

ZIGEN

ZIG-DA14-UHD – HDMI 2.0 – 600 MHz HDMI Distribution Amplifier w/HDCP 2.2 & WebOS

ZIG-DA14-UHD-UHD



USER MANUAL Ver. 1.0
August 2015

zigencorp.com

Toll Free: 877-650-5252
International: +1 818-654-5252

ZIGEN

Table of Contents

Copyright and Trademark	3
Introduction	4
Package Contents	4
Features	4
Specifications	5
Block Diagram	7
Dip Switch Settings	8
WebOS Interface	10
Basic Setup/Use	12
IP/RS-232 Command Syntax	13
Commands	13
Warranty	15



Copyright and Trademarks:

All rights reserved by ZIGEN, INC. No part of this document may be reproduced in any form or by any means without written permission from the product manufacturer. Changes are periodically made to the information in this document. They will be incorporated in subsequent editions. The product manufacturer may make improvements and /or changes in the product described in this document at any time.

All the registered trademarks referred to this manual are belonging to their respective companies.

Before You Begin

Follow all instructions marked on the device during using.

Do not attempt to maintain the device by yourself, any faults, please contact your vendor.

- Provide proper ventilation and air circulation and do not use near water.
- It is better to keep it in a dry environment.
- The system should be installed indoor only.
- Only use the power cord supplied with the device.
- Do not use liquid or aerosol cleaners to clean the device.
- Always unplug the power to the device before cleaning.
- Unplug the power cord during lightning or after a prolonged period of non-use to avoid damage to the equipment.

ZIGEN

Introduction

HDMI 2.0 - 600 MHz HDMI distribution amplifier perfect for distributing high bandwidth (2160P60 RGB/4:4:4) HDCP 2.2 content to up to 25 UHD displays (cascading up to 8 units). Whether you need full bandwidth UHD content distributed in a retail environment or home the DA14-UHD-UHD is for you. Robust technology designed and engineered in the USA includes an Ethernet port and WebOS for configuration, EDID management (15 EDID presets & memory for more), and Firmware & Remote reset in a small footprint ½ RU.

Package Contents

- 1 x ZIG-DA14-UHD-UHD
- 1 x 12V/1.25A DC Power Supply
- 1 x User Manual

Typical Applications – HDMI Splitter/Distribution Amplifier for:

- Retail UHD content distribution
- High bandwidth computer gaming
- Home UHD content distribution
- Corporate UHD media distribution
- UHD signage

Features

- 600 MHz HDMI 2.0 (2160P60 4:4:4) and HDCP 2.2 on all I/O
- WebOS Control
- Cascade up to 8 hops – 1 UHD source to 25 UHD displays
- Supports 48-bit deep color
- Supports digital video formats up to 4K UHD (2160P60 @4:2:0 pixel format)
- Supports uncompressed PCM 2- Ch., 5.1, 7.1, Dolby Digital, DTS, Dolby TrueHD, DTS HD-Master Audio and more.
- Supports Rec. 2020 color space
- 4 RS-232C Command Set for 3rd Party control



Specifications

Ports

Inputs

HDMI x 1

Outputs

HDMI x 4 – Can cascade up to 8 times

Control/Access

WebOS control via Ethernet port (http)

Telnet via Ethernet

Serial (terminal) via 9-pin RS-232 port

Copy Protection Compliance

HDCP – Signals with 2.2, 1.4 or none will pass – all ports

Video Bandwidth

18 Gbps

Video Timings

All HDMI 2.0 formats supported. Maximum 4096x2160 @ 60Hz 4:4:4/RGB

Audio

HDMI 2.0 Supported

Power Consumption

10 watts

Power

zigencorp.com

Toll Free: 877-650-5252
International: +1 818-654-5252

ZIGEN

12 VDC, 1.25A locking

Dimensions

½ RU

Weight

1 pound
454 grams

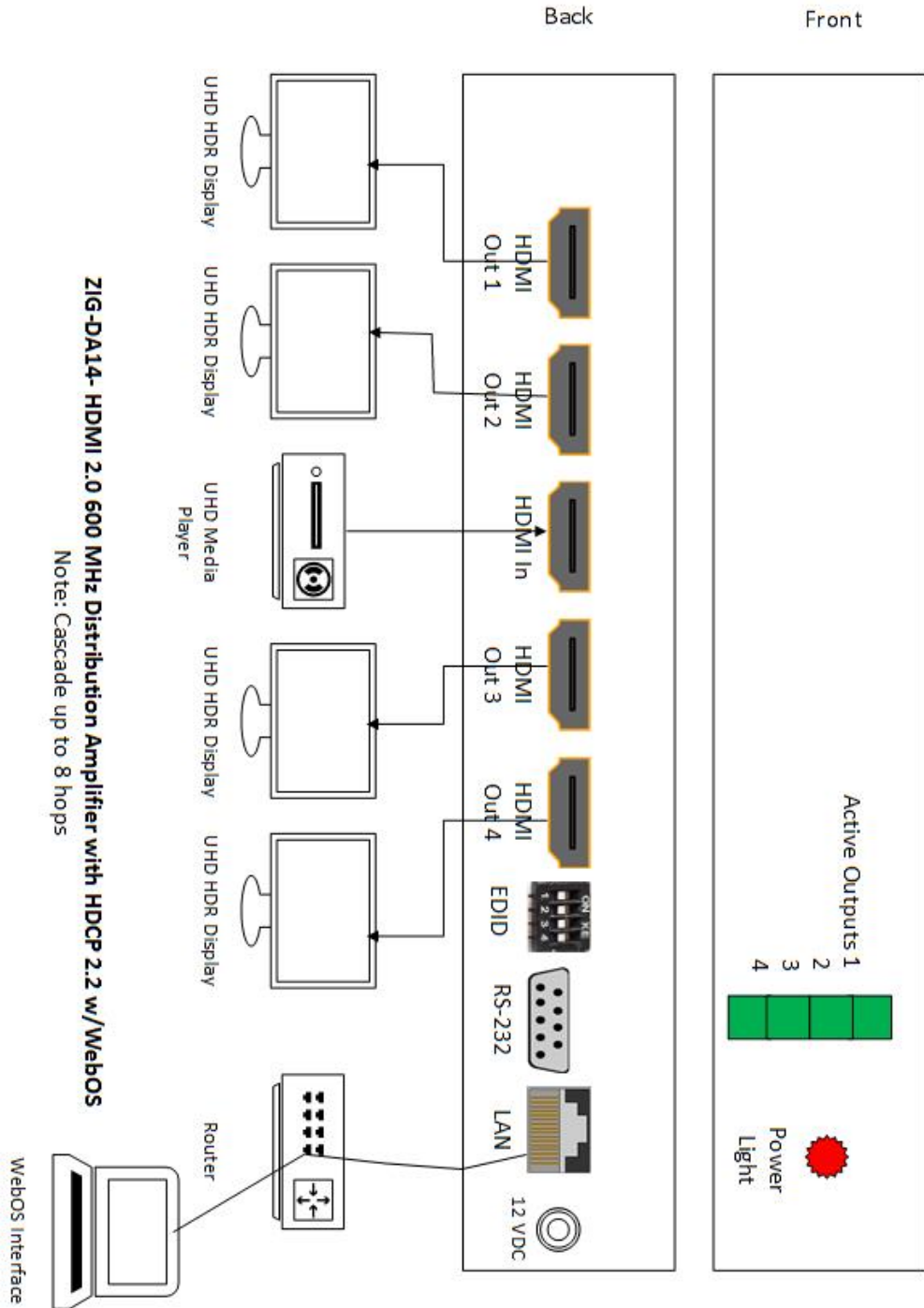
Certifications/Compliance

FCC, HDBaseT, CE, RoHS, HDCP, HDMI

EDID Management

Advanced EDID management – 15 presets and custom EDIDs can be loaded via WebOS or RS-232

ZIGEN



Block Diagram

ZIGEN

DIP Switch Settings

DIP 1: EDID

OFF (UP): As a default the downstream EDID is copied and used from output port 1.

While DIP 1 is OFF (UP) DIP 2 & 3 are active as follows:

DIP 2: (OFF/UP) audio according to downstream capabilities

DIP 2: (ON/DOWN) audio is restricted to 2-channel regardless of downstream EDID.

DIP 3: (OFF/UP) audio according to downstream capabilities.

DIP 3: (ON/DOWN) audio is modified for SPDIF maximum capabilities.

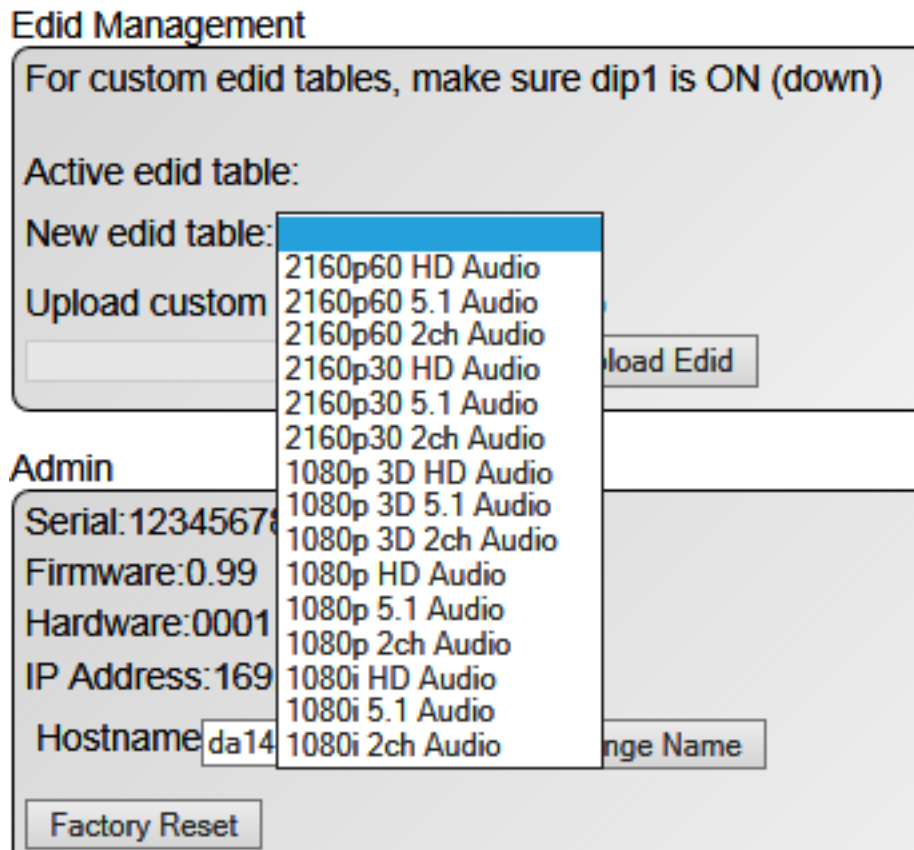
This ensures that the SPDIF output always outputs all SPDIF supported formats.

DIP 2 overrides DIP 3. If DIP 2 is down, stereo is selected.

While DIP 1 is ON (DOWN) the EDID is selected using the WebOS

WebOS has 15 EDID tables to select from (more to come) for various use cases (see screen shot below). Additionally via the WebOS and custom EDID table can be loaded into the device. This gives maximum flexibility as customers can load any EDID they want for the desired application.

ZIGEN



Screen Shot – EDID Tables in WebOS

Note: While DIP 1 is ON (DOWN), DIPs 2 and 3 are not used.

DIP 4: Hot Plug Force

UP (OFF) – Hot Plug Detection (HPD) is normal

DOWN (ON) – HPD is forced active. In this mode the DA14-UHD does not process HPD events from downstream to upstream (from the sink back to the source). This speeds up the HDMI pipeline and can be very useful to avoid a looping condition when multiple HDMI devices are connected in series.

ZIGEN

Device Name: da14-0000

Notes

Save Notes

Output Port Status

Output 1 ● Output 2 ● Output 3 ● Output 4 ●

Refresh

Edid Management

For custom edid tables, make sure dip1 is ON (down)

Active edid table:

New edid table:

Upload custom edid file: (da14.edid)

Browse... Upload Edid

Admin

Serial: 123456780000

Firmware: 0.99

Hardware: 0001

IP Address: 169.254.1.0

Hostname: Change Name

Factory Reset

Browse... Upload Firmware

Reset DA14 Install Update

DA14-UHD WebOS screenshot above

ZIGEN

WebOS

Device Name & Notes

- Device Name – default out of the box is DA14-UHD.XXXX (last 4 digits of the serial number). You should change it if you are using more than 1 device (Change Name below) to whatever you want – ex. CR100RX – for conference room number 100 DA
- Notes – free form field for entering installer notes.

Output Port Status

- Port is active when light is green

EDID Management

Edid Management

For custom edid tables, make sure dip1 is ON (down)

Active edid table:

New edid table:

Upload custom

Admin

Serial: 12345678

Firmware: 0.99

Hardware: 0001

IP Address: 169

Hostname: da14

Factory Reset

2160p60 HD Audio

2160p60 5.1 Audio

2160p60 2ch Audio

2160p30 HD Audio

2160p30 5.1 Audio

2160p30 2ch Audio

1080p 3D HD Audio

1080p 3D 5.1 Audio

1080p 3D 2ch Audio

1080p HD Audio

1080p 5.1 Audio

1080p 2ch Audio

1080i HD Audio

1080i 5.1 Audio

1080i 2ch Audio

Load Edid

Change Name

ZIGEN

Note: To use WebOS EDID management make sure DIP 1 is ON (UP)

Active EDID table is shown. You can load one of the presets from the previous page or load a custom EDID table from your PC – simply browse and upload the custom EDID if required.

Admin/Firmware/Reset/Info

- Serial Number – serial number of DA14-UHD
- Firmware – Current firmware revision
- Hardware – for internal use
- IP Address – IP address of the unit assigned by your DHCP Server
- Hostname – this is what you want to call the unit – syntax example CR100RX_k123. This is also the name you type into your browser to access the WebOS. Don't use spaces or special characters.
- Factory Reset – will erase user entered data like installer notes.
- Choose File/Upload Firmware – when necessary, this is where you select a new firmware file and upload firmware.
- Reset DA14-UHD – will reset the ZIG-DA14-UHD remotely.
- Install Update – when necessary is for installing new software updates to the unit.

Basic Setup/Use

This is a high bandwidth HDMI splitter that can handle 600MHz sources with HDCP 2.2. You can use the dipswitch or WebOS to customize the settings, however, for simple use:

1. Connect source to input of DA14-UHD (ex – Sony FMP-X10 Player)
2. Connect up to 4 displays to output ports 1-4 (up to 4K60RGB/4:4:4).
 - a. Note: If you are cascading - connect the output of port 4 to the input port on the second DA14-UHD – you can do this up to 8 times.
3. Turn DA14-UHD on, then Displays, the Source. Default is to use the EDID from port 1 display.
4. Enjoy UHD distributed video & audio.



Command Syntax

RS-232 & IP Commands – note the same commands are available via RS-232 and IP – use @ for RS232, nothing for IP.

RS-232

@DA14-UHD-XXXX(last 4 of SN) *<sp> <parameter> <sp>... <parameter> <sp>*
<end of response>

Default RS232 Protocol Settings (can be changed in WebOS if required):

Baud Rate = 115200 Data Bits = 8

Parity = None

Stop Bit = 1

Flow control = None

IP

DA14-UHD-XXXX *<sp> <parameter> <sp>... <parameter> <sp>* *<end of response>*

Commands (shown in RS-232 format):

Help

@DA14-UHD-XXXX *help*

Shows a list of available commands

Disco

@DA14-UHD-XXXX *disco*

I can't get this to work....

Uptime

@DA14-UHD-XXXX *uptime*

Shows day, hours, minutes and seconds the DA14-UHD has been running.

ZIGEN

Version

@DA14-UHD-XXXX version

Shows Zigen DA14-UHD, firmware release, firmware revision, build date and serial number.

Get Device Status

@DA14-UHD-XXXX st

Shows active and inactive ports – ex. Port 1 active, port 2 off, etc.

Display Device Info

@DA14-UHD-XXXX man

Shows firmware release info

Power

@DA14-UHD-XXXX <on or off>

Powers device on or off. Ports remain active – no picture or sound.

ZIGEN

Warranty Information

LIMITED WARRANTY – with the exceptions noted in the next paragraph, ZIGEN warrants the original purchaser that the equipment it manufactures or sells will be free from defects in materials and workmanship for a period of one year from the date of purchase. The proof of sale is required in order to claim warranty. Should this product, in ZIGEN's opinion, prove defective within this warranty period, ZIGEN, at its option, will repair or replace this product without charge. Customers outside of US are responsible for shipping charges to and from ZIGEN. Any defective parts replaced become the property of ZIGEN. 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 for. Items integrated into ZIGEN 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 ZIGEN.

ZIGEN 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 ZIGEN with respect to any defective products will be limited to the repair or replacement of such products. In no event shall ZIGEN be responsible or liable for any damage arising from the use of such defective products whether such damages be direct, indirect, consequential or otherwise, and whether such damages are incurred by the reseller, end-user or any third party. The information in this manual has been carefully checked and is believed to be accurate. However, ZIGEN assumes no responsibility for any inaccuracies that may be contained in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.