |  | <b>Resistor</b>                        |
|             |              |             | R901          | 431533355  | $\Delta$ RC1/2GFKUL-3.3M,Solid <D>     |
|             |              |             | R921          | 453530824  | 8.2 $\Omega$ $\pm$ 5%,1/2W,Metal       |
|             |              |             |               |  | <b>Fuses</b>                           |
|             |              |             | F901          | 252199   | $\Delta$ 10A-UL, Fuse <D/W/R>          |
|             |              |             | F902          | 252078   | $\Delta$ 5A-SE-EAK,Fuse <P/T/W/A/R>    |
|             |              |             | F903          | 252075   | $\Delta$ 2.5A-SE-EAK,Fuse <P/T>        |
|             |              |             |               |  | <b>Fuseholders</b>                     |
|             |              |             | F901a         | 25050065   | $\Delta$ YSH403T <D/W/R>               |
|             |              |             | F902a         | 25050065   | $\Delta$ YSH403T <P/T/A/W/R>           |
|             |              |             | F903a         | 25050065   | $\Delta$ YSH403T <P/T>                 |
|             |              |             |               |  | <b>Socket</b>                          |
|             |              |             | JL1701b       | 25050267   | NSCT-3P95                              |

NOTE: THE COMPONENTS IDENTIFIED BY MARK  $\Delta$  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

| CIRCUIT NO. | PART NO.           | DESCRIPTION                            |
|-------------|--------------------|--|
|             | <b>AC outlet</b>   |  |
| P902        | 25051125           | $\Delta$ NSCT-4P912 <P/T/W/R>          |
|             | 25051126           | $\Delta$ NSCT-4P913 <D>                |
|             | 25052115           | $\Delta$ NSCT-2P2013 <A>               |
|             | <b>Plug</b>        |  |
| P901a       | 25055675           | $\Delta$ NPLG-2P631                    |
|             | <b>Relay</b>       |  |
| RL901       | 25065516 or        | $\Delta$ NRL-1P10A-DC12-097 or         |
|             | 25065248           | $\Delta$ NRL-1P15A-DC12-29 <D>         |
| RL901       | 25065508,          | $\Delta$ NRL-1P10A-DC12-093,           |
|             | 25065526,          | $\Delta$ NRL-1P5A-DC12-102,            |
|             | 25065561 or        | $\Delta$ NRL-1P5A-DC12-127 or          |
|             | 25065515           | $\Delta$ NRL-1P5A-DC12-096 <P/T/W/R/A> |
|             | <b>Switch</b>      |  |
| S901        | 25065437           | $\Delta$ NSS-22157P <W/R>              |
|             | <b>Fuse labels</b> |  |
| F902b       | 29361938           | T5AL250V <P/T/W/R/A>                   |
| F901b       | 29362244           | 10A/125V <D/W/R>                       |

#### PRIMARY CIRCUIT PC BOARD (NAETC-6305-1A/1B/1C/1D)

| CIRCUIT NO. | PART NO.  | DESCRIPTION                                 |
|-------------|-----------|---|
| C665        | 374731044 | 0.1 $\mu$ F $\pm$ 5%,100V,Plastic capacitor |
| R941,R942   | 453532294 | 0.22 $\Omega$ $\pm$ 5%,1/2W,Metal resistor  |
| R944,R945   | 453530104 | 1 $\Omega$ $\pm$ 5%,1/2W,Metal resistor     |
| R946        | 453532294 | 0.22 $\Omega$ $\pm$ 5%,1/2W,Metal resistor  |
| JL941b      | 25050284  | NSCT-7P112,Socket                           |
| JL942b      | 25051110  | NSCT-6P897,Socket                           |

#### THERMAL DETECTOR PC BOARDS

(NAETC-6306/6307/6308/6309/6310-1A/1B/1C/1D)

| CIRCUIT NO. | PART NO.           | DESCRIPTION  |
|-------------|--------------------|--------------|
|             | <b>Transistors</b> |              |
| Q519,Q520   | 2212653 or         | 2SC3421-O or |
| Q1510       | 2212654            | 2SC3421-Y    |
| Q619,Q620   | 2212653 or         | 2SC3421-O or |
|             | 2212654            | 2SC3421-Y    |

#### POWER SWITCH PC BOARD (NASW-6311-1B/1C/1D)

| CIRCUIT NO. | PART NO. | DESCRIPTION                                     |
|-------------|----------|---|
| C906        | 3500191  | $\Delta$ DE7150F-103M,IS capacitor <P/T/W/R/A>  |
| C906a       | 27301216 | $\Delta$ SB1925A,Cover, capacitor <P/T/W/R/A>   |
| S906        | 25035550 | $\Delta$ NPS-111-L512P,Power switch <P/T/W/R/A> |

#### THERMAL DET. PC BOARD(NAETC-6314-1A/1B/1C/1D)

| CIRCUIT NO. | PART NO. | DESCRIPTION                    |
|-------------|----------|--------------------------------|
| JL509b      | 25051087 | NSCT-3P874,Socket              |
| R1577       | 4000150  | PTH9M04BC222TS2F333,Thermistor |

#### MAIN CIRCUIT PC BOARD (NADG-6316-1A/1B)

| CIRCUIT NO. | PART NO.      | DESCRIPTION      |
|-------------|---------------|------------------|
|             | <b>ICs</b>    |                  |
| Q471-Q473   | 22240581R1    | NJM4565M         |
| Q701        | 222740046R1TO | TC74HCU04F       |
| Q702        | 22241218R3    | CS4226-KQ        |
| Q703        | 22241219R3 or | DSPF56009FJ88 or |
|             | 22241235R3    | XCF56009FJ88     |
| Q704        | 22241101R2    | LC32464M-80      |

| CIRCUIT NO. | PART NO.              | DESCRIPTION                        |
|-------------|-----------------------|------------------------------------|
|             | <b>ICs</b>            |                                    |
| Q761-Q764   | 22240581R1            | NJM4565M                           |
| Q791,Q792   | 222780055             | 78M05HF                            |
| Q801-Q803   | 22240581R1            | NJM4565M                           |
| Q804        | 22240981R2            | TC9162AF                           |
| Q805-Q807   | 22240581R1            | NJM4565M                           |
| Q808        | 22241221R2            | TC9164AF                           |
| Q809,Q810   | 22240581R1            | NJM4565M                           |
| Q812        | 22240943R2            | TC9163AF                           |
| Q813        | 22240581R1            | NJM4565M                           |
|             | <b>Photo couplers</b> |                                    |
| U701        | 24120037              | TORX178A                           |
| Q983        | 24120043              | ON3131 <D>                         |
|             | <b>Transistors</b>    |                                    |
| Q981,Q982   | 221282 or             | DTC144ES or                        |
|             | 2213560               | RN1204                             |
| Q984        | 2213510 or            | DTA114ES or                        |
|             | 2214350               | RN2202 <D>                         |
| Q985        | 2212115 or            | 2SC2458-GR or                      |
|             | 2213284               | 2SC1740S-R <D>                     |
|             | <b>Diodes</b>         |                                    |
| D761-D764   | 223234R2              | 1SS352                             |
| D983,D984   | 223234R2              | 1SS352 <D>                         |
| D981-D983   | 223234R2              | 1SS352 <P/T/W/R/A>                 |
|             | <b>Coils</b>          |                                    |
| L708,L709   | 231237K100R2          | NCH-1475                           |
| L710        | 233454K022            | NCH-1272                           |
|             | <b>Crystal</b>        |                                    |
| X701        | 3010279               | XTL-18.432M                        |
|             | <b>Capacitors</b>     |                                    |
| C471-C473   | 354744709             | 47 $\mu$ F,16V,Elect.              |
| C474-C479   | 374721224             | 1200pF $\pm$ 5%,50V,Plastic        |
| C480-C482   | 374722224             | 2200pF $\pm$ 5%,50V,Plastic        |
| C701        | 355721019             | 100 $\mu$ F,6.3V,Elect.            |
| C711        | 354742209             | 22 $\mu$ F,16V,Elect.              |
| C713,C736   | 374721044             | 0.1 $\mu$ F $\pm$ 5%,50V,Plastic   |
| C714        | 374728224             | 8200pF $\pm$ 5%,50V,Plastic        |
| C721-C724   | 354741009             | 10 $\mu$ F,16V,Elect.              |
| C740,C742   | 354721019             | 100 $\mu$ F,6.3V,Elect.            |
| C783-C786   | 354744709             | 47 $\mu$ F,16V,Elect.              |
| C793,C794   | 354741009             | 10 $\mu$ F,16V,Elect.              |
| C801-C806   | 354781009             | 10 $\mu$ F,50V,Elect.              |
| C813-C818   | 374723324             | 3300pF $\pm$ 5%,50V,Plastic        |
| C819-C824   | 374721524             | 1500pF $\pm$ 5%,50V,Plastic        |
| C825-C830   | 374721024             | 1000pF $\pm$ 5%,50V,Plastic        |
| C851-C860   | 374722244             | 0.22 $\mu$ F $\pm$ 5%,50V,Plastic  |
| C861-C866   | 354780229             | 2.2 $\mu$ F,50V,Elect.             |
| C881        | 374721034             | 0.01 $\mu$ F $\pm$ 5%,50V,Plastic  |
| C882,C886   | 374722244             | 0.22 $\mu$ F $\pm$ 5%,50V,Plastic  |
| C883        | 374724734             | 0.047 $\mu$ F $\pm$ 5%,50V,Plastic |
| C884        | 374721244             | 0.12 $\mu$ F $\pm$ 5%,50V,Plastic  |
| C885        | 374722234             | 0.022 $\mu$ F $\pm$ 5%,50V,Plastic |
| C982        | 354741009             | 10 $\mu$ F,16V,Elect.              |
| C983        | 354741009             | 10 $\mu$ F,16V,Elect. <D>          |

| CIRCUIT NO.  | PART NO.                                      | DESCRIPTION  | CIRCUIT NO.            | PART NO.                | DESCRIPTION                                    |
|--|---|--|------------------------|-------------------------|--|
|  | <b>Terminals</b>                              |  |                        | <b>Capacitors</b>       |  |
| P703   | 25045303 or<br>25045537                       | NPJ-4PDBL162 or<br>NPJ-4PDWR361                            | C361,C362<br>C365,C366 | 354742209<br>354742209  | 22 $\mu$ F,16V,Elect.<br>22 $\mu$ F,16V,Elect. |
| P701,P702  | 25045473                                      | NPJ-1PDBL291   | C371,C372              | 354780229               | 2.2 $\mu$ F,50V,Elect.                         |
| P981   | 25045504                                      | NPJ-1PDBL319   | C379-C382              | 374721044               | 0.1 $\mu$ F $\pm$ 5%,50V,Plastic               |
| P704   | 25045549                                      | NPJ-2PDBL370   | C383,C384              | 374721534               | 0.015 $\mu$ F $\pm$ 5%,50V,Plastic             |
| P982   | 25045293<br>25045433                          | HSJ1003-01-012 <P/T/W/R/A><br>HSJ1003-01-013 <D>           | C385,C386<br>C397,C398 | 354744709<br>354744709  | 47 $\mu$ F,16V,Elect.<br>47 $\mu$ F,16V,Elect. |
|  | <b>Sockets</b>                                |  | C406,C416              | 354744709               | 47 $\mu$ F,16V,Elect.                          |
| P711,P712  | 25051241                                      | NSCT-20P1031   | C410,C430              | 354741009               | 10 $\mu$ F,16V,Elect.                          |
|  |   |  | C426,C436              | 354744709               | 47 $\mu$ F,16V,Elect.                          |
|  |   |  | C431,C441              | 354780229               | 2.2 $\mu$ F,50V,Elect.                         |
|  |   |  | C440                   | 354741009               | 10 $\mu$ F,16V,Elect.                          |
|  |   |  | C446,C456              | 354744709               | 47 $\mu$ F,16V,Elect.                          |
|  |   |  | C451                   | 354780229               | 2.2 $\mu$ F,50V,Elect.                         |
|  |   |  |                        | <b>Socket</b>           |  |
|  |   |  | JL307b                 | 25050271                | NSCT-7P99                                      |
|  |   |  | P311                   | 25051240                | NSCT-15P1030                                   |
|  |   |  | P312                   | 25051527                | NSCT-16P1314                                   |
|  |   |  | P313                   | 25051528                | NSCT-17P1315                                   |
|  |   |  | P401                   | 2009990505UL            | NSAS-18P0667                                   |
|  |   |  |                        | <b>Terminals</b>        |  |
|  |   |  | P304-P306              | 25045552 or<br>25045553 | NPJ-6PDRW371 or<br>NPJ-6PDRW372                |
| <b>PREAMPLIFIER CIRCUIT PC BOARD (NAAF-6317-1A/1B)</b>           |   |  |                        |                         |  |
| CIRCUIT NO.  | PART NO.                                      | DESCRIPTION  |                        |                         |  |
|  | <b>ICs</b>                                    |  |                        |                         |  |
| Q1301,Q1371  | 22240581R1                                    | NJM4565M   |                        |                         |  |
| Q304   | 22241221R2                                    | TC9164AF   |                        |                         |  |
| Q305   | 22240829                                      | TC9274N-008  |                        |                         |  |
| Q306,Q307  | 22240581R1                                    | NJM4565M   |                        |                         |  |
| Q321-Q323  | 22241220R2                                    | TC9459F  |                        |                         |  |
| Q371,Q372  | 22240581R1                                    | NJM4565M   |                        |                         |  |
| Q401,Q421  | 22240581R1                                    | NJM4565M   |                        |                         |  |
| Q441   | 22240581R1                                    | NJM4565M   |                        |                         |  |
|  | <b>Transistors</b>                            |  |                        |                         |  |
| Q1372  | 2211945                                       | 2SK246-GR  |                        |                         |  |
| Q308,Q375  | 2213510 or<br>2214350                         | DTA114ES or<br>RN2202                                      |                        |                         |  |
| Q309   | 2213816,<br>2212355,<br>2212356 or<br>2213815 | 2SD1450-T,<br>2SD1302-S,<br>2SD1302-T or<br>2SD1450-S      |                        |                         |  |
| Q373,Q374  | 2211945                                       | 2SK246-GR  |                        |                         |  |
| Q402,Q403  | 2213631 or                                    | RN1241-A or  |                        |                         |  |
| Q412,Q413  | 2213632                                       | RN1241-B   |                        |                         |  |
| Q404,Q405  | 2213510 or                                    | DTA114ES or  |                        |                         |  |
| Q424,Q425  | 2214350                                       | RN2202   |                        |                         |  |
| Q422,Q423  | 2213631 or                                    | RN1241-A or  |                        |                         |  |
| Q432,Q433  | 2213632                                       | RN1241-B   |                        |                         |  |
| Q434,Q435  | 2213510 or                                    | DTA114ES or  |                        |                         |  |
| Q454   | 2214350                                       | RN2202   |                        |                         |  |
| Q442,Q443  | 2213631 or                                    | RN1241-A or  |                        |                         |  |
| Q452,Q453  | 2213632                                       | RN1241-B   |                        |                         |  |
|  | <b>Diodes</b>                                 |  |                        |                         |  |
| D1301,D1302  | 223234R2                                      | 1SS352   |                        |                         |  |
| D1371  | 223234R2                                      | 1SS352   |                        |                         |  |
| D371,D372  | 223234R2                                      | 1SS352   |                        |                         |  |
| D401   | 223234R2                                      | 1SS352   |                        |                         |  |
| D421,D431  | 223234R2                                      | 1SS352   |                        |                         |  |
|  | <b>Capacitors</b>                             |  |                        |                         |  |
| C1301-C1304  | 354741009                                     | 10 $\mu$ F,16V,Elect.                                      |                        |                         |  |
| C1306  | 374721034                                     | 0.01 $\mu$ F $\pm$ 5%,50V,Plastic                          |                        |                         |  |
| C1307  | 354741009                                     | 10 $\mu$ F,16V,Elect.                                      |                        |                         |  |
| C1371  | 354780229                                     | 2.2 $\mu$ F,50V,Elect.                                     |                        |                         |  |
| C1375,C1376  | 374721044                                     | 0.1 $\mu$ F $\pm$ 5%,50V,Plastic                           |                        |                         |  |
| C345,C346  | 354741009                                     | 10 $\mu$ F,16V,Elect.                                      |                        |                         |  |
| C351,C352  | 354744709                                     | 47 $\mu$ F,16V,Elect.                                      |                        |                         |  |
| C355,C356  | 354744709                                     | 47 $\mu$ F,16V,Elect.                                      |                        |                         |  |
| C359,C360  | 354744709                                     | 47 $\mu$ F,16V,Elect.                                      |                        |                         |  |
| <b>FRONT/CENTER SPEAKER TERMINAL PC BOARD (NAETC-6318-1A/1B)</b> |   |  |                        |                         |  |
| CIRCUIT NO.  | PAR NO.                                       | DESCRIPTION  |                        |                         |  |
| C1581-C1583  | 374721034                                     | 0.01 $\mu$ F $\pm$ 5%,50V,Plastic capacitor<br><P/T/W/R/A> |                        |                         |  |
| JL501b,JL603b  | 25050270                                      | NSCT-6P98,Socket   |                        |                         |  |
| P1581  | 25060284                                      | NTM-6PDMN215,Terminal                                      |                        |                         |  |
| <b>REAR/REMOTE SPEAKER TERMINAL PC BOARD (NAETC-6319-1A/1B)</b>  |   |  |                        |                         |  |
| CIRCUIT NO.  | PART NO.                                      | DESCRIPTION  |                        |                         |  |
| C627-C630  | 374721034                                     | 0.01 $\mu$ F $\pm$ 5%,50V,Plastic capacitor<br><P/T/W/R/A> |                        |                         |  |
| JL603b   | 25050270                                      | NSCT-6P98,Socket   |                        |                         |  |
| P611   | 25060274                                      | NTM-8PDMN205,Terminal                                      |                        |                         |  |
| <b>MICROPROCESSOR CIRCUIT PC BOARD (NAAR-6322-1A/1B/1C/1D)</b>   |   |  |                        |                         |  |
| CIRCUIT NO.  | PART NO.                                      | DESCRIPTION  |                        |                         |  |
|  | <b>ICs</b>                                    |  |                        |                         |  |
| Q1701  | 22241285                                      | MPD78058GC-B09-8BT   |                        |                         |  |
| Q951   | 222780125                                     | 78M12HF  |                        |                         |  |
| Q952   | 222790125                                     | 79M12HF  |                        |                         |  |
| Q953,Q954  | 222780055                                     | 78M05HF  |                        |                         |  |
| Q955   | 222780565JRC                                  | 78M56(NJM78M56FA)  |                        |                         |  |
|  | <b>Transistors</b>                            |  |                        |                         |  |
| Q1702  | 221282 or<br>2213560                          | DTC144ES or<br>RN1204                                      |                        |                         |  |
| Q1703  | 2213510 or<br>2214350                         | DTA114ES or<br>RN2202                                      |                        |                         |  |
| Q956   | 2211455                                       | 2SA1015-GR   |                        |                         |  |
| Q957   | 2211255                                       | 2SC1815-GR   |                        |                         |  |



**S VIDEO CIRCUIT PC BOARD (NAVD-6324-1A/1B/1C/1D)**

| CIRCUIT NO. | PART NO.           | DESCRIPTION             |
|-------------|--------------------|-------------------------|
|             | <b>IC</b>          |                         |
| Q213,Q214   | 22240373           | BA7625                  |
|             | <b>Transistors</b> |                         |
| Q202,Q203   | 2212125 or         | 2SA1048-GR or           |
| Q206,Q207   | 2213354            | 2SA933S-R               |
| Q204,Q208   | 2212285 or         | 2SC2878-A or            |
|             | 2212286            | 2SC2878-B               |
| Q209,Q210   | 2212125 or         | 2SA1048-GR or           |
|             | 2213354            | 2SA933S-R               |
|             | <b>Diodes</b>      |                         |
| D201-D203   | 223163 or          | 1SS133 or               |
| D207        | 223205             | 1SS270A                 |
|             | <b>Capacitors</b>  |                         |
| C202,C204   | 354780229          | 2.2 $\mu$ F,50V,Elect.  |
| C203,C205   | 354724719          | 470 $\mu$ F,6.3V,Elect. |
| C206        | 354780229          | 2.2 $\mu$ F,50V,Elect.  |
| C207,C224   | 354724719          | 470 $\mu$ F,6.3V,Elect. |
| C208-C213   | 354780229          | 2.2 $\mu$ F,50V,Elect.  |
| C219,C220   | 354780229          | 2.2 $\mu$ F,50V,Elect.  |
| C223        | 354721019          | 100 $\mu$ F,6.3V,Elect. |
|             | <b>Sockets</b>     |                         |
| P203,P206   | 25051568           | NSCT-12P1355            |

**CONNECTOR PC BOARD(NAETC-6325-1A/1B/1C/1D)**

| CIRCUIT NO. | PART NO. | DESCRIPTION     |
|-------------|----------|-----------------|
| P1201a      | 25055135 | NPLG-5P119,Plug |

**DISPLAY CIRCUIT PC BOARD(NADIS-6326-1A/1B/1C/1D)**

| CIRCUIT NO. | PART NO.              | DESCRIPTION                       |
|-------------|-----------------------|-----------------------------------|
|             | <b>FL tube</b>        |                                   |
| Q1801       | 212190                | 14-ST-23GK                        |
|             | <b>IC</b>             |                                   |
| Q1802       | 22240685R9            | M66004FP                          |
|             | <b>Remote sensor</b>  |                                   |
| U1801       | 241305                | GP1U281X                          |
|             | <b>Diodes</b>         |                                   |
| D1801,D1802 | 223163 or             | 1SS133 or                         |
| D1804       | 223205                | 1SS270A                           |
| D1803       | 224471803             | MTZJ18C                           |
| D1805       | 225290                | SEL4110R                          |
|             | <b>Capacitors</b>     |                                   |
| C1802       | 375524744             | 0.47 $\mu$ F $\pm$ 5%,50V,Plastic |
| C1803       | 354721019             | 100 $\mu$ F,6.3V,Elect.           |
| C1808       | 354781009             | 10 $\mu$ F,50V,Elect.             |
| C1811       | 354741009             | 10 $\mu$ F,16V,Elect.             |
|             | <b>Resistor</b>       |                                   |
| R1851       | 49163103414           | RM1/10J-10K*14                    |
|             | <b>Sockets</b>        |                                   |
| JL1301b     | 25051108              | NSCT-4P895                        |
| P1201       | 2009990309A           | NSAS-10P0443                      |
| P1701b      | 25052073,             | NSCT-27P1860,                     |
|             | 25050933,             | NSCT-27P720,                      |
|             | 25051331 or           | NSCT-27P1120 or                   |
|             | 25051871              | NSCT-27P1658                      |
|             | <b>Rotary encoder</b> |                                   |
| S1801       | 25065528              | REB161PVB                         |

**CIRCUIT NO. PART NO. DESCRIPTION**

|             |             |  |  |
|-------------|-------------|--|--|
|             |             | <b>Push switches</b>                                 |  |
| S1811-S1840 | 25035652    | NPS-111-S604   |  |
| S1841       | 25035652    | NPS-111-S604 <P>                                     |  |
| S1842,S1843 | 25035652    | NPS-111-S604   |  |
|             |             | <b>Holders</b>                                       |  |
| Q1801a      | 27191001    |  |  |
| U1801a      | 27191042    |  |  |
|             |             | <b>TUNER CIRCUIT PC BOARD (NARF-63271A/1B/1C/1D)</b> |  |
|             |             | <b>CIRCUIT NO. PART NO. DESCRIPTION</b>              |  |
|             |             | <b>Front end</b>                                     |  |
| TU001       | 240131      | ENV172D4G1 <D>                                       |  |
| TU001       | 240132      | ENV172D3G1 <P/T/W/R/A>                               |  |
|             |             | <b>ICs</b>   |  |
| Q121        | 22240090 or | LM7001 or  |  |
|             | 22241076    | LM7001J  |  |
| Q141        | 22241151    | LA1837   |  |
| Q185        | 22241124    | BU1922 <P>   |  |
|             |             | <b>Transistors</b>                                   |  |
| Q101        | 2210746     | 2SC945A-P <P/T/W/R/A>                                |  |
| Q102        | 2211723     | 2SC1923-O  |  |
| Q122        | 2212445     | 2SK365-GR  |  |
| Q123        | 2212115 or  | 2SC2458-GR or  |  |
|             | 2213284     | 2SC1740S-R   |  |
| Q142        | 2212115 or  | 2SC2458-GR or  |  |
|             | 2213284     | 2SC1740S-R <P>                                       |  |
| Q124,Q145   | 2213510 or  | DTA114ES or  |  |
|             | 2214350     | RN2202   |  |
| Q143,Q144   | 2212794 or  | 2SD1468-R or   |  |
|             | 2215024     | 2SD1468S-R   |  |
|             |             | <b>Diodes</b>  |  |
| D101        | 224470512   | MTZJ5.1B   |  |
| D102        | 224470913   | MTZJ9.1C   |  |
|             |             | <b>Coils</b>   |  |
| L141        | 233457      | NFIF-4081  |  |
| L142        | 233458      | NFIF-4082  |  |
| L143,L144   | 233484      | NMC-4085 <P/T/W/R/A>                                 |  |
| L145,L146   | 231092      | NCH-2140 <D>   |  |
| L171        | 232174      | NMRF-5077  |  |
| L172        | 232139      | NMIF-4062  |  |
| L185        | 233454M022  | NCH-1452 022M <P>                                    |  |
|             |             | <b>Ceramic filters</b>                               |  |
| X101        | 3010071     | SFE-10.7MA5 RED                                      |  |
| X102        | 3010071     | SFE-10.7MA5 RED <P/T/W/R/A>                          |  |
| X103        | 3010071     | SFE-10.7MA5 RED <D>                                  |  |
| X103        | 3010130     | SFE10.7M22K <P/T/W/R/A>                              |  |
| X171        | 3010123     | SFZ450JL   |  |
|             |             | <b>Crystals</b>                                      |  |
| X121        | 3010141     | XTL-7.2M   |  |
| X185        | 3010203     | AF6146CG <P>   |  |
|             |             | <b>Capacitors</b>                                    |  |
| C002        | 354741009   | 10 $\mu$ F,16V,Elect.                                |  |
| C126        | 374723334   | 0.033 $\mu$ F $\pm$ 5%,50V,Plastic                   |  |
| C127        | 354780229   | 2.2 $\mu$ F,50V,Elect.                               |  |
| C128,C193   | 354741009   | 10 $\mu$ F,16V,Elect.                                |  |
| C129        | 354782299   | 0.22 $\mu$ F,50V,Elect.                              |  |
| C131        | 354721019   | 100 $\mu$ F,6.3V,Elect.                              |  |

| CIRCUIT NO. | PART NO.   | DESCRIPTION  |
|-------------|--|--|
|             | <b>Capacitors</b>                                  |  |
| C142        | 354741019  | 100 $\mu$ F,16V,Elect.   |
| C143,C151   | 354780229  | 2.2 $\mu$ F,50V,Elect.   |
| C144        | 354780479  | 4.7 $\mu$ F,50V,Elect.   |
| C146,C148   | 354780109  | 1 $\mu$ F,50V,Elect.   |
| C147,C167   | 354784799  | 0.47 $\mu$ F,50V,Elect.  |
| C153,C154   | 374722724  | 2700pF $\pm$ 5%,50V,Plastic <P/T/W/R/A>  |
| C157,C158   | 374721024  | 1000pF $\pm$ 5%,50V,Plastic <D>  |
| C159,C160   | 354742209  | 22 $\mu$ F,16V,Elect.  |
| C161,C162   | 374721224  | 1200pF $\pm$ 5%,50V,Plastic <P>  |
|             | 374721524  | 1500pF $\pm$ 5%,50V,Plastic <T/W/R/A>  |
|             | 374723324  | 3300pF $\pm$ 5%,50V,Plastic <D>  |
| C163,C164   | 354742209  | 22 $\mu$ F,16V,Elect.  |
| C169        | 354744709  | 47 $\mu$ F,16V,Elect.  |
| C170        | 374722234  | 0.022 $\mu$ F $\pm$ 5%,50V,Plastic   |
| C173        | 374724734  | 0.047 $\mu$ F $\pm$ 5%,50V,Plastic   |
| C177        | 354780339  | 3.3 $\mu$ F,50V,Elect.   |
| C179        | 354742209  | 22 $\mu$ F,16V,Elect.  |
| C185        | 374725615  | 560pF $\pm$ 10%,50V,Plastic <P>  |
| C186,C190   | 354721019  | 100 $\mu$ F,6.3V,Elect. <P>  |
|             | <b>Resistors</b>                                   |  |
| R1325       | 5210296  | N06HR47KBE,Semi-fixed  |
| R141        | 5210263  | N06HR20KBC,Semi-fixed  |
| R167        | 5210265  | N06HR50KBC,Semi-fixed  |
|             | <b>Switch</b>                                      |  |
| S101        | 25065414   | NSS-22155 <W/R>  |
|             | <b>Sockets</b>                                     |  |
| P101b       | 25050984   | NSCT-10P771 <D/T/W/R/A>  |
|             | 25050985   | NSCT-12P772 <P>  |
|             | <b>Plug</b>  |  |
| TP141       | 25055038   | NPLG-2P29  |
|             | <b>Terminal</b>                                    |  |
| P103        | 25060117 or<br>25060270<br>25060195 or<br>25060272 | NTM-2PDML051 or<br>NTM-2PDML201 <P/T/W/R/A><br>NTM-4PDML117 or<br>NTM-4PDML203 <D> |
|             | <b>Shield plate</b>                                |  |
| TU001a      | 27150432   | <P/T/W/R/A>  |

**MASTER VOLUME PC BOARD (NAETC-6328-1A/1B/1C/1D)**

| CIRCUIT NO. | PART NO.  | DESCRIPTION                       |
|-------------|-----------|-----------------------------------|
| Q1321       | 22240239  | TA7291S,IC                        |
| C1321       | 354721019 | 100 $\mu$ F,6.3V,Elect. Capacitor |
| R1321       | 5141441   | N16RGL20K25F,Variable resistor    |
| P1321b      | 25051235  | NSCT-10P1025,Socket               |

**TONE CONTROL PC BOARD (NAETC-6329-1A/1B/1C/1D)**

| CIRCUIT NO. | PART NO.              | DESCRIPTION   |
|-------------|-----------------------|---|
| C399        | 374721534             | 0.015 $\mu$ F $\pm$ 5%,50V,Plastic capacitor            |
| R391,R392   | 5104230 or<br>5104377 | N14RLC100KWT22Z or<br>N14RLC100KWT22Z,Variable resistor |
| JL307a      | 25051111              | NSCT-7P898,Socket                                       |

**FRONT VIDEO TERMINAL PC BOARD (NAETC-6330-1A/1B/1C/1D)**

| CIRCUIT NO. | PART NO. | DESCRIPTION                 |
|-------------|----------|-----------------------------|
| P1202       | 25045405 | NPJ-3PDBL230,Video terminal |
| P1203       | 25051961 | NSCT-4P1748,Socket          |

**HEADPHONE TERMINAL PC BOARD (NAETC-6331-1A/1B/1C/1D)**

| CIRCUIT NO. | PART NO. | DESCRIPTION                   |
|-------------|----------|-------------------------------|
| JL1301a     | 25051108 | NSCT-4P895,Socket             |
| P1301       | 25045514 | YKB26-5005,Headphone terminal |

**INPUT TERMINAL PC BOARD (NAAF-6332-1A/1B/1C/1D)**

| CIRCUIT NO. | PART NO.                | DESCRIPTION                     |
|-------------|-------------------------|---------------------------------|
|             | <b>IC</b>               |                                 |
| Q301        | 22240191                | NJM4565D-D                      |
|             | <b>Capacitors</b>       |                                 |
| C303,C304   | 354741009               | 10 $\mu$ F,16V,Elect.           |
| C305,C306   | 354741019               | 100 $\mu$ F,16V,Elect.          |
| C307,C308   | 374726824               | 6800pF $\pm$ 5%,50V,Plastic     |
| C309,C310   | 374721824               | 1800pF $\pm$ 5%,50V,Plastic     |
| C311,C312   | 354741009               | 10 $\mu$ F,16V,Elect.           |
| C341,C342   | 354741009               | 10 $\mu$ F,16V,Elect.           |
|             | <b>Socket</b>           |                                 |
| P102b       | 25051527                | NSCT-16P1314                    |
|             | <b>Terminals</b>        |                                 |
| P301        | 25045469 or<br>25045554 | NPJ-4PDBL287 or<br>NPJ-4PDRW373 |

NOTE: <D>:120V model only  
 <P>:European model only  
 <T>:Asian model only  
 <W>:Worldwide model only  
 <R>:Chinease model only  
 <A>:Australian model only



NOTE: THE COMPONENTS IDENTIFIED BY MARK  $\Delta$  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

**CAUTION:** Replacement of the transistor of mark  $\Delta$ , if necessary, must be made from the same beta group (HFE) as the original type.

| CIRCUIT NO. | PART NO.     | DESCRIPTION |
|-------------|--------------|-------------|
|             | <b>Plugs</b> |             |
| JL508b      | 25055631     | NPLG-10P593 |
| P1501       | 25055038     | NPLG-2P29   |
| P401a       | 25055139     | NPLG-9P123  |
| P501,P502   | 25055038     | NPLG-2P29   |
| P503        | 25055099     | NPLG-2P83   |

#### SURROUND AMPLIFIER PC BOARD (NAAF-6302-2A/2B/2C/2D)

| CIRCUIT NO. | PART NO.  | DESCRIPTION |
|-------------|---|-------------|
|             | <b>Transistors</b>  |             |
| Q601-Q604   | 2211732, * 2SC1845-F,<br>2211733, * 2SC1845-E,<br>2215115 or * 2SC1775-E or<br>2215116 * 2SC1775-F                          |             |
| Q605,Q606   | 2211732, 2SC1845-F,<br>2211733, 2SC1845-E,<br>2215115 or 2SC1775-E or<br>2215116 2SC1775-F                                  |             |
| Q607,Q608   | 2212115 or 2SC2458-GR or<br>2213284 2SC1740S-R  |             |
| Q609-Q614   | 2211353 or 2SA949-O or<br>2211354 2SA949-Y  |             |
| Q615-Q618   | 2211633 or 2SC2229-O or<br>2211634 2SC2229-Y  |             |
| Q621,Q622   | 2203010 2SC5171   |             |
| Q623,Q624   | 2203000 2SA1930   |             |
| Q625,Q626   | 2203063, * 2SC5198-O,<br>2203062, * 2SC5198-R,<br>2202523, * 2SC4468-O,<br>2202526 or * 2SC4468-P or<br>2202524 * 2SC4468-Y |             |
| Q627,Q628   | 2203053, * 2SA1941-O,<br>2203052, * 2SA1491-R,<br>2202513, * 2SA1695-O,<br>2202516 or * 2SA1695-P,<br>2202514 * 2SA1695-Y   |             |
| Q629,Q630   | 2211733 or 2SC1845-E or<br>2211732 2SC1845-F  |             |
| Q691,Q692   | 2212115 or 2SC2458-GR or<br>2213284 2SC1740S-R  |             |
|             | <b>Diodes</b>   |             |
| D681,D682   | 22380032, 1SR139-100,<br>22380035 or GP104003E or<br>22380260 RL1N4003  |             |
| D691,D692   | 223163 or 1SS133 or<br>223205 1SS270A   |             |
|             | <b>Coils</b>  |             |
| L601,L602   | 231176S S-1.3C <P/T/W/R/A>  |             |
|             | <b>Capacitors</b>   |             |
| C601,C602   | 354744709 47 $\mu$ F,16V,Elect.   |             |
| C607,C608   | 354722219 220 $\mu$ F,6.3V,Elect.   |             |
| C617,C618   | 354781009 10 $\mu$ F,50V,Elect.   |             |
| C623,C624   | 374721044 0.1 $\mu$ F $\pm$ 5%,50V,Plastic  |             |
| C635,C636   | 354742219 220 $\mu$ F,16V,Elect.  |             |
| C662        | 374731044 0.1 $\mu$ F $\pm$ 5%,100V,Plastic   |             |
| C663,C664   | 3504342 15000 $\mu$ F,56V,Elect.  |             |
| C681-C684   | 354771019 100 $\mu$ F,63V,Elect.  |             |

| CIRCUIT NO.   | PART NO.                             | DESCRIPTION   |
|---------------|--------------------------------------|---|
| C685-C688     | 354774709                            | 47 $\mu$ F,63V,Elect.   |
| C689          | 354741009                            | 10 $\mu$ F,16V,Elect.   |
|               | <b>Resistors</b>                     |   |
| R623-R626     | 443528204                            | 82 $\Omega$ $\pm$ 5%,1/2W,Metal oxide                           |
| R627-R630     | 443526804                            | 68 $\Omega$ $\pm$ 5%,1/2W,Metal oxide                           |
| R631,R632     | 443528204                            | 82 $\Omega$ $\pm$ 5%,1/2W,Metal oxide                           |
| R637,R638     | 5210288                              | N06HR2.2KBE,Trimming  |
| R643,R644     | 443521514                            | 150 $\Omega$ $\pm$ 5%,1/2W,Metal oxide                          |
| R645-R648     | 453530224                            | 2.2 $\Omega$ $\pm$ 5%,1/2W,Metal                                |
| R649,R650     | 4000132                              | RGC55 0.22  |
| R673,R674     | 453630824                            | 8.2 $\Omega$ $\pm$ 5%,1W,Metal                                  |
| R681-R686     | 4500159                              | 0.22 $\Omega$ $\pm$ 5%,1/4W,Metal                               |
|               | <b>Relays</b>                        |   |
| RL691,RL692   | 25065510,<br>25065517 or<br>25065563 | NRL-2P5A-DC24-095,<br>NRL-2P5A-DC24-098 or<br>NRL-2P5A-DC24-129 |
|               | <b>Sockets</b>                       |   |
| JL507b        | 25050283                             | NSCT-6P111  |
| JL510b        | 25050281                             | NSCT-4P105  |
| JL603a,JL942a | 25051110                             | NSCT-6P897  |
|               | <b>Plugs</b>                         |   |
| JL506b        | 25055632                             | NPLG-11P594   |
| P601,P602     | 25055038                             | NPLG-2P29   |

#### POWER SUPPLY CIRCUIT PC BOARD (NAPS-6303-2A/2B/2C/2D)

| CIRCUIT NO. | PART NO.   | DESCRIPTION  |
|-------------|--|--|
|             | <b>Transistor</b>                                  |  |
| Q921        | 2212115 or<br>2213284                              | 2SC2458-GR or<br>2SC1740S-R                            |
|             | <b>Diodes</b>                                      |  |
| D925        | 223163 or<br>223205                                | 1SS133 or<br>1SS270A                                   |
| D921-D924   | 22380032,<br>22380035 or<br>22380260               | 1SR139-100,<br>GP104003E or<br>RL1N4003                |
|             | <b>Power transformer</b>                           |  |
| T902        | 2300670A $\Delta$<br>2300671A $\Delta$<br>2300672A | NPT-1111D <D><br>NPT-1111P <P/T/A><br>NPT-1111DG <W/R> |
|             | <b>Capacitors</b>                                  |  |
| C901        | 3500191 $\Delta$                                   | DE7150F-103M, IS                                       |
| C922        | 354742219  | 220 $\mu$ F,16V,Elect.                                 |
|             | <b>Resistor</b>                                    |  |
| R901        | 431533355 $\Delta$                                 | RC1/2GFKUL-3.3M,Solid <D>                              |
| R921        | 453530824  | 8.2 $\Omega$ $\pm$ 5%,1/2W,Metal                       |
|             | <b>Fuses</b>                                       |  |
| F901        | 252198 $\Delta$                                    | 8A-UL, Fuse <D/W/R>                                    |
| F902        | 252077 $\Delta$                                    | 4A-SE-EAK,Fuse <P/T/W/A/R>                             |
| F903        | 252075 $\Delta$                                    | 2.5A-SE-EAK,Fuse <P/T>                                 |
|             | <b>Fuseholders</b>                                 |  |
| F901a       | 25050065 $\Delta$                                  | YSH403T <D/W/R>  |
| F902a       | 25050065 $\Delta$                                  | YSH403T <P/T/A/W/R>                                    |
| F903a       | 25050065 $\Delta$                                  | YSH403T <P/T>  |
|             | <b>Socket</b>                                      |  |
| JL1701b     | 25050267   | NSCT-3P95  |



| CIRCUIT NO. | PART NO.         | DESCRIPTION            |
|-------------|------------------|------------------------|
|             | <b>AC outlet</b> |                        |
| P902        | 25051125         | △ NSCT-4P912 <P/T/W/R> |
|             | 25051126         | △ NSCT-4P913 <D>       |
|             | 25052115         | △ NSCT-2P2013 <A>      |
|             | <b>Plug</b>      |                        |
| P901a       | 25055675         | △ NPLG-2P631           |
|             | <b>Relay</b>     |                        |
| RL901       | 25065508,        | △ NRL-1P10A-DC12-093,  |
|             | 25065526,        | △ NRL-1P5A-DC12-102,   |
|             | 25065561 or      | △ NRL-1P5A-DC12-127 or |
|             | 25065515         | △ NRL-1P5A-DC12-096    |
|             | <b>Switch</b>    |                        |
| S901        | 25065437         | △ NSS-22157P <W/R>     |

**PRIMARY CIRCUIT PC BOARD (NAETC-6305-2A/2B/2C/2D)**

| CIRCUIT NO. | PART NO.  | DESCRIPTION                                 |
|-------------|-----------|---|
| C665        | 374731044 | 0.1 $\mu$ F $\pm$ 5%,100V,Plastic capacitor |
| R941,R942   | 453532294 | 0.22 $\Omega$ $\pm$ 5%,1/2W,Metal resistor  |
| R944,R945   | 453530104 | 1 $\Omega$ $\pm$ 5%,1/2W,Metal resistor     |
| R946        | 453532294 | 0.22 $\Omega$ $\pm$ 5%,1/2W,Metal resistor  |
| JL941b      | 25050284  | NSCT-7P112,Socket                           |
| JL942b      | 25051110  | NSCT-6P897,Socket                           |

**THERMAL DETECTOR PC BOARDS**

(NAETC-6306/6307/6308/6309/6310-2A/2B/2C/2D)

| CIRCUIT NO. | PART NO.           | DESCRIPTION  |
|-------------|--------------------|--------------|
|             | <b>Transistors</b> |              |
| Q519,Q520   | 2212653 or         | 2SC3421-O or |
| Q1510       | 2212654            | 2SC3421-Y    |
| Q619,Q620   | 2212653 or         | 2SC3421-O or |
|             | 2212654            | 2SC3421-Y    |

**POWER SWITCH PC BOARD (NASW-6311-2B/2C/2D)**

| CIRCUIT NO. | PART NO. | DESCRIPTION                              |
|-------------|----------|--|
| C906        | 3500191  | △ DE7150F-103M,IS capacitor <P/T/W/R/A>  |
| C906a       | 27301216 | △ SB1925A,Cover, capacitor <P/T/W/R/A>   |
| S906        | 25035550 | △ NPS-111-L512P,Power switch <P/T/W/R/A> |

**THERMAL DET. PC BOARD(NAETC-6314-2A/2B/2C/2D)**

| CIRCUIT NO. | PART NO. | DESCRIPTION                     |
|-------------|----------|---------------------------------|
| JL509b      | 25051087 | NSCT-3P874,Socket               |
| R1577       | 4000150  | PTH9M04BC222TS2F333, Thermistor |

**MAIN CIRCUIT PC BOARD (NADG-6316-2A/2B)**

| CIRCUIT NO. | PART NO.      | DESCRIPTION         |
|-------------|---------------|---------------------|
|             | <b>ICs</b>    |                     |
| Q471-Q473   | 22240581R1    | NJM4565M            |
| Q701        | 222740046R1TO | 74HCU04(TC74HCU04F) |
| Q702        | 22241218R3    | CS4226-KQ           |
| Q703        | 22241219R3 or | DSPF56009FJ88 or    |
|             | 22241235R3    | XCF56009FJ88        |
| Q704        | 22241101R2    | LC32464M-80         |
| Q761-Q764   | 22240581R1    | NJM4565M            |
| Q791,Q792   | 222780055     | 78M05HF             |

| CIRCUIT NO. | PART NO.              | DESCRIPTION                        |
|-------------|-----------------------|------------------------------------|
|             | <b>ICs</b>            |                                    |
| Q801-Q803   | 22240581R1            | NJM4565M                           |
| Q804        | 22240981R2            | TC9162AF                           |
| Q805-Q807   | 22240581R1            | NJM4565M                           |
| Q808        | 22241221R2            | TC9164AF                           |
| Q809,Q810   | 22240581R1            | NJM4565M                           |
| Q812        | 22240943R2            | TC9163AF                           |
| Q813        | 22240581R1            | NJM4565M                           |
|             | <b>Photo couplers</b> |                                    |
| U701        | 24120037              | TORX178A                           |
| Q983        | 24120043              | ON3131 <D>                         |
|             | <b>Transistors</b>    |                                    |
| Q981,Q982   | 221282 or             | DTC144ES or                        |
|             | 2213560               | RN1204                             |
| Q984        | 2213510 or            | DTA114ES or                        |
|             | RN2202 <D>            |                                    |
| Q985        | 2212115 or            | 2SC2458-GR or                      |
|             | 2213284               | 2SC1740S-R <D>                     |
|             | <b>Diodes</b>         |                                    |
| D761-D764   | 223234R2              | 1SS352                             |
| D983,D984   | 223234R2              | 1SS352 <D>                         |
| D981-D983   | 223234R2              | 1SS352 <P/T/W/R/A>                 |
|             | <b>Coils</b>          |                                    |
| L708,L709   | 231237K100R2          | NCH-1475                           |
| L710        | 231237M022R2          | NCH-1471                           |
|             | <b>Crystal</b>        |                                    |
| X701        | 3010279               | XTL-18.432M                        |
|             | <b>Capacitors</b>     |                                    |
| C471-C473   | 354744709             | 47 $\mu$ F,16V,Elect.              |
| C474-C479   | 374721224             | 1200pF $\pm$ 5%,50V,Plastic        |
| C480-C482   | 374722224             | 2200pF $\pm$ 5%,50V,Plastic        |
| C701        | 355721019             | 100 $\mu$ F,6.3V,Elect.            |
| C711        | 354742209             | 22 $\mu$ F,16V,Elect.              |
| C713,C736   | 374721044             | 0.1 $\mu$ F $\pm$ 5%,50V,Plastic   |
| C714        | 374728224             | 8200pF $\pm$ 5%,50V,Plastic        |
| C721-C724   | 354741009             | 10 $\mu$ F,16V,Elect.              |
| C740,C742   | 354721019             | 100 $\mu$ F,6.3V,Elect.            |
| C783-C786   | 354744709             | 47 $\mu$ F,16V,Elect.              |
| C793,C794   | 354741009             | 10 $\mu$ F,16V,Elect.              |
| C801-C806   | 354781009             | 10 $\mu$ F,50V,Elect.              |
| C813-C818   | 374723324             | 3300pF $\pm$ 5%,50V,Plastic        |
| C819-C824   | 374721524             | 1500pF $\pm$ 5%,50V,Plastic        |
| C825-C830   | 374721024             | 1000pF $\pm$ 5%,50V,Plastic        |
| C851-C860   | 374722244             | 0.22 $\mu$ F $\pm$ 5%,50V,Plastic  |
| C861-C866   | 354780229             | 2.2 $\mu$ F,50V,Elect.             |
| C881        | 374721034             | 0.01 $\mu$ F $\pm$ 5%,50V,Plastic  |
| C882,C886   | 374722244             | 0.22 $\mu$ F $\pm$ 5%,50V,Plastic  |
| C883        | 374724734             | 0.047 $\mu$ F $\pm$ 5%,50V,Plastic |
| C884        | 374721244             | 0.12 $\mu$ F $\pm$ 5%,50V,Plastic  |
| C885        | 374722234             | 0.022 $\mu$ F $\pm$ 5%,50V,Plastic |
| C982        | 354741009             | 10 $\mu$ F,16V,Elect.              |
| C983        | 354741009             | 10 $\mu$ F,16V,Elect. <D>          |

| CIRCUIT NO. | PART NO.                | DESCRIPTION                                      |
|-------------|-------------------------|--|
|             | <b>Terminals</b>        |  |
| P703        | 25045303 or<br>25045537 | NPJ-4PDBL162 or<br>NPJ-4PDWR361                  |
| P701,P702   | 25045473                | NPJ-1PDBL291                                     |
| P981        | 25045504                | NPJ-1PDBL319                                     |
| P704        | 25045549                | NPJ-2PDBL370                                     |
| P982        | 25045293<br>25045433    | HSJ1003-01-012 <P/T/W/R/A><br>HSJ1003-01-013 <D> |
| P711,P712   | 25051241                | NSCT-20P1031                                     |

**PREAMPLIFIER CIRCUIT PC BOARD (NAAF-6317-2A/2B)**

| CIRCUIT NO. | PART NO.                                      | DESCRIPTION   |
|-------------|---|---|
|             | <b>ICs</b>                                    |   |
| Q1301,Q1371 | 22240581R1                                    | NJM4565M  |
| Q304        | 22241221R2                                    | TC9164AF  |
| Q305        | 22240829                                      | TC9274N-008   |
| Q306,Q307   | 22240581R1                                    | NJM4565M  |
| Q321-Q323   | 22241220R2                                    | TC9459F   |
| Q371,Q372   | 22240581R1                                    | NJM4565M  |
| Q401,Q421   | 22240581R1                                    | NJM4565M  |
| Q441        | 22240581R1                                    | NJM4565M  |
|             | <b>Transistors</b>                            |   |
| Q1372       | 2211945                                       | 2SK246-GR   |
| Q308,Q375   | 2213510 or<br>2214350                         | DTA114ES or<br>RN2202                                 |
| Q309        | 2213816,<br>2212355,<br>2212356 or<br>2213815 | 2SD1450-T,<br>2SD1302-S,<br>2SD1302-T or<br>2SD1450-S |
| Q373,Q374   | 2211945                                       | 2SK246-GR   |
| Q402,Q403   | 2213631 or                                    | RN1241-A or   |
| Q412,Q413   | 2213632                                       | RN1241-B  |
| Q404,Q405   | 2213510 or                                    | DTA114ES or   |
| Q424,Q425   | 2214350                                       | RN2202  |
| Q422,Q423   | 2213631 or                                    | RN1241-A or   |
| Q432,Q433   | 2213632                                       | RN1241-B  |
| Q434,Q435   | 2213510 or                                    | DTA114ES or   |
| Q454        | 2214350                                       | RN2202  |
| Q442,Q443   | 2213631 or                                    | RN1241-A or   |
| Q452,Q453   | 2213632                                       | RN1241-B  |
|             | <b>Diodes</b>                                 |   |
| D1301,D1302 | 223234R2                                      | 1SS352  |
| D1371       | 223234R2                                      | 1SS352  |
| D371,D372   | 223234R2                                      | 1SS352  |
| D401        | 223234R2                                      | 1SS352  |
| D421,D431   | 223234R2                                      | 1SS352  |
|             | <b>Capacitors</b>                             |   |
| C1301-C1304 | 354741009                                     | 10 $\mu$ F,16V,Elect.                                 |
| C1306       | 374721034                                     | 0.01 $\mu$ F $\pm$ 5%,50V,Plastic                     |
| C1307       | 354741009                                     | 10 $\mu$ F,16V,Elect.                                 |
| C1371       | 354780229                                     | 2.2 $\mu$ F,50V,Elect.                                |
| C1375,C1376 | 374721044                                     | 0.1 $\mu$ F $\pm$ 5%,50V,Plastic                      |
| C345,C346   | 354741009                                     | 10 $\mu$ F,16V,Elect.                                 |
| C351,C352   | 354744709                                     | 47 $\mu$ F,16V,Elect.                                 |
| C355,C356   | 354744709                                     | 47 $\mu$ F,16V,Elect.                                 |
| C359,C360   | 354744709                                     | 47 $\mu$ F,16V,Elect.                                 |
| C361,C362   | 354742209                                     | 22 $\mu$ F,16V,Elect.                                 |

| CIRCUIT NO. | PART NO.          | DESCRIPTION                        |
|-------------|-------------------|------------------------------------|
|             | <b>Capacitors</b> |                                    |
| C365,C366   | 354742209         | 22 $\mu$ F,16V,Elect.              |
| C371,C372   | 354780229         | 2.2 $\mu$ F,50V,Elect.             |
| C379-C382   | 374721044         | 0.1 $\mu$ F $\pm$ 5%,50V,Plastic   |
| C383,C384   | 374721534         | 0.015 $\mu$ F $\pm$ 5%,50V,Plastic |
| C385,C386   | 354744709         | 47 $\mu$ F,16V,Elect.              |
| C397,C398   | 354744709         | 47 $\mu$ F,16V,Elect.              |
| C406,C416   | 354744709         | 47 $\mu$ F,16V,Elect.              |
| C410,C430   | 354741009         | 10 $\mu$ F,16V,Elect.              |
| C426,C436   | 354744709         | 47 $\mu$ F,16V,Elect.              |
| C431,C441   | 354780229         | 2.2 $\mu$ F,50V,Elect.             |
| C440        | 354741009         | 10 $\mu$ F,16V,Elect.              |
| C446,C456   | 354744709         | 47 $\mu$ F,16V,Elect.              |
| C451        | 354780229         | 2.2 $\mu$ F,50V,Elect.             |

|           | <b>Socket</b>           |                                 |
|-----------|-------------------------|---------------------------------|
| JL307b    | 25050271                | NSCT-7P99                       |
| P311      | 25051240                | NSCT-15P1030                    |
| P312      | 25051527                | NSCT-16P1314                    |
| P313      | 25051528                | NSCT-17P1315                    |
| P401      | 2009990505UL            | NSAS-18P0667                    |
|           | <b>Terminals</b>        |                                 |
| P304-P306 | 25045552 or<br>25045553 | NPJ-6PDRW371 or<br>NPJ-6PDRW372 |

**FRONT/CENTER SPEAKER TERMINAL PC BOARD (NAETC-6318-2A/2B)**

| CIRCUIT NO.   | PART NO.  | DESCRIPTION  |
|---------------|-----------|--|
| C1581-C1583   | 374721034 | 0.01 $\mu$ F $\pm$ 5%,50V,Plastic capacitor<br><P/T/W/R/A> |
| JL501b,JL603c | 25050270  | NSCT-6P98,Socket   |
| P1581         | 25060284  | NTM-6PDMN215,Terminal                                      |

**REAR/REMOTE SPEAKER TERMINAL PC BOARD (NAETC-6320-2A/2B)**

| CIRCUIT NO. | PART NO.                | DESCRIPTION  |
|-------------|-------------------------|--|
| C631-C634   | 374721034               | 0.01 $\mu$ F $\pm$ 5%,50V,Plastic capacitor<br><P/T/W/R/A> |
| P612        | 25060158 or<br>25060224 | NTM-8PDM1084 or<br>NTM-8PDM1146,Terminal                   |

**MICROPROCESSOR CIRCUIT PC BOARD (NAAR-6322-2A/2B/2C/2D)**

| CIRCUIT NO. | PART NO.              | DESCRIPTION           |
|-------------|-----------------------|-----------------------|
|             | <b>ICs</b>            |                       |
| Q1701       | 22241285              | MPD78058GC-B09-8BT    |
| Q951        | 222780125             | 78M12HF               |
| Q952        | 222790125             | 79M12HF               |
| Q954        | 222780055             | 78M05HF               |
| Q955        | 222780565JRC          | 78M56(NJM78M56FA)     |
|             | <b>Transistors</b>    |                       |
| Q1702       | 221282 or<br>2213560  | DTC144ES or<br>RN1204 |
| Q1703       | 2213510 or<br>2214350 | DTA114ES or<br>RN2202 |
| Q956        | 2211455               | 2SA1015-GR            |
| Q957        | 2211255               | 2SC1815-GR            |



| CIRCUIT NO. | PART NO.  | DESCRIPTION                        | CIRCUIT NO. | PART NO.   | DESCRIPTION                                      |             |
|-------------|---|------------------------------------|-------------|--|--|-------------|
|             | <b>Push switches</b>                                  |                                    |             | <b>Capacitors</b>                                      |  |             |
| S1811-S1840 | 25035652  | NPS-111-S604                       | C142        | 354741019  | 100 $\mu$ F,16V,Elect.                           |             |
| S1841       | 25035652  | NPS-111-S604 <P>                   | C143,C151   | 354780229  | 2.2 $\mu$ F,50V,Elect.                           |             |
| S1842       | 25035652  | NPS-111-S604                       | C144        | 354780479  | 4.7 $\mu$ F,50V,Elect.                           |             |
|             | <b>Holders</b>  |                                    | C146,C148   | 354780109  | 1 $\mu$ F,50V,Elect.                             |             |
| Q1801a      | 27191001  |                                    | C147,C167   | 354784799  | 0.47 $\mu$ F,50V,Elect.                          |             |
| U1801a      | 27191042  |                                    | C153,C154   | 374722724  | 2700pF $\pm$ 5%,50V,Plastic <P/T/W/R/A>          |             |
|             | <b>TUNER CIRCUIT PC BOARD (NARF-6327-1A/1B/2C/2D)</b> |                                    | C157,C158   | 374721024  | 1000pF $\pm$ 5%,50V,Plastic <D>                  |             |
| CIRCUIT NO. | PART NO.  | DESCRIPTION                        | C159,C160   | 354742209  | 22 $\mu$ F,16V,Elect.                            |             |
|             | <b>Front end</b>                                      |                                    | C161,C162   | 374721224  | 1200pF $\pm$ 5%,50V,Plastic <P/A>                |             |
| TU001       | 240131  | ENV172D4G1 <D>                     |             | 374721524  | 1500pF $\pm$ 5%,50V,Plastic <T/W/R>              |             |
| TU001       | 240132  | ENV172D3G1 <P/T/W/R/A>             |             | 374723324  | 3300pF $\pm$ 5%,50V,Plastic <D>                  |             |
|             | <b>ICs</b>  |                                    | C163,C164   | 354742209  | 22 $\mu$ F,16V,Elect.                            |             |
| Q121        | 22240090 or   | LM7001 or                          | C169        | 354744709  | 47 $\mu$ F,16V,Elect.                            |             |
|             | 22241076  | LM7001J                            | C170        | 374722234  | 0.022 $\mu$ F $\pm$ 5%,50V,Plastic               |             |
| Q141        | 22241151  | LA1837                             | C173        | 374724734  | 0.047 $\mu$ F $\pm$ 5%,50V,Plastic               |             |
| Q185        | 22241124  | BU1922 <P>                         | C177        | 354780339  | 3.3 $\mu$ F,50V,Elect.                           |             |
|             | <b>Transistors</b>                                    |                                    | C179        | 354742209  | 22 $\mu$ F,16V,Elect.                            |             |
| Q101        | 2210746   | 2SC945A-P <P/T/W/R/A>              | C185        | 374725615  | 560pF $\pm$ 10%,50V,Plastic <P>                  |             |
| Q102        | 2211723   | 2SC1923-O                          | C186,C190   | 354721019  | 100 $\mu$ F,6.3V,Elect. <P>                      |             |
| Q122        | 2212445   | 2SK365-GR                          |             | <b>Resistors</b>                                       |  |             |
| Q123        | 2212115 or  | 2SC2458-GR or                      | R1325       | 5210296  | N06HR47KBE,Semi-fixed                            |             |
|             | 2213284   | 2SC1740S-R                         | R141        | 5210263  | N06HR20KBC,Semi-fixed                            |             |
| Q142        | 2212115 or  | 2SC2458-GR or                      | R167        | 5210265  | N06HR50KBC,Semi-fixed                            |             |
|             | 2213284   | 2SC1740S-R <P>                     |             | <b>Switch</b>  |  |             |
| Q124,Q145   | 2213510 or  | DTA114ES or                        | S101        | 25065414   | NSS-22155 <W/R>                                  |             |
|             | 2214350   | RN2202                             |             | <b>Sockets</b>   |  |             |
| Q143,Q144   | 2212794 or  | 2SD1468-R or                       | P101b       | 25050984   | NSCT-10P771 <D/T/W/R/A>                          |             |
|             | 2215024   | 2SD1468S-R                         |             | 25050985   | NSCT-12P772 <P>                                  |             |
|             | <b>Diodes</b>   |                                    |             | <b>Plug</b>  |  |             |
| D101        | 224470512   | MTZJ5.1B                           | TP141       | 25055038   | NPLG-2P29  |             |
| D102        | 224470913   | MTZJ9.1C                           |             | <b>Terminal</b>  |  |             |
|             | <b>Coils</b>  |                                    | P103        | 25060117 or  | NTM-2PDML051 or                                  |             |
| L141        | 233457  | NFIF-4081                          |             | 25060270   | NTM-2PDML201 <P/T/W/R/A>                         |             |
| L142        | 233458  | NFIF-4082                          |             | 25060195 or  | NTM-4PDML117 or                                  |             |
| L143,L144   | 233484  | NMC-4085 <P/T/W/R/A>               |             | 25060272   | NTM-4PDML203 <D>                                 |             |
| L145,L146   | 231092  | NCH-2140 <D>                       |             | <b>Shield plate</b>                                    |  |             |
| L171        | 232174  | NMRF-5077                          | TU001a      | 27150432   | <P/T/W/R/A>                                      |             |
| L172        | 232139  | NMIF-4062                          |             | <b>MASTER VOLUME PC BOARD (NAETC-6328-2A/2B/2C/2D)</b> |  |             |
| L185        | 233454M022  | NCH-1452 022M <P>                  |             | CIRCUIT NO.  | PART NO.   | DESCRIPTION |
|             | <b>Ceramic filters</b>                                |                                    | Q1321       | 22240239   | TA7291S,IC                                       |             |
| X101        | 3010071   | SFE-10.7MA5 RED                    | C1321       | 354721019  | 100 $\mu$ F,6.3V,Elect. Capacitor                |             |
| X102        | 3010071   | SFE-10.7MA5 RED <P/T/W/R/A>        | R1321       | 5141449  | N16RGL20K25F,Variable resistor                   |             |
| X103        | 3010071   | SFE-10.7MA5 RED <D>                | P1321b      | 25051235   | NSCT-10P1025,Socket                              |             |
| X103        | 3010130   | SFE10.7MZ2K <P/T/W/R/A>            |             | <b>TONE CONTROL PC BOARD (NAETC-6329-2A/2B/2C/2D)</b>  |  |             |
| X171        | 3010123   | SFZ450JL                           |             | CIRCUIT NO.  | PART NO.   | DESCRIPTION |
|             | <b>Crystals</b>                                       |                                    | C399,C400   | 374721534  | 0.015 $\mu$ F $\pm$ 5%,50V<br>Plastic capacitor  |             |
| X121        | 3010141   | XTL-7.2M                           |             | R391,R392  | 5104356<br>N14RLC100KWT20Z,<br>Variable resistor |             |
| X185        | 3010203   | AF6146CG <P>                       | JL307a      | 25051111   | NSCT-7P898,Socket                                |             |
|             | <b>Capacitors</b>                                     |                                    |             |  |  |             |
| C002        | 354741009   | 10 $\mu$ F,16V,Elect.              |             |  |  |             |
| C126        | 374723334   | 0.033 $\mu$ F $\pm$ 5%,50V,Plastic |             |  |  |             |
| C127        | 354780229   | 2.2 $\mu$ F,50V,Elect.             |             |  |  |             |
| C128,C193   | 354741009   | 10 $\mu$ F,16V,Elect.              |             |  |  |             |
| C129        | 354782299   | 0.22 $\mu$ F,50V,Elect.            |             |  |  |             |
| C131        | 354721019   | 100 $\mu$ F,6.3V,Elect.            |             |  |  |             |

**HEADPHONE TERMINAL PC BOARD (NAETC-6331-2A/2B/2C/2D)**

| CIRCUIT NO. | PART NO. | DESCRIPTION                   |
|-------------|----------|-------------------------------|
| JL1301a     | 25051108 | NSCT-4P895,Socket             |
| P1301       | 25045514 | YKB26-5005,Headphone terminal |

**INPUT TERMINAL PC BOARD (NAAF-6332-2A/2B/2C/2D)**

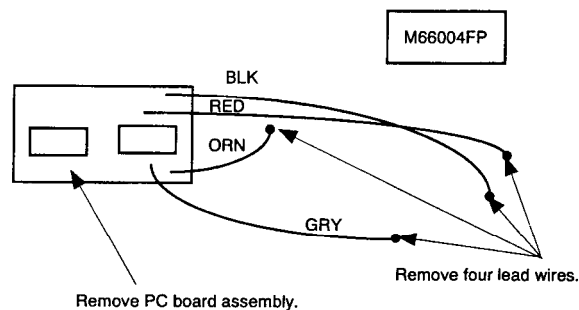
| CIRCUIT NO.       | PART NO.    | DESCRIPTION                 |
|-------------------|-------------|-----------------------------|
| <b>IC</b>         |             |                             |
| Q301              | 22240191    | NJM4565D-D                  |
| <b>Capacitors</b> |             |                             |
| C303,C304         | 354741009   | 10 $\mu$ F,16V,Elect.       |
| C305,C306         | 354741019   | 100 $\mu$ F,16V,Elect.      |
| C307,C308         | 374726824   | 6800pF $\pm$ 5%,50V,Plastic |
| C309,C310         | 374721824   | 1800pF $\pm$ 5%,50V,Plastic |
| C311,C312         | 354741009   | 10 $\mu$ F,16V,Elect.       |
| C341,C342         | 354741009   | 10 $\mu$ F,16V,Elect.       |
| <b>Socket</b>     |             |                             |
| P102b             | 25051527    | NSCT-16P1314                |
| <b>Terminals</b>  |             |                             |
| P301              | 25045469 or | NPJ-4PDBL287                |
|                   | 25045554    | NPJ-4PDRW373                |

NOTE: <D>:120V model only  
 <P>:European model only  
 <T>:Asian model only  
 <W>:Worldwide model only  
 <R>:Chinease model only  
 <A>:Australian model only

**Replacing the microprocessor**

These units are used the microprocessor of two types.  
 (MPD78058GC-B01 or MPD78058GC-B09)

When you replace the microprocessor MPD78058GC-B01,  
 use the microprocessor MPD78058GC-B09 instead of it.  
 At the same time you are necessary to remove PC board  
 assembly as shown below.

**DISPLAY PC BOARD**

# ADJUSTMENT PROCEDURES

## Preparation

### 1. Input

FM mono: 1kHz, 75kHz devi., 60dB/μV

FM stereo: 1kHz, 75kHz devi., 60dB/μV

Pilot signal 19kHz 7.5kHz devi.

AM: 400Hz, 30% mod.

### 2. Outputs

Connect the non-inductive type resistor of 8 ohms to the all speaker terminals unless otherwise noted.

## Idling Current Adjustment

Connect the DC voltmeter to the terminals P501, P502, and P1501 ( $V_{CT}$  and  $I_{ID}$ ) on Front/Center power amp. pc board. After turn POWER on, adjust the trim resistors R537, R538, and R1519 so that the indicator of voltmeter becomes 1.0mV.

Connect the DC voltmeter to the terminals P601 and P602 ( $V_{CT}$  and  $I_{ID}$ ) on Surround power amp. pc board. After turn POWER on, adjust the trim resistors R637, and R638 so that the indicator of voltmeter becomes 1.0mV.

Allow the unit to warm up for about 5 minutes and check the voltage of these terminals.

When the voltage is less than 6.0mV, adjust trim resistors so that the indicator of voltmeter becomes 6.0mV.

When the voltage is 6.0mV to 7.5mV, you are not necessary to adjust.

When the voltage is more than 7.5mV, adjust trim resistors so that the indicator of voltmeter becomes 7.5mV.

Note: No load, No signal

## Master Volume Adjustment

Set the unit to the test mode "TEST-2-10" and set MASTER VOLUME to the center position.

Adjust R1325 so that the indicator of volume on FL tube becomes 0dB.

## Test Mode(TEST-2-10)

Press and hold down the CD button, then press the SPEAKERS MAIN and REMOTE buttons at the same time.

During "TEST-" is displayed on FL tube, press the VIDEO 2 button.

Then press the MULTI-CH INPUT button 10 times.

## FM ADJUSTMENT

| Item              | Step                | Connection of instrument | FM SG output                               | Stereo modulator output | Tuning frequency | Output indicator       | Adjustment point     | Adjust for    | Remarks  |
|-------------------|---------------------|--------------------------|--|-------------------------|------------------|------------------------|----------------------|---------------|--|
| FM IF/RF          | 1                   | Fig.1                    | 99.0MHz<br>1kHz 75kHz devi.<br>65dBf(60dB) | —                       | 99.0MHz          | DC voltmeter           | L141                 | 0±20mV        | FM MUTE/MODE switch:ON/STEREO Repeat the steps 1 and 2 until no further adjustment is necessary. |
|                   | Distortion analyzer |                          |  |                         |                  | L142                   | Minimum              |               |  |
| Stereo Distortion |                     | Fig.2                    | 99.0MHz Ext. mod.65dBf(60dB)               | Channel L or R 1kHz     | 99.0MHz          | Distortion analyzer    | IFT on the front end | Minimum       | Don't turn more than ±180° .   |
| Stereo Separation | 1                   | Fig.2                    | 99.0MHz Ext. mod. 65dBf(60dB)              | Channel L 1kHz          | 99.0MHz          | Channel R AC voltmeter | R167                 | Minimum       | Maximum and same separation  |
|                   | 2                   |                          |  | Channel R 1kHz          |                  | Channel L AC voltmeter |                      | Minimum       |  |
| Muting Level      |                     | Fig.3                    | 99.0MHz<br>19.2dBf(14dB)                   | —                       | 99.0MHz          | Oscilloscope           | R141                 | Signal output |  |

## AM ADJUSTMENT

### 120V model

| Step | AM SG output                       | Tuning Frequency | Output Indicator     | Adjustment point          | Adjust for |
|------|------------------------------------|------------------|----------------------|---------------------------|------------|
| 1    |                                    | 530kHz           | Digital DC voltmeter | OSC coil on RF block L171 | 1.4±0.2V   |
| 2    | 600kHz<br>400Hz 30% mod.<br>60dB/m | 600kHz           | AC voltmeter         | RF coil on RF block L171  | Maximum    |
| 3    | 990kHz<br>400Hz 30% mod.<br>60dB/m | 990kHz           | AC voltmeter         | L172                      | Maximum    |

### Reference Specification

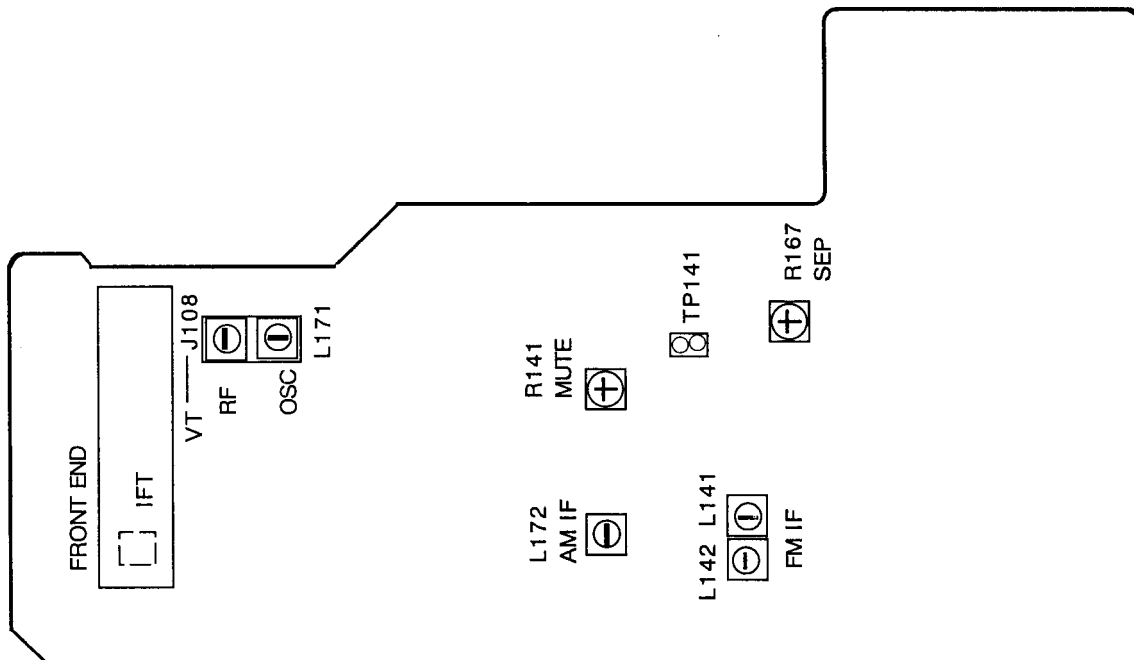
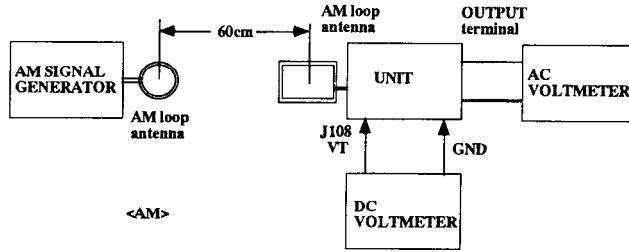
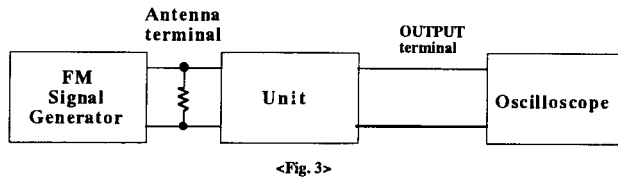
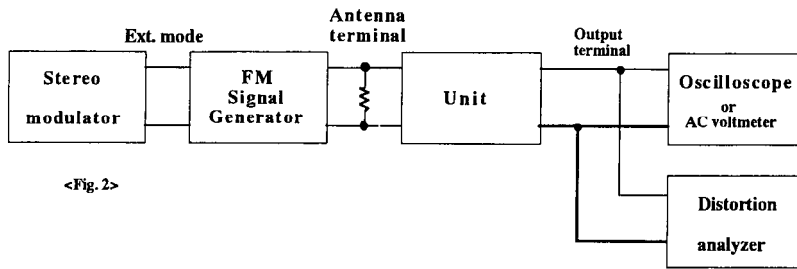
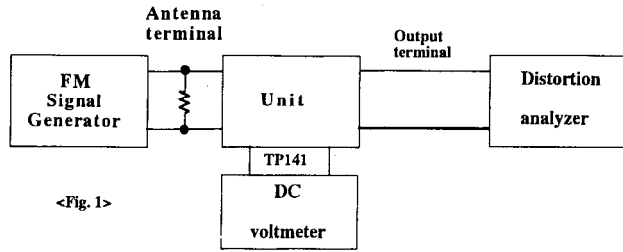
FM tuned voltage:87.50MHz~108.00MHz  
More than 1.3V~Less than 9V  
AM tuned voltage:530kHz~1710kHz  
1.4±0.4~Less than 9.0V

### 230V and Wolrdwide models

| Step | AM SG output                       | Tuning Frequency       | Output Indicator     | Adjustment point          | Adjust for |
|------|------------------------------------|------------------------|----------------------|---------------------------|------------|
| 1    |                                    | 522kHz<br>or<br>531kHz | Digital DC voltmeter | OSC coil on RF block L171 | 1.4±0.2V   |
| 2    | 603kHz<br>400Hz 30% mod.<br>60dB/m | 603kHz                 | AC voltmeter         | RF coil on RF block L171  | Maximum    |
| 3    | 999kHz<br>400Hz 30% mod.<br>60dB/m | 999kHz                 | AC voltmeter         | L172                      | Maximum    |

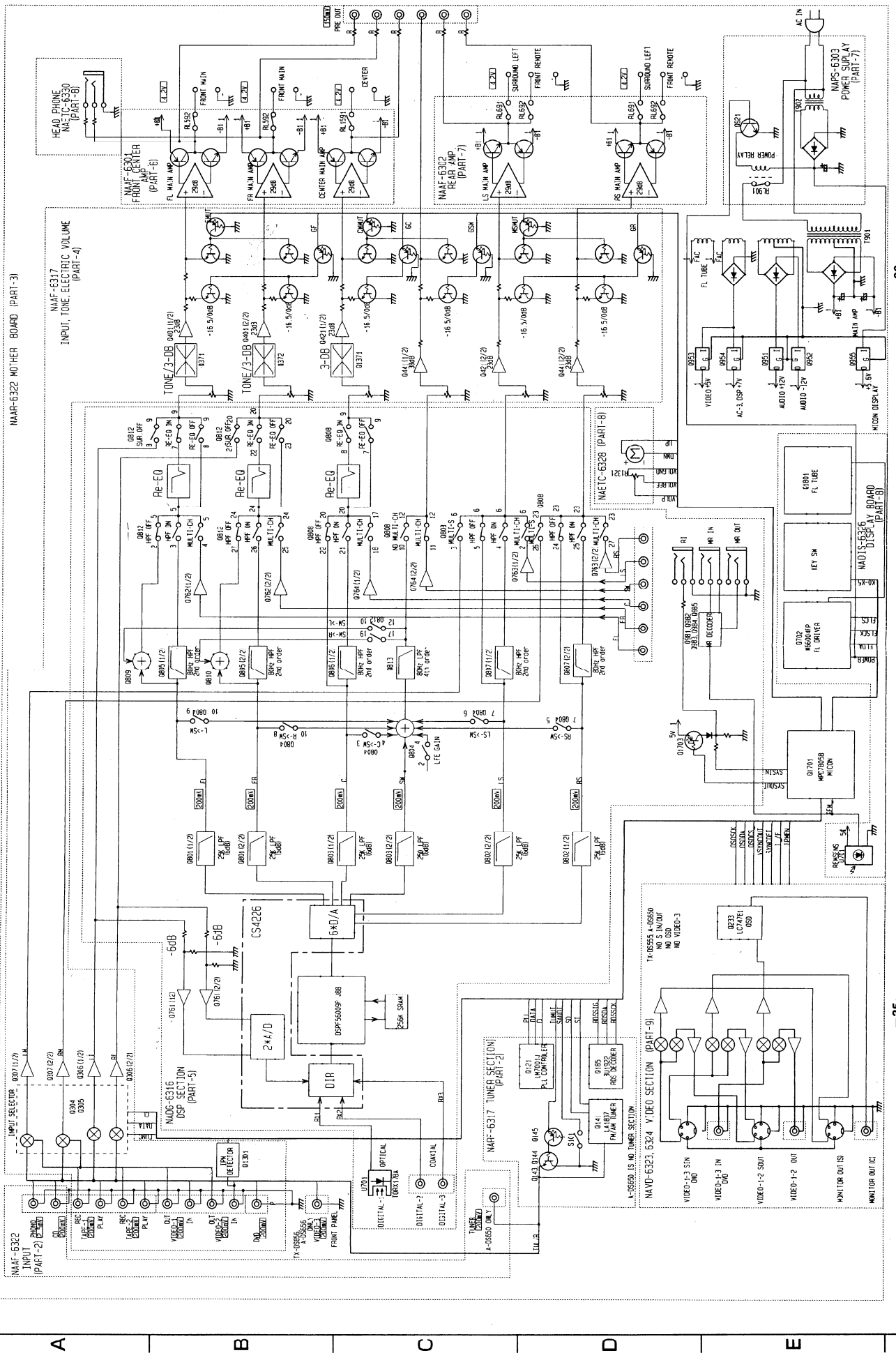
### Reference Specification

FM tuned voltage:87.50MHz~108.00MHz  
More than 1.3V~Less than 9V  
AM tuned voltage:522kHz~1611kHz  
1.4±0.4~Less than 9.0V  
(230V model)  
AM tuned voltage:531kHz~1602kHz  
1.4±0.4~Less than 9.0V  
(Worldwide model)



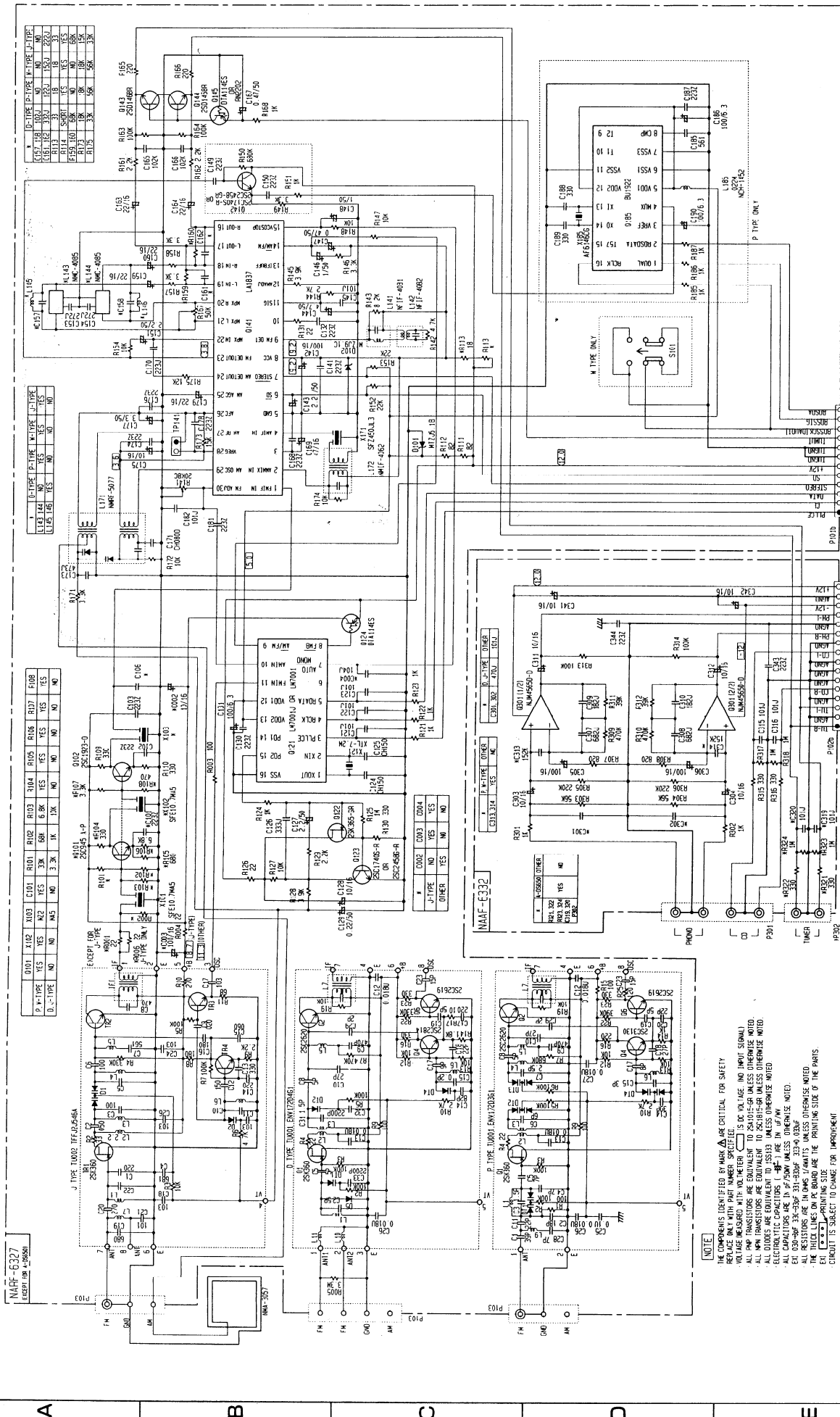


SCHEMATIC DIAGRAM



A B C D E F G H

SCHEMATIC DIAGRAM



**NOTE**

THE COMPONENTS IDENTIFIED BY MARK  $\Delta$  ARE CRITICAL. FOR SAFETY REPLACE ONLY WITH PART NUMBER SPECIFIED. DO NOT USE ANY PART (ESPECIALY CAPACITORS) WHICH IS EQUIVALENT TO SPECIFIED PART UNLESS OTHERWISE NOTED.

ALL PNP TRANSISTORS ARE EQUIVALENT TO 2N4105-818 UNLESS OTHERWISE NOTED.

ALL DIODES ARE EQUIVALENT TO 1N5613 UNLESS OTHERWISE NOTED.

ELECTROLYTIC CAPACITORS (  $\text{---}$  ) ARE IN  $\mu\text{F}$  UNLESS OTHERWISE NOTED.

EXCEPT FOR EXCEPTED PARTS (EXCEPTED PARTS ARE IN  $\mu\text{F}$  UNLESS OTHERWISE NOTED).

ALL RESISTORS ARE IN OHMS UNLESS OTHERWISE NOTED.

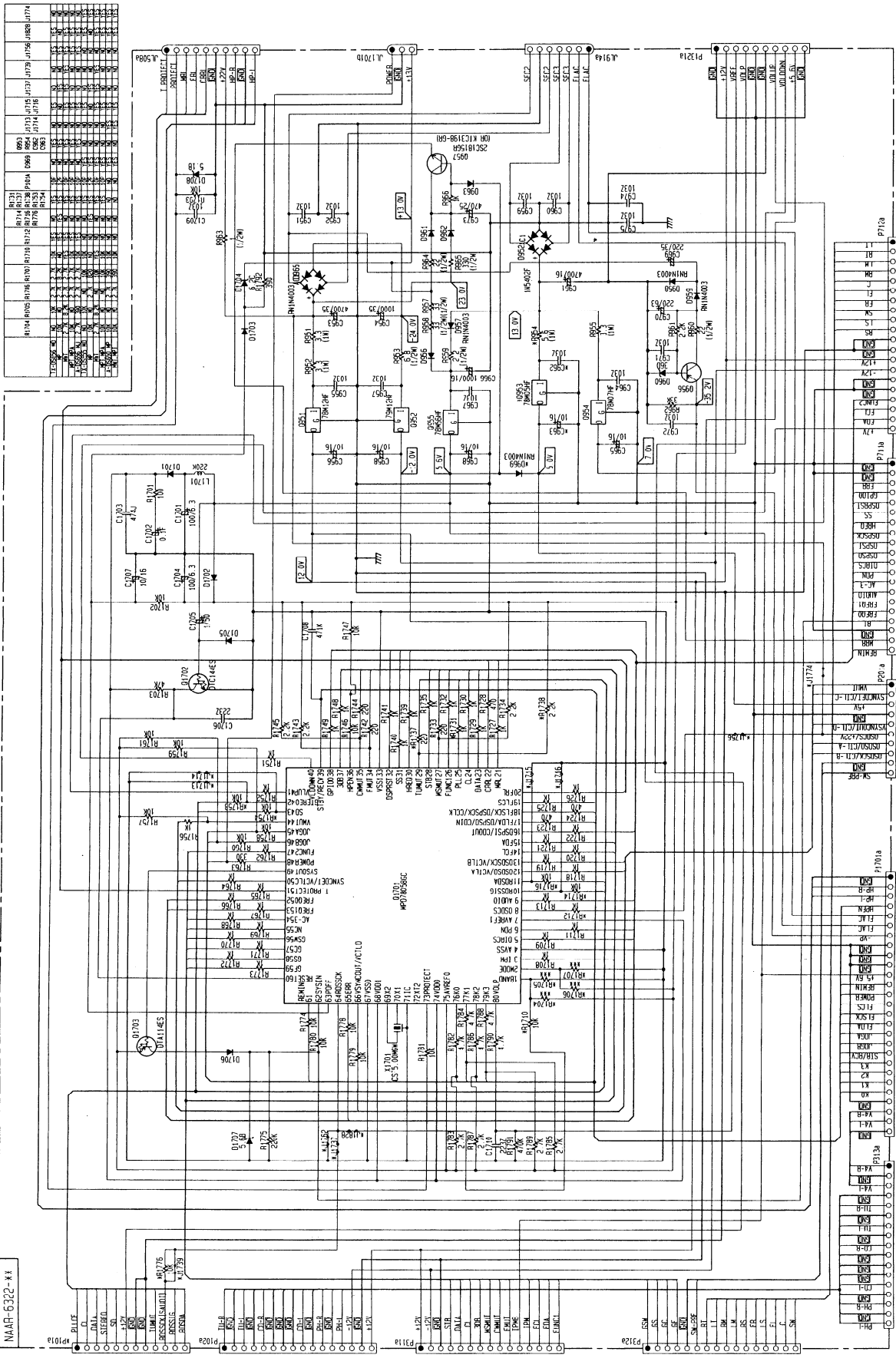
THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.

EXCEPT FOR PRINTING SIDE.

CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

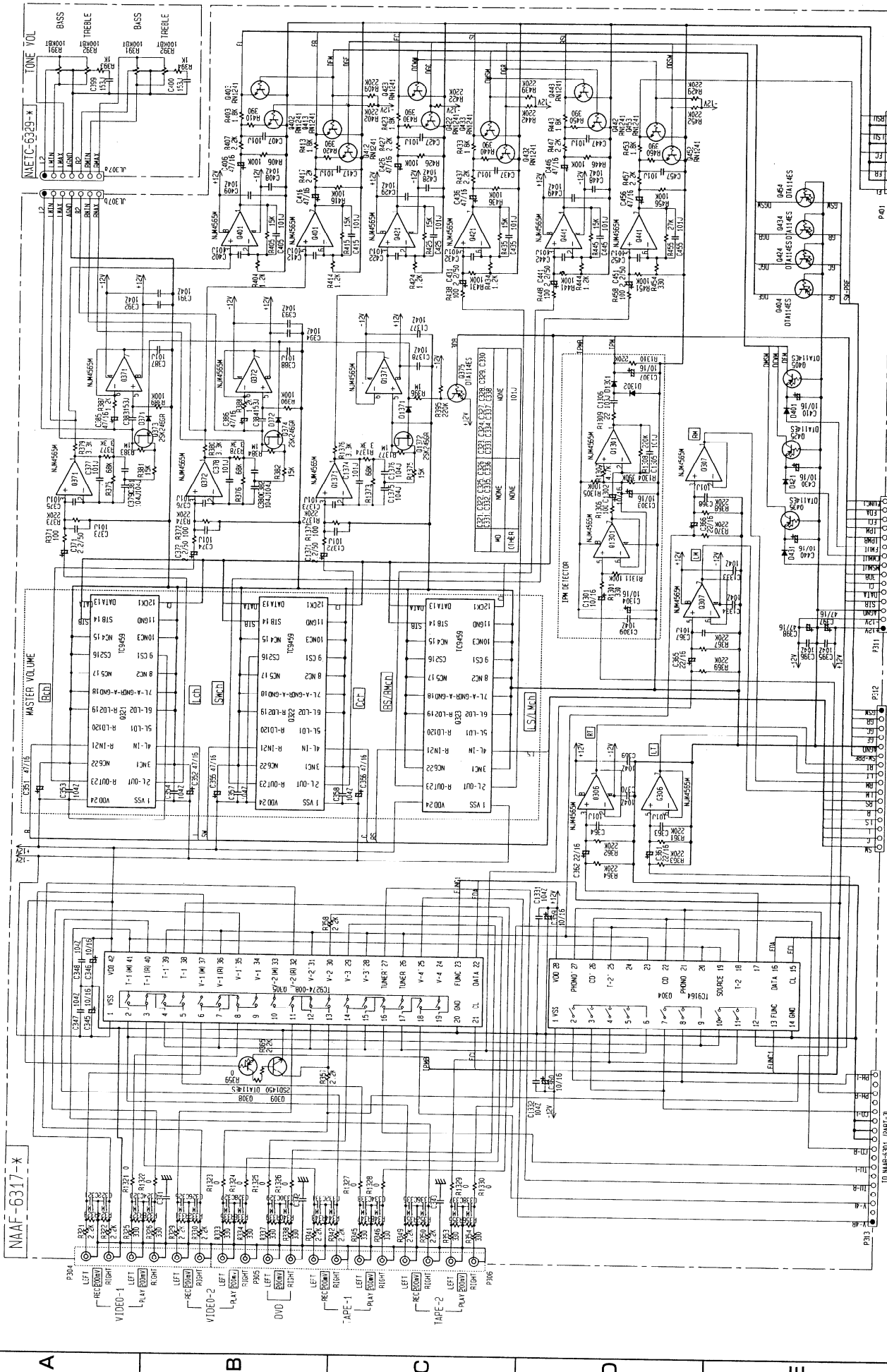
A B C D E F G H

SCHEMATIC DIAGRAM

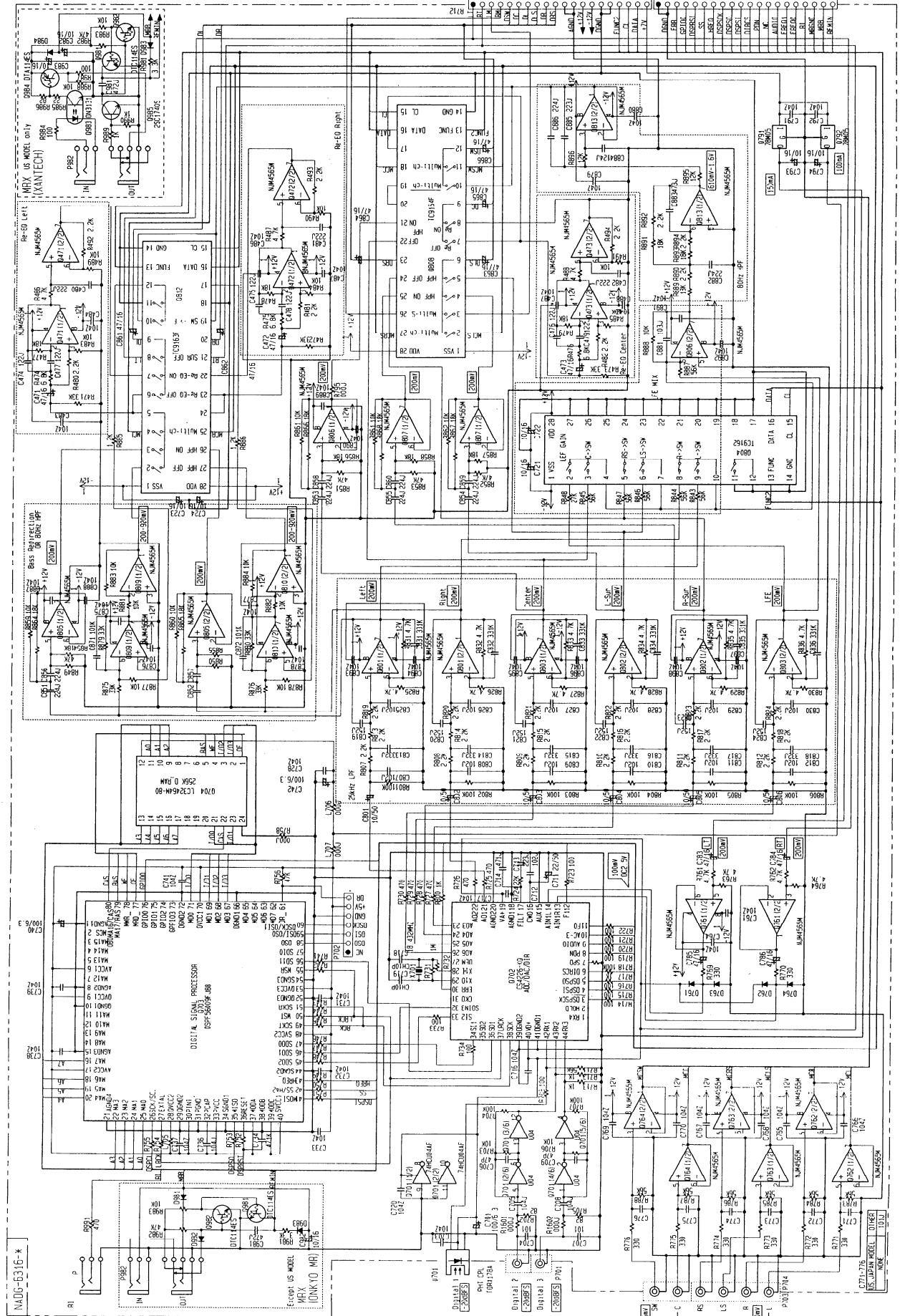


A B C D E F G H

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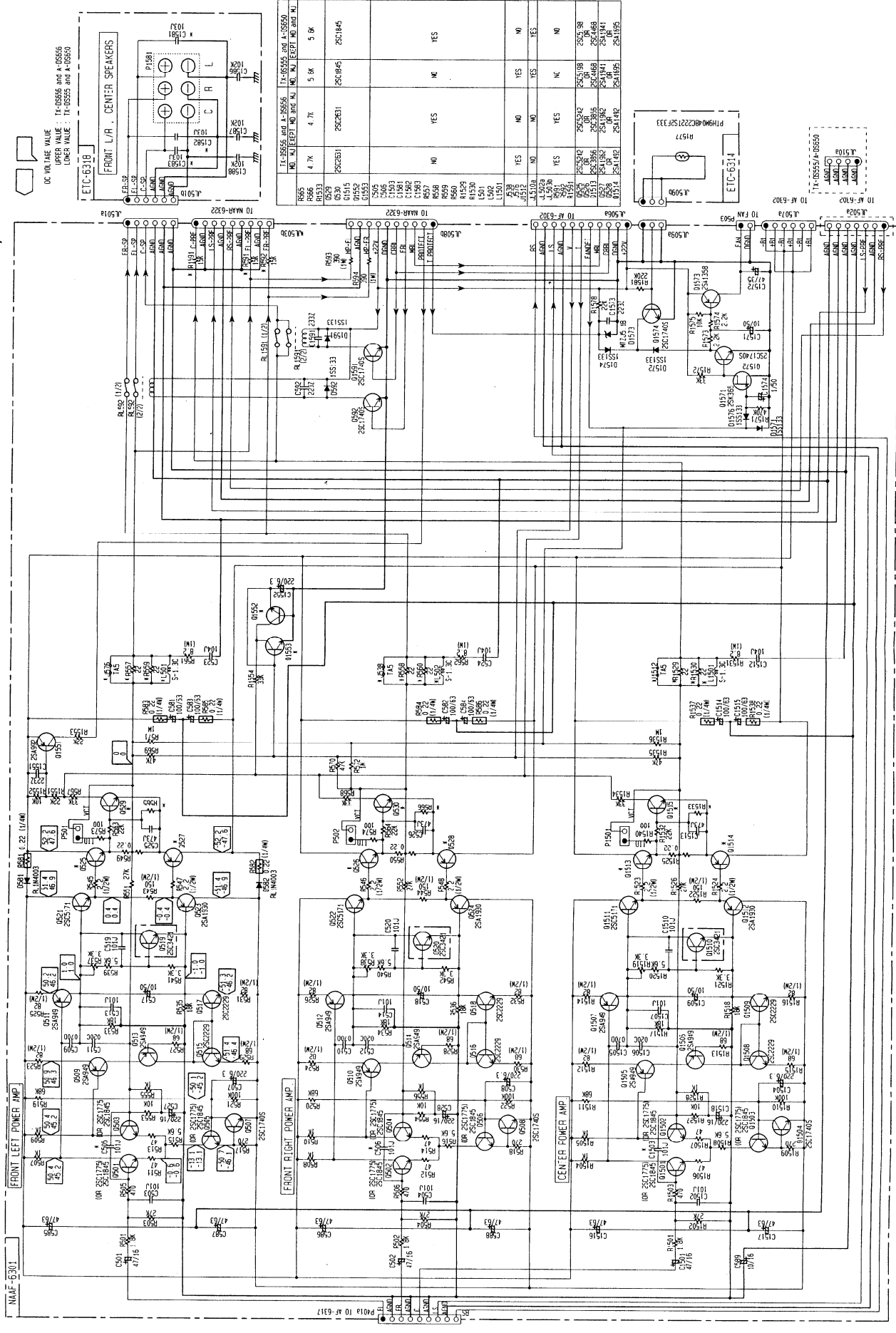


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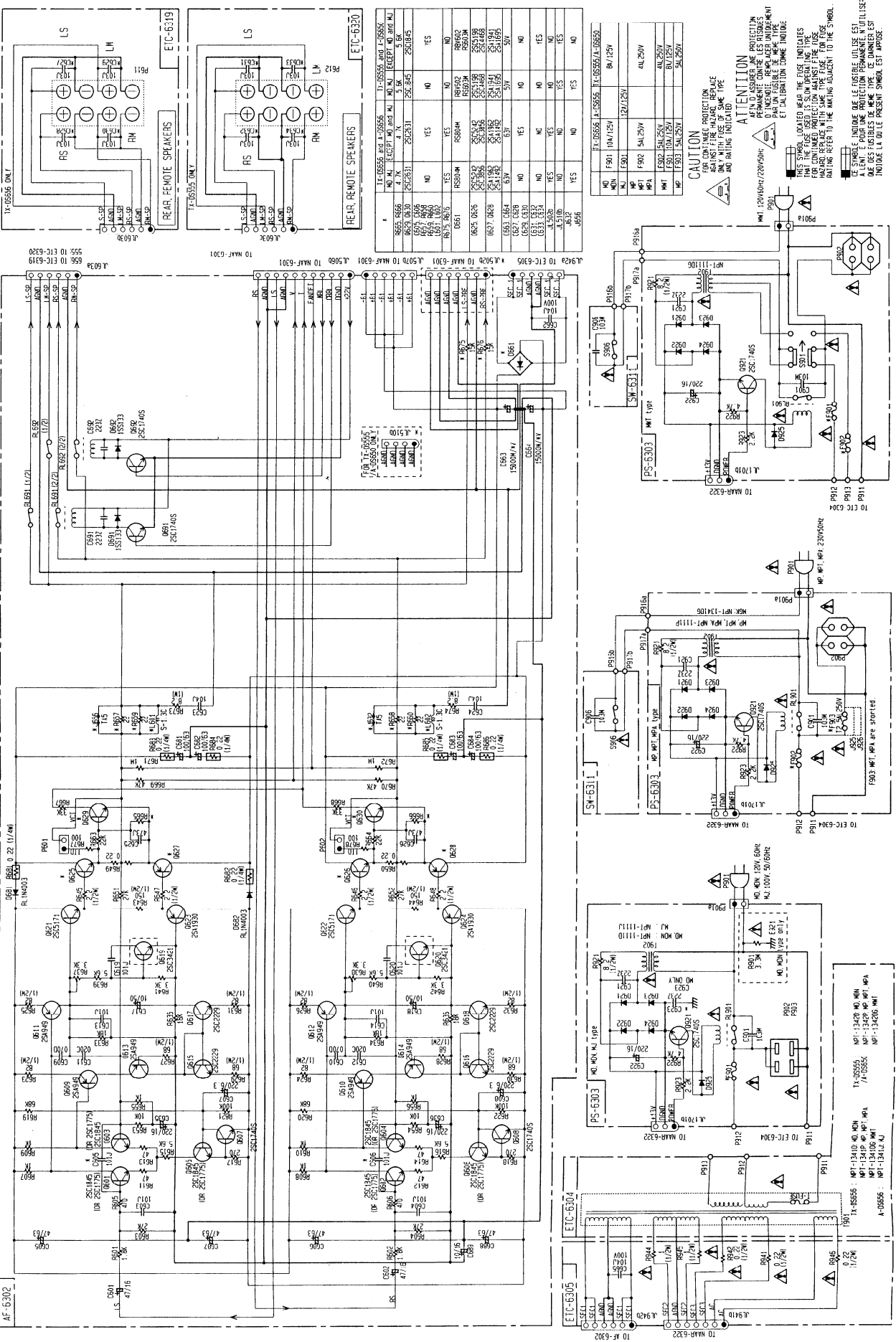
A B C D E F G H

# SCHEMATIC DIAGRAM



A B C D E F G H

**SCHEMATIC DIAGRAM**



**CAUTION**  
 REAR REMOTE SPEAKERS  
 ARE TO BE USED WITH THE MAIN SPEAKER  
 ONLY, WITH USE OF SAME TYPE  
 AND WATTING INDICATED.

**ATTENTION**  
 THIS SYMBOL LOCATED NEAR THE FUSE INDICATES  
 THAT THE FUSE IS A SAFETY FUSE. REPLACE  
 ONLY WITH FUSE OF SAME TYPE  
 AND RATING INDICATED.

THIS SYMBOL LOCATED NEAR THE FUSE INDICATES  
 THAT THE FUSE IS A SAFETY FUSE. REPLACE  
 ONLY WITH FUSE OF SAME TYPE  
 AND RATING INDICATED.

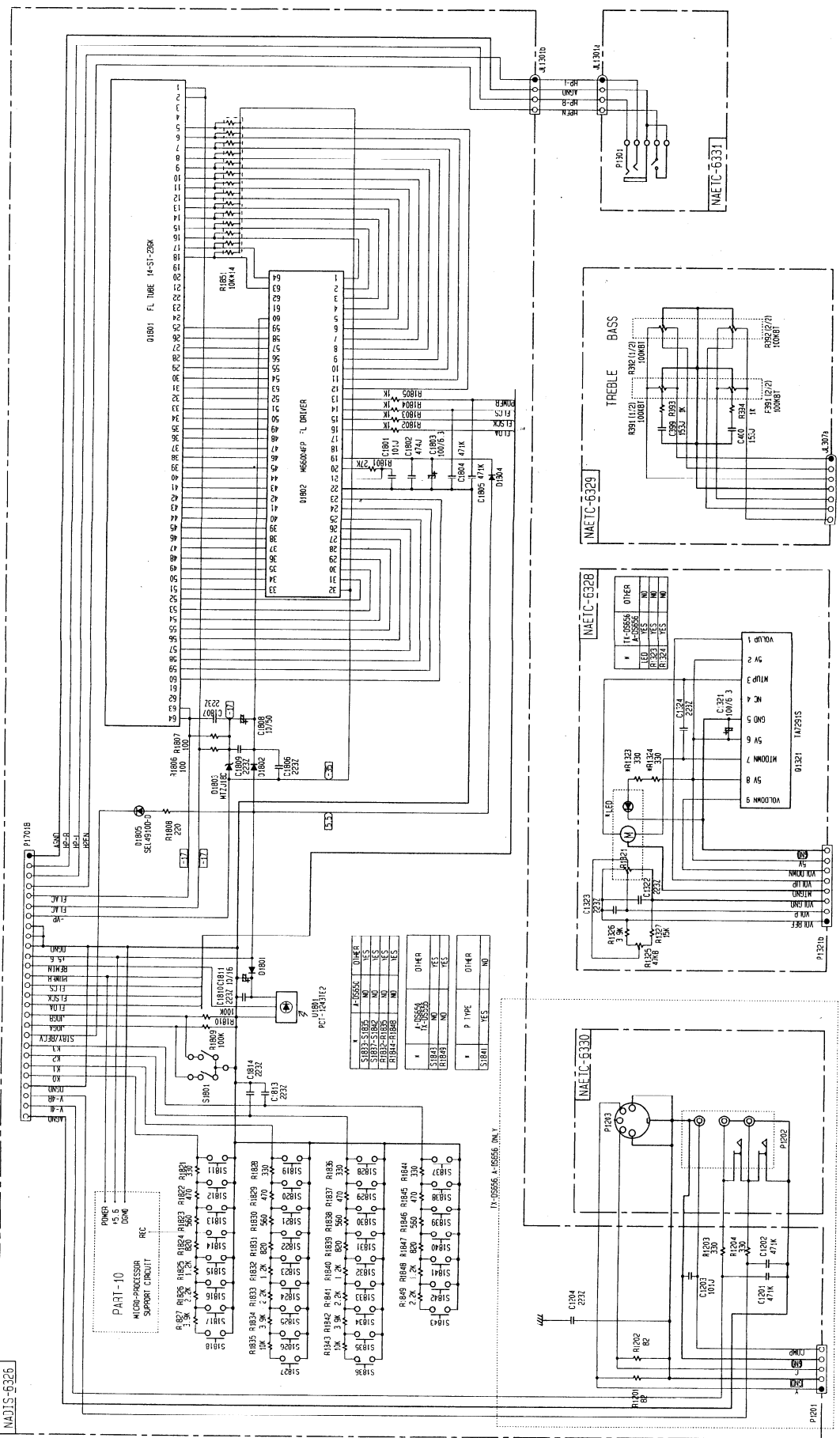
REAR REMOTE SPEAKERS  
 ARE TO BE USED WITH THE MAIN SPEAKER  
 ONLY, WITH USE OF SAME TYPE  
 AND WATTING INDICATED.

THIS SYMBOL LOCATED NEAR THE FUSE INDICATES  
 THAT THE FUSE IS A SAFETY FUSE. REPLACE  
 ONLY WITH FUSE OF SAME TYPE  
 AND RATING INDICATED.

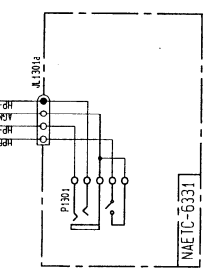
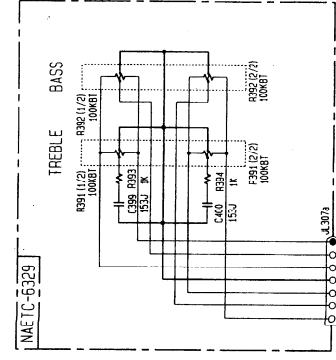
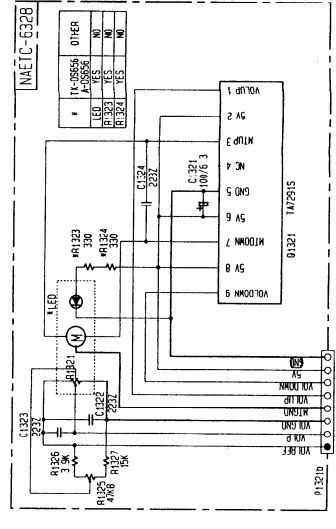
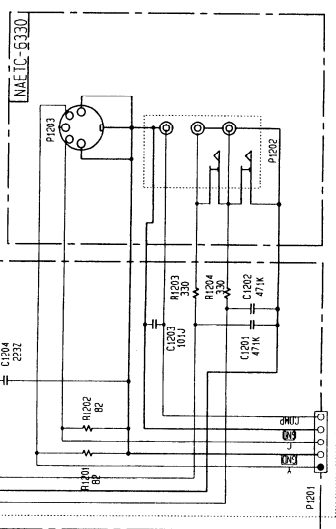
|    |     |          |          |
|----|-----|----------|----------|
| NO | F1  | 10A/125V | 120/125V |
| NO | F2  | 10A/125V | 120/125V |
| NO | F3  | 5A/250V  | 5A/250V  |
| NO | F4  | 5A/250V  | 5A/250V  |
| NO | F5  | 5A/250V  | 5A/250V  |
| NO | F6  | 5A/250V  | 5A/250V  |
| NO | F7  | 5A/250V  | 5A/250V  |
| NO | F8  | 5A/250V  | 5A/250V  |
| NO | F9  | 5A/250V  | 5A/250V  |
| NO | F10 | 5A/250V  | 5A/250V  |
| NO | F11 | 5A/250V  | 5A/250V  |
| NO | F12 | 5A/250V  | 5A/250V  |
| NO | F13 | 5A/250V  | 5A/250V  |
| NO | F14 | 5A/250V  | 5A/250V  |
| NO | F15 | 5A/250V  | 5A/250V  |
| NO | F16 | 5A/250V  | 5A/250V  |
| NO | F17 | 5A/250V  | 5A/250V  |
| NO | F18 | 5A/250V  | 5A/250V  |
| NO | F19 | 5A/250V  | 5A/250V  |
| NO | F20 | 5A/250V  | 5A/250V  |
| NO | F21 | 5A/250V  | 5A/250V  |
| NO | F22 | 5A/250V  | 5A/250V  |
| NO | F23 | 5A/250V  | 5A/250V  |
| NO | F24 | 5A/250V  | 5A/250V  |
| NO | F25 | 5A/250V  | 5A/250V  |
| NO | F26 | 5A/250V  | 5A/250V  |
| NO | F27 | 5A/250V  | 5A/250V  |
| NO | F28 | 5A/250V  | 5A/250V  |
| NO | F29 | 5A/250V  | 5A/250V  |
| NO | F30 | 5A/250V  | 5A/250V  |
| NO | F31 | 5A/250V  | 5A/250V  |
| NO | F32 | 5A/250V  | 5A/250V  |
| NO | F33 | 5A/250V  | 5A/250V  |
| NO | F34 | 5A/250V  | 5A/250V  |
| NO | F35 | 5A/250V  | 5A/250V  |
| NO | F36 | 5A/250V  | 5A/250V  |
| NO | F37 | 5A/250V  | 5A/250V  |
| NO | F38 | 5A/250V  | 5A/250V  |
| NO | F39 | 5A/250V  | 5A/250V  |
| NO | F40 | 5A/250V  | 5A/250V  |
| NO | F41 | 5A/250V  | 5A/250V  |
| NO | F42 | 5A/250V  | 5A/250V  |
| NO | F43 | 5A/250V  | 5A/250V  |
| NO | F44 | 5A/250V  | 5A/250V  |
| NO | F45 | 5A/250V  | 5A/250V  |
| NO | F46 | 5A/250V  | 5A/250V  |
| NO | F47 | 5A/250V  | 5A/250V  |
| NO | F48 | 5A/250V  | 5A/250V  |
| NO | F49 | 5A/250V  | 5A/250V  |
| NO | F50 | 5A/250V  | 5A/250V  |

A B C D E F G H

**SCHEMATIC DIAGRAM**

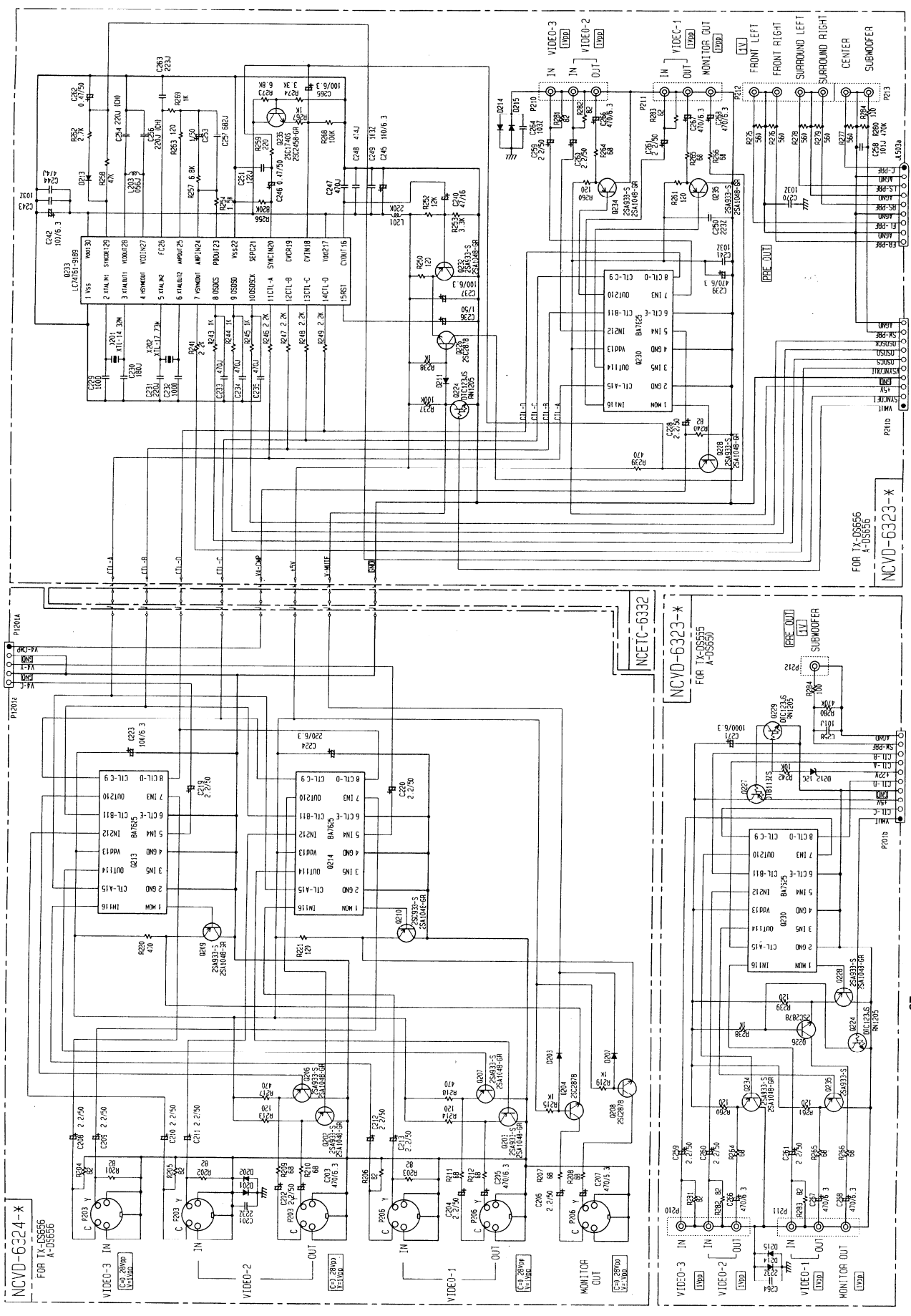


| REF. DES. | QTY | VALUE    | OTHER |
|-----------|-----|----------|-------|
| C1001     | 1   | 1000P    | NO    |
| C1002     | 1   | 1000P    | NO    |
| C1003     | 1   | 1000P    | NO    |
| C1004     | 1   | 1000P    | NO    |
| C1005     | 1   | 1000P    | NO    |
| C1006     | 1   | 1000P    | NO    |
| C1007     | 1   | 1000P    | NO    |
| C1008     | 1   | 1000P    | NO    |
| C1009     | 1   | 1000P    | NO    |
| C1010     | 1   | 1000P    | NO    |
| D1001     | 1   | 1N4148   | NO    |
| D1002     | 1   | 1N4148   | NO    |
| Q1001     | 1   | 2N3858   | NO    |
| Q1002     | 1   | 2N3858   | NO    |
| IC1001    | 1   | 74LS00   | NO    |
| F1001     | 1   | 1000V 1A | NO    |

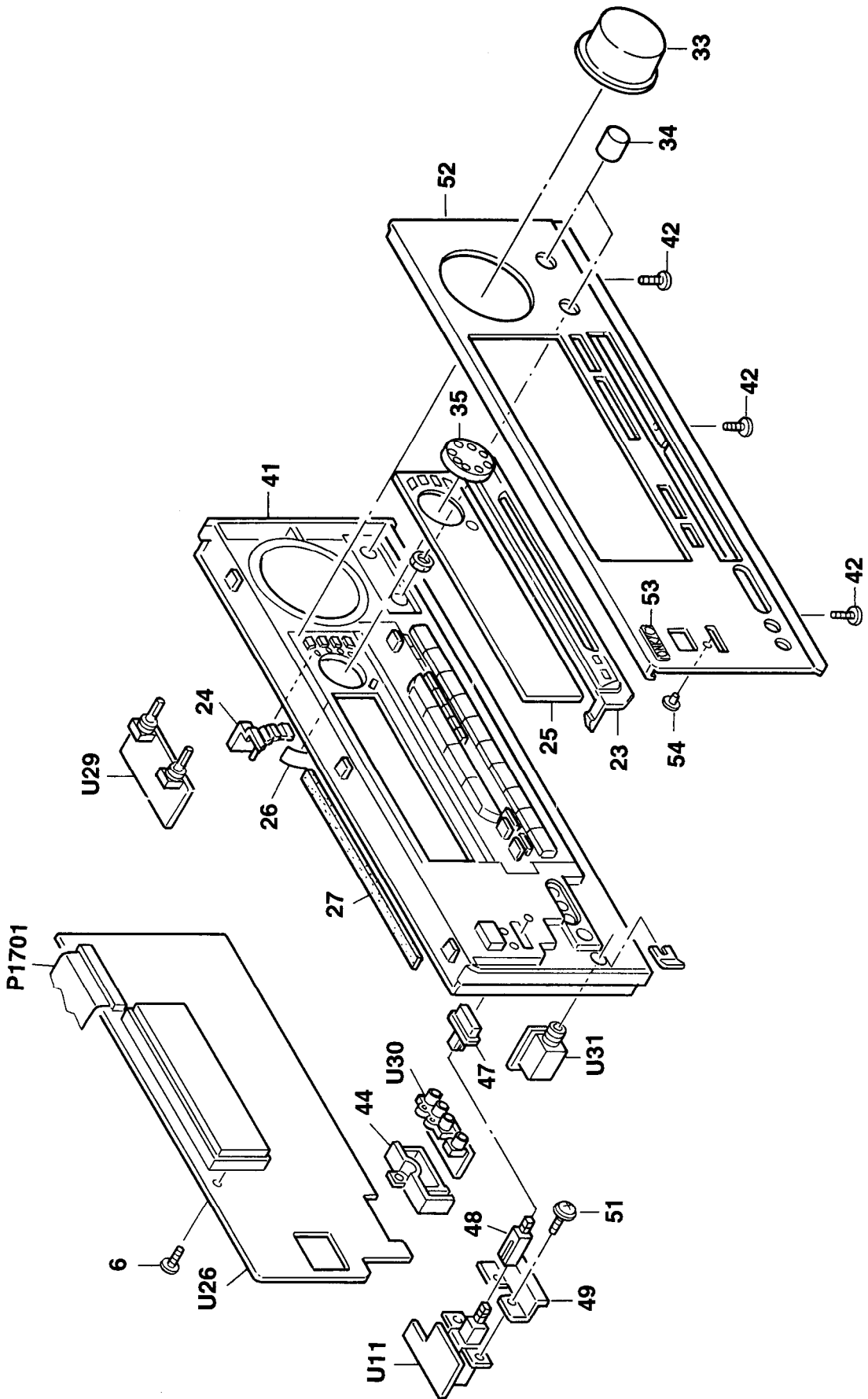


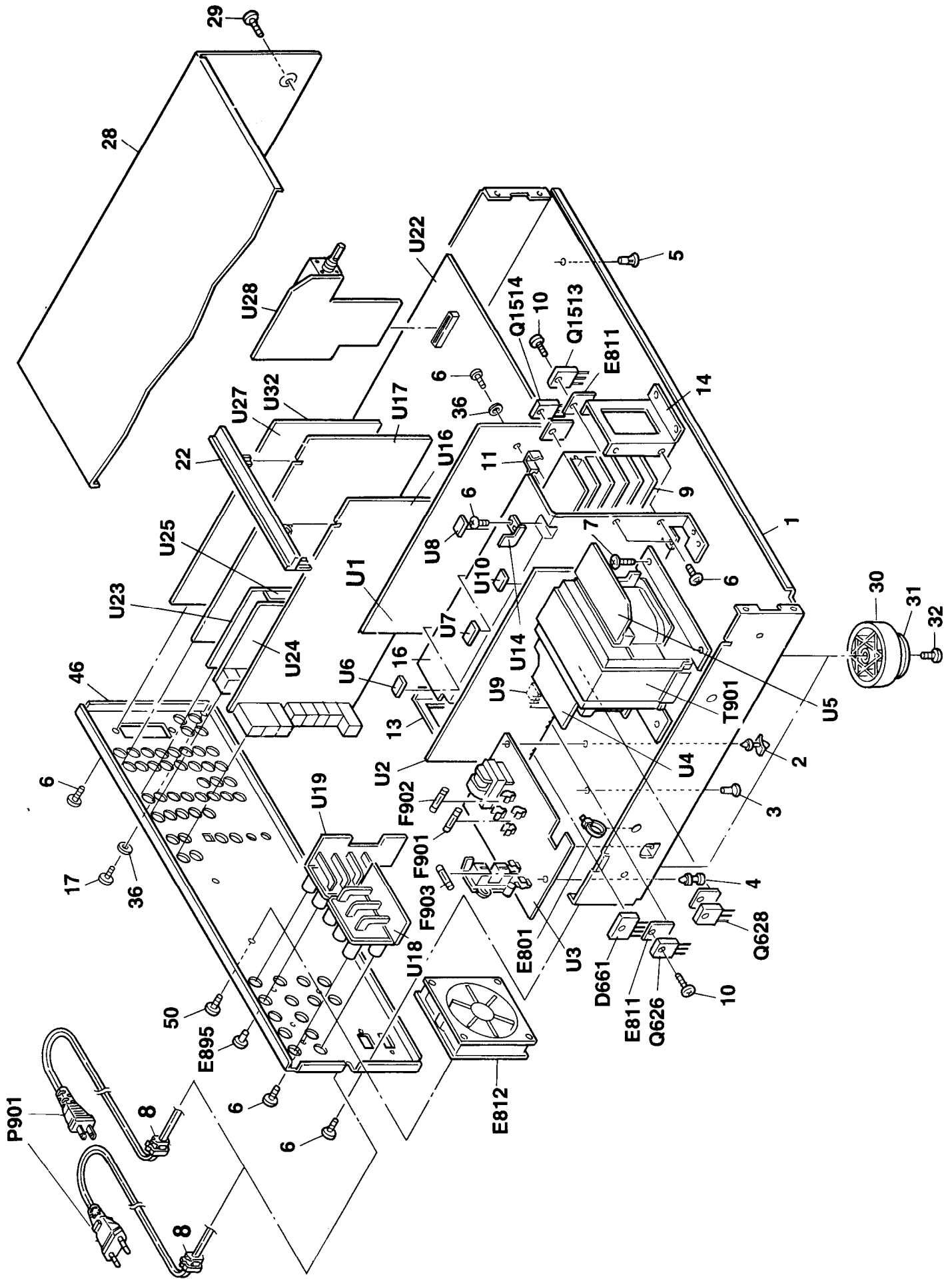


SCHEMATIC DIAGRAM



EXPLODED VIEW





# PARTS LIST

| REF.NO. | PART NO.  | DESCRIPTION                         | REF.NO. | PART NO.    | DESCRIPTION  |
|---------|-----------|-------------------------------------|---------|-------------|--|
| 1       | 27100328C | Chassis                             | 47      | 28325497A   | Knob, Power <P/T/W/A/R>  |
| 2       | 27190503A | KGLS-8RF,Holder                     |         | 28325499A   | Knob, Power <G>  |
| 3       | 27190428A | KGLS-10RF,Holder                    | 48      | 27273164    | Joint  |
| 4       | 27190802  | KGPS-14RF,Holder                    | 49      | 27141686A   | Retainer POW <P/T/W/A/R>   |
| 5       | 27190813  | KGPS-10RF,Holder                    | 50      | 838450108   | 5TTB+10B,Self-tapping screw  |
| 6       | 838130088 | 3TTB+8B,Self-tapping screw          | 51      | 838450107   | 3TTB+10S(BC),Self-tapping screw <P/T/W/A/R>                                |
| 7       | 830440089 | 4TTC+8C(BC),Self-tapping screw      | 52      | 27212014    | Front panel <D>  |
| 8       | 27300750  | #2271,Cord, bushing                 |         | 27212015    | Front panel <P>  |
| 9       | 27160414  | Heatsink                            |         | 27212016A   | Front panel <T/W/A/R>  |
| 10      | 801433    | 3SMS8W.SW+14B(BC),Special screw     | 53      | 27212017A   | Front panel <G>  |
| 11      | 27141681  | Retainer PWB                        |         | 28135244Y   | Badge <B>  |
| 13      | 27141721  | Retainer, Rear                      |         | 28135245Y   | Badge <G>  |
| 14      | 27141720  | Retainer, Front                     | 54      | 28198778    | Facet  |
| 16      | 27160413  | Heatsink S                          | D661    | 22380273    | RS804M, Diode  |
| 17      | 838230088 | 3TTB+8B(NI),Nickel screw            | E801    | 260208      | Wire tie   |
| 22      | 27191050  | Holder                              | E811    | 223024Y     | Isolation sheet  |
| 23      | 27215303  | Decorative frame <B>                | E812    | 24502307    | D09T-24TG 02(EX), Fan  |
|         | 27215304  | Decorative frame <G>                | E895    | 880048      | Plastic rivet <P/T/A>  |
| 24      | 28325542  | Knob, Mode <B>                      | F901    | 252199      | 10A-UL, Fuse <D/W/R>   |
|         | 28325544  | Knob, Mode <G>                      | F902    | 252078      | 5A-SE-EAK,Fuse <P/T/W/A/R>   |
| 25      | 28191792A | Clear plate <B>                     | F903    | 252075      | 2.5A-SE-EAK,Fuse <P/T>   |
| 26      | 29110050  | Clear plate <G>                     | P1701   | 2047272512  | NGFC7-272512,Flexible flat cable   |
| 27      | 28140680  | Aluminum tape                       | P901    | 253244AMAR  | AS-UC-6#18, Power supply cord <D>  |
| 28      | 28184738  | Cushion                             |         | 253245MAR   | AS-CEE, Power supply cord <P/T>  |
|         | 28184739  | Top cover <B>                       |         | 253246KAW   | AS-CEE-2, Power supply cord <W>  |
|         | 28184739  | Top cover <G>                       |         | 253268HIT   | AS-SAA,Power supply cord <A>   |
| 29      | 838430088 | 3TTB+8B(BC), Self-tapping screw <B> |         | 253274KAW   | AS-CCEE, Power supply cord <R>   |
|         | 838230088 | 3TTB+8B(NI),Nickel screw <G>        | Q1513   | 2201653,    | 2SC3856-O,   |
| 30      | 27175319A | Leg                                 | Q525    | 2201654,    | 2SC3856-Y,   |
| 31      | 28141332  | Cushion                             | Q526    | 2201655,    | 2SC3856-P,   |
| 32      | 831430088 | 3TTW+8B(BC),Self-tapping screw      | Q625    | 2202842 or  | 2SC5242-R or   |
| 33      | 28325509  | Knob, Volume <B>                    | Q626    | 2202843     | 2SC5242-O,Transistor   |
|         | 28325511  | Knob, Volume <G>                    | Q1514   | 2201663     | 2SA1492-O,   |
| 34      | 28325405  | Knob, Tone <B>                      | Q527    | 2201664     | 2SA1492-Y,   |
|         | 28325407  | Knob, Tone <G>                      | Q528    | 2201665     | 2SA1492-P,   |
| 35      | 28325500  | Knob, Jog <B>                       | Q627    | 2202832     | 2SA1962-R or   |
|         | 28325502  | Knob, Jog <G>                       | Q628    | 2202833     | 2SA1962-O,Transistor   |
| 36      | 87643010  | W3*10R(BC), Flat washer             | T901    | 2301335     | NPT-134,D, Power transformer <D>   |
| 41      | 27111074  | Front bracket <D/T/W/A/R>           |         | 2301336     | NPT-134IP,Power transformer <P/T>  |
|         | 27111075  | Front bracket <P>                   |         | 2301337     | NPT-134IDG,Power transformer <W/R>   |
|         | 27111076  | Front bracket <G>                   | U1      | 1A776501-1A | NAAF-6301-1A,Front and center channel power amplifier PC board ass'y <D>   |
| 42      | 838130088 | 3TTB+8B,Self-tapping screw          |         | 1A776501-1B | NAAF-6301-1B,Front and center channel power amplifier PC board ass'y <P/T> |
| 44      | 27191014A | Holder, Jack                        |         | 1A776501-1D | NAAF-6301-1D,Front and center channel power amplifier PC board ass'y <W/R> |
| 46      | 27122477  | Rear panel <D>                      | U2      | 1A776502-1A | NAAF-6302-1A,Surround amplifier PC board ass'y <D>                         |
|         | 27122478  | Rear panel <P>                      |         | 1A776502-1B | NAAF-6302-1B,Surround amplifier PC board ass'y <P/T>                       |
|         | 27122479  | Rear panel <T>                      |         | 1A776502-1C | NAAF-6302-1C,Surround amplifier PC board ass'y <W/R>                       |
|         | 27122480  | Rear panel <W>                      | U3      | 1A776503-1A | NAAF-6303-1A,Power supply circuit PC board ass'y <D>                       |
|         | 27122481  | Rear panel <A>                      |         | 1A776503-1B | NAPS-6303-1B,Power supply circuit PC board ass'y <P/T>                     |
|         | 27122529  | Rear panel <R>                      |         | 1A776503-1C | NAPS-6303-1C,Power supply circuit PC board ass'y <W/R>                     |
|         |           |                                     |         | 1A776503-1D | NAPS-6303-1D,Power supply circuit PC board ass'y <A>                       |

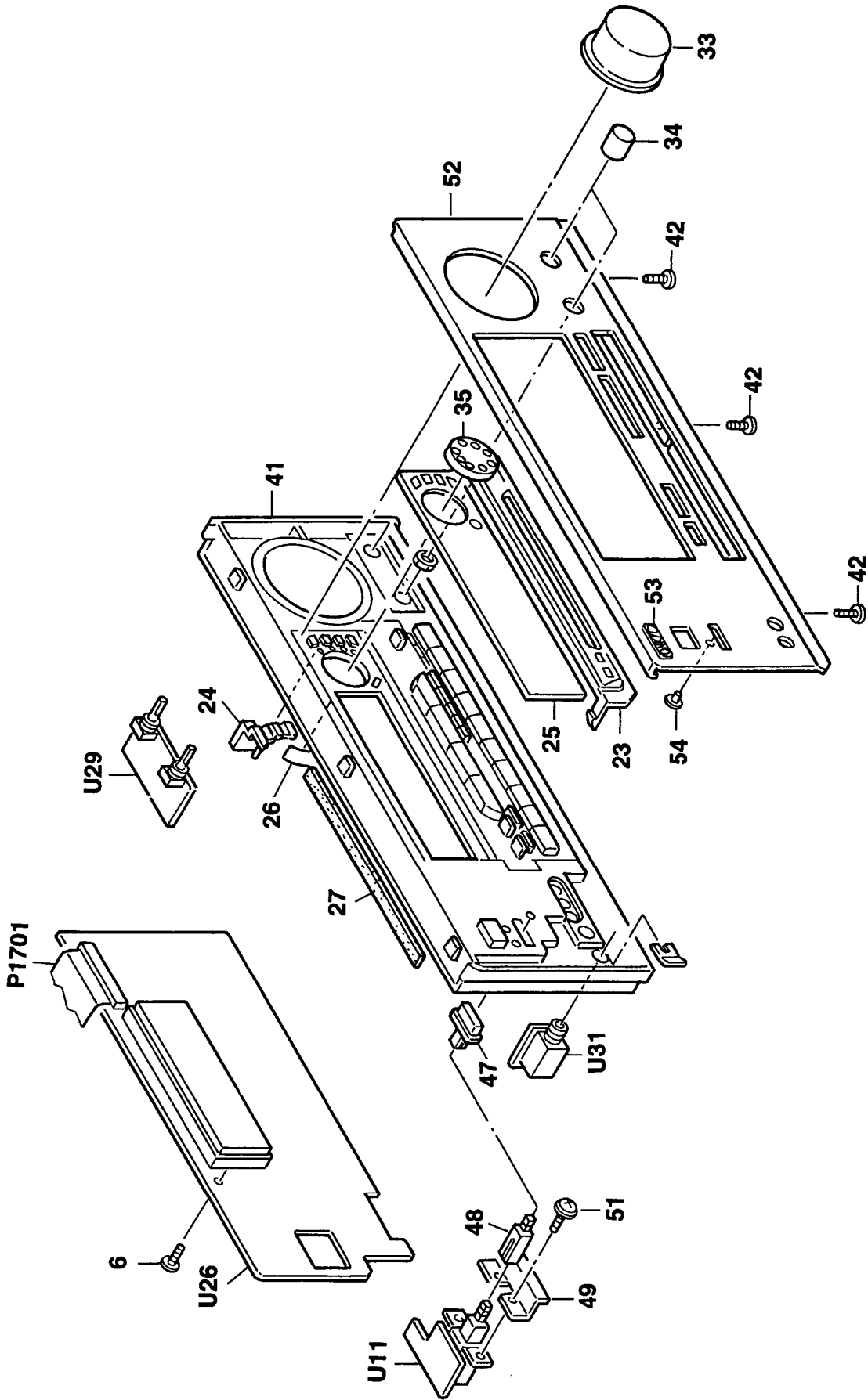
| REF.NO. | PART NO.    | DESCRIPTION  | REF.NO. | PART NO.    | DESCRIPTION   |
|---------|-------------|--|---------|-------------|---|
| U4      | 1A776504-1A | NAETC-6304-1A,Transformer terminal PC board <D>                        | U24     | 1A776524-1A | NAVD-6324-1A, S video circuit PC board ass'y <D>        |
|         | 1A776504-1B | NAETC-6304-1B,Transformer terminal PC board <P/T>                      |         | 1A776524-1B | NAVD-6324-1B, S video circuit PC board ass'y <P>        |
|         | 1A776504-1C | NAETC-6304-1C,Transformer terminal PC board <W/R>                      |         | 1A776524-1C | NAVD-6324-1C, S video circuit PC board ass'y <W/R>      |
| U5      | 1A776504-1D | NAETC-6304-1D,Transformer terminal PC board <A>                        | U25     | 1A776524-1D | NAVD-6324-1D, S video circuit PC board ass'y <T/A>      |
|         | 1A776505-1A | NAETC-6305-1A,Primary circuit PC board ass'y <D>                       |         | 1A776525-1A | NAETC-6325-1A,Connector PC board ass'y <D>              |
|         | 1A776505-1B | NAETC-6305-1B,Primary circuit PC board ass'y <P/T>                     |         | 1A776525-1B | NAETC-6325-1B,Connector PC board ass'y <P>              |
|         | 1A776505-1C | NAETC-6305-1C,Primary circuit PC board ass'y <W/R>                     |         | 1A776525-1C | NAETC-6325-1C,Connector PC board ass'y <W/R>            |
| U6      | 1A776505-1D | NAETC-6305-1D,Primary circuit PC board ass'y <A>                       | U26     | 1A776525-1D | NAETC-6325-1D,Connector PC board ass'y <T/A>            |
|         | 1A776506-1A | NAETC-6306-1A,Thermal detector PC board ass'y <D>                      |         | 1A776526-1A | NADIS-6326-1A,Display circuit PC board ass'y <D>        |
|         | 1A776506-1B | NAETC-6306-1B,Thermal detector PC board ass'y <P/T>                    |         | 1A776526-1B | NADIS-6326-1B,Display circuit PC board ass'y <P>        |
|         | 1A776506-1C | NAETC-6306-1C,Thermal detector PC board ass'y <W/R>                    |         | 1A776526-1C | NADIS-6326-1C,Display circuit PC board ass'y <W/R>      |
| U7      | 1A776507-1A | NAETC-6307-1A,Thermal detector PC board ass'y <A>                      | U27     | 1A776527-1A | NARF-6327-1A,Tuner circuit PC board ass'y <D>           |
|         | 1A776507-1B | NAETC-6307-1B,Thermal detector PC board ass'y <D>                      |         | 1A776527-1B | NARF-6327-1B,Tuner circuit PC board ass'y <P>           |
|         | 1A776507-1C | NAETC-6307-1C,Thermal detector PC board ass'y <P/T>                    |         | 1A776527-1C | NARF-6327-1C,Tuner circuit PC board ass'y <W/R>         |
|         | 1A776507-1D | NAETC-6307-1D,Thermal detector PC board ass'y <A>                      |         | 1A776527-1D | NARF-6327-1D,Tuner circuit PC board ass'y <T/A>         |
| U8      | 1A776508-1A | NAETC-6308-1A,Thermal detector PC board ass'y <D>                      | U28     | 1A776528-1A | NAETC-6328-1A,Master volume PC board ass'y <D>          |
|         | 1A776508-1B | NAETC-6308-1B,Thermal detector PC board ass'y <P/T>                    |         | 1A776528-1B | NAETC-6328-1B,Master volume PC board ass'y <P>          |
|         | 1A776508-1C | NAETC-6308-1C,Thermal detector PC board ass'y <W/R>                    |         | 1A776528-1C | NAETC-6328-1C,Master volume PC board ass'y <W/R>        |
|         | 1A776508-1D | NAETC-6308-1D,Thermal detector PC board ass'y <A>                      | U29     | 1A776528-1D | NAETC-6328-1D,Master volume PC board ass'y <T/A>        |
| U9      | 1A776509-1A | NAETC-6309-1A,Thermal detector PC board ass'y <D>                      |         | 1A776529-1A | NAETC-6329-1A,Tone control PC board ass'y <D>           |
|         | 1A776509-1B | NAETC-6309-1B,Thermal detector PC board ass'y <P/T>                    |         | 1A776529-1B | NAETC-6329-1B,Tone control PC board ass'y <P>           |
|         | 1A776509-1C | NAETC-6309-1C,Thermal detector PC board ass'y <W/R>                    |         | 1A776529-1C | NAETC-6329-1C,Tone control PC board ass'y <W/R>         |
|         | 1A776509-1D | NAETC-6309-1D,Thermal detector PC board ass'y <A>                      | U30     | 1A776530-1A | NAETC-6330-1A,Front video terminal PC board ass'y <D>   |
| U10     | 1A776510-1A | NAETC-6310-1A,Thermal detector PC board ass'y <D>                      |         | 1A776530-1B | NAETC-6330-1B,Front video terminal PC board ass'y <P>   |
|         | 1A776510-1B | NAETC-6310-1B,Thermal detector PC board ass'y <P/T>                    |         | 1A776530-1C | NAETC-6330-1C,Front video terminal PC board ass'y <W/R> |
|         | 1A776510-1C | NAETC-6310-1C,Thermal detector PC board ass'y <W/R>                    |         | 1A776530-1D | NAETC-6330-1D,Front video terminal PC board ass'y <T/A> |
|         | 1A776510-1D | NAETC-6310-1D,Thermal detector PC board ass'y <A>                      | U31     | 1A776531-1A | NAETC-6331-1A,Headphone terminal PC board ass'y <D>     |
| U11     | 1A776511-1B | NASW-6311-1B,Power switch PC board ass'y <P/T>                         |         | 1A776531-1B | NAETC-6331-1B,Headphone terminal PC board ass'y <P>     |
|         | 1A776511-1C | NASW-6311-1C,Power switch PC board ass'y <W/R>                         |         | 1A776531-1C | NAETC-6331-1C,Headphone terminal PC board ass'y <W/R>   |
|         | 1A776511-1D | NASW-6311-1D,Power switch PC board ass'y <A>                           | U32     | 1A776532-1A | NAETC-6332-1A,Input terminal PC board ass'y <D>         |
| U14     | 1A776514-1A | NAETC-6314-1A,Thermal det. PC board ass'y <D>                          |         | 1A776532-1B | NAETC-6332-1B,Input terminal PC board ass'y <P>         |
|         | 1A776514-1B | NAETC-6314-1B,Thermal det. PC board ass'y <P/T>                        |         | 1A776532-1C | NAETC-6332-1C,Input terminal PC board ass'y <W/R>       |
|         | 1A776514-1C | NAETC-6314-1C,Thermal det. PC board ass'y <W/R>                        |         | 1A776532-1D | NAETC-6332-1D,Input terminal PC board ass'y <T/A>       |
|         | 1A776514-1D | NAETC-6314-1D,Thermal det. PC board ass'y <A>                          |         |             |   |
| U16     | 1A776516-1A | NADG-6316-1A,Main circuit PC board ass'y <D>                           |         |             |   |
|         | 1A776516-1B | NADG-6316-1B,Main circuit PC board ass'y <P/T/W/A/R>                   |         |             |   |
| U17     | 1A776517-1A | NAAF-6317-1A,Preampifier circuit PC board ass'y <D>                    |         |             |   |
|         | 1A776517-1B | NAAF-6317-1B,Preampifier circuit PC board ass'y <P/T/W/A/R>            |         |             |   |
| U18     | 1A776518-1A | NAETC-6318-1A,Front/center speaker terminal PC board ass'y <D>         |         |             |   |
|         | 1A776518-1B | NAETC-6318-1B,Front/center speaker terminal PC board ass'y <P/T/W/A/R> |         |             |   |
| U19     | 1A776519-1A | NAETC-6319-1A,Rear/remote speaker terminal PC board ass'y <D>          |         |             |   |
|         | 1A776519-1B | NAETC-6319-1B,Rear/remote speaker terminal PC board ass'y <P/T/W/A/R>  |         |             |   |
| U22     | 1A776522-1A | NAAR-6322-1A,Microprocessor circuit PC board ass'y <D>                 |         |             |   |
|         | 1A776522-1B | NAAR-6322-1B,Microprocessor circuit PC board ass'y <P>                 |         |             |   |
|         | 1A776522-1C | NAAR-6322-1C,Microprocessor circuit PC board ass'y <W/R>               |         |             |   |
|         | 1A776522-1D | NAAR-6322-1D,Microprocessor circuit PC board ass'y <T/A>               |         |             |   |
| U23     | 1A776523-1A | NAVD-6323-1A,Composite video signal PC board ass'y <D>                 |         |             |   |
|         | 1A776523-1B | NAVD-6323-1B,Composite video signal PC board ass'y <P>                 |         |             |   |
|         | 1A776523-1C | NAVD-6323-1C,Composite video signal PC board ass'y <W/R>               |         |             |   |
|         | 1A776523-1D | NAVD-6323-1D,Composite video signal PC board ass'y <T/A>               |         |             |   |

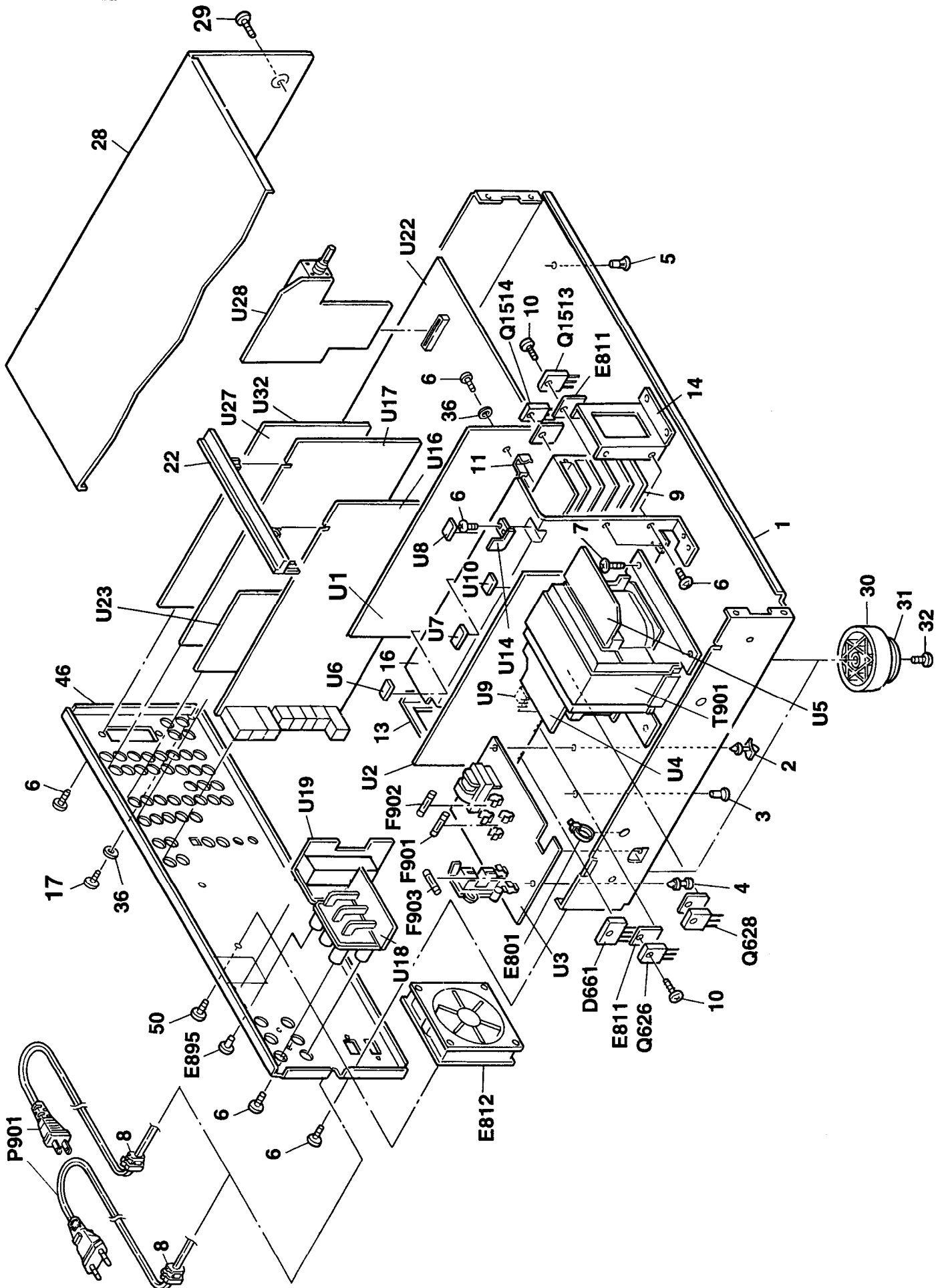
NOTE: <D>:120V model only  
 <P>:European model only  
 <T>:Asian model only  
 <W>:Worldwide model only  
 <R>:Chinese model only  
 <A>:Austrian model only  
 <B>:Black model only  
 <G>:Golden model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK  $\Delta$  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PARTS LIST

EXPLODED VIEW





# PARTS LIST

| REF.NO. | PART NO.  | DESCRIPTION                         | REF.NO.  | PART NO.    | DESCRIPTION  |
|---------|-----------|-------------------------------------|----------|-------------|--|
| 1       | 27100328C | Chassis                             | 46       | 27122483    | Rear panel <D>   |
| 2       | 27190503A | KGLS-8RF,Holder                     |          | 27122484    | Rear panel <P>   |
| 3       | 27190428A | KGLS-10RF,Holder                    |          | 27122485    | Rear panel <T>   |
| 4       | 27190802  | KGFS-14RF,Holder                    |          | 27122486    | Rear panel <W>   |
| 5       | 27190813  | KGFS-10RF,Holder                    |          | 27122487    | Rear panel <A>   |
| 6       | 838130088 | 3TTB+8B,Self-tapping screw          |          | 27122530    | Rear panel <R>   |
| 7       | 830440089 | 4TTC+8C(BC),Self-tapping screw      | 47       | 28325497A   | Knob, Power <P/T/W/A/R>  |
| 8       | 27300750  | #2271,Cord, bushing                 |          | 28325547A   | Knob, Power <S>  |
| 9       | 27160414  | Heatsink                            |          | 28325499A   | Knob, Power <G>  |
| 10      | 801433    | 3SMS8W, SW+14B(BC),Special screw    | 48       | 27273164    | Joint  |
| 11      | 27141681  | Retainer PWB                        | 49       | 27141686A   | Retainer POW <P/T/W/A/R>   |
| 13      | 27141721  | Retainer, Rear                      | 50       | 838150108   | 5TTB+10B,Self-tapping screw  |
| 14      | 27141720  | Retainer, Front                     | 51       | 838430107   | 3TTB+10S(BC),Self-tapping screw <P/T/W/A/R>                                |
| 16      | 27160413  | Heatsink S                          | 52       | 27212019    | Front panel <D>  |
| 17      | 838230088 | 3TTB+8B(NI),Nickel screw            |          | 27212020    | Front panel <P>  |
| 22      | 27191050  | Holder                              |          | 27212021    | Front panel <S>  |
| 23      | 27215303  | Decorative frame <B>                |          | 27212022A   | Front panel <T/W/A/R>  |
|         | 27215305  | Decorative frame <S>                | 53       | 28135244Y   | Front panel <G>  |
|         | 27215304  | Decorative frame <G>                |          | 28135245Y   | Badge <B>  |
| 24      | 28325542  | Knob, Mode <B>                      |          | 28135245Y   | Badge <G/S>  |
|         | 28325543  | Knob, Mode <S>                      | 54       | 28198778    | Facet  |
|         | 28325544  | Knob, Mode <G>                      | D661     | 22380038 or | RBV602 or  |
| 25      | 28191792A | Clear plate <B>                     |          | 22380274    | RSW603M,Diode  |
|         | 28191793A | Clear plate <S/G>                   | E801     | 260208      | Wire tie   |
| 26      | 29110050  | Aluminum tape                       | E811     | 223024Y     | Isolation sheet  |
| 27      | 28140680  | Cushion                             | E812     | 24502307    | D09T-24TG 02(EX), Fan  |
| 28      | 28184738  | Top cover <B>                       | E895     | 880048      | Plastic rivet <P/T/A>  |
|         | 28184740  | Top cover <S>                       | F901     | 252198      | 8A-UJL Fuse <D/W/R>  |
|         | 28184739  | Top cover <G>                       | F902     | 252077      | 4A-SE-EAK,Fuse <P/T/W/A/R>   |
| 29      | 838430088 | 3TTB+8B(BC), Self-tapping screw <B> | F903     | 252075      | 2.5A-SE-EAK,Fuse <P/T>   |
|         | 838230088 | 3TTB+8B(NI),Nickel screw <G>        | P1701    | 204727512   | NCF7-27512,Flexible flat cable   |
| 30      | 27175319A | Leg                                 | P901     | 253244AMAR  | AS-UC-6#18, Power supply cord <D>  |
| 31      | 28141332  | Cushion                             |          | 253245MAR   | AS-CEE, Power supply cord <P/T>  |
| 32      | 831430088 | 3TTW+8B(BC),Self-tapping screw      |          | 253246KAW   | AS-CEE-2,Power supply cord <W>   |
| 33      | 28325539  | Knob, Volume <B>                    |          | 253268HIT   | AS-SAA,Power supply cord <A>   |
|         | 28325540  | Knob, Volume <S>                    |          | 253274KAW   | AS-CCEE, Power supply cord <R>   |
|         | 28325541  | Knob, Volume <G>                    | Q1513 or | 2203063,    | * 25C5198-O,   |
| 34      | 28325405  | Knob, Tone <B>                      | Q525     | 2203062,    | * 25C5198-R,   |
|         | 28325474  | Knob, Tone <S>                      | Q526     | 2202523,    | * 25C4468-O,   |
|         | 28325407  | Knob, Tone <G>                      | Q625     | 2202526 or  | * 25C4468-P or   |
| 35      | 28325500  | Knob, Jog <B>                       | Q626     | 2202524     | * 25C4468-Y,Transistor   |
|         | 28325538  | Knob, Jog <S>                       | Q1514 or | 2203053,    | * 2SA1941-C,   |
|         | 28325502  | Knob, Jog <G>                       | Q527     | 2203052,    | * 2SA1491-R,   |
| 36      | 87643010  | W3*10F(BC), Flat washer             | Q528     | 2202513,    | * 2SA1695-O,   |
| 41      | 27111077  | Front bracket <D/T/W/A/R>           | Q627     | 2202516 or  | * 2SA1695-P,   |
|         | 27111078  | Front bracket <P>                   | Q628     | 2202514     | * 2SA1695-Y,Transistor   |
|         | 27111079  | Front bracket <S>                   | T901     | 2301339     | NFT-1342D, Power transformer <D>   |
|         | 27111080  | Front bracket <G>                   |          | 2301340     | NFT-1342P,Power transformer <P/T>  |
| 42      | 838130088 | 3TTB+8B,Self-tapping screw          |          | 2301341     | NFT-1342DG,Power transformer <W/R>   |
| 44      | 27191014A | Holder, Jack                        | U1       | 1A778501-2A | NAAF-6301-2A,Front and center channel power amplifier PC board ass'y <D>   |
|         |           |                                     |          | 1A778501-2B | NAAF-6301-2B,Front and center channel power amplifier PC board ass'y <P/T> |
|         |           |                                     |          | 1A778501-2C | NAAF-6301-2C,Front and center channel power amplifier PC board ass'y <W/R> |
|         |           |                                     |          | 1A778501-2D | NAAF-6301-2D,Front and center channel power amplifier PC board ass'y <A>   |



| REF.NO. | PART NO.    | DESCRIPTION   | REF.NO. | PART NO.    | DESCRIPTION   |
|---------|-------------|---|---------|-------------|---|
| U2      | 1A778502-2A | NAAF-6302-2A, Surround amplifier PC board ass'y <D>                     | U22     | 1A778522-2A | NAAR-6322-2A, Microprocessor circuit PC board ass'y <D>   |
|         | 1A778502-2B | NAAF-6302-2B, Surround amplifier PC board ass'y <P/T>                   |         | 1A778522-2B | NAAR-6322-2B, Microprocessor circuit PC board ass'y <P>   |
|         | 1A778502-2C | NAAF-6302-2C, Surround amplifier PC board ass'y <W/R>                   |         | 1A778522-2C | NAAR-6322-2C, Microprocessor circuit PC board ass'y <W/R> |
| U3      | 1A778502-2A | NAAF-6302-2D, Surround amplifier PC board ass'y <A>                     | U23     | 1A778523-2D | NAAR-6323-2D, Microprocessor circuit PC board ass'y <T/A> |
|         | 1A778503-2B | NAPS-6303-2B, Power supply circuit PC board ass'y <D>                   |         | 1A778523-2A | NAVD-6323-2A, Composite video signal PC board ass'y <D>   |
|         | 1A778503-2C | NAPS-6303-2C, Power supply circuit PC board ass'y <P/T>                 |         | 1A778523-2B | NAVD-6323-2B, Composite video signal PC board ass'y <P>   |
|         | 1A778503-2D | NAPS-6303-2D, Power supply circuit PC board ass'y <W/R>                 |         | 1A778523-2C | NAVD-6323-2C, Composite video signal PC board ass'y <W/R> |
| U4      | 1A778504-2A | NAETC-6304-2A, Transformer terminal PC board <D>                        | U26     | 1A778526-2D | NAVD-6326-2D, Composite video signal PC board ass'y <T/A> |
|         | 1A778504-2B | NAETC-6304-2B, Transformer terminal PC board <P/T>                      |         | 1A778526-2B | NADIS-6326-2B, Display circuit PC board ass'y <P>         |
|         | 1A778504-2C | NAETC-6304-2C, Transformer terminal PC board <W/R>                      |         | 1A778526-2C | NADIS-6326-2C, Display circuit PC board ass'y <W/R>       |
| U5      | 1A778505-2A | NAETC-6305-2D, Transformer terminal PC board <A>                        | U27     | 1A778527-2A | NADIS-6327-2A, Display circuit PC board ass'y <T/A>       |
|         | 1A778505-2B | NAETC-6305-2B, Primary circuit PC board ass'y <P/T>                     |         | 1A778527-2B | NARF-6327-2B, Tuner circuit PC board ass'y <P>            |
|         | 1A778505-2C | NAETC-6305-2C, Primary circuit PC board ass'y <W/R>                     |         | 1A778527-2C | NARF-6327-2C, Tuner circuit PC board ass'y <W/R>          |
|         | 1A778505-2D | NAETC-6305-2D, Primary circuit PC board ass'y <A>                       |         | 1A778527-2D | NARF-6327-2D, Tuner circuit PC board ass'y <T/A>          |
| U6      | 1A778506-2A | NAETC-6306-2A, Thermal detector PC board ass'y <D>                      | U28     | 1A778528-2A | NAETC-6328-2A, Master volume PC board ass'y <D>           |
|         | 1A778506-2B | NAETC-6306-2B, Thermal detector PC board ass'y <P/T>                    |         | 1A778528-2B | NAETC-6328-2B, Master volume PC board ass'y <P>           |
|         | 1A778506-2C | NAETC-6306-2C, Thermal detector PC board ass'y <W/R>                    |         | 1A778528-2C | NAETC-6328-2C, Master volume PC board ass'y <W/R>         |
|         | 1A778506-2D | NAETC-6306-2D, Thermal detector PC board ass'y <A>                      | U29     | 1A778529-2A | NAETC-6329-2A, Tone control PC board ass'y <T/A>          |
| U7      | 1A778507-2A | NAETC-6307-2A, Thermal detector PC board ass'y <D>                      |         | 1A778529-2B | NAETC-6329-2B, Tone control PC board ass'y <P>            |
|         | 1A778507-2B | NAETC-6307-2B, Thermal detector PC board ass'y <P/T>                    |         | 1A778529-2C | NAETC-6329-2C, Tone control PC board ass'y <W/R>          |
|         | 1A778507-2C | NAETC-6307-2C, Thermal detector PC board ass'y <W/R>                    |         | 1A778529-2D | NAETC-6329-2D, Tone control PC board ass'y <T/A>          |
|         | 1A778507-2D | NAETC-6307-2D, Thermal detector PC board ass'y <A>                      | U31     | 1A778531-2A | NAETC-6331-2A, Headphone terminal PC board ass'y <D>      |
| U8      | 1A778508-2A | NAETC-6308-2A, Thermal detector PC board ass'y <D>                      |         | 1A778531-2B | NAETC-6331-2B, Headphone terminal PC board ass'y <P>      |
|         | 1A778508-2B | NAETC-6308-2B, Thermal detector PC board ass'y <P/T>                    |         | 1A778531-2C | NAETC-6331-2C, Headphone terminal PC board ass'y <W/R>    |
|         | 1A778508-2C | NAETC-6308-2C, Thermal detector PC board ass'y <W/R>                    |         | 1A778531-2D | NAETC-6331-2D, Headphone terminal PC board ass'y <T/A>    |
|         | 1A778508-2D | NAETC-6308-2D, Thermal detector PC board ass'y <A>                      | U32     | 1A778532-2A | NAETC-6332-2A, Input terminal PC board ass'y <D>          |
| U9      | 1A778509-2A | NAETC-6309-2A, Thermal detector PC board ass'y <D>                      |         | 1A778532-2B | NAETC-6332-2B, Input terminal PC board ass'y <P>          |
|         | 1A778509-2B | NAETC-6309-2B, Thermal detector PC board ass'y <P/T>                    |         | 1A778532-2C | NAETC-6332-2C, Input terminal PC board ass'y <W/R>        |
|         | 1A778509-2C | NAETC-6309-2C, Thermal detector PC board ass'y <W/R>                    |         | 1A778532-2D | NAETC-6332-2D, Input terminal PC board ass'y <T/A>        |
|         | 1A778509-2D | NAETC-6309-2D, Thermal detector PC board ass'y <A>                      |         |             |   |
| U10     | 1A778510-2A | NAETC-6310-2A, Thermal detector PC board ass'y <D>                      |         |             |   |
|         | 1A778510-2B | NAETC-6310-2B, Thermal detector PC board ass'y <P/T>                    |         |             |   |
|         | 1A778510-2C | NAETC-6310-2C, Thermal detector PC board ass'y <W/R>                    |         |             |   |
|         | 1A778510-2D | NAETC-6310-2D, Thermal detector PC board ass'y <A>                      |         |             |   |
| U11     | 1A778511-2B | NASW-6311-2B, Power switch PC board ass'y <W/R>                         |         |             |   |
|         | 1A778511-2C | NASW-6311-2C, Power switch PC board ass'y <A>                           |         |             |   |
|         | 1A778511-2D | NASW-6311-2D, Power switch PC board ass'y <D>                           |         |             |   |
| U14     | 1A778514-2A | NAETC-6314-2A, Thermal det. PC board ass'y <D>                          |         |             |   |
|         | 1A778514-2B | NAETC-6314-2B, Thermal det. PC board ass'y <P/T>                        |         |             |   |
|         | 1A778514-2C | NAETC-6314-2C, Thermal det. PC board ass'y <W/R>                        |         |             |   |
|         | 1A778514-2D | NAETC-6314-2D, Thermal det. PC board ass'y <A>                          |         |             |   |
| U16     | 1A778516-2A | NADG-6316-2A, Main circuit PC board ass'y <D>                           |         |             |   |
|         | 1A778516-2B | NADG-6316-2B, Main circuit PC board ass'y <P/T/W/A/R>                   |         |             |   |
|         | 1A778517-2A | NAAF-6317-2A, Preampifier circuit PC board ass'y <D>                    |         |             |   |
|         | 1A778517-2B | NAAF-6317-2B, Preampifier circuit PC board ass'y <P/T/W/A/R>            |         |             |   |
| U18     | 1A778518-2A | NAETC-6318-2A, Front/center speaker terminal PC board ass'y <D>         |         |             |   |
|         | 1A778518-2B | NAETC-6318-2B, Front/center speaker terminal PC board ass'y <P/T/W/A/R> |         |             |   |
|         | 1A778520-2A | NAETC-6320-2A, Rear/remote speaker terminal PC board ass'y <D>          |         |             |   |
|         | 1A778520-2B | NAETC-6320-2B, Rear/remote speaker terminal PC board ass'y <P/T/W/A/R>  |         |             |   |

NOTE: &lt;D&gt;-120V model only

&lt;P&gt;-European model only

&lt;T&gt;-Asian model only

&lt;W&gt;-Worldwide model only

&lt;A&gt;-Australian model only

&lt;R&gt;-Chinese model only

&lt;B&gt;-Black model only

&lt;S&gt;-Silver model only

&lt;G&gt;-Golden model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

## DISASSEMBLING PROCEDURES

### 1. Top Cover

Remove four screws holding the top cover and the chassis.  
Remove three screws holding the top cover and the rear panel.

### 2. Front Panel

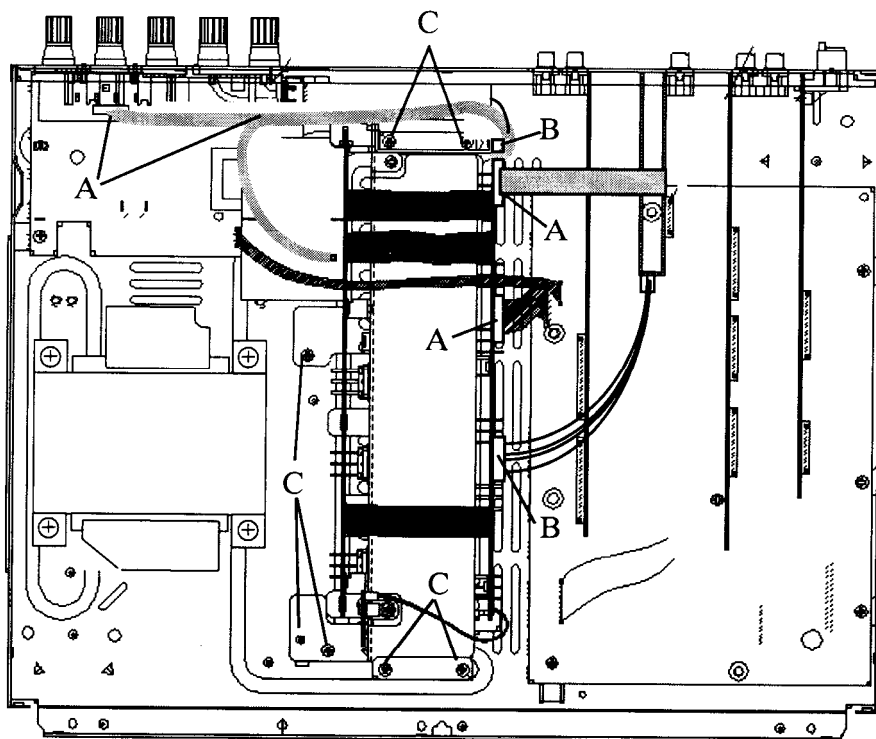
Remove the top cover.  
Remove MASTER VOLUME, BASS, and TREBLE knobs.  
Remove three screws holding the front panel and the chassis.

### 3. SMART SCAN CONTROLLER Knob

Remove the top cover.  
Push the knob by the screw driver etc. from the hole of Display PC board.

### 4. Power amplifier PC boards

Remove the top cover.  
Remove the holder PCB.  
Remove five lead wires A and two sockets B.  
Remove seven screws C holding the heatsinks and the chassis.



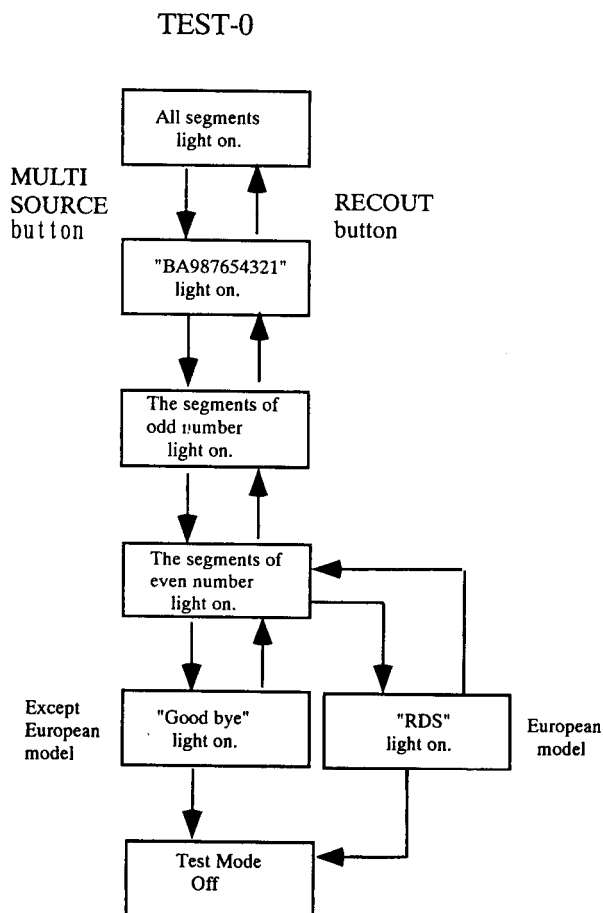
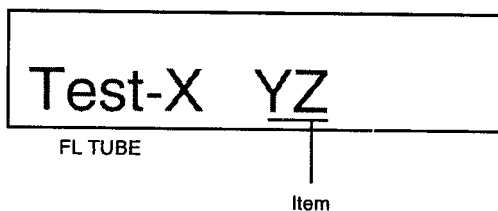
PARTS LIST

## TEST MODE

1. Turn POWER button on.
2. Press and hold down CD button, then press SPEAKERS-MAIN and SPEAKERS-REMOTE buttons at the same time.
3. During "TEST-" on the FL tube is displayed, press CD, VIDEO 1, VIDEO 2, or VIDEO 3 button to set the unit to the test mode shown below.
4. Press MULTI SOURCE or RECOUT button to select the test item.

### Button Operation in the Test Mode

| Button Operation | Test Mode    |
|------------------|--------------|
| CD               | TEST-0       |
| VIDEO 1          | TEST-1       |
| VIDEO 2          | TEST-2       |
| VIDEO 3          | TEST-3       |
| MULTI SOURCE     | UP of item   |
| RECOUT           | DOWN of item |



### 1. Confirmation of protection circuit

#### 1-1. Confirmation of operation of speaker relay

- Confirm that the speaker relay turns ON approximate. 5 seconds after the power switch is turned ON.
- Confirm that the speaker relay turns OFF approximate. 0.5 seconds after the power switch is turned OFF.

#### 1-2. Confirmation of DC detection circuit

- Set the unit to "Test-1 01".
- Apply DC 1.5~3V to MULTI CHANNEL INPUT terminals with no load.
- Confirm that the speaker relay turns OFF.
- Apply DC -1.5~-3V to MULTI CHANNEL INPUT terminals with no load.
- Confirm that the speaker relay turns OFF.

1-3. Confirmation of Current detection circuit

Set the unit to "Test-1 01".

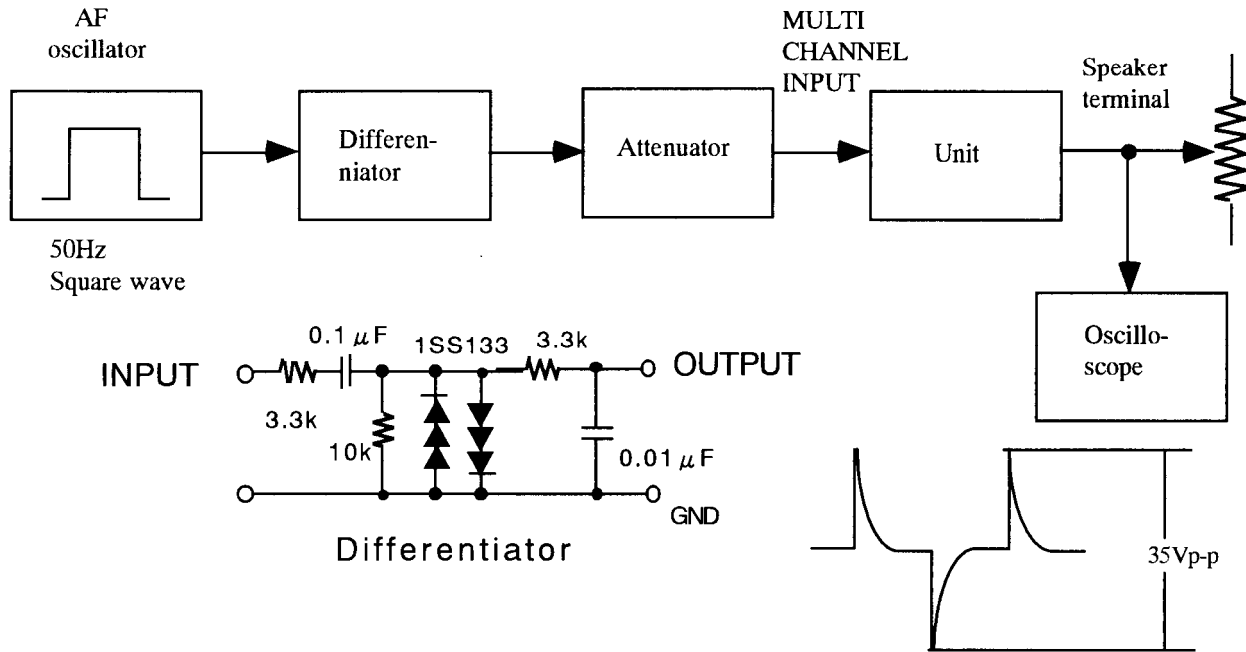
Connect the instrument shown below with no load.

Apply the 50Hz square signal to a terminal of MULTI CHANNEL INPUT.

Adjust the attenuator or Volume so that the output level becomes 35V p-p.

Confirm that the speaker relay does not turn OFF when a 3.0 ohm load is connected.

Confirm that the speaker relay turns OFF when a 1.5 ohm load is connected.



1-4. Confirmation of fan operation


Set the unit to "Test-1 01".


Apply the sine wave signal (1kHz, -30dB) to MULTI CHANNEL INPUT terminal except SUBWOOFER with no load.

Confirm that the fan operates after few seconds.

# SERVICE PROCEDURES

## 1. Replacing the fuses

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

 Ce symbole indique que le fusible utilise est a rapide. Pour une protection permanente, n'utiliser que des fusibles de meme type. Ce dernier est indique la qu le present symbol est appose.

| CIRCUIT NO. | PART NO. | DESCRIPTION                           |
|-------------|----------|---------------------------------------|
| F901        | 252199   | △ 10A-UL, Fuse <D/W/R>,TX-DS656       |
| F902        | 252078   | △ 5A-SE-EAK,Fuse <P/T/W/A/R>,TX-DS656 |
| F901        | 252198   | △ 8A-UL, Fuse <D/W/R>,TX-DS555        |
| F902        | 252077   | △ 4A-SE-EAK,Fuse <P/T/W/A/R>,TX-DS555 |
| F903        | 252075   | △ 2.5A-SE-EAK,Fuse <P/T>              |

NOTE: <D>:120V model only  
<P>:European model only  
<T>:Asian model only  
<W>:Worldwide model only  
<R>:Chinease model only  
<A>:Australian model only

## 2. To Initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external power supply, radio wave, or other electrical source results in accident which causes the specified operations and functions to operate abnormally.

To perform a result, please follow the procedure below.

120V model

1. Press and hold down the CD button, then press the POWER button.
2. After "clear" is displayed, the prest memory and each mode stored in the memory, such as surround, are initialized and will return to the factory settings.

other models

1. Press and hold down the CD button, then press the SYSTEM button.
2. After "clear" is displayed, the prest memory and each mode stored in the memory, such as surround, are initialized and will return to the factory settings.

## 3. Safety-check out

(Only U.S.A. model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and the screw on the back panel.

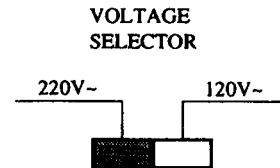
Specifications: 3.3 Mohm±10% at 500V.

## 4. Change of voltage

Worldwide models are equipment with a voltage selector to conform with local power supplies. This switch is located on the back panel.

Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on.

This switch is set to 220V at the factory. Voltage is changed by sliding the groove in the switch with the screwdriver to the right or left. Confirm that the switch has been moved all the way to the right or left before turning the power switch on.



## 5. Memory preservation

This unit does not require memory preservation batteries.

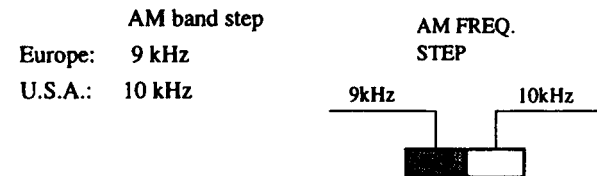
A built-in memory power back-up system preserves contents of the memory during power failures and even when the unit is unplugged.

The unit must be plugged in and the power switch turned on and off once in order to charge the back-up system. Note that since this is not a permanent memory, the power switch must be turned on and off a few times each month the keep the back-up system operative.

The period of the time during which memory contents are preserved after power has last been turned off varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of 3 to 4 weeks (a minimum of 2 weeks) after the last time power has been turned off. This period is shorted when the unit is exposed to very high humidity or used in an area with an extremely humid climate.

## 6. Setting the tuning step frequency

Worldwide models are equipped with a step band selector switch. This switch is located on the back panel. This switch is set to 9 kHz at the factory, but may have to be reset to 10 kHz depending on the area where the unit is used.

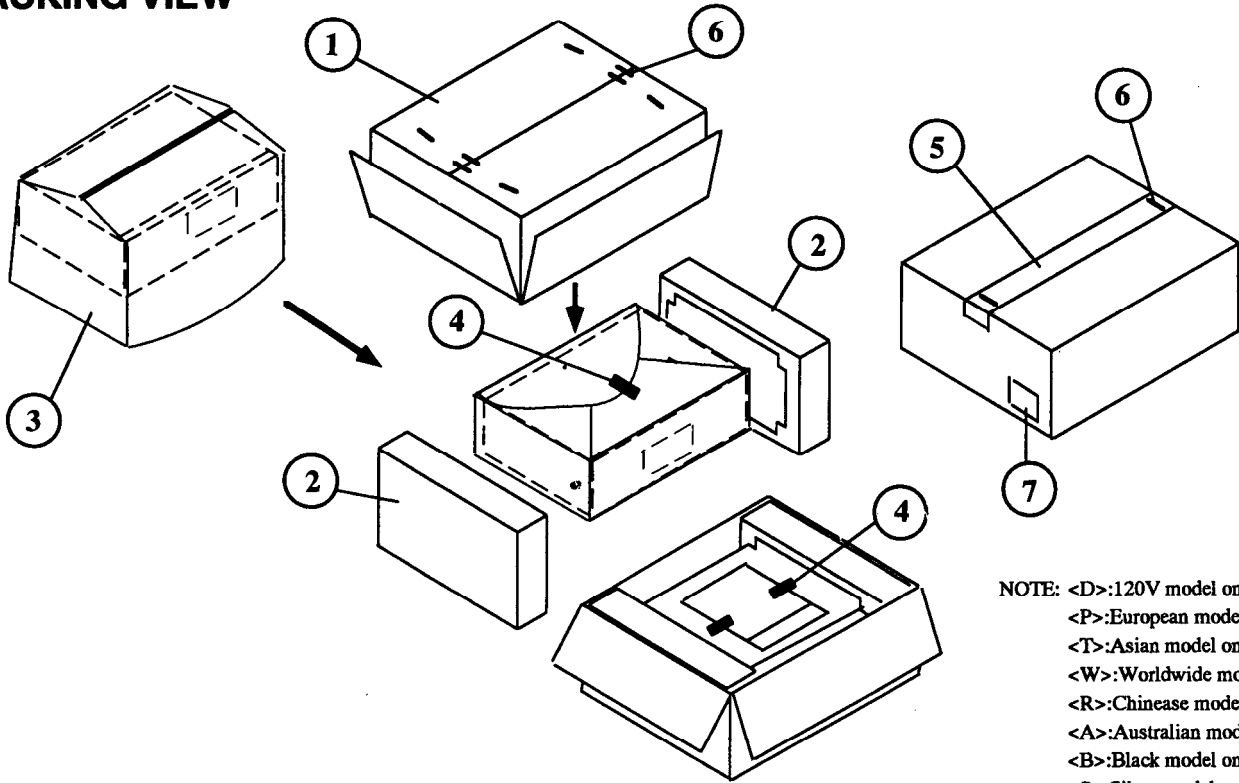


## 7. Changing the band step

With the exception of the worldwide models, a tuning step selector switch is not provided. When you change the band step, change the parts as shown below.

|       | To 10kHz      | To 9 kHz |
|-------|---------------|----------|
| R1704 | No connection | 10k      |
| R1705 | 10 kohm       | open     |
| R1710 | 10 kohm       | open     |
| J1828 | Shorted       | open     |
| J1762 | Shorted       | open     |

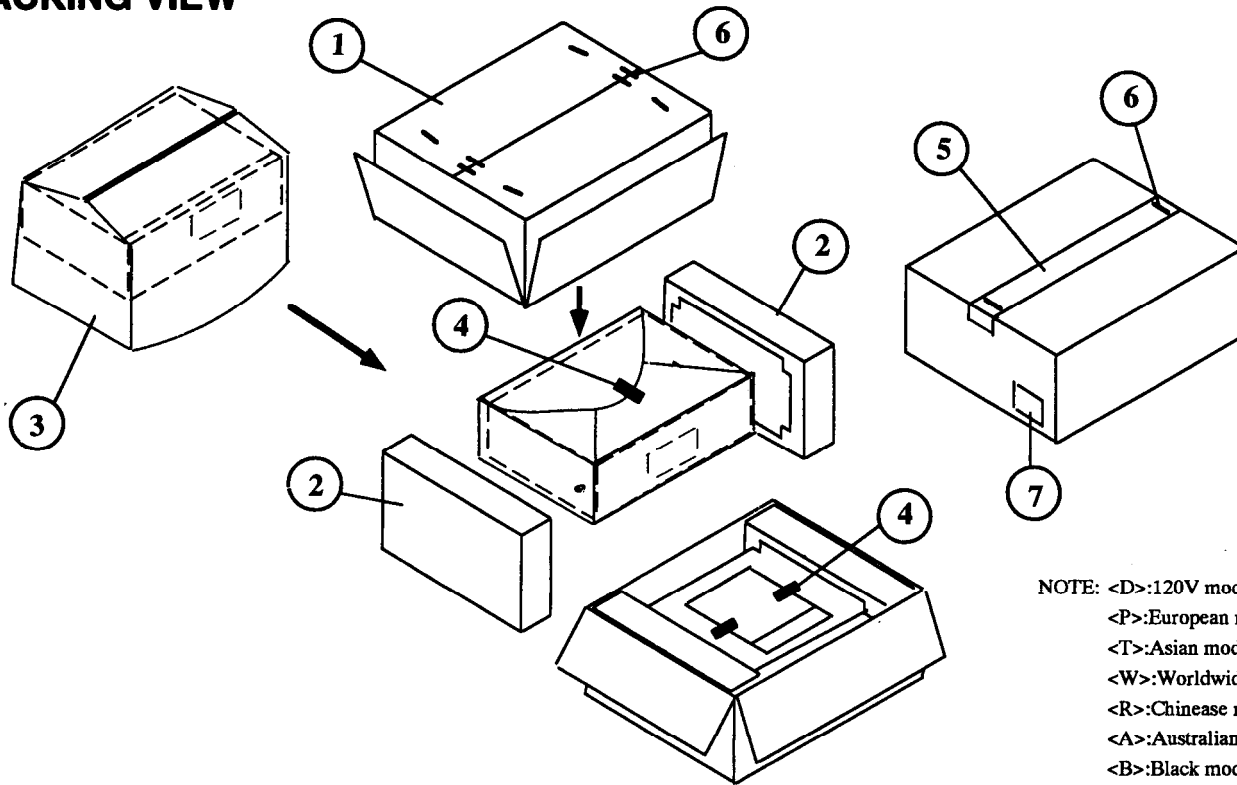
## PACKING VIEW



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 <A>:Australian model only  
 <B>:Black model only  
 <S>:Silver model only  
 <G>:Golden model only

| REF.NO. | PART NO.     | DESCRIPTION           | REF.NO. | PART NO.     | DESCRIPTION                              |
|---------|--------------|-----------------------|---------|--------------|--|
| 1       | 29053305     | Carton box <D>        | 8       | 232140       | NMA-3057, AM loop antenna                |
|         | 29053306     | Carton box <P>        |         | 24140374     | RC-374M, remote controller               |
|         | 29053308     | Carton box <T/W/A/R>  |         | 25055018     | CV-K-1, Conversion plug <W>              |
|         | 29053307     | Carton box <S>        |         | 25065462     | YAE21-0237, FM antenna adapter <T/W/R/A> |
|         | 29053309     | Carton box <G>        |         | 29100097-1AY | 350*250, Poly bag                        |
| 2       | 29091844     | Pad ass'y             |         | 292111       | FM antenna <D/T/A>                       |
| 3       | 29100034-1AY | 850*650, Poly bag     |         | 292112       | FM antenna <P/W/R>                       |
| 4       | 261504       | Paper tape            |         | 29342580     | Instruction manual E                     |
| 5       | 29110071     | Adhesive tape         |         | 29342581     | Instruction manual U3GDSW <P>            |
| 6       | 282301       | Staple                |         | 29342582     | Instruction manual U3FSI <P>             |
| 7       | 29362317     | UPC label <D>         |         | 29342583     | instruction manual <T/W/R>               |
|         | 29362321     | EAN label <P/T/W/A/R> |         | 29358002K    | Service station list <D>                 |
|         | 29362322     | EAN label <S>         |         | 29365019B    | Warranty card <D>                        |
|         | 29362323     | EAN label <G>         |         | 3010054      | UM-3, Battery                            |

## PACKING VIEW



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| REF.NO. | PART NO.     | DESCRIPTION           | REF.NO. | PART NO.     | DESCRIPTION                              |
|---------|--------------|-----------------------|---------|--------------|--|
| 1       | 29053301     | Carton box <D>        | 8       | 232140       | NMA-3057, AM loop antenna                |
|         | 29053302     | Carton box <P>        |         | 24140373     | RC-373M, remote controller               |
|         | 29053303     | Carton box <T/W/A/R>  |         | 25055018     | CV-K-1, Conversion plug <W>              |
|         | 29053304     | Carton box <G>        |         | 25065462     | YAE21-0237, FM antenna adapter <T/W/R/A> |
| 2       | 29091844     | Pad ass'y             |         | 29100097-1AY | 350*250, Styrene bag                     |
| 3       | 29100034-1AY | 850*650, Styrene bag  |         | 292111       | FM antenna <D/T/A>                       |
| 4       | 261504       | Paper tape            |         | 292112       | FM antenna <P/W/R>                       |
| 5       | 29110071     | Adhesive tape         |         | 29342576     | Instruction manual E                     |
| 6       | 282301       | Staple                |         | 29342577     | Instruction manual U3GDSW <P>            |
| 7       | 29362316     | UPC label <D>         |         | 29342578     | Instruction manual U3FSI <P>             |
|         | 29362319     | EAN label <P/T/W/A/R> |         | 29342579     | instruction manual <T/W/R>               |
|         | 29362320     | EAN label <G>         |         | 29358002K    | Service station list <D>                 |
|         |              |                       |         | 29365019B    | Warranty card <D>                        |
|         |              |                       |         | 3010054      | UM-3, Battery                            |

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