



**OPHD-H104**  
HDMI 1:4 Splitter

Custom :

# **Specification for**

## **Model : OPHD-H104**

Revised : July 15, 2011  
Original Release Date : July 15, 2011

# **OPHIT**



## Revision History

Version Number	Revision Date	Author	Description of Changes
1.0	July 15, 2011	H.S.Yang	Initial Version

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## 1. General Description

**OPHD-H104**, OPHIT's HDMI Splitter System (OPHD-104) let your one digital video signal (Set-Top box, DVD Player or PC) with HDMI output distributes into four digital displays such as PC monitor, HDTV (LCD, PDP) and Projector.

- HDMI Specification 1.3a Compliant
- DVI Specification 1.0 Compliant
- Connects four HDMI Output Ports(Display) at the same time from the same HDMI Input Port(Source)
- Supports HDCP Compliant Device
- Supports 12-bit Deep Color up to 1080P
- Compatible with DVI standard by DDWG
- Supports Computer Resolution up to WUXGA and HDTV Resolution up to 1080P
- Including the automatic EDID data generation function after reading EDID data from Each display

## 2. General Specification

Parameter	Symbol
Input / Output Signal	TMDS Signal(HDMI 1.3b standard)
Video Bandwidth	2.25Gbps / Channel
Dimension	175 x 84.4 x 24.7 mm (W x H x D)
Weight	--
Copper Connector	19 PIN HDMI-A Type
Support Deep Color	12 Bit
Maximum Supporting Resolution	PC : WUXGA(1920x1200)60Hz HD : 1080P(12bit Deep Color)

### 3. Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Power Supply	V <sub>CC</sub>	-0.3	+5.5	V
Operating temperature	V <sub>OT</sub>	0	+50	°C
Storage temperature	V <sub>ST</sub>	-20	+70	°C
Relative Humidity	H <sub>RH</sub>	10	80	RH

#### **NOTICE**

Stresses greater than those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress rating 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	Supply Voltage (Option External Power)	$V_{cc}$		+5.0		V	
	Supply Current	$I_{cc}$		0.7		A	UXGA 4 Out
	Power Dissipation	$P_o$		3.5		W	UXGA 4 Out

	Parameter	Symbol	Min	Typ	Max	Units	Condition
T M D S	Reference voltage for graphic signal	$V_{REF}$	+3.1	+3.3	+3.5	V	
	Single-ended high level input voltage	VH	$V_{REF} - 0.01$		$V_{REF} + 0.01$	V	
	Single-ended low level input voltage	VL	$V_{REF} - 0.6$		$V_{REF} - 0.4$	V	
	Single-ended input swing voltage	$V_{Iswing}$	0.4		0.6	V	
	Single-ended standby input voltage		$V_{REF} - 0.01$		$V_{REF} + 0.01$	V	
	Differential Input Clock Frequency	$F_{RXC}$		225			MHz

4.2 Current Test Report

State	Resolution	Current		Out Port	e. t. c.
Supply Current (25°C Ambient)	Not Connect (Power On)	10	mA	HDMI Out ( 4 Out)	
	640 x 480, 60Hz Typical Case Pattern	530	mA		
	640 x 480, 60Hz Worst Case Pattern	530	mA		
	800 x 600, 60Hz Typical Case Pattern	550	mA		
	800 x 600, 60Hz Worst Case Pattern	550	mA		
	1024 x 768, 60Hz Typical Case Pattern	570	mA		
	1024 x 768, 60Hz Worst Case Pattern	580	mA		
	1280 x 1024, 60Hz Typical Case Pattern	620	mA		
	1280 x 1024, 60Hz Worst Case Pattern	640	mA		
	1600 x 1200, 60Hz Typical Case Pattern	690	mA		
	1600 x 1200, 60Hz Worst Case Pattern	700	mA		
	1920 x 1080, 60Hz Typical Case Pattern	670	mA		
	1920 x 1080, 60Hz Worst Case Pattern	690	mA		

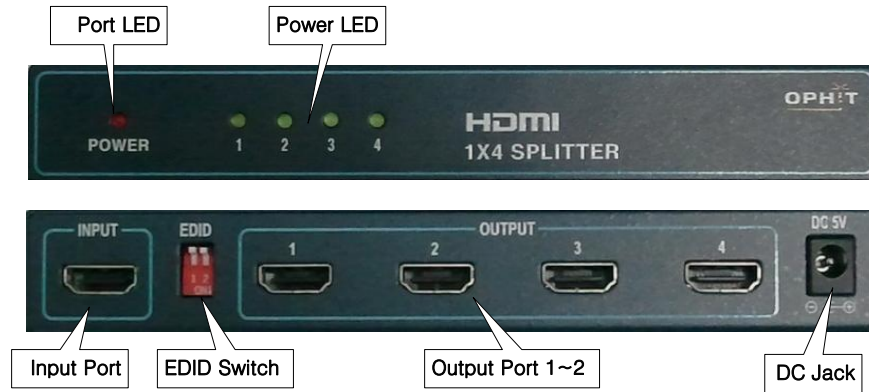
Typical Case Pattern : Quantum Data 882 VTG -- Pattern master.

Worst Case Pattern : Quantum Data 882 VTG -- Pattern check\_11



## 5. Connection and Pin Assignment

### 5.1 Signal Connection



### 5.2 Front Side

#### 1) LED Definition

LED		Description		
Name	Color	LED On	LED Off	LED Blinking
Power	RED	When connect the power adaptor	When disconnect the power adaptor	-
Port	Green	When source signal detected	Turns OFF the System	When source signal not detected

### 5.3 Rear Side

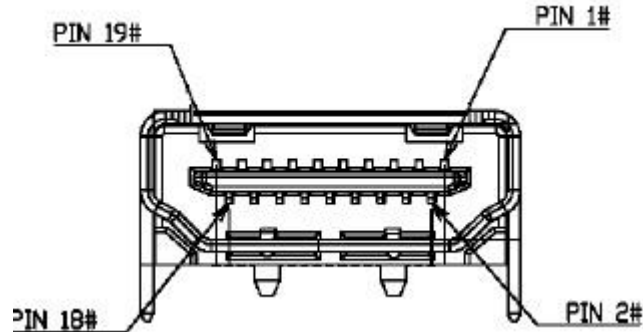
#### 1) EDID Select Switch



Switch ON : External EDID Mode

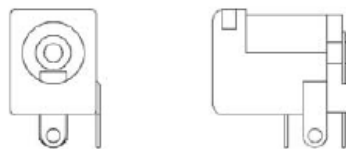
Switch OFF : Internal EDID Mode (Default set)

2) HDMI Connector Pin Assignment



Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	TMDS Data2+	9	TMDS Data0	17	DDC/CEC Ground
2	TMDS Data2 Shield	10	TMDS Clock	18	+5V Power
3	TMDS Data2-	11	TMDS Clock Shield	19	Hot Plug Detect
4	TMDS Data1+	12	TMDS Clock-		
5	TMDS Data1 Shield	13	CEC		
6	TMDS Data1-	14	Reserved		
7	TMDS Data0+	15	SCL		
8	TDMS Data0 Shield	16	SDA		

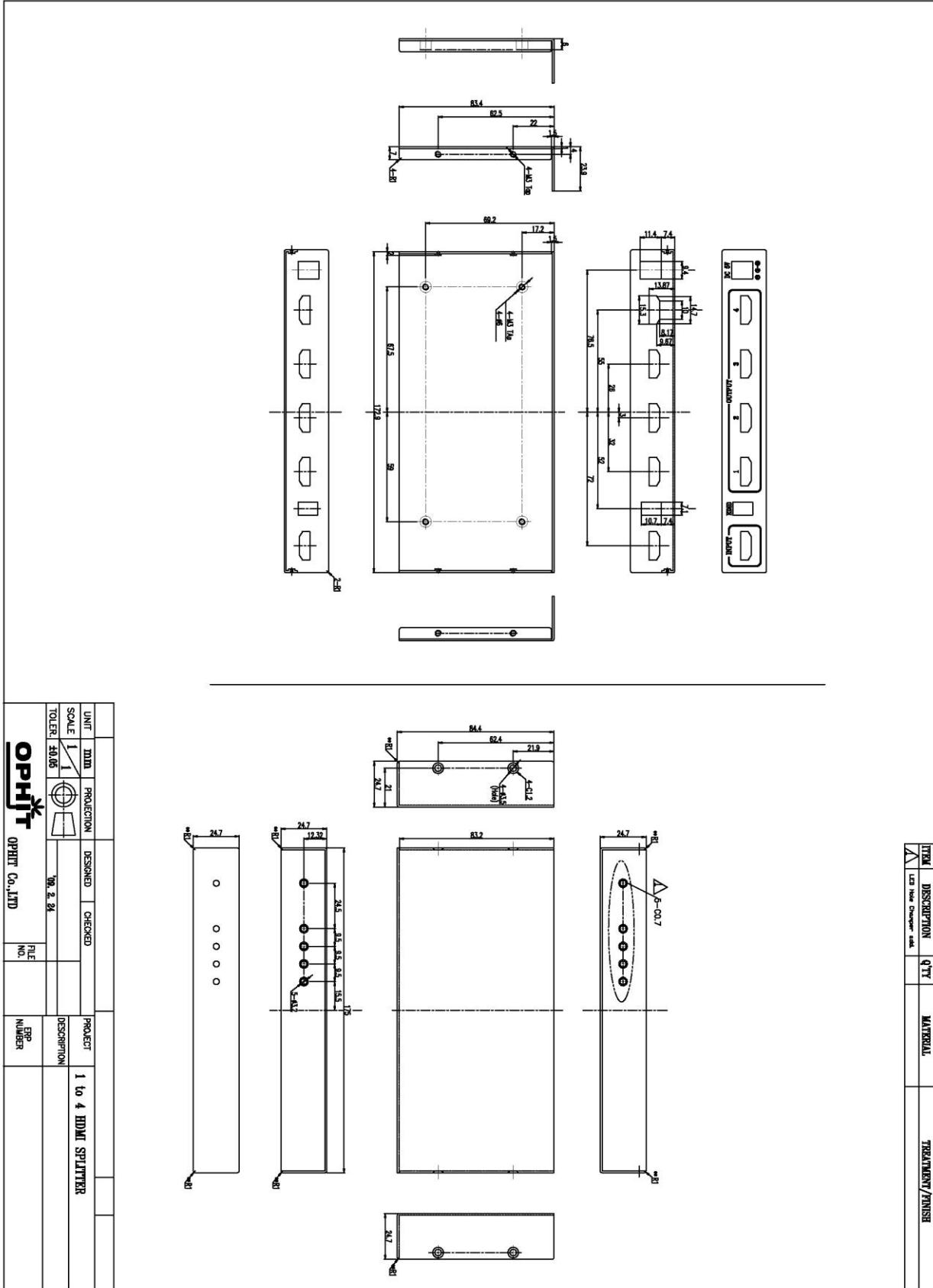
3) Power Jack



DC JACK 2.00

## 6. Mechanical Specification

### 6.1 Case Dimension



UNIT	MM	PROJECTION	DESIGNED	CHECKED	PROJECT
SCALE	1/1				1 to 4 HDMI SPLITTER
TOLER.	±0.05		VER. 2.01		
FILE NO.					
DRP NUMBER					

**OPHIT**  
OPHIT Co., LTD

## 7. 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 (Cr 6), polybrominated biphenyl (PBB) and polybrominated diphenyl (PBDE).

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

- OPHD-H104

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](mailto:support@ophit.com).

Best regards,

JONG-KOOK MOON/CEO

OPHIT CO., LTD.