



CNT-IP-264
HDD-264/FHD-264 Controller and Monitor
Video Over IP WEB Manager
Serial Over IP
Real Time Scheduler

UMA1267 Rev NC

Table of contents

TABLE OF CONTENTS..... 2

TRADEMARKS USED IN THIS MANUAL..... 3

FCC RADIO FREQUENCY INTERFERENCE STATEMENT 3

1. INTRODUCTION 4

 KEY FEATURES 5

 INSTALLATION 5

 PACKAGE CONTENTS..... 5

 ACCESSING WEB MANAGER 6

 SOIP FEATURE IN HHD-264/FHD-264..... 6

2. WEB MANAGER 7

 ROUTING TAB 7

 SETTINGS TAB 8

 Network Settings Tab 8

 System Settings Tab 9

 EXTERNAL DEVICE TAB 10

 ACTIONS TAB 11

 Scheduler Tab..... 12

 SOIP TAB..... 13

 LOGIN TAB..... 13

SPECIFICATIONS..... 14

TRADEMARKS USED IN THIS MANUAL

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FCC RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been designed to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are intended to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



1. Introduction

The CNT-IP-264 is a powerful networking module designed to manage Models HHD-264 and FHD-264 -- HDMI over LAN Senders and Receivers, which utilize the latest H.264 encoding. The CNT-IP-264 acts as a WEB Server and serves a dynamic web application so to its users to control not only the network of encoders and decoders, but also their companion products such as TV's, Projector's, Media players, etc. The CNT-IP-264 uses Hall Research's DVM (Dynamic Virtual Matrix™) technology to manage up to 64 sources and 256 displays. The CNT-IP-264 can switch the Model HHD-264 and FHD-264 video groups on the fly and shows the video status and routing information on a graphical user interface.

Users can access the web application using any computing device (pc, Smart phone or Tablet) that run a standard browser.

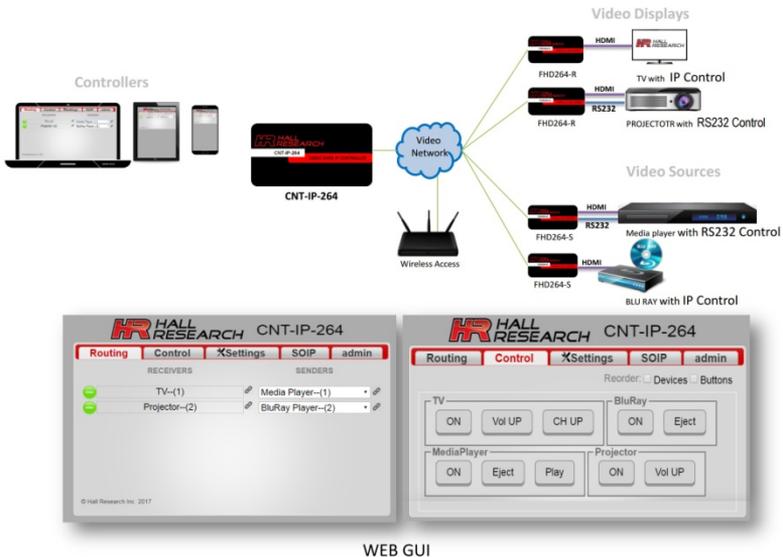


Figure 1.1 Block Diagram

The CNT-IP-264 provides an easy way to add and control your devices, which have Serial, Telnet and/or TCP control. A customized control panel

containing buttons and labels can be added to the user interface to control your devices individually.

If your device has a serial interface, the CNT-IP-264 uses the Model HHD-264 or FHD-264 as a gateway to establish a full duplex communication (Serial Over IP) with the device to be controlled.

The CNT-IP-264 provides a real-time scheduler that can run events to automatically change the Model HHD-264/FHD-264 video groups and then run actions on external devices.

Key Features

- Plug and Play, no installation required
- Embedded WEB Server with Graphical User Interface
- Control Model HHD-264/FHD-264 video routing
- Control External Devices over Serial (SOIP), Telnet or TCP
- Create custom control for external devices
- Real time event scheduling with Real-Time clock
- Compatible with Hall Research Device Finder Utility
- Supports DHCP

Installation

To use all the features of the unit, the user should have

- Standard Cat 5/5E/6 network cabling
- A working LAN infrastructure
- Current web browser with web sockets capability

Package Contents

Name	Quantity
CNT-IP-264	1
Quick Start Guide	1
Power Supply	1

Accessing Web manager

The Model CNT-IP-2 device comes preconfigured for DHCP IP addressing.

To find the current IP address of the device, download and install the [Device Finder](#) utility available on Hall Research Website.

This software can run on both Windows and MAC computers.

NOTE We recommend that you set a static IP on each system in order to guarantee it the same IP address between system power cycles.

Run the Device Finder program on the same network as the Model CNT-IP-264 or any compatible Hall Research IP device in the network.



Figure 1.2 Device Finder utility

Enter the CNT-IP-264's IP address in a compatible web browser to access the devices WEB Manger.

SOIP Feature in HHD-264/FHD-264

The CNT-IP-264 can use HHD-264/FHD-264 devices as a gateway to control a serial device connected to the HHD-264/FHD-264 RS-232 port.

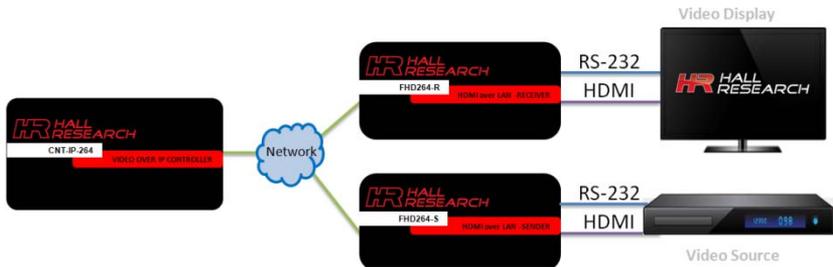


Figure 1.3 SOIP Feature in HHD/FHD

2. WEB Manager

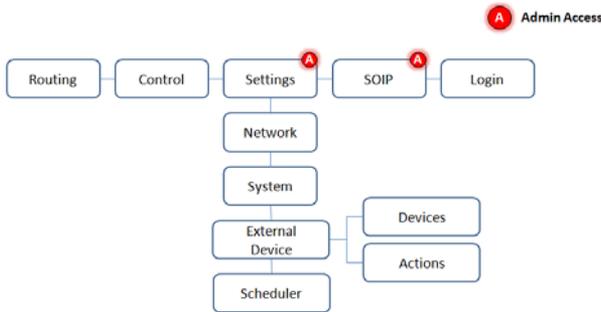


Figure 2.1 Device web manager navigation tree

Routing Tab

The Routing tab shows the list of HDD-264/FHD-264 receivers and senders on the network.

It uses Hall Research's DVM (Dynamic Virtual Matrix™) technology to manage 64 sources and 256 displays.

The Routing tab shows similar information when you login as admin.

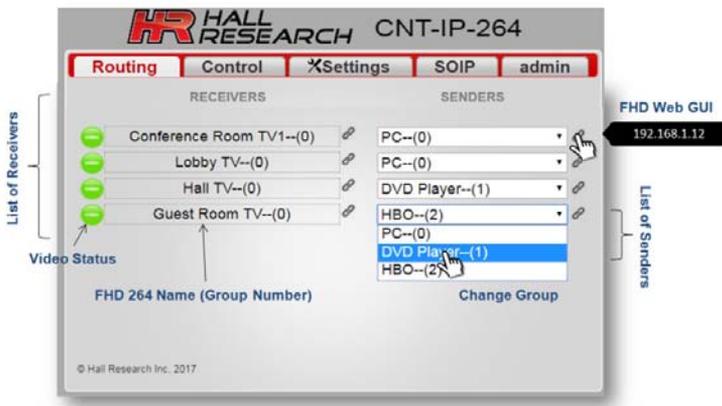


Figure 2.2 Routing Tab

To change the group of any receiver, simply select the sender in the corresponding dropdown list. The routing tab will be updated in real time, so any changes made to the FHD made outside CNT-IP-264 will be automatically updated.

Control Tab

The Control tab shows the user interface of external devices. When an external device is added to the CNT-IP-264, a dedicated control panel is created with the user specified name in the control tab. All the actions related to that device populate the corresponding control panel.



Figure 2.3 Control Tab

Settings Tab

The Settings tab is used to change the system configuration of the CNT-IP-264. Users need to login as admin to access this tab.

Network Settings Tab

The Network Settings tab is used to change the IP configuration of the CNT-IP-264.

Note that the Name and location fields are used by the Device Finder Utility to locate CNT-IP-264 in the network.

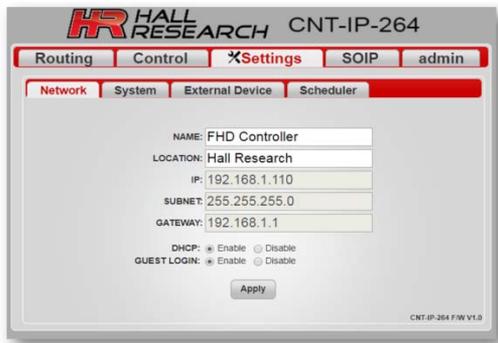


Figure 2.4 Network Settings

System Settings Tab

The System Settings tab is used to do operations like:

- ⚠ Factory reset configuration:
 - Removes all of the the following:
 - External device configuration
 - Scheduled events
 - DHCP will be turned on
 - Defaults device name and Location

Factory Reset

Generate config file

Save the device configuration to a config file.

Click the "Generate config file" button followed by download to download the file to your local computer.



Do not manually edit the config file

Uploading new config file

Browse and Upload the config file by clicking "Choose File" button.



Uploading new configuration will discard the existing configuration

Changing guest password

By default, CNT-IP-264 gives guest access to all its functions, but the password is disabled.

To set a new password for the guest account, click "Change Guest Password?" button

NOTE

Also, enable guest login from the Network Settings



Figure 2.4 System Settings

External Device Tab

All the 3rd party devices that are used along with the Model CNT-IP-264 and HHD-264/FHD-264 subsystems are referred as external devices.

The CNT-IP-264 can control external devices via serial, Telnet and/or TCP.

NOTE To send serial commands to an external device, connect your device to the FHD/HHD264 RS232 port.

The External Device tab has two sub tabs to manage the IP configuration and actions that relate to the external devices on the network.

Device Tab

Used to add/remove, change the IP configuration of external devices.

To add IP device:

Click **Add Device** → Enter **Name** → **IP Address** of the external device → **TCP Port** → Click **OK**

NOTE If your device has a Telnet interface and supports raw TCP connection, enter the telnet port in **Port** text field.



Figure 2.5 Adding IP Device

To add a Serial device: Add the FHD/HHD connected to the corresponding RS232 port as a device.

Click **Add Device** → check **SOIP** → Select FHD/HHD from the **Name** → **IP and Port** fields will be filled automatically → Click **OK**

NOTE Port: 7000 -- SOIP port of FHD/HHD 264

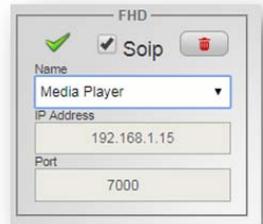


Figure 2.6 Adding Serial device

 Deleting a device will remove all the actions linked to it

Actions Tab#

The actions that relate to external device are shown on this tab.

Each action creates a button, which can be either Toggle or Momentary in the corresponding device control panel. Toggle buttons have both on action and off action where as Momentary has only on action. Note that each action can run multiple commands on the device.

To add an action to external device:

Click **Add Action** → Select **Button Type** → Enter **Action Name** and **Button Click Name** (if button type is toggle) → Select **External device** from the **Name** drop down menu → Enter list of **Commands** → add more commands by using **Add Command** button → **Submit**

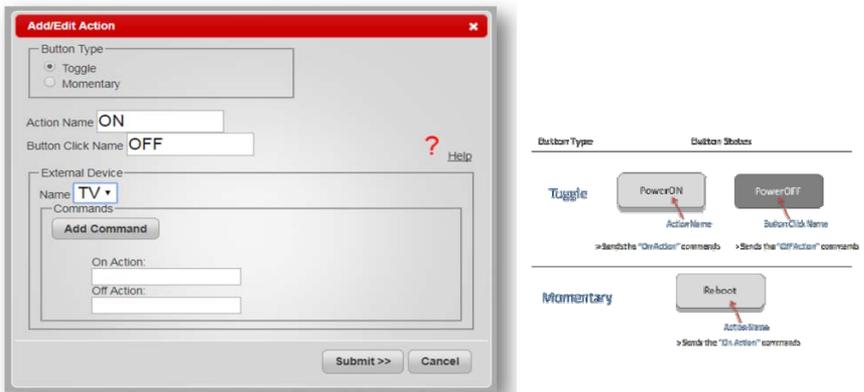


Figure 2.7 Adding Action

NOTE Serial Commands must end with `\r` carriage return
 Telnet commands supports all ASCII characters
`\x` : Hex
`\r` : Carriage return
`\n` : Line feed

Hex Command

Hello `\xFE\xFF\r\n`

Serial Output

H e l l o 20 FE FF 20 0D 0A

Figure 2.8 Sample Hex command

To delete or edit an action, simply select the action from the list and make necessary changes.

Scheduler Tab

The CNT-IP-264 uses a real-time clock to schedule its events. An Event can run multiple actions created for external devices at scheduled times and dates. Scheduler Tab shows real time stamps of all the events in the GUI..

NOTE You can schedule a FHD/HHD264 group change in an event

An event can be setup to repeat Once, Daily, Weekly and Monthly



Figure 2.8 Event Repeat types

Adding Event:

Click **Add Event** → Enter **Event Name** → Select **Event Name** → Enter **Data and Time** → Add **External device actions** to the event or **FHD/HHD264** group change → **Submit**

NOTE You need to Set system date and time to schedule events accordingly



Figure 2.9 Adding Event

SOIP Tab

SOIP Console provides a full duplex serial communication with external devices connected via FHD/HHD 264.



Figure 2.10 SOIP Tab

Login Tab

Login tab provides admin access to CNT-IP-264.



Figure 2.11 Login Tab

Specifications

Serial Ports:	Port 1 : DB9 (Female) Port 2 : DB9 (Male)
IP/LAN	10/100 Ethernet
Dimensions:	1.18" (H) x 2.75" (W) x 3.85" (D) 30mm x 70mm x 98mm Depth excludes connectors and flanges
Enclosure:	Aluminum with Steel Ends
Weight:	0.5 Pounds (225 g)
Input Power:	5v DC at 1A max.
Operating Temperature:	0 to 70 °C
Storage Temperature:	-10 to +80 °C



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