



COLOR MONITOR

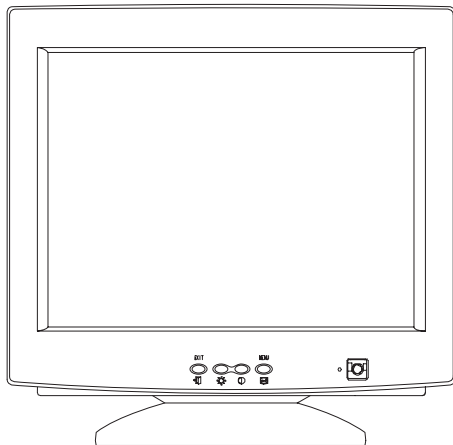
AQ17LS

SERVICE *Manual*

Datasheet.Live

COLOR MONITOR

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<http://www.sec.co.kr/monitor> (Korea)

1 Precautions

1-1 Safety Precautions

WARNINGS

1. For continued safety, do not attempt to modify the circuit board.
2. Disconnect the AC power before servicing.
3. When the chassis is operating, semiconductor heatsinks are potential shock hazards.

1-1-1 Servicing the High Voltage and CRT :

WARNING: A high voltage adjusted to the wrong value may cause excessive X-ray emissions.

1. When servicing the high voltage system, remove the static charge by connecting a 10 kohm resistor in series with an insulated wire (such as a test probe) between the chassis and the anode lead.
2. When troubleshooting a monitor with excessively HV, avoid being unnecessarily close to the monitor. Do not operate the monitor for longer than is necessary to locate the cause of excessive voltage.
3. High voltage should always be kept at the rated value, no higher. Only when high voltage is excessive are X-rays capable of penetrating the shell of the CRT, including the lead in glass material. Operation at high voltages may also cause failure of the CRT or high voltage circuitry.
4. When the HV regulator is operating properly, there is no possibility of an X-ray problem. Make sure the HV does not exceed its specified value and that it is regulating correctly.
5. The CRT is especially designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the CRT only with one that is the same or equivalent type as the original.
6. Handle the CRT only when wearing shatterproof goggles and after completely discharging the high voltage anode.
7. Do not lift the CRT by the neck.

1-1-2 Fire and Shock Hazard :

Before returning the monitor to the user, perform the following safety checks:

1. Inspect each lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the monitor.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.

3. Leakage Current Hot Check (Figure 1-1):
WARNING: Do not use an isolation transformer during this test.

Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, *Leakage Current for Appliances*), and Underwriters Laboratories (UL Publication UL1410, 59.7).

4. With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

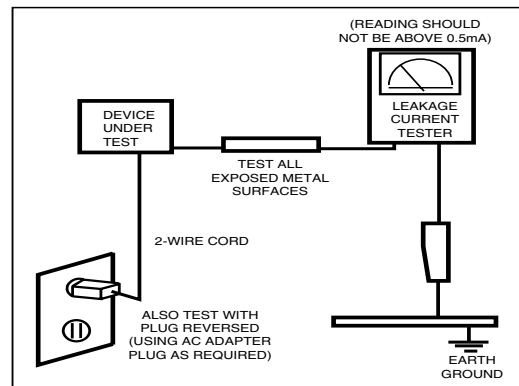


Figure 1-1. Leakage Current Test Circuit

1-1-3 Product Safety Notices

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection. The protection they give may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by ⚠ on schematics and parts lists. A substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire and / or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

Components identified by ☢ on schematics and parts lists must be sealed by a soldering iron after replacement and adjustment.

1-2 Servicing Precautions

WARNING1: First read the “Safety Precautions” section of this manual. If unforeseen circumstances create conflict between the servicing precautions and safety precautions, always follow the safety precautions.


WARNING2: A high voltage adjusted to the wrong value may cause excessive X-ray emissions.

WARNING3: An electrolytic capacitor installed with the wrong polarity might explode.

1. Servicing precautions are printed on the cabinet, and should be followed closely.
2. Always unplug the unit’s AC power cord from the AC power source before attempting to: (a) remove or reinstall any component or assembly, (b) disconnect PCB plugs or connectors, (c) connect all test components in parallel with an electrolytic capacitor.
3. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
4. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the area around the serviced part has not been damaged.
5. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
6. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500 V) to the blades of the AC plug.
The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
7. Never defeat any of the +B voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
8. Always connect a test instrument’s ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument’s ground lead last.

1-3 Electrostatically Sensitive Devices (ESD) Precautions

Some semiconductor (solid state) devices can be easily damaged by static electricity. Such components are commonly called Electrostatically Sensitive Devices (ESD). Examples of typical ESD devices are integrated circuits and some field-effect transistors. The following techniques will reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. To avoid a shock hazard, be sure to remove the wrist strap before applying power to the monitor.
2. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.
3. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.
4. Use only a grounded-tip soldering iron to solder or desolder ESDs.
5. Use only an anti-static solder removal device. Some solder removal devices not classified as “anti-static” can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
7. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
Caution: Be sure no power is applied to the chassis or circuit and observe all other safety precautions.
8. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting your foot from a carpeted floor can generate enough static electricity to damage an ESD.
9.  Indicates ESDs on the Schematic Diagram in this manual.

2 Product Specifications

2-1 Specifications

| Item | Description |
|--|---|
| Picture Tube: | 17-Inch (43 cm): 16-inch (40.6 cm) viewable, Full-square type CRT, 90° Deflection, Semi- tint, Invar shadow mask, Anti-static silica coating, 0.23 mm Dot pitch |
| Scanning Frequency | Horizontal : 30 kHz ~ 70 kHz (Automatic) Vertical : 50 Hz ~ 160 Hz (Automatic) |
| Display Colors | Unlimited colors |
| Maximum Resolution | Horizontal : 1280 Dots Vertical : 1024 Lines |
| Input Video Signal | Analog, 0.7 Vp-p positive at 75 Ω , internally terminated |
| Input Sync Signal | Separate Sync: TTL level positive/negative |
| Maximum Pixel Clock rate | 110 MHz |
| Active Display | Horizontal : 312 mm \pm 4 mm, Vertical : 234 mm \pm 4 mm |
| Input Voltage | AC 90 to 264 Volts, 60 Hz / 50 Hz \pm 3 Hz |
| Power Consumption | 90 Watt (Max.) |
| Dimensions (W x D x H) (with base) | 15.66 x 16.22 x 15.74 Inches (398 x 412 x 400 mm) |
| Weight (Net/Gross) | 33.1 lbs (15.0 kg) / 38.6 lbs (17.5 kg) |
| Environmental Considerations | Operating Temperature : 32°F ~ 104°F (0°C ~ 40°C) Humidity : 10 % ~ 80 % Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Humidity : 5 % ~ 95 % |
| <ul style="list-style-type: none"> • Above models comply with SWEDAC MPR II / TC099 recommendations for reduced electromagnetic fields. • Designs and specifications are subject to change without prior notice. | |

2-2 Pin Assignments

| <div style="text-align: right;">Sync Type</div> <div style="text-align: left;">Pin No.</div> | Separate | Macintosh |
|--|-----------------------|-----------|
| 1 | Red | GND-R |
| 2 | Green | Red |
| 3 | Blue | H/V Sync. |
| 4 | N-C | Sense 0 |
| 5 | GND (DDC) | Green |
| 6 | GND-R | GND-G |
| 7 | GND-G | Sense 1 |
| 8 | GND-B | Reserved |
| 9 | Reserved (N-C) | Blue |
| 10 | GND-Sync./Self-raster | Sense 2 |
| 11 | N-C | GND |
| 12 | DDC Data | V-Sync. |
| 13 | H-Sync. | GND-B |
| 14 | V-Sync. | GND |
| 15 | DDC Clock | H-Sync. |

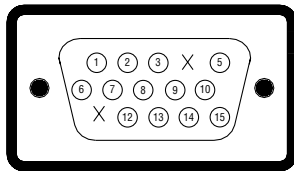


Figure 2-1. Male Type

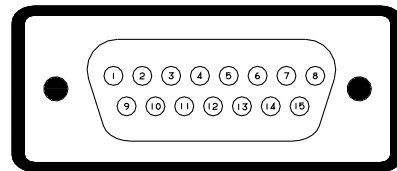


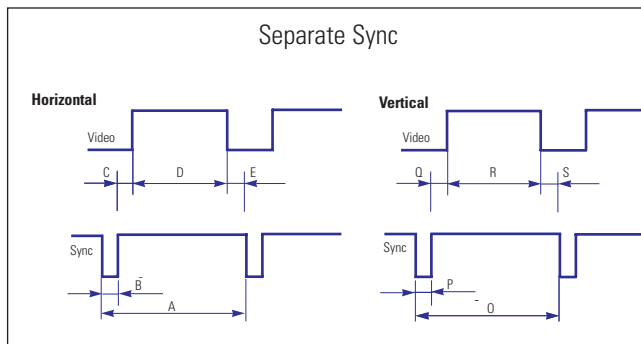
Figure 2-2. Male Type

2-3 Timing Chart

This section of the service manual describes the timing that the computer industry recognizes as standard for computer-generated video signals.

Table 2-1. Timing Chart

| Mode Timing | IBM | | VESA | | | | | |
|-----------------------|-------------------------|-------------------------|------------------------|------------------------|------------------------|------------------------|--------------------------|--------------------------|
| | VGA2/70 Hz 720 x 400 | VGA3/60 Hz 640 x 480 | 640/75 Hz 640 x 480 | 640/85 Hz 640 x 480 | 800/75 Hz 800 x 600 | 800/85 Hz 800 x 600 | 1024/75 Hz 1024 x 768 | 1024/85 Hz 1024 x 768 |
| fH (kHz) | 31.469 | 31.469 | 37.500 | 43.269 | 46.875 | 53.674 | 60.023 | 68.677 |
| A μ sec | 31.777 | 31.778 | 26.667 | 23.111 | 21.333 | 18.631 | 16.660 | 14.561 |
| B μ sec | 3.813 | 3.813 | 2.032 | 1.556 | 1.616 | 1.138 | 1.219 | 1.016 |
| C μ sec | 1.907 | 1.907 | 3.810 | 2.222 | 3.232 | 2.702 | 2.235 | 2.201 |
| D μ sec | 25.422 | 25.422 | 20.317 | 17.778 | 16.162 | 14.222 | 13.003 | 10.836 |
| E μ sec | 0.636 | 0.636 | 0.508 | 1.556 | 0.323 | 0.569 | 0.203 | 0.508 |
| fV (Hz) | 70.087 | 59.940 | 75.000 | 85.008 | 75.000 | 85.061 | 75.029 | 84.997 |
| O msec | 14.268 | 16.683 | 13.333 | 11.764 | 13.333 | 11.756 | 13.328 | 11.765 |
| P msec | 0.064 | 0.064 | 0.080 | 0.671 | 0.064 | 0.056 | 0.050 | 0.044 |
| Q msec | 1.080 | 1.048 | 0.427 | 0.578 | 0.448 | 0.503 | 0.466 | 0.524 |
| R msec | 12.711 | 15.253 | 12.800 | 11.093 | 12.800 | 11.179 | 12.795 | 11.183 |
| S msec | 0.413 | 0.318 | 0.027 | 0.023 | 0.021 | 0.019 | 0.017 | 0.015 |
| Clock Frequency (MHz) | 28.322 | 25.175 | 31.500 | 36.000 | 49.500 | 56.250 | 78.750 | 94.500 |
| Polarity H.Sync | Negative | Negative | Negative | Negative | Positive | Positive | Positive | Positive |
| V.Sync | Positive | Negative | Negative | Negative | Positive | Positive | Positive | Positive |
| Remark | Separate | Separate | Separate | Separate | Separate | Separate | Separate | Separate |



| | | | |
|---------------------|---------------------------|----------------------|-------------------------|
| A : Line time total | B : Horizontal sync width | O : Frame time total | P : Vertical sync width |
| C : Back porch | D : Active time | Q : Back porch | R : Active time |
| E : Front porch | | S : Front porch | |

Memo

3 Disassembly and Reassembly

This section of the service manual describes the disassembly and reassembly procedures for the AQ17LS monitor.

WARNING: This monitor contains electrostatically sensitive devices. Use with caution when handling these components.

3-1 Disassembly

Cautions: 1. Disconnect the monitor from the power source before disassembly.
2. To remove the Rear Cover, you must use the special opening jig tool.

3-1-1 Before making Disassembly

1. Disconnect or power cord from the monitor.
2. With a pad beneath it, stand the monitor on its front with the screen facing downward and the base close to you.

3-1-2 Cabinet Disassembly

1. Remove the Stand from the monitor. (Refer to Stand manual)
2. Remove 2 screws on the Rear cover.



Figure 1

3. Incline the monitor by lifting the rear of the monitor.



Figure 2

4. Push the Opening jig each groove along the top of the monitor till it makes a "ttak" sound. (2 grooves : Left and Right, Make sure each snap is disengaged.)



Figure 3

5. Pull the Rear Cover up off the monitor.



Figure 4

6. Remove the Shield.(TCO 99)

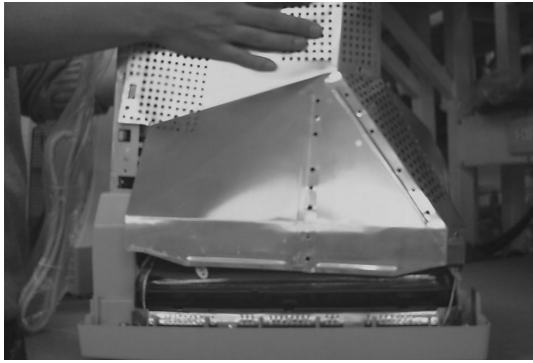


Figure 5

7. Using pinch-nose pliers or ling-nose pliers, acrefully disconnect the Anode Cap from the CRT.

Warning: Do not touch the Anode contact on the CRT (High Voltage may remain).

3-1-3 Removing the CRT Socket PCB

1. Complete all previous steps.
2. Lift up the Video Spring and remove the CRT Socket PCB from the CRT.

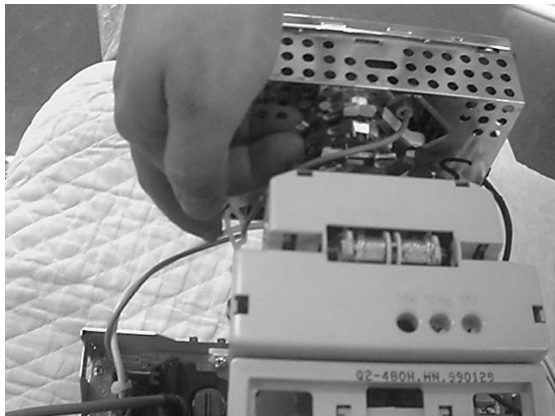


Figure 6

3. Disconnect all connectors on the CRT Socket PCB.
4. Using a solder iron, disconnect Ground (GND) on the back of the Video Shield and remove the Shield Cap.
5. Remove the screw on the front of the Shield Socket.
6. Desolder the 4 tabs on the CRT Socket PCB and remove Shield.
7. Place the Video PCB on a flat, level surface that is protected from static electricity.

3-2 Reassembly

Reassembly procedures are in the reverse order of Disassembly procedures.

3-1-4 Removing the Main PCB

1. Complete all previous steps.
2. Disconnect the Degaussing Coil at CN603 on the Main PCB.
3. Disconnect all easily accessible ground wires on the PCB and Bottom Chassis.
4. Disconnect the DY connector at the CN401 connector on the Main .
5. Using the jig, release the snaps (2) connecting the Front Cover and the PCB then lift up the Bottom to separate the two Shield.

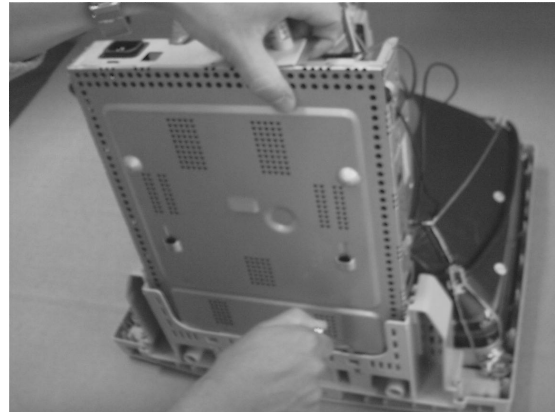


Figure 7

6. Disconnect the Tilt connector at the CN2(CN22) connector on the Main PCB.
7. Disconnect the Sub PCB connector at the CN201 connector on the Main PCB.
8. Remove the screws on the back and along each side of the Bottom Chassis.
9. Carefully lift the Main PCB Ass'y and remove the remaining ground wires.
10. Place the Main PCB Ass'y on a flat, level surface that is protected from static electricity.

3-1-5 CRT Ass'y Disassembly

1. Complete all previous steps.
2. Straighten the Degaussing Coil Assembly coated metal ties and lift the Coil Ass'y from the CRT.
3. Remove the four corner screws and lift the CRT up and away from the Front Cover Assembly and place it on a padded surface.

Caution: Do not lift the CRT by the neck.

If you will be returning this CRT to the monitor, be sure to place the CRT face downward on a protective pad.

4 Alignment and Adjustments

This section of the service manual explains how to make permanent adjustments to the monitor. Directions are given for adjustments using the monitor Interface Board Ver. 2.0 and software (Softjig).

4-1 Adjustment Conditions

Caution: Changes made without the Softjig are saved only to the user mode settings. As such, the settings are not permanently stored and may be inadvertently deleted by the user.

4-1-1 Before Making Adjustments

4-1-1 (a) ORIENTATION

When servicing, always face the monitor to the east.

4-1-1 (b) WARM-UP TIME

The monitor must be on for 30 minutes before starting alignment. Warm-up time is especially critical in color temperature and white balance adjustments.

4-1-1 (c) SIGNAL

Analog, 0.7 V_{p-p} positive at 75 ohm, internal termination
Sync: TTL level, negative/positive

4-1-1 (d) SCANNING FREQUENCY

Horizontal: 30 kHz to 68 kHz (Automatic)
Vertical: 50 Hz to 160 Hz (Automatic)

Unless otherwise specified, adjust at the 1024 x 768 mode (68 kHz/85 Hz) signal.

Refer to Table 2-1 on page 2-3.

4-1-2 Required Equipment

The following equipment may be necessary for adjustment procedures:

4-1-2 (a) DISPLAY CONTROL ADJUSTMENT

1. Non-metallic (–) screwdriver:
1.5, 2.5, 3 mm
2. Non-metallic (+) screwdriver:
1.5, 2.5, 3 mm
3. Digital Multimeter (DMM), or
Digital Voltmeter
4. Signal generator, or
DM200 software
5. Personal computer

4-1-2 (b) COLOR ADJUSTMENTS

1. All equipment listed in 4-1-2 (a), above
2. Color analyzer, or any luminance
measurement equipment

4-2 Display Control Adjustments

4-2-1 HIGH VOLTAGE ADJUSTMENT

Signal: 1024 x 768 (68 kHz/85 Hz)
 Display image: Full White Pattern
 Contrast: Maximum
 Brightness: Maximum
 Limit: 26.0 kV ± 0.5 kV

Expert) TSB CDT = 26.5kV ± 0.2 kV

Measure the high voltage level at the anode cap. High voltage should be within the limit as above. If the high voltage needs adjustment use the following procedure.

PROCEDURE

1. Turn the power off and disconnect the AC line cord from the power source.
2. Turn the power on after connecting high voltage Probe.
3. Using the jig, adjust the high voltage to the specification.

* High Voltage Adjustment PROCEDURE using Softjig

- ① Select matching model name in "Model" field.
- ② Select "@7: Zero Beam" in menu after selecting "Extra 1"
- ③ Adjust high voltage using control bar after selecting "HV MIN"
- ④ Turn the power off/on after adjustment finished.
- ⑤ Check the high voltage has been fixed with adjusted value after reselecting "@7: Zero Beam".

4-2-2 SCREEN VOLTAGE CHECK

CONDITIONS

Signal: 1024 x 768 (68 kHz/85 Hz)
 Display image: Full White Pattern
 Contrast: Maximum
 Brightness: Maximum
 Limit: Refer to Table 4-1

No Adjustment.

Only check with below table.

Table 4-1

| | CRT type | Screen Voltage |
|-----|---------------|----------------|
| SDI | M41QAQ261X011 | 500V ± 10V |
| TSB | M41LH507XX443 | 630V ± 10V |
| PHS | M41EJB523X170 | 570V ± 10V |

4-2-3 CENTER RASTER

Adjust SW401 so that the back raster comes to the center when you apply each basic mode.

4-2-4 Centering

Centering means to position the center point of the display in the middle of the display area. Horizontal size and position and vertical size and position control the centering of the display.

Adjust the horizontal size and vertical size to their optimal settings: 312 mm (H) x 234 mm.

Adjust the horizontal position and vertical position to ≤ 4.0 mm of the center point of the screen.

$$|A-B| \leq 4.0 \text{ mm} \quad |C-D| \leq 4.0 \text{ mm}$$

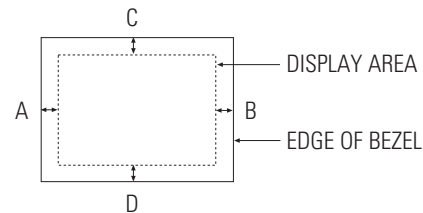


Figure 4-3. Centering

* In Softjig window, "Geometry" has to be selected for GD adjustment.

4-2-4 (a) HORIZONTAL SIZE ADJUSTMENT

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
 Display image: Crosshatch pattern
 Brightness: Maximum
 Contrast: Maximum

Use control bar after selecting "SIZE B+" in left menu to adjust the horizontal size of the display pattern to 306 mm with OSD "H-SIZE" fixed "60". (Tolerance: ±3 mm.)

Specially run "All mode save" after horizontal size adjustment in order to save "SIZE B+" values of other modes automatically.

And, adjust other 7 factory modes "SIZE B+" with "H - SIZE" values fixed like this table.

Table 4-2

| MODE | H-SIZE |
|---------------|--------|
| VGA 2 VGA3 | 70 |
| Others | 60 |

4-2-4 (b) VERTICAL SIZE ADJUSTMENT

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
 Display image: Crosshatch pattern
 Brightness: Maximum
 Contrast: Maximum

Use control bar after selecting “**V-SIZE**” in left menu to adjust the vertical size of the display pattern to 234 mm. (Tolerance: ± 3 mm.)

4-2-4 (c) HORIZONTAL POSITION ADJUSTMENT

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
 Display image: Crosshatch pattern

Use control bar after selecting “**H-POSITION**” in left menu to center the horizontal image on the raster.

4-2-4 (d) VERTICAL POSITION ADJUSTMENT

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
 Display image: Crosshatch pattern

Use control bar after selecting “**V-POSITION**” in left menu to center the vertical image on the raster.

4-2-5 Linearity

$$\text{Horizontal Linearity} = 2 \times \frac{X_{\max} - X_{\min}}{X_{\max} + X_{\min}} \times 100$$

$$\text{Vertical Linearity} = 2 \times \frac{Y_{\max} - Y_{\min}}{Y_{\max} + Y_{\min}} \times 100$$

Table 4-3

| | Adjacent Linearity | Entire Linearity |
|-----------------------------|--------------------|------------------|
| Preset mode | ≤ 4% | ≤ 8% |
| Pre-load mode (48kHz~) | ≤ 5% | ≤ 10% |
| Pre-load mode (under 48kHz) | ≤ 5% | ≤ 14% |

* Preset Mode : 68KHz / 85Hz

Pre-load Mode : Refer to Timing Chart

4-2-5 (a) HORIZONTAL LINEARITY ADJUSTMENT

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
 Display image: Crosshatch pattern
 Brightness: Maximum
 Contrast: Maximum

To adjust the Horizontal Linearity, refer to Table 4-2 for the tolerance range.

Increase or decrease **H_LIN** to optimize the image.

4-2-5 (b) VERTICAL LINEARITY ADJUSTMENT

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
 Display image: Crosshatch pattern
 Brightness: Maximum
 Contrast: Maximum

To adjust the Vertical Linearity, refer to Table 4-2 for the tolerance range.

Use control bar after selecting “**V-LINEARITY BAL**” in left menu to optimize the image.

4-2-6 Trapezoid Adjustment

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
 Display image: Crosshatch pattern
 Brightness: Maximum
 Contrast: Maximum

Use control bar after selecting "TRAPEZOID" in left menu to make the image area rectangular.

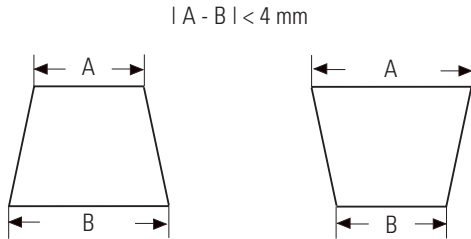


Figure 4-4. Trapezoid

4-2-7 Pinbalance Adjustment

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
 Display image: Crosshatch pattern
 Brightness: Maximum
 Contrast: Maximum

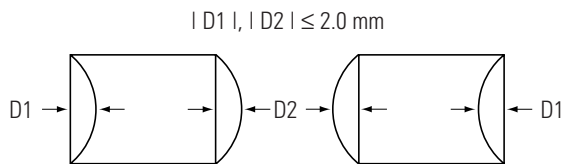


Figure 4-5. Pinbalance

Use control bar after selecting "PINBALANCE" in left menu to optimize the image.

4-2-8 Parallelogram Adjustment

CONDITIONS

Scanning Frequency: 68 kHz/85 Hz
 Display image: Crosshatch pattern
 Brightness: Maximum
 Contrast: Maximum

Use control bar after selecting "PARALLEL" in left menu to make the image area rectangular.

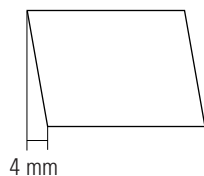


Figure 4-6. Parallelogram

4-2-9 Side Pincushion Adjustment

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
 Display image: Crosshatch pattern

Use control bar after selecting "PINCUSHION" in left menu to straighten the sides of the image area.

$|C1|, |C2| \leq 2.0 \text{ mm}, |D1|, |D2| \leq 2.0 \text{ mm}$

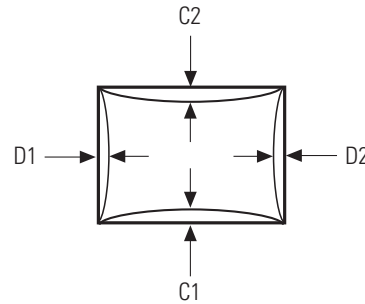


Figure 4-7. Pincushion

4-2-10 Degauss

No adjustments are available for the degaussing circuit. The degaussing circuit can effectively function only once per 30 minutes.

4-2-11 To Delete the User Mode Data

To delete the adjustment data from the user modes, click "@4: USER DELETE" in right ment.

4-2-12 Save the Data

To save the adjustment data for a mode, press "@3: ALL MODE SAVE" in right ment.

4-3 Color Adjustments

CAUTION: Check below condition before color adjustment
Video signal : Analog 0.7 Vp-p (at 75 Ω)
Sync : TTL level (H, V separate signal)

* Select "Color" in Softjig menu for color adjustment.

4-3-1 Color Coordinates (Temperature)

Color temperature is a measurement of the radiant energy transmitted by a color. For computer monitors, the color temperature refers to the radiant energy transmitted by white. Color coordinates are the X and Y coordinates on the chromaticity diagram of wavelengths for the visible spectrum.

CONDITIONS

Measurement instrument: Color analyzer
Scanning frequency: 68 kHz/85 Hz
Display image: White flat field at center of display area
Luminance: Maximum

PROCEDURE

Use the directions in sections 4-3-2 through 4-3-3 to adjust the color coordinates for:

9300K to $x = 0.283 \pm 0.02$, $y = 0.298 \pm 0.02$
6500K to $x = 0.313 \pm 0.02$, $y = 0.329 \pm 0.02$

4-3-2 Color Adjustments for 9300K

4-3-2 (a) BACK RASTER COLOR ADJUSTMENT

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
Display image: Back raster pattern
Brightness: Maximum
Contrast: Maximum

1. Select "@1: CHANNEL 1" in right menu to control the color for 9300K.
2. Adjust the luminance of the back raster to between 0.5 to 0.7 ft-L using contron bar after selecting "GREEN CUTOFF" in the menu.
3. Use control bar after selecting "BLUE CUTOFF" in left menu to set the "y" coordinate to 0.298 ± 0.015
4. Use control bar after selecting "RED CUTOFF" in left menu to 0.283 ± 0.015

* If color values would not be matched desirable values, repeat sequence 3 and 4 after readjusting "GREEN CUTOFF" control a little different.

4-3-2 (b) R.G.B - GAIN ADJUSTMENT

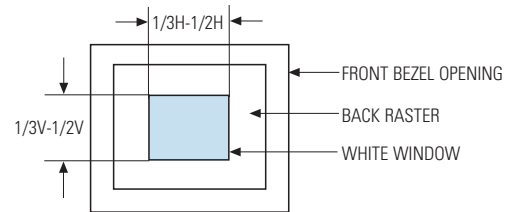


Figure 4-8. White Box Pattern

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
Display image: Green box pattern
Brightness: Cut-off
Contrast: Maximum

1. Click on the << or >> box next to R,G,B _GAIN to adjust the brightness of the Green Gain to 36 ± 1 ft-L.

4-3-2 (c) WHITE BALANCE ADJUSTMENT

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
Display image: Full white pattern
Brightness: Cut-off
Contrast: Maximum

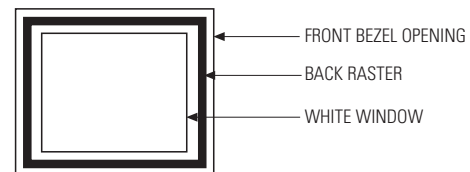


Figure 4-9. Full White Pattern

1. Click on the << or >> boxes next to R_GAIN and B_GAIN to make the video white. (For 9300K color adjustment: $x = 0.283 \pm 0.02$, $y = 0.298 \pm 0.02$.)

Note: Do not touch the G_GAIN controls.

2. Check the ABL. If it is not within the specifications (30 ± 1 ft-L), use the ABL controls to adjust it.
3. Select COLOR FACTORY SAVE to save the data.

4-3-2 (d) WHITE BALANCE ADJUSTMENT VERIFICATION

CONDITIONS

Scanning frequency: 68 kHz/85 Hz

Display image: Back raster pattern
Full White Pattern
X-Y Coordinates: $x = 0.283 \pm 0.02$,
 $y = 0.298 \pm 0.02$
ABL Luminance Refer to 4-3-2(c)
Brightness: Maximum
Contrast: 5 ft-L, 24 ft-L

1. Check whether the color coordinates of the back raster satisfy the above spec.
If they do not, return to 4-3-2 (a) and readjust all settings.
2. Display a full white pattern.
3. Select "Geometry" in softjig menu.
4. Select "@7: 5-ft " in right menu.
5. Check whether the white coordinates of the video meet the above coordinates spec.
6. Select "@8: 24-ft " in right menu.
7. Check whether the white coordinates of the video satisfies the above spec.
If they do not, return to 4-3-2 (a) and readjust all settings.

Select "Color" and click "@2: CHANNEL 2" for color adjustment for 6500K
Repeat the sequence of 9300K adjustment.
The luminance values the same as 9300K, but the color coordinated of back raster and white box are : $x = 0.313 \pm 0.015$ $y = 0.329 \pm 0.015$

4-3-3 Luminance Uniformity Check

Luminance is considered uniform only if the ratio of lowest to highest brightness areas on the screen is not less than 7.5:10.

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
(1024 x 768)
Display image: White flat field
Brightness: Cut off point at 24 ft-L
Contrast: Maximum

PROCEDURE

Measure luminance at nine points on the display screen (see figure below).

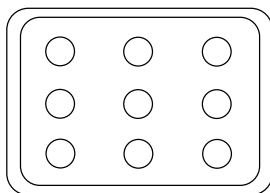


Figure 4-10. Luminance Uniformity Check Locations

4-3-4 Focus Adjustment

CONDITIONS

Scanning frequency: 68 kHz/85 Hz
(1024 x 768)
Display image: "H" character pattern
Brightness: Cut off point
Contrast: Maximum

PROCEDURE

1. Adjust the Focus VR on the FBT to display the sharpest image possible.
2. Use Locktite to seal the Focus VR in position.

4-3-5 Color Purity Adjustment

Color purity is the absence of undesired color. Conspicuous mislanding (unexpected color in a uniform field) within the display area shall not be visible at a distance of 50 cm from the CRT surface.

CONDITIONS

Orientation: Monitor facing east
Scanning frequency: 68 kHz/85 Hz
Display image: White flat field
Luminance: Cut off point at the center of the display area

Note: Color purity adjustments should only be attempted by qualified personnel.

PROCEDURE

For trained and experienced service technicians only.

Use the following procedure to correct minor color purity problems:

1. Make sure the display is not affected by external magnetic fields.
2. Make sure the spacing between the PCM assembly and the CRT stem is $29 \text{ mm} \pm 1 \text{ mm}$.
3. Display a green pattern over the entire display area.
4. Adjust the purity magnet rings on the PCM assembly to display a pure green pattern.
(Optimum setting: $x = 0.295 \pm 0.015$, $y = 0.594 \pm 0.015$)

Table 4-5. Color Purity Tolerances

| | | |
|--------|-----------------------|-----------------------|
| Red: | $x = 0.640 \pm 0.015$ | $y = 0.323 \pm 0.015$ |
| Green: | $x = 0.295 \pm 0.015$ | $y = 0.594 \pm 0.015$ |
| Blue: | $x = 0.142 \pm 0.015$ | $y = 0.066 \pm 0.015$ |

(For 9300K color adjustment: $x = 0.283 \pm 0.02$, $y = 0.298 \pm 0.02$)

5. When you have the PCMs properly adjusted, carefully glue them together to prevent their movement during shipping.

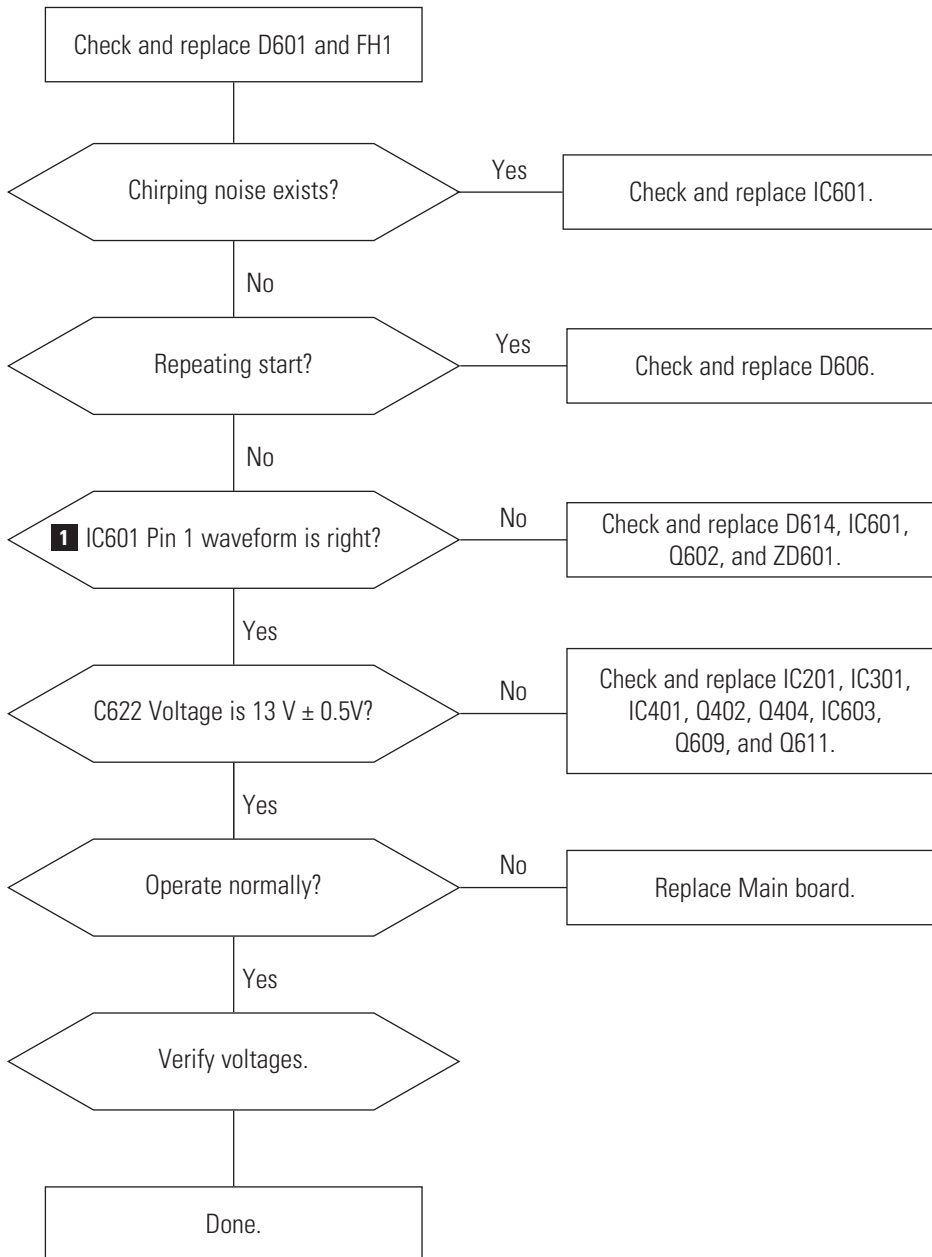
5 Troubleshooting

5-1 Parts Level Troubleshooting

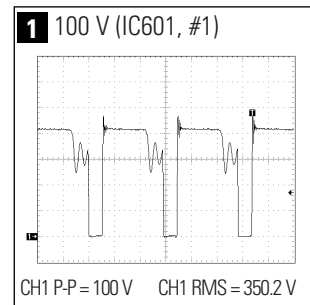
Notes: Check the following circuits.

- No raster appears: Power circuit, Horizontal output circuit.
- High voltage develops but no raster appears: Video output circuits.
- High voltage does not develop: Horizontal output circuits.

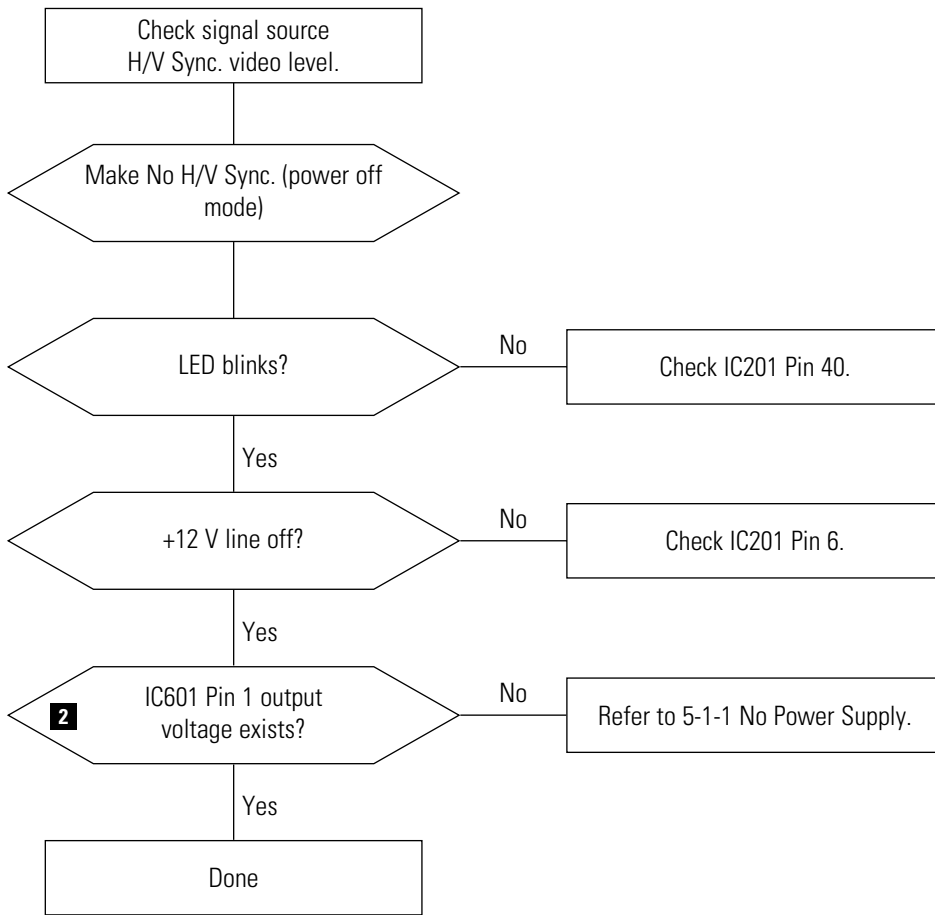
5-1-1 No Power Supply



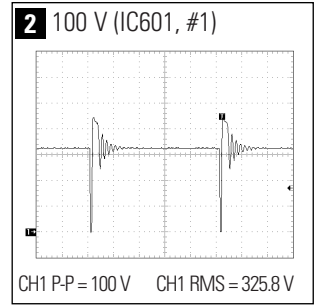
WAVEFORMS



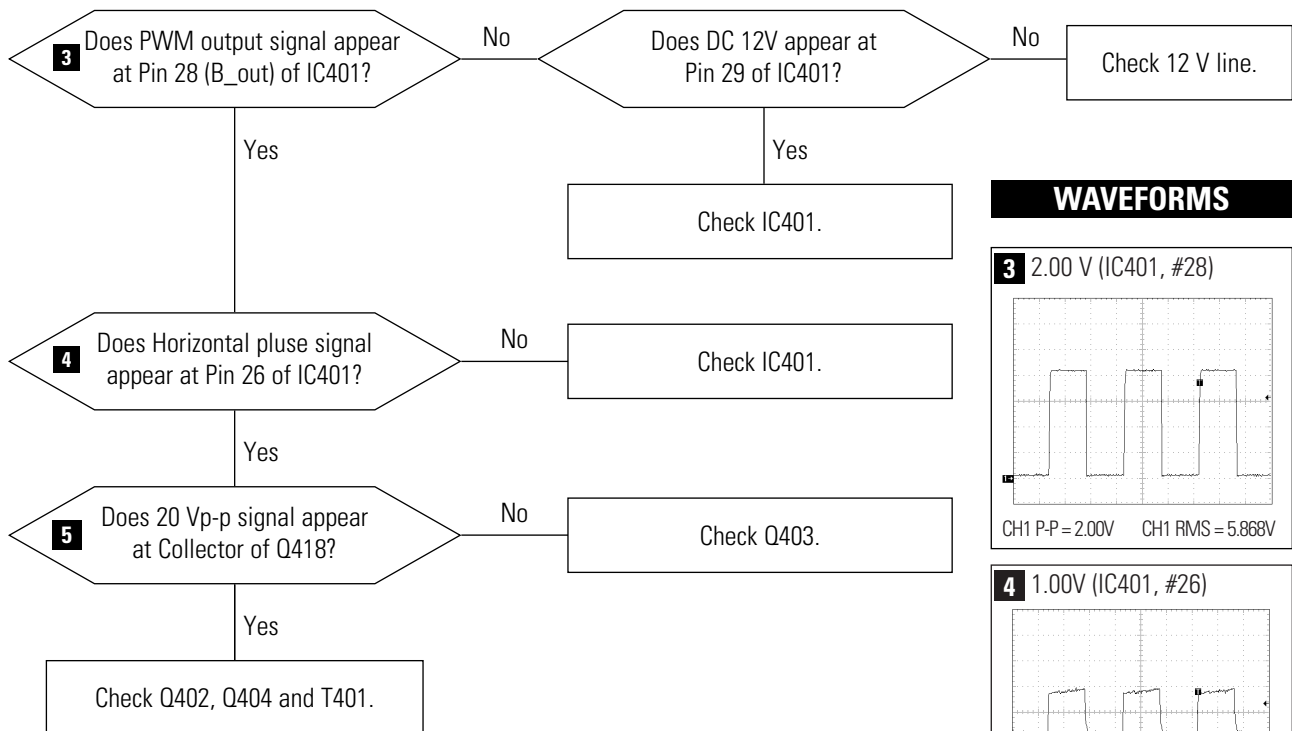
5-1-2 DPMS Failure



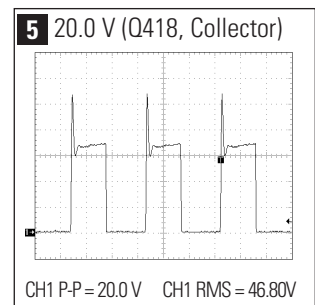
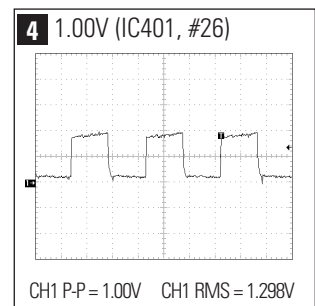
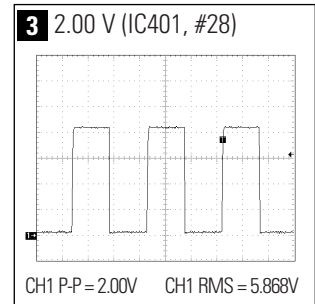
WAVEFORMS



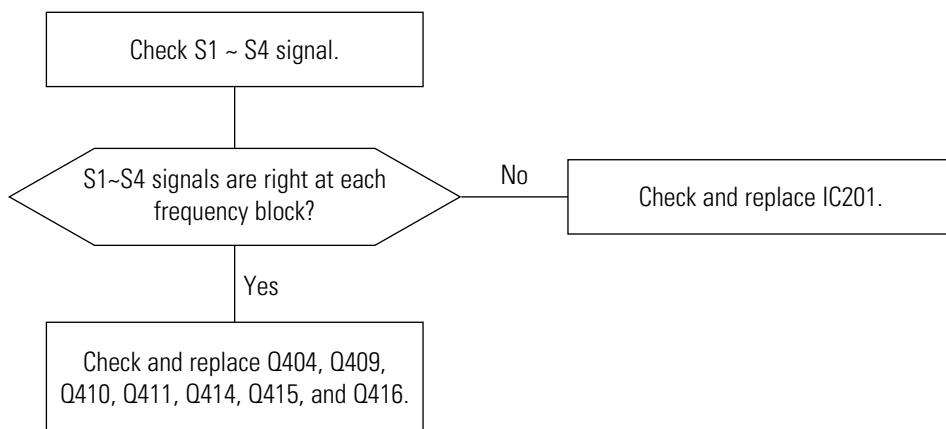
5-1-3 H_Deflection Failure



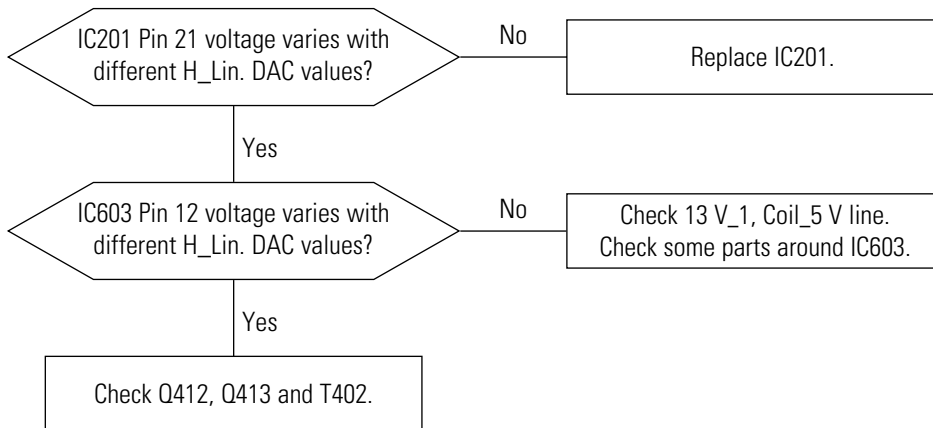
WAVEFORMS



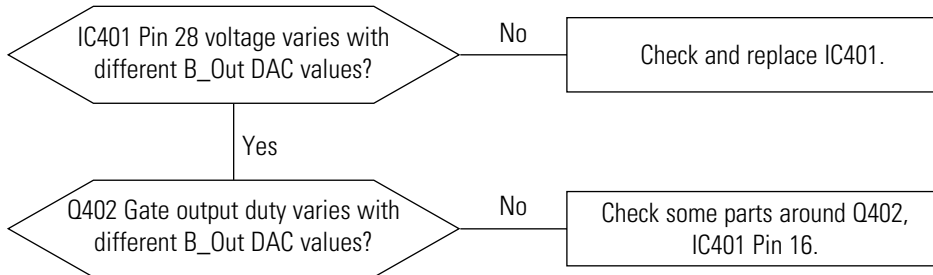
5-1-4 S Correction Failure



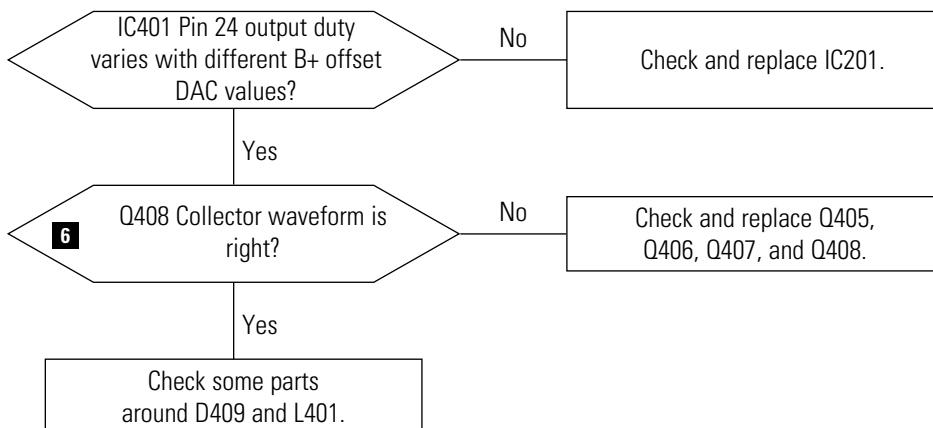
5-1-5 H_Lin. Failure



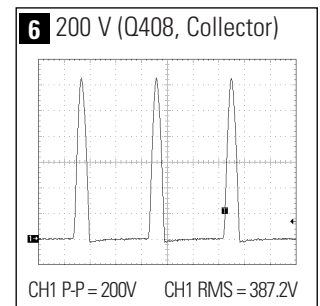
5-1-6 Invariable H_Size



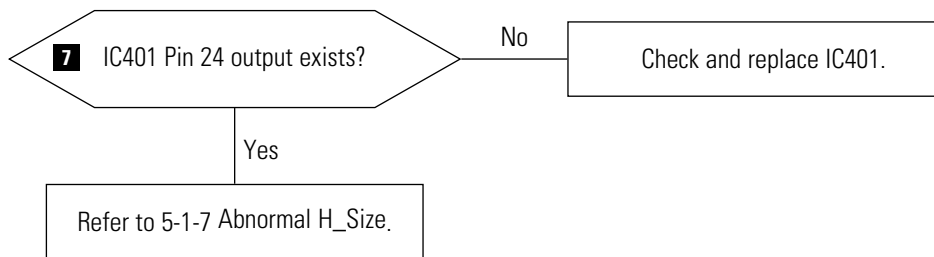
5-1-7 Abnormal H_Size



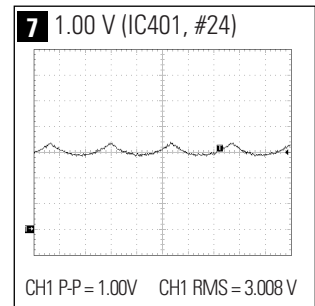
WAVEFORMS



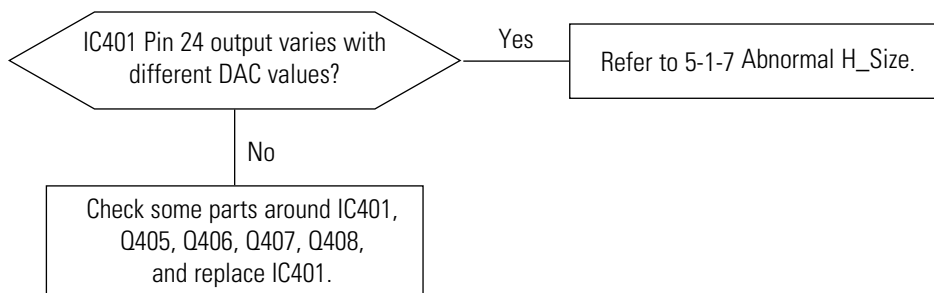
5-1-8 Side Pin or Trap Failure



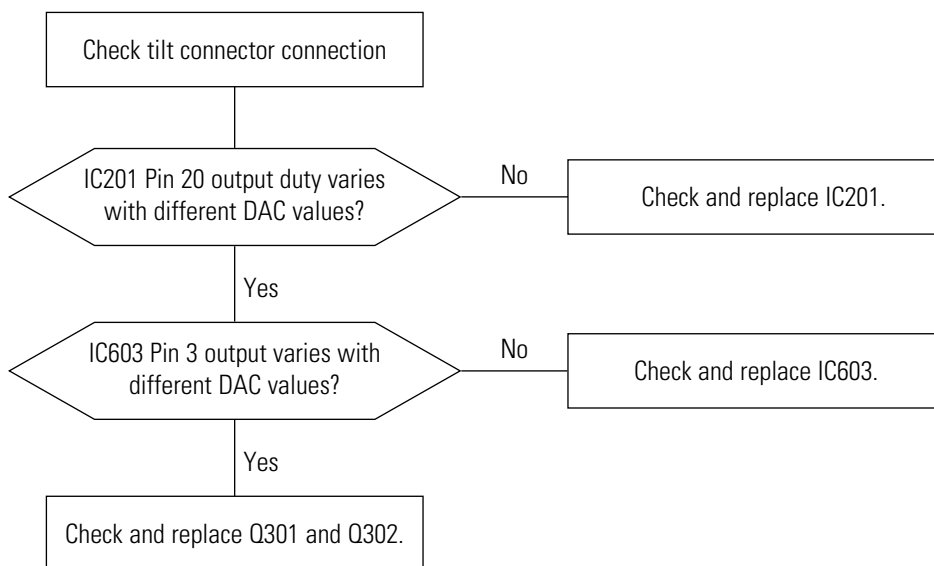
WAVEFORMS



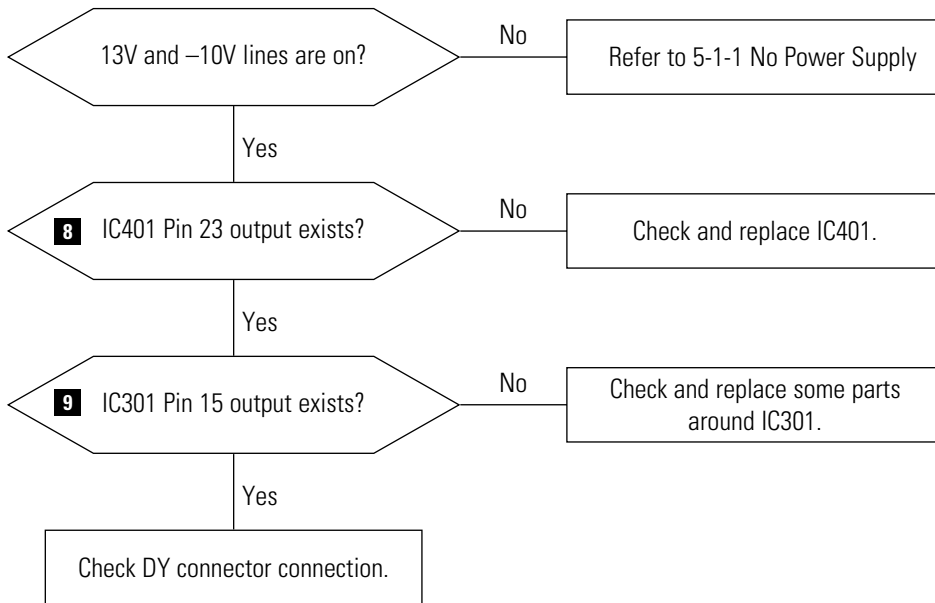
5-1-9 Para. or Pin Balance Failure



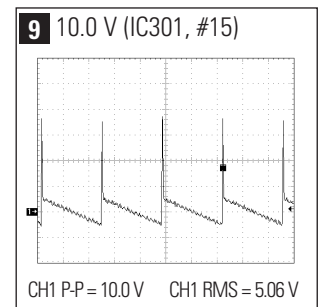
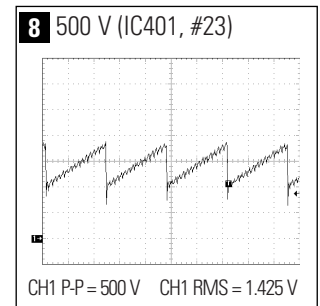
5-1-10 Tilt Failure



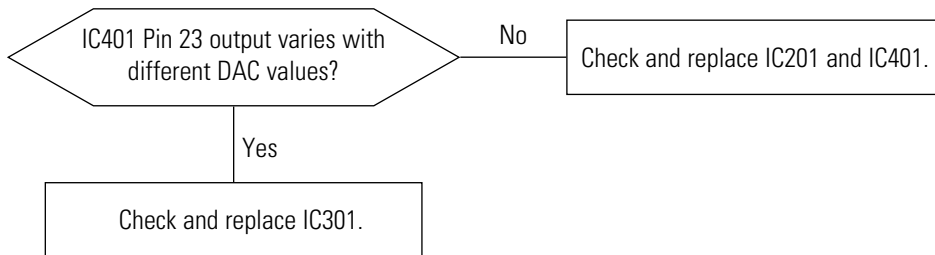
5-1-11 V Deflection Failure



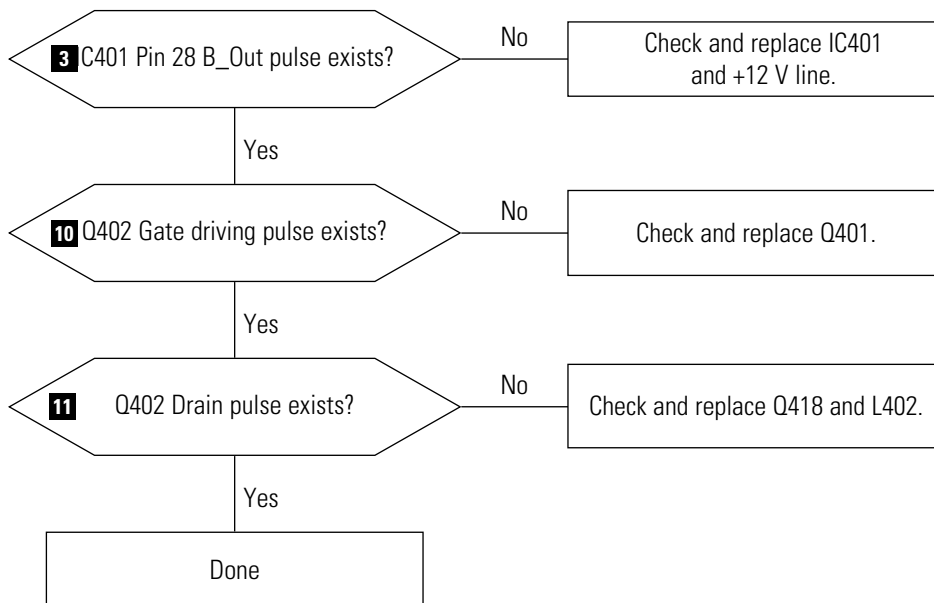
WAVEFORMS



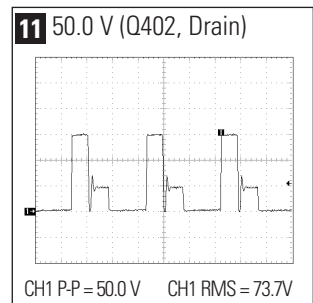
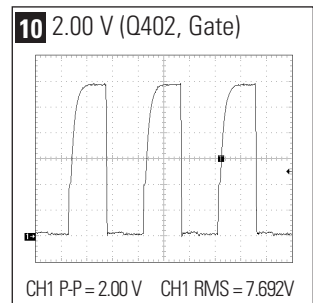
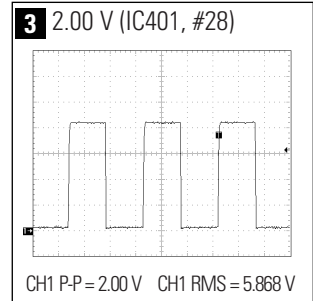
5-1-12 V Size or Position Variation Failure



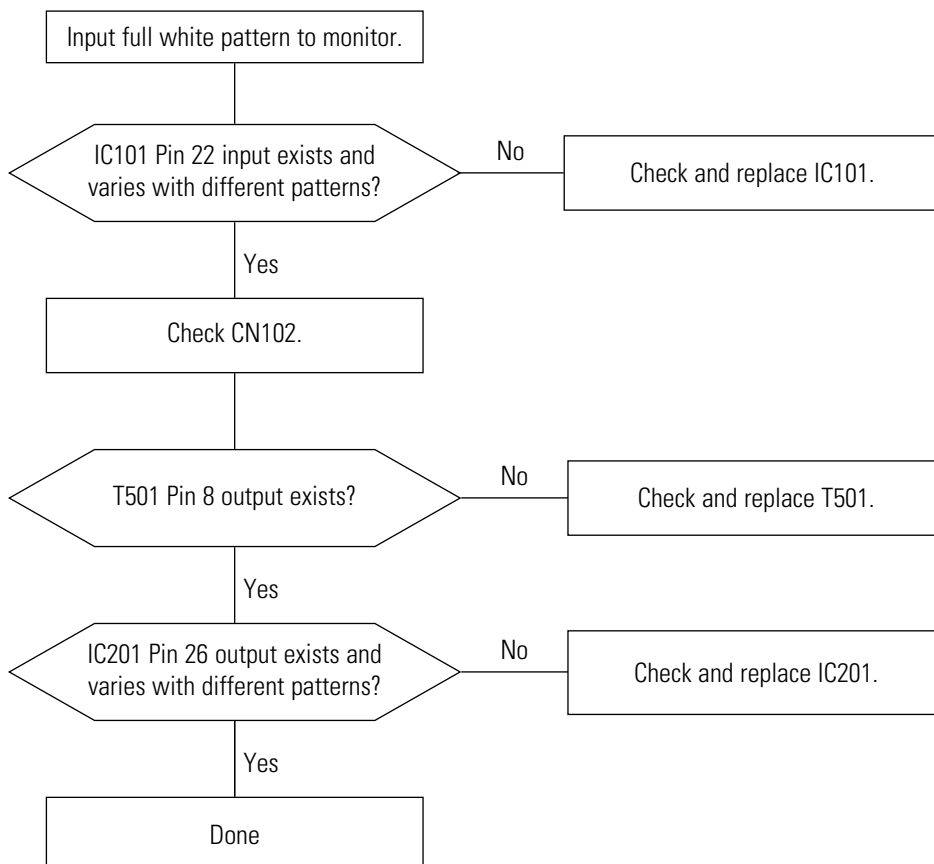
5-1-13 High Voltage Failure



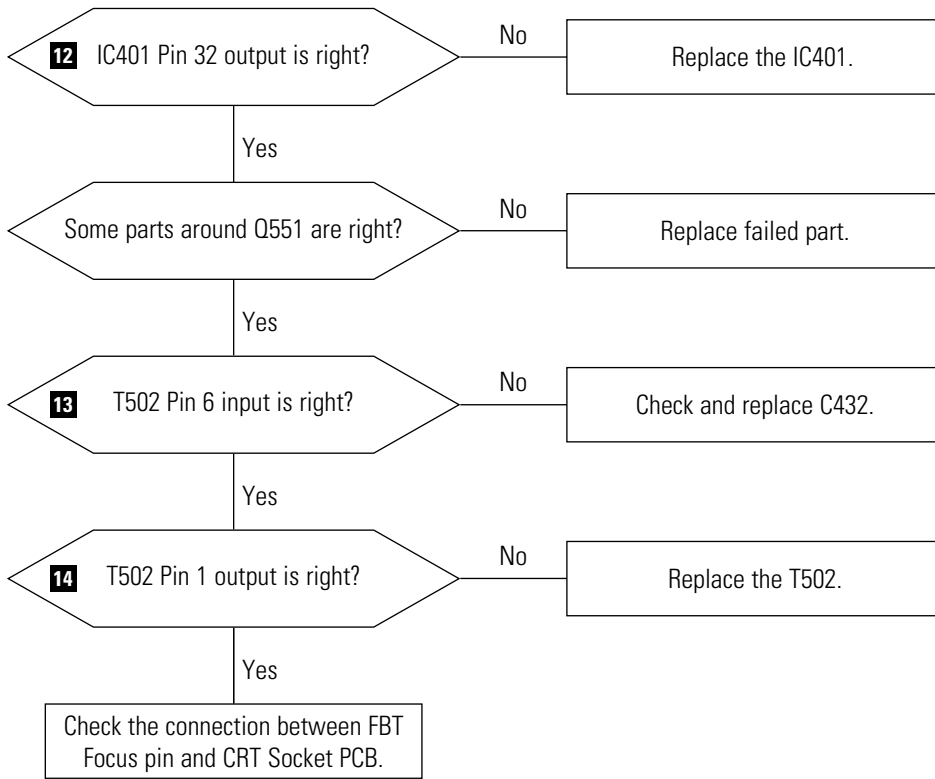
WAVEFORMS



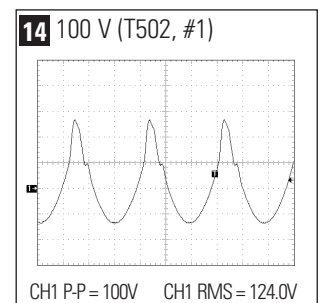
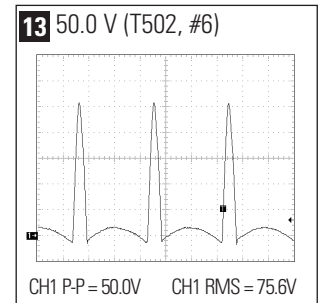
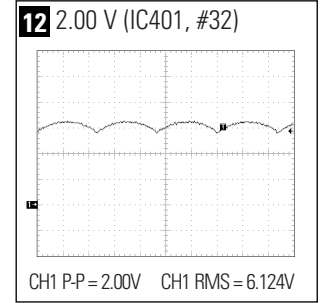
5-1-14 ABL Failure



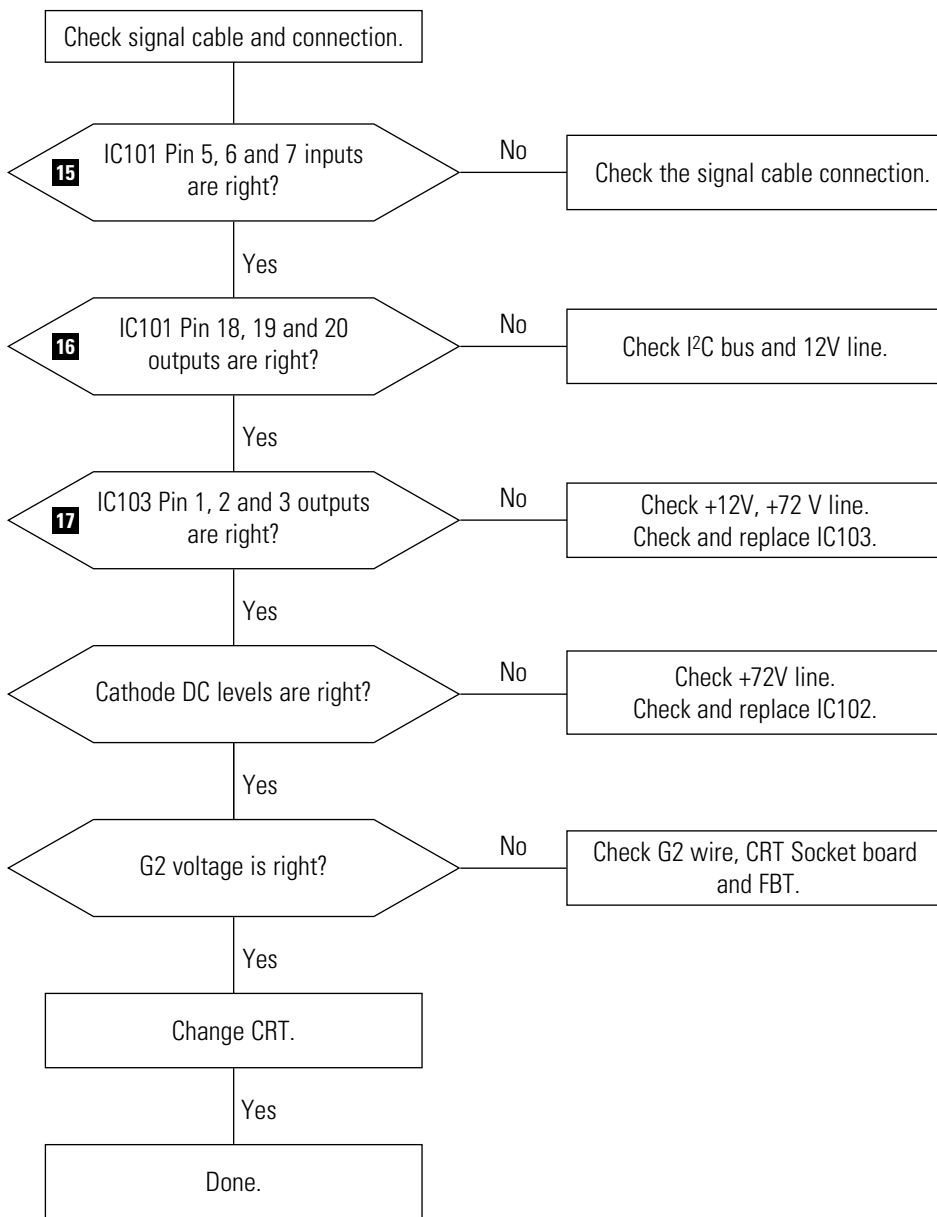
5-1-15 Dynamic Focus Failure



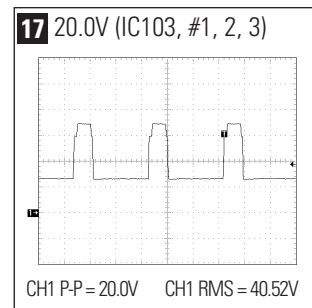
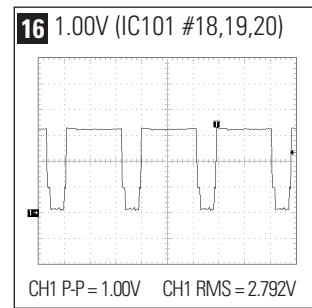
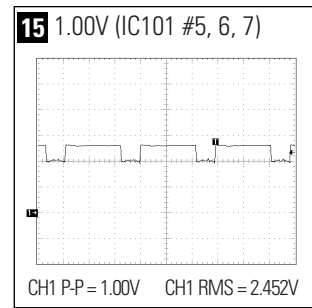
WAVEFORMS



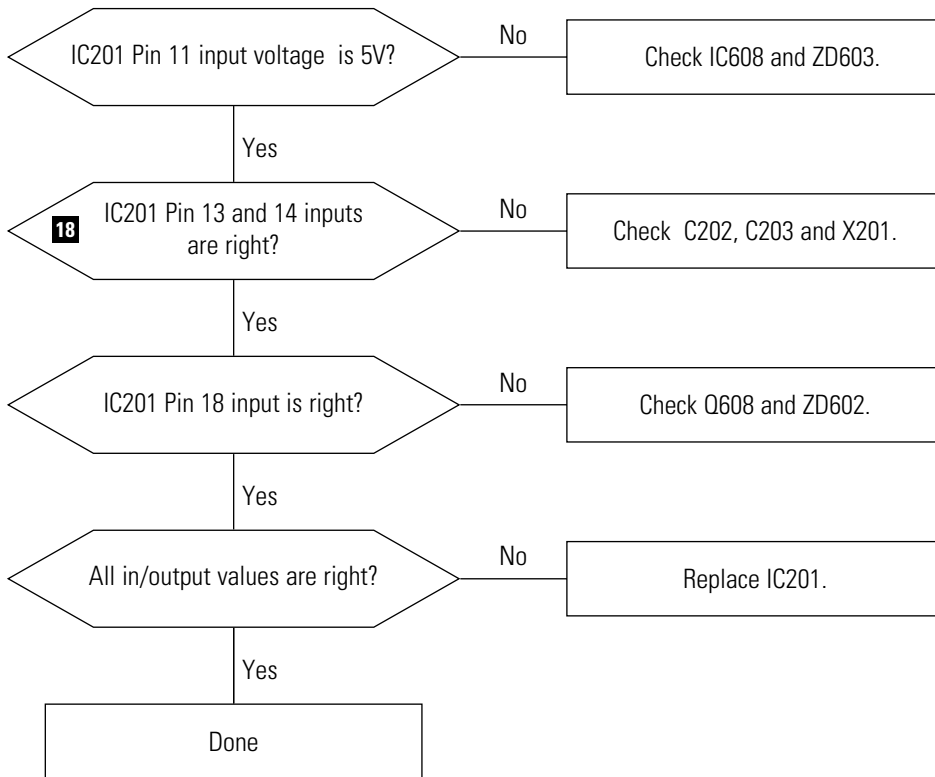
5-1-16 No Video



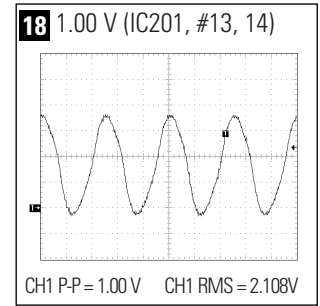
WAVEFORMS



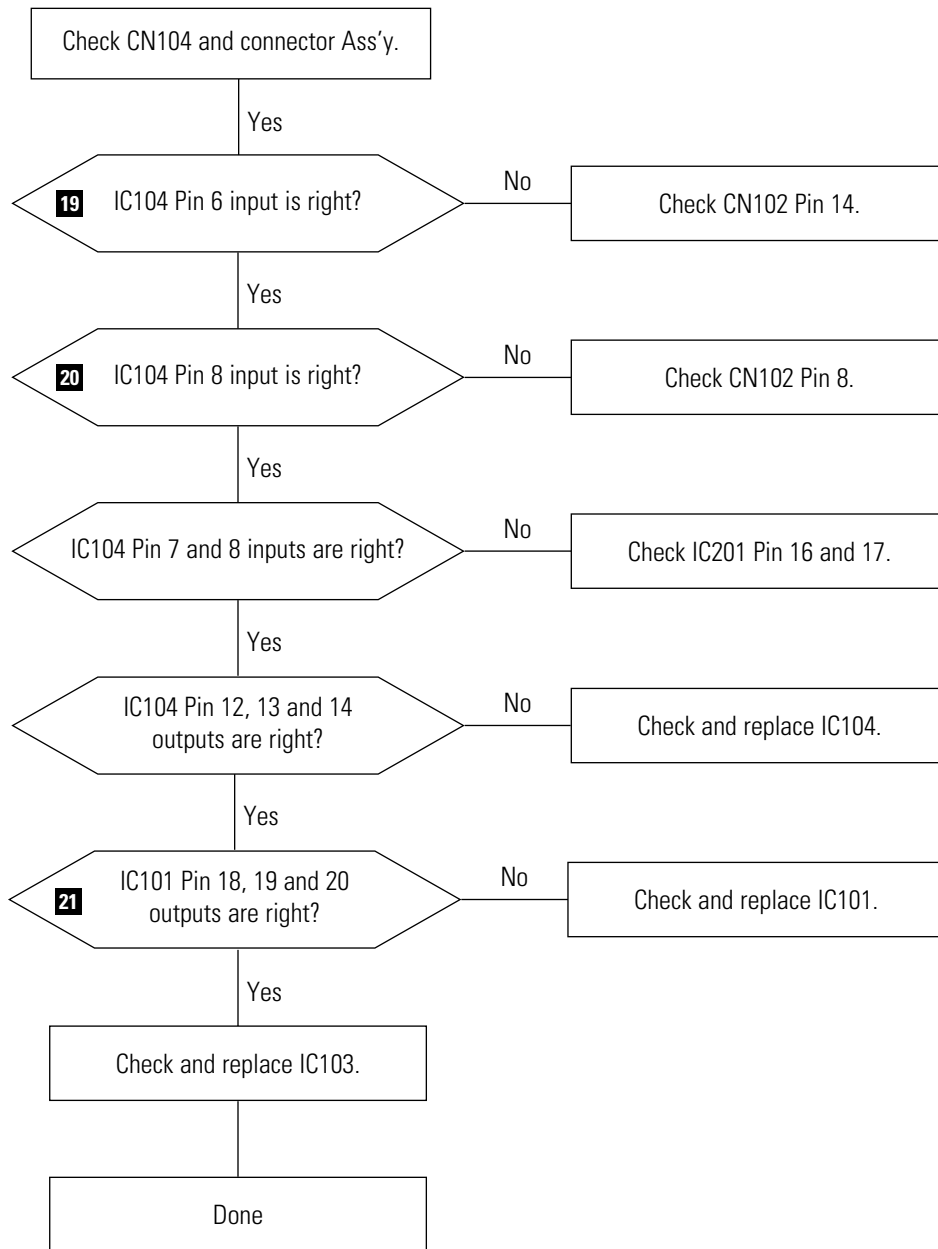
5-1-17 Micom Failure



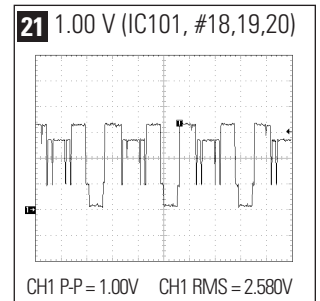
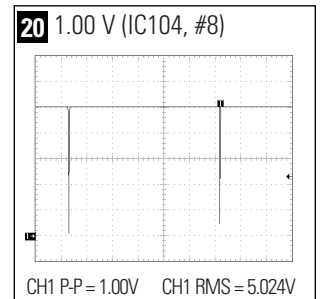
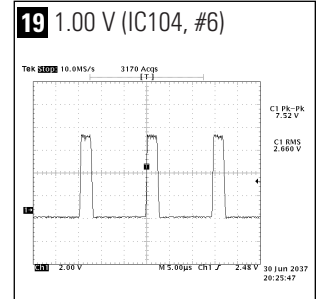
WAVEFORMS



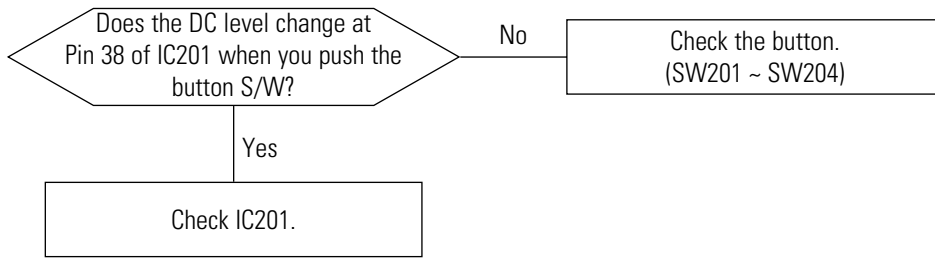
5-1-18 OSD Failure



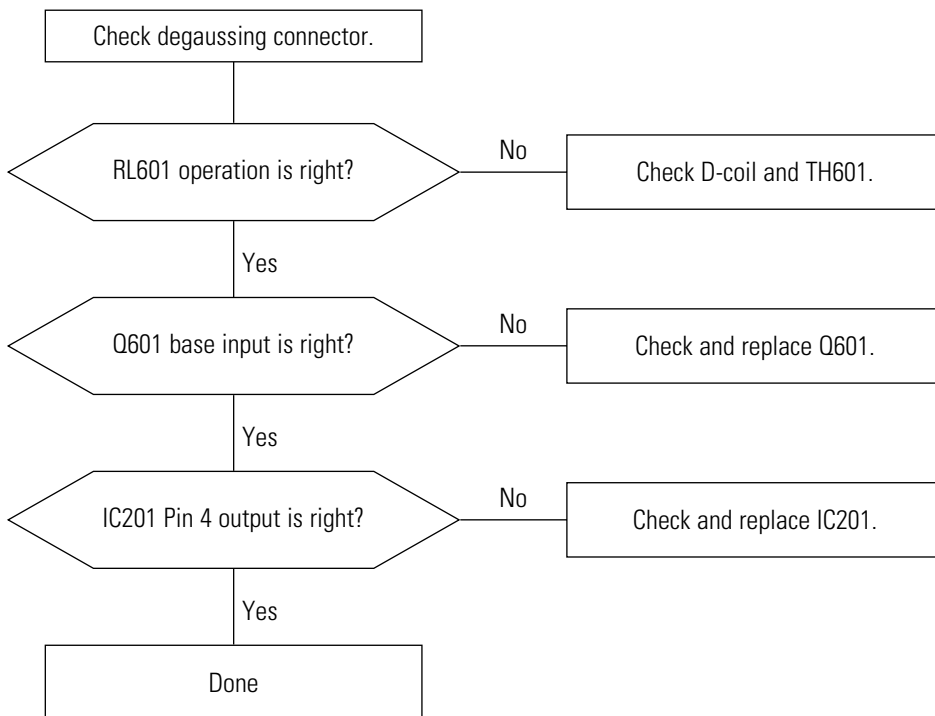
WAVEFORMS



5-1-19 User Control Failure

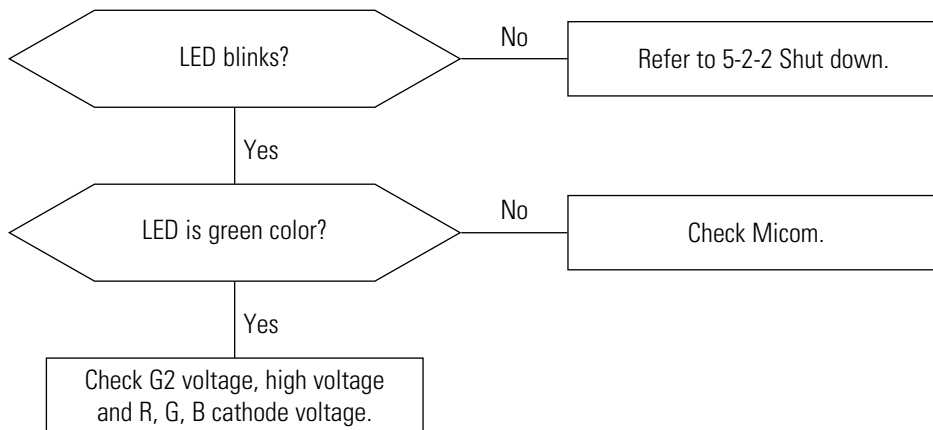


5-1-20 Degaussing Failure

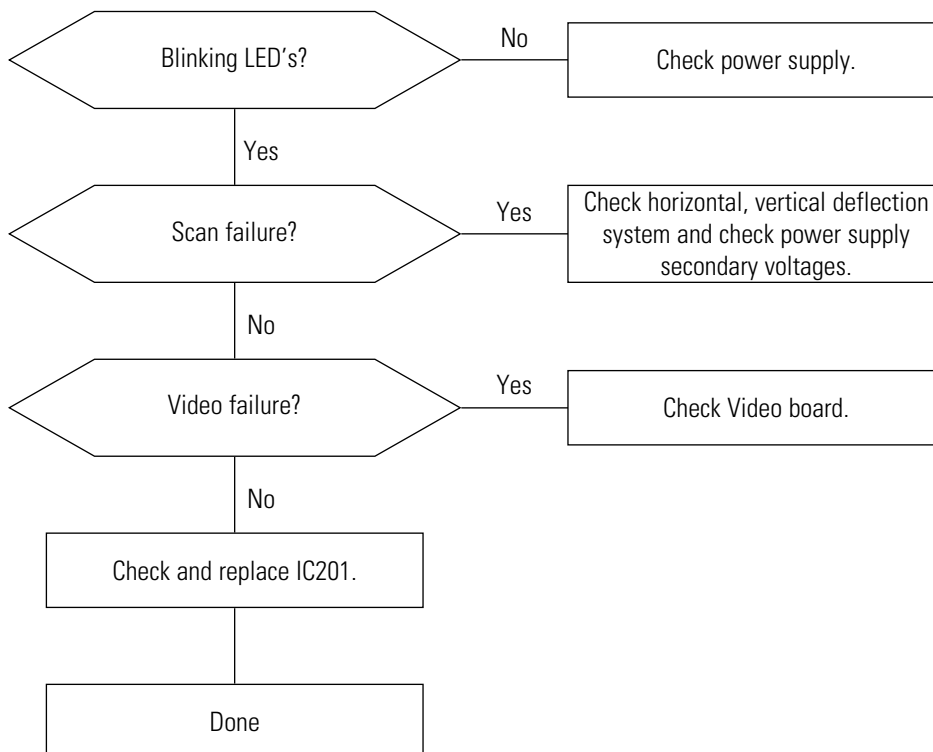


5-2 General Troubleshooting

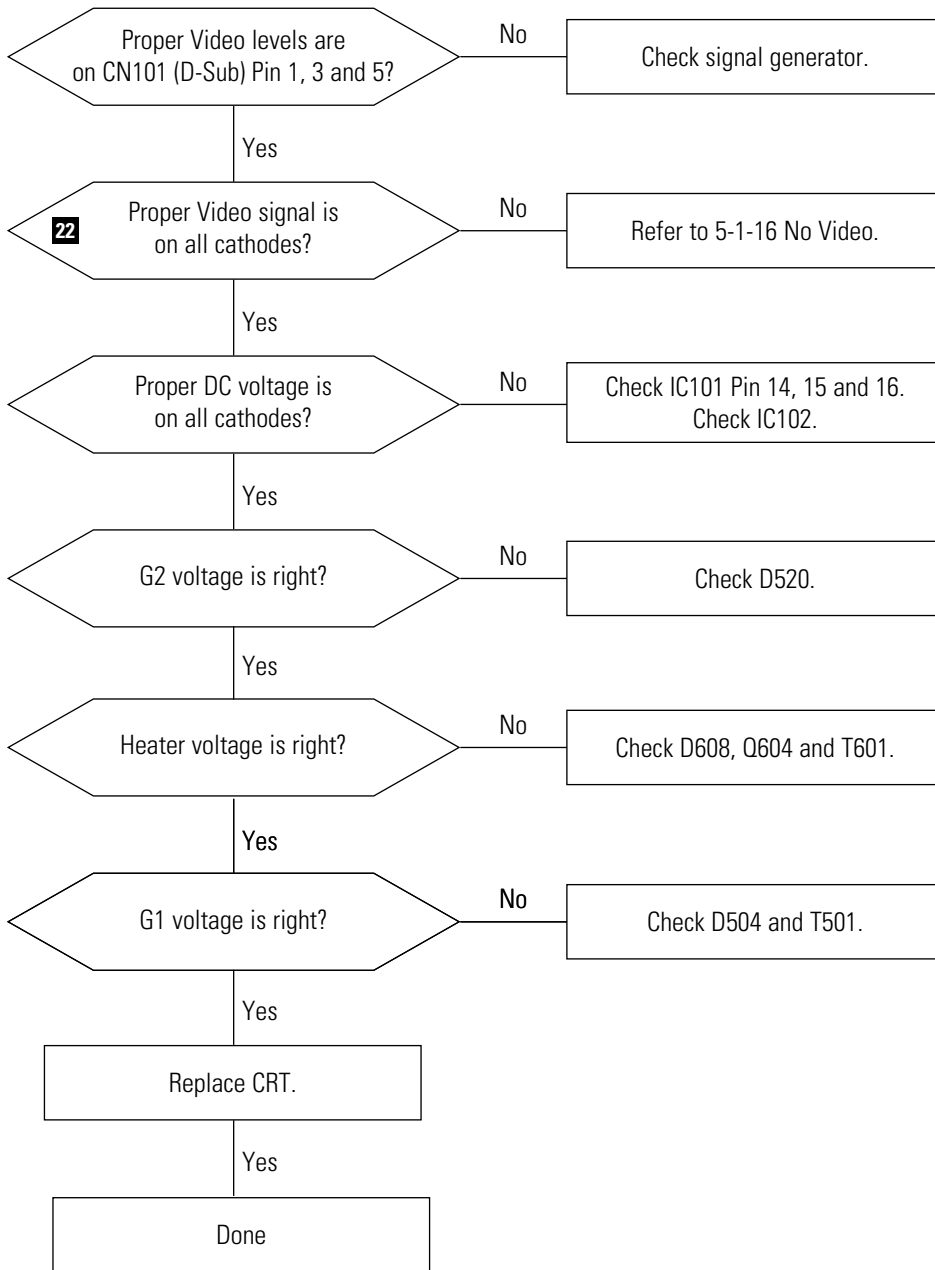
5-2-1 No Picture



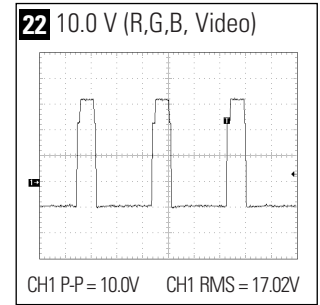
5-2-2 Shut Down



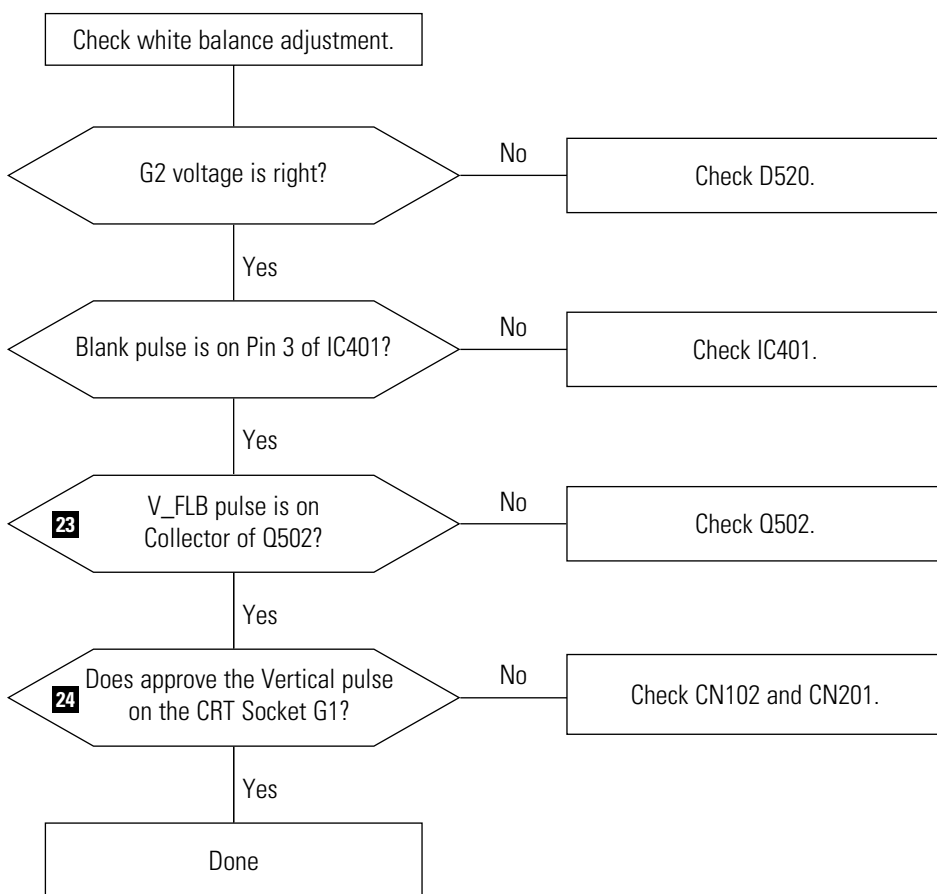
5-2-3 Missing Color



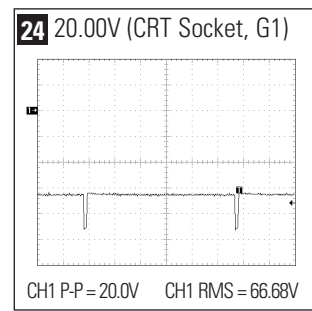
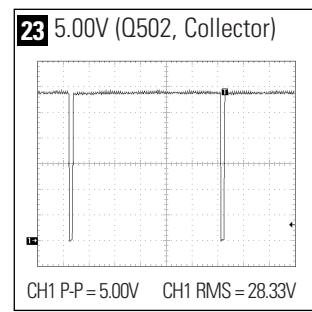
WAVEFORMS



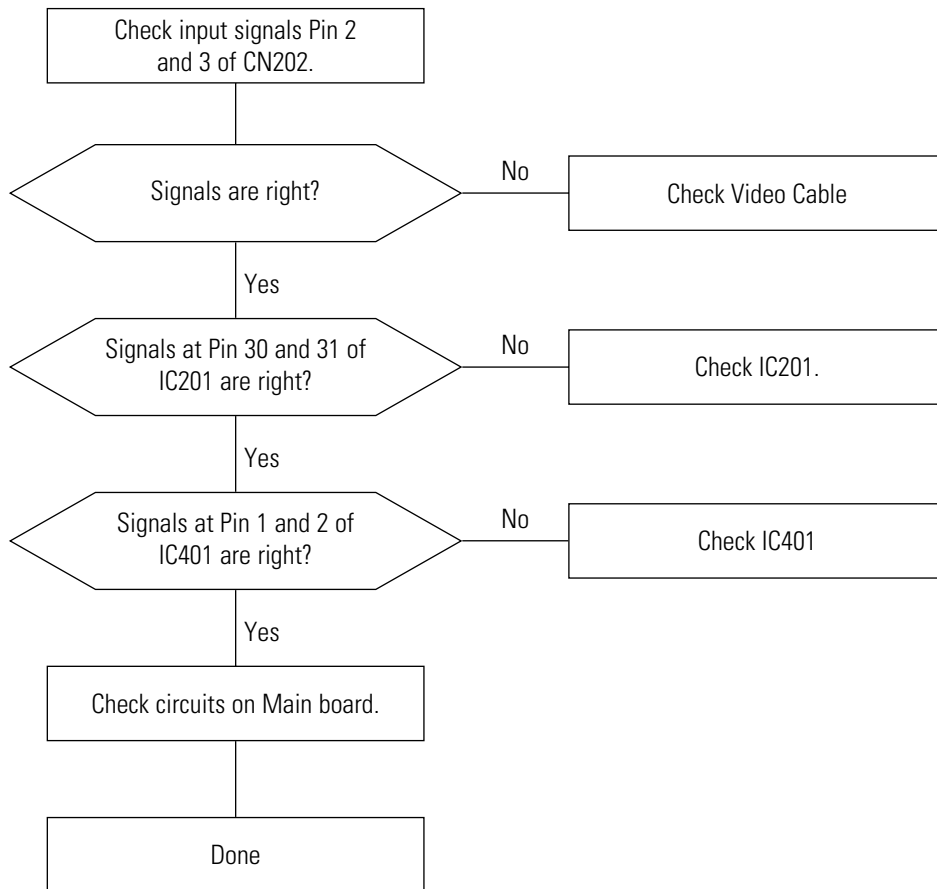
5-2-4 Visible Retrace

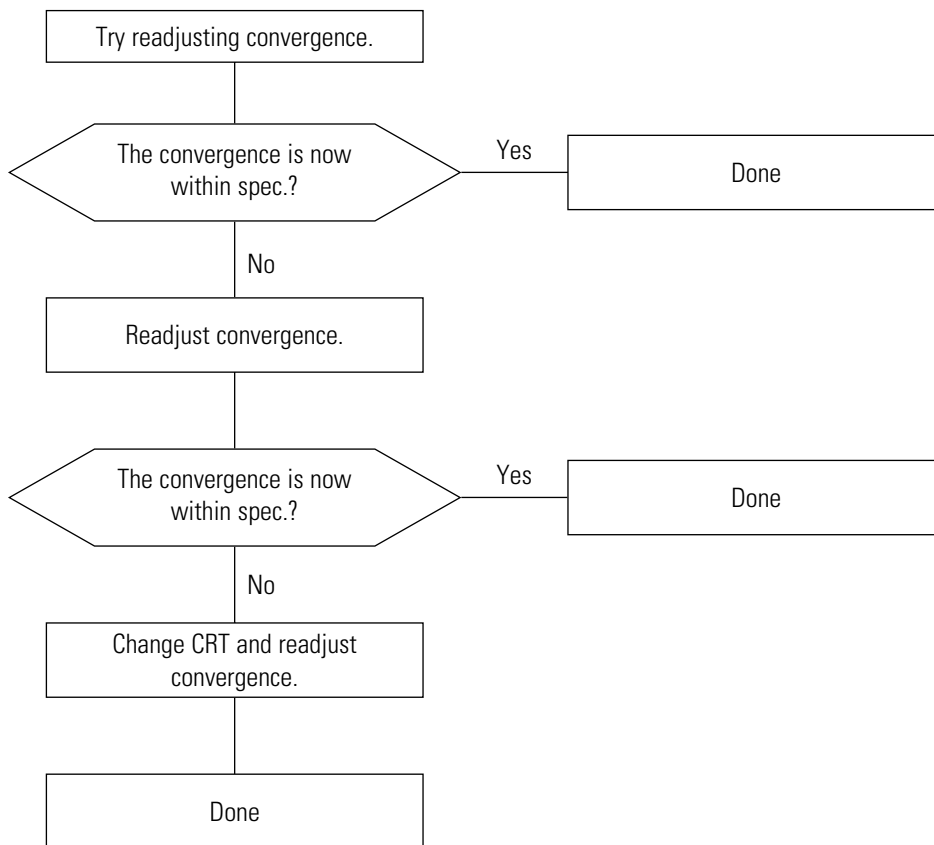


WAVEFORMS

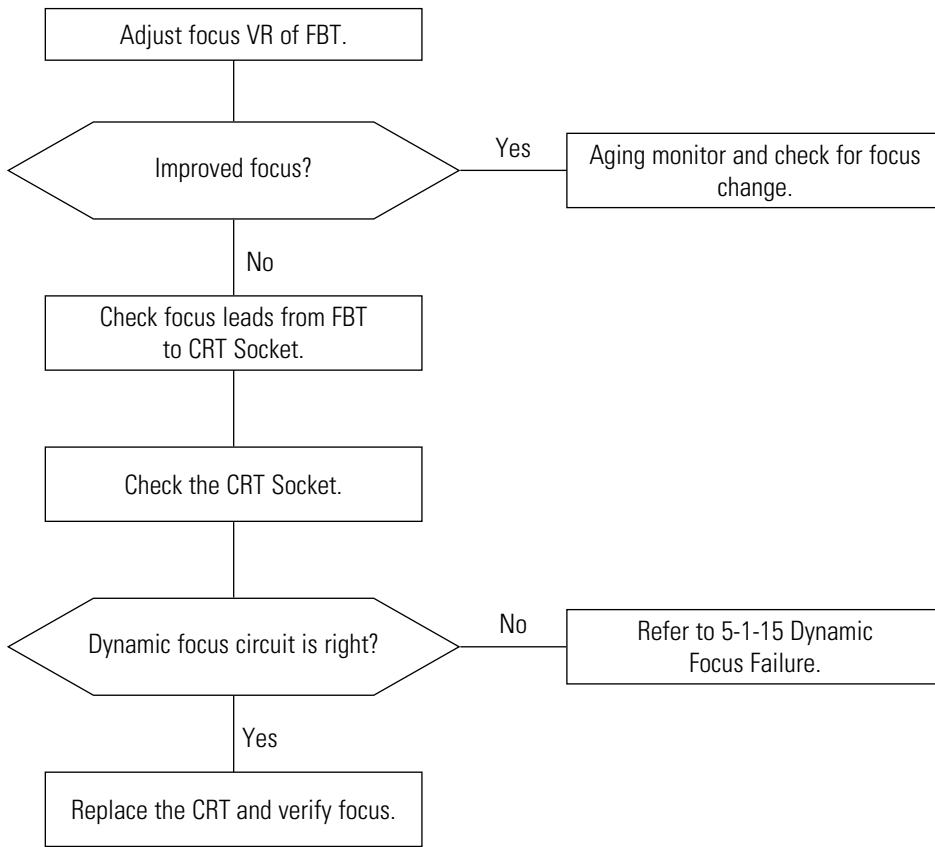


5-2-5 Unsynchronized Image

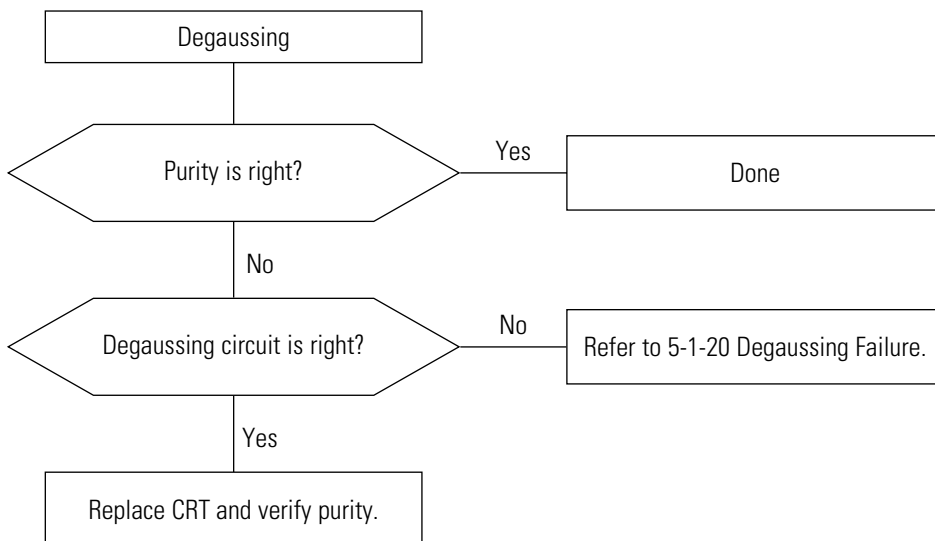


5-2-6 Misconvergence

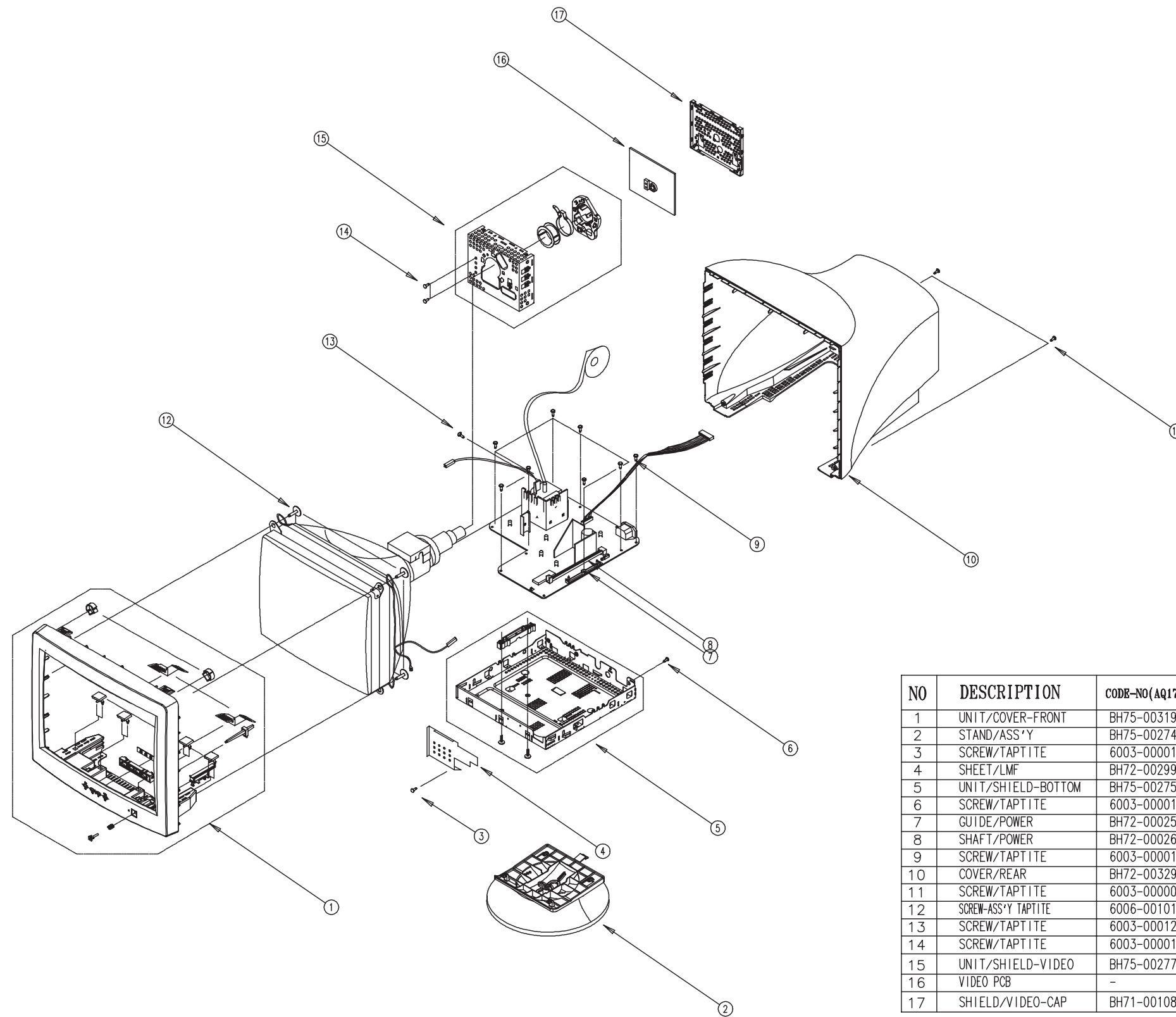
5-2-7 Poor Focus



5-2-8 Purity Failure



6 Exploded View and Parts List



| NO | DESCRIPTION | CODE-NO(AQ17LS) | SPECIFICATION | Q'TY | REMARK |
|----|---------------------|-----------------|-------------------|------|--------|
| 1 | UNIT/COVER-FRONT | BH75-00319A | ABS V0 1V16 | 1 | SA |
| 2 | STAND/ASS'Y | BH75-00274A | ABS HB 1V16 | 1 | SA |
| 3 | SCREW/TAPTITE | 6003-000010 | BWH,M3,L10 | 1 | SNA |
| 4 | SHEET/LMF | BH72-00299A | AL-F01L T0.04+PET | 1 | SNA |
| 5 | UNIT/SHIELD-BOTTOM | BH75-00275A | SECC T1.0 | 1 | SNA |
| 6 | SCREW/TAPTITE | 6003-000010 | BWH,M3,L10 | 1 | SNA |
| 7 | GUIDE/POWER | BH72-00025A | ABS PC 5V 1V16 | 1 | SNA |
| 8 | SHAFT/POWER | BH72-00026A | ABS PC 5V 1V16 | 1 | SNA |
| 9 | SCREW/TAPTITE | 6003-000010 | BWH,M3,L10 | 8 | SNA |
| 10 | COVER/REAR | BH72-00329A | ABS V0 1V16 | 1 | SA |
| 11 | SCREW/TAPTITE | 6003-000009 | BH,M4,L16 | 2 | SNA |
| 12 | SCREW-ASS'Y TAPTITE | 6006-001010 | WPP,BH,D5,L25 | 4 | SNA |
| 13 | SCREW/TAPTITE | 6003-000122 | BH,M4,L12 | 1 | SNA |
| 14 | SCREW/TAPTITE | 6003-000010 | BWH,M3,L10 | 2 | SNA |
| 15 | UNIT/SHIELD-VIDEO | BH75-00277A | SPTT T0.2 | 1 | SNA |
| 16 | VIDEO PCB | - | PN17LT | 1 | - |
| 17 | SHIELD/VIDEO-CAP | BH71-00108A | SPTT T0.2 | 1 | SNA |

Memo

7 Electrical Parts List

7-1 Main PCB Parts

| Loc. No. | Code No. | Description | Specification | Remarks |
|--------------|-------------|---------------------------|--|---------|
| BD401 | 3301-001450 | CORE-FERRITE BEAD | AA,450HM,3.5X0.6X5.7MM,50MA,TP,SN-20(UI2000),- | SNA |
| C409 | 2306-000248 | C-FILM,MPPF | 680nF,5%,250V,BK,26.5x16.5mm,2 | |
| C430 | 2301-001125 | C-FILM,MPPF | 600nF,5%,250V,TP,26x20x11.5,20 | |
| C512 | 2201-000020 | C-CERAMIC,DISC | 10nF,10%,1KV,Y5P,BK,18x5,10 | |
| C601 | 2301-001195 | C-FILM,MPPF | 150nF,10%,275VAC,BK,26x16.5x7, | |
| C602 | 2301-001195 | C-FILM,MPPF | 150nF,10%,275VAC,BK,26x16.5x7, | |
| C608 | 2401-002128 | C-AL | 220uF,20%,400V,GP,BK,25x40mm,10 | |
| CIS | 0201-001096 | ADHESIVE-HM | #3748,YEL,8500CPS,- | SNA |
| CIS | 3301-000233 | CORE-FERRITE | ZZ,18x9.5x28mm,-,- | SNA |
| CIS | BH68-00001A | LABEL/MARK-CDT | ART-PAPER 100G,-,WHT,BLK,-,ALL,CDT | SNA |
| CIS | BH71-00108A | SHIELD-VIDEO/CAP | PN15VT,SPT,TO.2,-,-,- | SNA |
| CIS | BH72-00025A | GUIDE-POWER | CDA4507,ABS+PC,5V,IV16,-,- | SNA |
| CIS | BH72-00026A | SHAFT-POWER | CDA4507,ABS+PC,5V,IV16,-,- | SNA |
| CIS | BH72-00299A | SHEET-LMF(LOW) | PN17LT,AL+PC T0.35,-,-,-,-,- | SNA |
| CIS | BH73-60304C | RUBBER-SUPPORT | DP15LT,CR V0,GRAY,-,14*7*10,-,- | SNA |
| CIS | BH75-00275A | UNIT-SHIELD/BOTTOM | PN17LT,-,SECC,-,-,-,T1.0 | SNA |
| CIS | 6003-000276 | SCREW-TAPTITE | BH,+B,M3,L10,ZPC(YEL),SWCH10 | SNA |
| CIS | BH71-00110A | SHIELD-BOTTOM | PN15VT,SECC,T1.0,-,-,- | SNA |
| CIS | BH72-00297A | SUPPORT-PCB | PN15VT,ABS V0,IV16,-,-,-,- | SNA |
| CIS | BH75-00277A | UNIT-SHIELD/VIDEO | PN17LT,-,SPT,-,-,-,TO.2 | SNA |
| CIS | BH61-00002A | SPRING-VIDEO | CDB7907,STS H14,T1.0,-,-,-,NORMAL CDT | SNA |
| CIS | BH71-00107A | SHIELD-VIDEO | PN15VT,SPT,TO.2,-,-,- | SNA |
| CIS | BH72-00024A | HOLDER-VIDEO | CDA4507,ABS+PC,5V,IV16,-,NORMAL CRT | SNA |
| CIS | BH73-00014A | HOLDER-RUBBER(NORMAL) | DEL,SILICON V2,GRAY,-,-,-,NORMAL | SNA |
| CIS | BH46-00003K | MICOM-S/W,AQUILA | AQUILA17,-,-,-,-,- | SNA |
| CN_DY | 3711-003989 | CONNECTOR-HEADER | NOWALL,4P,1R,8mm,STRAIGHT,SN | SNA |
| CN101 | 3711-004228 | CONNECTOR-HEADER | BOX,6P,1R,2MM,ANGLE,SN | SNA |
| CN102 | BH39-00280A | CBF HARNESS | PN17L,UL1007,UL/CSA,13P/14P,350MM,BLU/WHT,AWG26,SMH200-13,YBNH200-14,-,-,- | |
| CN201 | 3711-003895 | CONNECTOR-HEADER | BOX,13P,1R,2mm,STRAIGHT,SN | SNA |
| CN202 | 3711-003873 | CONNECTOR-HEADER | BOX,7P,1R,2mm,STRAIGHT,SN | SNA |
| CN203 | BH39-00288A | CBF HARNESS | PN17L,UL1007,UL/CSA,2P/2P,130MM,BLU/WHT,AWG26,YBNH200,SMP250,-,-,-,-,-,CBF-CO | |
| CN501_G2 | BH39-00232A | CBF-HARNESS | DP17MO,UL1032,UL/CSA,1P,290MM,RED,AWG22,YHF800-1,-,-,-,-,-,CBF-CONN ASS'Y | |
| CN502 | 3711-000024 | CONNECTOR-HEADER | BOX,3P,1R,2.5mm,STRAIGHT,SN | SNA |
| CN502_WV | BH39-00352A | WIRE HARNESS | PN17L,UL1007#22,UL/CSA,2P,200MM,BLUE,UL1007#22,SMH250-03,-,BK,600V,2.5MM,200MM,U | |
| CN601 | BH39-00326A | W/HARNESS SOCKET-AC INLET | PN15H,UL1015,UL/CSA,5P,115mm,GREN/YELLOW,AWG18,ST780400-3,-,BK,AC250V/10A,35*14, | |
| D406 | 0402-001025 | DIODE-RECTIFIER | ERD07-15,1.5KV,1.5A,-,TP | △ |
| D409 | 0402-001295 | DIODE-RECTIFIER | GUR460L-5700,600V,4A,DO-201AD,BK | |
| D601 | 0402-000103 | DIODE-BRIDGE | D2SBAG0,600V,1.5A,SIP-4,ST | |
| D608 | 0402-001456 | DIODE-RECTIFIER | UG2D,200V,2A,DO-204AC,BK | |
| D609 | 0402-000005 | DIODE-RECTIFIER | 31DF4,400V,3A,DO-201AD,BK | |
| FBT-H/S | 6003-000122 | SCREW-TAPTITE | BH,+B,M4,L12,ZPC(YEL),SWRCH18 | SNA |
| FUSE | 3601-000004 | FUSE-CARTRIDGE | 250V,3.15A,SLOW-BLOW,CERAMIC,5x20mm | |
| HS301_CLAMP1 | 6502-000136 | CABLE CLAMP | DAWS-2NB,ID17.5,-,NTR,NYLON66 | SNA |
| HS501_CLAMP1 | 6502-000001 | CABLE CLAMP | DAWH-5NB,D15,L35,NTR,NYLON66 | SNA |
| HS501_CLAMP2 | 6502-000136 | CABLE CLAMP | DAWS-2NB,ID17.5,-,NTR,NYLON66 | SNA |

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| Loc. No. | Code No. | Description | Specification | Remarks |
|----------------|-------------|------------------------------|--|---------|
| IC101 | 1201-001702 | IC-VIDEO AMP | 1267,DIP,24P,-,10dB,PLASTIC,5.25V,2.4W,0to+70C,-,-,-,-,-,ST | ⚠ |
| IC201 | 0903-001194 | IC-MICROCONTROLLER | 3P863,8Bit,SDIP,42P,600MIL,12MHz,ST,CMOS,PLASTIC,5V,-,-40to+85C,1040BYTE,48KBYTE | SNA |
| IC201_SOCKET | 3704-001071 | SOCKET-IC | 42P,DIP,SN,1.778mm | |
| IC202 | 1103-001149 | IC-EEPROM | 524C80D41,4KBit,DIP,8P,300MIL,10mS,5V,10%,PLASTIC,-25to+70C,10uA,CMOS,ST | |
| IC401 | 1204-001851 | IC-DEF. PROCESSOR | TDA9116,DIP,32P,350MIL,PLASTIC,13.2V,-,0TO+70C,ST,H/V PROCESSOR | |
| L401 | BH27-20345B | COIL-CHOKE | -,150uH,10%,DR1415(L-81,C:8.0),-,-,-,0.24ohm,-,-,-,BULK | |
| L402 | BH27-00023A | COIL-CHOKE | 120UH,+/-10%,DR1523(L-81,C:9.8),BK,-,- | |
| L601 | BH27-00007A | COIL-LINE FILTER | 25MH MIN,-,SQE 2424,BULK,-,- | |
| LJP1 | BH39-40306C | CBF-HARNESS | ,60MM,BLK,1015,AWG22,-,-,-,-,- | |
| LJP2 | BH39-40306C | CBF-HARNESS | ,60MM,BLK,1015,AWG22,-,-,-,-,- | |
| LJP3 | BH39-40306C | CBF-HARNESS | ,60MM,BLK,1015,AWG22,-,-,-,-,- | |
| LJP4 | BH39-40305Z | CBF-HARNESS | ,160MM,BLK,1015,AWG22,-,-,-,-,- | |
| LJP5 | BH39-40305Y | CBF-HARNESS | ,110MM,BLK,1015,AWG22,-,-,-,-,- | |
| LJP6 | BH39-40361A | CBF-HARNESS | -,40MM,BLK,UL 1015,AWG22,- | |
| OP201 | 0601-001147 | LED | ROUND,GRN,4.75mm,565nm | SNA |
| RL601 | 3501-001111 | RELAY-POWER | 12Vdc,250mW,5A,1FormA,15mS,5mS | |
| S/BTM+PCB | 6003-000010 | SCREW-TAPTITE | BWH,+B,M3,L10,ZPC(YEL),SWRCH1 | SNA |
| SH/BTM+AC/SOCK | 6003-000010 | SCREW-TAPTITE | BWH,+B,M3,L10,ZPC(YEL),SWRCH1 | SNA |
| SH/BTM+SH/LMF | 6003-000010 | SCREW-TAPTITE | BWH,+B,M3,L10,ZPC(YEL),SWRCH1 | SNA |
| SH/BTM+VID/GND | 6003-000010 | SCREW-TAPTITE | BWH,+B,M3,L10,ZPC(YEL),SWRCH1 | SNA |
| SH/VID | 6502-000001 | CABLE CLAMP | DAWH-5NB,D15,L35,NTR,NYLON66 | SNA |
| SH/VID+H/S | 6003-000010 | SCREW-TAPTITE | BWH,+B,M3,L10,ZPC(YEL),SWRCH1 | SNA |
| SH/VIDEO | BH39-00134A | CBF-HARNESS | -,200MM,BLK,UL1015,AWG18,35068-9822/35750-101 | |
| SH/VIDEO | BH39-00150A | CBF-HARNESS | -,150MM,-,-,8*0.16TA*16,35750-1010 | |
| SH/VIDEO | BH39-00323A | CBF HARNES | PN15LT,8*0.16TA*16,-,-,120MM,-,-,35068-9822,ST710095-3,-,-,-,-,- | |
| SIGNAL | BH39-00282A | CBF SIGNAL | PN17L0,15P/06P.07P,20276,1500MM,UL20276,IVORY,D-SUB/MALE,-,-,- | |
| SK01 | 3704-001142 | SOCKET-CRT | 10P,22.5PI,25.6PI,NI,- | |
| SW401 | 3406-000002 | SWITCH-ROTARY | 36Vdc,200mA,SP3T,- | |
| SW601 | 3403-001116 | SWITCH-PUSH | 30VDC,0.1A,2C2P,SELF LOCK,- | |
| T401 | BH26-00027A | TRANS-HOR.DRIVE | 35.0MH,-,EI 1916,PL-3,-,310UH,- | ⚠ |
| T402 | BH26-00028A | TRANS-H.LINEARITY | 5.2UH,6P,DR1425(C:5.0),YL-81,5.2UH/68.0MH,-,HL-1425E | |
| T501 | BH26-00109A | TRANS FBT | LC-13,CF1781,PN17L,1.12mH,HV45,FUR3556,375.0mohm,71.0Vdc,14P,-10-60,BK,27.0KV | ⚠ |
| T502 | BH26-00114A | TRANS-FOUCS | EE-1916,PN17L,5P,1.7mH,-,-,70mH,-,-,0.85ohm/8.5ohm,-,PL3,DMR30,EE-1916,20uH MAX, | |
| T601 | BH26-00100A | TRANS POWER-{S/WJ,LAYER TYPE | ER-3541(16P),PN15V0,390uH/82.0uH/37.5uH,16P(ER-3541),-,-,-,-,-,PL3,DMR30,J2A-1 | |
| T602 | BH26-30302S | TRANS-SYNC. | 3-1(250UH),-,-,SB-5S,UU1116,3- | |
| TH601 | 1404-000002 | THERMISTOR-PTC | 9ohm,20%,-,-,TR,RECT,- | |
| TH602 | 1404-001020 | THERMISTOR-NTC | 8ohm,15%,-,-,17mW/C,BK | |
| VIDEO_CLAMP_3 | 6502-000127 | CABLE CLAMP | DAWH-18NB,ID15,-,NTR,NYLON66 | SNA |
| BD101 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |
| BD102 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |
| BD103 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |
| BD104 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |
| BD105 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |
| BD106 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |
| BD301 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |
| BD408 | 3301-001450 | CORE-FERRITE BEAD | AA,450HM,3.5X0.6X5.7MM,50MA,TP,SN-20(U12000),- | SNA |
| BD409 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |

| Loc. No. | Code No. | Description | Specification | Remarks |
|----------|-------------|---------------------|--|---------|
| BD410 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |
| BD600 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |
| BD601 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |
| BD602 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |
| BD603 | 3301-000011 | CORE-FERRITE BEAD | AA,3.5x1.0x5.7mm,1500,2375G | SNA |
| BD604 | 3301-001450 | CORE-FERRITE BEAD | AA,450HM,3.5X0.6X5.7MM,50MA,TP,SN-20(UI2000),- | SNA |
| C101 | 2201-000285 | C-CERAMIC,DISC | 1nF,10%,1kV,Y5P,TP,8x5,5 | |
| C102 | 2301-000148 | C-FILM,PEF | 10nF,5%,100V,TP,7x3.2x7mm,5mm | |
| C103 | 2301-000148 | C-FILM,PEF | 10nF,5%,100V,TP,7x3.2x7mm,5mm | |
| C104 | 2401-000025 | C-AL | 100uF,20%,16V,GP,TP,6.3x11,5 | |
| C107 | 2301-000188 | C-FILM,PEF | 1nF,5%,100V,TP,10.5x12.5x6.5,5 | |
| C108 | 2401-001333 | C-AL | 470nF,20%,50V,GP,TP,5x11,5 | |
| C109 | 2201-000119 | C-CERAMIC,DISC | 100nF,+80-20%,50V,Y5V,TP,8x3,5 | |
| C114 | 2202-002009 | C-CERAMIC,MLC-AXIAL | 100nF,+80-20%,50V,Y5V,TP,2.3X3 | |
| C115 | 2201-000119 | C-CERAMIC,DISC | 100nF,+80-20%,50V,Y5V,TP,8x3,5 | |
| C116 | 2401-000025 | C-AL | 100uF,20%,16V,GP,TP,6.3x11,5 | |
| C117 | 2202-002009 | C-CERAMIC,MLC-AXIAL | 100nF,+80-20%,50V,Y5V,TP,2.3X3 | |
| C118 | 2401-000292 | C-AL | 100uF,20%,16V,WT,TP,8x11.5mm,5 | |
| C119 | 2401-000393 | C-AL | 10uF,20%,100V,WT,TP,8x11.5,5 | |
| C120 | 2301-000148 | C-FILM,PEF | 10nF,5%,100V,TP,7x3.2x7mm,5mm | |
| C121 | 2201-000285 | C-CERAMIC,DISC | 1nF,10%,1kV,Y5P,TP,8x5,5 | |
| C122 | 2301-000010 | C-FILM,PEF | 100nF,5%,100V,TP,11.5x12.5mm,5 | |
| C123 | 2202-002009 | C-CERAMIC,MLC-AXIAL | 100nF,+80-20%,50V,Y5V,TP,2.3X3 | |
| C124 | 2301-000148 | C-FILM,PEF | 10nF,5%,100V,TP,7x3.2x7mm,5mm | |
| C125 | 2201-000291 | C-CERAMIC,DISC | 1nF,10%,500V,Y5P,TP,7.5x3.5,5 | |
| C129 | 2301-000148 | C-FILM,PEF | 10nF,5%,100V,TP,7x3.2x7mm,5mm | |
| C201 | 2401-000010 | C-AL | 220uF,20%,16V,GP,-,6.3x11mm,2. | |
| C202 | 2201-000389 | C-CERAMIC,DISC | 0.022nF,5%,50V,NP0,TP,5x3,5 | |
| C203 | 2201-000389 | C-CERAMIC,DISC | 0.022nF,5%,50V,NP0,TP,5x3,5 | |
| C204 | 2401-000603 | C-AL | 1uF,20%,50V,GP,TP,5x11,5 | |
| C205 | 2401-000603 | C-AL | 1uF,20%,50V,GP,TP,5x11,5 | |
| C207 | 2401-000603 | C-AL | 1uF,20%,50V,GP,TP,5x11,5 | |
| C209 | 2401-002075 | C-AL | 4.7uF,20%,50V,GP,TP,5x11,5 | |
| C211 | 2201-000146 | C-CERAMIC,DISC | 0.1nF,5%,50V,SL,TP,5x3.5,5 | |
| C212 | 2201-000017 | C-CERAMIC,DISC | 1nF,10%,50V,Y5P,TP,5x3.5,5 | |
| C213 | 2301-000010 | C-FILM,PEF | 100nF,5%,100V,TP,11.5x12.5mm,5 | |
| C214 | 2401-000025 | C-AL | 100uF,20%,16V,GP,TP,6.3x11,5 | |
| C215 | 2201-000146 | C-CERAMIC,DISC | 0.1nF,5%,50V,SL,TP,5x3.5,5 | |
| C218 | 2301-000148 | C-FILM,PEF | 10nF,5%,100V,TP,7x3.2x7mm,5mm | |
| C219 | 2401-000603 | C-AL | 1uF,20%,50V,GP,TP,5x11,5 | |
| C220 | 2401-002075 | C-AL | 4.7uF,20%,50V,GP,TP,5x11,5 | |
| C301 | 2301-001049 | C-FILM,MPEF | 150nF,5%,100V,TP,10.5x5x14.5,5 | |
| C302 | 2305-000412 | C-FILM,MPEF | 470nF,5%,63V,TP,-,5mm | |
| C303 | 2401-000031 | C-AL | 47uF,20%,16V,GP,TP,5x11,5 | |
| C304 | 2301-000188 | C-FILM,PEF | 1nF,5%,100V,TP,10.5x12.5x6.5,5 | |
| C305 | 2401-000037 | C-AL | 470uF,20%,16V,GP,TP,8x11.5,5 | |
| C306 | 2401-002274 | C-AL | 220uF,20%,35V,WT,TP,10x12.5,5 | |

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| Loc. No. | Code No. | Description | Specification | Remarks |
|----------|-------------|----------------------|---------------------------------------|---------|
| C307 | 2305-000237 | C-FILM,MPEF | 1uF,5%,63V,TP,7.5x15.5mm,5mm | |
| C308 | 2301-000102 | C-FILM,PEF | 1.2nF,5%,100V,TP,5.4x10mm,5mm | |
| C309 | 2202-002009 | C-CERAMIC,MLC-AXIAL | 100nF,+80-20%,50V,Y5V,TP,2.3X3 | |
| C311 | 2202-002008 | C-CERAMIC,MLC-AXIAL | 10nF,+80-20%,50V,Y5V,TP,2.3X3. | |
| C312 | 2401-000050 | C-AL | 10uF,20%,16V,GP,TP,5x11,2,5 | |
| C401 | 2401-000031 | C-AL | 47uF,20%,16V,GP,TP,5x11,5 | |
| C402 | 2305-000665 | C-FILM,MPEF | 100nF,5%,63V,TP,7.5x4.0x5.0mm, | |
| C403 | 2202-000573 | C-CERAMIC,MLC-RADIAL | 820pF,5%,50V,NPO,TP,5.1x3.2x5. | |
| C404 | 2301-000148 | C-FILM,PEF | 10nF,5%,100V,TP,7x3.2x7mm,5mm | |
| C406 | 2301-000203 | C-FILM,PEF | 2.7nF,5%,100V,TP,7x3.0x6.5mm,5 | |
| C407 | 2401-000540 | C-AL | 150uF,20%,63V,LZ,TP,10x25,5 | |
| C408 | 2201-000469 | C-CERAMIC,DISC | 0.33nF,10%,500V,Y5P,TP,5.5x3,5 | |
| C410 | 2401-000025 | C-AL | 100uF,20%,16V,GP,TP,6.3x11,5 | |
| C411 | 2301-000005 | C-FILM,PEF | 33nF,5%,100V,TP,5.8x12.5x3,5 | |
| C413 | 2401-001012 | C-AL | 3.3UF,20%,50V,BP,TP,16X25,7,5 | |
| C414 | 2401-001334 | C-AL | 470nF,20%,50V,GP,TP,5x11,2,5 | |
| C415 | 2401-001222 | C-AL | 4.7UF,20%,160V,WT,TP,8X11.5MM,5 | |
| C416 | 2301-000010 | C-FILM,PEF | 100nF,5%,100V,TP,11.5x12.5mm,5 | |
| C419 | 2301-001306 | C-FILM,PPF | 2.5nF,3%,1.6KV,TP,21.5X15.5X8.5MM,7,5 | △ |
| C420 | 2309-000106 | C-FILM,MPE-PPF | 2.2nF,5%,1.6KV,TP,23x16x9,7,5mm | △ |
| C421 | 2303-001029 | C-FILM,PPF | 5.2nF,5%,630V,TP,19x7x13,7,5 | |
| C423 | 2401-000613 | C-AL | 1uF,20%,50V,WT,TP,5x11,5 | |
| C425 | 2306-000125 | C-FILM,MPPF | 120nF,5%,250V,TP,19x15x7,7.5mm | |
| C426 | 2401-000613 | C-AL | 1uF,20%,50V,WT,TP,5x11,5 | |
| C427 | 2306-000137 | C-FILM,MPPF | 180nF,5%,250V,TP,19x16.5x8,7,5 | |
| C429 | 2401-000607 | C-AL | 1uF,20%,50V,WT,TP,3x5mm,2.5mm | |
| C431 | 2306-000171 | C-FILM,MPPF | 270nF,5%,250V,TP,21.5x12.5mm,7 | |
| C432 | 2305-000310 | C-FILM,MPEF | 22nF,5%,250V,TP,14.5x8.8mm,7,5 | |
| C433 | 2305-001003 | C-FILM,MPEF | 10nF,5%,250V,TP,13x4.5x9mm,7,5 | |
| C434 | 2401-000050 | C-AL | 10uF,20%,16V,GP,TP,5x11,2,5 | |
| C436 | 2201-000012 | C-CERAMIC,DISC | 0.22nF,10%,1kV,Y5P,TP,6.3x5,5 | |
| C437 | 2401-000025 | C-AL | 100uF,20%,16V,GP,TP,6.3x11,5 | |
| C438 | 2305-000237 | C-FILM,MPEF | 1uF,5%,63V,TP,7.5x15.5mm,5mm | |
| C439 | 2301-000016 | C-FILM,PEF | 22nF,5%,100V,TP,7.2x4.5x9.0mm, | |
| C461 | 2401-002075 | C-AL | 4.7uF,20%,50V,GP,TP,5x11,5 | |
| C462 | 2301-000148 | C-FILM,PEF | 10nF,5%,100V,TP,7x3.2x7mm,5mm | |
| C463 | 2401-000597 | C-AL | 1uF,20%,50V,GP,TP,4x7mm,1.5mm | |
| C464 | 2201-000012 | C-CERAMIC,DISC | 0.22nF,10%,1kV,Y5P,TP,6.3x5,5 | |
| C501 | 2301-000016 | C-FILM,PEF | 22nF,5%,100V,TP,7.2x4.5x9.0mm, | |
| C502 | 2401-000050 | C-AL | 10uF,20%,16V,GP,TP,5x11,2,5 | |
| C503 | 2201-000119 | C-CERAMIC,DISC | 100nF,+80-20%,50V,Y5V,TP,8x3,5 | |
| C505 | 2401-000059 | C-AL | 220nF,20%,50V,GP,-,5x11,5 | |
| C508 | 2401-002267 | C-AL | 2.2uF,20%,250V,GP,TP,8x11.5,5 | |
| C509 | 2401-000055 | C-AL | 1uF,20%,160V,WT,TP,3x11,5mm | |
| C510 | 2301-000294 | C-FILM,PEF | 56nF,5%,100V,TP,9.5x12.5mm,5mm | |
| C513 | 2201-000291 | C-CERAMIC,DISC | 1nF,10%,500V,Y5P,TP,7.5x3,5,5 | |
| C541 | 2301-000004 | C-FILM,PEF | 2.2nF,5%,100V,TP,5.5X10X2.9,5m | |

| Loc. No. | Code No. | Description | Specification | Remarks |
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| C551 | 2401-000050 | C-AL | 10uF,20%,16V,GP,TP,5x11,2,5 | |
| C552 | 2201-000132 | C-CERAMIC,DISC | 0.1nF,10%,500V,Y5P,TP,6.5x3,5 | |
| C553 | 2201-000291 | C-CERAMIC,DISC | 1nF,10%,500V,Y5P,TP,7.5x3.5,5 | |
| C596 | 2201-000469 | C-CERAMIC,DISC | 0.33nF,10%,500V,Y5P,TP,5.5x3,5 | |
| C597 | 2201-000469 | C-CERAMIC,DISC | 0.33nF,10%,500V,Y5P,TP,5.5x3,5 | |
| C598 | 2201-000469 | C-CERAMIC,DISC | 0.33nF,10%,500V,Y5P,TP,5.5x3,5 | |
| C599 | 2201-000469 | C-CERAMIC,DISC | 0.33nF,10%,500V,Y5P,TP,5.5x3,5 | |
| C600 | 2201-002026 | C-CERAMIC,DISC | 1nF,20%,400VAC,B,TP,11x6,7.5mm | |
| C603 | 2201-000024 | C-CERAMIC,DISC | 4.7nF,20%,250VAC,Y5U,TP,16x7,7 | |
| C604 | 2201-000024 | C-CERAMIC,DISC | 4.7nF,20%,250VAC,Y5U,TP,16x7,7 | |
| C605 | 2202-002009 | C-CERAMIC,MLC-AXIAL | 100nF,+80-20%,50V,Y5V,TP,2.3X3 | |
| C607 | 2202-002009 | C-CERAMIC,MLC-AXIAL | 100nF,+80-20%,50V,Y5V,TP,2.3X3 | |
| C609 | 2401-000970 | C-AL | 22uF,20%,50V,WT,TP,5x11,5 | |
| C610 | 2301-000284 | C-FILM,PEF | 47nF,5%,100V,TP,8.5x12.5mm,5mm | |
| C611 | 2401-000613 | C-AL | 1uF,20%,50V,WT,TP,5x11,5 | |
| C612 | 2401-000613 | C-AL | 1uF,20%,50V,WT,TP,5x11,5 | |
| C613 | 2201-000012 | C-CERAMIC,DISC | 0.22nF,10%,1kV,Y5P,TP,6.3x5,5 | |
| C614 | 2201-000019 | C-CERAMIC,DISC | 10nF,+80-20%,500V,Y5V,TP,13.5x4mm,5 | |
| C615 | 2201-000291 | C-CERAMIC,DISC | 1nF,10%,500V,Y5P,TP,7.5x3.5,5 | |
| C616 | 2201-000023 | C-CERAMIC,DISC | 2.2nF,20%,125V,Y5U,TP,11x7,5 | |
| C617 | 2201-000023 | C-CERAMIC,DISC | 2.2nF,20%,125V,Y5U,TP,11x7,5 | |
| C618 | 2401-000039 | C-AL | 1000uF,20%,16V,GP,TP,10x16,5 | |
| C619 | 2201-000469 | C-CERAMIC,DISC | 0.33nF,10%,500V,Y5P,TP,5.5x3,5 | |
| C620 | 2401-000540 | C-AL | 150uF,20%,63V,LZ,TP,10x25,5 | |
| C621 | 2401-001551 | C-AL | 47uF,20%,35V,GP,TP,6.3x11,5 | |
| C622 | 2401-000151 | C-AL | 1000uF,20%,25V,GP,TP,10x20,5 | |
| C623 | 2401-000039 | C-AL | 1000uF,20%,16V,GP,TP,10x16,5 | |
| C626 | 2401-000025 | C-AL | 100uF,20%,16V,GP,TP,6.3x11,5 | |
| C627 | 2401-000292 | C-AL | 100uF,20%,16V,WT,TP,8x11.5mm,5 | |
| C628 | 2401-000025 | C-AL | 100uF,20%,16V,GP,TP,6.3x11,5 | |
| C629 | 2401-000292 | C-AL | 100uF,20%,16V,WT,TP,8x11.5mm,5 | |
| C630 | 2401-000970 | C-AL | 22uF,20%,50V,WT,TP,5x11,5 | |
| C631 | 2202-002009 | C-CERAMIC,MLC-AXIAL | 100nF,+80-20%,50V,Y5V,TP,2.3X3 | |
| C632 | 2201-000019 | C-CERAMIC,DISC | 10nF,+80-20%,500V,Y5V,TP,13.5x4mm,5 | |
| C633 | 2401-000603 | C-AL | 1uF,20%,50V,GP,TP,5x11,5 | |
| C634 | 2401-000480 | C-AL | 10uF,20%,50V,GP,TP,5x11,5 | |
| C635 | 2201-000017 | C-CERAMIC,DISC | 1nF,10%,50V,Y5P,TP,5x3.5,5 | |
| C636 | 2202-002009 | C-CERAMIC,MLC-AXIAL | 100nF,+80-20%,50V,Y5V,TP,2.3X3 | |
| CB01 | 2202-002009 | C-CERAMIC,MLC-AXIAL | 100nF,+80-20%,50V,Y5V,TP,2.3X3 | |
| CB02 | 2301-000010 | C-FILM,PEF | 100nF,5%,100V,TP,11.5x12.5mm,5 | |
| CB03 | 2201-000119 | C-CERAMIC,DISC | 100nF,+80-20%,50V,Y5V,TP,8x3,5 | |
| CB04 | 2305-000004 | C-FILM,MPEF | 220nF,10%,100V,TP,12.7x16,5mm | |
| CG00 | 2201-000798 | C-CERAMIC,DISC | 0.01nF,0.5pF,50V,NP0,TP,4x3.5,5 | |
| CG01 | 2202-002009 | C-CERAMIC,MLC-AXIAL | 100nF,+80-20%,50V,Y5V,TP,2.3X3 | |
| CG02 | 2301-000010 | C-FILM,PEF | 100nF,5%,100V,TP,11.5x12.5mm,5 | |
| CG03 | 2201-000119 | C-CERAMIC,DISC | 100nF,+80-20%,50V,Y5V,TP,8x3,5 | |
| CG04 | 2305-000004 | C-FILM,MPEF | 220nF,10%,100V,TP,12.7x16,5mm | |



7 Electrical Parts List

| Loc. No. | Code No. | Description | Specification | Remarks |
|----------|-------------|---------------------|---------------------------------|---------|
| CN304 | 3711-000197 | CONNECTOR-HEADER | 1WALL,3P,1R,2.5mm,STRAIGHT,SN | SNA |
| CN603 | 3711-000217 | CONNECTOR-HEADER | 1WALL,3P,1R,3.96mm,STRAIGHT,SN | SNA |
| CR00 | 2201-000798 | C-CERAMIC,DISC | 0.01nF,0.5pF,50V,NP0,TP,4x3.5,5 | |
| CR01 | 2202-002009 | C-CERAMIC,MLC-AXIAL | 100nF,+80-20%,50V,Y5V,TP,2.3X3 | |
| CR02 | 2301-000010 | C-FILM,PEF | 100nF,5%,100V,TP,11.5x12.5mm,5 | |
| CR03 | 2201-000119 | C-CERAMIC,DISC | 100nF,+80-20%,50V,Y5V,TP,8x3,5 | |
| CR04 | 2305-000004 | C-FILM,MPEF | 220nF,10%,100V,TP,12.7x16,5mm | |
| D202 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D211 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D212 | 0403-000361 | DIODE-ZENER | UZ6.2BSB,6.2V,5.99-6.24V,500mW | |
| D213 | 0403-000361 | DIODE-ZENER | UZ6.2BSB,6.2V,5.99-6.24V,500mW | |
| D301 | 0402-000274 | DIODE-RECTIFIER | UF4004,400V,1A,DO-41,TP | |
| D302 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D401 | 0402-000274 | DIODE-RECTIFIER | UF4004,400V,1A,DO-41,TP | |
| D402 | 0402-000006 | DIODE-RECTIFIER | 1N4007GP,1000V,1A,DO-41,TP | |
| D403 | 0402-000006 | DIODE-RECTIFIER | 1N4007GP,1000V,1A,DO-41,TP | |
| D404 | 0402-000006 | DIODE-RECTIFIER | 1N4007GP,1000V,1A,DO-41,TP | |
| D405 | 0402-000208 | DIODE-RECTIFIER | EK-04,40V,1.5A,DO-41 | |
| D407 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D410 | 0402-000546 | DIODE-RECTIFIER | TVR10G,400V,1.0A,DO-41,TP | |
| D411 | 0402-000546 | DIODE-RECTIFIER | TVR10G,400V,1.0A,DO-41,TP | |
| D412 | 0402-000546 | DIODE-RECTIFIER | TVR10G,400V,1.0A,DO-41,TP | |
| D413 | 0402-000546 | DIODE-RECTIFIER | TVR10G,400V,1.0A,DO-41,TP | |
| D420 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D421 | 0401-000004 | DIODE-SWITCHING | 1SS244,250V,625mA,DO-34,TP | |
| D422 | 0402-000274 | DIODE-RECTIFIER | UF4004,400V,1A,DO-41,TP | |
| D423 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D456 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D499 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D501 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D502 | 0402-000017 | DIODE-RECTIFIER | RGPO2-12,1200V,0.5A,DO-204AL,T | |
| D503 | 0402-000546 | DIODE-RECTIFIER | TVR10G,400V,1.0A,DO-41,TP | |
| D504 | 0402-000546 | DIODE-RECTIFIER | TVR10G,400V,1.0A,DO-41,TP | |
| D505 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D509 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D510 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D511 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D520 | 0402-000017 | DIODE-RECTIFIER | RGPO2-12,1200V,0.5A,DO-204AL,T | |
| D597 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D598 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D602 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D604 | 0402-000012 | DIODE-RECTIFIER | UF4007,1KV,1A,DO-41,TP | |
| D605 | 0402-000012 | DIODE-RECTIFIER | UF4007,1KV,1A,DO-41,TP | |
| D606 | 0402-000546 | DIODE-RECTIFIER | TVR10G,400V,1.0A,DO-41,TP | |
| D607 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D610 | 0402-000012 | DIODE-RECTIFIER | UF4007,1KV,1A,DO-41,TP | |
| D611 | 0402-001118 | DIODE-RECTIFIER | UF1G,400V,1.2A,DO-204AL,TP | |

| Loc. No. | Code No. | Description | Specification | Remarks |
|----------|-------------|-----------------|-------------------------------|---------|
| D612 | 0402-000546 | DIODE-RECTIFIER | TVR10G,400V,1.0A,DO-41,TP | |
| D614 | 0402-000546 | DIODE-RECTIFIER | TVR10G,400V,1.0A,DO-41,TP | |
| D615 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D616 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D617 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| D618 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| DB01 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| DB02 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| DB03 | 0401-000004 | DIODE-SWITCHING | 1SS244,250V,625mA,DO-34,TP | |
| DB04 | 0401-000004 | DIODE-SWITCHING | 1SS244,250V,625mA,DO-34,TP | |
| DB05 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| DG01 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| DG02 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| DG03 | 0401-000004 | DIODE-SWITCHING | 1SS244,250V,625mA,DO-34,TP | |
| DG04 | 0401-000004 | DIODE-SWITCHING | 1SS244,250V,625mA,DO-34,TP | |
| DG05 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| DR01 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| DR02 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| DR03 | 0401-000004 | DIODE-SWITCHING | 1SS244,250V,625mA,DO-34,TP | |
| DR04 | 0401-000004 | DIODE-SWITCHING | 1SS244,250V,625mA,DO-34,TP | |
| DR05 | 0401-000005 | DIODE-SWITCHING | 1N4148,100V,200mA,DO-35,TP | |
| EY1 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY10 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY2 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY3 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY301 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY302 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY4 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY401 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY410 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY411 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY444 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY445 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY5 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY501 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY502 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY503 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY504 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY505 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY506 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY507 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY508 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY509 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY510 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY6 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY601 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY602 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |

7 Electrical Parts List

| Loc. No. | Code No. | Description | Specification | Remarks |
|----------|-------------|------------------|--|---------|
| EY603 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY604 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY605 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY606 | 6042-000001 | EYELET | ID2.2,OD2.7,L3.1,SN,BSS3-E/EH | SNA |
| EY607 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY608 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY609 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| EY610 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| FH1 | 3602-000001 | FUSE-CLIP | -,30mohm | SNA |
| G2 | BH71-40300A | PIN-HINGE | -,BRASS,D2.36,SN,HEAT/SINK | SNA |
| GND | BH71-40300A | PIN-HINGE | -,BRASS,D2.36,SN,HEAT/SINK | SNA |
| GT603 | BH71-40300A | PIN-HINGE | -,BRASS,D2.36,SN,HEAT/SINK | SNA |
| GT604 | BH71-40300A | PIN-HINGE | -,BRASS,D2.36,SN,HEAT/SINK | SNA |
| IC102 | BH13-00022A | IC-BIAS CLAMP | LM2480NA,PN15H/17L,8P,0to+70C,DIP,3mA,85V,ST | |
| IC104 | 1204-001866 | IC-OSD PROCESSOR | S5D2510X04-D0B0,DIP,16P,300MIL,PLASTIC,6.5V,1200MW,-20TO+70C,ST,MULTI LANGUAGE | |
| IC603 | 1201-000229 | IC-OP AMP | 324,DIP,14P,300MIL,QUAD,100V/m | |
| J1 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| J10 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| J11 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| J13 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| J2 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| J3 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| J4 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| J5 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| J6 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| J7 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| J8 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| J9 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP_DHHS | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP1 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP10 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP11 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP12 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP13 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP14 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP15 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP16 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP17 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP18 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP19 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP2 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP20 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP21 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP22 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP23 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |
| JP24 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,AWG22(0. | |

7 Electrical Parts List

| Loc. No. | Code No. | Description | Specification | Remarks |
|----------|-------------|-----------------|--|---------|
| JP71 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP72 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP73 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP75 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP76 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP77 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP78 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP79 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP8 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP80 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP81 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP82 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP83 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP84 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP85 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP86 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP89 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP9 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP90 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP91 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP92 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| JP95 | BH39-40305U | CBF HARNESS | 52MM,AWG22(0.6PI),-,-,AWG22(0. | |
| L404 | BH27-20343H | COIL-PEAKING | -,2.7MH,10%,DR8*8,-,-,-,5.500HM,-,-,-,TP | |
| LB02 | 2701-000319 | INDUCTOR-AXIAL | 470NH,10%,3X7MM | |
| LG02 | 2701-001090 | INDUCTOR-AXIAL | 0.56UH,10%,3X7MM | |
| LR02 | 2701-000319 | INDUCTOR-AXIAL | 470NH,10%,3X7MM | |
| MP1.0 | BH41-00170A | PCB MAIN | AQ17L*,FR1,1,-,1.6T,247*247,-,-,-, | SNA |
| Q101 | 0501-000404 | TR-SMALL SIGNAL | KSD1616-Y,NPN,750mW,TO-92,TP,135-270 | |
| Q301 | 0501-000122 | TR-SMALL SIGNAL | 2N3904,NPN,625mW,TO-92,TP,100-300 | |
| Q302 | 0501-000581 | TR-SMALL SIGNAL | 2N3906,PNP,625mW,TO-92,TP,100-300 | |
| Q401 | 0501-000303 | TR-SMALL SIGNAL | KSA733,PNP,250mW,TO-92,TP,120-240 | |
| Q405 | 0501-000303 | TR-SMALL SIGNAL | KSA733,PNP,250mW,TO-92,TP,120-240 | |
| Q406 | 0501-000303 | TR-SMALL SIGNAL | KSA733,PNP,250mW,TO-92,TP,120-240 | |
| Q407 | 0501-000140 | TR-SMALL SIGNAL | 2N5551,NPN,625mW,TO-92,TP,80-250 | |
| Q412 | 0501-000122 | TR-SMALL SIGNAL | 2N3904,NPN,625mW,TO-92,TP,100-300 | |
| Q413 | 0501-000581 | TR-SMALL SIGNAL | 2N3906,PNP,625mW,TO-92,TP,100-300 | |
| Q414 | 0501-000412 | TR-SMALL SIGNAL | KSP42,NPN,625mW,TO-92,-,40 | |
| Q415 | 0501-000412 | TR-SMALL SIGNAL | KSP42,NPN,625mW,TO-92,-,40 | |
| Q416 | 0501-000412 | TR-SMALL SIGNAL | KSP42,NPN,625mW,TO-92,-,40 | |
| Q417 | 0501-000586 | TR-SMALL SIGNAL | KSC945,NPN,250mW,TO-92,TP,120-240 | |
| Q418 | 0501-000372 | TR-SMALL SIGNAL | KSC2383-Y,NPN,900000mW,TO-92L,TP,160-320 | |
| Q501 | 0501-000586 | TR-SMALL SIGNAL | KSC945,NPN,250mW,TO-92,TP,120-240 | |
| Q502 | 0501-000143 | TR-SMALL SIGNAL | 2N6520,PNP,625mW,TO-92,TP,30-200 | |
| Q551 | 0501-000413 | TR-SMALL SIGNAL | KSP44,NPN,625mW,TO-92,TP,50-200 | |
| Q601 | 0501-000586 | TR-SMALL SIGNAL | KSC945,NPN,250mW,TO-92,TP,120-240 | |
| Q602 | 0501-000122 | TR-SMALL SIGNAL | 2N3904,NPN,625mW,TO-92,TP,100-300 | |
| Q604 | 0501-000404 | TR-SMALL SIGNAL | KSD1616-Y,NPN,750mW,TO-92,TP,135-270 | |

| Loc. No. | Code No. | Description | Specification | Remarks |
|----------|-------------|-----------------|--------------------------------------|---------|
| Q608 | 0501-000010 | TR-SMALL SIGNAL | KSC1008,NPN,800mW,TO-92,TP,120-240 | |
| Q609 | 0501-002228 | TR-SMALL SIGNAL | KTA1281,PNP,1000mW,TO-92L,TP,120-240 | |
| Q610 | 0501-000586 | TR-SMALL SIGNAL | KSC945,NPN,250mW,TO-92,TP,120-240 | |
| Q611 | 0501-002228 | TR-SMALL SIGNAL | KTA1281,PNP,1000mW,TO-92L,TP,120-240 | |
| Q612 | 0501-000586 | TR-SMALL SIGNAL | KSC945,NPN,250mW,TO-92,TP,120-240 | |
| Q614 | 0501-000404 | TR-SMALL SIGNAL | KSD1616-Y,NPN,750mW,TO-92,TP,135-270 | |
| Q615 | 0501-000581 | TR-SMALL SIGNAL | 2N3906,PNP,625mW,TO-92,TP,100-300 | |
| R100 | 2001-000241 | R-CARBON | 1.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R101 | 2001-001138 | R-CARBON(S) | 390OHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R102 | 2001-000429 | R-CARBON | 1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R104 | 2001-000273 | R-CARBON | 100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R105 | 2001-000429 | R-CARBON | 1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R106 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R107 | 2001-000281 | R-CARBON | 100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R108 | 2001-000281 | R-CARBON | 100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R109 | 2001-000734 | R-CARBON | 4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R110 | 2001-000003 | R-CARBON | 330ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R111 | 2001-000003 | R-CARBON | 330ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R114 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R115 | 2001-000331 | R-CARBON | 12KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R116 | 2001-000812 | R-CARBON | 5.6KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R117 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R118 | 2001-000522 | R-CARBON | 22KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R119 | 2001-000003 | R-CARBON | 330ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| R121 | 2001-001138 | R-CARBON(S) | 390OHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R125 | 2001-000890 | R-CARBON | 6.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R200 | 2001-000869 | R-CARBON | 56OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R201 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R202 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R203 | 2001-000008 | R-CARBON | 15KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R204 | 2001-000008 | R-CARBON | 15KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R206 | 2001-000435 | R-CARBON | 1MOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R207 | 2001-000869 | R-CARBON | 56OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R208 | 2001-000869 | R-CARBON | 56OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R209 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R210 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R212 | 2001-000591 | R-CARBON | 3.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R213 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R214 | 2001-000429 | R-CARBON | 1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R215 | 2001-000281 | R-CARBON | 100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R216 | 2001-000281 | R-CARBON | 100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R217 | 2001-000281 | R-CARBON | 100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R218 | 2001-000281 | R-CARBON | 100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R219 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R220 | 2001-000281 | R-CARBON | 100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R221 | 2001-000734 | R-CARBON | 4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R222 | 2001-000734 | R-CARBON | 4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |

7 Electrical Parts List

| Loc. No. | Code No. | Description | Specification | Remarks |
|----------|-------------|------------------|---------------------------------|---------|
| R223 | 2001-000554 | R-CARBON | 270OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R224 | 2001-000869 | R-CARBON | 560HM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R225 | 2001-000869 | R-CARBON | 560HM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R229 | 2001-000281 | R-CARBON | 100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R230 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R236 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R237 | 2001-000429 | R-CARBON | 1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R238 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R301 | 2001-000734 | R-CARBON | 4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R302 | 2001-000281 | R-CARBON | 100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R303 | 2001-000258 | R-CARBON | 1.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R304 | 2004-000344 | R-METAL | 15Kohm,1%,1/4W,AA,TP,2.4x6.4mm | |
| R306 | 2004-000899 | R-METAL | 4.7Kohm,1%,1/4W,AA,TP,2.4x6.4m | |
| R307 | 2001-001048 | R-CARBON(S) | 1.2OHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R308 | 2001-000109 | R-CARBON(S) | 470OHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R309 | 2004-005002 | R-METAL | 1.2ohm,2%,1/2W,AA,TP,3.3x9.0mm | |
| R310 | 2004-001005 | R-METAL | 5.1Kohm,1%,1/4W,AA,TP,2.4x6.4m | |
| R311 | 2004-000947 | R-METAL | 43Kohm,1%,1/4W,AA,TP,2.4x6.4mm | |
| R315 | 2004-005002 | R-METAL | 1.2ohm,2%,1/2W,AA,TP,3.3x9.0mm | |
| R316 | 2001-000812 | R-CARBON | 5.6KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R323 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R324 | 2001-000878 | R-CARBON | 6.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R327 | 2001-000689 | R-CARBON | 390KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R328 | 2001-000273 | R-CARBON | 100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R340 | 2001-000908 | R-CARBON | 62KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R404 | 2004-001022 | R-METAL | 5.6Kohm,1%,1/4W,AA,TP,2.4x6.4m | |
| R405 | 2001-000449 | R-CARBON | 2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R406 | 2001-000522 | R-CARBON | 22KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R410 | 2003-000008 | R-METAL OXIDE(S) | 100ohm,5%,1W,AA,TP,3.3x9mm | |
| R412 | 2001-000429 | R-CARBON | 1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R414 | 2003-000407 | R-METAL OXIDE(S) | 0.6ohm,5%,2W,AA,TP,4x12mm | △ |
| R415 | 2003-000429 | R-METAL OXIDE(S) | 1.5Kohm,5%,2W,AA,TP,4x12mm | |
| R416 | 2001-000107 | R-CARBON(S) | 150KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R418 | 2001-000221 | R-CARBON | 1.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R419 | 2001-000531 | R-CARBON | 240KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R420 | 2001-000354 | R-CARBON | 150KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| R423 | 2004-000176 | R-METAL | 1.8Kohm,1%,1/4W,AA,TP,2.4x6.4m | |
| R424 | 2004-000216 | R-METAL | 10Kohm,1%,1/4W,AA,TP,2.4x6.4mm | |
| R426 | 2001-000110 | R-CARBON | 100HM,5%,1/4W,AA,TP,2.4X6.4MM | |
| R427 | 2001-000429 | R-CARBON | 1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R428 | 2003-002108 | R-METAL OXIDE(S) | 300ohm,5%,3W,AA,TP,15x5.5mm | |
| R429 | 2001-000319 | R-CARBON | 120KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R430 | 2001-001078 | R-CARBON(S) | 15KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R431 | 2003-000407 | R-METAL OXIDE(S) | 0.6ohm,5%,2W,AA,TP,4x12mm | |
| R432 | 2001-000020 | R-CARBON(S) | 220HM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R434 | 2001-000449 | R-CARBON | 2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R435 | 2001-000786 | R-CARBON | 47KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |

| Loc. No. | Code No. | Description | Specification | Remarks |
|----------|-------------|------------------|---------------------------------|---------|
| R436 | 2001-000449 | R-CARBON | 2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R437 | 2001-000786 | R-CARBON | 47KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R438 | 2001-000449 | R-CARBON | 2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R439 | 2001-000786 | R-CARBON | 47KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R440 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R441 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R443 | 2003-000650 | R-METAL OXIDE(S) | 330ohm,5%,2W,AA,TP,4x12mm | |
| R446 | 2001-000117 | R-CARBON(S) | 680HM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R450 | 2004-000327 | R-METAL | 150Kohm,1%,1/4W,AA,TP,2.4x6.4m | |
| R451 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R452 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R453 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R454 | 2003-000650 | R-METAL OXIDE(S) | 330ohm,5%,2W,AA,TP,4x12mm | |
| R455 | 2004-000327 | R-METAL | 150Kohm,1%,1/4W,AA,TP,2.4x6.4m | |
| R457 | 2001-000508 | R-CARBON | 220KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R459 | 2001-001178 | R-CARBON(S) | 680OHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R460 | 2001-001099 | R-CARBON(S) | 2.7KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R461 | 2001-000004 | R-CARBON | 200KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R462 | 2001-000333 | R-CARBON | 120HM,5%,1/4W,AA,TP,2.4X6.4MM | |
| R463 | 2003-000769 | R-METAL OXIDE(S) | 680ohm,5%,3W,AA,TP,6x16mm | |
| R500 | 2001-000435 | R-CARBON | 1MOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R501 | 2001-000890 | R-CARBON | 6.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R502 | 2004-000861 | R-METAL | 39Kohm,1%,1/4W,AA,TP,2.4x6.4mm | ⚠ |
| R503 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R504 | 2001-000008 | R-CARBON | 15KOHM,5%,1/8W,AA,TP,1.8X3.2MM | ⚠ |
| R505 | 2004-000458 | R-METAL | 2.2Kohm,1%,1/4W,AA,TP,2.4x6.4m | ⚠ |
| R506 | 2004-000284 | R-METAL | 12Kohm,1%,1/4W,AA,TP,2.4x6.4mm | ⚠ |
| R507 | 2004-000216 | R-METAL | 10Kohm,1%,1/4W,AA,TP,2.4x6.4mm | ⚠ |
| R508 | 2001-001129 | R-CARBON(S) | 330KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R509 | 2001-001129 | R-CARBON(S) | 330KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R510 | 2001-000273 | R-CARBON | 100KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R511 | 2001-000478 | R-CARBON | 2.70HM,5%,1/4W,AA,TP,2.4X6.4MM | |
| R512 | 2001-000522 | R-CARBON | 22KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R513 | 2004-000643 | R-METAL | 270Kohm,1%,1/4W,AA,TP,2.4x6.4m | |
| R514 | 2001-001071 | R-CARBON(S) | 12KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R516 | 2001-001108 | R-CARBON(S) | 22KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R518 | 2001-001108 | R-CARBON(S) | 22KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R521 | 2001-001129 | R-CARBON(S) | 330KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R524 | 2001-000531 | R-CARBON | 240KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R526 | 2004-000412 | R-METAL | 18Kohm,1%,1/4W,AA,TP,2.4x6.4mm | |
| R529 | 2001-000429 | R-CARBON | 1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R530 | 2004-000580 | R-METAL | 22Kohm,1%,1/4W,AA,TP,2.4x6.4mm | |
| R531 | 2001-000786 | R-CARBON | 47KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R551 | 2001-000530 | R-CARBON | 240KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| R552 | 2001-000537 | R-CARBON | 24KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| R553 | 2001-001129 | R-CARBON(S) | 330KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R554 | 2001-000087 | R-CARBON(S) | 120KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |

7 Electrical Parts List

| Loc. No. | Code No. | Description | Specification | Remarks |
|----------|-------------|------------------|---------------------------------|---------|
| R555 | 2001-00042 | R-CARBON | 1KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| R556 | 2001-000890 | R-CARBON | 6.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R557 | 2001-000087 | R-CARBON(S) | 120KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R558 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R600 | 2001-001129 | R-CARBON(S) | 330KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R601 | 2001-001129 | R-CARBON(S) | 330KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R602 | 2001-000023 | R-CARBON | 470HM,5%,1/4W,AA,TP,2.4X6.4MM | |
| R603 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R604 | 2001-000857 | R-CARBON | 560OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R605 | 2001-000734 | R-CARBON | 4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R606 | 2003-000014 | R-METAL OXIDE(S) | 10Kohm,5%,3W,AA,TP,6x16mm | |
| R608 | 2001-000281 | R-CARBON | 100OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R609 | 2002-001068 | R-COMPOSITION | 180Kohm,5%,1/2W,AA,TP,3.9x9mm | |
| R610 | 2002-001068 | R-COMPOSITION | 180Kohm,5%,1/2W,AA,TP,3.9x9mm | |
| R611 | 2001-000376 | R-CARBON | 150HM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R612 | 2003-000738 | R-METAL OXIDE(S) | 56Kohm,5%,2W,AA,TP,4x12mm | |
| R614 | 2001-001107 | R-CARBON(S) | 220ohm,5%,1/2W,AA,TP,2.4x6.4mm | |
| R615 | 2001-001088 | R-CARBON(S) | 1KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R617 | 2001-001037 | R-CARBON(S) | 0.390HM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R618 | 2001-000429 | R-CARBON | 1KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R619 | 2003-000471 | R-METAL OXIDE(S) | 10ohm,5%,2W,AA,TP,4x12mm | |
| R621 | 2001-000071 | R-CARBON | 22KOHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| R622 | 2001-000016 | R-CARBON(S) | 1OHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R625 | 2001-000515 | R-CARBON | 220OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R630 | 2001-000786 | R-CARBON | 47KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R631 | 2001-001088 | R-CARBON(S) | 1KOHM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R632 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R633 | 2001-000211 | R-CARBON | 1OHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| R641 | 2003-000744 | R-METAL OXIDE(S) | 56ohm,5%,2W,AA,TP,4x12mm | |
| R642 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R644 | 2001-000062 | R-CARBON | 470OHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| R660 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R661 | 2001-000527 | R-CARBON | 220HM,5%,1/8W,AA,TP,1.8X3.2MM | |
| R663 | 2001-000019 | R-CARBON(S) | 100HM,5%,1/2W,AA,TP,2.4X6.4MM | |
| R668 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RB01 | 2001-000969 | R-CARBON | 75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RB02 | 2001-000666 | R-CARBON | 330HM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RB04 | 2001-000003 | R-CARBON | 330ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| RB05 | 2001-000645 | R-CARBON | 330KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RB06 | 2001-000241 | R-CARBON | 1.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RB07 | 2001-000705 | R-CARBON | 390HM,5%,1/2W,AA,TP,3.3X9MM | |
| RB08 | 2001-000025 | R-CARBON | 75OHM,5%,1/4W,AA,TP,2.4X6.4MM | |
| RB09 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RG01 | 2001-000969 | R-CARBON | 75OHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RG02 | 2001-000666 | R-CARBON | 330HM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RG04 | 2001-000003 | R-CARBON | 330ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| RG05 | 2001-000645 | R-CARBON | 330KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |

| Loc. No. | Code No. | Description | Specification | Remarks |
|----------|-------------|------------------|---|---------|
| RG06 | 2001-000241 | R-CARBON | 1.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RG07 | 2001-000705 | R-CARBON | 390HM,5%,1/2W,AA,TP,3.3X9MM | |
| RG08 | 2001-000025 | R-CARBON | 750HM,5%,1/4W,AA,TP,2.4X6.4MM | |
| RG09 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RR01 | 2001-000969 | R-CARBON | 750HM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RR02 | 2001-000666 | R-CARBON | 330HM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RR04 | 2001-000003 | R-CARBON | 330ohm,5%,1/8W,AA,TP,1.8x3.2mm | |
| RR05 | 2001-000645 | R-CARBON | 330KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RR06 | 2001-000241 | R-CARBON | 1.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| RR07 | 2001-000705 | R-CARBON | 390HM,5%,1/2W,AA,TP,3.3X9MM | |
| RR08 | 2001-000025 | R-CARBON | 750HM,5%,1/4W,AA,TP,2.4X6.4MM | |
| RR09 | 2001-000290 | R-CARBON | 10KOHM,5%,1/8W,AA,TP,1.8X3.2MM | |
| SK101 | 1405-001064 | SURGE ABSORBER | 400V,20%,--,AXIAL | |
| SK102 | 4715-000001 | SURGE ABSORBER | 1KV,+50-10%,-- | |
| SK501 | 4715-000001 | SURGE ABSORBER | 1KV,+50-10%,-- | |
| SKB01 | 4715-000102 | SURGE ABSORBER | 200V,20%,1000A,-,RADIAL | SNA |
| SKG01 | 4715-000102 | SURGE ABSORBER | 200V,20%,1000A,-,RADIAL | SNA |
| SKR01 | 4715-000102 | SURGE ABSORBER | 200V,20%,1000A,-,RADIAL | SNA |
| TP501 | 6042-000002 | EYELET | ID1.5,OD2,L3.1,SN,BSS3-E/EH | SNA |
| X201 | 2801-000005 | CRYSTAL-UNIT | 8MHz,50ppm,28-AAM,S,35ohm,TP | |
| ZD101 | 0403-000509 | DIODE-ZENER | MTZJ5.6B,5.6V,5.45-5.73V,500mW | |
| ZD102 | 0403-000361 | DIODE-ZENER | UZ6.2BSB,6.2V,5.99-6.24V,500mW | |
| ZD103 | 0403-000361 | DIODE-ZENER | UZ6.2BSB,6.2V,5.99-6.24V,500mW | |
| ZD104 | 0403-000361 | DIODE-ZENER | UZ6.2BSB,6.2V,5.99-6.24V,500mW | |
| ZD201 | 0403-000355 | DIODE-ZENER | UZ5.1BSB,4.97-5.18V,500MW,DO-35,TP | |
| ZD202 | 0403-000355 | DIODE-ZENER | UZ5.1BSB,4.97-5.18V,500MW,DO-35,TP | |
| ZD203 | 0403-000355 | DIODE-ZENER | UZ5.1BSB,4.97-5.18V,500MW,DO-35,TP | |
| ZD204 | 0403-000355 | DIODE-ZENER | UZ5.1BSB,4.97-5.18V,500MW,DO-35,TP | |
| ZD205 | 0403-000361 | DIODE-ZENER | UZ6.2BSB,6.2V,5.99-6.24V,500mW | |
| ZD206 | 0403-000355 | DIODE-ZENER | UZ5.1BSB,4.97-5.18V,500MW,DO-35,TP | |
| ZD210 | 0403-000361 | DIODE-ZENER | UZ6.2BSB,6.2V,5.99-6.24V,500mW | |
| ZD211 | 0403-000348 | DIODE-ZENER | UZ36B,36V,33-39V,500mW,DO-35,T | |
| ZD212 | 0403-001068 | DIODE-ZENER | UZ4.7BSA,4.7V,4.47-4.65V,500mW | |
| ZD302 | 0403-000355 | DIODE-ZENER | UZ5.1BSB,4.97-5.18V,500MW,DO-35,TP | |
| ZD600 | 0403-000754 | DIODE-ZENER | MTZJ30C,30V,28.36-29.82V,500mW | |
| ZD601 | 0403-000361 | DIODE-ZENER | UZ6.2BSB,6.2V,5.99-6.24V,500mW | |
| ZD602 | 0403-000509 | DIODE-ZENER | MTZJ5.6B,5.6V,5.45-5.73V,500mW | |
| ZD603 | 0403-000361 | DIODE-ZENER | UZ6.2BSB,6.2V,5.99-6.24V,500mW | |
| ZD604 | 0403-000361 | DIODE-ZENER | UZ6.2BSB,6.2V,5.99-6.24V,500mW | |
| ZD605 | 0403-001068 | DIODE-ZENER | UZ4.7BSA,4.7V,4.47-4.65V,500mW | |
| HS301 | BH99-00002G | ASSY HEAT/SINK | H/S V.IC,SCREW+NUT,KA2142,-,OIL SILICON | SNA |
| CIS | 1204-001508 | IC-VERTICAL DEF. | KA2142,SIP,10P,-,PLASTIC,35V,15W,-20TO+70C,ST,VERTICAL DEFLECTION | |
| CIS | 6006-001097 | SCREW-ASS'Y MACH | WSP,BH,+,M3,L8,ZPC(YEL),SWRCH18A | SNA |
| CIS | 6021-000118 | NUT-HEXAGON | 1C,M3,ZPC(YEL),SM20C | SNA |
| CIS | BH62-00047A | HEAT SINK-V.IC | PS17NQ(DEL),A1050S,T1.0,0.70,77,-,- | SNA |

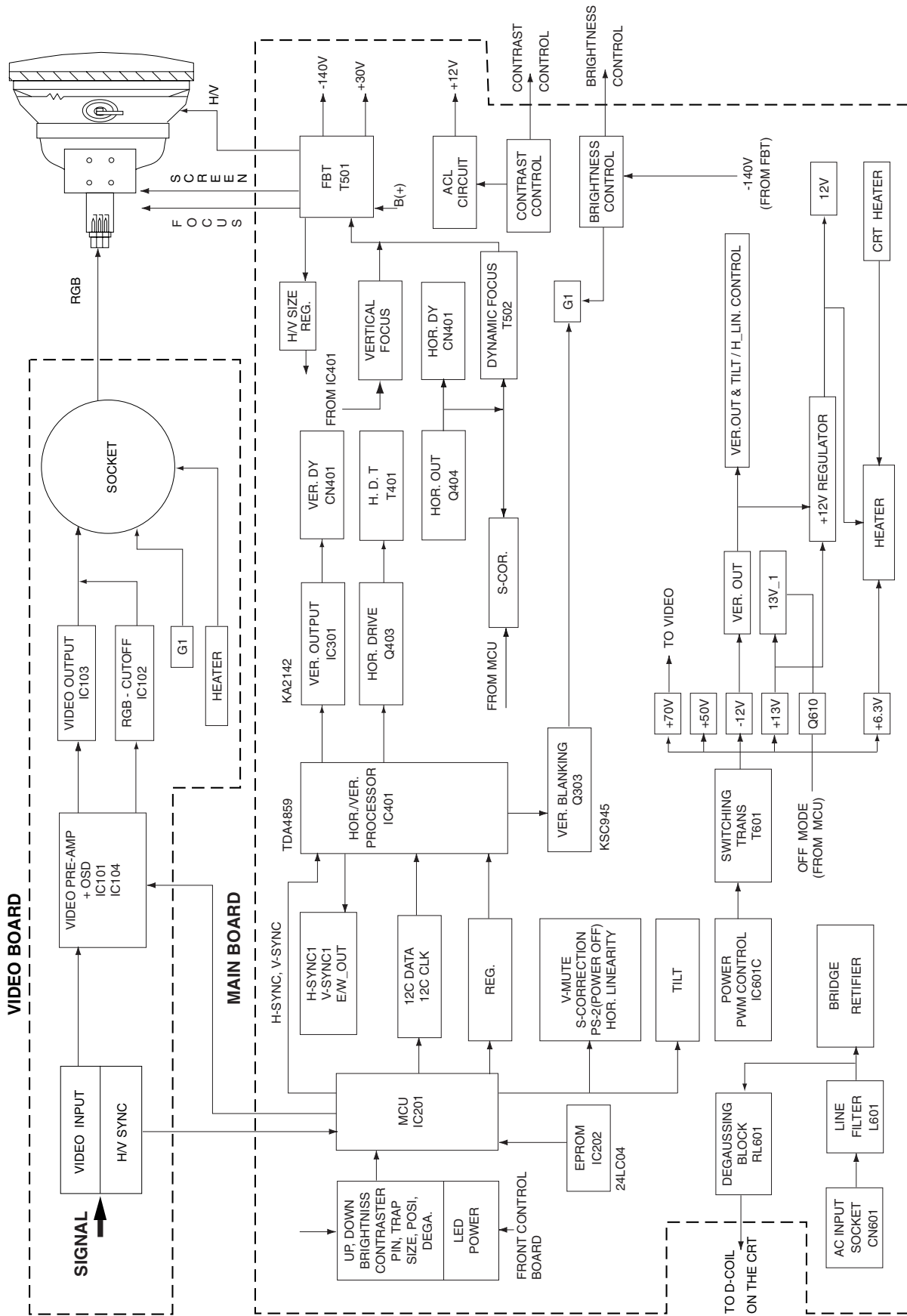
7 Electrical Parts List

| Loc. No. | Code No. | Description | Specification | Remarks |
|----------|-------------|------------------|---|---------|
| HS601 | BH99-00003A | ASSY,HEAT/SINK | H/S POWER,SPRING,DP104,-,-,RUBBER,-,- | SNA |
| CIS | BH13-00004A | IC-HYBRID | -,DP104C,TO-220-5L,5P,POWER SWITCH,-,- | |
| CIS | BH61-00004A | SPRING-TR | CDA,CDB,SUS304,TO.5,-,-,-,- | SNA |
| CIS | BH62-00004A | HEAT/SINK-POWER | -,T1,-,A1050S,DA/DB | SNA |
| CIS | BH62-20001B | RUBBER | CSQ4357,W25*L20*TO.45,-,-,-,- | SNA |
| HS103 | BH99-00004H | ASSY HEAT/SINK | HS VIDEO,SCREW+NUT,LM2467TA,-,-,OIL SILICON | SNA |
| CIS | 6006-001008 | SCREW-ASS'Y MACH | WSP,BH+,M3,L10,ZPC(YEL),SWRCH | SNA |
| CIS | 6021-000118 | NUT-HEXAGON | 1C,M3,ZPC(YEL),SM20C | SNA |
| CIS | BH13-00020A | IC HYBRID | LM2467T,PN15H/17L,9P,-20to+115C,TO-220-9L,10mA,85V,ST | |
| CIS | BH62-00006A | HEAT SINK-VIDEO | -,A1050S T2.0,-,DB | SNA |
| HS403 | BH99-00006A | ASSY,HEAT/SINK | H/S,SCREW+NUT,IRF630,-,-,OIL SILICON,-,- | SNA |
| CIS | 6006-001008 | SCREW-ASS'Y MACH | WSP,BH+,M3,L10,ZPC(YEL),SWRCH | SNA |
| CIS | 6021-000118 | NUT-HEXAGON | 1C,M3,ZPC(YEL),SM20C | SNA |
| CIS | BH62-30024A | HEAT/SINK-TR | SPC,T1,SN,CFX1577L | SNA |
| HS501 | BH99-00024A | ASSY HEAT/SINK | HS FBT,SPRING,KSC5802,DTV56F,KTD2058,OIL SILICON | SNA |
| CIS | 0402-001255 | DIODE-RECTIFIER | DTV56F,1.5KV,10A,TO-220AC,BK | |
| CIS | 0502-000465 | TR-POWER | KTD2058,NPN,25000mW,TO-220IS,ST,100-200 | |
| CIS | 0502-001129 | TR-POWER | KSC5802,NPN,70000mW,TO-3PF,ST,20-40 | |
| CIS | BH61-00004A | SPRING-TR | CDA,CDB,SUS304,TO.5,-,-,-,- | SNA |
| CIS | BH61-70003A | SPRING | CVT4857,STS304-W1/2H,TO.5,W3.8 | SNA |
| CIS | BH62-00015A | HEAT SINK-FBT | A1050S,T1.0,T1.0,-,- | SNA |
| HS402 | BH99-00038A | ASSY HEAT/SINK | H/S,SPRING,IRF630,-,-,OIL SILICON | SNA |
| CIS | BH61-00004A | SPRING-TR | CDA,CDB,SUS304,TO.5,-,-,-,- | SNA |
| CIS | BH62-00041A | HEAT SINK-TR | PN17LT,A1050S,T1.0,50,23,-,-,- | SNA |
| HS401 | BH99-10019Z | ASSY HEAT/SINK | HS TR,SCREW+NUT,SKP630,-,-,OIL SILICON | SNA |
| CIS | 6006-001008 | SCREW-ASS'Y MACH | WSP,BH+,M3,L10,ZPC(YEL),SWRCH | SNA |
| CIS | 6021-000118 | NUT-HEXAGON | 1C,M3,ZPC(YEL),SM20C | SNA |
| CIS | BH62-30024B | HEAT/SINK-IC | SPC-1,T1,SN COATING,- | SNA |

7-3 Others

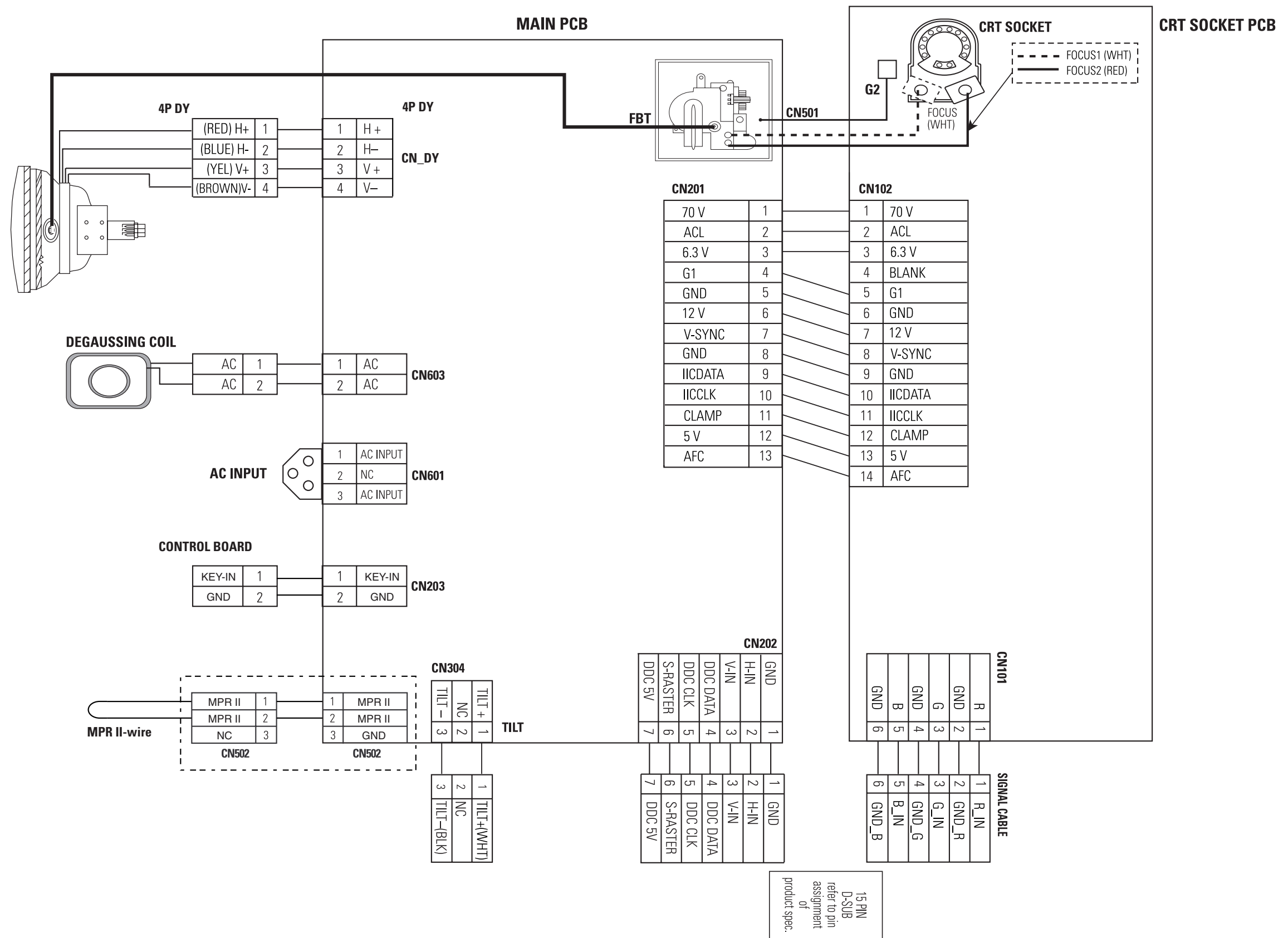
| Loc. No. | Code No. | Description & Specification | Remarks |
|---|---|---|---------|
| CRT ASS'Y PBA UNIT (CDT) (PCB) B/D ASS'Y CODE S/CABLE DEGAUSSING MAGNET | BH03-00016A BH94-00287A BH94-00288A BH98-00260A BH39-00282A BH27-00047A 3302-000006 | M41QAR361X114(A/S2),69,17,0.28,-,29.1,FST,H/C,NH,-,MULTI,TILT,4 AQ17LS-07C5/0905 AQ17LS-07C5/0905 PN17LT-07C1/4243,-,-,- PN17LO,15P/06P.07P,20276,1500MM,UL20276,IVORY,D-SUB/MALE,-,-,- 320*250*1100mm,9.6mH,-,100Ts,°æ10% AF,14G,1620-1980G,0.58-0.9MGOe | |

8 Block Diagrams



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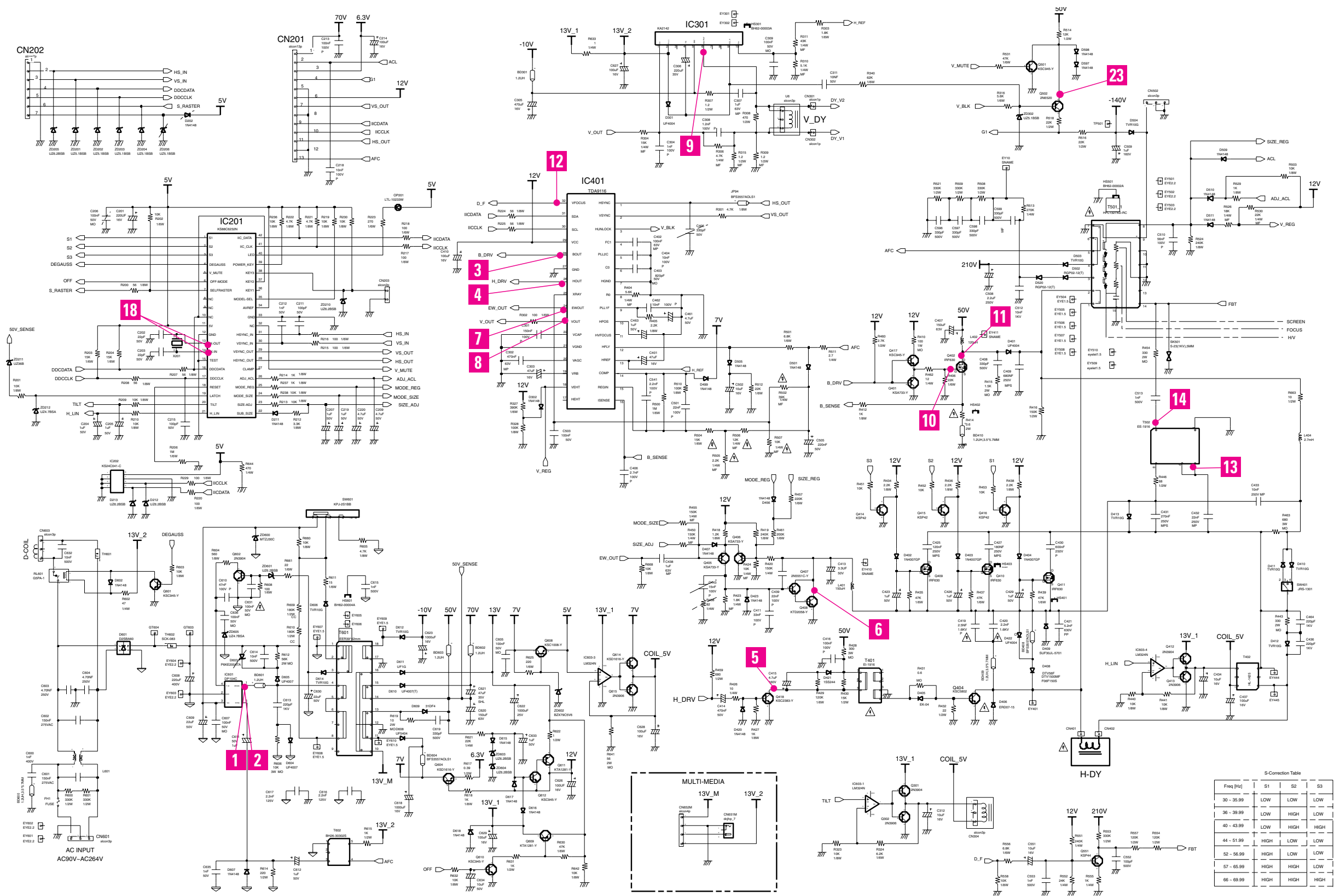
9 Wiring Diagram



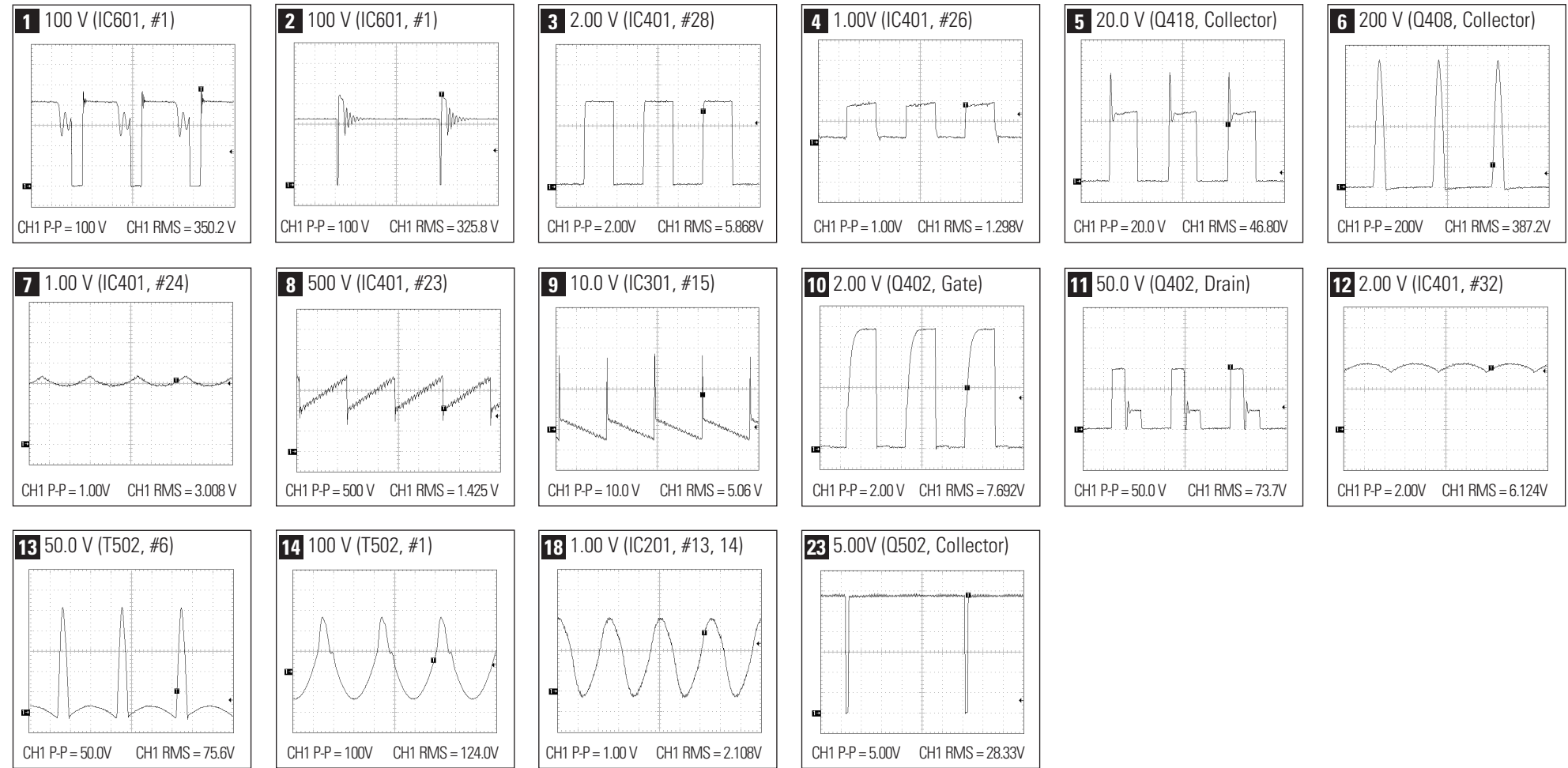
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10 Schematic Diagrams

10-1 Main Part Schematic Diagram



10 Schematic Diagrams



10 Schematic Diagrams

