

# **SERVICE MANUAL**

## **ORION**

### **TV-50127**

**50" DIGITAL PLASMA COLOR TELEVISION**



**ORIGINAL  
CHASSIS CODE A**

**Best. Nr. SM50127**

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Design and specifications are subject to change without notice.

## SERVICING NOTICES ON CHECKING

### 1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

### 2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

### 3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.

Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a  $\triangle$  mark, the designated parts must be used.

### 4. BE CAREFUL WITH THE PDP PANEL

1. When you handle the PDP Filter you must wear the gloves twice, because, you are to avoid soil it by your sweat and dust.
2. When you lift the PDP Filter you should hold it with the palm of your hand.  
Don't pick up it with your fingers.
3. The back side of PDP Filter tends to damaged.  
Since there is no coating.  
Therefore, it put into the packing box at the time of delivery, without piling up even at the time of unused.  
Also, when you take out it from a packing box, be careful of the rubbing.
4. When the surface becomes dirty, wipe it with a soft cloth as you draw a circle.  
When it is dirty hardly, wipe it with a cloth ethanol infiltrated.  
Don't use ethanol for the back side.
5. Do not apply it to direct sunshine so that the characteristic may change.
6. When you inspect the surface (the scratch, the dirt and the air bubble), use the fluorescent light.
7. When you use SCREW DRIVER and SCREW, be careful of a metallic powder being mixed.
8. Do not damage the PDP Module with a DRIVER.
9. Do Handling with the PDP Module by 2 persons.
10. There is a step difference between the cover and PDP Module.  
So, when you remove the screws, place a cushion on it so that the PDP Module is not being scratched.  
Then remove the screws carefully.

11. When you remove the cover, do not scratch the FPC on both ends of PDP Module.

12. Hold the four ends holder and be careful not to touch the glass area.

13. Take care for the damage of vacuum exhaust pipe due to a collision.

14. Moisture condensation may damage the PDP Module.

So, leave it for 48 hours at the service room.

### 5. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

### 6. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

#### (INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the external exposure metal [Note 2] should be more than 2.5M ohm by using the 500V insulation resistance meter [Note 1].
4. If the insulation resistance is less than 2.5M ohm, the inspection repair should be required.

#### [Note 1]

If you have not the 500V insulation resistance meter, use a Tester.

#### [Note 2]

External exposure metal: Antenna terminal  
Screw  
21pin jack  
Side RCA jack  
Rear RCA jack  
Headphone jack



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## HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the CHASSIS CODE.)

1. MODEL NUMBER and CHASSIS CODE  
YOU can find it in the back of your unit.
2. PART NO. and DESCRIPTION  
You can find it in your SERVICE MANUAL.

## IMPORTANT

When you exchange IC and Transistor with a heat sink, apply silicon grease (YG6260M) on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damage to the IC and Transistor).

## PANEL LOCK

To unlock the Password of Panel Lock, please follow the steps below.

1. Turn Unit ON.
2. Press and hold the 'VOLUME DOWN' key on the front panel for more than 10 seconds.
3. The Panel Lock has now been cleared.
4. Press and hold the 'VOLUME DOWN' key on the front panel.
5. Simultaneously press and hold the '0' key on the remote control unit.
6. Hold both keys for more than 2 seconds.
7. The Password of Panel Lock has now been cleared.

## ABOUT LEAD FREE SOLDER (PbF)

### Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF printing on the PCB.  
(Please refer to figures.)



### Caution:

- Pb free solder has a higher melting point than standard solder;  
Typically the melting point is 86°F~104°F(30°C~40°C) higher.  
Please use a soldering iron with temperature control and adjust it to 650°F ± 20°F (350°C ± 10°C).  
In case of using high temperature soldering iron, please be careful not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100°F/ 600°C).
- All products with the printed circuit board with PbF printing must be serviced with lead free solder.  
When soldering or unsoldering, completely remove all of the solder from the pins or solder area,  
and be sure to heat the soldering points with the lead free solder until it melts sufficiently.

### Recommendations

Recommended lead free solder composition is Sn-3.0Ag-0.5Cu.

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## GENERAL SPECIFICATIONS

|     |                    |                                   |                               |                                               |
|-----|--------------------|-----------------------------------|-------------------------------|-----------------------------------------------|
| G-1 | TV System          | PDP                               | PDP Size / Visual Size        | 49.95 inch / 1268.7 mmV                       |
|     |                    |                                   | Number of Pixels(H x V)       | 1366(H) x 768(V)                              |
|     |                    | Color System                      |                               | PAL/SECAM                                     |
|     |                    | Speaker                           |                               | 4Speaker                                      |
|     |                    |                                   | Position                      | Front                                         |
|     |                    | Main                              | Size                          | 2.2 x 5.0 inch                                |
|     |                    |                                   | Impedance                     | 4 ohm                                         |
|     |                    | Tweeter                           | Size                          | 2.0 inch                                      |
|     |                    |                                   | Impedance                     | 8 ohm                                         |
|     |                    | Sound Output                      | MAX                           | 10W + 10W                                     |
| G-2 | Tuning System      |                                   | 10%(Typical)                  | ---                                           |
|     |                    | AV Input Receivable               | NTSC3.58                      | Yes                                           |
|     |                    |                                   | NTSC4.43                      | Yes                                           |
|     |                    |                                   | PAL60                         | Yes                                           |
|     |                    | Broadcasting System               |                               | U.K., I.R., CCIR, FRENCH System               |
|     |                    | Tuner and Receive CH              | System                        | B/G, D/K, I/I, L                              |
|     |                    |                                   | Destination                   | 1Tuner                                        |
|     |                    |                                   | CH Coverage                   | UK, I.R., CCIR Hyper+France CATV              |
|     |                    | Intermediate Frequency            |                               | IreE2-E4,X-Z+2,S1-S10,E5-E12, S11-S41,E21-E69 |
|     |                    |                                   | Picture(FP)                   | PAL/SECAM(U&VH)/SECAM(VL)                     |
| G-3 | Power              |                                   | Sound(FS)                     | 38.9/38.9/33.9MHz                             |
|     |                    |                                   | FP-FS                         | 33.4/32.9/32.4/40.4MHz                        |
|     |                    | Auto Tuning Method                |                               | 5.5/6.0/6.5/6.5MHz                            |
|     |                    | Preset CH                         |                               | ALL Band (Not C.C.I.R. CH Plan)               |
|     |                    | Stereo/Dual TV Sound              |                               | 80                                            |
|     |                    | Tuner Sound Muting                |                               | NICAM/A2 Dual                                 |
|     |                    | Power Source                      | AC                            | Yes                                           |
|     |                    |                                   | DC                            | Yes                                           |
|     |                    | Power Consumption                 | at AC                         | 230V AC 50Hz                                  |
|     |                    |                                   | at DC                         | ---                                           |
| G-4 | Regulation         |                                   | Stand by (at AC)              | 450 W at AC 230 V 50 Hz                       |
|     |                    |                                   | Per Year                      | --                                            |
|     |                    | Protector                         | Power Fuse                    | 2 W at 230V 50Hz                              |
|     |                    |                                   | Safety Circuit                | -- kWh/Year                                   |
|     |                    |                                   | IC Protector(Micro Fuse)      | No                                            |
|     |                    |                                   | Safety Radiation              | CE(EN60065:98)                                |
|     |                    |                                   | X-Radiation                   | CE                                            |
|     |                    |                                   | Operation                     | ---                                           |
|     |                    |                                   | Storage                       | +                                             |
|     |                    |                                   |                               | -                                             |
| G-5 | Temperature        |                                   |                               | +50C ~ +400C                                  |
| G-6 | Operating Humidity |                                   |                               | -200C ~ +600C                                 |
| G-7 | OSD Language       |                                   |                               | Less than 80% RH                              |
| G-8 | Clock and Timer    |                                   |                               | English French Spanish                        |
|     |                    |                                   |                               | German Italian Russian                        |
|     |                    | Sleep Timer                       | Max Time                      | 120 Min                                       |
|     |                    |                                   | Step                          | 10 Min                                        |
|     |                    | On/Off Timer                      | Program(On Timer / Off Timer) | No                                            |
| G-8 | Clock and Timer    | Wake Up Timer                     |                               | No                                            |
|     |                    | Timer Back-up (at Power Off Mode) | more than                     | -- Min Sec                                    |

## GENERAL SPECIFICATIONS

|     |                |                            |              |
|-----|----------------|----------------------------|--------------|
| G-9 | Remote Control | Unit                       | RC-MM        |
|     |                | Glow in Dark Remocon       | Yes          |
|     |                | Remocon Format             | ORION        |
|     |                | Format                     | NEC          |
|     |                | Custom Code                | 80-63 h      |
|     |                | Power Source               | 3V           |
|     |                | Voltage(D.C)               |              |
|     |                | UM size x pcs              | UM-3 x 2 pcs |
|     |                | Total Keys                 | 33 Keys      |
|     |                | Keys                       |              |
|     |                | Power ( Stand By )         | Yes          |
|     |                | 1                          | Yes          |
|     |                | 2                          | Yes          |
|     |                | 3                          | Yes          |
|     |                | 4                          | Yes          |
|     |                | 5                          | Yes          |
|     |                | 6                          | Yes          |
|     |                | 7                          | Yes          |
|     |                | 8                          | Yes          |
|     |                | 9                          | Yes          |
|     |                | 0                          | Yes          |
|     |                | CH Up                      | No           |
|     |                | CH Down                    | No           |
|     |                | Volume Up / Right          | Yes          |
|     |                | Volume Down / Left         | Yes          |
|     |                | Quick View                 | No           |
|     |                | Sleep                      | Yes          |
|     |                | Display ( CH Call )        | Yes          |
|     |                | Normal                     | Yes          |
|     |                | Menu                       | Yes          |
|     |                | Enter                      | Yes          |
|     |                | Mute                       | Yes          |
|     |                | Dolby Virtual On/Off       | No           |
|     |                | Picture Size               | Yes          |
|     |                | Auto                       | No           |
|     |                | Position                   | No           |
|     |                | Fine Tuning +              | No           |
|     |                | Fine Tuning -              | No           |
|     |                | Tone 1/2                   | No           |
|     |                | Input Select               | Yes          |
|     |                | TEXT / MIX / TV            | Yes          |
|     |                | CH Up / Page Up / Up       | Yes          |
|     |                | CH Down / Page Down / Down | Yes          |
|     |                | Red                        | Yes          |
|     |                | Green                      | Yes          |
|     |                | Yellow                     | Yes          |
|     |                | Cyan                       | Yes          |
|     |                | F/T/B                      | Yes          |
|     |                | Reveal / Skip              | Yes          |
|     |                | Display Cancel             | No           |
|     |                | Reset                      | No           |
|     |                | Reset / Tone 1/2           | Yes          |
|     |                | Hold / Status              | Yes          |
|     |                | Sub Page / Quick View      | Yes          |
|     |                | TTEXT Keys                 |              |

## GENERAL SPECIFICATIONS

|      |          |                           |                                    |                                                                                                                                                                                                             |
|------|----------|---------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| G-10 | Features | Picture Setting(TV)       | Brightness , Contrast , Color      | Yes                                                                                                                                                                                                         |
|      |          |                           | Tint                               | Yes                                                                                                                                                                                                         |
|      |          |                           | Sharpness                          | Yes                                                                                                                                                                                                         |
|      |          |                           | DNR                                | Yes                                                                                                                                                                                                         |
|      |          |                           | Color Temperature                  | Yes                                                                                                                                                                                                         |
|      |          |                           | Blue Back                          | Yes                                                                                                                                                                                                         |
|      |          | Picture Setting(PC)       | BRIGHTNESS , CONTRAST              | Yes                                                                                                                                                                                                         |
|      |          |                           | HOR POSITION , VER POSITION        | Yes                                                                                                                                                                                                         |
|      |          |                           | PHASE , CLOCK                      | Yes                                                                                                                                                                                                         |
|      |          |                           | AUTO ADJUST                        | No                                                                                                                                                                                                          |
|      |          |                           | RED , GREEN , BLUE                 | Yes                                                                                                                                                                                                         |
|      |          |                           | WXGA INPUT                         | Yes                                                                                                                                                                                                         |
|      |          |                           | WVGA INPUT                         | Yes                                                                                                                                                                                                         |
|      |          | Audio(TV)                 | Nicam                              | Yes                                                                                                                                                                                                         |
|      |          |                           | Tone Control (Bass/Treble/Balance) | Yes                                                                                                                                                                                                         |
|      |          |                           | Surround                           | No                                                                                                                                                                                                          |
|      |          |                           | BBE                                | Yes                                                                                                                                                                                                         |
|      |          |                           | Speaker                            | Yes                                                                                                                                                                                                         |
|      |          |                           | HDMI                               | Yes                                                                                                                                                                                                         |
|      |          | Audio(PC)                 | Tone Control (Bass/Treble/Balance) | Yes                                                                                                                                                                                                         |
|      |          |                           | Surround                           | No                                                                                                                                                                                                          |
|      |          |                           | BBE                                | Yes                                                                                                                                                                                                         |
|      |          |                           | Speaker                            | Yes                                                                                                                                                                                                         |
|      |          | Setup                     | Auto Tuning                        | Yes                                                                                                                                                                                                         |
|      |          |                           | Manual Tuning                      | Yes                                                                                                                                                                                                         |
|      |          |                           | CH Allocation                      | Yes                                                                                                                                                                                                         |
|      |          |                           | BACKLIGHT                          | No                                                                                                                                                                                                          |
|      |          |                           | Language                           | Yes                                                                                                                                                                                                         |
|      |          |                           | Text Language                      | Yes                                                                                                                                                                                                         |
|      |          |                           | Position (Vertical Position)       | Yes                                                                                                                                                                                                         |
|      |          |                           | AUTO 4:3 DEFAULT                   | Yes                                                                                                                                                                                                         |
|      |          |                           | AV2 Output                         | Yes                                                                                                                                                                                                         |
|      |          |                           | AV2 Input                          | Yes                                                                                                                                                                                                         |
|      |          |                           | AV Color                           | Yes                                                                                                                                                                                                         |
|      |          |                           | Inversion                          | No                                                                                                                                                                                                          |
|      |          |                           | Full White                         | Yes                                                                                                                                                                                                         |
|      |          |                           | Screen Saver                       | Yes                                                                                                                                                                                                         |
|      |          |                           | Static Image                       | Yes                                                                                                                                                                                                         |
|      |          |                           | Black Side Panel                   | Yes                                                                                                                                                                                                         |
|      |          | Option                    | On Timer                           | No                                                                                                                                                                                                          |
|      |          |                           | Off Timer                          | No                                                                                                                                                                                                          |
|      |          |                           | Panel Lock                         | Yes                                                                                                                                                                                                         |
|      |          | Variable Audio Out        |                                    | Yes                                                                                                                                                                                                         |
|      |          | Auto Shut Off             |                                    | Yes                                                                                                                                                                                                         |
|      |          | BBE                       |                                    | Yes(Digital)                                                                                                                                                                                                |
|      |          | Auto Search               |                                    | Yes                                                                                                                                                                                                         |
|      |          | CH Allocation             |                                    | Yes                                                                                                                                                                                                         |
|      |          | Channel Lock              |                                    | No                                                                                                                                                                                                          |
|      |          | Just Clock Function       |                                    | No                                                                                                                                                                                                          |
|      |          | Game Position             |                                    | No                                                                                                                                                                                                          |
|      |          | CH Label                  |                                    | No                                                                                                                                                                                                          |
|      |          | T*Text                    |                                    | Yes                                                                                                                                                                                                         |
|      |          |                           | Text type                          | Fasttext / Toptext                                                                                                                                                                                          |
|      |          |                           | Text Language                      | English , French, Swedish, Hungarian<br>Finnish, Turkish, German, Dutch<br>Portuguese, Spanish, Italian, Greek<br>Polish, Russian, Bulgarian,<br>Serbian, Croatian, Slovene,<br>Czech, Slovakian, Rumanian. |
|      |          | Wide Mode                 |                                    | Yes                                                                                                                                                                                                         |
|      |          | Picture Scroll            |                                    | No                                                                                                                                                                                                          |
|      |          | DNR                       |                                    | Yes                                                                                                                                                                                                         |
|      |          |                           |                                    | 3D                                                                                                                                                                                                          |
|      |          | Comb Filter               |                                    | Yes                                                                                                                                                                                                         |
|      |          |                           |                                    | 5 Lines                                                                                                                                                                                                     |
|      |          | Surround                  |                                    | No                                                                                                                                                                                                          |
|      |          | Backlight                 |                                    | No                                                                                                                                                                                                          |
|      |          | Stable Sound              |                                    | No                                                                                                                                                                                                          |
|      |          | PFC(Power Factor circuit) |                                    | Yes                                                                                                                                                                                                         |
|      |          | Auto Set Up               |                                    | No                                                                                                                                                                                                          |
|      |          | Power On Memory           |                                    | Yes                                                                                                                                                                                                         |
|      |          | Hotel Lock                |                                    | No                                                                                                                                                                                                          |
|      |          | PC Monitor Input          |                                    | Yes                                                                                                                                                                                                         |
|      |          | Freeze frame              |                                    | No                                                                                                                                                                                                          |
|      |          | HD-Ready                  |                                    | Yes                                                                                                                                                                                                         |

## GENERAL SPECIFICATIONS

|      |             |                                       |                  |                           |
|------|-------------|---------------------------------------|------------------|---------------------------|
|      |             | PC Monitor Input                      |                  | Yes                       |
|      |             |                                       | VGA (640x480)    | Yes (60Hz)                |
|      |             |                                       | VGA (720x400)    | No                        |
|      |             |                                       | WVGA (848x480)   | Yes (60Hz)                |
|      |             |                                       | SVGA (800x600)   | Yes (60Hz)                |
|      |             |                                       | XGA (1024x768)   | Yes (60Hz)                |
|      |             |                                       | WXGA (1280x768)  | Yes (60Hz)                |
|      |             |                                       | WXGA (1280x720)  | Yes (60Hz)                |
|      |             |                                       | WXGA (1360x768)  | Yes (60Hz)                |
|      |             | HDMI Input                            | SXGA (1280x1024) | No                        |
|      |             |                                       |                  | Yes                       |
|      |             |                                       | VGA (640x480)    | Yes (60Hz)                |
|      |             |                                       | 720x480i (4:3)   | Yes (60Hz)                |
|      |             |                                       | 720x480i (16:9)  | Yes (60Hz)                |
|      |             |                                       | 720x480p (4:3)   | Yes (60Hz)                |
|      |             |                                       | 720x480p (16:9)  | Yes (60Hz)                |
|      |             |                                       | 720x576i (4:3)   | Yes (50Hz)                |
|      |             |                                       | 720x576i (16:9)  | Yes (50Hz)                |
|      |             | Component Input                       | 720x576p (4:3)   | Yes (50Hz)                |
|      |             |                                       | 720x576p (16:9)  | Yes (50Hz)                |
|      |             |                                       | 1280x720p        | Yes (50/60Hz)             |
|      |             |                                       | 1920x1080i       | Yes (50/60Hz)             |
|      |             |                                       |                  | Yes                       |
|      |             |                                       | 720x480i (4:3)   | Yes (60Hz)                |
|      |             |                                       | 720x480i (16:9)  | Yes (60Hz)                |
|      |             |                                       | 720x480p (4:3)   | Yes (60Hz)                |
|      |             |                                       | 720x480p (16:9)  | Yes (60Hz)                |
|      |             |                                       | 720x576i (4:3)   | Yes (50Hz)                |
|      |             |                                       | 720x576i (16:9)  | Yes (50Hz)                |
|      |             |                                       | 720x576p (4:3)   | Yes (50Hz)                |
|      |             |                                       | 720x576p (16:9)  | Yes (50Hz)                |
|      |             |                                       | 1280x720p        | Yes (50/60Hz)             |
|      |             |                                       | 1920x1080i       | Yes (50/60Hz)             |
| G-11 | Accessories | Owner's Manual                        | Language         | German/Czech/French/Dutch |
|      |             |                                       | w/Guarantee Card | Yes                       |
|      |             | Remote Control Unit                   |                  | Yes                       |
|      |             |                                       |                  |                           |
|      |             | Rod Antenna                           |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | Poles                                 |                  | -                         |
|      |             |                                       |                  |                           |
|      |             | Terminal                              |                  | -                         |
|      |             |                                       |                  |                           |
|      |             | Loop Antenna (W/ Antenna Change Plug) |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | Terminal                              |                  | -                         |
|      |             |                                       |                  |                           |
|      |             | U/V Mixer                             |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | DC Car Cord (Center+)                 |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | Guarantee Card                        |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | Warning Sheet                         |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | Circuit Diagram                       |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | Antenna Change Plug                   |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | Service Facility List                 |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | Important Safeguard                   |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | Dew/AHC Caution Sheet                 |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | Quick Set-up Sheet                    |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | Battery                               |                  | Yes                       |
|      |             |                                       |                  |                           |
|      |             | UM size x pcs                         |                  | UM-3 x 2 pcs              |
|      |             |                                       |                  |                           |
|      |             | OEM Brand                             |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | AC Adapter                            |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | AC Cord (for AC Adapter)              |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | AC Cord                               |                  | Yes                       |
|      |             |                                       |                  |                           |
|      |             | AV Cord (2Pin-1Pin)                   |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | HDMI-DVI Cable                        |                  | Yes                       |
|      |             |                                       |                  |                           |
|      |             | Registration Card                     |                  | No                        |
|      |             |                                       |                  |                           |
|      |             | 300 ohm to 75 ohm Antenna Adapter     |                  | No                        |
|      |             |                                       |                  |                           |

## GENERAL SPECIFICATIONS

|         |                    |                 |                    |                                                     |                                    |                        |
|---------|--------------------|-----------------|--------------------|-----------------------------------------------------|------------------------------------|------------------------|
| G-12    | Interface          | Switch          |                    | Sub Power (Tact)                                    | Yes                                |                        |
|         |                    |                 |                    | System Select                                       | No                                 |                        |
|         |                    |                 |                    | Main Power SW                                       | No                                 |                        |
|         |                    |                 |                    | Channel Up/Menu Up                                  | Yes                                |                        |
|         |                    |                 |                    | Channel Down/Menu Down                              | Yes                                |                        |
|         |                    |                 |                    | Volume Up/Menu >                                    | Yes                                |                        |
|         |                    |                 |                    | Volume Down/Menu <                                  | Yes                                |                        |
|         |                    |                 |                    | Input Select                                        | Yes                                |                        |
|         |                    |                 |                    | Menu                                                | No                                 |                        |
|         |                    |                 |                    | Main Power SW                                       | Yes                                |                        |
|         |                    | Indicator       |                    | Power / Stand-by                                    | Yes(GREEN / RED)                   |                        |
|         |                    |                 |                    | On Timer                                            | No                                 |                        |
|         |                    | Terminals       | Rear               |                                                     | Video Input                        | No                     |
|         |                    |                 |                    |                                                     | Audio Input                        | No                     |
|         |                    |                 |                    |                                                     | S- Input                           | No                     |
|         |                    |                 |                    |                                                     | Video Output                       | No                     |
|         |                    |                 |                    |                                                     | Audio Output                       | RCA x 2(Variable L, R) |
|         |                    |                 |                    |                                                     | Component In                       | RCA x 3                |
|         |                    |                 |                    |                                                     | Audio Input (Component in use)     | RCA x 2(L/MONO, R)     |
|         |                    |                 |                    |                                                     | Other Terminal                     | No                     |
|         |                    |                 |                    |                                                     | Euro Scart (21Pin)                 | 3Scart                 |
|         |                    |                 |                    |                                                     | HDMI Input                         | Yes                    |
|         |                    |                 |                    |                                                     | Audio Input (HDMI/DVI In use)      | RCA x 2 (L/MONO, R)    |
|         |                    |                 | Side               |                                                     | Sub Woofer Out                     | No                     |
|         |                    |                 |                    |                                                     | PC Monitor Input (D-Sub)           | Yes                    |
|         |                    |                 |                    |                                                     | Audio Input                        | Mini Jack x 1(Stereo)  |
|         |                    |                 |                    |                                                     | Diversity                          | No                     |
|         |                    |                 |                    |                                                     | Ext Speaker                        | No                     |
|         |                    |                 |                    |                                                     | DC Jack 12V(Center +)              | No                     |
|         |                    |                 |                    |                                                     | VHF/UHF Antenna Input              | DIN Type               |
|         |                    |                 |                    |                                                     | AC Inlet                           | Yes                    |
|         |                    |                 |                    |                                                     | Video Input                        | RCA x 1                |
|         |                    |                 |                    |                                                     | Audio Input                        | RCA x2(L/MONO,R)       |
|         |                    |                 |                    |                                                     | S- Input                           | Yes                    |
|         |                    |                 |                    |                                                     | Other Terminal                     | Headphone              |
|         |                    | G-13            | Set Size           |                                                     | Approx. W x D x H (mm)             | 1,255 x 411 x 869      |
|         |                    |                 |                    |                                                     | w/o Stand Approx. W x D x H (mm)   | 1,255 x 125 x 820      |
|         |                    | G-14            | Weight             |                                                     | Net (Approx.)                      | 48.5kg (106.9 lbs)     |
|         |                    |                 |                    |                                                     | Net w/o Stand (Approx.)            | 38.5kg (84.9 lbs)      |
|         |                    |                 |                    |                                                     | Gross (Approx.)                    | 55.5kg (122.4 lbs)     |
| G-15    | Carton             | Master Carton   |                    | No                                                  |                                    |                        |
|         |                    |                 |                    | Content                                             | --- Sets                           |                        |
|         |                    |                 |                    | Material                                            | --- / ---                          |                        |
|         |                    |                 |                    | Dimensions W x D x H(mm)                            | ---                                |                        |
|         |                    |                 |                    | Description of Origin                               | ---                                |                        |
|         |                    | Gift Box        |                    | Material                                            | Double/Brown                       |                        |
|         |                    |                 |                    | Dimensions W x D x H(mm)                            | 1,360 x 521 x 979                  |                        |
|         |                    |                 |                    | Description of Origin                               | No                                 |                        |
|         |                    | Drop Test       |                    | Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces |                                    |                        |
|         |                    |                 |                    | Height (cm)                                         | 25                                 |                        |
|         | Container Stuffing | 68              | Sets/40' container |                                                     |                                    |                        |
| G-16    | Material           | Cabinet         | Cabinet Front      | ABS 94HB                                            |                                    |                        |
|         |                    |                 | Cabinet Rear       | Steel                                               |                                    |                        |
|         |                    | PCB             | Non-Halogen        | No                                                  |                                    |                        |
|         |                    |                 |                    | Eyelet                                              | Yes                                |                        |
|         |                    |                 | G-17               | Environment                                         | Environmental standard requirement |                        |
| Pb-free |                    | Phase3(Phase3A) |                    |                                                     |                                    |                        |
| WEEE    |                    | Yes             |                    |                                                     |                                    |                        |

## DISASSEMBLY INSTRUCTIONS

### 1. EXCHANGE METHOD OF PDP MODULE

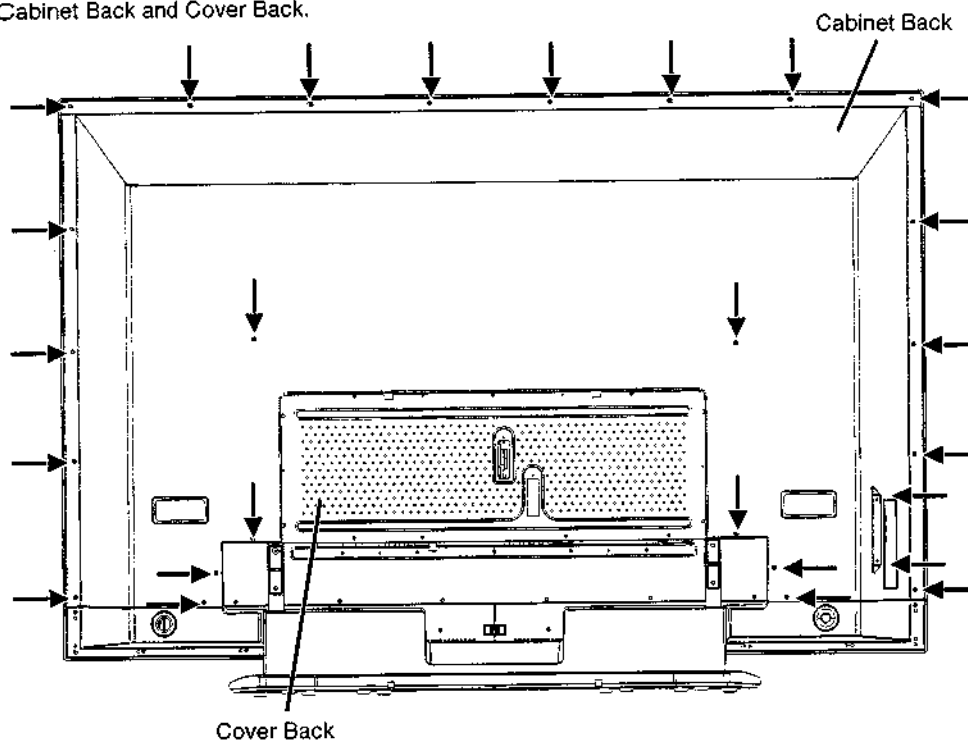
#### NOTE

1. Do handling with the PDP Module by 2 persons.

### REMOVAL METHOD OF PDP MODULE

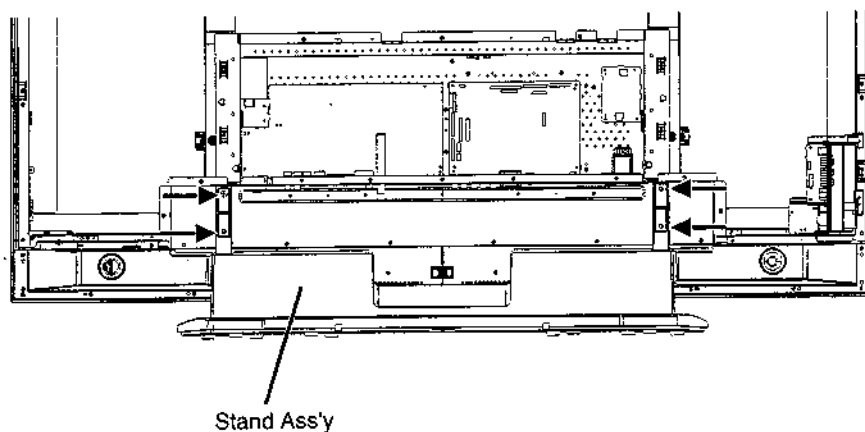
#### 1-1: CABINET BACK/COVER BACK

1. Remove the screw.
2. Remove the Cabinet Back and Cover Back.



#### 1-2: STAND ASS'Y

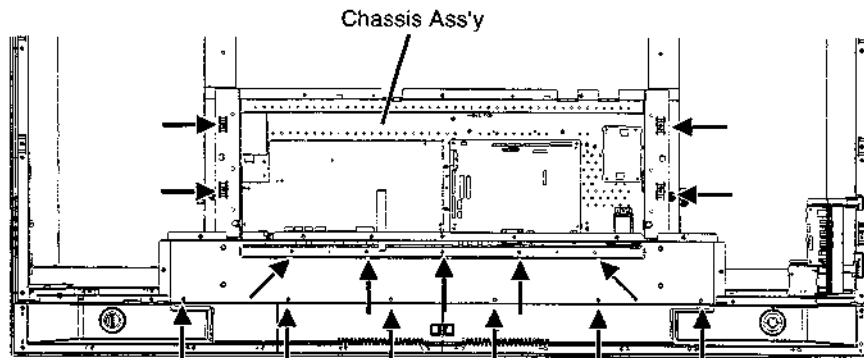
1. Spread a sheet on the plane table and place the PDP Module carefully with the panel face down.
2. Remove the screw.
3. Remove the Stand Ass'y.



## DISASSEMBLY INSTRUCTIONS

### 1-3: CHASSIS BLOCK

1. Disconnect the connector.
2. Remove the screw.
3. Remove the Chassis Ass'y.

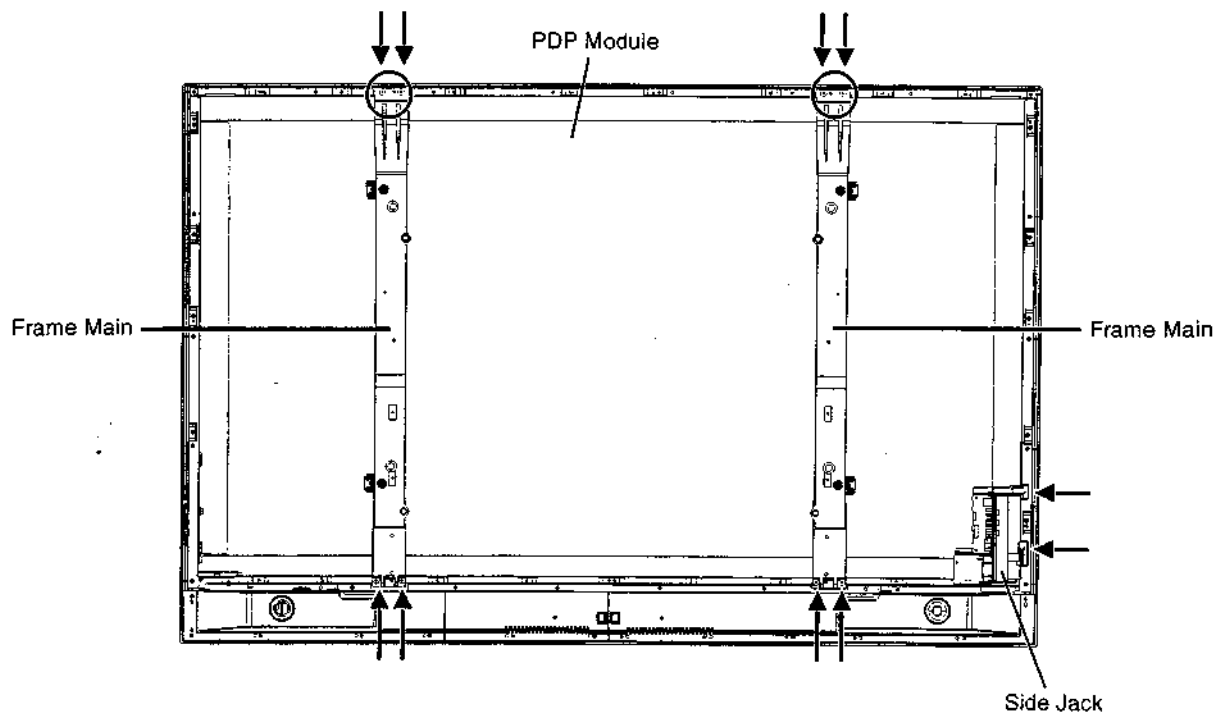
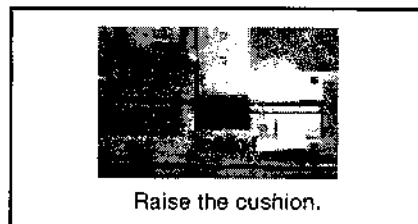


### 1-4: PDP MODULE

1. Remove the screw.
2. Remove the Side Jack.
3. Hold the Frame Main carefully and remove the PDP Module.

#### NOTE

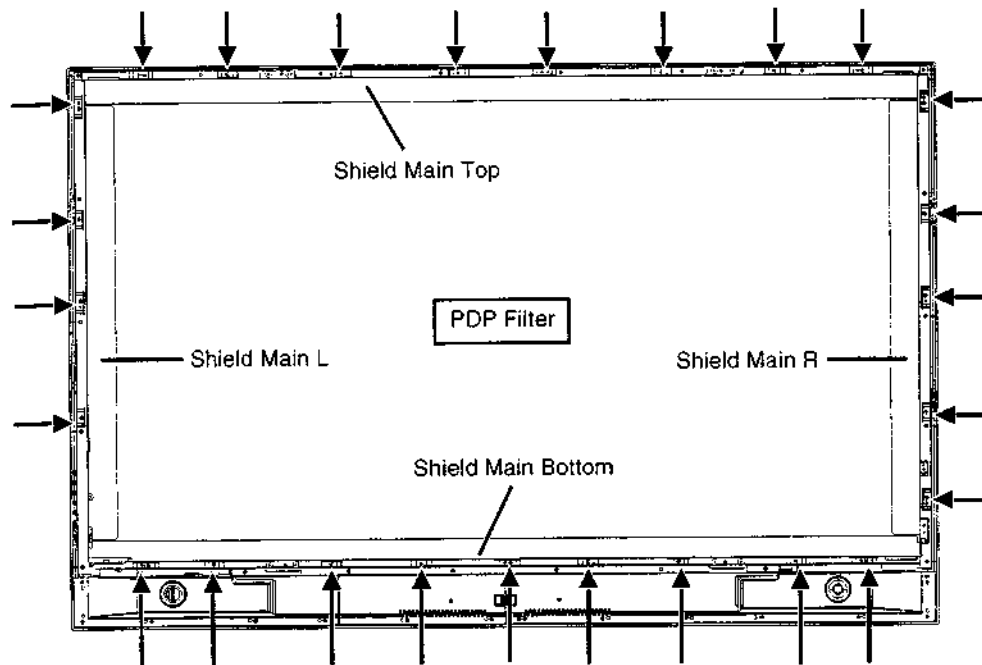
1. When removing the PDP Module, raise the cushion carefully so that you do not scratch the face.



## DISASSEMBLY INSTRUCTIONS

### 1-5: PDP FILTER

1. Remove the screw.
2. Remove the Shield Main.
3. Remove the PDP Filter.



# DISASSEMBLY INSTRUCTIONS

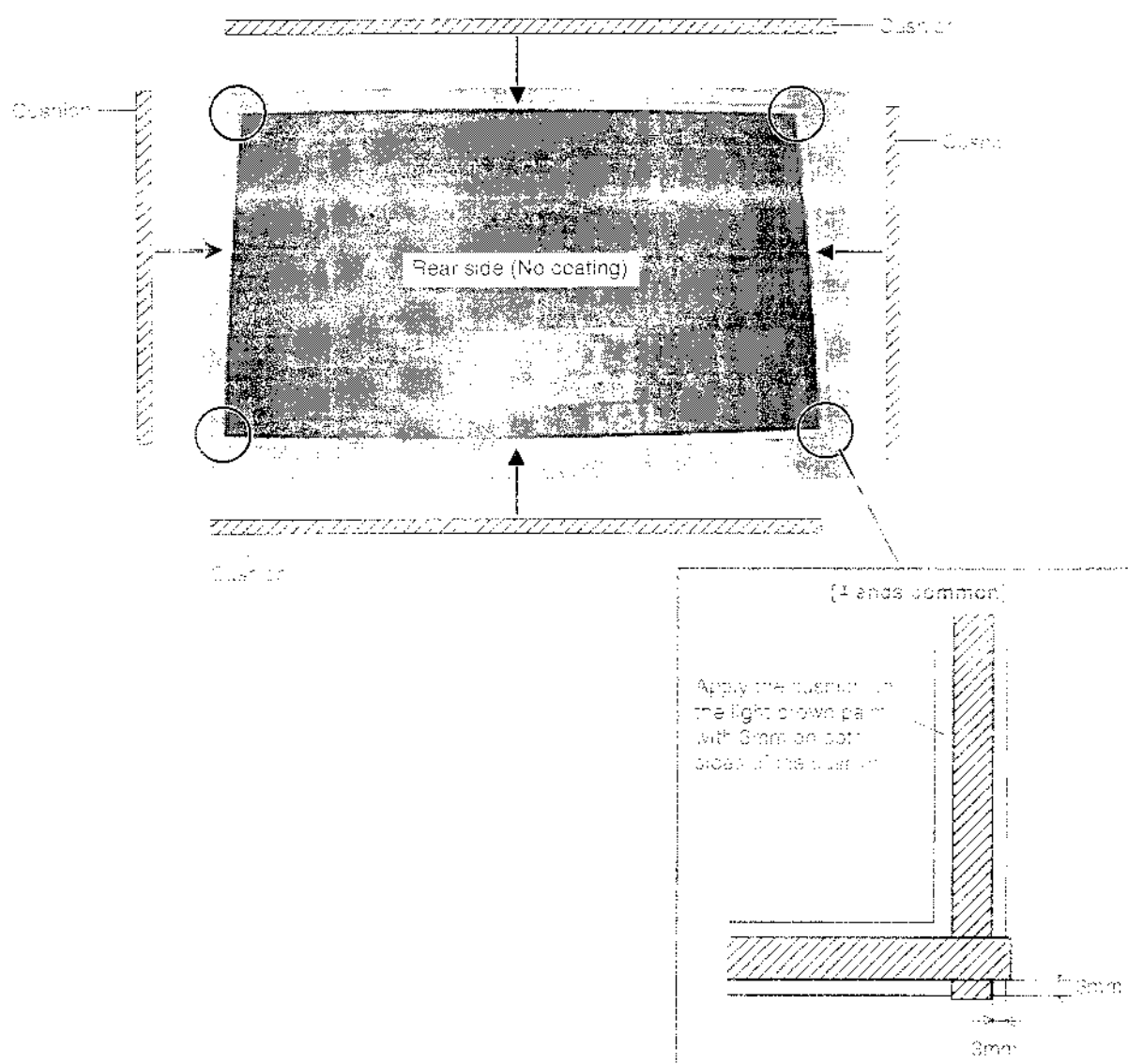
## INSTALLATION METHOD OF PDF MODULE

### NOTES FOR NEW PDP FILTER HANDLING

1. When you handle the PDP Filter, you must wear gloves to avoid soiling it with sweat and dust.
2. When you lift the PDP Filter, use the palm of your hand. Don't pick it up with your fingers.
3. The back side of the PDP Filter tends to get damaged, since there is no coating. Therefore, it needs to be put into the packing box at the time of delivery, even if it is not being used at the time. Also, when you take it out of the packing box, be careful not to rub the appearance.
4. When the surface becomes dirty, use a cloth which is soft and dust free and wipe it in a circular motion. When very dirty, lightly use alcohol on the cloth to wipe. Do not use alcohol for the back side.
5. Do not apply it to direct sunlight, the characteristics may change.
6. When you inspect for scratches and dirt, use a light to check for a bumples on the PDP Filter surface.

### 1-6: PDP FILTER (PREPARATION)

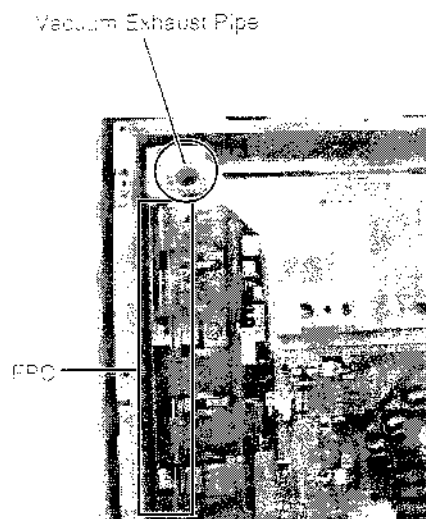
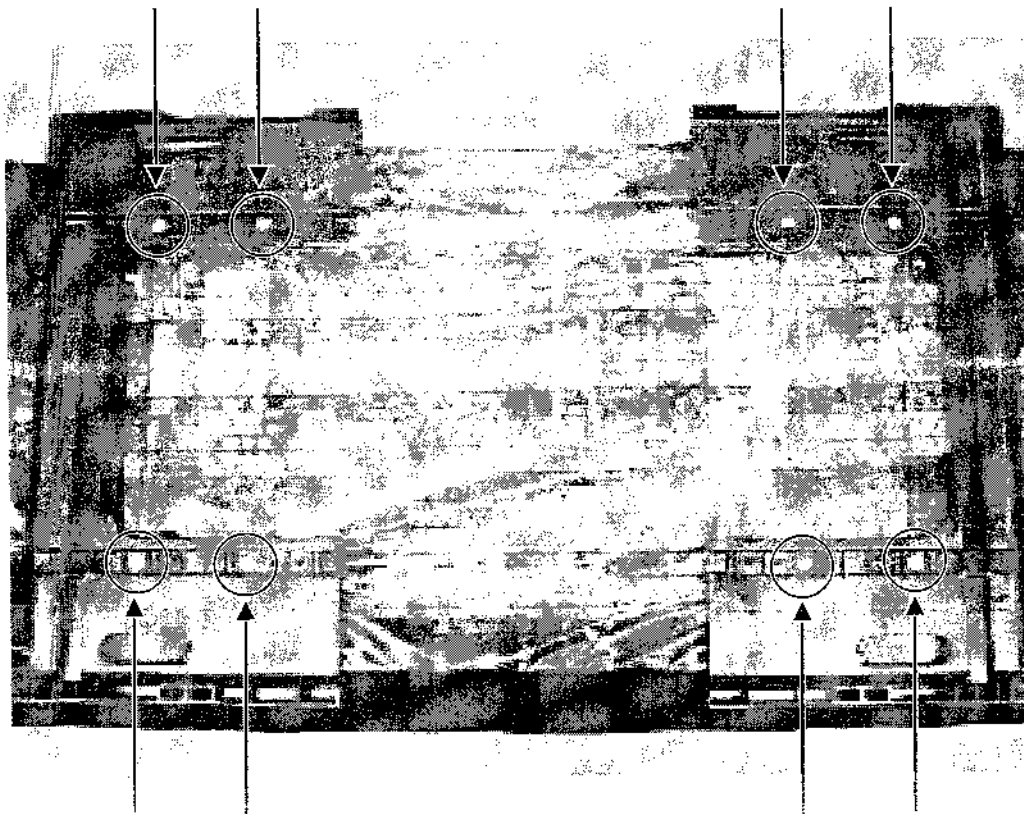
1. Fix the cushion. (Order the cushion new.)



## DISASSEMBLY INSTRUCTIONS

### NOTES FOR NEW PDP MODULE HANDLING

1. Handle the PDP Module with 2 people.
2. There is a step difference between the cover and the PDP Module, so when you remove the screws, place a cushion on it to keep the PDP Module from being scratched. Then remove the screws carefully.
3. When you remove the cover, do not scratch the FPC on both ends of PDP Module.
4. Hold all four ends of the holder and be careful not to touch the glass area.
5. Be careful not to damage the vacuum exhaust pipe.
6. Moisture condensation may damage the PDP Module, so leave it in the service room for 48 hours.
7. Reuse the cover, vinyl sheet and screws when returning the PDP Module.



## DISASSEMBLY INSTRUCTIONS

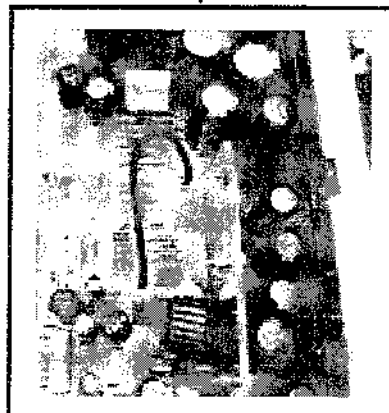
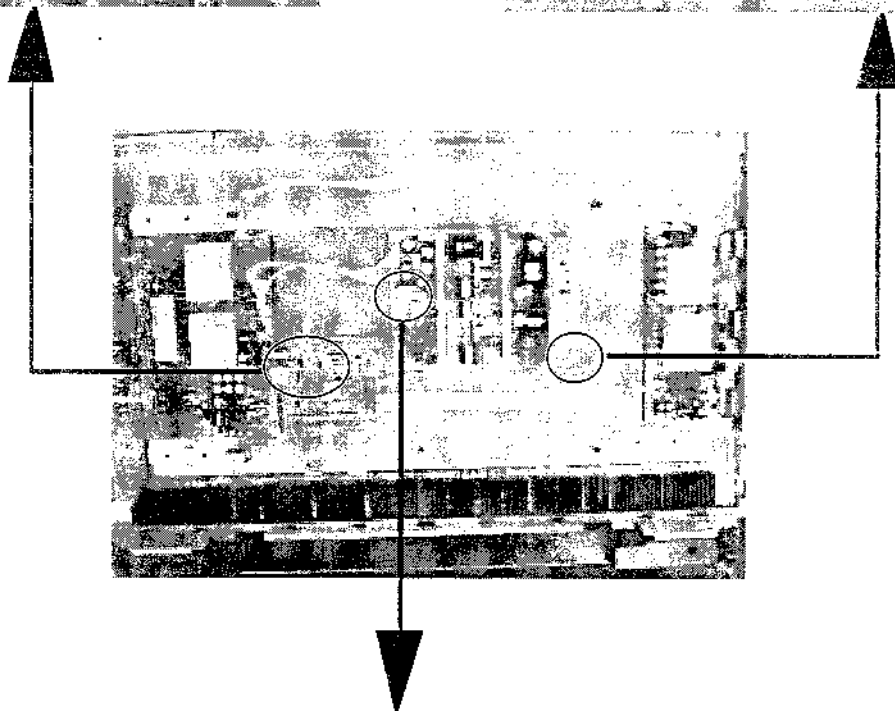
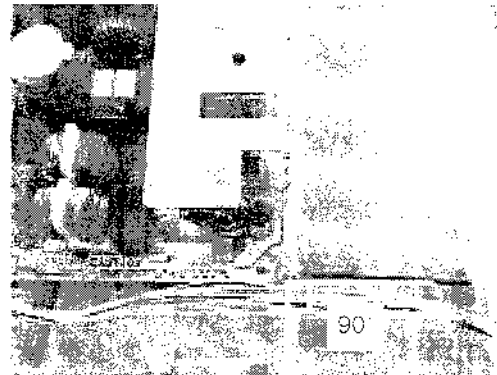
### 1-7: PDP MODULE (PREPARATION)

1. Remove the fixing screw of PCB.
2. Assemble the Wiring Clip. (Use the clips on defective PDP Module)
3. Assemble the Cord Clip. (Use the clips on defective PDP Module)

Cord Clip



Wiring Clip

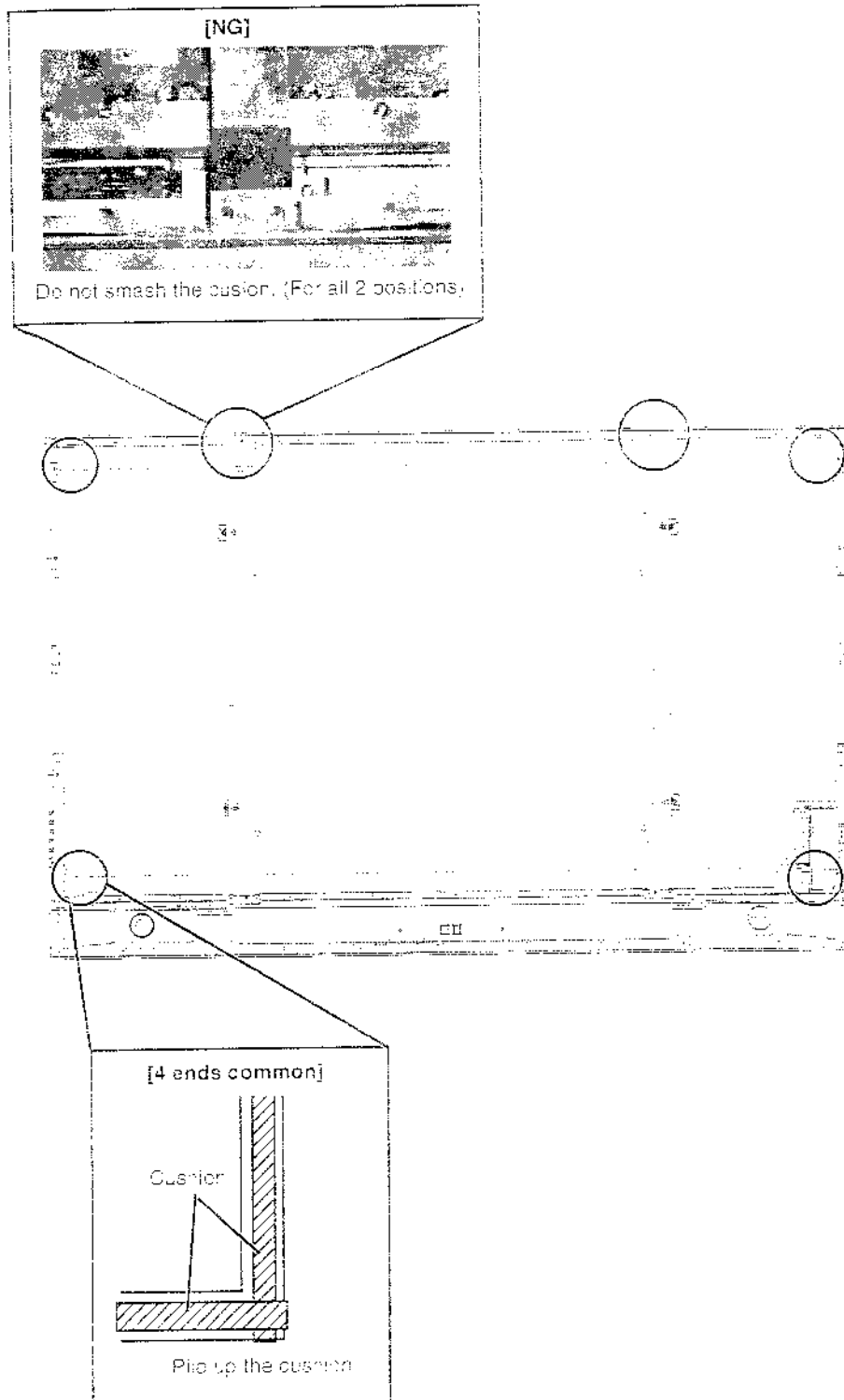


Set CN201 (24V)

## DISASSEMBLY INSTRUCTIONS

### 1-3: PDP MODULE

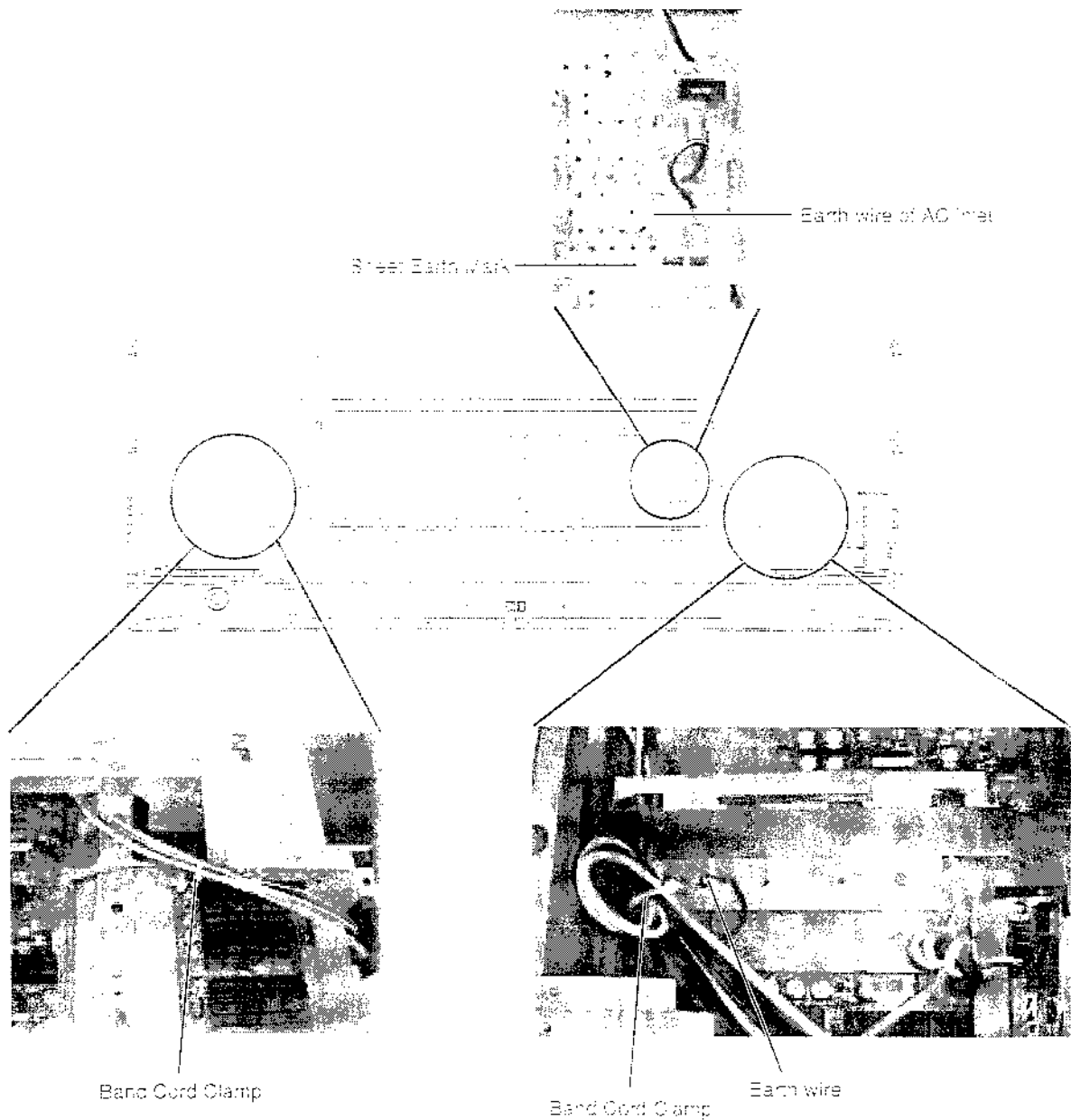
1. Assemble the Frame Main. (Use the clips on defective PDP Module.)
2. Install the PDP Filter on the set.
3. Install the Shield Main on the set.
4. Hold the Frame Main carefully and install the New PDP Module on the set.
5. Install the Side Jack on the set.



## DISASSEMBLY INSTRUCTIONS

### 1-9: CHASSIS BLOCK

1. Do the wire fixing as shown in the photo, then install the Chassis Assy.
2. Install the Stand Assy.



### 1-10: CABINET BACK/COVER BACK

1. Check if the wire handlings are correct.
2. Check if the cushion positions are correct.
3. Check if the tape positions are correct.
4. Install the Cabinet Back and Cover Back.

## DISASSEMBLY INSTRUCTIONS

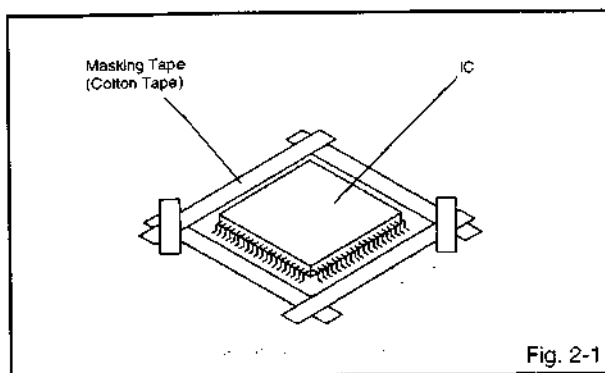
### 2. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

#### REMOVAL

1. Put Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. (Refer to Fig. 2-1.)

#### NOTE

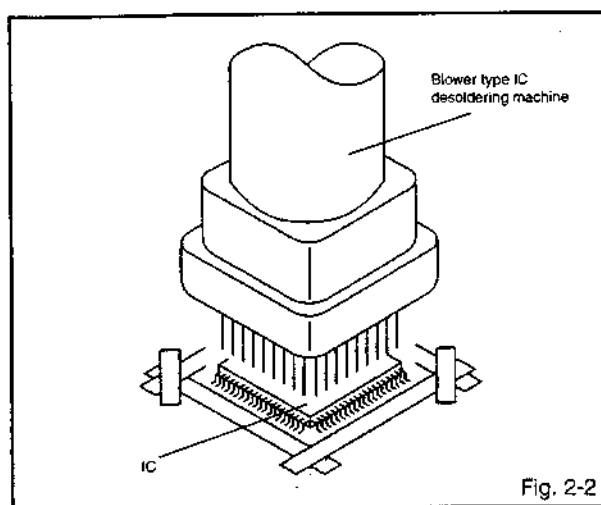
Masking is carried out on all the parts located within 10 mm distance from IC leads.



2. Heat the IC leads using a blower type IC desoldering machine. (Refer to Fig. 2-2.)

#### NOTE

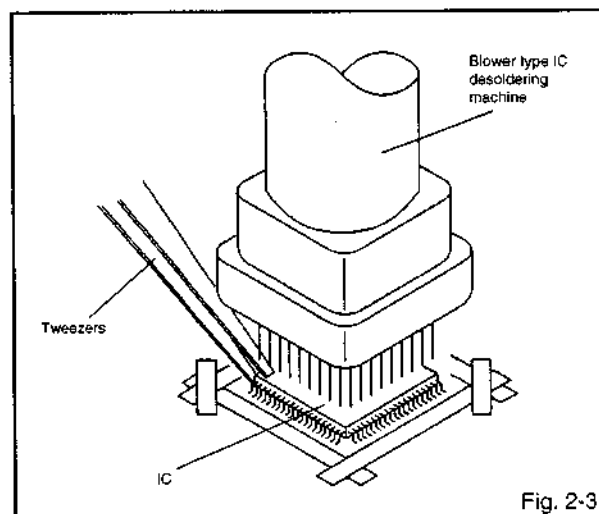
Do not rotate or move the IC back and forth, until IC can move back and forth easily after desoldering the leads completely.



3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using tweezers and remove the IC by moving with the IC desoldering machine. (Refer to Fig. 2-3.)

#### NOTE

Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

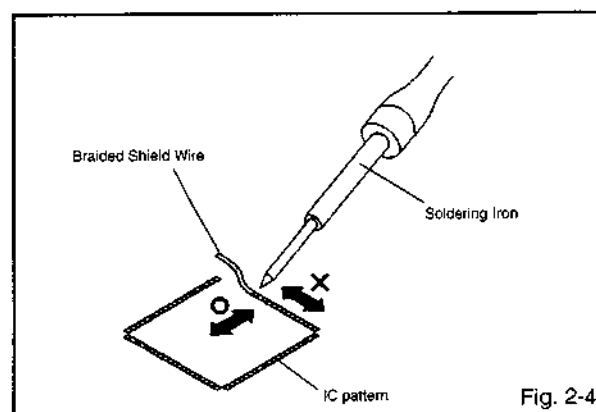


4. Peel off the Masking Tape.

5. Absorb the solder left on the pattern using the Braided Shield Wire. (Refer to Fig. 2-4.)

#### NOTE

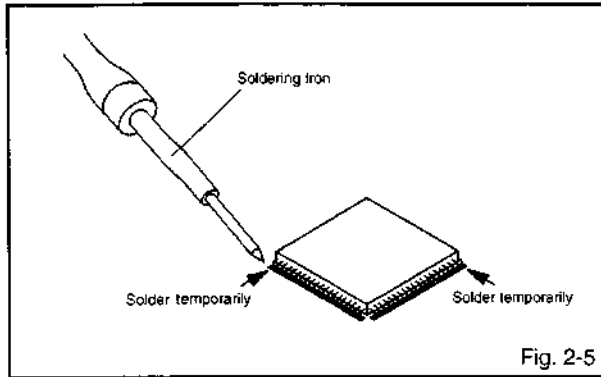
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



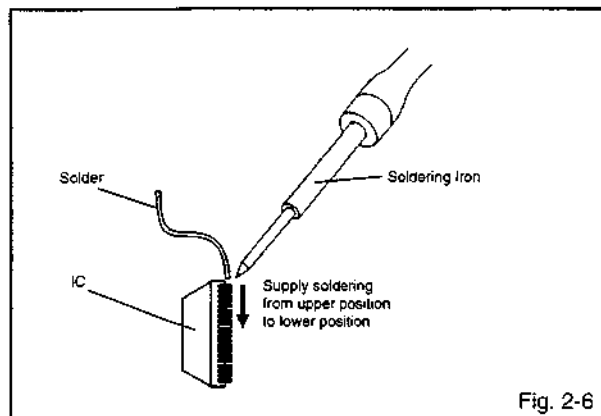
## DISASSEMBLY INSTRUCTIONS

### INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. (Refer to Fig. 2-5.)



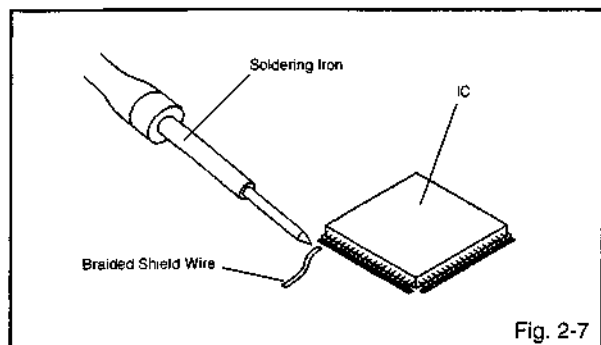
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 2-6.)



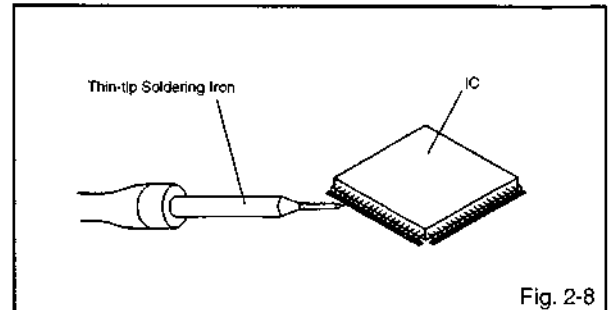
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 2-7.)

#### NOTE

Do not absorb the solder to excess.



4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. (Refer to Fig. 2-8.)



5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass. Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

#### NOTE

When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, always be sure to replace the IC in this case.

## SERVICE MODE LIST

This unit is provided with the following SERVICE MODES so you can repair, examine and adjust easily.

To enter to the SERVICE MODE function, press and hold both buttons simultaneously on the main unit and on the remote control for more than the standard time in the appropriate condition. (See below chart.)

| Set Condition | Set Key             | Remocon Key | Standard Time | Operations                                                                                                                                                       |
|---------------|---------------------|-------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TV mode       | VOL. DOWN (Minimum) | 0           | 2 sec.        | Reset the user setting items (PICTURE, AUDIO, VOLUME, LANGUAGE and NICAM AUDIO/OFF) to the initial state for delivery.                                           |
| TV mode       | VOL. DOWN (Minimum) | 1           | 2 sec.        | Initialization of factory TV data.<br>NOTE: If you set factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours. |
| TV mode       | VOL. DOWN (Minimum) | 2           | 2 sec.        | Check of the SUM DATA and MICON VERSION on the screen. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".                                                         |
| TV mode       | VOL. DOWN (Minimum) | 6           | 2 sec.        | POWER ON total hours are displayed on the screen. Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".             |
| ALL mode      | VOL. DOWN (Minimum) | 9           | 2 sec.        | Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).                                               |

## WHEN REPLACING EEPROM (MEMORY) IC

### CONFIRMATION OF CHECK SUM, POWER ON TOTAL HOURS AND MICON VERSION

Initial total of MEMORY IC, POWER ON total hours and MICON VERSION can be checked on the screen. Total hours are displayed in 16 system of notation.

**NOTE: If you set a factory initialization, the total hours is reset to "0".**

Please refer to "CONFIRMATION OF INITIAL DATA" when SUM DATA is not corresponding.

1. Turn on the POWER, and set to the TV mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button (2) on the remote control for more than 2 seconds.
4. After the confirmation of POWER ON total hours and MICON VERSION, turn off the power.

|               | ADDRESS      | DATA |                                                                                                                                                              |
|---------------|--------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | INIT         | 827E | Initial setting content of MEMORY IC.                                                                                                                        |
|               | ROM          | 0000 | Rom correction data check sum.                                                                                                                               |
|               | ADC          | BA04 | AD CONVERTER data check sum.                                                                                                                                 |
|               | DVP          | 668C | SCALER data check sum.                                                                                                                                       |
|               | PDP ON       | 0010 | POWER ON total hours.<br>= (16 x 16 x 16 x thousands digit value)<br>+ (16 x 16 x hundreds digit value)<br>+ (16 x tens digit value)<br>+ (ones digit value) |
| MICON Version | OEC7151A_042 |      |                                                                                                                                                              |

FIG. 1

### CONFIRMATION OF INITIAL DATA

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to INITIAL SETTING TABLE (Attached "INITIAL DATA").

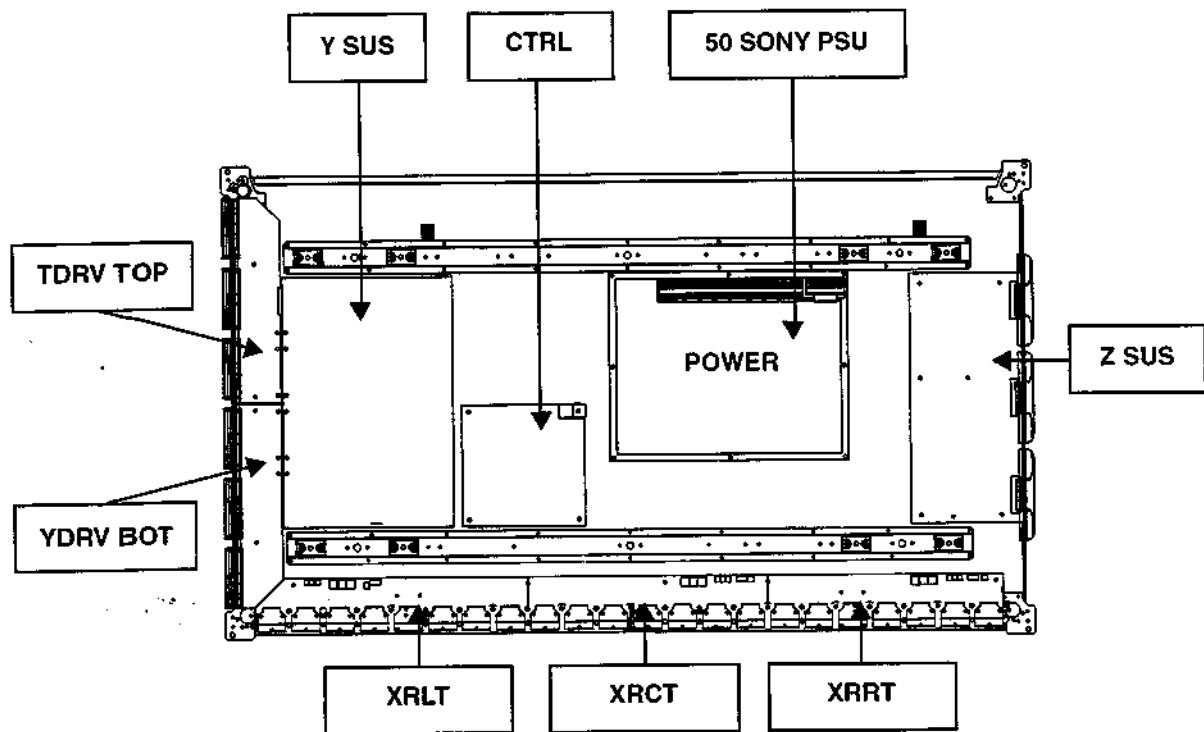
1. Turn on the POWER, and set to the TV mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button (6) on the remote control for more than 2 seconds.  
ADDRESS and DATA should appear as FIG 2.

|              | ADDRESS | DATA |
|--------------|---------|------|
| OEC7151A_042 |         |      |
| INIT         | 0001    | A8   |
| PDP ON       | 0010    |      |

FIG. 2

4. ADDRESS is now selected and should "blink". Using the RIGHT/LEFT button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
5. Press ENTER to select DATA. When DATA is selected, it will "blink".
6. Again, step through the DATA using RIGHT/LEFT button until required DATA value has been selected.
7. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
8. Repeat steps 4 to 7 until all data has been checked.
9. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.  
**After the data input, set to the initializing of shipping.**
10. Turn on the POWER, and set to the TV mode.
11. Press both VOL. DOWN button on the set and Channel button (1) on the remote control for more than 2 seconds.
12. After the finishing of the initializing of shipping, the unit will turn off automatically.  
The unit will now have the correct DATA for the new MEMORY IC.

## FUNCTION OF PCB



|             |                                                                                                                                                                                              |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 50 SONY PSU | : A supplier which supplies voltage and current to each PCB and Panel.                                                                                                                       |
| Y SUS       | : According to the timing provided from Panel Control, switches FETs and generates driving waveform signal which is provided to Y electrode through Scan Driver IC of TDRV TOP and TDRV BOT. |
| Z SUS       | : According to the timing provided from Panel Control, switches FETs and generates driving waveform signal which is provided to Z electrode through Connector.                               |
| CTRL        | : Controls Y electrode, Z electrode, and ADDRESS electrode.                                                                                                                                  |
| XRLT        | : Generates Address electrode and supplies to Address electrode by Driver IC.                                                                                                                |
| XRCT        | : Generates Address electrode and supplies to Address electrode by Driver IC.                                                                                                                |
| XRRT        | : Generates Address electrode and supplies to Address electrode by Driver IC.                                                                                                                |
| TDRV TOP    | : Generates Scan electrode and supplies to Y electrode by Driver IC.                                                                                                                         |
| TDRV BOT    | : Generates Scan electrode and supplies to Y electrode by Driver IC.                                                                                                                         |

# ELECTRICAL ADJUSTMENTS

## 1. ADJUSTMENT PROCEDURE

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

### CAUTION

- Use an isolation transformer when performing any service on this chassis.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor with a heat sink, apply silicon grease (YG6260M) on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damage to the IC and Transistor).

Prepare the following measurement tools for electrical adjustments.

1. Pattern Generator

## 2. BASIC ADJUSTMENTS

### On-Screen Display Adjustment

1. Set the VOLUME to minimum.
2. Press the VOL. DOWN button on the set and the channel button (9) on the remote control for more than 2 seconds to display adjustment mode on the screen as shown in Fig. 2-1.

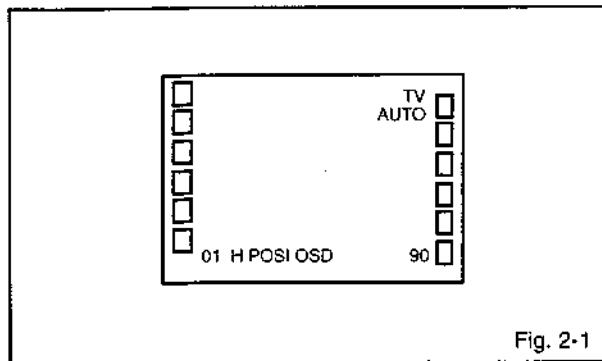


Fig. 2-1

3. Use the Channel UP/DOWN button or Channel button (0-9) on the remote control to select the options shown in Fig. 2-2.
4. Press the MENU button on the remote control to end the adjustments.
5. To display the adjustment screen for AV, HD-MI, COMPONENT and PC mode, press the INPUT SELECT button on the remote control to set to the AV, HD-MI, COMPONENT and PC mode. Press the VOL.DOWN button on the set and the channel (9) on the remote control for more than 2 seconds.

| NO. | FUNCTION      | NO. | FUNCTION        |
|-----|---------------|-----|-----------------|
| 01  | H POSI OSD    | 19  | B DRIVE (W)     |
| 02  | V POSI OSD    | 20  | B CUT OFF (W)   |
| 03  | R DRIVE (N)   | 21  | H POSI 50Hz     |
| 04  | R CUT OFF (N) | 22  | H POSI 60Hz     |
| 05  | G DRIVE (N)   | 23  | V POSI 50Hz     |
| 06  | G CUT OFF (N) | 24  | V POSI 60Hz     |
| 07  | B DRIVE (N)   | 28  | BRIGHT CENT     |
| 08  | B CUT OFF (N) | 29  | BRIGHT MAX      |
| 09  | R DRIVE (C)   | 30  | BRIGHT MIN      |
| 10  | R CUT OFF (C) | 31  | TINT            |
| 11  | G DRIVE (C)   | 35  | CONTRAST CENTER |
| 12  | G CUT OFF (C) | 36  | CONTRAST MAX    |
| 13  | B DRIVE (C)   | 37  | CONTRAST MIN    |
| 14  | B CUT OFF (C) | 38  | COLOR CENT      |
| 15  | R DRIVE (W)   | 39  | COLOR MAX       |
| 16  | R CUT OFF (W) | 40  | COLOR MIN       |
| 17  | G DRIVE (W)   | 41  | H POSI TEXT     |
| 18  | G CUT OFF (W) | 42  | V POSI TEXT     |

Fig. 2-2

### 2-1: CONTRAST CENT

1. Receive the monoscope pattern.(RF Input)
2. Activate the adjustment mode display of Fig. 2-1 and press the channel button (35) on the remote control to select "CONTRAST CENTER".
3. Check if the step No. CONT CENT is "150".
4. Receive a broadcast and check if the picture is normal.
5. Press the INPUT SELECT button on the remote control to set to the AV mode. Then perform the above adjustments 1~2.
6. Check if the step No. CONT CENT is "140".
7. Receive a broadcast and check if the picture is normal.
8. Receive a RGB signal.  
(Ex. By the DVD PLAYER, it's the RGB mode setting.)
9. Activate the adjustment mode display of Fig. 2-1 and press the channel button (35) on the remote control to select "CONTRAST CENT".
10. Check if the step No. CONT CENT is "140".
11. Receive a broadcast and check if the picture is normal.
12. Playback the DVD disc. (480i input)
13. Press the INPUT SELECT button on the remote control to set to the HDMI mode.
14. Activate the adjustment mode display of Fig. 2-1 and press the channel button (35) on the remote control to select "CONTRAST CENTER".
15. Check if the step No. CONT CENT is "155".
16. Receive a broadcast and check if the picture is normal.

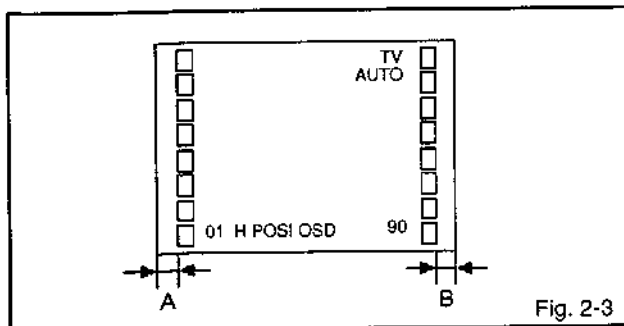
## ELECTRICAL ADJUSTMENTS

### 2-2: WHITE BALANCE

1. Place the set in Aging Test for more than 15 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Press the INPUT SELECT button on the remote control to set to the AV mode.
4. Using the remote control, set the brightness and contrast to normal position.
5. Activate the adjustment mode display of Fig. 2-1 and press the channel button (03) on the remote control to select "R DRIVE (N)".
6. Press the CH. UP/DOWN button on the remote control to select the "R CUTOFF (N)", "B.DRIVE(N)", "B CUTOFF (N)", "R DRIVE (C)", "R CUTOFF (C)", "B.DRIVE(C)", "B CUTOFF (C)", "R DRIVE (W)", "R CUTOFF (W)", "B.DRIVE(W)" and "B CUTOFF (W)".
7. Adjust the VOL. UP/DOWN button on the remote control to whiten the R CUTOFF (N), B.DRIVE(N), B CUTOFF (N), R DRIVE (C), R CUTOFF (C), B.DRIVE(C), B CUTOFF (C), R DRIVE (W), R CUTOFF (W), B.DRIVE(W) and B CUTOFF (W) at each step tone sections equally.
8. Perform the above adjustments 6 and 7 until the white color is looked like a white.

### 2-3: H OSD POSITION

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of Fig. 2-1 and press the channel button (01) on the remote control to select "H POSI OSD".
4. Press the LEFT/RIGHT button on the remote control until the difference of A and B becomes minimum. (Refer to Fig. 2-3)



### 2-4: BRIGHT CENT

1. Receive the monoscope pattern. (RF Input)
2. Set the screen mode to FULL.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of Fig. 2-1 and press the channel button (28) on the remote control to select "BRIGHT CENT".
5. Press the VOL. UP/DOWN button on the remote control until the white 2.7% is starting to be visible.
6. Receive the monoscope pattern.
7. Press the INPUT SELECT button on the remote control to set to the AV mode. Then perform the above adjustments 2~5.
8. Receive the monoscope pattern. (RGB signal Input)
9. Activate the adjustment mode display of Fig. 2-1 and press the channel button (28) on the remote control to select "BRIGHT CENT".
10. Press the VOL. UP/DOWN button on the remote control until the white 2.7% is starting to be visible.
11. Playback the DVD disc. (480i input)
12. Press the INPUT SELECT button on the remote control to set to the HDMI mode.
13. Activate the adjustment mode display of Fig. 2-1 and press the channel button (28) on the remote control to select "BRIGHT CENT".
14. Press the VOL. UP/DOWN button on the remote control until the white 2.7% is starting to be visible.

# ELECTRICAL ADJUSTMENTS

## 2-5: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of each the adjustment items are set correctly referring below.

(TV/AV/RGB/CS/PC/HD-MI)

| NO. | FUNCTION        | TV       |       | AV  |       |      | 21PIN RGB |      |
|-----|-----------------|----------|-------|-----|-------|------|-----------|------|
|     |                 | PAL      | SECAM | PAL | SECAM | NTSC | PAL       | NTSC |
|     |                 | Step No. |       |     |       |      |           |      |
| 1   | H POSI OSD      | 23       | 23    | 23  | 23    | 23   | 23        | 23   |
| 2   | V POST OSD      | 106      | 106   | 106 | 106   | 106  | 106       | 106  |
| 3   | R DRIVE N       | 119      | 119   | 119 | 119   | 119  | 119       | 119  |
| 4   | R CUT OFF N     | 130      | 130   | 130 | 130   | 130  | 130       | 130  |
| 5   | G DRIVE N       | 128      | 128   | 128 | 128   | 128  | 128       | 128  |
| 6   | G CUT OFF N     | 128      | 128   | 128 | 128   | 128  | 128       | 128  |
| 7   | B DRIVE N       | 122      | 122   | 122 | 122   | 122  | 122       | 122  |
| 8   | B CUT OFF N     | 131      | 131   | 131 | 131   | 131  | 131       | 131  |
| 9   | R DRIVE C       | 115      | 115   | 115 | 115   | 115  | 115       | 115  |
| 10  | R CUT OFF C     | 131      | 131   | 131 | 131   | 131  | 131       | 131  |
| 11  | G DRIVE C       | 128      | 128   | 128 | 128   | 128  | 128       | 128  |
| 12  | G CUT OFF C     | 128      | 128   | 128 | 128   | 128  | 128       | 128  |
| 13  | B DRIVE C       | 128      | 128   | 128 | 128   | 128  | 128       | 128  |
| 14  | B CUT OFF C     | 130      | 130   | 130 | 130   | 130  | 130       | 130  |
| 15  | R DRIVE W       | 125      | 125   | 125 | 125   | 125  | 125       | 125  |
| 16  | R CUT OFF W     | 131      | 131   | 131 | 131   | 131  | 131       | 131  |
| 17  | G DRIVE         | 128      | 128   | 128 | 128   | 128  | 128       | 128  |
| 18  | G CUT OFF W     | 128      | 128   | 128 | 128   | 128  | 128       | 128  |
| 19  | B DRIVE W       | 121      | 121   | 121 | 121   | 121  | 121       | 121  |
| 20  | B CUT OFF W     | 132      | 132   | 132 | 132   | 132  | 132       | 132  |
| 21  | H POSI 50Hz     | 316      | 316   | 316 | 316   | 316  | 310       | 310  |
| 22  | H POSI 60Hz     | 282      | 282   | 282 | 282   | 282  | 286       | 286  |
| 23  | V POSI 50Hz     | 24       | 24    | 24  | 24    | 24   | 24        | 24   |
| 24  | V POSI 60Hz     | 26       | 26    | 26  | 26    | 26   | 26        | 26   |
| 28  | BRIGHT CENT     | 126      | 126   | 131 | 131   | 131  | 128       | 128  |
| 29  | BRIGHT MAX      | 170      | 170   | 170 | 170   | 170  | 170       | 170  |
| 30  | BRIGHT MIN      | 90       | 90    | 90  | 90    | 90   | 90        | 90   |
| 31  | TINT            | 113      | 113   | 128 | 128   | 123  | 135       | 122  |
| 35  | CONTRAST CENTER | 150      | 150   | 140 | 140   | 140  | 140       | 140  |
| 36  | CONTRAST MAX    | 180      | 180   | 170 | 170   | 170  | 170       | 170  |
| 37  | CONTRAST MIN    | 40       | 40    | 40  | 40    | 40   | 40        | 40   |
| 38  | COLOR CENT      | 79       | 79    | 77  | 77    | 77   | 165       | 165  |
| 39  | COLOR MAX       | 120      | 120   | 120 | 120   | 120  | 220       | 220  |
| 40  | COLOR MIN       | 0        | 0     | 0   | 0     | 0    | 0         | 0    |
| 41  | H POSI TEXT     | 180      | 180   | 180 | 180   | 180  | 180       | 180  |
| 42  | V POSI TEXT     | 86       | 86    | 86  | 86    | 86   | 86        | 86   |

# ELECTRICAL ADJUSTMENTS

## 2-5: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of each the adjustment items are set correctly referring below.

(TV/AV/RGB/CS/PC/HD-MI)

| NO. | FUNCTION        | COMPONENT |      |      |       |      |      |      |       |
|-----|-----------------|-----------|------|------|-------|------|------|------|-------|
|     |                 | 60Hz      |      |      |       | 50Hz |      |      |       |
|     |                 | 480i      | 480p | 720p | 1080i | 576i | 576p | 720p | 1080i |
|     |                 | Step No.  |      |      |       |      |      |      |       |
| 1   | H POSI OSD      | 23        | 23   | 23   | 23    | 23   | 23   | 23   | 23    |
| 2   | V POST OSD      | 106       | 106  | 106  | 106   | 106  | 106  | 106  | 106   |
| 3   | R DRIVE N       | 119       | 119  | 119  | ..    | 119  | 119  | 119  | ..    |
| 4   | R CUT OFF N     | 130       | 130  | 130  | 130   | 130  | 130  | 130  | 130   |
| 5   | G DRIVE N       | 128       | 128  | 128  | 128   | 128  | 128  | 128  | 128   |
| 6   | G CUT OFF N     | 128       | 128  | 128  | 128   | 128  | 128  | 128  | 128   |
| 7   | B DRIVE N       | 122       | 122  | 122  | 122   | 122  | 122  | 122  | ..    |
| 8   | B CUT OFF N     | 131       | 131  | 131  | 131   | 131  | 131  | 131  | 131   |
| 9   | R DRIVE C       | 115       | 115  | 115  | 115   | 115  | 115  | 115  | ..    |
| 10  | R CUT OFF C     | 131       | 131  | 131  | 131   | 131  | 131  | 131  | 131   |
| 11  | G DRIVE C       | 128       | 128  | 128  | 128   | 128  | 128  | 128  | 128   |
| 12  | G CUT OFF C     | 128       | 128  | 128  | 128   | 128  | 128  | 128  | 128   |
| 13  | B DRIVE C       | 128       | 128  | 128  | 128   | 128  | 128  | 128  | ..    |
| 14  | B CUT OFF C     | 130       | 130  | 130  | 130   | 130  | 130  | 130  | 130   |
| 15  | R DRIVE W       | 125       | 125  | 125  | 125   | 125  | 125  | 125  | ..    |
| 16  | R CUT OFF W     | 131       | 131  | 131  | 131   | 131  | 131  | 131  | 131   |
| 17  | G DRIVE         | 128       | 128  | 128  | 128   | 128  | 128  | 128  | 128   |
| 18  | G CUT OFF W     | 128       | 128  | 128  | 128   | 128  | 128  | 128  | 128   |
| 19  | B DRIVE W       | 121       | 121  | 121  | 121   | 121  | 121  | 121  | ..    |
| 20  | B CUT OFF W     | 132       | 132  | 132  | 132   | 132  | 132  | 132  | 132   |
| 21  | H POSI 50Hz     | ..        | ..   | ..   | ..    | 258  | 159  | 328  | 134   |
| 22  | H POSI 60Hz     | 283       | 142  | 328  | 134   | ..   | ..   | ..   | ..    |
| 23  | V POSI 50Hz     | ..        | ..   | ..   | ..    | 24   | 26   | 26   | 27    |
| 24  | V POSI 60Hz     | 26        | 27   | 26   | 26    | ..   | ..   | ..   | ..    |
| 28  | BRIGHT CENT     | 132       | 122  | 122  | 122   | 127  | 116  | 116  | 116   |
| 29  | BRIGHT MAX      | 170       | 170  | 170  | 170   | 170  | 170  | 170  | 170   |
| 30  | BRIGHT MIN      | 90        | 90   | 90   | 90    | 90   | 90   | 90   | 90    |
| 31  | TINT            | 125       | 122  | 122  | 122   | 131  | 131  | 131  | 131   |
| 35  | CONTRAST CENTER | 140       | 155  | 155  | 155   | 140  | 155  | 155  | 155   |
| 36  | CONTRAST MAX    | 170       | 185  | 185  | 185   | 170  | 185  | 185  | 185   |
| 37  | CONTRAST MIN    | 40        | 40   | 40   | 40    | 40   | 40   | 40   | 40    |
| 38  | COLOR CENT      | 103       | 62   | 62   | 62    | 92   | 54   | 54   | 54    |
| 39  | COLOR MAX       | 130       | 100  | 100  | 100   | 130  | 100  | 100  | 100   |
| 40  | COLOR MIN       | 0         | 0    | 0    | 0     | 0    | 0    | 0    | 0     |
| 41  | H POSI TEXT     | 180       | 180  | 180  | 180   | 180  | 180  | 180  | 180   |
| 42  | V POSI TEXT     | 86        | 86   | 86   | 86    | 86   | 86   | 86   | 86    |

## ELECTRICAL ADJUSTMENTS

### 2-5: Confirmation of Fixed Value (Step No.)

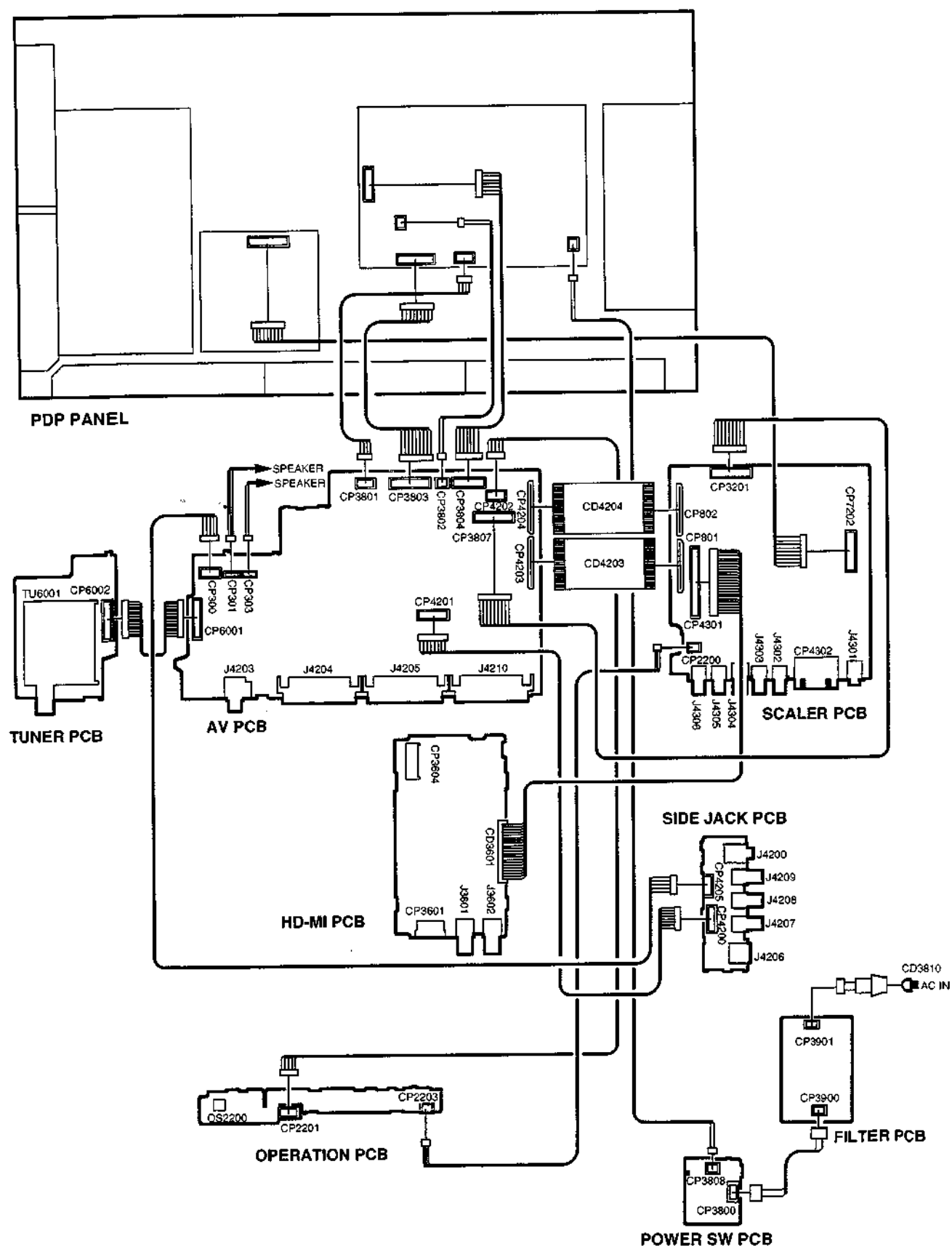
Please check if the fixed values of each the adjustment items are set correctly referring below.

(TV/AV/RGB/CS/PC/HD-MI)

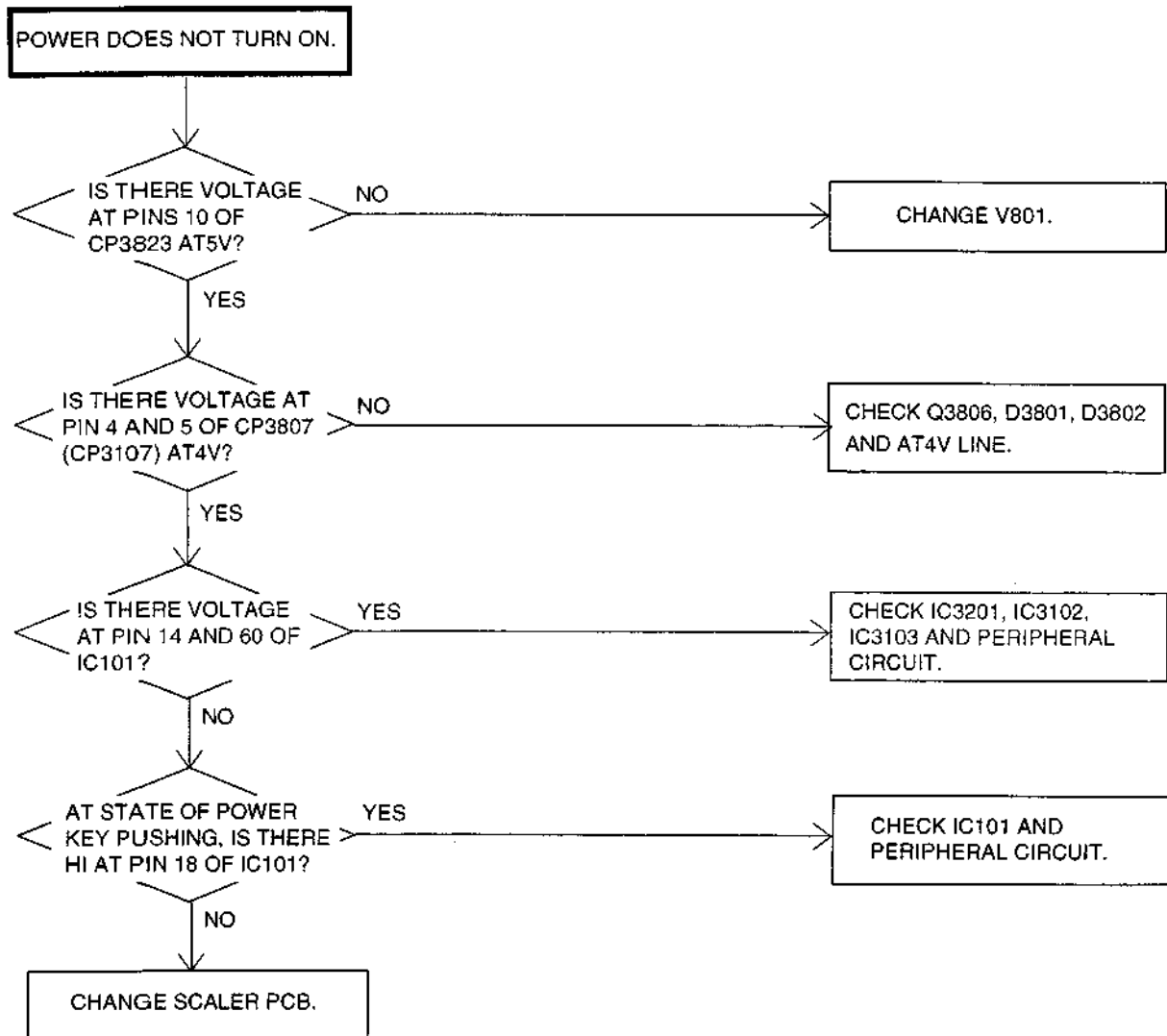
[illegible]

## ELECTRICAL ADJUSTMENTS

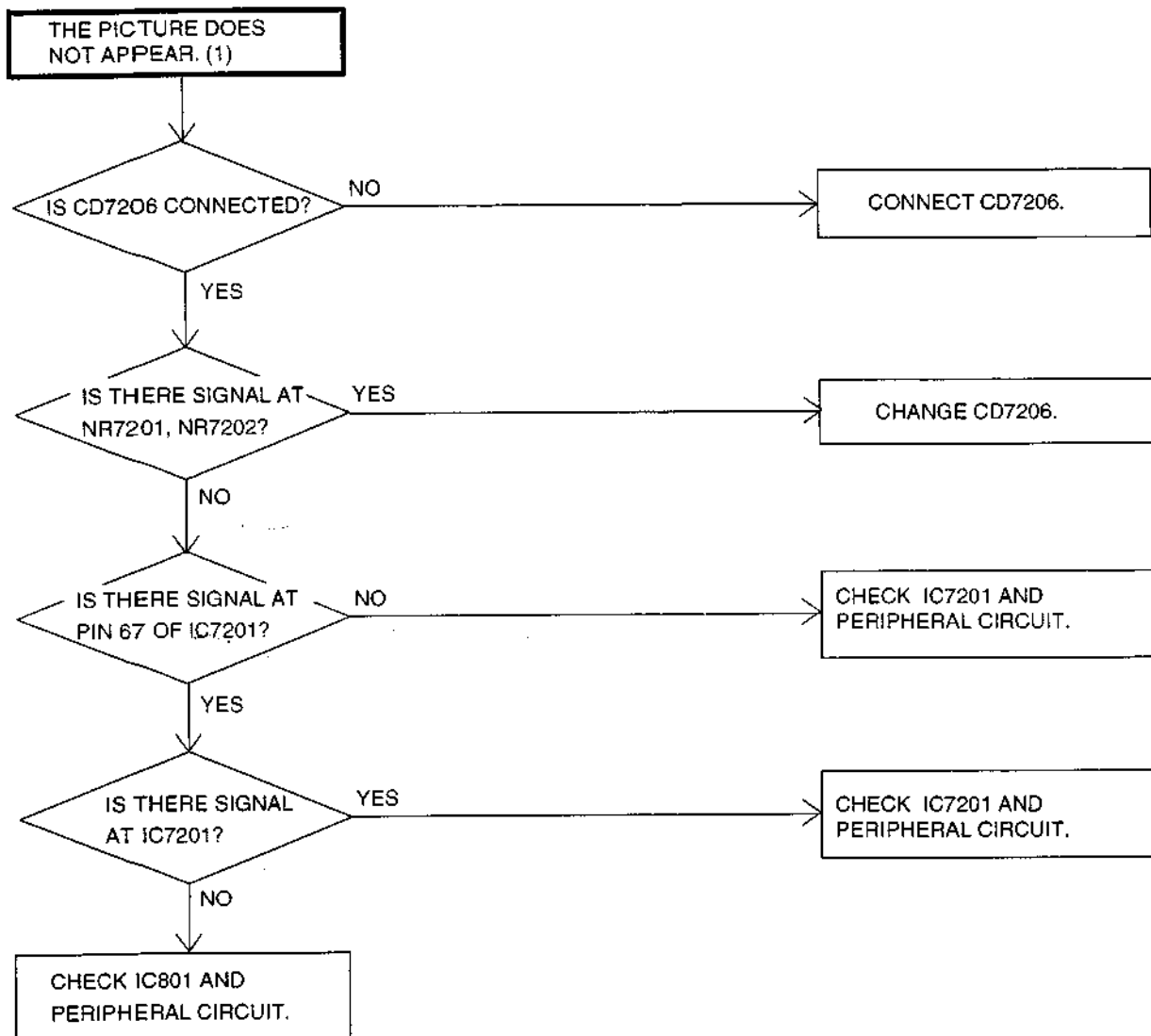
### 3. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



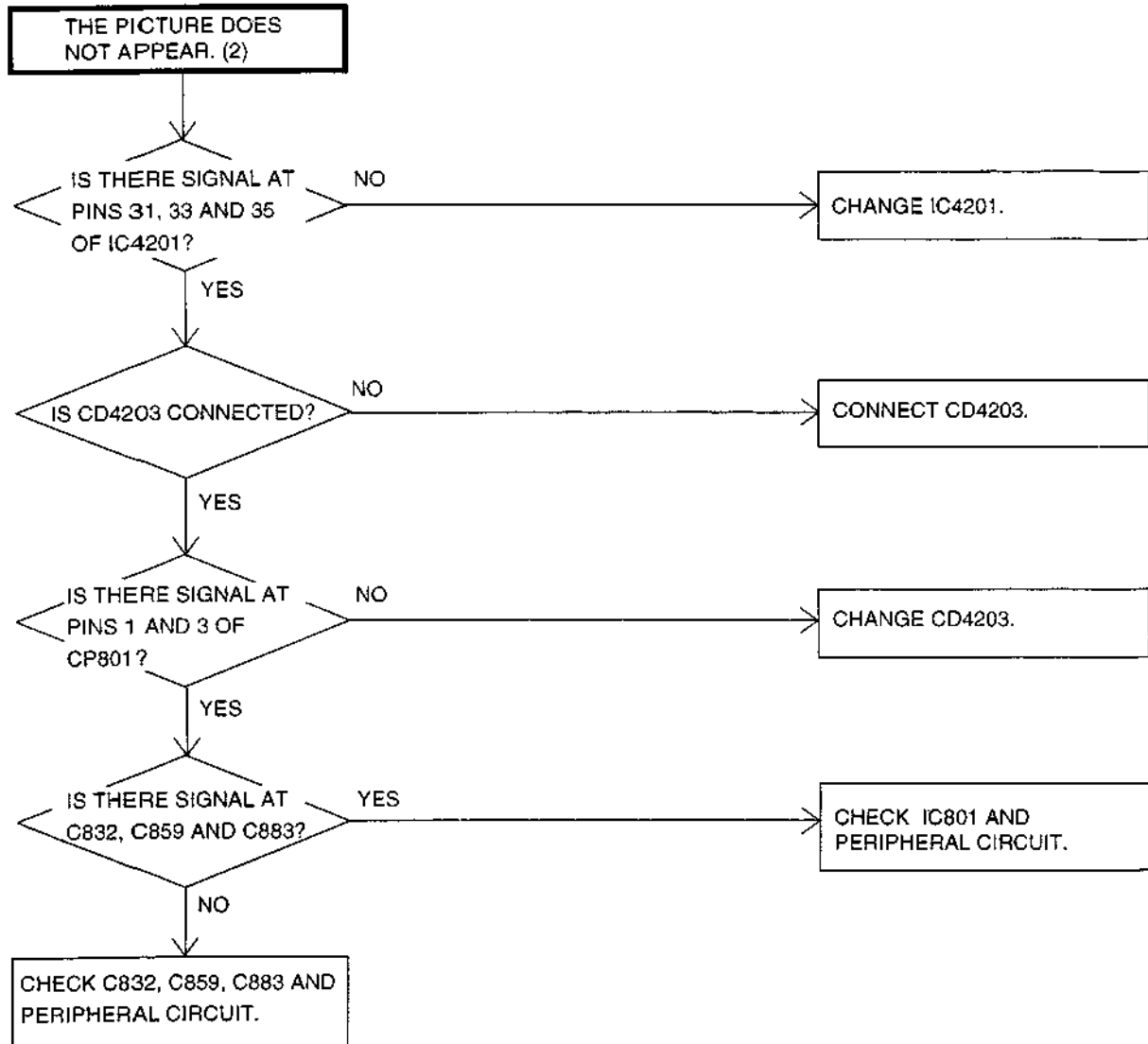
## TROUBLESHOOTING GUIDE



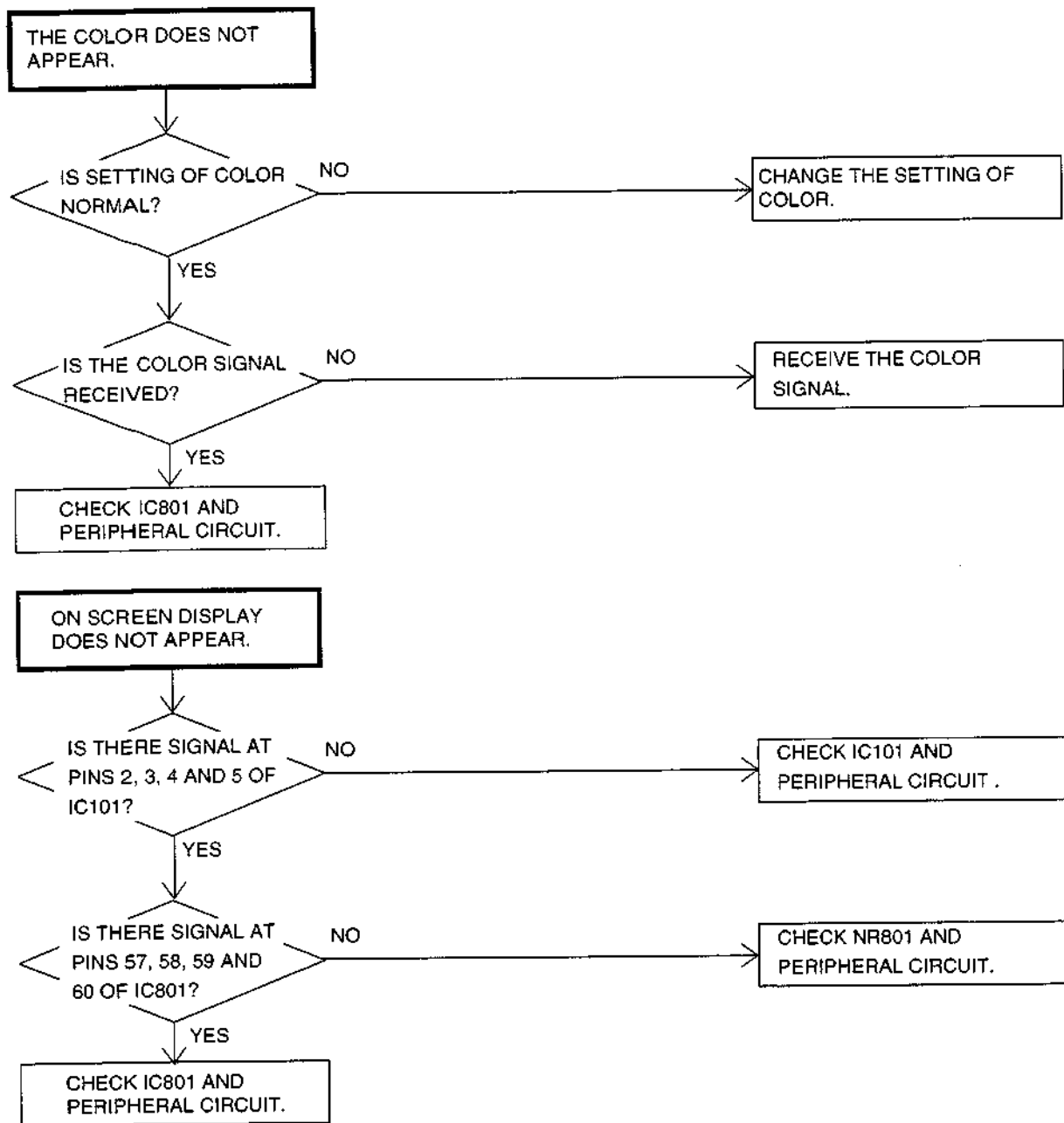
## TROUBLESHOOTING GUIDE



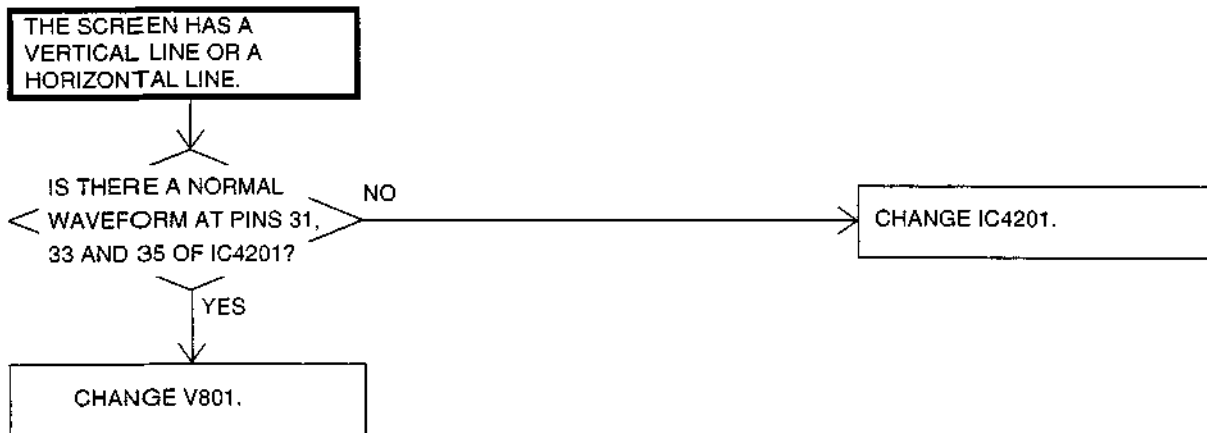
## TROUBLESHOOTING GUIDE



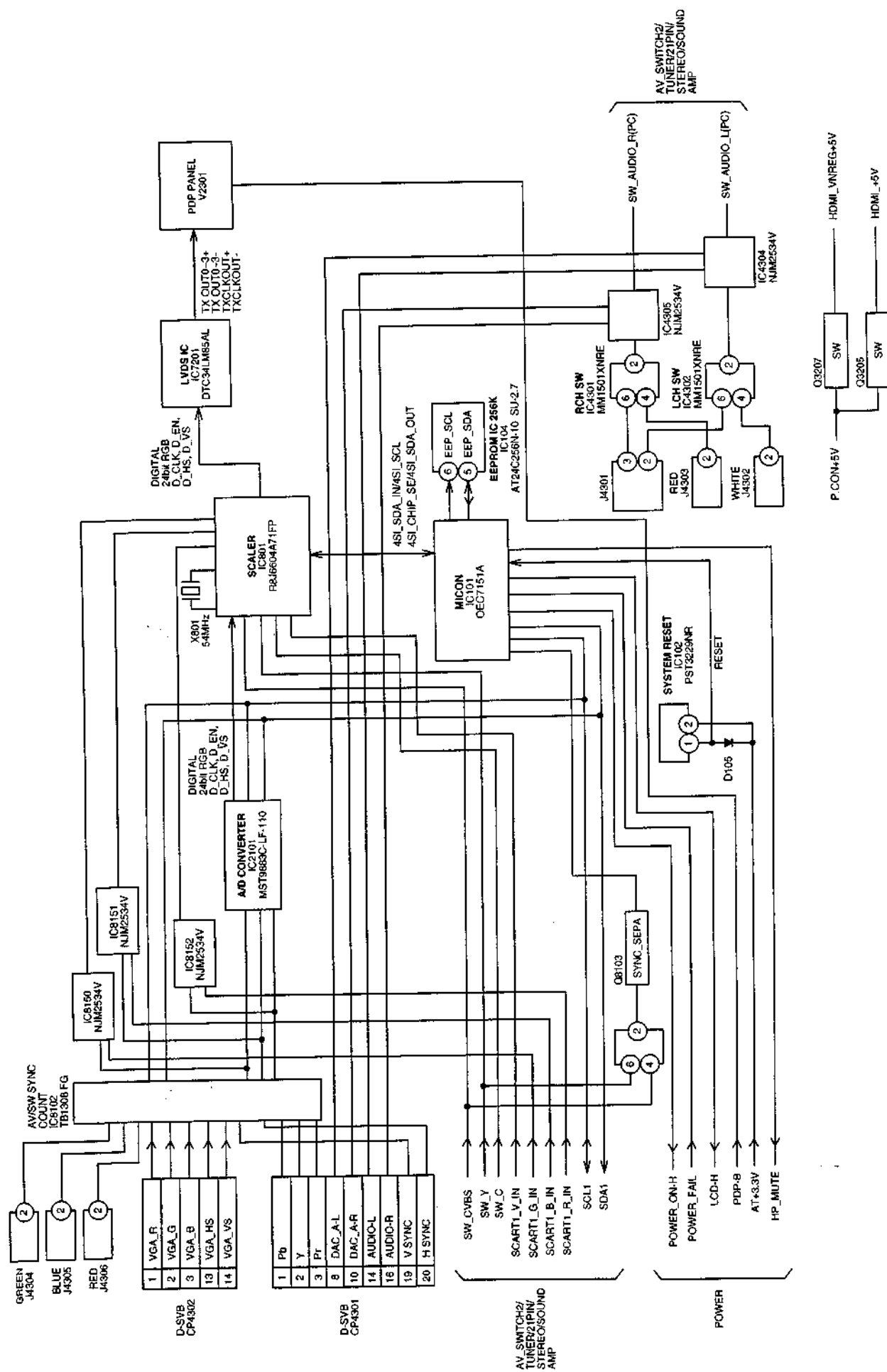
## TROUBLESHOOTING GUIDE



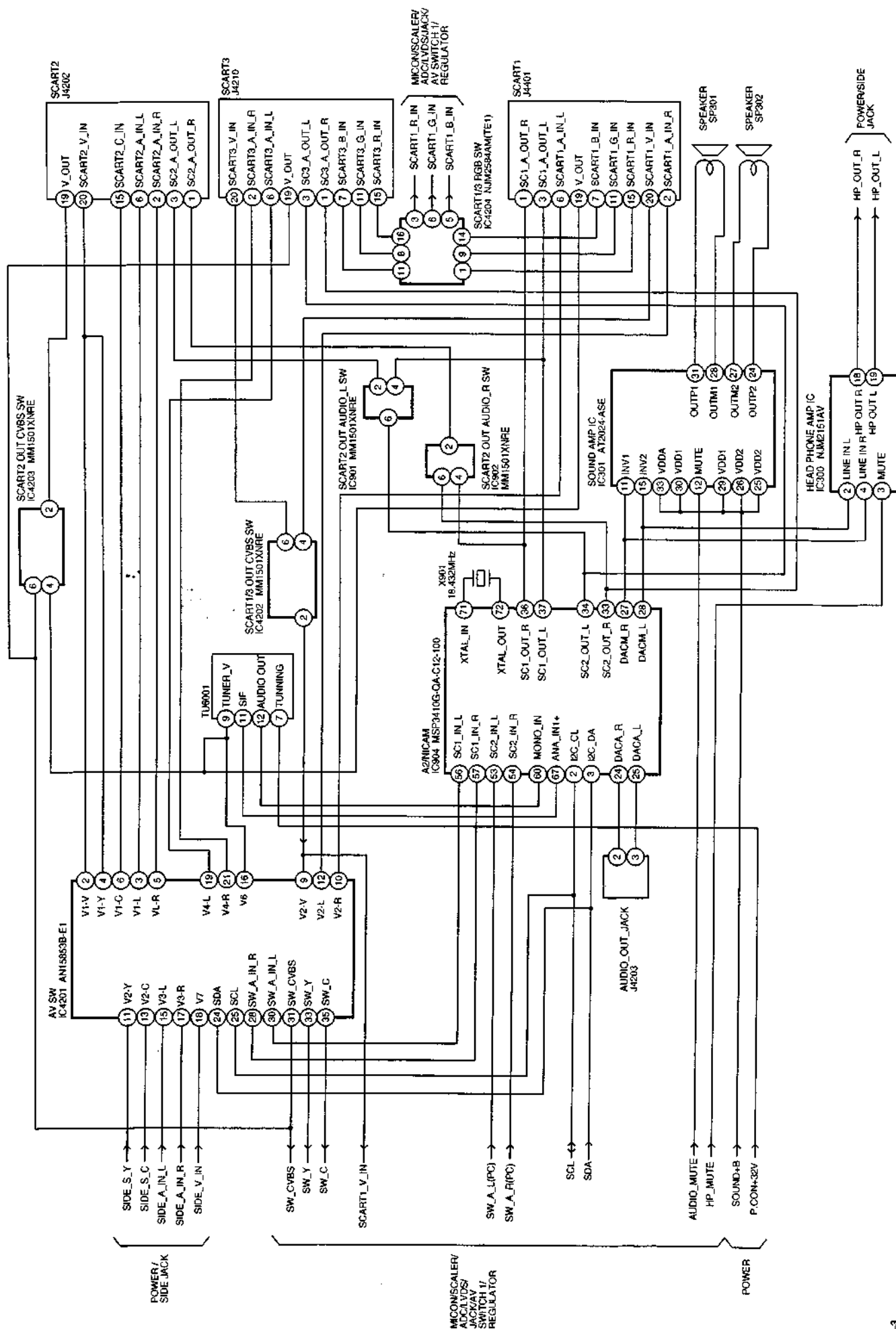
## TROUBLESHOOTING GUIDE



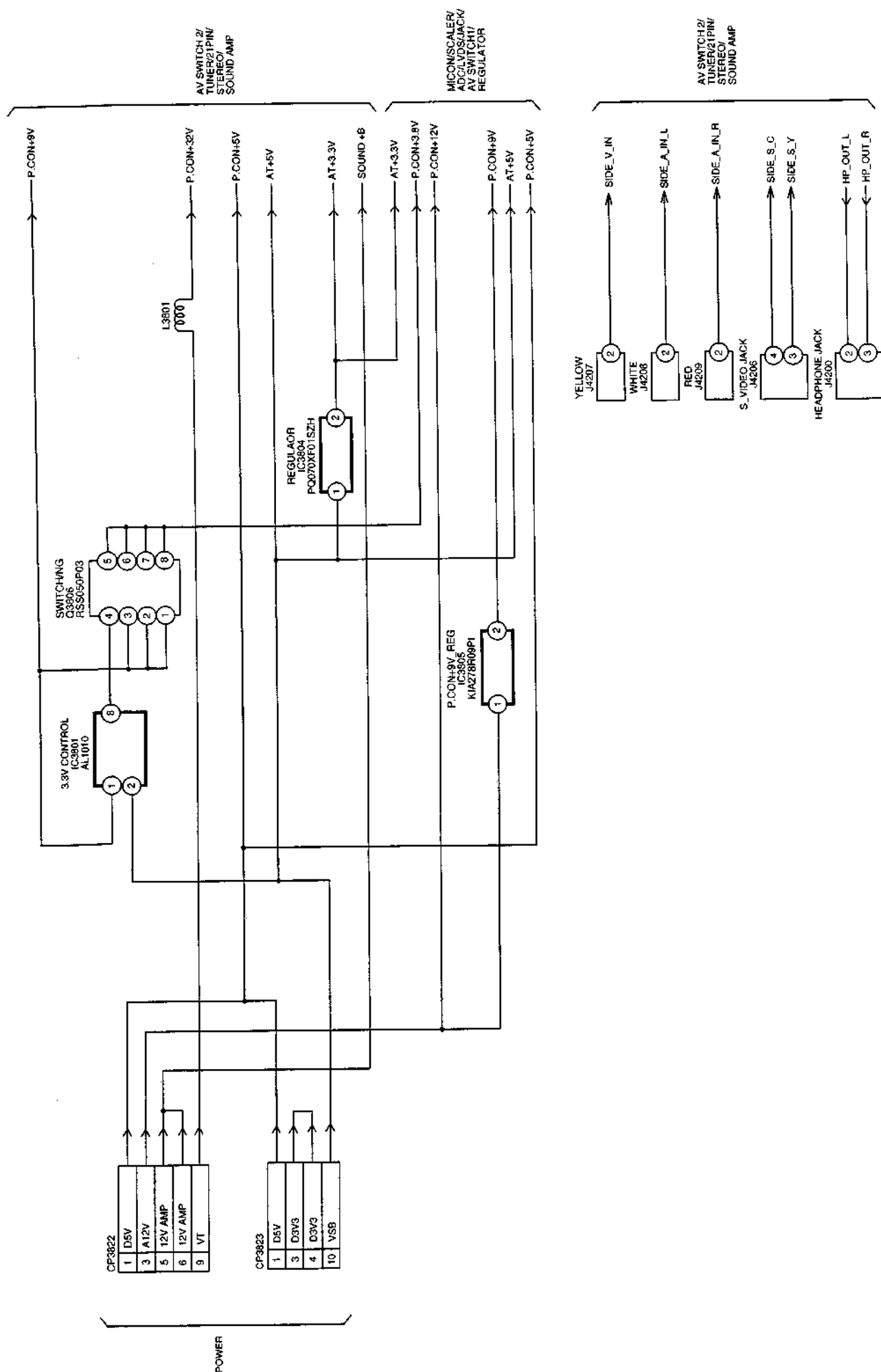
**MICON/SCALER/ADC/LVDS/JACK/AV\_SW1/REGULATOR BLOCK DIAGRAM**



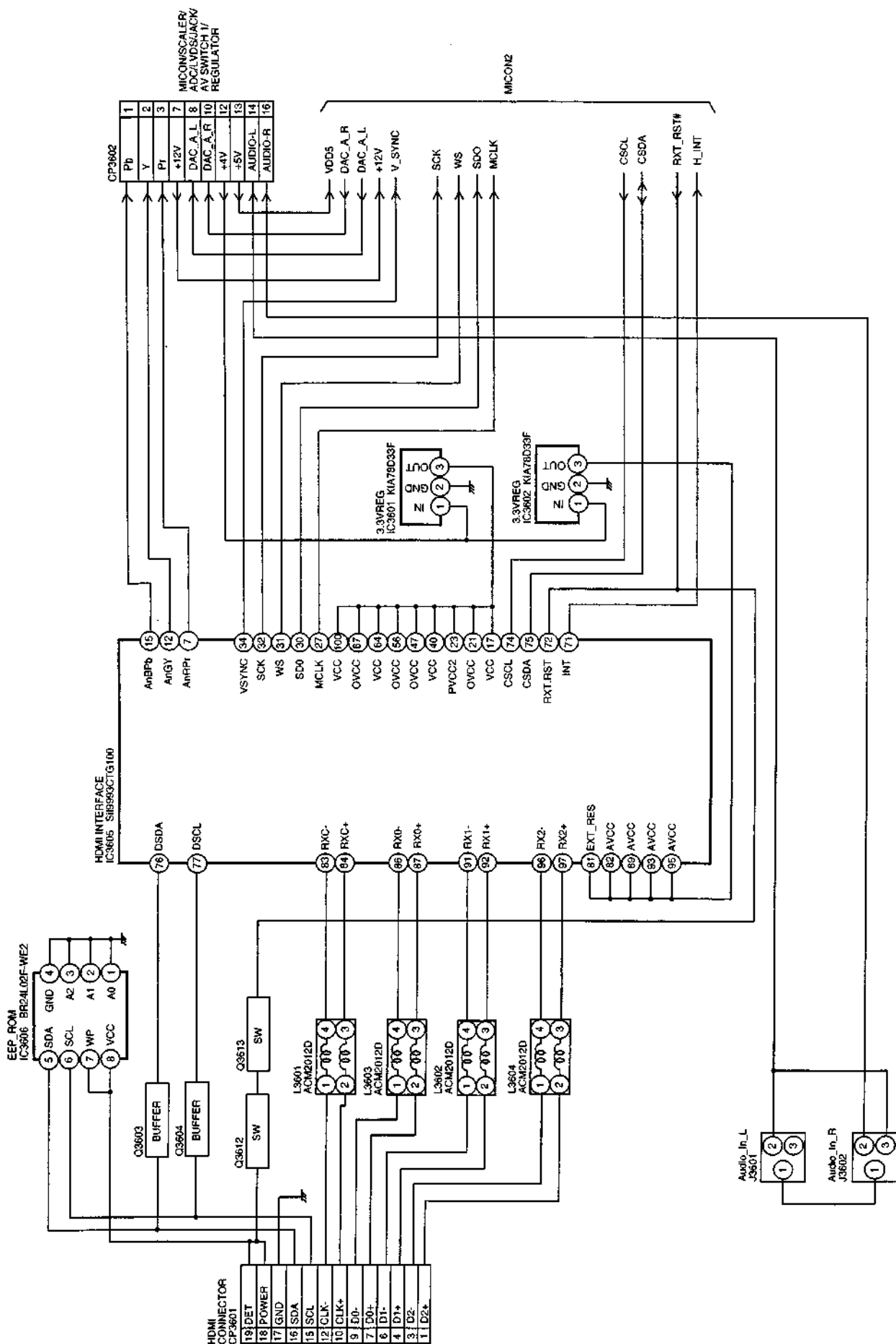
### AV SWITCH 2TUNER/21PIN/STEREO/SOUND AMP BLOCK DIAGRAM



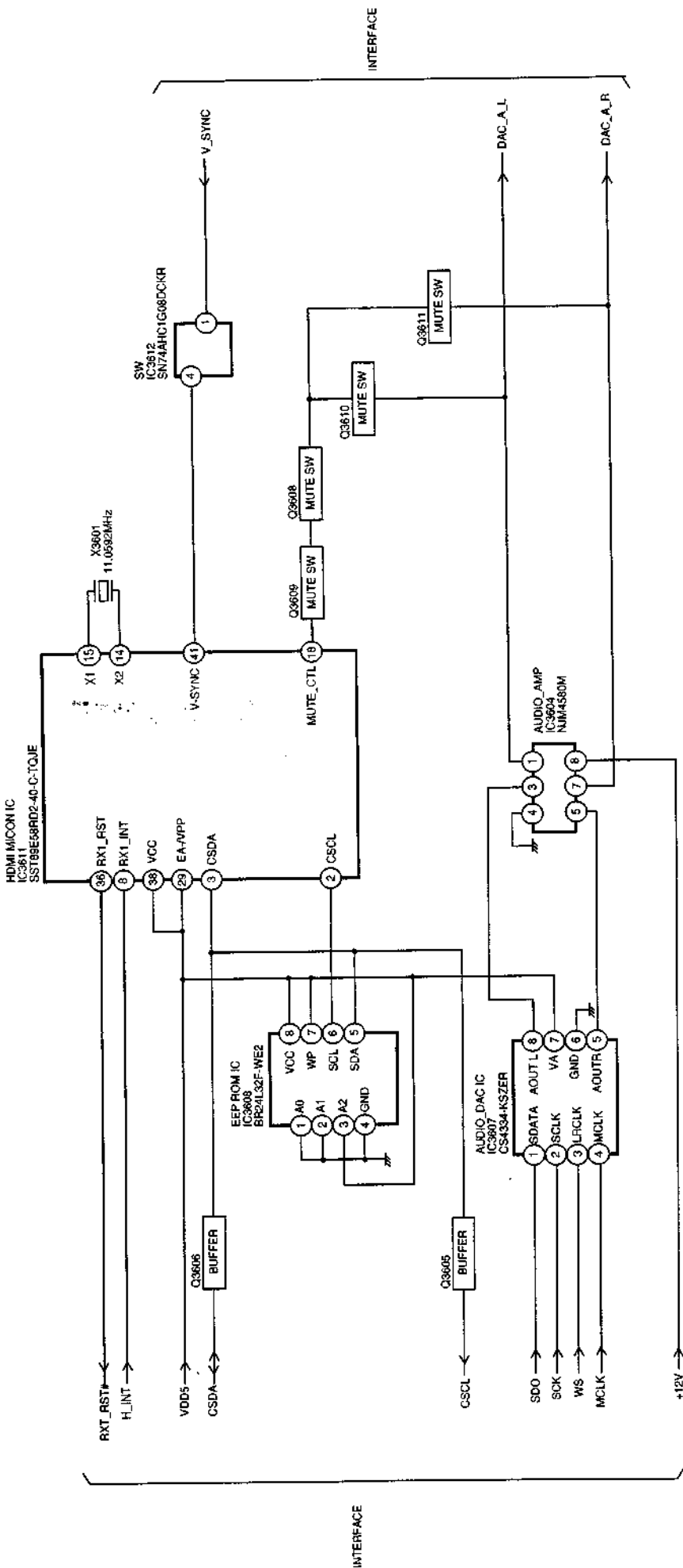
# POWER/SIDE JACK BLOCK DIAGRAM



# INTERFACE BLOCK DIAGRAM

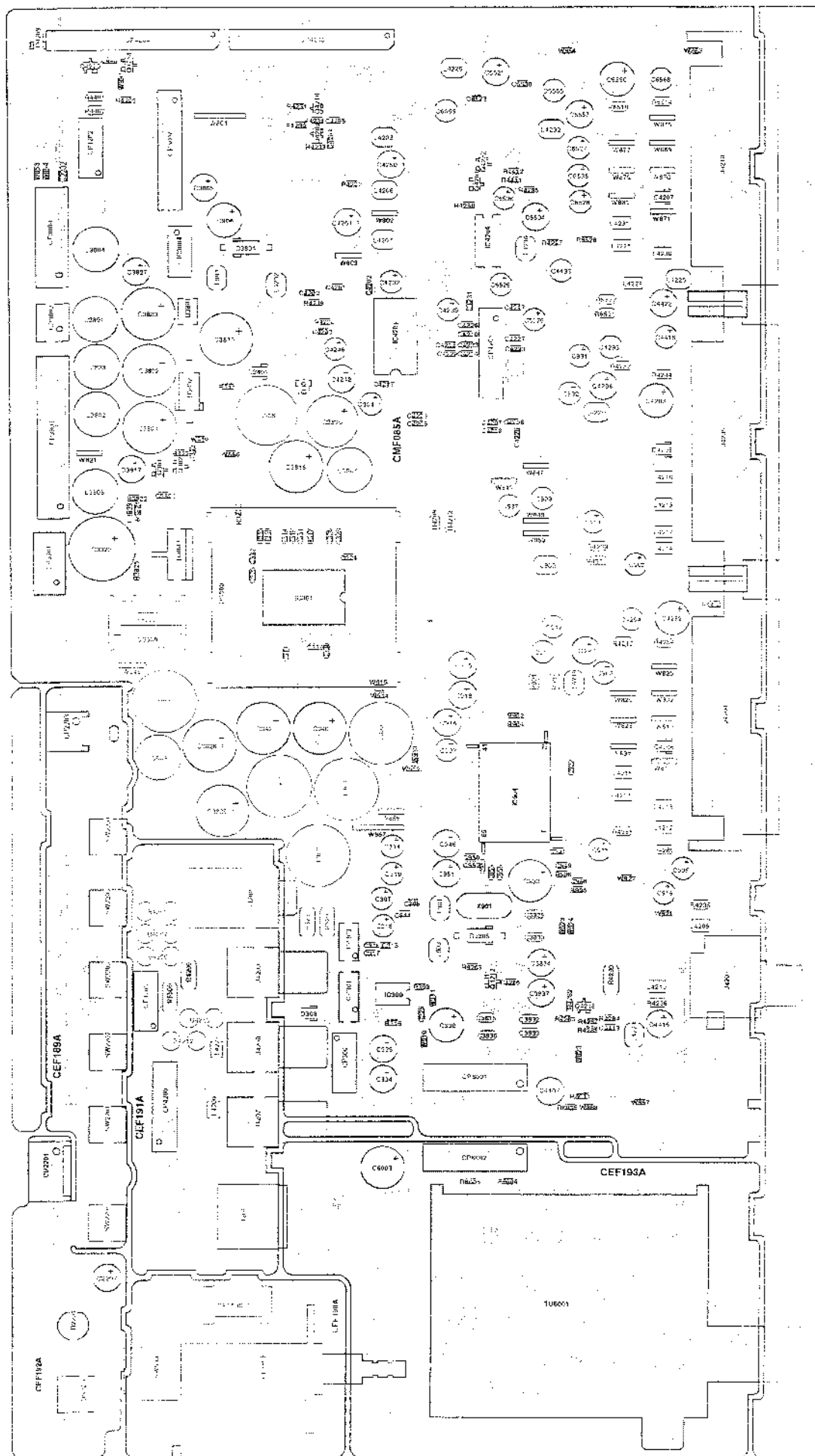


## MICON2 BLOCK DIAGRAM



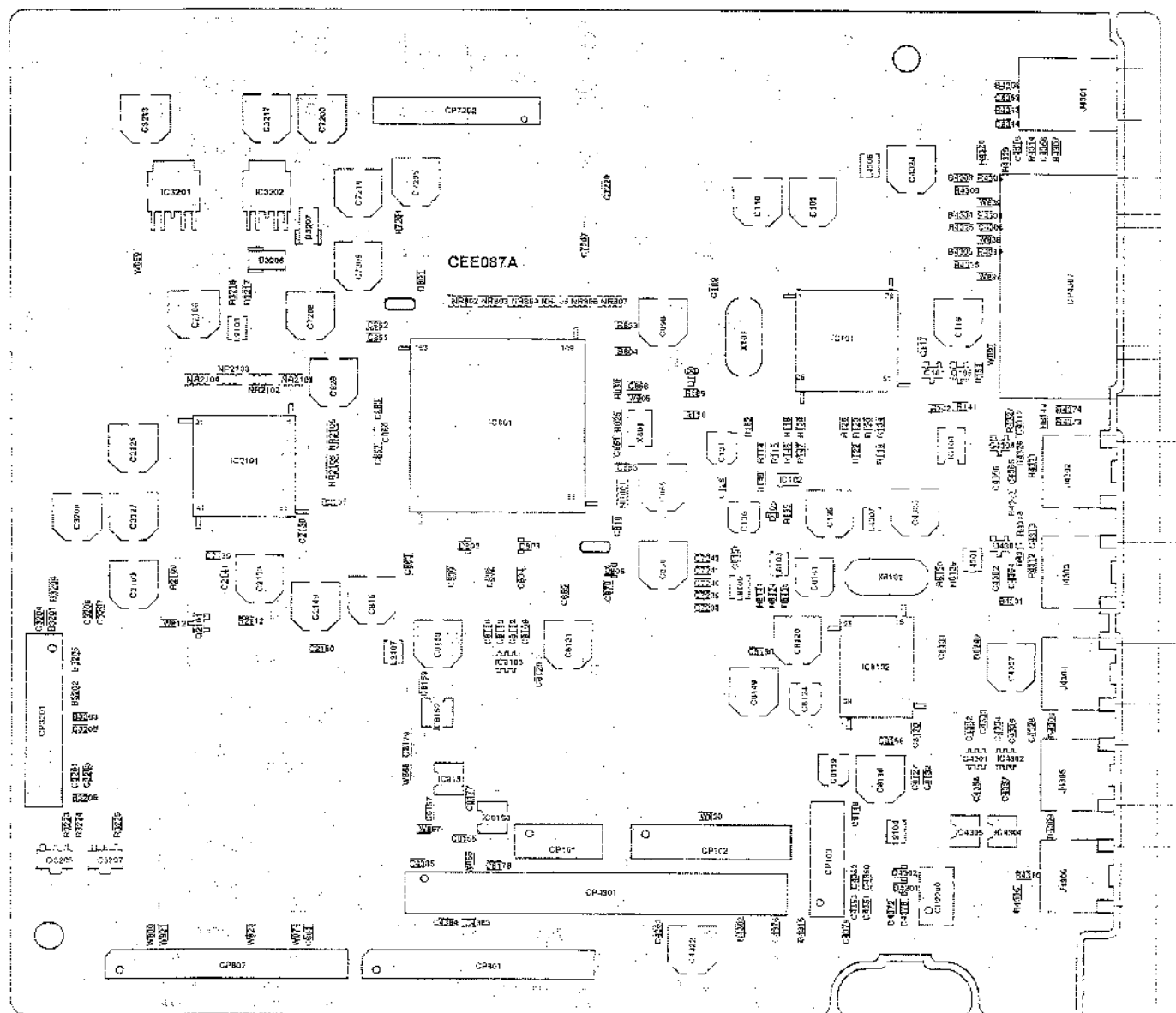
# PRINTED CIRCUIT BOARDS

## AV/OPERATION/TUNER/POWER SW/SIDE JACK (TOP SIDE)





## SCALER (TOP SIDE)

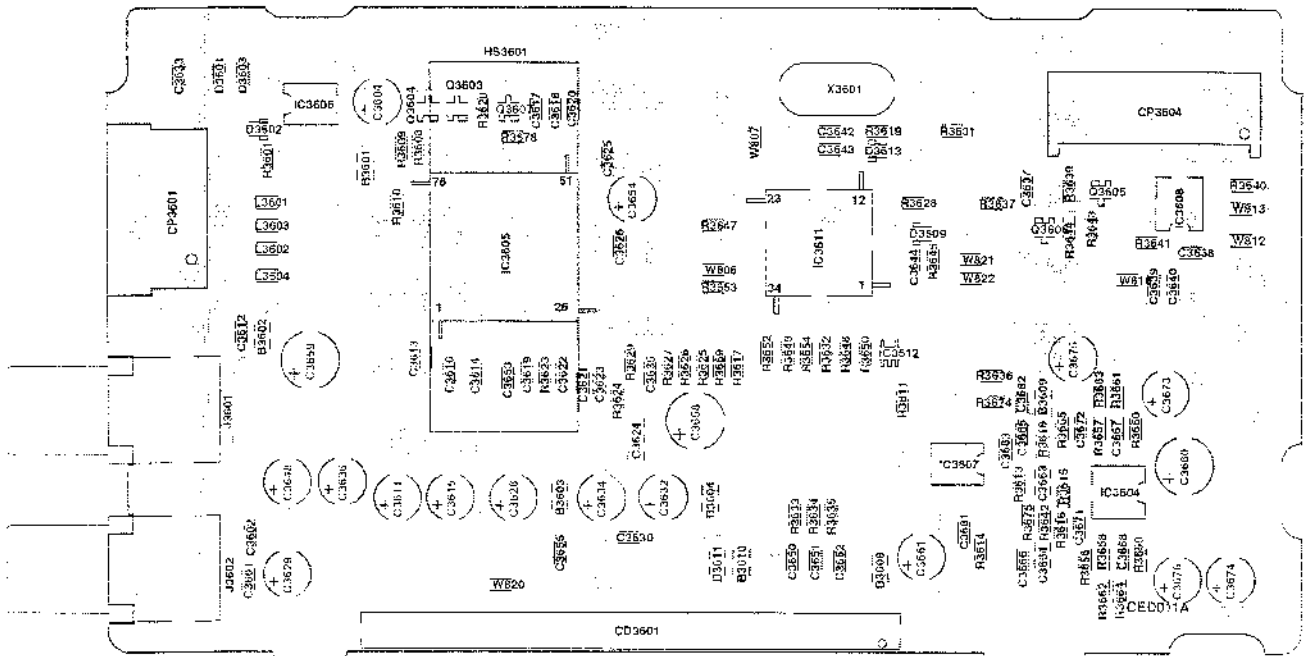


SCALER (BOTTOM SIDE)

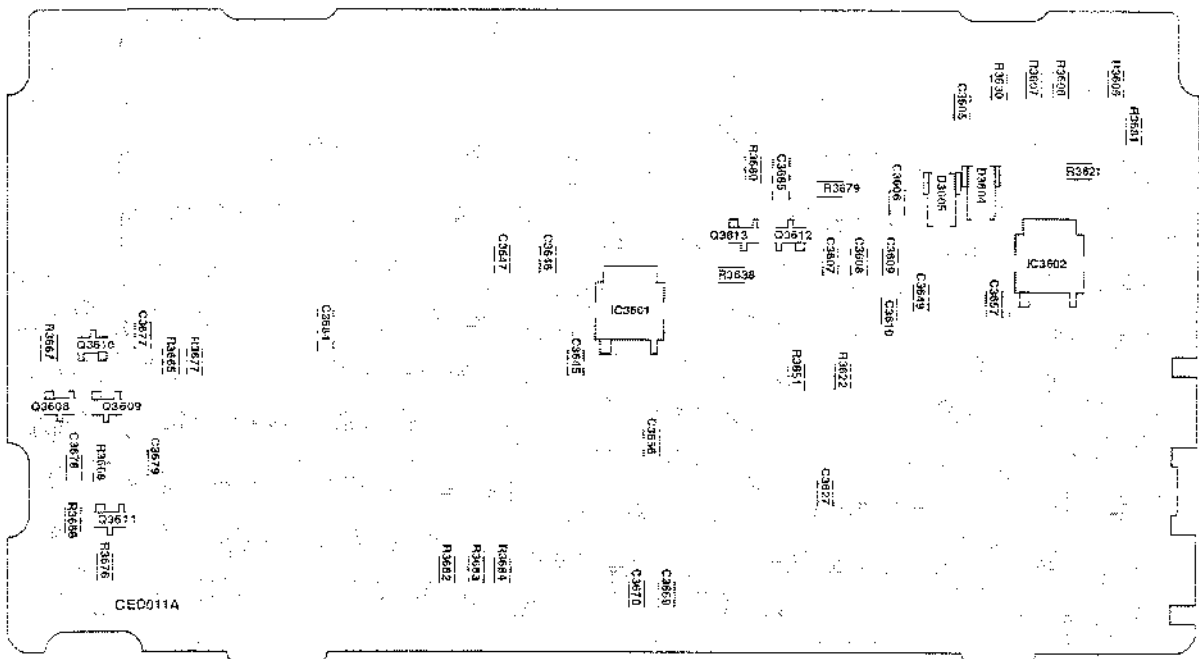


# PRINTED CIRCUIT BOARDS

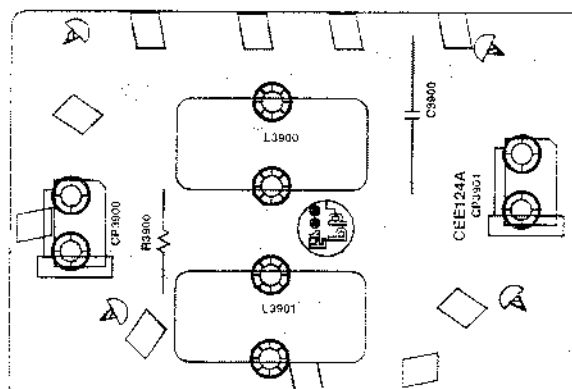
## HD-MI (TOP SIDE)



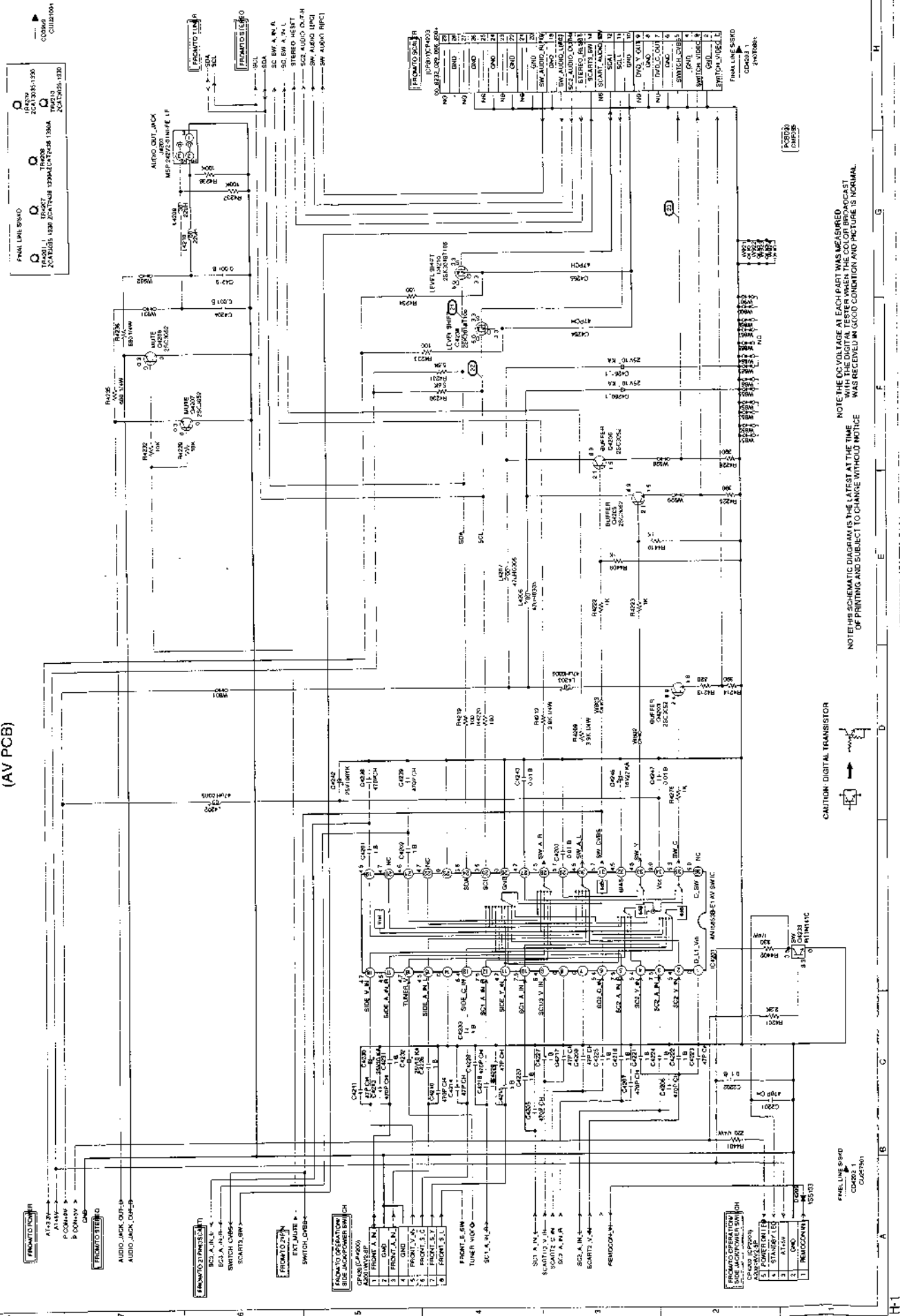
## HD-MI (BOTTOM SIDE)



## FILTER SOLDER SIDE



## (AV PCB)

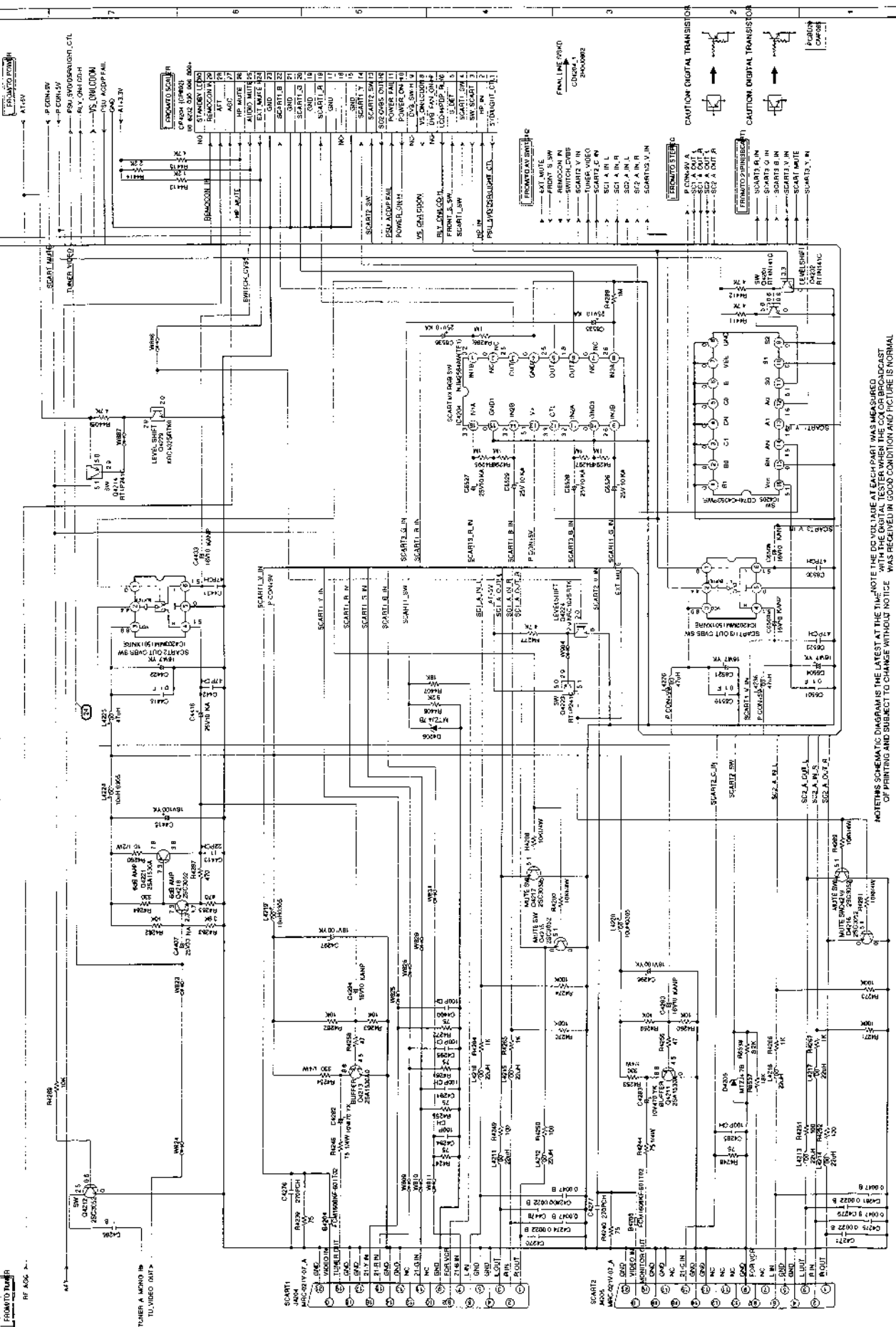


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING, AND SUBJECT TO CHANGE WITHOUT NOTICE.

**CAUTION: DIGITAL TRANSISTOR**

The diagram shows three Feynman diagrams for the decay of a Z boson into a photon and a gluon. The top diagram shows a Z boson decaying into a photon and a gluon via a quark loop. The middle diagram shows a Z boson decaying into a photon and a gluon via a quark loop. The bottom diagram shows a Z boson decaying into a photon and a gluon via a quark loop.

21PIN SCHEMATIC DIAGRAM  
(AV PCB)



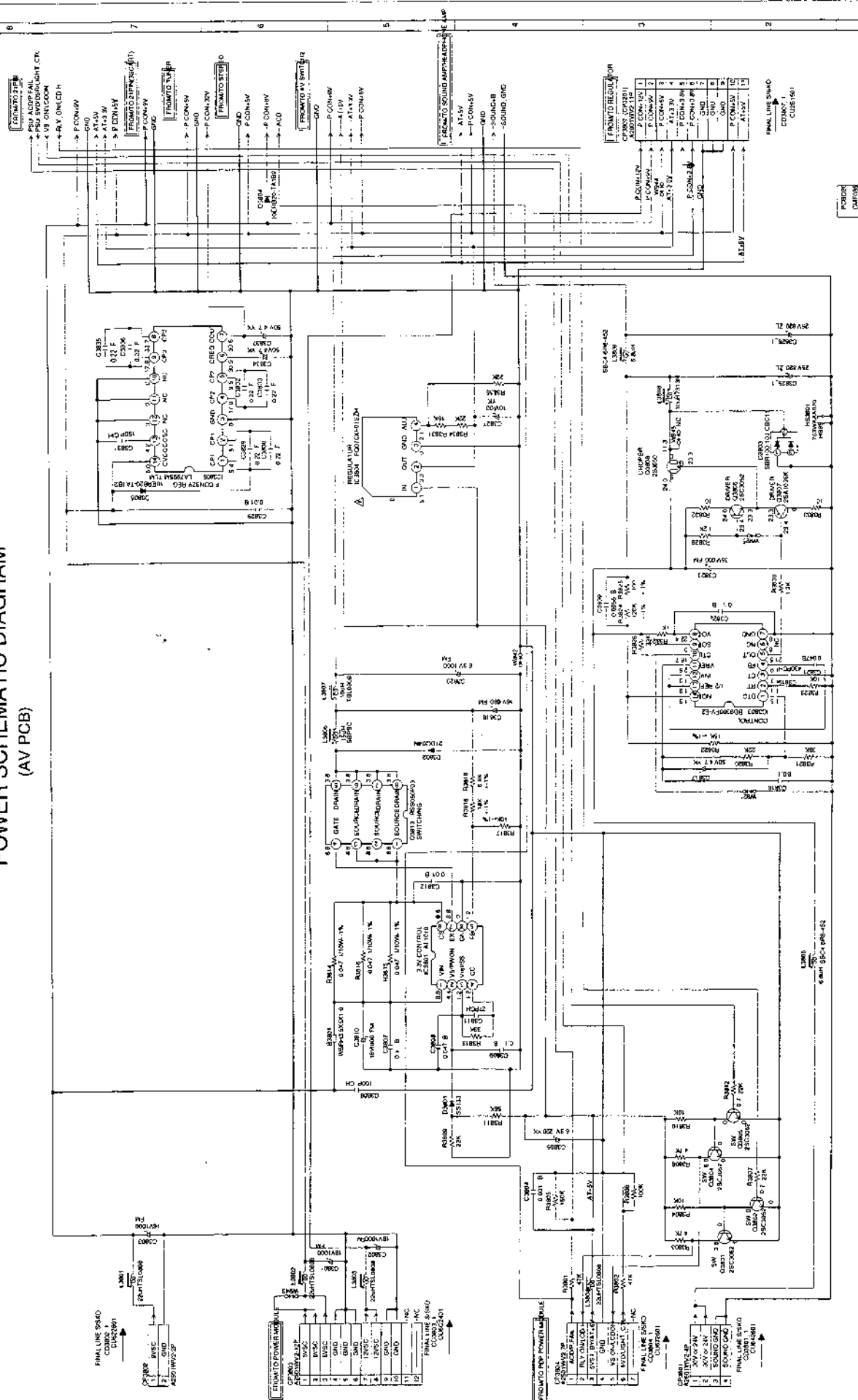
NOTE: THE DO VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL

## (AV PCB)



NOTES: SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

### POWER SCHEMATIC DIAGRAM (AV PCB)

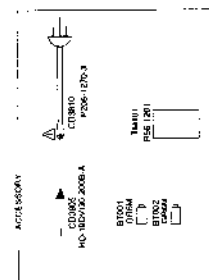
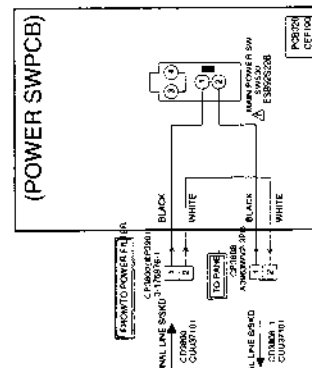
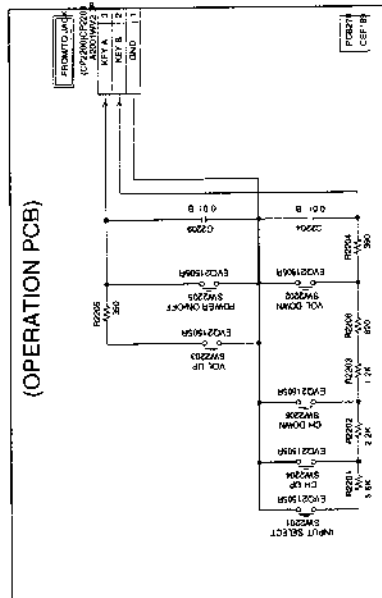
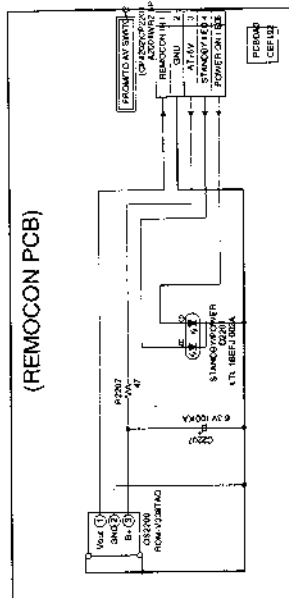


**ATTENTION** PIÈCES RÉPARÉES PAR UN  
DANGEREUSES AU POINT DE VUE SÉCURITÉ  
NUTRISSEUR QUE CELLES DÉGRADÉES  
DANS LA NOMENCLATURE DES PIÈCES

NOTES: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

(SIDE JACK PCB)

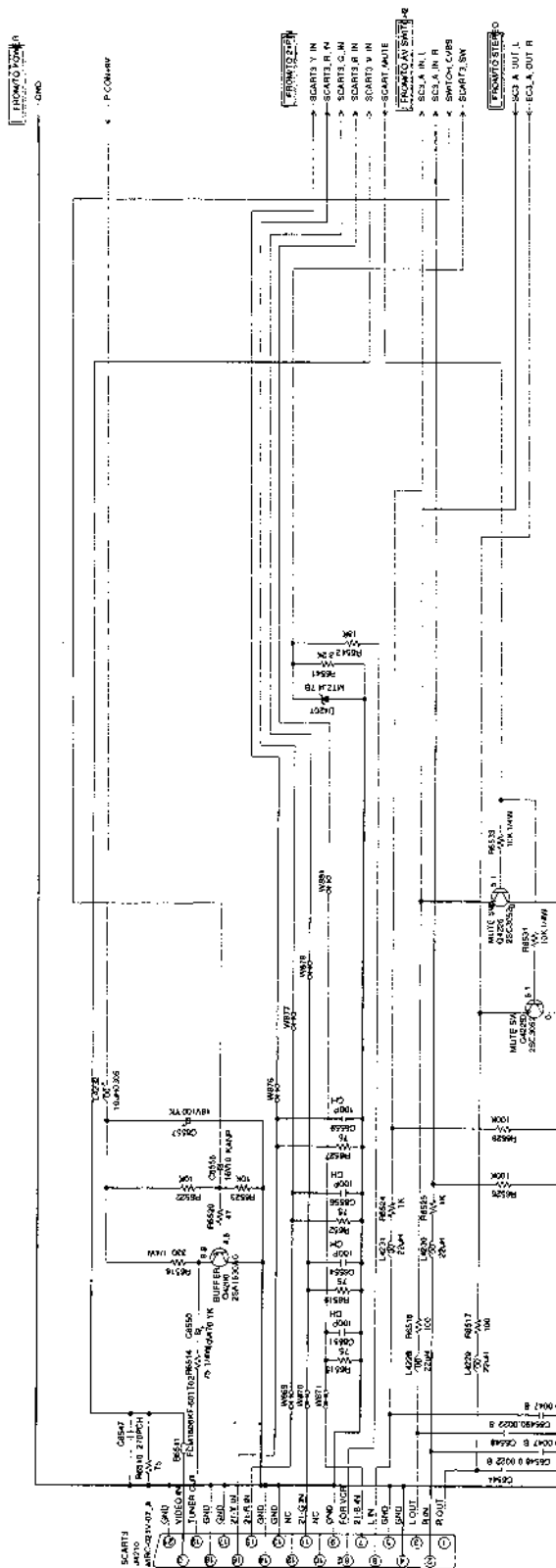


NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL

**CAUTION** ONCE THESE PARTS MARKED **CRITICAL** FOR SAFETY, USE ONES DESCRIBED IN PART'S LIST ONLY

**ATTENTION** LES PIÈCES PRÉPARÉES PAR MANITANT  
DANGEREUSES AU POINT DE VUE SECURITE  
UTILISER QUE CELLES DECRITES  
DANS LA NOMENCLATURE DES RIGES

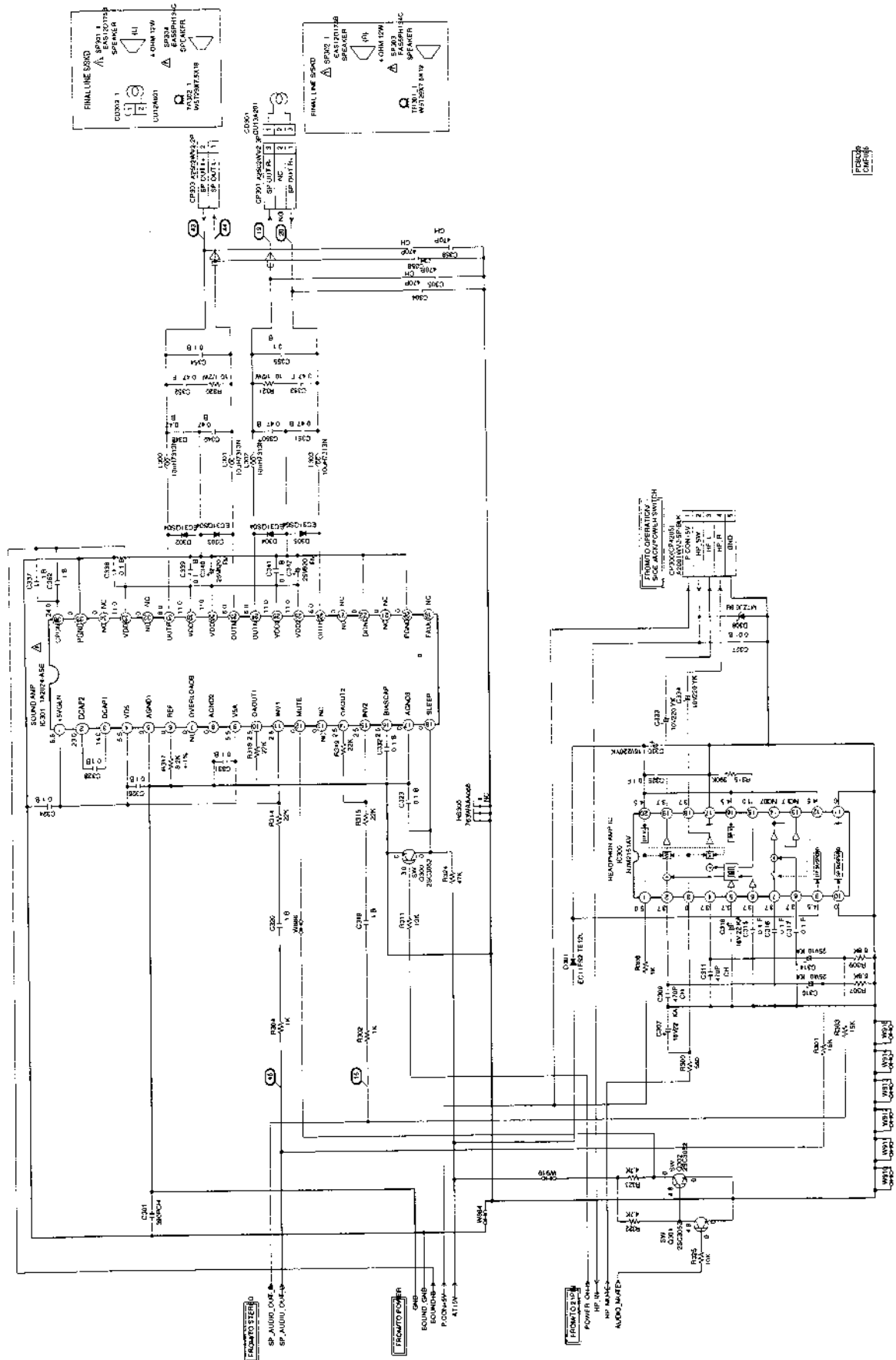
# 21PIN(3SCART) SCHEMATIC DIAGRAM (AV PCB)



NOTES: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

PCB04  
DMP04

# SOUND AMP/HEADPHONE AMP SCHEMATIC DIAGRAM (AV PCB)



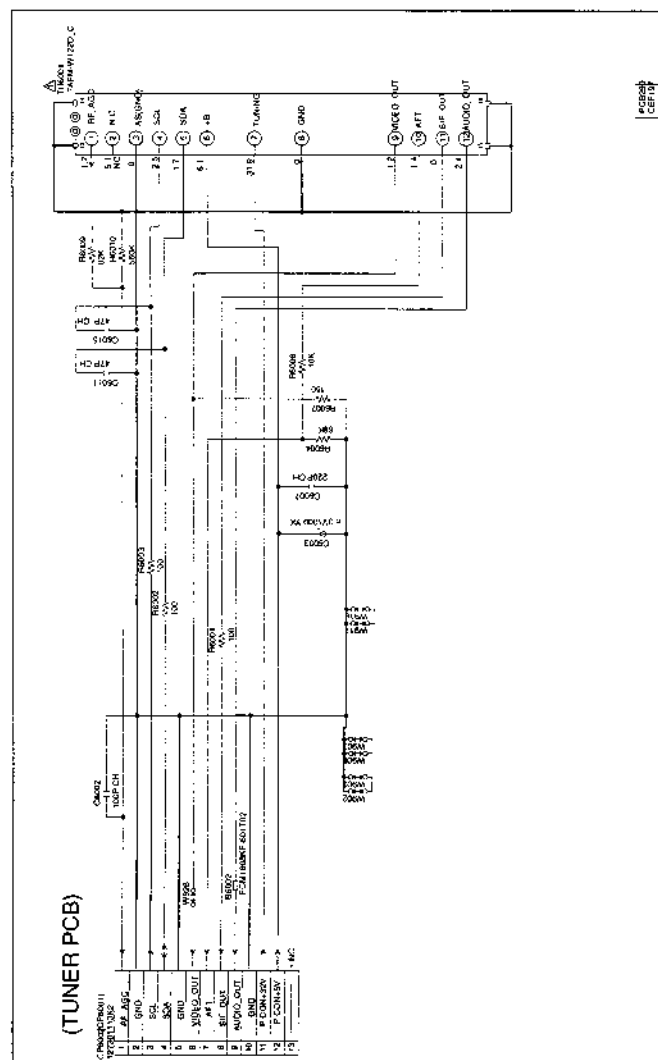
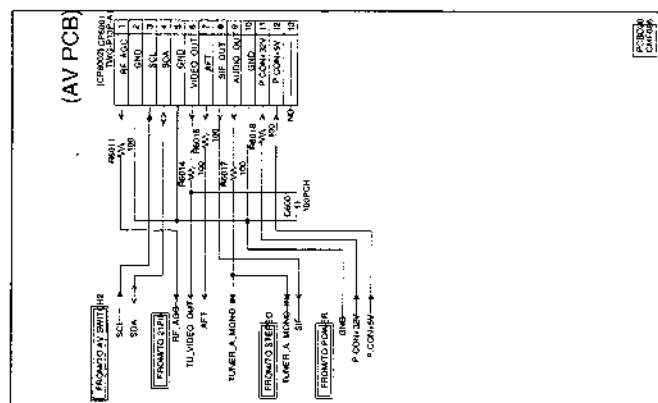
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOUR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOT THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

ATTENTION: DES REPARERES PARQUANT D'ANGEREUSE AN POINT DE VUE SECURITE UTILISER QUE CELLS DECRIES DANS LA NOMENCLATURE DES PIECES

CAUTION: THESE PARTS MARKED ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY

### TUNER SCHEMATIC DIAGRAM



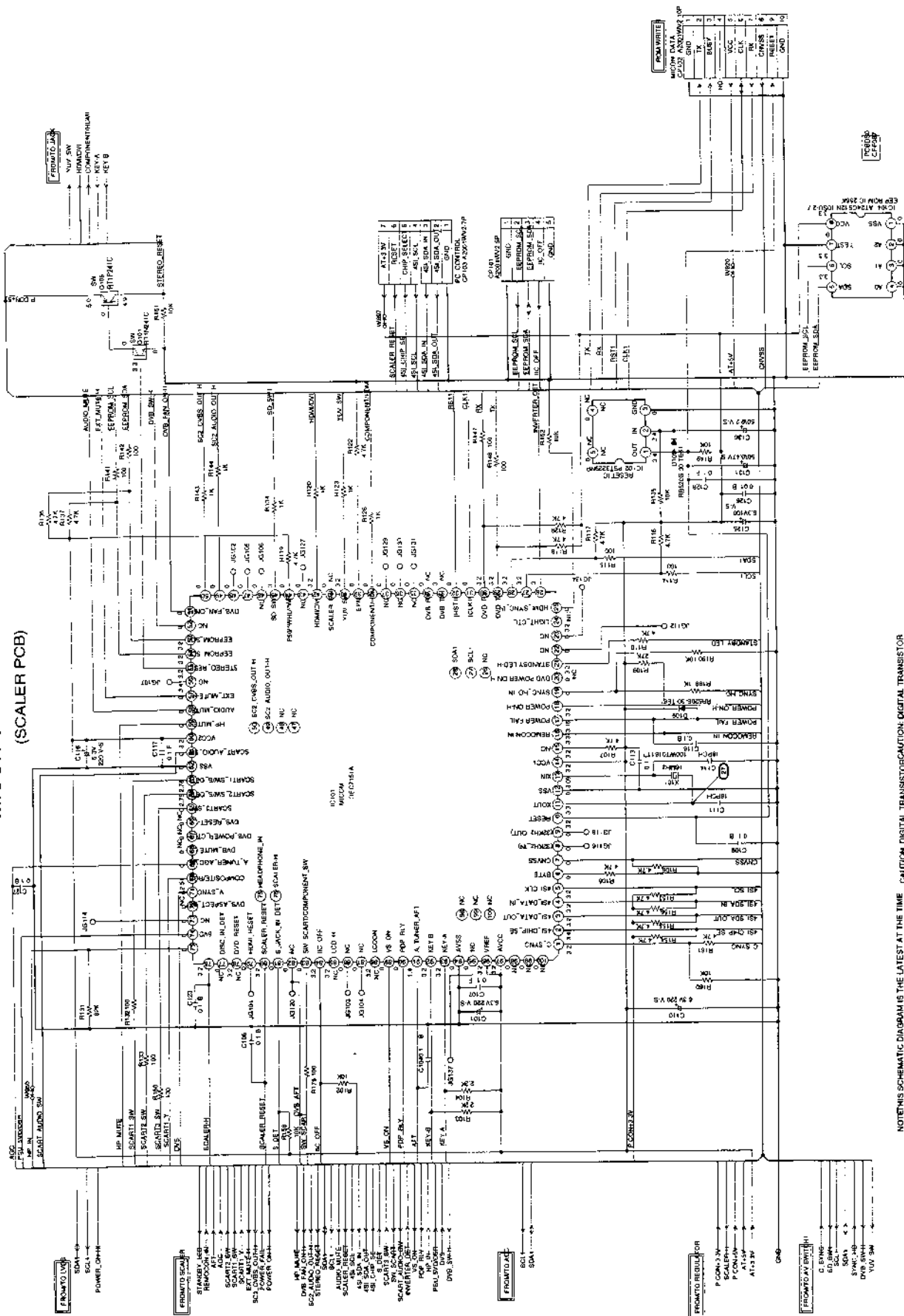
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

**CAUTION**—THESE PARTS MARKED AS ARE  
CRITICAL FOR SAFETY, USE ONES  
DESCRIBED IN PARTS LIST ONLY

**ATTENTION** PIÈCES RÉPARÉES PARVENANT  
DANGEREUSES AU POINT DE VUE SÉCURITÉ  
UTILISER QUE CELLES DÉCRITES  
DANS LA NOMENCLATURE DES PIÈCES

# MICON SCHEMATIC DIAGRAM

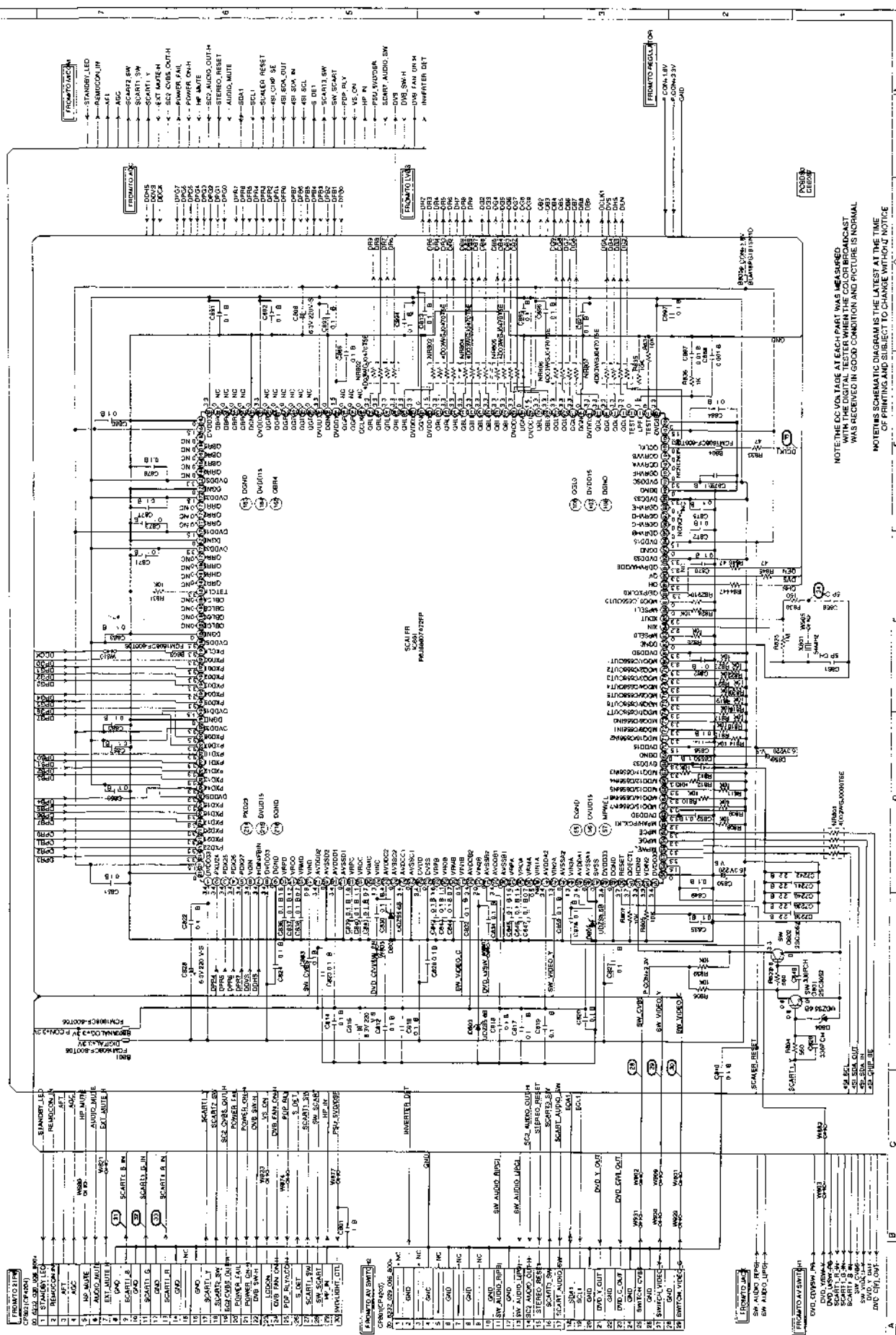
(SCALER PCB)



NOTES: SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER. THE CHECKING RESULT WAS RECORDED IN YOUR CONSTRUCTION AND PICTURE IS NORMAL.

## (SCALER PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL

FRONTO EGALIER

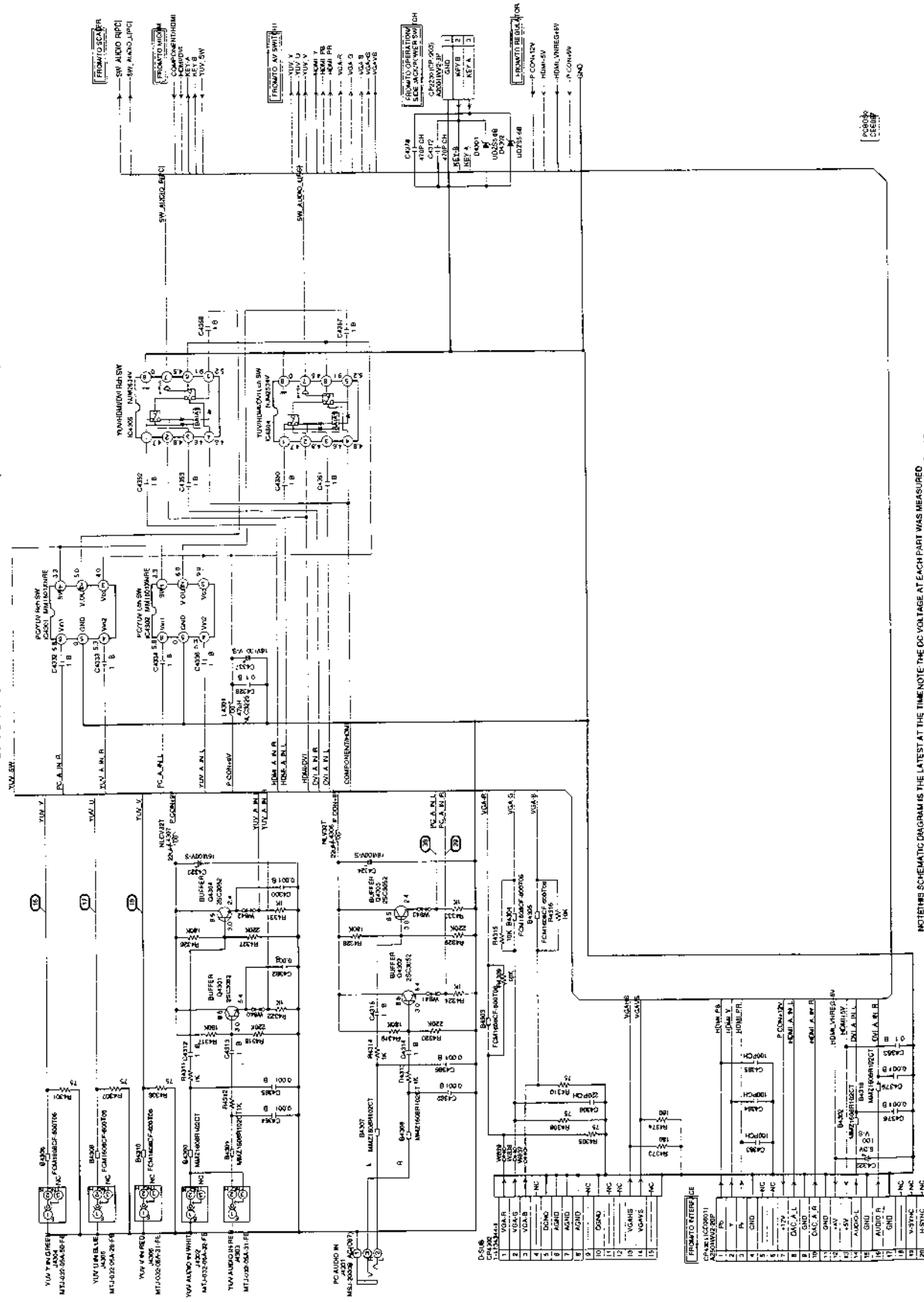


FROM TO REGULATOR

[illegible]

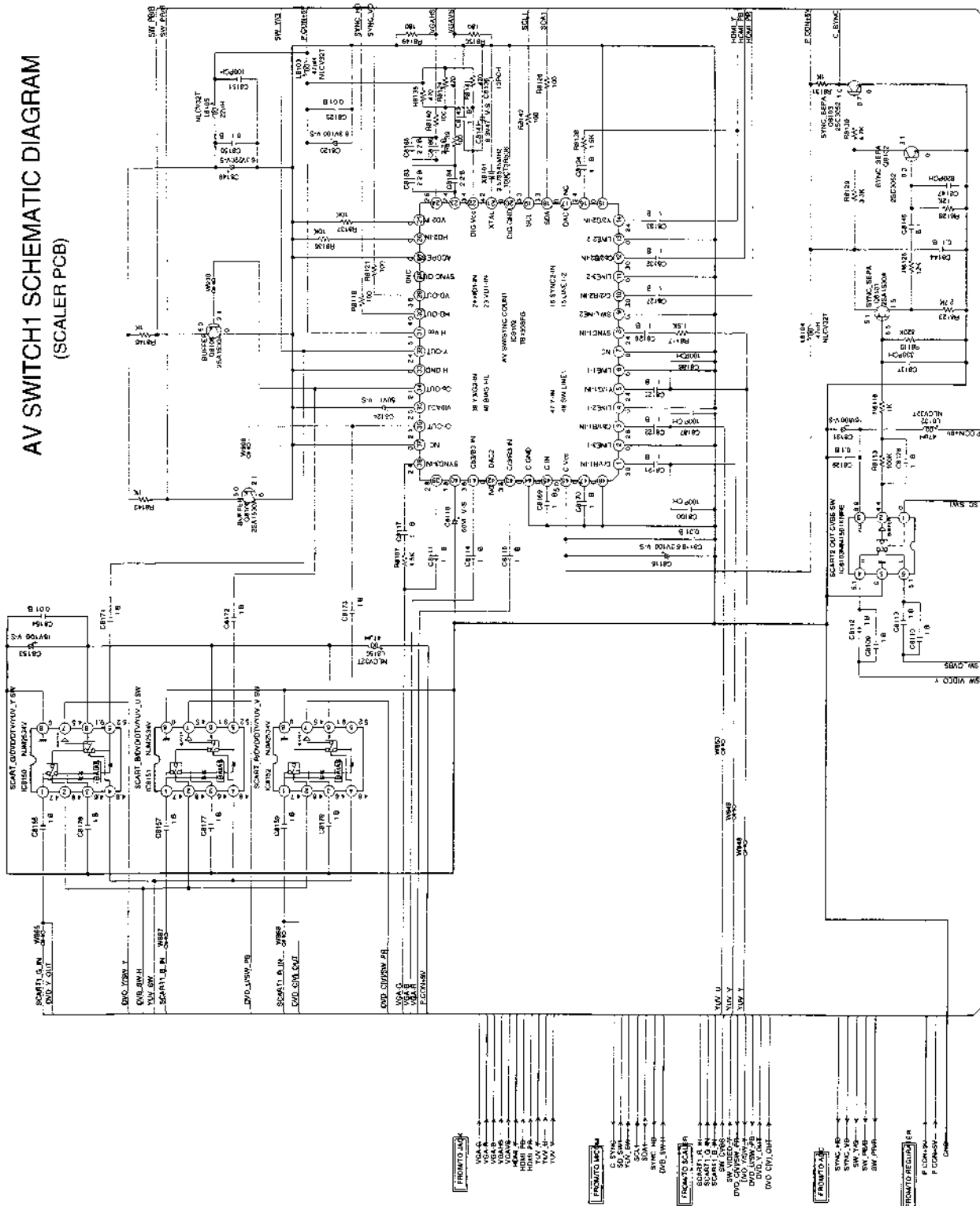
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL. NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

# JACK SCHEMATIC DIAGRAM (SCALER PCB)



NOTES: SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME NOTE THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WITH RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

# AV SWITCH1 SCHEMATIC DIAGRAM (SCALER PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL. OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

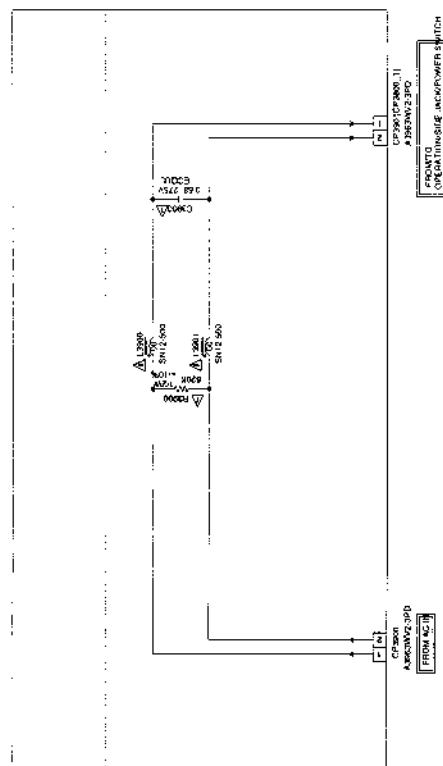
The schematic diagram illustrates a video amplifier system. At the top, two 7805 voltage regulators provide a +5V supply to various ICs. The first 741 op-amp is configured as a scaler, with its non-inverting input connected to a video input and its output driving the inverting input of a second 741 op-amp, which acts as a video amplifier. The output of the second op-amp is connected to a video output terminal. The circuit also includes several input sections: 'FRONT VIDEO' with a switch, 'REAR VIDEO', 'HDMI', and 'HDMI-15V'. These inputs are connected to the video input of the scaler. The output of the amplifier is connected to a video output terminal. The circuit is powered by a +5V supply and ground. Various components are labeled with their values, such as resistors (e.g., 10K, 1K, 100K) and capacitors (e.g., 0.01, 0.001). The diagram is labeled with functional blocks like 'REGULATOR', 'SCALER', and 'VIDEO AMP'.

CAUTION: DIGITAL TRANSISTOR

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED. NOTE THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME WITH THE DIGITAL TESTER WHEN THE COLOR BROADCASTING PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL

PCB050  
CEC087

## (FILTER PCB)



NOTES: SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PARY WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

**CAUTION** ONCE THESE PARTS MARKED **CRITICAL** FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY

**ATTENTION** LES PIÈCES RÉPARÉES PAR UN TANT  
DANGEREUSES AN POIN DE VUE SECURITE  
UTILISER QUE CELLS DEGRITEES  
DANS LA NOMENCLATURE DES PIÈCES

[illegible]

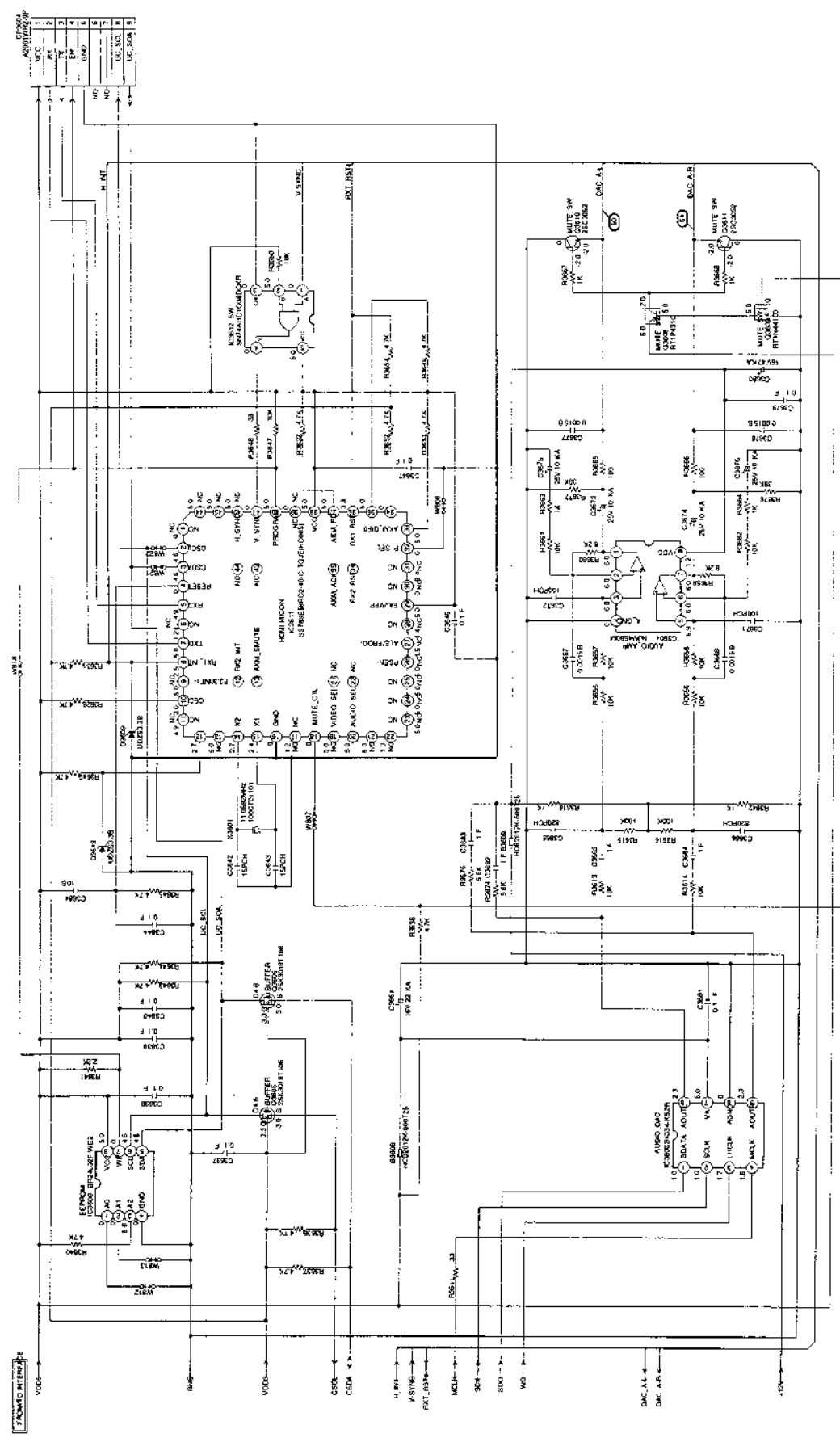
(HD-MI PCB)



NOTES: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

**CAUTION: DIGITAL TRANSISTOR**

# MICON2 SCHEMATIC DIAGRAM (HD-MI PCB)

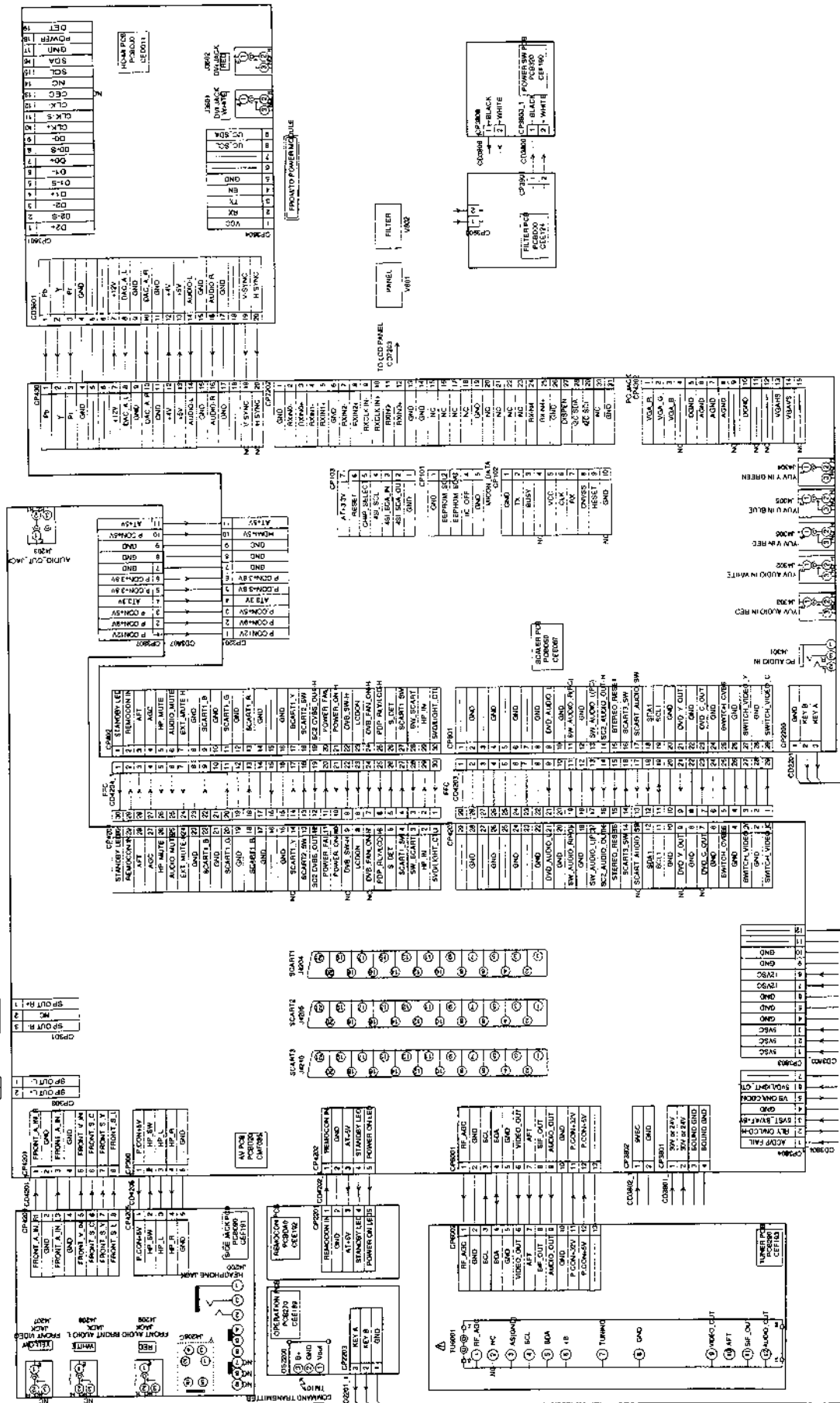


NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL METER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTES: SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: DIGITAL TRANSISTOR  
CAUTION: DIGITAL TRANSISTOR

# INTERCONNECTION DIAGRAM



ATTENTION: PIÈCES REMPLACES PAR ANCIEN  
UTILISER QUE CELLES DÉCRITES  
DANS LA NOMENCLATURE DES PIÈCES

CAUTION: THESE PARTS MARKED ARE  
SUBSTITUTES FOR PARTS DESCRIBED  
IN PART 1, LIST ONLY

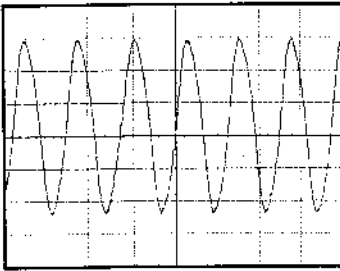
NOTES: INTERCONNECTION DIAGRAM IS THE LATEST  
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

## WAVEFORMS

### MICON

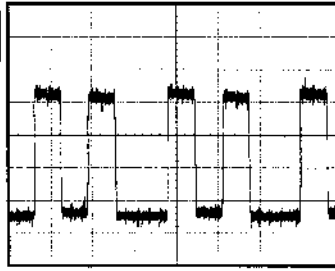
50ns  
500mV

①



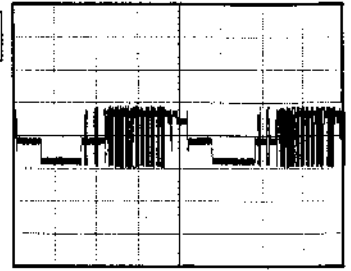
20µs  
200mV

⑥



5µs  
500mV

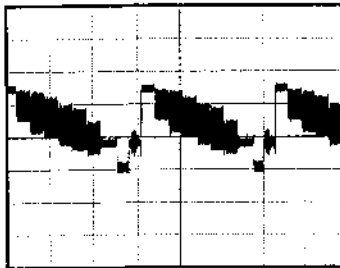
⑪



### SCALER

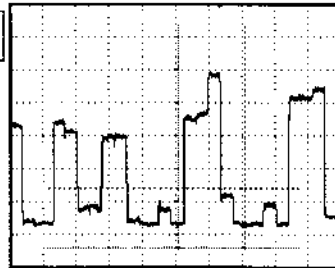
20µs  
500mV

②



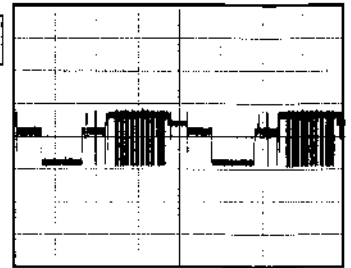
20µs  
200mV

⑦



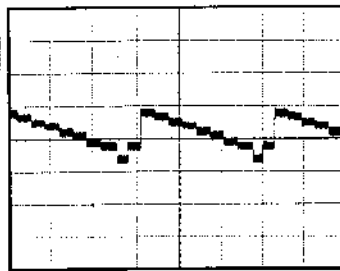
5µs  
500mV

⑫



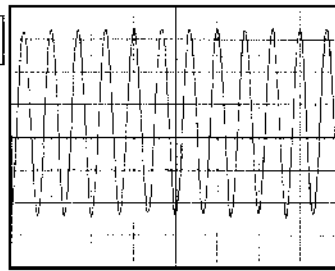
20µs  
500mV

③



20µs  
500mV

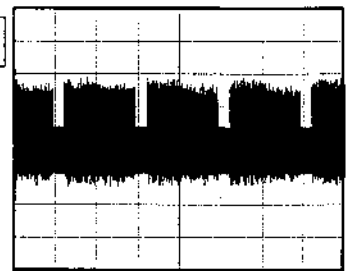
⑧



### LVDS

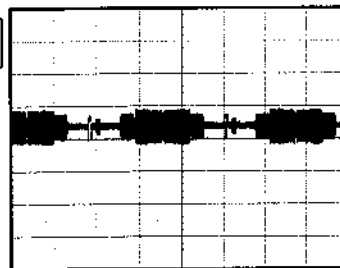
10ms  
100mV

⑮



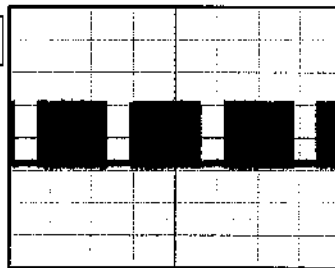
20µs  
500mV

④



10µs  
2.0V

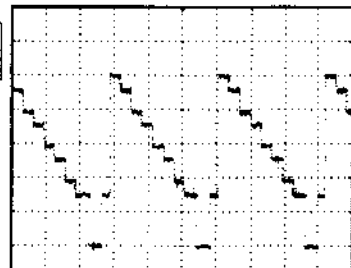
⑨



### JACK

10µs  
200mV

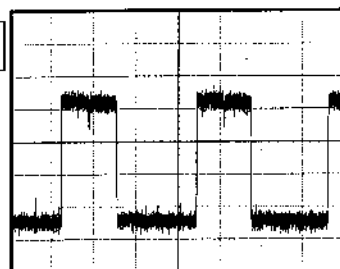
⑯



### ADC

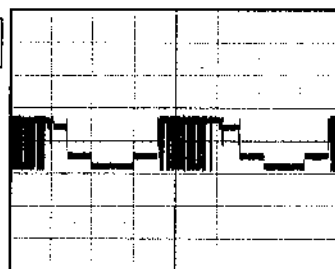
20µs  
200mV

⑤



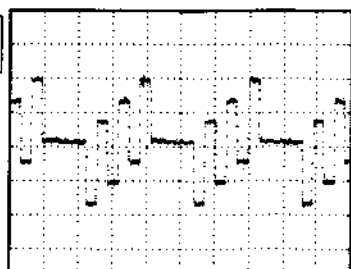
5µs  
500mV

⑩



10µs  
200mV

⑰

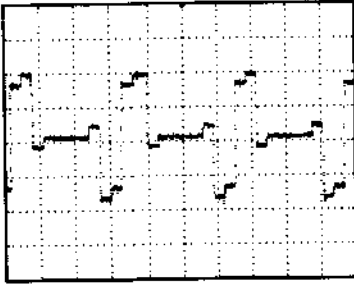


**NOTE:** The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

## WAVEFORMS

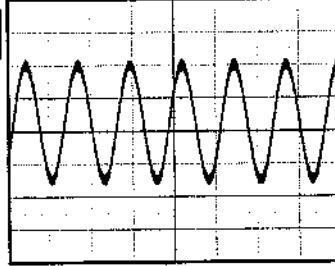
10µs  
200mV

18



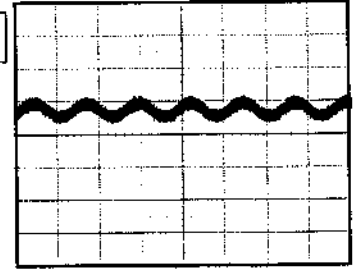
2.0ms  
500mV

25



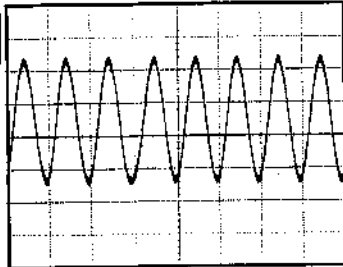
2.0ms  
2.0V

30



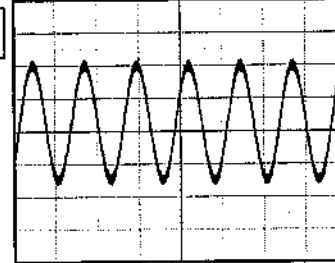
1.0ms  
1.0V

19



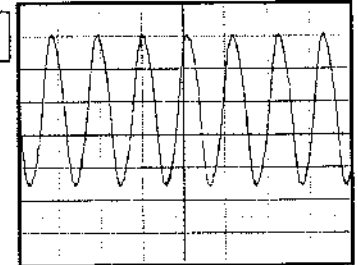
2.0ms  
500mV

26



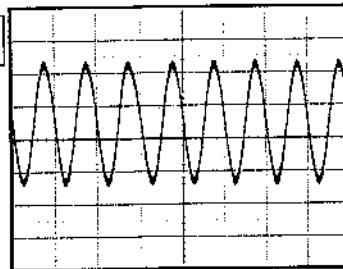
50ms  
500mV

31



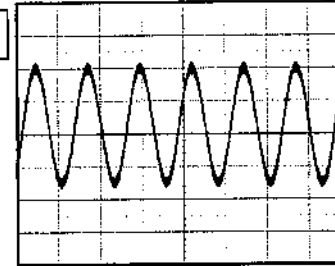
1.0ms  
1.0V

20



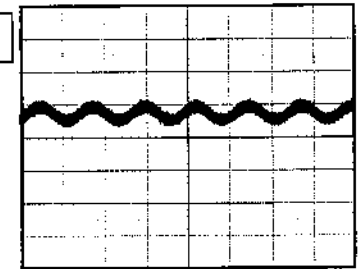
2.0ms  
500mV

27



2.0ms  
2.0V

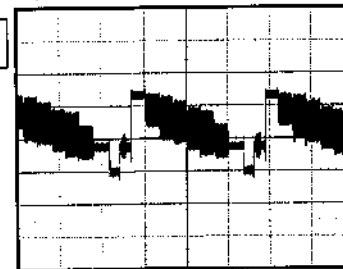
32



### 21PIN (SCART3)

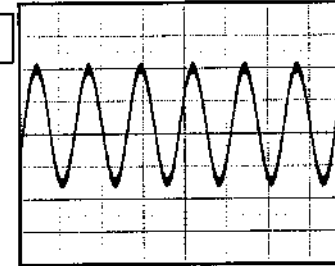
20µs  
500mV

23



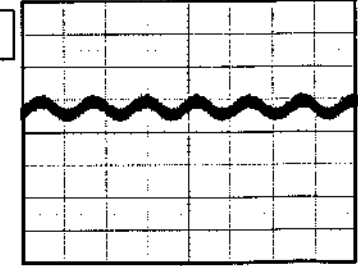
2.0ms  
500mV

28



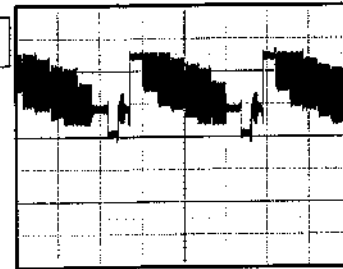
2.0ms  
2.0V

33



20µs  
1.0V

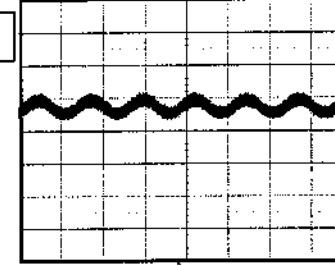
24



### STEREO

2.0ms  
2.0V

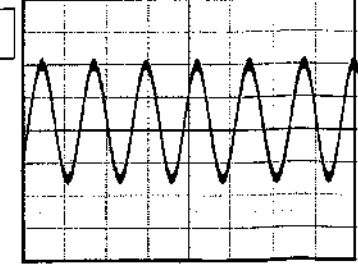
29



### 21PIN(SCART3)

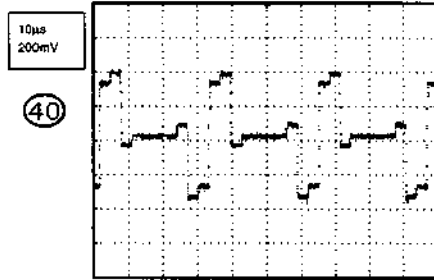
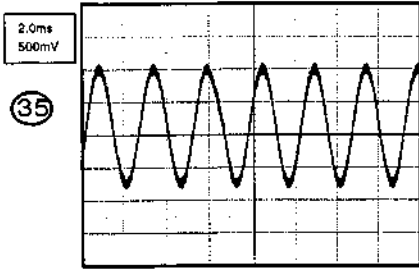
2.0ms  
500mV

34

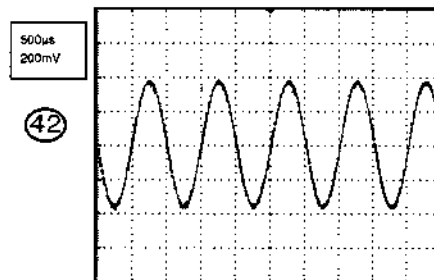
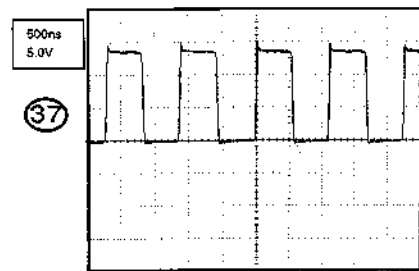
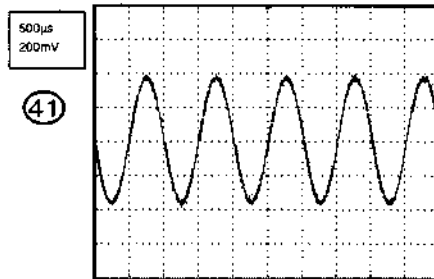
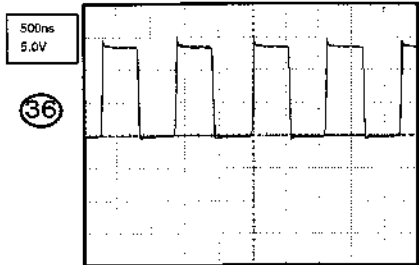


**NOTE:** The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

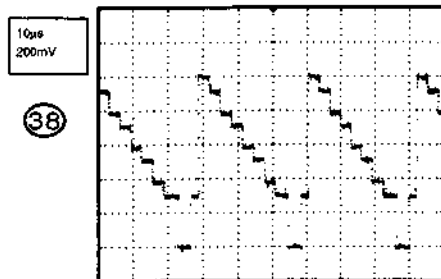
## WAVEFORMS



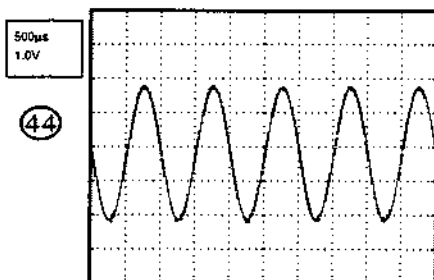
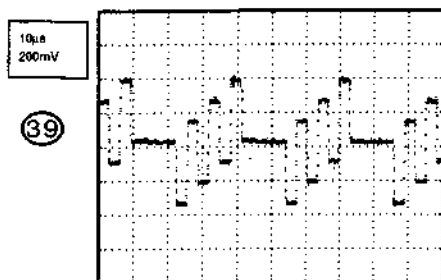
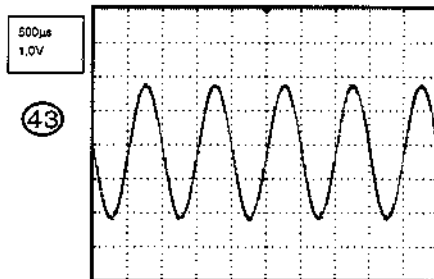
## SOUND AMP



## INTERFACE

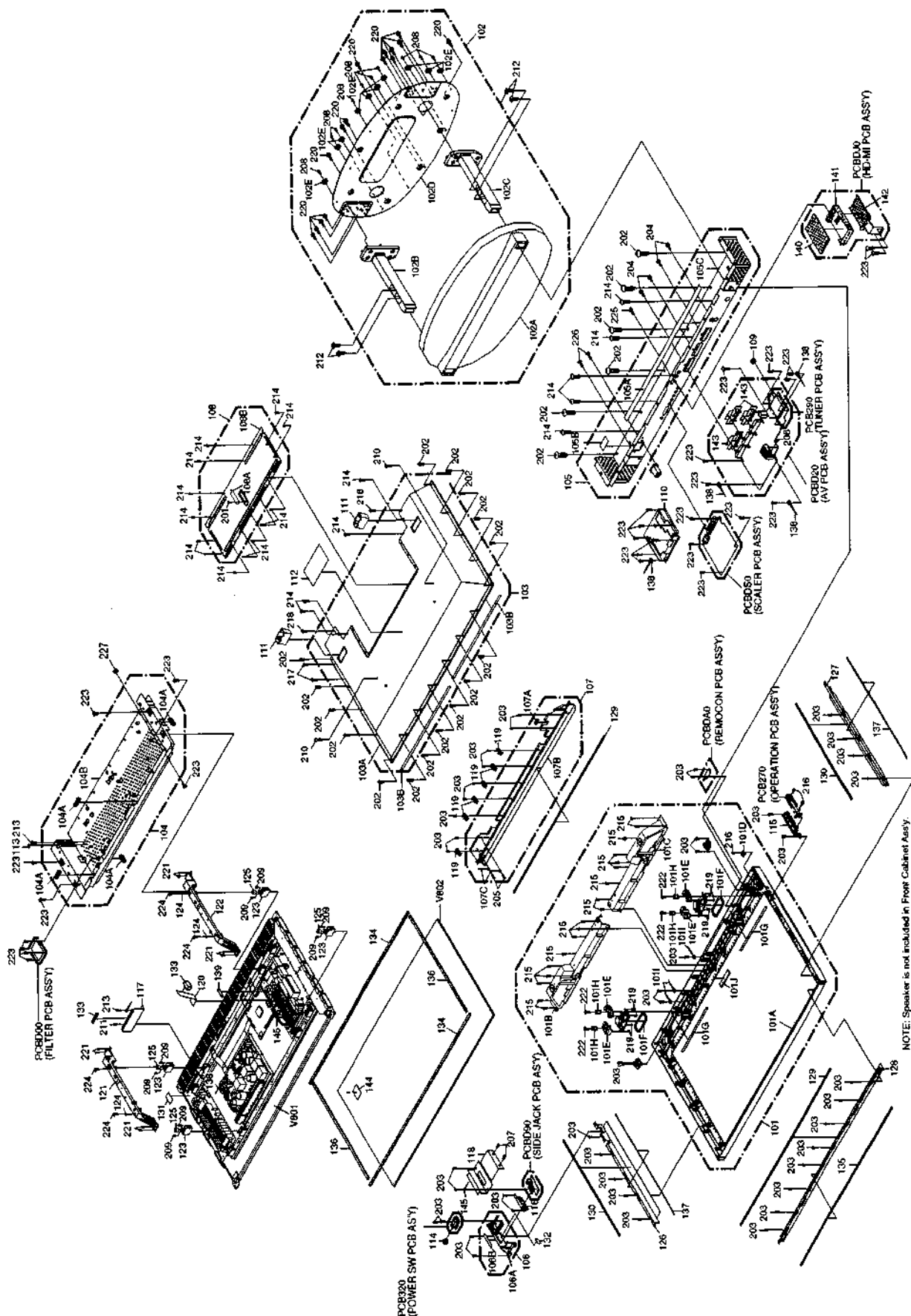


## MICON2



NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

# MECHANICAL EXPLODED VIEW



## MECHANICAL REPLACEMENT PARTS LIST

| REF. NO. | PART NO.   | DESCRIPTION               | REF. NO. | PART NO.   | DESCRIPTION                      |
|----------|------------|---------------------------|----------|------------|----------------------------------|
| 101      | 7A7010202A | FRONT CAB ASS'Y           | 130      | 800WFA0089 | CUSHION                          |
| 101A     | 701WPU1447 | CABINET, FRONT            | 131      | 890MP2401A | TAPE 50x35                       |
| 101B     | 702WPA1225 | COVER, SPEAKER (L)        | 132      | 890MP2401G | TAPE 30X12                       |
| 101C     | 702WPA1226 | COVER, SPEAKER (R)        | 133      | 896TS1060  | CUSHION W10/H10/L60              |
| 101D     | 713WPA0390 | GLASS, LED                | 134      | 896TS2B70  | CUSHION W6/H2/L1170              |
| 101E     | 761WPA0431 | HOLDER, SPEAKER           | 135      | 896TS2C15  | CUSHION W6/H2/L1215              |
| 101F     | 800WF00065 | CUSHION                   | 136      | 896TS2680  | CUSHION W6/H2/L680               |
| 101G     | 800WQ0A092 | FELT SHEET                | 137      | 896TS2730  | CUSHION W6/H2/L730               |
| 101H     | 801WR00001 | DAMPER, SPEAKER           | 138      | 899EFBA002 | WIRING-CLIP                      |
| 101I     | 899EFBA002 | WIRING-CLIP               | 139      | 7250000607 | SHEET PE                         |
| 101J     | 7232O20787 | BADGE, BRAND              |          |            |                                  |
| 102      | 7A7040013A | STAND ASS'Y               | 140      | 752WSA0413 | HDMI SHIELD COVER                |
| 102A     | 704WFB0019 | STAND                     | 141      | 752WSA0414 | HDMI SHIELD BOTTOM               |
| 102B     | 761WEB0005 | FRAME, BOTTOM-L           | 142      | 762WSA0060 | ANGLE HDMI                       |
| 102C     | 761WEB0006 | FRAME, BOTTOM-R           | 143      | 761WSA0212 | SHIELD 21PIN                     |
| 102D     | 761WSA0386 | ANGLE, STAND              | 144      | 7230008151 | SHEET, POWER LABEL               |
| 102E     | 800WFA0008 | CUSHION, LEG              | 145      | 8995034000 | CORD CLIP UL CO.                 |
| 103      | 7A7020076A | BACK CAB ASS'Y            | 201      | 810763080S | SCREW, TAP TITE(S) BRAZIER 3x8   |
| 103A     | 702WSB0129 | CABINET, BACK             | 202      | 8117540A6S | SCREW, TAP TITE(B) TRUSS 4x16    |
| 103B     | 800WQ00115 | FELT SHEET                | 203      | 8110630A0U | SCREW TAP TITE(P) BRAZIER 3x10   |
|          |            |                           | 204      | 810923080S | SCREW TAP TITE(B) BIND 3x8       |
|          |            |                           | 205      | 810923080U | SCREW TAP TITE(B) BIND 3x8       |
| 104      | 7G7520034A | ANGLE, PCB ASS'Y          | 206      | 810913080U | SCREW TAP TITE(B) WH7 3x8        |
| 104A     | 709WPA0038 | HOLDER, CORD              | 207      | 8109130A0U | SCREW TAP TITE(B) WH7 3x10       |
| 104B     | 762WSA0092 | ANGLE, PCB                | 208      | 810A140A0U | SCREW WASHER(A) M4x10            |
| 104C     | 899EFBA002 | WIRING-CLIP               | 209      | 810A140A6U | SCREW WASHER(A) M4x16            |
| 105      | 7G7610047A | PLATE, JACK ASS'Y         | 210      | 810B150A0S | SCREW, SEMS(B) 5x10              |
| 105A     | 7230O08109 | SHEET, JACK               | 211      | 810B140A0U | SCREW SEMS(B) 4x10               |
| 105B     | 7230O08110 | SHEET, AC INLET           | 212      | 810B150B0S | SCREW, SEMS(B) 5x20              |
| 105C     | 761WSB0037 | PLATE, JACK               | 213      | 810C14080U | SCREW WASHER C 4x8               |
|          |            |                           | 214      | 810F23060S | SEMS(F)-R BIND 3x6               |
| 106      | 7A7010224A | PLATE, JACK-SIDE ASS'Y    | 215      | 8110230A4S | SCREW, TAP TITE(P) BIND 3x14     |
| 106A     | 711WPA0268 | PLATE, JACK-SIDE          | 216      | 811063080U | SCREW TAP TITE(P) BRAZIER 3x8    |
| 106B     | 7230O08133 | SHEET, JACK-SIDE          | 217      | 8110630A0S | SCREW TAP TITE(P) BRAZIER 3x10   |
|          |            |                           | 218      | 8110E3080S | SCREW, TAP TITE(P) WH10 3x8      |
| 107      | 7G752A007A | SHIELD, MAIN-BOTTOM ASS'Y | 219      | 8117140A2U | SCREW, TAPPING(B) PAN 4x12       |
| 107A     | 709WPA0043 | HOLDER, CORD              |          |            |                                  |
| 107B     | 762WSA0088 | SHIELD, MAIN-BOTTOM       | 220      | 8117540A0U | SCREW TAP TITE(B) TRUSS 4x10     |
| 107C     | 8995034000 | CORD CLIP UL CO.          | 221      | 8117540B0U | SCREW TAP TITE(B) TRUSS 4x20     |
|          |            |                           | 222      | 8162540A6U | SCREW TAPPING (B) WASH ER 18     |
| 108      | 7G7610054B | COVER, BACK ASS'Y         | 223      | 810B13080U | SCREW WASHER(B) M3x8             |
| 108A     | 702WPA1218 | COVER, CONNECTOR          | 224      | 8167150B0U | SCREW WASHER(B) 5x20             |
| 108B     | 761WSB0041 | COVER, BACK               | 225      | 810213080S | SCREW, PAN M3x8                  |
|          |            |                           | 226      | 810233080S | SCREW, FLAT M3x8                 |
| 109      | 743WKAA011 | SPRING TUNER              | 227      | 830023000U | NUT M3                           |
| 110      | 752WSA0529 | SHIELD, SCALER            | ---      | 7230008135 | SHEET, CARTON                    |
| 111      | 705WPA0019 | HANDLE, BACK              | ---      | 791WHA0117 | LAMI BAG                         |
| 112      | 7222022713 | SHEET, RATING             | ---      | 791WHA0118 | LIGHTRON SHEET                   |
| 113      | 7260000353 | SHEET EARTH MARK          | ---      | 792WHA0649 | PACKAGE, TOP                     |
| 114      | 735WPA0899 | BUTTON, POWER             | ---      | 792WHA0650 | PACKAGE, BOTTOM                  |
| 115      | 738WPB0078 | BUTTON, FRAME             | ---      | 792WHA0678 | PACKAGE, STAND                   |
| 116      | 752WSA0554 | SHIELD, JACK-SIDE         | ---      | 793WCA0019 | GIFT, BOX BOTTOM                 |
| 117      | 752WSA0593 | SHIELD, PLATE             | ---      | 793WCD1740 | GIFT, BOX TOP                    |
| 118      | 753WEAA003 | SHEET CU                  | ---      | 794WHA0003 | HANDLE                           |
| 119      | 753WUA0082 | SPRING, EARTH             | ---      | 795WCAA493 | PAD 300x798                      |
| 120      | 753WUA0084 | SPRING EARTH              | ---      | A3X601C975 | INSTRUCTION BOOK KIT             |
| 121      | 761WEA0012 | FRAME, MAIN-L             | ---      | J3X60101A  | INSTRUCTION BOOK(G)              |
| 122      | 761WEA0013 | FRAME, MAIN-R             | ---      | J3X60110A  | INSTRUCTION BOOK(CZ)             |
| 123      | 761WEA0014 | HOLDER, PANEL             | ---      | J3X60111A  | INSTRUCTION BOOK(F)              |
| 124      | 761WPA0427 | HOLDER, BUSH              | ---      | J3X60114A  | INSTRUCTION BOOK(H)              |
| 125      | 761WPA0428 | HOLDER, CAP               | ---      | JB5ND400   | POLYBAG INSTRUCTION(RED CAUTION) |
| 126      | 762WSA0085 | SHIELD, MAIN-L            |          |            |                                  |
| 127      | 762WSA0086 | SHIELD, MAIN-R            |          |            |                                  |
| 128      | 762WSA0087 | SHIELD, MAIN-TOP          |          |            |                                  |
| 129      | 800WFA0088 | CUSHION                   |          |            |                                  |

# ELECTRICAL REPLACEMENT PARTS LIST

| REF. NO.   | PART NO.   | DESCRIPTION                           | REF. NO.    | PART NO.                          | DESCRIPTION                            |
|------------|------------|---------------------------------------|-------------|-----------------------------------|----------------------------------------|
| RESISTORS  |            |                                       | ICS         |                                   |                                        |
| ▲ R3900    | R036K2824J | RC 820K OHM 1/2W                      | IC4205      | ICQF040530                        | IC CD74HC405SPWR                       |
| CAPACITORS |            |                                       | IC4301      | IC0UF015010                       | IC MM1501XNRE                          |
| C340       | E61FF3821D | CE 820 UF 25V                         | IC4302      | IC0UF015010                       | IC MM1501XNRE                          |
| C342       | E61FF3821D | CE 820 UF 25V                         | IC4304      | ICQF02534V                        | IC NJM2534V(Te2)                       |
| C3801      | E61FF2102D | CE 1000 UF 16V                        | IC4305      | ICQF02534V                        | IC NJM2534V(Te2)                       |
| C3802      | E61FF2102D | CE 1000 UF 16V                        | IC7202      | IFKJOLM850                        | IC DTC34LM85AL                         |
| C3803      | E61FF2102D | CE 1000 UF 16V                        | IC8102      | IC0FE13080                        | IC TB1308FG(DRY,EL)                    |
| C3810      | E61FF2102D | CE 1000 UF 16V                        | IC8103      | IC0UF015010                       | IC MM1501XNRE                          |
| C3823      | E61FF4102D | CE 1000 UF 35V                        | IC8150      | ICQF02534V                        | IC NJM2534V(Te2)                       |
| C3825      | E62F03821M | CE 820 UF 25V                         | IC8151      | ICQF02534V                        | IC NJM2534V(Te2)                       |
| C3826      | E62F03821M | CE 820 UF 25V                         | IC8152      | ICQF02534V                        | IC NJM2534V(Te2)                       |
| ▲ C3900    | P2122B6B4M | OMP 0.68 UF 275V ECOUL                | TRANSISTORS |                                   |                                        |
| DIODES     |            |                                       | Q101        | TNRA005003                        | COMPOUND TRANSISTOR RT1N241C-T112-1    |
| D105       | DD7R20S300 | DIODE,SCHOTTKY BARRIER RB520S-30-TE61 | Q105        | TPRAC05003                        | COMPOUND TRANSISTOR RT1P241C-T112-1    |
| D109       | DD7R20S300 | DIODE,SCHOTTKY BARRIER RB520S-30-TE61 | Q300        | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| D301       | D28R11FS20 | DIODE EC11FS2-TE12L                   | Q301        | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| D302       | D28R1QS040 | DIODE EC31QS04-TE12L                  | Q302        | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| D303       | D28R1QS040 | DIODE EC31QS04-TE12L                  | Q801        | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| D304       | D28R1QS040 | DIODE EC31QS04-TE12L                  | Q802        | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| D305       | D28R1QS040 | DIODE EC31QS04-TE12L                  | Q901        | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| D306       | D97U06R81B | DIODE,ZENER MTZJ6.8B T-77             | Q902        | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| D802       | DE7RB5R62B | DIODE,ZENER UDZS5.6B TE-17            | Q2101       | T6RA015300                        | TRANSISTOR,SILICON 2SA1530A-T1         |
| D803       | DE7RB5R62B | DIODE,ZENER UDZS5.6B TE-17            | Q3205       | T77J011320                        | TRANSISTOR,SILICON 2SB1132T100(Q,R)    |
| D804       | DE7RB5R62B | DIODE,ZENER UDZS5.6B TE-17            | Q3206       | TNAAB05003                        | COMPOUND TRANSISTOR KRC102SRTK         |
| D805       | DE7RB5R62B | DIODE,ZENER UDZS5.6B TE-17            | Q3207       | T77J011320                        | TRANSISTOR,SILICON 2SB1132T100(Q,R)    |
| D901       | D97U05R61B | DIODE,ZENER MTZJ5.6B T-77             | Q3208       | TNAAB05003                        | COMPOUND TRANSISTOR KRC102SRTK         |
| D2201      | 0021E9Q010 | LED LTL-1BEFJ-002A                    | Q3603       | T27T030180                        | FET 2SK3018T106                        |
| D3206      | D28R1QS040 | DIODE EC31QS04-TE12L                  | Q3604       | T27T030180                        | FET 2SK3018T106                        |
| D3207      | D28R11FS20 | DIODE EC11FS2-TE12L                   | Q3605       | T27T030180                        | FET 2SK3018T106                        |
| D3601      | D77R1A1R10 | DIODE,VARISTA AVRL161A1R1NT           | Q3606       | T27T030180                        | FET 2SK3018T106                        |
| D3602      | DE7RB5R62B | DIODE,ZENER UDZS5.6B TE-17            | Q3607       | T27T030180                        | FET 2SK3018T106                        |
| D3603      | D77R1A1R10 | DIODE,VARISTA AVRL161A1R1NT           | Q3608       | TPRAA05002                        | COMPOUND TRANSISTOR RT1P431C-T112-1 or |
| D3604      | DD7R60L400 | DIODE,SCHOTTKY RB160L-40-TE25         | TPAA05001   | COMPOUND TRANSISTOR KRA101SRTK    |                                        |
| D3605      | DD7R60L400 | DIODE,SCHOTTKY RB160L-40-TE25         | Q3609       | TNRA005002                        | COMPOUND TRANSISTOR RT1N441C-T112-1 or |
| D3609      | DE7RB3R32B | DIODE,ZENER UDZS3.3B TE-17            | TNAAD05001  | COMPOUND TRANSISTOR KRC104SRTK    |                                        |
| D3613      | DE7RB3R32B | DIODE,ZENER UDZS3.3B TE-17            | Q3610       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1 or       |
| D3801      | D1VT001330 | DIODE,SILICON 1SS133T-77              | TCAA3875SY  | TRANSISTOR,SILICON KTC3875S_Y_RTK |                                        |
| D3802      | D28T21DQ4N | DIODE,SCHOTTKY 21DQ4N-TA2B1           | Q3611       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1 or       |
| D3803      | D23A0010J0 | DIODE,SCHOTTKY SBR100-10J-CBC11       | TCAA3875SY  | TRANSISTOR,SILICON KTC3875S_Y_RTK |                                        |
| D3804      | D28T0ERB20 | DIODE,RECTIFIER 10ERB20-TA1B2         | Q3612       | TNAAD05001                        | COMPOUND TRANSISTOR KRC104SRTK         |
| D3805      | D28T0ERB20 | DIODE,RECTIFIER 10ERB20-TA1B2         | Q3613       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1 or       |
| D4205      | D97U04R71B | DIODE,ZENER MTZJ4.7B T-77             | TCAA3875SY  | TRANSISTOR,SILICON KTC3875S_Y_RTK |                                        |
| D4206      | D97U04R71B | DIODE,ZENER MTZJ4.7B T-77             | Q3801       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| D4207      | D97U04R71B | DIODE,ZENER MTZJ4.7B T-77             | Q3802       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| D4209      | D1VT001330 | DIODE,SILICON 1SS133T-77              | Q3804       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| D4301      | DE7RB5R62B | DIODE,ZENER UDZS5.6B TE-17            | Q3805       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| D4302      | DE7RB5R62B | DIODE,ZENER UDZS5.6B TE-17            | Q3806       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| ICS        |            |                                       | Q3807       | T67J1036K0                        | TRANSISTOR,SILICON 2SA1036KT146        |
| IC101      | S3X604CM01 | MEMORY DATA OEC7151A                  | Q3808       | T0300J6500                        | FET 2SJ650                             |
| IC102      | 19UF032290 | IC PST3229NR                          | Q3813       | TJ7M50P030                        | FET RS050P03_TB                        |
| IC104      | S3X604CE01 | MEMORY DATA AT24C512N-10SU-2.7        | Q4200       | T6RA015300                        | TRANSISTOR,SILICON 2SA1530A-T1         |
| IC300      | 10QJP21510 | IC NJM2151AV                          | Q4201       | TNRA050004                        | COMPOUND TRANSISTOR RT1N141C-T112-1    |
| ▲ IC301    | 1HMFFA2020 | IC TA2024-ASE                         | Q4203       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| IC801      | 156K07A720 | IC R8J66607A72FP                      | Q4205       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| IC901      | 10UF015010 | IC MM1501XNRE                         | Q4206       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| IC902      | 10UF015010 | IC MM1501XNRE                         | Q4207       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| IC904      | 119FF341C0 | IC MSP3410G-CA-C12-001                | Q4208       | T27T030180                        | FET 2SK3018T106                        |
| IC2101     | 1FSK0883C0 | IC MST9883C-LF-110                    | Q4209       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| ▲ IC3201   | 107F0C0WF0 | IC BA00BC0WFP-E2                      | Q4210       | T27T030180                        | FET 2SK3018T106                        |
| ▲ IC3202   | 107F078200 | IC BD7820FP-E2                        | Q4211       | T6RA015300                        | TRANSISTOR,SILICON 2SA1530A-T1         |
| IC3601     | 11KF98D330 | IC KIA78D33F                          | Q4212       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| IC3602     | 11KF98D330 | IC KIA78D33F                          | Q4213       | T6RA015300                        | TRANSISTOR,SILICON 2SA1530A-T1         |
| IC3604     | 10QJ045800 | IC NJM4580M(Te1)                      | Q4214       | TPRAC05003                        | COMPOUND TRANSISTOR RT1P241C-T112-1    |
| IC3605     | 15FP099930 | IC SI9993CTG100                       | Q4215       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| IC3606     | S3X604CE02 | MEMORY DATA BR24L02F-WE2              | Q4216       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| IC3607     | 1HFF043340 | IC CS4334-KSZR                        | Q4217       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| IC3608     | S3X604CE03 | MEMORY DATA BR24L32F-WE2              | Q4218       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| IC3611     | 1CMF0E58R0 | IC SST89E58R02-40-C-TQJE              | Q4219       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| IC3612     | 15CF01G080 | IC SN74AHC1G08DCKR                    | Q4221       | T6RA015300                        | TRANSISTOR,SILICON 2SA1530A-T1         |
| IC3801     | 11LF010100 | IC AL1010                             | Q4223       | TPRAC05003                        | COMPOUND TRANSISTOR RT1P241C-T112-1    |
| IC3803     | 107F093000 | IC BD9300FV-E2                        | Q4224       | TNAAB05003                        | COMPOUND TRANSISTOR KRC102SRTK         |
| ▲ IC3804   | 10GA9XF010 | IC PQ070XF01SZH                       | Q4225       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| IC3805     | 103D979950 | IC LA7995M-TLM                        | Q4226       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |
| IC4201     | 101F05853B | IC AN15853B-E1                        | Q4229       | TNAAB05003                        | COMPOUND TRANSISTOR KRC102SRTK         |
| IC4202     | 10UF015010 | IC MM1501XNRE                         | Q4232       | TNRA050004                        | COMPOUND TRANSISTOR RT1N141C-T112-1    |
| IC4203     | 10UF015010 | IC MM1501XNRE                         | Q4233       | TNRA050004                        | COMPOUND TRANSISTOR RT1N141C-T112-1    |
| IC4204     | 10QF025840 | IC NJM2584AM(Te1)                     | Q4301       | T8RA030520                        | TRANSISTOR,SILICON 2SC3052-T1          |

# ELECTRICAL REPLACEMENT PARTS LIST

| REF. NO.             | PART NO.   | DESCRIPTION        |                     | REF. NO.             | PART NO.    | DESCRIPTION    |                      |
|----------------------|------------|--------------------|---------------------|----------------------|-------------|----------------|----------------------|
| TRANSISTORS          |            |                    |                     | JACKS                |             |                |                      |
| Q4302                | T8RA030520 | TRANSISTOR,SILICON | 2SC3052-T1          | J3602                | 060J421030  | RCA JACK       | MTJ-032-05A-31-FE    |
| Q4304                | T8RA030520 | TRANSISTOR,SILICON | 2SC3052-T1          | J4200                | 060J131021  | HEADPHONE JACK | MSJ-035-08D_PC(O87)  |
| Q4305                | T8RA030520 | TRANSISTOR,SILICON | 2SC3052-T1          | J4203                | 060J411034  | RCA JACK       | MSP-242V2-01NI-FE_LF |
| Q8101                | T6RA015300 | TRANSISTOR,SILICON | 2SA1530A-T1         | J4204                | 063D100050  | SOCKET,21PIN   | MRC-021V-07_A        |
| Q8102                | T8RA030520 | TRANSISTOR,SILICON | 2SC3052-T1          | J4205                | 063D100050  | SOCKET,21PIN   | MRC-021V-07_A        |
| Q8103                | T8RA030520 | TRANSISTOR,SILICON | 2SC3052-T1          | J4206                | 063E700012  | JACK           | S4-25SZ              |
| Q8105                | T6RA015300 | TRANSISTOR,SILICON | 2SA1530A-T1         | J4207                | 060K421056  | RCA JACK       | AV-5A-68H            |
| Q8106                | T6RA015300 | TRANSISTOR,SILICON | 2SA1530A-T1         | J4208                | 060K421058  | RCA JACK       | AV-5A-68H            |
| COILS & TRANSFORMERS |            |                    |                     | J4209                | 060K421057  | RCA JACK       | AV-5A-67H            |
| L300                 | 021W0G100M | COIL               | 10 UH               | J4210                | 063D100050  | SOCKET,21PIN   | MRC-021V-07_A        |
| L301                 | 021W0G100M | COIL               | 10 UH               | J4301                | 060J131019  | HEADPHONE JACK | MSJ-2000B_AG(O87)    |
| L302                 | 021W0G100M | COIL               | 10 UH               | J4302                | 060J421037  | RCA JACK       | MTJ-032-05A-32-FE    |
| L303                 | 021W0G100M | COIL               | 10 UH               | J4303                | 060J421030  | RCA JACK       | MTJ-032-05A-31-FE    |
| L901                 | 02167F100J | COIL               | 10 UH               | J4304                | 060J421044  | RCA JACK       | MTJ-032-05A-50-FE    |
| L902                 | 02167F270J | COIL               | 27 UH               | J4305                | 060J421043  | RCA JACK       | MTJ-032-05A-29-FE    |
| L903                 | 02167F100J | COIL               | 10 UH               | J4306                | 060J421030  | RCA JACK       | MTJ-032-05A-31-FE    |
| L904                 | 02167F100J | COIL               | 10 UH               | SWITCHES             |             |                |                      |
| L2101                | 0216S8220K | COIL               | 22 UH               | SW500                | 0530105019  | SWITCH         | ESB92S22B            |
| L2102                | 0216S8220K | COIL               | 22 UH               | SW2201               | 0504101T34  | SWITCH,TACT    | EVQ21505R            |
| L2103                | 0216S8470K | COIL               | 47 UH               | SW2202               | 0504101T34  | SWITCH,TACT    | EVQ21505R            |
| L2106                | 0216S45R6J | COIL               | 5.6 UH              | SW2203               | 0504101T34  | SWITCH,TACT    | EVQ21505R            |
| L2107                | 0216S8220K | COIL               | 22 UH               | SW2204               | 0504101T34  | SWITCH,TACT    | EVQ21505R            |
| L3601                | 02D6000068 | COIL,CHOKE         | ACM2012D-900-2P-T00 | SW2205               | 0504101T34  | SWITCH,TACT    | EVQ21505R            |
| L3602                | 02D6000068 | COIL,CHOKE         | ACM2012D-900-2P-T00 | SW2206               | 0504101T34  | SWITCH,TACT    | EVQ21505R            |
| L3603                | 02D6000068 | COIL,CHOKE         | ACM2012D-900-2P-T00 | P.C.BOARD ASSEMBLIES |             |                |                      |
| L3604                | 02D6000068 | COIL,CHOKE         | ACM2012D-900-2P-T00 | PCB270               | A3X608C270B | PCB ASSY       | CEF189A              |
| L3801                | 02167E220K | COIL               | 22 UH               | PCB290               | A3X608C290B | PCB ASSY       | CEF193A              |
| L3802                | 02167E220K | COIL               | 22 UH               | PCB320               | A3X608C320B | PCB ASSY       | CEF190A              |
| L3803                | 02167E220K | COIL               | 22 UH               | PCBD00               | A3X608CD00B | PCB ASSY       | CEE124A              |
| L3804                | 02167E220K | COIL               | 22 UH               | PCBD20               | A3X608CD20B | PCB ASSY       | CMF085A              |
| L3805                | 0214646R8M | COIL               | 6.8 UH              | PCBD90               | A3X608CD90B | PCB ASSY       | CEF191A              |
| L3806                | 021404150M | COIL               | 15 UH               | PCBDA0               | A3X608CDA0B | PCB ASSY       | CEF192A              |
| L3807                | 02167E100K | COIL               | 10 UH               | PCBDJ0               | A3X608CDJ0B | PCB ASSY       | CED011A              |
| L3808                | 021W0G100M | COIL               | 10 UH               | PCBDS0               | A3X608CDS0B | PCB ASSY       | CEE087A              |
| L3809                | 0214646R8M | COIL               | 6.8 UH              | MISCELLANEOUS        |             |                |                      |
| L3900                | 029X000138 | COIL,LINE FILTER   | SN12-500            | B801                 | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |
| L3901                | 029X000138 | COIL,LINE FILTER   | SN12-500            | B802                 | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |
| L4200                | 021LA6220J | COIL               | 22 UH               | B803                 | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |
| L4202                | 02167F470J | COIL               | 47 UH               | B804                 | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |
| L4203                | 02167F470J | COIL               | 47 UH               | B805                 | 024AC5181J  | CORE,BEADS     | BLM18PG181SN1D       |
| L4206                | 02167F470J | COIL               | 47 UH               | B2101                | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |
| L4207                | 02167F470J | COIL               | 47 UH               | B3201                | 024AC5181J  | CORE,BEADS     | BLM18PG181SN1D       |
| L4209                | 021LA6220J | COIL               | 22 UH               | B3202                | 024AC5181J  | CORE,BEADS     | BLM18PG181SN1D       |
| L4210                | 021LA6220J | COIL               | 22 UH               | B3203                | 024AC5181J  | CORE,BEADS     | BLM18PG181SN1D       |
| L4211                | 021LA6220J | COIL               | 22 UH               | B3204                | 024AC5181J  | CORE,BEADS     | BLM18PG181SN1D       |
| L4212                | 021LA6220J | COIL               | 22 UH               | B3205                | 024AC5181J  | CORE,BEADS     | BLM18PG181SN1D       |
| L4213                | 021LA6220J | COIL               | 22 UH               | B3206                | 024AC5181J  | CORE,BEADS     | BLM18PG181SN1D       |
| L4214                | 021LA6220J | COIL               | 22 UH               | B3207                | 024AC5181J  | CORE,BEADS     | BLM18PG181SN1D       |
| L4215                | 021LA6220J | COIL               | 22 UH               | B3601                | 024HC36001  | CORE,BEADS     | FCM1608CF-600T06     |
| L4216                | 021LA6220J | COIL               | 22 UH               | B3602                | 024HC36001  | CORE,BEADS     | FCM1608CF-600T06     |
| L4217                | 021LA6220J | COIL               | 22 UH               | B3603                | 024HC36001  | CORE,BEADS     | FCM1608CF-600T06     |
| L4218                | 021LA6220J | COIL               | 22 UH               | B3604                | 024HC36001  | CORE,BEADS     | FCM1608CF-600T06     |
| L4219                | 02167F100J | COIL               | 10 UH               | B3608                | 024HC36001  | CORE,BEADS     | FCM1608CF-600T06     |
| L4220                | 02167F100J | COIL               | 10 UH               | B3609                | 024HC36001  | CORE,BEADS     | FCM1608CF-600T06     |
| L4224                | 02167F100J | COIL               | 10 UH               | B3610                | 024HC31022  | CORE,BEADS     | FCM2012H-102T04      |
| L4225                | 02167F470J | COIL               | 47 UH               | B3611                | 024HC31022  | CORE,BEADS     | FCM2012H-102T04      |
| L4226                | 02167F470J | COIL               | 47 UH               | B3801                | 024HT03553  | CORE,BEADS     | W5RH3.5X5X1.0        |
| L4227                | 021LA6220J | COIL               | 22 UH               | B4200                | 024HT03563  | CORE,BEADS     | W4BRH3.5X6X1.0X2     |
| L4228                | 021LA6220J | COIL               | 22 UH               | B4204                | 024HC56013  | CORE,BEADS     | FCM1608CF-600T06     |
| L4229                | 021LA6220J | COIL               | 22 UH               | B4205                | 024HC56013  | CORE,BEADS     | FCM1608CF-600T06     |
| L4230                | 021LA6220J | COIL               | 22 UH               | B4206                | 024HT03563  | CORE,BEADS     | W4BRH3.5X6X1.0X2     |
| L4231                | 021LA6220J | COIL               | 22 UH               | B4207                | 024HT03563  | CORE,BEADS     | W4BRH3.5X6X1.0X2     |
| L4232                | 02167F100J | COIL               | 10 UH               | B4208                | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |
| L4236                | 02167F470J | COIL               | 47 UH               | B4209                | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |
| L4301                | 0216S8470K | COIL               | 47 UH               | B4210                | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |
| L4306                | 0216S8220K | COIL               | 22 UH               | B4212                | 024HT03563  | CORE,BEADS     | W4BRH3.5X6X1.0X2     |
| L4307                | 0216S8220K | COIL               | 22 UH               | B4213                | 024HT03563  | CORE,BEADS     | W4BRH3.5X6X1.0X2     |
| L7201                | 0216S8470K | COIL               | 47 UH               | B4300                | 0246C51024  | CORE,BEADS     | MMZ1608R102CT        |
| L7202                | 0216S8470K | COIL               | 47 UH               | B4301                | 0246C51024  | CORE,BEADS     | MMZ1608R102CT        |
| L7203                | 0216S8470K | COIL               | 47 UH               | B4302                | 0246C51024  | CORE,BEADS     | MMZ1608R102CT        |
| L8102                | 0216S8470K | COIL               | 47 UH               | B4303                | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |
| L8103                | 0216S8470K | COIL               | 47 UH               | B4304                | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |
| L8104                | 0216S8470K | COIL               | 47 UH               | B4305                | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |
| L8105                | 0216S8220K | COIL               | 22 UH               | B4306                | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |
| L8150                | 0216S8470K | COIL               | 47 UH               | B4307                | 0246C51024  | CORE,BEADS     | MMZ1608R102CT        |
| JACKS                |            |                    |                     | B4308                | 0246C51024  | CORE,BEADS     | MMZ1608R102CT        |
| J3601                | 060J421037 | RCA JACK           | MTJ-032-05A-32-FE   | B4309                | 024HC56005  | CORE,BEADS     | FCM1608CF-600T06     |

# ELECTRICAL REPLACEMENT PARTS LIST

| REF. NO.      | PART NO.   | DESCRIPTION        | REF. NO.             | PART NO.    | DESCRIPTION             |                               |                |              |
|---------------|------------|--------------------|----------------------|-------------|-------------------------|-------------------------------|----------------|--------------|
| MISCELLANEOUS |            |                    | MISCELLANEOUS        |             |                         |                               |                |              |
| B4310         | 024HC56005 | CORE,BEADS         | FCM1608CF-600T06     | NR2102      | 110P4101M4              | R.NETWORK                     | 4D03WGJ0101T5E |              |
| B4316         | 0246C51024 | CORE,BEADS         | MMZ1608R102CT        | NR2103      | 110P4101M4              | R.NETWORK                     | 4D03WGJ0101T5E |              |
| B6002         | 024HC56013 | CORE,BEADS         | FCM1608KF-601T02     | NR2104      | 110P4101M4              | R.NETWORK                     | 4D03WGJ0101T5E |              |
| B8511         | 024HC56013 | CORE,BEADS         | FCM1608KF-601T02     | NR2105      | 110P4101M4              | R.NETWORK                     | 4D03WGJ0101T5E |              |
| B7202         | 024HC56005 | CORE,BEADS         | FCM1608CF-600T06     | NR2106      | 110P4101M4              | R.NETWORK                     | 4D03WGJ0101T5E |              |
| BT001         | 141R003018 | BATTERY,MANGAN     | GR6M                 | NR7203      | 110P4220M4              | R.NETWORK                     | 4D03WGJ0220T5E |              |
| BT002         | 141R003018 | BATTERY,MANGAN     | GR6M                 | NR7204      | 110P4220M4              | R.NETWORK                     | 4D03WGJ0220T5E |              |
| CD301         | 06CU13A201 | CORD,CONNECTOR     | CU13A201             | OS2200      | 077A033001              | REMOTE RECEIVER               | ROM-V338TAO or |              |
| CD303         | 06CU12A601 | CORD,CONNECTOR     | CU12A601             |             | 0773071006              | REMOTE RECEIVER               | RPM7138-SH8    |              |
| CD801         | 06CU011207 | CORD,CONNECTOR     | CU011207             | or          | SP301                   | 0701016002                    | SPEAKER        | EAS12D175B   |
|               | 06CH011208 | CORD,CONNECTOR     | CH011208             | or          | SP302                   | 0701016002                    | SPEAKER        | EAS12D175B   |
| CD802         | 06CU011207 | CORD,CONNECTOR     | CU011207             | or          | SP303                   | 0701026001                    | SPEAKER        | EAS5PH134C   |
|               | 06CH011208 | CORD,CONNECTOR     | CH011208             |             | SP304                   | 0701026001                    | SPEAKER        | EAS5PH134C   |
| CP101         | 069S250629 | CONNECTOR PCB SIDE | A2001WV2-5P          | TM101       | 076R0MM010              | TRANSMITTER                   | R56-1201       |              |
| CP102         | 069S2A0629 | CONNECTOR PCB SIDE | A2001WV2-10P         | TR301       | 02A8B9A972              | CORE,FERRITE                  | W5T29X7.5X19   |              |
| CP103         | 069S270629 | CONNECTOR PCB SIDE | A2001WV2-7P          | TR302       | 02A8B9A972              | CORE,FERRITE                  | W5T29X7.5X19   |              |
| CP300         | 069S250620 | CONNECTOR PCB SIDE | A2001WV2-5P-BLK      | TR2201      | 02A8B9A972              | CORE,FERRITE                  | W5T29X7.5X19   |              |
| CP301         | 069S130419 | CONNECTOR PCB SIDE | A2502WV2-3P          | TR4201      | 02A6C0A3Y1              | CORE,FERRITE                  | ZCAT3035-1330  |              |
| CP303         | 069S120419 | CONNECTOR PCB SIDE | A2502WV2-2P          | TR4207      | 02A6B3A3T1              | CORE,FERRITE                  | ZCAT2436-1330A |              |
| CP801         | 069EVT3030 | CONNECTOR PCB SIDE | 00_6232_029_006_800+ | TR4208      | 02A6B3A3T1              | CORE,FERRITE                  | ZCAT2436-1330A |              |
| CP802         | 069EVT3030 | CONNECTOR PCB SIDE | 00_6232_030_006_800+ | TR4209      | 02A6C0A3Y1              | CORE,FERRITE                  | ZCAT3035-1330  |              |
| CD2201        | 06CU23A001 | CORD,CONNECTOR     | CU23A001             | TR4210      | 02A6C0A3Y1              | CORE,FERRITE                  | ZCAT3035-1330  |              |
| CD3601        | 06CU1K1403 | CORD,CONNECTOR     | CU1K1403             | TR6501      | 02A6C0A3Y1              | CORE,FERRITE                  | ZCAT3035-1330  |              |
| CD3800        | 06CUU37101 | CORD,CONNECTOR     | CUU37101             | or          | TU6001                  | 0163Y03003                    | RF UNIT        | TAFM-W122D_C |
| CD3801        | 06CU642601 | CORD,CONNECTOR     | CU642601             |             | V801                    | 09HD205001                    | PDP            | PDP50X3###   |
| CD3802        | 06CU622601 | CORD,CONNECTOR     | CU622601             |             | V802                    | 09JE250001                    | PDP FILTER     | FG510NAA-05  |
| CD3803        | 06CU6C2401 | CORD,CONNECTOR     | CU6C2401             |             | X101                    | 100WT01611                    | CRYSTAL        | HC-49/U-S    |
| CD3804        | 06CU672601 | CORD,CONNECTOR     | CU672601             |             | X801                    | 100YT05401                    | CRYSTAL        | FCX-03       |
| CD3805        | 06E3YB0004 | CABLE              | HD-19DVI30-200B-A    |             | X901                    | 100CT01803                    | CRYSTAL        | HC-49/U-S    |
| CD3807        | 06CU2B1501 | CORD,CONNECTOR     | CU2B1501             |             | X3601                   | 100CT01101                    | CRYSTAL        | HC-49/U-S    |
| CD3808        | 06CUU37101 | CORD,CONNECTOR     | CUU37101             |             | X8101                   | 100CT3R536                    | CRYSTAL        | HC-49/U      |
| or            | CD3810     | 120Q054803         | CORD,AC              | P206-1270-3 | RESISTOR                |                               |                |              |
|               |            | 120G054801         | CORD,AC              | 0G054801    | RC..... CARBON RESISTOR |                               |                |              |
| CD3900        | 06CUU21001 | CORD,CONNECTOR     | CUU21001             |             | CAPACITORS              |                               |                |              |
| CD4201        | 06CU28A002 | CORD,CONNECTOR     | CU28A002             |             | CC.....                 | CERAMIC CAPACITOR             |                |              |
| CD4202        | 06CU257901 | CORD,CONNECTOR     | CU257901             |             | CE.....                 | ALUMI ELECTROLYTIC CAPACITOR  |                |              |
| CD4203        | 122H0T0801 | CORD,JUMPER        | 2H0T0801             |             | CP.....                 | POLYESTER CAPACITOR           |                |              |
| CD4204        | 122H0U0802 | CORD,JUMPER        | 2H0U0802             |             | CPP.....                | POLYPROPYLENE CAPACITOR       |                |              |
| CD4205        | 06CU25A103 | CORD,CONNECTOR     | CU25A103             |             | CPL.....                | PLASTIC CAPACITOR             |                |              |
| CD4206        | 122Q312102 | CORD,JUMPER        | TD-OR0210Z           |             | CMP.....                | METAL POLYESTER CAPACITOR     |                |              |
| CD7203        | 06CUZV7001 | CORD,CONNECTOR     | CUZV7001             |             | CMPL.....               | METAL PLASTIC CAPACITOR       |                |              |
| CP2200        | 069S230629 | CONNECTOR PCB SIDE | A2001WV2-3P          |             | CMPP.....               | METAL POLYPROPYLENE CAPACITOR |                |              |
| CP2201        | 069S250639 | CONNECTOR PCB SIDE | A2001WR2-6P          |             |                         |                               |                |              |
| CP2203        | 069S230629 | CONNECTOR PCB SIDE | A2001WV2-3P          |             |                         |                               |                |              |
| CP3201        | 069S2B0629 | CONNECTOR PCB SIDE | A2001WV2-11P         |             |                         |                               |                |              |
| CP3601        | 069HYJ3010 | CONNECTOR PCB SIDE | DC1R019JDA           |             |                         |                               |                |              |
| CP3604        | 069S290639 | CONNECTOR PCB SIDE | A2001WR2-9P          |             |                         |                               |                |              |
| CP3800        | 069432001A | CONNECTOR PCB SIDE | 3-176976-1           |             |                         |                               |                |              |
| CP3801        | 069S140019 | CONNECTOR PCB SIDE | A2501WV2-4P          |             |                         |                               |                |              |
| CP3802        | 069S120019 | CONNECTOR PCB SIDE | A2501WV2-2P          |             |                         |                               |                |              |
| CP3803        | 069S1C0019 | CONNECTOR PCB SIDE | A2501WV2-12P         |             |                         |                               |                |              |
| CP3804        | 069S170019 | CONNECTOR PCB SIDE | A2501WV2-7P          |             |                         |                               |                |              |
| CP3807        | 069S2B0629 | CONNECTOR PCB SIDE | A2001WV2-11P         |             |                         |                               |                |              |
| CP3808        | 069S320419 | CONNECTOR PCB SIDE | A3963WV2-3PD         |             |                         |                               |                |              |
| CP3900        | 069S320419 | CONNECTOR PCB SIDE | A3963WV2-3PD         |             |                         |                               |                |              |
| CP3901        | 069S320419 | CONNECTOR PCB SIDE | A3963WV2-3PD         |             |                         |                               |                |              |
| CP4200        | 069S280629 | CONNECTOR PCB SIDE | A2001WV2-8P          |             |                         |                               |                |              |
| CP4201        | 069S280629 | CONNECTOR PCB SIDE | A2001WV2-8P          |             |                         |                               |                |              |
| CP4202        | 069S250629 | CONNECTOR PCB SIDE | A2001WV2-5P          |             |                         |                               |                |              |
| CP4203        | 069EVT3030 | CONNECTOR PCB SIDE | 00_6232_029_006_800+ |             |                         |                               |                |              |
| CP4204        | 069EVT3030 | CONNECTOR PCB SIDE | 00_6232_030_006_800+ |             |                         |                               |                |              |
| CP4205        | 069S250620 | CONNECTOR PCB SIDE | A2001WV2-5P-BLK      |             |                         |                               |                |              |
| CP4301        | 069S1K0019 | CONNECTOR PCB SIDE | A2501WV2-20P         |             |                         |                               |                |              |
| CP4302        | 0694S15017 | CONNECTOR PCB SIDE | 1-1734344-1          |             |                         |                               |                |              |
| CP6001        | 06CK7D0301 | CORD,CONNECTOR     | TWG-P13P-A1          |             |                         |                               |                |              |
| CP6002        | 06977DM020 | CONNECTOR PCB SIDE | 127301113K2          |             |                         |                               |                |              |
| CP7202        | 069HTR001A | CONNECTOR PCB SIDE | FI-TWE31PB-VF        |             |                         |                               |                |              |
| ELD001        | 124116281A | EYE LET            | XRY16X28BD           |             |                         |                               |                |              |
| ELD002        | 124120301A | EYE LET            | XRY20X30BD           |             |                         |                               |                |              |
| NR801         | 110P4000M4 | R.NETWORK          | 4D03WGJ0000T5E       |             |                         |                               |                |              |
| NR802         | 110P4470M4 | R.NETWORK          | 4D03WGJ0470T5E       |             |                         |                               |                |              |
| NR803         | 110P4470M4 | R.NETWORK          | 4D03WGJ0470T5E       |             |                         |                               |                |              |
| NR804         | 110P4470M4 | R.NETWORK          | 4D03WGJ0470T5E       |             |                         |                               |                |              |
| NR805         | 110P4470M4 | R.NETWORK          | 4D03WGJ0470T5E       |             |                         |                               |                |              |
| NR806         | 110P4470M4 | R.NETWORK          | 4D03WGJ0470T5E       |             |                         |                               |                |              |
| NR807         | 110P4470M4 | R.NETWORK          | 4D03WGJ0470T5E       |             |                         |                               |                |              |
| NR2101        | 110P4101M4 | R.NETWORK          | 4D03WGJ0101T5E       |             |                         |                               |                |              |

## RESISTOR

RC..... CARBON RESISTOR

## CAPACITORS

CC..... CERAMIC CAPACITOR  
CE..... ALUMI ELECTROLYTIC CAPACITOR  
CP..... POLYESTER CAPACITOR  
CPP..... POLYPROPYLENE CAPACITOR  
CPL..... PLASTIC CAPACITOR  
CMP..... METAL POLYESTER CAPACITOR  
CML..... METAL PLASTIC CAPACITOR  
CMPP..... METAL POLYPROPYLENE CAPACITOR

|          |          |
|----------|----------|
| SPEC.NO. | M3X6-08C |
| O/R NO.  | U623521  |