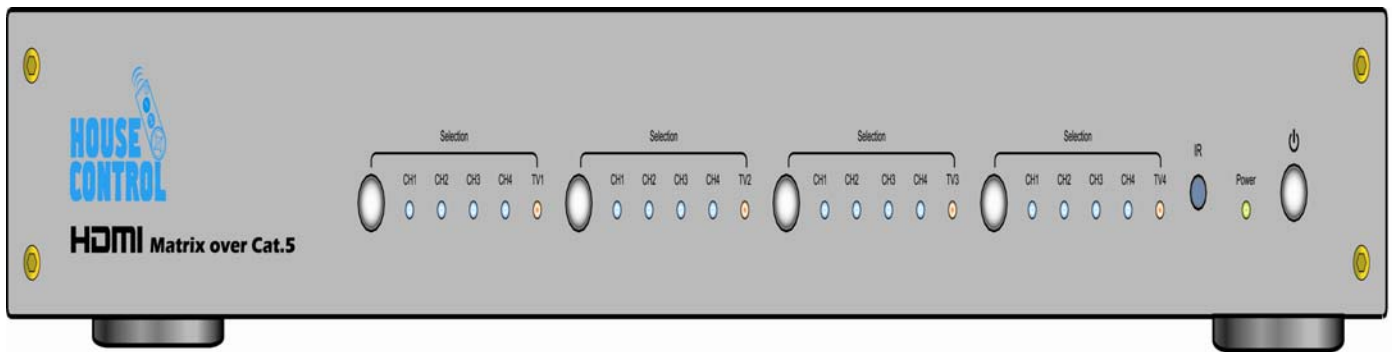


Instruction Manual

HDMI 4X4 Matrix Over Cat.5 Switcher



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1.0 INTRODUCTION

Thanks for purchasing this HMC-Series HDMI 4X4 Matrix Over Cat.5 Switcher from House Control . The HDMI 4X4 Matrix Over Cat.5 Switchers is designed to provide a way to select and switch up to 4 HDMI inputs and 4 HDMI outputs without signal degradation or loss of encryption.

1.1 Liability Statement

Every effort has been made to ensure that this product is free of errors. House Control cannot be held liable for the use of this hardware or any direct or indirect consequential damages arising from its use. It is the responsibility of the user of the hardware to check that it is suitable for his/her requirements and that it is installed correctly. All rights reserved. No parts of this manual may be reproduced or transmitted by any form or means electronic or mechanical, including photocopying, recording or by any information storage or retrieval system without the written consent of the publisher.

House Control reserves the right to revise any of its hardware and software following its policy to modify and/or improve its products where necessary or desirable. This statement does not affect the legal rights of the user in any way.

1.2 FEATURES

The HMC-404 HDMI 4X4 Matrix Over Cat.5 Switchers have many features that enable them to perform in a superior manner. Among these features you will find:

- Each TVs output switches 1 to 4 HDMI Sources.
- Supports 480i, 480p, 720p, 1080i and 1080p resolution
- Supports DDWG standard for HDMI compliant monitors
- HDCP Compliant.
- RoHs Compliant
- IR Remote Control Capability
- RS-232 Control Port Provided

2.0 SPECIFICATIONS

PERFORMANCE

HDTV Resolutions	480p, 720p, 1080i, 1080p
Standard TV Resolution	480i
Maximum Cable Distance	Input: 15 feet Max, Outputs: 180 feet Max

I/O CONNECTORS

Sender

Inputs	4 HDMI 19PIN Connector -TMDS
Output	4 Dual Port RJ45 TMDS/DDC

Receiver

Inputs	4 Dual Port RJ45 TMDS/DDC
Output	4 HDMI 19PIN Connector -TMDS

MECHANICAL

Sender

Dimensions (H-W-D)	1.73"x16.97"x8" (44x431x203mm)
Weight	5.0 lbs (2265g)

Receiver

Dimensions (H-W-D)	1.73"x16.97"x8" (44x431x203mm)
Weight	5.0 lbs (2265g)

WARRANTY

Limited Warranty	1 Year Parts and Labor
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ENVIRONMENTAL

Operating Temperature	+0 to +40° C (+32° to 104° F)
Operating Humidity	10% to 85% (Non-condensing)
Storage Temperature	-20° to +60° (+20° to +140° F)
Storage Humidity	10% to 85% (Non-condensing)

REMOTE CONTROL

Serial Interface	RS-232
Infrared	IR Remote (Front)
	External IR Remote (Rear)

POWER REQUIREMENTS

Sender

External Power Supply	5VDC@3A
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Receiver

External Power Supply	5VDC@1A
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SAFETY	
Sender	FCC, CE, RoHS
Receiver	FCC, CE, RoHS
Power Supplies	UL, CE, CSA, CEC, RoHS
ACCESSORIES	
Sender- AC Power Adapter X 1	US, UK or Euro Type
Receiver- AC Power Adapter X 4	US, UK or Euro Type
Sender IR Remote Control X 1	Internal IR Type
Receiver IR Remote Control X 4	Internal IR Type
Sender Instruction Manual X 1	
Receiver Instruction Manual X 4	
Optional Accessory	
Sender Extended IR Sensor	IR-101 Remote IR sensor Module
Sender Mounted Ear	SME-101 Rack Mounted Ear.

3.0 CHECKING PACKAGE CONTENTS

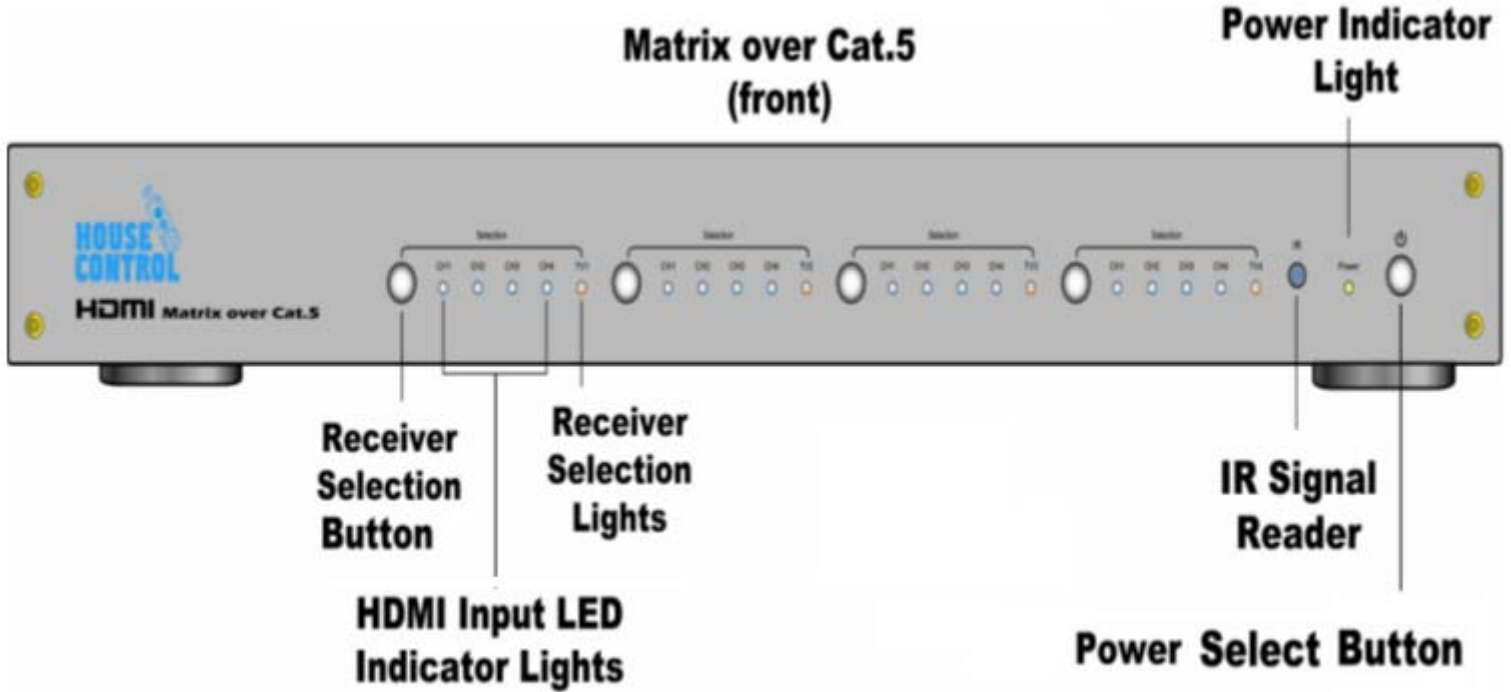
Before attempting to use this unit, please check the packaging and make certain the following items are contained in the shipping carton:

- 1 ea HDMI 4X4 Matrix Over Cat.5 Switcher
- 4 ea HDMI 4X4 Matrix Over Cat.5 Receiver
- 1 ea 5 VDC @ 3A Power Adapter - Sender
- 4 ea 5 VDC @1A Power Adapter - Receiver
- 1 ea IR Remote Control - Sender
- 4 ea IR Remote Control - Receiver
- 1 ea Instruction Manual

Note: Please retain the original packing material should the need ever arise to return the unit. If you find any items are missing, contact House Control Immediately. Have the Model Number, Serial Number and Invoice available for reference when you call.

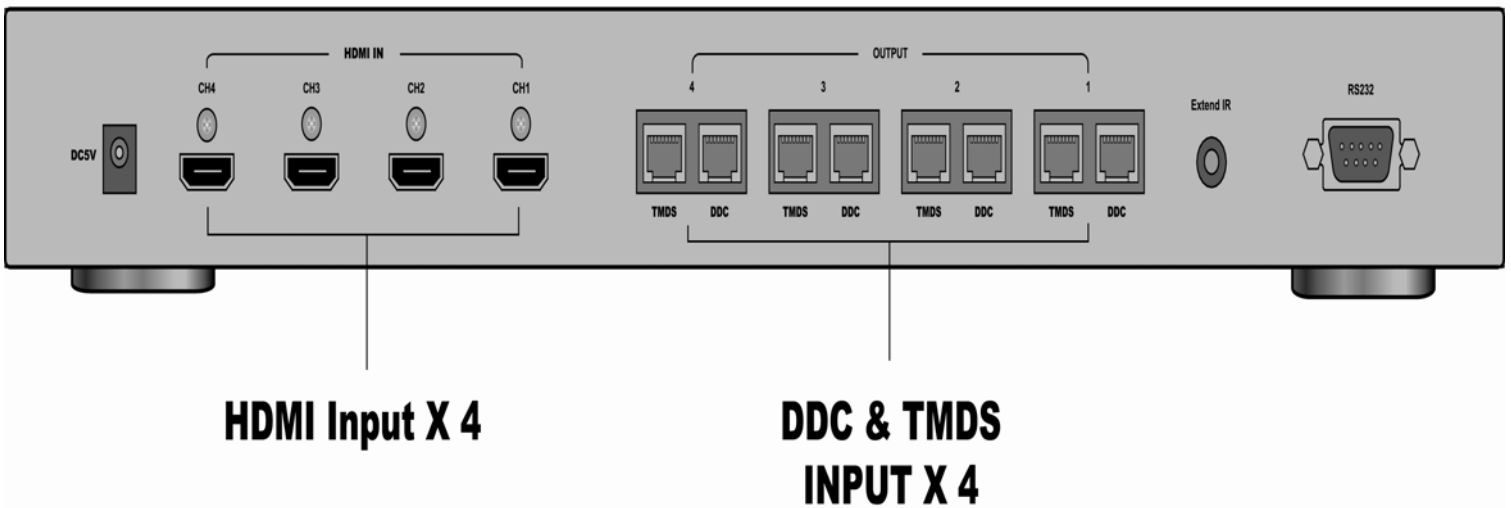
4.0 CONNECTING THE HARDWARE

HMCS-404 FRONT PANEL (Sender)

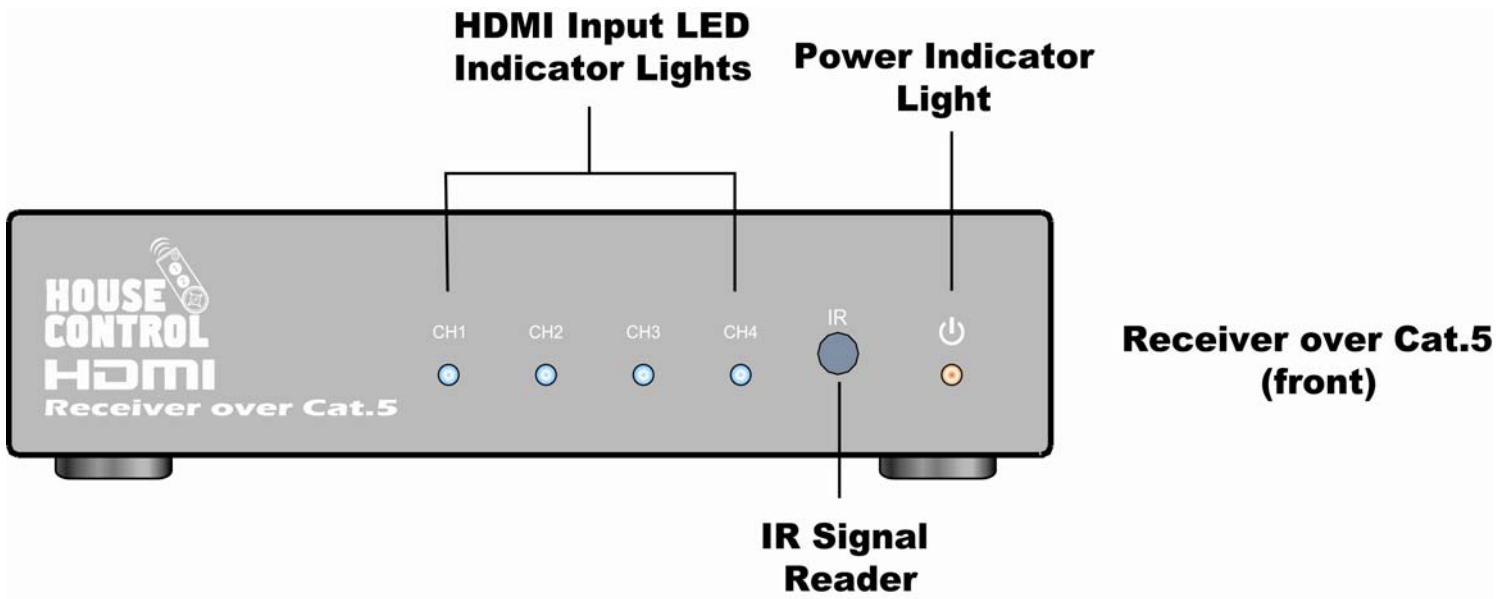


HMCS-404 BACK PANEL (Sender)

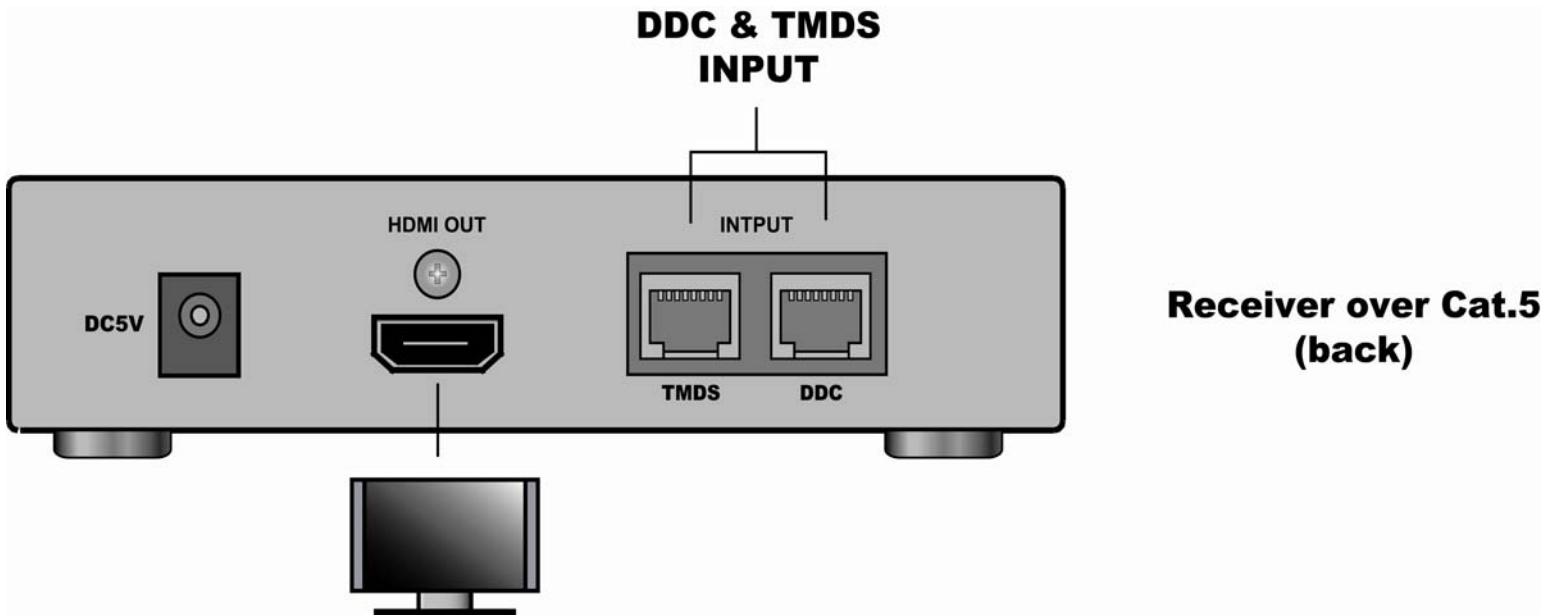
Matrix over Cat.5 (back)



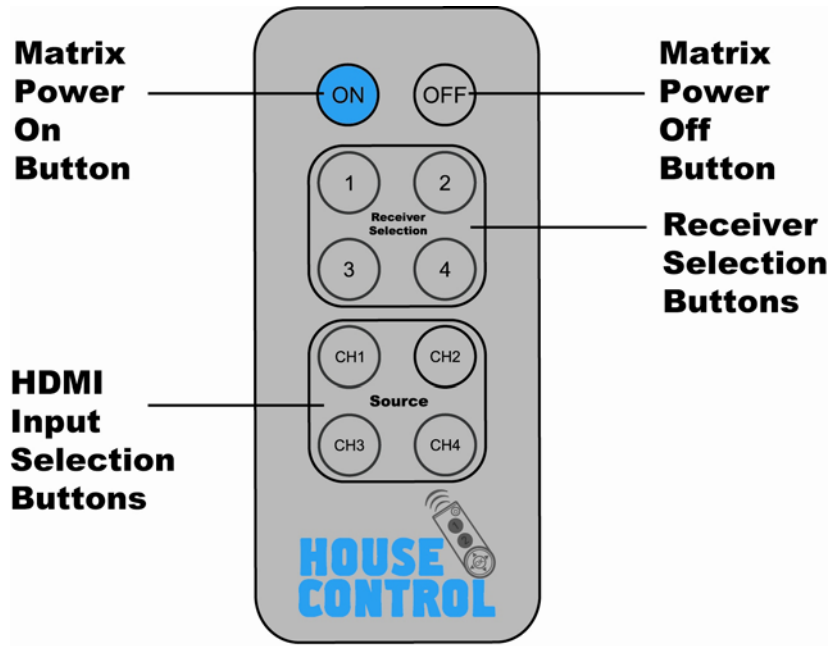
HMCS-404 FRONT PANEL (Receiver)



HMCS-404 BACK PANEL (Receiver)

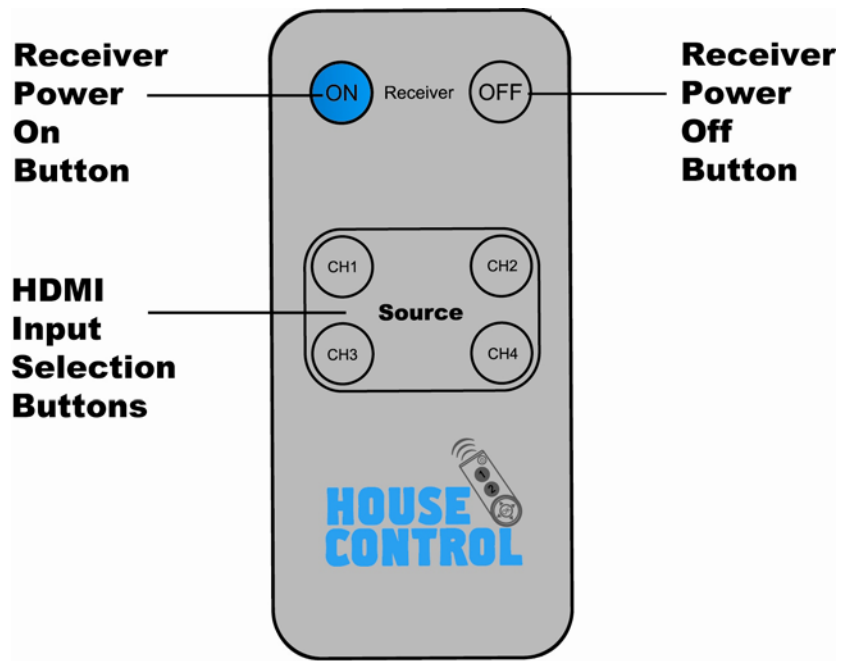


HMCS-404 IR Remote Control (Sender)



Remote for Matrix over Cat.5

HMCS-404 IR Remote Control (Receiver)



Remote for Receiver over Cat.5

5.0 OPERATING THE UNIT

Power is controlled from one slide switch. To turn the Matrix Switcher OVER CAT5 ON/OFF, press the Power ON/OFF button of IR remote control or a power control slide on Matrix. Once the unit is in the operating state, pressing the IR remote control causes the input selection to advance each time it is pressed. (An LED will light to show which input is active.) Once the highest input number is reached, pressing the switch again will select input number 1. Pressing and holding the switch for two (2) seconds will cause the unit to power off. For greater flexibility, an Infrared remote control for Matrix itself and four simple Infrared remote controls for four receivers are also provided. In the case of the remote, there are separate buttons for the power and input sources but for the remote control of the receivers are only for sources selection button. Point the remote control at the unit and press the power button to turn the switcher on or off. Press the appropriate input select button to cause the desired input to appear on the switcher's output and for each receiver.

5.1 OPERATION USING THE OPTIONAL EXTENDED IR MODULE

An optional IR extender accessory, Model IR-101, is available for those situations requiring the Matrix Switcher to be mounted in a location where direct line-of-sight is not available. If you have purchased the optional IR extension module, connect it to the rear of the unit and position the module in a manner that allows the furnished remote to be pointed at it without any obstructions between the remote and the extended IR module. The IR-101 is shipped with a 6 foot interconnect cable. Longer length cables are available up to 25 Feet.

Connect 4 HDMI approved cable, no more than 25 feet in length, from each of the HDMI sink devices to the outs of the HDMI over Cat.5 Receiver. Operation using the extended IR module accessory is the same as with the standard IR remote capability.

6.0 INSTALLATION OF MOUNTING COMPONENTS

The HMCS-404 HDMI 4X4 Matrix over Cat.5 Switcher can be mounted in a standard 19" rack.

Mounting the HMS-404/402/204 Matrix Switchers

To mount the rack mounting brackets to the HDMI 4X4 Matrix over Cat.5 Switcher, merely attach the brackets to the HMCS-404 and then attach the combined assembly to the equipment rack using the furnished hardware.

7.0 TROUBLESHOOTING

In the event of problems, first make certain that the input and output cables are no more than 50 feet long (for signals to 1080i resolution) and are of the highest possible quality. Next, make certain that the Matrix Switcher is receiving power.

If all is well in these areas, remember that HDMI devices communicate with one another so the source devices and destination device must be fully HDMI capable. In addition, HDCP encryption requires additional processing which also is dependent on the equipment you have connected to the sources and destination device. If you experience problems using the HDMI Matrix Switcher, you should attempt to determine what is wrong by attaching each of the source devices – one at a time – directly to the destination device using the same cables you are using with the expanded system. This is a way of determining if the problem is due to bad cables or a problem with the other devices. If you are unable to obtain a signal using this simplified path, suspect the cables, the source device(s) or the destination device.

8.0 LIMITED WARRANTY

LIMITED WARRANTY – With the exceptions noted in the next paragraph, House Control warrants the original purchaser that the equipment it manufactures or sells will be free from defects in materials and workmanship for a period of two years from the date of purchase. Should this product, in House Control's opinion, prove defective within this warranty period, House Control, at its option, will repair or replace this product without charge. Any defective parts replaced become the property of House Control. This warranty does not apply to those products which have been damaged due to accident, unauthorized alterations, improper repair, modifications, inadequate maintenance and care, or use in any manner for which the product was not originally intended.

Items integrated into House Control products that are made by other manufacturers, notably computer hard drives and liquid crystal display panels, are limited to the term of the warranty offered by the respective manufacturers. Such specific warranties are available upon request to House Control.

If repairs are necessary under this warranty policy, the original purchaser must obtain a Return Authorization Number from House Control and return the product to House Control, freight prepaid. After repairs are complete, the product will be returned, freight prepaid.

LIMITATIONS - All products sold are "as is" and the above Limited Warranty is in lieu of all other warranties for this product, expressed or implied, and is strictly limited to one year from the date of purchase. House Control assumes no liability to distributors, resellers or end-users or any third parties for any loss of use, revenue or profit.

House Control makes no other representation of warranty as to fitness for the purpose or merchantability or otherwise in respect of any of the products sold. The liability of House Control with respect to any defective products will be limited to the repair or replacement of such products. In no event shall House Control be responsible or liable for any damage arising from the use of such defective products whether such damages are direct, indirect, consequential or otherwise, and whether such damages are incurred by the reseller, end-user or any third party.

9.0 REGULATORY COMPLIANCE

The HMCS-Series HDMI 4X4 Matrix Over Cat.5 Switchers have been tested for compliance with appropriate FCC and CE rules and regulations and are also RoHS compliant.

The Power Adaptor/Supplies have been tested for compliance with UL, CE, CEC and CSA rules and regulations and are also RoHS compliant.

10.0 APPENDIX A: RS-232 CODE INFORMATION

Transmission Format:

Baud Rate: 57600 BPS

Data Byte: 8 bits

Parity: None

Stop Bit: 1

Flow control: None

Modem Cable Pin outs:

Switcher End			Controller End	
Pin	Definition		Pin	Definition
1	NC		1	NC
2	TxD	→	2	RxD
3	RxD	←	3	TxD
4	NC		4	NC
5	GND		5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

4X4 Commands:

Command Code	Description
0x01	TV 1 Output Port On
0x02	TV 2 Output Port On
0x03	TV 3 Output Port On
0x04	TV 4 Output Port On
0x05	CH 1 Input Port On
0x06	CH 2 Input Port On
0x07	CH 3 Input Port On
0x08	CH 4 Input Port On
0x09	TV Output Power On/Off
0x06	CH 2 Input Port On
0x09	TV Output Power On/Off

