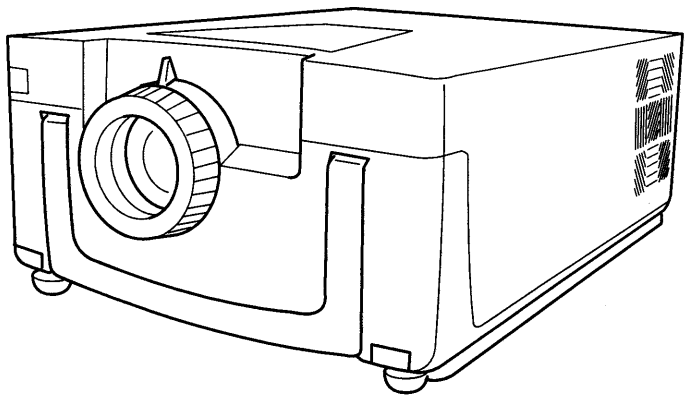
HITACHI

YK | No. 0489E

SERVICE MANUAL

CP-S833W
CP-S833E



Caution

Be sure to read this manual before servicing. To assure safety from fire, electric shock, injury, harmful radiation and materials, various measures are provided in this Hitachi liquid crystal projector. Be sure to read cautionary items described in the manual to maintain safety before servicing.

Service Warning

1. When replace the lamp, to avoid burns to your fingers. The lamp becomes too hot.
2. Never touch the lamp bulb with a finger or anything else. Never drop it or give it a shock. They may cause bursting of the bulb.
3. This projector is provided with a high voltage circuit for the lamp. Do not touch the electric parts of power unit (main), when turn on the projector.
4. Do not touch the exhaust fan, during operation.
5. The LCD module ass'y is likely to be damaged. If replacing to the LCD module ass'y, do not hold the FPC of the LCD module ass'y.

Contents

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

Liquid Crystal Projector

July 1999 Digital Media Systems Division

1. Features

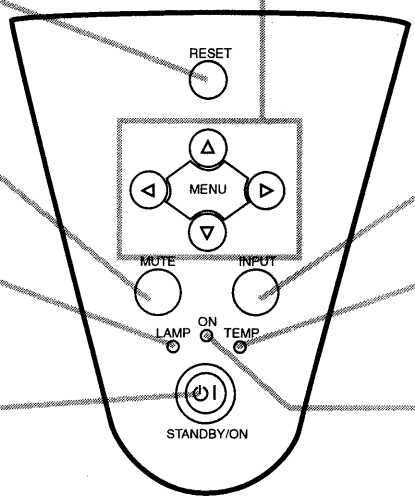
- 0.9" polysilicon liquid crystal panel
- 120W UHP lamp
- Video input compatible with NTSC/PAL/SECAM video signals
- RGB input compatible with IBM® PCs, Macintosh® and NEC® PC98 computer signals
- 2 VIDEO IN systems, 2 RGB IN systems, and 1 RGB OUT system
- RS232C communication
- Mouse emulation

2. Specifications

Liquid crystal panel	Drive system	TFT active matrix
	Panel size	0.9inches
	Number of pixels	800 (H) x 600 (V)
Lamp		UHP lamp 120W
Video input	System	NTSC , 4.43NTSC , PAL , M-PAL , or SECAM
	Level	Composite 1.0Vp-p (75Ω termination) Y/C Y : 1.0Vp-p (75Ω termination) C : 0.286Vp-p (NTSC burst signal, 75Ω termination) 0.3Vp-p (PAL/SECAM burst signal, 75Ω termination)
RGB input / output	Video signal	Analog RGB input 0.7Vp-p (75Ω termination)
	Sync signal	H/V separate (H/V composite: only 15kHz RGB) TTL level
Audio	Input	200mVrms, 20kΩ or less
	Output	0~200mVrms, 1kΩ
Speaker output		1W + 1W (stereo)
Power supply		AC100~120V/2.6A,AC220~240V/1.3A (50/60Hz)
Power consumption		230W
Dimensions		239 (W) x 125 (H) x 337 (D) mm
Weight		5.4kg
Temperature range		Operation : 0~35˚C Storage : -20~60˚C
Accessories		Remote control ..... 1 Batteries LR6 ..... 2 Power cord ..... 3 MAC adapter ..... 1 RGB signal cable ..... 1 Video/Audio cable ..... 1 Mouse cable 3

3. Names of each part

●Main unit



MENU button
Picture adjustments.

RESET button
Resets unit to factory settings.

INPUT button
To select the input source.
Each time this button is pressed, the input source is changed in sequence as shown below.

RGB1 → RGB2 → VIDEO1 → VIDEO2

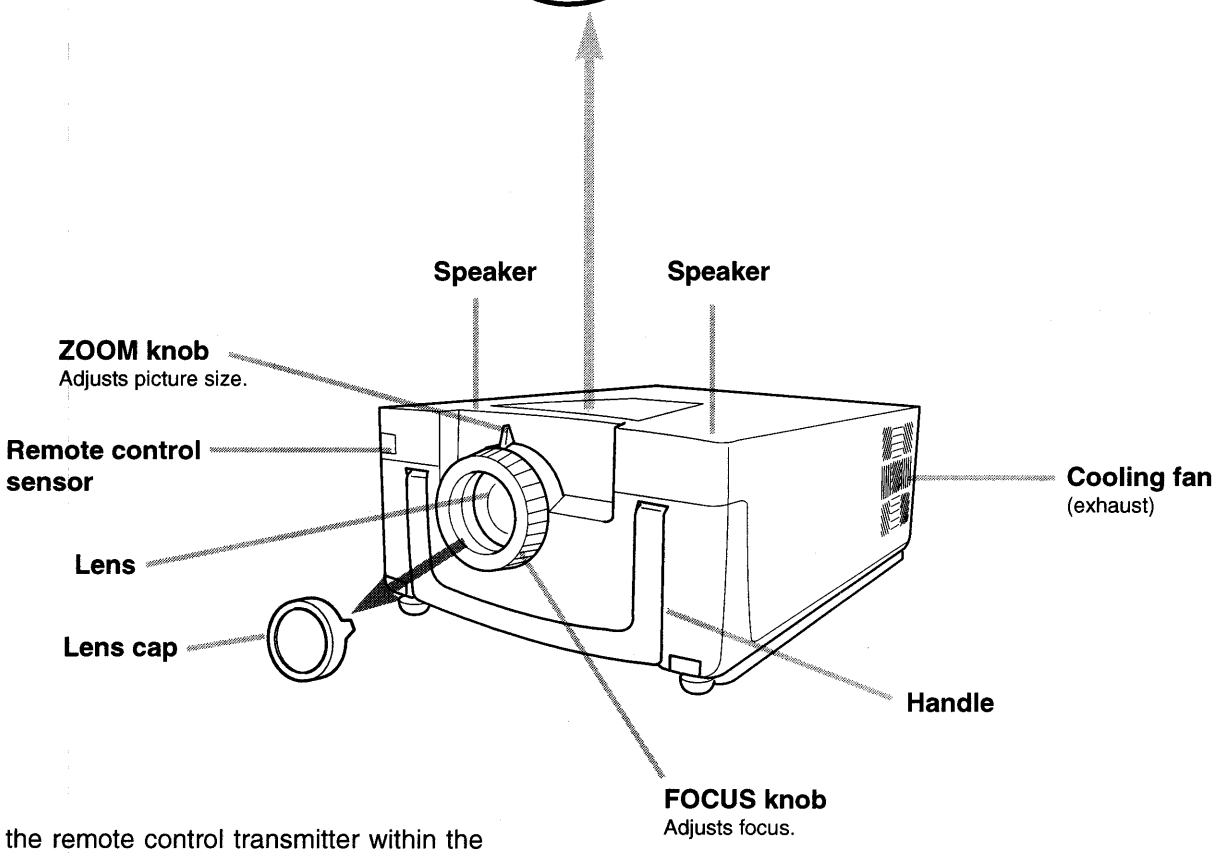
MUTE button
Silences the sound. (Cancels the mute when the unit is set in mute mode.)

LAMP indicator
This lights or blinks when the lamp does not light.

TEMP indicator
This lights or blinks when temperature inside the projector is too high or when fan is abnormal.

STANDBY / ON button
Power ON/OFF button.
OFF sets the unit in standby mode.

ON indicator
This blinks in the standby mode and lights in the operation mode.



Speaker

Speaker

ZOOM knob
Adjusts picture size.

Remote control sensor

Cooling fan
(exhaust)

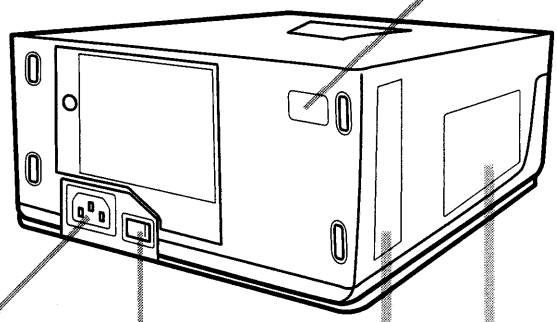
Lens

Lens cap

Handle

FOCUS knob
Adjusts focus.

●Use the remote control transmitter within the range of about 16 feet from the remote control sensor and within 30° to both the left and right.



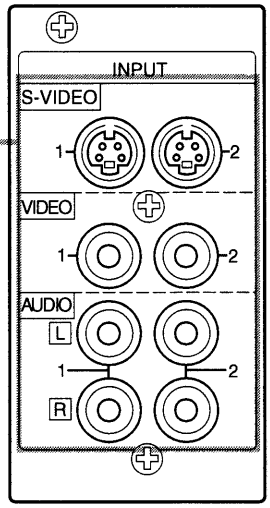
Remote control sensor

AC IN socket
Connect the provided power cord.

MAIN POWER switch
Main power ON/OFF switch.
○ : OFF
| : ON

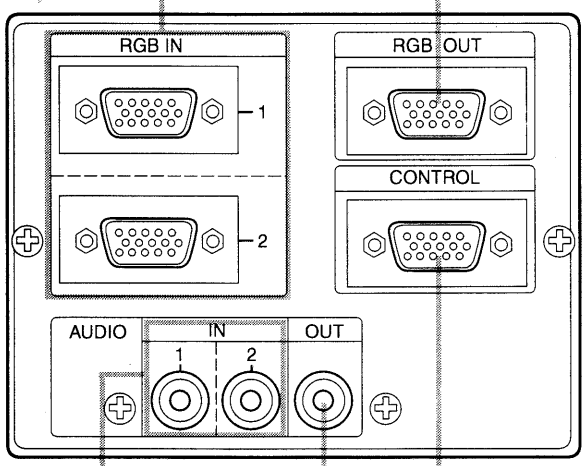
RGB input terminal
D-sub 15pin shrink terminal (1/2)

RGB output terminal
D-sub 15pin shrink terminal
RGB output can be displayed even in the standby mode.



VIDEO input terminal
(on video-equipped models only)

S-VIDEO input terminal
Mini DIN 4pin connector (1/2)
VIDEO input terminal
RCA Jack (1/2)
AUDIO L/R input terminal
RCA Jack (1/2)



CONTROL terminal
D-sub 15pin shrink terminal

AUDIO output terminal (RGB/VIDEO)
Stereo mini jack

AUDIO input terminal
Stereo mini jack (1/2)

●Remote control transmitter

STANDBY / ON button
Power ON/OFF button.
OFF sets the unit in standby mode.

FREEZE button
Pressing this button displays a still picture (by freezing).

MAGNIFY button
Pressing this button partially magnifies a displayed picture.

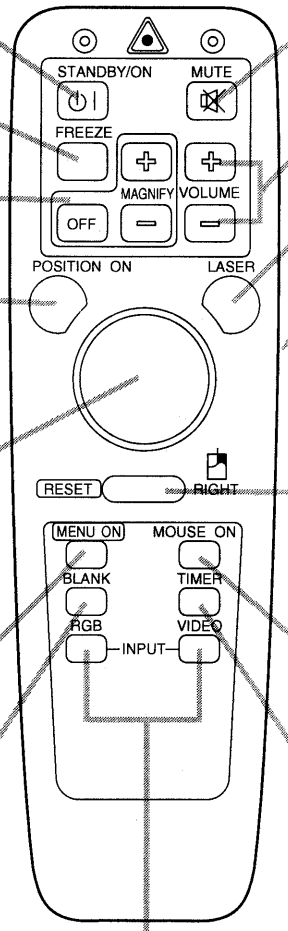
POSITION button
Moves the picture by DISK PAD after pressed the POSITION ON button.
(Only RGB signal input)
While the back light on, you can operate POSITION.

DISK PAD
①When the back light of MENU ON button on, selects or adjusts the menu item.
②When removes the on-screen menus, works as mouse.
③When the back light of the POSITION ON button on, moves picture.

MENU ON button
Displays the on-screen menus.
And back light on.
While the back light on, you can operate MENU.

BLANK ON button
①The blank screen which is displayed by pressing BLANK.
②And the blank screen will be revealed down by pressing BLANK again.

INPUT SELECT button
Selects the input source.

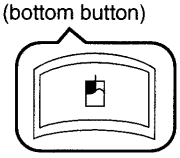


MUTE button
Silences the sound. (Cancels the mute when the unit is set in mute mode.)

VOLUME button
Adjusts volume. The sound is loud or low while pressing the "+" or "-" button.

LASER ON
Laser pointer ON/OFF button. Use as a stick (for indication).

MOUSE LEFT button
Mouse left button is the left click of the mouse. (bottom button)



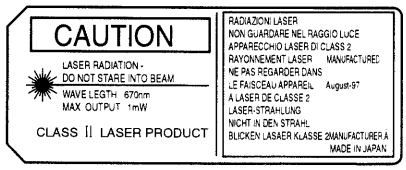
RESET / RIGHT button
When displays the on-screen menus, resets the menu item to factory settings.
When operates the mouse emulation, works as right click of mouse in computer mode.
After moving the picture (POSITION ON), resets the position to factory settings.

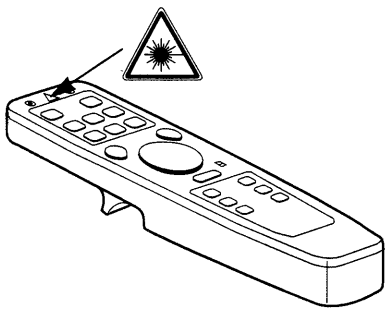
MOUSE ON button
Mouse emulation mode starts.
When menu are open or blank screen is displayed or icon of position is displayed, there are stopped and back light off.

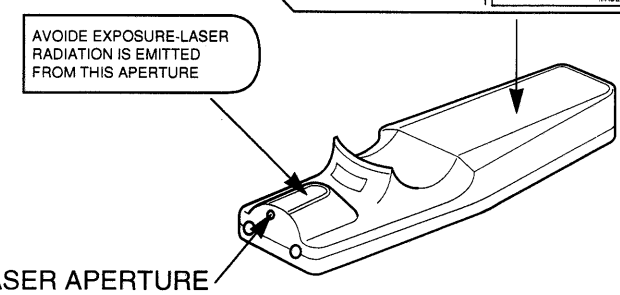
TIMER ON / OFF button
Displays the setting time by count down.

⚠ Caution Cautions on use of the laser pointer.

- The laser pointer on the remote control unit radiates the laser beam from the laser aperture.
- This laser pointer used as a stick (for indication).
- Do not stare directly into the laser aperture or radiate the laser beam to other persons as the laser emitted is a class II laser and it could damage you vision , etc.
- Especially pay attention if children are present.
- The three labels below are caution labels for the laser beam.







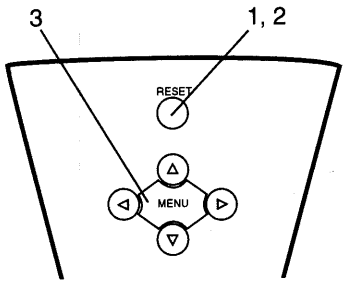
Function for service

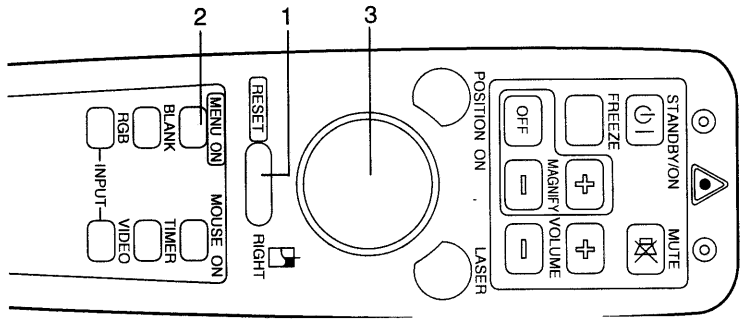
Function	Operation
Displayed the operating time of the lamp	Press the RESET button of the projector or the TIMER button of the remote control, for 3 seconds.
Reset the operating time of the lamp	Press the RESET button of the projector or the remote control MENU. (During be displayed the operating time of the lamp.)
Displayed the operating time of the projector	Press the MUTE button of the projector or the remote control, for 3 seconds. (During be displayed the operating time of the lamp.)

When replacing the lamp, Reset the operating time of lamp.

Reset the lamp timer :

Please carry out the following operation within 10 minutes from power on, if you replaced the lamp after 2,000 hours.





1) Press the RESET button on projector for 3 seconds or remote control TIMER button for 3 seconds and display the total lamp used time.
2) Press the RESET button on projector or remote control MENU ON button during displaying the lamp used time.
3) Select the "0" on the screen using the MENU (◀) button or MENU STICK SWITCH.

LAMP 1700 hr

LAMP 1700 □→0 ■CANCEL

Message table

On-screen display

The following messages are displayed on the screen.

"CHANGE THE LAMP" "AFTER REPLACING LAMP, RESET THE LAMP TIMER"	Lamp has 1,700 hours on it and may need to be changed.
"CHANGE THE LAMP" "AFTER REPLACING LAMP, RESET THE LAMP TIMER" "THE POWER WILL TURN OFF AFTER 20 Hr."	Lamp has 1,979 hours on it. See P.4 "Reset the lamp timer"
Blinking of "CHANGE THE LAMP" "AFTER REPLACING LAMP, RESET THE LAMP TIMER" "THE POWER WILL TURN OFF AFTER 0 Hr."	When the lamp has 2,000 hours or more on it, the message will blink, and the power will turns off after 10 minutes.
"NO INPUT IS DETECTED"	Signal is not input.
"SYNC IS OUT OF RANGE"	The horizontal frequency of the input signal exceeds the range of the projector, it cannot be displayed.

Indicator display

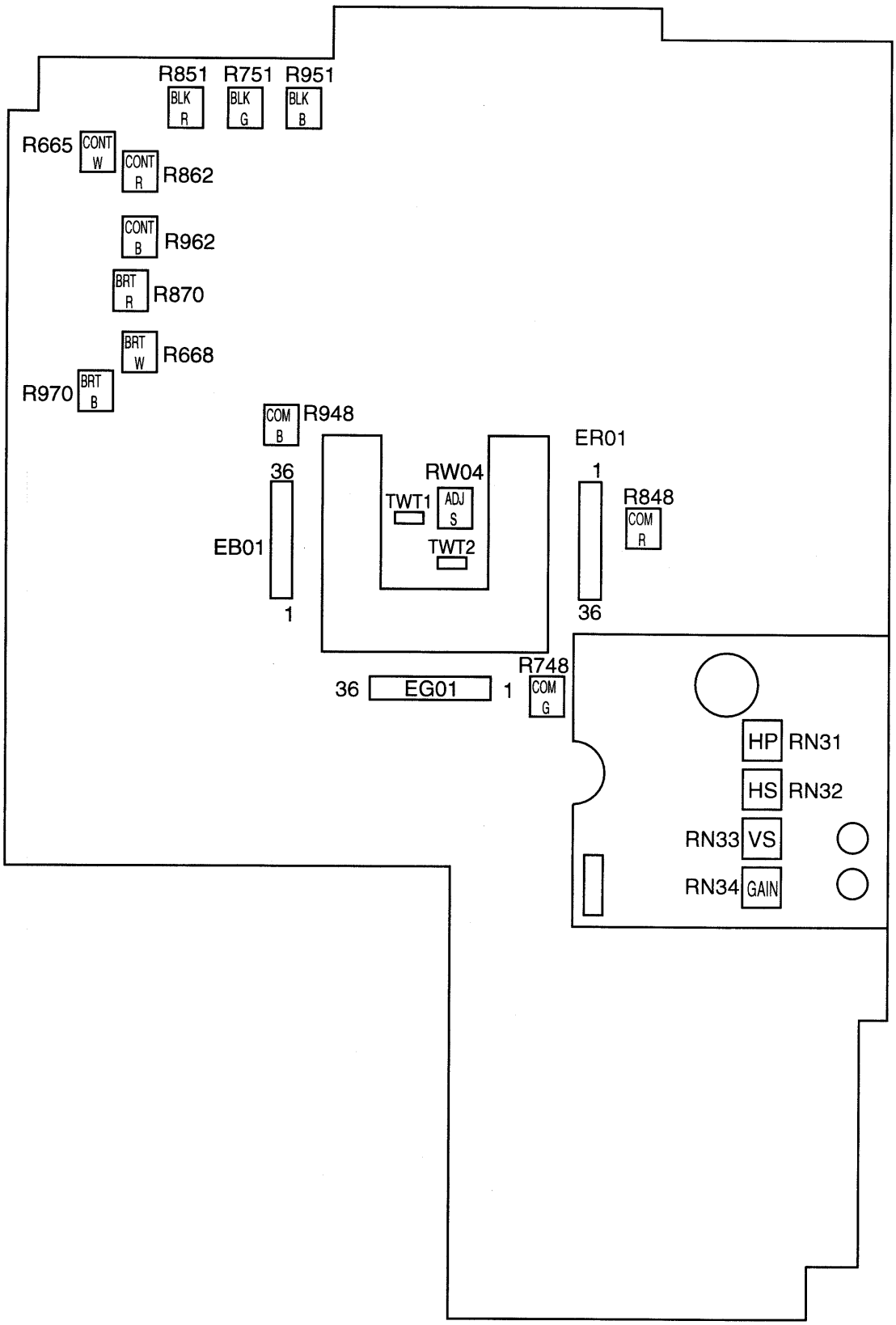
The ON indicator, LAMP indicator and TEMP indicator will light or blink in the following cases.

ON indicator	LAMP indicator	TEMP indicator	Meaning	Remedy
Lights orange	Goes off	Goes off	Standby mode	———
Blinks green	Goes off	Goes off	During warming up	———
Lights green	Goes off	Goes off	During operation	———
Blinks orange	Goes off	Goes off	During cooling down	———
Lights red	Lights red	Goes off	Lamp cannot light	Cool projector by power off for 60 minutes. If the indicator is still lit, lamp may be defective. Replace.
Lights red	Blinks red	Goes off	Lamp is not inserted	Securely insert the lamp.
Lights red	Goes off	Lights red	Temperature inside too hight	Correctly reinstall so as not to block ventilation holes.
Lights red	Goes off	Blinks red	Cooling fan accidented	Replace fan.
Blinks red	Blinks red	Goes off	Accumulated lamp operation time has exceeded 2,000 hours	Replace lamp and reset the accumulated lamp operation time.

When inside temperature becomes high because ventilation holes are blocked, normally, TEMP indicator will light red. However, to protect the projector, the lamp may be turned off and at this time LAMP indicator may light red.

4. Adjustment

4 - 1 Position to be adjusted



4 - 2 White balance adjustment

Preparations for adjustment

1. Setting of condition

①Apply heat-running for 10 minutes or more before adjustment.

②Project 40 inches size image with zoom set to the widest.

③Press the RESET button of the remote control transmitter to set picture adjustment to NORMAL.

2. Adjustment common voltage (flicker) .

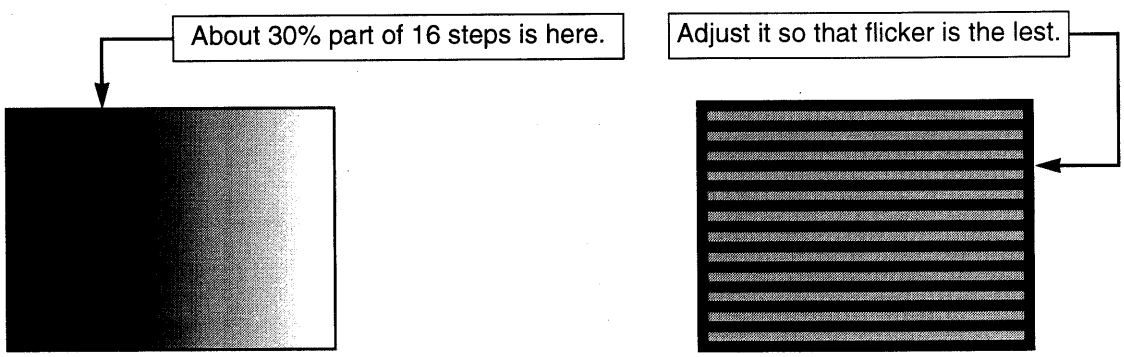
Refer to the attached drawing.

①Input 16 steps monochrome green with a timing signal of SVGA VESA(60).
Adjust R748 so that brightness at about 30% part of 16 steps is the darkest.

②Input 16 steps monochrome red with a timing signal of SVGA VESA(60).
Adjust R848 so that brightness at about 30% part of 16 steps is the darkest.

③Input 16 steps monochrome blue with a timing signal of SVGA VESA(60).
Adjust R948 so that brightness at about 30% part of 16 steps is the darkest.

④Input horizontal green line (gray/black) signal with a timing signal of SVGA VESA(60).
Adjust R748 so that flicker is the lest.



Adjustment Procedure

1. Adjustment of color correction circuit.

①Input gray at 0.35Vp-p with a timing signal of SVGA VESA(60).

②Set RN34(GAIN) to minimum.

③Check the color uniformity of image.

④Continue this adjustment when color uniformity is not good.

⑤Set RN34(GAIN) to maximum and RN31(HP), RN32(HS) and RN33(VP) to mechanical center.

⑥Adjust RN32(HS) so that color balance of left and right side is best,....visual check.
RN32 is control correction wave for Horizontal Saw.

⑦Adjust RN31(HP) so that color balance of center and side is best,....visual check.
RN31 is control correction wave for Horizontal Parabola.

⑧Adjust RN33(VS) so that color balance of top and bottom is best,....visual check.
RN33 is control correction wave for Vertical Saw.

2. Adjustment of white balance.

①Preset R751(G BLK) ,R851(R BLK) and R951(B BLK) to the mechanical center.

②Input 16 steps monochrome green at 0.7Vp-p with a timing signal of SVGA VESA(60).

③Adjust R665(W SUB CONTRAST) and R668(W SUB BRIGHT) so that brightness of 16 steps is best,....visual check.

④Input gray pattern at 0.21Vp-p with a timing signal of SVGA VESA(60).

⑤ Adjust R870(R SUB BRIGHT) and R970(B SUB BRIGHT) so that the chromaticity at the center of the picture is x=0.280±0.005,y=0.340±0.005 (middle-brightness white balance)

⑥Input gray pattern at 0.52Vp-p with a timing signal of SVGA VESA(60).

⑦Adjust R862(R SUB CONTRAST) and R962(B SUB CONTRAST) so that the chromaticity at the center of the picture is x=0.280±0.005,y=0.345±0.005 (hi-brightness white balance)

⑧Input gray pattern at 0.07Vp-p with a timing signal of SVGA VESA(60).

⑨Adjust R851(R BLK) and R951(B BLK) so that the chromaticity at the center of the picture is x=0.270±0.01,y=0.340±0.01 (low-brightness white balance)

⑩Repeat ④ to ⑨ and adjust middle, hi and low-brightness white balance.

note When majoring and adjustment using Minolta CL-100.

4 - 3 Panel phase adjustment

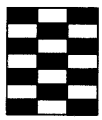
Adjustment procedure

①As following procedure, adjust it with each timing signal ; SVGA VESA(85), MAC16, SVGA VESA (75), SVGA VESA(56), VGA VESA(60) and XGA VESA(60).

②Input cross hatch monochrome green at 0.7Vp-p with a timing signal of SVGA VESA(60), and adjust H.PHASE of menu so that the best at vertical lines.

③Input character signal monochrome green at 0.35Vp-p.

(CHARACTER Format : 1 Code:83hex []
Font:16*16 Cel:16*16)



④Adjust "PANEL PHASE" in "S/H" of adjustment-menu (*) so that the lest vertical stripe pattern.

Note:Never change "S/H PHASE" of adjustment-menu (*).

-> Fix "0", only XGA VESA(60) fix "1".

* how to set up adjustment-menu

1st Push MENU button, 2nd Push RESET button and keep 5sec. or more, 3rd Select S/H of head line.

4 - 4 Sensor adjustment

Preparations for adjustment

①Apply heat-running for 10 minutes or more before adjustment.

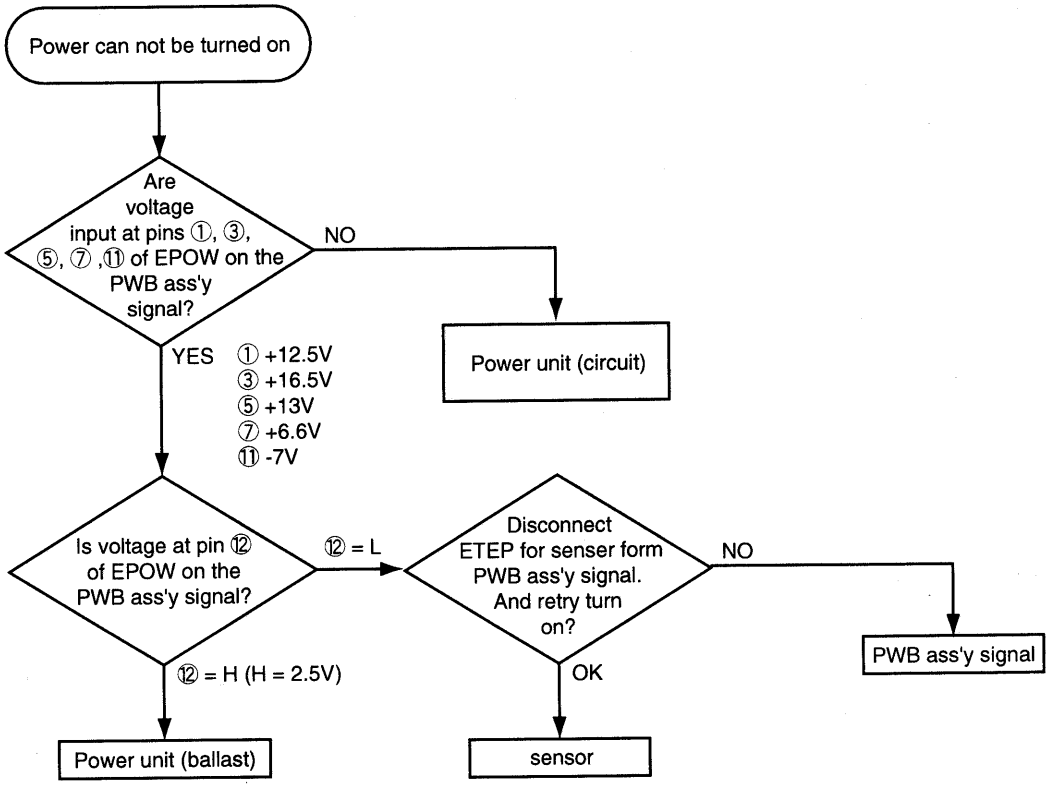
Adjustment procedure

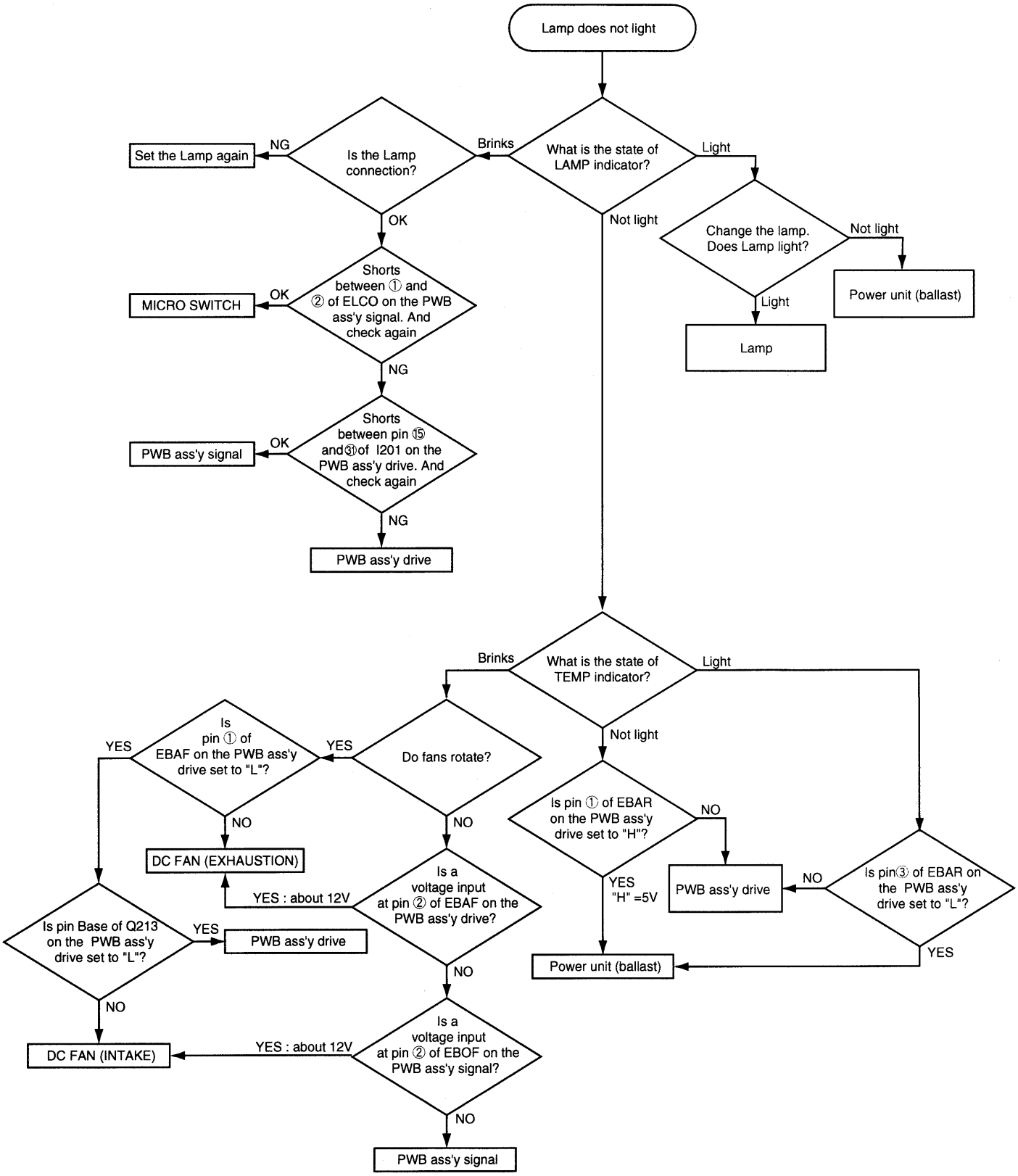
Adjust RW04 to get following values.

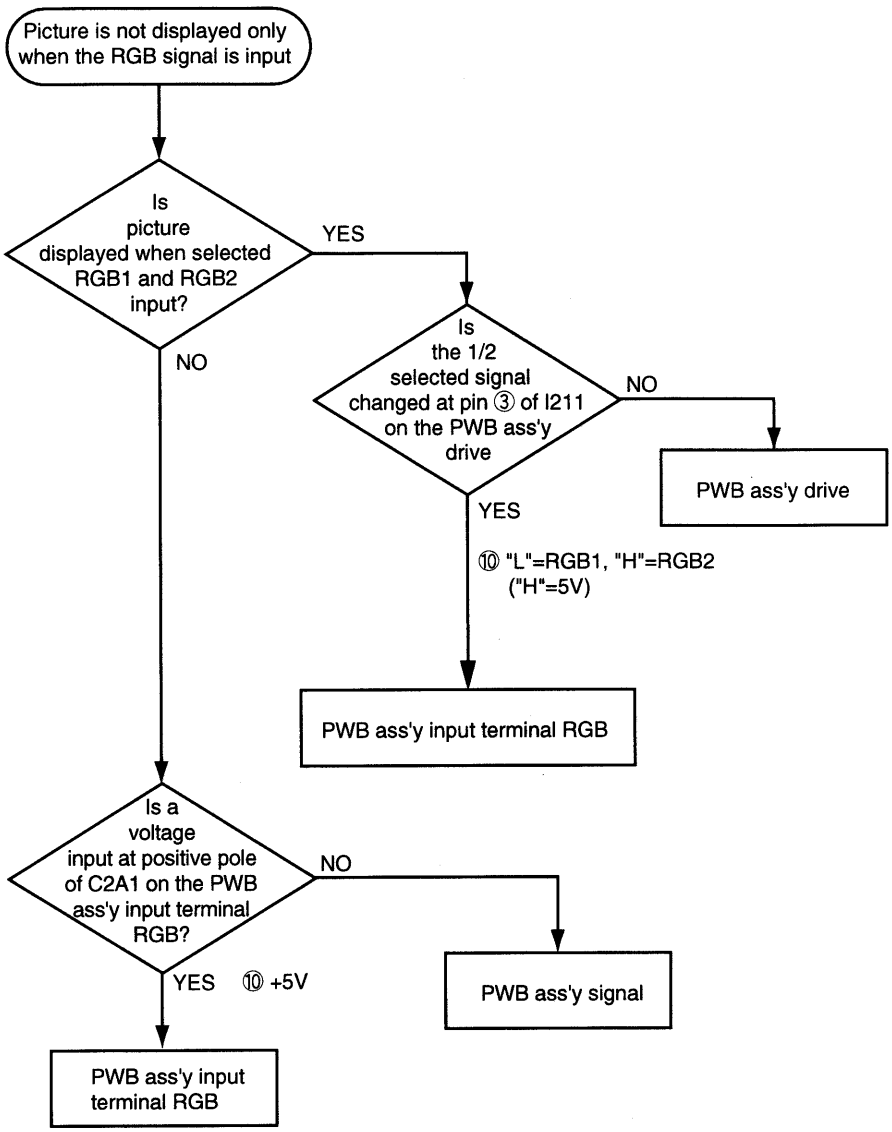
0.018 ± 0.002 [V]

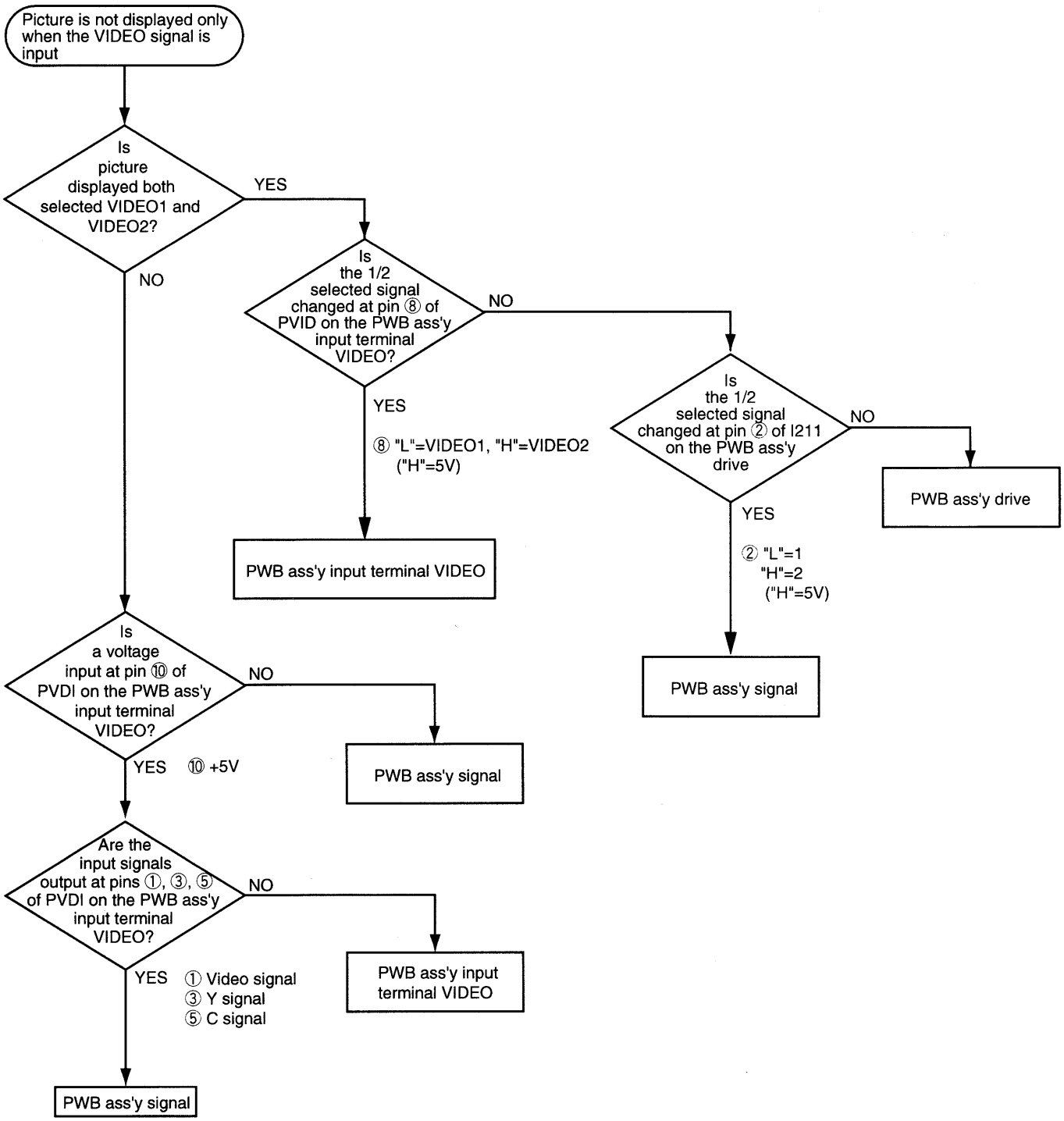
(Connect ⊕ side to TWT1 and ⊖ side to TWT2 by digital meter.)

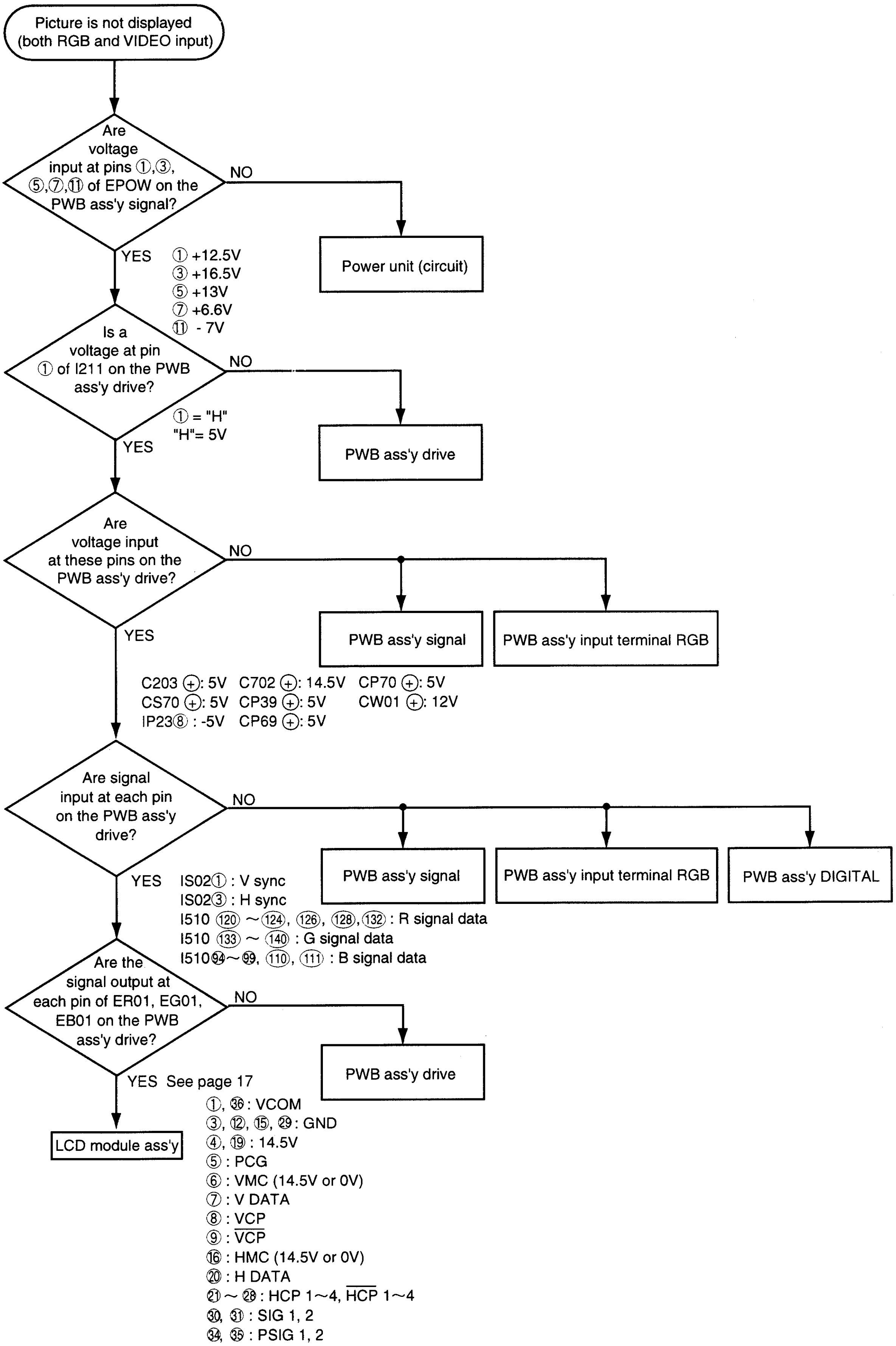
5. Troubleshooting

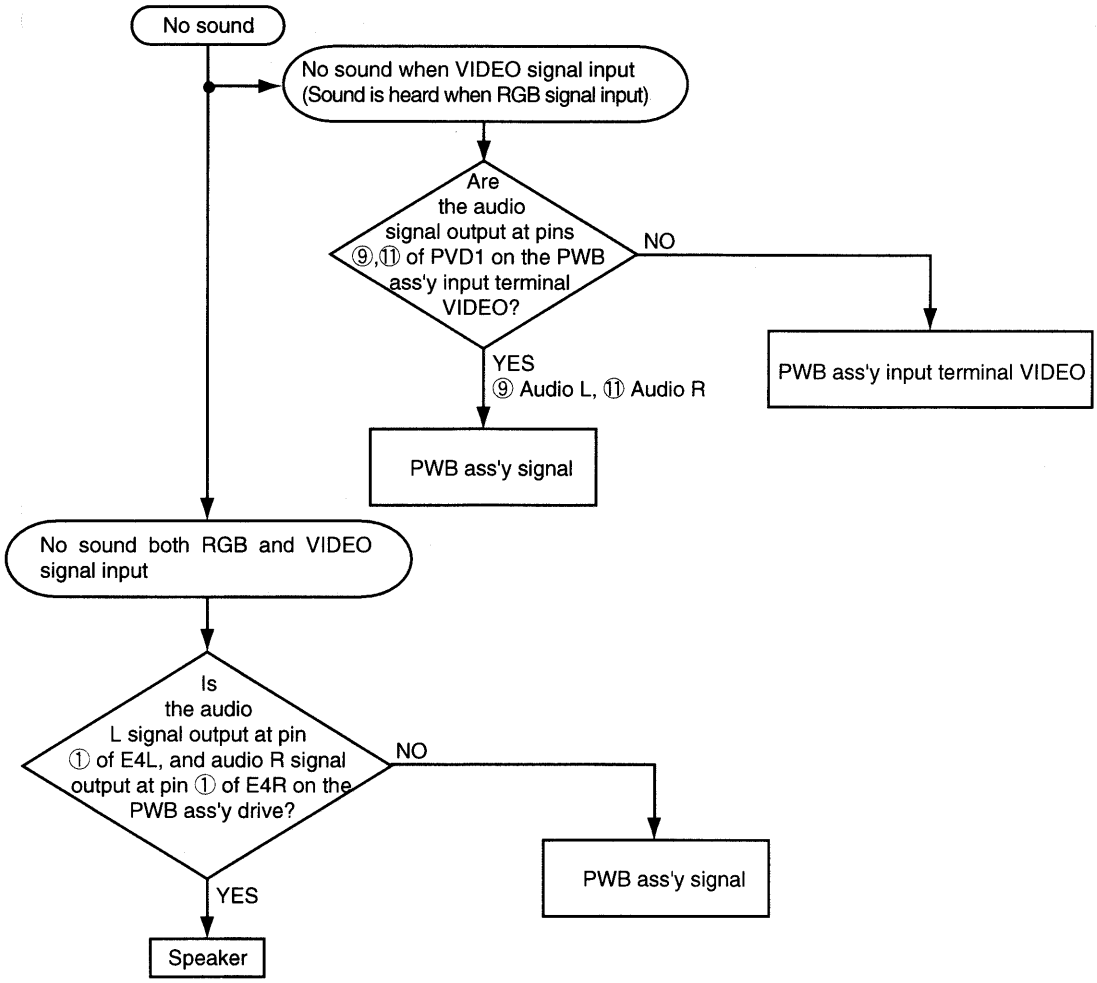


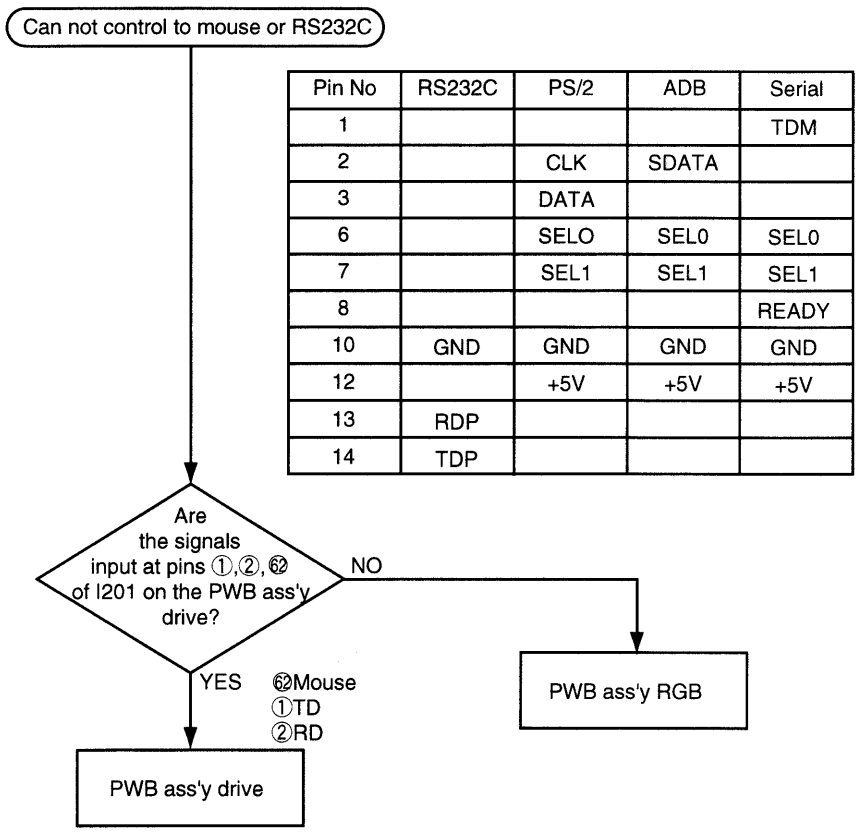

Lamp does not light
What is the state of LAMP indicator?
Brinks
Light
Not light
Is the Lamp connection?
NG
Set the Lamp again
OK
Shorts between ① and ② of ELCO on the PWB ass'y signal. And check again
OK
MICRO SWITCH
NG
Shorts between pin ⑮ and㉛of I201 on the PWB ass'y drive. And check again
OK
PWB ass'y signal
NG
PWB ass'y drive
Change the lamp. Does Lamp light?
Not light
Power unit (ballast)
Light
Lamp
What is the state of TEMP indicator?
Brinks
Light
Not light
Do fans rotate?
YES
Is pin ① of EBAF on the PWB ass'y drive set to "L"?
YES
NO
DC FAN (EXHAUSTION)
NO
Is a voltage input at pin ② of EBAF on the PWB ass'y drive?
YES : about 12V
Is pin Base of Q213 on the PWB ass'y drive set to "L"?
YES
PWB ass'y drive
NO
DC FAN (INTAKE)
YES : about 12V
Is a voltage input at pin ② of EBOF on the PWB ass'y signal?
NO
PWB ass'y signal
Is pin ① of EBAR on the PWB ass'y drive set to "H"?
NO
YES "H" =5V
PWB ass'y drive
NO
Is pin③ of EBAR on the PWB ass'y drive set to "L"?
YES
Power unit (ballast)


Picture is not displayed only when the RGB signal is input
Is picture displayed when selected RGB1 and RGB2 input?
YES
NO
Is the 1/2 selected signal changed at pin ③ of I211 on the PWB ass'y drive
NO
PWB ass'y drive
YES
⑩ "L"=RGB1, "H"=RGB2 ("H"=5V)
PWB ass'y input terminal RGB
Is a voltage input at positive pole of C2A1 on the PWB ass'y input terminal RGB?
NO
PWB ass'y signal
YES ⑩ +5V
PWB ass'y input terminal RGB


Picture is not displayed only when the VIDEO signal is input
Is picture displayed both selected VIDEO1 and VIDEO2?
YES
NO
Is the 1/2 selected signal changed at pin ⑧ of PVID on the PWB ass'y input terminal VIDEO?
NO
YES
⑧ "L"=VIDEO1, "H"=VIDEO2 ("H"=5V)
PWB ass'y input terminal VIDEO
Is the 1/2 selected signal changed at pin ② of I211 on the PWB ass'y drive
NO
PWB ass'y drive
YES
② "L"=1 "H"=2 ("H"=5V)
PWB ass'y signal
Is a voltage input at pin ⑩ of PVDI on the PWB ass'y input terminal VIDEO?
NO
PWB ass'y signal
YES ⑩ +5V
Are the input signals output at pins ①, ③, ⑤ of PVDI on the PWB ass'y input terminal VIDEO?
NO
PWB ass'y input terminal VIDEO
YES ① Video signal ③ Y signal ⑤ C signal
PWB ass'y signal


Picture is not displayed (both RGB and VIDEO input)
Are voltage input at pins ①,③, ⑤,⑦,⑪ of EPOW on the PWB ass'y signal?
NO
Power unit (circuit)
YES
① +12.5V
③ +16.5V
⑤ +13V
⑦ +6.6V
⑪ - 7V
Is a voltage at pin ① of I211 on the PWB ass'y drive?
NO
PWB ass'y drive
① = "H"
"H"= 5V
YES
Are voltage input at these pins on the PWB ass'y drive?
NO
PWB ass'y signal
PWB ass'y input terminal RGB
YES
C203 ⊕: 5V C702 ⊕: 14.5V CP70 ⊕: 5V
CS70 ⊕: 5V CP39 ⊕: 5V CW01 ⊕: 12V
IP23⑧ : -5V CP69 ⊕: 5V
Are signal input at each pin on the PWB ass'y drive?
NO
PWB ass'y signal
PWB ass'y input terminal RGB
PWB ass'y DIGITAL
YES
IS02① : V sync
IS02③ : H sync
I510 (120) ~(124), (126), (128),(132) : R signal data
I510 (133) ~ (140) : G signal data
I510(94)~(99), (110), (111) : B signal data
Are the signal output at each pin of ER01, EG01, EB01 on the PWB ass'y drive?
NO
PWB ass'y drive
YES See page 17
LCD module ass'y
①, ㊱ : VCOM
③, ⑫, ⑮, ㉙ : GND
④, ⑲ : 14.5V
⑤ : PCG
⑥ : VMC (14.5V or 0V)
⑦ : V DATA
⑧ : VCP
⑨ : $\overline{VCP}$
⑯ : HMC (14.5V or 0V)
⑳ : H DATA
㉑ ~ ㉘ : HCP 1~4, $\overline{HCP}$ 1~4
㉚, ㉛ : SIG 1, 2
㉞, ㉟ : PSIG 1, 2

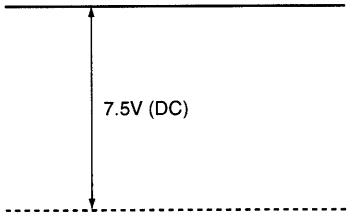




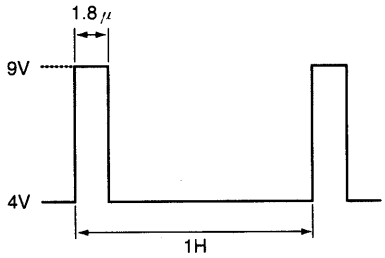
Pin No	RS232C	PS/2	ADB	Serial
1				TDM
2		CLK	SDATA	
3		DATA		
6		SELO	SEL0	SEL0
7		SEL1	SEL1	SEL1
8				READY
10	GND	GND	GND	GND
12		+5V	+5V	+5V
13	RDP			
14	TDP			

Signal waveforms of P501, P601 and P701 (Input signal is VGA3)

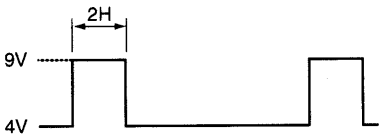
①, ㊱ V COM



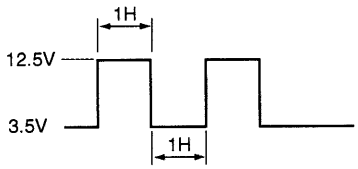
⑤ PCG



⑥ V DATA



⑧ VCP ⑨ $\overline{\text{VCP}}$

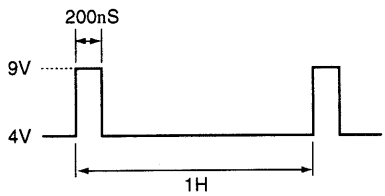


⑯ HMC

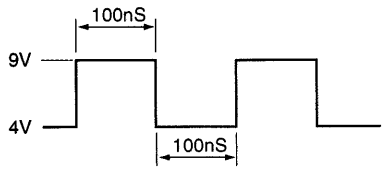
EG01 14.5V

ER01, EB01 GND

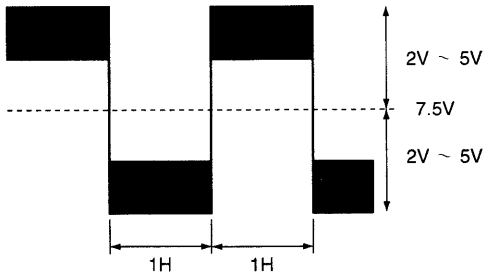
⑳ H DATA



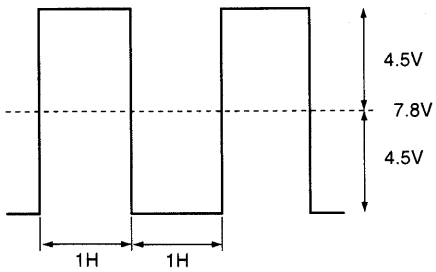
㉑ ~ ㉘ HCP



㉚, ㉛ SIG 1, 2



㉞, ㉟ PSIG 1, 2

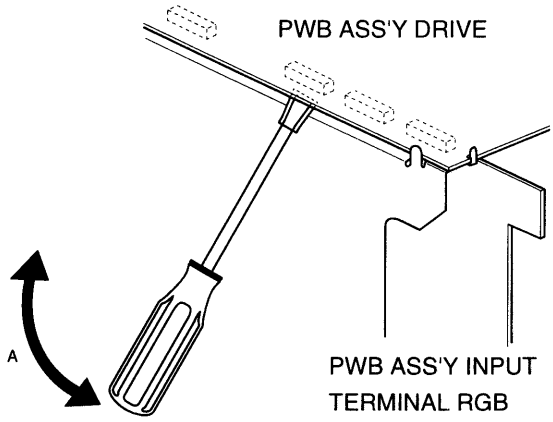


6. Service points

6 - 1 POINT

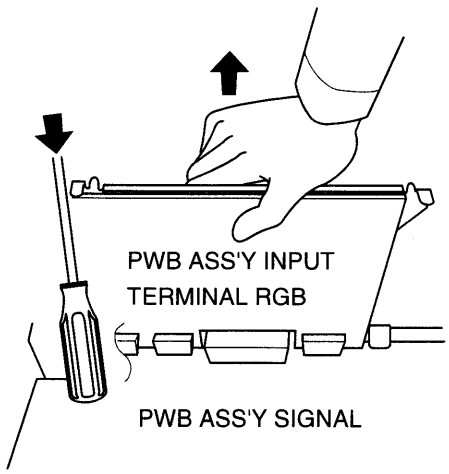
● Before Removing the Drive Base

Note that when removing the Drive Base, if you try to pull it by force, you may damage the connector linked with the RGB Input Terminal Base. When removing the Drive Base, first insert a flat-blade screwdriver with its end protected with adhesive tape etc. into the slot between the Drive Base and the RGB Input Terminal Base. Then please move the screwdriver in the direction of the arrow, in a way that it does not damage the Drive Base.



● Before Removing the RGB Input Terminal Base

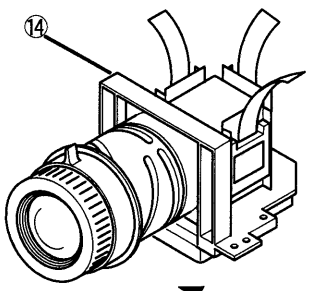
When removing the RGB Input Terminal Base, the signal base may bend and get damaged. When removing the RGB Input Terminal Base, please push the signal base with a screwdriver's grip etc. in a way that the base does not get damaged, then remove the RGB Input Terminal Base.



● Before Replacing the Panel / Lens Prism

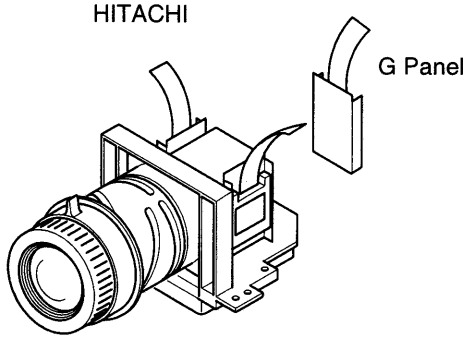
You should not replace separately the parts of the liquid crystal Panel / Lens Prism because it works properly only when used together. Therefore, regarding these parts, you can either replace part NO. 14, Panel / Lens Prism Assembly, or send the whole unit NO. 14 back to Hitachi, where we will replace the malfunctioning part, recondition the device and send it back to you. In that case please contact our distributor.

DISTRIBUTOR



- Do not disassemble the unit because replacement of separate parts is not possible.
- For repairs of the product, please contact our distributor.

HITACHI



Replacement of G Panel→Reconditioning

Return

6 - 2 Removing the PWB ass'y input terminal Video, the upper case, the PWB ass'y drive, the PWB ass'y digital, the PWB ass'y input terminal RGB, the dichroic optics unit, the lens prism unit, the DC fan (exhaust) and the DC fan (intake). (Fig.6-2)

(1) Removing the PWB ass'y input terminal video.

1. Remove a screw B0.
2. Disconnect a connector for PWB ass'y signal from the PWB ass'y input terminal video.

(2) Removing the upper case.

1. Remove the PWB ass'y input terminal video.
   (Refer to item 6-2 (1).)
   Please remove carefully the upper case because the speaker connectors are short wire.
2. Remove 5 screws B1 and remove the upper case ass'y and disconnect the operation panel connector and 2 connectors for speaker from PWB ass'y drive.

(3) Removing the PWB ass'y drive.

1. Remove the PWB ass'y input terminal video.
   (Refer to item 6-2 (1).)
2. Remove the upper case.
   (Refer to item 6-2 (2).)
3. Release the lock of the connector housing and disconnect the FPC of the LCD module ass'y.
4. Remove 4 screws B2 and disconnect 3 connectors for the DC fans and the power unit.
5. Remove PWB ass'y drive form PWB ass'y input terminal RGB.

(4) Removing the PWB ass'y digital.

1. Remove the PWB ass'y input terminal video.
   (Refer to item 6-2 (1).)
2. Remove the upper case.
   (Refer to item 6-2 (2).)
3. Removing the PWB ass'y drive.
   (Refer to item 6-2 (3).)
4. Remove 2 screws B3 and remove the PWB ass'y digital form PWB ass'y drive.

(5) Removing the PWB ass'y input terminal RGB.

1. Remove the PWB ass'y input terminal video.
   (Refer to item 6-2 (1).)
2. Remove the upper case.
   (Refer to item 6-2 (2).)
3. Remove the PWB ass'y drive.
   (Refer to item 6-2 (3).)
4. Remove a screw B4 and disconnect 3 connectors and remove the PWB ass'y input terminal RGB.

(6) Removing the dichroic optics unit.

1. Remove the PWB ass'y input terminal video.
   (Refer to item 6-2 (1).)
2. Remove the upper case.
   (Refer to item 6-2 (2).)
3. Remove the PWB ass'y drive.
   (Refer to item 6-2 (3).)
4. Removing the PWB ass'y input terminal RGB.
   (Refer to item 6-2 (4).)
5. Remove 3 screws B5 and disconnect a connector for DC fan (intake).
6. Remove 3 screws B6 and disconnect a connector for the lamp.

(7) Removing the lens prism unit.
1. Remove the PWB ass'y input terminal video.
(Refer to item 6-2 (1).)
2. Remove the upper case.
(Refer to item 6-2 (2).)
3. Remove the PWB ass'y drive.
(Refer to item 6-2 (3).)
4. Removing the PWB ass'y input terminal RGB.
(Refer to item 6-2 (4).)
5. Removing the dichroic optics unit.
(Refer to item 6-2 (5).)
6. Remove 2 screws B7

(8) Removing the DC fan (exhaust).
1. Remove the PWB ass'y input terminal video.
(Refer to item 6-2 (1).)
2. Remove the upper case.
(Refer to item 6-2 (2).)
3. Remove the PWB ass'y drive.
(Refer to item 6-2 (3).)
4. Removing the PWB ass'y input terminal RGB.
(Refer to item 6-2 (4).)
5. Removing the dichroic optics unit.
(Refer to item 6-2 (5).)
6. Remove 3 screws B8

(9) Removing the DC fan (intake).
1. Remove the PWB ass'y input terminal video.
(Refer to item 6-2 (1).)
2. Remove the upper case.
(Refer to item 6-2 (2).)
3. Remove the PWB ass'y drive.
(Refer to item 6-2 (3).)
4. Removing the PWB ass'y input terminal RGB.
(Refer to item 6-2 (4).)
5. Removing the dichroic optics unit.
(Refer to item 6-2 (5).)
6. Remove 3 screws B9

6 - 3 Removing power unit (ballast), the DC fan (power), the power unit (circuit) and PWB ass'y signal.

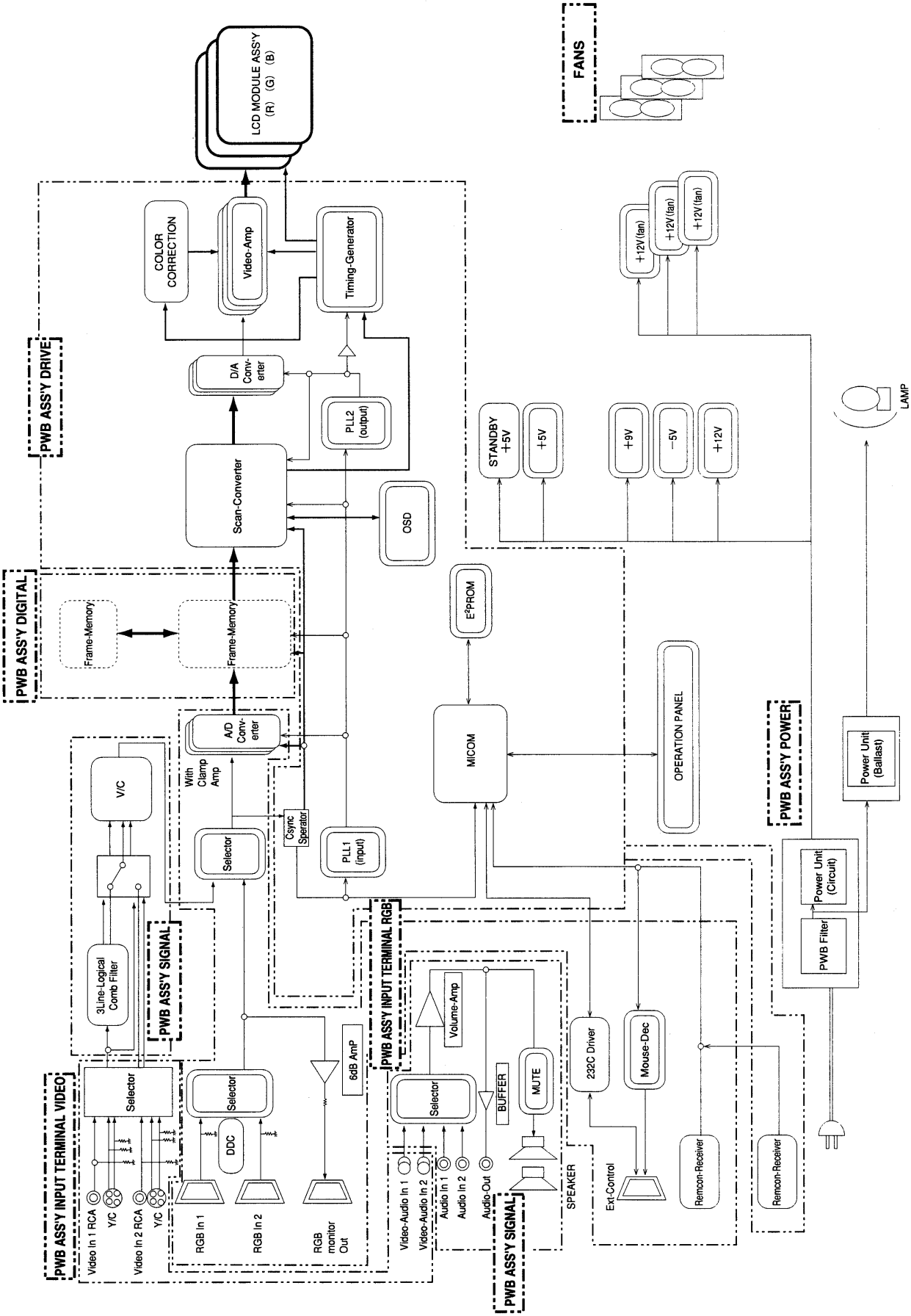
Removing the PWB ass'y input terminal Video, the upper case, the PWB ass'y drive, the PWB ass'y digital, the PWB ass'y input terminal RGB, the dichroic optics unit, the lens prism unit, the DC fan (exhaust) and the DC fan (intake). (Refer to 6-2.)

(1) Removing the power unit.
1. Remove 3 screws C1.

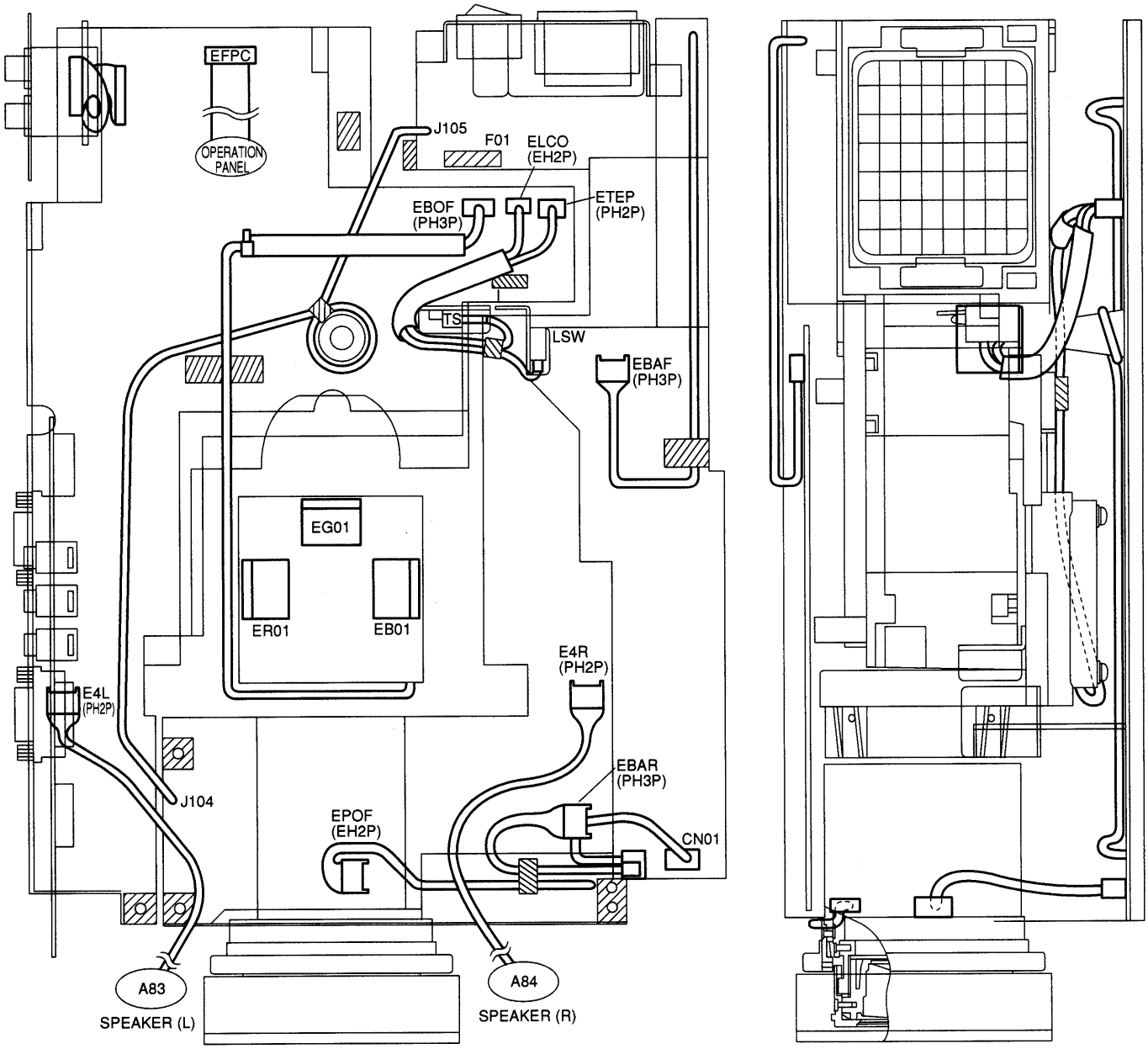
(2) Removing the DC fan (power).
1. Remove 4 screws C2.

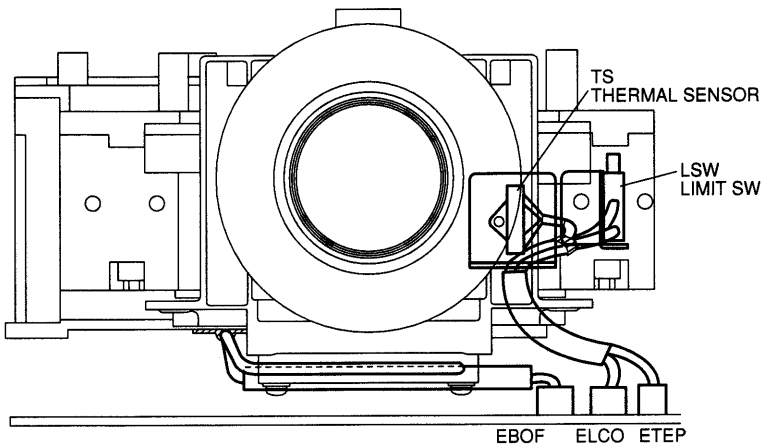
(3) Removing PWB ass'y signal.
1. Release 4 lock claws.

7. Block diagram

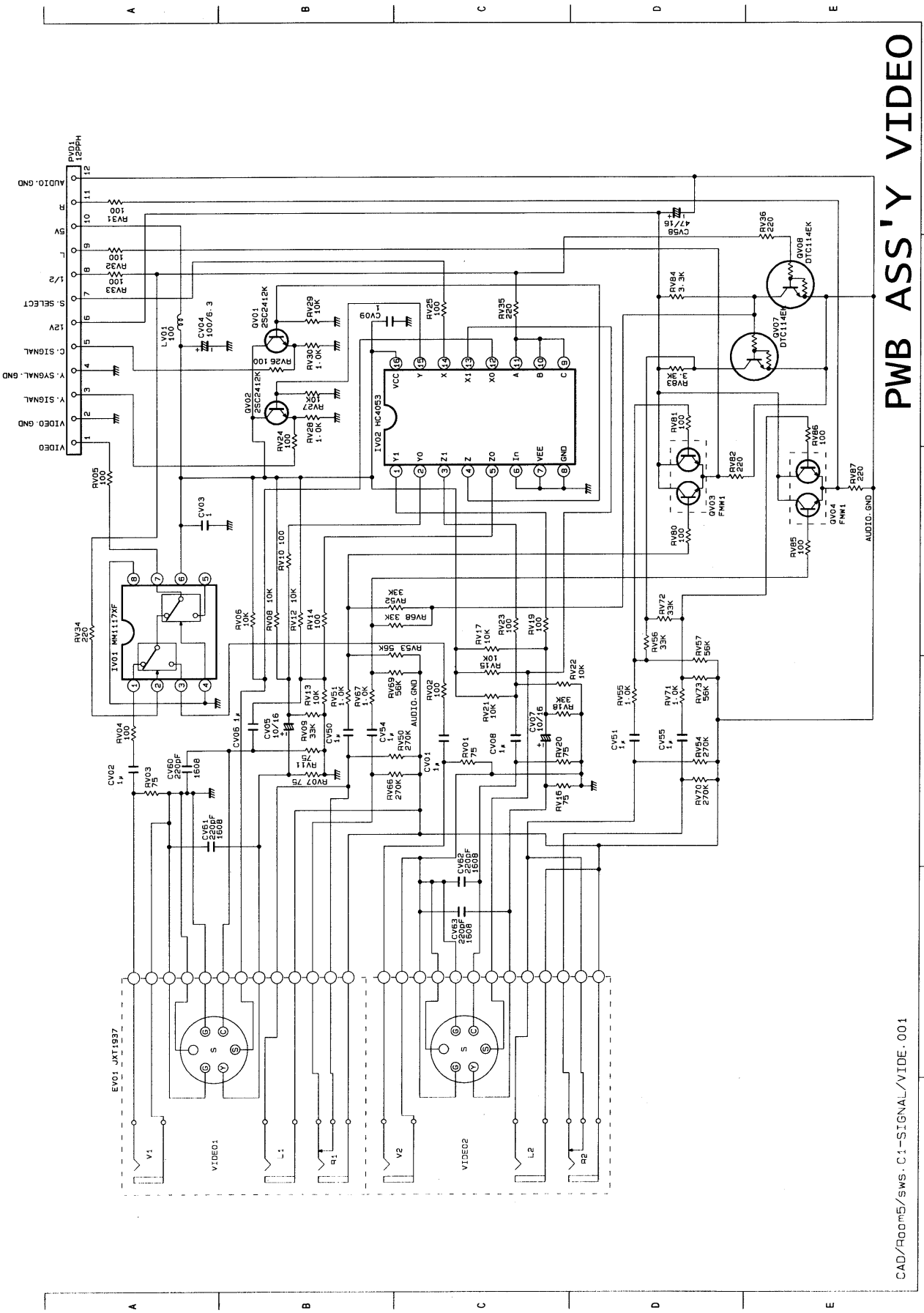


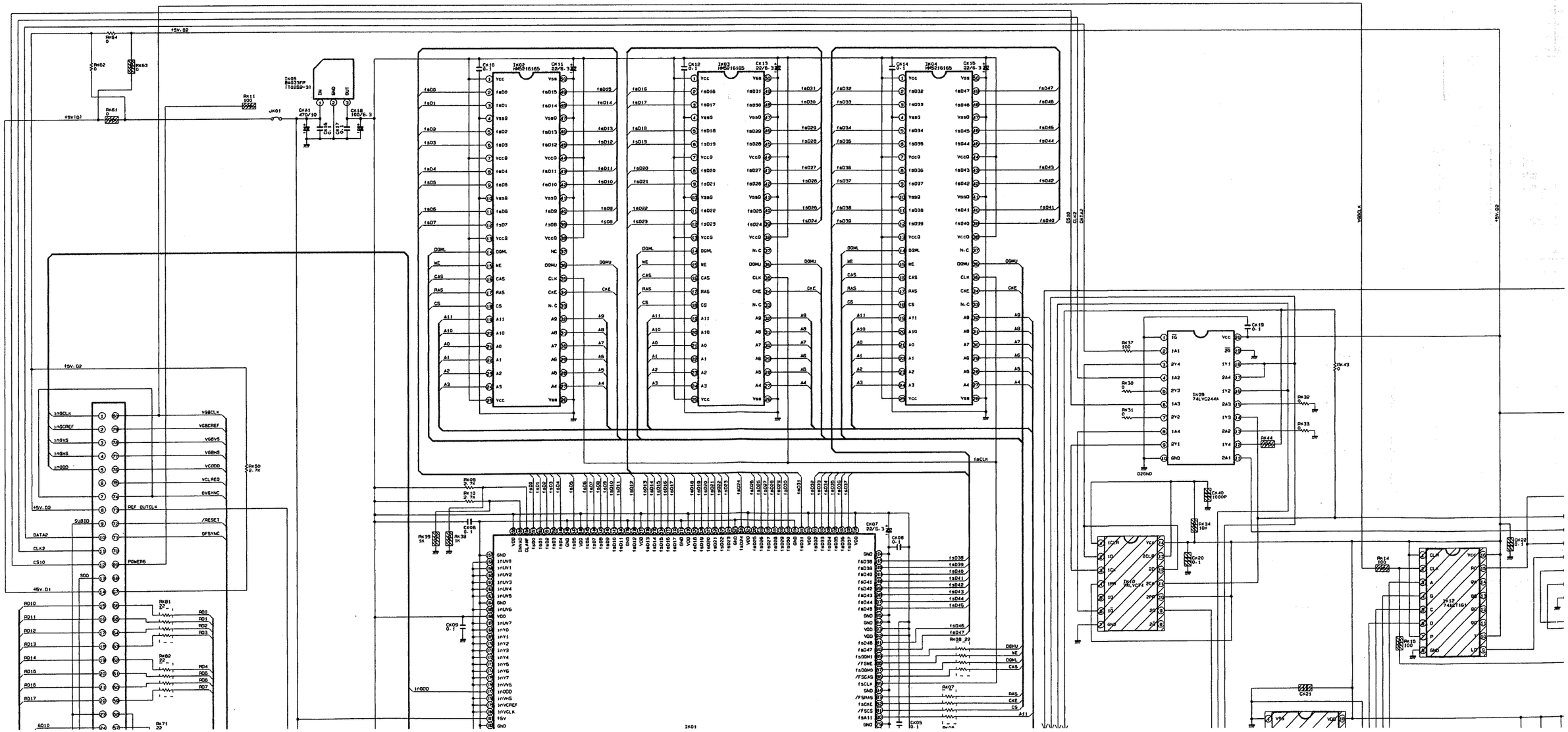
8. Wiring diagram





9. Basic circuit diagram




+5V.D2
RK64 0
RK62 0
RK63 0
RK61 0
+5V(D)
RK11 100
JK01
CK41 470/10
CK17 0.1
CK18 100/6.3
IK05 RA033FP (TO252-3)
IN
GND
OUT
CK10 0.1
IK02 HM5216165
CK11 22/6.3
CK12 0.1
IK03 HM5216165
CK13 22/6.3
CK14 0.1
IK04 HM5216165
CK15 22/6.3
fsD0
fsD1
fsD2
fsD3
fsD4
fsD5
fsD6
fsD7
fsD8
fsD9
fsD10
fsD11
fsD12
fsD13
fsD14
fsD15
fsD16
fsD17
fsD18
fsD19
fsD20
fsD21
fsD22
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fsD37
fsD38
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fsD40
fsD41
fsD42
fsD43
fsD44
fsD45
fsD46
fsD47
DQML
WE
CAS
RAS
CS
A11
A10
A0
A1
A2
A3
DQMU
CLK
CKE
A9
A8
A7
A6
A5
A4
Vcc
Vss
Vccq
Vssq
N.C
fsCLK
+5V.D2
VGSCLK
VGSCREF
VGSVS
VGSHS
VCODD
VCLREQ
OVSYNC
/RESET
OFSYNC
REF OUTCLK
SUBID
DATA2
CLK2
CS10
POWER6
SDO
+5V.D1
RK81 22
RK82 22
RK71 22
RD10
RD11
RD12
RD13
RD14
RD15
RD16
RD17
RD0
RD1
RD2
RD3
RD4
RD5
RD6
RD7
SD10
RK50 2.7K
RK09 2.7K
RK10 2.7K
RK38 1K
CK08 0.1
CK09 0.1
CK06 0.1
IK01
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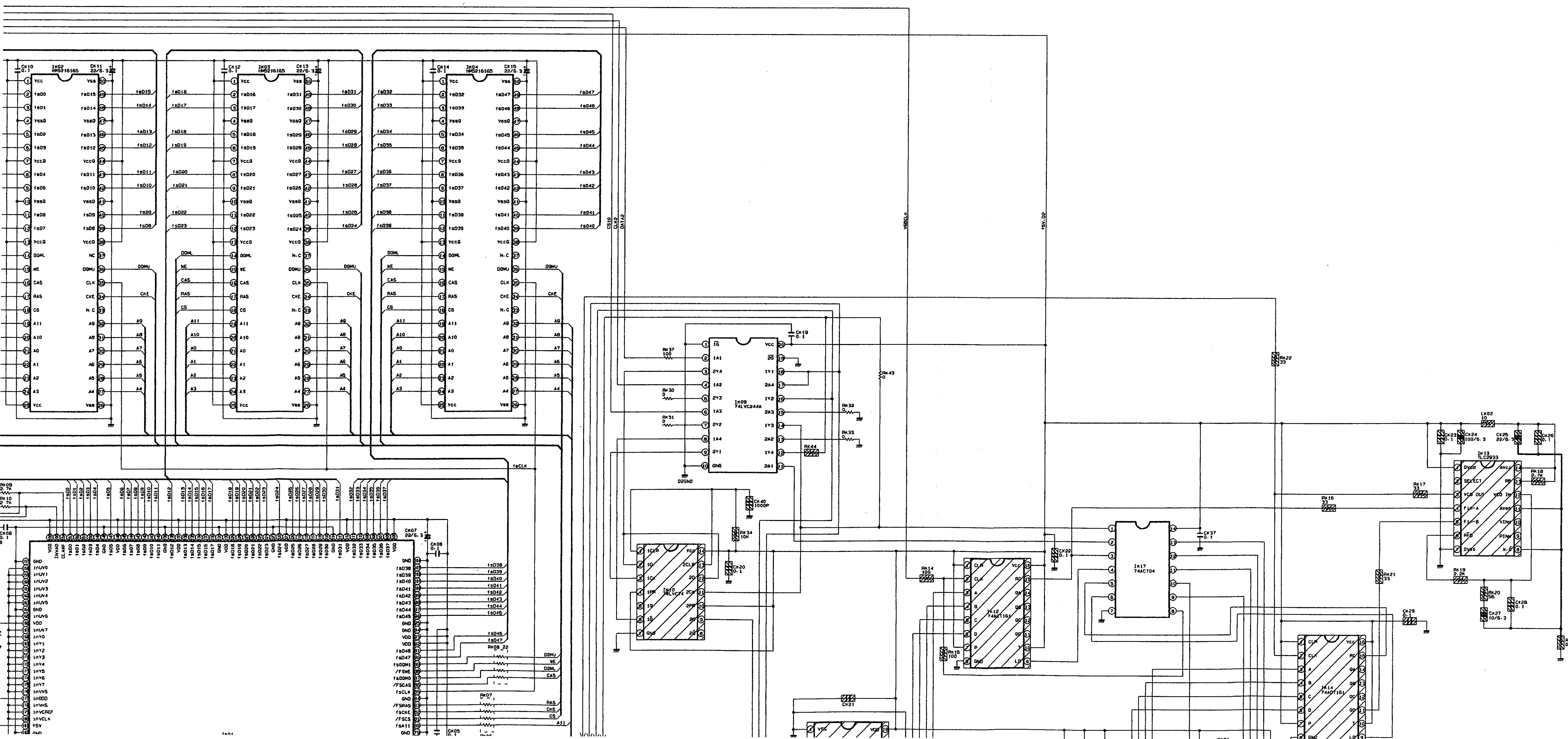
1nSCREF
1nSVS
1nSHS
1nODD
1nLV0
1nLV1
1nLV2
1nLV3
1nLV4
1nLV5
1nLV6
1nLV7
1nY0
1nY1
1nY2
1nY3
1nY4
1nY5
1nY6
1nY7
1nVVS
1nVCREF
1nVCLK
+5V
GND
VDD
fsD38
fsD39
fsD40
fsD41
fsD42
fsD43
fsD44
fsD45
fsD46
fsD47
fsDQM1
/FSWE
fsDQM0
/FSCAS
fsCLK
/FSRAS
fsCKE
/FSCS
fsA11
RK08 22
RK07
RAS
CKE
CS
A11
DQMU
WE
DQML
CAS
fsCLK
CK19 0.1
RK37 100
RK30 0
RK31 0
IK09 74LVC244A
RK43 0
RK32 0
RK33 0
RK44
D2GND
CK40 1000P
RK34 10K
CK20 0.1
IK10 74LVC74
IK12 74ALS161
RK14 100
RK15 100
CK22 0.1
CK21
VSS
VGSCLK
CS10
DA12
+5V.D2


IK09
74LVC244A
IK17
74ACT04
IK13
TLC2933
IK12
74ACT161
IK14
74ACT161

A

B

C

D

B

C

D

E

1

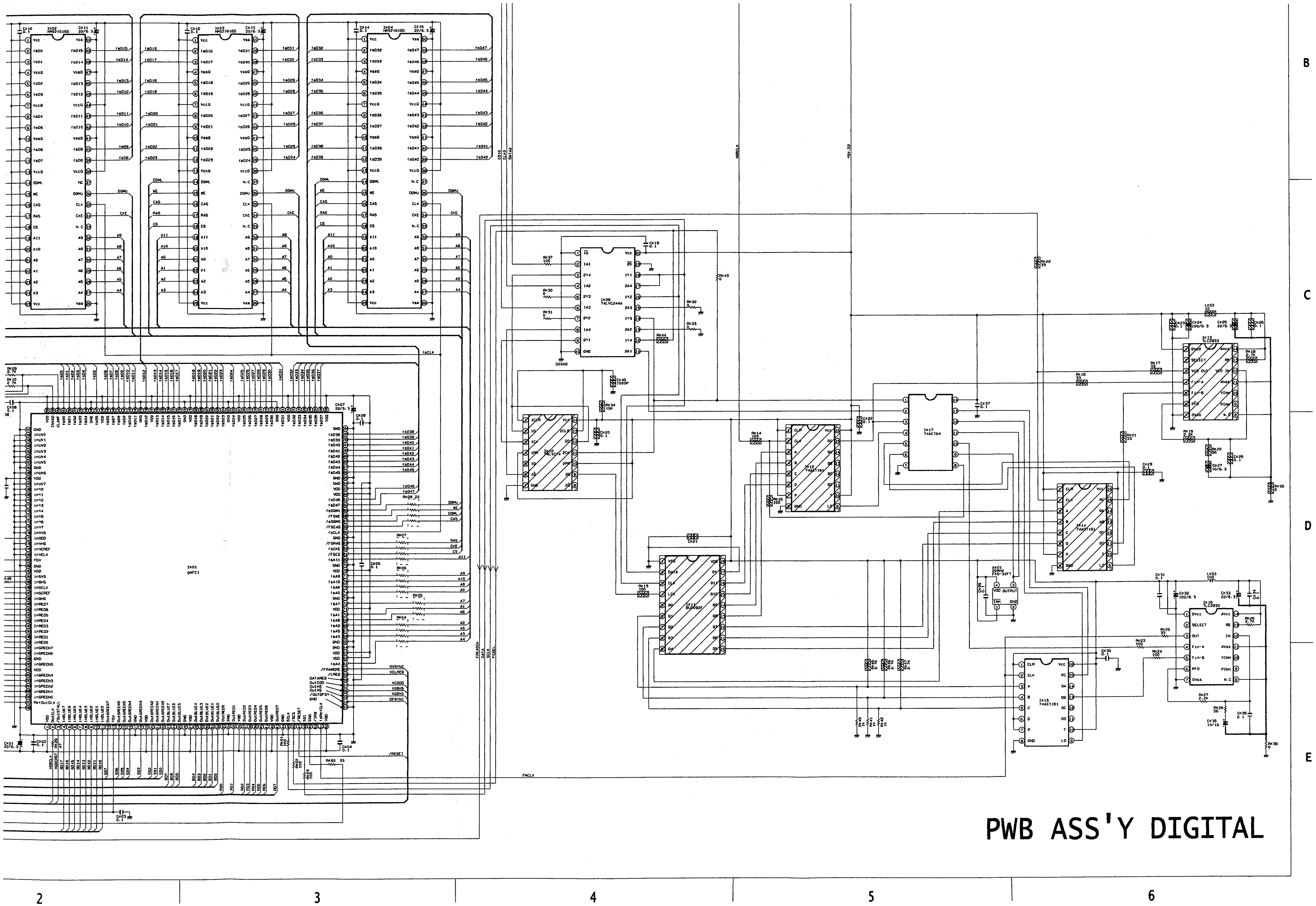
2

3

4

5

CAD/Room5/sws.ADB-PCB/adb.001



PWB ASS'Y DIGITAL

A

B

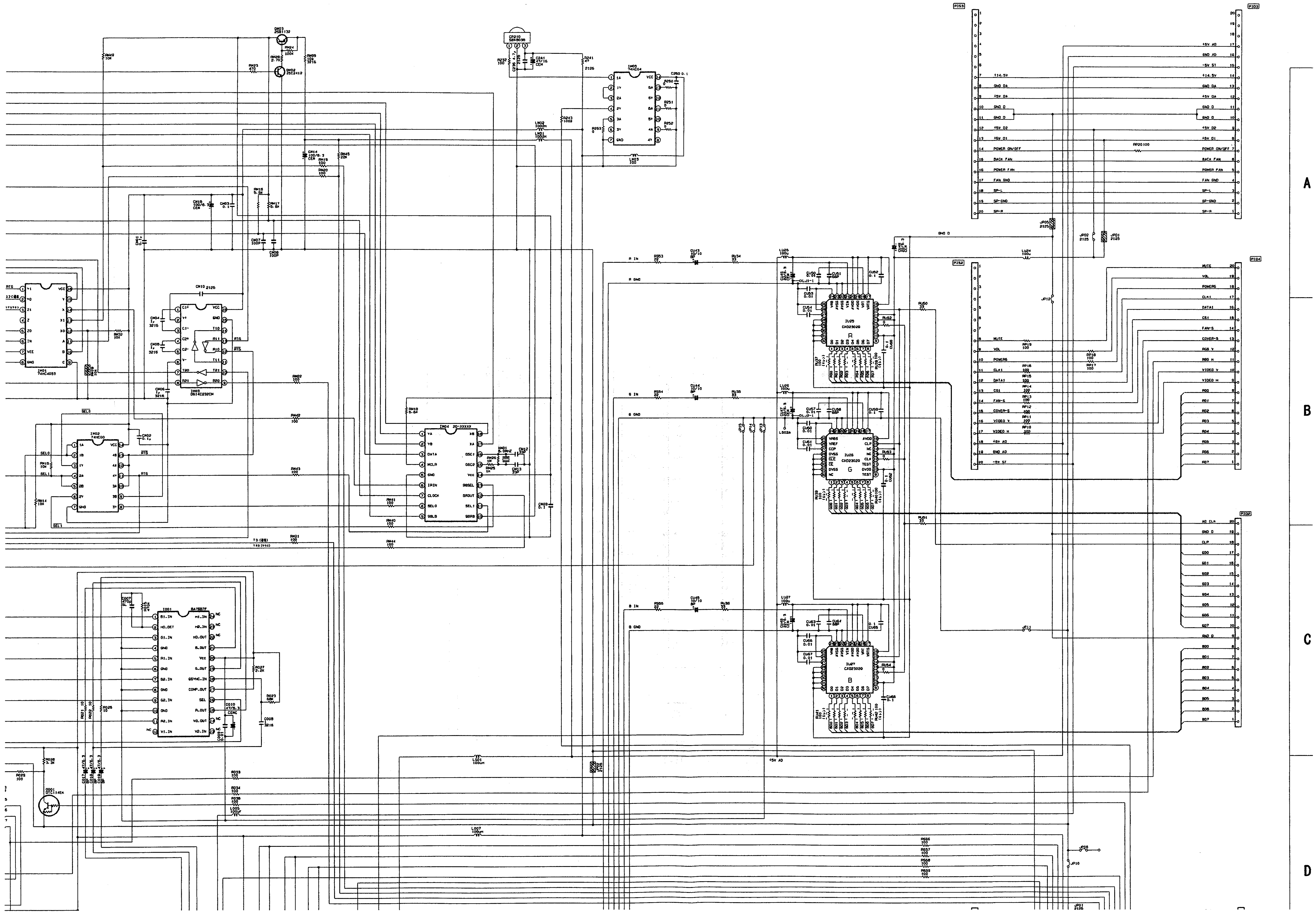
C

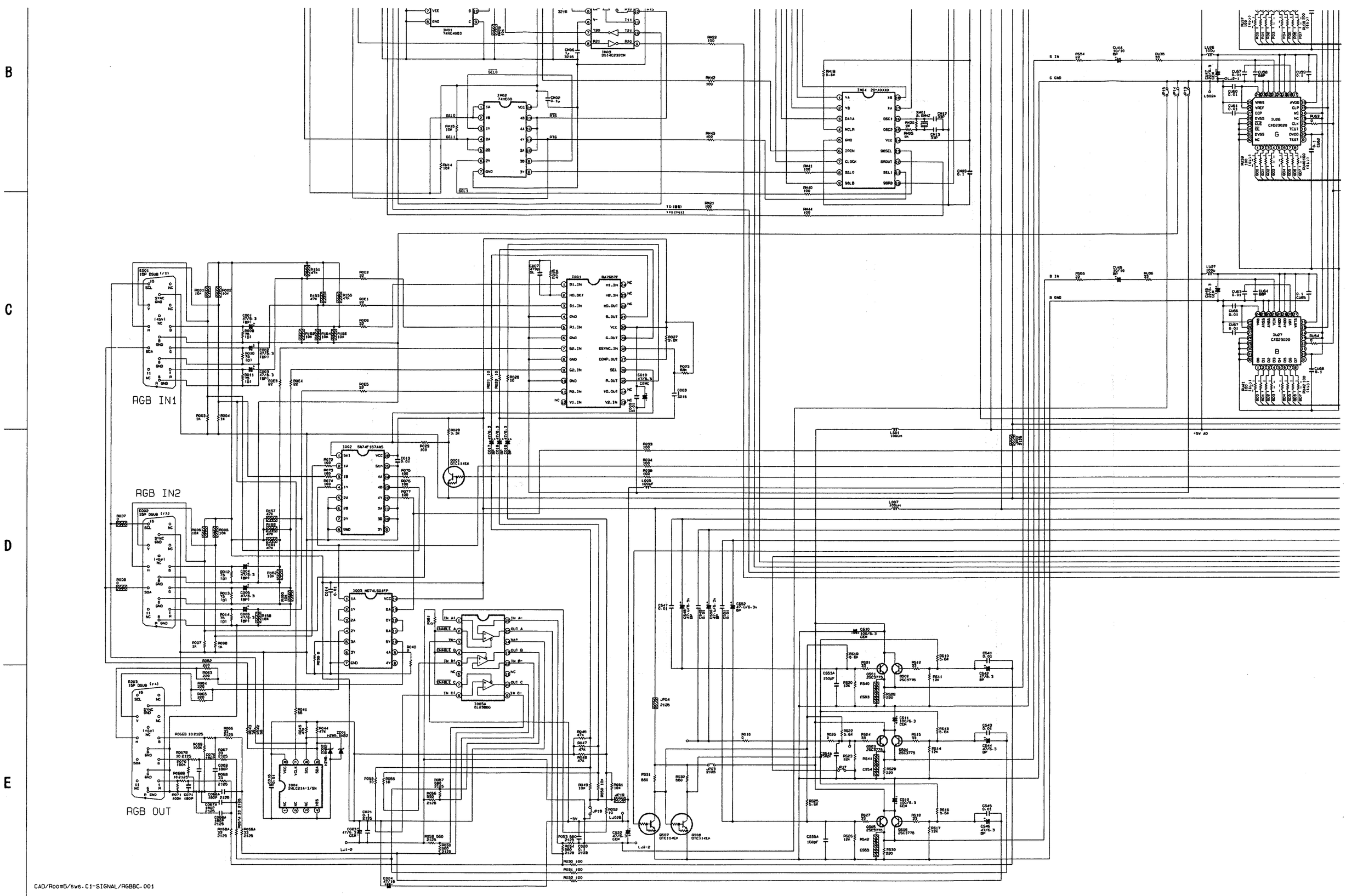
D

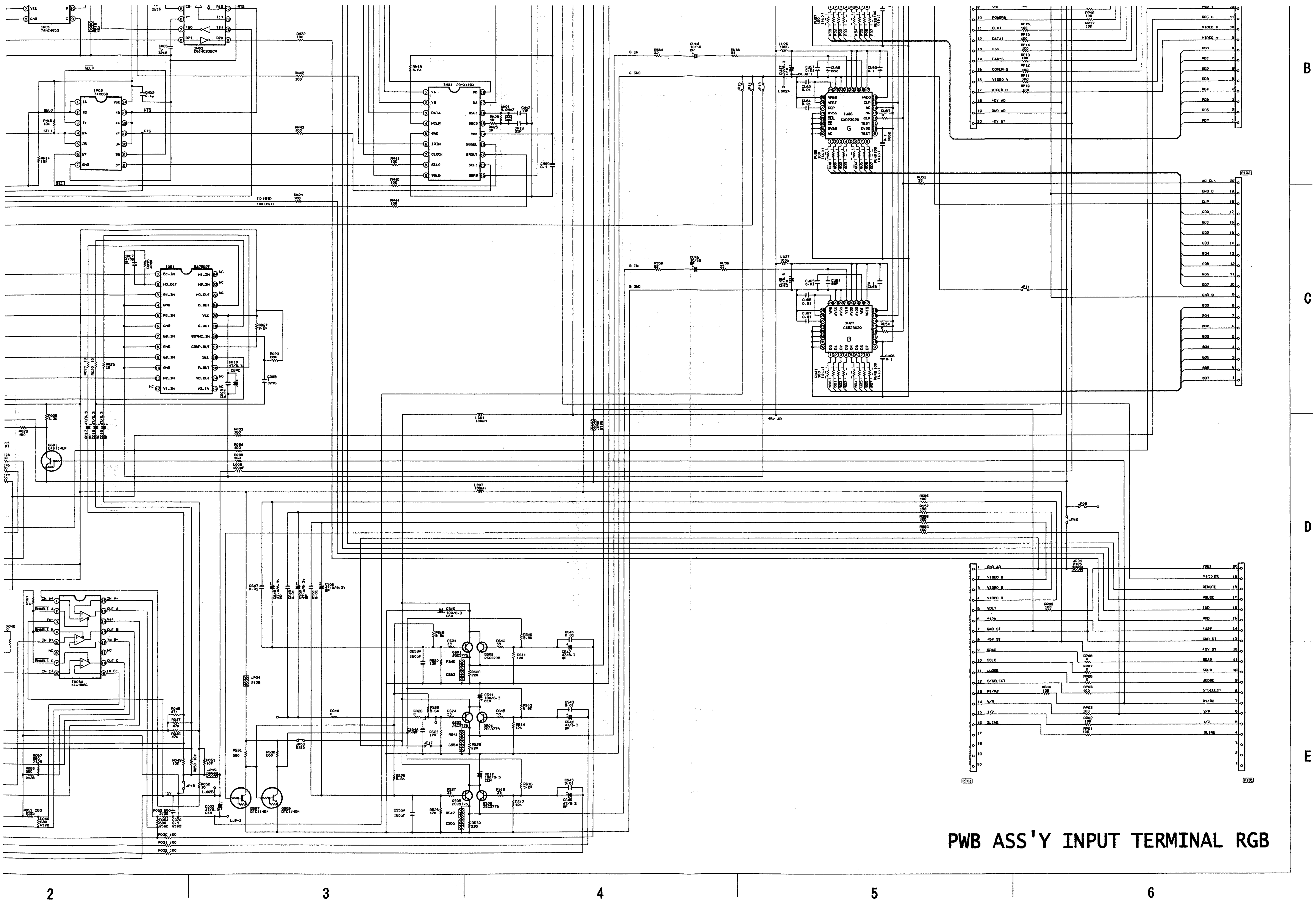
CONT IN

RGB IN1

RGB IN2


A
B
C
D


AGB IN1
AGB IN2
RGB OUT
CAD/Room5/sws.C1-SIGNAL/RGBBC.001



PWB ASS'Y INPUT TERMINAL RGB

A

B

C

D

to VIDEO INPUT

A-RGB1 IN

A-RGB2 IN

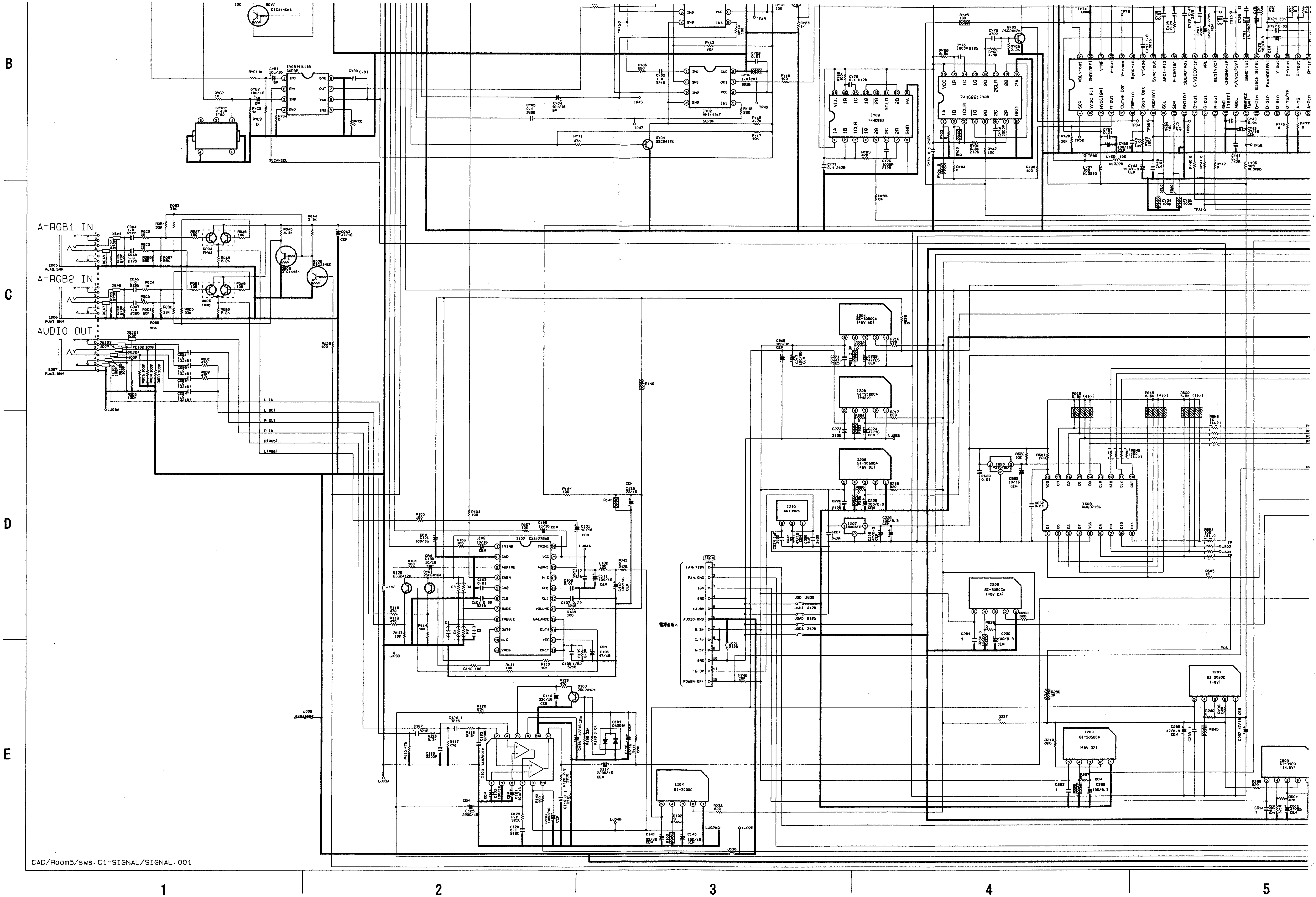
AUDIO OUT

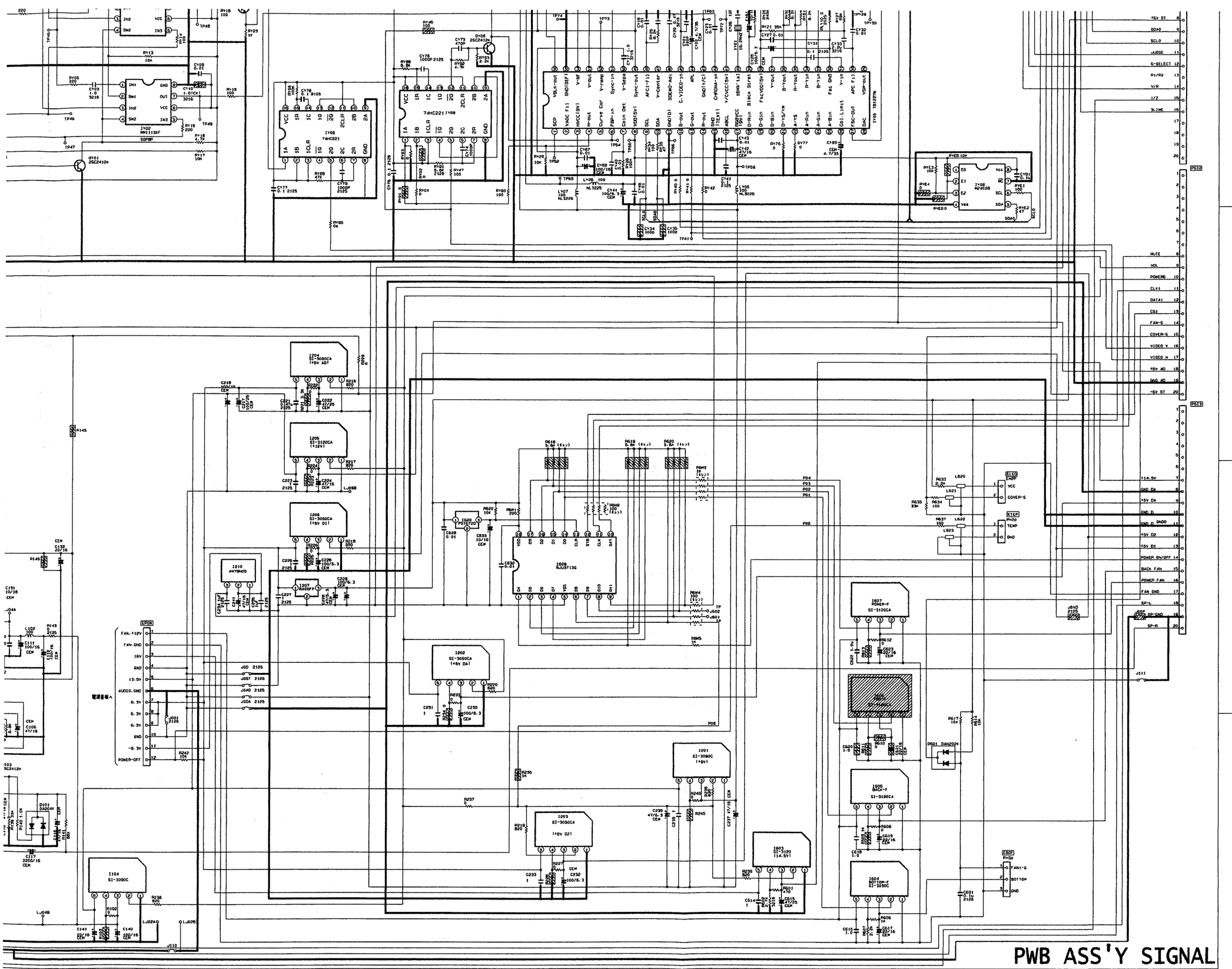
A

B

C

D


A-RGB1 IN
A-RGB2 IN
AUDIO OUT
B
C
D
E
1
2
3
4
5
CAD/Room5/sws.C1-SIGNAL/SIGNAL.001

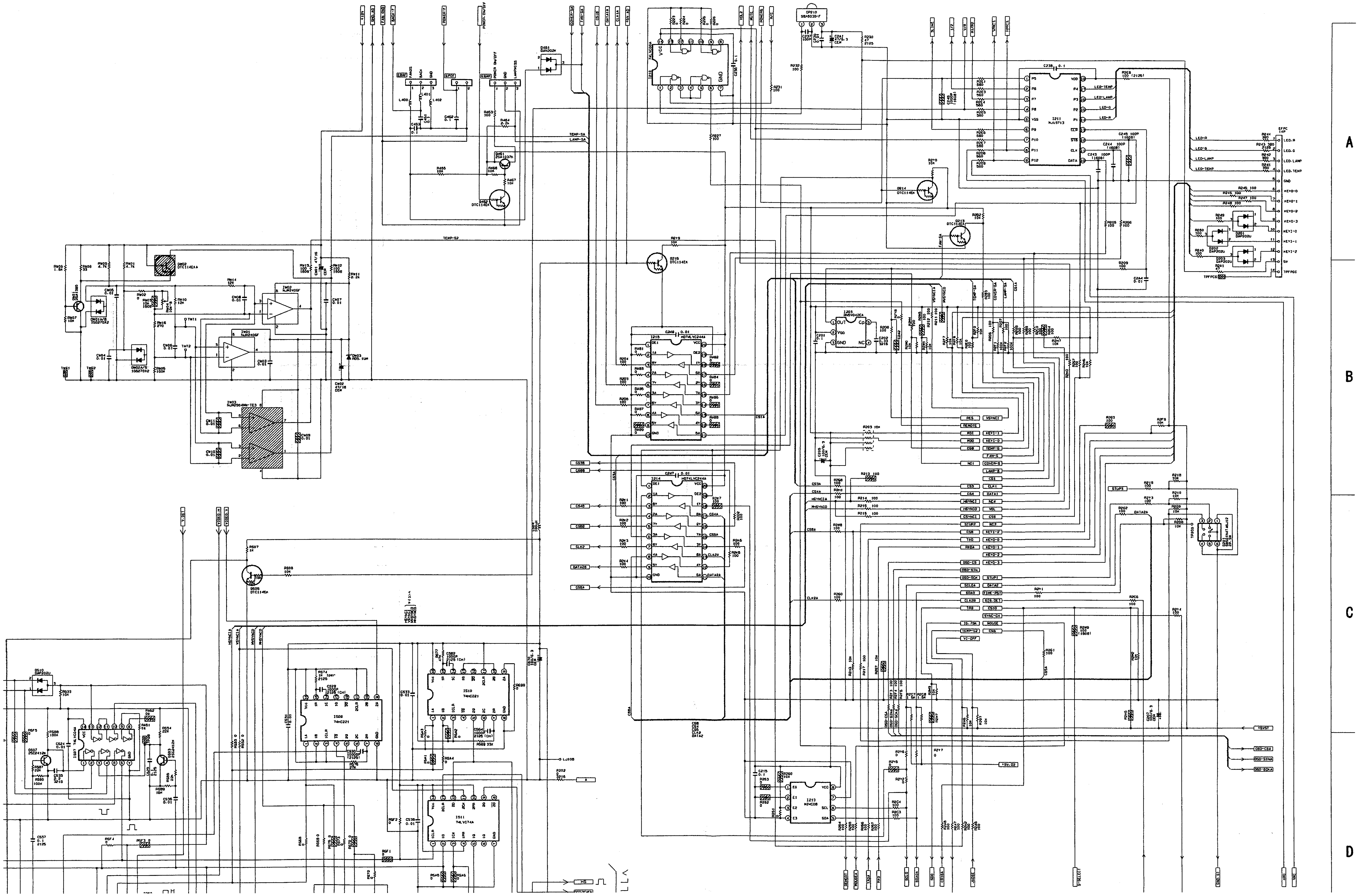

PWB ASS'Y SIGNAL
B
C
D
E
3
4
5
6

A

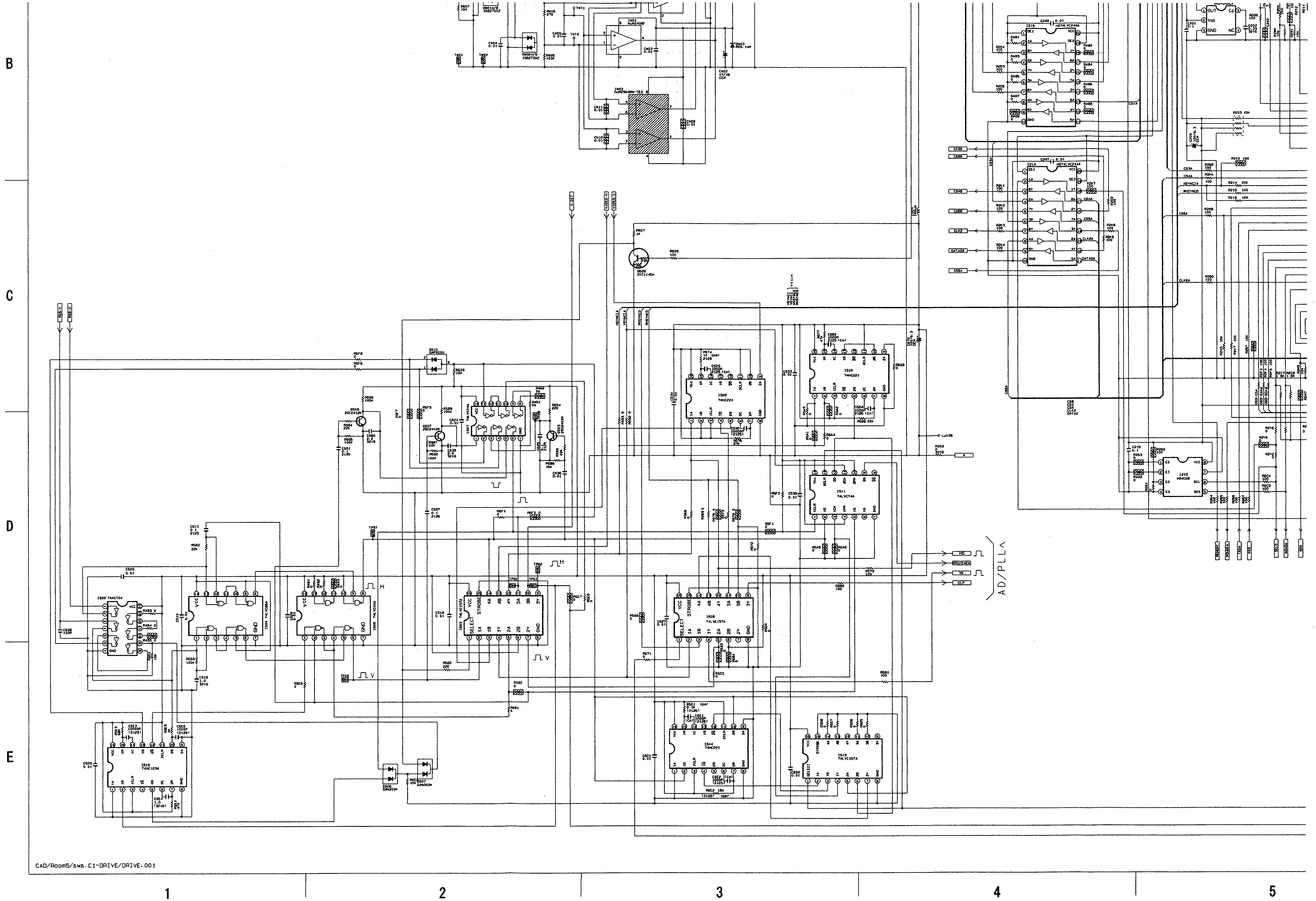
B

C

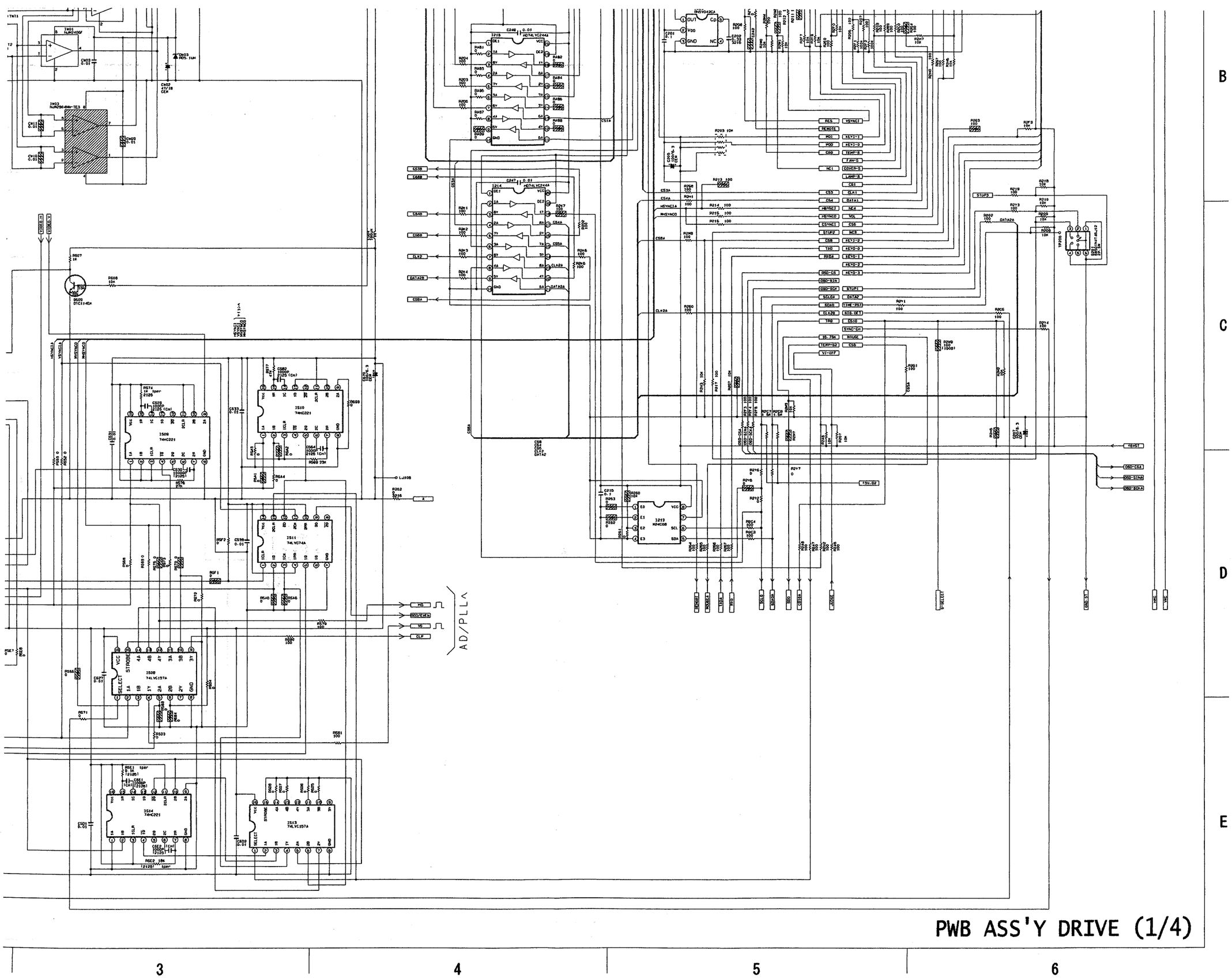
D

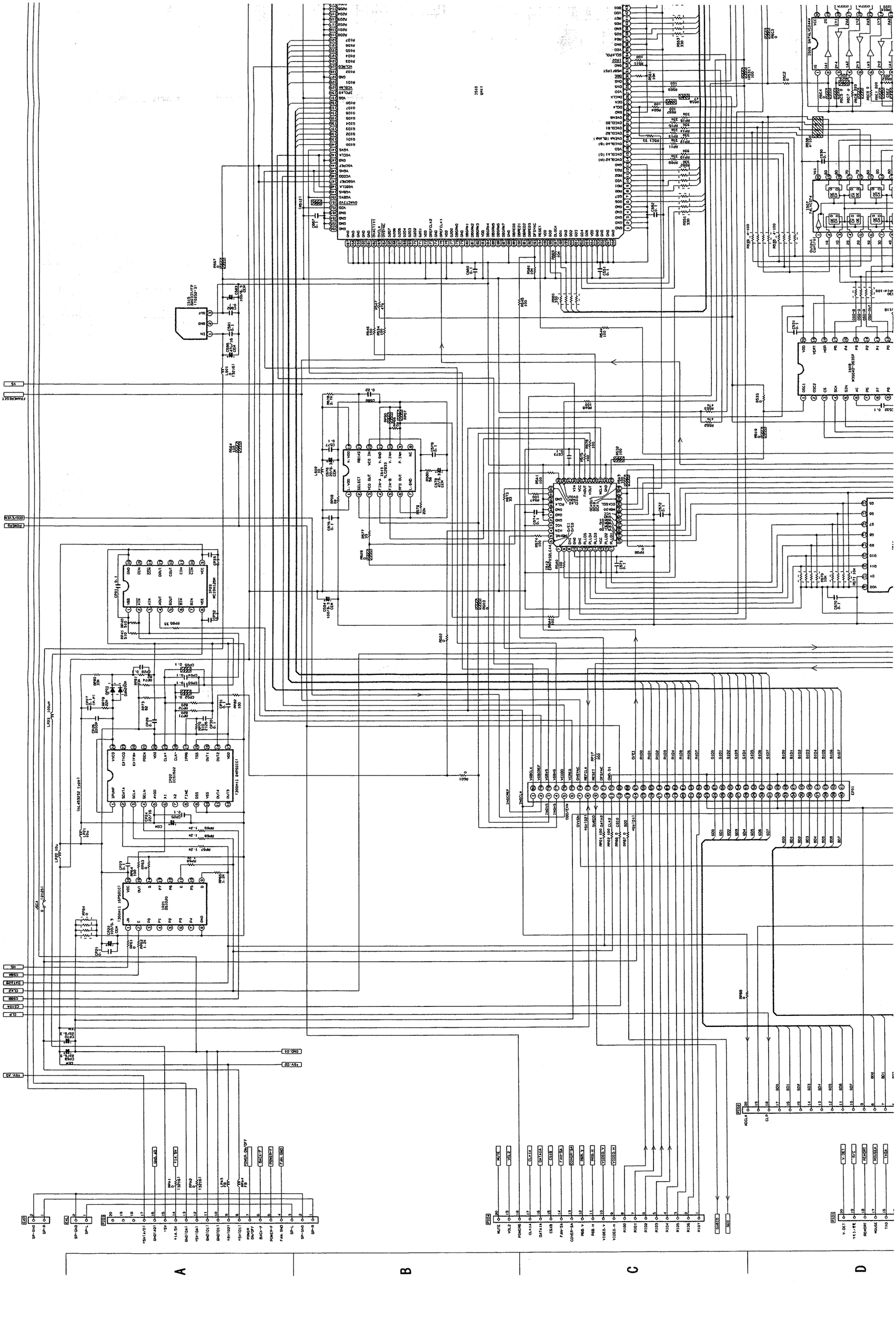


+12V
GND.AD
FAN.GND
BACK-F
POWER-F
POWER.ON/OFF
COVER-SA
FAN-SA
CS1B
DATA1A
CLK1A
+5V.AD
VOL2
MUTE
POWERS
R/C
SLINE
1/2
V/R
R1/R2
VMC1
HMC1
I211 NJU3713
I210 74LVC00A
I215 HD74LVC244A
I214 HD74LVC244A
I203 RN5VD42CA
I213 M24C08
IW01 NJM2406F
IW02 NJM2406F
IW03 NJM2904NN-TE3
IS07 74LVC04A
IS09 74HC221
IS10 74HC221
IS11 74LVC74A
CP210 SBX6036-F
EFPC 14P
LED.R
LED.G
LED.LAMP
LED.TEMP
GND
KEYO-0
KEYO-1
KEYO-2
KEYO-3
KEYI-0
KEYI-1
KEYI-2
5V
TPFPGC
TEMP-SA
LAMP-SA
TEMP-S2
V.DET
VIDEO.H
VIDEO.V
CS3B
CS8B
CS4B
CS5B
CLK2
DATA2B
CS9A
RES
REMOTE
MDI
MDO
CS9
NC1
VSYNCI
KEYI-1
KEYI-0
TEMP-S
FAN-S
COVER-S
LAMP-S
CS1
CS3
CS4
HSYNCI
HSYNCO
CSYNCI
STUP2
CS8
TXD
RXDA
OSD-CS
OSD-SIN
OSD-SCK
SCLOA
SDAO
CLK2B
TRQ
16.75K
TEMP-S2
VI-OFF
CLK1
DATA1
NC4
VOL
CS6
NC3
KEYI-2
KEYO-0
KEYO-1
KEYO-2
KEYO-3
STUP1
DATA2
TIME-PST
SIG.DET
CS10
SYNC-CH
MOUSE
CS5
STUP3
S201 SMS01N4T45J12
+5VST
+5V.D2
OSD-CSA
OSD-SINA
OSD-SCKA
HS
REMORT
MOUSEA
TXDA
RXD
SCLO
SDADA
SDO
CS10A
JUDGE
S-SELECT
GND.S1
HMC
VMC
A
B
C
D



CAD/Room5/sws.C1-DRIVE/DRIVE.001


PWB ASS'Y DRIVE (1/4)
AD/PLL
3
4
5
6
B
C
D
E


A
B
C
D

A

B

C

D

B

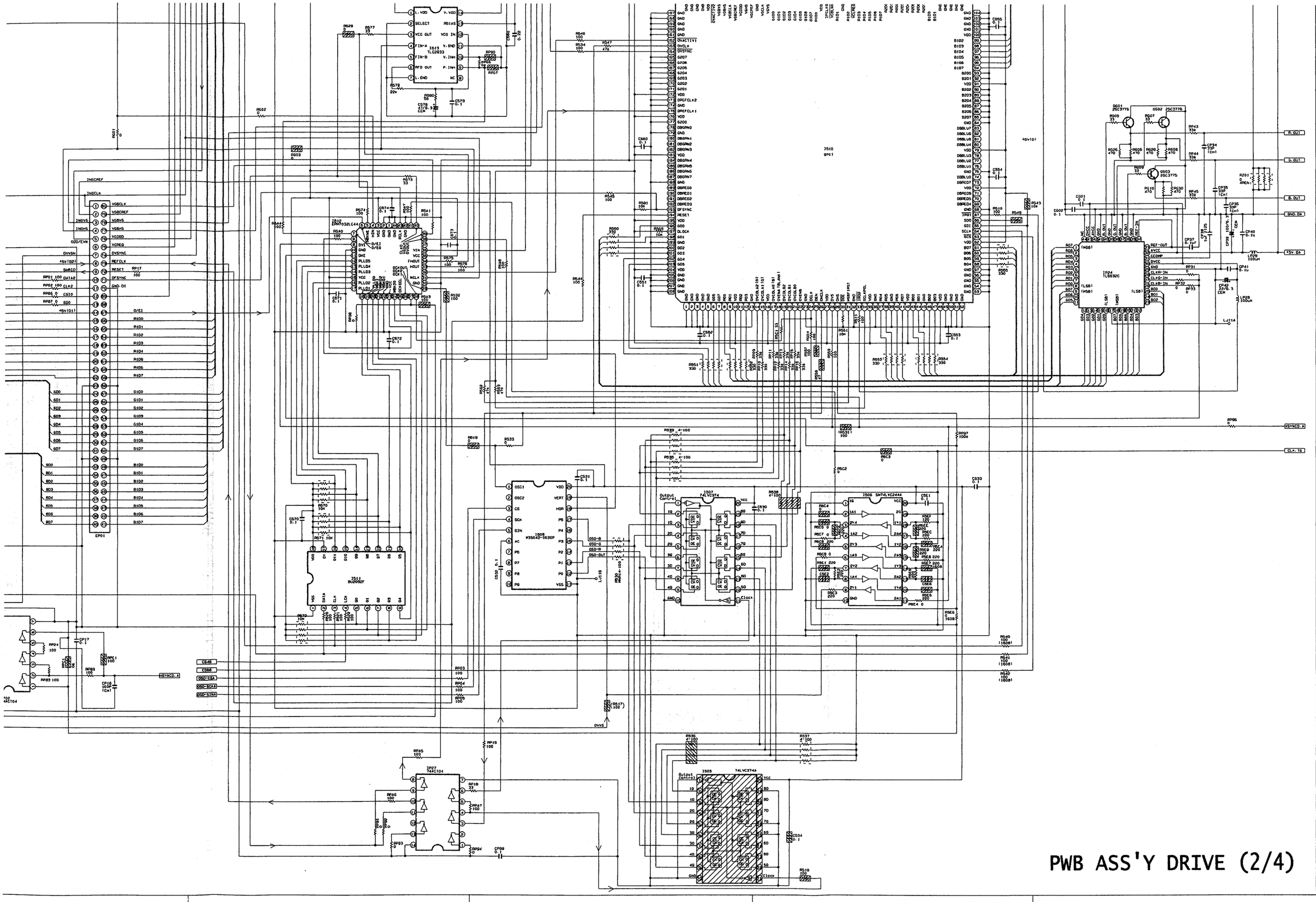
C

D

E

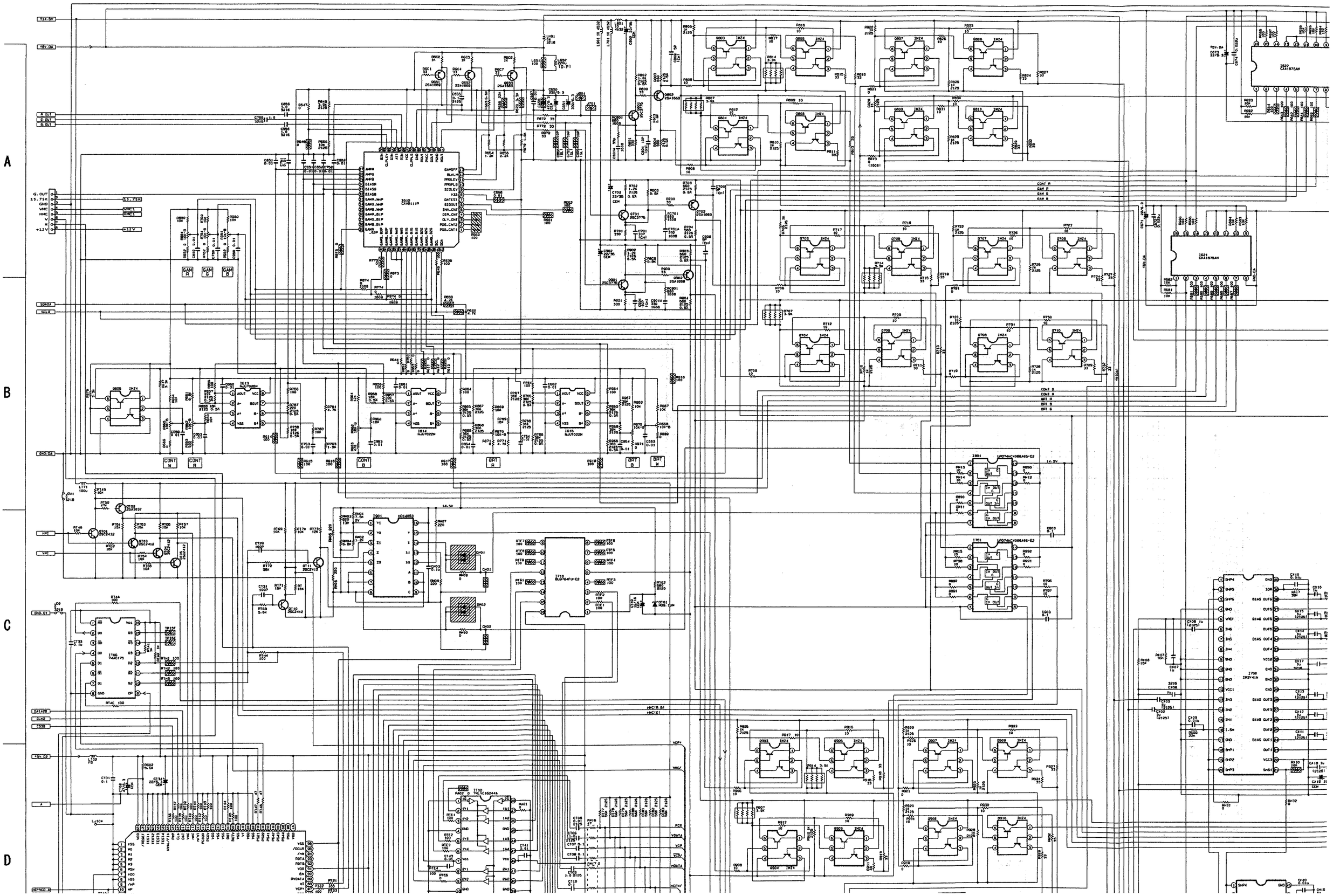
1 2 3 4 5

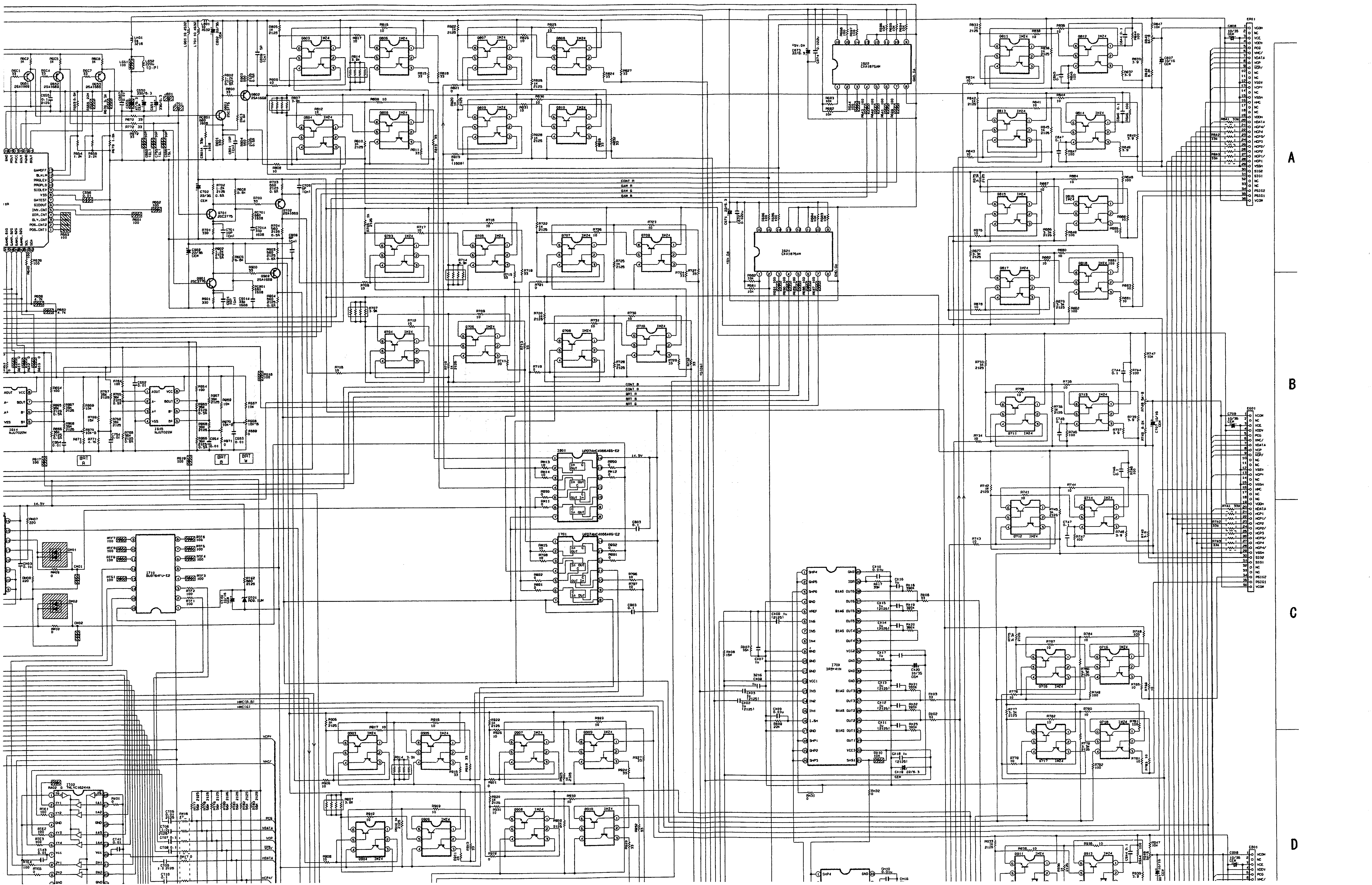
CAD/Room5/sw5.C1-DRIVE/DRIVE.002

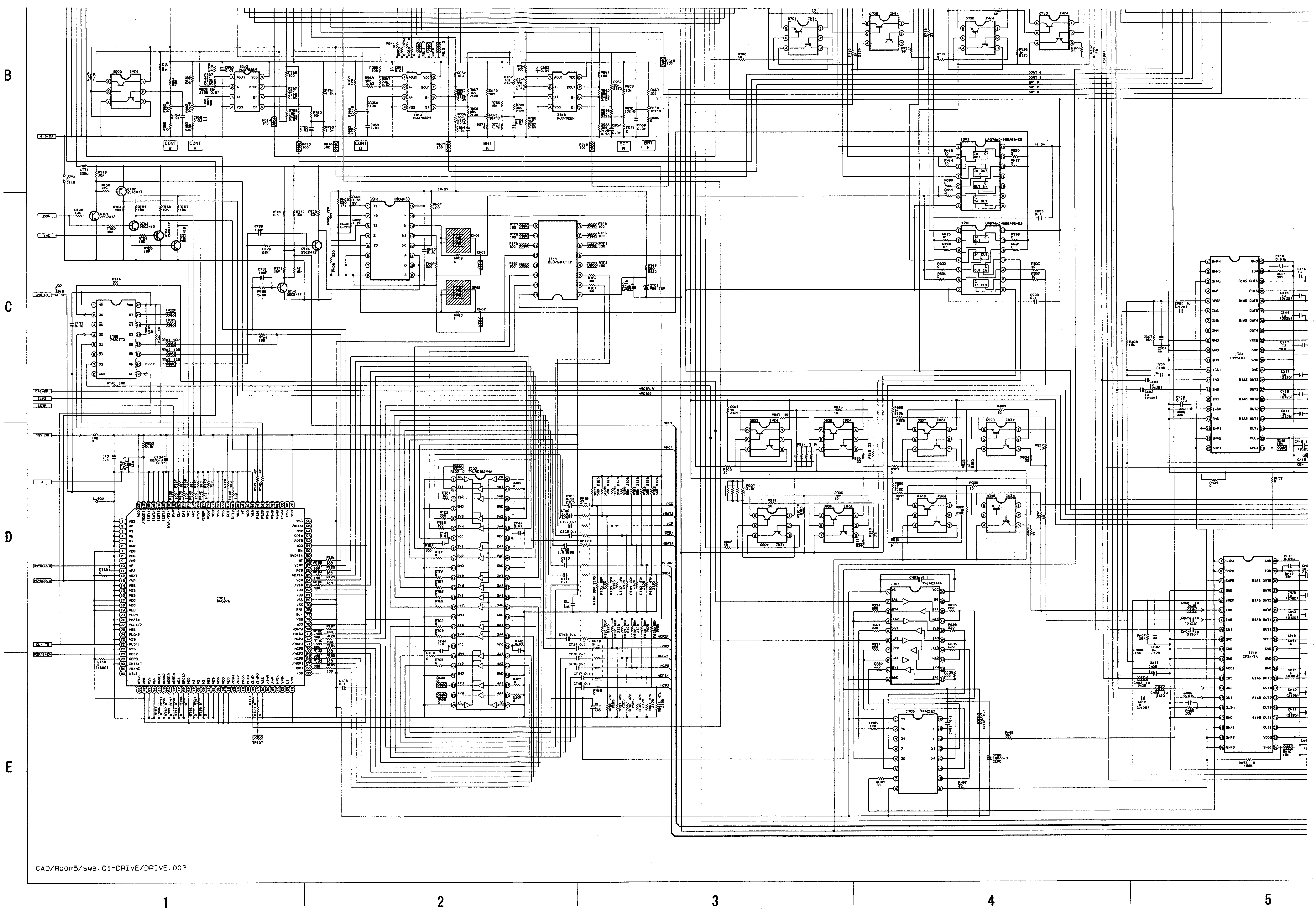


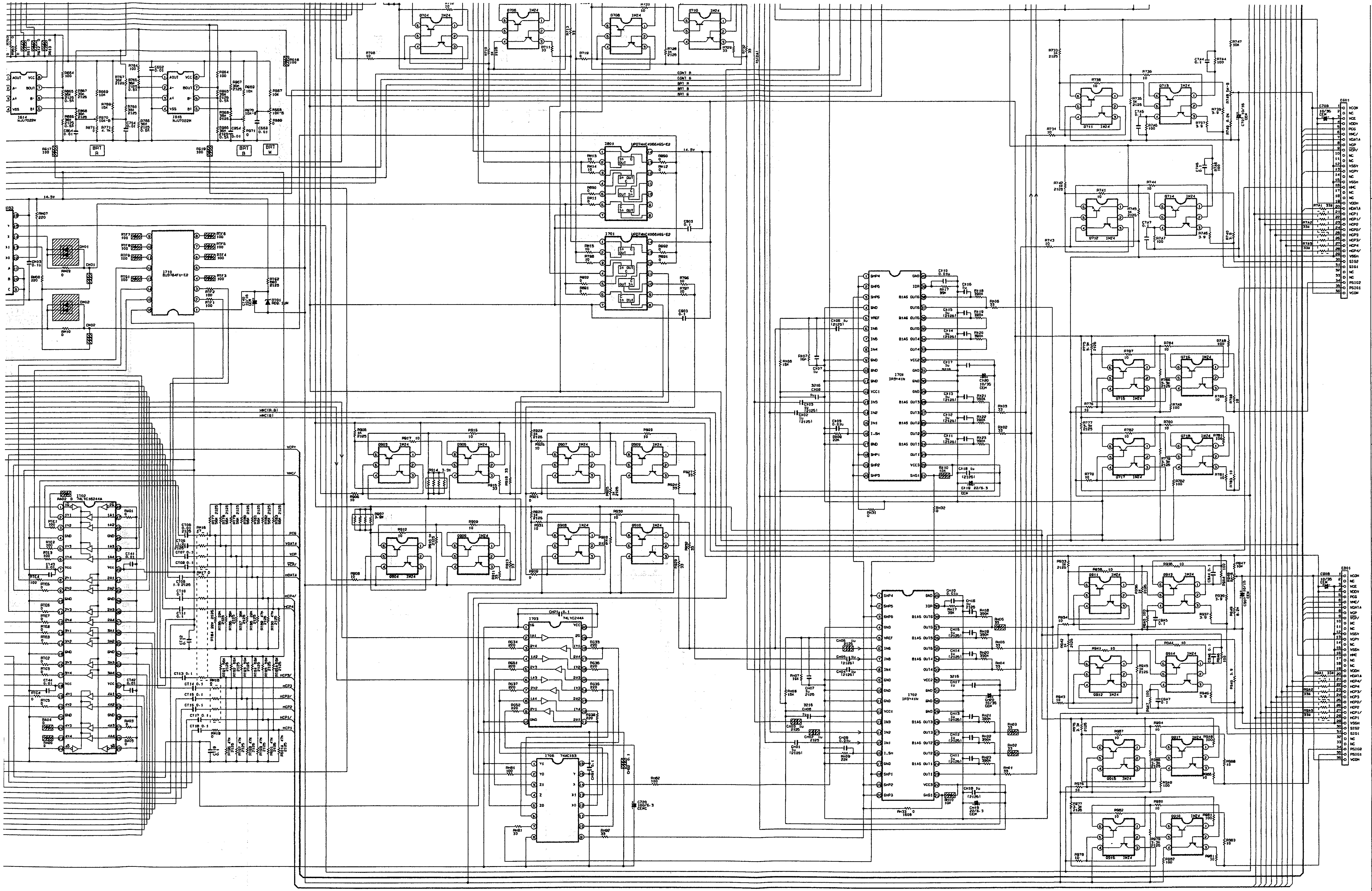
PWB ASS'Y DRIVE (2/4)

CP-S833W
CP-S833E

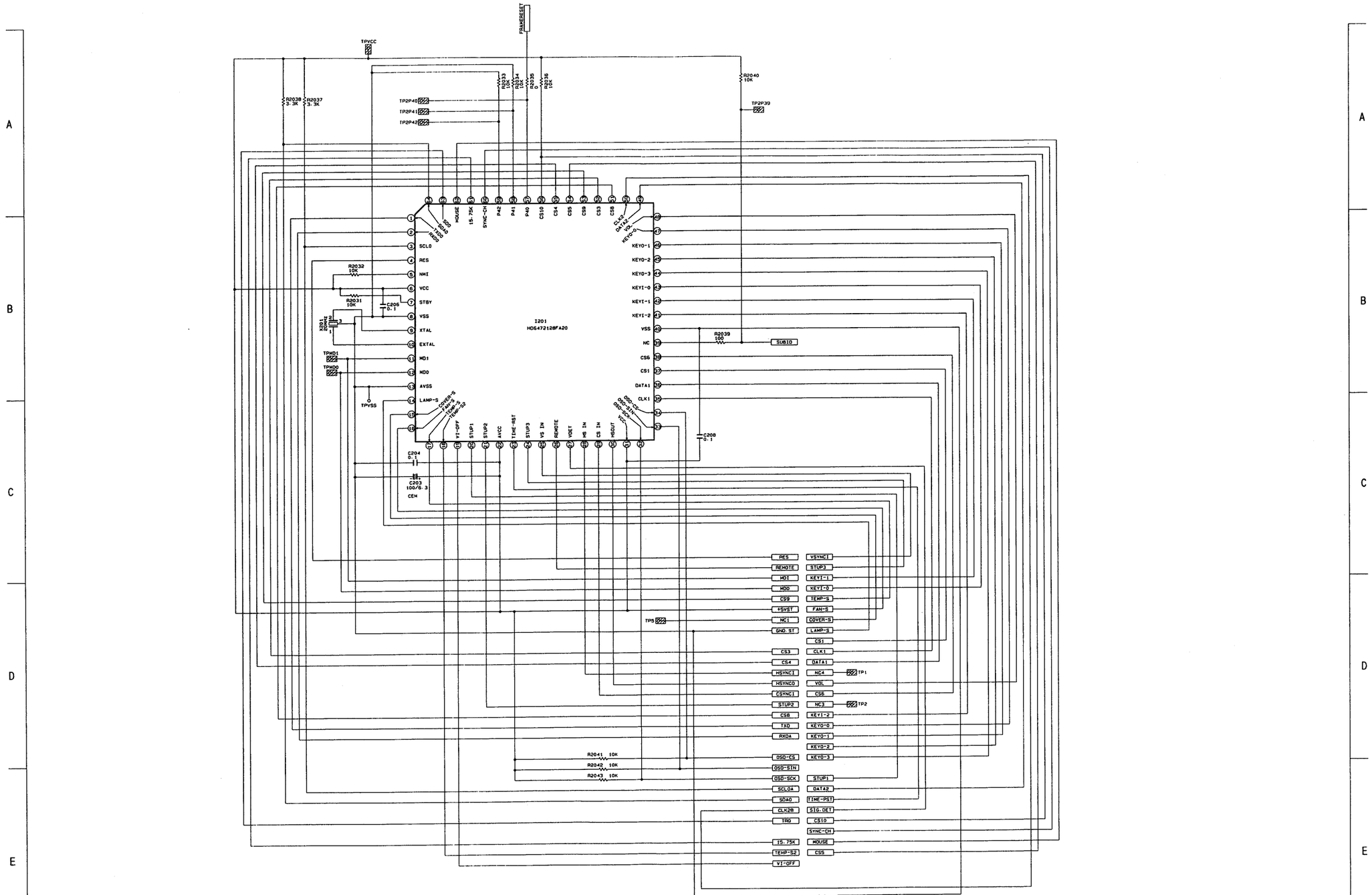



A
B
C
D


B
C
D
E
1
2
3
4
5
CAD/Room5/sws.C1-DRIVE/DRIVE.003
GND.DA
GND.D1
DATA28
CLK2
CS38
+5V.D2
CLK.T6
CONT W
CONT R
CONT B
BRT R
BRT B
BRT W
NJU7022M
HD14052
BU9764FV-E2
74AC175
74LVC16244A
74LVC244A
74AC153
IR3Y41M
1H24
2SC2412
2SA1037
14.5V

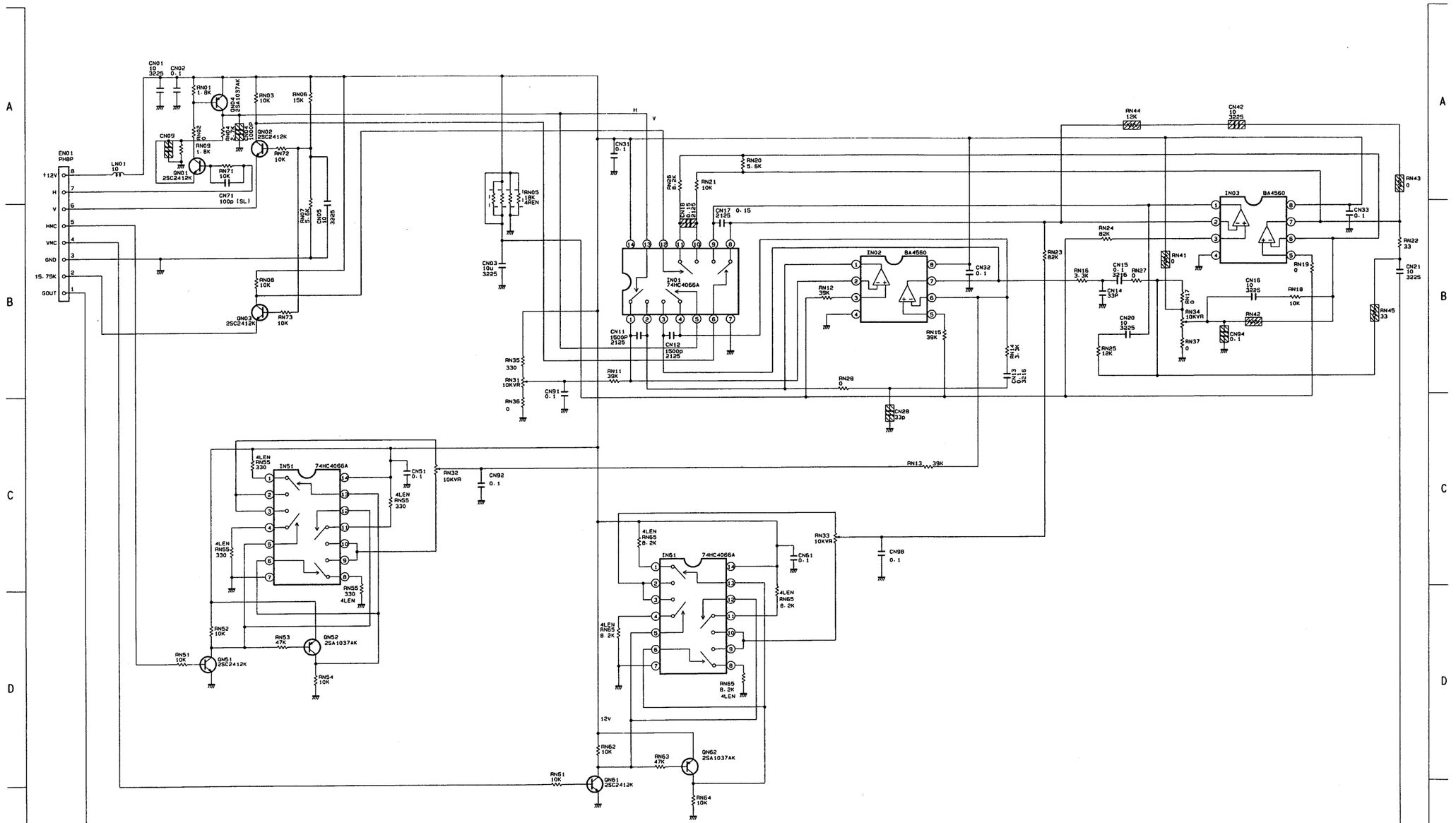


PWB ASS'Y DRIVE (3/4)



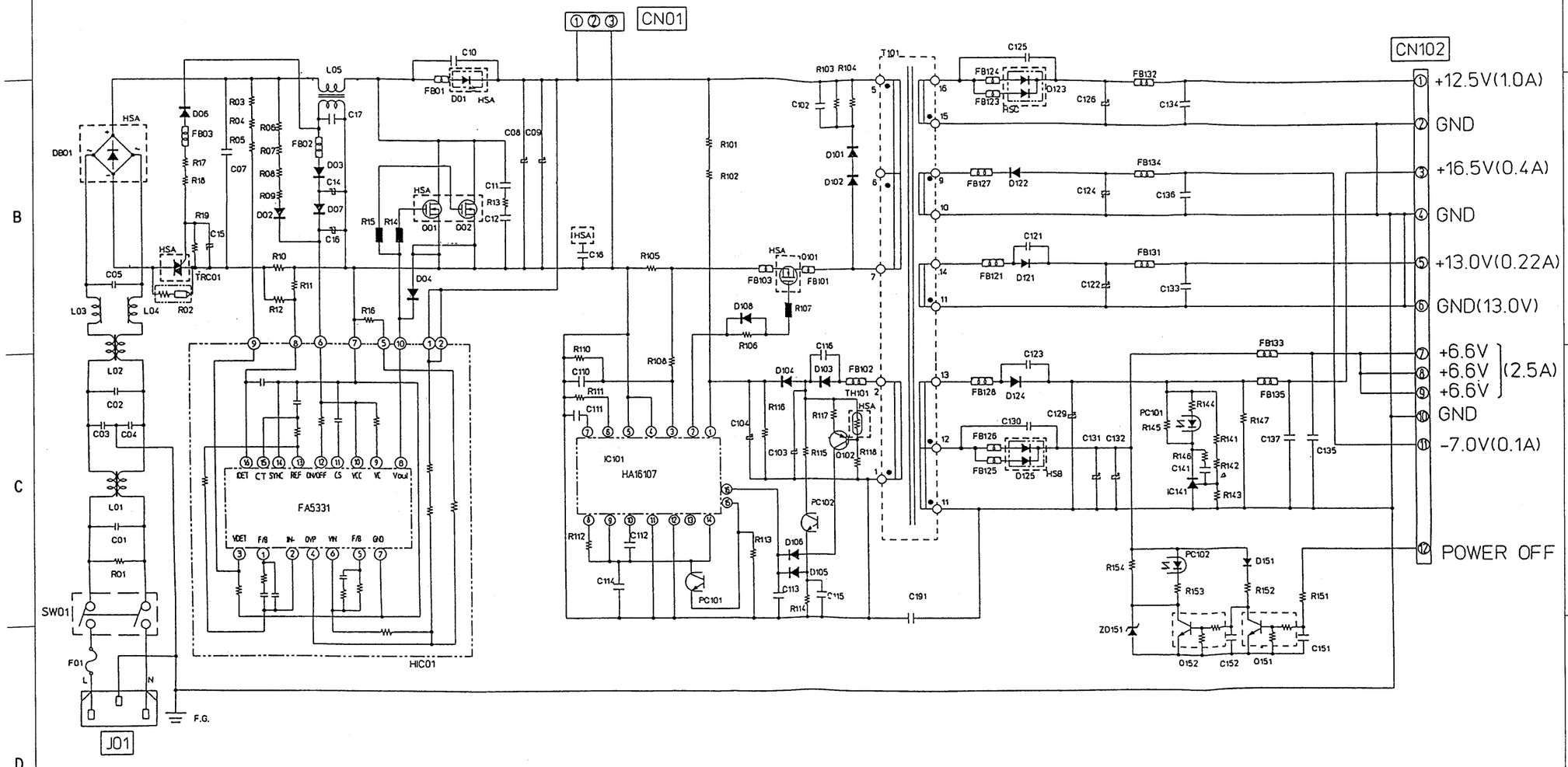
PWB ASS'Y DRIVE (4/4)

CAD/Room5/sws.C1-DRIVE/DRIVE.004

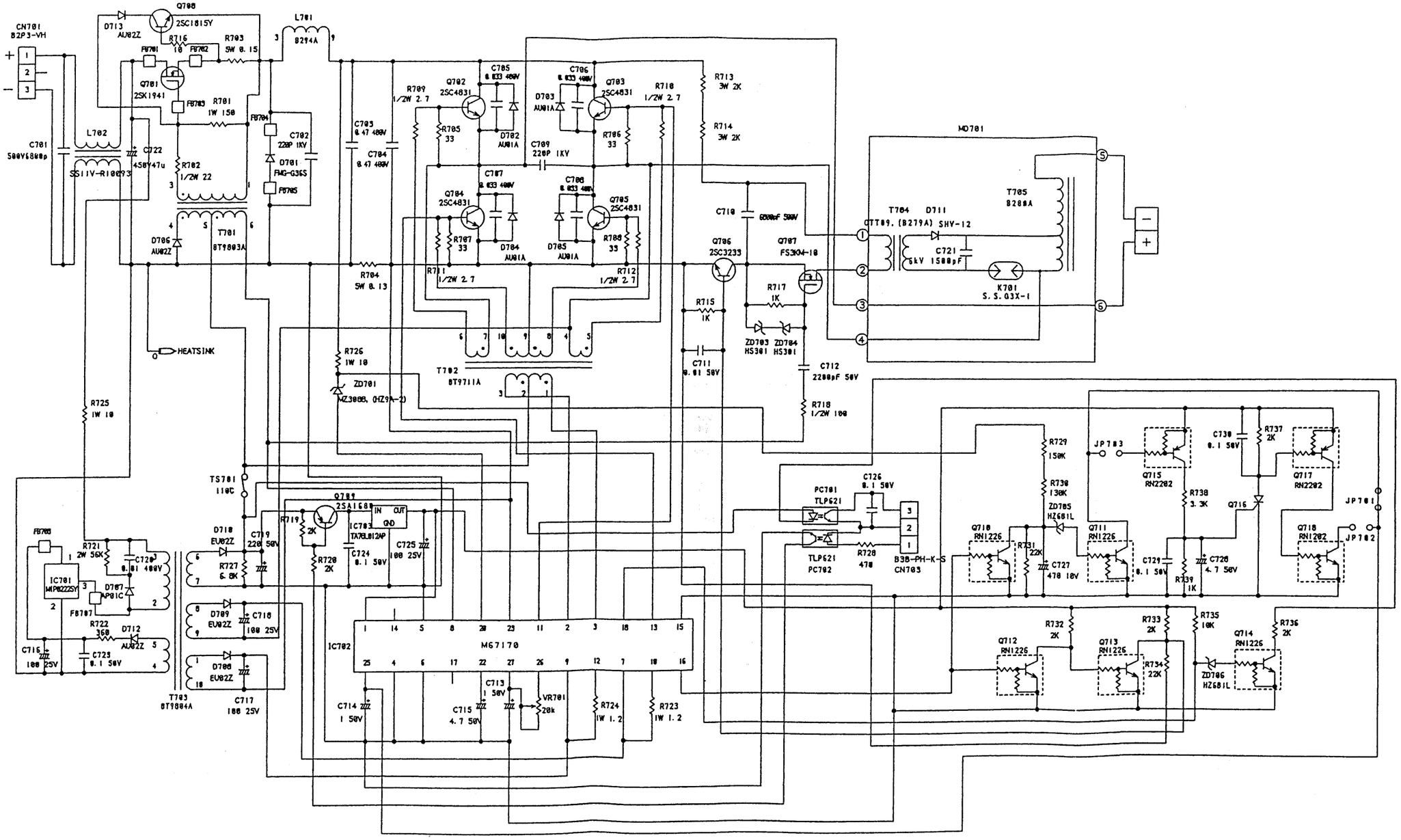


PWB ASS'Y COLOR

CAD/Room5/sws.C14S-COLOR/C1COLOR#2.001

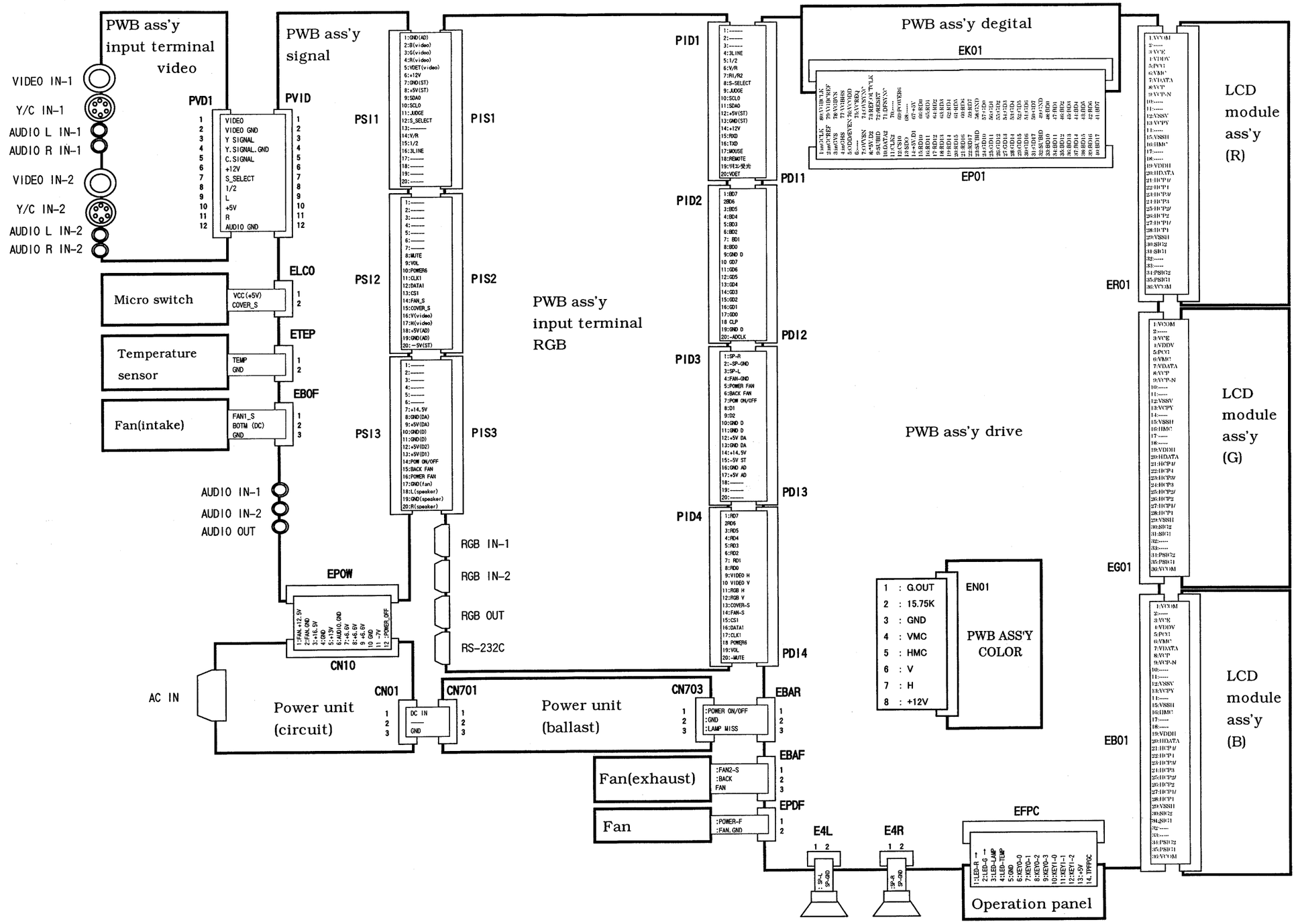


POWER UNIT (CIRCUIT)

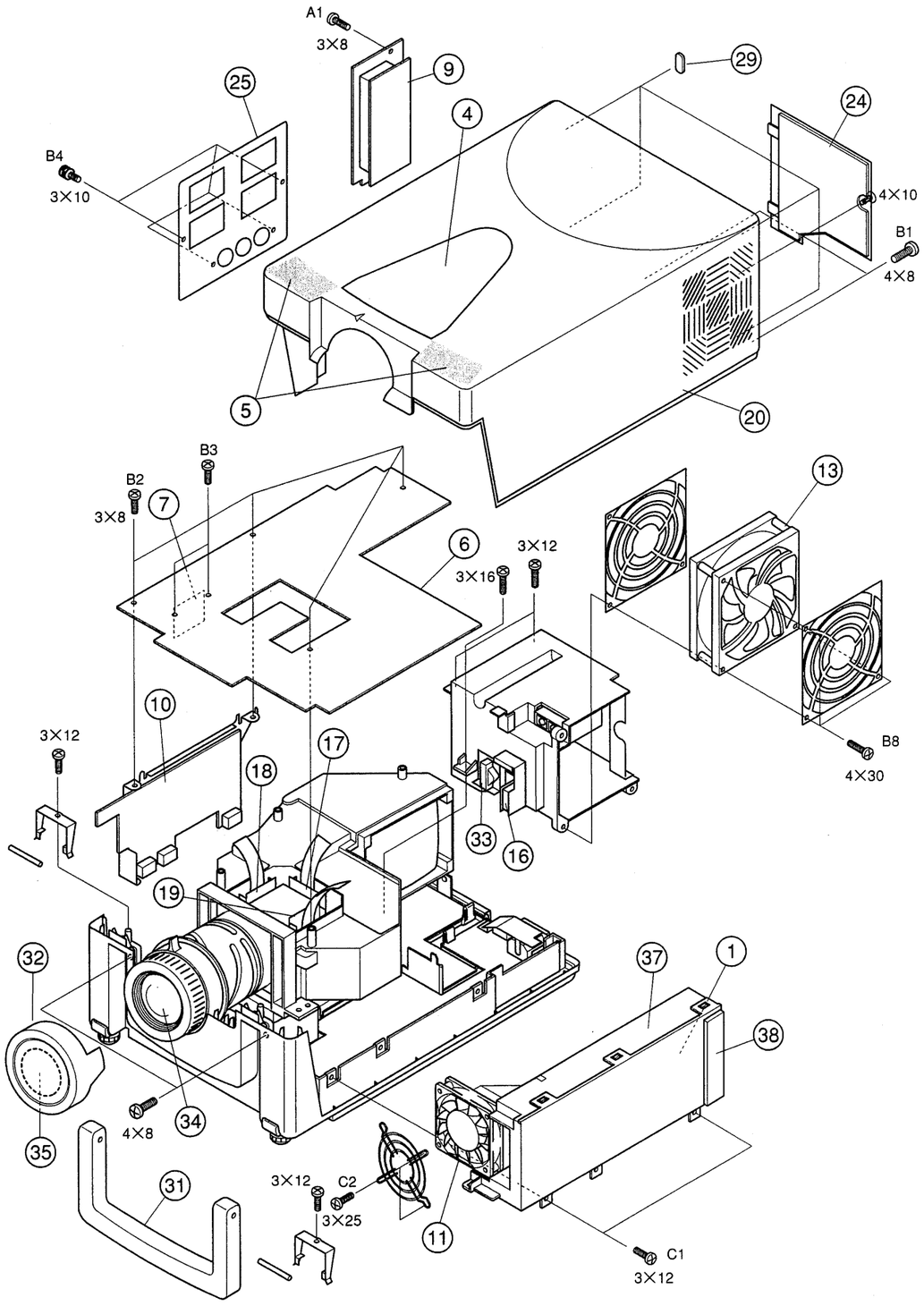


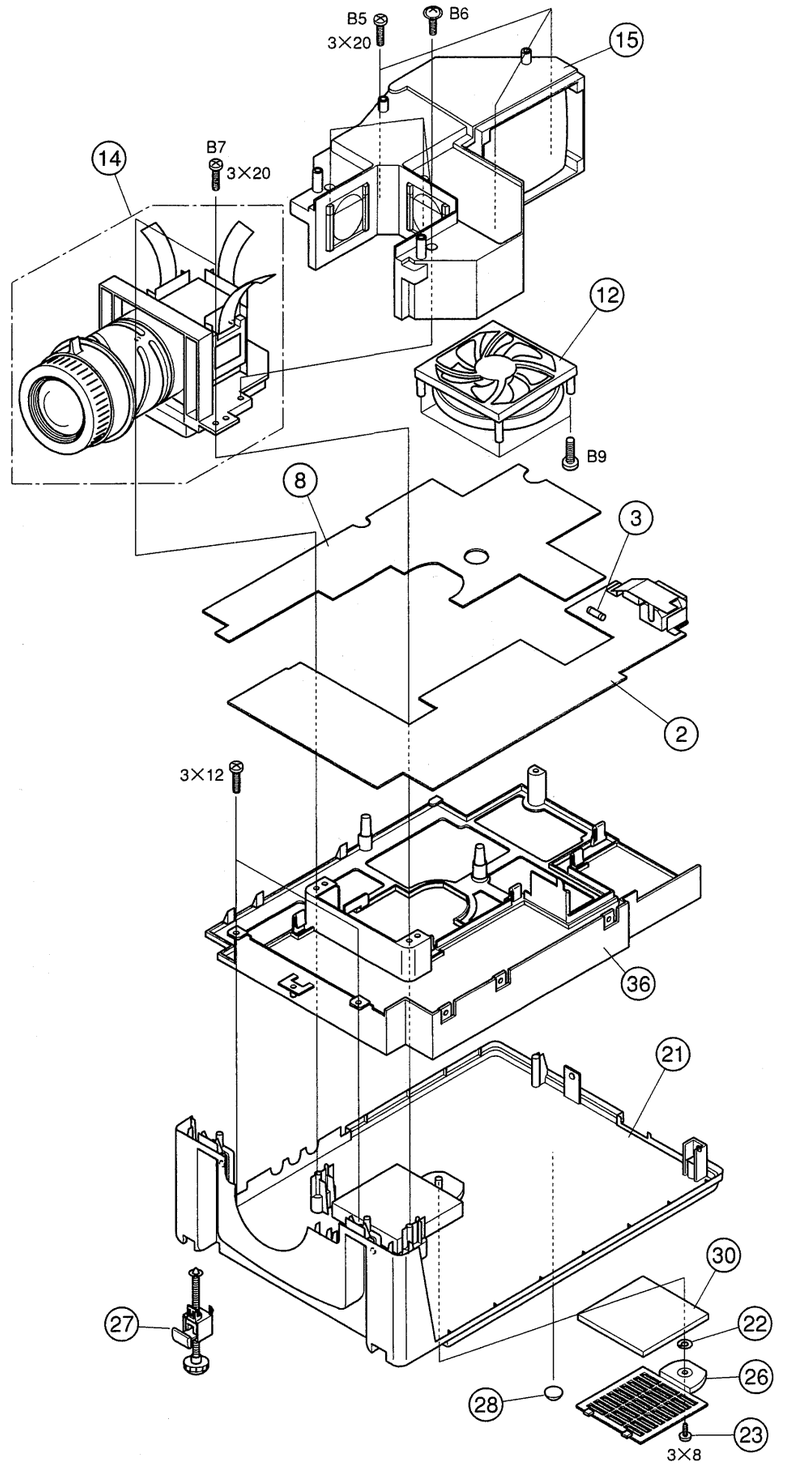
POWER UNIT (BALLAST)

10. Connector connection diagram



11. Disassembly diagram





12. Replacement Parts list

PRODUCT SAFETY NOTE : Components marked with a ⚠ have special characteristics important to safety. Before replacing any of there components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PARTS NO.	DESCRIPTION	SYMBOL NO.	PARTS NO.	DESCRIPTION
1	HA00482	POWER UNIT(BALLAST)	27	QJ00571	ADJUST FOOT
2	HA00491	POWER UNIT(CIRCUIT)	28	PE00052	RUBBER FOOT
3	2722447	FUSE 5A 250V	29	PE00094	LEG CUSHION R
4	HP00711	OPERATION PANEL SWITCH UNIT	30	MU00421	AIR FILTER
5	GK00392	SPEAKER	31	PV00201	HANDLE
6	JP03395F	PWB ASS'Y DRIVE	32	QD06311	LENS CAP
7	JP03026	PWB ASS'Y DIGITAL	33	FU00252	THERMAL SENSOR SWITCH
8	JP03036	PWB ASS'Y SIGNAL	34	KQ01271	C1 LENS ASS'Y (REPAIR)
9	JP03037	PWB ASS'Y INPUT TERMINAL VIDEO	35	ME01771	CAP SHEET
10	JP03038	PWB ASS'Y INPUT TERMINAL RGB	36	QD06251	PCB HOLDER
11	GS00341	DC FAN(POWER)	37	QD06301	BALAST HOLDER B
12	GS00351	DC FAN(INTAKE)	38	MU00531	BALAST CUSHION B
13	GS00332	DC FAN(EXHAUST)			
14	KS01682	LCD/LENS PRISM ASS'Y		EV00881	POWER SUPPLY CORD(UL/CSA TYPE 125V)W/CORE
15	UE05053	DICHROIC OPTICS UNIT C1C			(only CP-S833W)
16	FH00041	LIMIT SWITCH (MICRO SWITCH)		HL01114	REMOTE CONTROL UNIT W/POINTER
17	(UX05474)	LCD MODULE ASS'Y(G) (REPAIR)		EV00861	POWER SUPPLY CORD (U.K.TYPE)W/CORE
18	(UX05475)	LCD MODULE ASS'Y(R) (REPAIR)		EV00891	POWER SUPPLY CORD(CONTINENTAL TYPE)W/CORE
19	(UX05476)	LCD MODULE ASS'Y(B) (REPAIR)		EW05015	RGB-D CABLE(15PIN MALE TO 15PIN MALE)
20	QD05853	UPPER CASE ASS'Y		EW10933	CABLE.AV
21	QD05861	BOTTOM CASE ASS'Y		EY00362	MAC ADAPTER(6SW)
22	MN01302	POLY-WASHER		EW02753	CABLE.MOUSE PS/2
23	MJ00311	NOB SCREW		EW02743	ADB MOUSE CABLE
24	QD06231	LAMP COVER		EW02733	SERIAL MOUSE CABLE
25	PM07241	I/O DECO PANEL		DT00182	LAMP UNIT ASS'Y
26	QD06241	FILTER COVER			

HITACHI

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