

Prestigio

LIQUID CRYSTAL DISPLAY

Prestigio P171

TFT LCD COLOR MONITOR

TECHNICAL

SERVICE MANUAL

Safety Precaution

WARNING

Service should not be attempted by anyone unfamiliar with the necessary precautions on this monitor.

The followings are the necessary precautions to be observed before servicing.

1. When managing this monitor, cover with shield plate to avoid to scratch on LCD surface.
2. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as nonmetallic control knobs, insulating covers, shields, isolation resistor capacitor network etc.
3. Before returning the monitor to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as signal connectors, terminals, screw heads, metal overlays, control shafts etc, to be sure the monitor is safe to operate without danger of electrical shock.

General Information

1. Description

This 17" LCD color display monitor is operated in R, G, B drive mode input.

2. Operating instructions

2-1. Front

Power Switch, Menu, Select, Down, Up, DPMS (Power) LED

2-2. Rear

Input connector (AC & Signal Cable)

2-3. OSD Controls

H/V Position, Clock Phase, Brightness, Contrast, Recall, Color Control, Language, Auto Adjust, Miscellaneous, Audio control, Auto Color

3. Electrical Characteristic

3-1. Power Supply

AC/DC - Input Voltage : 90V~264V
 Input Current : 1.0 A Max
 Input Frequency : 50 ~ 60Hz
 - Output Voltage 12V/5V
 Output Current 2A/1.5A

3-2. Video Input Signal

Level : 0.7 Vp-p analog signal(at 75 ohm termination to ground)
 Polarity : Positive

3-3. Horizontal Synchronization Signal

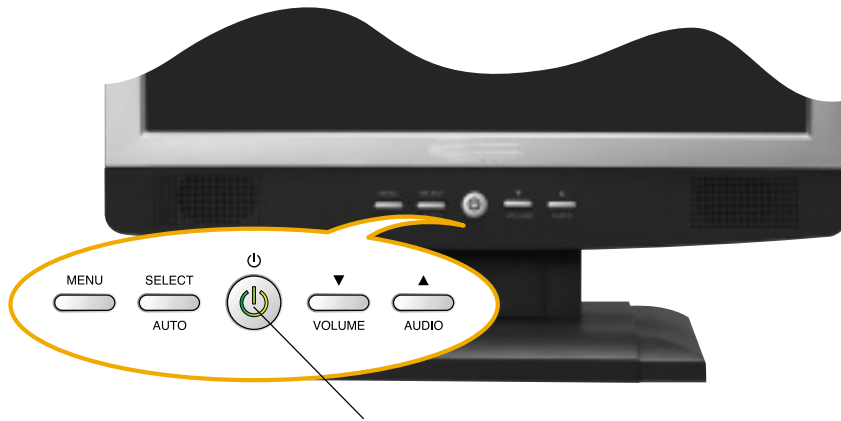
Level : TTL High : 2.4V min
 Low : 0.4V max
 Polarity : - or +
 Frequency : 31 kHz ~ 80kHz

3-4. Vertical Synchronization Signal

Level : TTL High : 2.4V min
 Low : 0.4V max
 Polarity : - or +
 Frequency : 56Hz ~ 75Hz

Control Description

Front View



Power Switch / LED Indecator

Support Modes

NO	Resolution	H Frequency (kHz)	V Frequency (Hz)	H Polarity	V Polarity	Dot Clock (MHz)
1	720 x 400	31.5	70.1	0	1	28.322
2	640 x 480	31.5	59.9	0	0	25.175
3	640 x 480	37.5	75.0	0	0	31.500
4	800 x 600	37.9	60.3	1	1	40.000
5	800 x 600	46.9	75.0	1	1	49.500
6	1024 x 768	48.4	60.0	0	0	65.000
7	1024 x 768	56.5	70.1	0	0	75.000
8	1024 x 768	60.0	75.0	1	1	78.750
9	1280 x 1024	63.900	60.000	1	1	108.00
10	1280 x 1024	79.976	75.025	1	1	135.00

Video Input Signal

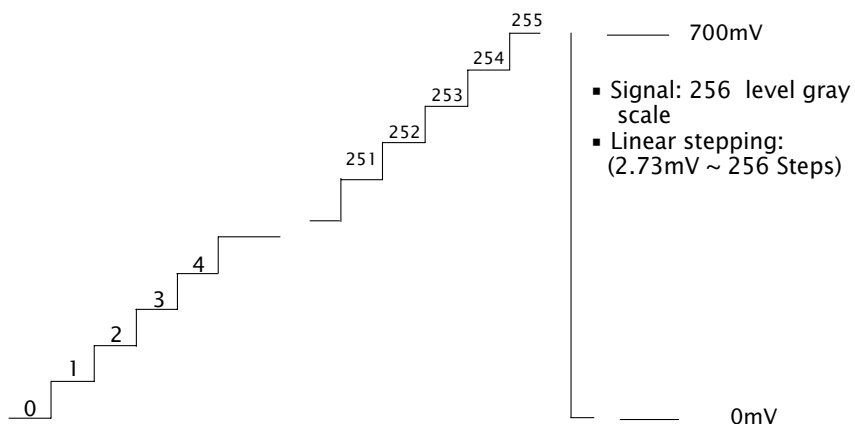
Recommended signal are shown below

■ **Video Signal**

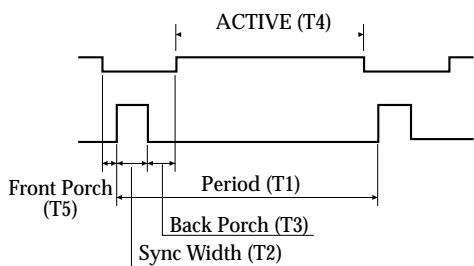
- Video level : 0 to 700mV
- Polarity : positive
- Video Input : RGB separated
- Analog level
- Sync input : H-Sync(TTL level)
- V-Sync (TTL level)

■ **Waveform**

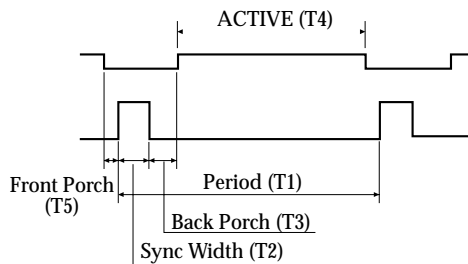
Video input(R.G.B)



■ **H-Sync**



■ **V-Sync**



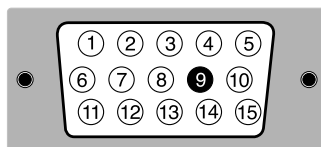
Video Input Terminal

A 15 Pin D-sub connector is used as the input signal connector
 Pin and input signals are shown in the table below.

Pin Description

PIN NO.	SIGNAL	SEPARATE SYNC/ DDC 1/2B
1		RED
2		GREEN
3		BLUE
4		GND
5		RETURN
6		RED GROUND
7		GREEN GROUND
8		BLUE GROUND
9		N.C
10		LOGIC GROUND
11		GROUND
12		SDA
13		H-SYNC(TTL)
14		V-SYNC(VCLK)
15		SCL

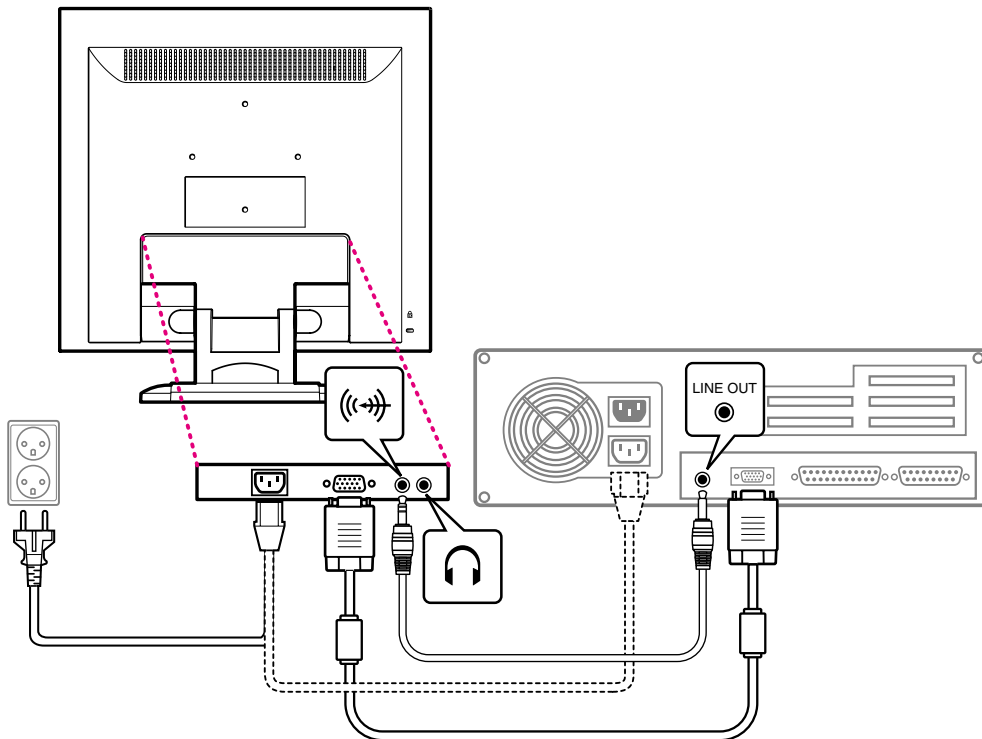
D-Sub miniature connector



Connecting with External Equipment

Cautions

Be sure to turn off the power of your computer before connecting the monitor.



Theory of Operation

1. AC/DC INVERTER

Input voltage : DC 12V
 Input current : 2.0A(Max)
 Output current : 6.5mArms(TYP)
 Frequency(switching) : 47KHz(Max)
 Output power : 18W(TYP)
 On/off control voltage : 5.0V

2. AC/DC ADATOR

This display device shall maintain the specified per formances in the range de scribed below

Frequency : 50/60Hz
 Voltage : 90 - 264Vac RMS

The following consumption requirements shall be met:

Power Consumption : 35W(typ)
 Current consumption : < 1.0 Aac RMS

Output Specification:

output1 : 12V/2A
 output2 : 5V/1.5A

3. Audio System

This monitor has a audio system including two micro loudspeakers.

Each of two micro loudspeakers has a 2W(Max) output power.

This system also supports a headphone(earphone) output.

- Auto Signal Input : < 600mVp-p(Max.)

- Auto Amplifiers

2W+2W Amplifier with DC Volume Control (for two micro loudspeakers)

RL=8Ω @THD=10% Vcc=14V (min. 10V, max. 18V)

Dual-Audio Power Amplifier (for a headphone output)

RL=32Ω @THD=10% Vcc=4.5V (min. 1.8V, max. 15V)

- Speaker

Micro Loudspeaker Spec.

Normal impedance 8Ω +/- 15% at 1.0V 1.5KHz

Resonance Freq. 550Hz +/- 110Hz at 1.0V

Freq. Range fo ~ 20KHz

Power Rating Normal 1.0W/Peak 2.0W

4. DPMS MODE

Status	Signal			Power Consumption	Recovery Time	LED Indicator
	H-Sync	V-Sync	Video			
on	Pulse	Pulse	Active	35W(typ)	-	Green
off	No Pulse	No Pulse	Blank	≤ 1W (TYP) 230V AC	Within 3 Sec	Orange

On Screen Controls & LED Indicator

The menu for screen setting adjustment is located in the OSD and can be viewed in one of five languages OSD feature and main functions are as follows:



The OSD adjustments available to you are listed below.



BRIGHTNESS

Adjust the brightness of the screen.



CONTRAST

Adjust the contrast of the screen.



COLOR CONTROL

Color temperature affects the tint of the image. With lower color temperatures the image turns reddish and with higher temperatures bluish.

There are three color settings available: Mode 1(9300K), Mode 2(6500K) or USER. With the USER setting you can set individual values for red, green and blue.



POSITION

H POSITION

Adjusts the horizontal position of the entire screen image.

V POSITION

Adjusts the vertical position of the entire screen image.

**CLOCK PHASE****PHASE**

Adjust the noise of the screen image.

CLOCK

Adjust the horizontal size of the entire screen image.

**MISCELLANEOUS****RECALL**

Recall the saved color data.

OSD TIMER

You can set the displayed time of OSD Menu window on the screen by using this adjustment.

OSD POSITION

Adjust the OSD menu's horizontal or vertical position on the screen.

**AUTO COLOR**

Optimum color setting is auto programmed for user's convenience.

**LANGUAGE**

You can select the language in which adjustment menus are displayed. The following languages are available : English, French, German, Italian, Spanish, Swedish, Finnish, Danish, Portuguese, Dutch and Japanese or chinese.

**AUDIO****VOLUME**

Adjust the audio volume level.

AUDIO

This menu is used to choose audio on or off.

**AUTO ADJUST**

You can adjust the shape of screen automatically at the full screen pattern.

Getting Fine Picture

Step 1. At first Display, a full screen, such as, Window's background or "H" character should be achieved by using Editor (ex: Notepad. exe)

Step 2. Adjust the screen to the center of the Display(LCD), by using the top and bottom display controls. (i.e.Using V-Position Adjust menu)



Step 3. Adjust the screen to the center of the Display(LCD), by using the right and left display controls. (i.e.Using Clock and H-Position adjust menu)



Step 4. Adjust the Clock-phase until the "H" Character displays clear.



Step 5. Using the Contrast, Brightness, and Color Control menu, set the color to your preference.

Step 6. When you finish the adjustment, you can save your settings by pressing on the menu until the OSD screen has disappeared.

Factory Setting & EEPROM Initialization Method

Factory Setting Method

- Connect the signal cable and power cable to the LCD monitor.
- Press Power switch with pressed MENU key.(Menu key + Power key).
- Then, a User can change the factory setting value in OSD menu.
- Save changed value and Turn off the power s/w.
- Turn on the power, adjust the screen.

Specification

LCD Module	SIZE	17" Viewable diagonal
	Dot Pitch	0.264mm
	Brightness	260 cd/m ² (TYP)
	Response Time	16m- sec (Typ)
Input	Signal	R.G.B Analog
	Connector	15 pin D-SUB Connector
SYNC	H-Freq	31.0kHz ~ 80.0kHz
	V-Freq	56.0Hz ~ 75Hz
Display	Area	337.92(H)X270.336(V)mm
	Color	262K Colors
Resolution		1280 X 1024 @ 75Hz
Video Bandwidth		135MHZ
User Control & OSD Control		Contrast,Brightness, Position, Auto Color, Clock Phase, Color Control, Language, Auto Adjust, Miscellaneous, Audio Control
Power Management		VESA DPMS Standard
Plug & Play		VESA DDC 1/2B
Safety & Regulation	EMC	FCC CLASS B , CE , VCCI
	Safety	cULus, CE, TUV-GS, SEMKO
	Ergonomi	TCO'99
Temperature	Operating	5 to 35 °C
	Storage	- 5 to 45 °C
Humidity	Operating	30 to 80%(Non-condensing)
	Storage	5 to 90%(Non-condensing)
Weight	unpacked	3.8Kg
	packed	5.0Kg
Dimension(WXHXD mm)		372.5 X 398 X 185 mm

* Specification is subject to change without notice for performance improvement.

Critical Parts Specification

1. LCD Module

M170EN05(LTM170EU-L01, HT17E12-100) is a a-si TFT active matrix color liquid crystal comprising amorphous silicon TFT attached to each signal electrode, a driving circuit and a backlight.

M170EN05(LTM170EX-L01, HT17E12-100) has a built-in backlight display area contains 1280X1024 pixels and can display full color (262K colors)

Display area	337.92(H)X270.336(V)mm
Drive system	a-si TFT
Display color	262K Colors
Number of Pixel	1280X1024
Pixel arrangement	RGB vertical strip
Pixel pitch	0.264(H)X0.264(V)mm
Contrast Ratio*	450:1
Viewing angle*	
Horizontal:	70 degree, 70 degree
Vertical:	70 degree, 70 degree
Response time*	16ms(Typ)
Luminance*	260cd/m ² (Typ)
Signal system	Digital RGB signals, Sync signals(H, V-Sync), Dot clock(DCLK) , DE(Data Enable)
Supply voltage	5V
Backlight	Edge light type: Four colt cathode fluorescent lamps
power consumption	19.6W(TYP) CCFL

*: only M170EN05

Vendor	Type
Au Optronics	M170EN05
SamSung	LTM170EU-L01
Hydis	HT17E12-100

2) CONNECTIONS

Physical interface is described as for the connector on module.

These connectors are capable of accommodating the following signals and will be following components

Connector Name / Designation	Interface Connector / Interface card
Manufacturer	JAE or compatible
Type Parts Number	FI-X30S-HF
Mating Housing Part Number	FI-X30S-H

Connector Name / Designation	Lamp Connector / Backlight lamp
Manufacturer	JST
Type Parts Number	BHR-04VS-1
Mating Type Part Number	SM04(4.0)B-BHS-1-TB

3) Signal Pin

Pin#	Signal Name	Pin#	Signal Name
1	Rxo0-	2	Rxo0+
3	Rxo1-	4	Rxo1+
5	Rxo2-	6	Rxo2+
7	GND	8	RxoC-
9	RxoC+	10	Rxo3-
11	Rxo3+	12	RxE0-
13	RxEo+	14	GND
15	RxE1-	16	RxE1+
17	GND	18	RxE2-
19	RxE2+	20	RxEC-
21	RxEC+	22	RxE3-
23	RxE3+	24	GND
25	NC	26	NC
27	NC	28	Power
29	Power	30	Power

4) Signal Description

The module using a pair of LVDS receiver SN75LVDS82 (Texas Instruments) or compatible. LVDS is a differential signal technology for LCD interface and high speed data transfer device. Transmitter shall be SN75LVDS83(negative edge sampling)or compatible. The first LVDS port(RxOxxx)transmits odd pixels while the second LVDS port(RxExxx)transmits even pixels.

PIN #	SIGNAL NAME	DESCRIPTION
1	RxO0-	Negative LVDS differential data input (odd data)
2	RxO0+	Positive LVDS differential data input (odd data)
3	RxO1-	Negative LVDS differential data input (odd data)
4	RxO1+	Positive LVDS differential data input (odd data)
5	RxO2-	Negative LVDS differential data input (odd data, H-Sync, V-Sync,DSPTMG)
6	RxO2+	Positive LVDS differential data input (odd data, H-Sync, V-Sync,DSPTMG)
7	GND	Power Ground
8	RxOC-	Negative LVDS differential clock input (odd clock)
9	RxOC+	Positive LVDS differential clock input (odd clock)
10	RxO3-	Negative LVDS differential data input (odd data)
11	RxO3+	Positive LVDS differential data input (odd data)
12	RxE0-	Negative LVDS differential data input (Even clock)
13	RxE0+	Positive LVDS differential data input (Even data)
14	GND	Power Ground
15	RxE1-	Positive LVDS differential data input (Even data)
16	RxE1+	Negative LVDS differential data input (Even data)
17	GND	Power Ground
18	RxE2-	Negative LVDS differential data input (Even data)
19	RxE2+	Positive LVDS differential data input (Even data)
20	RxEC-	Negative LVDS differential clock input (Even clock)
21	RxEC+	Positive LVDS differential clock input (Even clock)
22	RxE3-	Negative LVDS differential data input (Even data)
23	RxE3+	Positive LVDS differential data input (Even data)
24	GND	Power Ground
25	NC	-
26	NC	-
27	NC	-
28	POWER	Power
29	POWER	Power
30	POWER	Power

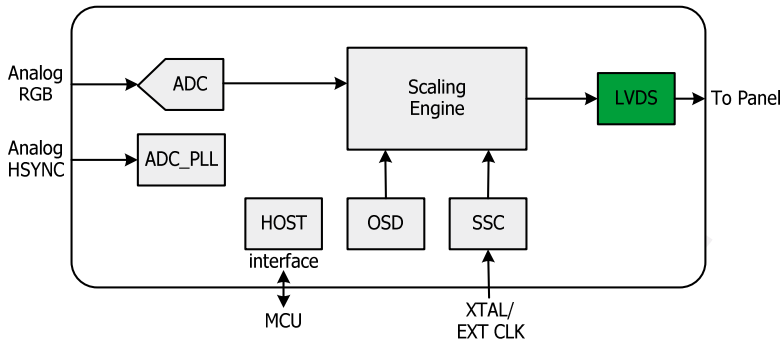
Note : Input signals of odd and even clock shall be the same timing.

LVDS DATA Name	DESCRIPTION
DSP	Display Timing : When the signal is high, the pixel data shall be valid to be displayed
V-S	Vertical Sync : Both Positive and Negative polarity are acceptable
H-S	Horizontal Sync : Both Positive and Negative polarity are acceptable

MST9111

GENERAL DESCRIPTION

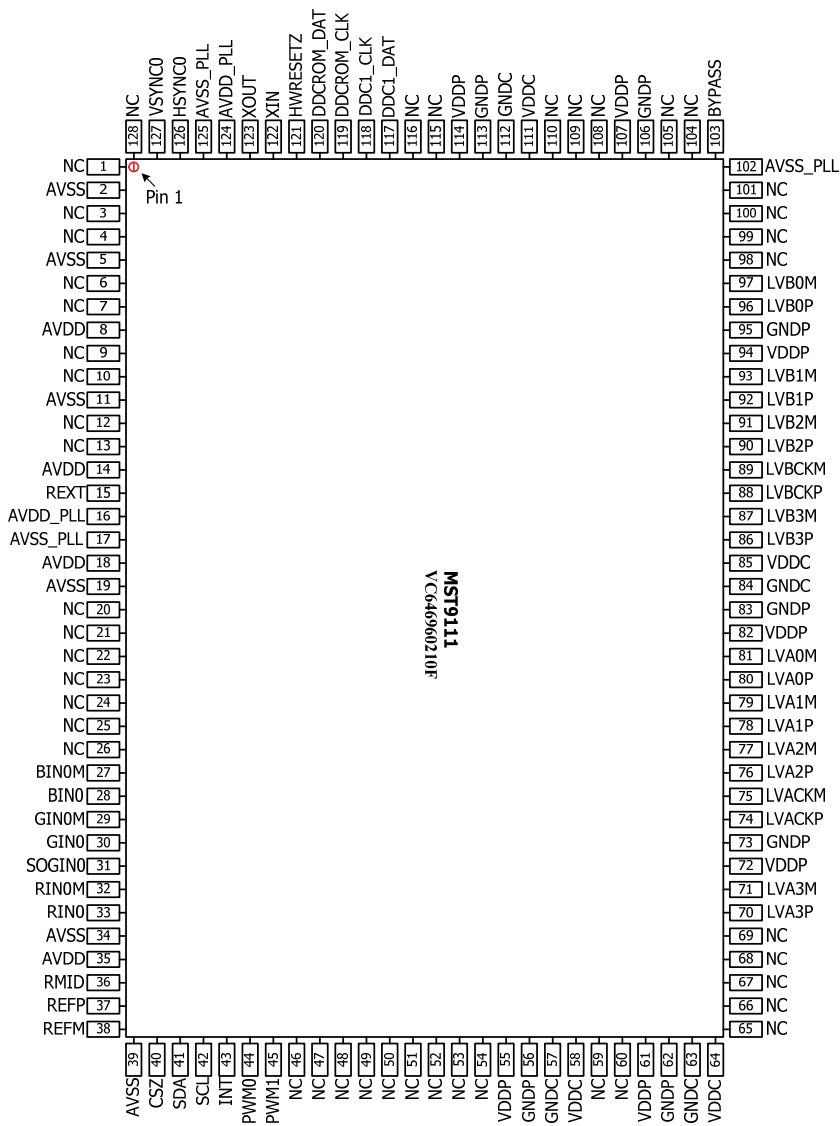
The MST9111 is a high performance, and fully integrated graphics processing IC solution for LCI monitors with resolutions up to SXGA. It is configured with an integrated triple-ADC/PLL, a high quality scaling engine, an on-screen display controller, a built-in output clock generator, and LVDS display interface. To further reduce system costs, the MST9111 also integrates intelligent power manager control capability for green-mode requirements and spread-spectrum support for EMI management.



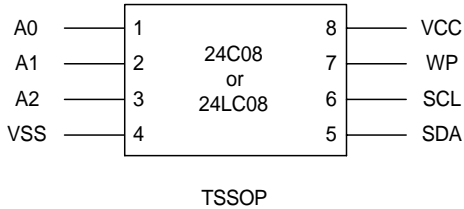
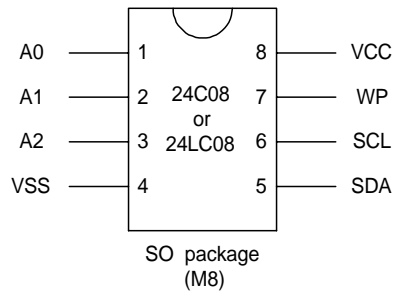
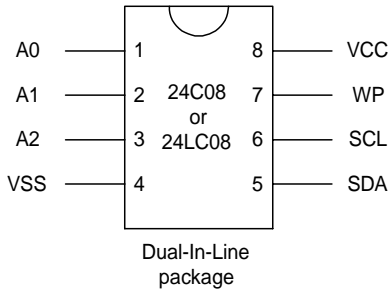
FEATURES

- High-quality zoom and shrink scaling engine (Compatible with VGA thru SXGA)
- Integrated 8-bit triple-ADC/PLL
- On-screen display controller (OSD)
- Support single-RGB inputs
- Built-in LVDS transmitter
- Support composite sync and SOG separator
- Programmable 10-bit gamma correction
- Integrated Brightness & Contrast control adjustment
- Support PWM backlight intensity control
- Support sRGB function
- Green PC and low EMI features
- Low standby power mode (< 5mA)
- High-Performance Scaling Engine**
 - Programmable shrink/zoom capabilities
 - High-quality scaling for all VESA and IBM mode to fit screen
 - Variable sharpness control
- Analog RGB Compliant Input Port**
 - Supports up to SXGA at 85Hz
 - Supports Composite Sync and SOG (Sync-on-Green) separator
- Auto-Detection/Tune**
 - Auto input signal format (SOG, Composite, Separated HSYNC, VSYNC, and DE), and input mode (all VESA & IBM modes w/ resolution and polarity) detection
 - Auto-tuning function including phasing, positioning, offset, gain, and jitter detection
 - Smart screen-fitting
- On-Screen OSD Controller**
 - Built-in OSD generator with 226 character font programmable RAM
 - Internal OSD rotation degree of 90 and 270
 - Gradient color function
 - Pattern generator for production test
 - Support OSD MUX and alpha blending capability
- LVDS Display Interface**
 - Dual pixel with max. output LVDS clock rate of 8: MHz
 - Support 2 data output formats: Thine & TI dat mappings
 - Compatible with TIA/EIA
 - With 6/8 bits options
 - Reduced swing for LVDS for low EMI
- External Connection/Component**
 - Built-in DDC circuit

PIN DIAGRAM



24LC08



Pin Name

A0, A1	N.C.
A2	Device Address inputs
Vss	Ground
SDA	Data I/O
SCL	Clock input
WP	Write Protect
Vcc	+ 5 V or + 3 V

3.0 ABSOLUTE MAXIMUM RATINGS

Storage Temperature.....-65°C to + 125°C
 Voltage with Respect to Ground.....-0.3 to + 6.5 V

NOTE: These are STRESS rating only. Appropriate conditions for operating these devices given elsewhere may permanently damage the part. Prolonged exposure to maximum ratings may affect device reliability.

4.0 OPERATING CONDITIONS

Temperature under bias: MTV24C08/24LC08.....0°C to + 70°C
 MTV24C08/24LC08-I.....-40°C to + 85°C

5.0 ELECTRICAL CHARACTERISTICS

DC ELECTRICAL CHARACTERISTICS

(V_{cc} =5V +/- 10% ,MTV24C08/24LC08° V_{cc} =3V +/- 10% ,24LC08)

Symbol	Parameter	Conditions	MTV24C08/ 24LC08		24LC08		Units
			Min	Max	Min	Max	
I _{CC1}	Operating Current (Program)	SCL = 100KHZ CMOS Input Levels	—	10	—	8	mA
I _{CC2}	Operating Current (Read)	SCL = 100KHZ CMOS Input Levels	—	2	—	2	mA
I _{SB}	Standby Current	SCL = SDA = 0 V	—	10	—	10	μA
I _{IL}	Input Leakage	V _{IN} = 0 V to V _{CC}	-1	+1	-1	+1	μA
I _{OL}	Output Leakage	V _{OUT} = 0 V to V _{CC}	-1	+1	-1	+1	μA
V _{IL}	Input Low Voltage		-0.1	0.8	-0.1	0.15 V _{CC}	V
V _{IH}	Input High Voltage		2	V _{CC} +0.2	0.8V _{CC}	V _{CC} +0.2	V
V _{OL1}	Output Low Voltage	I _{OL} = 2.1mA TTL	—	0.4	—	0.4	V
V _{OH1}	Output High Voltage	I _{OH} = -400uA TTL	2.4	—	2.4	—	V
V _{OL2}	Output Low Voltage	I _{OL} = 10uA CMOS	—	0.2	—	0.2	V
V _{OH2}	Output High Voltage	I _{OH} = -10uA CMOS	V _{CC} -0.2	—	V _{CC} -0.2	—	V
V _{LK}	V _{CC} Lockout Voltage	Programming Command Can Be Executed	Default	—	Default	—	V

6.0 SWITCHING CHACTERISTICS (Under Operating Conditions)

AC ELECTRICAL CHARACTERISTICS

(V_{cc} =5V +/- 10% , MTV24C08° V_{cc} =3V +/- 10% ,24LC08)

(V_{cc} =5V +/- 10% , MTV24C08 Fast Mode)

Parameter	Symbol	MTV24C08/ 24LC08		MTV24C08 (Fast Mode)		Units
		Min	Max	Min	Max	
Clock frequency	Fscl	0	100	—	400	kHz
Clock high time	Thigh	4000	—	600	—	ns
Clock low time	Tlow	4700	—	1200	—	ns
SDA and SCL rise time	Tr	—	1000	—	300	ns
SDA and SCL fall time	Tf	—	300	—	300	ns
START condition hold time	Thd:Sta	4000	—	600	—	ns
START condition setup time	Tsu:Sta	4700	—	600	—	ns
Data input hold time	Thd:Dat	0	—	0	—	ns
Data input setup time	Tsu:Dat	250	—	100	—	ns
STOP condition setup time	Tsu:Sto	4000	—	600	—	ns
Output valid from clock	Taa	300	3500	100	900	ns
Bus free time	Tbuf	4700	—	1200	—	ns
Data out hold time	Tdh	300	—	50	—	ns
Input filter spike suppression (SDA and SCL pins)	Tsp	—	100	—	50	ns
Write cycle time	Twr	—	10	—	10	ms

CAPACITANCE TA= 25°C , f=250KHZ

Symbol	Parameter	Max	Units
_{UT} C _o	Output capacitance	5	pF
C _{IN}	Input capacitance	5	pF

A.C. Conditions of Test

Input Pulse Levels	Vcc x 0.1 to Vcc x 0.9
Input Rise and Fall times	10 ns
Input and Output Timing level	Vcc x 0.5
Output Load	1 TTL Gate and CL = 100pf

RC1117X2.5

1A Adjustable/Fixed Low Dropout Linear Regulator

Features

- Low dropout voltage
- Load regulation: 0.05% typical
- Trimmed current limit
- On-chip thermal limiting
- Standard SOT-223, TO-263, and TO-252 packages
- Three-terminal adjustable or fixed 2.5V, 2.85V, 3.3V, 5V

Applications

- Active SCSI terminators
- High efficiency linear regulators
- Post regulators for switching supplies
- Battery chargers
- 5V to 3.3V linear regulators
- Motherboard clock supplies

Description

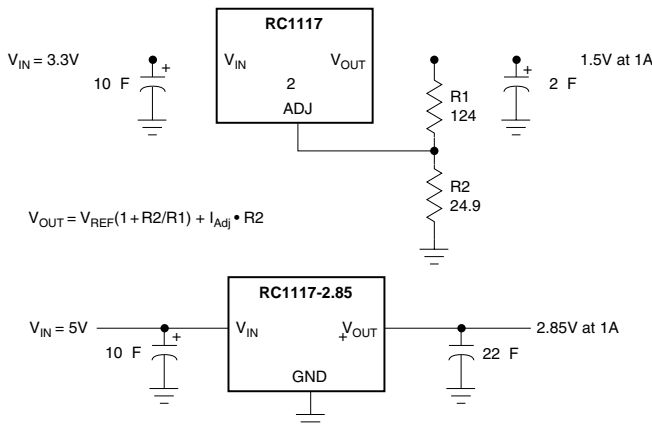
The RC1117 and RC1117-2.5, -2.85, -3.3 and -5 are low dropout three-terminal regulators with 1A output current capability. These devices have been optimized for low voltage where transient response and minimum input voltage are critical. The 2.85V version is designed specifically to be used in Active Terminators for SCSI bus.

Current limit is trimmed to ensure specified output current and controlled short-circuit current. On-chip thermal limiting provides protection against any combination of overload and ambient temperatures that would create excessive junction temperatures.

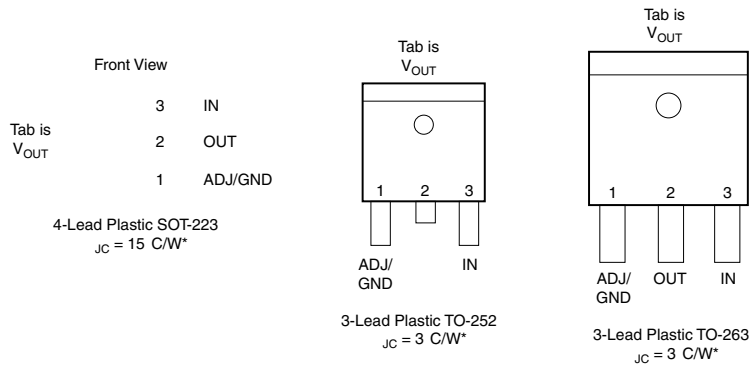
Unlike PNP type regulators where up to 10% of the output current is wasted as quiescent current, the quiescent current of the RC1117 flows into the load, increasing efficiency.

The RC1117 series regulators are available in the industry-standard SOT-223, TO-263 (D2PAK), and TO-252 (DPAK) power packages.

Typical Applications



Pin Assignments



*With package soldered to 0.5 square inch copper area over backside ground plane or internal power plane., J_A can vary from 30°C/W to more than 50°C/W. Other mounting techniques may provide better thermal resistance than 30°C/W.

Absolute Maximum Ratings

Parameter	Min.	Max.	Unit
V_{IN}		7.5	V
Operating Junction Temperature Range	0	125	C
Storage Temperature Range	-65	150	C
Lead Temperature (Soldering, 10 sec.)		300	C

Electrical Characteristics

Operating Conditions: $V_{IN} = 7V$, $T_J = 25^\circ C$ unless otherwise specified.

The \square denotes specifications which apply over the specified operating temperature range.

Parameter	Conditions	Min.	Typ.	Max.	Units
Reference Voltage, V_{REF} ³	1.5V ($V_{IN} - V_{OUT}$) 5.75V, 10mA I_{OUT} 1A	1.225 (-2%)	1.250	1.275 (+2%)	V
Output Voltage	10mA I_{OUT} 1A RC1117-2.5, 4V V_{IN} 7V RC1117-2.85, 4.35V V_{IN} 7V RC1117-3.3, 4.8V V_{IN} 7V RC1117-5, 6.5V V_{IN} 7V	2.450 2.793 3.234 4.900	2.5 2.85 3.3 5.0	2.550 2.907 3.366 5.100	V V V V
Line Regulation ^{1,2}	($V_{OUT} + 1.5V$) V_{IN} 7V, $I_{OUT} = 10mA$		0.005	0.2	%
Load Regulation ^{1,2}	($V_{IN} - V_{OUT}$) = 2V, 10mA I_{OUT} 1A		0.05	0.5	%
Dropout Voltage	$V_{REF} = 1\%$, $I_{OUT} = 1A$		1.100	1.200	V
Current Limit	($V_{IN} - V_{OUT}$) = 2V	1.1	1.5		A
Adjust Pin Current, I_{Adj} ³			35	120	A
Adjust Pin Current Change ³	1.5V ($V_{IN} - V_{OUT}$) 5.75, 10mA I_{OUT} 1A		0.2	5	A
Minimum Load Current	1.5V ($V_{IN} - V_{OUT}$) 5.75	10			mA
Quiescent Current	$V_{IN} = V_{OUT} + 1.25V$		4	13	mA
Ripple Rejection	f = 120Hz, $C_{OUT} = 22$ F Tantalum, ($V_{IN} - V_{OUT}$) = 3V, $I_{OUT} = 1A$	60	72		dB
Thermal Regulation	$T_A = 25$ C, 30ms pulse		0.004	0.02	%/W
Temperature Stability			0.5		%
Long-Term Stability	$T_A = 125$ C, 1000hrs.		0.03	1.0	%
RMS Output Noise (% of V_{OUT})	$T_A = 25$ C, 10Hz f 10kHz		0.003		%
Thermal Resistance, Junction to Case	SOT-223		15		C/W
	TO-252, TO-263		3		C/W
Thermal Shutdown	Junction Temperature		155		C
Thermal Shutdown Hysteresis			10		C

Notes:

1. See thermal regulation specifications for changes in output voltage due to heating effects. Load and line regulation are measured at a constant junction temperature by low duty cycle pulse testing.
2. Line and load regulation are guaranteed up to the maximum power dissipation (18W). Power dissipation is determined by input/output differential and the output current. Guaranteed maximum output power will not be available over the full input/output voltage range.
3. RC1117 only.

RC1117-3.3

1A Adjustable/Fixed Low Dropout Linear Regulator

Features

- Low dropout voltage
- Load regulation: 0.05% typical
- Trimmed current limit
- On-chip thermal limiting
- Standard SOT-223, TO-263, and TO-252 packages
- Three-terminal adjustable or fixed 2.5V, 2.85V, 3.3V, 5V

Applications

- Active SCSI terminators
- High efficiency linear regulators
- Post regulators for switching supplies
- Battery chargers
- 5V to 3.3V linear regulators
- Motherboard clock supplies

Description

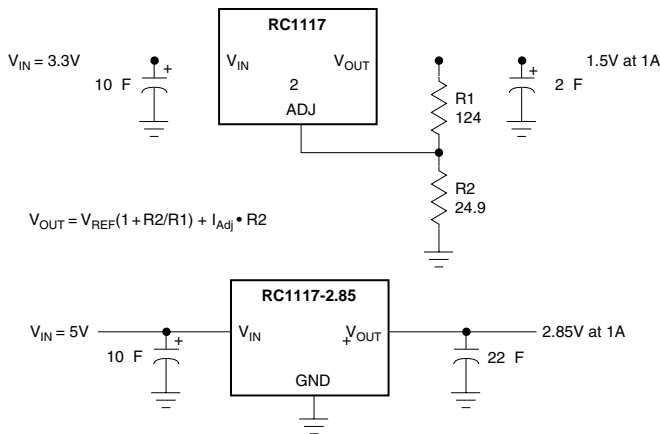
The RC1117 and RC1117-2.5, -2.85, -3.3 and -5 are low dropout three-terminal regulators with 1A output current capability. These devices have been optimized for low voltage where transient response and minimum input voltage are critical. The 2.85V version is designed specifically to be used in Active Terminators for SCSI bus.

Current limit is trimmed to ensure specified output current and controlled short-circuit current. On-chip thermal limiting provides protection against any combination of overload and ambient temperatures that would create excessive junction temperatures.

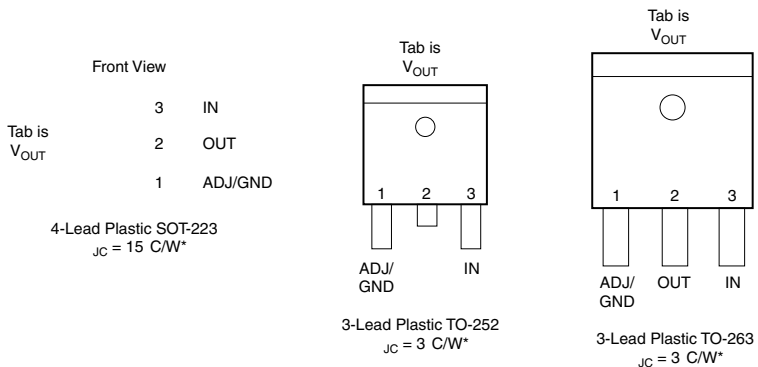
Unlike PNP type regulators where up to 10% of the output current is wasted as quiescent current, the quiescent current of the RC1117 flows into the load, increasing efficiency.

The RC1117 series regulators are available in the industry-standard SOT-223, TO-263 (D2PAK), and TO-252 (DPAK) power packages.

Typical Applications



Pin Assignments



*With package soldered to 0.5 square inch copper area over backside ground plane or internal power plane., J_A can vary from 30°C/W to more than 50°C/W. Other mounting techniques may provide better thermal resistance than 30°C/W.

Absolute Maximum Ratings

Parameter	Min.	Max.	Unit
V_{IN}		7.5	V
Operating Junction Temperature Range	0	125	C
Storage Temperature Range	-65	150	C
Lead Temperature (Soldering, 10 sec.)		300	C

Electrical Characteristics

Operating Conditions: $V_{IN} = 7V$, $T_J = 25^\circ C$ unless otherwise specified.

The \varnothing denotes specifications which apply over the specified operating temperature range.

Parameter	Conditions	Min.	Typ.	Max.	Units
Reference Voltage, V_{REF}^3	1.5V ($V_{IN} - V_{OUT}$) 5.75V, 10mA I_{OUT} 1A	1.225 (-2%)	1.250	1.275 (+2%)	V
Output Voltage	10mA I_{OUT} 1A RC1117-2.5, 4V V_{IN} 7V RC1117-2.85, 4.35V V_{IN} 7V RC1117-3.3, 4.8V V_{IN} 7V RC1117-5, 6.5V V_{IN} 7V	2.450 2.793 3.234 4.900	2.5 2.85 3.3 5.0	2.550 2.907 3.366 5.100	V V V V
Line Regulation ^{1,2}	$(V_{OUT} + 1.5V)$ V_{IN} 7V, $I_{OUT} = 10mA$		0.005	0.2	%
Load Regulation ^{1,2}	$(V_{IN} - V_{OUT}) = 2V$, 10mA I_{OUT} 1A		0.05	0.5	%
Dropout Voltage	$V_{REF} = 1\%$, $I_{OUT} = 1A$		1.100	1.200	V
Current Limit	$(V_{IN} - V_{OUT}) = 2V$	1.1	1.5		A
Adjust Pin Current, I_{Adj}^3			35	120	A
Adjust Pin Current Change ³	1.5V ($V_{IN} - V_{OUT}$) 5.75, 10mA I_{OUT} 1A		0.2	5	A
Minimum Load Current	1.5V ($V_{IN} - V_{OUT}$) 5.75	10			mA
Quiescent Current	$V_{IN} = V_{OUT} + 1.25V$		4	13	mA
Ripple Rejection	$f = 120Hz$, $C_{OUT} = 22$ F Tantalum, $(V_{IN} - V_{OUT}) = 3V$, $I_{OUT} = 1A$	60	72		dB
Thermal Regulation	$T_A = 25$ C, 30ms pulse		0.004	0.02	%/W
Temperature Stability			0.5		%
Long-Term Stability	$T_A = 125$ C, 1000hrs.		0.03	1.0	%
RMS Output Noise (% of V_{OUT})	$T_A = 25$ C, 10Hz f 10kHz		0.003		%
Thermal Resistance, Junction to Case	SOT-223 TO-252, TO-263		15 3		C/W C/W
Thermal Shutdown	Junction Temperature		155		C
Thermal Shutdown Hysteresis			10		C

Notes:

1. See thermal regulation specifications for changes in output voltage due to heating effects. Load and line regulation are measured at a constant junction temperature by low duty cycle pulse testing.
2. Line and load regulation are guaranteed up to the maximum power dissipation (18W). Power dissipation is determined by input/output differential and the output current. Guaranteed maximum output power will not be available over the full input/output voltage range.
3. RC1117 only.

SI4435

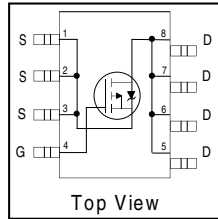
PD- 93768A



Si4435DY

HEXFET[®] Power MOSFET

- Ultra Low On-Resistance
- P-Channel MOSFET
- Surface Mount
- Available in Tape & Reel

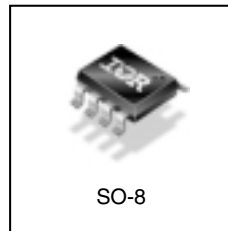


$V_{DSS} = -30V$
$R_{DS(on)} = 0.020\Omega$

Description

These P-channel HEXFET[®] Power MOSFETs from International Rectifier utilize advanced processing techniques to achieve the extremely low on-resistance per silicon area. This benefit provides the designer with an extremely efficient device for use in battery and load management applications..

The SO-8 has been modified through a customized leadframe for enhanced thermal characteristics and multiple-die capability making it ideal in a variety of power applications. With these improvements, multiple devices can be used in an application with dramatically reduced board space. The package is designed for vapor phase, infrared, or wave soldering techniques.



Absolute Maximum Ratings

	Parameter	Max.	Units
V_{DS}	Drain- Source Voltage	-30	V
$I_D @ T_A = 25^{\circ}C$	Continuous Drain Current, $V_{GS} @ -10V$	-8.0	A
$I_D @ T_A = 70^{\circ}C$	Continuous Drain Current, $V_{GS} @ -10V$	-6.4	
I_{DM}	Pulsed Drain Current \bar{A}	-50	
$P_D @ T_A = 25^{\circ}C$	Power Dissipation	2.5	W
$P_D @ T_A = 70^{\circ}C$	Power Dissipation	1.6	
	Linear Derating Factor	0.02	W/ $^{\circ}C$
V_{GS}	Gate-to-Source Voltage	± 20	V
T_J, T_{STG}	Junction and Storage Temperature Range	-55 to + 150	$^{\circ}C$

Thermal Resistance

	Parameter	Max.	Units
$R_{\theta JA}$	Maximum Junction-to-Ambient \bar{E}	50	$^{\circ}C/W$


Si4435DY

International
IR Rectifier

Electrical Characteristics @ T_J = 25°C (unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Conditions
V _{(BR)DSS}	Drain-to-Source Breakdown Voltage	-30	ñññ	ñññ	V	V _{GS} = 0V, I _D = -250µA
ΔV _{(BR)DSS} /ΔT _J	Breakdown Voltage Temp. Coefficient	ñññ	-0.019	ñññ	V/°C	Reference to 25°C, I _b = -1mA
R _{DS(on)}	Static Drain-to-Source On-Resistance	ñññ	0.015	0.020	Ω	V _{GS} = -10V, I _D = -8.0A Ç
V _{GS(th)}	Gate Threshold Voltage	ñññ	0.026	0.035	Ω	V _{GS} = -4.5V, I _D = -5.0A Ç
g _{fs}	Gate Transconductance	-1.0	ñññ	ñññ	V	V _{DS} = V _{GS} , I _D = -250µA
I _{DSS}	Drain-to-Source Leakage Current	ñññ	11	ñññ	S	V _{DS} = -15V, I _D = -8.0A
I _{GSS}	Gate-to-Source Forward Leakage	ñññ	ñññ	-10	µA	V _{DS} = -24V, V _{GS} = 0V
	Gate-to-Source Reverse Leakage	ñññ	ñññ	-10	µA	V _{DS} = -15V, V _{GS} = 0V, T _J = 70°C
Q _g	Total Gate Charge	ñññ	ñññ	100	nA	V _{GS} = -20V
Q _{gs}	Gate-to-Source Charge	ñññ	ñññ	100	nA	V _{GS} = 20V
Q _{gd}	Gate-to-Drain ("Miller") Charge	ñññ	ñññ	100	nA	I _D = -4.6A
t _{d(on)}	Turn-On Delay Time	ñññ	7.1	ñññ	nC	V _{DS} = -15V
t _r	Rise Time	ñññ	8.0	ñññ	nC	V _{GS} = -10V Ç
t _{d(off)}	Turn-Off Delay Time	ñññ	16	24	ns	V _{DD} = -15V, V _{GS} = -10V Ç
t _f	Fall Time	ñññ	76	110	ns	I _D = -1.0A
C _{iss}	Input Capacitance	ñññ	130	200	ns	R _G = 6.0Ω
C _{oss}	Output Capacitance	ñññ	90	140	ns	R _D = 15Ω
C _{rss}	Reverse Transfer Capacitance	ñññ	2320	ñññ	pF	V _{GS} = 0V
		ñññ	390	ñññ	pF	V _{DS} = -15V
		ñññ	270	ñññ	pF	É = 1.0kHz

Source-Drain Ratings and Characteristics

	Parameter	Min.	Typ.	Max.	Units	Conditions
I _S	Continuous Source Current (Body Diode)	ñññ	ñññ	-2.5	A	MOSFET symbol showing the integral reverse p-n junction diode. 
I _{SM}	Pulsed Source Current (Body Diode) Ä	ñññ	ñññ	-50		
V _{SD}	Diode Forward Voltage	ñññ	ñññ	-1.2	V	T _J = 25°C, I _b = -2.5A, V _{GS} = 0V Ç
t _{rr}	Reverse Recovery Time	ñññ	34	51	ns	T _J = 25°C, I _b = -2.5A
Q _{rr}	Reverse Recovery Charge	ñññ	33	50	nC	di/dt = -100A/µs Ç

Notes:

Ä Repetitive rating; pulse width limited by max. junction temperature.

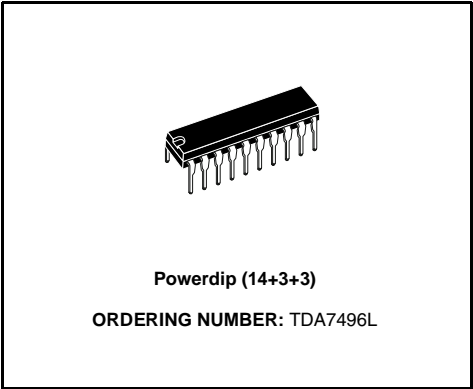
É Surface mounted on FR-4 board, t ≤ 5sec.

Ç Pulse width ≤ 300µs; duty cycle ≤ 2%.

TDA7496L

2W+2W AMPLIFIER WITH DC VOLUME CONTROL

- 2W+2W OUTPUT POWER
 $R_L = 8\Omega$ @THD = 10% $V_{CC} = 14V$
- ST-BY AND MUTE FUNCTIONS
- LOW TURN-ON TURN-OFF POP NOISE
- LINEAR VOLUME CONTROL DC COUPLED WITH POWER OP. AMP.
- NO BOUCHEROT CELL
- NO ST-BY RC INPUT NETWORK
- SINGLE SUPPLY RANGING UP TO 15V
- SHORT CIRCUIT PROTECTION
- THERMAL OVERLOAD PROTECTION
- INTERNALLY FIXED GAIN
- SOFT CLIPPING
- VARIABLE OUTPUT AFTER VOLUME CONTROL CIRCUIT
- POWERDIP (14+3+3) PACKAGE



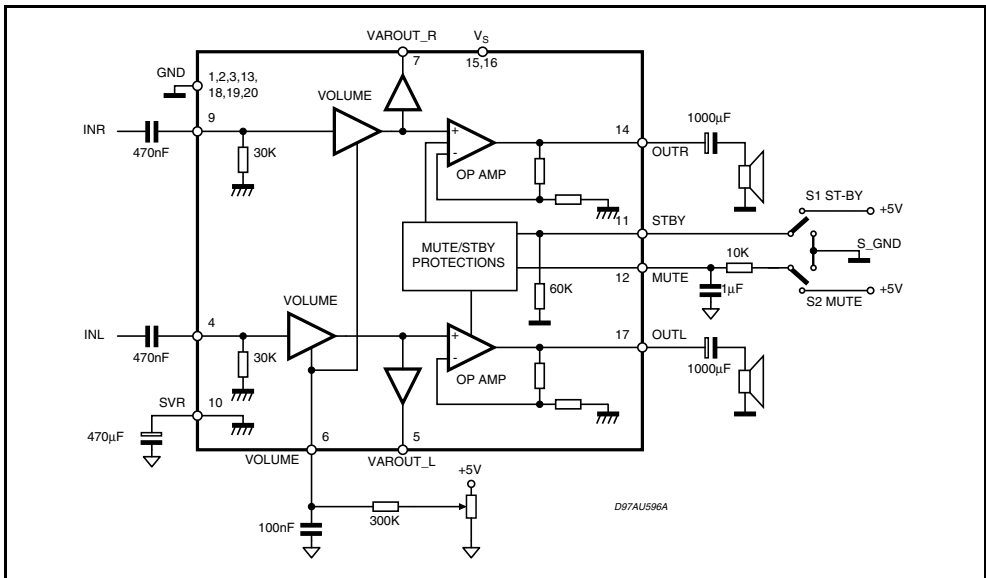
DESCRIPTION

The TDA7496L is a stereo 2W+2W class AB power amplifier assembled in the @ Powerdip

14+3+3 package, specially designed for high quality sound, TV and Monitor applications.

Features of the TDA7496L include linear volume control, Stand-by and mute functions.

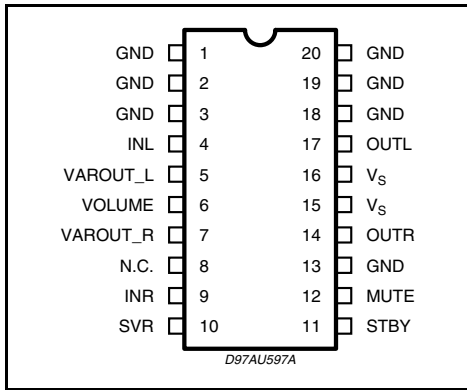
BLOCK DIAGRAM



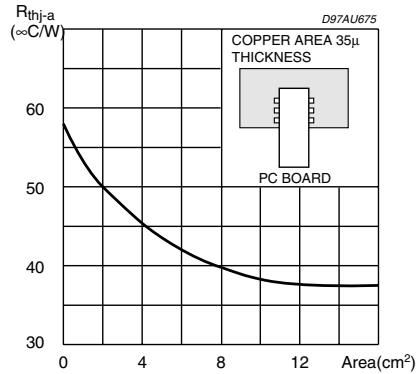
ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _S	DC Supply Voltage	26	V
V _{IN}	Maximum Input Voltage	8	V _{pp}
P _{tot}	Total Power Dissipation (T _{case} = 60°C)	6	W
T _{amb}	Ambient Operating Temperature	0 to 70	°C
T _{stg} , T _j	Storage and Junction Temperature	-40 to 150	°C
V ₆	Volume CTRL DC voltage	7	V

PIN CONNECTION



R_{th} with "on board" Square Heatsink vs. copper area.



THERMAL DATA

Symbol	Parameter	Value	Unit
R _{th j-pins}	Thermal Resistance Junction-pins	max. 15	°C/W
R _{th j-amb} (*)	Thermal Resistance Junction-ambient	max. 50	°C/W

(*) Mounted on PCB with no heatsink

ELECTRICAL CHARACTERISTICS (Refer to the test circuit V_S = 14V; R_L = 8Ω, R_G = 50Ω, T_{amb} = 25°C).

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V _S	Supply Voltage Range		10		18	V
I _q	Total Quiescent Current			25	50	mA
DCVos	Output DC Offset Referred to SVR Potential	No Input Signal		200		mV
V _o	Quiescent Output Voltage			7		V
P _o	Output Power	THD = 10%; R _L = 8Ω; 1	.6	2		W
		THD = 1%; R _L = 8Ω; 1		.3		W
THD	Total Harmonic Distortion	G _v = 30dB; P _o = 1W; f = 1KHz;			0.4	%
I _{peak}	Output Peak Current	(internally limited)	0.7	0.9		A
V _{in}	Input Signal				2.8	V _{rms}
G _v	Closed Loop Gain	Vol Ctrl > 4.5V	28.5	30	31.5	dB
G _{vLine}	Monitor Out Gain	Vol Ctrl > 4.5V; Zload > 30KΩ	-1.5	0	1.5	dB
A _{min VOL}	Attenuation at Minimum Volume	Vol Ctrl < 0.5V	80			dB
BW				0.6		MHz

ELECTRICAL CHARACTERISTICS (continued)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
eN	Total Output Noise	f = 20Hz to 22KHz Play, max volume		500	800	μV
		f = 20Hz to 22KHz Play, max attenuation		100	250	μV
		f = 20Hz to 22KHz Mute		60	150	μV
SR	Slew Rate		5	8		V/μs
R _i	Input Resistance		22.5	30		KΩ
R _{Var Out}	Variable Output Resistance			30	100	Ω
R _{load Var Out}	Variable Output Load		2			KΩ
SVR	Supply Voltage Rejection	f = 1kHz; max volume C _{SVR} = 470μF; V _{RIP} = 1V _{rms}	35	39		dB
		f = 1kHz; max attenuation C _{SVR} = 470μF; V _{RIP} = 1V _{rms}	55	65		dB
T _M	Thermal Muting			150		°C
T _s	Thermal Shut-down			160		°C

MUTE STAND-BY & INPUT SELECTION FUNCTIONS

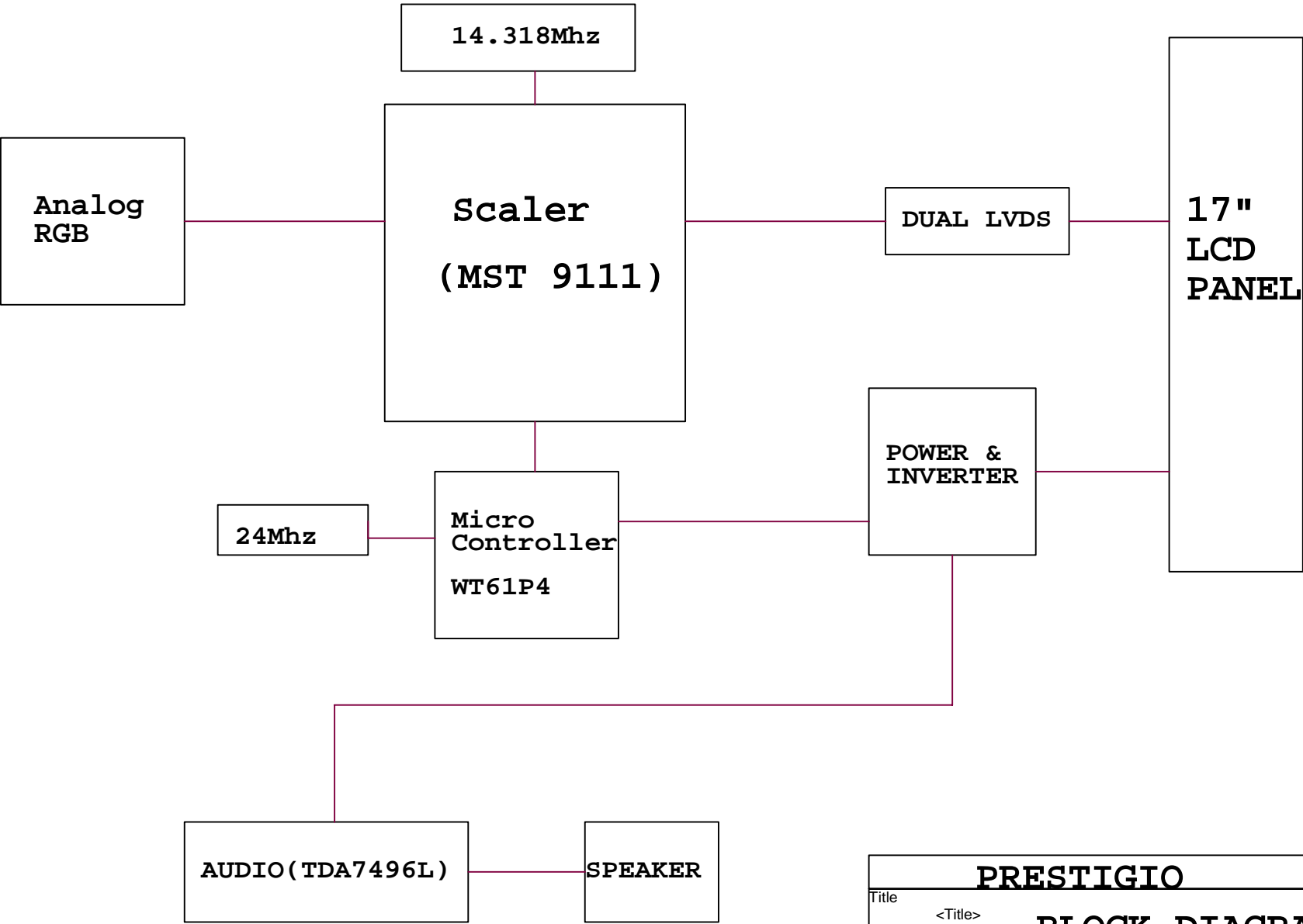
V _{ST ON}	Stand-by ON Threshold		3.5			V
V _{ST OFF}	Stand-by OFF Threshold				1.5	V
V _{M ON}	Mute ON Threshold		3.5			V
V _{M OFF}	Mute OFF Threshold				1.5	V
I _{qST-BY}	Quiescent Current @ Stand-by			0.6	1	mA
A _{MUTE}	Mute Attenuation		50	65		dB
I _{stbyBIAS}	Stand-by bias current	Stand by on V _{ST-BY} = 5V V _{MUTE} = 5V		80		μA
		Play or Mute	-20	-5		μA
I _{muteBIAS}	Mute bias current	Mute		1	5	μA
		Play		0.2	2	μA

APPLICATION SUGGESTIONS

The recommended values of the external components are those shown on the application circuit of figure 1A. Different values can be used, the following table can help the designer.

COMPONENT	SUGGESTION VALUE	PURPOSE	LARGER THAN SUGGESTION	SMALLER THAN SUGGESTION
R1	300K	Volume control circuit	Larger volume regulation time	Smaller volume regulation time
R2	10K	Mute time constant	Larger mute on/off time	Smaller mute on/off time
P1	50K	Volume control circuit		
C1	1000μF	Supply voltage bypass		Danger of oscillation
C2	470nF	Input DC decoupling	Lower low frequency cutoff	Higher low frequency cutoff
C3	470nF	Input DC decoupling	Lower low frequency cutoff	Higher low frequency cutoff
C4	470μF	Ripple rejection	Better SVR	Worse SVR
C5	100nF	Volume control time constant	Larger volume regulation time	Smaller volume regulation time
C6	1000μF	Output DC decoupling	Lower low frequency cutoff	Higher low frequency cutoff
C7	1μF	Mute time constant	Larger mute on/off time	Smaller mute on/off time
C8	1000μF	Output DC decoupling	Lower low frequency cutoff	Higher low frequency cutoff
C9	100nF	Supply voltage bypass		Danger of oscillation

BLOCK DIAGRAM
MODEL NAME : L70S



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BLOCK DIAGRAM		
Size A	Document Number <Doc>	Rev
P171		
Date:	Monday, March 17, 2003	Sheet 1 of 1

PART LIST

NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
1	C1	2011010014	CAP-AL-C,100UF 16V M 6357	
2	C10	2012200005	CAP-AL-C,22UF 16V M 5052	
3	C11	2012200005	CAP-AL-C,22UF 16V M 5052	
4	C12	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
5	C15	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
6	C17	2012200005	CAP-AL-C,22UF 16V M 5052	
7	C18	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
8	C2	2011010014	CAP-AL-C,100UF 16V M 6357	
9	C20	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
10	C21	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
11	C22	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
12	C24	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
13	C28	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
14	C29	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
15	C30	2125090017	CAP-C-C,5PF 50V J COG 1608	
16	C31	2122210028	CAP-C-C,220PF 50V J COG 1608	
17	C32	2011000006	CAP-AL-C,10UF 16V M 4052	
18	C33	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
19	C34	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
20	C35	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
21	C36	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
22	C37	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
23	C38	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
24	C39	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
25	C4	2014700009	CAP-AL-C,47UF 16V M 6352	
26	C40	2011000006	CAP-AL-C,10UF 16V M 4052	
27	C41	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
28	C42	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
29	C43	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
30	C44	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
31	C45	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
32	C46	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
33	C47	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
34	C48	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
35	C49	2011000006	CAP-AL-C,10UF 16V M 4052	
36	C5	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
37	C50	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
38	C51	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
39	C52	2011000006	CAP-AL-C,10UF 16V M 4052	
40	C53	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
41	C54	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
42	C55	CC7FCA1H220J	CAP-CC,22PF 50V J 1608	
43	C56	2011000006	CAP-AL-C,10UF 16V M 4052	
44	C57	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	

NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
45	C58	CC7FCA1H220J	CAP-CC,22PF 50V J 1608	
46	C59	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
47	C60	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
48	C61	2014700009	CAP-AL-C,47UF 16V M 6352	
49	C62	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
50	C63	CC7FCA1H220J	CAP-CC,22PF 50V J 1608	
51	C64	2014700009	CAP-AL-C,47UF 16V M 6352	
52	C65	CC7FCA1H220J	CAP-CC,22PF 50V J 1608	
53	C66	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
54	C67	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
55	C68	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
56	C7	2012200005	CAP-AL-C,22UF 16V M 5052	
57	C70	2124710037	CAP-C-C,470PF 50V J COG 1608	
58	C73	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
59	C74	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
60	C75	2014700009	CAP-AL-C,47UF 16V M 6352	
61	C76	2124740025	CAP-C-C,0.47UF 50V Z Y5V 1608	
62	C77	2124740025	CAP-C-C,0.47UF 50V Z Y5V 1608	
63	C78	2013310001	CAP-AL-C,330UF 16V M 8010	
64	C79	2011000006	CAP-AL-C,10UF 16V M 4052	
65	C8	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
66	C80	2013310001	CAP-AL-C,330UF 16V M 8010	
67	C81	RK1JC0T0000J	RES-C,0 0.063W J 1608	
68	C82	RK1JC0T0000J	RES-C,0 0.063W J 1608	
69	C83	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
70	C84	2012210009	CAP-AL-C,220UF 10V M 6.3x7.5 8	
71	C9	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
72	CN1	E4204307601A	CONN,D-SUB 15P FEMALE STICK	
73	CN2	372010139501	CONN-M,SMAW200-12P	
74	CON1	3725005292	INVERTER CABLE, L50S/L70S	
75	CON4	3720101983	CONN-M,12507WR-30A00 30	
76	D1	3100100038	DI-AR,KDS226 SMD	
77	D2	3100100038	DI-AR,KDS226 SMD	
78	D3	3100100038	DI-AR,KDS226 SMD	
79	D4	3101000376	DI-ZN,ZO2W6.2V SMD	
80	D5	3101000376	DI-ZN,ZO2W6.2V SMD	
81	D6	3101000376	DI-ZN,ZO2W6.2V SMD	
82	D7	3101000376	DI-ZN,ZO2W6.2V SMD	
83	D8	3101000376	DI-ZN,ZO2W6.2V SMD	
84	J1	3721101253	CONN-F, AUDIO INPUT JACK	
85	J2	3721101252	CONN-F, HEAD PHONE JACK	
86	L10	3540800054	COR-CHP,HB-1M1608-600JT	
87	L11	3540800054	COR-CHP,HB-1M1608-600JT	
88	Q2	TT2N3904D	TR,SMD 2N3904D TAPPING	
89	Q5	TT2N3904D	TR,SMD 2N3904D TAPPING	
90	R1	RK1JC0T0000J	RES-C,0 0.063W J 1608	
91	R10	RK1JC0T0000J	RES-C,0 0.063W J 1608	

NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
92	R11	RK1JC0T0101J	RES-C,100 0.063W J 1608	
93	R12	RK1JC0T0000J	RES-C,0 0.063W J 1608	
94	R13	RK1JC0T0000J	RES-C,0 0.063W J 1608	
95	R14	RK1JC0T0101J	RES-C,100 0.063W J 1608	
96	R15	RK1JC0T0000J	RES-C,0 0.063W J 1608	
97	R16	RK1JC0T0000J	RES-C,0 0.063W J 1608	
98	R17	2607509010	RES-C,75 0.063W F 1608	
99	R18	2607509010	RES-C,75 0.063W F 1608	
100	R19	RK1JC0T0101J	RES-C,100 0.063W J 1608	
101	R2	RK1JC0T0000J	RES-C,0 0.063W J 1608	
102	R20	RK1JC0T0000J	RES-C,0 0.063W J 1608	
103	R21	2607509010	RES-C,75 0.063W F 1608	
104	R22	RK1JC0T0101J	RES-C,100 0.063W J 1608	
105	R23	RK1JC0T0000J	RES-C,0 0.063W J 1608	
106	R24	RK1JC0T0101J	RES-C,100 0.063W J 1608	
107	R25	RK1JC0T0000J	RES-C,0 0.063W J 1608	
108	R26	2602009011	RES-C,20 0.063W J 1608	
109	R27	RK1JC0T0000J	RES-C,0 0.063W J 1608	
110	R28	RK1JC0T0000J	RES-C,0 0.063W J 1608	
111	R29	RK1JC0T0101J	RES-C,100 0.063W J 1608	
112	R34	RK1JC0T0101J	RES-C,100 0.063W J 1608	
113	R36	RK1JC0T0472J	RES-CHIP 4.7K J 1/16W 1608	
114	R39	RK1JC0T0000J	RES-C,0 0.063W J 1608	
115	R4	RK1JC0T0102J	RES-C,1K 0.063W J 1608	
116	R42	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
117	R43	2608201013	RES-C,8.2K 0.1W J 1608	
118	R44	RK1JC0T0472J	RES-CHIP 4.7K J 1/16W 1608	
119	R45	RK1JC0T0105J	RES-C,1M 0.063W J 1608	
120	R46	2602000010	RES-C,200 0.063W J 1608	
121	R47	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
122	R48	RK1JC0T0472J	RES-CHIP 4.7K J 1/16W 1608	
123	R49	RK1JC0T0472J	RES-CHIP 4.7K J 1/16W 1608	
124	R50	RK1JC0T0472J	RES-CHIP 4.7K J 1/16W 1608	
125	R51	RK1JC0T0101J	RES-C,100 0.063W J 1608	
126	R52	RK1JC0T0101J	RES-C,100 0.063W J 1608	
127	R53	RK1JC0T0472J	RES-CHIP 4.7K J 1/16W 1608	
128	R54	RK1JC0T0151J	RES CHIP 150 5% 1/16W	
129	R55	RK1JC0T0101J	RES-C,100 0.063W J 1608	
130	R56	RK1JC0T0151J	RES CHIP 150 5% 1/16W	
131	R57	RK1JC0T0471J	RES-C,470 0.063W J 1608	
132	R58	2602202015	RES-C,22K 0.063W J 1608	
133	R59	RK1JC0T0471J	RES-C,470 0.063W J 1608	
134	R60	RK1JC0T0471J	RES-C,470 0.063W J 1608	
135	R61	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
136	R64	RK1JC0T0471J	RES-C,470 0.063W J 1608	
137	R65	RK1JC0T0471J	RES-C,470 0.063W J 1608	
138	R66	2602000010	RES-C,200 0.063W J 1608	

NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
139	R67	2602000010	RES-C,200 0.063W J 1608	
140	R68	RK1JC0T0102J	RES-C,1K 0.063W J 1608	
141	R69	RK1JC0T0102J	RES-C,1K 0.063W J 1608	
142	R7	RK1JC0T0000J	RES-C,0 0.063W J 1608	
143	R70	2607500012	RES-C,750 0.063W J 1608	
144	R71	2607500012	RES-C,750 0.063W J 1608	
145	R72	RK1JC0T0101J	RES-C,100 0.063W J 1608	
146	R73	RK1JC0T0101J	RES-C,100 0.063W J 1608	
147	R77	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
148	R78	RK1JC0T0151J	RES CHIP 150 5% 1/16W	
149	R79	RK1JC0T0102J	RES-C,1K 0.063W J 1608	
150	R8	RK1JC0T0101J	RES-C,100 0.063W J 1608	
151	R80	RK1JC0T0102J	RES-C,1K 0.063W J 1608	
152	R81	RK1JC0T0151J	RES CHIP 150 5% 1/16W	
153	R82	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
154	R84	2602700001	RES-C,270 0.063W J 1608	
155	R85	2602700001	RES-C,270 0.063W J 1608	
156	R86	2603900008	RES-C,390 0.063W F 1608	
157	R88	RK1JC0T0102J	RES-C,1K 0.063W J 1608	
158	R89	RK1JC0T0102J	RES-C,1K 0.063W J 1608	
159	R9	RK1JC0T0000J	RES-C,0 0.063W J 1608	
160	RN1	2594701009	RES-C-NET,4.7K 0.063W J 3216	
161	U1	3200001462	IC-LIN,RC1117ST-2.5 SOT	
162	U2	3114000127	FET,SI4435DY SMD	
163	U3	3200001392	IC-LIN,RC1117-3.3 SOT	
164	U4	3205001411	IC-U,MST9111-ANALOG SXGA	
165	U5	3205001409	WT61P4 PLCC	
166	U5	3721100621	CONN-F,PLL-44-PPS-T-M 44	
167	U6	3203000879	IC-MEMO,S524A60X81-SCB0	
168	U7	3200001310	IC-LIN,TDA7496L DIP	
169	Y1	3530200505	VIB-QUARTZ,SX-1 SMD 14.31818MH	
170	Y2	3530200586	VIB-QUARTZ,SMD 24MHZ 22PF	
171		3330500257	LCD,17 M170EN05 V.1 280CD 4LA	
172		3550100115	SPEAKER ASS'Y, L50S/L70S	
173		3610200113	POWER+INVERTER,L70S AU0 115X13	!
174		3725005253	CONN-A,LVDS CABLE Q17 30	
175		3725005295	CONN-A, 12P OSD CABLE ASS'Y 20	
176		3758500474	CBL-SGN,1.5MT BLACK 5.5PAI DET	
177		3758500481	SIGNAL+POWER BLACK CABLE ASS'Y	
178		5001000666	SCR-MC,BIN + MC 3*5	
179		5004000190	SCR-TT,BIN + MC 3*8	
180		5004000192	SCR-TT,BIN + MC 3*6	
181		5004000194	SCR-TT,BIN + MC 4*10	
182		5004000197	SCR-TT,BIN + MC 3X10	
183		5004000204	SCR-TT,BIN + MC 3*8	
184		5004000208	SCR-TT,BIN + MC 4*12	
185		6101220900	STAND FRAME	

NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
186		6101221100	MAIN FRAME,L70S AU ANALOG	
187		6101221400	FRAME ASSY,L70S	
188		6110279200	HINGE BRKT L	
189		6110279300	HINGE BRKT R	
190		6115025200	HINGE ASSY,L70S	
191		6128010113	WIRE,GASKET EMI(10X2X250)	
192		6128010165	GASKET EMI, 10X 8 X120	
193		6128010169	GASKET EMI, 15X6X20	
194		6201318601	HINGE CAP L,L50S(DG)	
195		6201318701	HINGE CAP R,L50S(DG)	
196		6201318801	STAND FRONT,L50S(DG)	
197		6201318901	STAND REAR,L50S(DG)	
198		6201319001	STAND BASE,L50S(DG)	
199		6201319100	COVER FRONT,L70S	
200		6201319201	COVER PANEL.L70S(D/G)	
201		6201319301	COVER REAR ,L70S (D/G)	
202		6201319750	COVER F.ASSY,L70S IQT SILVER	
203		6201320002	STAND ASSY L70S (D/G)	
204		6201321101	STAND BASE ASSY,L50S(DG)	
205		6210107103	EMI SHEET(AL) 30X20	
206		6210107113	AL TAPE,60X40 PE COATING	
207		6215240401	KNOB TACT,L50S OEM(COAT'G)	
208		6220085600	LED LENS	
209		6223066800	HOLDER,HANDLE TOP	
210		6223066900	HOLDER,HANDLE BOTTOM	
211		6243028300	BAG,PE(ST) CLEAR 14/15ALL	
212		6243037901	MANUAL PE BAG	
213		6253120100	CUSHION TOP,L70S	
214		6253120200	CUSHION BOTTOM,L70S	
215		6261044600	RUBBER FOOT,L50S	
216		6301191400	PALLET PAD,ALL MODEL,SW-3	
217		6301193800	BOX CARTON,Q17N	
218		6301194900	BAND SQUARE,L70S OEM	
219		6309030000	PAD,PALLET CTN PBE/U 1517	
220		6309037300	PAD,PALLET ANGLE	
221		6316332931	BACK LABEL,L70S/99 IQT(EXP)/SI	
222		6316349298	SMALL TCO'99 CABINET STICKER	
223		6320230228	CD MANUAL IQT(EXP) ALL	
224		301070082601	OSD B/D ASS'Y, L50S/L70S	
225		304100106001	PCB-DOUBLE,L70S ANALOG 110*96	
226		375850041602	CBL-SGN,AUDIO INPUT CABLE 1	
227		631634925501	SILVER STICKER	
228		632703520303	INSTALL GUIDE & SERVICE CENTER	
229		B4204513263B	LABEL,B/CODE 64KHZ(DIC21)	
230		B4204669302	KIT LAB & MAN L70S/99 HIE/SILV	
231		B4209500302A	BAG PE,Q15N HECMVEL(350x300)	
232		B4210333050	LCD MEC.ASSY,L70S IQT SILVER	

NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
233		B4210333150	KIT COVER ASSY,L70S 1QT SILVER	
234		B4210333201	PACKING ASSY,L70S	
235		E4205020801	MAIN ASSY/A,L70S EXP	
236		E42077080050	CORD AC,220V WALL BK 1.83M	
237		E4208423011	PCBA MAIN(AM)/AU0,L70S	
238		E4208523001	PCBA MAIN(MM)/AU0,L70S	
239		E4208623001	PCBA MAIN(TM)/AU0,L70S	
240		M17744006012	SCREW,BIN(+) M4*6 MSZPC	

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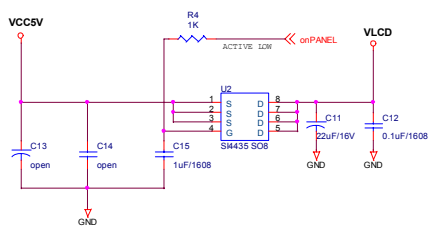
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to
Inverter/power

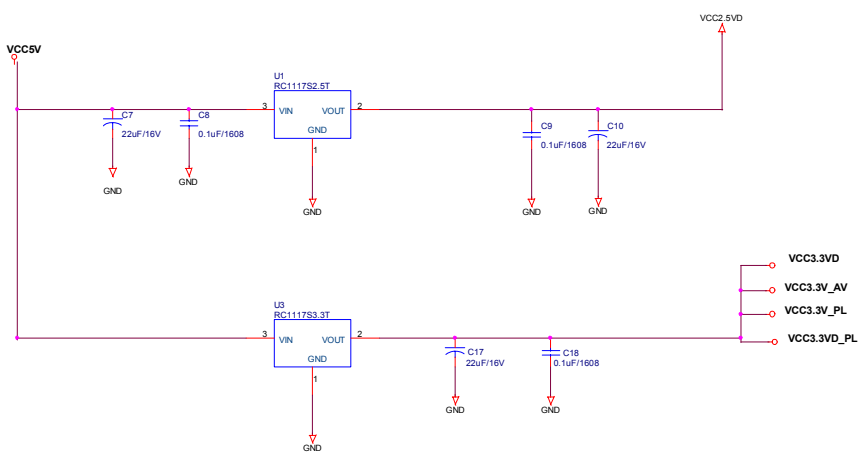
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B

B



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A

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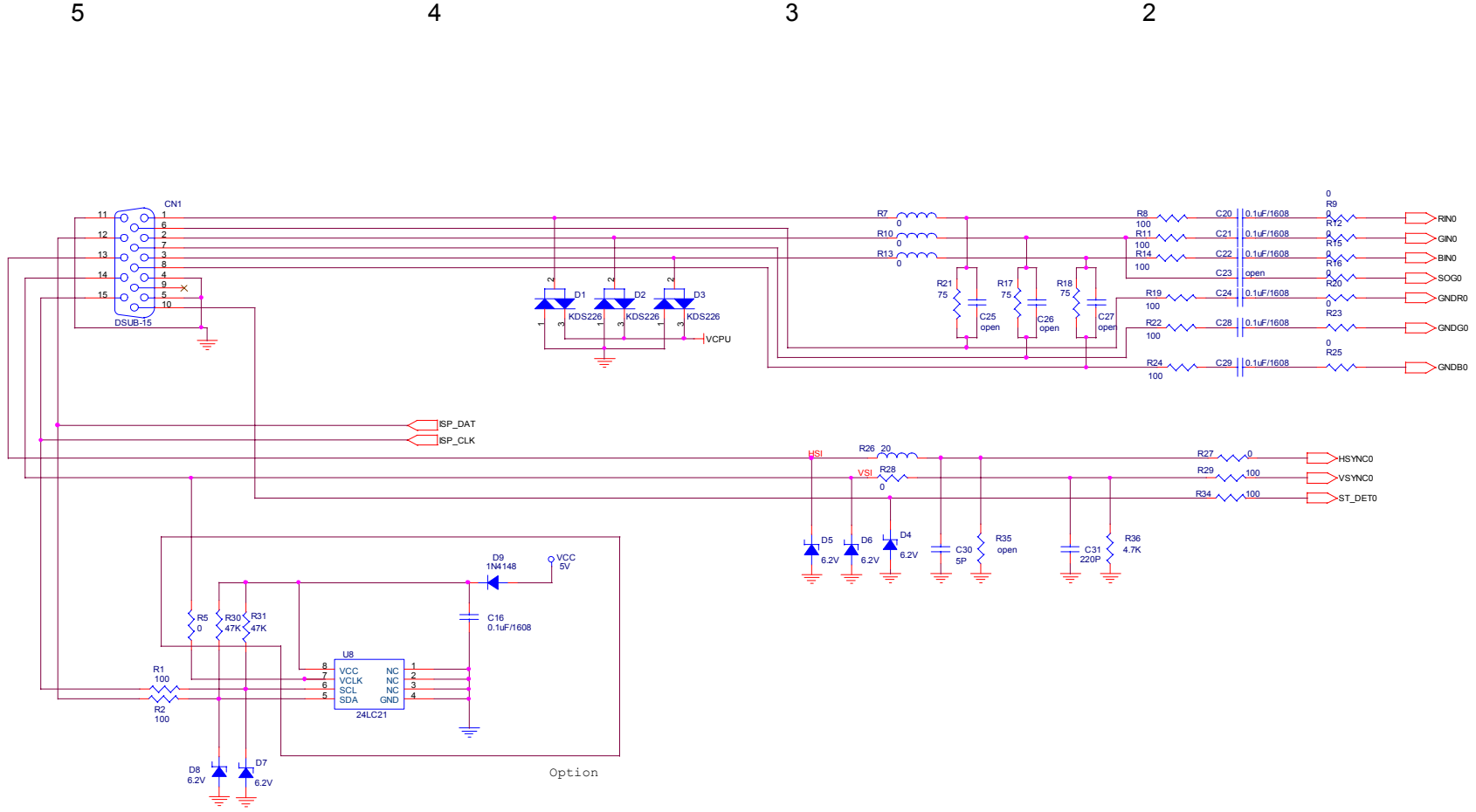
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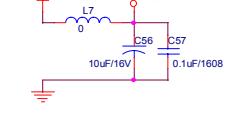
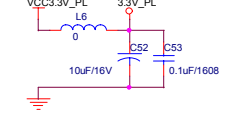
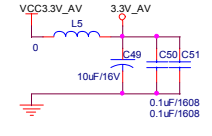
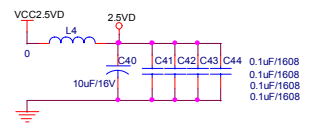
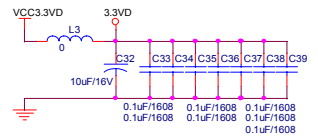
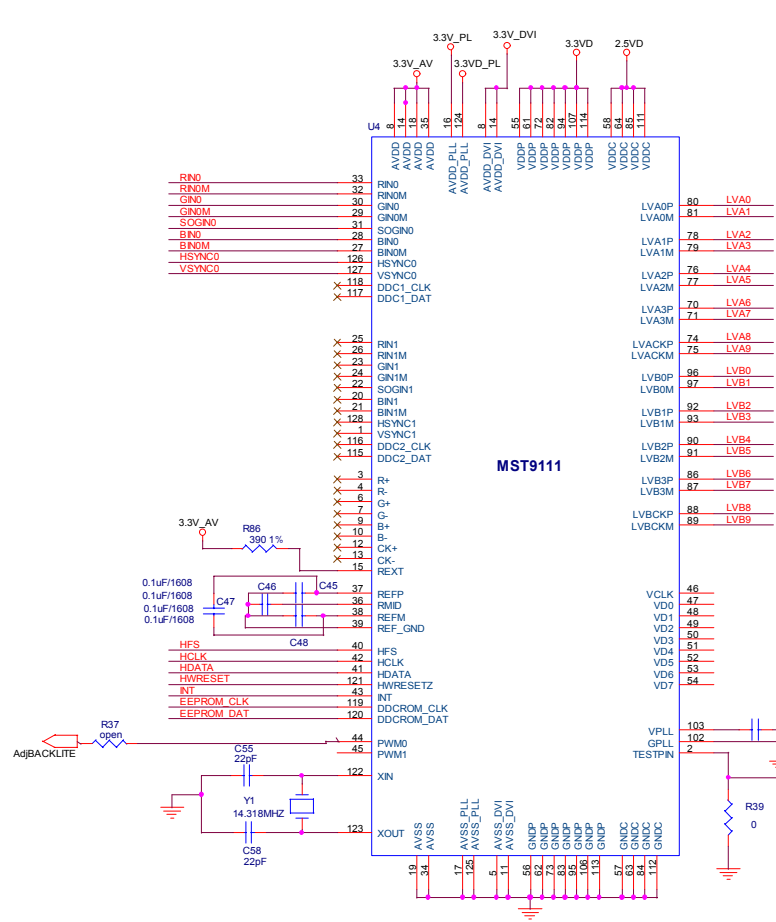
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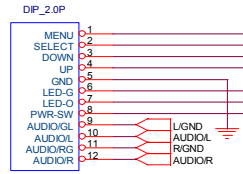
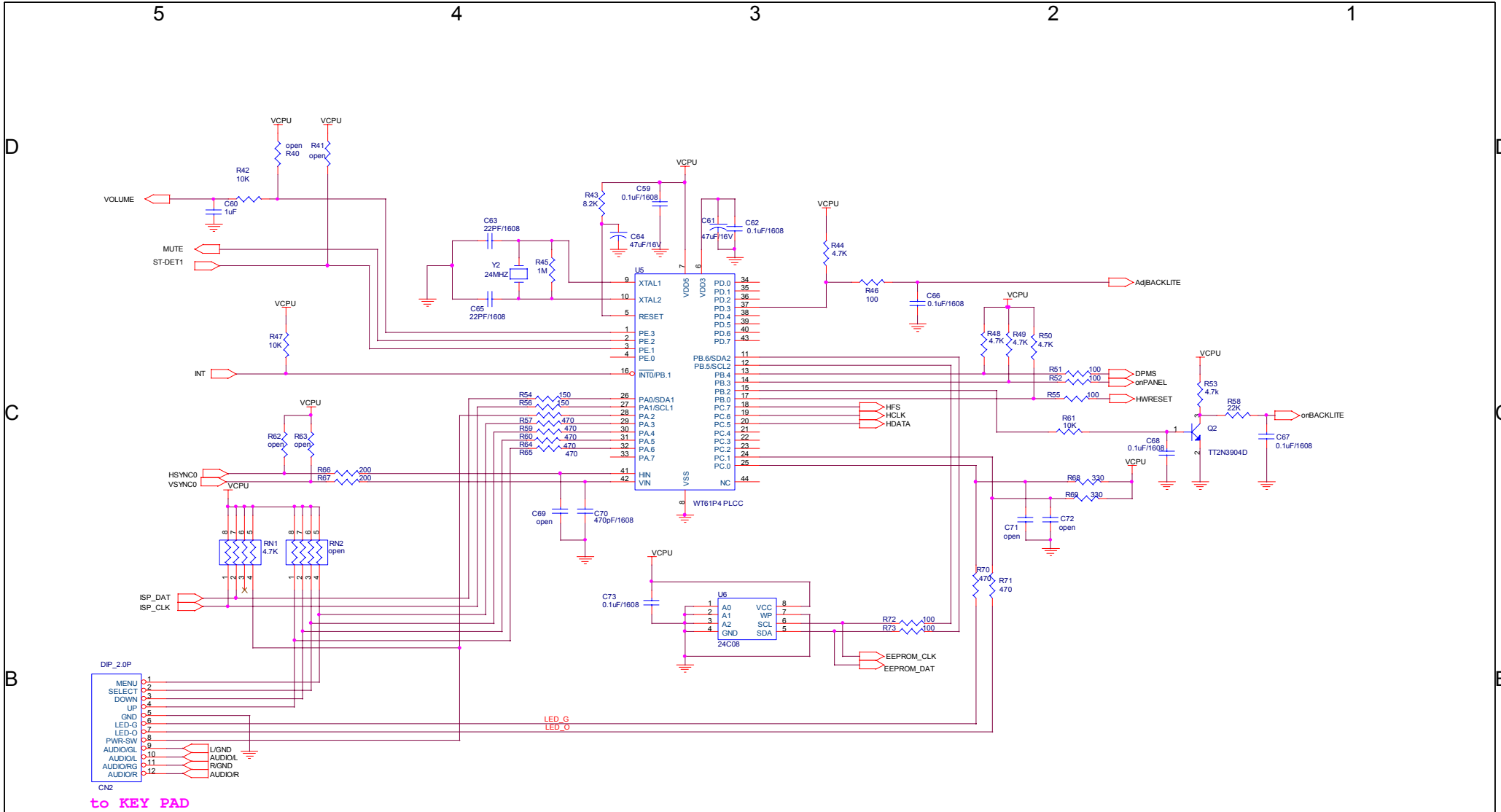
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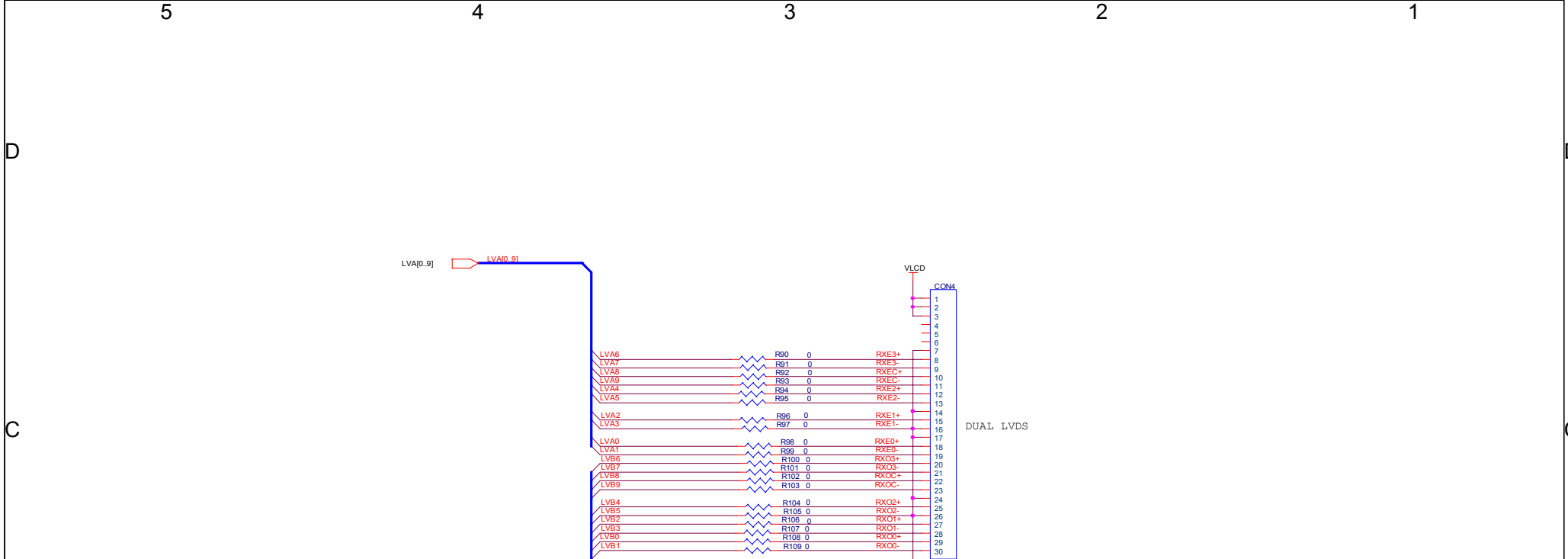


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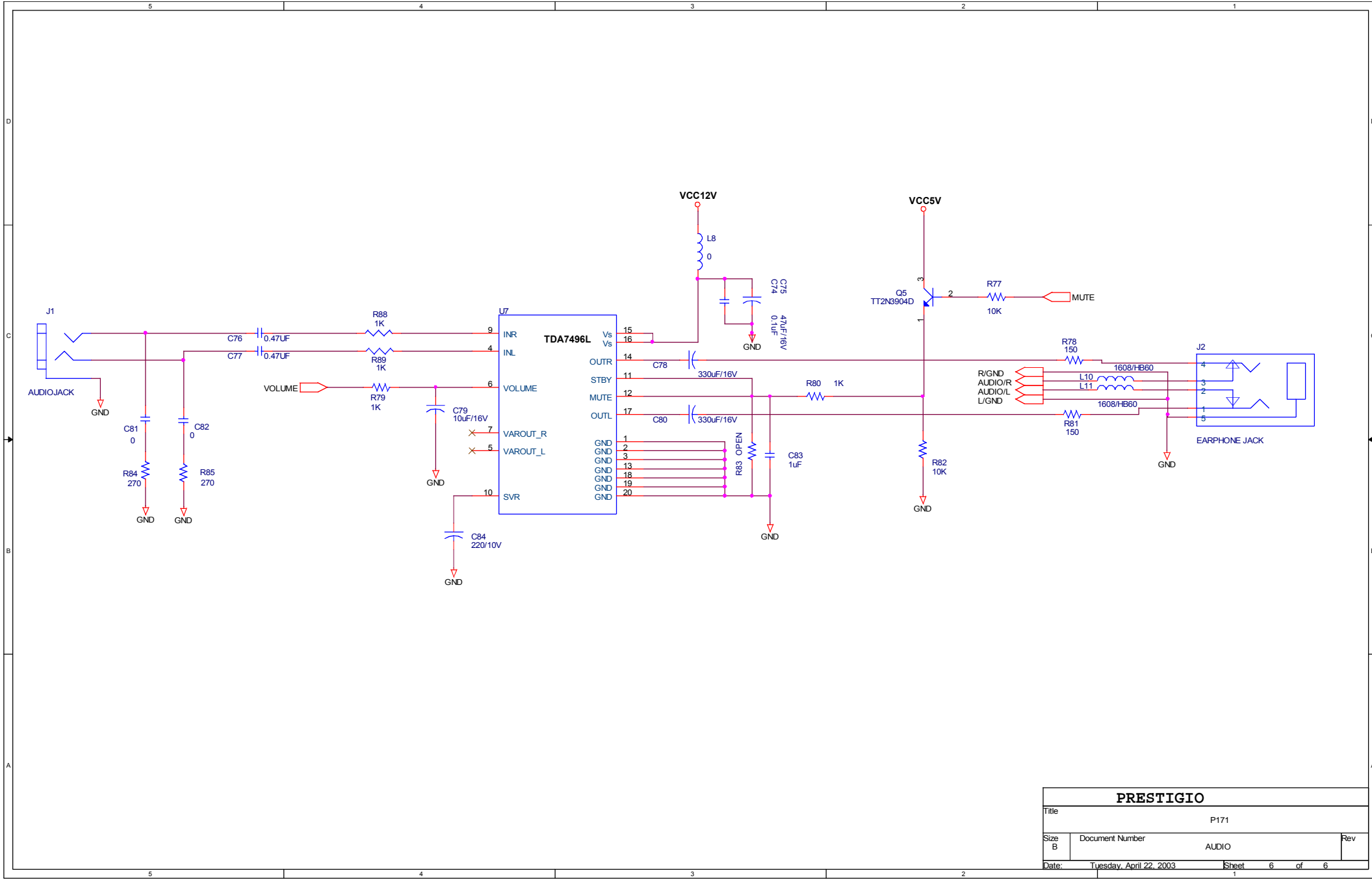
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DUAL LVDS

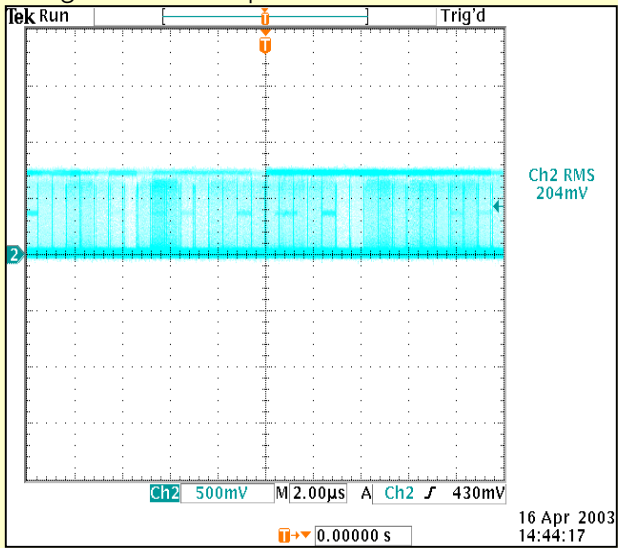
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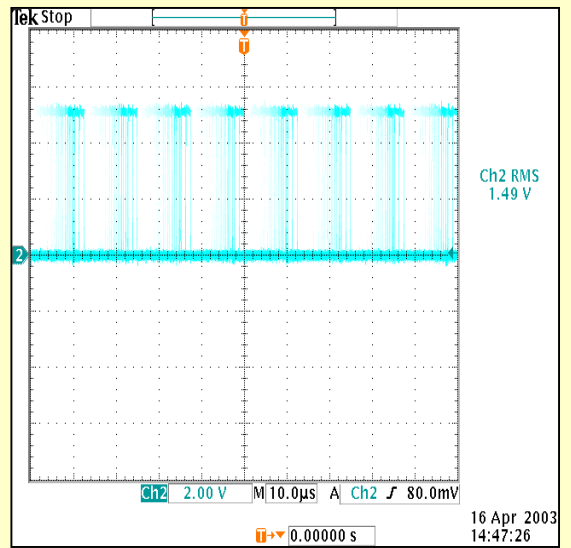
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WAVE FORM

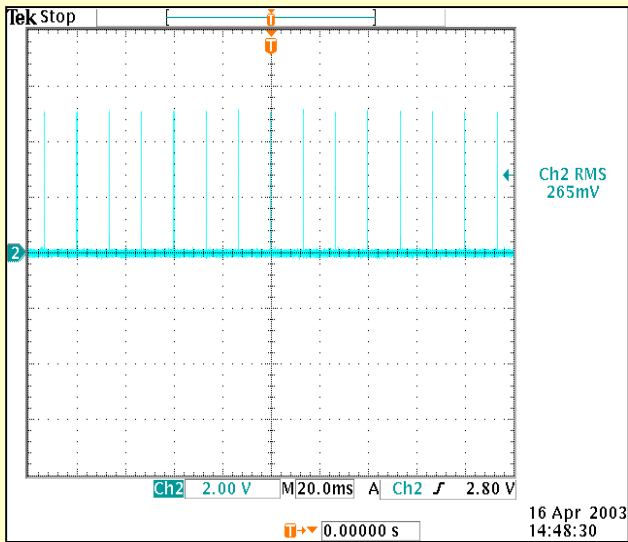
1. Signal - RED input



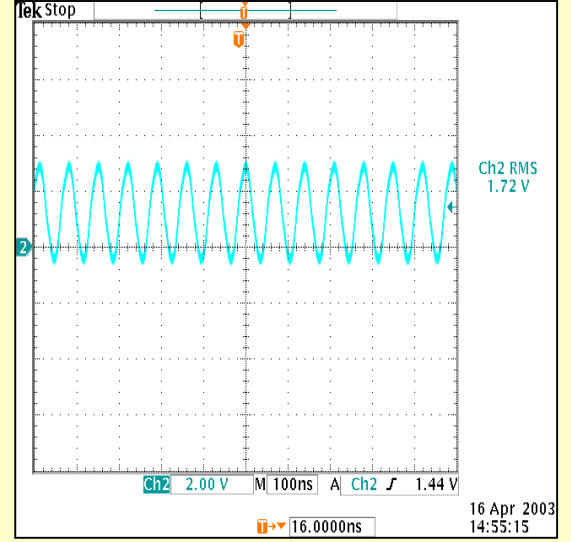
2. H-SYNC



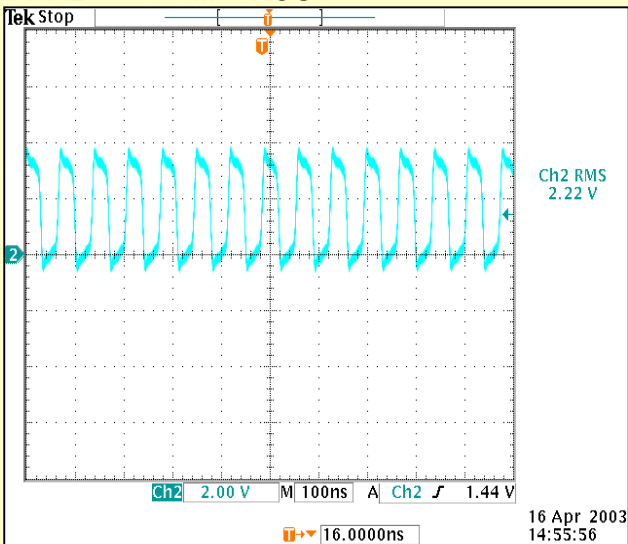
3. V-SYNC



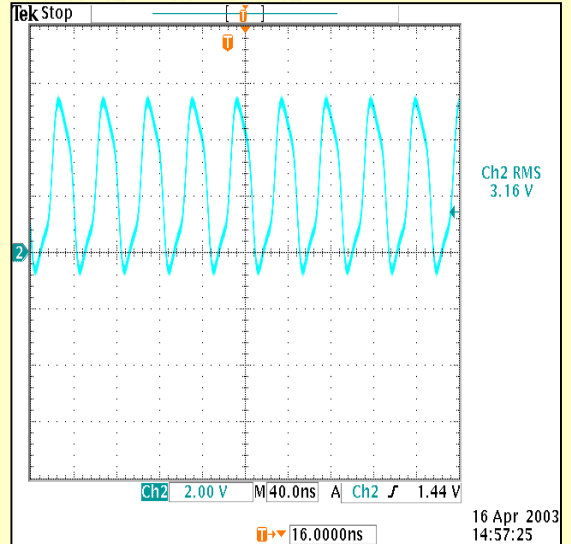
4. XTAL 14.318M - XIN



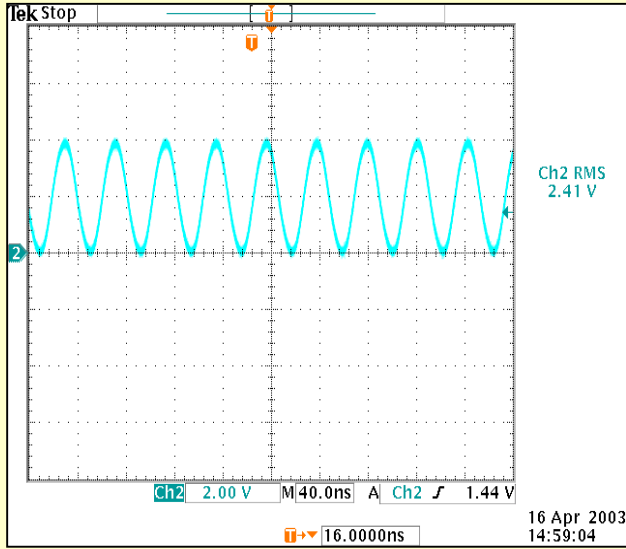
5. XTAL 14.318M - XOUT



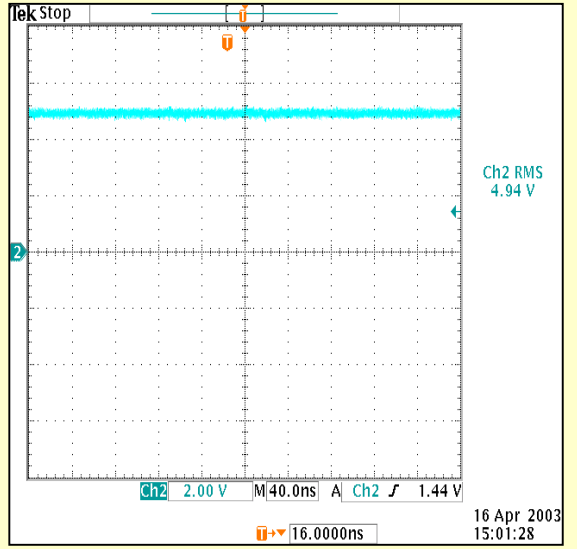
6. XTAL 24M - XTAL1



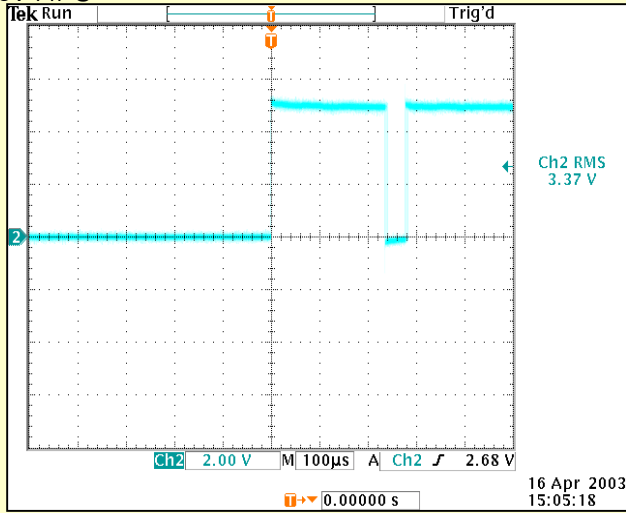
7. XTAL 24M - XTAL2



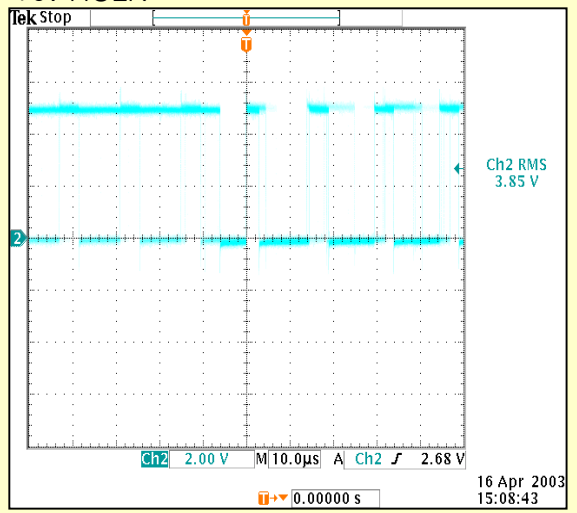
8. RESET - MCU 5번 PIN



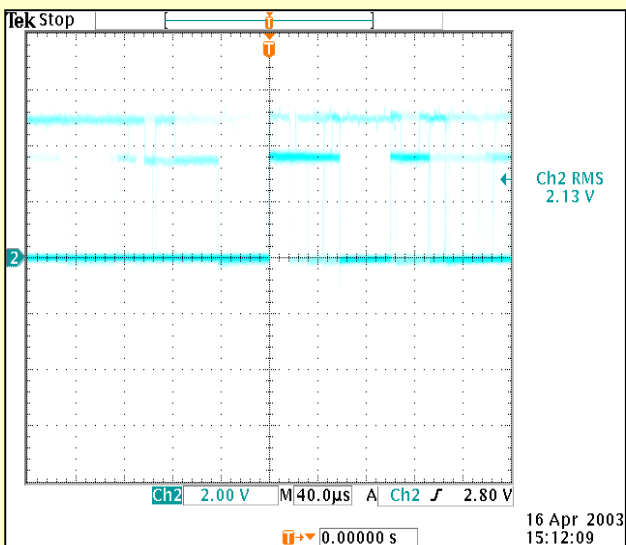
9. HFS



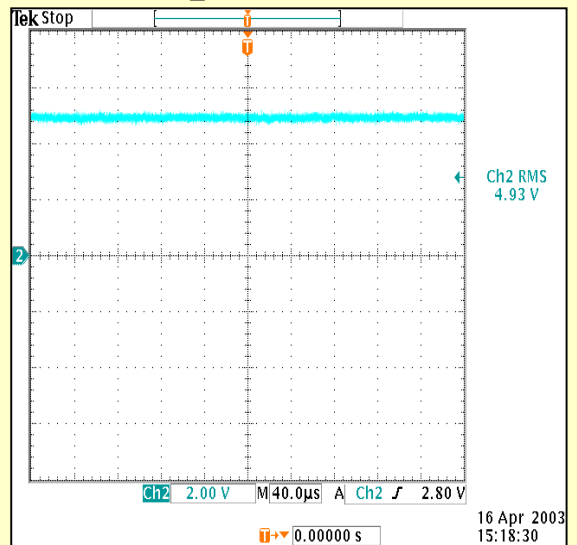
10. HCLK



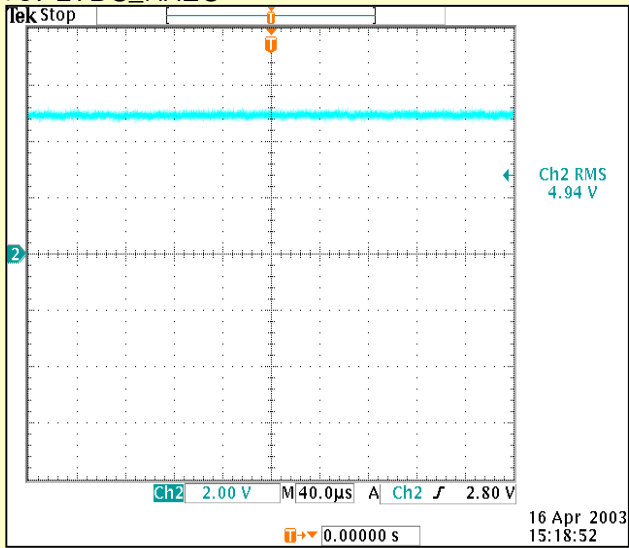
11. HDATA



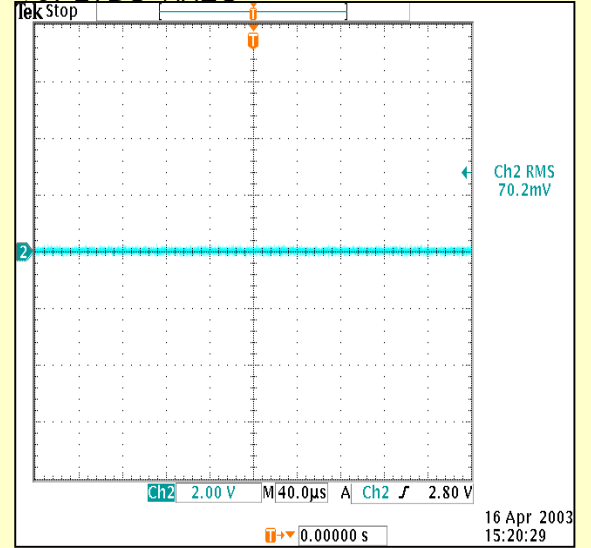
12. EEPROM_CLK



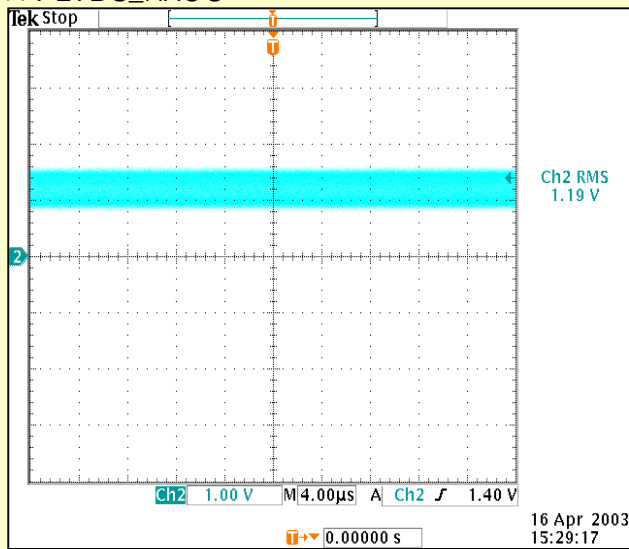
15. LVDS_RXEC+



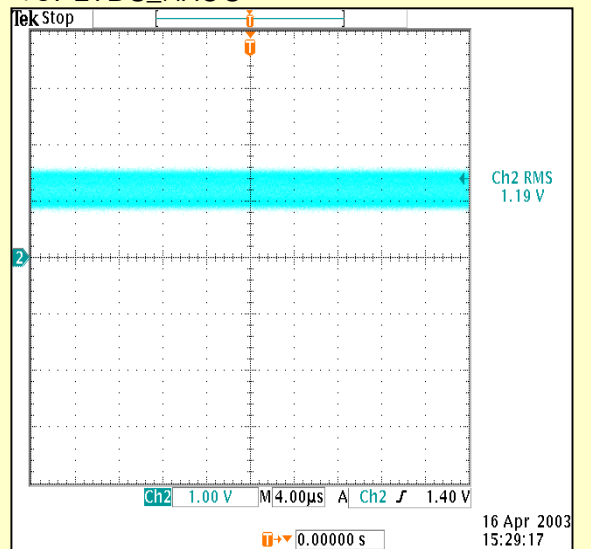
16. LVDS_RXEC-



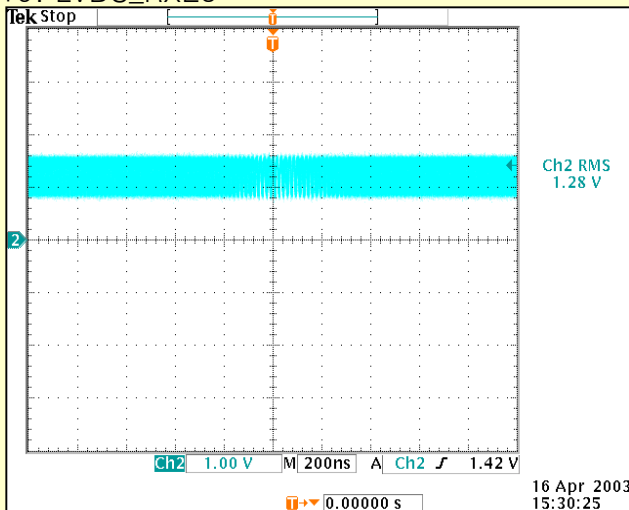
17. LVDS_RXOC+



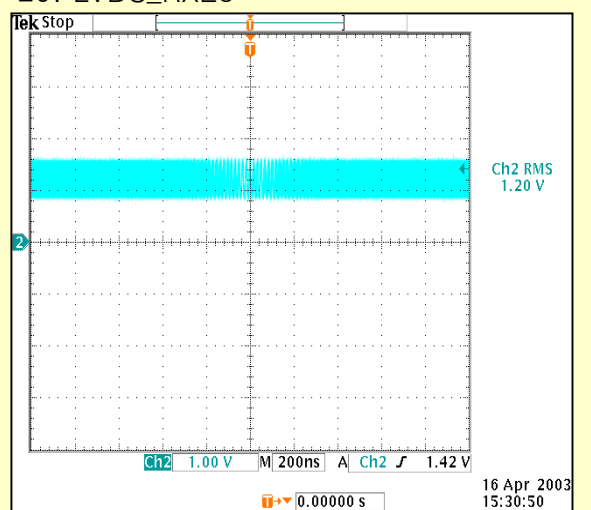
18. LVDS_RXOC-



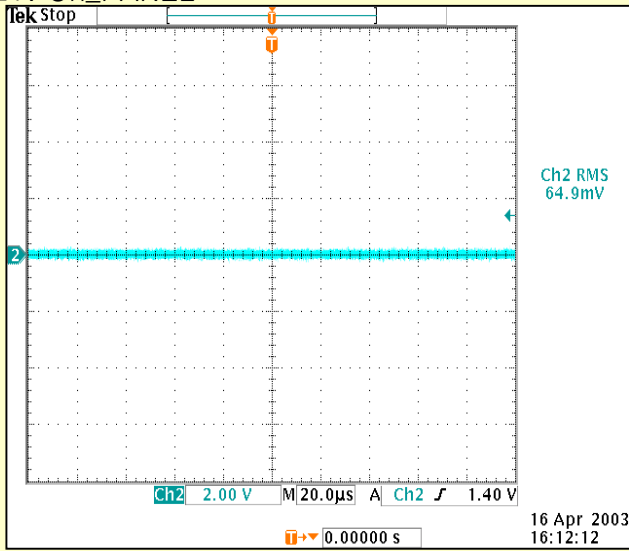
19. LVDS_RXE3+



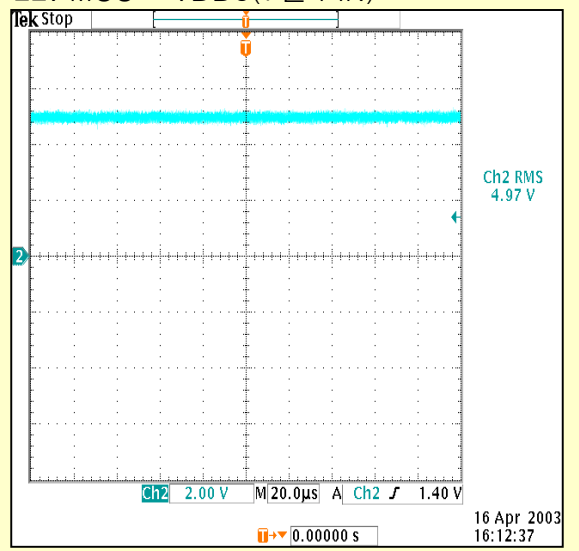
20. LVDS_RXE3-



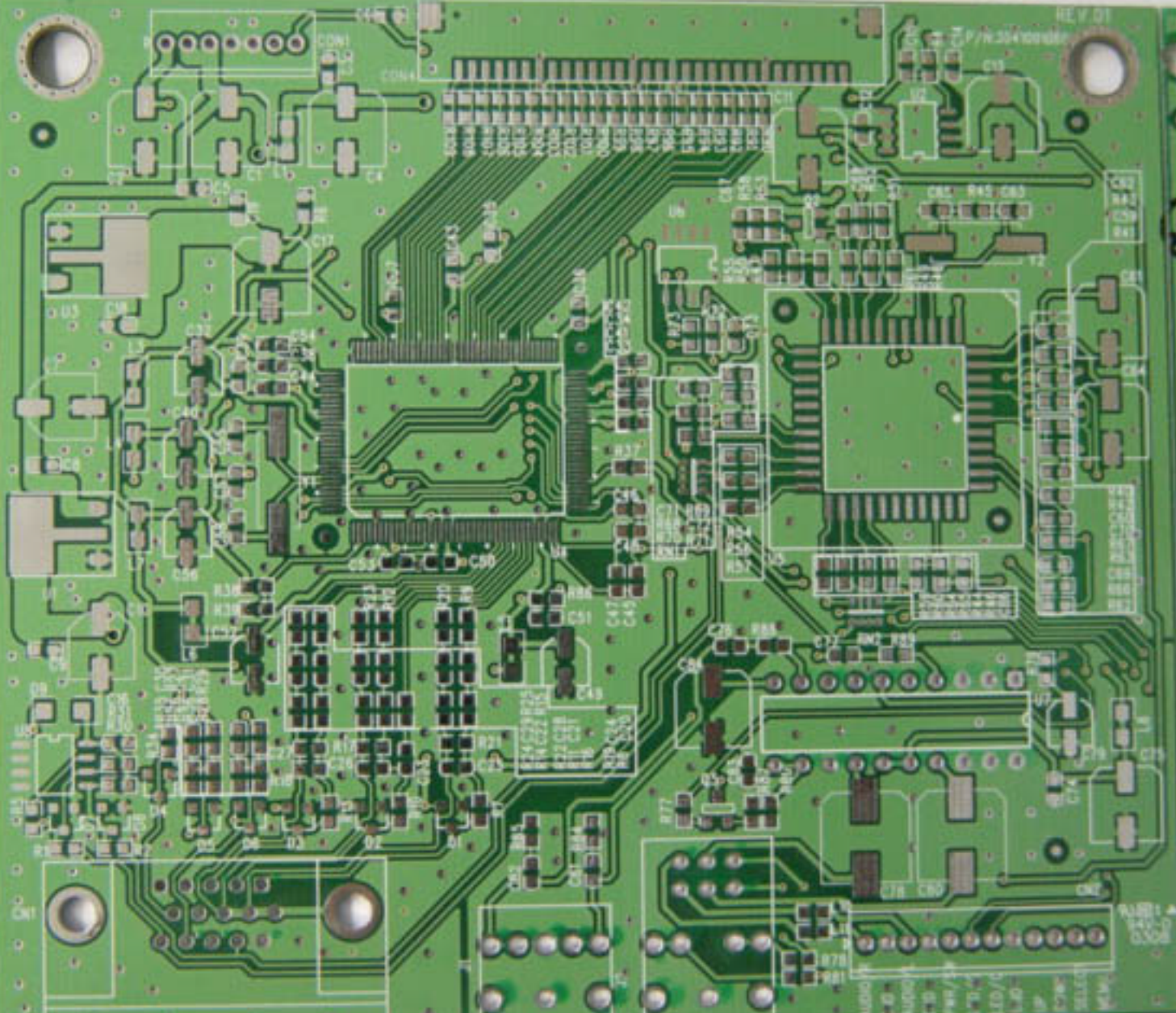
21. On_PANEL



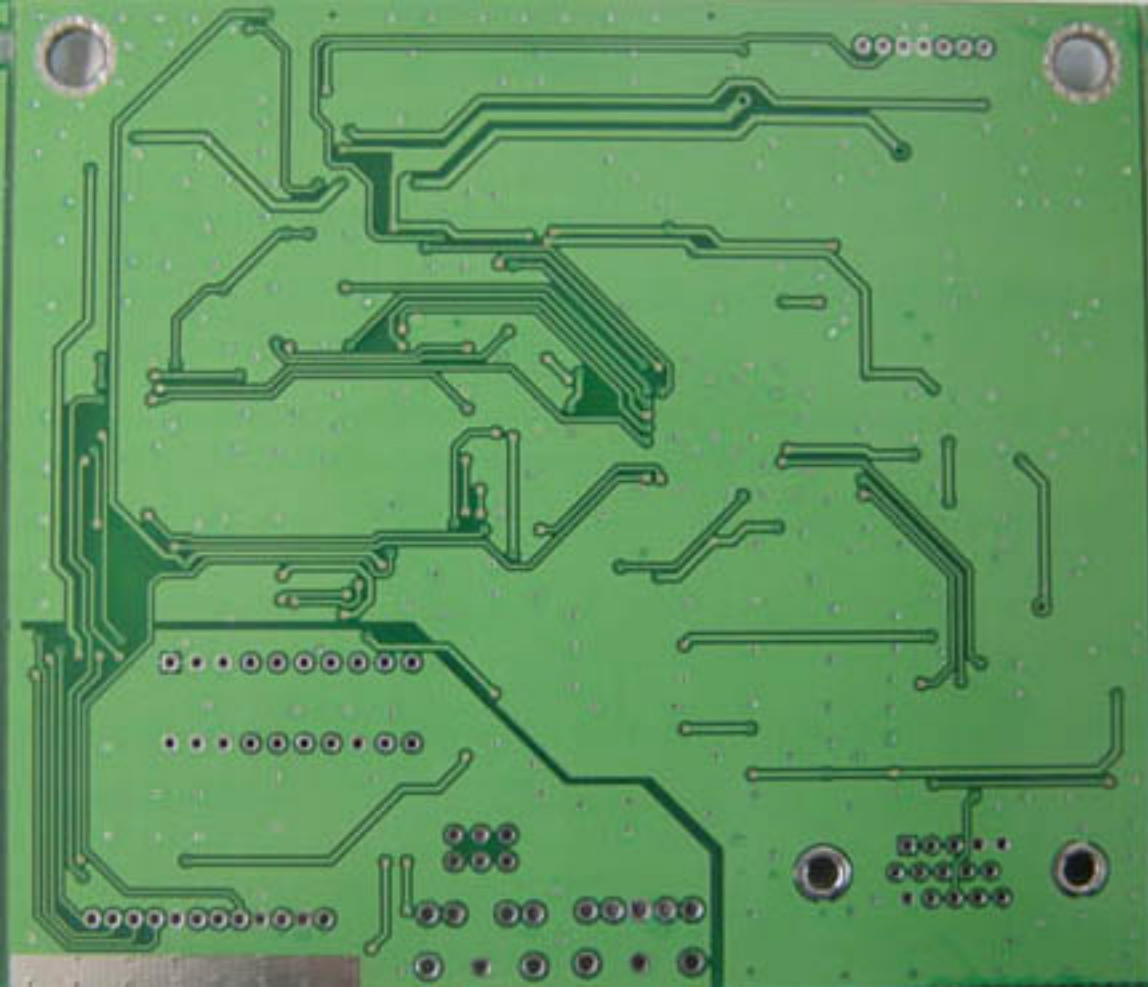
22. MCU - VDD5(7번 PIN)

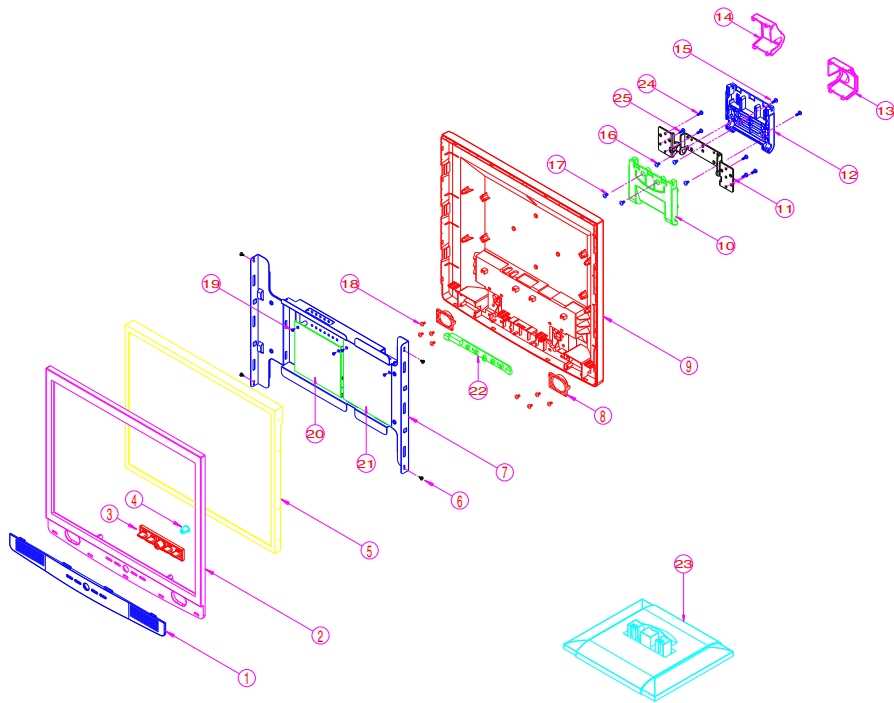


P/N 304100100



- audio+
- C10
- audio
- C10
- C10
- PWR/3.3
- C10
- LED+
- LED-
- TP
- SLOT
- SLOT
- SLOT
- MC
- N.C.





25	5004000194	SCREW	SCR-TT,MC4X10	2	
24	5004000208	SCREW	SCR-TT,MC4X12	4	
23	62013190	STAND BASE	ABS 94 HB	1	
22	3010700826	OSD PCB ASSY		1	
21	3610200118	PWR-WV PCB ASSY		1	
20	E4208EXXXX	MAIN PCB ASSY		1	
19	5001000666	SCREW	SCR-MC,BIN-MC3X5	4	
18	5004000197	SCREW	SCR-TT,MC3X10	10	
17	5004000190	SCREW	SCR-TT,MC3X8	2	
16	5004000192	SCREW	SCR-TT,MC3X6	3	
15	5004000190	SCREW	SCR-TT,MC3X8	2	
14	62013186	HINGE CAP L	ABS 94 HB	1	
13	62013187	HINGE CAP R	ABS 94 HB	1	
12	62013188	STAND FRONT	ABS 94 HB	8	
11	61150252	HINGE ASSY		1	
10	62013189	STAND REAR	ABS 94 HB	1	
9	62013215	COVER REAR	ABS 94 HB	4	
8	3550100115	SPEAKER L/R		2	
7	61012211	MAIN FRAME	EGI T=0.8	1	
6	5001000666	SCREW	SCR-MC,BIN-MC3X5	4	
5	3330XXXXXX	17" LCD		1	AUOSECHYDIS
4	6220857	LENS LED	PMMA	1	
3	62152407	KNOB TACT	ABS 94 HB	1	
2	62013213	COVER FRONT	ABS 94 HB	1	
1	62013214	COVER PANEL	ABS 94 HB	1	
NO	PART NO	PART NAME	DESCRIPTION	QTY	REMARK

DESIGN	DATE	APPR	SCALE	PROJ	TITLE	REV
J.S.WOOD	11/15/10	JULIE	J.S.W.M	10101	EXPLODED VIEW	00
DATE	BY	CHKD	APPD	PROJ	DWG NO.	
11/15/10	J.S.W.	JULIE	J.S.W.	10101	A2	