OR-HD88HC

v1.4 HDMI 8 x 8 Matrix Switcher with simultaneous HDMI & CAT Outputs (inc. IR)

OPERATIONS MANUAL

DISCLAIMERS

The information in this manual has been carefully checked and is believed to be accurate. CYP (UK) Ltd assumes no responsibility for any infringements of patents or other rights of third parties which may result from its use.

CYP (UK) Ltd assumes no responsibility for any inaccuracies that may be contained in this document. CYP (UK) Ltd also makes no commitment to update or to keep current the information contained in this document.

CYP (UK) Ltd reserves the right to make improvements to this document and/or product at any time and without notice.

COPYRIGHT NOTICE

No part of this document may be reproduced, transmitted, transcribed, stored in a retrieval system, or any of its part translated into any language or computer file, in any form or by any means—electronic, mechanical, magnetic, optical, chemical, manual, or otherwise—without express written permission and consent from CYP (UK) Ltd.

© Copyright 2011 by CYP (UK) Ltd.

All Rights Reserved.

Version 1.1 August 2011

TRADEMARK ACKNOWLEDGMENTS

All products or service names mentioned in this document may be trademarks of the companies with which they are associated.

SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, 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 any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE	SUMMARY OF CHANGE
RDV1	15/02/2012	Preliminary Release

CONTENTS

1. Introduction 6
2. Applications 6
3. Package Contents 6
4. System Requirements 6
5. Features 7
6. Operation Controls and Functions 8
6.1 Front Panel 8
6.2 Rear Panel 9
6.3 Side Panel 10
6.4 Remote Control 10
6.5 IR Cable Pin Assignments 11
6.6 RS-232 Protocols 12
6.7 RS-232 Commands 13
7. Connection Diagram 14
8. Specifications 16
9. Acronyms 17

1. INTRODUCTION

The OR-HD88HC Matrix Switcher connects eight HDMI sources to 16 displays. This matrix features 8 HDMI outputs and each HDMI output is mirrored to provide a Twin CAT output which runs simultaneously. Connect a PU-1106RX Receiver to each of the Twin CAT outputs to extend the HDMI signal up to 45m for multi-room connectivity.This matrix switcher can be controlled via the supplied IR Remote Control, RS-232, or by using the selection buttons on the front of the unit. This device supports 'Deep Colour', High Definition Audio, and 3D signal compatibility.

2. APPLICATIONS

- HDMI System controls
- Video/TV wall display and control
- Security surveillance and control
- Commercial advertising, displaying and control
- Lecture room display and control
- Hyper market demonstration and control

3. PACKAGE CONTENTS

- 8×8 HDMI over Twin CAT6 Matrix
- HDMI over Dual CAT6 Receiver (Optional)
- 1×IR Extender
- 8×IR Blaster
- 1×24V/6.25 A DC Power Adaptor
- 1×IR Remote Control
- Operation Manual

4. SYSTEM REQUIREMENTS

- Input source equipment with HDMI connection cables
- Output display or audio receiver equipments with HDMI connection cables
- HDMI over dual CAT6 Receiver(s) with industry CAT6 cable

5. FEATURES

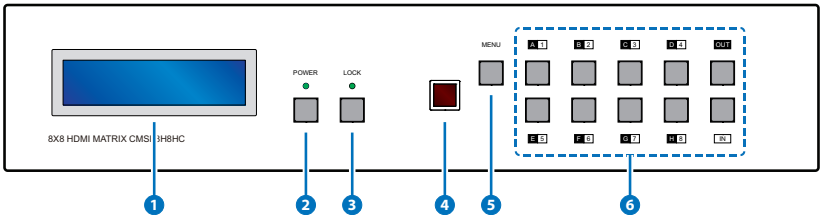
- HDMI, HDCP 1.1, DVI 1.0 compliant
- Resolutions supported: PC - VGA to WUXGA ; HDTV - 480i to 1080p plus 1080p24fps
- High Definition audio supported: Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio + LPCM
- The HDMI input is compensated, clock / phase adjusted, and jitter eliminated so the output is a brand new standard HDMI signal running up to 15m at 1080p
- RS-232, CEC Command functionality, IR Remote Control, and IR extender supported
- Selectable EDID settings - TV (downstream) and STD (fixed)
- Supports Deep Colour (10 & 12 bit)
- Supports 3D signals
- Key lock function

Note:

1. *This system was tested with CAT-6E/23AWG cables, results may vary with cables of a different specification.*
2. *Cable distance tested with a Sony PS3 40G, 37" Philips 8-bits LCD TV and 37" Samsung 12-bits LCD TV.*
3. *Figures provided in this manual are for reference only, actual figures may vary depending on the source equipment and display being used along with the type of cables and their specifications.*

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



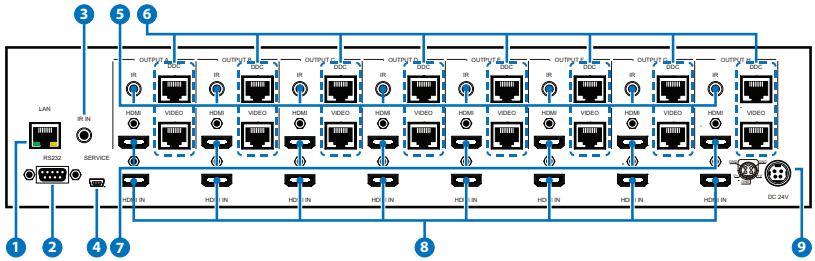
1. **LCM Display:** Displays the setting information of each input and output selection.
2. **Power Button LED:** Press this button to power the device on/off. The LED will illuminate green when the power is on, red when it is in 'Standby' mode.
3. **LOCK:** Press this button to lock all the buttons on the panel, press again to unlock.
4. **IR:** IR Receiver window (accepts the remote control signal of this device only).
5. **MENU:** Press this button once to select EDID setting from STD (internal) 1 or TV (external) 2 then press it again to confirm the selection. Press this button everytime to confirm the selection.
6. **1~8/A~H and OUT/IN Buttons:** Press the Out or In button to select the output or input mode then press the required number button to make the selection accordingly.

   For example, if outputs A~D need to be set to input 1 and outputs E~H need to be set to input 2 then the following sequence of button presses need to be performed

   Press: Out →A→B→C→D→In→1→Menu,
   and then press: Out→E→F→G→H→In→2→Menu.

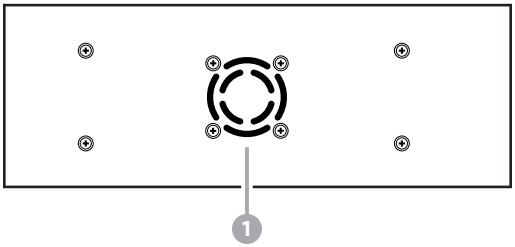
   Note: If the menu button is not press the selection will not be changed.

6.2 Rear Panel



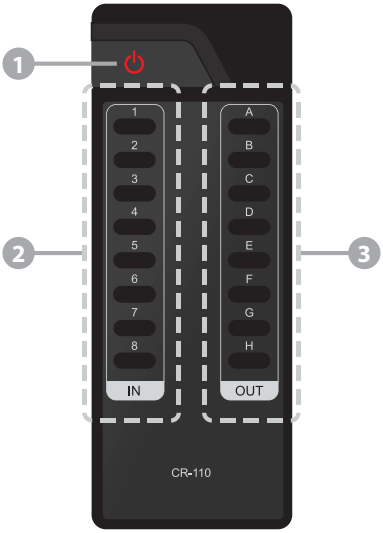
1. **LAN:** Reserved.
2. **RS-232:** Connect to a PC or laptop with D-Sub 9-pin female cable for the transmission of RS-232 commands.
3. **IR IN:** This slot is to connect with the IR extender included in the package for IR signal receiving from the remote control of this device and the source and display equipments.
4. **SERVICE:** This slot is to connect with mini USB-B type cable for firmware update only.
5. **IR OUTPUT A~H:** Connect the supplied IR blasters (included in the package) for IR signal transmission.
6. **DDC/VIDEO OUTPUT A~H:** Connect to the Receiver units with CAT6 cables from the Receiver for HDMI Audio/Video and IR/RS232 control.
7. **HDMI OUTPUT A~H:** These slots are to connect to the output display for simutaneouse output image with CAT6 cables.
8. **HDMI INPUT 1~8:** Connect to the HDMI input source equipment such as DVD player or Set-top Box with HDMI cable or DVI to HDMI converter cable.
9. **DC 24V Main Power:** This slot is where user connect the 24V DC power adaptor included in the package and plug the adaptor to an AC wall outlet for power supply, for powering the main unit.

6.3 Side Panel



1 **Fan Ventilator:** These are air ventilation areas, DO NOT block these areas or cover it with any object. Please allow adequate space around the unit for air circulation

6.4 Remote Control

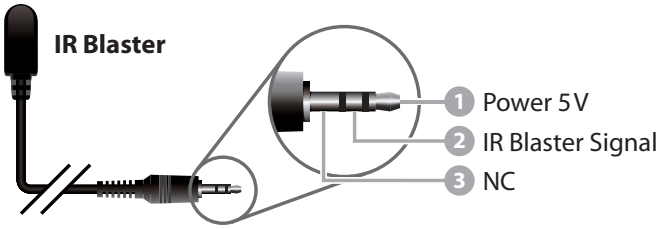


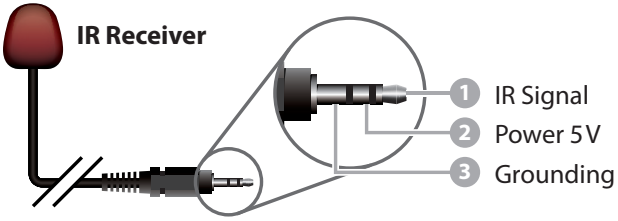
1 **POWER:** Press this button to switch on the device or set it to standby mode.

2 **IN**: Input ports selection 1~8.

3 **OUT**: Output ports selection A~H.

6.5 IR Cable Pin Assignments





6.6 RS-232 Protocols

Pin Assignment

CMSI-8H8HC			Remote Control Console	
PIN	**Assignment**		**PIN**	**Assignment**
1	NC		1	NC
2	Tx		2	Rx
3	Rx	→	3	Tx
4	NC		4	NC
5	GND	←	5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 19200bps

Data bit: 8 bits

Parity: None

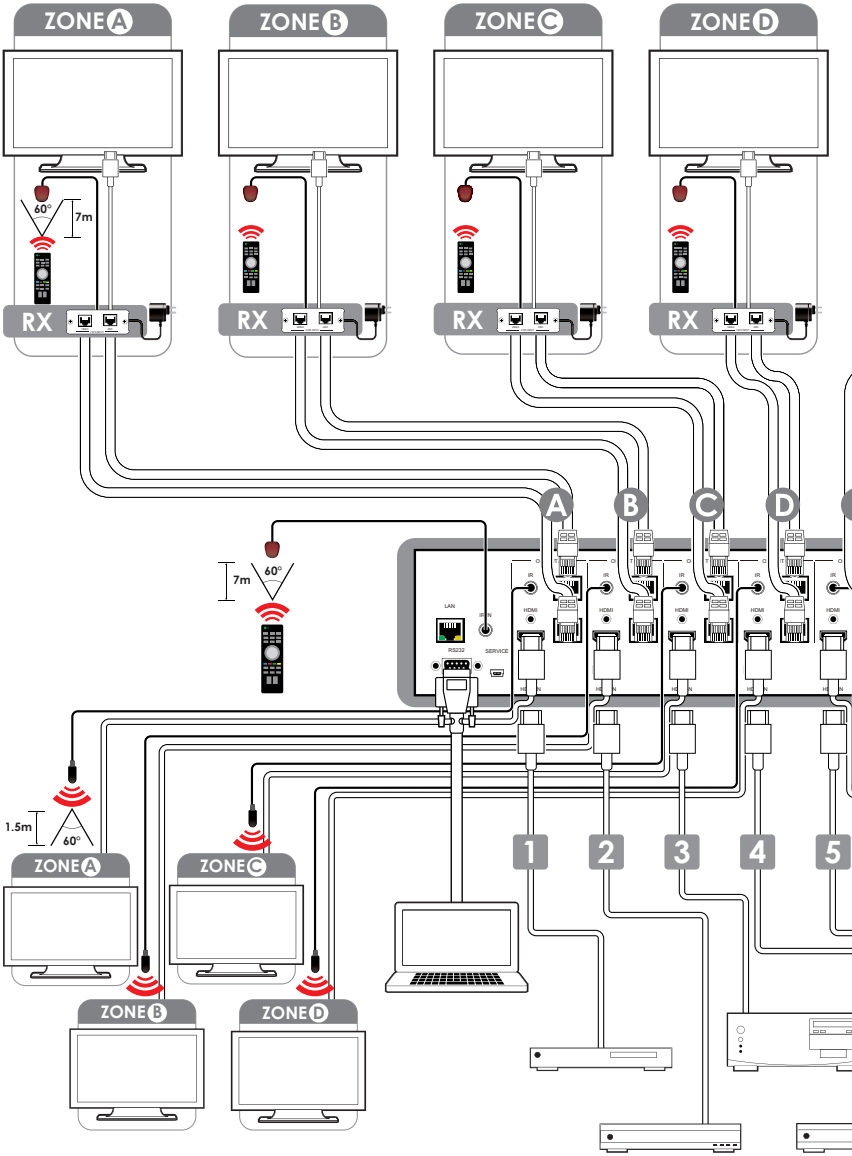
Stop Bit: 1

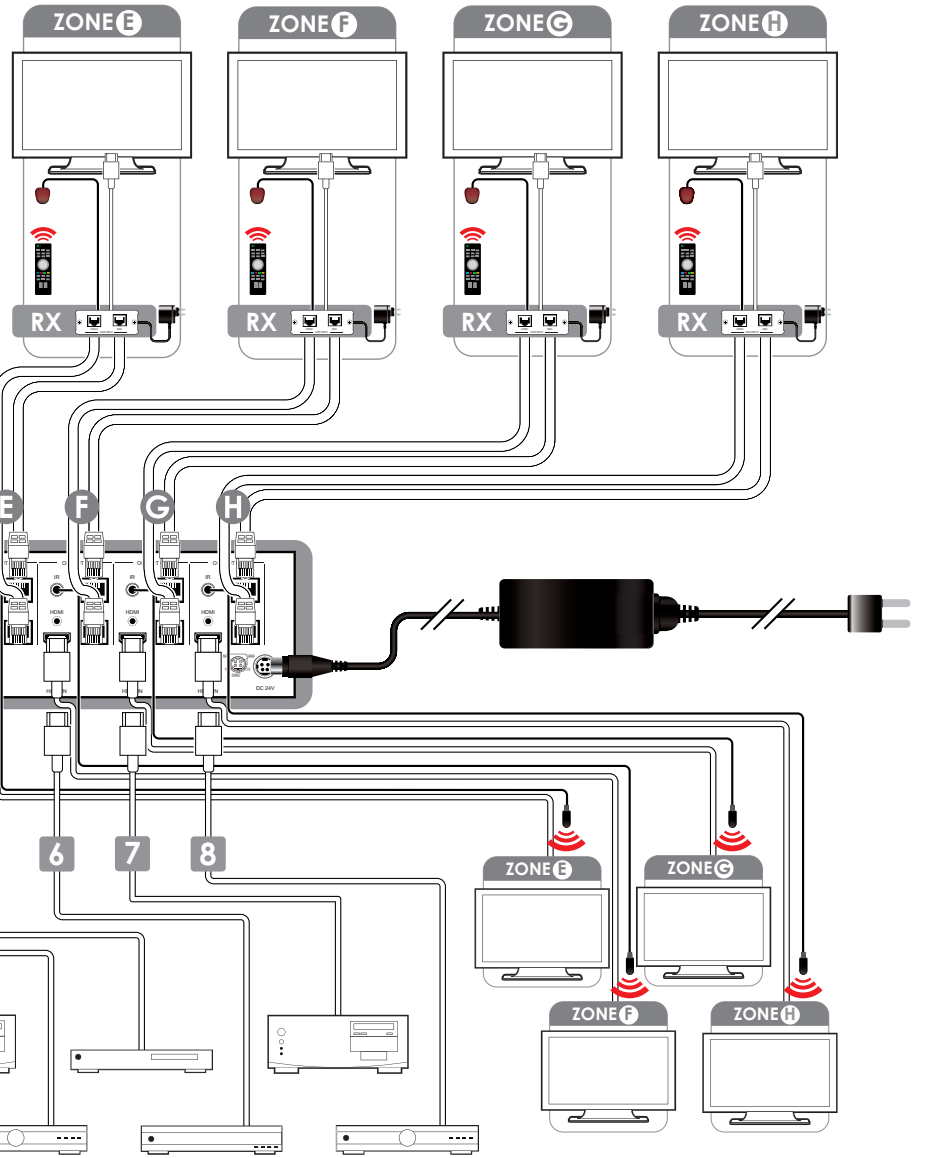
Flow Control: None

6.7 RS-232 Commands

Command	Description
A1~A8	Switch output A to 1~8
B1~B8	Switch output B to 1~8
C1~C8	Switch output C to 1~8
D1~D8	Switch output D to 1~8
E1~E8	Switch output E to 1~8
F1~F8	Switch output F to 1~8
G1~G8	Switch output G to 1~8
H1~H8	Switch output H to 1~8
ABCD...1~ABCD...8	Switch output ABCD... to 1~8 at the same time
P0	POWER OFF
P1	POWER ON
I1~I8	Switch all the output to 1~8
ST	Display the current matrix status and F/W version
RS	System Reset to A1, B2, C3, D4, E5, F6, G7, H8
?	Display all available commands

7. CONNECTION DIAGRAM




ZONE E
ZONE F
ZONE G
ZONE H
RX
RX
RX
RX
E
F
G
H
6
7
8
ZONE E
ZONE G
ZONE F
ZONE H

8. SPECIFICATIONS

Video Bandwidth	255 MHz/6.75 Gbps
Input Ports	8×HDMI, 1×IR Extender, 1×RS-232, 1×Mini USB-B type(for firmware update only)
Output Ports	8×Dual CAT6, 8×IR Blaster, 8×HDMI
HDMI Input Cable Distance	15M/8-bits, 10M/12-bits
HDMI Output Cable Distance	15M/8-bits, 15M/12-bits
CAT6 Output Cable Distance	45M/8-bits
ESD Protection	Human body model: ± 8kV (Air-gap discharge) ± 4kV (Contact discharge)
Power Supply	24 V/6.25 A DC (US/EU standards, CE/FCC/UL certified)
Dimensions	438 mm(W)×255 mm(D)×93 mm(H)
Weight	4458 g
Chassis Material	Metal
Silkscreen Color	Black
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)
Power Consumption	55 W

9. ACRONYMS

ACRONYM	COMPLETE TERM
DTS	Digital Theater System
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television
LCM	Liquid Crystal Monitor
USB	Universal Serial Bus
UXGA	Ultra Extended Graphics Array
VGA	Video Graphics Array

CIE-Group Ltd, Widdowson Close, Blenheim Industrial Estate, Bulwell,
Nottingham NG6 8WB

Tel: +44 (0)115 977 0075 | Fax: +44 (0)115 977 0081

Email: info@cie-group.com

www.cie-group.com