



DAD-U200
Analog to Digital Converter

Specification for

Model : DAD-U200

Revised : Nov 14, 2012
Original Release Date: July 16, 2012

OPHIT

Revision History

Version Number	Revision Date	Author	Description of Changes
0.1	July 16, 2012	J.H.LEE	Initial Version
1.0	Nov 14, 2012	J.H.LEE	Production Version

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1. General Description

DAD-U200 taken analog VGA or YPbPr signals and converts they to DVI signal so that your PC and Laptop without DVI output can be connected to digital display devices such as LCD monitor or Projector with DVI input easily and conveniently.

- Input : Analog VGA or YPbPr signals format
- Output : Analog VGA or YPbPr signals format, DVI (Single Link) format
- DVI Specification 1.0 Compliant
- Compatible with DVI Standard by DDWG
- Supported resolution : WUXGA, 1080p, UXGA, WSXGA+, SXGA,XGA, SVGA, VGA, etc.
- Supported DDC Selection function : WUXGA, 1080p, UXGA, SXGA

2. General Specification

Input Format		RGB or YPbPr
D-SUB (15 Pin),	RGB or YPbPr	RGB Mode: Max 1920x1200@60Hz (Reduce blank) YPbPr Mode : Max 1080p@60Hz
Output Format		RGB or YPbPr, DVI (T.M.D.S.)
D-SUB (15 Pin),	Bypass (RGB)	# Bypass mode PC : Max 1920x1200@60Hz (Reduce blank) TV : Max 1080p@60Hz
	RGB (YPbPr to RGB)	# RGB mode Max 1080i@60Hz
DVI-I	DVI (T.M.D.S.)	PC : Max 1920x1200@60Hz (Reduce blank) TV : Max 1080p@60Hz
Connector		
Input		D-SUB (15 Pin), Slide Switch
Output		D-SUB (15 Pin), DVI-I
Power		DC-JACK 2.1 pie
General		
Dimensions		162 x 103.5 x 27 mm (W x D x H)
Weight		TBD
Enclosure Color		Navy
Power		DC +5V, 2A

3. Absolute Maximum Ratings

Parameter	Rating
Storage temperature	-20°C ~ +70°C
Operating temperature	0°C ~ +50°C
Power Supply	-0.3 ~ +5 V
Relative Humidity	10 ~ 80 %
Lead solder temperature	380°C +/-30°C, 10 seconds

NOTICE

Stresses greater than those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions above those indicated in the operations section for extended periods of time may affect reliability.

4. Electrical Specification

4.1 Electrical Specification

	Parameter	Symbol	Min	Typ	Max	Units	Condition
P O W E R	Supply Voltage (Option External Power)	Vcc	+4.5	+5.0	+5.5	V	
	Supply Current	Icc		0.7		A	WUXGA
	Power Dissipation	Po		3.5		W	
T M D S	Reference voltage for graphic signal	Vref	+3.1	+3.3	+3.5	V	
	Single-ended high level input voltage	VH	Vref-0.01		Vref+0.01	V	
	Single-ended low level input voltage	VL	Vref-0.6		Vref-0.4	V	
	Single-ended input swing voltage	Vswing	0.4		0.6	V	
	Single-ended standby input voltage		Vref-0.01		Vref+0.01	V	
	Data Output Load	RLD		50		Ohms	

4.2 Supported Resolution

4.2.1 Input RGB format Supported Resolution

PC Graphic Resolution		TV Resolution	
640x480	60, 72, 75, 85Hz	480i	59Hz
800x600	56, 60, 72, 75, 85Hz	480p	59.94, 60Hz
1024x768	60, 70, 75, 85Hz	576i	50Hz
1440x900	60, 75Hz	576p	50Hz
1280x1024	60, 75, 85Hz	720p	50, 59.939, 60Hz
1400x1050	60Hz, 60Hz REDUCE	1080i	50, 59.94, 60Hz
1680x1050	60Hz, 60Hz REDUCE	1080p	24, 29.97, 30, 50, 59.94, 60Hz
1280x960	60Hz		
1600x1200	60Hz		
1920x1200	60Hz REDUCE		
1154x864	70, 75Hz		

4.2.2 Input YPbPr format Supported Resolution

TV Resolution	
480p	60Hz
576p	60Hz
720p	60Hz
1080i	60Hz

4.3 Connector Pin Assignment

▣ Slide Switch

SW1. VGA INPUT



▶ Selected Left : Input format RGB

▶ Selected Right : Input format YPbPr

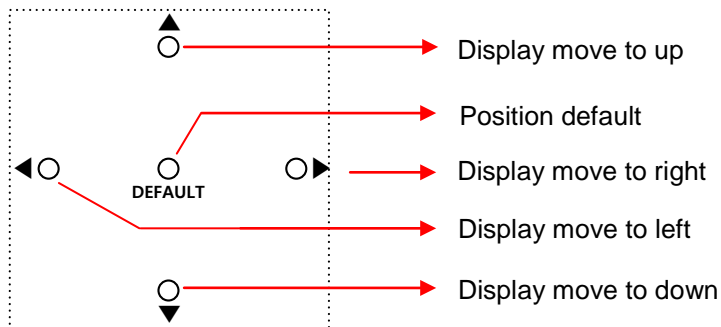
SW2. VGA OUTPUT



▶ Selected Left : Input format bypass

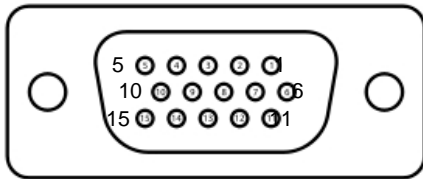
▶ Selected Right : Input YPbPr format to
Output RGB format converter

▣ Position Key



▣ Receiver (Input) – D-Sub (YPbPr mode)

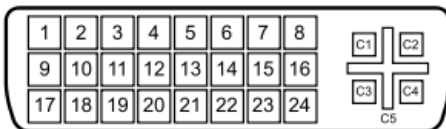
Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	RED (Pr)	6	RGND	11	GND
2	GREEN (Y)	7	GGND	12	SDA
3	BLUE (Pb)	8	BGND	13	H Sync
4	GND	9	No Connect	14	V Sync
5	GND	10	SGND	15	SCL



▣ Transmitter (Output) – D-Sub (Input YPbPr Bypass)

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	RED (Pr)	6	RGND	11	GND
2	GREEN (Y)	7	GGND	12	No Connect
3	BLUE (Pb)	8	BGND	13	H Sync
4	GND	9	No Connect	14	V Sync
5	GND	10	SGND	15	No Connect

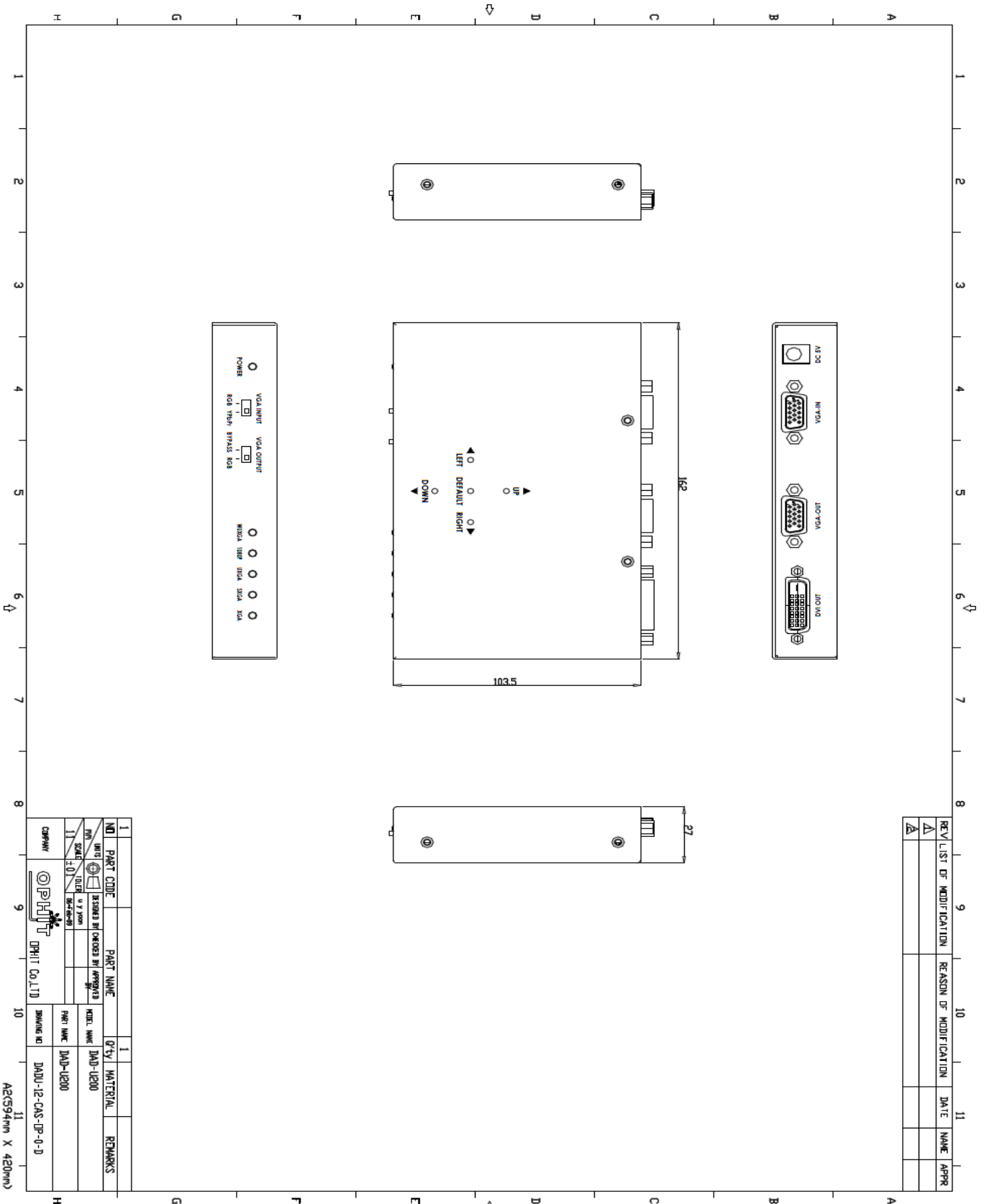
▣ Transmitter(Output) - DVI



Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	T.M.D.S. Data2 Shield	11	T.M.D.S. Data1 Shield	19	T.M.D.S. Data0 Shield
4	No Connect	12	No Connect	20	No Connect
5	No Connect	13	No Connect	21	No Connect
6	No Connect	14	+5V Power	22	T.M.D.S Clock Shield
7	No Connect	15	Ground (for +5V)	23	T.M.D.S Clock+
8	No Connect	16	Hot Plug Detect	24	T.M.D.S Clock-
C1	No Connect	C2	No Connect	C3	No Connect
C4	No Connect	C5	No Connect		

5. Mechanical Specification

5.1 Case Dimension



REV	LIST OF MODIFICATION	REASON OF MODIFICATION	DATE	NAME	APPR
Δ					
Δ					

NO	PART CODE	PART NAME	QTY	MATERIAL	REMARKS
1			1		
DATE	DESIGNED BY	CHECKED BY			
11.01.2008					
SCALE	1:1				
COMPANY	OPHIT	OPHIT Co., Ltd			
			DRAWING NO	DADU-12-CAS-DF-0-D	
			PART NAME	DADU-1200	
			MODEL NAME	DADU-1200	

A2(S)94mm X 420mm)

6. RoHS

Certificate of Conformance RoHS

Dear Customer,

On January 27, 2003, the European Parliament and the Administrative Council adopted Directive 2002/95/EC (RoHS) that concerns the "Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment".

The parts currently delivered by OPHIT **CO., LTD.** are already free of lead (Pb), mercury (Hg), cadmium (Cd), hexavalent chromium (Cr⁶⁺), polybrominated biphenyl (PBB) and polybrominateddiphenyl (PBDE).

This Certification of Conformance is to certify that the products listed below comply with RoHS Directive mentioned above:

- DAD-U200

If you have any further questions regarding the RoHS compliance of parts delivered by OPHIT **CO., LTD.**, please do not hesitate to contact us at support@ophit.com.

Best regards,

JONG-KOOK MOON/CEO

OPHIT CO.,LTD.