

TOSHIBA

FILE NO. 020-200206

SERVICE MANUAL

COLOR TELEVISION

N2PS Chassis

36HF72, 36HF72

(TAC0230)

(TAC0231)

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CHAPTER 1 GENERAL ADJUSTMENTS

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is (A) kV at zero beam current (minimum brightness) under a 120V AC power source. The high voltage must not, under any circumstances, exceed (B) kV.

Refer to table-1 for high voltage (A), (B).
(See SETTING & ADJUSTING DATA on page 14)

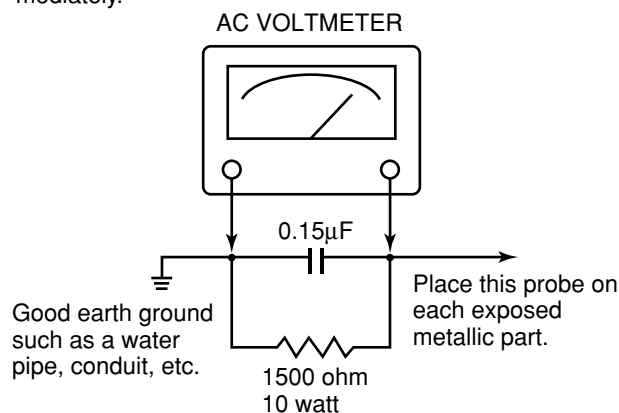
Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. This receiver is equipped with a Fail Safe (FS) circuit which prevents the receiver from producing an excessively high voltage even if the B+ voltage increases abnormally. Each time the receiver is serviced, the FS circuit must be checked to determine that the circuit is properly functioning, following the FS CIRCUIT CHECK procedure in this manual.
3. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
4. Some part in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY PRECAUTION

WARNING : Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. An isolation Transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.
4. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner:

Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 μ F, AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15 μ F capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts rms. This corresponds to 0.2 milliamp. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-ray radiation or other hazards.

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

SET-UP ADJUSTMENT

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed. Perform the adjustments in order as follows :

1. Color Purity
2. Convergence
3. White Balance

Note: 1. The PURITY/CONVERGENCE MAGNET assembly and rubber wedges need mechanical positioning.

Refer to figure 1.

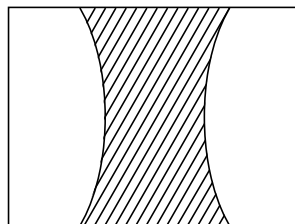
2. Mounting position of the purity magnet assembly should fit to same position as old one because slightly difference to the position depend on a kind of tube.

- * There are no adjustment of purity and convergence in some picture tube (Unified with purity magnet)

COLOR PURITY ADJUSTMENT

NOTE : Before attempting any purity adjustments, the receiver should be operated for at least fifteen minutes.

1. Evenly degauss the entire screen.
2. Set the CONTRAST and BRIGHTNESS Controls to the maximum.
3. Display built-in green raster using the TEST SIGNAL SELECTION function.
4. Loosen the clamp screw holding the deflection yoke (and remove the rubber Wedges).
5. Slide the yoke forward or backward to provide vertical green belt (zone) in the picture screen.
6. Rotate and spread the tabs of the purity magnet (See figure 4.) around the neck of the picture tube until the green belt is in the center of the screen. At the same time, center the raster vertically by adjusting the magnet as shown below.



Green Belt

7. Move the yoke slowly forward or backward until a uniform green screen is obtained. Tighten the clamp screw of the yoke temporarily.
8. Check the purity of the red and blue raster.
9. Put four wedges into the space between the picture tube and the yoke to hold the yoke in the adjusted position. (See figure 2.) Do not tilt the yoke by excessive insertion of the wedge.
10. Remove cover paper of wedge and stick wedges on the tube to fix the yoke in the adjusted position. Fix the wedges with glass cloth tapes.

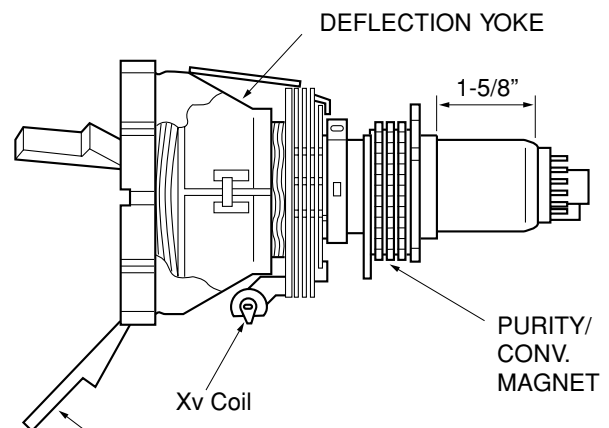


Figure 1.

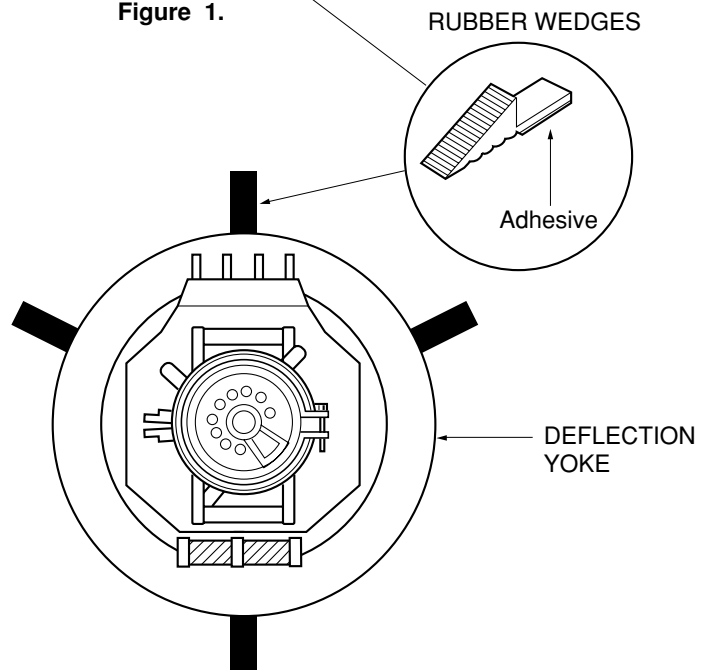


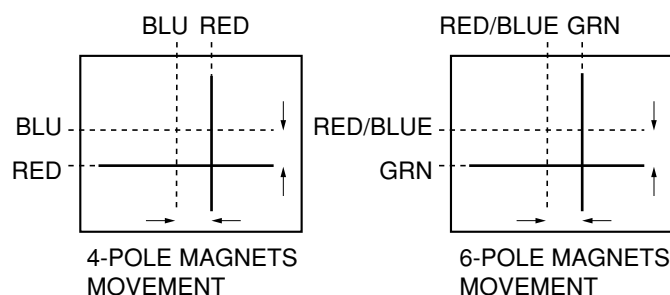
Figure 2.

CONVERGENCE ADJUSTMENTS

NOTE: Before attempting any convergence adjustments, the receiver should be operated for at least fifteen minutes.

■ CENTER CONVERGENCE ADJUSTMENT

1. Display built-in cross-dot pattern using the TEST SIGNAL SELECTION function.
2. Adjust the BRIGHTNESS and CONTRAST Controls for well defined pattern.
3. Loosen the tightening ring and adjust two tabs of the 4-Pole Magnets to change the angle between them (See figure 4.) and superimpose red and blue vertical lines in the center area of the picture screen. (See figure 3.)
4. Turn the both tabs at the same time keeping the constant angle to superimpose red and blue horizontal lines at the centre of the screen. (See figure 3.)
5. Adjust two tabs of 6-Pole Magnets to superimpose red/blue line with green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
6. Repeat adjustments 3, 4, 5 keeping in mind red, green and blue movement, because 4-Pole Magnets and 6-Pole magnets interact and make dot movement complex.
7. After completing the "CENTER CONVERGENCE ADJUSTMENT" tighten the tightening ring to fix the magnets.



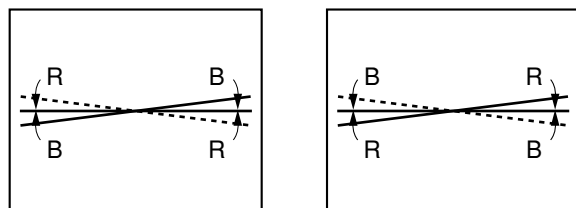
Center Convergence by Convergence Magnets

Figure 3.

■ X_v COIL ADJUSTMENT

Adjust the X_v coil (on the deflection yoke) to correct misconvergence at both sides on screen. Use a hexagonal tip stick (plastic) to adjust the core of coil.

Clockwise Adjustment Counterclockwise Adjustment



X_v Cross Pattern View

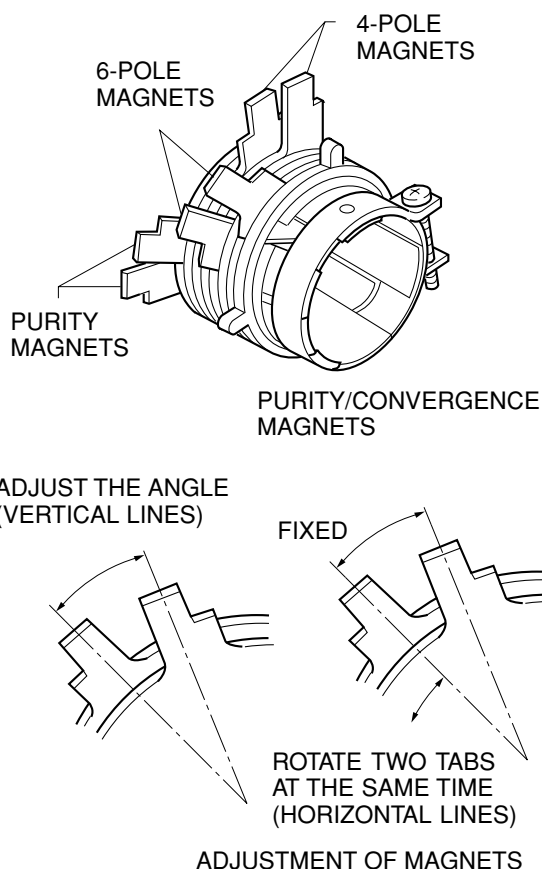
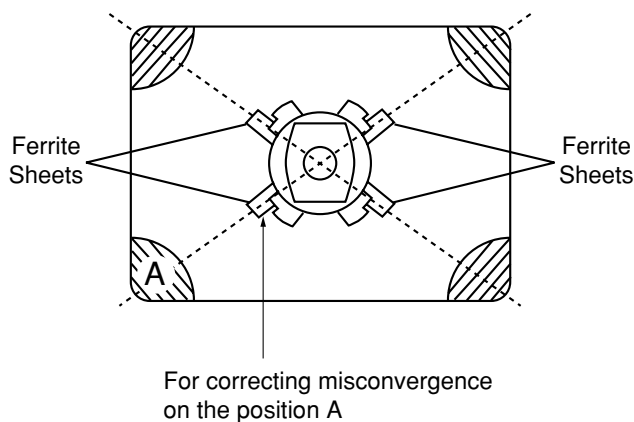


Figure 4.

■ SCREEN-CORNER CONVERGENCE

When the misconvergence is still evident on corners even though the above adjustment is done, use the ferrite sheet (Part No. 23993622) to correct misconvergence.

1. Put ferrite sheets into the space under the yoke. Decide such position that misconvergence becomes minimum, watching picture screen. (See figure below.)
2. Remove cover paper of ferrite sheet to stick it in the place on the tube. Put adhesive tapes on ferrite sheets to fix.



WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF SERVICE MANUAL.

(SET-UP ADJUSTMENT FOR FLAT TUBE)

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed. Perform the adjustments in order as follows :

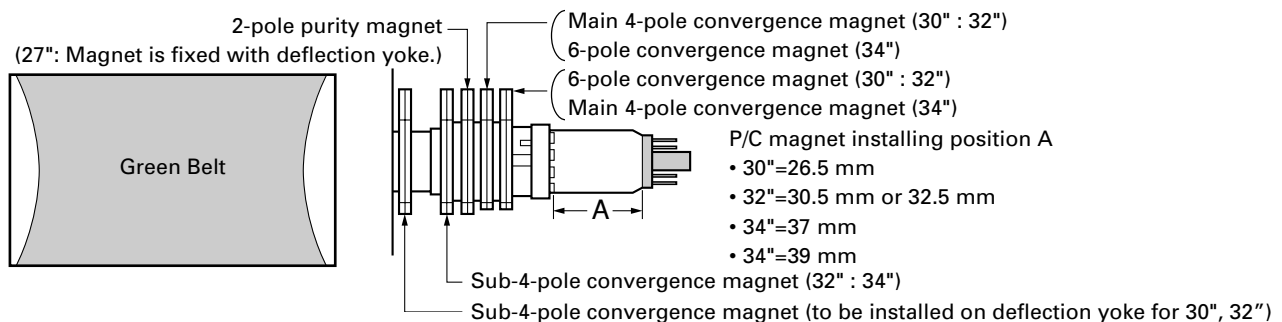
1. Color Purity
2. Convergence
3. White Balance

Note: The PURITY/CONVERGENCE MAGNET assembly and rubber wedges need mechanical positioning. Refer to figure 1.

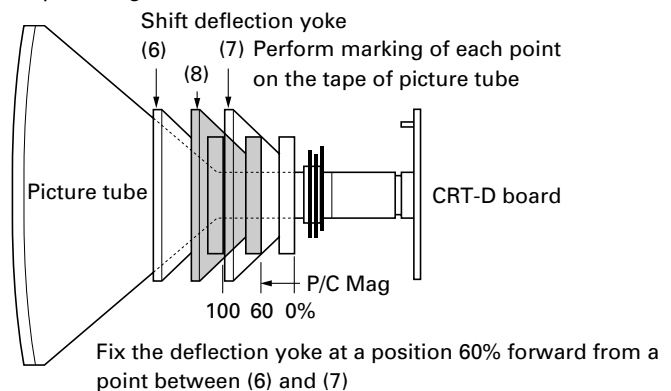
COLOR PURITY ADJUSTMENT

- (1) Let the screen face in the installing direction or toward the east (when it is to be moved), bring up the service mode screen after demagnetizing (front, left, right, and top) with the degaussing coil, receive white signals by pressing the [TV/VIDEO] button, and then the receiver should be operated for more than 40 minutes.
- (2) Perform rough adjustment of the central convergence with the P/C magnet according to the adjustment item.
- (3) Receive built-in green signals, loosen set screws on the deflection yoke, remove rubber wedges, and shift the deflection yoke toward front.
- (4) Move alternately the two 2-pole magnets of the P/C magnets so that the green raster can come to the center of the screen.

Figure 1.



- (5) Receive built-in red and blue signals, check that there is no inclination of the single color raster toward one side, and if each color tilts to a great extent, make adjustment with the 2-pole magnet so that the 3 colors will come to the center evenly.
- (6) Receive the green raster, shift the deflection yoke from a foremost position (hitting against the picture tube) to a backward position horizontally, stop the deflection yoke at a position where it begins to become a green raster, and perform accurate marking on the picture tube.
- (7) Shift the deflection yoke further backward, and perform accurate marking at a position where the green raster begins to being luck.
- (8) Fix the deflection yoke at a position 60% forward within the range marked in items (6) and (7) above.



CONVERGENCE ADJUSTMENTS

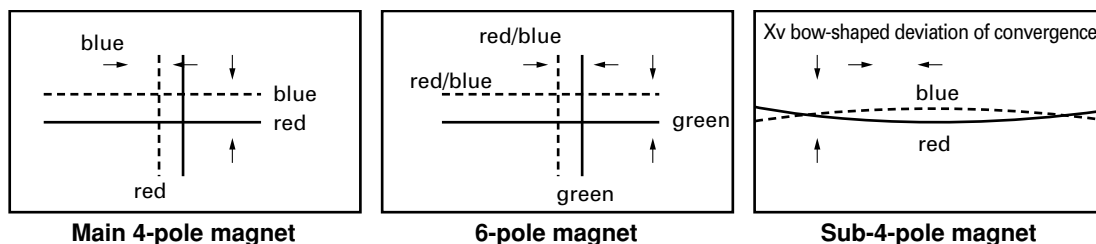
* Adjust the convergence magnet to get vest convergence in the the order to (1) ~ (5).

■ CENTER CONVERGENCE:

- (1) Receive the white crosshatch or dot pattern from the service signal generator.
- (2) Use the 2 pieces of main 4-pole magnets of P/C magnets, change the open angle, and align the red and blue vertical lines on the screen center.
- (3) Freeze the open angle of the main 4-pole magnets, turn them simultaneously, and align the horizontal lines.
- (4) Take the same steps for items (2) and (3) above and align red/blue with green on the screen center using two 6-pole magnets.

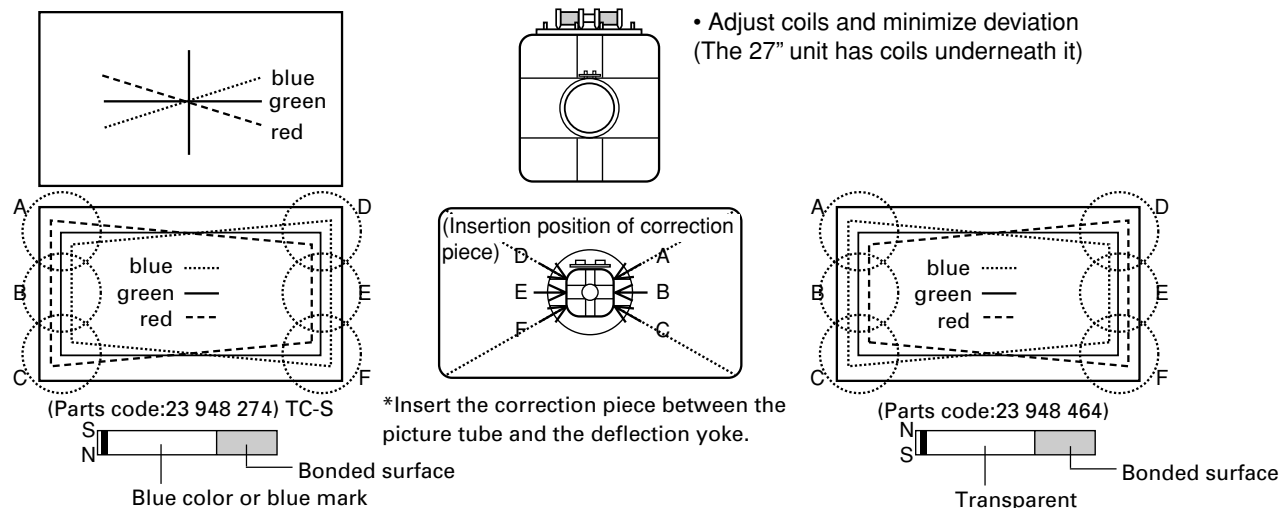
(5) Adjust the sub-4-pole magnets only in case there is any deviation of Xv bow-shaped convergence. (To be usually set at the initial position)

Align both sides with the sub-4-pole magnets and minimize the deviation of blue and red with the main 4-pole magnets.



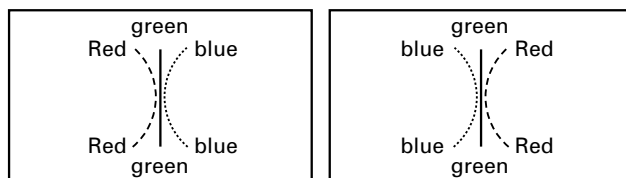
■ CIRCUMFERENCE CONVERGENCE:

* Perform correction in the following manner.

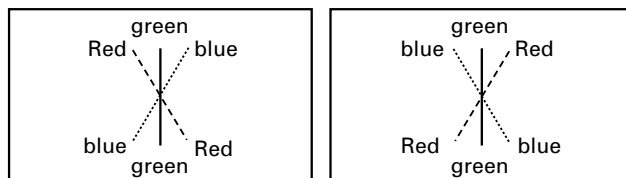


• Adjust coils and minimize deviation
(The 27" unit has coils underneath it)

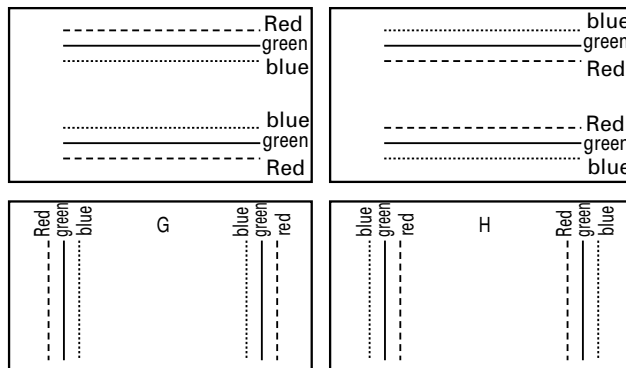
Adjust VR 1 and minimize the deviation of YH. *Only 27", 30" and 32".



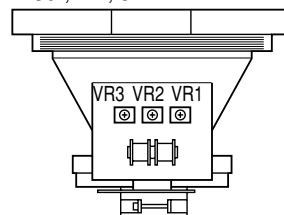
Adjust VR 2 (YHC) and minimize the deviation of YH.



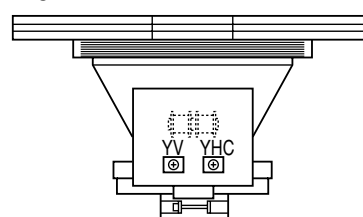
Adjust VR 3 (YV) and minimize the deviation of YV.



■ 30", 27", 32"



■ 34"



27" (Part No. 23 947 371)

32", 30" (Part No. 23 947 121)

34" (Part No. 23 993 080)

Perform correction by inserting the correction piece into the clearance of terminal board coils of the deflection yoke.

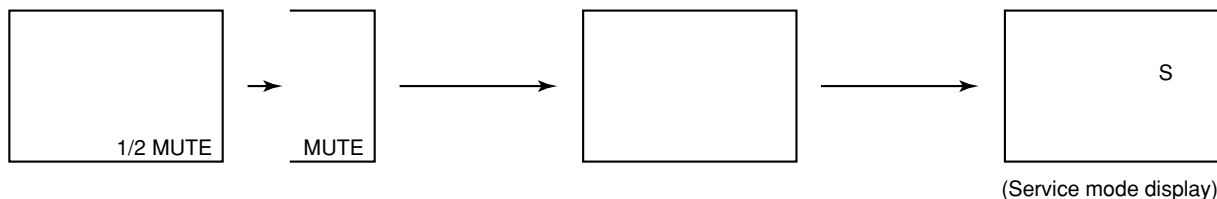
Note:

Perform insertion by turning the metal side to the terminal board side of the deflection yoke.

SERVICE MODE

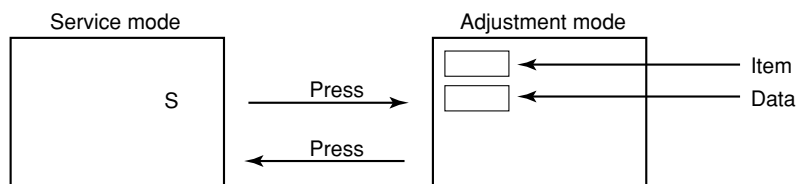
1. ENTERING TO SERVICE MODE

- 1) Press MUTE button twice on Remote Control.
- 2) Press MUTE button again to keep pressing.
- 3) While pressing the MUTE button, press MENU button on TV set.



2. DISPLAYING THE ADJUSTMENT MENU

- 1) Press MENU button on TV.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

A single horizontal line ON/OFF:	TV (ANT)/VIDEO button (on TV)
Test signal selection :	TV (ANT)/VIDEO button (on Remote)
Selection of the adjustment items :	Channel ▲/▼ (on TV or Remote)
Change of the data value :	Volume ▲/▼ (on TV or Remote)
Adjustment menu mode ON/OFF :	MENU button (on TV)
Initialization of the memory (QA02, QA04) :	RECALL+Channel (▲) button on TV
Initialization of the self diagnostic data:	RECALL+Channel (▼) button on TV

"RCUT" selection :	1 button
"GCUT" selection :	2 button
"BCUT" selection :	3 button
"CNTX" selection :	4 button
"COLC" selection :	5 button
"TNTC" selection :	6 button
Test audio signal ON/OFF (1kHz) :	8 button
Self diagnostic display ON/OFF :	9 button

4. SELECTING THE ADJUSTING ITEMS

- 1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

Refer to table-2 for preset data of adjustment mode.
(See SETTING & ADJUSTING DATA on page 14)

5. ADJUSTING THE DATA

- 1) Pressing of VOLUME ▲ or ▼ button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

- 1) Pressing POWER button to turn off the TV once.

■ INITIALIZATION OF MEMORY DATA OF QA02 AND QA04

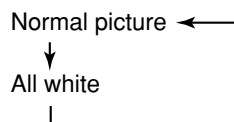
After replacing QA02 and QA04, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the RECALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of QA02 and QA04 has been completed.
3. Check the picture carefully. If necessary, adjust any adjustment item above.
Perform "Programming Channel Memory" on the owner's manual.

CAUTION: Never attempt to initialize the data unless QA02, QA04 has been replaced.

7. TEST SIGNAL SELECTION

- 1) Every pressing of TV/VIDEO button on the Remote Control in the Service mode changes the built-in test patterns on screen in the following order.



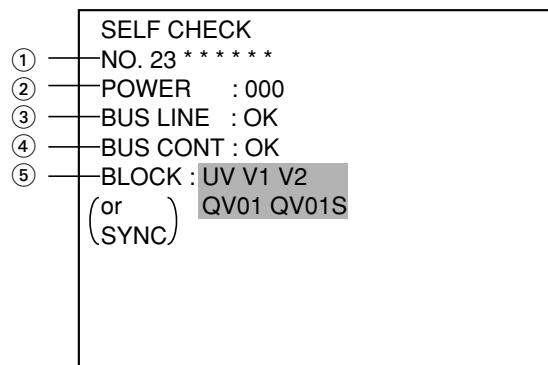
Signals	Picture
• All White	

- 2) Press "8" button while any built-in test pattern is on the screen to output the 1 kHz sound. Press the button again to cut off the sound.

Note: If the video cable is connected to the VIDEO1 INPUT jack, the built-in pattern signals are not displayed.

8. SELF DIAGNOSTIC FUNCTION

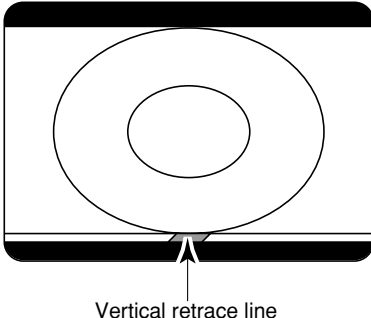
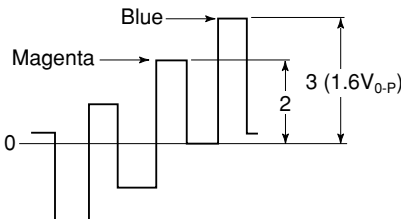
- 1) Press "9" button on Remote Control during display of adjustment menu in the service mode.
The diagnosis will begin to check if interface among IC's are executed properly.
- 2) During diagnosis, the following displays are shown.

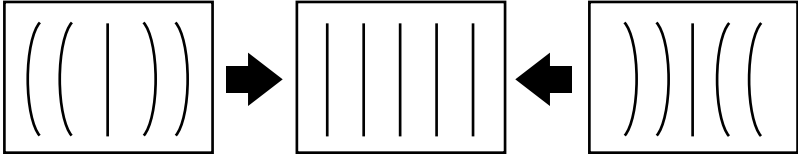
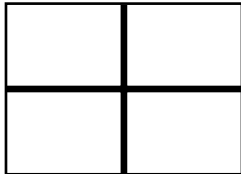
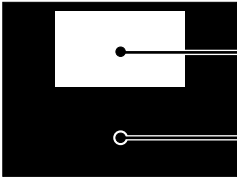


- ① Part number of microprocessor (QA01)
- ② Operation number of protection circuit (current limiter) . . . "000" is normal.
- ③ BUS line check — "OK" Normal
 "SC-L-GND" or "NG" SCL-GND short circuit
 "SDA-GND" or "NG" SDA-GND short circuit
 "SC-L-SDA" or "NG" SCL-SDA short circuit
- ④ BUS line ACK (acknowledge) check
 "OK" Normal
 Display of Location Number . . . NG
 (Display example)
 "QA02 NG", "H001 NG", "Q501 NG" etc.
 Note: The indication of failure place is only one place though failure places are plural. When
 repair of a failure place finishes, the next failure place is indicated. (The order of priority of
 indication is left side.)
- ⑤ Sync. signal check — Green display Normal
 Cyan display No check
 Red display NG
 [UV TV mode
 V1 VIDEO 1 mode
 V2 VIDEO 2 mode]

* The items marked with ■ are not usable to display in the SELF DIAGNOSTIC FUNCTION for some model.

ELECTRICAL ADJUSTMENTS

ITEM	ADJUSTMENT PROCEDURE
FOCUS VR ADJ	1. Enter the service mode, then select any register item. 2. Press the TV/VIDEO button on the Remote until the black cross-bar pattern appears on the screen. 3. Adjust the FOCUS control (on T461) for well defined scanning lines on the picture screen.
SUB-BRIGHTNESS (BRTC)	1. Constrict the picture height until the vertical retrace line appears adjusting the item HIT (HEIGHT). 2. Adjust the CONTRAST control to the minimum. 3. Call up the adjustment mode display, then select the item BRTC. 4. Press the VOLUME ▲ or ▼ button so the belt of vertical retrace line just disappear. 5. Adjust the CONTRAST control for the desired contrast. 6. Perform the HEIGHT adjustment. 
SUB-COLOR (SCOL) SUB-TINT (TNTC)	1. Receive color-bar signal from color-bar generator. 2. Press the RESET button. 3. Connect oscilloscope to TP501 on SIGNAL board. 4. Adjust the CONTRAST control to the minimum. 5. Call up the adjustment mode display, then select the item TNTC. 6. Adjust the SUB-TINT by pressing the VOLUME ▲ or ▼ button to obtain a blue bar to magenta bar ratio of 3:2 as shown. 7. Press the RESET button. 8. Select the item SCOL. 9. Adjust the SUB-COLOR by pressing the VOLUME ▲ or ▼ button to achieve $1.6V_{0-P}$ of a blue bar on scope. 10. Check the picture with off-air signal. 
WIDTH (WID)	1. Call up the adjustment mode display, then select the item WID. 2. Press the VOLUME ▲ or ▼ button to get the picture so the left and right edges of raster begins to lack. 3. Press the VOLUME ▲ or ▼ button to advance the data by 7 steps. Note : Check the horizontal picture position is correct.

ITEM	ADJUSTMENT PROCEDURE
E-W PARABOLA (DPC) (PARA)	1. Call up the adjustment mode display, then select the item PARA. 2. Press the TV/VIDEO button on Remote until the cross-hatch pattern appears on the screen. 3. Press the VOLUME ▲ or ▼ button to make vertical lines straight as shown below. 
HORIZONTAL POSITION (HPOS) VERTICAL POSITION (VPOS)	1. Call up the adjustment mode display, then select the item HPOS or VPOS. 2. Press the TV/VIDEO button on Remote until the white cross-bar or black cross-bar pattern appears on the screen. 3. Adjust the HORIZONTAL and VERTICAL position alternately by pressing the VOLUME ▲ or ▼ button for proper picture position. 4. Check the picture with off-air signal. 
HEIGHT (HIT)	1. Call up the adjustment mode display, then select the item HIT. 2. Press the VOLUME ▲ or ▼ button to get the picture so the top of raster begins to lack. 3. Press the VOLUME ▲ button to advance the data by 9 steps. Note : Check the vertical picture position is correct.
WHITE BALANCE (RCUT) (GCUT) (BCUT) (GDRV) (BDRV)	1. Adjust the CONTRAST control to the center, and BRIGHTNESS control to the maximum. 2. Call up the adjustment mode display, and press the TV/VIDEO button on Remote until the white and black pattern appears on the screen. 3. Adjust the following items with the CHANNEL ▲/▼ and VOLUME ▲/▼ buttons. - Item : RCUT → Data : 40H - Item : GCUT → Data : 40H - Item : BCUT → Data : 40H - Item : GDRV → Data : 40H - Item : BDRV → Data : 40H 4. Press the TV/VIDEO button on TV to display a single horizontal line on the screen. 5. Turn the SCREEN control (FBT) fully counterclockwise and gradually rotate clockwise until the first horizontal line appears slightly on the screen. 6. Press the TV/VIDEO button to display the normal picture. 7. Adjust the remaining two “?CUT” items (CHANNEL ▲/▼ → TV/VIDEO → VOLUME ▲/▼ in order) to obtain the slightly lighted horizontal line in the same levels of three (red, green, blue) colors. The line should be white if the adjustments are proper.  Bright area Adjust "GDRV" or "BDRV" to be white. Dark area Fine adjust "RCUT", "GCUT" or "BCUT" to be black.

CIRCUIT CHECKS

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis. Checking should be done following the steps below.

1. Connect an accurate high voltage meter to the second anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST controls to minimum (zero beam current).
3. High voltage must be measured below (B) kV.

Refer to table-1 for high voltage (B).

(See SETTING & ADJUSTING DATA on page 14)

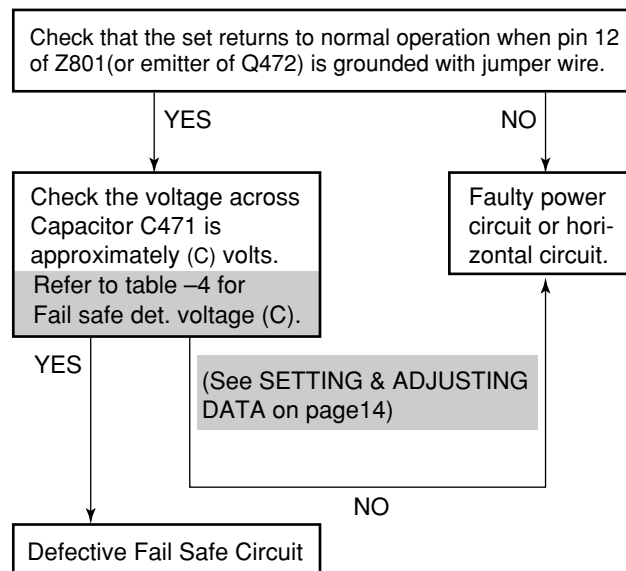
4. Vary the BRIGHTNESS control to both extremes to be sure the high voltage does not exceed the limit under any conditions.

FS CIRCUIT CHECK

The Fail Safe (FS) circuit check is indispensable for the final check in servicing. Checking should be done following the steps below.

1. Turn the receiver on and press the RESET button.
2. Temporarily short TP-(R) and TP-(X) with a jumper wire. Raster and sound will disappear.
3. The receiver must remain in this state even after removing the jumper wire. This is the evidence that the FS circuit is functioning properly.
4. To obtain a picture again, temporarily turn the receiver off and allow the FS circuit more than 5 seconds to reset. Then turn the power switch on to produce a normal picture.

Troubleshooting Guide for Fail Safe Circuit



CHAPTER 2 SPECIFIC INFORMATION

SETTING & ADJUSTING DATA

【SAFETY INSTRUCTIONS】

		36"
HIGH VOLTAGE AT ZERO BEAM:	(A)	32.7 kV
MAX HIGH VOLTAGE:	(B)	34.1 kV

Table-1

【SERVICE MODE】

ADJUSTING ITEMS AND DATAS IN THE SERVICE MODE:

Item	Name of adjustment	Preset	Data	Item	Name of adjustment	Preset	Data
RCUT	R CUTOFF	40H	←	PARA	E-W PARABOLA	16H	←
GCUT	G CUTOFF	40H	←	CNR	E-W CORNER	13H	←
BCUT	B CUTOFF	40H	←	TRAP	TRAPEZIUM	33H	←
GDRV	G DRIVE	40H	←	HCP	H-COMPENSATION	02H	←
BDRV	B DRIVE	40H	←	VFC	V-F CORRECTION	0CH	←
BRTC	BRIGHT CENT	80H	←	HPS	H-POSITION	3FH	←
TNTC	TINT CENT	46H	←	GMPS	GMPS	2FH	←
SCOL	SUB-COLOR	06H	←	CPAR	CENTER PARA	04H	←
SCNT	SUB-CONTRAST	12H	←	PHUE	PIP TINT	40H	←
HIT	HEIGHT	40H	←	PCNT	PIP CONTRAST	0FH	←
LIN	V-LINEARITY	14H	←	PCOL	PIP COLOR	19H	←
VSC	V-S CORRECTION	36H	←	PYOF	PIP Y OFF SET	17H	←
VPS2	V-SHIFT	02H	←	PIOF	PIP I OFF SET	24H	←
VCP	V-COMPENSATION	02H	←	PQOF	PIP Q OFF SET	1EH	←
WID	PICTURE WIDTH	1EH	←				

Table-2

OPTION: (PROGRESSIVE 4:3 DV)

MODELS	OPT1 (2CAH)	OPT2(2CBH)
	HEX	HEX
36"	4AH	25H

Table-3

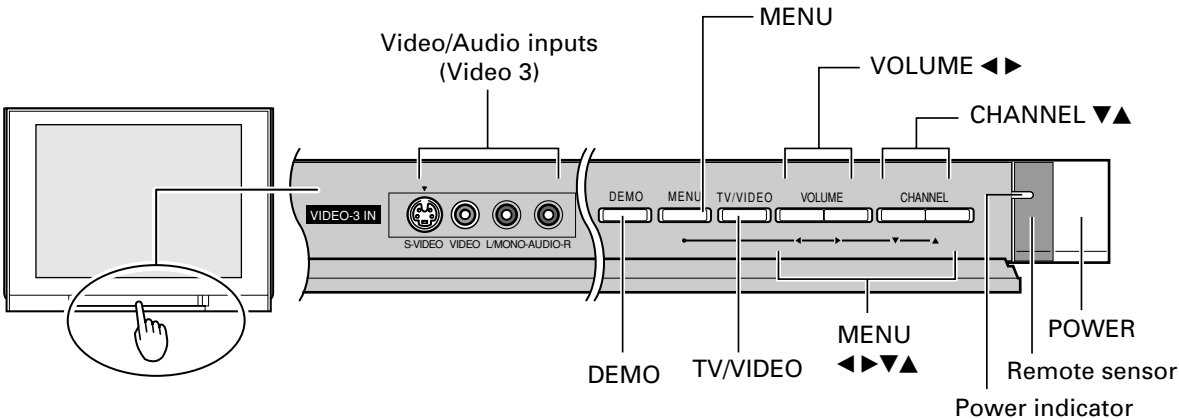
【CIRCUIT CHECKS】

FAIL SAFE DET. VOLTAGE	(C)	20.44 V
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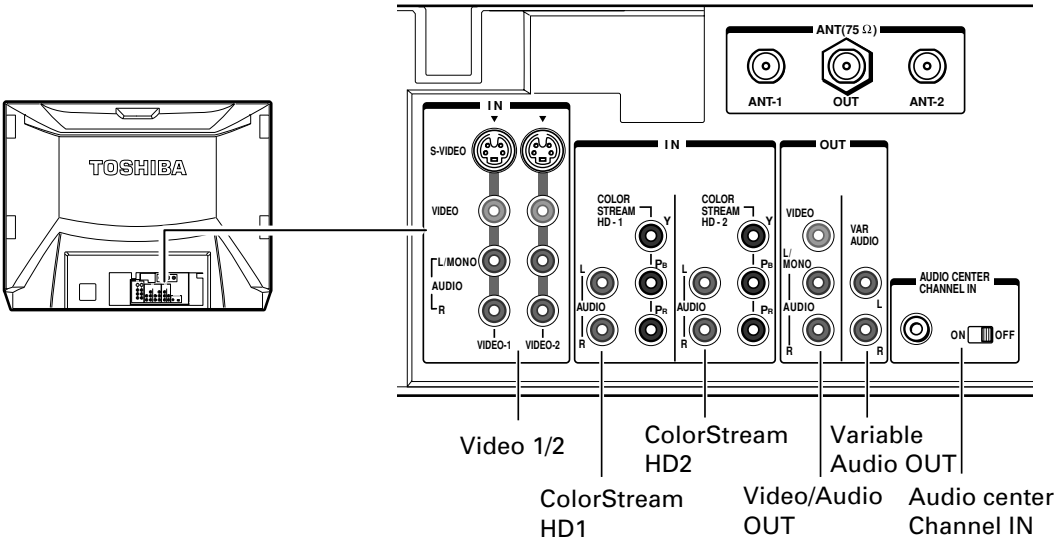
Table-4

LOCATION OF CONTROLS (Representatives: 36HFX72)

TV Front



TV Rear



Remote Control

Power turns the TV on or off

SLEEP sets the TV to turn at a specific time

LIGHT The initial press of the LIGHT button causes two actions:

Channel Numbers (0–9, 100) allow direct access to channels

MODE cycles through the 6 device modes

FAVOURITE allows access to Multi-Window function

PIC SIZE cycles through the three picture formats

MENU allows access to programming

ENTER sets programming menu information

▲▼◀▶ selects or adjusts programming menus

[FAV] ◀▶ selects your favourite channels

Volume ▲▼ adjusts the volume level

EXIT exits programming menus

Channel ▲▼ cycles through programmed channels

CH RTN returns to the last viewed channels

RECALL displays on-screen information

MUTE mutes the sound

INPUT selects video input source

PIP allows access to PIP functions

PIP turns the PIP on or off

PIP CH ▲▼ selects the PIP channels

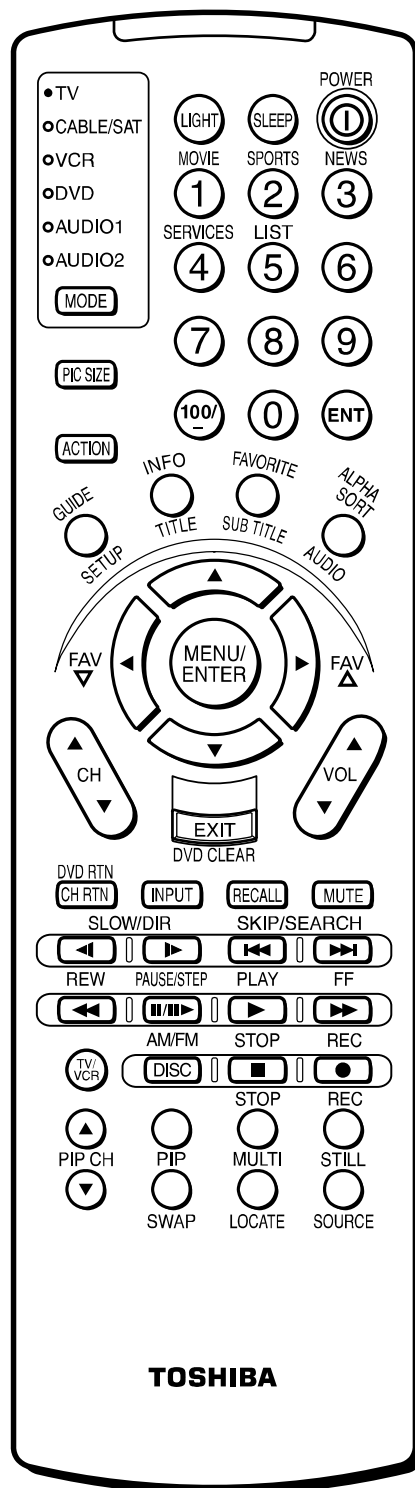
MULTI allows access to Multi-Windows function

STILL freezes the PIP

SOURCE selects the PIP source

LOCATE moves the PIP

SWAP switches the PIP and main pictures



PROGRAMMING CHANNEL MEMORY

The channel memory is the list of TV channel numbers your TV will stop on when you press the CHANNEL ▲ or ▼ button.

First, use the TV/CABLE and CH PROGRAM functions to preset all active channels in your area automatically.

If necessary, arrange the preset channels with the ADD/ERASE functions so that you can tune into only desired channels.

Note: If you utilize both ANT-1 and ANT-2 terminals for some model, perform programming channels for each input source.

TV/CABLE function

- 1 Press **MENU**, then press ► or ◀ until the SET UP menu appears.
- 2 Press ▼ (or ▲) until "TV/CABLE" is highlighted.
- 3 Press ► or ◀ to highlight either "TV" or "CABLE", whichever you use.

CH PROGRAM function

- 1 Select "CH PROGRAM" following steps 1 and 2 above.
- 2 Press ► or ◀ to start channel programming.
The TV will automatically cycle through all the TV or CABLE channels selected by the TV/CABLE function, and store active channels in the channel memory.
- 3 When channel programming is complete, you will see the message to the right.
- 4 Press **CHANNEL ▲** or **▼** to make sure the channel programming has been done properly.

ADD/ERASE function

After performing the CH PROGRAM function, you can add or erase specific channels.

- 1 Select the channel you want to erase using the CHANNEL ▲ or ▼ button, or select the channel you want to add using the **Channel Number** buttons.
- 2 Press **MENU**, then press ► or ◀ until the SET UP menu appears.
- 3 Press ▼ (or ▲) until "ADD/ERASE" is highlighted.
- 4 Press ► or ◀ :
To erase the channel
Press the button until "Erase" is highlighted.

To add the channel
Press the button until "Add" is highlighted.
- 5 Repeat steps 1 to 4 for other channels.

You have now completed the channel programming.

Note: The CHANNEL ▼/▲ buttons on the TV function as the ▼/▲ buttons while a menu is on the screen.

* Please refer to owner's manual in detail.

CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols " " in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE. Do not degrade the safety of the receiver through improper servicing.

NOTICE:

- The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.
- The PC board assembly with * mark is no longer available after the end of the production.

Model : 36HFX72/36HF72

Capacitors CD : Ceramic Disk PF : Plastic Film EL : Electrolytic
Resistors CF : Carbon Film CC : Carbon Composition MF : Metal Film
 OMF : Oxide Metal Film VR : Variable Resistor FR : Fusible Resistor
(All CD and PF capacitors are $\pm 5\%$, 50V and all resistors, $\pm 5\%$, 1/6W unless otherwise noted.)

Location No.	Parts No.	Description
CAPACITORS		
C102	24793471	ELECTROLYTIC, 10V 470UF M
C103	24100103	CERAMIC CHIP, 50V F 0.01UF Z
C105	24109102	CERAMIC CHIP, 50V B 1000PF K
C106	24797479	ELECTROLYTIC, 50V 4.7UF M
C107	24794221	ELECTROLYTIC, 16V 220UF M
C112	24793471	ELECTROLYTIC, 10V 470UF M
C115	24109102	CERAMIC CHIP, 50V B 1000PF K
C117	24794221	ELECTROLYTIC, 16V 220UF M
C151	24109102	CERAMIC CHIP, 50V B 1000PF K
C205	24797229	ELECTROLYTIC, 50V 2.2UF M
C206	24794220	ELECTROLYTIC, 16V 22UF M
C303	24214471	CERAMIC DISC, 500V B 470PF K
C304	24693473	PLASTIC FILM, 100V 0.047UF J
C306	24795332	ELECTROLYTIC, 25V 3300UF M
C308	24669221	ELECTROLYTIC, 50V 220UF M 3A
C310	24669222	ELECTROLYTIC, 50V 2200UF M 3A
C312	24503037	MT PLA CAP 63V 0.047UF J
C313	24082057	PLASTIC FILM, 100V 220000PF J
C314	24793101	ELECTROLYTIC, 10V 100UF M
C315	24212222	CERAMIC DISC, 50V B 2200PF K
C318	24073041	ELECTROLYTIC, 16V 470UF M 3A
C319	24591103	PLASTIC FILM, 50V 0.01UF J
C320	24669101	ELECTROLYTIC, 50V 100UF M 3A
C322	24617912	ELECTROLYTIC, 50V 2.2UF K 3A LI
C323	24567474	PLASTIC FILM, 50V 0.47UF J
C325	24591203	PLASTIC FILM, 50V 0.02UF J
C326	24212102	CERAMIC DISC, 50V B 1000PF K
C327	24073041	ELECTROLYTIC, 16V 470UF M 3A
C328	24212561	CERAMIC DISC, 50V B 560PF K
C352	24617915	ELECTROLYTIC, 50V 1UF K 3A LI
C361	24591103	PLASTIC FILM, 50V 0.01UF J
C362	24503041	PLASTIC FILM, 63V 0.1UF J
C370	24669101	ELECTROLYTIC, 50V 100UF M 3A
C371	24668100	ELECTROLYTIC, 35V 10UF M 3A
C391	24794100	ELECTROLYTIC, 16V 10UF M
C392	24085961	ELECTROLYTIC, NONPOLAR, 50V 10UF M 11L
C393	24794100	ELECTROLYTIC, 16V 10UF M
C396	24082825	PLASTIC FILM, 1800VH 1800PF H

Location No.	Parts No.	Description
C410	24829563	PLASTIC FILM CQ92 T 400V 56000PF J
C413	24214392	CERAMIC DISK CK45 B 500V 3900PF K
C415	24092729	CERAMIC CHIP CK73B 16V 68000PFK
C416	24676330	ELECTROLYTIC, 100V 33UF M 3A
C417	24214391	CERAMIC DISC, 500V B 390PF K
C424	24763101	ELECTROLYTIC, 16V 100UF M
C425	24763101	ELECTROLYTIC, 16V 100UF M
△ C428	24082647	PLASTIC FILM, 400V 0.27UF J
C430	24109103	CERAMIC CHIP, 50V B 0.01UF K
C431	24763221	ELECTROLYTIC, 16V 220UF M
C432	24567474	PLASTIC FILM, 50V 0.47UF J
C434	24820332	PLASTIC FILM CQ92 T 630V 3300PF J
C435	24212101	CERAMIC DISC, 50V B 100PF K
C436	24503041	PLASTIC FILM, 63V 0.1UF J
△ C437	24082399	PLASTIC FILM CF92 T 1250VH 1600PF H
C439	24503125	PLASTIC FILM, 400V 0.075UF J
△ C440	24082592	PLASTIC FILM CF92 T 1800VH 1000PF H
△ C442	24082648	PLASTIC FILM, 400V 0.3UF J
△ C443	24082608	PLASTIC FILM, 1800VH 4700PF H
△ C444	24082609	PLASTIC FILM, 1800VH 5100PF H
C445	24095740	PLASTIC FILM CF92 T 400V R047UF J
C446	24640020	ELECTROLYTIC CE04Q 250V 33UF M H-R
C448	24640962	CHEMICON 04H 200V 330M
C449	24667471	ELECTROLYTIC, 25V 470UF M 3A
C450	24092344	CERAMIC DISC, 2KV 820PF K
C451	24092344	CERAMIC DISC, 2KV 820PF K
△ C452	24082597	PLASTIC FILM, 1800VH 1600PF H
C461	24763101	ELECTROLYTIC, 16V 100UF M
C463	24591102	PLASTIC FILM, 50V 1000PF J
C464	24640900	ELEC, CE04W 100V 4.7MF CE04W2A4R7
△ C465	24082429	PLASTIC FILM CF92 T 1250VH 10000PF H
C466	24503041	PLASTIC FILM, 63V 0.1UF J
△ C467	24082429	PLASTIC FILM CF92 T 1250VH 10000PF H
C468	24567474	PLASTIC FILM, 50V 0.47UF J
△ C469	24082429	PLASTIC FILM CF92 T 1250VH 10000PF H
C470	24766220	ELECTROLYTIC, 50V 22UF M
C471	24766479	ELECTROLYTIC, 50V 4.7UF M
C472	24567474	PLASTIC FILM, 50V 0.47UF J
C475	24214102	CERAMIC DISC, 500V B 1000PF K

Location No.	Parts No.	Description
C476	24214471	CERAMIC DISC, 500V B 470PF K
C477	24666220	ELECTROLYTIC, 16V 22UF M 3A
C480	24794100	ELECTROLYTIC, 16V 10UF M
C481	24214121	CERAMIC DISC, 500V B 120PF K
C481	24794100	ELECTROLYTIC, 16V 10UF M
C482	24109122	CERAMIC CHIP, 50V B 1200PF K
C488	24666100	ELECTROLYTIC, 10V 10UF M 3A
△ C491	24082649	PLASTIC FILM, 400V 0.33UF J
△ C492	24082649	PLASTIC FILM, 400V 0.33UF J
C497	24829473	PLASTIC FILM, 400V 47000PF J
C499	24828823	PLASTIC FILM, 200V 0.082UF J
C513	24109103	CERAMIC CHIP, 50V B 0.01UF K
C515	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C520	24539334	PLASTIC FILM, 50V 0.33UF J
C530	24797010	ELECTROLYTIC, 50V 1UF M
C531	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C532	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C533	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C534	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C536	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C537	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C540	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C541	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C542	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C546	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C547	24109103	CERAMIC CHIP, 50V B 0.01UF K
C550	24503047	PLASTIC FILM, 63V 0.33UF J
C551	24503047	PLASTIC FILM, 63V 0.33UF J
C560	24797010	ELECTROLYTIC, 50V 1UF M
C561	24797010	ELECTROLYTIC, 50V 1UF M
C562	24797010	ELECTROLYTIC, 50V 1UF M
C563	24797478	ELECTROLYTIC, 50V 0.47UF M
C564	24797229	ELECTROLYTIC, 50V 2.2UF M
C565	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C566	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C567	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C568	24797478	ELECTROLYTIC, 50V 0.47UF M
C573	24109103	CERAMIC CHIP, 50V B 0.01UF K
C598	24073042	ELECTROLYTIC, 16V 1000UF M 3A
C601	24590223	PLASTIC FILM, 50V 0.022MF J
C602	24590223	PLASTIC FILM, 50V 0.022MF J
C612	24668101	ELECTROLYTIC, 35V 100UF M 3A
C613	24109103	CERAMIC CHIP, 50V B 0.01UF K
C661	24109561	CERAMIC CHIP, 50V B 560PF K (36HFX72)
C661	24109561	CERAMIC CHIP, 50V B 560PF K (36HF72)
C662	24109561	CERAMIC CHIP, 50V B 560PF K (36HFX72)
C662	24109561	CERAMIC CHIP, 50V B 560PF K (36HF72)
C664	24794220	ELECTROLYTIC, 16V 22UF M
C665	24794100	ELECTROLYTIC, 16V 10UF M
C671	24669479	ELECTROLYTIC, 50V 4.7UF M 3A (36HFX72)
C672	24669479	ELECTROLYTIC, 50V 4.7UF M 3A
C673	24669010	ELECTROLYTIC, 50V 1.0UF M 3A (36HFX72)
C673	24669100	ELECTROLYTIC, 50V 10UF M 3A (36HF72)
C674	24590561	PLASTIC FILM CQ922M 50V 560PF J
C675	24590561	PLASTIC FILM CQ922M 50V 560PF J
C676	24503041	PLASTIC FILM, 63V 0.1UF J
C677	24503041	PLASTIC FILM, 63V 0.1UF J
C678	24669010	ELECTROLYTIC, 50V 1.0UF M 3A (36HFX72)
C678	24669100	ELECTROLYTIC, 50V 10UF M 3A (36HF72)
C679	24667470	ELECTROLYTIC, 25V 47UF M 3A
C680	24109333	CERAMIC CHIP CK73B 25V 33000PFK (36HFX72)
C681	24668471	ELECTROLYTIC, 35V 470UF M 3A
C682	24668102	ELECTROLYTIC, 35V 1000UF M 3A
C683	24668471	ELECTROLYTIC, 35V 470UF M 3A

Location No.	Parts No.	Description
C684	24668102	ELECTROLYTIC, 35V 1000UF M 3A (36HFX72)
C686	24503041	PLASTIC FILM, 63V 0.1UF J (36HFX72)
C704	24591822	PLASTIC FILM, 50V 8200PF J
C705	24232103	CERAMIC DISC, 50V F 10000PF Z
C707	24794470	ELECTORLYTIC, 16V 47UF M
C712	24666470	ELECTORLYTIC, 16V 47UF M 3A
C713	24709100	ELECTROLYTIC, 200V 10UF M
C714	24436101	CERAMIC DISC CC45 SL 50V100PF J
C715	24214472	CERAMIC DISC, 500C B 4700PF K
C716	24436101	CERAMIC DISC CC45 SL 50V100PF J
C717	24214472	CERAMIC DISC, 500C B 4700PF K
C718	24766470	ELECTROLYTIC, 50V 47UF M
C719	24435560	CERAMIC DISC, 500V SL 56PF J
C720	24709100	ELECTROLYTIC, 200V 10UF M
C721	24797470	ELECTROLYTIC, 50V 47UF M
C726	24212102	CERAMIC DISC, 50V B 1000PF K
△ C801	24503002	PLASTIC FILM, AC275V 0.22UF M
△ C802	24503001	PLASTIC FILM, AC275V 0.1UF M
C805	24092623	CERAMIC DISC, 250V F 0.01UF Z
C806	24092623	CERAMIC DISC, 250V F 0.01UF Z
C807	24214103	CERAMIC DISC, 500V B 10000PF K
C810	24086933	ELECTROLYTIC, 200V 1000M30F
△ C811	24092597	CERAMIC DISC CK45E AC250V 4700PF M
△ C812	24092597	CERAMIC DISC CK45E AC250V 4700PF M
△ C813	24092598	CERAMIC DISC CK45F AC250V 10000PF M
△ C814	24092598	CERAMIC DISC CK45F AC250V 10000PF M
C821	24794102	ELECTROLYTIC, 16V 1000UF M
C822	24503047	PLASTIC FILM, 63V 0.33UF J
C823	24503047	PLASTIC FILM, 63V 0.33UF J
C824	24503047	PLASTIC FILM, 63V 0.33UF J
C825	24503047	PLASTIC FILM, 63V 0.33UF J
C826	24503047	PLASTIC FILM, 63V 0.33UF J
C827	24503047	PLASTIC FILM, 63V 0.33UF J
C828	24503047	PLASTIC FILM, 63V 0.33UF J
C829	24794470	ELECTORLYTIC, 16V 47UF M
C837	24503041	PLASTIC FILM, 63V 0.1UF J
C838	24617026	ELECTROLYTIC, 16V 820UF M
C839	24794102	ELECTROLYTIC, 16V 1000UF M
C840	24667222	ELECTROLYTIC, 25V 2200UF M 3A
C841	24503041	PLASTIC FILM, 63V 0.1UF J
C842	24792101	ELECTROLYTIC, 6.3V 100UF M
C844	24503041	PLASTIC FILM, 63V 0.1UF J
C846	24214331	CERAMIC DISC, 500V B 330PF K
C847	24669339	ELECTROLYTIC, 50V 3.3UF M
C848	24794102	ELECTROLYTIC, 16V 1000UF M
C850	24503047	PLASTIC FILM, 63V 0.33UF J
C851	24503047	PLASTIC FILM, 63V 0.33UF J
C860	24214103	CERAMIC DISC, 500V B 10000PF K
C862	24435221	CERAMIC DISC, 500V SL 220PF J
C863	24503041	PLASTIC FILM, 63V 0.1UF J
C864	24092347	CERAMIC DISC, 2KV R 1500PF K
C865	24092347	CERAMIC DISC, 2KV R 1500PF K
C866	24669010	ELECTROLYTIC, 50V 1.0UF M 3A
C867	24591682	PLASTIC FILM, 50V 6800PF J
C868	24668470	ELECTROLYTIC, 35V 47UF M 3A
C869	24678229	ELECTROLYTIC, 200V 2.2UF M 3A
C870	24503175	PLASTIC CAP T 630V 184J
C871	24092347	CERAMIC DISC, 2KV R 1500PF K
C873	24567224	PLASTIC FILM, 50V 0.22UF J
C874	24435221	CERAMIC DISC, 500V SL 220PF J
C876	24503041	PLASTIC FILM, 63V 0.1UF J
C877	24092347	CERAMIC DISC, 2KV R 1500PF K
C879	24212101	CERAMIC DISC, 50V B 100PF K
C881	24214471	CERAMIC DISC, 500V B 470PF K
C882	24214471	CERAMIC DISC, 500V B 470PF K

Location No.	Parts No.	Description
C884	24086049	ELECTROLYTIC, 160V 330UF M 3D
C885	24214471	CERAMIC DISC, 500V B 470PF K
C886	24214471	CERAMIC DISC, 500V B 470PF K
C889	24668332	ELECTROLYTIC, 35V 3300UF M 3A
C891	24082229	PLASTIC FILM, 250V 0.1UF D
C893	24092335	CERAMIC DISC, 2KV R 150PF K
C894	24092335	CERAMIC DISC, 2KV R 150PF K
C895	24796471	ELECTROLYTIC, 35V 470UF M
C896	24214471	CERAMIC DISC, 500V B 470PF K
C897	24617044	ELECTROLYTIC, 35V 2200UF M
C898	24503041	PLASTIC FILM , 63V 0.1UF J
C899	24214471	CERAMIC DISC, 500V B 470PF K
C902	24092353	CERAMIC DISC, 2KV 4700PF K
C904	24436471	CERAMIC DISC, 50V SL 470PF J
C905	24436391	CERAMIC DISC, 50V SL 390PF J
C907	24436561	CERAMIC DISC, 50V SL 560PF J
C909	24679220	ELECTROLYTIC, 250V 22UF M 3A
C910	24669478	ELECTROLYTIC, 50V 0.47UF M 3A
C911	24203100	ELECTORLYTIC, 16V 10UF M 7L 3A
C912	24073042	ELECTROLYTIC, 16V 1000UF M 3A
C913	24666102	ELECTROLYTIC, 16V 1000UF M 3A
C914	24232103	CERAMIC DISC, 50V F 10000PF Z
C918	24503041	PLASTIC FILM , 63V 0.1UF J
C919	24503041	PLASTIC FILM , 63V 0.1UF J
C920	24503041	PLASTIC FILM , 63V 0.1UF J
C921	24503041	PLASTIC FILM , 63V 0.1UF J
C922	24436390	CERAMIC DISC, 50V SL 39PFJ
C923	24794221	ELECTROIYTIC, 16V 220UF M
C924	24794221	ELECTROIYTIC, 16V 220UF M
C925	24794221	ELECTROIYTIC, 16V 220UF M
C926	24203100	ELECTORLYTIC, 16V 10UF M 7L 3A
C931	24214101	CERAMIC DISC, 500V B 100PF K
C2061	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C2102	24105100	CERAMIC CHIP, 50V CH 10PF D
C2103	24105100	CERAMIC CHIP, 50V CH 10PF D
C2104	24105100	CERAMIC CHIP, 50V CH 10PF D
C2110	24109103	CERAMIC CHIP, 50V B 0.01UF K
C3103	24105330	CERAMIC CHIP, 50V CH 33PF J
C3110	24567104	PLASTIC FILM, 50V 0.1UF J
C4030	24109103	CERAMIC CHIP, 50V B 0.01UF K
C4101	24212332	CERAMIC DISC, 50V B 3300PF K
C4404	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C4405	24100104	CERAMIC CHIP, 25V F 0.1UF Z
C4406	24109103	CERAMIC CHIP, 50V B 0.01UF K
C4407	24766010	ELECTROLYTIC, 50V 1UF M
C4408	24109103	CERAMIC CHIP, 50V B 0.01UF K
C4415	24109103	CERAMIC CHIP, 50V B 0.01UF K
C4421	24085988	ELECTROLYTIC, NONPOLAR, 50V 1.0UF M 7L
C4426	24763331	ELECTROLYTIC, 16V 330UF M
C4427	24085988	ELECTROLYTIC, NONPOLAR, 50V 1.0UF M 7L
C4463	24567224	PLASTIC FILM, 50V 0.22UF J
C4464	24766010	ELECTROLYTIC, 50V 1UF M
C4699	24668222	ELECTROLYTIC, 35V 2200UF M 3A
C4816	24669010	ELECTROLYTIC, 50V 1.0UF M 3A
C4817	24590102	PLASTIC FILM, 50V 1000PF J
C4818	24503041	PLASTIC FILM , 63V 0.1UF J
C4819	24567684	PLASTIC FILM, 50V 0.68UF J
C5020	24109103	CERAMIC CHIP, 50V B 0.01UF K
C5030	24794101	ELECTROLYTIC, 16V 100UF M
C5088	24797010	ELECTROLYTIC, 50V 1UF M
C5090	24794101	ELECTROLYTIC, 16V 100UF M
C5280	24105101	CERAMIC CHIP, 50V CH 100PF J
C8601	24214103	CERAMIC DISC, 500V B 10000PF K
CA04	24109103	CERAMIC CHIP, 50V B 0.01UF K
CA05	24109103	CERAMIC CHIP, 50V B 0.01UF K

Location No.	Parts No.	Description
CA06	24109392	CERAMIC CHIP, 50V B 3900PF K
CA07	24109392	CERAMIC CHIP, 50V B 3900PF K
CA23	24105101	CERAMIC CHIP, 50V CH 100PF J
CA25	24109103	CERAMIC CHIP, 50V B 0.01UF K
CA27	24092538	CERAMIC CHIP, 10V F 1UF Z
CA28	24085970	ELECTROLYTIC, NONPOLAR, 16V 10UF M 7L
CA30	24085970	ELECTROLYTIC, NONPOLAR, 16V 10UF M 7L
CA31	24092538	CERAMIC CHIP, 10V F 1UF Z
CA33	24109103	CERAMIC CHIP, 50V B 0.01UF K
CA34	24092538	CERAMIC CHIP, 10V F 1UF Z
CA37	24105101	CERAMIC CHIP, 50V CH 100PF J
CA38	24105101	CERAMIC CHIP, 50V CH 100PF J
CA39	24105101	CERAMIC CHIP, 50V CH 100PF J
CA42	24109392	CERAMIC CHIP, 50V B 3900PF K
CA45	24105471	CERAMIC CHIP, 50V CH 470PF J
CA46	24105101	CERAMIC CHIP, 50V CH 100PF J
CA54	24092730	CERAMIC CHIP, 16V B 0.1UF K
CA57	24105101	CERAMIC CHIP, 50V CH 100PF J
CA60	24105101	CERAMIC CHIP, 50V CH 100PF J
CA61	24666220	ELECTROLYTIC, 16V 22UF M 3A
CA69	24109103	CERAMIC CHIP, 50V B 0.01UF K
CA71	24105331	CERAMIC CHIP, 50V CH 330PF J
CA72	24085970	ELECTROLYTIC, NONPOLAR, 16V 10UF M 7L
CA73	24666100	ELECTROLYTIC, 10V 10UF M 3A
CA80	24503041	PLASTIC FILM , 63V 0.1UF J
CA81	24073015	ELECTROLYTIC, 10V 47UF M 3A
CA82	24539474	PLASTIC FILM, 50V 0.47UF J
CA95	24109103	CERAMIC CHIP, 50V B 0.01UF K
CA98	24797220	ELECTROLYTIC, 50V 22UF M
CA251	24073015	ELECTROLYTIC, 10V 47UF M 3A
CA331	24073015	ELECTROLYTIC, 10V 47UF M 3A
CA611	24100103	CERAMIC CHIP, 50V F 0.01UF Z
CA680	24666100	ELECTROLYTIC, 10V 10UF M 3A
CA701	24092538	CERAMIC CHIP, 10V F 1UF Z
CA705	24666100	ELECTROLYTIC, 10V 10UF M 3A
CB01	24794470	ELECTORLYTIC, 16V 47UF M
CB05	24666100	ELECTROLYTIC, 10V 10UF M 3A
CB13	24085970	ELECTROLYTIC, NONPOLAR, 16V 10UF M 7L
CB14	24105331	CERAMIC CHIP, 50V CH 330PF J
CB15	24794100	ELECTROLYTIC, 16V 10UF M
CB40	24797010	ELECTROLYTIC, 50V 1UF M
CB41	24109102	CERAMIC CHIP, 50V B 1000PF K
CB42	24105561	CERAMIC CHIP, 50V CH 560PF J
CB42	24232103	CERAMIC DISC, 50V F 10000PF Z
CB43	24109122	CERAMIC CHIP, 50V B 1200PF K
CB44	24797100	ELECTROLYTIC, 50V 10UF M
CB90	24109103	CERAMIC CHIP, 50V B 0.01UF K
CD01	24797479	ELECTROLYTIC, 50V 4.7UF M
CD02	24797479	ELECTROLYTIC, 50V 4.7UF M
CD03	24503041	PLASTIC FILM , 63V 0.1UF J
CD04	24503041	PLASTIC FILM , 63V 0.1UF J
CD05	24590102	PLASTIC FILM, 50V 1000PF J
CD06	24503045	PLASTIC FILM, 63V 0.22UF J
CD07	24797229	ELECTROLYTIC, 50V 2.2UF M
CD08	24794221	ELECTROIYTIC, 16V 220UF M
CD09	24232103	CERAMIC DISC, 50V F 10000PF Z
CD10	24797479	ELECTROLYTIC, 50V 4.7UF M
CD11	24797479	ELECTROLYTIC, 50V 4.7UF M
CD12	24797479	ELECTROLYTIC, 50V 4.7UF M
CD13	24797479	ELECTROLYTIC, 50V 4.7UF M
CD14	24797479	ELECTROLYTIC, 50V 4.7UF M
CD15	24797479	ELECTROLYTIC, 50V 4.7UF M
CD16	24797479	ELECTROLYTIC, 50V 4.7UF M
CD17	24503045	PLASTIC FILM, 63V 0.22UF J
CD18	24590102	PLASTIC FILM, 50V 1000PF J

Location No.	Parts No.	Description
CD19	24590183	PLASTIC FILM, 50V 0.018UF J (36HFX72)
CD19	24567333	PLASTIC FILM, 50V 33000PF J (36HF72)
CD20	24503038	MT PLA CAP 63V 0.056UF J (36HFX72)
CD20	24503039	MT PLA CAP 63V 0.068UF J (36HF72)
CD21	24590473	PLASTIC FILM, 50V 0.047MF J (36HFX72)
CD21	24539104	PLASTIC FILM, 50V 0.1UF J (36HF72)
CD22	24797479	ELECTROLYTIC, 50V 4.7UF M
CD23	24797479	ELECTROLYTIC, 50V 4.7UF M
CD24	24590103	PLASTIC FILM, 50V 0.01MF J
CD25	24590103	PLASTIC FILM, 50V 0.01MF J
CD26	24590103	PLASTIC FILM, 50V 0.01MF J
CD41	24503041	PLASTIC FILM , 63V 0.1UF J (36HFX72)
CD41	24797479	ELECTROLYTIC, 50V 4.7UF M (36HF72)
CD42	24590103	PLASTIC FILM, 50V 0.01MF J (36HFX72)
CD42	24797479	ELECTROLYTIC, 50V 4.7UF M (36HF72)
CD43	24503041	PLASTIC FILM , 63V 0.1UF J (36HFX72)
CD43	24797479	ELECTROLYTIC, 50V 4.7UF M (36HF72)
CD44	24503041	PLASTIC FILM , 63V 0.1UF J (36HFX72)
CD44	24797479	ELECTROLYTIC, 50V 4.7UF M (36HF72)
CD45	24503049	PLASTIC FILM, 63V 0.47UF J (36HFX72)
CD45	24503041	PLASTIC FILM , 63V 0.1UF J (36HF72)
CD46	24503049	PLASTIC FILM, 63V 0.47UF J (36HFX72)
CD46	24567103	PLASTIC FILM, 50V 0.01UF J (36HF72)
CD47	24503047	PLASTIC FILM, 63V 0.33UF J (36HFX72)
CD47	24797478	ELECTROLYTIC, 50V 0.47UF M (36HF72)
CD48	24503047	PLASTIC FILM, 63V 0.33UF J (36HFX72)
CD48	24590472	PLASTIC FILM, 50V 4700PF J (36HF72)
CD49	24797010	ELECTROLYTIC, 50V 1UF M (36HFX72)
CD49	24797478	ELECTROLYTIC, 50V 0.47UF M (36HF72)
CD60	24797100	ELECTROLYTIC, 50V 10UF M (36HFX72)
CD60	24503041	PLASTIC FILM , 63V 0.1UF J (36HF72)
CD61	24590333	PLASTIC FILM, 50V 0.033MF J (36HFX72)
CD61	24763221	ELECTROLYTIC, 16V 220UF M (36HF72)
CD62	24590103	PLASTIC FILM, 50V 0.01MF J (36HFX72)
CD62	24232103	CERAMIC DISC, 50V F 10000PF Z (36HF72)
CD63	24503049	PLASTIC FILM, 63V 0.47UF J (36HFX72)
CD63	24762102	ELECTROLYTIC, 10V 100UF M (36HF72)
CD64	24539334	PLASTIC FILM, 50V 0.33UF J (36HFX72)
CD64	24797479	ELECTROLYTIC, 50V 4.7UF M (36HF72)
CD65	24436221	CERAMIC DISC, 50V SL 220PF J (36HFX72)
CD65	24797100	ELECTROLYTIC, 50V 10UF M (36HF72)
CD66	24797100	ELECTROLYTIC, 50V 10UF M (36HF72)
CD70	24794221	ELECTROLYTIC, 16V 220UF M (36HFX72)
CD71	24232103	CERAMIC DISC, 50V F 10000PF Z (36HFX72)
CD73	24797100	ELECTROLYTIC, 50V 10UF M (36HFX72)
CD74	24794221	ELECTROLYTIC, 16V 220UF M (36HFX72)
CD75	24797100	ELECTROLYTIC, 50V 10UF M (36HFX72)
CD76	24797100	ELECTROLYTIC, 50V 10UF M (36HFX72)
CD77	24797100	ELECTROLYTIC, 50V 10UF M (36HFX72)
CD81	24503041	PLASTIC FILM , 63V 0.1UF J (36HFX72)
CD82	24503041	PLASTIC FILM , 63V 0.1UF J (36HFX72)
CD83	24503041	PLASTIC FILM , 63V 0.1UF J (36HFX72)
CD84	24503041	PLASTIC FILM , 63V 0.1UF J (36HFX72)
CD89	24797479	ELECTROLYTIC, 50V 4.7UF M (36HFX72)
CR12	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CR13	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CR14	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CR90	24100104	CERAMIC CHIP, 25V F 0.1UF Z
CS03	24105221	CERAMIC CHIP, 50V CH 220PF J
CS04	24797010	ELECTROLYTIC, 50V 1UF M
CS07	24105221	CERAMIC CHIP, 50V CH 220PF J
CS08	24797010	ELECTROLYTIC, 50V 1UF M
CS09	24105331	CERAMIC CHIP, 50V CH 330PF J
CS10	24797229	ELECTROLYTIC, 50V 2.2UF M
CS11	24797010	ELECTROLYTIC, 50V 1UF M

Location No.	Parts No.	Description
CS12	24105221	CERAMIC CHIP, 50V CH 220PF J
CS13	24797010	ELECTROLYTIC, 50V 1UF M
CS14	24105221	CERAMIC CHIP, 50V CH 220PF J
CS15	24105331	CERAMIC CHIP, 50V CH 330PF J
CS16	24797229	ELECTROLYTIC, 50V 2.2UF M
CS21	24105101	CERAMIC CHIP, 50V CH 100PF J
CS22	24105101	CERAMIC CHIP, 50V CH 100PF J
CS23	24797010	ELECTROLYTIC, 50V 1UF M
CS24	24105331	CERAMIC CHIP, 50V CH 330PF J
CS25	24797229	ELECTROLYTIC, 50V 2.2UF M
CS28	24105331	CERAMIC CHIP, 50V CH 330PF J
CS29	24105331	CERAMIC CHIP, 50V CH 330PF J
CS30	24797229	ELECTROLYTIC, 50V 2.2UF M
CS32	24794100	ELECTROLYTIC, 16V 10UF M
CS33	24794100	ELECTROLYTIC, 16V 10UF M
CS34	24105331	CERAMIC CHIP, 50V CH 330PF J
CS35	24797229	ELECTROLYTIC, 50V 2.2UF M
CS36	24797229	ELECTROLYTIC, 50V 2.2UF M
CS51	24797229	ELECTROLYTIC, 50V 2.2UF M
CS52	24797229	ELECTROLYTIC, 50V 2.2UF M
CS53	24797229	ELECTROLYTIC, 50V 2.2UF M
CS54	24797229	ELECTROLYTIC, 50V 2.2UF M
CS55	24105331	CERAMIC CHIP, 50V CH 330PF J
CS56	24105331	CERAMIC CHIP, 50V CH 330PF J
CS57	24105331	CERAMIC CHIP, 50V CH 330PF J
CS58	24105331	CERAMIC CHIP, 50V CH 330PF J
CS60	24503041	PLASTIC FILM , 63V 0.1UF J
CS115	24797010	ELECTROLYTIC, 50V 1UF M
CS116	24797010	ELECTROLYTIC, 50V 1UF M
CS118	24795470	ELECTROLYTIC, 25V 47UF M
CS119	24797010	ELECTROLYTIC, 50V 1UF M
CS120	24797010	ELECTROLYTIC, 50V 1UF M
CS121	24797010	ELECTROLYTIC, 50V 1UF M
CS122	24797101	ELECTROLYTIC, 50V 100UF M
CS123	24797470	ELECTROLYTIC, 50V 47UF M
CS124	24797229	ELECTROLYTIC, 50V 2.2UF M
CS125	24590103	PLASTIC FILM, 50V 0.01MF J
CS652	24794220	ELECTROLYTIC, 16V 22UF M
CS676	24109103	CERAMIC CHIP, 50V B 0.01UF K
CV01	24794100	ELECTROLYTIC, 16V 10UF M
CV02	24109103	CERAMIC CHIP, 50V B 0.01UF K
CV04	24794100	ELECTROLYTIC, 16V 10UF M
CV05	24794100	ELECTROLYTIC, 16V 10UF M
CV07	24794100	ELECTROLYTIC, 16V 10UF M
CV08	24763102	ELECTROLYTIC, 16V 1000UF M
CV10	24232103	CERAMIC DISC, 50V F 10000PF Z
CV11	24232103	CERAMIC DISC, 50V F 10000PF Z
CV12	24794100	ELECTROLYTIC, 16V 10UF M
CV18	24794100	ELECTROLYTIC, 16V 10UF M
CV21	24794100	ELECTROLYTIC, 16V 10UF M
CV22	24794100	ELECTROLYTIC, 16V 10UF M
CV23	24109103	CERAMIC CHIP, 50V B 0.01UF K
CV27	24762471	ELECTROLYTIC, 10V 470UF M
CV29	24794101	ELECTROLYTIC, 16V 100UF M
CV30	24109103	CERAMIC CHIP, 50V B 0.01UF K
CV75	24109103	CERAMIC CHIP, 50V B 0.01UF K
CV90	24794470	ELECTROLYTIC, 16V 47UF M
CV91	24794470	ELECTROLYTIC, 16V 47UF M
CV92	24794470	ELECTROLYTIC, 16V 47UF M
CV100	24794100	ELECTROLYTIC, 16V 10UF M
CV120	24794100	ELECTROLYTIC, 16V 10UF M
CV246	24109103	CERAMIC CHIP, 50V B 0.01UF K
CV247	24794470	ELECTROLYTIC, 16V 47UF M
CV248	24794470	ELECTROLYTIC, 16V 47UF M
CV262	24794470	ELECTROLYTIC, 16V 47UF M

Location No.	Parts No.	Description
CV266	24794470	ELECTORLYTIC, 16V 47UF M
CV269	24794470	ELECTORLYTIC, 16V 47UF M
CV272	24794470	ELECTORLYTIC, 16V 47UF M
CV275	24794470	ELECTORLYTIC, 16V 47UF M
CW08	24794100	ELECTROLYTIC, 16V 10UF M
CW09	24109103	CERAMIC CHIP, 50V B 0.01UF K
CY23	24797100	ELECTROLYTIC, 50V 10UF M
RESISTORS		
R101	24553183	OXIDE METAL FILM, 1W 18K OHM J
R119	24000445	CHIP JUMPER, 1608TYPE
R150	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R151	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
R152	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R171	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R172	24011273	CHIP, METAL FILM, 1/20W 27K OHM J
R173	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R174	24011273	CHIP, METAL FILM, 1/20W 27K OHM J
R217	24366103	CARBON FILM, 1/6W 10K OHM J
R218	24367303	CARBON FILM, 1/6W 30K OHM G
R219	24366223	CARBON FILM, 1/6W 22K OHM J
R227	24367273	CARBON FILM, 1/6W 27K OHM G
R228	24367682	CARBON FILM, 1/6W 6.8K OHM G
R245	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R303	24321109	OXIDE METAL FILM, 1/2W 1 OHM J
R305	24323688	OXIDE METAL FILM, 2W 0.68 OHM J
R306	24366473	CARBON FILM, 1/6W 47K OHM J
R309	24366154	CARBON FILM, 1/6W 150K OHM J
R310	24366102	CARBON FILM, 1/6W 1K OHM J
R312	24366153	CARBON FILM, 1/6W 15K OHM J
R313	24366153	CARBON FILM, 1/6W 15K OHM J
R317	24366472	CARBON FILM, 1/6W 4.7K OHM J
R318	24366101	CARBON FILM, 1/6W 100 OHM J
R319	24366101	CARBON FILM, 1/6W 100 OHM J
R320	24366101	CARBON FILM, 1/6W 100 OHM J
R321	24366274	CARBON FILM, 1/6W 270K OHM J
R322	24366394	CARBON FILM, 1/6W 390K OHM J
R323	24366274	CARBON FILM, 1/6W 270K OHM J
R324	24366224	CARBON FILM, 1/6W 220K OHM J
R326	24366153	CARBON FILM, 1/6W 15K OHM J
R328	24366202	CARBON FILM, 1/6W 2K OHM J
R329	24366153	CARBON FILM, 1/6W 15K OHM J
R330	24366102	CARBON FILM, 1/6W 1K OHM J
R331	24366184	CARBON FILM, 1/6W 180K OHM J
R336	24383151	OXIDE METAL FILM, 2W 150 OHM J
R342	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R344	24382821	OXIDE METAL FILM, 1W 82 OHM J
R354	24366431	CARBON FILM, 1/6W 430 OHM J
R357	24552100	OXIDE METAL FILM, 1/2W 10 OHM J
R358	24383181	OXIDE METAL FILM, 2W 180 OHM J
R359	24366103	CARBON FILM, 1/6W 10K OHM J
R360	24366103	CARBON FILM, 1/6W 10K OHM J
R361	24366102	CARBON FILM, 1/6W 1K OHM J
R362	24366103	CARBON FILM, 1/6W 10K OHM J
R363	24366103	CARBON FILM, 1/6W 10K OHM J
R364	24366332	CARBON FILM, 1/6W 3.3K OHM J
R365	24366681	CARBON FILM, 1/6W 680 OHM J
R366	24366471	CARBON FILM, 1/6W 470 OHM J
R367	24366472	CARBON FILM, 1/6W 4.7K OHM J
R368	24366333	CARBON FILM, 1/6W 33K OHM J
R369	24366433	CARBON FILM, 1/6W 43K OHM J
R371	24366562	CARBON FILM, 1/6W 5.6K OHM J
R372	24366392	CARBON FILM, 1/6W 3.9K OHM J
R373	24366182	CARBON FILM, 1/6W 1.8K OHM J
R374	24366473	CARBON FILM, 1/6W 47K OHM J

Location No.	Parts No.	Description
R379	24382103	OXIDE METAL FILM, 1W 10K OHM J
R380	24946226	CARBON COMPOSITION, 1/2W 22M OHM K
R381	24366822	CARBON FILM, 1/6W 8.2K OHM J
R392	24552102	OXIDE METAL FILM, 1/2W 1K OHM J
R394	24366102	CARBON FILM, 1/6W 1K OHM J
R395	24366103	CARBON FILM, 1/6W 10K OHM J
R396	24366103	CARBON FILM, 1/6W 10K OHM J
R397	24366103	CARBON FILM, 1/6W 10K OHM J
R398	24366184	CARBON FILM, 1/6W 180K OHM J
R400	24946561	CARBON COMPOSITION, 1/2W 560 OHM K
R405	24553682	OXIDE METAL FILM, 1W 6.8K OHM J
R411	24366180	CARBON FILM, 1/6W 18 OHM J
R412	24323228	OXIDE METAL FILM, 2W 0.22 OHM J
R415	24383271	OXIDE METAL FILM, 2W 270 OHM J
R416	24383820	OXIDE FILM 2W 82. J
R417	24366182	CARBON FILM, 1/6W 1.8K OHM J
R418	24366182	CARBON FILM, 1/6W 1.8K OHM J
R422	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R423	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R424	24011272	CHIP, METAL FILM, 1/20W 2.7K OHM J
R424	24321229	OXIDE METAL FILM, 1/2W 2.2 OHM J
R425	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R426	24381363	OXIDE FILM 1/2W 36K J
R433	24366101	CARBON FILM, 1/6W 100 OHM J
R435	24327224	METAL FILM, 1/4W 220K OHM F
R438	24552152	OXIDE METAL FILM, 1/2W 1.5K OHM J
R439	24381100	OXIDE METAL FILM, 1/2W 10 OHM J
R441	24383181	OXIDE METAL FILM, 2W 180 OHM J
R447	24382473	OXIDE METAL FILM, 1W 47K OHM J
△ R448	24321338	OXIDE METAL FILM, 1/2W 0.33 OHM J
R452	24061546	VARIABLE, METAL FILM, 1W 100 OHM M
R461	24366183	CARBON FILM, 1/6W 18K OHM J
R462	24367333	CARBON FILM, 1/6W 33K OHM G
R463	24323479	METAL FILM, 2W 4.7 OHM J
△ R465	24366331	CARBON FILM, 1/6W 330 OHM J
△ R467	24000372	METAL FILM, 1/4W 3.9K OHM F
△ R468	24000632	METAL FILM, 1/4W 9.1K OHM F
△ R470	24323518	OXIDE METAL FILM, 2W 0.51 OHM J
R471	24381301	OXIDE METAL FILM, 1/2W 300 OHM J
R472	24554270	OXIDE METAL FILM, 2W 27 OHM J
R473	24000221	METAL FILM, 1/4W 20K OHM F
R474	24366822	CARBON FILM, 1/6W 8.2K OHM J
R475	24366912	CARBON FILM, 1/6W 9.1K OHM J
R476	24000221	METAL FILM, 1/4W 20K OHM F
R477	24366102	CARBON FILM, 1/6W 1K OHM J
R478	24338688	OXIDE METAL FILM, 1W 0.68 OHM J
R479	24381131	OXIDE METAL FILM, 1/2W 130 OHM J
R480	24366472	CARBON FILM, 1/6W 4.7K OHM J
R481	24366103	CARBON FILM, 1/6W 10K OHM J
R482	24366182	CARBON FILM, 1/6W 1.8K OHM J
R483	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R484	24366223	CARBON FILM, 1/6W 22K OHM J
R485	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R485	24366223	CARBON FILM, 1/6W 22K OHM J
R486	24011622	CHIP, METAL FILM, 1/20W 6.2K OHM J
R487	24011474	CHIP, METAL FILM, 1/20W 470K OHM J
R488	24011154	CHIP, METAL FILM, 1/20W 150K OHM J
R491	24366122	CARBON FILM, 1/6W 1.2K OHM J
R492	24366122	CARBON FILM, 1/6W 1.2K OHM J
R493	24366123	CARBON FILM, 1/6W 12K OHM J
R494	24366184	CARBON FILM, 1/6W 180K OHM J
R496	24382104	OXIDE METAL FILM, 1W 100K OHM J
R498	24366184	CARBON FILM, 1/6W 180K OHM J
R499	24322109	OXIDE METAL FILM, 1W 1 OHM J
R513	24011104	CHIP, METAL FILM, 1/20W 100K OHM J

Location No.	Parts No.	Description
R514	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R515	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R525	24011752	CHIP, METAL FILM, 1/20W 7.5K OHM J
R526	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R543	24011680	CHIP, METAL FILM, 1/20W 68 OHM J
R548	24011680	CHIP, METAL FILM, 1/20W 68 OHM J
R552	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R553	24011680	CHIP, METAL FILM, 1/20W 68 OHM J
R560	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R561	24552271	OXIDE METAL FILM, 1/2W 270 OHM J
R562	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R563	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R564	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R565	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R566	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R567	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R568	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R572	24000445	CHIP JUMPER, 1608TYPE
R573	24000445	CHIP JUMPER, 1608TYPE
R601	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R602	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R610	24871222	CHIP, METAL FILM, 1/8W 2.2K OHM J
R611	24871222	CHIP, METAL FILM, 1/8W 2.2K OHM J
R613	24871222	CHIP, METAL FILM, 1/8W 2.2K OHM J
R661	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R662	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R663	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J (36HFX72)
R663	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J (36HF72)
R664	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J (36HFX72)
R664	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J (36HF72)
R666	24011392	CHIP, METAL FILM, 1/20W 3.9K OHM J (36HFX72)
R667	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J (36HFX72)
R668	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R669	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R674	24011823	CHIP, METAL FILM, 1/20W 82K OHM J
R675	24011823	CHIP, METAL FILM, 1/20W 82K OHM J
R676	24366229	CARBON FILM, 1/6W 2.2 OHM J
R677	24366229	CARBON FILM, 1/6W 2.2 OHM J
R680	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
R681	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R682	24011104	CHIP, METAL FILM, 1/20W 100K OHM J (36HFX72)
R683	24011333	CHIP, METAL FILM, 1/20W 33K OHM J (36HFX72)
R686	24366229	CARBON FILM, 1/6W 2.2 OHM J (36HFX72)
R687	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R690	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J (36HF72)
R691	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J (36HF72)
R693	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R698	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R699	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R702	24552221	OXIDE METAL FILM, 1/2W 220 OHM J
R709	24366563	CARBON FILM, 1/6W 56K OHM J
R713	24366393	CARBON FILM, 1/6W 39K OHM J
R715	24366273	CARBON FILM, 1/6W 27K OHM J
R716	24366273	CARBON FILM, 1/6W 27K OHM J
R717	24366333	CARBON FILM, 1/6W 33K OHM J

Location No.	Parts No.	Description
R718	24366222	CARBON FILM, 1/6W 2.2K OHM J
R719	24366101	CARBON FILM, 1/6W 100 OHM J
R720	24366102	CARBON FILM, 1/6W 1K OHM J
R721	24366101	CARBON FILM, 1/6W 100 OHM J
R722	24552471	OXIDE METAL FILM, 1/2W 470 OHM J
R723	24366101	CARBON FILM, 1/6W 100 OHM J
R724	24366151	CARBON FILM, 1/6W 150 OHM J
R725	24366182	CARBON FILM, 1/6W 1.8K OHM J
R730	24552100	OXIDE METAL FILM, 1/2W 10 OHM J
R731	24552331	OXIDE METAL FILM, 1/2W 330 OHM J
R732	24366330	CARBON FILM, 1/6W 33 OHM J
R733	24366683	CARBON FILM, 1/6W 68K OHM J
R734	24366330	CARBON FILM, 1/6W 33 OHM J
R735	24366683	CARBON FILM, 1/6W 68K OHM J
R736	24553470	METAL OXIDE FILM B 1W 47 J
R737	24366681	CARBON FILM, 1/6W 680 OHM J
R738	24366102	CARBON FILM, 1/6W 1K OHM J
R739	24366681	CARBON FILM, 1/6W 680 OHM J
R740	24553470	METAL OXIDE FILM B 1W 47 J
R741	24322229	OXIDE METAL FILM, 1W 2.2 OHM J
R742	24322229	OXIDE METAL FILM, 1W 2.2 OHM J
R743	24554181	OXIDE METAL FILM, 2W 180 OHM J
R744	24366122	CARBON FILM, 1/6W 1.2K OHM J
R745	24366122	CARBON FILM, 1/6W 1.2K OHM J
△ R808	24019493	THERMISTOR, PTC THERMISTOR AC140V 1R5 M
R810	24045007	CEMENT 20W 1.2 J
R818	24366102	CARBON FILM, 1/6W 1K OHM J
R819	24366103	CARBON FILM, 1/6W 10K OHM J
R834	24366102	CARBON FILM, 1/6W 1K OHM J
R835	24366820	CARBON FILM, 1/6W 82 OHM J
R847	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
R848	24011820	METAL FILM CHIP 1/20W 82 J
R849	24011331	CHIP, METAL FILM, 1/20W 330 OHM J
R861	24382153	OXIDE METAL FILM, 1W 15K OHM J
R862	24552330	OXIDE METAL FILM, 1/2W 33 OHM J
R864	24552102	OXIDE METAL FILM, 1/2W 1K OHM J
R865	24552221	OXIDE METAL FILM, 1/2W 220 OHM J
R867	24000639	METAL FILM, 1/4W 22K OHM F
R868	24552560	OXIDE METAL FILM, 1/2W 56 OHM J
R870	24381151	OXIDE METAL FILM, 1/2W 150 OHM J
R871	24381101	OXIDE METAL FILM, 1/2W 100 OHM J
R872	24382563	OXIDE METAL FILM, 1W 56K OHM J
R883	24381682	OXIDE METAL FILM, 1/2W 6.8K OHM J
R884	24366102	CARBON FILM, 1/6W 1K OHM J
R891	24366152	CARBON FILM, 1/6W 1.5K OHM J
△ R899	24010001	CARBON FILM, 1/2W 3.9M OHM J
R901	24946561	CARBON COMPOSITION, 1/2W 560 OHM K
R902	24946561	CARBON COMPOSITION, 1/2W 560 OHM K
R903	24946561	CARBON COMPOSITION, 1/2W 560 OHM K
R904	24366472	CARBON FILM, 1/6W 4.7K OHM J
R905	24366150	CARBON FILM, 1/6W 15 OHM J
R906	24366332	CARBON FILM, 1/6W 3.3K OHM J
R912	24366102	CARBON FILM, 1/6W 1K OHM J
R914	24366151	CARBON FILM, 1/6W 150 OHM J
R915	24366470	CARBON FILM, 1/6W 47 OHM J
R916	24366180	CARBON FILM, 1/6W 18 OHM J
R917	24366431	CARBON FILM, 1/6W 430 OHM J
R918	24366240	CARBON FILM, 1/6W 24 OHM J
R919	24366102	CARBON FILM, 1/6W 1K OHM J
R920	24000883	FUSIBLE, 1W 3.6 OHM J
R921	24366151	CARBON FILM, 1/6W 150 OHM J
R922	24366470	CARBON FILM, 1/6W 47 OHM J
R924	24366220	CARBON FILM, 1/6W 22 OHM J
R925	24366431	CARBON FILM, 1/6W 430 OHM J

Location No.	Parts No.	Description
R926	24366102	CARBON FILM, 1/6W 1K OHM J
R928	24366151	CARBON FILM, 1/6W 150 OHM J
R929	24366470	CARBON FILM, 1/6W 47 OHM J
R930	24366180	CARBON FILM, 1/6W 18 OHM J
R932	24366332	CARBON FILM, 1/6W 3.3K OHM J
R933	24366750	CARBON FILM, 1/6W 75 OHM J
R934	24366391	CARBON FILM, 1/6W 390 OHM J
R935	24366122	CARBON FILM, 1/6W 1.2K OHM J
R936	24366750	CARBON FILM, 1/6W 75 OHM J
R937	24366431	CARBON FILM, 1/6W 430 OHM J
R939	24366100	CARBON FILM, 1/6W 10 OHM J
R942	24366392	CARBON FILM, 1/6W 3.9K OHM J
R943	24366392	CARBON FILM, 1/6W 3.9K OHM J
R944	24366392	CARBON FILM, 1/6W 3.9K OHM J
R945	24366180	CARBON FILM, 1/6W 18 OHM J
R946	24366180	CARBON FILM, 1/6W 18 OHM J
R947	24366221	CARBON FILM, 1/6W 220 OHM J
R948	24366272	CARBON FILM, 1/6W 2.7K OHM J
R949	24366391	CARBON FILM, 1/6W 390 OHM J
R952	24366622	CARBON FILM, 1/6W 6.2K OHM J
R953	24366622	CARBON FILM, 1/6W 6.2K OHM J
R954	24366622	CARBON FILM, 1/6W 6.2K OHM J
R960	24383153	OXIDE METAL FILM, 2W 15K OHM J
R961	24383153	OXIDE METAL FILM, 2W 15K OHM J
R962	24383153	OXIDE METAL FILM, 2W 15K OHM J
R963	24383153	OXIDE METAL FILM, 2W 15K OHM J
R964	24383153	OXIDE METAL FILM, 2W 15K OHM J
R965	24383153	OXIDE METAL FILM, 2W 15K OHM J
R967	24366682	CARBON FILM, 1/6W 6.8K OHM J
R968	24366272	CARBON FILM, 1/6W 2.7K OHM J
R970	24366472	CARBON FILM, 1/6W 4.7K OHM J
R971	24366332	CARBON FILM, 1/6W 3.3K OHM J
R972	24366331	CARBON FILM, 1/6W 330 OHM J
R973	24366332	CARBON FILM, 1/6W 3.3K OHM J
R974	24366332	CARBON FILM, 1/6W 3.3K OHM J
R975	24366331	CARBON FILM, 1/6W 330 OHM J
R976	24366331	CARBON FILM, 1/6W 330 OHM J
R977	24366561	CARBON FILM, 1/6W 560 OHM J
R978	24383153	OXIDE METAL FILM, 2W 15K OHM J
R979	24383153	OXIDE METAL FILM, 2W 15K OHM J
R980	24366471	CARBON FILM, 1/6W 470 OHM J
R981	24366471	CARBON FILM, 1/6W 470 OHM J
R982	24366682	CARBON FILM, 1/6W 6.8K OHM J
R983	24366222	CARBON FILM, 1/6W 2.2K OHM J
R984	24367821	CARBON FILM, 1/6W 820 OHM G
R985	24367471	CARBON FILM, 1/6W 470 OHM G
R986	24367681	CARBON FILM, 1/6W 680 OHM G
R987	24367681	CARBON FILM, 1/6W 680 OHM G
R988	24367472	CARBON FILM, 1/6W 4.7K OHM G
R989	24367472	CARBON FILM, 1/6W 4.7K OHM G
R990	24366561	CARBON FILM, 1/6W 560 OHM J
R991	24367391	CARBON FILM, 1/6W 390 OHM G
R992	24366150	CARBON FILM, 1/6W 15 OHM J
R993	24383153	OXIDE METAL FILM, 2W 15K OHM J
R994	24383153	OXIDE METAL FILM, 2W 15K OHM J
R995	24383153	OXIDE METAL FILM, 2W 15K OHM J
R996	24383153	OXIDE METAL FILM, 2W 15K OHM J
R997	24366272	CARBON FILM, 1/6W 2.7K OHM J
R998	24366102	CARBON FILM, 1/6W 1K OHM J
R999	24366102	CARBON FILM, 1/6W 1K OHM J
R2020	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R2060	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R2061	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R2105	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R2106	24011101	CHIP, METAL FILM, 1/20W 100 OHM J

Location No.	Parts No.	Description
R2107	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R2108	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R2109	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R2110	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R2146	24871102	CHIP, METAL FILM, 1/8W 1K OHM J
R2147	24871102	CHIP, METAL FILM, 1/8W 1K OHM J
R2148	24871102	CHIP, METAL FILM, 1/8W 1K OHM J
R2149	24871102	CHIP, METAL FILM, 1/8W 1K OHM J
R2150	24871102	CHIP, METAL FILM, 1/8W 1K OHM J
R2151	24871102	CHIP, METAL FILM, 1/8W 1K OHM J
R2152	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R2153	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R2154	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R2155	24000445	CHIP JUMPER, 1608TYPE
R2156	24000445	CHIP JUMPER, 1608TYPE
R2157	24000445	CHIP JUMPER, 1608TYPE
R3105	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R3106	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R3450	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R3451	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R3452	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R3453	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
R3454	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
R4201	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R4202	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
R4203	24011561	CHIP, METAL FILM, 1/20W 560 OHM J
R4204	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
R4228	24011682	CHIP, METAL FILM, 1/20W 6.8K OHM J
R4310	24366183	CARBON FILM, 1/6W 18K OHM J
R4311	24366563	CARBON FILM, 1/6W 56K OHM J
R4385	24366822	CARBON FILM, 1/6W 8.2K OHM J
R4386	24366331	CARBON FILM, 1/6W 330 OHM J
R4406	24011622	CHIP, METAL FILM, 1/20W 6.2K OHM J
R4407	24011361	CHIP, METAL FILM, 1/20W 360 OHM J
R4410	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R4416	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
R4417	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
R4422	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R4425	24552471	OXIDE METAL FILM, 1/2W 470 OHM J
R4460	24366102	CARBON FILM, 1/6W 1K OHM J
R4461	24366102	CARBON FILM, 1/6W 1K OHM J
R4462	24366133	CARBON FILM, 1/6W 13K OHM J
R4463	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
R4463	24366682	CARBON FILM, 1/6W 6.8K OHM J
R4464	24011302	CHIP, METAL FILM, 1/20W 3K OHM J
R4466	24366103	CARBON FILM, 1/6W 10K OHM J
R4467	24366103	CARBON FILM, 1/6W 10K OHM J
R4468	24366562	CARBON FILM, 1/6W 5.6K OHM J
R4469	24366102	CARBON FILM, 1/6W 1K OHM J
R4470	24366393	CARBON FILM, 1/6W 39K OHM J
R4471	24011154	CHIP, METAL FILM, 1/20W 150K OHM J
R4472	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
R4472	24366224	CARBON FILM, 1/6W 220K OHM J
R4560	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R4561	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R4562	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
R4761	24366102	CARBON FILM, 1/6W 1K OHM J
R4762	24366332	CARBON FILM, 1/6W 3.3K OHM J
R4763	24366103	CARBON FILM, 1/6W 10K OHM J
R4765	24366221	CARBON FILM, 1/6W 220 OHM J
R4766	24366182	CARBON FILM, 1/6W 1.8K OHM J
R4768	24366822	CARBON FILM, 1/6W 8.2K OHM J
R4771	24366103	CARBON FILM, 1/6W 10K OHM J
R4816	24366471	CARBON FILM, 1/6W 470 OHM J
R4818	24366681	CARBON FILM, 1/6W 680 OHM J

Location No.	Parts No.	Description
R4819	24366102	CARBON FILM, 1/6W 1K OHM J
R4820	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
R5020	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R5030	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
R9701	24366821	CARBON FILM, 1/6W 820 OHM J
RA01	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA02	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA03	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA04	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA05	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA06	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA07	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA10	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA12	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA13	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA15	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA16	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA17	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA21	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA22	24011682	CHIP, METAL FILM, 1/20W 6.8K OHM J
RA23	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA26	24011333	CHIP, METAL FILM, 1/20W 33K OHM J
RA28	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA30	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA32	24011682	CHIP, METAL FILM, 1/20W 6.8K OHM J
RA33	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA35	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RA36	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RA37	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA38	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA39	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA40	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA41	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RA42	24011151	CHIP, METAL FILM, 1/20W 150 OHM J
RA43	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA44	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA45	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA46	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA49	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA50	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA51	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA52	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA54	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RA55	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA59	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA60	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA71	24366273	CARBON FILM, 1/6W 27K OHM J
RA72	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RA72	24366153	CARBON FILM, 1/6W 15K OHM J
RA73	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
RA73	24366822	CARBON FILM, 1/6W 8.2K OHM J
RA74	24011153	CHIP, METAL FILM, 1/20W 15K OHM J
RA75	24011153	CHIP, METAL FILM, 1/20W 15K OHM J
RA76	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA76	24366822	CARBON FILM, 1/6W 8.2K OHM J
RA77	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA77	24366153	CARBON FILM, 1/6W 15K OHM J
RA78	24011333	CHIP, METAL FILM, 1/20W 33K OHM J
RA78	24366273	CARBON FILM, 1/6W 27K OHM J
RA79	24011333	CHIP, METAL FILM, 1/20W 33K OHM J
RA80	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA81	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RA021	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA031	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA116	24011103	CHIP, METAL FILM, 1/20W 10K OHM J

Location No.	Parts No.	Description
RA161	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA191	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA192	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA195	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RA196	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RA197	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RA198	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RA199	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RA210	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA211	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA212	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA221	24011153	CHIP, METAL FILM, 1/20W 15K OHM J
RA361	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA401	24011331	CHIP, METAL FILM, 1/20W 330 OHM J
RA431	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA491	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RA703	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RA705	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RA708	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RB03	24011330	CHIP, METAL FILM, 1/20W 33 OHM J
RB05	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RB11	24366271	CARBON FILM, 1/6W 270 OHM J
RB12	24366103	CARBON FILM, 1/6W 10K OHM J
RB13	24366470	CARBON FILM, 1/6W 47 OHM J
RB14	24011153	CHIP, METAL FILM, 1/20W 15K OHM J
RB15	24011153	CHIP, METAL FILM, 1/20W 15K OHM J
RB16	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
RB17	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RB28	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RB29	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RB30	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RB30	24366103	CARBON FILM, 1/6W 10K OHM J
RB31	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RB32	24011274	CHIP, METAL FILM, 1/20W 270K OHM J
RB33	24011123	CHIP, METAL FILM, 1/20W 12K OHM J
RB34	24011392	CHIP, METAL FILM, 1/20W 3.9K OHM J
RB35	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RB37	24011302	CHIP, METAL FILM, 1/20W 3K OHM J
RB38	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RB39	24011183	CHIP, METAL FILM, 1/20W 18K OHM J
RB41	24011151	CHIP, METAL FILM, 1/20W 150 OHM J
RB41	24366123	CARBON FILM, 1/6W 12K OHM J
RB42	24366153	CARBON FILM, 1/6W 15K OHM J
RB46	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RB49	24011331	CHIP, METAL FILM, 1/20W 330 OHM J
RB90	24011392	CHIP, METAL FILM, 1/20W 3.9K OHM J
RB91	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RB92	24011271	CHIP, METAL FILM, 1/20W 270 OHM J
RB93	24011271	CHIP, METAL FILM, 1/20W 270 OHM J
RB94	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RB95	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RB96	24011273	CHIP, METAL FILM, 1/20W 27K OHM J
RB97	24011273	CHIP, METAL FILM, 1/20W 27K OHM J
RB98	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RB031	24011330	CHIP, METAL FILM, 1/20W 33 OHM J
RB032	24011330	CHIP, METAL FILM, 1/20W 33 OHM J
RB033	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RB051	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RB052	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RB512	24011100	CHIP, METAL FILM, 1/20W 10 OHM J
RB551	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RB552	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RB553	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RD01	24366101	CARBON FILM, 1/6W 100 OHM J (36HF72)
RD01	24366102	CARBON FILM, 1/6W 1K OHM J (36HF72)

Location No.	Parts No.	Description
RD02	24366105	CARBON FILM, 1/6W 1M OHM J (36HFX72)
RD02	24366223	CARBON FILM, 1/6W 22K OHM J (36HF72)
RD03	24366101	CARBON FILM, 1/6W 100 OHM J
RD04	24366101	CARBON FILM, 1/6W 100 OHM J
RD05	24366101	CARBON FILM, 1/6W 100 OHM J (36HFX72)
RD06	24366472	CARBON FILM, 1/6W 4.7K OHM J
RD07	24366332	CARBON FILM, 1/6W 3.3K OHM J
RD09	24366104	CARBON FILM, 1/6W 100K OHM J
RD10	24366472	CARBON FILM, 1/6W 4.7K OHM J (36HF72)
RD11	24366104	CARBON FILM, 1/6W 100K OHM J (36HFX72)
RD11	24366332	CARBON FILM, 1/6W 3.3K OHM J (36HF72)
RD12	24366101	CARBON FILM, 1/6W 100 OHM J
RD13	24366104	CARBON FILM, 1/6W 100K OHM J (36HFX72)
RD13	24366104	CARBON FILM, 1/6W 100K OHM J (36HF72)
RD14	24366221	CARBON FILM, 1/6W 220 OHM J
RD15	24366104	CARBON FILM, 1/6W 100K OHM J (36HFX72)
RD15	24366104	CARBON FILM, 1/6W 100K OHM J (36HF72)
RD16	24366123	CARBON FILM, 1/6W 12K OHM J
RD17	24366101	CARBON FILM, 1/6W 100 OHM J (36HFX72)
RD17	24366101	CARBON FILM, 1/6W 100 OHM J (36HF72)
RD18	24366105	CARBON FILM, 1/6W 1M OHM J (36HFX72)
RD18	24366223	CARBON FILM, 1/6W 22K OHM J (36HF72)
RD19	24366101	CARBON FILM, 1/6W 100 OHM J (36HFX72)
RD19	24366102	CARBON FILM, 1/6W 1K OHM J (36HF72)
RD21	24366332	CARBON FILM, 1/6W 3.3K OHM J (36HFX72)
RD41	24366123	CARBON FILM, 1/6W 12K OHM J (36HFX72)
RD41	24366102	CARBON FILM, 1/6W 1K OHM J (36HF72)
RD42	24366333	CARBON FILM, 1/6W 33K OHM J (36HFX72)
RD42	24366432	CARBON FILM, 1/6W 4.3K OHM J (36HF72)
RD43	24366272	CARBON FILM, 1/6W 2.7K OHM J (36HFX72)
RD43	24366114	CARBON FILM, 1/6W 110K OHM J (36HF72)
RD44	24366123	CARBON FILM, 1/6W 12K OHM J (36HFX72)
RD44	24366132	CARBON FILM, 1/6W 1.3K OHM J (36HF72)
RD45	24366333	CARBON FILM, 1/6W 33K OHM J (36HFX72)
RD45	24366473	CARBON FILM, 1/6W 47K OHM J (36HF72)
RD46	24366272	CARBON FILM, 1/6W 2.7K OHM J (36HFX72)
RD46	24366513	CARBON FILM, 1/6W 51K OHM J (36HF72)
RD47	24366104	CARBON FILM, 1/6W 100K OHM J (36HFX72)
RD47	24366392	CARBON FILM, 1/6W 3.9K OHM J (36HF72)
RD48	24366103	CARBON FILM, 1/6W 10K OHM J (36HFX72)
RD49	24366562	CARBON FILM, 1/6W 5.6K OHM J (36HFX72)
RD60	24366682	CARBON FILM, 1/6W 6.8K OHM J (36HFX72)
RD61	24366682	CARBON FILM, 1/6W 6.8K OHM J (36HFX72)
RD62	24366109	CARBON FILM, 1/6W 1 OHM J (36HFX72)
RD63	24366103	CARBON FILM, 1/6W 10K OHM J (36HF72)
RD64	24366103	CARBON FILM, 1/6W 10K OHM J (36HF72)
RD65	24366122	CARBON FILM, 1/6W 1.2K OHM J (36HF72)
RD66	24366821	CARBON FILM, 1/6W 820 OHM J (36HF72)
RD67	24366152	CARBON FILM, 1/6W 1.5K OHM J (36HF72)
RD68	24366681	CARBON FILM, 1/6W 680 OHM J (36HF72)
RD69	24366101	CARBON FILM, 1/6W 100 OHM J (36HF72)
RD70	24366105	CARBON FILM, 1/6W 1M OHM J (36HF72)
RD71	24366101	CARBON FILM, 1/6W 100 OHM J (36HF72)
RD72	24366101	CARBON FILM, 1/6W 100 OHM J (36HFX72)
RD72	24366105	CARBON FILM, 1/6W 1M OHM J (36HF72)
RD73	24366101	CARBON FILM, 1/6W 100 OHM J (36HFX72)
RD74	24366101	CARBON FILM, 1/6W 100 OHM J (36HFX72)
RD75	24366473	CARBON FILM, 1/6W 47K OHM J (36HFX72)
RD76	24366122	CARBON FILM, 1/6W 1.2K OHM J (36HFX72)
RD77	24366473	CARBON FILM, 1/6W 47K OHM J (36HFX72)
RD78	24366122	CARBON FILM, 1/6W 1.2K OHM J (36HFX72)
RD79	24366123	CARBON FILM, 1/6W 12K OHM J (36HFX72)
RD81	24366123	CARBON FILM, 1/6W 12K OHM J (36HFX72)
RD83	24366103	CARBON FILM, 1/6W 10K OHM J (36HFX72)
RD85	24366223	CARBON FILM, 1/6W 22K OHM J (36HFX72)

Location No.	Parts No.	Description
RD86	24366223	CARBON FILM, 1/6W 22K OHM J (36HFX72)
RD87	24366223	CARBON FILM, 1/6W 22K OHM J (36HFX72)
RD88	24366223	CARBON FILM, 1/6W 22K OHM J (36HFX72)
RJ01	24366103	CARBON FILM, 1/6W 10K OHM J
RJ02	24366102	CARBON FILM, 1/6W 1K OHM J
RJ04	24366102	CARBON FILM, 1/6W 1K OHM J
RJ05	24323479	METAL FILM, 2W 4.7 OHM J
RJ06	24366103	CARBON FILM, 1/6W 10K OHM J
RJ15	24000445	CHIP JUMPER, 1608TYPE
RJ16	24000445	CHIP JUMPER, 1608TYPE
RJ24	24000445	CHIP JUMPER, 1608TYPE
RJ40	24000445	CHIP JUMPER, 1608TYPE
RJ50	24000445	CHIP JUMPER, 1608TYPE
RJ51	24000445	CHIP JUMPER, 1608TYPE
RM16	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RM18	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RM79	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RM80	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RM82	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RM83	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RR31	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RR90	24011822	CHIP, METAL FILM, 1/20W 8.2K OHM J
RR91	24011153	CHIP, METAL FILM, 1/20W 15K OHM J
RR92	24011123	CHIP, METAL FILM, 1/20W 12K OHM J
RR93	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RR94	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RR95	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J
RS02	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RS04	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS06	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS07	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS08	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS09	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS10	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS12	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS21	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RS22	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RS25	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
RS26	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
RS27	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
RS28	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
RS29	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RS30	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RS31	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS32	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RS33	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RS34	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RS35	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS36	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS37	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS40	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS42	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS48	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS49	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS51	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS52	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS53	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS54	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS101	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS102	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS103	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS104	24011104	CHIP, METAL FILM, 1/20W 100K OHM J
RS105	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RS107	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RS108	24011473	CHIP, METAL FILM, 1/20W 47K OHM J

Location No.	Parts No.	Description
RS109	24011392	CHIP, METAL FILM, 1/20W 3.9K OHM J
RS110	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
RS112	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
RS113	24011392	CHIP, METAL FILM, 1/20W 3.9K OHM J
RS114	24011471	CHIP, METAL FILM, 1/20W 470 OHM J
RS116	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
RS120	24366271	CARBON FILM, 1/6W 270 OHM J
RS121	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS122	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS123	24011473	CHIP, METAL FILM, 1/20W 47K OHM J
RS124	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RS125	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J (36HFX72)
RS125	24011562	CHIP, METAL FILM, 1/20W 5.6K OHM J (36HF72)
RS651	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS652	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS665	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS671	24000445	CHIP JUMPER, 1608TYPE
RS672	24011273	CHIP, METAL FILM, 1/20W 27K OHM J
RS673	24000445	CHIP JUMPER, 1608TYPE
RS674	24011273	CHIP, METAL FILM, 1/20W 27K OHM J
RS675	24011223	CHIP, METAL FILM, 1/20W 22K OHM J
RS676	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RS683	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS685	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS686	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RS687	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RV01	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RV03	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV04	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV11	24011100	CHIP, METAL FILM, 1/20W 10 OHM J
RV12	24011100	CHIP, METAL FILM, 1/20W 10 OHM J
RV13	24011100	CHIP, METAL FILM, 1/20W 10 OHM J
RV15	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RV17	24366750	CARBON FILM, 1/6W 75 OHM J
RV18	24366750	CARBON FILM, 1/6W 75 OHM J
RV19	24366332	CARBON FILM, 1/6W 3.3K OHM J
RV24	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV25	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV26	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV30	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RV31	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RV56	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV62	24871331	CHIP, METAL FILM, 1/8W 330 OHM J
RV63	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RV64	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV65	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV67	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV72	24011221	CHIP, METAL FILM, 1/20W 220 OHM J
RV74	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV78	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RV79	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV83	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RV84	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV89	24011620	METAL FILM CHIP 1/20W 62 J
RV90	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RV91	24011392	CHIP, METAL FILM, 1/20W 3.9K OHM J
RV92	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV93	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RV94	24011392	CHIP, METAL FILM, 1/20W 3.9K OHM J
RV95	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
RV96	24011103	CHIP, METAL FILM, 1/20W 10K OHM J
RV97	24011392	CHIP, METAL FILM, 1/20W 3.9K OHM J
RV98	24011101	CHIP, METAL FILM, 1/20W 100 OHM J

Location No.	Parts No.	Description
RV111	24011100	CHIP, METAL FILM, 1/20W 10 OHM J
RV117	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV118	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV119	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV120	24366750	CARBON FILM, 1/6W 75 OHM J
RV121	24011100	CHIP, METAL FILM, 1/20W 10 OHM J
RV131	24011100	CHIP, METAL FILM, 1/20W 10 OHM J
RV178	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RV179	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RV180	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RV181	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RV182	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RV183	24011222	CHIP, METAL FILM, 1/20W 2.2K OHM J
RV184	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RV185	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RV186	24011182	CHIP, METAL FILM, 1/20W 1.8K OHM J
RV301	24011750	CHIP, METAL FILM, 1/20W 75 OHM J
RV319	24011332	CHIP, METAL FILM, 1/20W 3.3K OHM J
RV700	24011472	CHIP, METAL FILM, 1/20W 4.7K OHM J
RV850	24871331	CHIP, METAL FILM, 1/8W 330 OHM J
RV870	24871331	CHIP, METAL FILM, 1/8W 330 OHM J
RW10	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RW30	24011102	CHIP, METAL FILM, 1/20W 1K OHM J
RX11	24011221	CHIP, METAL FILM, 1/20W 220 OHM J
RX12	24011221	CHIP, METAL FILM, 1/20W 220 OHM J
RY83	24011152	CHIP, METAL FILM, 1/20W 1.5K OHM J
RY84	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
COILS & TRANSFORMERS		
L101	23289846	COIL, PEAKING, TRF4101AT
L103	23289840	COIL, PEAKING, TRF4100AT
L104	23103852	COIL, FILTER, TEM2028AH
L105	23103852	COIL, FILTER, TEM2028AH
L111	23289846	COIL, PEAKING, TRF4101AT
L113	23289840	COIL, PEAKING, TRF4100AT
L121	23238562	COIL, PEAKING, TRF4109AJ
L122	23238562	COIL, PEAKING, TRF4109AJ
L301	23103859	COIL, CHOKE, TEM2011
L302	23237975	COIL, PEAKING, TRF4101AC
L400	23280022	COIL, PEAKING, TRF4101AZ
L401	23280022	COIL, PEAKING, TRF4101AZ
L402	23103859	COIL, CHOKE, TEM2011
L404	23103880	COIL, CHOKE, TEM2011Y
L409	23248191	COIL, CHOKE, TLN3351AD
L410	23248183	COIL, CHOKE, TLN3343AD
△ L441	23233055	COIL, LIN, TLN2219AG
L442	23248282	COIL, CHOKE 17X29H 68MMH, TLN3458AH
△ L447	23248224	COIL, CHOKE, TLN3435AH
L460	23103880	COIL, CHOKE, TEM2011Y
△ L461	23248115	COIL, CHOKE, TLN3367D
L463	23103880	COIL, CHOKE, TEM2011Y
L464	23103880	COIL, CHOKE, TEM2011Y
L491	23228784	TRANSFORMER, DPC 16.4UH, TPC1015AH
L499	23248026	COIL, CHOKE, TLN3269D
L501	23289470	COIL, PEAKING, TRF4470AF
L503	23289470	COIL, PEAKING, TRF4470AF
L702	23261974	COIL, FERRITE BEAD, HC5-035
L704	23103859	COIL, CHOKE, TEM2011
L705	23103859	COIL, CHOKE, TEM2011
L706	23237987	COIL, PEAKING, TRF4100AC
L805	23248227	COIL, CHOKE, TLN3481AD
L806	23248227	COIL, CHOKE, TLN3481AD
L833	23248320	CHOKE 15X23H 100MMH 2.5A
L834	23280018	COIL, PEAKING, TRF4220AZ
L835	23248157	COIL, CHOKE, TLN3433AD

Location No.	Parts No.	Description
L836	23248235	COIL, CHOKE 12X18H 22MMH 4.2A, TLN3462AF
L837	23280018	COIL, PEAKING, TRF4220AZ
L861	23103941	COIL, CHOKE, TEM2011
L862	23103880	COIL, CHOKE, TEM2011Y
L883	23103880	COIL, CHOKE, TEM2011Y
L884	23103880	COIL, CHOKE, TEM2011Y
L885	23248073	COIL, CHOKE, TLN3299D
L886	23103880	COIL, CHOKE, TEM2011Y
L887	23103880	COIL, CHOKE, TEM2011Y
L888	23248087	COIL, CHOKE, TLN3312D
L889	23248087	COIL, CHOKE, TLN3312D
L891	23103880	COIL, CHOKE, TEM2011Y
L892	23103880	COIL, CHOKE, TEM2011Y
L893	23248321	CHOKE 15X23H 22MMH 4.2A
L894	23248321	CHOKE 15X23H 22MMH 4.2A
L895	23103880	COIL, CHOKE, TEM2011Y
L896	23103880	COIL, CHOKE, TEM2011Y
L897	23280016	COIL, PEAKING, TRF4100AZ
△ L901	23200447	COIL, DG1.10CU T-2LOOP, TSB-2407AK
L902	23237975	COIL, PEAKING, TRF4101AC
L903	23237975	COIL, PEAKING, TRF4101AC
L904	23237975	COIL, PEAKING, TRF4101AC
L905	23238712	COIL, PEAKING, TRF4150AJ
L906	23238712	COIL, PEAKING, TRF4150AJ
L907	23238712	COIL, PEAKING, TRF4150AJ
L908	23289840	COIL, PEAKING, TRF4100AT
L910	23237999	COIL, PEAKING, TRF4109AC
L911	23289840	COIL, PEAKING, TRF4100AT
L4043	23103880	COIL, CHOKE, TEM2011Y
L5040	23103845	COIL, COMMONMODE, TEM2030AY
L5050	23103845	COIL, COMMONMODE, TEM2030AY
LJ901	23200465	COIL, GEOMAGNETIC CORRECTION, TSB-2411AG
LV01	23103845	COIL, COMMONMODE, TEM2030AY
LV15	23103852	COIL, FILTER, TEM2028AH
LV17	23103852	COIL, FILTER, TEM2028AH
LV19	23289560	COIL, PEAKING, TRF4560AF
LV21	23289101	COIL, PEAKING, TRF4101AF
LV71	23289840	COIL, PEAKING, TRF4100AT
LV248	23103845	COIL, COMMONMODE, TEM2030AY
LY22	23103852	COIL, FILTER, TEM2028AH
LY23	23289840	COIL, PEAKING, TRF4100AT
T400	23224364	TRANSFORMER, FOCUS, TLN2168AH
T401	23224371	TRANSFORMER, HORIZ DRIVE, TLN1080AH
△ T461Z	23236727	TRANSFORMER, FBT, TFB4180ZD
△ T802	23211729	COIL, LINE FILTER, TRF3232AQ
△ T840	23217530	TRANSFORMER, POWER EI28 9.1V, TPW1570AT
△ T862	23217485	TRANSFORMER, CONVERTER, TPW3462AS
SEMICONDUCTORS		
Q151	23205045	TRANSISTOR, 2SA1037AKQ
Q152	23314204	TRANSISTOR, 2SC2412K,Q
Q171	23314204	TRANSISTOR, 2SC2412K,Q
Q172	23314204	TRANSISTOR, 2SC2412K,Q
Q201	23114528	TRANSISTOR, 2SC1740S
Q220	23114460	TRANSISTOR, RN1204
Q221	23114460	TRANSISTOR, RN1204
Q301	23905610	IC, LA7846N
Q301B	70391355	SCREW, 3X8MM
Q302	23905871	IC, TA1241AN
Q305	23906077	IC, OP-AMP, TCA0372 DP1
Q306	23314962	TRANSISTOR, KTA1266 Y
Q307	23114528	TRANSISTOR, 2SC1740S

Location No.	Parts No.	Description
Q308	23114528	TRANSISTOR, 2SC1740S
Q340	23205057	TRANSISTOR, KTC3875Y
Q360	23205057	TRANSISTOR, KTC3875Y
Q370	23314962	TRANSISTOR, KTA1266 Y
Q390	72112051	IC, TA75558S
Q391	23205079	TRANSISTOR, 2SC4686A
Q402	23114577	TRANSISTOR, 2SC22350 (FA-1
Q404	23205007	TRANSISTOR, 2SC5570(FA)
Q404B	23850638	INSULATOR, TRANSISTOR, AC263
Q404D	72471082	SCREW, 3X10MM
Q408	23114462	TRANSISTOR, RN1202
Q409	23114462	TRANSISTOR, RN1202
Q418	23314141	TRANSISTOR, 2SC3852
Q418B	70391354	SCREW, BITTB3X6 SZN
Q420	23000370	IC, TA1318N
Q422	23114499	TRANSISTOR, RN1404
Q425	23314204	TRANSISTOR, 2SC2412K,Q
Q426	23114497	TRANSISTOR, RN1406
Q427	23114497	TRANSISTOR, RN1406
Q428	23114497	TRANSISTOR, RN1406
Q430	23319202	IC, MC7809CT
Q431	23114499	TRANSISTOR, RN1404
Q434	23314917	TRANSISTOR, 2SK2003-01MR
Q437	23114528	TRANSISTOR, 2SC1740S
Q438	23314714	TRANSISTOR, 2SK1356
Q460	23314938	TRANSISTOR, 2SD2493(P)
Q460B	72471082	SCREW, 3X10MM
Q465	23314962	TRANSISTOR, KTA1266 Y
Q470	23114759	TRANSISTOR, 2SA949-Y
Q470	23314204	TRANSISTOR, 2SC2412K,Q
Q476	23114459	TRANSISTOR, RN1205
Q484	23314962	TRANSISTOR, KTA1266 Y
Q486	23114528	TRANSISTOR, 2SC1740S
Q495	23118952	IC, PHOTO COUPLER, TLP521-1 (FA)
Q498	23114458	TRANSISTOR, RN1206
Q510	23009251	IC, BACK END PROCESSOR 56
Q520	23319199	IC, MC7805CT
Q550	23205054	TRANSISTOR, KTA1504Y
Q551	23205054	TRANSISTOR, KTA1504Y
Q552	23205054	TRANSISTOR, KTA1504Y
Q610	23906523	IC, TA8256BH (36HFX72)
Q610	23906880	IC, TA8246AH (36HF72)
Q610B	70391355	SCREW, 3X8MM
Q611	70114396	TRANSISTOR, 2SC3326B
Q612	23205054	TRANSISTOR, KTA1504Y
Q613	70114396	TRANSISTOR, 2SC3326B
Q670	70114396	TRANSISTOR, 2SC3326B
Q683	23205057	TRANSISTOR, KTC3875Y
Q705	23114433	TRANSISTOR, 2SC1815-Y
Q706	23114433	TRANSISTOR, 2SC1815-Y
Q707	23114437	TRANSISTOR, 2SC752GTM-Y
Q709	23114433	TRANSISTOR, 2SC1815-Y
Q710	23114425	TRANSISTOR, 2SA1015-Y(TE
Q711	23314909	TRANSISTOR, 2SA1837
Q712	23314912	TRANSISTOR, 2SC4793
Q719	23114433	TRANSISTOR, 2SC1815-Y
Q720	23114433	TRANSISTOR, 2SC1815-Y
△ Q801	23135013	IC, STR-Z4317
Q801B	23476828	BRACKET IC MOUNTING, TMX LOCAL CF35F50
Q805	23114459	TRANSISTOR, RN1205
Q831	23319203	IC, MC7812CT
Q831B	70391355	SCREW, 3X8MM
Q835	23000546	IC, SI-8050SS
Q835B	70391355	SCREW, 3X8MM

Location No.	Parts No.	Description
Q836	23114458	TRANSISTOR, RN1206
Q836	23319202	IC, MC7809CT
Q836B	70391355	SCREW, 3X8MM
Q837	23319202	IC, MC7809CT
Q837B	70391355	SCREW, 3X8MM
Q838	23319202	IC, MC7809CT
Q838B	70391355	SCREW, 3X8MM
Q839	23905239	IC, PQ30RV1
Q839B	70391355	SCREW, 3X8MM
Q840	23905976	IC, PQ05RD11
Q840B	70391355	SCREW, 3X8MM
Q843	23114528	TRANSISTOR, 2SC1740S
△ Q862	23000823	IC, PHOTO COUPLER, TLP421F(GR)
△ Q883	23319692	IC, ERROR AMP. VS=130.2V TO220A SE130N, LF4
Q901	23314780	TRANSISTOR, 2SC4544
Q902	23114433	TRANSISTOR, 2SC1815-Y
Q903	23314780	TRANSISTOR, 2SC4544
Q904	23114433	TRANSISTOR, 2SC1815-Y
Q905	23314780	TRANSISTOR, 2SC4544
Q906	23114433	TRANSISTOR, 2SC1815-Y
Q907	23114735	TRANSISTOR, 2SA102-Y(C)
Q908	23114429	TRANSISTOR, 2SC2120-Y(TE)
Q910	23114433	TRANSISTOR, 2SC1815-Y
Q911	23114433	TRANSISTOR, 2SC1815-Y
Q912	23114425	TRANSISTOR, 2SA1015-Y(TE)
Q913	23114425	TRANSISTOR, 2SA1015-Y(TE)
Q914	23114433	TRANSISTOR, 2SC1815-Y
Q917	23114433	TRANSISTOR, 2SC1815-Y
Q918	23114433	TRANSISTOR, 2SC1815-Y
Q919	23114433	TRANSISTOR, 2SC1815-Y
Q920	23114433	TRANSISTOR, 2SC1815-Y
Q921	23114433	TRANSISTOR, 2SC1815-Y
Q922	23114433	TRANSISTOR, 2SC1815-Y
Q2104	23314962	TRANSISTOR, KTA1266 Y
Q2105	23314962	TRANSISTOR, KTA1266 Y
Q2106	23314962	TRANSISTOR, KTA1266 Y
Q3103	23205054	TRANSISTOR, KTA1504Y
Q4460	23114528	TRANSISTOR, 2SC1740S
Q4461	23114528	TRANSISTOR, 2SC1740S
Q4462	23114528	TRANSISTOR, 2SC1740S
Q4819	23114528	TRANSISTOR, 2SC1740S
QA01	23009228	IC, MCU 1CHIP 16BIT 4M 64
QA02	23906642	IC, AT24C64-10PC
QA14	23205054	TRANSISTOR, KTA1504Y
QA21	23314204	TRANSISTOR, 2SC2412K,Q
QA27	23904896	IC, JLC1562BF
QA70	23319935	IC, MM1096BS
QA71	23314204	TRANSISTOR, 2SC2412K,Q
QA72	23314204	TRANSISTOR, 2SC2412K,Q
QA80	23906295	IC, UPC29M33HB
QA81	70200563	IC, RESET VS=2.9V PST9129, PST9129
QB03	23114498	TRANSISTOR, RN1405
QB05	23314204	TRANSISTOR, 2SC2412K,Q
QB11	23114528	TRANSISTOR, 2SC1740S
QB14	23314204	TRANSISTOR, 2SC2412K,Q
QB15	23314204	TRANSISTOR, 2SC2412K,Q
QB30	23114528	TRANSISTOR, 2SC1740S
QB41	23205054	TRANSISTOR, KTA1504Y
QB42	23205054	TRANSISTOR, KTA1504Y
QB43	23205057	TRANSISTOR, KTC3875Y
QB44	23114499	TRANSISTOR, RN1404
QB45	23205057	TRANSISTOR, KTC3875Y
QB55	23314204	TRANSISTOR, 2SC2412K,Q
QB92	23314204	TRANSISTOR, 2SC2412K,Q

Location No.	Parts No.	Description
QB93	23205045	TRANSISTOR, 2SA1037AKQ
QB94	23205045	TRANSISTOR, 2SA1037AKQ
QB95	23205045	TRANSISTOR, 2SA1037AKQ
QB96	23205045	TRANSISTOR, 2SA1037AKQ
QD01	23009142	IC, 2CH A-PRO WITH AGC DIP32, NJW1136D
QD41	23000725	IC, NJM2700L (36HFX72)
QD41	23000189	IC, TA2136N (36HF72)
QD42	23314085	TRANSISTOR, FET, 2SK372 V (36HFX72)
QD44	23114460	TRANSISTOR, RN1204 (36HFX72)
QD45	23114460	TRANSISTOR, RN1204 (36HFX72)
QD81	23114466	TRANSISTOR, RN2204 (36HFX72)
QD82	23114623	TRANSISTOR, 2SC2878-A(TEM (36HFX72)
QD83	23114623	TRANSISTOR, 2SC2878-A(TEM (36HFX72)
QJ02	23114528	TRANSISTOR, 2SC1740S
QJ03	23314912	TRANSISTOR, 2SC4793
QJ04	23114528	TRANSISTOR, 2SC1740S
QM03	23205057	TRANSISTOR, KTC3875Y
QM15	70114402	TRANSISTOR, 2SC3437-Y
QR90	23314204	TRANSISTOR, 2SC2412K,Q
QR91	23314204	TRANSISTOR, 2SC2412K,Q
QS01	70114396	TRANSISTOR, 2SC3326B
QS11	70114396	TRANSISTOR, 2SC3326B
QS12	23114493	TRANSISTOR, RN2404
QS13	23205057	TRANSISTOR, KTC3875Y
QS14	23205057	TRANSISTOR, KTC3875Y
QS101	23906597	IC, BA4558F
QS102	23114493	TRANSISTOR, RN2404
QS103	70114396	TRANSISTOR, 2SC3326B
QS104	70114396	TRANSISTOR, 2SC3326B
QS107	23904896	IC, JLC1562BF
QS108	23205057	TRANSISTOR, KTC3875Y
QS120	23906597	IC, BA4558F
QV01	23905539	IC, TA8851CN
QV02	23905590	IC, M52055FP
QV10	23114528	TRANSISTOR, 2SC1740S
QV17	23205057	TRANSISTOR, KTC3875Y
QV18	23114528	TRANSISTOR, 2SC1740S
QV19	23114499	TRANSISTOR, RN1404
QV37	23205054	TRANSISTOR, KTA1504Y
QV38	23205054	TRANSISTOR, KTA1504Y
QV39	23205054	TRANSISTOR, KTA1504Y
QV160	23114500	TRANSISTOR, RN1403
QW05	23205057	TRANSISTOR, KTC3875Y
QW08	23205057	TRANSISTOR, KTC3875Y
QW11	23205057	TRANSISTOR, KTC3875Y
QY264	23205057	TRANSISTOR, KTC3875Y
D101	23316754	DIODE, ZENER, MTZJ33B
D301	23316472	DIODE, RGP10J
D302	23316472	DIODE, RGP10J
D303	23316794	DIODE, SC570A
D312	23118041	DIODE, MA111
D330	23118041	DIODE, MA111
D335	23316715	DIODE, ZENER, MTZJ11A
D336	23316672	DIODE, ZENER, MTZJ5.6B
D337	23316672	DIODE, ZENER, MTZJ5.6B
D338	23316655	DIODE, ZENER, MTZJ3.0B
D341	23118041	DIODE, MA111
D354	23118859	DIODE, 1SS133
D370	23316672	DIODE, ZENER, MTZJ5.6B
D371	23118859	DIODE, 1SS133
D390	23316651	DIODE, ZENER VZ=2.43-2.63V DO 34 MTZ J 2.4B
D395	23316725	DIODE, ZENER, MTZJ15B
D404	23224366	DIODE, FMQ-3GU
D406	23316472	DIODE, RGP10J

Location No.	Parts No.	Description
D408	23316472	DIODE, RGP10J
D410	23118094	DIODE, EU2A
D412	23118094	DIODE, EU2A
D413	23118859	DIODE, 1SS133
D414	23316688	DIODE, ZENER, MTZJ9.1C
D415	23316472	DIODE, RGP10J
D417	23316726	DIODE, ZENER, MTZJ15C
D418	23316726	DIODE, ZENER, MTZJ15C
D419	23316716	DIODE, ZENER, MTZJ11B
D420	23316716	DIODE, ZENER, MTZJ11B
D422	23316591	DIODE, ZENER, MA8100-M
D423	23115532	DIODE, ERB12-01
D424	23357076	DIODE, ZENER, HZS6.8N B2
D432	23115532	DIODE, ERB12-01
D467	23118094	DIODE, EU2A
D470	23316758	DIODE, ZENER, MTZJ36B
D471	23316472	DIODE, RGP10J
D475	23316715	DIODE, ZENER, MTZJ11A
D476	23118859	DIODE, 1SS133
D477	23118859	DIODE, 1SS133
D479	23118041	DIODE, MA111
D480	23118859	DIODE, 1SS133
D481	23118859	DIODE, 1SS133
△ D484	23115774	DIODE, ZENER, RD6.2E(FA-1)
D485	23316691	DIODE, ZENER, MTZJ10C
D498	23118859	DIODE, 1SS133
D502	23118041	DIODE, MA111
D503	23118041	DIODE, MA111
D505	23316622	DIODE, ZENER, MA8270-M
D520	23316647	DIODE, ZENER, MTZJ2.0B
D601	23118041	DIODE, MA111
D602	23118041	DIODE, MA111
D603	23118041	DIODE, MA111
D604	23118041	DIODE, MA111
D607	23118262	DIODE, RD33MD
D611	23118041	DIODE, MA111
D612	23118131	DIODE, 1SS193
D613	23118041	DIODE, MA111
D614	23118041	DIODE, MA111
D615	23118041	DIODE, MA111
D616	23118041	DIODE, MA111
D617	23118041	DIODE, MA111
D704	23118859	DIODE, 1SS133
D705	23118859	DIODE, 1SS133
D715	23118859	DIODE, 1SS133
D721	23118859	DIODE, 1SS133
△ D801	23357041	DIODE, LN6SB60-F05
D801B	70391356	SCREW, BITTB3X10 SZN
D835	23118096	DIODE, RK34
D836	23316782	DIODE, ZENER, MTZJ6.2C
D837	23316678	DIODE, ZENER, MTZJ6.8B
D840	23316962	DIODE, S1WBA20
D841	23316269	DIODE, AK04
D845	23118859	DIODE, 1SS133
D855	23118859	DIODE, 1SS133
D862	23316472	DIODE, RGP10J
D864	23316813	DIODE, EG1
D873	23316690	DIODE, ZENER, MTZJ10B
D875	23316689	DIODE, ZENER, MTZJ10A
D876	23316747	DIODE, ZENER, MTZJ27C
D879	23316747	DIODE, ZENER, MTZJ27C
D881	23118859	DIODE, 1SS133
D883	23357018	DIODE, VRM=350V IF=2A S-R DO15L RL2
D884	23357018	DIODE, VRM=350V IF=2A S-R DO15L RL2
D885	23316819	DIODE, RU4YX

Location No.	Parts No.	Description
D886	23316819	DIODE, RU4YX
D892	23316184	DIODE, FML-G12S
D892B	70391355	SCREW, 3X8MM
D893	23316184	DIODE, FML-G12S
D893B	70391355	SCREW, 3X8MM
D895	23118094	DIODE, EU2A
D896	23118094	DIODE, EU2A
△ D899	24019485	VARISTOR, TNR10V431K
D901	23118859	DIODE, 1SS133
D904	23118859	DIODE, 1SS133
D905	23118859	DIODE, 1SS133
D906	23118859	DIODE, 1SS133
D907	23118859	DIODE, 1SS133
D908	23118859	DIODE, 1SS133
D909	23118859	DIODE, 1SS133
D911	23115337	DIODE, 1S1834
D921	23115337	DIODE, 1S1834
D931	23118859	DIODE, 1SS133
D932	23118859	DIODE, 1SS133
D933	23118859	DIODE, 1SS133
D934	23118859	DIODE, 1SS133
D941	23118859	DIODE, 1SS133
D942	23118859	DIODE, 1SS133
D943	23118859	DIODE, 1SS133
D946	23118859	DIODE, 1SS133
D963	23118859	DIODE, 1SS133
D964	23118859	DIODE, 1SS133
D965	23118859	DIODE, 1SS133
D966	23118859	DIODE, 1SS133
D970	23118859	DIODE, 1SS133
D4385	23316680	DIODE, ZENER, MTZJ7.5A
D4386	23118859	DIODE, 1SS133
D4461	23118041	DIODE, MA111
D4818	23316749	DIODE, ZENER, MTZJ30A
D4819	23118725	THYRISTER, SF0R3G42(N)
DA02	23316574	DIODE, ZENER CHIP VZ6.05-6.36V MA8062-M
DA11	23118859	DIODE, 1SS133
DA23	23118041	DIODE, MA111
DA43	23118041	DIODE, MA111
DA44	23118041	DIODE, MA111
DA45	23118041	DIODE, MA111
DA46	23118041	DIODE, MA111
DA70	23118041	DIODE, MA111
DA170	23316575	DIODE, ZENER CHIP VZ6.24-6.56V MA8062-H
DB01	23358564	DIODE, LED, SLR-56VC3FPQ
DB03	23358522	DIODE, LED, SIR-56SB3F
DB05	23316675	DIODE, ZENER, MTZJ6.2B
DB30	23118041	DIODE, MA111
DB31	23118041	DIODE, MA111
DB40	23118041	DIODE, MA111
DD81	23118859	DIODE, 1SS133 (36HFX72)
DD82	23118859	DIODE, 1SS133 (36HFX72)
DD83	23118859	DIODE, 1SS133 (36HFX72)
DJ01	23118859	DIODE, 1SS133
DJ02	23316726	DIODE, ZENER, MTZJ15C
DR90	23118041	DIODE, MA111
DS106	23316580	DIODE, ZENER CHIP VZ7.29-7.67V MA8075-M
DS120	23316740	DIODE, ZENER VZ21.52-22.63 DO 34 MTZ J 22D
DV01	23316587	DIODE, ZENER CHIP VZ8.58-9.02V MA8091-L
DV02	23316587	DIODE, ZENER CHIP VZ8.58-9.02V MA8091-L
DV03	23316587	DIODE, ZENER CHIP VZ8.58-9.02V MA8091-L
DV07	23316587	DIODE, ZENER CHIP VZ8.58-9.02V MA8091-L
DV08	23316587	DIODE, ZENER CHIP VZ8.58-9.02V MA8091-L
DV09	23316587	DIODE, ZENER CHIP VZ8.58-9.02V MA8091-L

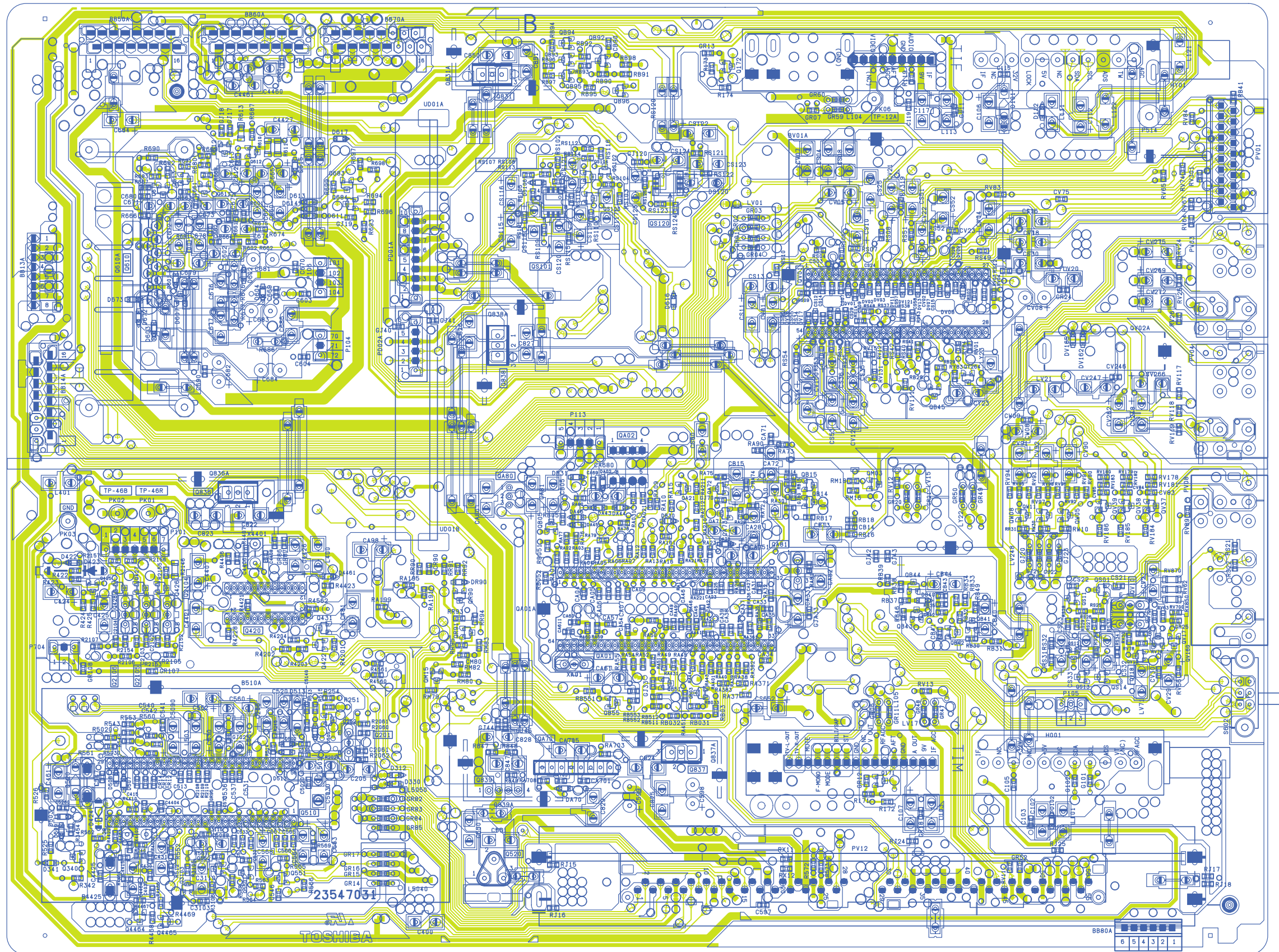
Location No.	Parts No.	Description
DV11	23316587	DIODE, ZENER CHIP VZ8.58-9.02V MA8091-L
DV13	23316587	DIODE, ZENER CHIP VZ8.58-9.02V MA8091-L
DV17	23316587	DIODE, ZENER CHIP VZ8.58-9.02V MA8091-L
DV18	23316587	DIODE, ZENER CHIP VZ8.58-9.02V MA8091-L
DV121	23316587	DIODE, ZENER CHIP VZ8.58-9.02V MA8091-L
DV161	23316591	DIODE, ZENER, MA8100-M
DV162	23316591	DIODE, ZENER, MA8100-M
DV163	23316591	DIODE, ZENER, MA8100-M
DV164	23316591	DIODE, ZENER, MA8100-M
DV165	23316591	DIODE, ZENER, MA8100-M
DV166	23316591	DIODE, ZENER, MA8100-M
MISCELLANEOUS		
B230	23037312	SCREW, BTBW3X12SZN
B231	23035412	SCREW, BTB4X12SZN
B232	23035312	SCREW, BTB3X12SZN
BB130	23368627	CONNECTOR, BRIDGE B-B 8P 2.5JST 08TM-2.5FJ-E
BB13A	23903022	CONNECTOR, BASE B-B 8P 2.5 JST
BB13B	23903022	CONNECTOR, BASE B-B 8P 2.5 JST
BB14A	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5
BB14B	23713013	BASE SOCKET 16P 1.5
BB160	23368627	CONNECTOR, BRIDGE B-B 8P 2.5JST 08TM-2.5FJ-E
BB16A	23903022	CONNECTOR, BASE B-B 8P 2.5 JST
BB16B	23903022	CONNECTOR, BASE B-B 8P 2.5 JST
BB50A	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5
BB50B	23713013	BASE SOCKET 16P 1.5
BB60A	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5
BB60B	23713013	BASE SOCKET 16P 1.5
BB70A	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5
BB70B	23713013	BASE SOCKET 16P 1.5
BB80A	23368517	CONNECTOR, PLUG, B-B 6P
BB80B	23902749	CONNECTOR, SOCKET, B-B 6P
△ F470	23144897	FUSE, 2A 125V
F470A	23165433	FUSE HOLDER, 5.2 SOC
△ F801	23144745	FUSE, 10.0A UL
F801A	23165433	FUSE HOLDER, 5.2 SOC
△ F860	23144456	FUSE, AXIAL, 125V 5.0A
△ F889	23144456	FUSE, AXIAL, 125V 5.0A
△ F890	23144456	FUSE, AXIAL, 125V 5.0A
△ F891	23144456	FUSE, AXIAL, 125V 5.0A
G101	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
G102	24011101	CHIP, METAL FILM, 1/20W 100 OHM J
G301	24366472	CARBON FILM, 1/6W 4.7K OHM J
G306	24366222	CARBON FILM, 1/6W 2.2K OHM J
G312	24366272	CARBON FILM, 1/6W 2.7K OHM J
G370	24338159	OXIDE METAL FILM, 1W 1.5 OHM J
G403	24946223	CARBON COMPOSITION GF 1/2W 22K K
G498	24568109	CERAMIC COVERED G 7W 1.0 J
△ G883	23316679	DIODE, ZENER, MTZJ6.8C
GCD86	24797100	ELECTROLYTIC, 50V 10UF M (36HFX72)
GCD88	24797100	ELECTROLYTIC, 50V 10UF M (36HFX72)
GCD90	24797100	ELECTROLYTIC, 50V 10UF M (36HFX72)
GCD91	24797100	ELECTROLYTIC, 50V 10UF M (36HFX72)
GJ02	24000445	CHIP JUMPER, 1608TYPE
GJ03	24000445	CHIP JUMPER, 1608TYPE
GJ04	24000445	CHIP JUMPER, 1608TYPE
GJ17	24000445	CHIP JUMPER, 1608TYPE
GJ19	24000445	CHIP JUMPER, 1608TYPE
GJ33	24000445	CHIP JUMPER, 1608TYPE
GJ40	24000445	CHIP JUMPER, 1608TYPE
GJ42	24000445	CHIP JUMPER, 1608TYPE
GJ43	24000445	CHIP JUMPER, 1608TYPE
GJ663	24000445	CHIP JUMPER, 1608TYPE (36HFX72)

Location No.	Parts No.	Description
GJ664	24000445	CHIP JUMPER, 1608TYPE (36HFX72)
GJA33	24000445	CHIP JUMPER, 1608TYPE
GR07	24000445	CHIP JUMPER, 1608TYPE
GR24	24000445	CHIP JUMPER, 1608TYPE
GR90	24000445	CHIP JUMPER, 1608TYPE
GR95	24000445	CHIP JUMPER, 1608TYPE
GR107	24000445	CHIP JUMPER, 1608TYPE
GRD80	24366472	CARBON FILM, 1/6W 4.7K OHM J (36HFX72)
GRD82	24366472	CARBON FILM, 1/6W 4.7K OHM J (36HFX72)
H003	23124086	ANTENNA SWITCH, BUNKI
H003A	23740989	NUT, F-CONNECTOR 2H BS
KB01	23906805	IC, REMOTE PHOTO RECIEVER, PIC-TB17
M461A	23192957	ANODE CAP ASSY, TCC5602AT
M461B	23505090	CABLE, CABLE FOCUS
M461C	23505089	CABLE, CABLE FOCUS
M461D	23504719	CABLE, SCREEN
N421	23969041	TAPE WHITE 3M #1, W=1 INCH TNP COMMON
N726	23969041	TAPE WHITE 3M #1, W=1 INCH TNP COMMON
P311A	23902863	SOCKET, B-B, 20P 2MM SMK
P311B	23368520	CONNECTOR, 20P, 2MM
P312A	23902863	SOCKET, B-B, 20P 2MM SMK
P312B	23368520	CONNECTOR, 20P, 2MM
△ P801	23372113	POWER CORD, U/C 125V10A HSV 2 CMC-02P 1
PV01	23365274	JACK, PIN JACK 2S6P
PV02	23365819	JACK, 1S3P
PV03	23365949	JACK, 5P, 1E:OFF+2R:OFF+2L:OFF, JALC
PV04	23365949	JACK, 5P, 1E:OFF+2R:OFF+2L:OFF, JALC
PV08	23365273	JACK, JACK, PIN 6P
PV12	23903040	SOCKET, B-B 2MM 56P TAIKO
S602	23145409	SWITCH, SLIDE SWITCH
SA01	23145227	SWITCH, PUSH, 1C1P
SA02	23145227	SWITCH, PUSH, 1C1P
SA03	23145227	SWITCH, PUSH, 1C1P
SA04	23145227	SWITCH, PUSH, 1C1P
SA05	23145227	SWITCH, PUSH, 1C1P
SA06	23145227	SWITCH, PUSH, 1C1P
SA07	23145227	SWITCH, PUSH, 1C1P
SA08	23145227	SWITCH, PUSH, 1C1P
△ SJ01	23146958	RELAY, 2C 1A DC12V OMRON
△ SR42	23146558	RELAY, DC12V SILENT, DJ12D1-Q(M)-Q
△ SR81	23146577	RELAY, DLS5D1-O(M)0.25W
△ SR83	23146564	RELAY, DC12V, TV5, DG-3
UZ01	23148025	SCAN CONVERTER MODUL, N.H, MVPU15
△ V901A	23903027	CRT SOCKET, 8P SMK CVT3251-0176 CVT3251-0176
W661	23351171	SPEAKER, 60X120 8-OHM 10W, SPK-1416AT
W662	23351171	SPEAKER, 60X120 8-OHM 10W, SPK-1416AT
W665	23351133	SPEAKER, SPK1392, 100X100 6OHM 16W (36HFX72)
X4401	23153721	CERAMIC RESONATOR, 503KHZ
X4402	23153721	CERAMIC RESONATOR, 503KHZ
XA01	23153533	CERAMIC RESONATOR, CERA RESO, TCR1082AM
Z301	23110850	RECTI BLOCK C222 720K
Z401	23140203	SPARK GAP, 2.0-3.0KV C-010, AG20PC152F-L3N
PC BOARD ASSEMBLIES		
* U801	23787485	POWER/DEF BOARD, PD0159C
* U802	23787486	AC IN BOARD, PD0161B
* U803	23787487	LOW B BOARD, PB9567C
* U901	23787488	CRT/D VM BOARD, PD0164C
* U902	23787489	SIGNAL BOARD, PD0650A (36HFX72)
* U902	23787492	SIGNAL BOARD, PD0650B (36HFX72)

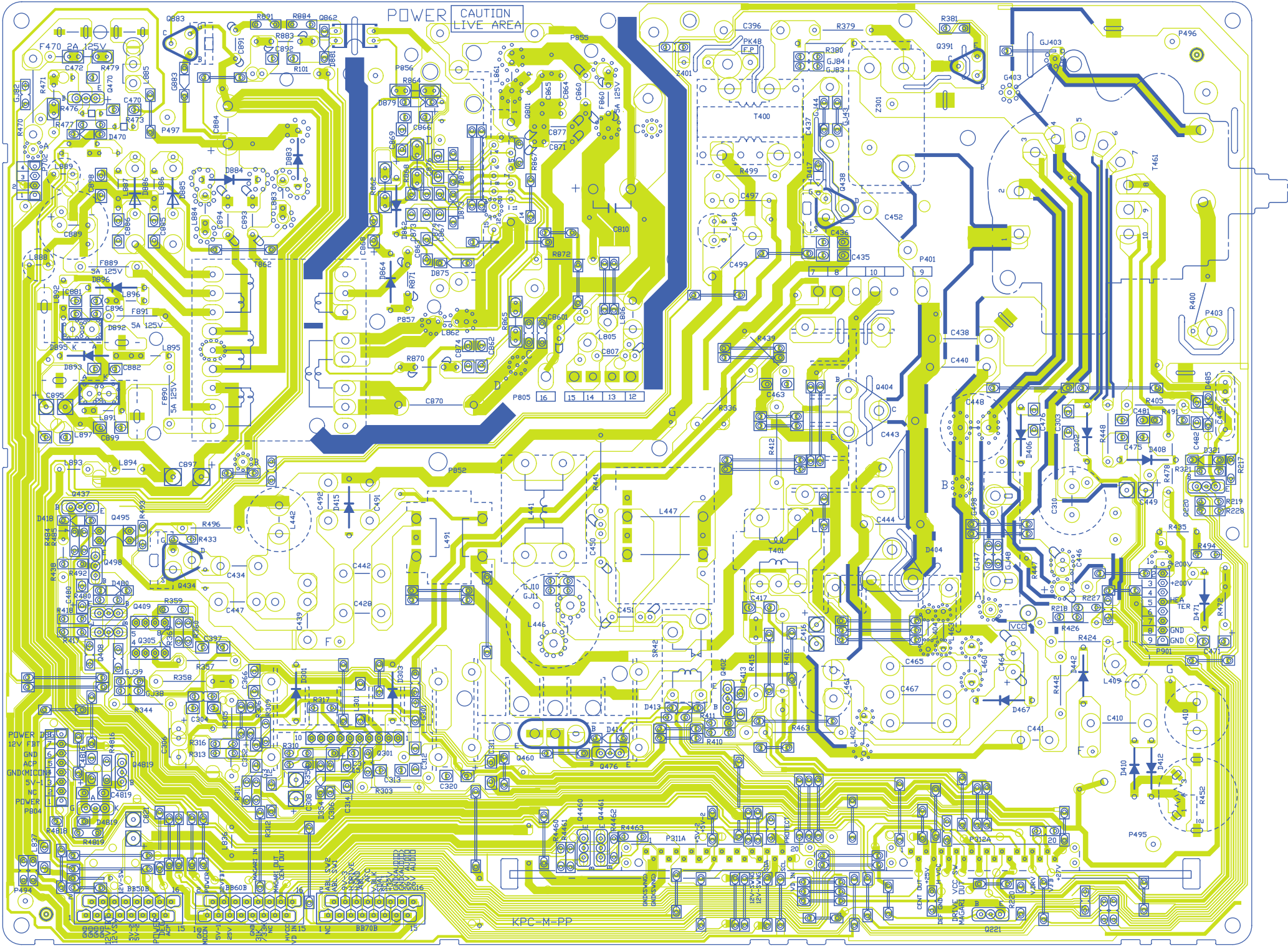
Location No.	Parts No.	Description

SIGNAL BOARD PD0650

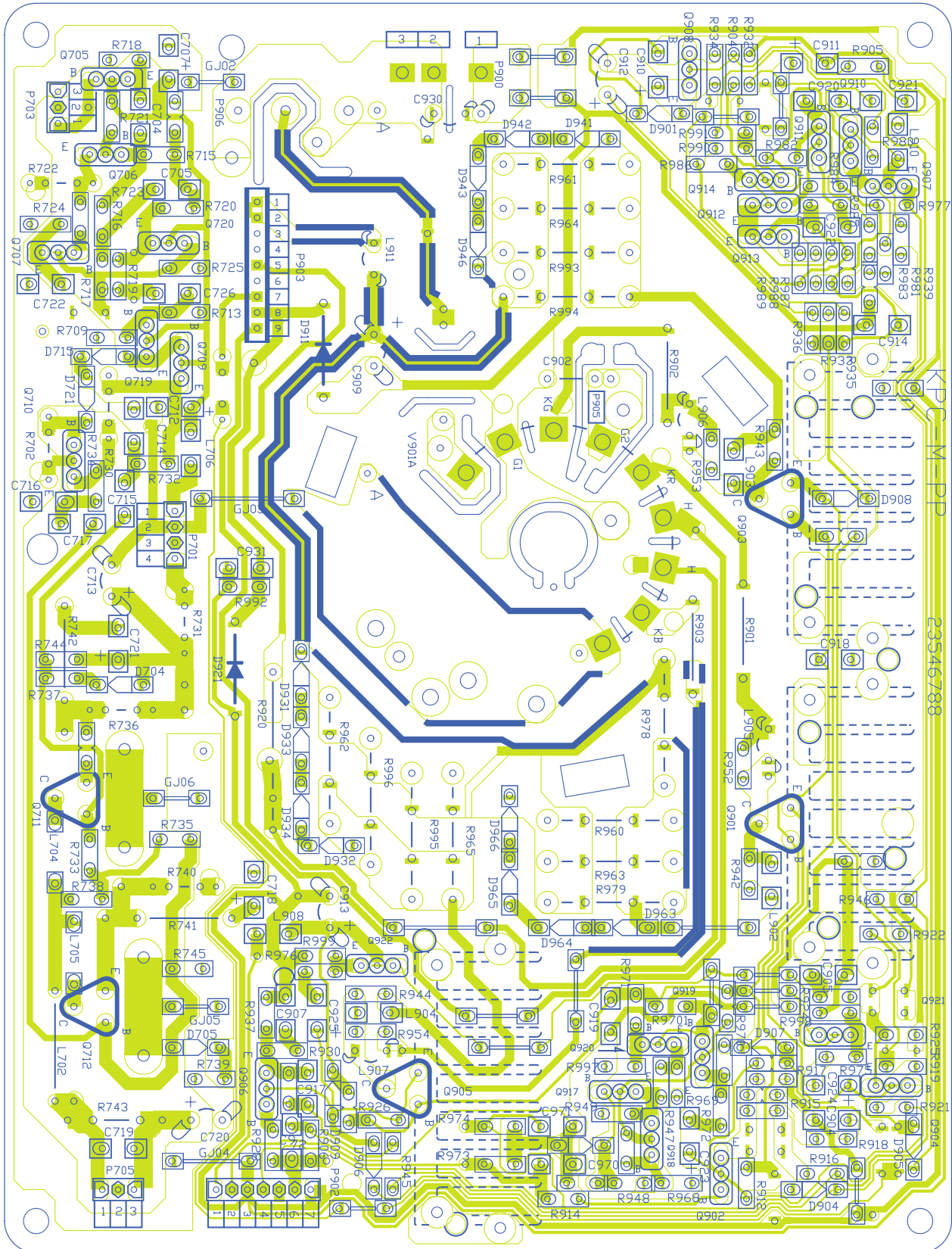
BOTTOM (FOIL) SIDE



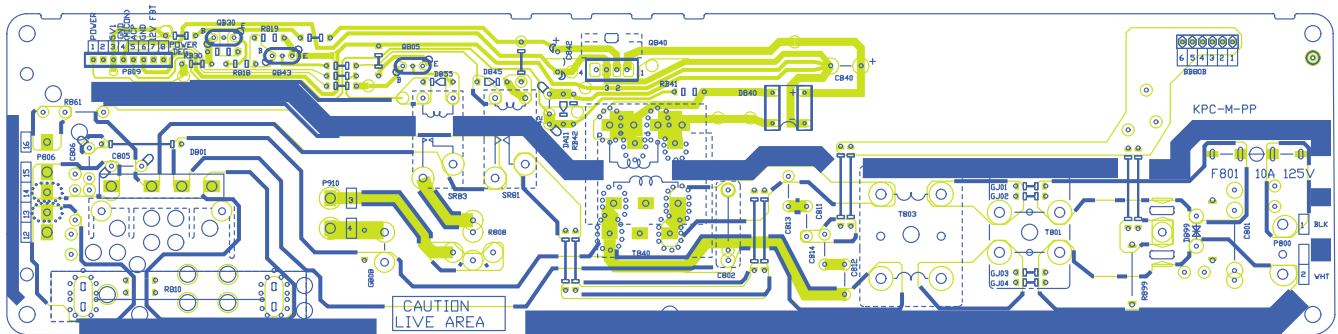
POWER/DEF BOARD PD0159
BOTTOM (FOIL) SIDE



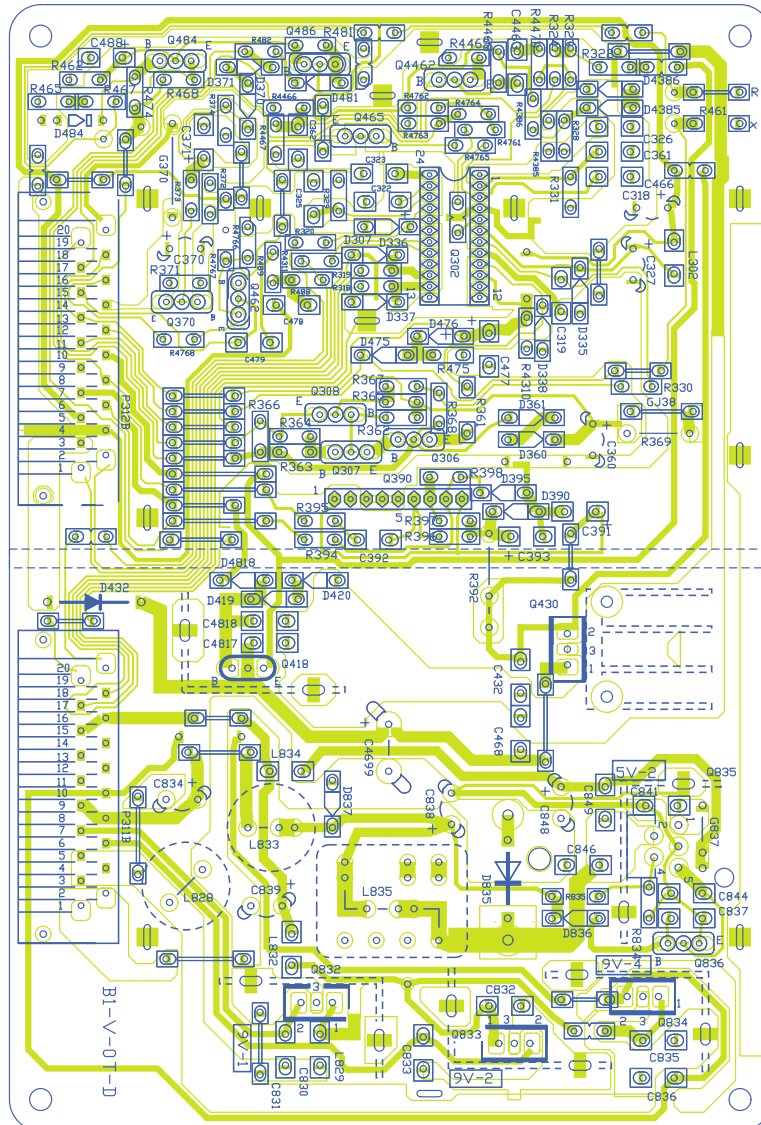
CRT-D/VM BOARD PD0164 **BOTTOM (FOIL) SIDE**



AC IN BOARD PD0161
BOTTOM (FOIL) SIDE

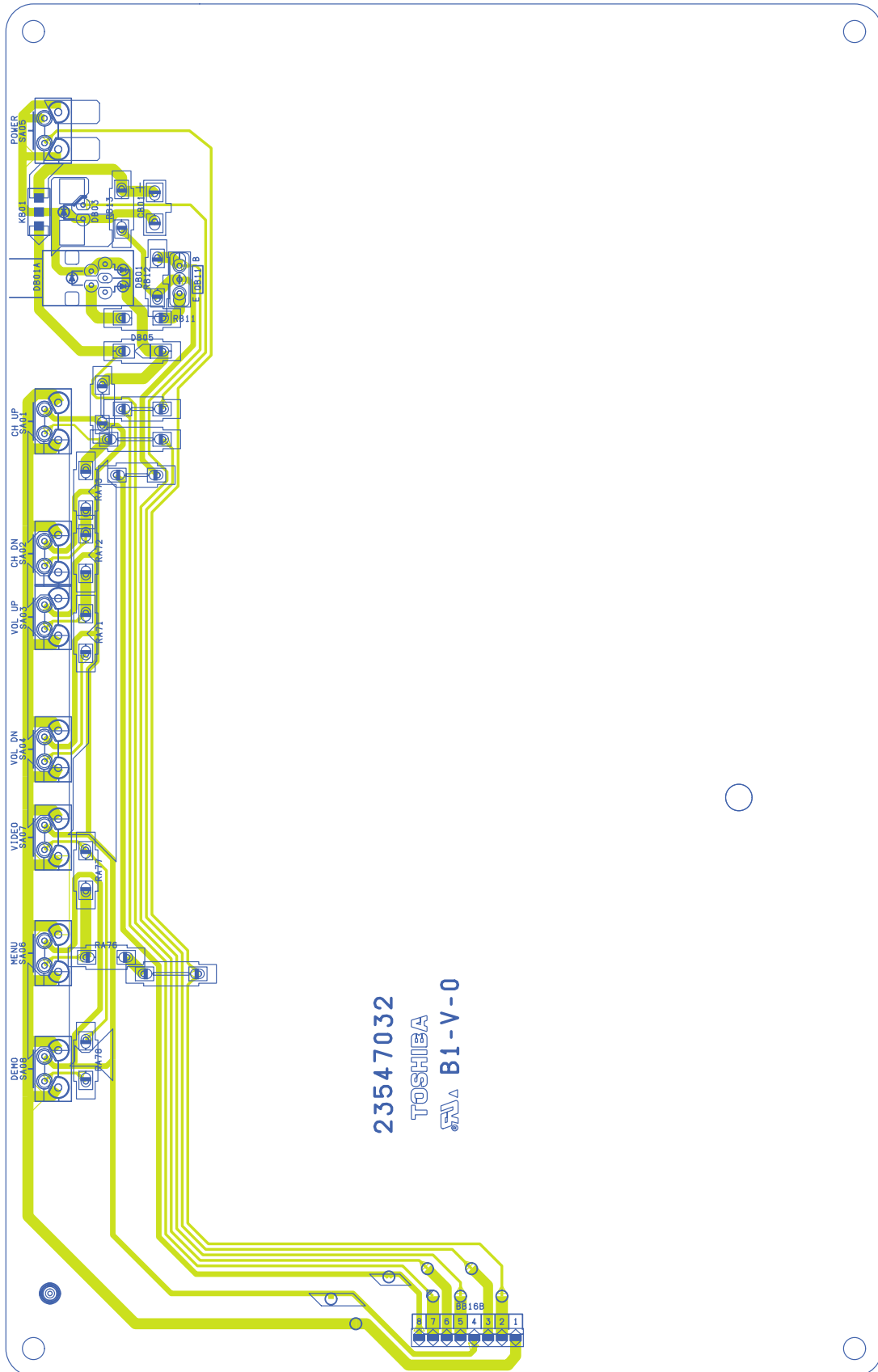


LOW B BOARD PB9567
BOTTOM (FOIL) SIDE



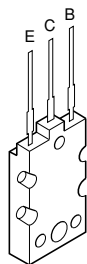
CONTROL-1 BOARD PD0651

BOTTOM (FOIL) SIDE

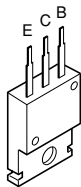


TERMINAL VIEW OF TRANSISTORS

① 2SD2253
(old)
2SC5243



② 2SC3852
2SD1763A
2SC1569
2SC4544
2SA1788
2SA1306
2SA1186A



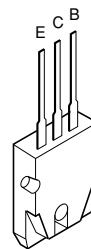
③ 2SC752GTM
2SC2482
2SC2655
2SC4721P



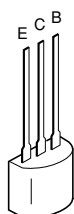
④ 2SC752
2SA562TM
2SA1015
2SC1815
2SC2878
2SC1740S
2SC2120
2SA9335



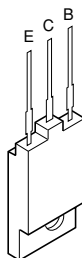
⑤ 2SA1788



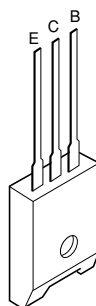
⑥ RN2203
RN2201
RN2004
RN1203
RN1204
RN2204
RN1205
RN1202
RN1201



⑦ 2SD1554
2SD2253
2SD1556
2SC5143
2SC5570
2SD2553



⑧ ON4409



SCHEMATIC DIAGRAM

MODEL : 36HFX72 / 36HF72

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL.

CAUTION: The international hazard symbols "△" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

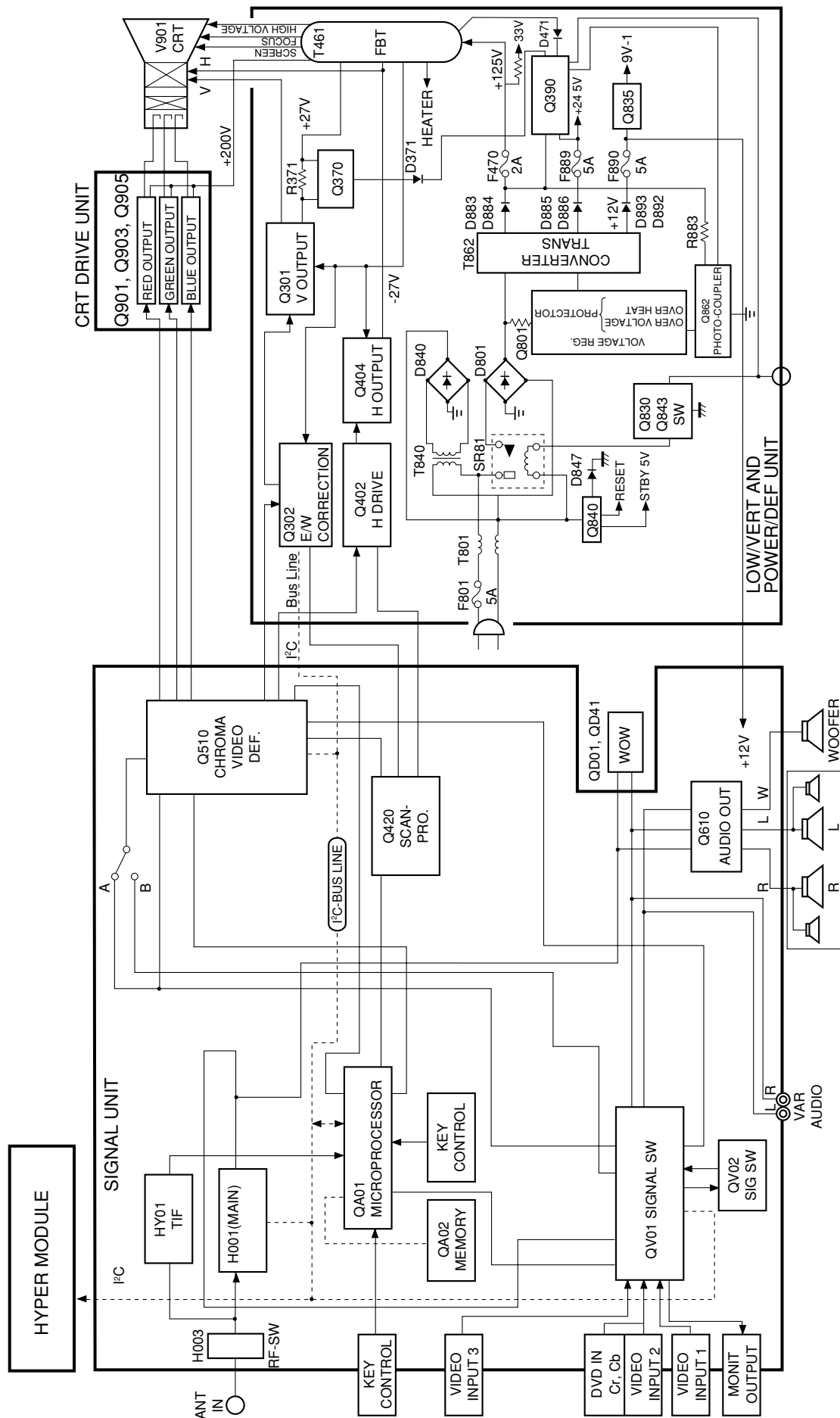
NOTE:

- RESISTOR** Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
 1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon compstion of 1/2 watt
 1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
 K = ±10% G = ±2% F = ±1%
- CAPACITOR** Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μ F, and the values more than 1 in pF.
 All capacitors are ceramic 50V, unless otherwise noted as the following marks.
 —|—⁺— Electrolytic capacitor —|—[⊖]— Mylar capacitor
- The parts indicated with " △ " have special characteristics, and should be replaced with identical parts only.
- Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 120 volts.
- Waveforms are taken receiving color bar signal with enough sensitivity.
- Voltage reading shown are nominal values and may vary ±20% except H.V.

■ SCHEMATIC DIAGRAM STRUCTURE:

SIGNAL Circuit	(BANKAN)	[SHEET - 1/10].....	1/21
	(AV-1 (1))	[SHEET - 2/10].....	2/21
	(AV-1 (2))	[SHEET - 3/10].....	3/21
	(MAICON-1)	[SHEET - 4/10].....	4/21
	(IF)	[SHEET - 5/10].....	5/21
	(VCD 1)	[SHEET - 6/10].....	6/21
	(VCD 2)	[SHEET - 7/10].....	7/21
	(LOWB-REG)	[SHEET - 8/10].....	8/21
	(AUDIO)	[SHEET - 9/10].....	9/21
	(CONNECT)	[SHEET - 10/10].....	10/21
POWER / DEF Circuit	(BANKAN)	[SHEET - 1/4].....	11/21
	(H-DEF)	[SHEET - 2/4].....	12/21
	(MAIN POW)	[SHEET - 3/4].....	13/21
	(V-DEF)	[SHEET - 4/4].....	14/21
CRT / SVM Circuit	(CRT DRIVE)	[SHEET - 1/2].....	15/21
	(SVM)	[SHEET - 2/2].....	16/21
AC INPUT Circuit			17/21
LOW-B / VERT Circuit			18/21
SRS-WOW Circuit			19/21
CONTROL-1 Circuit			20/21
CONTROL-2 Circuit			21/21

CIRCUIT BLOCK DIAGRAM



SPECIFICATIONS(Representative: 36HFX72)	
TELEVISION SYSTEM	NTSC standard
CHANNEL COVERAGE	VHF: 2 through 13 UHF: 14 through 69 Cable TV: mid band (A-8 through A-1, A through I) super band (J through W) hyper band (AA through ZZ, AAA, BBB) ultra band (65 through 94, 100 through 125)
POWER SOURCE	120V AC, 60Hz
POWER CONSUMPTION	180 W (average)
AUDIO POWER	10W + 10W, 13 W (Sub-woofer)
SPEAKER TYPE	Two 2-3/8 x 4-3/4 inches (60 x 120mm), one 4 inches (10cm)
VIDEO/AUDIO TERMINALS	S-VIDEO INPUT Y: 1V(p-p), 75 ohm, negative sync. C: 0.286V(p-p) (burst signal), 75 ohm VIDEO/AUDIO INPUT VIDEO: 1V(p-p), 75 ohm, negative sync. AUDIO: 150mV(rms) (30% modulation equivalent, 47k ohm) ColorStream® (Component video) INPUT Y: 1V (p-p), 75 ohm P _B : 0.7 V (p-p), 75 ohm P _R : 0.7 V (p-p), 75 ohm AUDIO: 150 mV (rms) 47k ohm VIDEO/AUDIO OUT PUT VIDEO: 1 V (p-p), 75 ohm, negative sync. AUDIO: 150 mV (rms) (30% modulation equivalent, 4.7k ohm) VARIABLE AUDIO OUTPUT 0-300mV(rms) (30% modulation equivalent, 4.7k ohm) AUDIO CENTER CHANNEL INPUT 300mV(rms) (30% modulation equivalent, 10k ohm)
DIMENSIONS	Width 38-3/16 inches (970 mm) Height 29-9/16 inches (751 mm) Depth 24-1/4 inches (615 mm)
MASS	206.0 lbs (93.4 kg)
SUPPLIED ACCESORIES	Remote Control with 2 "AA" size alkaline batteries

* Please refer to owner's manual in detail.

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN

SCHEMATIC DIAGRAM

MODEL : 36HFX72 / 36HF72

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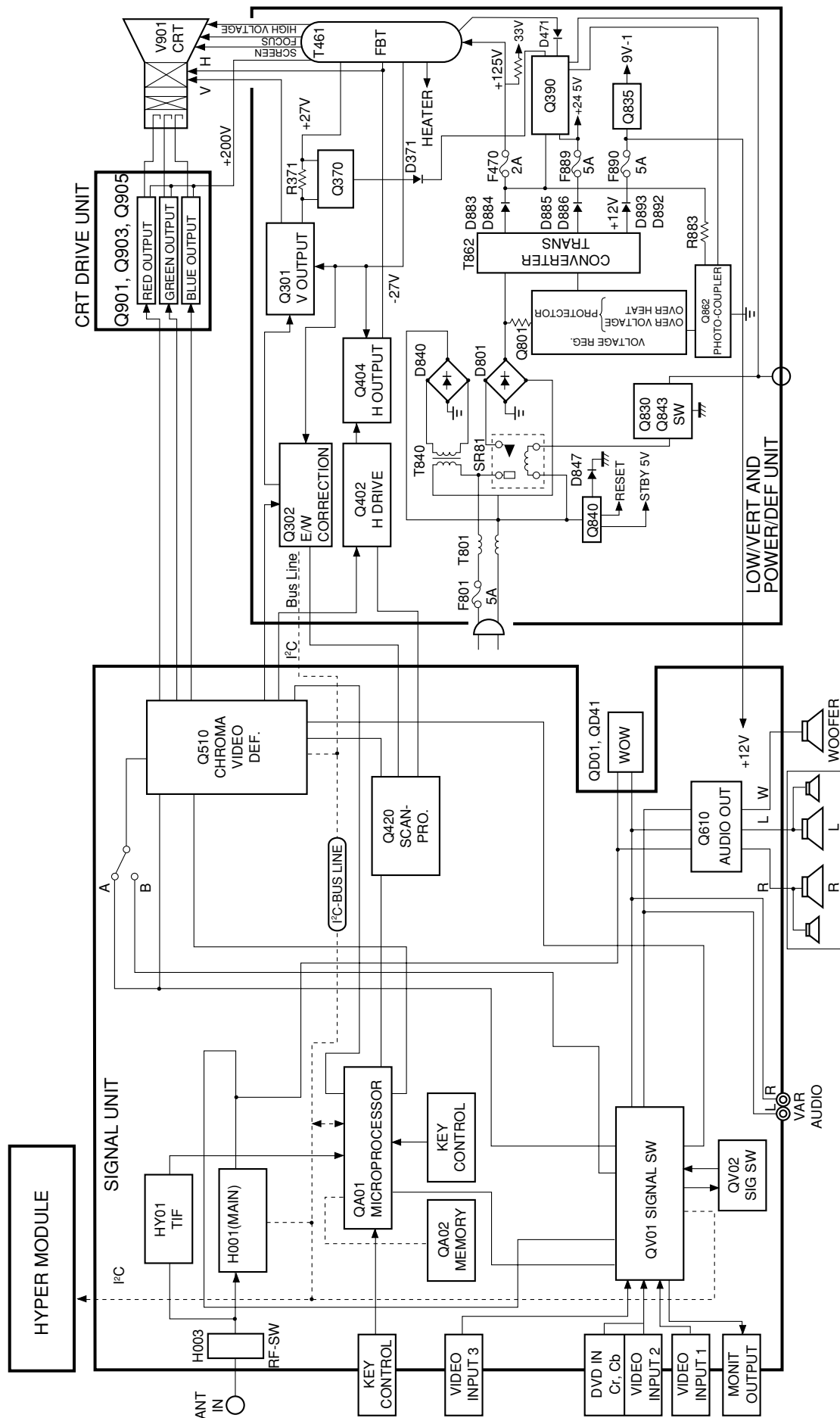
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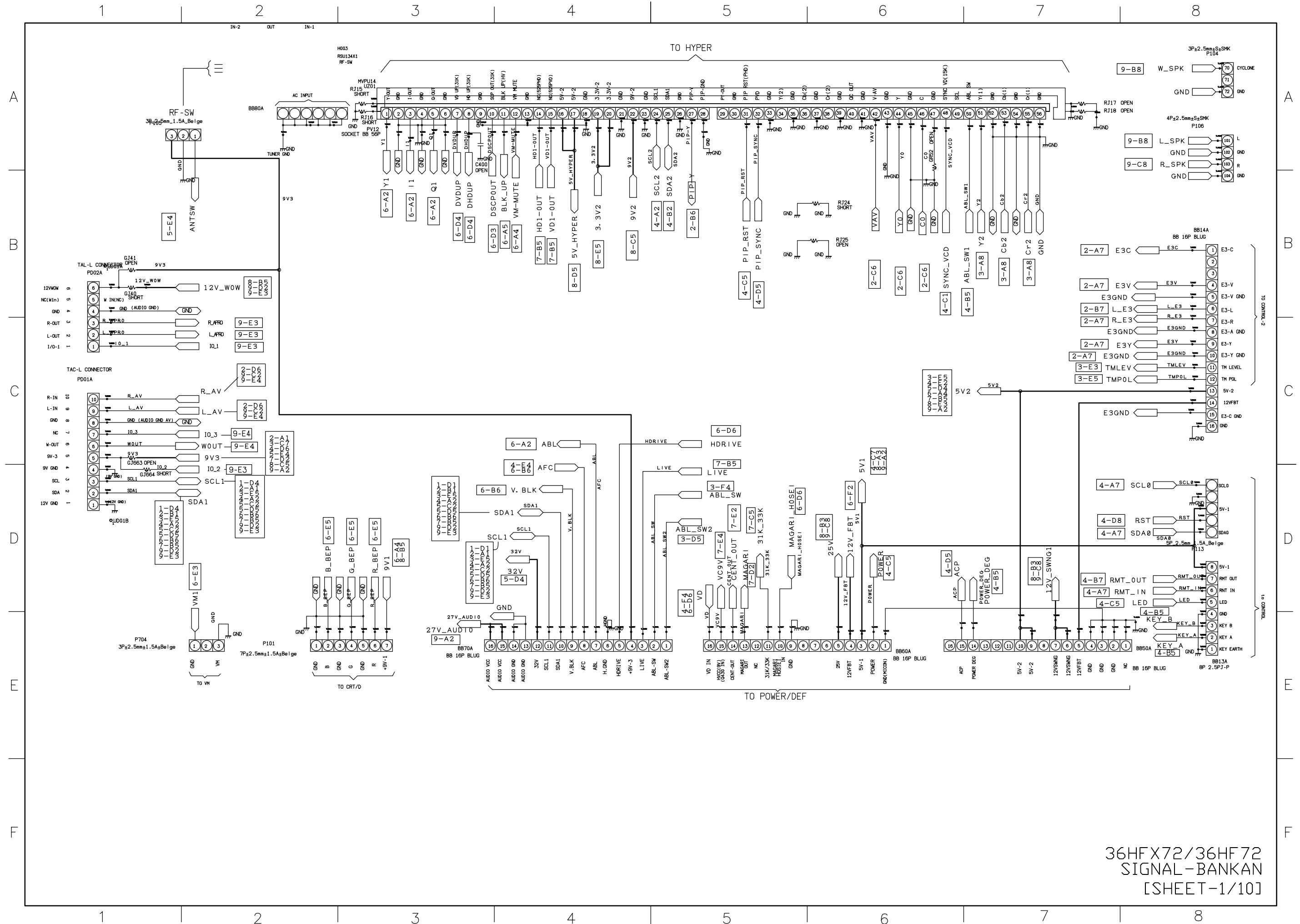
- RESISTOR** Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
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 K = $\pm 10\%$ G = $\pm 2\%$ F = $\pm 1\%$
- CAPACITOR** Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF , and the values more than 1 in pF.
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- Voltages read with DIGITAL MULTI-METER from point indicated to chassis ground, using a color bar signal with all controls at normal, line voltage 120 volts.
- Waveforms are taken receiving color bar signal with enough sensitivity.
- Voltage reading shown are nominal values and may vary $\pm 20\%$ except H.V.

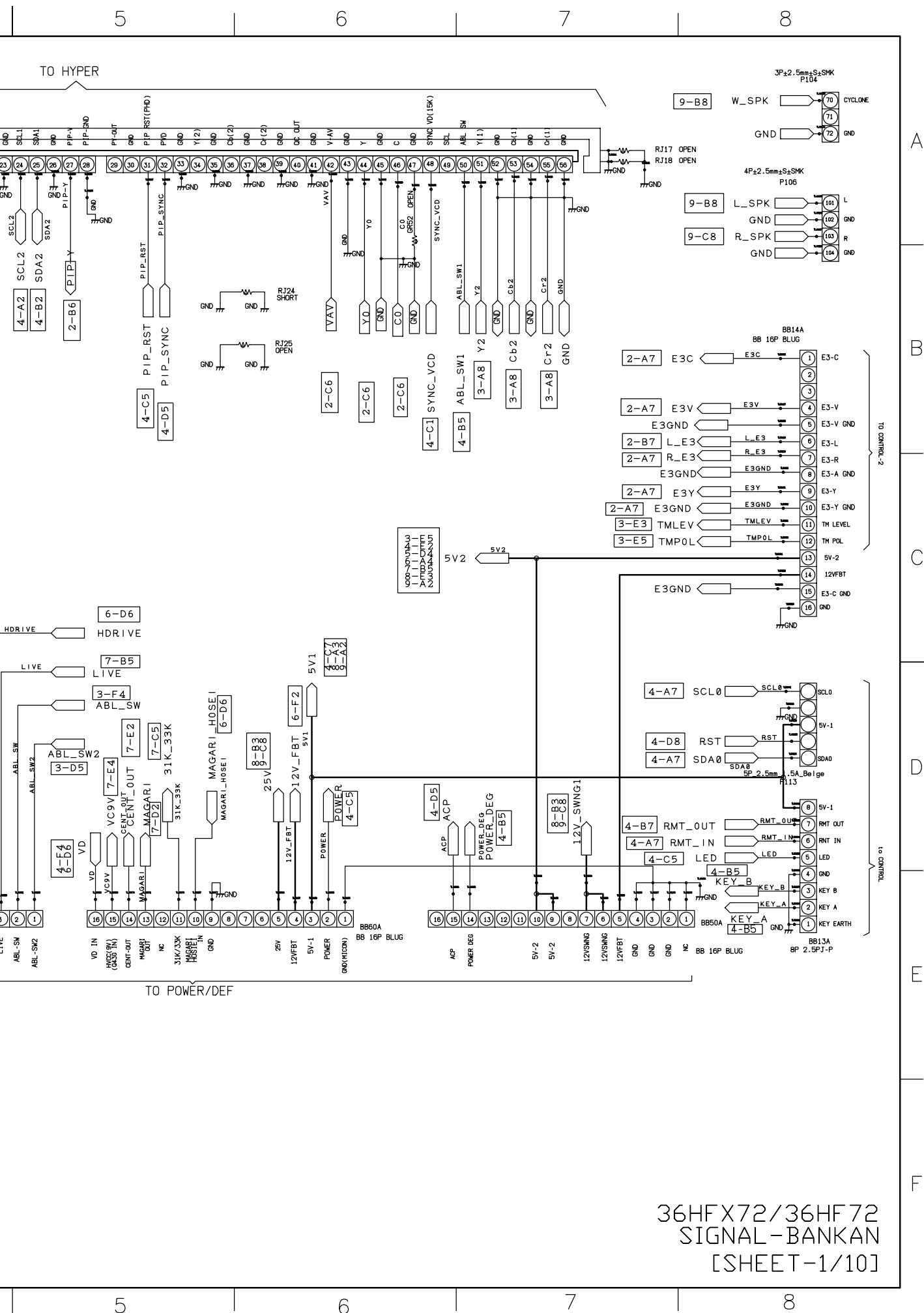
■ SCHEMATIC DIAGRAM STRUCTURE:

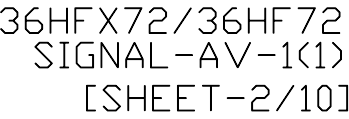
SIGNAL Circuit	(BANKAN)	[SHEET - 1/10].....	1/21
	(AV-1 (1))	[SHEET - 2/10].....	2/21
	(AV-1 (2))	[SHEET - 3/10].....	3/21
	(MAICON-1)	[SHEET - 4/10].....	4/21
	(IF)	[SHEET - 5/10].....	5/21
	(VCD 1)	[SHEET - 6/10].....	6/21
	(VCD 2)	[SHEET - 7/10].....	7/21
	(LOWB-REG)	[SHEET - 8/10].....	8/21
	(AUDIO)	[SHEET - 9/10].....	9/21
	(CONNECT)	[SHEET - 10/10].....	10/21
POWER / DEF Circuit	(BANKAN)	[SHEET - 1/4].....	11/21
	(H-DEF)	[SHEET - 2/4].....	12/21
	(MAIN POW)	[SHEET - 3/4].....	13/21
	(V-DEF)	[SHEET - 4/4].....	14/21
CRT / SVM Circuit	(CRT DRIVE)	[SHEET - 1/2].....	15/21
	(SVM)	[SHEET - 2/2].....	16/21
AC INPUT Circuit			17/21
LOW-B / VERT Circuit			18/21
SRS-WOW Circuit			19/21
CONTROL-1 Circuit			20/21
CONTROL-2 Circuit			21/21

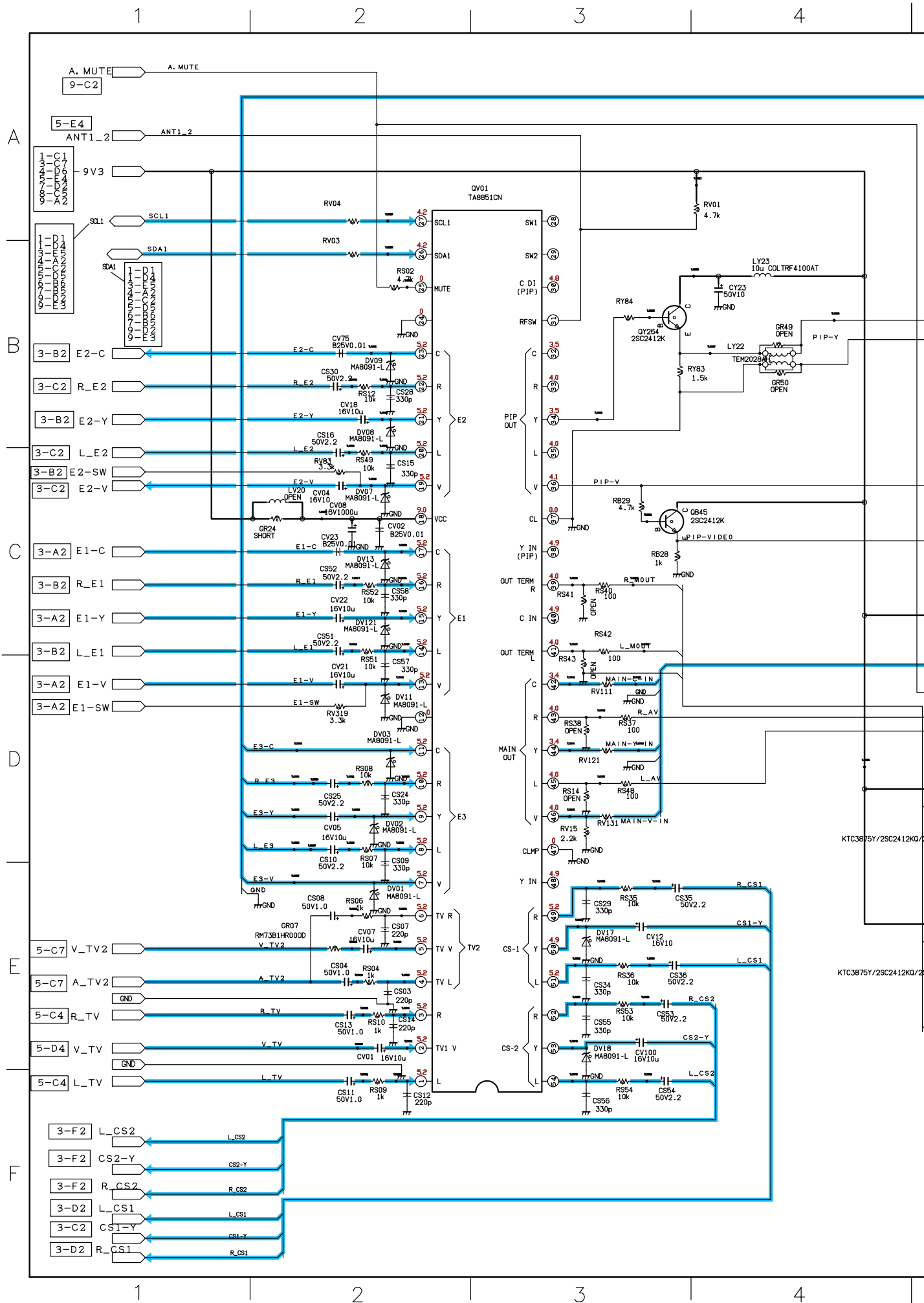
CIRCUIT BLOCK DIAGRAM

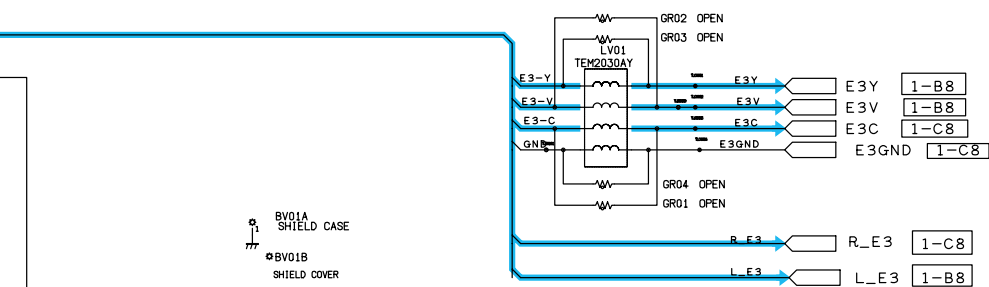




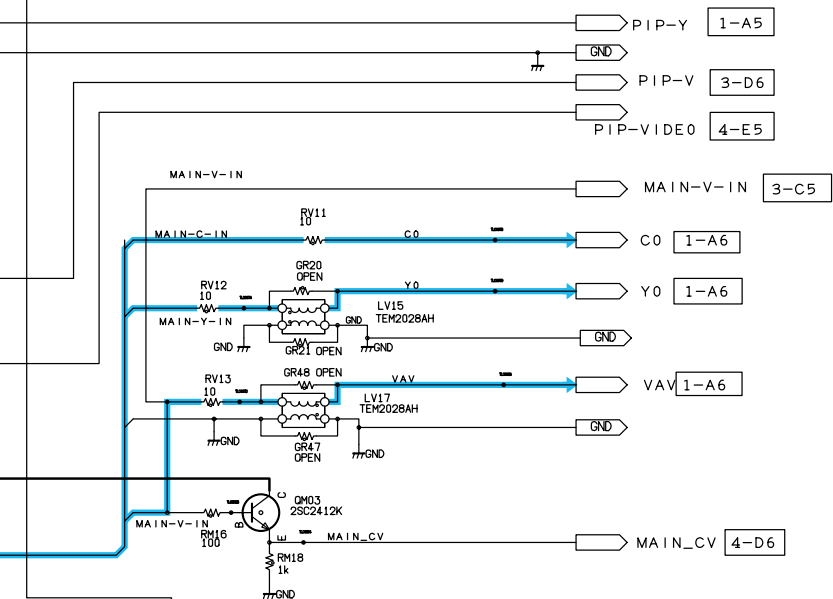




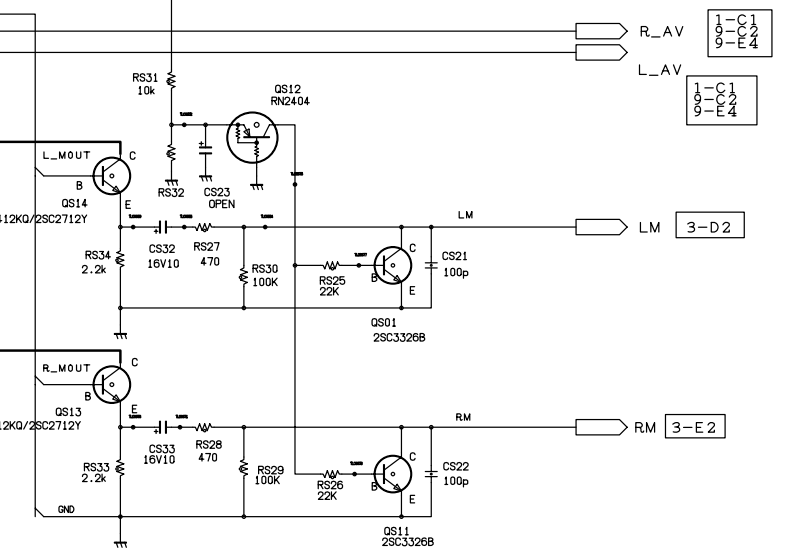




A



B

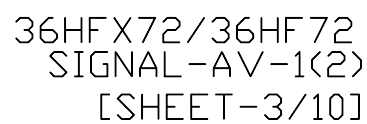


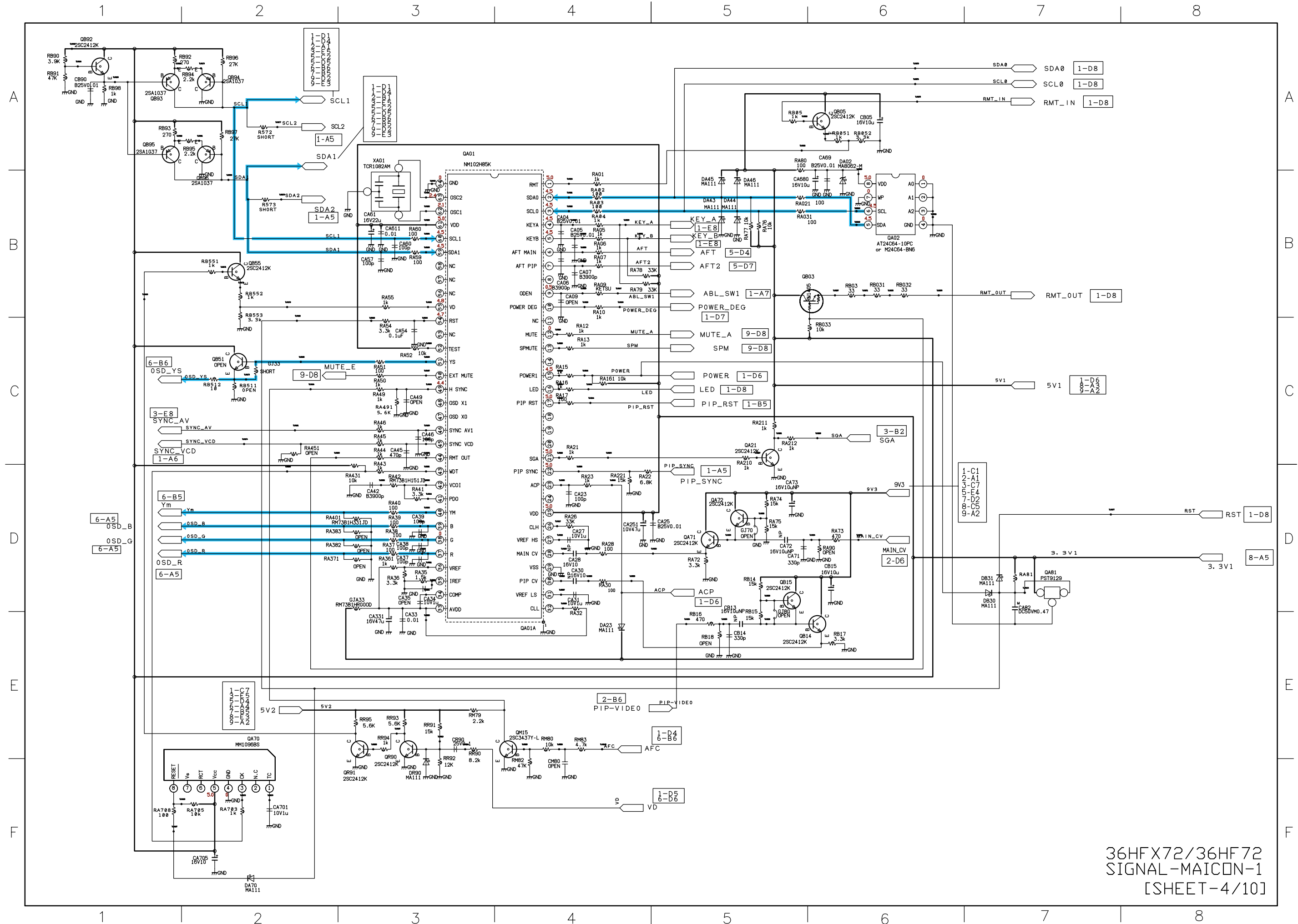
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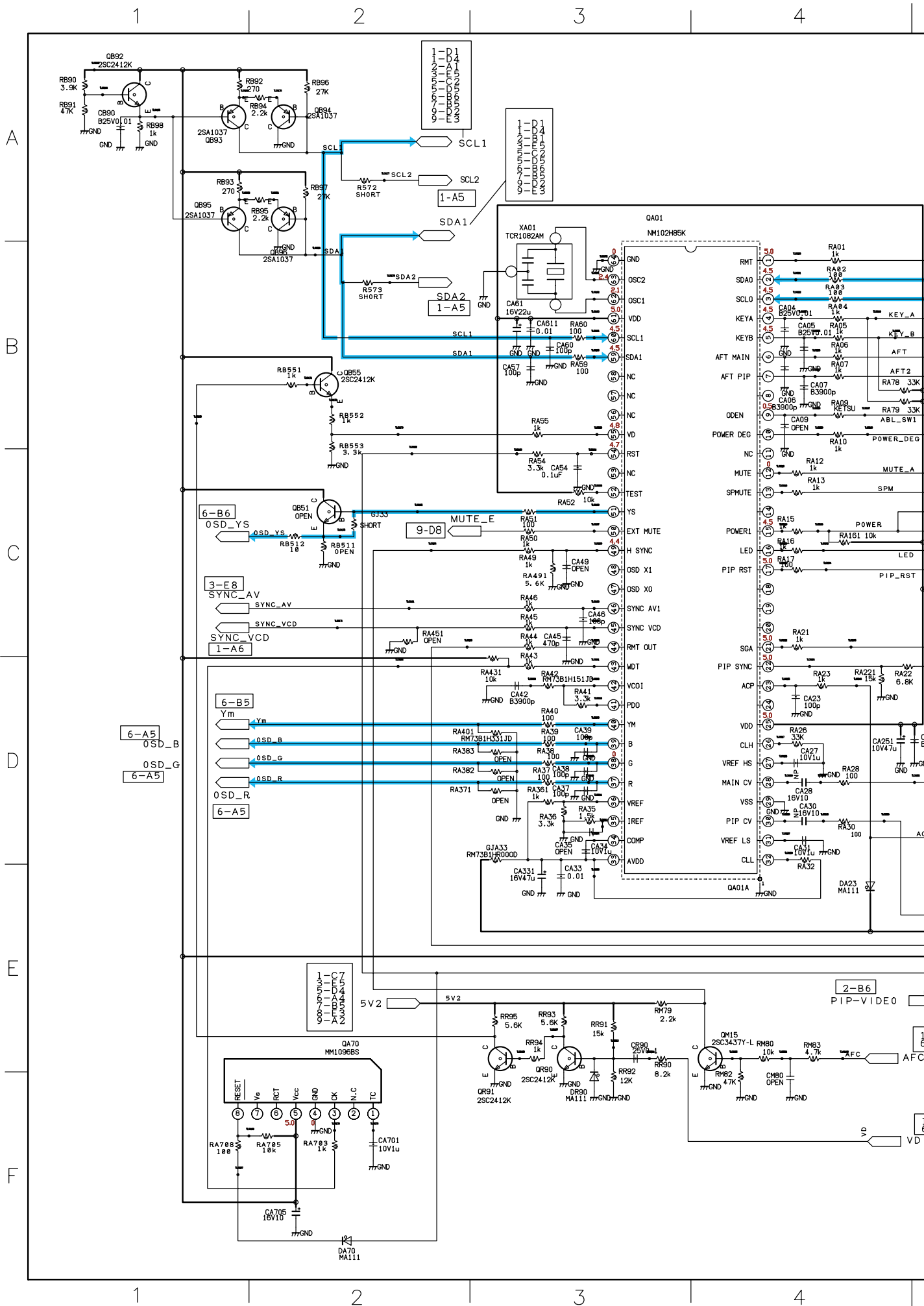
D

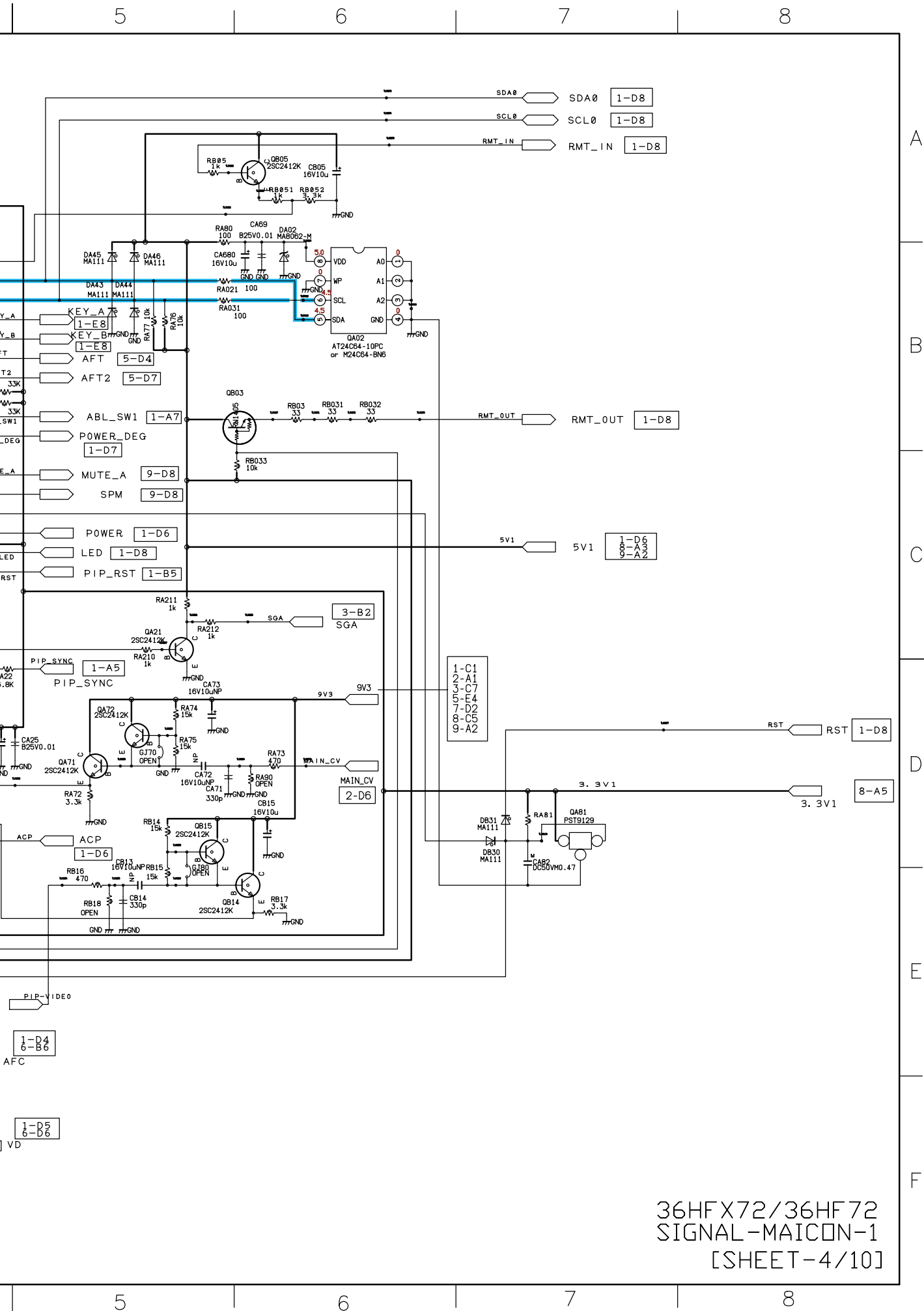
E

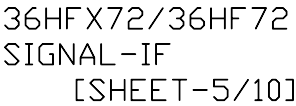
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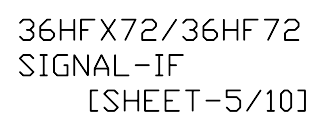


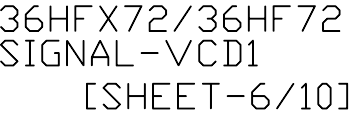


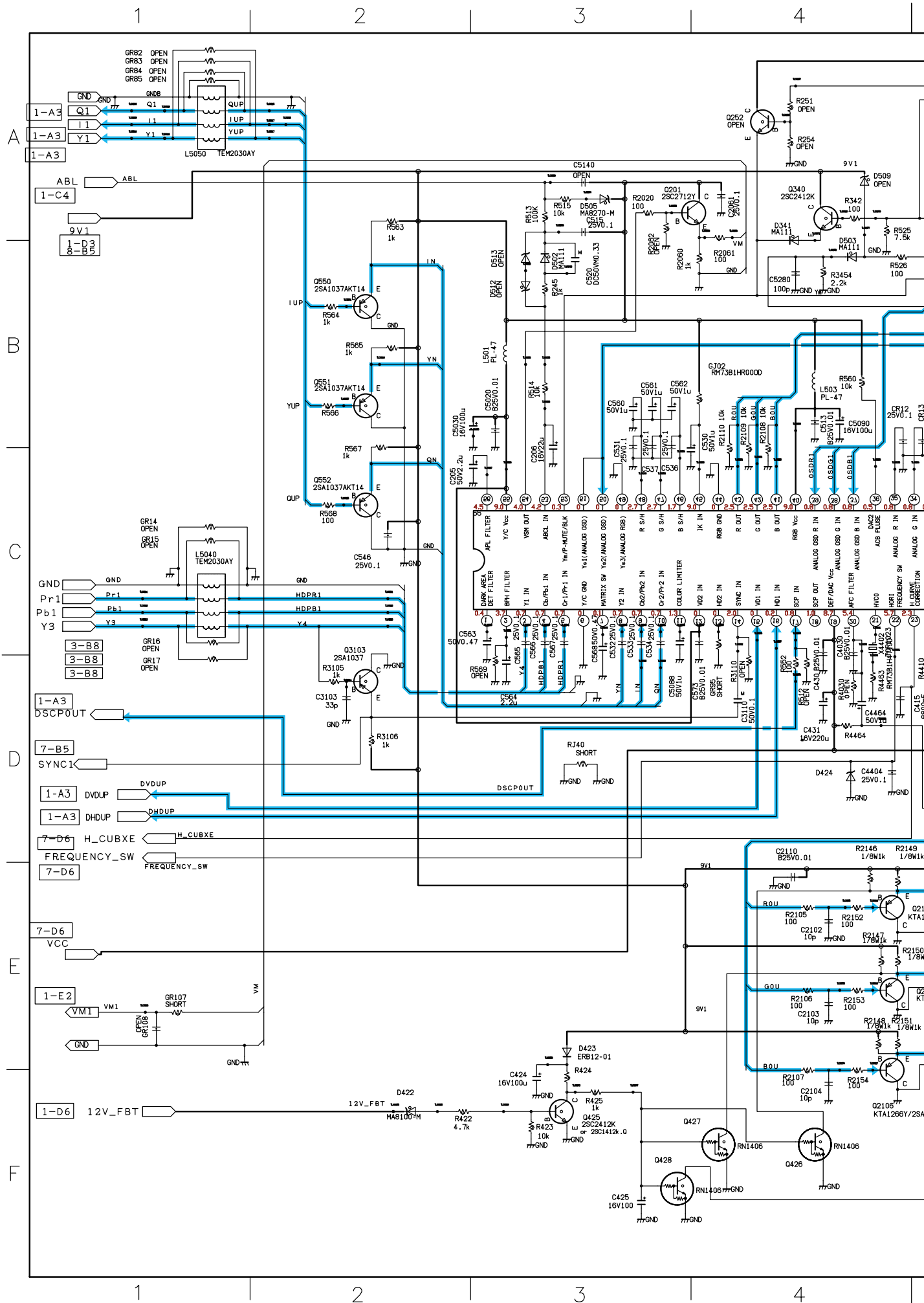


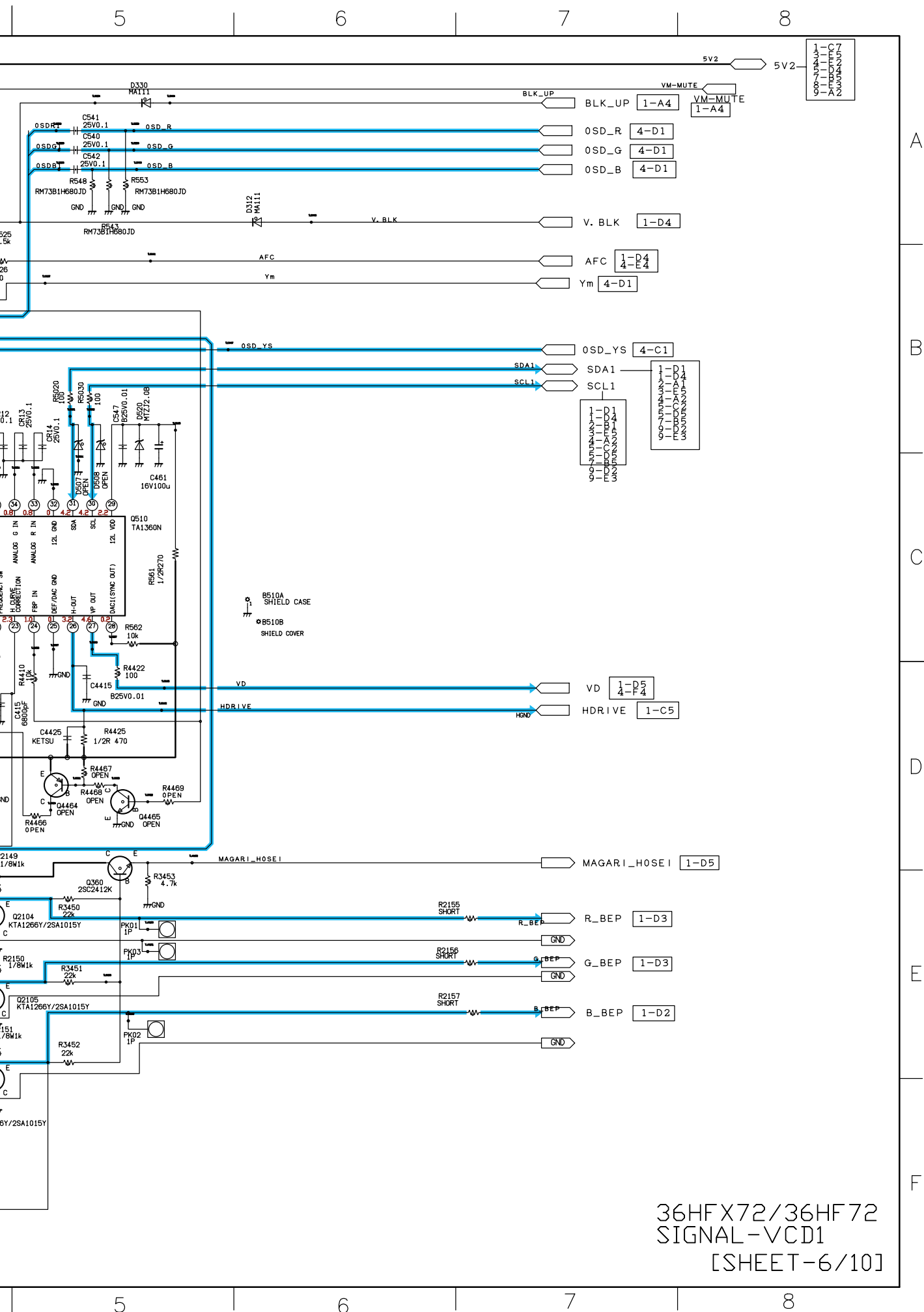












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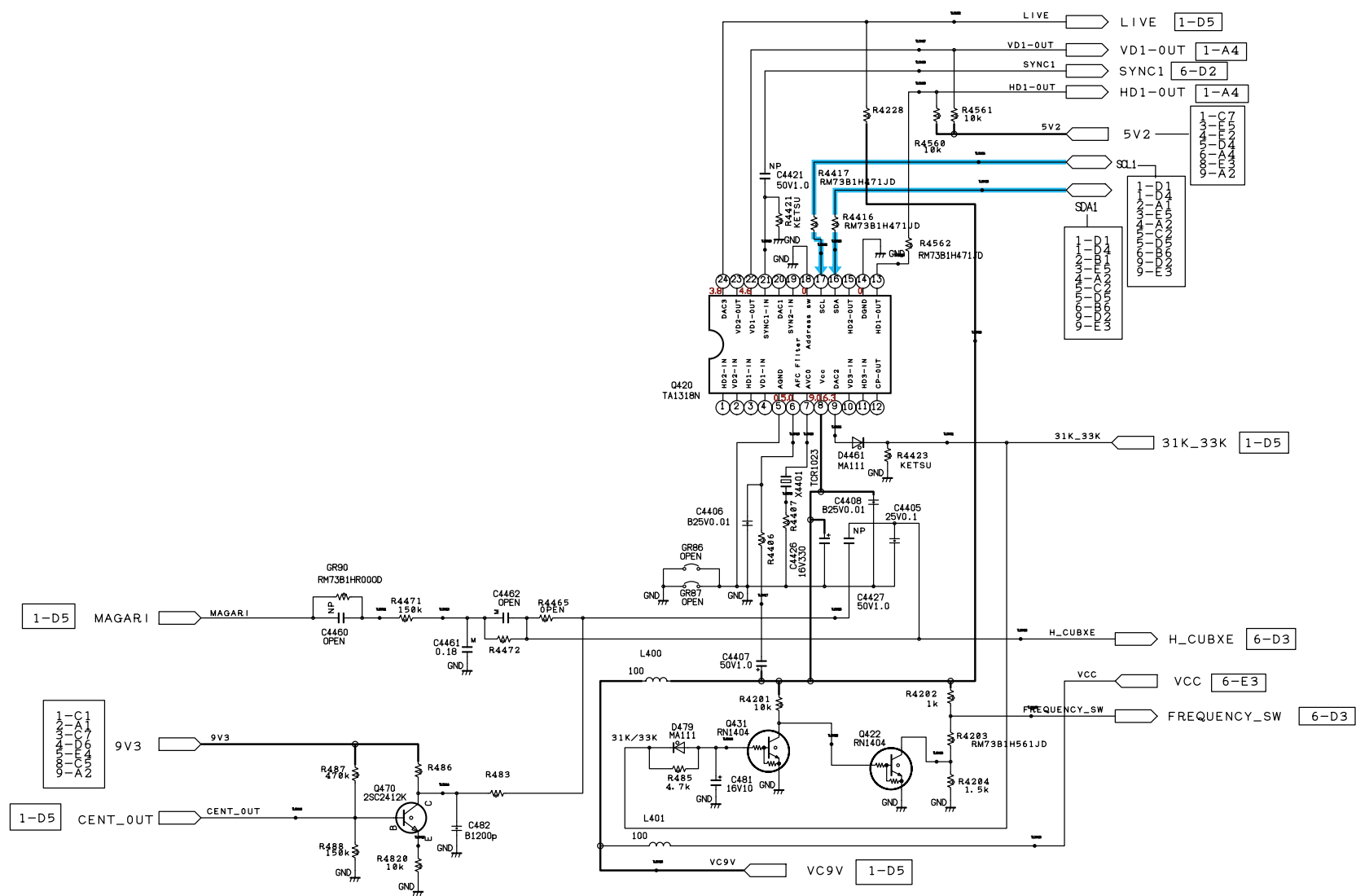
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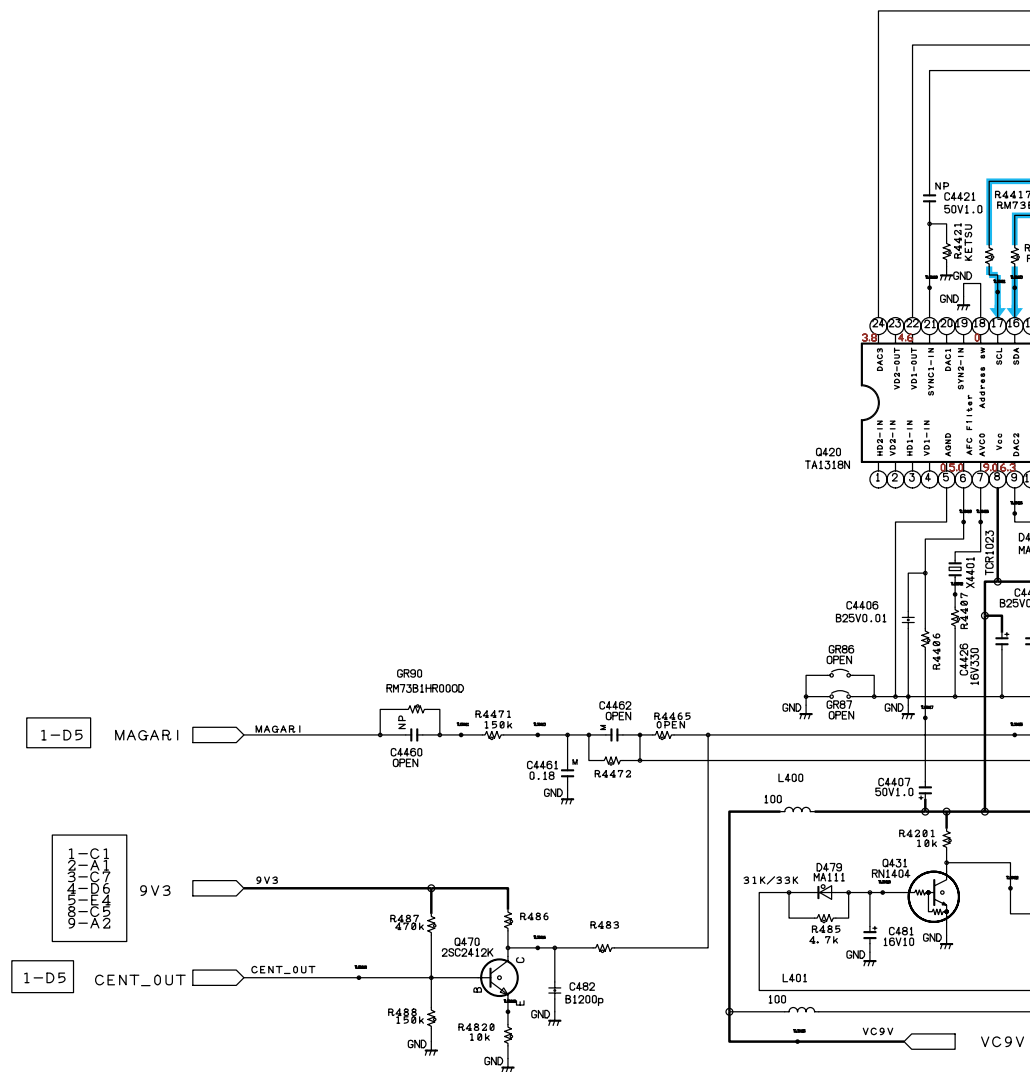
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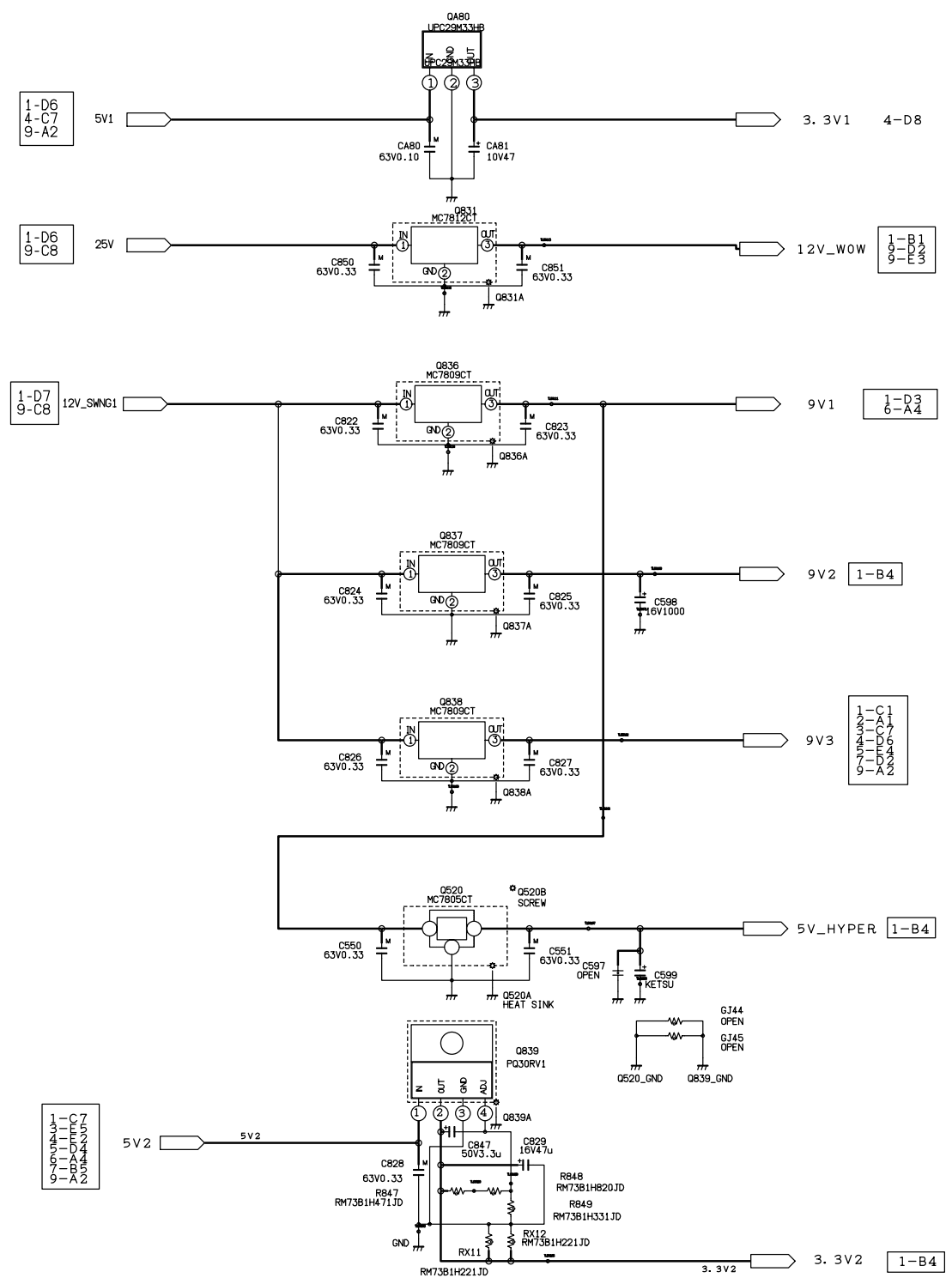
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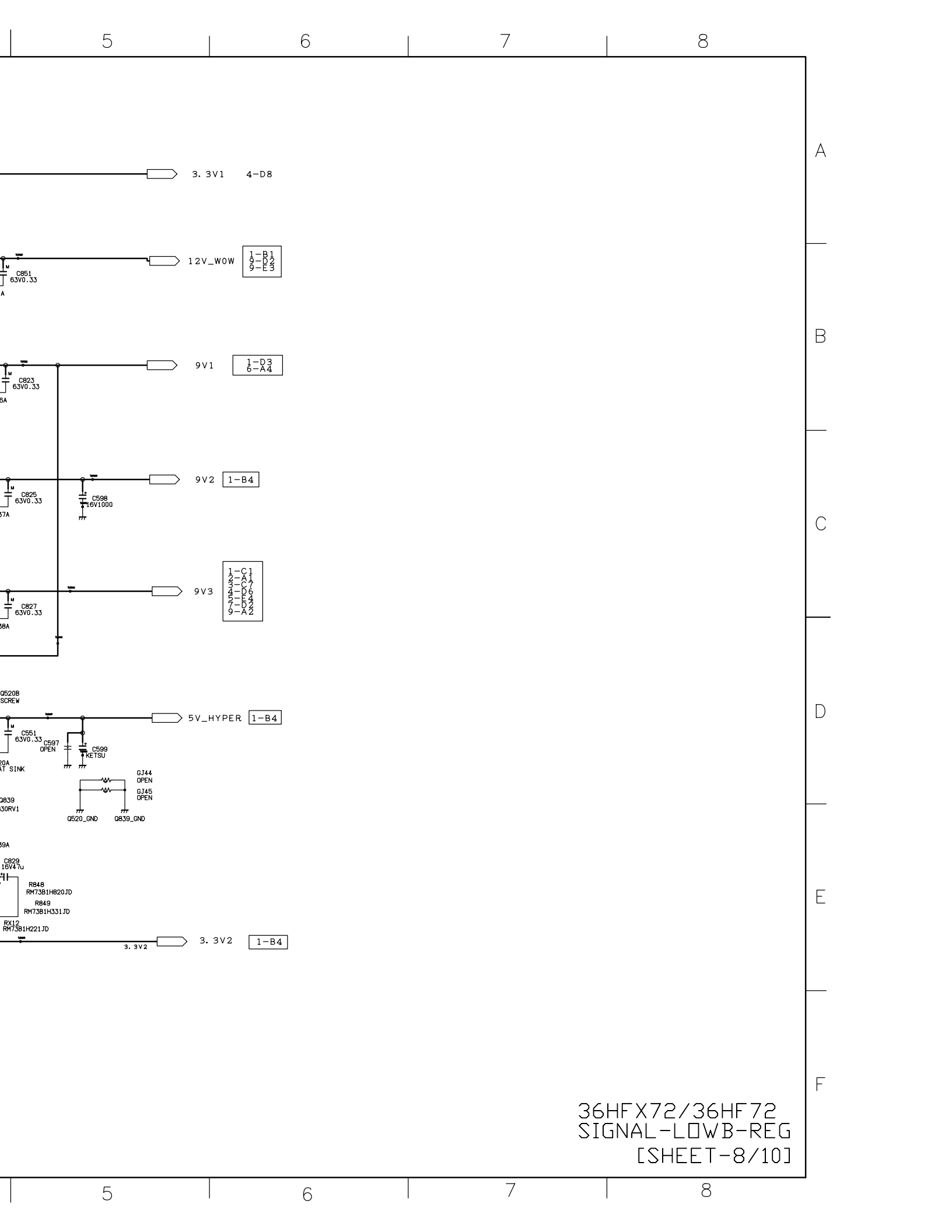
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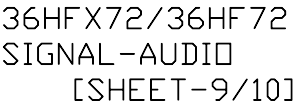
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36HFX72/36HF72
SIGNAL-LOWB-REG
[SHEET-8/10]





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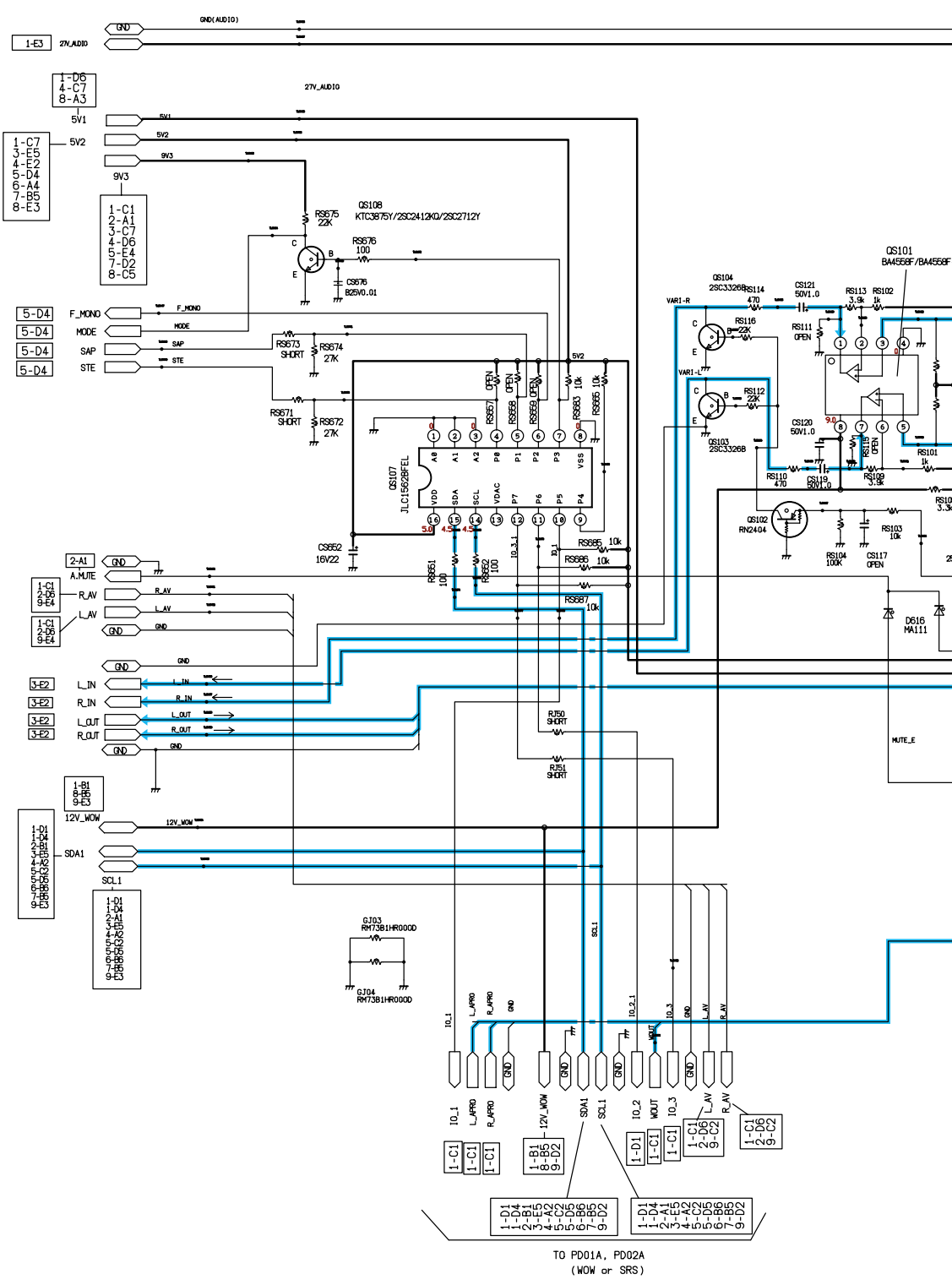
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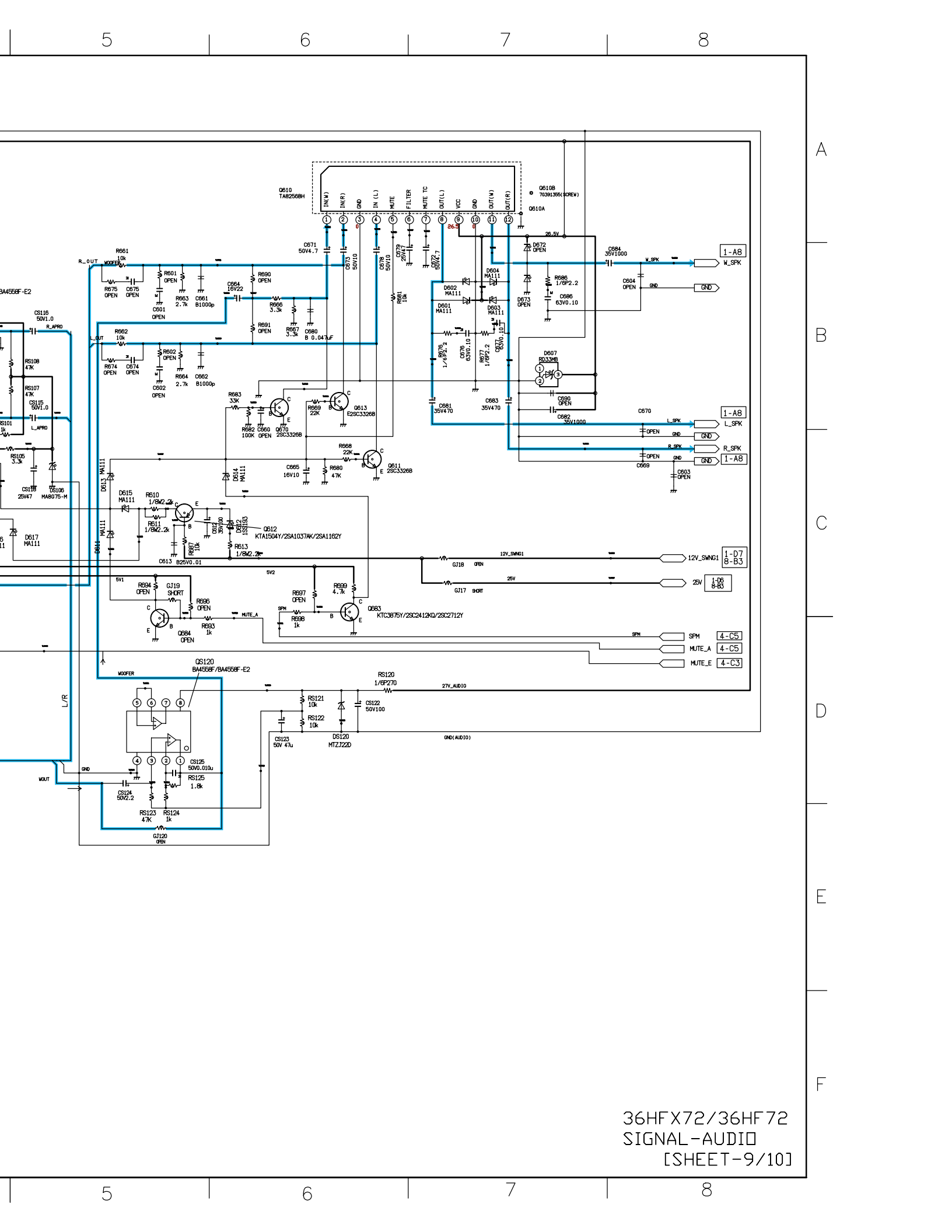
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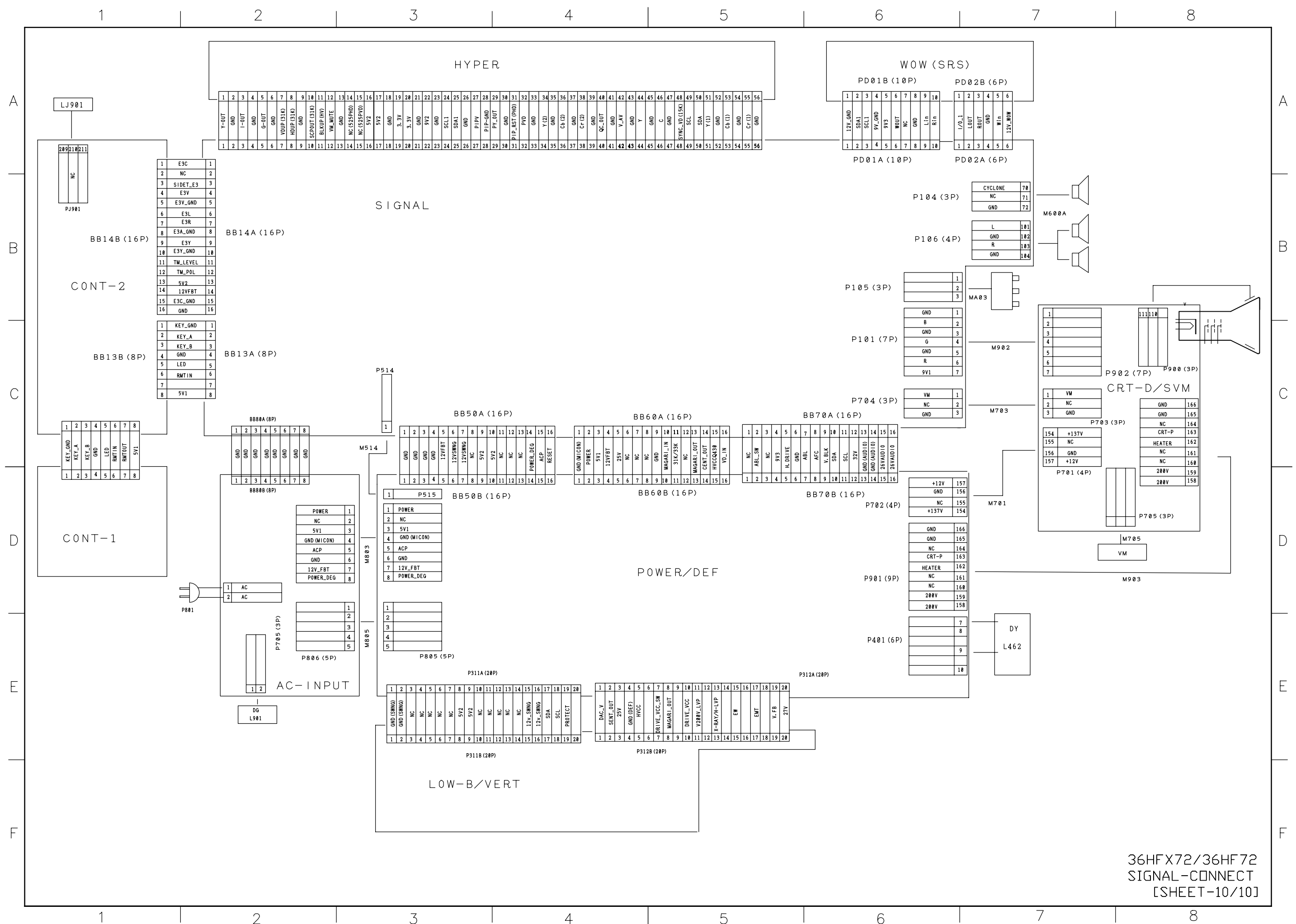
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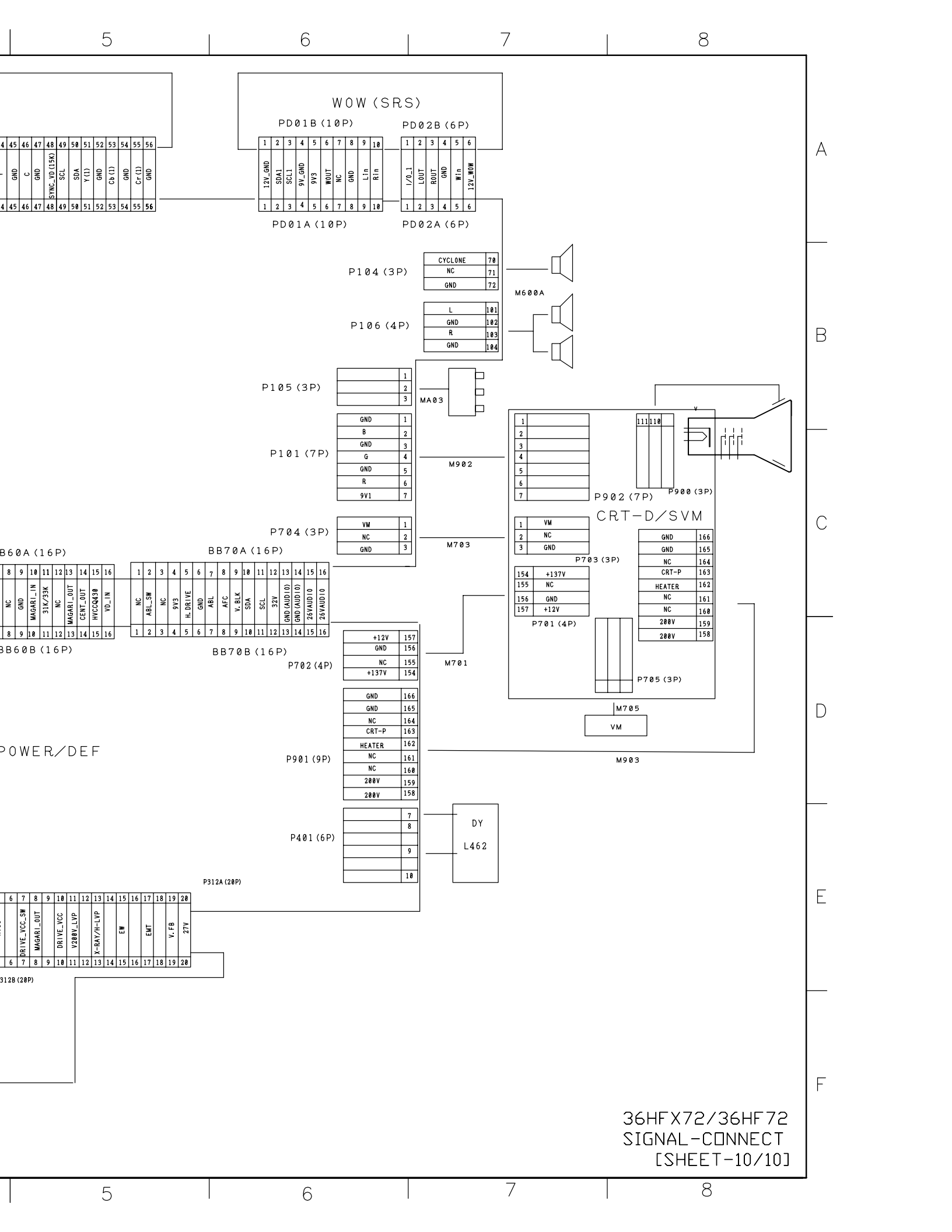
TUN1

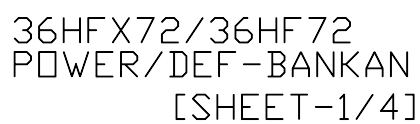
AV











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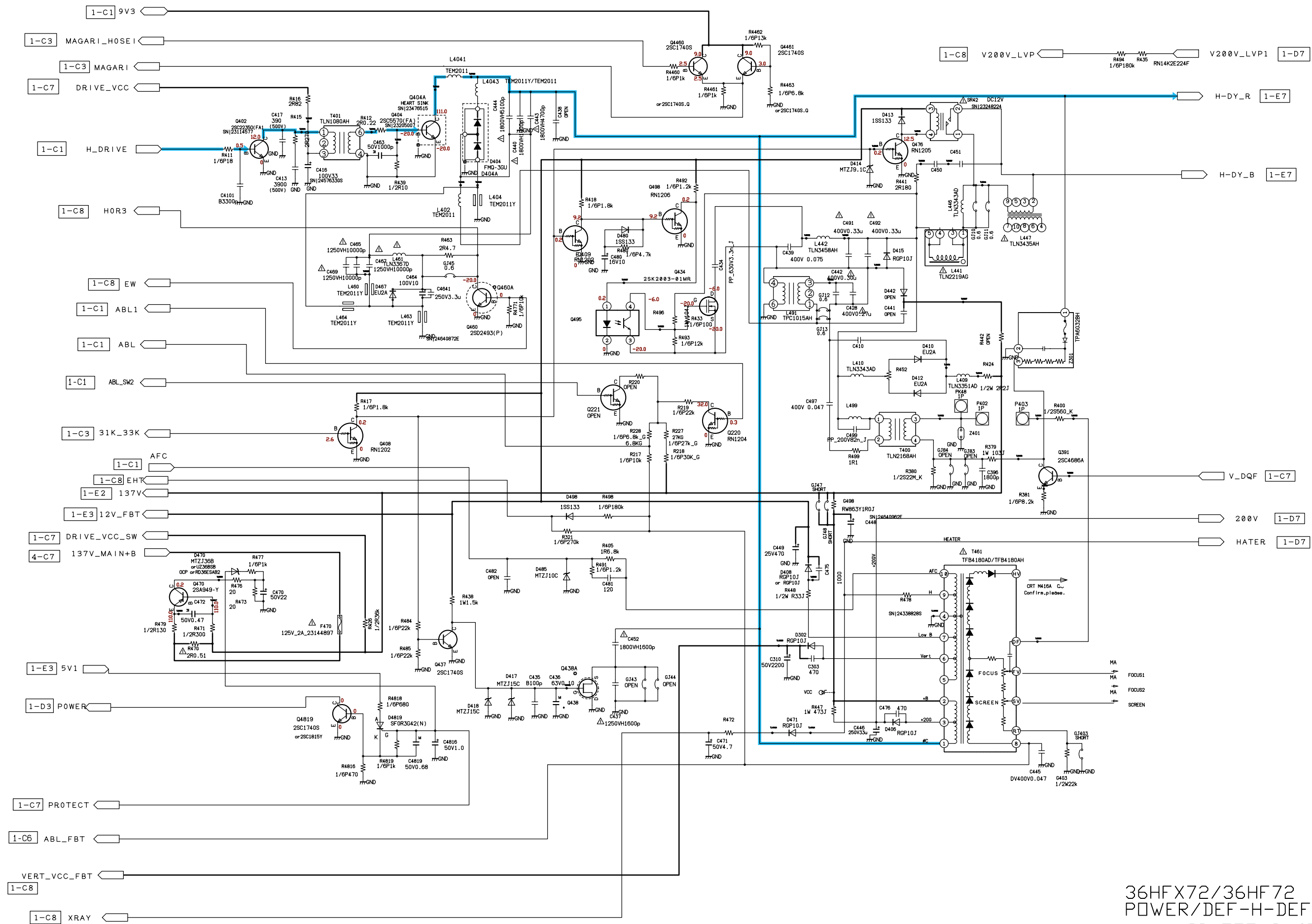
B

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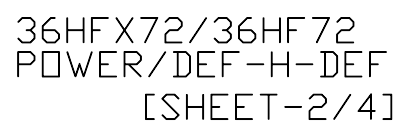
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36HF72/36HF72
POWER/DEF-H-DEF
[SHEET-2/4]



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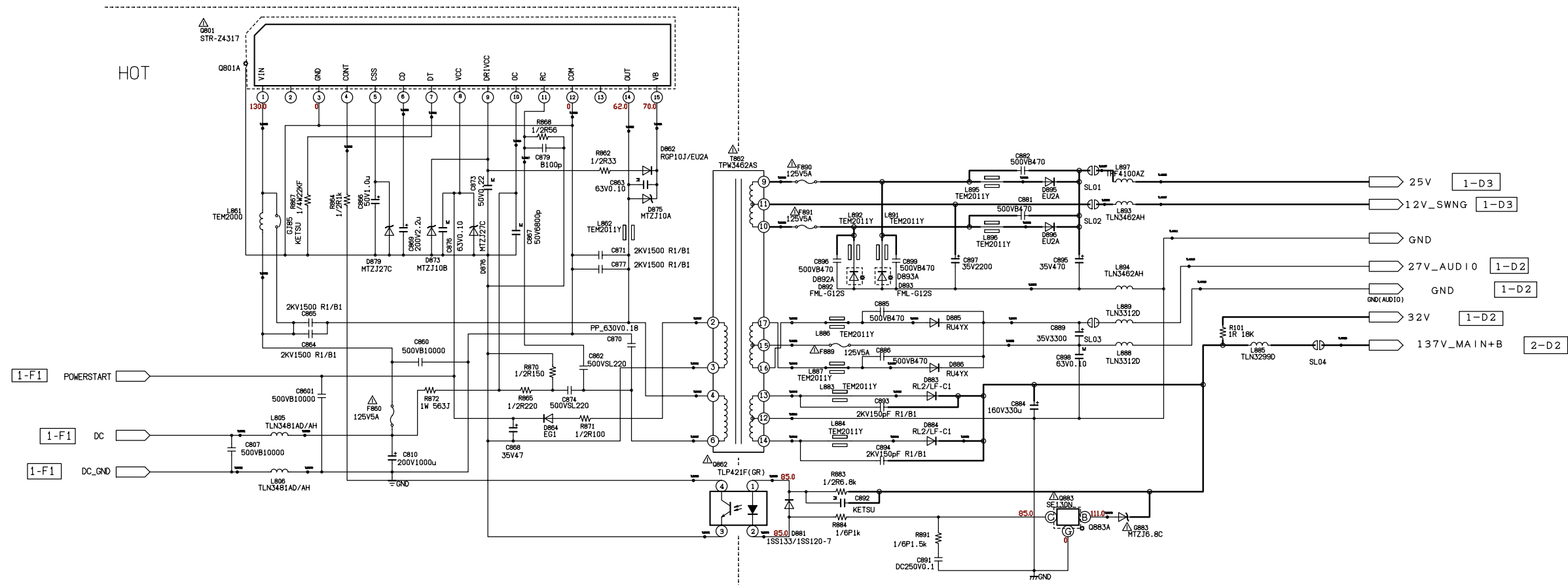
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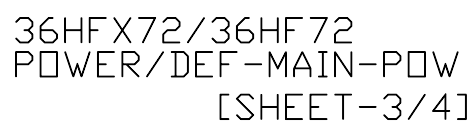
D

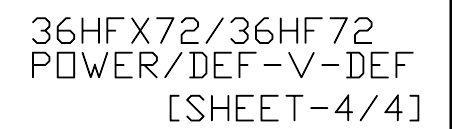
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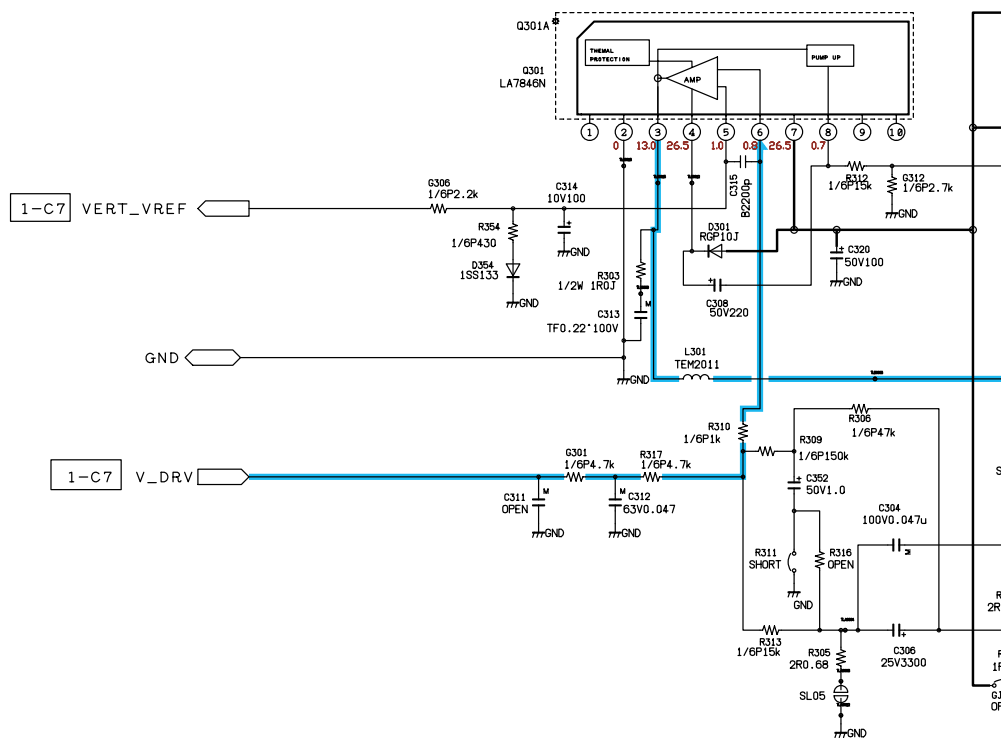
F



36HF72/36HF72
POWER/DEF-MAIN-POW
[SHEET-3/4]







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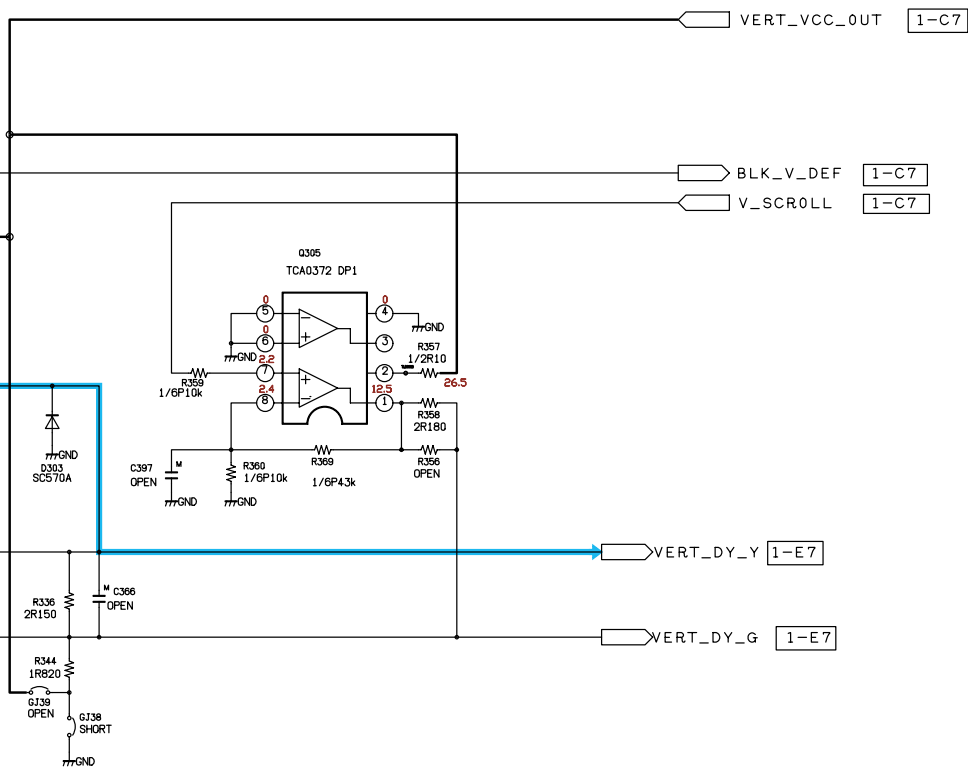
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36HF72/36HF72
POWER/DEF-V-DEF
[SHEET-4/4]

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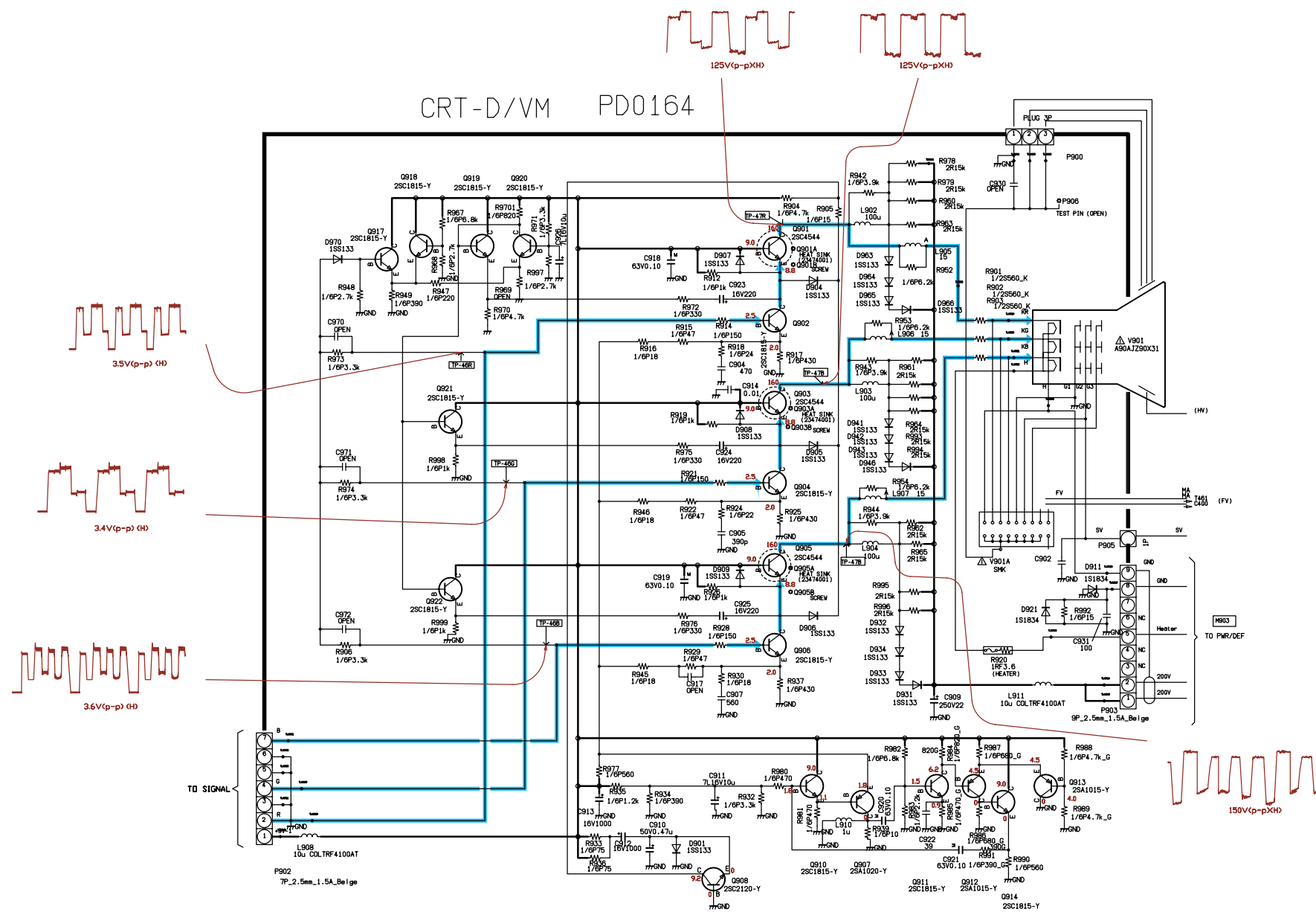
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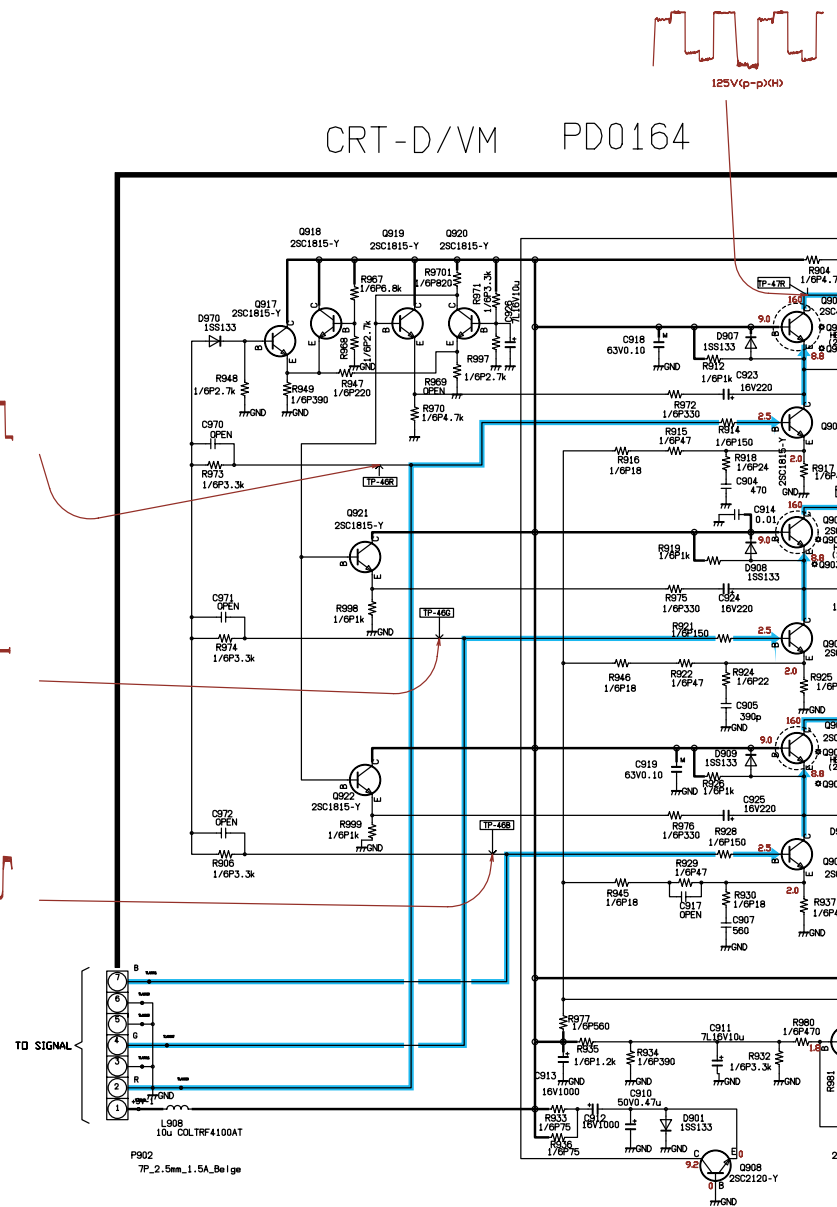
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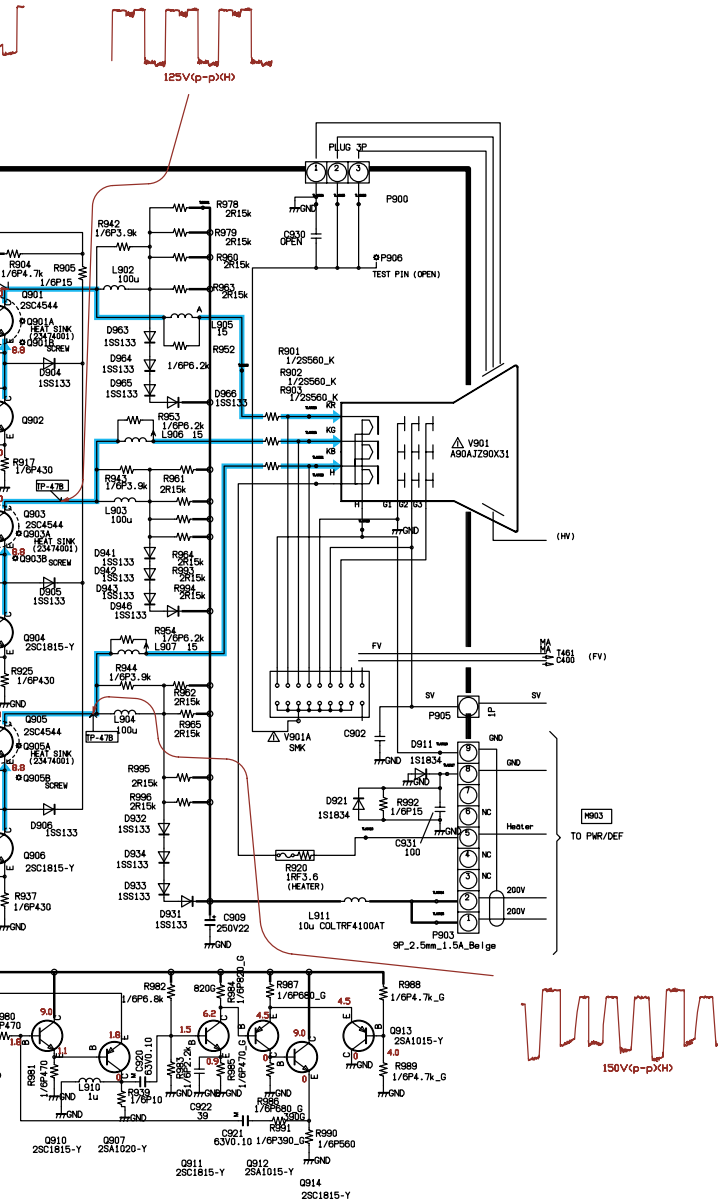
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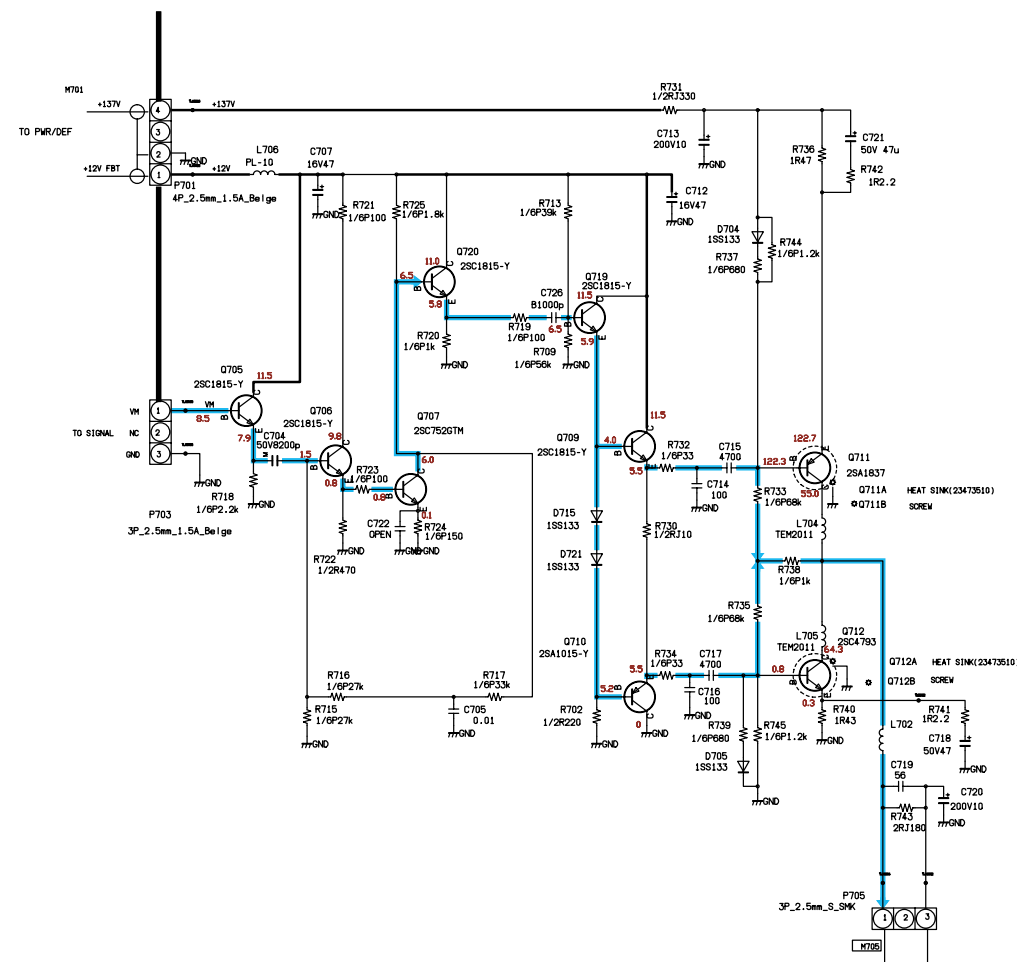
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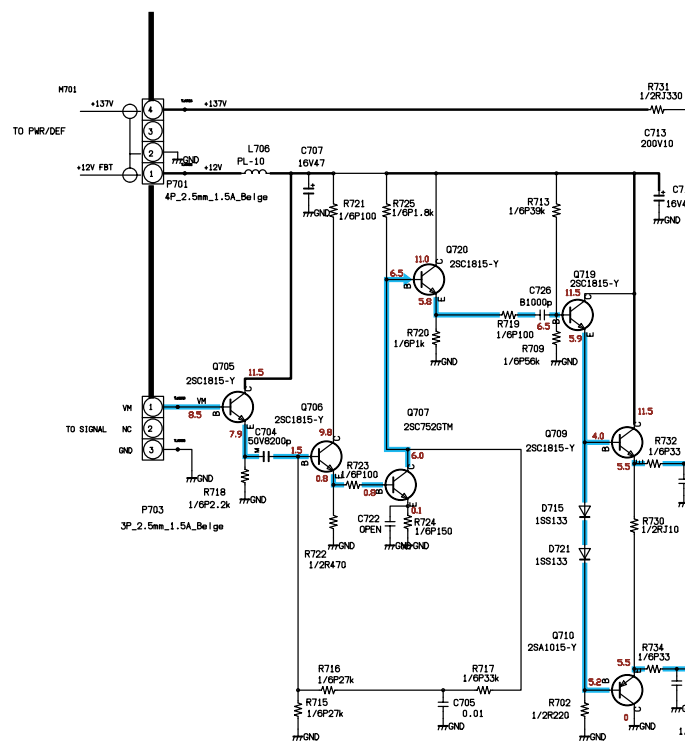
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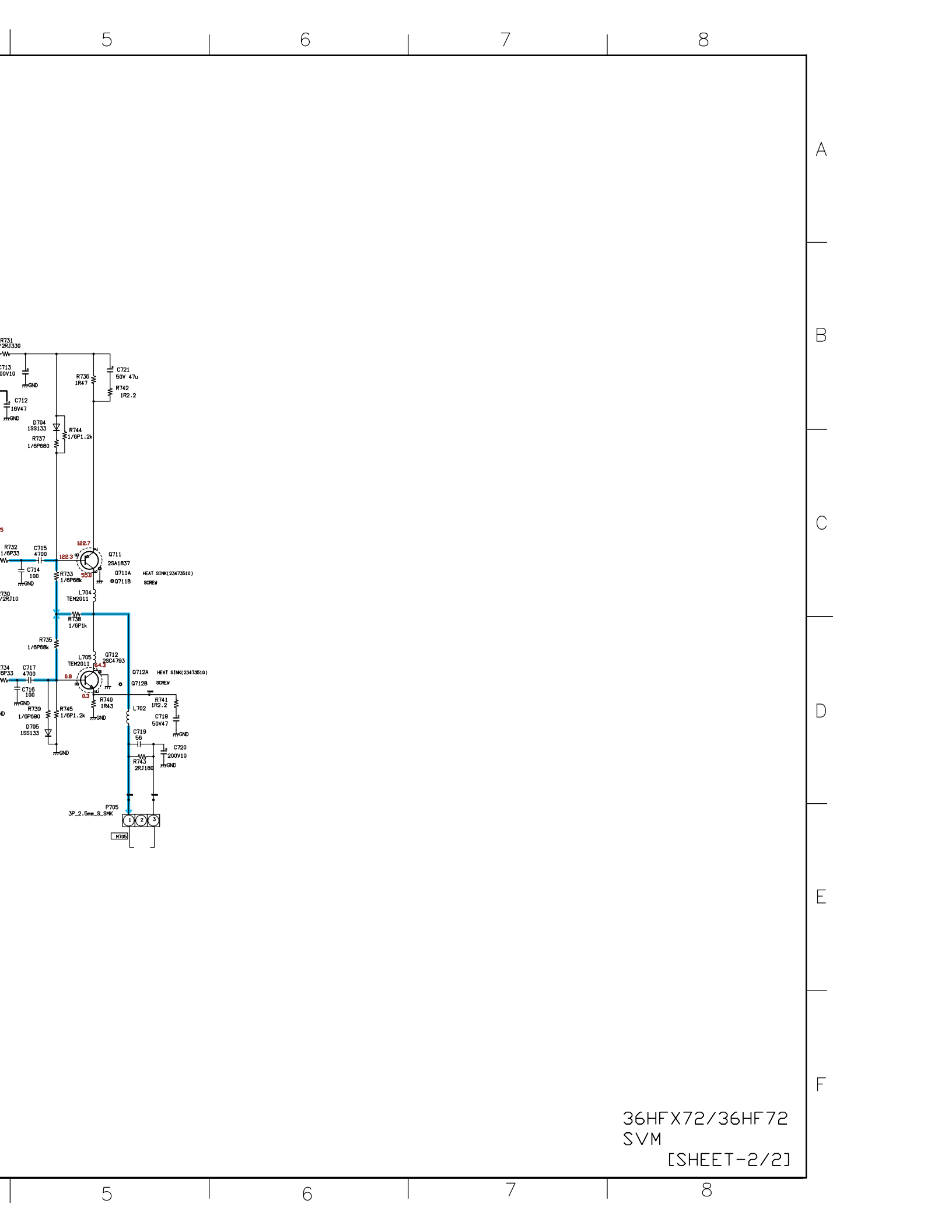
C

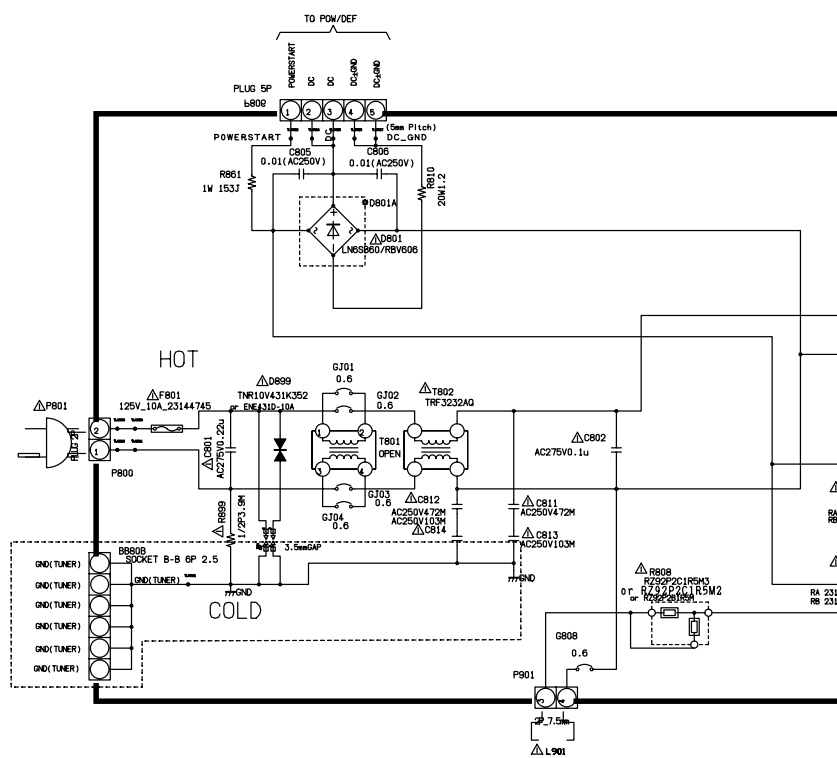
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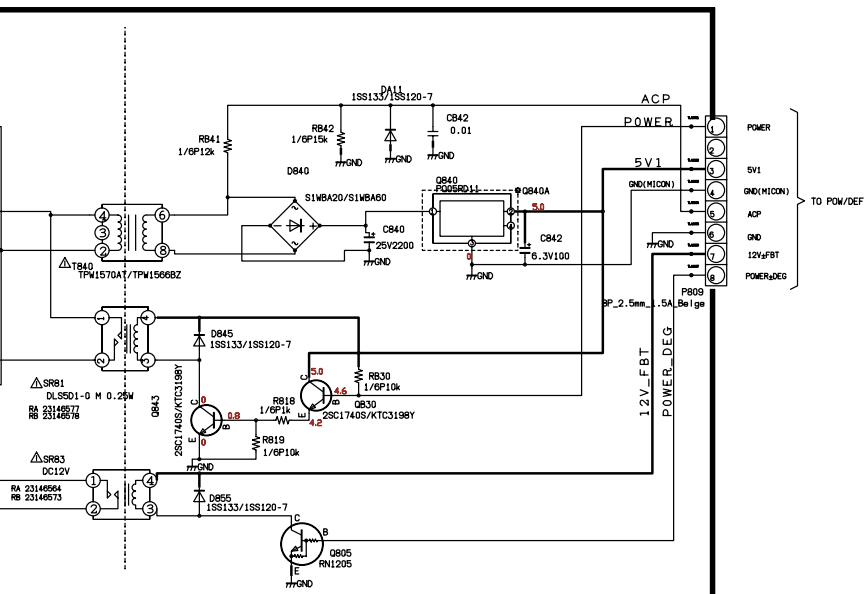
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36HF72/36HF72
AC INPUT

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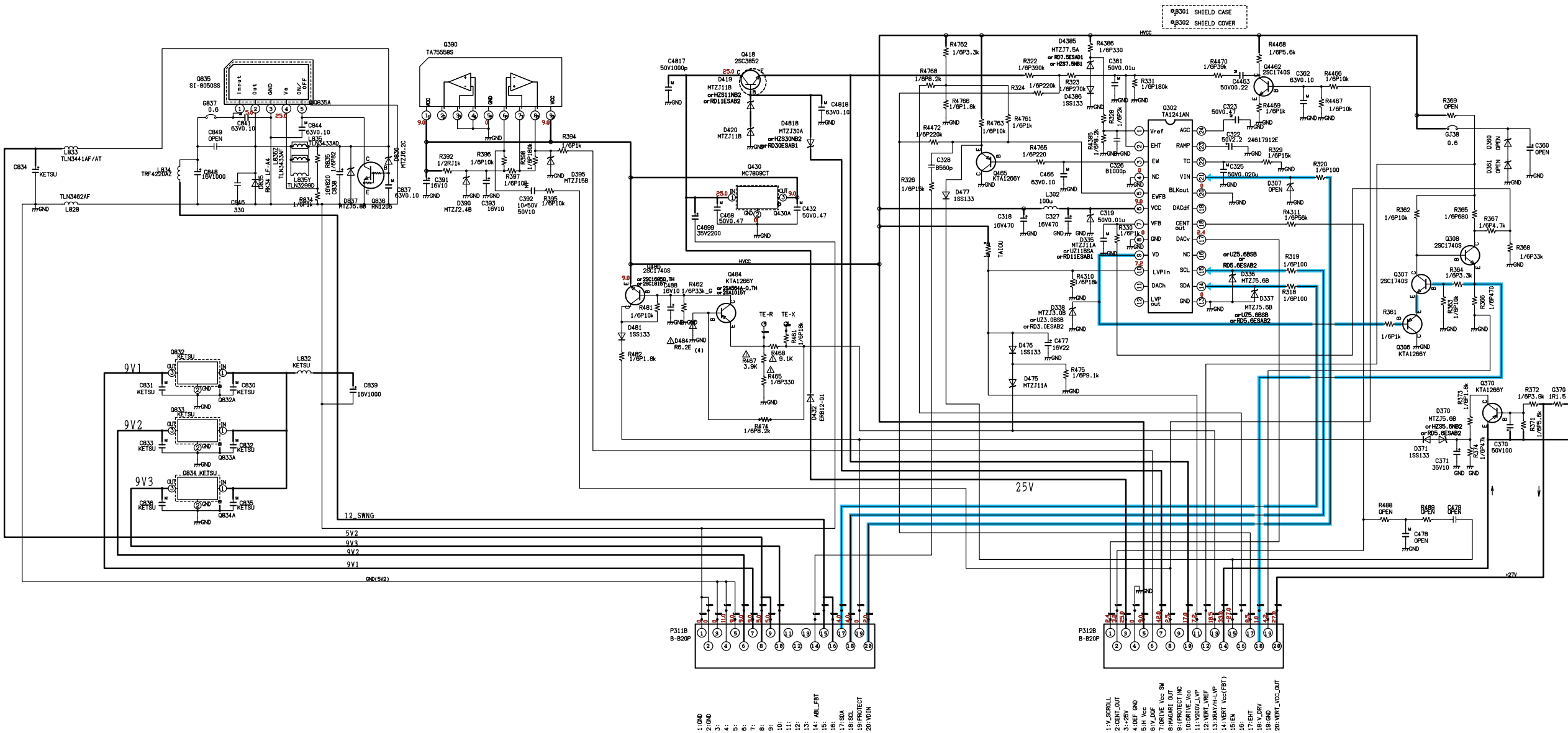
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36HF X72/36HF 72
LOW-B/VERT

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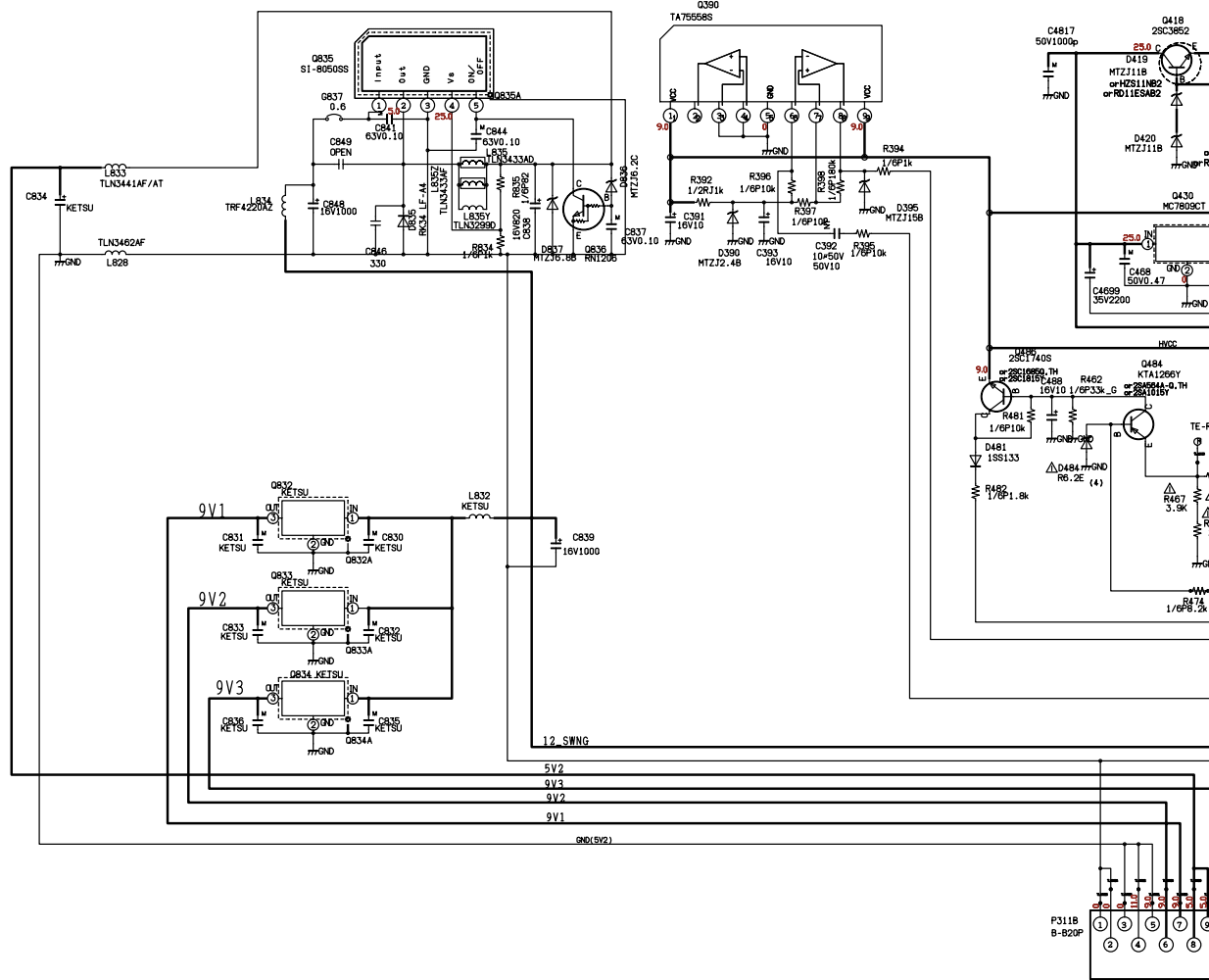
D

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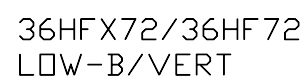
F

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1 2 3 4



1: GND
2: GND
3: 3
4: 4
5: 5
6: 6
7: 7
8: 8
9: 9

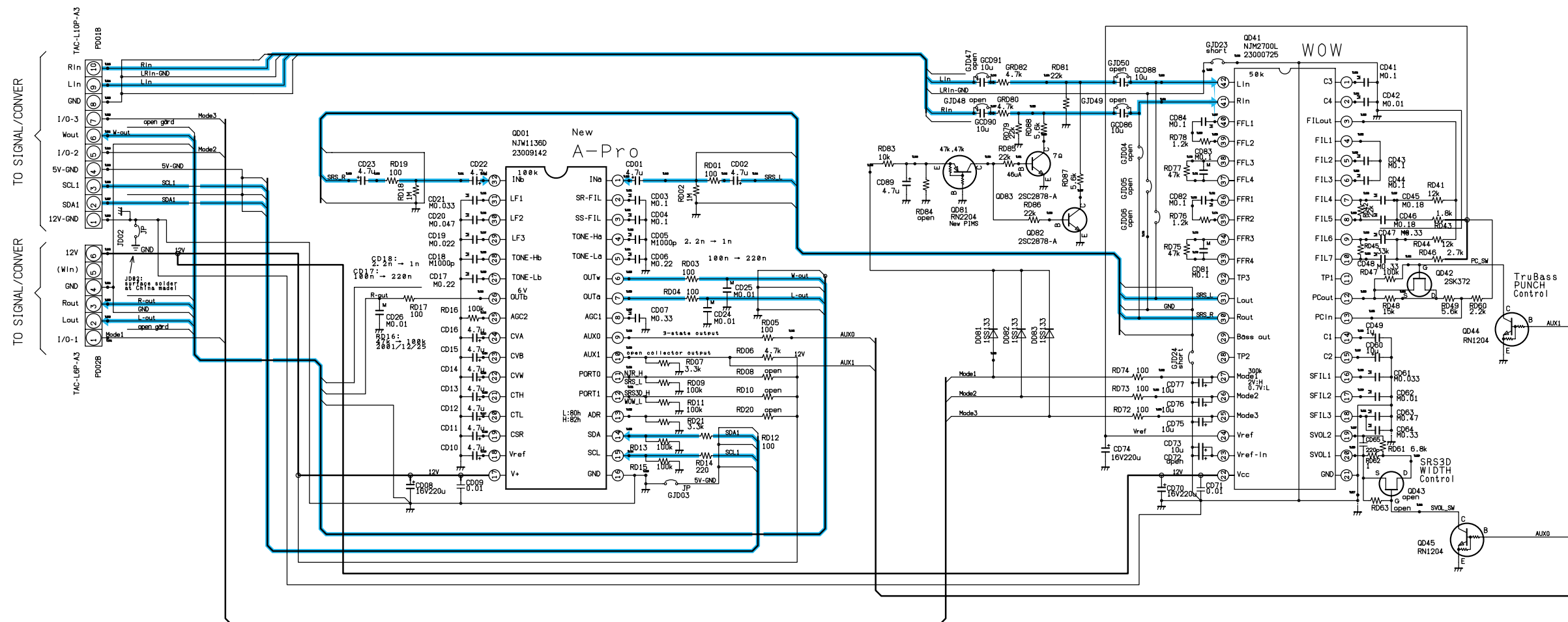


Base model: 36HFX72

PD0645A
23787466

WOW	H	H	H
FOCUS	H	L	L
3D-STEREO	L	L	H
TruBass	L	H	L
BYPASS	L	L	L
	Mode1	Mode2	Mode3

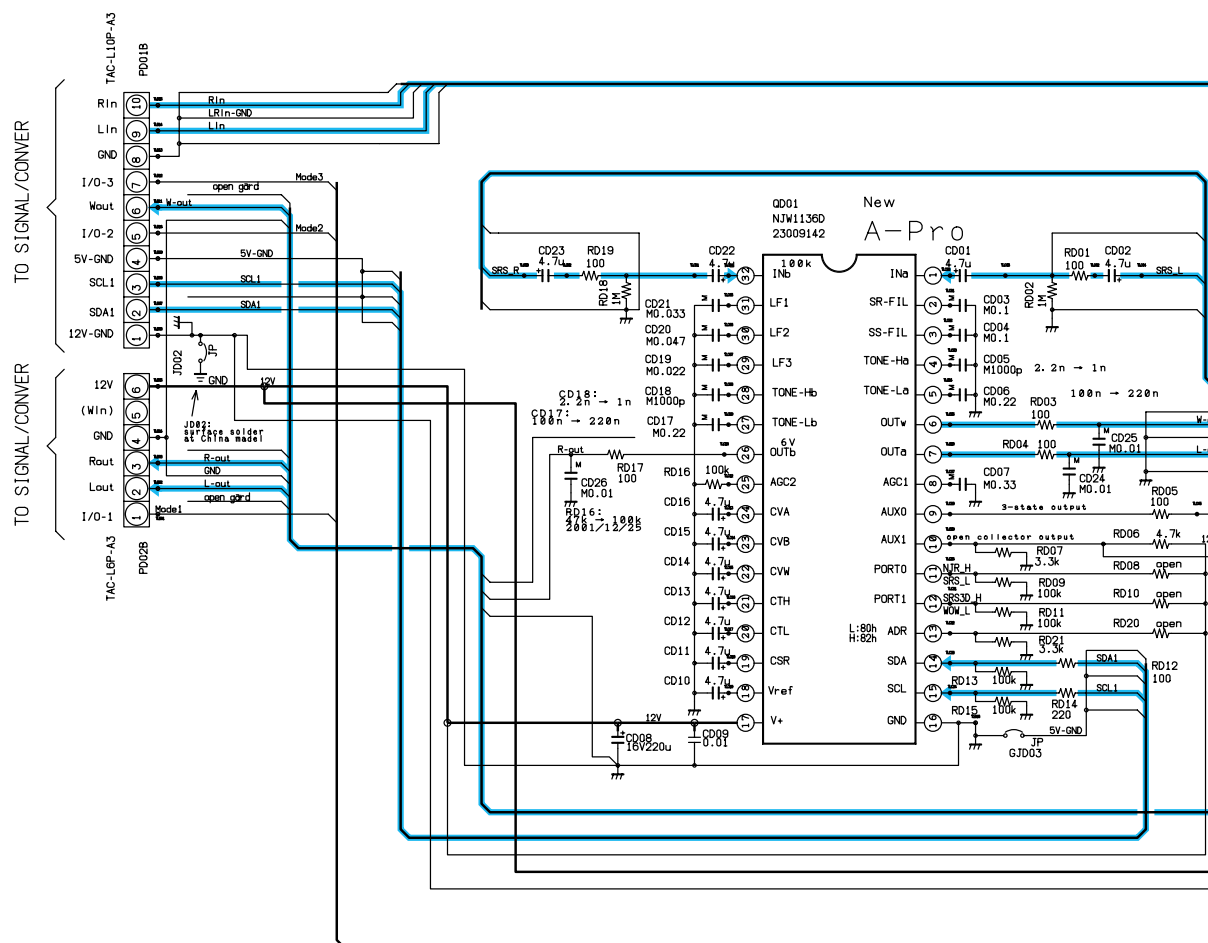
US_LCoS_57HL82	PD0645E	45047	57HL82
US_PJ_TNP_WOW	PD0645B	23787523	50HX82
US_DView_TNP_WOW	PD0645A	23787466	36HFX72
US_PJ_TNP_WOW_#1	FWD666	44806	50HX82_#1
US_DView_TVE	PDxxx6	2378xxx6	34HF81-
US_DView_TNP_WOW_#1	FWD666A	44814	36HFX72_#1
Asia_PJ_TSP_WOW	PDxxx4	2378xxx4	43VH9UE
Asia_PJ_DLTW_WOW	PD0645D	45131	43VH9UC
Asia_DView_TVE_WOW	PD0645C	44939	29VX9UH
Asia_DView_TVE_A-Pro	FWD666B	44930	29VH9UH
	unit	SN	model



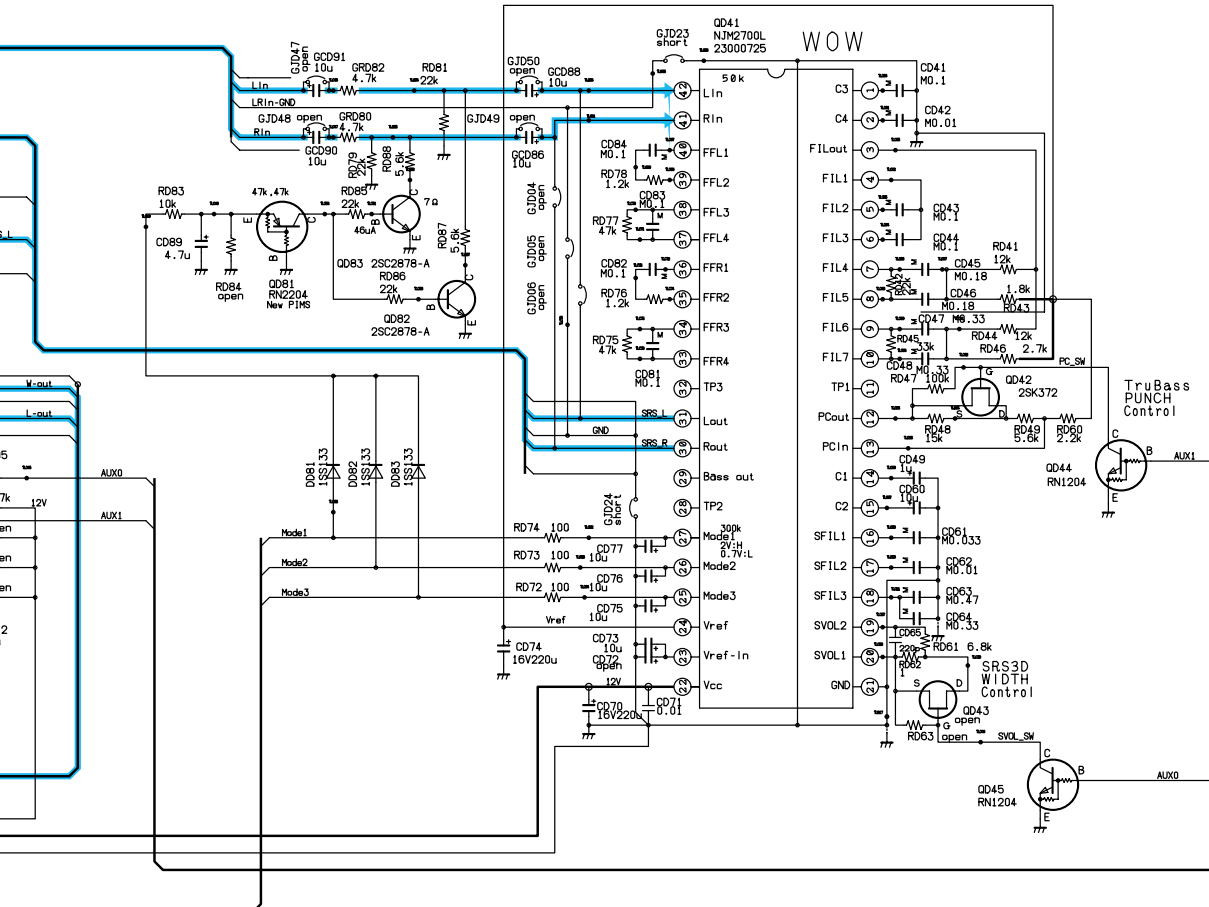
36HFX72/36HF72
SRS-WOW

PD0645A
23787466

WOW	H	H	H
FOCUS	H	L	L
3D-STEREO	L	L	H
TruBass	L	H	L
BYPASS	L	L	L
	Mode1	Mode2	Mode3



US_LCoS_57HL82	PD0645E	45047	57HL82
US_PJ_TNP_WOW	PD0645B	23787523	50HX82
US_DView_TNP_WOW	PD0645A	23787466	36HF72
US_PJ_TNP_WOW_#1	FWD666	44806	50HX82_#1
US_DView_TVE	PDxxx6	2378xxx6	34HF81-
US_DView_TNP_WOW_#1	FWD666A	44814	36HF72_#1
Asia_PJ_TSP_WOW	PDxxx4	2378xxx4	43VH9UE
Asia_PJ_DLTW_WOW	PD0645D	45131	43VH9UC
Asia_DView_TVE_WOW	PD0645C	44939	29VX9UH
Asia_DView_TVE_A-Pro	FWD666B	44930	29VH9UH
	unit	SN	model



36HF72/36HF72
SRS-WOW

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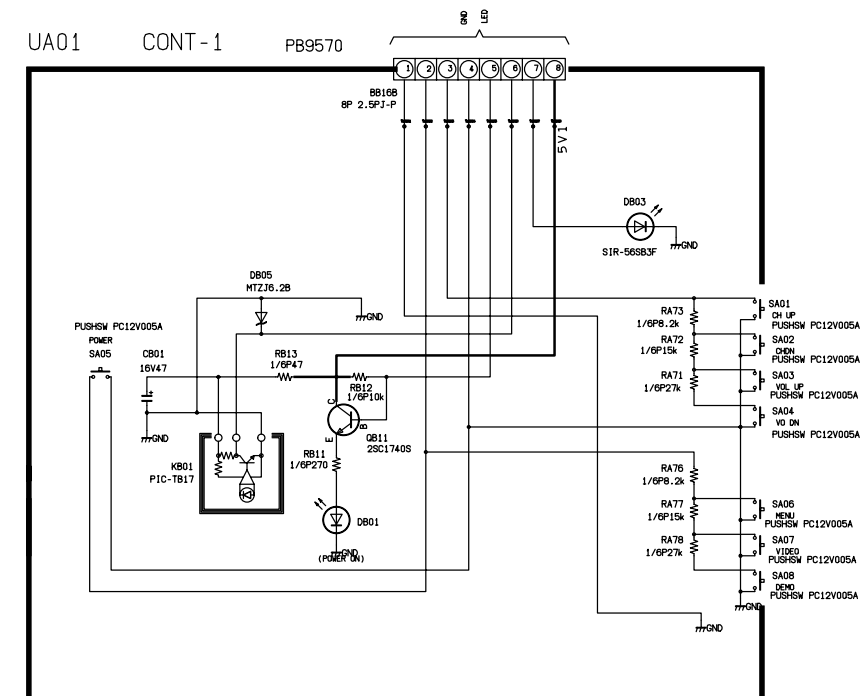
B

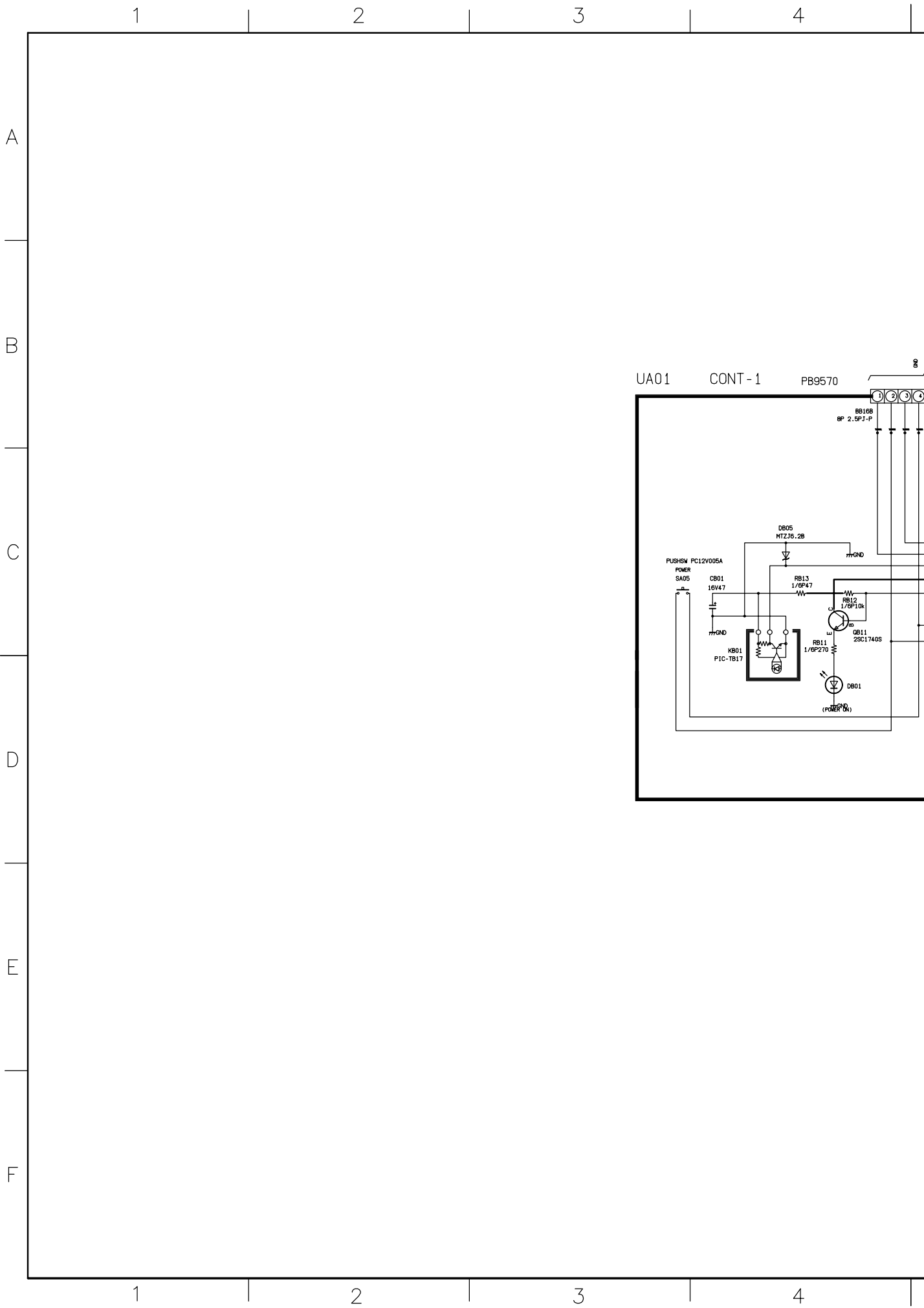
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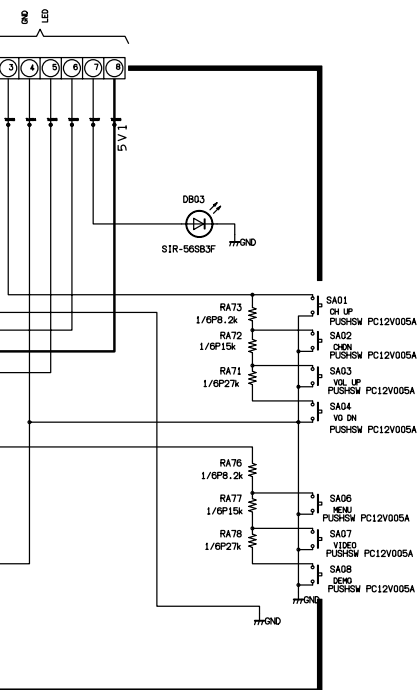
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36HF X72/36HF 72
CONTROL-1

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