CLUX-1CAT4H

1 by 4 CAT6 to HDMI V1.3 Splitter

Operation Manual

CLUX-1CAT4H

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Safety Precautions

Please read all instructions before attempting to unpack or install or operate this equipment, and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- ➤ Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- ➤ To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- ➤ Never spill liquid of any kind on or into this product.
- ➤ Never push an object of any kind into this product through module openings or empty slots, as you may damage parts.
- ➤ Do not attach the power supply cabling to building surfaces.
- ➤ Do not allow anything to rest on the power cabling or allow it to be abused by persons walking on it.
- ➤ To protect the equipment from overheating, do not block the slots and openings in the module housing that provide ventilation.

Revision History

Version No	Date	Summary of Change
V1	20091028	Preliminary Release
V2	20101116	IR Connection in Pg. 7
VR3	20120416	IR Frequency

Table of Contents

1. *Introduction*

The 1 by 4 CAT6 to HDMI 1.3 splitter is the smart way to link and display a single HDMI source on three or more screens simultaneously. Not only can it send an HDMI source to three different displays, but it can also act like a router, when connected to another CAT6 splitter it can transfer an HDMI signal to a further 3 displays, making a total of six showing the same source instead of only three. This unit allows users to transmit HDMI signals via CAT6 without compression over long distance. The CAT6 to HDMI splitter also incorporates functions like EDID, System Reset, Deep color and IR systems.

2. *Applications*

● Connect to three HDMI displays, or plug into another CAT6 splitter to reach several more
● Integrate your home entertainment system
● Multi-task project presentations
● Showroom displays
● Advertising display control
● System installation control

3. *Package Contents*

● 1 by 4 CAT6 to HDMI Splitter
● 1 x IR Receiver
● 1 x IR Blaster
● 5V DC power supply adaptor
● Operation Manual

4. *System Requirements*

● Input device with an HDMI cable
● Output display device(s) with HDMI cables and or CAT6 to HDMI receiver with HDMI cable to display.

5. Features

- HDMI 1.3, HDCP1.1 and DVI1.0 compliant
- Deep color video up to 12bit, 1080p@60Hz
- Allows users to link up to three displays simultaneously
- HDCP keysets allows each output to work independently when connected to an HDMI display
- Supports both DVI source/display by using an HDMI to/from DVI adaptor cable
- Supports LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio transmission (32-192kHz Fs sample rate)
- Supports a wide range of PC and HDTV resolutions from VGA to UXGA and 480i to 1080p.
- Selects EDID from TV mode or STD mode (this splitter)
- Deep color setting of 8 bit or 12 bit
- IR remote control
- System Reset function
- CEC Bypass

6. *Specifications*

|	
Video Bandwidth	2.25Gbps (single link)
Input Ports	1 x CAT6 input Video/1 x CAT6 input DDC
Output Ports	1 x CAT6 output Video/1 x CAT6 output DDC
	3 x HDMI female ports (Type A connector)
EDID	STD / TV
HDMI Audio Output	PCM2, 5.1, 7.1, Dolby 5.1, DTS 5.1, DD+, D-TrueHD, DTS-HD
HDMI Cable Out	1080p 8-bit (15M), 12-bit (10M)
CAT6 Cable In	1080p 8-bit (45M), 12-bit (15M)
CAT6 Cable Out	1080p 8-bit (40M), 12-bit (10M)
HDMI Resolution	480i, ~ 1080p 50/60, 1080p 24, VGA ~ SXGA
IR Frequency	30 ~ 50KHz
ESD Protection	Human body model: ± 8kV (air-gap discharge) ± 4kV (contact discharge)
Power Supply	5VDC/3.2A (US/EU standards, CE/FCC/UL certified)
Dimensions (mm)	215(W) x133(D) x 43(H)
Weight(g)	900
Chassis Material	Metal
Silkscreen Color	Black
Power Consumption	12W
Operating Temperature	0˚C ~ 40˚C / 32˚F ~ 104˚F
Storage Temperature	-20˚C ~ 60˚C / -4˚F ~ 140˚F
Relative Humidity	20~90% RH (non- condensing)

7. Operation Controls and Functions

The following sections describe the hardware components of the unit, along with how to install and use the device.

7.1 Front Panel
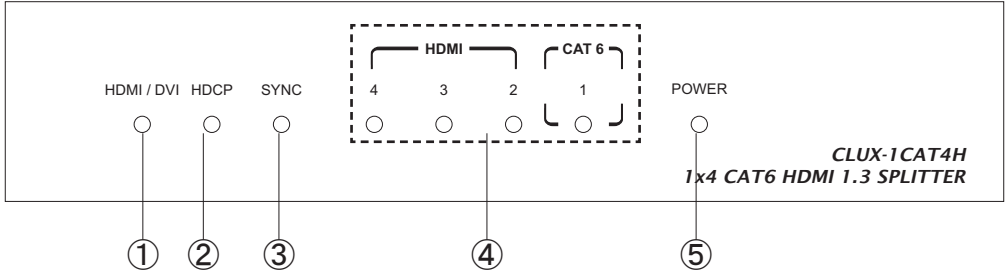
① HDMI/DVI indicators: When LED turns on this means the input source is with HDMI content and when the input source is DVI the LED will not switch on.
② HDCP indicators: When the input source is has HDCP protection the HDCP LED will turn on.
③ SYNC Indicator: The LED will switch on when the input source's signal is detected by the device.
④ Output LED 1~4: The LED will turn on when the output display is connected with power on.
⑤ Power LED: The LED will switch on when power is on.

7.2 Rear Panel
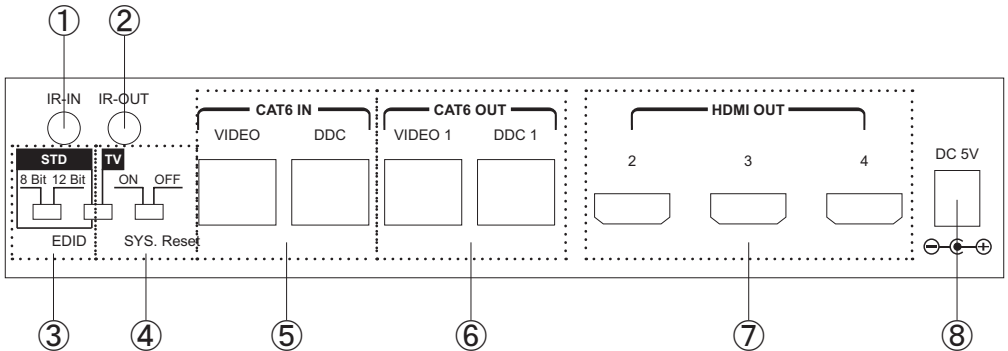
① IR IN: This slot connects with the IR receiver cable included in the package and uses the existing source's remote to control the source equipment.
② IR OUT: This slot connects with the IR blaster cable included in the package and should be placed it in front of the source for sending and infrared signal.

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③ EDID Control Switcher: Switch the EDID between STD & TV. Switch to STD to use the built-in EDID or switch to TV to use TV's EDID. Default factory setting is on TV, leave as is when the display is working properly.
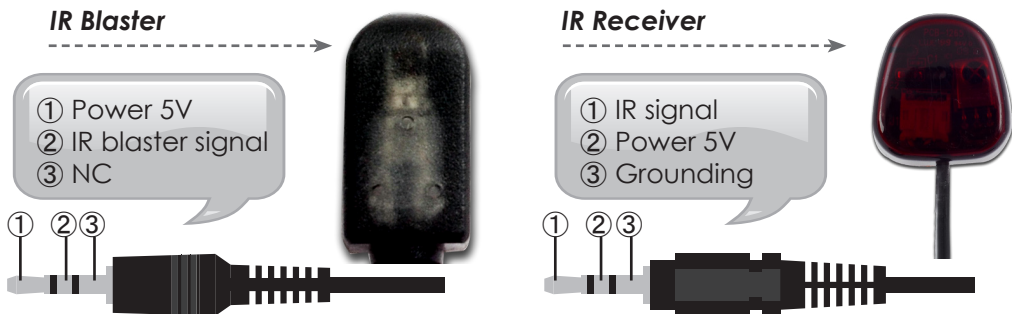
Note:
1. When EDID is switched to TV, the unit will detect the first HDMI output EDID and record in the unit. If the first detected output source is DVI it will pass on to the next one until the first HDMI source been detected. The detection priority is HDMI v1.3 > HDMI v1.2 > DVI.
2. When EDID switches to STD the unit will use built-in EDID which supports:
   Video → 1080p 8-bit or 12-bit (max)
   Audio → PCM 2CH
3. The EDID selection will only activate when the unit is plugged in and powered on.

④ System Reset: When switched "ON", the system will send the internal CEC to the display within 8~10 minutes to force all the displays to switch to HDMI 1 input port. Meanwhile, the source's CEC will not be functioning. When switched "OFF", the system reset function will be stopped. Factory default is "OFF".

⑤ Video/DDC input: These slots are for connecting the Video/DDC input to the Video/DDC output of the transmitter unit with CAT6 cables.

⑥ Video/DDC output: These slots are for connecting the Video/DDC output to the Video/DDC input of the receiver unit with CAT6 cables.

Note:
A. This system was tested with CAT6/23AWG/ cables, so if using cables of another type, the user must be warned that this may result in a lower maximum distance.
B. Cable distance tested with a PS3 40G, and 37" Samsung 12 bit LCD TV.
C. Figures provided in this manual are reference figures only, actual figures may depend on source and display use with cable specification.

⑦ HDMI Outputs 2~4: These slots allow you to connect HDMI displays with HDMI cables. When more than one output is connected, the HDMI outputs will play an identical video signal.

⑧ Power: This slot is where you plug in the 5VDC power supply included in the package into the unit and connect the adaptor to an AC outlet.

8. Pin Definitions
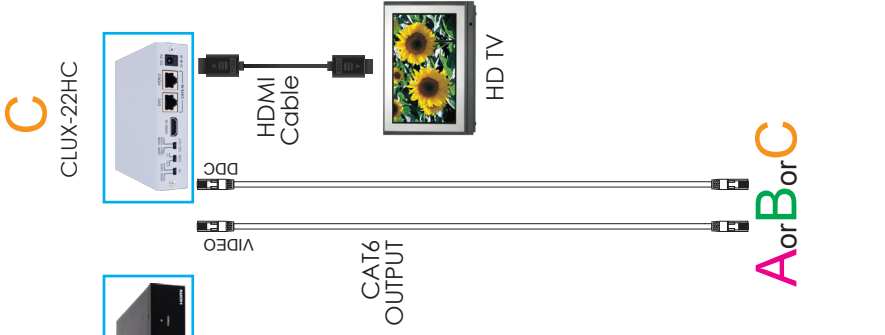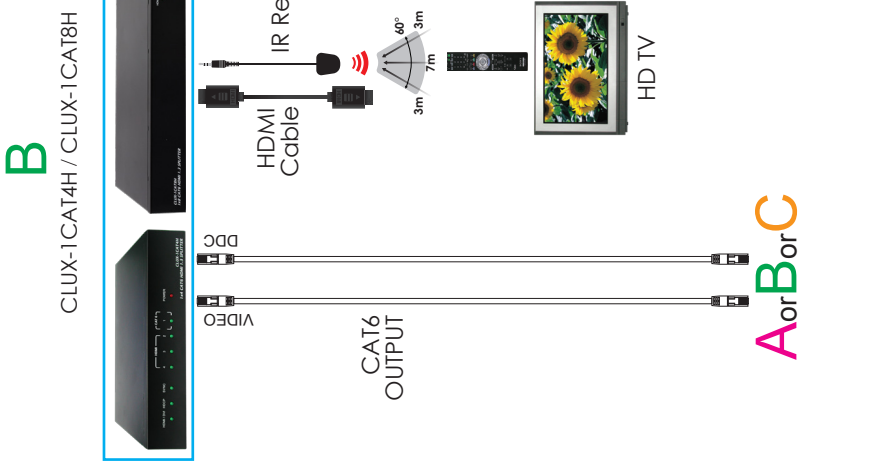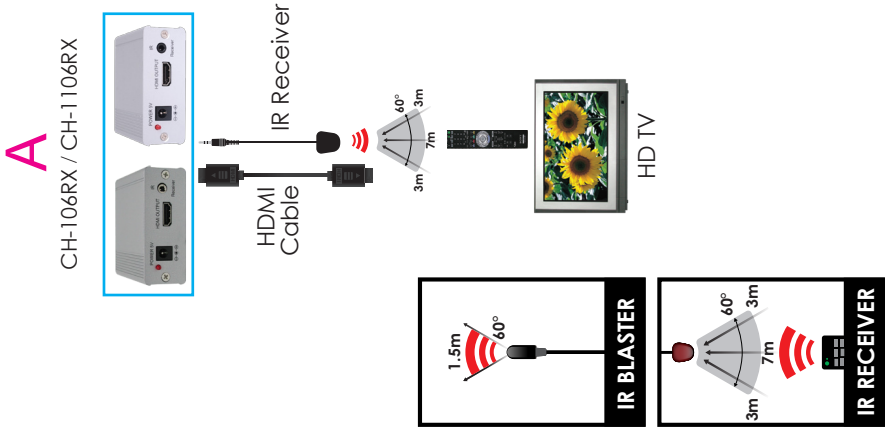
8.1 IR Cable Pin Definitions

IR Blaster

① Power 5V
② IR blaster signal
③ NC

① ② ③

IR Receiver

① IR signal
② Power 5V
③ Grounding

① ② ③

Note: The frequency on both IR Receiver & Blaster can support 20~60KHz.

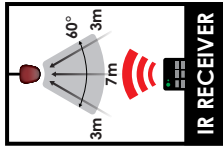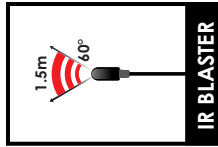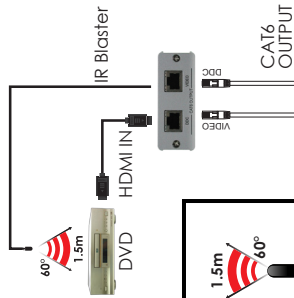### 8.2 RJ-45 Pin Definitions

Pin	Video	DDC
1	TX2+	DDC Bus Clock
2	TX2-	NC
3	TX1+	DDC Bus Data
4	TX0+	Power 5V
5	TX0-	GND
6	TX1-	IR IN
7	TXC+	HPD
8	TXC-	EC

9. Connection and Installation

A — CH-106RX / CH-1106RX

B — CLUX-1CAT4H / CLUX-1CAT8H

C — CLUX-22HC

IR Receiver

HDMI Cable

HD TV

DDC

VIDEO

CAT6 OUTPUT

A or B or C

IR BLASTER

IR RECEIVER

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CLUX-22HC

CH-106TX
CH-1106TX
CLUX-1H4CAT
CLUX-1H8CAT
CMLUX-4H4CAT
CLUX-22HC

CAT6 IN

DDC
VIDEO

HD TV

HDMI Cable

HDMI IN

DDC
VIDEO

DVD

CAT6 OUTPUT

A or B or C

CLUX-1H4CAT
CLUX-1H8CAT

CAT6 OUTPUT
x3

DDC
VIDEO

A or B or C

IR Receiver

HDMI OUT
Cable

HD TV

IN

DVD

IR Blaster

60° 1.5m

60°
3m   3m
7m

CH-106TX
CH-1106TX

IR Blaster

CAT6 OUTPUT

DDC
VIDEO

A or B or C

HDMI IN

DVD

60° 1.5m

IR BLASTER

1.5m   60°

IR RECEIVER

60°   3m

7m

3m

8

Acronyms

A
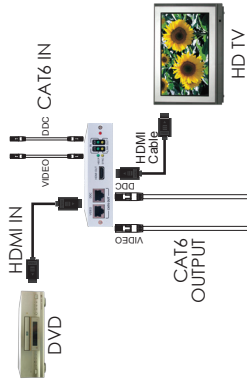
Acronym	Complete Term
CAT6	Category 6 cable
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
HDCP	High-Bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television
IR	Infrared
LPCM	Linear Pulse Code Modulation
STD	Standard
SYNC	Synchronize
SXGA	Super Extended Graphics Array
VGA	Video Graphics Array