



HDMI2 INTEGRATOR'S MANUAL



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Revision Record			
Revision	Date	Revision Editor	Revision Description
1.0	12/19/24	AP	Release version

1 INTRODUCTION

HDMI2 is a “blade” style product that is intended to work within a MCS COM3000 environment. Specifically, it will interface with the COM400 (or COM421) chassis in the same way that the current COM51 satellite tuner card does. The HDMI2 receives video and audio from two HDMI connectors, encodes the video into H.264 MPEG 2 transport packets, encodes the PCM audio into AC-3, and sends the video to the destination IP:port. The HDMI2 also streams ten simultaneous MPEG2 transport file directories from a USB flash drive.

The HDMI2 card has two HDMI inputs that are MPEG encoded and streamed to an IP:port.

The HDMI2 supports streaming MPEG2 transport files from a USB flash drive. The USB flash drive must have ten directories named “/s0” through “/s9”. Each directory can have up to 30 MPEG2 transport files with the “.ts” filename extension. The files will be streamed in alphabetic order. Each directory can then be simultaneously streamed to a different IP:Port.

2 INSTALLATION

The HDMI2 cards inserts into a COM400 or COM421 chassis similar to a COM51D.



3 SETUP AND CONFIGURATION

3.1 WEBSERVER ADDRESS

Like the COM 51D, the HDMI2 card's default IP address is $192.168.3.(chassisId*16+slot+1)$.

All normal configurations can be accomplished from this IP address.

The COM51D Pairing info screen will discover the ATSC4 and provide a hyperlink to the interface. (SW version 02.04.47 or higher)

The HDMI2 will also acquire a DHCP IP address.

SOC2 address

The HDMI2 uses two system chips. The secondary SOC controls only the HDMI2 port. The default IP address of this auxiliary SOC is chassisId*16+slot+6.

If the main IP address for the HDMI is 192.168.3.21 the second IP would be 192.168.3.27.

The only reason to access the second SOC IP is for SW updates or to configure a static IP address.

Do not access the second SOC to configure the HDMI data path.

Both IP addresses can be changed. (see setup and Configuration)

3.2 USER INTERFACE

The WebUI can be accessed at the HDMI2 IP address.

HDMI2



[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

set ▼ help ▼

3.3 WEB UI OVERVIEW

Help

Lists commands and parameters available via browser input

```
$ get help
<get/set> <item> <value>
get help [extra | example | factory]
hdmi#/ip #.#.#:#
hdmi#/status
hdmi#/resolution <480|720|1080>
hdmi#/bitrate <1.0-16.0>
hdmi#/framerate <24|30|60>
hdmi#/check
hdmi#/close
usb#/ip #.#.#:#
usb#/close
get status
dir [-l]
copy <fileFrom> <fileTo>
rename <fileFrom> <fileTo>
del <file>
get info
set save
```

Status

List pertinent information regarding the operation of the HDMI2 card.

- Destination IP address and port
- Bitrate
- Mbps
- Packets
- Resolution
- Frames per second

\$ get status

name	ip:port	packets	bitrate	res	Mbps	fps
hdmi0	239.100.10.57:5000	211669675	884352	720	2.5	30
hdmi1	0.0.0.0:0	0	0	720	2.5	30
usb0/ip	239.100.10.59:5000	393282183	2610944			
usb1/ip	239.100.10.60:5000	469569863	2400384			
usb2/ip	239.100.10.61:5000	1131163243	8001280			
usb3/ip	239.100.10.62:5000	811956782	3221568			
usb4/ip	239.100.10.63:5000	620865273	2789920			
usb5/ip	239.100.10.64:5000	1534244530	9285696			
usb6/ip	239.100.10.65:5000	571247929	2126656			
usb7/ip	239.100.10.66:5000	791320474	4253312			
usb8/ip	239.100.10.67:5000	288984577	1400224			
usb9/ip	239.100.10.68:5000	628569025	2589888			

Config

Sets and gets all operational settings for the HDMI2 card. This will be covered in more detail in the Setup and Configuration section

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

get ▾
help ▾

Submit

help

hdmi0/ip

hdmi0/status

hdmi0/resolution

hdmi0/bitrate

hdmi0/framerate

hdmi1/ip

hdmi1/status

hdmi1/resolution

hdmi1/bitrate

hdmi1/framerate

usb0/ip

usb1/ip

usb2/ip

usb3/ip

usb4/ip

usb5/ip

usb6/ip

usb7/ip

usb8/ip

usb9/ip

status

info

save

factoryreset

reboot

tftplp

tftp

sys/ip

sys/subnet

sys/gw

sys/dns

ifconfig

syslog

sysloglp

ping

password

lock

unlock

Save

All settings and changes must be saved from this tab.

It is not necessary to type the set save command, just click submit

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

Command:

\$ set save

Upload

Use this page to upload software.

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

No file chosen

3.4 SOFTWARE UPGRADE

Check ATSC4 for current software version.
Config -> get info.
If software is not consistent with version on the Vantiva website, upgrade is necessary
Upgrade Software

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

get ▾ help ▾ Submit

```
$ get info
HDMI2 Version: 00.06.01; Nov 15 2024 14:09:11
Chassis 2; Slot 4; HwId 1; BoardId 2
MAC 5C:22:DA:34:26:68
```

Download current HDMI2 software from the Vantiva website.
Save .bin file to a folder on your PC
Navigate to file location -> Upload
HDMI2 will reboot
Log into SOC2 and repeat the above procedure.

4 CONFIGURATION

The "Config" page enables card configuration changes.

The user must explicitly save their changes to flash by clicking on the Save button.
No changes are persistent until they are saved to flash.

4.1 CHANGE THE HDMI2 MANAGEMENT IP ADDRESS

Set sys/ip

Enter the required IP address

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

set ▾ sys/ip ▾ Submit

Set sys/subnet

Enter subnet mask

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

set ▾ sys/subnet ▾ Submit

Set sys/gw

Enter gateway IP address

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

set ▾ sys/gw ▾ Submit

Set sys/DNS

Enter IP address of DNS server

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

set ▾ sys/dns ▾ Submit

Set AUX SOC IP address

Log into SOC2 IP address and repeat above steps

4.2 SET DESTINATION IP ADDRESSES

The HDMI2 will output independent IP streams from each HDMI input and from a USB drive. Each stream needs an IP address. The section below will detail how to set up each input.

Set HDMI0 IP output

Enter the IP address and port number the HDMI0 input will stream to.

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

set ▾ hdmi0/ip ▾ 172.16.46.3:225 Submit

Set HDMI0 resolution

Options: 480|720|1080

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

set ▾ hdmi0/resolution ▾ 720 Submit

Set HDMI0 bitrate

Options: 1.0 – 16.0

Recommended to limit to 8.

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

set ▾ hdmi0/bitrate ▾ 6 Submit

Set HDMI0 frame rate

Options: 24|30|60

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

set ▾ hdmi0/framerate ▾ 30 Submit

Repeat the above steps for HDMI1

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

Command: Submit

\$ set save

Save Settings

Save > Submit

4.3 USB SETUP

Transport stream files can be set up on a USB flash drive.

Create directories in the root of the flash drive named s0 through s9.

The total bandwidth of all files on the flash drive must be less than 70Mbps.

Name	Date modified	Type
s0	12/11/2024 12:30 PM	File folder
s1	12/11/2024 12:31 PM	File folder
s2	12/11/2024 12:31 PM	File folder
s3	12/11/2024 12:31 PM	File folder
s4	12/11/2024 12:31 PM	File folder
s5	12/11/2024 12:31 PM	File folder
s6	12/11/2024 12:32 PM	File folder
s7	12/11/2024 1:43 PM	File folder
s8	12/11/2024 1:43 PM	File folder
s9	12/11/2024 1:43 PM	File folder

Each Directory can contain up to 30 MPEG2 transport streams. The files within a directory will be streamed in alphabetical order.

HDMI2 status screen will display current bitrate

Bitrates can be checked from the HDMI2 Status page

```
$ get status
```

name	ip:port	packets	bitrate	res	Mbps	fps
hdmi0	172.16.46.3:225	866965295	6.4	720	8	30
hdmi1	0.0.0.0:0	0	0	720	2.5	30
usb0/ip	172.16.46.3:241	562546258	5.4	720	2.5	30
usb1/ip	172.16.46.3:242	0	0			
usb2/ip	172.16.46.3:257	0	0			
usb3/ip	172.16.46.3:258	0	0			

4.4 SAVE

All settings and changes must be saved from this tab. It is not necessary to type the set save command, just click submit

[Help](#), [Status](#), [Config](#), [Save](#), [Upload](#)

Command:

\$ set save