

SPECIFICATIONS

1. LCD CHARACTERISTICS

Type : TFT SXGA LCD
 Size : 18.1inch (45.97cm)
 Pixel Pitch : 0.2805(H) x 0.2805(V)
 Pixel Format : 1280 x 1024 pixels (SXGA)
 RGB Stripe Arrangement
 Color Depth : 8-bit, 16,581,375 colors
 Active Video Area : 413mm x 333mm
 Surface Treatment : Anti-Glare, Hard Coating (3H)
 Backlight Unit : Four-CCFL (Cold Cathode
 Fluorescent Lamp)

2. OPTICAL CHARACTERISTICS

2-1. Viewing Angle by Contrast Ratio ≥ 10

Left : 80° min. , **Right** : 80° min.
Top : 80° min. , **Bottom** : 80° min.

2-2. Luminance : 170 cd/m² (min)

2-3. Angle at Half Luminance

Left : 45° min. , **Right** : 45° min.
Top : 45° min. , **Bottom** : 45° min.

2-4. Contrast Ratio : 300° typ.

3. SIGNAL (Refer to the Timing Chart)

3-1. Sync Signal

• Type : Separate, TTL, Positive/Negative
 Composite, TTL, Positive/Negative
 SOG (Sync On Green)
 Digital

3-2. Video Input Signal

1) Type : R, G, B Analog
 2) Voltage Level : 0~0.714 V
 a) Color 0, 0 : 0 Vp-p
 b) Color 7, 0 : 0.467 Vp-p
 c) Color 15, 0 : 0.714 Vp-p
 3) Input Impedance : 75 Ω

3-3. Operating Frequency

Horizontal : 30 ~ 80kHz
 Vertical : 56 ~ 85Hz

4. POWER SUPPLY

4-1. Power Adaptor

Input : AC 100~240V, 50/60Hz , ~2.0 - 1.0A
 Output : DC 12V 5.8A

4-2. Power Consumption

MODE	H/V SYNC	VIDEO	POWER CONSUMPTION	LED COLOR
POWER ON (NORMAL)	ON/ON	ACTIVE	less than 70 W	GREEN
STAND-BY	OFF/ON	OFF	less than 5 W	AMBER
SUSPEND	ON/OFF	OFF	less than 5 W	AMBER
OFF	OFF/OFF	OFF	less than 5 W	AMBER
POWER OFF	-	-	less than 5 W	OFF

5. ENVIRONMENT

5-1. Operating Temperature: 10°C~35°C (50°F~95°F)
 (Ambient)

5-2. Relative Humidity : 10%~80%
 (Non-condensing)

5-3. Altitude : 0~10,000ft (3,030m)

6. DIMENSIONS (with TILT/SWIVEL)

Width : 434 mm (17.09")
 Depth : 235 mm (9.25")
 Height : 443 mm (17.44")

7. WEIGHT (with TILT/SWIVEL)

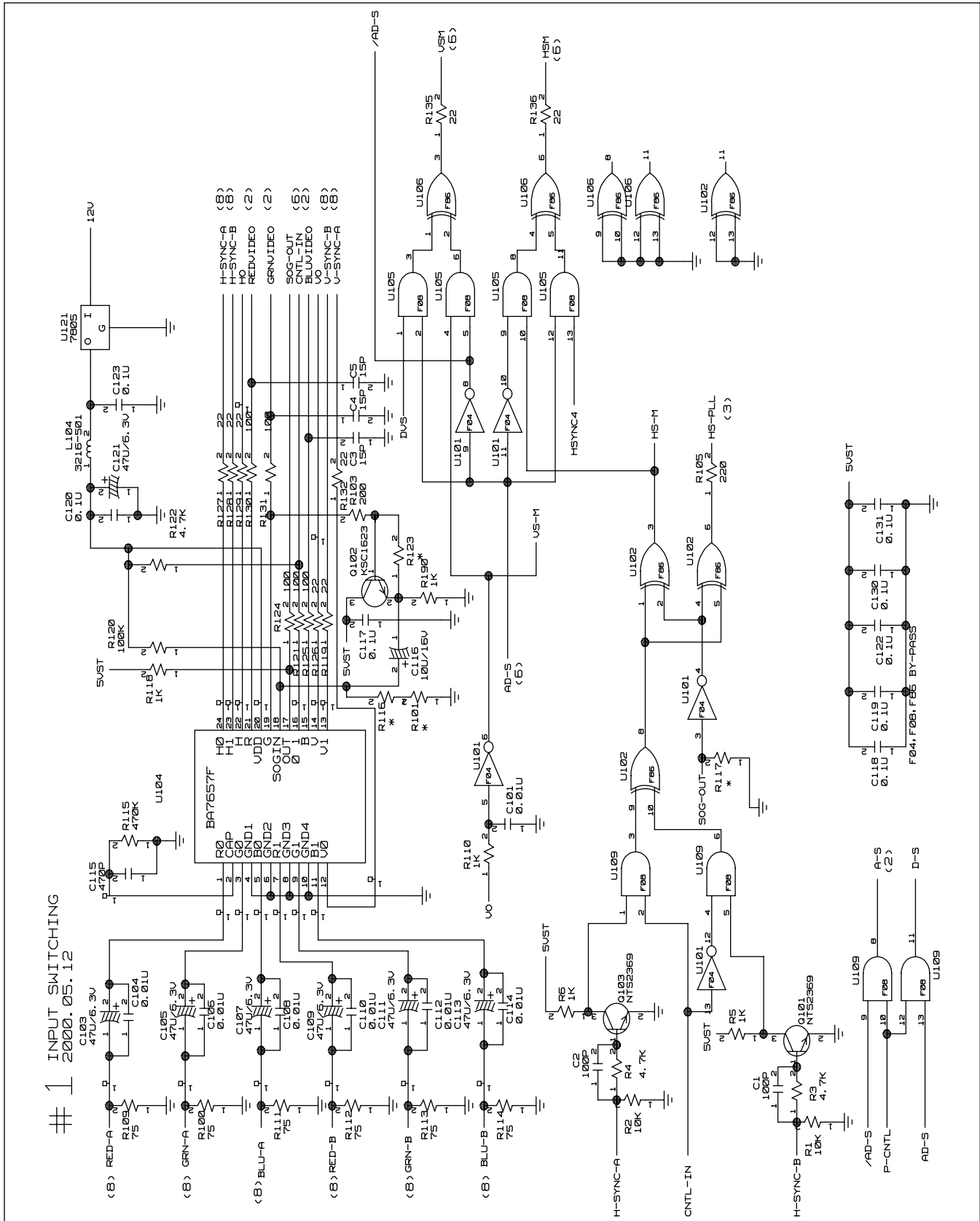
Net. Weight : 9.0kg (20.65 lbs)
 Gross Weight : 12.3kg (27.12 lbs)

8. USB

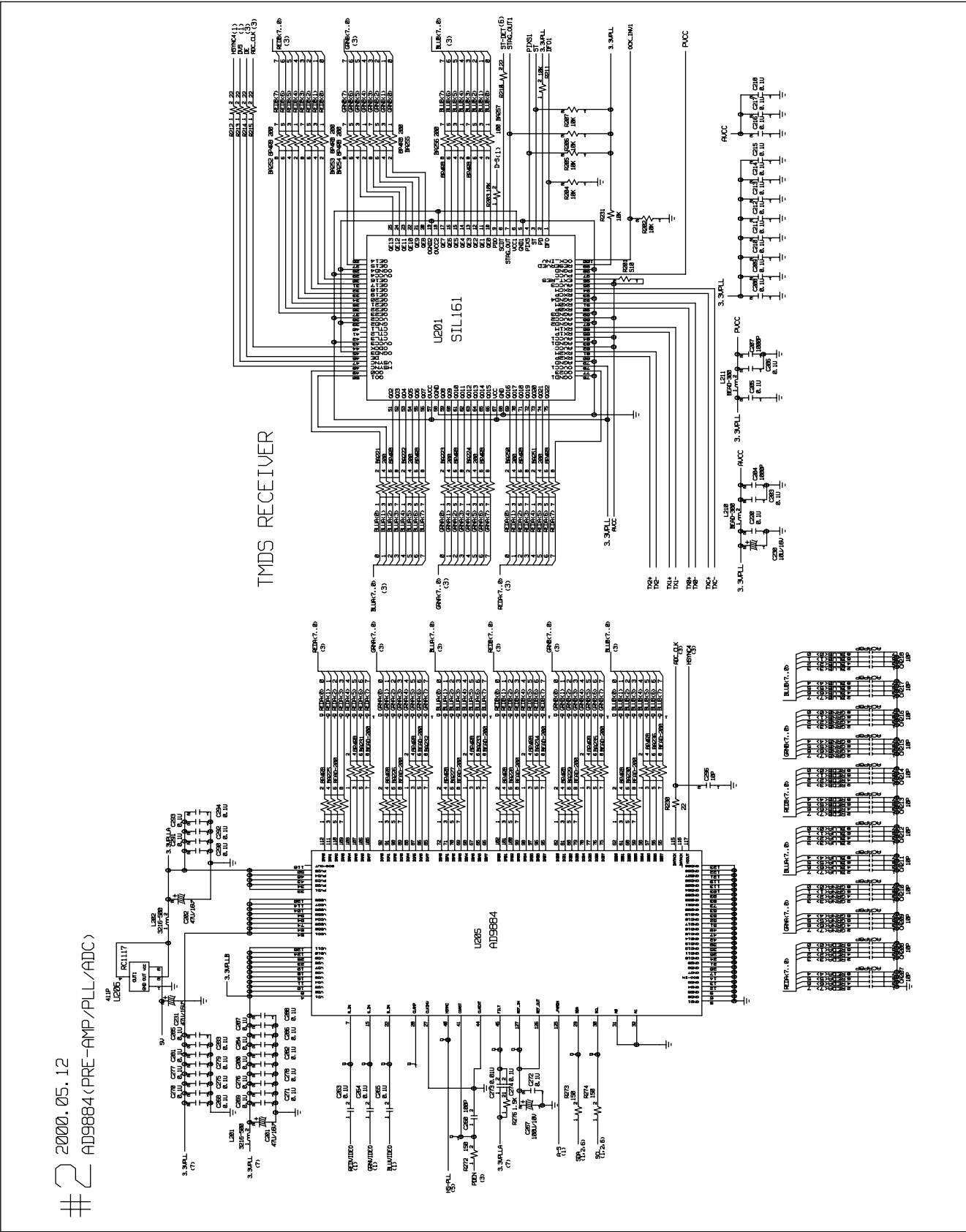
Upstream : 1 port, Downstream : 4 port
 Speed : High-12Mbps, Low-1.5Mbps

SCHEMATIC DIAGRAM

1. INPUT SWITCHING



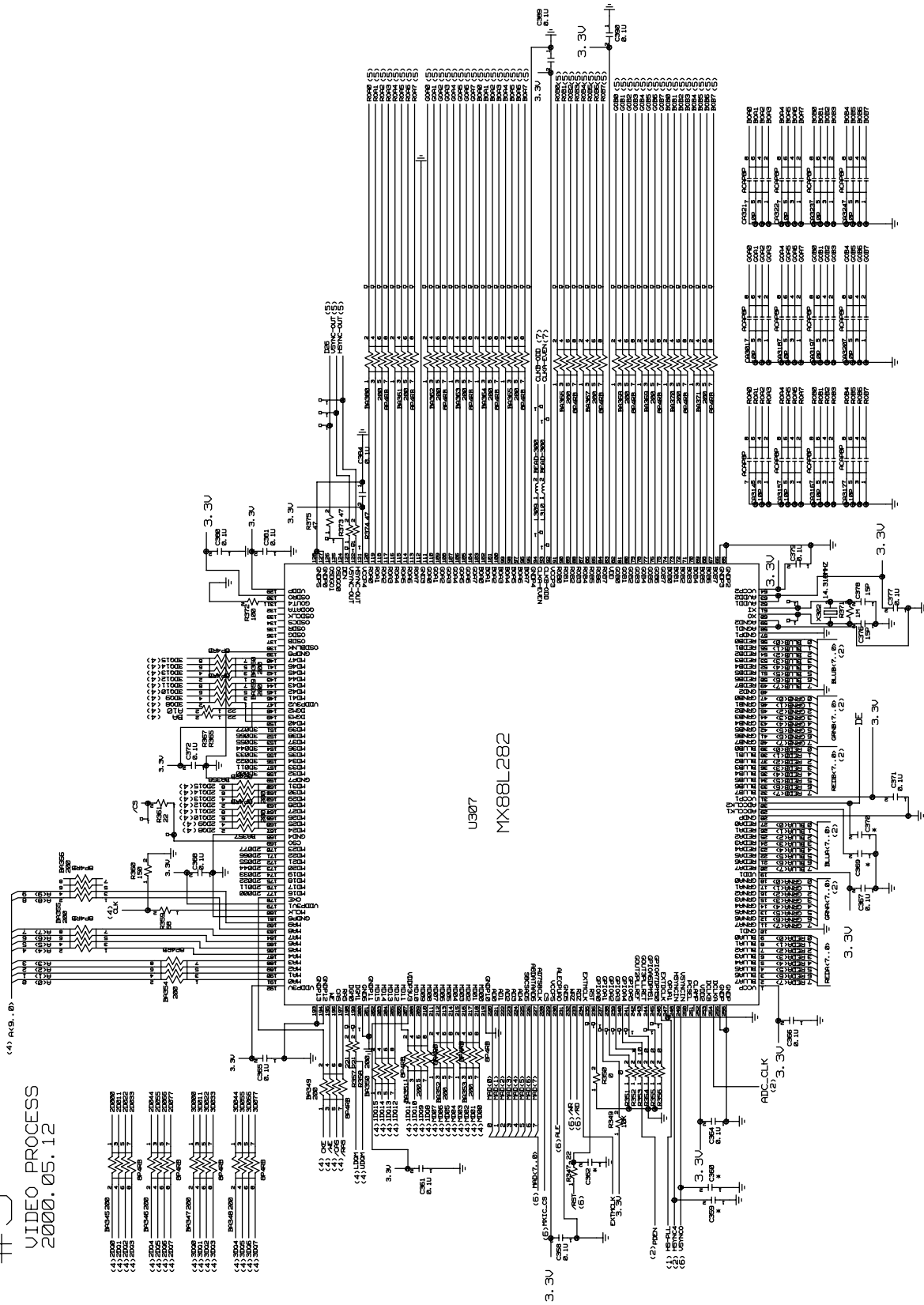
2. AD9884 (PRE-AMP/PLL/ADC)



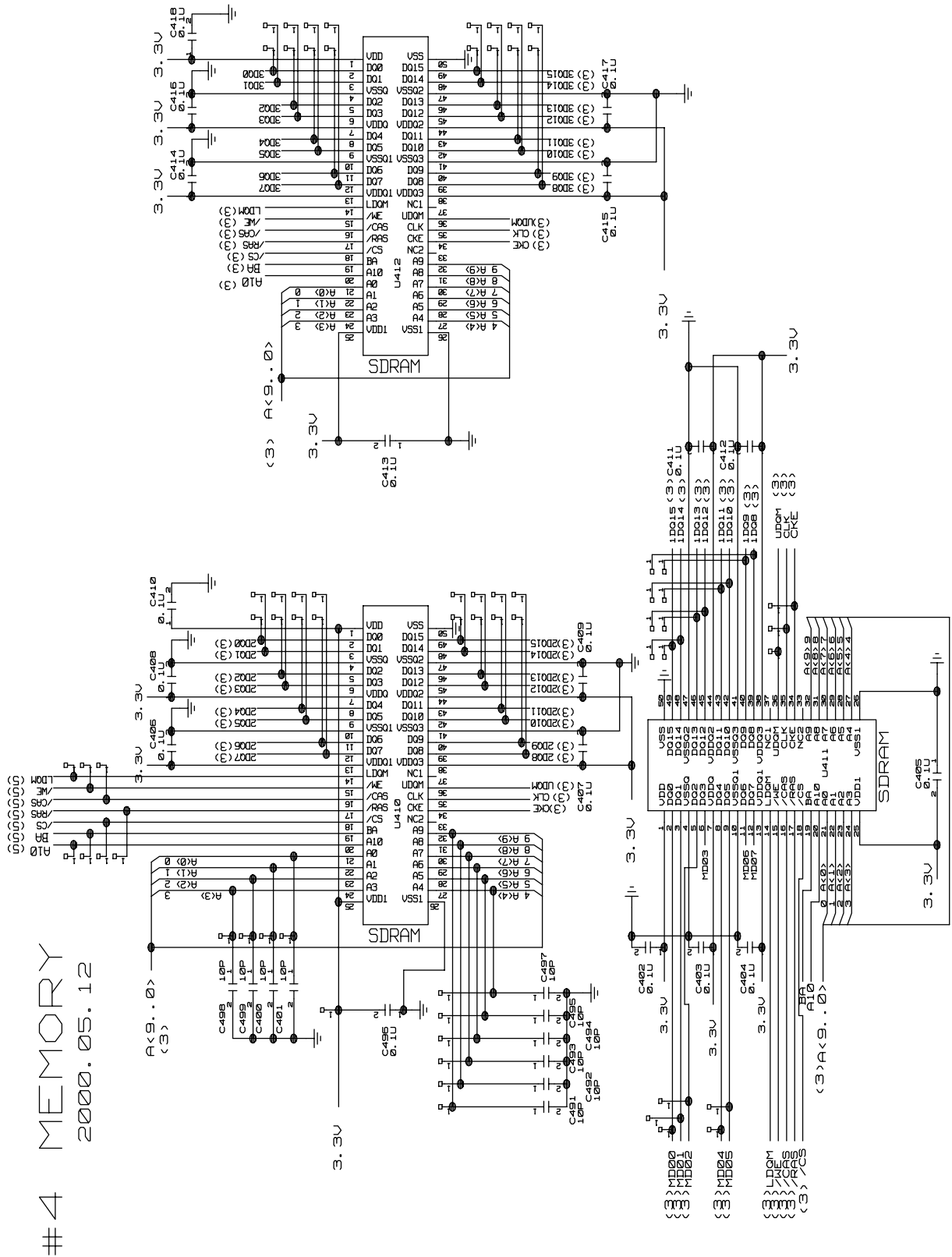
3. VIDEO PROCESS

#3

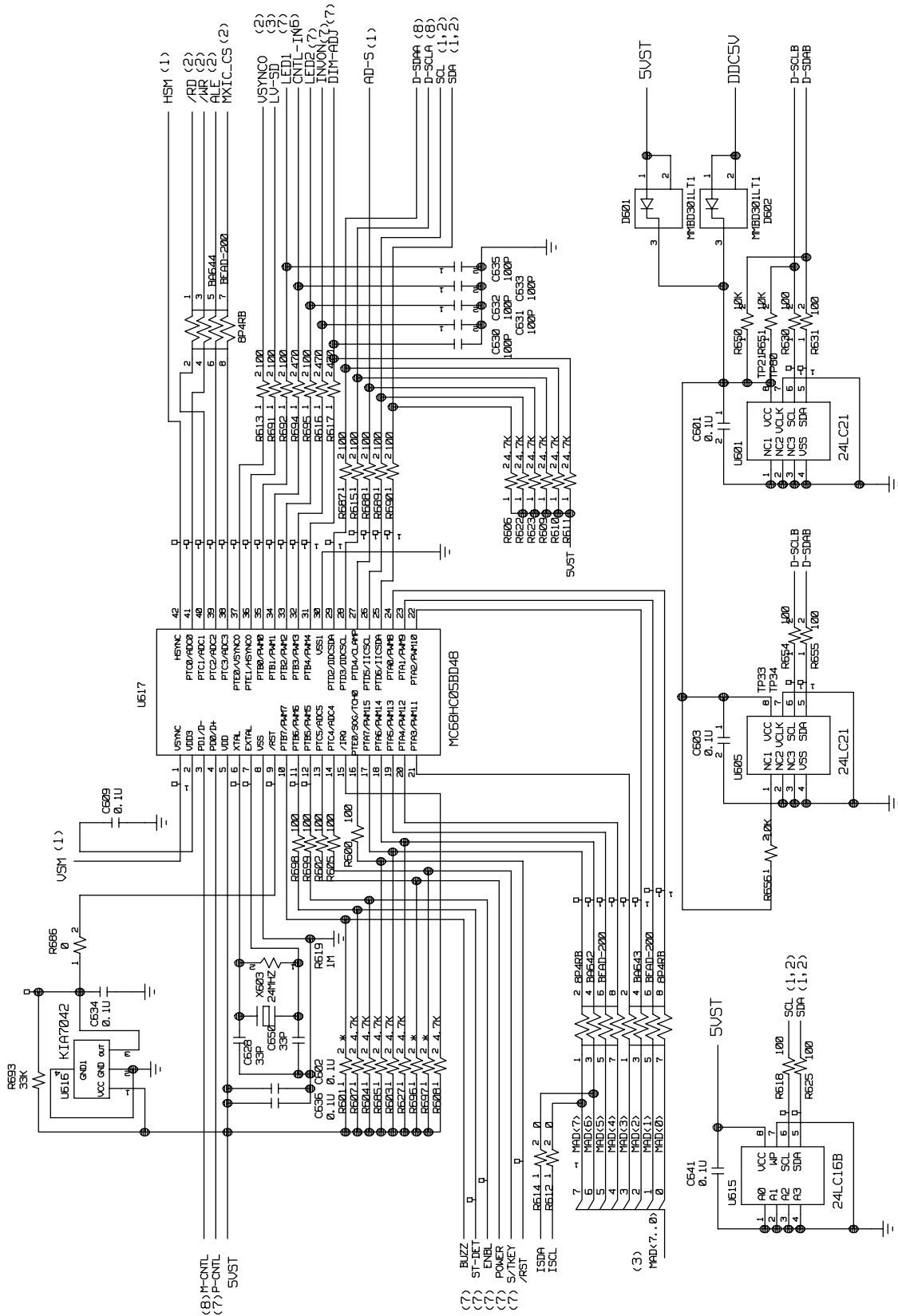
VIDEO PROCESS
2000.05.12



4. MEMORY

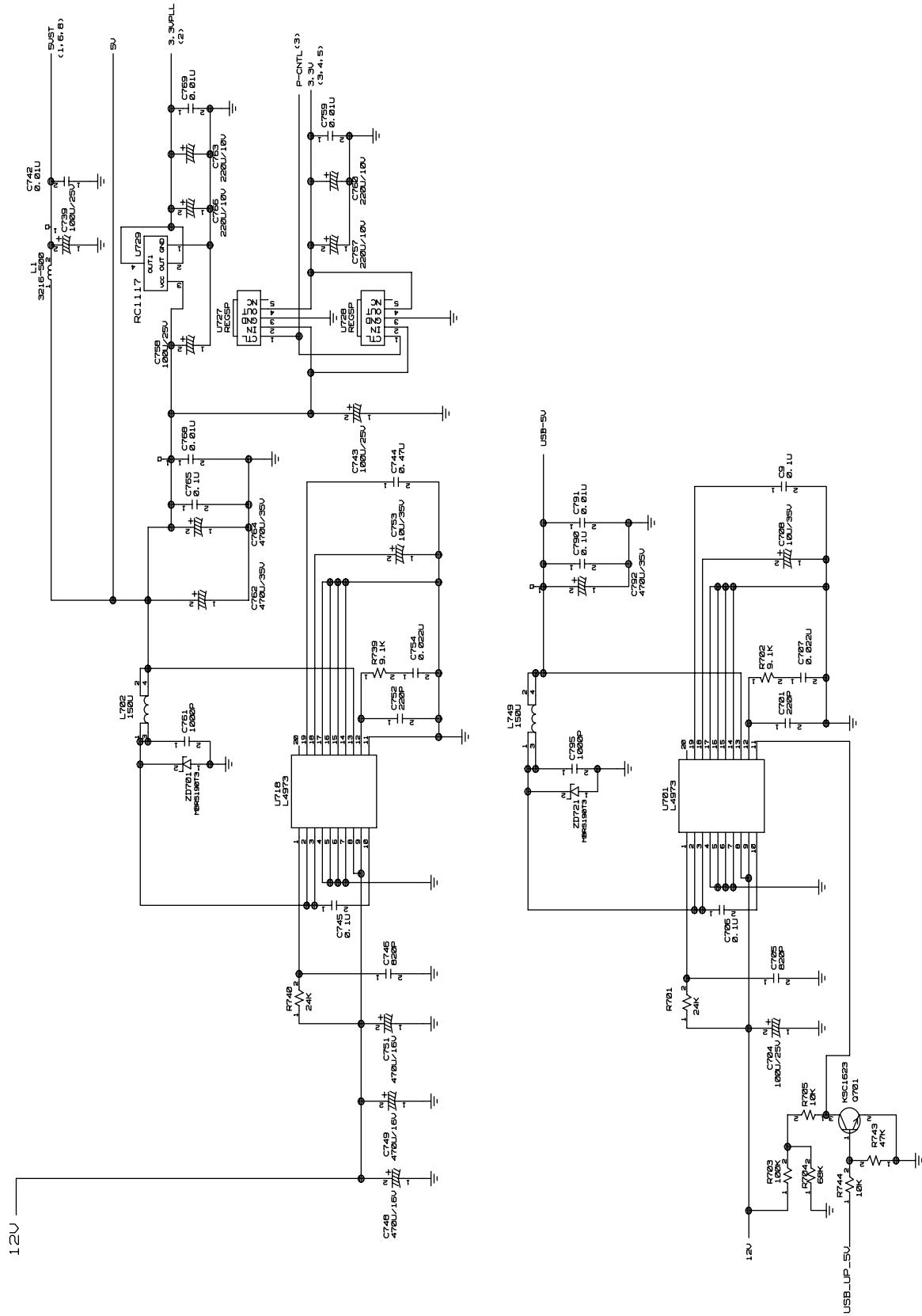


6. MICOM



7. DC/DC CONVERTOR

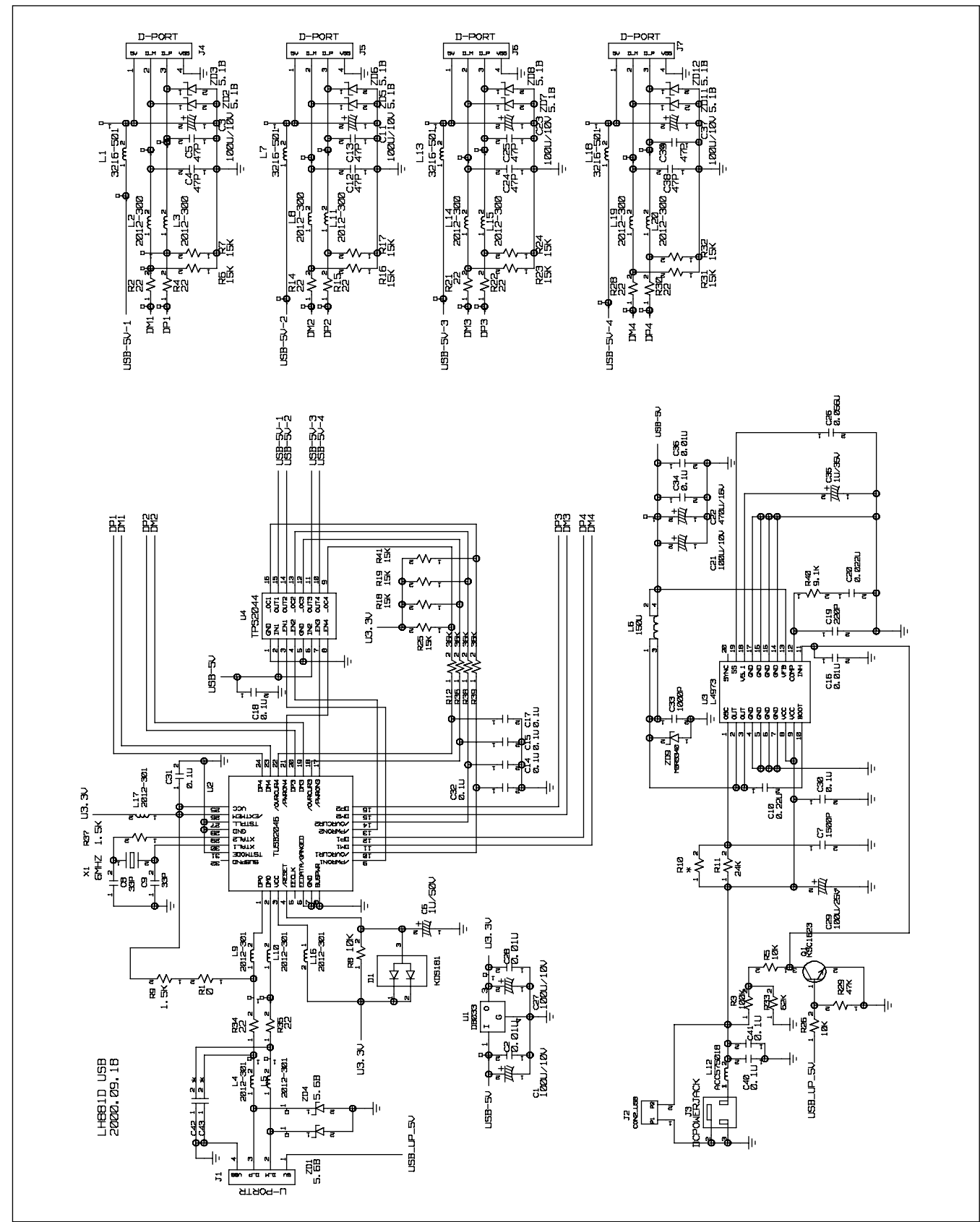
7 DC/DC CONVERTOR
2000.05.12



#8 2000.05.12 CONNECTOR & JACKS (BRAND)



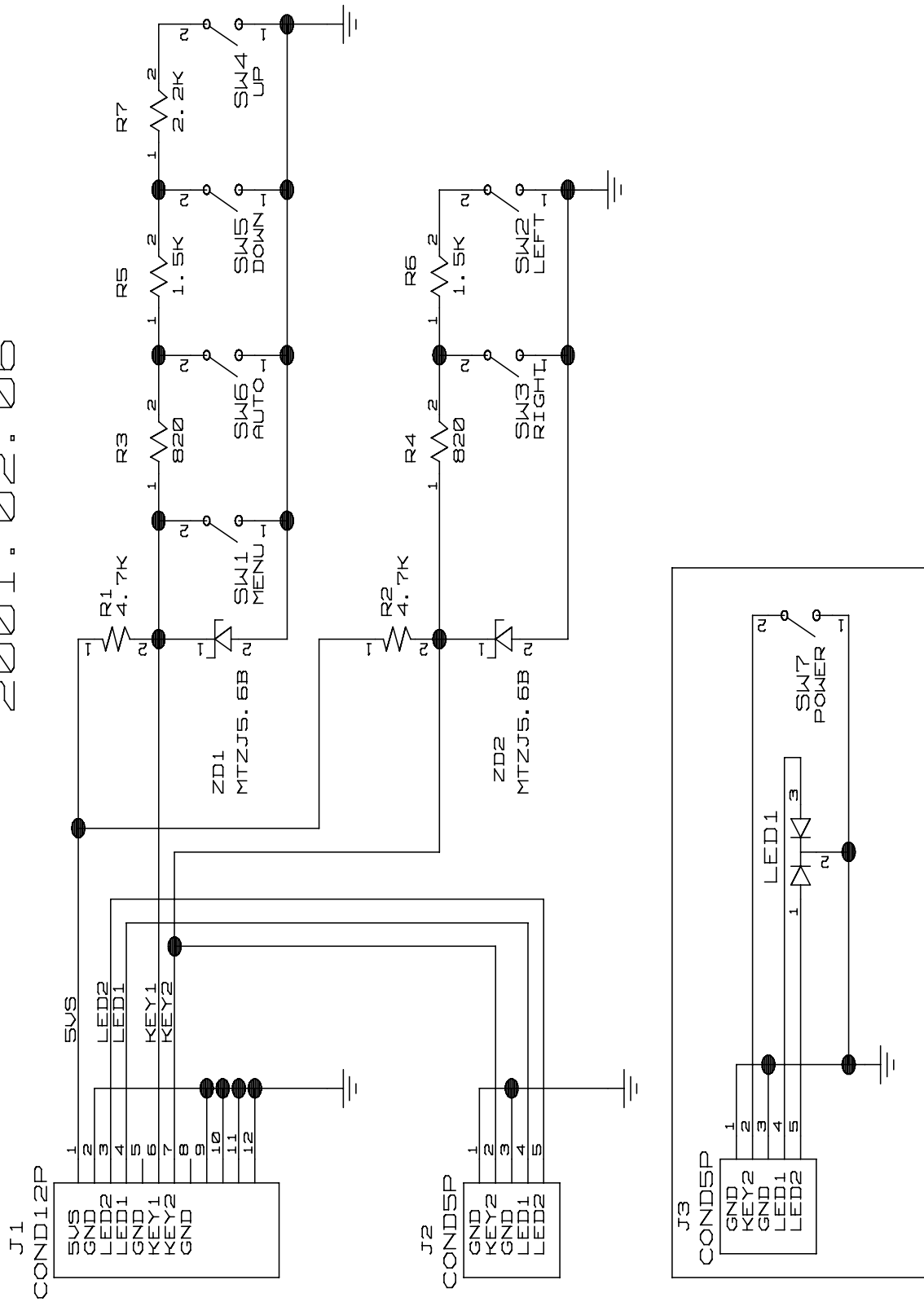
9. USB



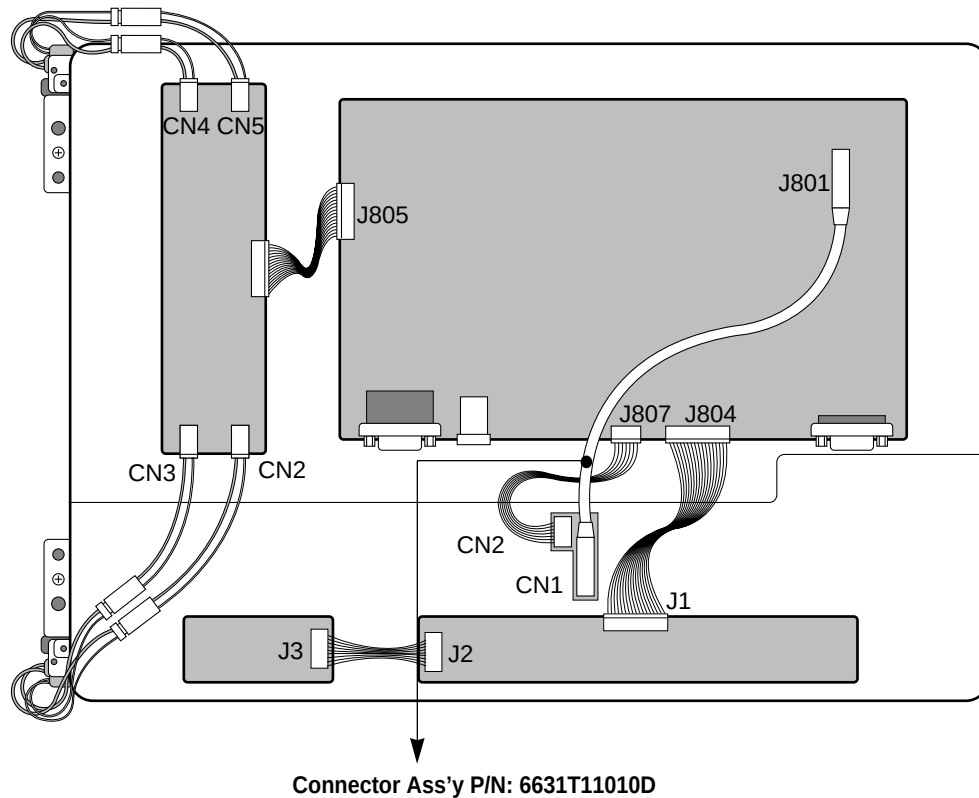
10. CONTROL/POWER KEY

LS882C
2001.02.06

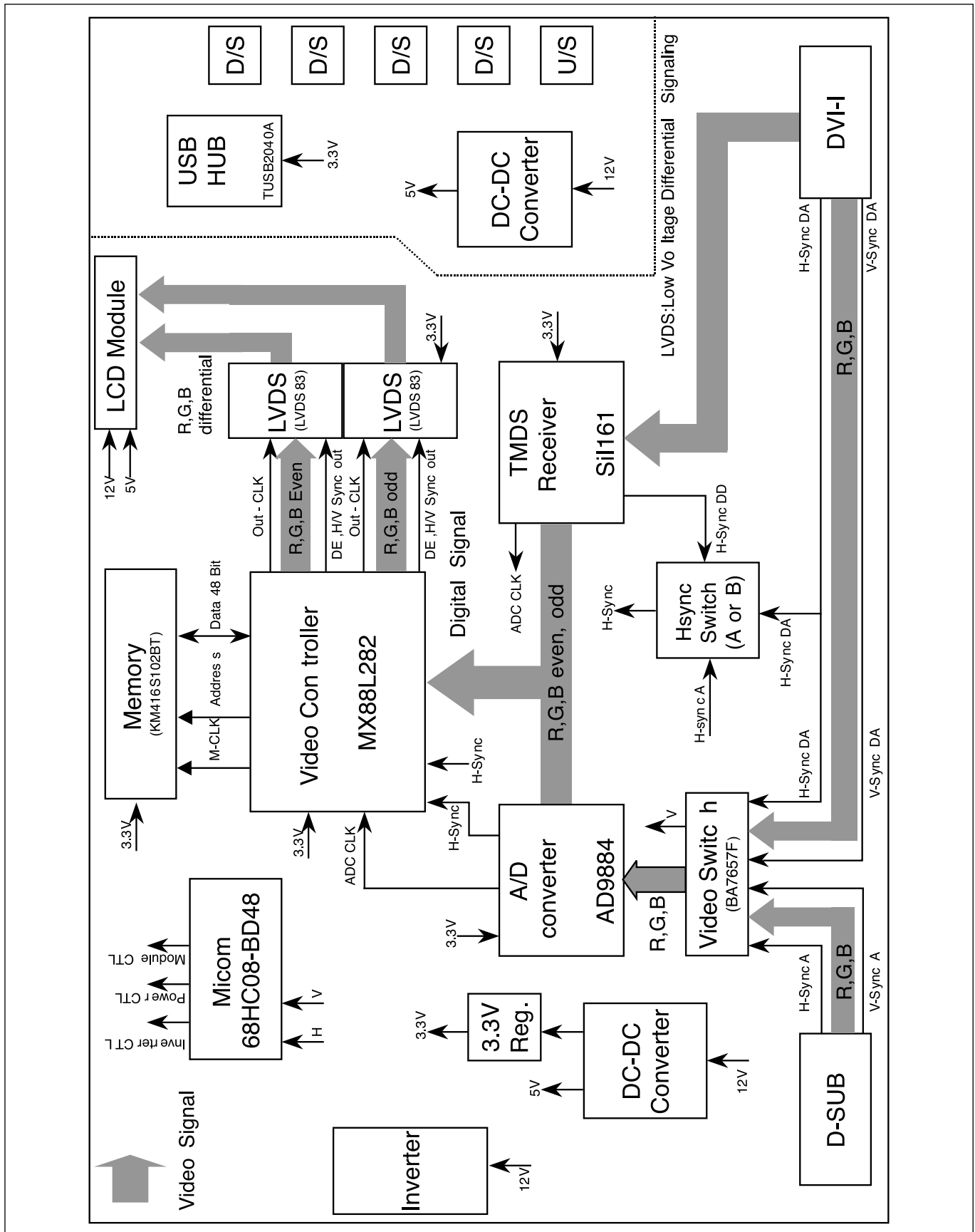
CONTROL/POWER



WIRING DIAGRAM



BLOCK DIAGRAM



DESCRIPTION OF BLOCK DIAGRAM

1. Input signal switching part.

This part switch H/V sync and analog video signal to be entered through Port1 and Port2 and output a selected H/V sync and analog video signal.

2. Pre-amp/ ADC / PLL Part.

This part amplifies the level of video signal for the digital conversion and converts from the analog video signal to the digital video signal using a pixel clock.

The pixel clock for each mode is generated by the PLL. The range of the pixel clock is from 25MHz to 135MHz.

3. Video Controller Part.

This part consists of the Scaler and frame buffers which converts frame rate of input signal to 60Hz frame rate.

The Scaler gets the video signal converted analog to digital, interpolates input to 1280 X 1024 resolution signal and outputs 8-bit R, G, B signal to transmitter.

4. Display Data Transmitter Part.

This part transmit digital signal from the Scaler to the receiver of module.

5. Power Part.

This part consists of the DC/DC converter and several 3.3V regulators.

The DC/DC converter converts 12V to be entered power adapter to 5V.

5V, output of DC/DC converter, supply to the micom and 3.3V regulators.

The output voltage of 3.3V regulator supply to IC of each part.

6. MICOM Part.

This part consists of EEPROM IC which stores control data, Reset IC and the Micom.

The Micom distinguishes polarity and frequency of the H/V sync are supplied from signal cable.

The controlled data of each mode is stored in EEPROM.

7. Inverter

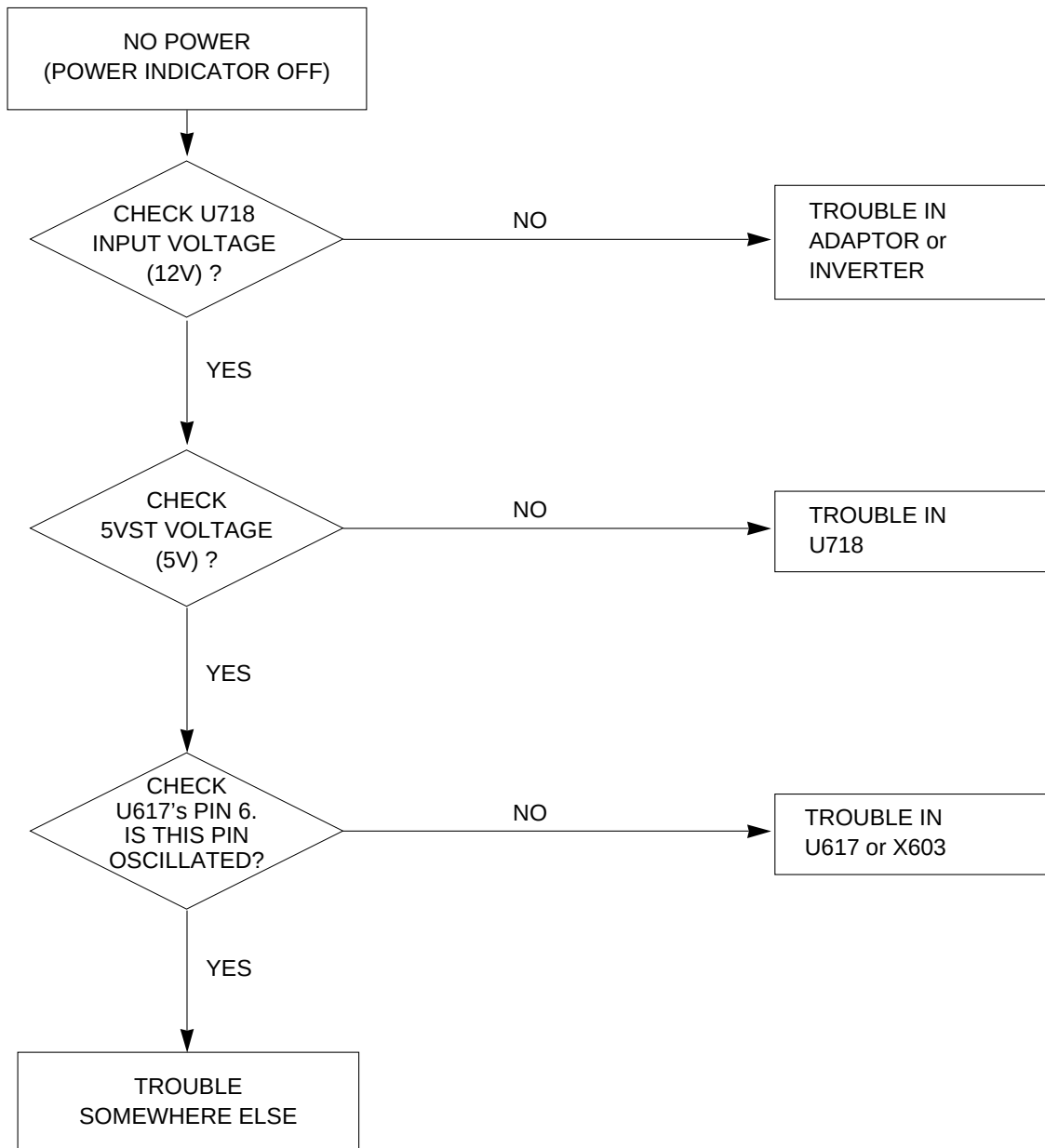
The inverter converts from 12V to AC 700V and drive back-light lamp of module.

8. USB

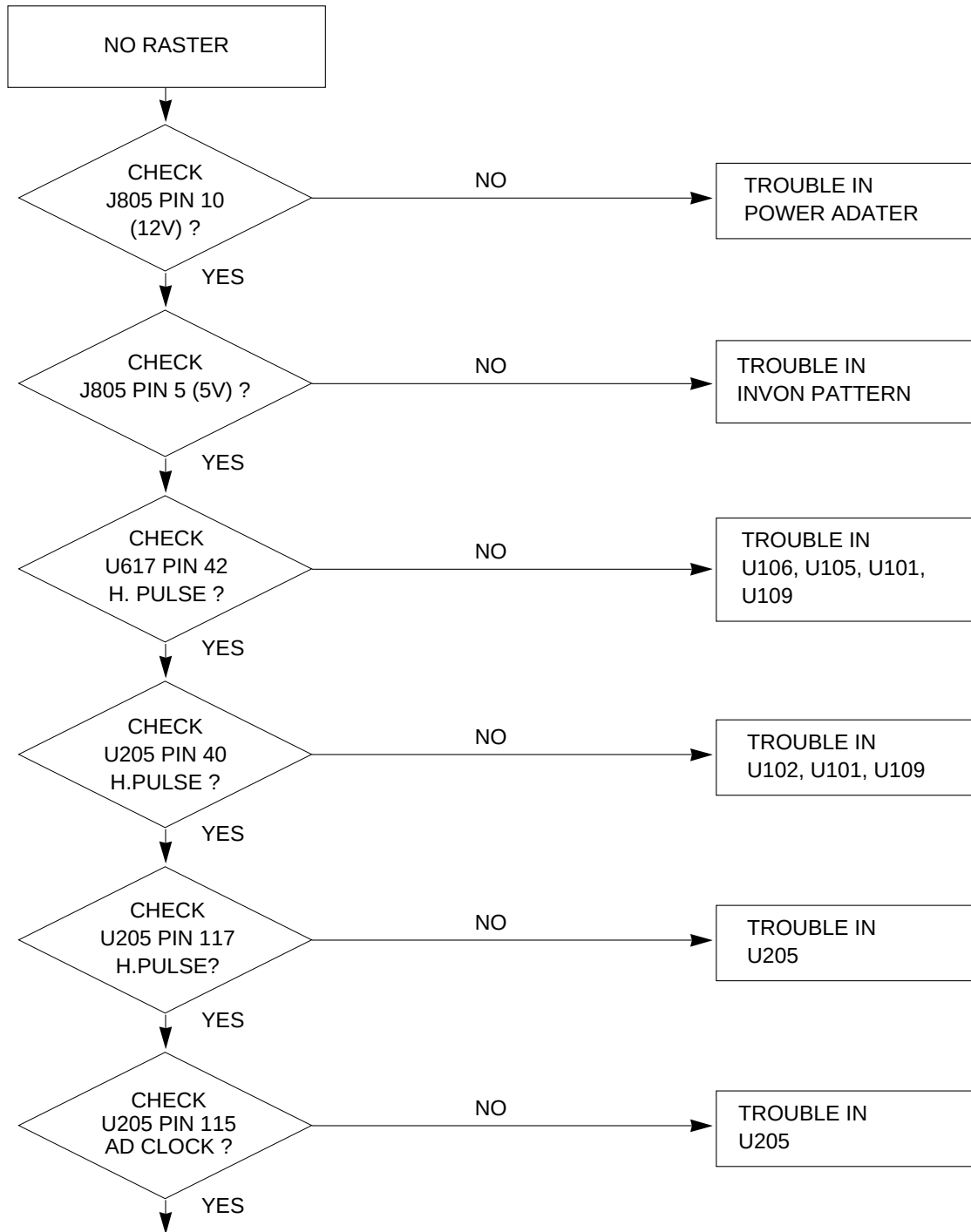
USB part consists of Downstream/Upstream and USB Hub. A entered USB peripheral signal from Downstream transfer PC through USB Hub and Upstream. Or a entered PC signal from Upstream transfer USB peripheral through USB Hub and Downstream.

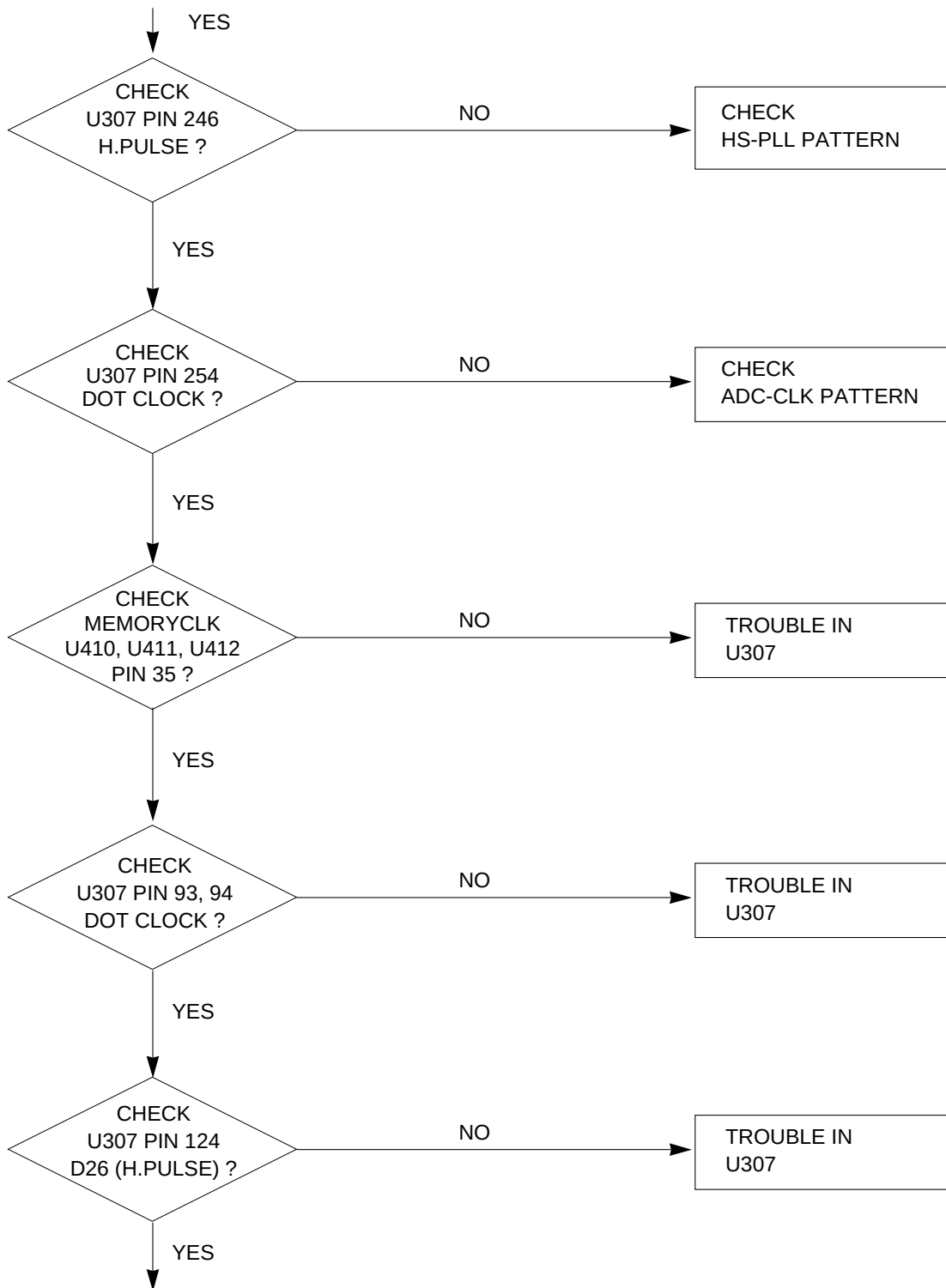
TROUBLESHOOTING GUIDE

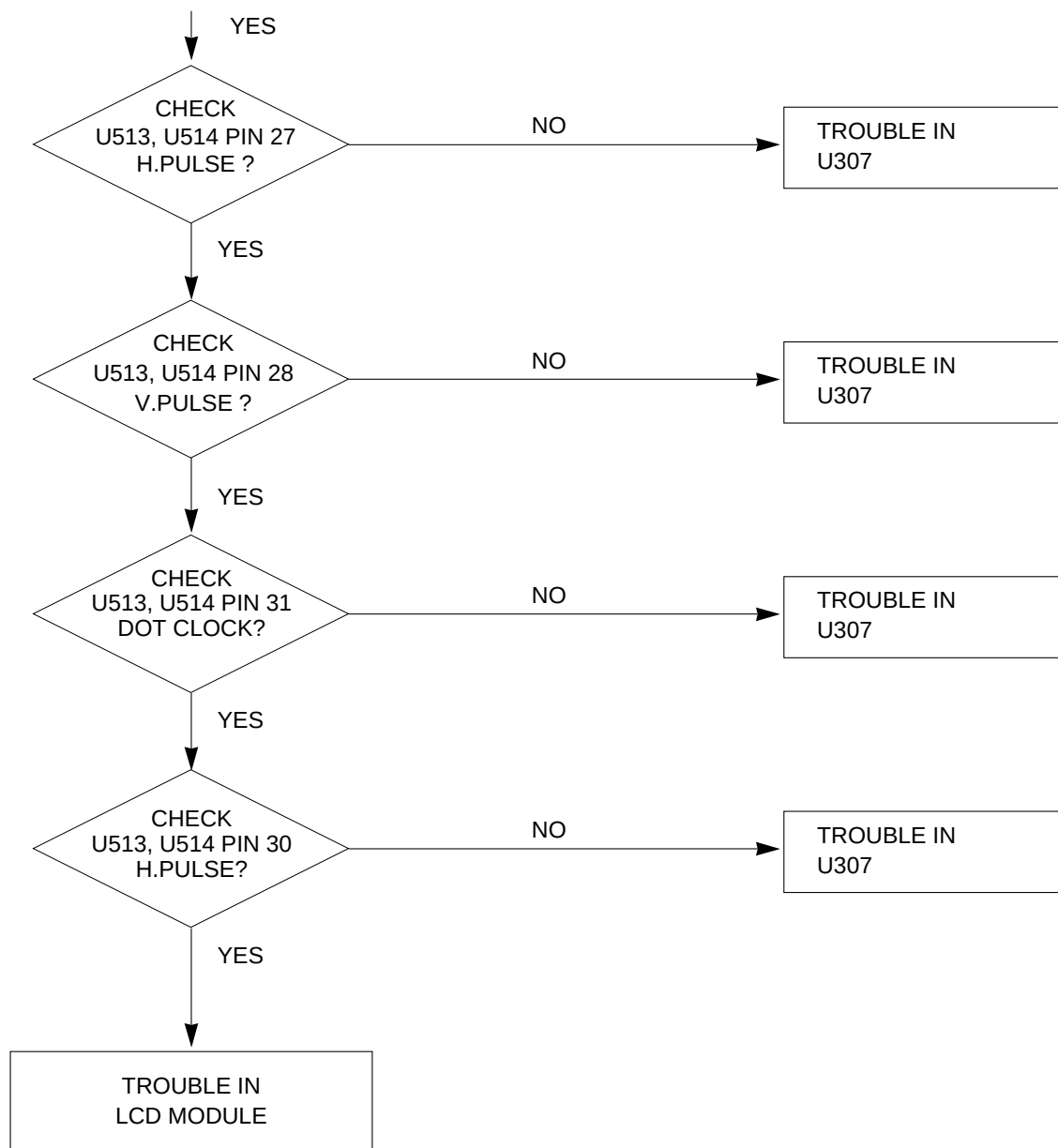
1. NO POWER



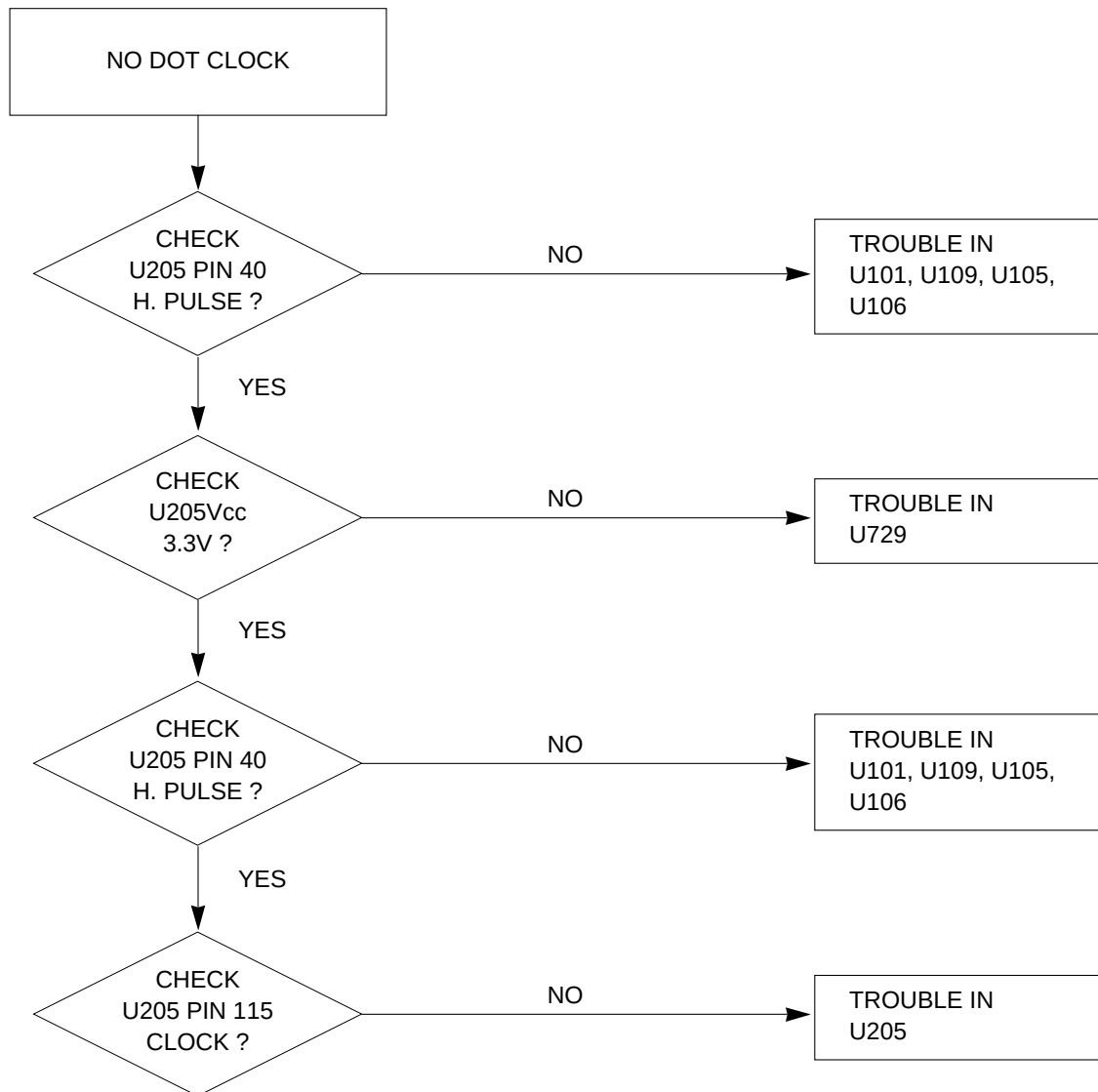
2. NO RASTER



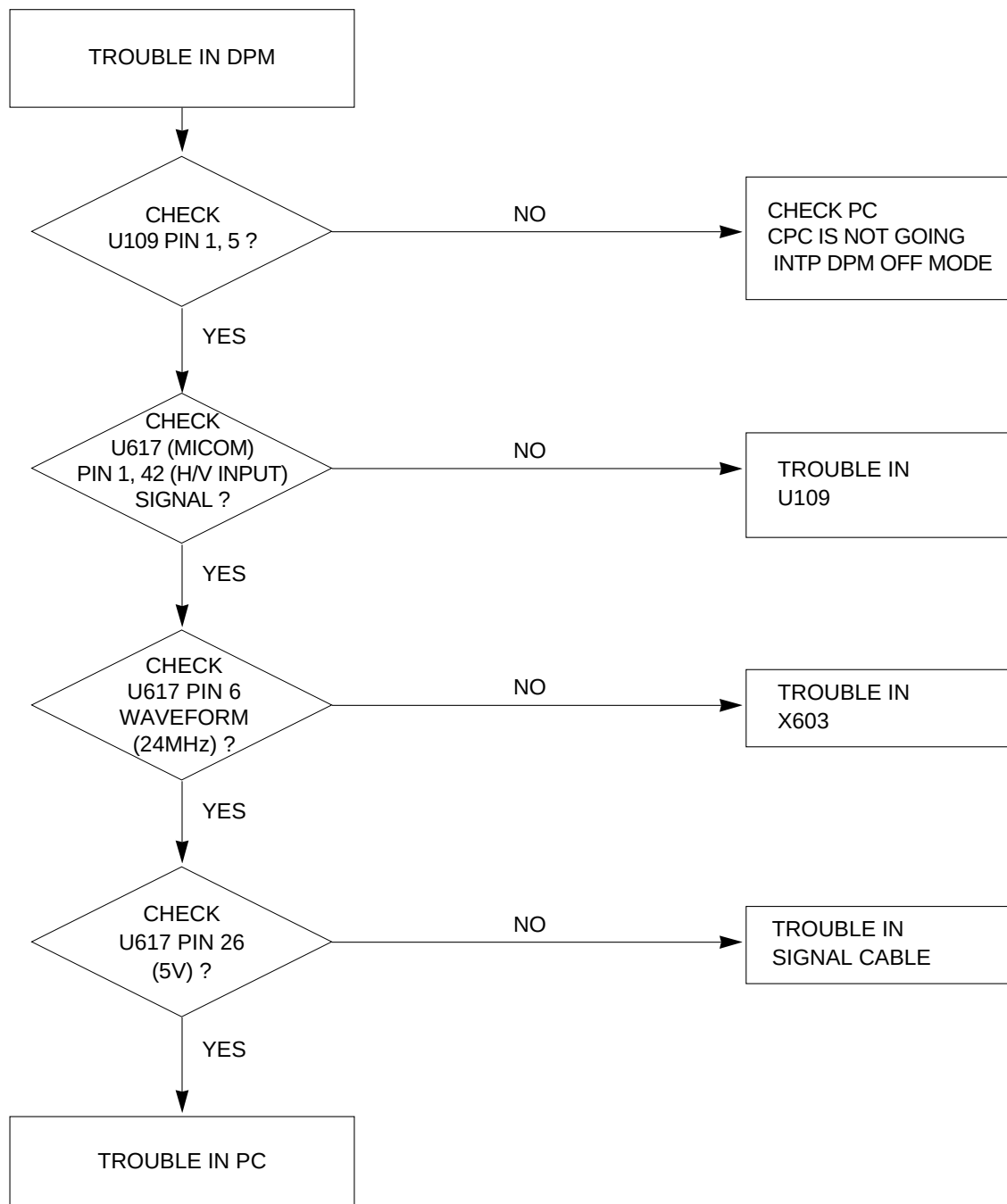




3. NO CLOCK (CLOCK GENERATOR)



4. TROUBLE IN DPM



ADJUSTMENT

All adjustment are thoroughly checked and corrected when the monitor leaves the factory, but sometimes several minor adjustment may be required.

Adjustment should be following procedure and after warming up for a minimum of 10 minutes.

- Alignment appliances and tools.
 - IBM compatible PC
 - Programmable Signal Generator. (eg. VG-819 made by Astrodesign Co.)
 - E(E)PROM with each mode data saved.

1. Adjustment Start

- 1) Display any pattern at any Mode.
- 2) Run alignment program for LS882C on the IBM compatible PC.
- 3) Select EEPROM → ALL INIT command and Enter
- 4) This will make all data to default state
- 5) Select COMMAND → PRESET START command and Enter

2. Adjustment for Factory Preset Mode

- 1) Select DIST. ADJ → FOS DEFAULT command and Enter
- 2) It will copy all factory default data to EEPROM automatically.

3. Adjustment for White Balance

- 1) Display color 0,0 pattern at Mode 15.
- 2) Set External Bright to MAX position and Contrast to MAX Position.
- 3) Select PRESET START → BIAS CAL command and Enter.
- 4) No attempt to manually adjust, BIAS data is automatically adjusted and saved to the EEPROM.
- 5) Display color 15,0 pattern at Mode 15.
- 6) Select DRIVE CAL command and Enter.
- 7) 6500K and 9300K are automatically adjusted and saved to the EEPROM.
- 8) Select PRESET EXIT command and Enter.

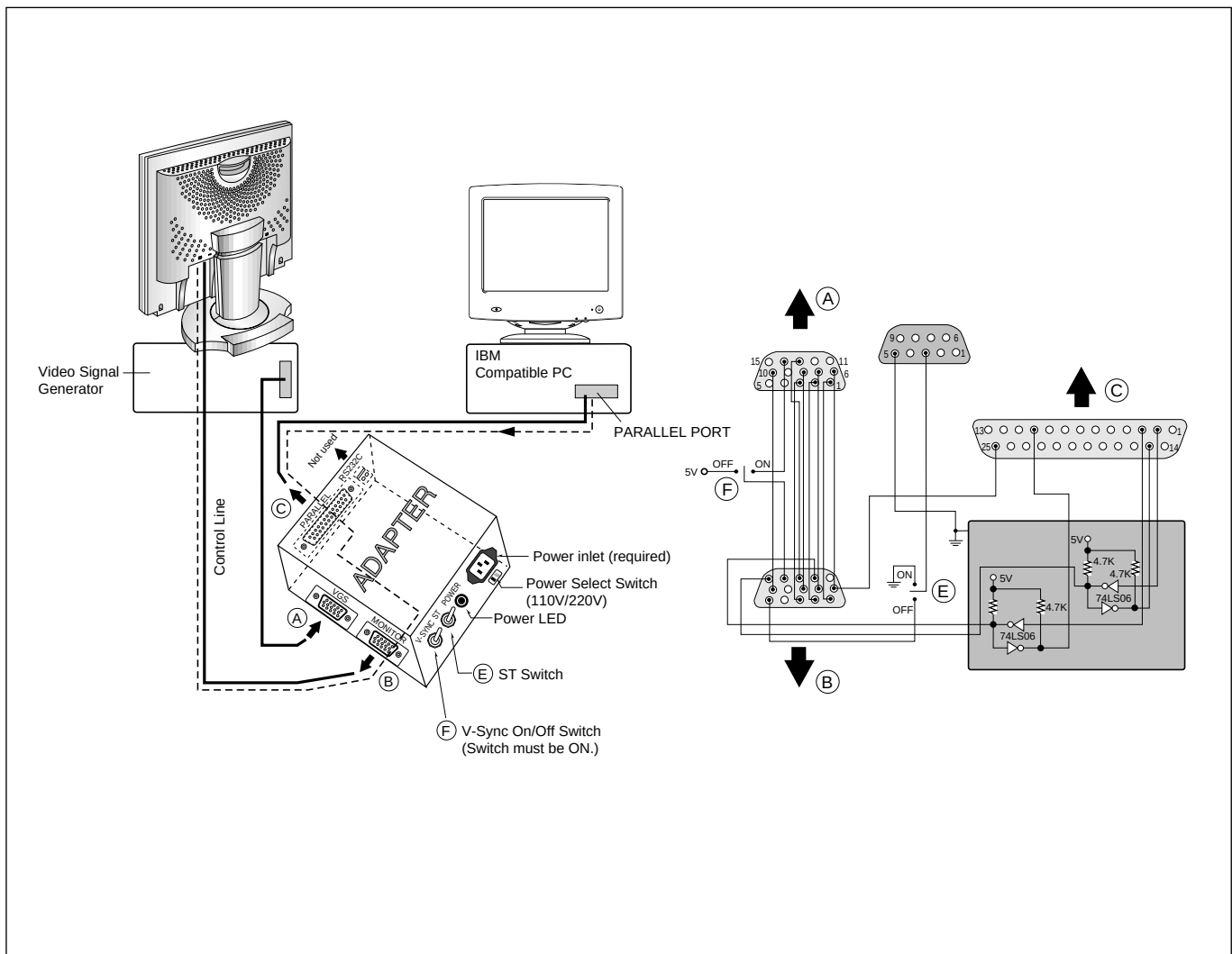
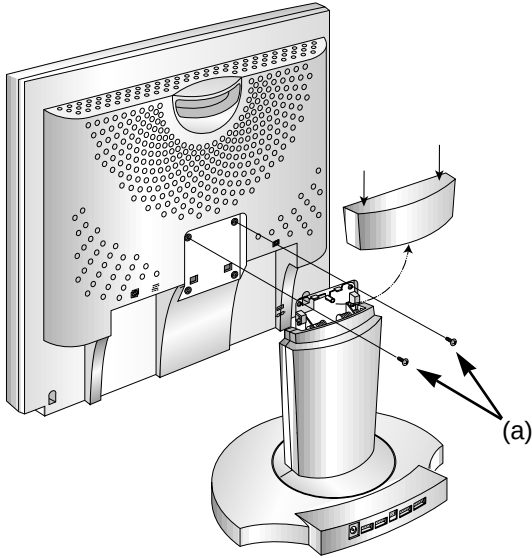


Figure 1. Cable Connection

DISASSEMBLY

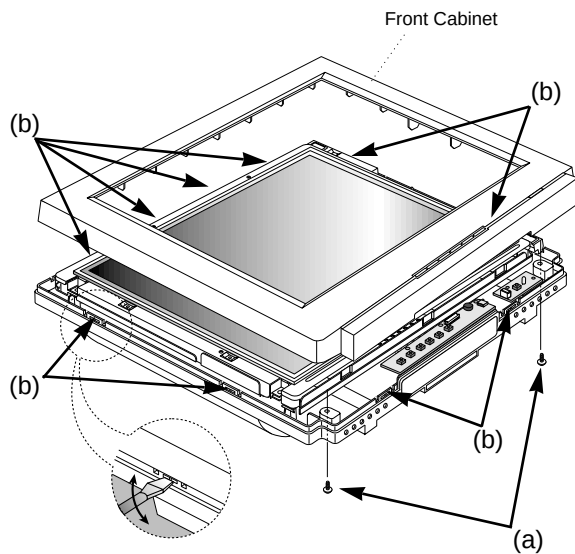
1. TILT/SWIVEL REMOVAL

- 1) Remove Hinge Cover.
(Push the tilt cover both side).
- 2) Remove two screws (a).
- 3) Remove the Tilt/swivel.



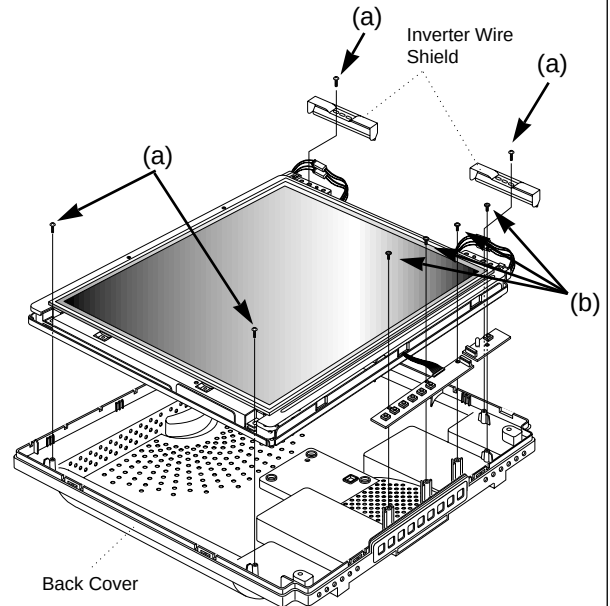
2. FRONT CABINET REMOVAL

- 1) Remove two screws (a).
- 2) Release ten latches (b).
- 3) Remove the Front Cabinet.



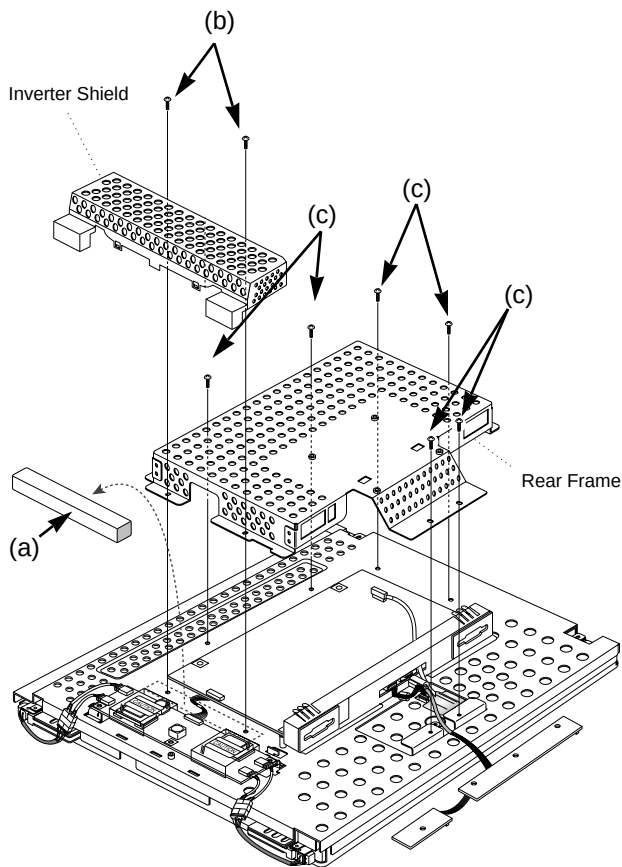
3. INVERTER WIRE SHIELD & BACK COVER REMOVAL

- 1) Remove four screws (a).
- 2) Remove two Inverter Wire Shield.
- 3) Remove four screws (b).
- 4) Remove the Back Cover.



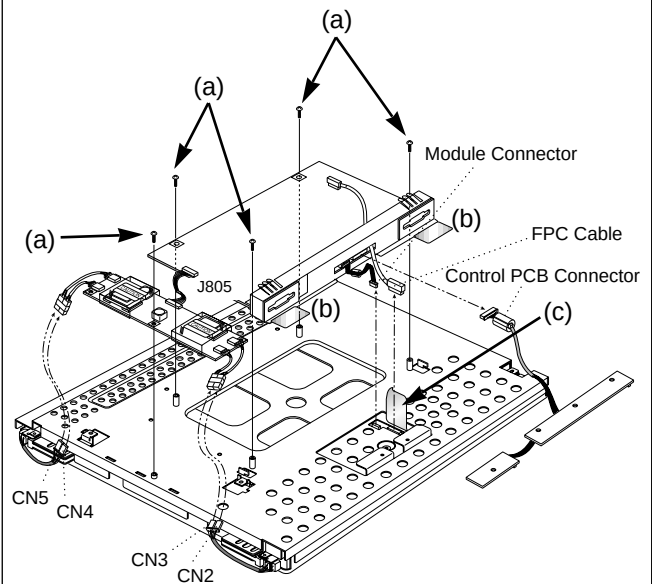
4. INVERTER SHIELD & REAR SHIELD REMOVAL

- 1) Remove sponge (a).
- 2) Remove two screws (b).
- 3) Remove the Inverter Shield.
- 4) Remove six screws (c).
- 5) Remove the Rear Frame.

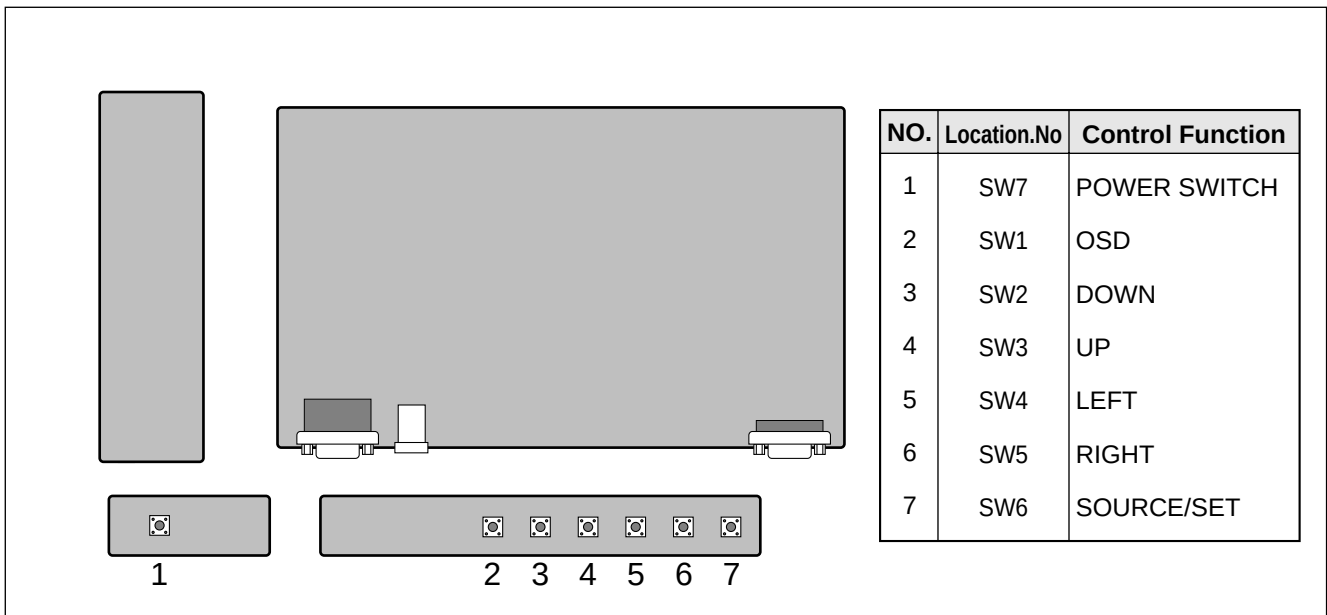


5. MAIN TOTAL ASS'Y REMOVAL

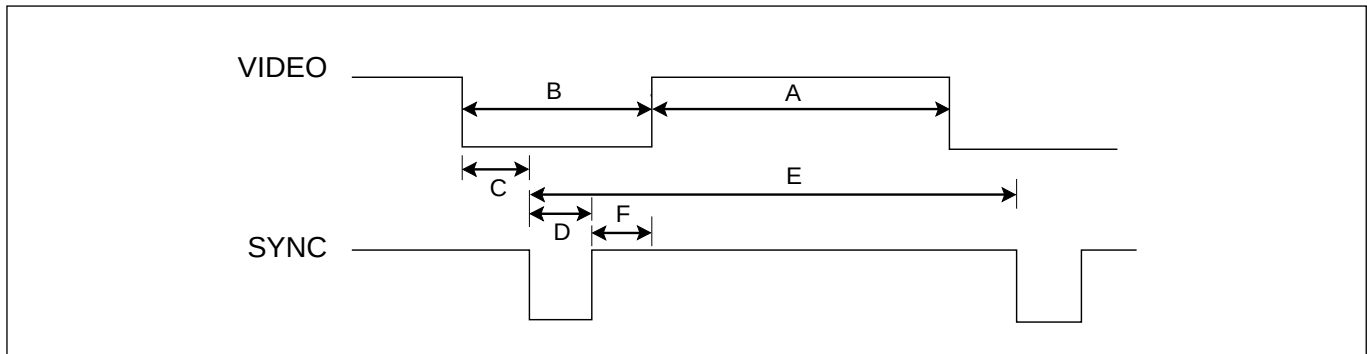
- 1) Disconnect CN2, CN3, CN4 and CN5.
- 2) Remove five screws (a).
- 3) Remove two Aluminium Tape (b).
- 4) Disconnect J805.
- 5) Remove Aluminium Tape (c).
- 6) Disconnect FPC Cable, Module Connector and Control PCB Connector.
- 7) Remove Main Total Ass'y and Inverter PCB Ass'y.



CONTROL LOCATIONS



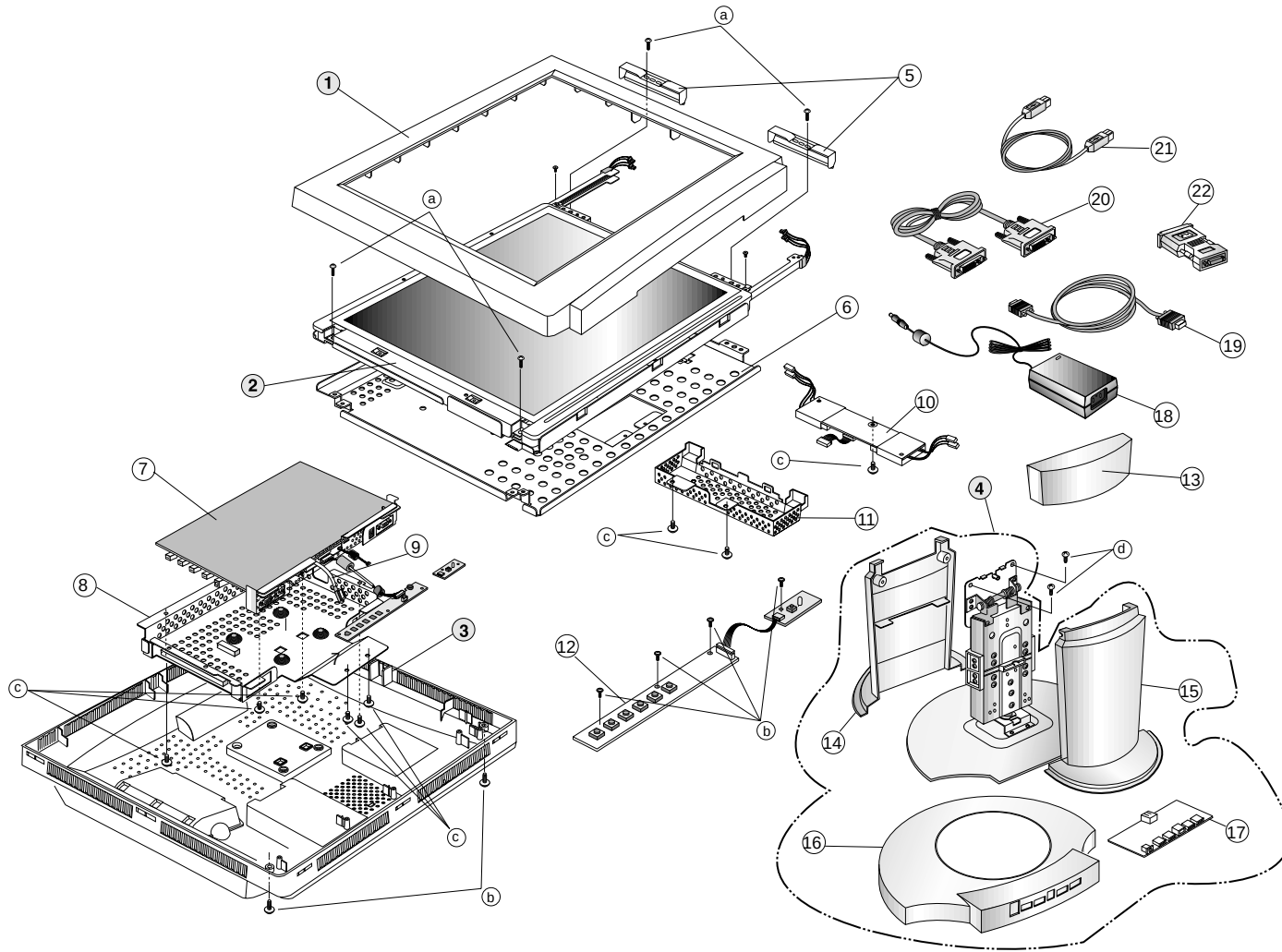
TIMING CHART



<< Dot Clock (**MHz**), Horizontal Frequency (**kHz**), Vertical Frequency (**Hz**), Horizontal etc... (**μs**), Vertical etc... (**ms**) >>

Mode	H/V Sort	Sync Polarity	DOT Clock	Frequency	Total Period (E)	Video Active Time (A)	Front Porch (C)	Sync Duration (D)	Back Porch (F)	Resolution
1	H	+	25.175	31.469	800	640	16	96	48	640x350
	V	-		70.8	449	350	38	2	59	70Hz
2	H	-	28.321	31.468	900	720	18	108	54	720x400
	V	-		70.8	449	400	12	2	35	70Hz
3	H	-	31.5	37.5	840	640	16	64	120	640x480
	V	-		75	500	480	1	3	16	75Hz
4	H	-	36.0	43.269	832	640	56	56	80	640x480
	V	-		85.0	509	480	1	3	25	85Hz
5	H	-	25.175	31.469	800	640	16	96	48	640x480
	V	+		59.94	525	480	10	2	33	60Hz
6	H	+	40.0	37.879	1056	800	40	128	88	800x600
	V	+		60.317	628	600	1	4	23	60Hz
7	H	+	49.5	46.875	1056	800	16	80	160	800x600
	V	+		75.0	625	600	1	3	21	75Hz
8	H	+	56.25	53.674	1048	800	32	64	152	800x600
	V	+		85.061	631	600	1	3	27	85Hz
9	H	+/-	57.283	49.725	1152	832	32	64	224	832x624
	V	+/-		74.55	667	624	1	3	39	75Hz
10	H	-	65.0	48.363	1344	1024	24	136	160	1024x768
	V	-		60.0	806	768	3	6	29	60Hz
11	H	-	78.75	60.123	1312	1024	16	96	176	1024x768
	V	-		75.029	800	768	1	3	28	75Hz
12	H	+	94.5	68.677	1376	1024	48	96	208	1024x768
	V	+		84.997	808	768	1	3	36	85Hz
13	H	+/-	100.0	68.681	1456	1152	32	128	144	1152x870
	V	+/-		75.062	915	870	3	3	39	75Hz
14	H	+/-	92.978	61.805	1504	1125	18	134	200	1152x900
	V	+/-		65.96	937	900	2	4	31	65Hz
15	H	+	108.0	63.981	1688	1280	48	112	248	1280x1024
	V	+		60.02	1066	1024	1	3	38	60Hz
16	H	+	135.0	79.976	1688	1280	16	144	248	1280x1024
	V	+		75.035	1066	1024	1	3	38	75Hz

EXPLODED VIEW

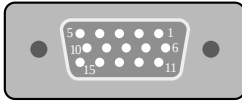


EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Description
1	3091TKL022D	CABINET ASSY LS882C BRAND 3090TKL021A PC+ABS 85964
2	6304TLT181S	LCD(LIQUID CRYSTAL DISPLAY) LM181E1-J3MN(S) LGPHILIPS COLOR 18.1 1280X1024
3	3809TKL006F	BACK COVER ASSY, LS882C 006
4	3043TKK037G	TILT SWIVEL ASSY, LS882C
5	4814TKK064A	SHIELD INVERTER WIRE(LQ800)
6	4950TKS096C	METAL FRAME (LB885)
7	6871TMT216A	PWB(PCB) ASSEMBLY, MAIN, LS882C XAGC BRAND . TOTAL
8	4951TKK049A	METAL ASSY, REAR LS882C
9	6631T11010D	CONNECTOR ASSY, 21P H-H 160MM UL20276SB10P+2C AWG#30 LB885C
10	6633TZA004A	INVERTER ASSY, SAMSUNG LG1801 FOR 18.1" LCD MNT(LB880B)
11	4814TKK067A	SHIELD INVERTER(LQ800)
12	6871TST217A	PWB(PCB) ASSEMBLY,SUB LS882C XAGC BRAND . TOTAL
13	3550TKK053C	COVER LB880B HINGE 18.1" BRAND
14	3550TKK050C	COVER LB880B STAND FRONT 18.1" BRAND
15	3550TKK051C	COVER LB880B STAND REAR 18.1" BRAND
16	3550TKK052C	COVER LB880B BASE TOP 18.1" BRAND
17	6871TST197A	PWB(PCB) ASSEMBLY,SUB, LH881D XAGT H/PACKARD ZANSKAR TOTAL
18	6634TBZ006A	ADAPTER, AC-DC, PSCV700101A SAMSUNG 100-240V 12V 5.8A FOR LG
19	6866TD9001F	SIGNAL CABLE UL 2990-9C(7.5) DT 1870MM GRAY(85964) LB500 DM
20	6866TDV004C	CABLE, DVI, UL20276 DT 2000MM GRAY(85964) LB885C DM (DVI-H CABLE)
21	6866TDU002D	SIGNAL CABLE UL20276SB10P+2C AWG#30 DT 1870MM GRAY(85964) BRAND (USB CABLE)
22	6634TFZ004A	ADAPTER,SIGNAL , DVI-(MAIL)-VGA(FMAIL) UNIXTAR LB885C
a	332-095E	SCREW, P2P*3*16(MSWR/FZMY)
b	332-095C	SCREW, P2P*3*12(MSWR/FZMY) STD
c	332-110A	SCREW, PZS*3*6 (MSWR/FZMY)
d	332-105C	SCREW, PVS*4*12(MSWR/FZMW)

Signal Connector Pin Assignment

• 15pin VGA Connector



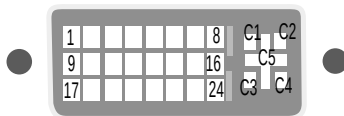
Pin	Signal (D-Sub)
1	Red Video
2	Green Video
3	Blue Video
4	Ground
5	Ground
6	Red Ground
7	Green Ground
8	Blue Ground

Pin	Signal (D-Sub)
9	N.C.
10	Sync.Ground
11	Ground
12	SDA
13	H. Sync.
14	V. Sync.
15	SCL

NOTE

- No. 5 Pin have to ground on the PC side.

• DVI-I Connector (Digital/Analog)



Pin	Signal (DVI-I)
1	T. M. D. S. Data2-
2	T. M. D. S. Data2+
3	T. M. D. S. Data2/4 Shield
4	T. M. D. S. Data4-
5	T. M. D. S. Data4+
6	DDC Clock
7	DDC Data
8	Analog Vertical Sync.
9	T. M. D. S. Data1-
10	T. M. D. S. Data1+
11	T. M. D. S. Data1/3 Shield
12	T. M. D. S. Data3-
13	T. M. D. S. Data3+
14	+5V Power
15	Ground (return for +5V, H. Sync. and V. Sync.)

Pin	Signal (DVI-I)
16	Hot Plug Detect
17	T. M. D. S. Data0-
18	T. M. D. S. Data0+
19	T. M. D. S. Data0/5 Shield
20	T. M. D. S. Data5-
21	T. M. D. S. Data5+
22	T. M. D. S. Clock Shield
23	T. M. D. S. Clock+
24	T. M. D. S. Clock-
C1	Analog Red
C2	Analog Green
C3	Analog Blue
C4	Analog H. Sync.
C5	Analog Ground

T. M. D. S. (Transition Minimized Differential Signaling)

PRECAUTION

WARNING FOR THE SAFETY-RELATED COMPONENT.

- There are some special components used in LCD monitor that are important for safety. These parts are marked ⚠ on the schematic diagram and the replacement parts list. It is essential that these critical parts should be replaced with the manufacturer's specified parts to prevent electric shock, fire or other hazard.
- Do not modify original design without obtaining written permission from LG or you will void the original parts and labor guarantee.

TAKE CARE DURING HANDLING THE LCD MODULE WITH BACKLIGHT UNIT.

- Must mount the module using mounting holes arranged in four corners.
- Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
- Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
- Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
- Make certain that treatment person's body are grounded through wrist band.
- Do not leave the module in high temperature and in areas of high humidity for a long time.
- The module not be exposed to the direct sunlight.
- Avoid contact with water as it may a short circuit within the module.
- If the surface of panel become dirty, please wipe it off with a softmaterial. (Cleaning with a dirty or rough cloth may damage the panel.)

⚠ CAUTION

Please use only a plastic screwdriver to protect yourself from shock hazard during service operation.

⚠ WARNING

BE CAREFUL ELECTRIC SHOCK !

- If you want to replace with the new backlight (CCFL) or inverter circuit, must disconnect the AC adapter because high voltage appears at inverter circuit about 650Vrms.
- Handle with care wires or connectors of the inverter circuit. If the wires are pressed cause short and may burn or take fire.

⚠ CAUTION

IF BRIGHTNESS OF THE LCD MODULE DARKEN, REPLACE THE BACKLIGHT ONE OR ALL.

- There is two backlight, must distinguish between the top (upper) and the bottom (lower), and be careful of treatment it.
- MTBF (Mean Time Between Failure) of a backlight is about 30,000 hours.

