8K VRROOM FRL5 1200MHz 40Gbps

VRROOM

TAILORED FOR AV PURISTS

User Manual 8K VRROOM Rev 1.00

FCC-B Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the measures listed below.

- ○ Reorient or relocate the receiving antenna.
- ○ Increase the separation between the equipment and receiver.
- ○ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ○ Consult the dealer or an experienced radio/television technician for help.

Notice 1

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

Notice 2

Shielded interface cables and A.C. power cord, if any, must be used in order to comply with the emission limits.

VOIR LA NOTICE D'INSTALLATION AVANT DE RACCORDER AU RESEAU.

FC   LegendSky Tech CO., LTD.
      HDfury VRRoom

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1) this device may not cause harmful interference, and
2) this device must accept any interference received, including interference that may cause undesired operation.

CE Conformity

Hereby, LegendSky Tech CO., LTD declares that this device is in compliance with the essential safety requirements and other relevant provisions set out in the European Directive.

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Disclaimer: 3rd party and/or custom firmware providing extra features are not covered in this manual.

Table of content

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VRROOM Overview

Team HDfury would like to thank you personally for purchasing the 8K VRROOM!

This unique HDMI2.1 device supports up to 4 inputs for true Full UHD 8K60/4K120 VRR FRL5 1200MHz 40Gbps bandwidth signals. It will allow you to solve any HDCP error, passthru and split while extracting full HDMI audio from HDMI sources and ARC/eARC up to Atmos HBR over TrueHD from ARC and eARC TVs to feed older AVR via HDMI input or any eARC/ARC sound system via HDMI output. Matrix any SD/HD/FHD/UHD/HDR/DV or PC signals up to 600MHz. Upscale to 4K/8K or downscale to 4K/1080p each output individually and display relevant information on OLED/OSD/WebServer. Wide selection of EDID banks can be set for each input. LLDV>HDR, Inject, replace or translate HDR metadata and AVI infoframe. It is also capable of auto switching any sources including X1X, ATV4K, Shield, etc… Based on incoming content type it can send relevant RS232 commands to any RS232 controllable display. Relay port offers automation capability. All controls can be completed with IR codes, push buttons on the unit, via IP/HTTP/RS232 (MAC/WIN/Linux) or through embedded Webserver available for any web browser based device such as MAC/WIN/Linux computer or Android/iOS phones, tablets and others. Android and iOS APP are also available for direct control on the same network.

SPDIF +L/R OUT | RS 232 | LAN CONTROL | AUDIO OUT 720p/1080p | HDMI TX0 ARC/CEC/UP | HDMI TX1 DOWNSCALE | eARC AUDIO ARCANA | DC 12V

Audio Output | RS232 IN/OUT | RJ45 WEB | HD/FHD AUDIO HDMI OUT +Decoded eARC/ARC | 8K HDR/DV HDMI OUT UPSCALE eARC/ARC/CEC | 8K HDR/DV HDMI OUT DOWNSCALE | eARC AUDIO HDMI OUT +Decoded eARC/ARC | Power Supply

Enter MENU Toggle options
MENU TOGG

OLED Infopage Exit MENU
INFO EXIT

Set Inputs for OUT1 MENU UP
OUT1 UP

Set Inputs for OUT0 MENU DOWN
OUT0 DOWN

Direct IR Window | IR LED Input | HDMI Input 3 | HDMI Input 2 | HDMI Input 1 | HDMI Input 0 | RELAY port | IR In

IR SENSOR | HDMI 3 | HDMI 2 | HDMI 1 | HDMI 0 | RELAY PORT | IR RX

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Connecting Cables to VRROOM

| SPDIF +L/R OUT | RS 232 | LAN CONTROL | AUDIO OUT 720p/1080p | HDMI TX0 ARC/CEC/UP | HDMI TX1 DOWNSCALE | eARC AUDIO ARCANA | DC 12V |

• HDMI 1.x video device must be connected to 1080p Downscale TX1 Output port.

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• Make sure that you are using 1200MHz certified or tested HDMI 8K cable in copper or fiber tech if you plan to set up a 1200MHz/40Gbps link in your setup.

| IR SENSOR | HDMI 3 | HDMI 2 | HDMI 1 | HDMI 0 | RELAY PORT | IR RX |

HDMI INPUT3
HDMI INPUT2
HDMI INPUT1
HDMI INPUT0

• Connect Power connector from Power supply (110-240V 1.2A IN & 12V 1A OUT).
• Connect a source via HDMI input cable to ANY HDMI input. Default input is HDMI/INP0.
• Connect any other HDMI, Ethernet, sound, IR or RS232 cable that you might need (optional)
• HDMI cable must support 40Gbps if any 40Gbps source/sink is connected (except for Audio Outputs)

Disclaimer: 3ʳᵈ party and/or custom firmware providing extra features are not covered in this manual.

VRROOM **Power/Status OLED**

The **VRR**OOM OLED will turn ON when power supply is applied; **VRR**OOM Logo will be displayed followed by a similar default infopage to the one represented below.

[192.168.1.117]: VRROOM IP address will be displayed here if LAN CONTROL RJ45 output is connected to your LAN/WAN router/switcher. mDNS and other way are available if you cycle OLED infopage. **[FW: 0.6]:** Firmware Version of **VRR**OOM is reported here.
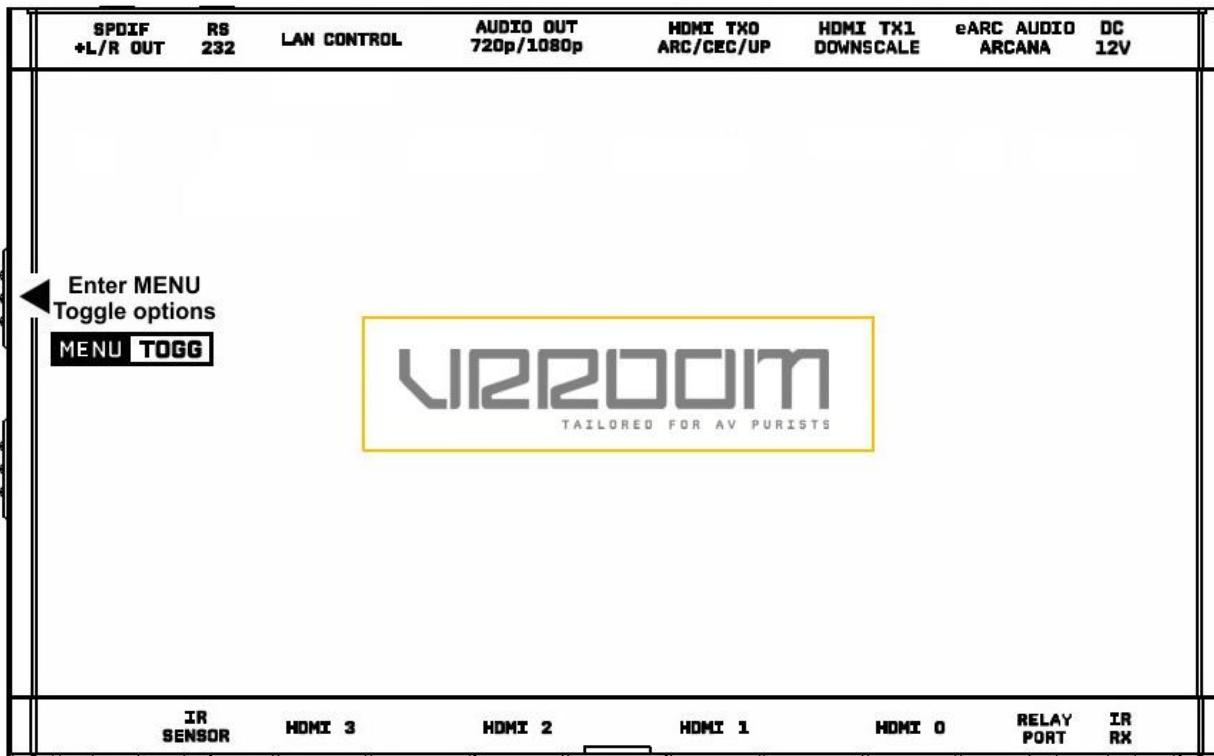
If any active input is connected and routed to active output, the default OLED infopage will indicate which input is active (IN1 on above pic). **VRR**OOM will process handshake with the active input and once completed the signal information will be displayed. [4K50 4:2:2 BT2020 12b LLDV 594MHz 2.2] on the above picture.

If any sink is connected at TX0 output, TX0 section of the default OLED infopage will report its EDID name (LG TV on above pic) and its max supported resolution (4K60 4:4:4 8b BT2020 HDR on above pic) on the first line. Second line will display the current signal going to it, the small arrow on the right indicate if signal is upscaled ↑, Downscaled ↓or passing thru untouched →

[OLED OFF]: Insufficient power, OLED timer expired (default 30s) or OLED OFF. Use the VRROOM power supply; press any button if OLED timer expired and make sure the OLED is ON.

[OLED ON]: The **VRR**OOM unit is receiving power and is ready to accept an HDMI signal.

Disclaimer: 3ʳᵈ party and/or custom firmware providing extra features are not covered in this manual.
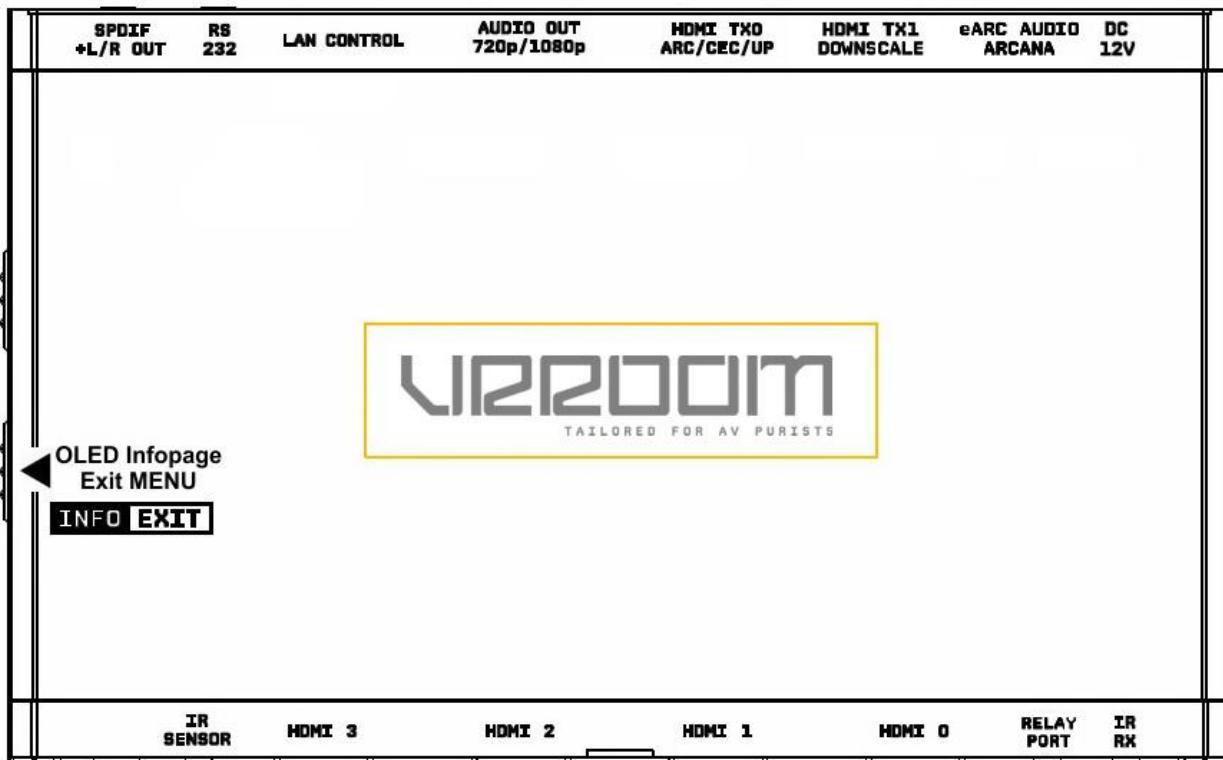
VRROOM **Menu/Toggle Button**

The **8K VRR**OOM offers 2 functions per push button.

[MENU] Wake up from sleep/fade mode and/or Enter **VRR**OOM OLED MENU.

[TOGG] When you are in **VRR**OOM OLED MENU, the TOGGLE button allows you to change and cycle any setting value.

Note: You can also control and change settings with IR codes, through IP Control or RS232 for MAC/WIN/Linux or from the embedded Webserver for MAC/WIN/Linux PC or via Android/iOS smartphone/tablet or any web browser based device.
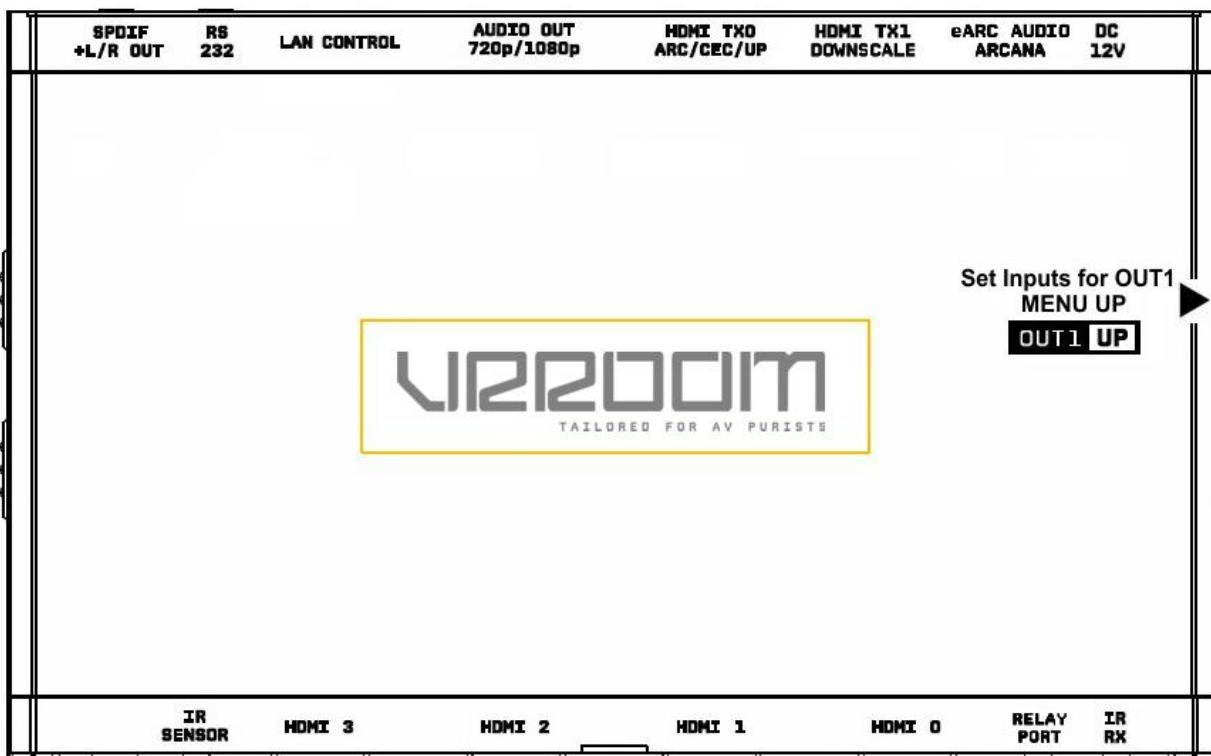
VRROOM Info/Exit Button

The **8K VRR**OOM offers 2 functions per push button.

[**INFO**] Wake up from sleep/fade mode and/or Cycle OLED infopage: INFO > LAN INFO > HDR INFO > …

[EXIT] When you are in **VRR**OOM OLED MENU, the EXIT button allows you to exit OLED MENU.

Note: You can also control and change settings with IR codes, through IP or RS232 for MAC/WIN/Linux or from the embedded Webserver for MAC/WIN/Linux PC or via Android/iOS smartphone/tablet or any web browser based device.

VRROOM Out1/Up Button

The **8K VRR**OOM offers 2 functions per push button.

[OUT1] Wake up from sleep/fade mode and/or set and switch active or inactive inputs for TX1 output.

[UP] When you are in **VRR**OOM OLED MENU, the UP button allows you to navigate upward.

VRROOM OLED/OSD/Webserver will report info for up to two active inputs in Matrix operating mode.

Note: You can also control and change settings with IR codes, through IP or RS232 for MAC/WIN/Linux or from the embedded Webserver for MAC/WIN/Linux PC or via Android/iOS smartphone/tablet or any web browser based device.

VRROOM Out0/Down Button

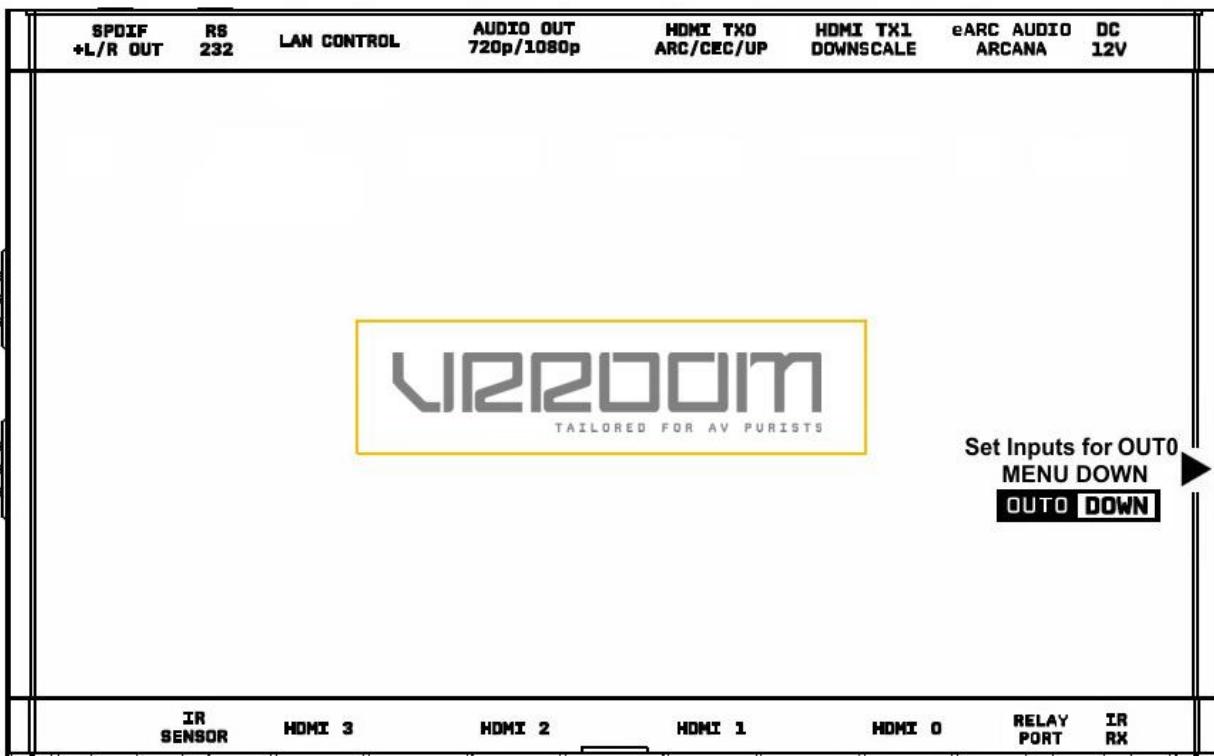The **8K VRR**OOM offers 2 functions per push button.
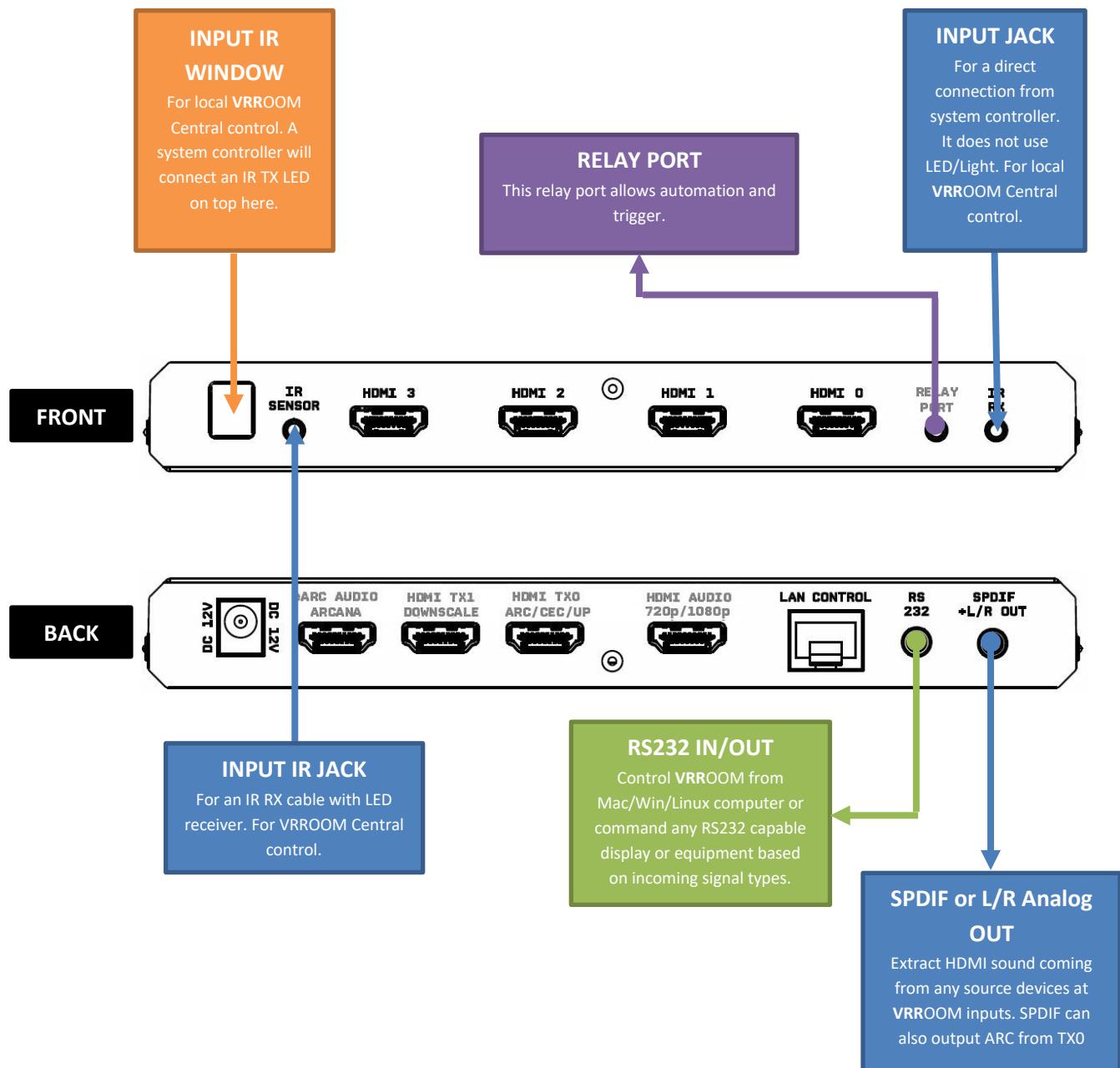
[OUT0] Wake up from sleep/fade mode and/or set and switch active or inactive inputs for TX0 HDMI output.

[DOWN] When you are in **VRR**OOM OLED MENU, the DOWN button allows you to navigate downward.

VRROOM OLED/OSD/Webserver will report info for up to two active inputs in default Matrix mode.

Note: You can also control and change settings with IR codes, through IP or RS232 for MAC/WIN/Linux or from the embedded Webserver for MAC/WIN/Linux PC or via Android/iOS smartphone/tablet or any web browser based device.

Help on Jack connections

INPUT IR WINDOW
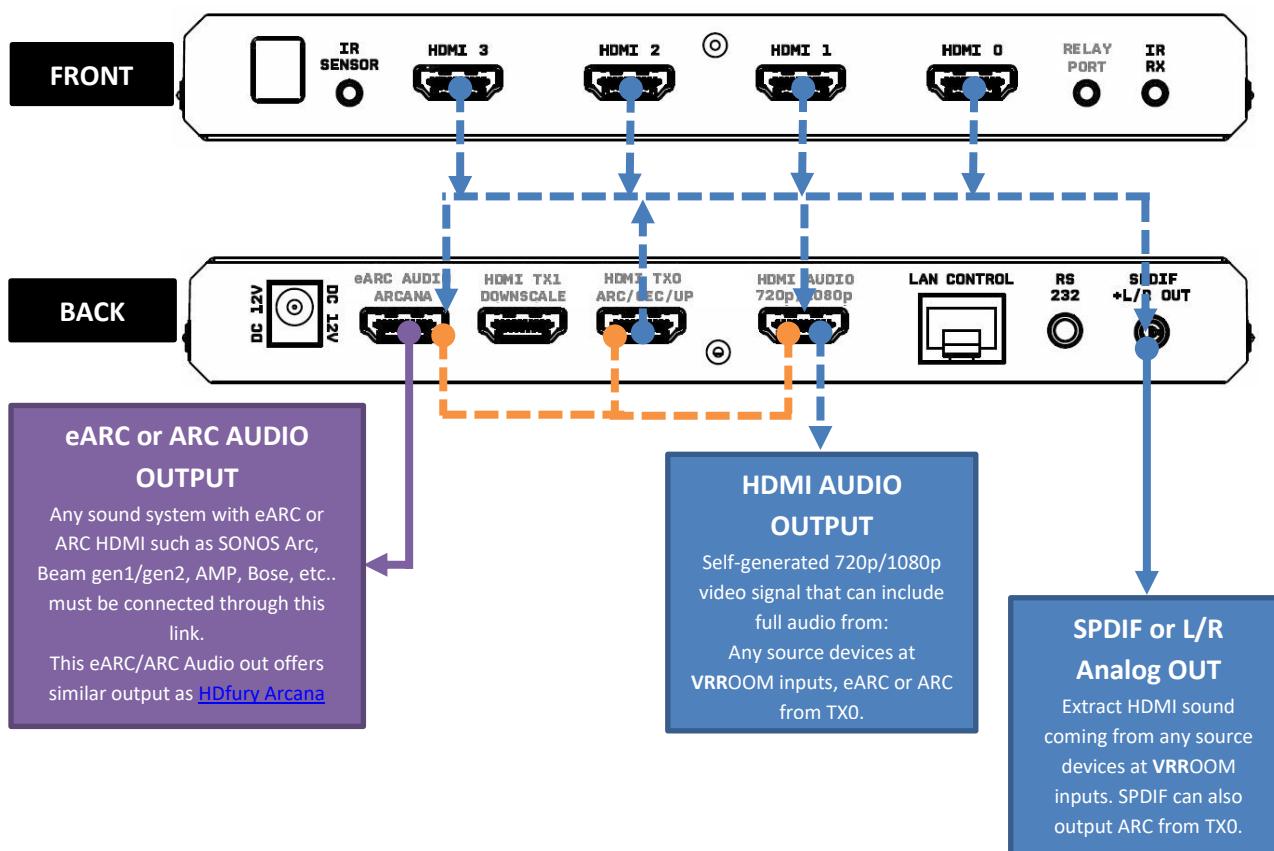For local **VRR**OOM Central control. A system controller will connect an IR TX LED on top here.

RELAY PORT
This relay port allows automation and trigger.

INPUT JACK
For a direct connection from system controller. It does not use LED/Light. For local **VRR**OOM Central control.

FRONT

IR SENSOR | HDMI 3 | HDMI 2 | HDMI 1 | HDMI 0 | RELAY PORT | IR RX

BACK

DC 12V | ARC AUDIO ARCANA | HDMI TX1 DOWNSCALE | HDMI TX0 ARC/CEC/UP | HDMI AUDIO 720p/1080p | LAN CONTROL | RS 232 | SPDIF +L/R OUT

INPUT IR JACK
For an IR RX cable with LED receiver. For VRROOM Central control.

RS232 IN/OUT
Control **VRR**OOM from Mac/Win/Linux computer or command any RS232 capable display or equipment based on incoming signal types.

SPDIF or L/R Analog OUT
Extract HDMI sound coming from any source devices at **VRR**OOM inputs. SPDIF can also output ARC from TX0

Disclaimer: *3rd party and/or custom firmware providing extra features are not covered in this manual.*

Help on AUDIO/CEC/ARC/eARC connections

CEC Master is always TX0

eARC LINK

VRROOM can extract up to Atmos HBR over TrueHD from capable eARC TV connected at TX0 and output it via AUDIO OUT or eARC AUDIO OUT to feed any AVR or sound system input or eARC/ARC output assuming it is capable of decoding such format.

FRONT

| IR SENSOR | HDMI 3 | HDMI 2 | HDMI 1 | HDMI 0 | RELAY PORT | IR RX |

BACK

| DC 12V | eARC AUDIO ARCANA | HDMI TX1 DOWNSCALE | HDMI TX0 ARC/CEC/UP | HDMI AUDIO 720p/1080p | LAN CONTROL | RS 232 | SPDIF +L/R OUT |

eARC or ARC AUDIO OUTPUT

Any sound system with eARC or ARC HDMI such as SONOS Arc, Beam gen1/gen2, AMP, Bose, etc.. must be connected through this link.
This eARC/ARC Audio out offers similar output as HDfury Arcana

HDMI AUDIO OUTPUT

Self-generated 720p/1080p video signal that can include full audio from:
Any source devices at **VRR**OOM inputs, eARC or ARC from TX0.

SPDIF or L/R Analog OUT

Extract HDMI sound coming from any source devices at **VRR**OOM inputs. SPDIF can also output ARC from TX0.

No Audio format manipulation.

VRROOM cannot manipulate Audio and otherwise transform Audio format, what comes IN goes OUT untouched.
Therefor if you plan to extract STEREO, incoming signal from HDMI source at **VRR**OOM inputs should be STEREO.
If incoming signal from HDMI inputs are superior to STEREO (ex ATMOS) then STEREO output cannot be used.

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VRROOM **OLED Menu**

AUTOSWITCH		
OFF	ON POWER	ON SENSE

EDID MODE				
CUSTOM	COPY TX1	COPY TX0	AUTOMIX	FIXED

EDID TABLE			
EDID 0	EDID 1	EDID 2	EDID 3

SCALE MODE		
NONE	AUTO	CUSTOM

MUTE TX0 AUDIO	
ON	OFF

MUTE TX1 AUDIO	
ON	OFF

HDCP	
AUTO	1.4

CEC	
ON	OFF

CEC LA	
0-VIDEO [0x0E]	1-AUDIO [0x05]

ARC HBR	
ON	OFF

BAUD RATE			
1-19200	2-57600	3-115200	0-9600

DHCP	
ON	OFF

ANALOG VOLUME
0 [-30/+10]

ANALOG BASS
0 [-10/+10]

ANALOG TREBLE
0 [-10/+10]

MENU TOGG

Press MENU once to enter **VRR**OOM OLED Menu. Once you are in **VRR**OOM OLED Menu press the same menu to TOGGLE choice

OUT1 UP

Once you are in the **VRR**OOM OLED Menu. Press the UP button to navigate upward.

OUT0 DOWN

Once you are in the **VRR**OOM OLED Menu. Press DOWN button to navigate downward

INFO EXIT

To EXIT the **VRR**OOM OLED Menu. Press EXIT button or let menu idle for a while and it will EXIT automatically.

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[Autoswitch] :   OFF/ON POWER/ON SENSE
[EDID Mode]:   Custom / Copy TX1/Copy TX0/Automix/Fixed
[EDID TABLE]:   EDID 0/EDID 1/EDID 2/EDID 3
[SCALE Mode]:   None / Auto / Custom
[Mute TX0 Audio]:   ON / OFF
[Mute TX1 Audio]:   ON / OFF
[HDCP]:   AUTO / 1.4
[CEC]:   ON / OFF
[CEC LA]:   0-Video [0x0E] / 1-Audio [0x05]
[ARC HBR]:   ON/OFF
[Baud Rate]:   1-19200 / 2-57600 / 3-115200 / 0-9600
[DHCP] :   ON/OFF
[Analog Volume] :   0 [-30 / +10]
[Analog Bass]:   0 [-10 / +10]
[**Analog Treble**]:   0 [-10 / +10]

Accessing VRROOM Web Server

It is mandatory for accessing **VRR**OOM web server to have an Ethernet cable connected between LAN CONTROL RJ45 connector and your local router or switcher.
By default **VRR**OOM use DHCP to retrieve an assigned IP automatically. You can set static IP from the **VRR**OOM webserver config page.

In case you have setup a wrong Static IP and unit is not reachable anymore, you can set DHCP ON from OLED menu to retrieve access via dynamically assigned IP again (as in default mode).

There is 3 ways of accessing the **VRR**OOM web server:

1. **Universal way through IP address**:
   Simply open up a web browser on any devices located on the same network than the **VRR**OOM unit and type in the IP address that appears on the **VRR**OOM OLED directly in the address bar of your web browser. (ex: 192.168.1.137)

2. **Hostname access**:
   Instead of typing IP address directly, you can use the Hostname listed on VRROOM OLED LAN INFO page (press INFO button to cycle OLED page till you see LAN INFO and Hostname listed). Simply open up a web browser from any devices located on the same network than the **VRR**OOM unit and type in the Hostname that appears on the **VRR**OOM OLED directly in the address bar of your web browser. (ex: http://**VRR**OOM-XX/)
   XX represents the 2 last digits of your VRROOM unit unique serial number.

3. **mDNS access**:
   For iOS/MAC devices, you might want to use mDNS access. Retrieve the mDNS address from **VRR**OOM OLED LAN INFO page (press INFO button to cycle OLED page till you see LAN INFO and mDNS address listed). Simply open up a web browser on any MAC/iOS devices located on the same network than the **VRR**OOM unit and type in the mDNS address that appears on the **VRR**OOM OLED directly in the address bar of your web browser. (ex: http://**VRR**OOM-XX.local/)
   XX represents the 2 lasts digits of your **VRR**OOM X unit unique serial number.

Please note that only IP address access is universal and should work across any web browser based devices as long as they are located on the same network. Others methods should work just fine in many cases but we cannot guarantee that they will always do, in case of issue accessing the webserver, please use IP address.

VRROOM Web Server Top section

Immediately upon accessing the webserver you will end up on the default INFO page with the above top tier section displayed.

From that top tier section you will be able to retrieve the following information (also displayed on **VRR**OOM OLED default page and once you cycle info page with INFO button to reach LAN page info).

Hostname: Display **VRR**OOM hostname for URL access

mDNS: Display **VRR**OOM mDNS for URL access

IP Address: Display the current IP Address of the **VRR**OOM

FW: Display the current FW running on the **VRR**OOM.

VRROOM Web Server INFO Section

SOURCE: When available, Display active source name currently outputting thru TX0 or TX1 output.
IN TX0/IN TX1: Display the source name original video signal going thru TX0 or TX1 output.

VIDEO TX0/TX1: Display the real video signal (if any operation on it) going out thru TX0 or TX1 output.
AUDIO TX0/TX1/OUT: Display the audio signal info going out thru TX0, TX1 or AUDIO OUT output.

EDID TX0/TX1: Display the EDID video max capabilities of any connected sink at TX0 or TX1 output.
AUDIO: Display the EDID audio max capabilities of any connected sink at TX0 or TX1 output.

OP Mode: Select the desired Operating Mode. Unit will reboot if you switch SPLITTER<> MATRIX.
PORT SELECTOR: Allow you to select which input is routed to TX0 or TX1 output.

REFRESH: Refresh the current page.

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VRROOM Web Server EDID Section

INFO	EDID	HDR/AVI	DV	CEC/EARC	MACROS	CONFIG

○ **COPY TX0 SINK**
Copy the connected TX0 sink EDID capabilities. No modifications.

○ **COPY TX1 SINK**
Copy the connected TX1 sink EDID capabilities. No modifications.

○ **FIXED TEST EDID**
Standard EDID table to verify cable issues. EDID max caps 4K60 420 300MHz 8b stereo audio.

○ **CUSTOM EDID**
Custom EDID tables for various situations. The first 10 tables can be replaced over LAN.

INPUT 0:   [11 - 4K60-444 600MHz HDR BT2020 All Sound   ▽]

INPUT 1:   [0 - Follow INPUT 0   ▽]

INPUT 2:   [0 - Follow INPUT 0   ▽]

INPUT 3:   [0 - Follow INPUT 0   ▽]

◉ **COPY TX SINK EDID and MODIFY**
Automix EDID tables. Customize capabilities of the connected TX0 / TX1 sink EDID table.

Selected TX SINK will be used for the main video and audio capabilities.

TX SINK: [TX0   ▽]

The settings below can be used to modify, add and remove video capabilities.

☐ FRL RATE   [FRL-5 / 40Gbps   ▽]
☐ VRR   [ENABLE   ▽]
☐ ALLM   [ENABLE   ▽]
☐ HDR   [HDR10 / HLG   ▽]
☐ DV   [LG C1 DEFAULT   ▽]   Use DV creator page in CUSTOM mode

Selected AUDIO CAPS indicates where audio caps are copied from.

AUDIO CAPS: [AUDIO OUT   ▽]

In CUSTOM mode the base audio capabilities are copied from TX SINK selected port, and the following settings can be used to modify, add or remove capabilities.

☐ L-PCM   [7.1   ▽]   [up to 192kHz   ▽]   [up to 24bit   ▽]
☐ TRUEHD   [MAT ATMOS   ▽]   [COPY SINK   ▽]
☐ DD+   [ATMOS   ▽]   [COPY SINK   ▽]
☐ DD   [ENABLE   ▽]
☐ DTS-HDMA   [DTS:X IMAX   ▽]   [COPY SINK   ▽]
☐ DTS   [ENABLE   ▽]
☐ ONE BIT   [REMOVE   ▽]   [5.1   ▽]

DOWNLOAD ACTIVE EDID TABLES:

RX0 EDID	RX1 EDID	RX2 EDID	RX3 EDID
TX0 EDID	TX1 EDID	AUD EDID	eARC CDS

SAVE ACTIVE EDID TO CUSTOM EDID 10:
[SAVE]

UPLOAD EDID TABLES:
[Choisir un fichier] Aucun fichier choisi   TABLE # : [1 - Custom #1   ▽]   [SEND EDID]

EDID STATUS OK   [Refresh]

Disclaimer: *3rd party and/or custom firmware providing extra features are not covered in this manual.*

[COPY TX0 SINK]: Use EDID from the device connected at TX0 output.

[COPY TX1 SINK]: Use EDID from the device connected at TX1 output.

[FIXED EDID]: Use a 4K60 4:2:0 8b 300MHz 2ch Audio EDID.

[CUSTOM EDID]: Define individual EDID for each input from a list of 10 custom and 90 predefined EDID.

[COPY TX SINK EDID and MODIFY]: Customize capabilities of the connected TX0 / TX1 sink EDID table.

> **[TX SINK]:** Select the TX SINK that will be used for the main video capabilities.
>
> > **[FRL RATE]:** Disable or set the max FRL rate you want to apply. (FRL1, 2, 3, 4 or 5)
> > **[VRR]:** Enable or Disable VRR support.
> > **[ALLM]:** Enable or Disable ALLM support.
> > **[HDR]:** Remove or set the HDR mode (HDR10, HDR10/HLG, HDR10+ or HDR10+/HLG)
> > **[DV]:** Remove or set DV mode (LG C1 Default or Custom DV).
>
> **[AUDIO CAPS]:** Select the SINK that will be used for the main audio capabilities or set a forced mode (Stereo, 5.1, Full, TX0, TX1, Audio Out, eARC Out, Custom)
>
> **[CUSTOM]:** If CUSTOM mode is selected for AUDIO CAPS the following can be set or adjusted
>
> > **[L-PCM]: S**et the preferred L-PCM mode, sample rate and bit width.
> > **[TRUE HD]:** Disable or set the preferred True HD mode and the sample rate.
> > **[DD+]:** Disable or set the DD+ mode and the sample rate.
> > **[DD]:** Disable or set the DD mode.
> > **[DTS-HDMA]:** Disable or set the DTS-HDMA mode and the sample rate.
> > **[DTS]:** Disable or set the DTS mode.
> > **[ONE BIT]:** Disable or set the ONE BIT mode and the sample rate.
> > **[HDR]:** Remove or set the HDR mode (HDR10, HDR10/HLG, HDR10+ or HDR10+/HLG)
> > **[DV]:** Remove or set DV mode (LG C1 Default or Custom DV).

[DOWNLOAD ACTIVE EDID TABLES]: Download any EDID from inputs or outputs including eARC CDS.

[SAVE ACTIVE EDID TO CUSTOM EDID 10]: One click button to store the current EDID in Custom EDID 10

[UPLOAD EDID TABLES]: Select an EDID file and a Custom EDID Table #number and click SEND EDID to upload it.

[REFRESH]: Refresh the current page.

List of Custom EDID available.

User can select an EDID from all below EDID tables or force the creation of an Automix EDID with below options.

[FIXED TEST EDID]
This mode is a 4K60 4:2:0 8b 300MHz stereo EDID table. It can be used as a security EDID to ensure a picture in every setup/situation. (Except for FHD and 4K30 Max sink device)

[CUSTOM EDID]
Pick and use EDID from a selection of preloaded EDID tables or load any EDID bank of your choice. By default the selected EDID table is 8K60-420 FRL-5 VRR HDR with Full Audio capabilities. When you select an EDID bank from the dropdown list of 100 different EDID tables available, there is nothing else to do, once you click one, the EDID of your choice will be loaded and HPD events will reset the signal to present your selected EDID automatically. Each input can have an individual EDID assigned. Some source need to be restarted after EDID changes, it is safe to always restart your source after changing EDID.

    1 - Custom Default [SONY A85J 7.1]
    2 - Custom Default [Q70J HDR10+ 7.1]
    3 - Custom Default [DENON S960H 8K]
    4 - Custom Default [Q9FN ALLM VRR HDR10+]
    5 - Custom Default [SONY A1 LLDV DCI-P3]
    6 - Custom Default [LG NANO 8K 7.1]
    7 - Custom Default [LG C9 7.1]
    8 - Custom Default [LG C1 7.1]
    9 - Custom Default [PanaGZ960E DV HDR10+]
    10 - Custom Default [SONY A1 LLDV BT2020]

    11 - 8K60-420 FRL-5 VRR HDR 7.1
    12 - 8K60-420 FRL-5 VRR HDR 5.1
    13 - 8K60-420 FRL-5 VRR HDR 2.0
    14 - 8K60-420 FRL-5 HDR 7.1
    15 - 8K60-420 FRL-5 HDR 5.1
    16 - 8K60-420 FRL-5 HDR 2.0
    17 - 4K120-444 FRL-5 10b VRR HDR 7.1
    18 - 4K120-444 FRL-5 10b VRR HDR 5.1
    19 - 4K120-444 FRL-5 10b VRR HDR 2.0
    20 - 4K120-444 FRL-5 10b HDR 7.1
    21 - 4K120-444 FRL-5 10b HDR 5.1
    22 - 4K120-444 FRL-5 10b HDR 2.0
    23 - 4K120-420 VRR HDR 7.1
    24 - 4K120-420 VRR HDR 5.1
    25 - 4K120-420 VRR HDR 2.0
    26 - 4K120-420 HDR 7.1
    27 - 4K120-420 HDR 5.1
    28 - 4K120-420 HDR 2.0

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29 - 4K60-444 600MHz HDR BT2020 7.1
30 - 4K60-444 600MHz HDR BT2020 5.1
31 - 4K60-444 600MHz HDR BT2020 2.0
32 - 4K60-444 600MHz BT2020 7.1
33 - 4K60-444 600MHz BT2020 5.1
34 - 4K60-444 600MHz BT2020 2.0

35 - 4K50-444 600MHz HDR BT2020 7.1
36 - 4K50-444 600MHz HDR BT2020 5.1
37 - 4K50-444 600MHz HDR BT2020 2.0
38 - 4K50-444 600MHz BT2020 7.1
39 - 4K50-444 600MHz BT2020 5.1
40 - 4K50-444 600MHz BT2020 2.0

41 - 4K60-420 12bit HDR BT2020 7.1
42 - 4K60-420 12bit HDR BT2020 5.1
43 - 4K60-420 12bit HDR BT2020 2.0
44 - 4K60-420 12bit BT2020 7.1
45 - 4K60-420 12bit BT2020 5.1
46 - 4K60-420 12bit BT2020 2.0

47 - 4K60-420 8-bit 300MHz HDR BT2020 7.1
48 - 4K60-420 8-bit 300MHz HDR BT2020 5.1
49 - 4K60-420 8-bit 300MHz HDR BT2020 2.0
50 - 4K60-420 8-bit 300MHz BT2020 7.1
51 - 4K60-420 8-bit 300MHz BT2020 5.1
52 - 4K60-420 8-bit 300MHz BT2020 2.0

53 - 4K30-444 300MHz HDR BT2020 7.1
54 - 4K30-444 300MHz HDR BT2020 5.1
55 - 4K30-444 300MHz HDR BT2020 2.0
56 - 4K30-444 300MHz BT2020 7.1
57 - 4K30-444 300MHz BT2020 5.1
58 - 4K30-444 300MHz BT2020 2.0

59 - 4K30-RGB 300MHz HDR BT2020 7.1
60 - 4K30-RGB 300MHz HDR BT2020 5.1
61 - 4K30-RGB 300MHz HDR BT2020 2.0
62 - 4K30-RGB 300MHz BT2020 7.1
63 - 4K30-RGB 300MHz BT2020 5.1
64 - 4K30-RGB 300MHz BT2020 2.0

65 - 4K24-422 12-bit HDR BT2020 7.1
66 - 4K24-422 12-bit HDR BT2020 5.1
67 - 4K24-422 12-bit HDR BT2020 2.0
68 - 4K24-422 12-bit BT2020 7.1
69 - 4K24-422 12-bit BT2020 5.1
70 - 4K24-422 12-bit BT2020 2.0

Disclaimer: *3rd party and/or custom firmware providing extra features are not covered in this manual.*

71 - 4K24-422 12-bit 7.1
72 - 4K24-422 12-bit 5.1
73 - 4K24-422 12-bit 2.0

74 - 1080p60-444 12-bit HDR BT2020 7.1
75 - 1080p60-444 12-bit HDR BT2020 5.1
76 - 1080p60-444 12-bit HDR BT2020 2.0
77 - 1080p60-444 12-bit BT2020 7.1
78 - 1080p60-444 12-bit BT2020 5.1
79 - 1080p60-444 12-bit BT2020 2.0
80 - 1080p60-444 12-bit 7.1
81 - 1080p60-444 12-bit 5.1
82 - 1080p60-444 12-bit 2.0

83 - 1080p24-444 12-bit HDR BT2020 7.1
84 - 1080p24-444 12-bit HDR BT2020 5.1
85 - 1080p24-444 12-bit HDR BT2020 2.0
86 - 1080p24-444 12-bit BT2020 7.1
87 - 1080p24-444 12-bit BT2020 5.1
88 - 1080p24-444 12-bit BT2020 2.0
89 - 1080p24-444 8-bit 7.1
90 - 1080p24-444 8-bit 5.1
91 - 1080p24-444 8-bit 2.0

92 - 1080i60-444 8-bit 7.1
93 - 1080i60-444 8-bit 5.1
94 - 1080i60-444 8-bit 2.0

95 - 720p60-444 8-bit 7.1
96 - 720p60-444 8-bit 5.1
97 - 720p60-444 8-bit 2.0

98 - 480p60-444 8-bit 7.1
99 - 480p60-444 8-bit 5.1
100 - 480p60-444 8-bit 2.0

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VRROOM Web Server HDR/AVI Section

INFO	EDID	HDR/AVI	DV	CEC/EARC	MACROS	CONFIG

CAPTURED INPUT HDR METADATA:

EOTF:
GRN:
BLU:
RED:
WP:
Max/Min Lum:
MaxCLL/FALL:

HDR METADATA GENERATOR:

☐ Use custom HDR for TX0 and TX1 [ignore RX HDR]
☐ Use custom HDR for TX0 and TX1 when input is HDR10 [ignore RX HDR]
☐ Use custom HDR for TX0 and TX1 when input is HLG [ignore RX HDR]
☐ Use custom HDR for TX0 and TX1 when input is HLG and display has no HLG support
☐ Use custom HDR for TX0 and TX1 when input is LLDV
☐ Disable output HDR for TX0 and TX1 when input is HDR10
☐ Disable output HDR for TX0 and TX1 when input is HLG
☐ Disable output LLDV for TX0 and TX1 when input is LLDV
☐ Disable all output HDR/HLG [keep LLDV]

EOTF: SMPTE ST 2084 ▾   Primaries: DCI P3 ▾   WP: D65 ▾

Max Luminance [nits]:   4000
Min Luminance [nits]:   0.0001
MaxCLL [nits]:   1000
MaxFALL [nits]:   400

87:01:1a:b0:02:00:c2:33:c4:86:4c:1d:b8:0b:d0:84:80:3e:13:3d:42:40:a0:0f:32:00:e8:03:90:01:00

[Create IF] [Default IF] [Send HDR]

CAPTURED AVI METADATA:

VIC:
Colorimetry:
Range:

CUSTOM AVI METADATA GENERATOR:

☐ Use custom AVI [for advanced users only]
☐ Disable AVI sending [send nothing]

VIC: 4k60 ▾   Primaries: RGB ▾   Range: Default / Not specified ▾

82:02:0d:ae:40:c0:60:61:00:00:00:00:00:00:00:00

[Create IF] [Send AVI]

AUTO LOW LATENCY MODE CONTROL:
Allows to control the TV supported ALLM feature
ON -setting forces ALLM enabled at all times - ignores RX ALLM
OFF -setting forces ALLM disabled at all times - ignores RX ALLM
FOLLOW -setting lets the source control enable/disable

ALLM MODE: ● FOLLOW   ○ OFF   ○ ON
    Assign to input: - ALL - ▾

UHD ALLIANCE FILM MAKER MODE:

☐ Enable Film Maker Mode

OTHER CAPTURED METADATA:

SPD INFOFRAME:

AUD INFOFRAME:

HVS INFOFRAME:

VSI INFOFRAME:

HFV INFOFRAME:

HDR/DV STATUS OK   [Refresh]

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[CAPTURED HDR METADATA]: If the source at input is sending HDR InfoFrame metadata then the information is captured, extracted and displayed in this text box. HDR metadata is also deciphered and displayed in human readable format.

[HDR METADATA GENERATOR]: This section will allow you to create your own custom HDR metadata and inject it on the current signal by adding it or replacing the existing HDR metadata.

[Use custom HDR for TX0 and TX1]: Unchecked by default, once activated it will turn ON the HDR mode of any HDR display. Upon clicking **Use custom HDR for TX0 and TX1** the **CUSTOM HDR IF** that is defined by dropdowns and input fields below and then created **[Create IF]** and displayed in the text box in HEX format gets sent. This way you can define what the InfoFrame actually is. This is stored also in **VRR**OOM and is persistent over hot-plugs and power cycles. If incoming signal is already HDR, the original HDR metadata that comes with will be ignored **[ignore RX HDR]**.

[Use custom HDR for TX0 and TX1 when input is HDR10]: Unchecked by default, once activated it will turn ON the HDR mode of any HDR display only if incoming signal is already HDR, the original HDR metadata that comes with will be ignored **[ignore RX HDR]**.

[Use custom HDR for TX0 and TX1 when input is HLG]: Unchecked by default, once activated it will turn ON the HDR/HLG mode of any HDR/HLG display only if incoming signal is already HLG, the original HLG metadata that comes with the input signal will be ignored **[ignore RX HLG]**. Ex: render HLG content on HDR display.

[Use custom HDR for TX0 and TX1 when input is HLG and display has no HLG support]: Unchecked by default, once activated it will turn ON the HDR mode of any HDR/HLG display only if incoming signal is already HLG and TV have no support for it. Ex: If two TVs are connected and one if HLG and other non-HLG. Then if you turn off the HLG TV the metadata will be automatically changed.

[Use custom HDR for TX0 and TX1 when input is LLDV]: Unchecked by default, once activated it will turn ON the HDR mode of any HDR/HLG display only if incoming signal is LLDV. This option should be checked if you want DV content from DV source rendered on HDR display.

[Disable output HDR for TX0 and TX1 when input is HDR10]: Unchecked by default, once activated **VRR**OOM will intercept and cancel all incoming HDR10 metadata, HLG metadata will still pass-thru.

[Disable output HDR for TX0 and TX1 when input is HLG]: Unchecked by default, once activated **VRR**OOM will intercept and cancel all incoming HLG metadata, HDR10 metadata will still pass-thru.

[Disable output LLDV for TX0 and TX1 when input is LLDV]: Unchecked by default, once activated **VRR**OOM will intercept and cancel all incoming LLDV signaling, HDR10 metadata will still pass-thru.

[Disable all output HDR/HLG]: Unchecked by default, once activated **VRR**OOM will intercept and cancel all incoming HDR metadata except LLDV.

Note: Disable HDR modes was introduced to allow some JVC PJ owners to apply their own Gamma curves for HDR content and allow their PJ Dynamic Iris to work when content is HDR and/or HLG. They can be used with others display that allow custom Gamma Curve to be applied on incoming signal or to boost nits value for some LG TVs or to render HLG content on HDR display, etc..

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[EOTF]: Select between **SDR Luminance Range**, **HDR Luminance Range, HLG ITU-R BT.2100-0** or **SMPTE ST 2084** values to be used in the custom HDR metadata creation.

[Primaries]: Select between **DCI P3, ITU-R BT 709-5** or **ITU-R BT2020-2** values to be used in the custom HDR metadata creation.

[White Point]: Select the white point value to be used in the custom HDR metadata creation.

[Max Luminance]: Select the Max Luminance value to be used in the custom HDR metadata creation (valid from 1 to 65535)

[Min Luminance]: Select the Min Luminance value to be used in the custom HDR metadata creation (valid from 1 to 65535)

[MaxCLL]: Select the MaxCLL value to be used in the custom HDR metadata creation (valid from 1 to 65535)

[MaxFALL]: Select the MaxFALL value to be used in the custom HDR metadata creation (valid from 1 to 65535)

[Create IF]: Use the previous defined values to create the Custom HDR metadata.

[Default IF]: Restore the default HEX value of the custom HDR metadata.

[Send HDR]: Send the custom created HDR metadata. Please note that **Enable Custom HDR** or any Custom HDR modes must be activated first, to stop the sending of the custom HDR metadata, uncheck **Enable Custom HDR.** If **Enable Custom HDR** is activated then by pressing the **Send HDR** button, the metadata injection does not stop, it just changes values, useful to avoid TV resync.

[CAPTURED AVI METADATA]: If the source is sending AVI infoFrame then the information is captured, extracted and displayed in this text box on GUI. HEX value is deciphered and VIC, Colorimetry and Range are exposed in human readable format.

[CUSTOM AVI INFOFRAME GENERATOR]: Build and send out any custom AVI Infoframe of your choice.

[Use custom AVI]: Upon clicking **Use custom AVI**, the IF that is defined in the Custom AVI text box gets used. This way you can define what the InfoFrame actually is. This is stored also in **VRR**OOM and is persistent over hotplugs and power cycles. This way customer can for example activate BT2020 mode in the TV even though content doesn't sent the correct InfoFrame. The AVI mod is really meant for advanced users only because incorrect values can blank the screen and since the settings are saved even power up won't help until reset.

[Disable AVI]: When checked, Disable AVI will prevent AVI InfoFrame from source to reach the connected sink at **VRR**OOM output and also stop sending Custom AVI if set previously. This feature can be useful for some DVI display or some monitor that do not work well when receiving an AVI InfoFrame.

[VIC]: Select the VIC code to use in the Custom AVI Hex field.

[Primaries]: Select the Primaries value to use in Custom AVI Hex field

[Range]: Select the range value to use in the Custom AVI Hex field.

[Create IF]: Use the previous defined values to create the Custom AVI metadata.

[Send AVI]: Replaces the current incoming AVI with the custom defined one in the text box. This way customer can for example activate BT2020 mode in the TV even though content doesn't sent the correct InfoFrame. This string is also saved in **VRR**OOM and is persistent over hotplugs and power cycles.
The AVI mod is really meant for advanced users only because incorrect values can blank the screen and since the settings are saved even power up won't help until reset. Please note that upon clicking, **Use Custom AVI** will automatically send the current stored AVI metadata value, to stop the sending of the custom AVI infoframe, uncheck **Use Custom AVI.** If **Use Custom AVI** is activated then by pressing the **Send AVI** button, the infoframe injection does not stop, it just changes values, useful to avoid TV resync.

[AUTO LOW LATENCY MODE CONTROL]: Allow to control the TV supported ALLM feature.

[ALLM MODE]: Set ALLM Mode to FOLLOW, OFF or ON.

[ASSIGN TO INPUT]: Select to input assignment for ALLM Mode.

[UHD ALLIANCE FILM MAKER MODE]: Enable Film Maker Mode for LG Display.

[OTHER CAPTURED METADATA]: Display all others Metadata captured.

[SPD INFOFRAME]: Display the captured Source Product InfoFrame.

[AUD INFOFRAME]: Display the captured Audio Format information, if PCM this usually gives the sample rate and number of speakers, if bitstream then usually this infoframe just inform the default which is "refer stream header".

[HVS INFOFRAME: HDMI VENDOR SPECIFIC]: Display HDMI Vendor Specific InfoFrame.

[VSI INFOFRAME: VENDOR SPECIFIC]: Display HDMI2.0 version of HDMI VSIF

[HFV INFOFRAME: HDMI FORUM VSIF]: If the source is sending Vendor Specific Infoframe then the information is captured, extracted and displayed in this text box on GUI.

[REFRESH]: Refresh the current page.

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DV Section of the Webserver

INFO	EDID	HDR/AVI	DV	CEC/EARC	MACROS	CONFIG

CAPTURED INPUT DOLBY VISION METADATA [from source]:

DV Status: not active
DV interface: not active
Backlight metadata: not present
Backlight Max Luminance: not present
Auxiliary runmode: not present
Auxiliary version: not present
Auxiliary debug: not present

CONNECTED DOLBY VISION EDID DATABLOCK [sink tx0]:

DV Version: not present
DV DM Version: not present
DV Interface: not present
2160p60: not present
YUV422 12bit: not present
Global Dimming: not present
Backlight Control: not present
RED Primary: not present
GREEN Primary: not present
BLUE Primary: not present
MAX/MIN Luminance: not present

CONSTRUCT CUSTOM DOLBY VISION DATA BLOCK (for advanced users only):
Generates a 12-byte DV Version 2 Data Block. Select AUTOMIX with CUSTOM STRING -flag to activate.

DV Interface: Low latency 12Bit YCbCr 422

Primaries: DCI P3   YUV422 12bit: supported   Global Dimming: not supported

Backlight Ctrl: not supported   Backlight Minlum: 100 nits   Support 10/12b: 10/12b disabled

RED Primary X: 0,680
RED primary Y: 0,320
GREEN primary X: 0,265
GREEN primary Y: 0,690
BLUE primary X: 0,150
BLUE primary Y: 0,060
MAX luminance [nits]:   1000   Range 100 - 10000 nits
MIN luminance [nits]:   0   Range 0 - 1 nits

EB:01:46:D0:00:48:03:74:82:5E:6D:95

[Create]   [Default]   [Send DV]

DV STATUS OK   [Refresh]

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[CAPTURED INPUT DOLBY VISION METADATA]: Dolby ID and HEX data from the DV source.

[TX0 CONNECTED DOLBY VISION EDID DATABLOCK]: VRROOM will automatically sniff, display and save any Dolby Vision mandatory string from a connected sink at TX0 output. Once stored, this mandatory string can be used in Automix to ensure that the DV stream from the source is compatible with the sink. Once the DV string of a display is saved, you can insert other equipment like an AVR in between in the chain and still have the right DV signal passthru to the sink. Additionally, the datablock value is fully deciphered in human readable format.

[CONSTRUCT CUSTOM DOLBY VISION DATA BLOCK]: If DV flag in EDID page is set to CUSTOM, the DV string created and saved on this form will be used. Please note that only the resulting DV string is saved in the unit memory, each different value in the form will be reset to default once the CUSTOM DV STRING is created and saved.

[DV Interface]: Select the type of DV interface you want to use in your DV datablock
[Primaries]: Select Primaries you want to use in your DV datablock
[YUV422 12bit]: Enable or disable the support for YUV422 12bit
[Global Dimming]: Enable or disable the support of Global Dimming
[Backlight Ctrl]: Enable or disable the support for backlight control
[Backlight Minlum]: Set the Min Lum value for Backlight (25, 50, 75 or 100 nits)
[Support 10/12b]: Disable or enable support for 444/RGB 10b or 444/RGB 12b

If **[Primaries]** is set to CUSTOM, the following values can be tweaked individually:

[RED Primary X]: Set the value of your choice for RED Primary X
[RED Primary X]: Set the value of your choice for RED Primary X
[GREEN Primary X]: Set the value of your choice for GREEN Primary X
[GREEN Primary Y]: Set the value of your choice for GREEN Primary Y
[BLUE Primary X]: Set the value of your choice for BLUE Primary X
[BLUE Primary Y]: Set the value of your choice for BLUE Primary Y
[MAX Luminance]: Set the value of your choice from 100 – 10000 nits
[MIN Luminance]: Set the value of your choice from 0 – 1 nits

[Create IF]: Use the previous defined values to create the Custom DV datablock.
[Default IF]: Load the default Custom DV datablock values.
[Send DV]: Send the DV custom string created to be stored in unit memory and in use if DV flag in EDID page is set to CUSTOM, the DV string once created and sent from this form will be used. Some source need to be restarted after EDID changes, it is safe to always restart your source after change in EDID.

[REFRESH]: Refresh the current page.

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VRROOM Web Server OSD Section (NOT YET AVAILABLE)

INFO	EDID	SCALER	HDR/DV	OSD	CEC-RS232	MACROS	CONFIG

OSD SETUP: ☑ OSD ENABLE
FADE SECONDS: [15]
OSD LOCATION [X]:   [20]
OSD LOCATION [Y]:   [945]
OSD COLOR [FRONT]:   [21]
OSD COLOR [BACK]:   [0]
OSD COLOR [LEVEL]:   [7]
Source Name   ☑
Video Field: ☑
Video IF: ☑
HDR RX/TX Info: ☑
HDR IF: ☑
Audio Field: ☑
Rx Video Info: ☐
RX HDR info: ☐
Ignore Metadata
Change: ☐

OSD MASK SETUP ☐ OSD Mask Enable
OSD MASK [X]:   [1]
OSD MASK [Y]:   [950]
OSD MASK1 [X]:   [1920]
OSD MASK1 [Y]:   [1080]
OSD MASK LEVEL: [3]
OSD GRAYSCALE: [10]
[SEND]

☐ OSD Text Enable ☐ Never fade
OSD TEXT [X]:   [20]
OSD TEXT [Y]:   [20]
[DIVA by HDFURY 2019]   [Send]

OSD STATUS OK   [Refresh]

[OSD SETUP]: Enable or Disable the OSD feature of **VRR**OOM.

[OSD FADE]: Set the timer in seconds before OSD fade out, 0 = never (always ON)

[OSD LOCATION X, Y]: Set the X and Y value of the OSD location at 1080p, values are multiplied by 2 when the stream is 4K.

[OSD COLOR FRONT, BACK, LEVEL]: Set the Text Color [FRONT 0-31], Background Color [BACK 0-31] and Background transparency [LEVEL 0-7] for the OSD.

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[OSD INFO]: Select or unselect the information that must be displayed on your **VRR**OOM OSD. Available options are: Source name, Video Field, Video IF, HDR info, HDR IF, Audio field, RX Video info, RX HDR info, Ignore Metadata Change.

[OSD MASK SETUP]: Enable of Disable the use of OSD Mask.

[MASK LOCATION x0,y0,x1,y1]: Defines the coordinates of the top left and bottom right corner of your OSD Mask at 1080p. Values are multiplied by 2 when the stream is 4K

[OSD MASK LEVEL]: Select the level of transparency for your OSD Mask. Value range is from 1 to 7.

[OSD GRAYSCALE]: Select the level of grayscale for your OSD Mask. Value range is from 0 to 15.

[SEND]: For any changes in the above parameters, click SEND to upload them to your **VRR**OOM unit.

[OSD TEXT ENABLE]: Enable or disable the OSD Custom Text, once activated, the custom text defined in the text field will be displayed on screen.

[NEVER FADE]: If you want to keep the OSD Custom text even after OSD info faded away, make sure this option is enabled.

[OSD TEXT X,Y]: Set the X and Y value of the OSD Custom Text at 1080p, values are multiplied by 2 when the stream is 4K

[SEND]: For any changes in the above parameters, click SEND to upload them to your **VRR**OOM unit.

[REFRESH]: Refresh the current page.

VRROOM Web Server CEC/eARC Section

INFO	EDID	HDR/AVI	DV	CEC/EARC	MACROS	CONFIG

CEC / eARC / ARC CONTROL:
CEC must be enabled to support CEC channel switching and eARC/ARC retrieval from the connected display
eARC/ARC support requires "Audio System", make sure no other AVR devices are connected to the TV

All changes to CEC/eARC/ARC parameters require a VRROOM power cycle. Unplug/replug power

CEC is enabled when the checkbox is selected

☑ CEC: [Audio System [eARC/ARC]   ▼]

eARC can support lossless bitstream formats, such as MAT atmos, TrueHD, DTS:X, PCM 7.1
ARC can support up to of DD+ Atmos, stereo PCM
If the display supports eARC, select Manual eARC/ARC below. All audio will be routed via TV eARC
If the display supports ARC, select Manual eARC/ARC or Manual HDMI depending on the use case or automate it via IP
AUTO -setting will rely on CEC commands from TV to switch between eARC/ARC and HDMI

eARC/ARC: [MANUAL HDMI   ▼]

RS232 COMMANDS:
RS232 BAUD RATE: [19200   ▼]

[power on\r   ]   [Send Ascii]

[21:89:01:50:4d:50:4d:30:43:0a   ]   [Send Binary]

CEC/RS232 STATUS OK   [Refresh]

[CEC] must be checked to enable CEC and to apply the selected dropdown options to the **VRR**OOM unit. Once activated it allows **VRR**OOM to answer and process CEC requests and commands and appear on the TV CEC network map. Uncheck it if you do not want **VRR**OOM to answer external CEC requests or process Internal CEC commands. Unchecking will remove **VRR**OOM from the CEC Root(TV) network map but CEC commands for connected sinks or sources will still pass-thru.

[CEC TYPE] Audio Processor (Default) is the device type to choose if you want **VRR**OOM eARC/ARC feature to be ON and retrieve sound from TV ARC/eARC to **VRR**OOM HDMI audio out or eARC OUT, 5.1 Optical Out or Jack Analog Stereo output. Unit must be restarted after any CEC Type change. In some cases TV restart can be needed as well.

[CEC TYPE] Video Processor is the device type to choose if you have an AVR or sound system in your setup and if you use or want to use that AVR or sound system for ARC/eARC or CEC. Unit must be restarted after any CEC Type change. In some cases TV restart can be needed as well.

[eARC/ARC]: Select between AUTO (default), MANUAL HDMI or MANUAL eARC/ARC option. **VRR**OOM can extract up to Atmos over DD+ for ARC TV offering such option and up to full audio Atmos over True HD for eARC TV. ARC/eARC extraction retrieve audio from either others devices directly connected to TV or from TV embedded streaming APPS and forward it to any AVR or sound system input via the **VRR**OOM HDMI audio out or to any AVR or Sound system ARC/eARC output via the eARC/ARCANA output or even via optical output for a setup with ARC TV. Please note that only a very few AVR on the market can support 192kHz via optical that could support Atmos/DD+, they are usually limited to DD 5.1 via optical.

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[SEND CEC TEST COMMAND]: Enter the CEC command of your choice in this text field in HEX format. If you are not sure about how to format your command, we recommend you to visit the very well done cec-o-matic website made by Kwikwai.

[RS232 COMMAND]: Allow you to test RS232 command to make sure your unit is properly configured and ready to communicate via RS232.

[RS232 BAUD RATE]: Set the RS232 link speed (default 19200)

[Send Ascii]: Once RS232 command have been entered in Ascii format, use this button to send it out.

[Send Binary]: Once RS232 command have been entered in HEX/Binary, use this button to send it out.

[REFRESH]: Refresh the current page.

Note: CEC/ARC master is TX0, if you want ARC or eARC from the TV; you need to connect your TV ARC/eARC capable input to **VRR**OOM HDMI TX0 OUTPUT and set the unit as Audio Processor under **VRR**OOM CEC device type.

VRROOM Web Server MACROS Section

With the help of power users from the community, special automatic and custom macro has been developed for JVC Projectors. Kindly please refer to instructions posted here. VRROOM now allow to edit each command individually so you can instruct any RS232 capable display.

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VRRОOM Web Server CONFIG Section

```
VRROOM SETUP:

AUTOSWITCH INPUTS:          ● OFF          ○ ON POWER      ○ ON SENSE
                            Reboot required after changes. ON SENSE -only for advanced users.

HDCP VERSION:               ● 1.4          ○ Auto
HTPC MODE RX0:              ○ ON           ● OFF
HTPC MODE RX1:              ○ ON           ● OFF
HTPC MODE RX2:              ○ ON           ● OFF
HTPC MODE RX3:              ○ ON           ● OFF

OLED DISPLAY:              ● ON            ○ OFF
OLED FADE:                 [ 30 ]   [ SEND ]

OLED PAGE:      [            ▼ ]

REBOOT TIMER(hours):       [ 0 ]    [ SEND ]

AUDIO OUT FORMAT:          ○ 720p60        ● 1080p60
MUTE TX0 AUDIO:            ○ ON            ● OFF
MUTE TX1 AUDIO:            ○ ON            ● OFF
IR:                        ● ON            ○ OFF
IR CODE SET:               ● SET 1         ○ SET 2         ○ SET 3

TX0 +5V FORCE:             ● ON            ○ OFF
TX1 +5V FORCE:             ● ON            ○ OFF
SONY ANDROID TV FIX:       ○ ON            ○ OFF
RELAY:                     ○ ON            ● OFF

ANALOG L/R AUDIO CONTROL:

VOLUME                     [ 0 ]    [-100 to +10dB]
BASS                       [ 0 ]    [-10 to +10dB]
TREBLE                     [ 0 ]    [-10 to +10dB]
[ SEND ]


IP CONFIG:
Reboot required for any changes in DHCP / STATIC IP

DHCP:                      ● ON            ○ OFF
mDNS:                      ● ON            ○ OFF

Current IP Configuration:
IP ADDR:                   [ 192.168.1.253 ]
IP MASK:                   [ 255.255.255.0 ]
IP GW:                     [ 192.168.1.1 ]
MAC:                       [ 18:9B:A5:D4:00:02 ]

Configure Static IP:
This address is used when DHCP is off
IP ADDR:                   [ 192.168.1.250 ]
IP MASK:                   [ 255.255.255.0 ]
IP GW:                     [ 192.168.1.1 ]

[ SET IP ]

Configure TCP port: [requires reboot to apply]
VRROOM will listen to this port for IP / Telnet commands
IP INTERRUPTS:             ○ ON            ● OFF
IP PORT:                   [ 2222 ]
[ SET PORT ]

VRROOM CONTROL:

REBOOT UNIT                [ REBOOT ]

EXPORT CONFIG              [ EXPORT ]
IMPORT CONFIG              [ Choisir un fichier ] Aucun fichier choisi    [ IMPORT ]

ISSUE HOTPLUG              [ SEND ]

RESET TO FACTORY DEFAULTS:
☐ CLEAR ALL SETTINGS TO FACTORY DEFAULTS:
☐ EDID FACTORY SETTINGS:
[ Type RESET here ]    [ RESET ]


FW UPDATE:                 [ Choisir un fichier ] Aucun fichier choisi    [ SEND ]
```

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[AUTOSWITCH INPUTS]: Select between OFF (Manual Switching), ON POWER or ON SENSE. ON POWER rely on +5V detection while ON SENSE will allow the TMDS / Pixel clock Auto switch feature and force the **VRR**OOM unit to automatically switch to the active signal if the selected signal is lost. This mode allows auto switching of source that keep sending +5V when in standby such as ATV4K, X1X, Shield and others. PLEASE NOTE THAT AUTOSWITCH IS NOT YET AVAILABLE, NEW FIRMWARE UPDATE NEEDED.

[HDCP VERSION]: Allow you to select/force the HDCP revision of the TX1 Output Port.

[HTPC MODE]: Set HTPC mode ON/OFF individually for each input. Useful if you have trouble with Windows and icons when turning your secondary display off or resuming from stand-by mode. Please note that HTPC mode is not compatible with HDCP signal.

[OLED DISPLAY]: Enabled by default**, VRR**OOM OLED display can be turned ON/OFF at will. Some users might find the **VRR**OOM OLED display visually disturbing in their HT setup. You have the possibility to turn it off.

[OLED FADE]: Allow you to define a custom timing in seconds before OLED FADE, set it to 0 for OLED to always stay active. Default is 30sec.

[ROTATE 180 DEG]: OFF by default, based on your setup, you might prefer to flip the OLED display, once activated, this option will flip the **VRR**OOM OLED.

[REVERSE COLORS]: OFF by default, once activated this option will reverse the **VRR**OOM OLED colors.

[OLED PAGE]: Select the OLED page that will be displayed at startup**.**

[REBOOT TIMER]: If you meet startup issue after your system was idle for a while (overnight or a couple of days off) you can define a timer in hours that will force a reboot of the **VRR**OOM unit every X hours after your system was last turned off.

[AUDIO OUT FORMAT]: You can set the video format of the HDMI self-generated video stream for the HDMI AUDIO OUT. If your sound system is only support up to 1080i as max signal, set the format to 720p60.

[MUTE TX0 AUDIO]: If you use an AVR at HDMI audio out, you might want to disable sound going to equipment connected at TX0 output. Here you can mute the TX0 output sound.

[MUTE TX1 AUDIO]: If you use an AVR at HDMI audio out, you might want to disable sound going to equipment connected at TX1 output. Here you can mute the TX1 output sound.

[IR]: Turn ON/OFF the ability of the **VRR**OOM unit to be controlled by Infra-Red.

[IR CODE SET]: 3 different IR code set can be selected in case there is IR conflict with existing equipment in your setup.

[TX0 +5V FORCE]: ON by default, when set to OFF, the display at TX0 output will not be detected or seen by **VRR**OOM similarly as it would be if the HDMI cable was physically disconnected.

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[TX1 +5V FORCE]: ON by default, when set to OFF, the display at TX1 output will not be detected or seen by **VRR**OOM similarly as it would be if the HDMI cable was physically disconnected.

[RELAY]: OFF by default, when set to ON, **VRR**OOM can be used to trigger other equipment in your Home Theater system such as your projection screen for example.

[ANALOG L/R AUDIO CONTROL]: This section offer Volume, Bass and Treble control for the Analog Stereo output.

[SEND]: After Volume, Bass or Treble values changes, click send to apply your changes.

[IP CONFIG]: This section allows you to edit the way **VRR**OOM will retrieve its IP address. Any changes will only be applied after reboot (power cycle)

[DHCP]: When set to ON, **VRR**OOM will retrieve a dynamic IP automatically.

[mDNS]: When set to ON, **VRR**OOM will offer a simple URL shortcut to always be reachable from a browser. Ex: http://VRROOM-xx.local

[CURRENT IP CONFIGURATION]: Display the current value of IP address, IP mask and IP gateway and MAC.

[CONFIGURE STATIC IP]: Enter the IP address, IP mask and IP gateway of your choice for a static IP setup, DHCP needs to be OFF for using static IP values

[SET IP]: After any changes in IP configuration, click SET IP to validate.

[IP INTERRUPTS]: Some control system might need IP INTERRUPTS set to ON, Default is OFF.

[IP PORT]: Set the IP/telnet port of your choice here (default value is 2222).

[SET PORT]: Click here to apply the IP/telnet port of your choice (Reboot or Power cycle required)

[REBOOT UNIT]: Click REBOOT button to restart **VRR**OOM completely.

[EXPORT CONFIG]: Allow you to export a txt file that includes the full list of **VRR**OOM settings and some setup information that can be useful for support.

[IMPORT CONFIG]: If you previously exported your unit configuration file, you can restore it by selecting the filename and then clicking IMPORT. This can be useful after a firmware update to restore your previous working configuration.

[ISSUE HOTPLUG]: Click Send button to perform a soft-reset in your setup.

[RESET TO FACTORY DEFAULTS]: Type **RESET** in the factory def text field and click the available RESET button to clear all settings to factory defaults. **VRR**OOM power cycle needed.

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[EDID FACTORY SETTINGS]: Click the available check box to clear all EDID settings to factory defaults and type **RESET** in the text field. Finally click the **RESET** button and unit EDID will be reset to factory defaults.

[FW UPDATE]: Select the **VRR**OOM firmware file and click SEND to upload it. Wait for **VRR**OOM to reboot automatically, once **VRR**OOM is rebooted, refresh the webserver page.

[REFRESH]: Refresh the current page.

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Updating your VRR**OOM** Firmware via web browser

The VRROOM **Firmware can be updated from any web browser based device.**

If you meet any issue while updating your **VRR**OOM firmware, please try using another device on same network or another Internet browser on your device.

You can download the latest Firmware version for your **VRR**OOM device from the **Download Tab** on the **VRR**OOM Product page: here. If you are unsure about your Firmware version currently in use, simply refer to OLED display on your unit. Alternatively, FW version is reported on any header of any page when accessing the embedded web server.

Once downloaded and extracted, you should have a directory on your computer with the following files
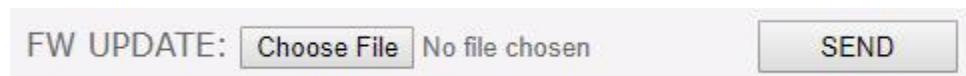
You will have to load and flash the VRROOM **Update file to successfully upgrade your unit.**
Note: Version number could be different depending on the FW revision you downloaded.
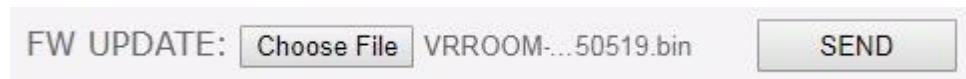
After updating the **VRR**OOM firmware, simply refresh the web server page from your browser once unit have rebooted, Please note that there will be no OLED logo or info for about 15 seconds as the unit is restarting and reconfiguring itself. Once ready, the OLED logo and infopage will come back on.

1) Visit **VRR**OOM webserver and browse to the bottom on the **CONFIG** section.

2) Click **Choose File** as shown on the above picture and select **VRR**OOM firmware file.

3) Once the correct Firmware file is selected, its name will appear on the **CONFIG** page. Simply click **SEND** button to start flashing the firmware to your unit.

During this process you will see the above message on the footer page of the **CONFIG** section.
Please wait a few seconds and do not disconnect your device while the upgrade process is running.

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FW UPLOAD OK - WAIT FOR REBOOT AND THEN REFRESH BROWSER   Refresh

Once completed, you will see the above notification.
Simply wait for **VRR**OOM OLED to come back on and click **REFRESH**.
The top section of the web server and **VRR**OOM OLED should now indicate the new firmware version.

Congratulations, you have successfully updated your **VRR**OOM firmware update and your unit is now ready to operate with the benefits from the latest software additions.

IR/IP/RS232: VRROOM can be fully controlled via IP, IR or from any serial based computer such as Win, Max or Linux using RS232 interface. Complete list of IP, IR and RS232 commands are included as a text file for convenience on all Firmware update package.

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CONFIG Export section of web server:

By using the **[CONFIG] > [EXPORT CONFIG]** option, you will be able to save the current **VRR**OOM configuration and settings in a text file.
The file can then be shared with the community or for support reason or stored as backup to restore your preferred settings after a firmware update.

Exported config file will present the active signal information, the EDID set for each RX and TX as well as the list of parameters.

```
  {
   "product": "VRROOM",
   "time": "12/9/2021, 9:46:10 PM",
   "hostname": "VRROOM-07",
   "ipaddress": "192.168.1.231",
   "serial": "0005001121000007",
   "version": "FW: 0.10",
   "portseltx0": "3",
   "portseltx1": "3",
   "opmode": "0",
   "RX0": " 4K59.940 593MHz 422 BT2020 12b LLDV ",
   "RX1": " no signal",
   "TX0": "4K59.940 593MHz 422 BT2020 12b LLDV ",
   "TX1": "4K59.940 593MHz 422 BT2020 12b LLDV ",
   "AUD0": " L-PCM 768KHz --ch 24bit",
   "AUD1": " L-PCM 768KHz --ch 24bit",
   "AUDOUT": "L-PCM 768KHz --ch 24bit",
   "SINK0": "LG TV SSCR2: 4K120 FRL5 VRR ALLM DV HDR10 HLG BT2020 ",
   "EDIDA0": "MAT Atmos, DD Atmos, DD,  LPCM 2.0  192kHz  24b",
   "SINK1": "LG TV SSCR: 4K120 DV HDR10 HLG BT2020 ",
   "EDIDA1": "MAT Atmos, DD Atmos, DD, DTS:X, DTSHD, DTS, LPCM 7.1  192kHz
24b",
   "SPDASC": "",
   "SPDASC1": "",
   "tx0hpd": "off",
   "tx0rs": "off",
   "tx0tmds": "off",
   "tx0ns": "0",
   "tx0scerr": "0",
   "tx1hpd": "off",
   "tx1rs": "off",
   "tx1tmds": "off",
   "tx1ns": "0",
   "tx1scerr": "0",
   "txaudhpd": "on",
   "txaudrs": "on",
   "rx0in5v": "on",
   "rx1in5v": "on",
   "rx2in5v": "on",
   "rx3in5v": "off",
   "edidmode": "automix",
   "edidtableinp1": "11",
   "edidtableinp2": "0",
   "edidtableinp3": "0",
```

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```
    "edidtableinp4": "0",
    "defaultedid": "0",
    "edidfrlmode": "5",
    "ediddvmode": "1",
    "edidhdrmode": "1",
    "edidpcmchmode": "8",
    "edidpcmsrmode": "2",
    "edidpcmbwmode": "2",
    "edidtruehdmode": "0",
    "edidtruehdsrmode": "3",
    "edidddmode": "1",
    "edidddplusmode": "0",
    "edidddplussrmode": "3",
    "ediddtshdmode": "0",
    "ediddtshdsrmode": "3",
    "edidfrlflag": "0",
    "edidvrrflag": "0",
    "edidvrrmode": "1",
    "edidallmflag": "0",
    "edidallmmode": "1",
    "edidhdrflag": "0",
    "ediddvflag": "1",
    "edidpcmflag": "0",
    "edidtruehdflag": "0",
    "edidddflag": "0",
    "edidddplusflag": "0",
    "edidonebitflag": "0",
    "edidonebitmode": "0",
    "edidonebitspmode": "1",
    "ediddtsflag": "0",
    "ediddtsmode": "1",
    "ediddtshdflag": "0",
    "edidaudioflags": "audioout",
    "edidoverflow": "none",
    "edidvideoflags": "tx0",
    "SPD": "",
    "SPD1": "",
    "AVI": "",
    "AUD": "",
    "HDR": "",
    "HDRCUSTOM":
"87:01:1a:b0:02:00:c2:33:c4:86:4c:1d:b8:0b:d0:84:80:3e:13:3d:42:40:a0:0f:32:0
0:e8:03:90:01:00",
    "AVICUSTOM": "82:02:0d:ae:40:c0:60:61:00:00:00:00:00:00:00:00:00",
    "HVS": "",
    "VSI": "",
    "HFV": "",
    "DV0":
"eb:01:46:d0:00:48:03:76:8a:66:72:7c:00:00:00:00:00:00:00:00:00:00:00:00:0
0:00:00:00:00:00",
    "DVCUSTOM":
"eb:01:46:d0:00:44:03:70:8a:64:72:7c:00:00:00:00:00:00:00:00:00:00:00:00:0
0",
    "CHST": "00:00:00:cf:00:00:00:00",
    "filmmaker": "0",
    "allmmode": "0",
    "allmtarget": "4",
```

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```
    "customhdr": "0",
    "customavi": "0",
    "disablehdr": "0",
    "disableavi": "0",
    "hdrcustomhdronly": "0",
    "hdrcustomhlgonly": "0",
    "hdrcustomlldvonly": "0",
    "hdr10disable": "0",
    "hlgdisable": "0",
    "lldvdisable": "0",
    "hdrcustomhlgonlyauto": "0",
    "cec": "off",
    "cecla": "audio",
    "cectx0power": "0",
    "archbr": "0",
    "arcforce": "auto",
    "earcforce": "hdmi",
    "earcst": "off",
    "arcst": "off",
    "cdsstring":
"01:01:17:32:67:7e:03:57:06:03:0f:7f:07:15:07:50:3e:1f:c0:5f:7e:03:83:4f:00:0
0:00:00:00:00:00",
    "baudrate": "19200",
    "macroenable": 0,
    "macroeverysync": 0,
    "macroalwayshex": 0,
    "macroalwayshexorder": 0,
    "macroalwayshexdelay": 0,
    "macrohdr10mode": 0,
    "macrocustomen1": 1,
    "macrocustomen2": 1,
    "macrocustomen3": 1,
    "macrocustomen4": 1,
    "macrocustomen5": 1,
    "macrocustomen6": 1,
    "macrocustomen7": 1,
    "macrocustom1mode": 0,
    "macrocustom1value": 0,
    "macrocustom1action": 0,
    "macrocustom2mode": 0,
    "macrocustom2value": 1100,
    "macrocustom2action": 0,
    "macrocustom3mode": 2,
    "macrocustom3value": 0,
    "macrocustom3action": 0,
    "macrocustom4mode": 2,
    "macrocustom4value": 1100,
    "macrocustom4action": 0,
    "macrocustom5mode": 2,
    "macrocustom5value": 4000,
    "macrocustom5action": 0,
    "macrocustom6mode": 2,
    "macrocustom6value": 4000,
    "macrocustom6action": 0,
    "macrocustom7action": 0,
    "macrodelay": 25,
    "macrohdrhdtv": 0,
```

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```
    "macrohdrfilm": 0,
    "macrohdrbt2020": 0,
    "macro3d": 0,
    "macroxvcolor": 0,
    "macrohlgbt709": 0,
    "macrohlgbt2020": 0,
    "macrohdr10": 0,
    "macrohdr10opt": 0,
    "macrohdr10bt709": 0,
    "macrolldv": 0,
    "macrosdrtvcustom": "21:89:1:50:4d:50:4d:30:31",
    "macrosdrfilmcustom": "21:89:1:50:4d:50:4d:30:32",
    "macrosdrbt2020custom": "21:89:1:50:4d:50:4d:30:33",
    "macro3dcustom": "21:89:1:50:4d:50:4d:30:34",
    "macroxvcolorcustom": "21:89:1:50:4d:50:4d:30:35",
    "macrohlgbt709custom": "21:89:1:50:4d:50:4d:30:36",
    "macrohlgbt2020custom": "21:89:1:50:4d:50:4d:30:37",
    "macrohdr10maincustom": "21:89:1:50:4d:50:4d:30:38",
    "macrohdr10optionalcustom": "21:89:1:50:4d:50:4d:30:39",
    "macrohdr10bt709custom": "21:89:1:50:4d:50:4d:30:3a",
    "macrolldvcustom": "21:89:1:50:4d:50:4d:30:3b",
    "enclevel": "0",
    "autosw": "0",
    "iractive": "1",
    "ircodeset": "1",
    "tx0plus5": "1",
    "tx1plus5": "1",
    "sonyfix": "0",
    "scaleselection": "3",
    "htpcmode0": "0",
    "htpcmode1": "0",
    "htpcmode2": "0",
    "htpcmode3": "0",
    "macrorep": "0",
    "audiooutreso": "0",
    "mutetx0": "1",
    "mutetx1": "0",
    "relay": "0",
    "analogvolume": "0",
    "analogbass": "0",
    "analogtreble": "0",
    "staticip": "staticip 192.168.1.250/255.255.255.0/192.168.1.1",
    "activeip": "activeip 192.168.1.231/255.255.255.0/192.168.1.1",
    "dhcp": "1",
    "tcpport": "2222",
    "macaddr": "18:9B:A5:D4:00:07",
    "mdns": "1",
    "ipinterrupt": "0",
    "reboottimer": "0",
    "oled": "1",
    "oledpage": "0",
    "oledrot": "1",
    "oledrev": "0",
    "oledfade": "30",
    "EDIDRX0": "00 ff ff ff ff ff ff 00 1e 6d c8 c0 01 01 01 01 01 1e 01 03
80 a0 5a 78 0a ee 91 a3 54 4c 99 26 0f 50 54 a1 08 00 31 40 45 40 61 40 71 40
81 80 d1 c0 01 01 01 01 08 e8 00 30 f2 70 5a 80 b0 58 8a 00 40 84 63 00 00 1e
```

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```
6f c2 00 a0 a0 a0 55 50 30 20 35 00 40 84 63 00 00 1e 00 00 00 fd 00 18 78 1e
ff 77 00 0a 20 20 20 20 20 20 00 00 00 fc 00 4c 47 20 54 56 20 53 53 43 52 32
0a 20 01 66 02 03 67 f1 5e 61 60 76 75 66 65 db da 10 1f 04 13 05 14 03 02 12
20 21 22 15 01 5d 5e 5f 62 63 64 3f 40 2f 35 17 48 09 57 07 15 07 50 57 07 01
67 04 03 6e 03 0c 00 21 00 b8 3c 24 00 80 01 02 03 04 6a d8 5d c4 01 78 80 53
02 28 78 e3 05 c0 00 e2 00 cf e2 0f ff e3 06 0d 01 eb 01 46 d0 00 44 03 70 8a
64 72 7c 6f c2 00 a0 a0 a0 55 50 30 20 35 00 50 1d 74 00 00 1a 00 00 00 00 00
00 69",
    "EDIDRX1": "00 ff ff ff ff ff ff 00 1e 6d c8 c0 01 01 01 01 01 1e 01 03
80 a0 5a 78 0a ee 91 a3 54 4c 99 26 0f 50 54 a1 08 00 31 40 45 40 61 40 71 40
81 80 d1 c0 01 01 01 01 08 e8 00 30 f2 70 5a 80 b0 58 8a 00 40 84 63 00 00 1e
6f c2 00 a0 a0 a0 55 50 30 20 35 00 40 84 63 00 00 1e 00 00 00 fd 00 18 78 1e
ff 77 00 0a 20 20 20 20 20 20 00 00 00 fc 00 4c 47 20 54 56 20 53 53 43 52 32
0a 20 01 66 02 03 67 f1 5e 61 60 76 75 66 65 db da 10 1f 04 13 05 14 03 02 12
20 21 22 15 01 5d 5e 5f 62 63 64 3f 40 2f 35 17 48 09 57 07 15 07 50 57 07 01
67 04 03 6e 03 0c 00 22 00 b8 3c 24 00 80 01 02 03 04 6a d8 5d c4 01 78 80 53
02 28 78 e3 05 c0 00 e2 00 cf e2 0f ff e3 06 0d 01 eb 01 46 d0 00 44 03 70 8a
64 72 7c 6f c2 00 a0 a0 a0 55 50 30 20 35 00 50 1d 74 00 00 1a 00 00 00 00 00
00 68",
    "EDIDRX2": "00 ff ff ff ff ff ff 00 1e 6d c8 c0 01 01 01 01 01 1e 01 03
80 a0 5a 78 0a ee 91 a3 54 4c 99 26 0f 50 54 a1 08 00 31 40 45 40 61 40 71 40
81 80 d1 c0 01 01 01 01 08 e8 00 30 f2 70 5a 80 b0 58 8a 00 40 84 63 00 00 1e
6f c2 00 a0 a0 a0 55 50 30 20 35 00 40 84 63 00 00 1e 00 00 00 fd 00 18 78 1e
ff 77 00 0a 20 20 20 20 20 20 00 00 00 fc 00 4c 47 20 54 56 20 53 53 43 52 32
0a 20 01 66 02 03 67 f1 5e 61 60 76 75 66 65 db da 10 1f 04 13 05 14 03 02 12
20 21 22 15 01 5d 5e 5f 62 63 64 3f 40 2f 35 17 48 09 57 07 15 07 50 57 07 01
67 04 03 6e 03 0c 00 23 00 b8 3c 24 00 80 01 02 03 04 6a d8 5d c4 01 78 80 03
02 28 78 e3 05 c0 00 e2 00 cf e2 0f ff e3 06 0d 01 eb 01 46 d0 00 44 03 70 8a
64 72 7c 6f c2 00 a0 a0 a0 55 50 30 20 35 00 50 1d 74 00 00 1a 00 00 00 00 00
00 b7",
    "EDIDRX3": "00 ff ff ff ff ff ff 00 1e 6d c8 c0 01 01 01 01 01 1e 01 03
80 a0 5a 78 0a ee 91 a3 54 4c 99 26 0f 50 54 a1 08 00 31 40 45 40 61 40 71 40
81 80 d1 c0 01 01 01 01 08 e8 00 30 f2 70 5a 80 b0 58 8a 00 40 84 63 00 00 1e
6f c2 00 a0 a0 a0 55 50 30 20 35 00 40 84 63 00 00 1e 00 00 00 fd 00 18 78 1e
ff 77 00 0a 20 20 20 20 20 20 00 00 00 fc 00 4c 47 20 54 56 20 53 53 43 52 32
0a 20 01 66 02 03 67 f1 5e 61 60 76 75 66 65 db da 10 1f 04 13 05 14 03 02 12
20 21 22 15 01 5d 5e 5f 62 63 64 3f 40 2f 35 17 48 09 57 07 15 07 50 57 07 01
67 04 03 6e 03 0c 00 24 00 b8 3c 24 00 80 01 02 03 04 6a d8 5d c4 01 78 80 03
02 28 78 e3 05 c0 00 e2 00 cf e2 0f ff e3 06 0d 01 eb 01 46 d0 00 44 03 70 8a
64 72 7c 6f c2 00 a0 a0 a0 55 50 30 20 35 00 50 1d 74 00 00 1a 00 00 00 00 00
00 b6",
    "EDIDTX0": "00 ff ff ff ff ff ff 00 1e 6d c8 c0 01 01 01 01 01 1e 01 03
80 a0 5a 78 0a ee 91 a3 54 4c 99 26 0f 50 54 a1 08 00 31 40 45 40 61 40 71 40
81 80 d1 c0 01 01 01 01 08 e8 00 30 f2 70 5a 80 b0 58 8a 00 40 84 63 00 00 1e
6f c2 00 a0 a0 a0 55 50 30 20 35 00 40 84 63 00 00 1e 00 00 00 fd 00 18 78 1e
ff 77 00 0a 20 20 20 20 20 20 00 00 00 fc 00 4c 47 20 54 56 20 53 53 43 52 32
0a 20 01 66 02 03 67 f1 5e 61 60 76 75 66 65 db da 10 1f 04 13 05 14 03 02 12
20 21 22 15 01 5d 5e 5f 62 63 64 3f 40 2f 35 17 48 09 57 07 15 07 50 57 07 01
67 04 03 6e 03 0c 00 20 00 b8 3c 24 00 80 01 02 03 04 6a d8 5d c4 01 78 80 53
02 28 78 e2 00 cf e3 05 c0 00 e3 06 0d 01 e2 0f ff eb 01 46 d0 00 48 03 76 8a
66 72 7c 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 94",
    "EDIDTX1": "00 ff ff ff ff ff ff 00 1e 6d c8 c0 01 01 01 01 01 1e 01 03
80 a0 5a 78 0a ee 91 a3 54 4c 99 26 0f 50 54 a1 08 00 31 40 45 40 61 40 71 40
81 80 d1 c0 01 01 01 01 08 e8 00 30 f2 70 5a 80 b0 58 8a 00 40 84 63 00 00 1e
66 21 50 b0 51 00 1b 30 40 70 36 00 40 84 63 00 00 1e 00 00 00 fd 00 18 78 1e
ff 77 00 0a 20 20 20 20 20 20 00 00 00 fc 00 4c 47 20 54 56 20 53 53 43 52 0a
```

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```
20 20 01 aa 02 03 6b f1 5e 61 60 76 75 66 65 db da 10 1f 04 13 05 14 03 02 12
20 21 22 15 01 5d 5e 5f 62 63 64 3f 40 32 0f 7f 07 15 07 50 3d 1e c0 57 06 01
5f 7e 01 67 7e 01 83 5f 00 00 6e 03 0c 00 10 00 b8 3c 24 00 80 01 02 03 04 67
d8 5d c4 01 78 80 03 e3 05 c0 00 e2 00 cf e2 0f ff e3 06 0d 01 eb 01 46 d0 00
45 03 80 86 60 76 8f 6f c2 00 a0 a0 a0 55 50 30 20 35 00 50 1d 74 00 00 1a 00
00 5c",
    "EDIDAUD": "00 ff ff ff ff ff ff 00 35 ed 02 00 00 00 00 00 19 1d 01 03
80 00 00 78 0a d0 dd a9 53 49 9d 23 11 47 4a 20 00 00 01 01 01 01 01 01 01 01
01 01 01 01 01 01 01 01 08 e8 00 30 f2 70 5a 80 b0 58 8a 00 10 09 00 00 00 1e
00 00 00 fd 00 17 3c 1b 88 3c 00 0a 20 20 20 20 20 20 00 00 00 fc 00 52 65 61
6c 69 73 65 72 20 41 31 36 20 00 00 00 fe 00 53 6d 79 74 68 52 65 73 65 61 72
63 68 01 a8 02 03 56 70 4f 10 1f 05 14 04 13 5d 5e 5f 60 61 62 02 11 01 3b 09
7f 07 0f 7f 07 15 07 50 3d 1e c0 3f 06 c0 57 07 03 67 7f 03 5f 7e 03 5f 7e 01
83 4f 00 00 6e 03 0c 00 10 00 b8 3c 2f 00 80 01 02 03 04 67 d8 5d c4 01 78 80
03 e3 05 ff 01 e6 06 0f 01 ff ff 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 f9",
    "EARCCDS": "00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
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00 00"
}
```

RS232 and IP/Telnet Command List

VRROOM RS232 AND IP/TELNET COMMAND LIST:

VRROOM RS232 jack expects the following plug signals:
TIP = TX [sends data out from **VRR**OOM]
RING = RX [receives data to **VRR**OOM]
SLEEVE = GND
Parameters: 19200, n, 1, no handshake

If using RS232, each command must start with #**VRR**OOM header and must end with a carriage return \r or a newline \n
If using IP/TELNET each command must end with a carriage return \r or a newline \n but there is no need for the #**VRR**OOM header.
Each response will have both carriage return \r and a newline \n added in the format <cr><lf>

VRROOM default IP port is 2222. e.g. 192.168.1.100:2222
Use only lowercase characters

A generic RS232 command to write a value:
#**VRR**OOM set x y
where #**VRR**OOM is the header and all commands start with this header
set - indicates value will be written to **VRR**OOM
x - target to be written
y - value or values

A generic RS232 command to read a value:
#**VRR**OOM get x
where #**VRR**OOM is the header and all commands start with this header
get - indicates value will be read from **VRR**OOM
x - target to be read

A generic IP command is as above without the #VRROOM header

The Full VRROOM IP/RS232 command list is included as a text file in each Firmware package.
Make sure to use the command list that is included in the package matching your current firmware.

Disclaimer: *3ʳᵈ party and/or custom firmware providing extra features are not covered in this manual.*

IR Code List

For convenience, the complete list of IR codes is supplied in Pronto HEX files, it is recommended to always use the latest IR codes list that is included as a text file format with each firmware update. **VRR**OOM IR codes have also been submitted to Logitech Harmony and iRule.

Currently **VRR**OOM use the DIVA IR codes, 3 new dedicated IR code sets will be submitted to the Logitech Harmony database and once available we will provide a firmware update to match them. In the meantime, please use the below in Harmony Database:
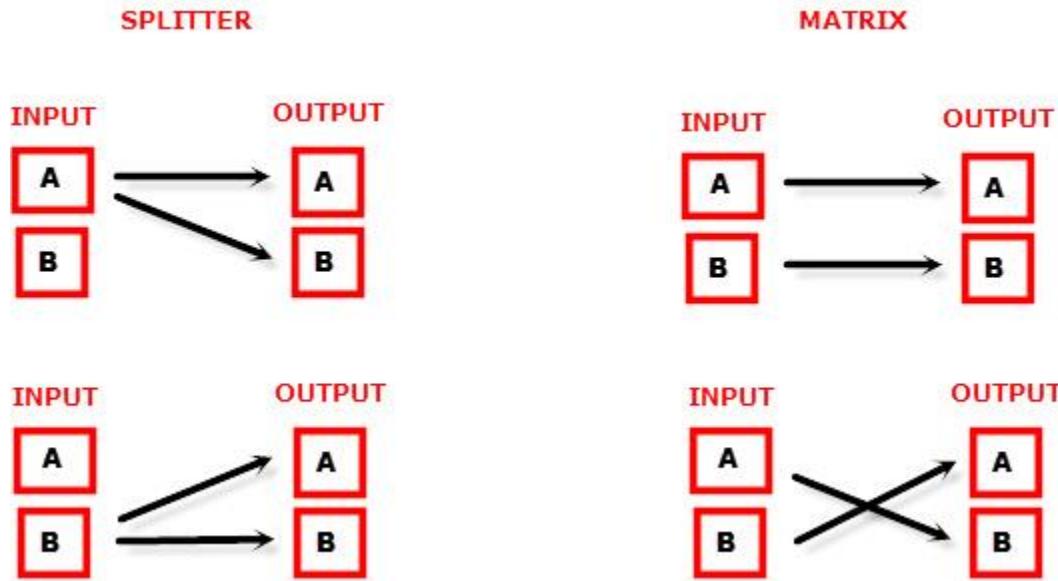
Manufacturer: HDfury
Model: Diva

FAQ

What is the difference between Splitter and Matrix option, what are the options for each mode?
The below picture represents the available options for both mode.

Can we pass-through 4K60 4:4:4 or any HDR signal and have one output at lower resolution?
Yes, when connected correctly to the right downscale output port (TX1) and using the right mode (OP mode 3), **VRR**OOM will automatically scale down UHD to FHD. Similarly it can scale up FHD to UHD if required by the connected SINK to the upscale port (TX0).

My display is supposed to accept 4K60 4:4:4 signals but it does not work?
For most UHD TV set we tried, there are always extra configuration options to active in order to achieve a 4K60 4:4:4 600MHz link. For ex, on samsung: in order to enable the 444 colorspace for 4k in Samsung TV's you must go to "settings" and "hdmi" and "UHD color" and enable it. Then also you must assign the HDMI port1 as "PC" in the tools menu. Only after these two steps will 600MHz be accepted. Similar activation tricks are required on most UHD TV's. Additionally, most UHD TV's only have specific ports that are 600MHz capable. Please refer to your display user manual for details.

I have a PC mode on my TV (or a PC monitor) what resolutions are supported for graphics mode?
All PC graphics mode within the 1200MHz bandwidth are supported, including ultra-high resolution such as WQSXGA, QUXGA, QFHD, WQUXGA, 4K, 8K.

What output resolution does the VRROOM **support in HDTV mode?**
All known SD, HD, Full HD and UHD formats are supported including: 480i50,480i60, 480p50, 480p60, 576p50, 576p60, 720p50, 720p60, 720p100, 720p120, 1080i25, 1080i30, 1080p24, 1080p25, 1080p30, 1080p48, 1080p50, 1080p60, 1080p72, 1080p75, 1080p96, 1440p50, 1440p60, 2160p24, 2160p25, 2160p30, 2160p50, 2160p60, 2160p100, 2160p120 (these are examples only, anything within the 1200MHz bandwidth is supported.)

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What version of HDMI does the VRROOM **work with? Do I need HDMI 1.3/1.4a/2.0b/2.1? Does it matter?**
It does not matter. HDfury **VRR**OOM works with any version of HDMI from 1.0 and up.

Do I need to set anything special in my HDMI source device to set the resolution correctly?
No. The HDfury **VRR**OOM will be detected as a 2160p120 4:4:4 10b or 8K60 4:2:0 10b capable device by the source and it will always accept and process the highest quality stream from your source devices. There is no need to set the HDMI source to any specific resolution.

Is there any latency (delay) introduced to the signal?
Virtually none. The latency added is in the order of a few pixel clocks only. Nothing noticeable at all.

What about long HDMI cable runs? Can I expect issues?
For 600MHz users must use "high speed" cables, or 600MHz/18Gbps certified, ideally the length should be between 6ft and 12ft for proper 600MHz/18Gbps pass-thru. For 4K30, 1080p or less almost all cables are ok. HDfury **VRR**OOM acts as a HDMI repeater device. So having HDfury **VRR**OOM in the path will amplify and recover the signal. You should not need any passive (or active) HDMI amplifiers, especially if you put the HDfury **VRR**OOM in the middle of your cable run. If you previously had to use an amplifier, the HDfury **VRR**OOM can most likely take its place. The HDfury **VRR**OOM has been used with 50 foot (and longer) HDMI cables without issues including copper, active or fiber solutions.
For 1200MHz, make sure that you are using 1200MHz certified or tested HDMI 8K cable in copper or fiber tech if you plan to set up a 1200MHz/40Gbps link in your setup.

How are the new lossless audio formats via HDMI input handled? E.g. DTS-HD/MA and DD/E-AC3: Are they stripped down to DTS core or Dolby Digital respectively to fit the requirements of the S/PDIF standard?
Lossless audio is transmitted through HDMI output only. HDfury **VRR**OOM does not compress or otherwise downconvert the incoming audio. Only stereo and 5.1 sound can be output via SPDIF output. The analog output supports stereo only.

How do I hook up the audio from the VRROOM**?**
The **VRR**OOM has both analog and digital (TOSLINK) audio output in one connector labeled "SPDIF + L/R". It's a 2-in-1 connector meaning that you can plug in either a 3.5mm stereo analog jack or a digital mini-TOLINK (3.5mm mini-jack) cable and get stereo analog sound or 5.1 Dolby/DTS digital sound out of the **VRR**OOM. See further below for pictures of both types of connectors/cables.

VRROOM 3.5mm mini-TOSLINK digital audio cable:

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If you'd like to use a "regular" TOSLINK cable, use a 3.5mm Mini-TOSLINK to regular TOSLINK adapter:

A 3.5mm stereo audio cable can be used for connecting the **VRR**OOM to a TV if you do not have a home theater setup (you only have 2 speakers in your TV):

FAQ CEC/ARC

Make sure your TV audio format is set to Bitstream or Dolby Digital unless your sound system is eARC or support multi-channel PCM.

For any CEC/ARC issues, you can try the below:

1) Turn TV OFF / wait a few minutes / Turn ON.
2) Unplug TV powercord / wait a few minutes / Replug TV powercord.
3) Turn TV CEC OFF then back ON (if many source at TV inputs, try adding them one by one slowly)
4) Unplug/Replug HDMI cable going to your ARC sound system.
5) Turn OFF and then back ON, **VRR**OOM and Source.

HDMI cables need to be good enough, that's why first step is not VOLUME CONTROL or CEC or ARC. First step is to make sure SOURCE > **VRR**OOM > DISPLAY play any content correctly without issue to make sure the HDMI LINK is SOLID, then only user should consider volume control / CEC / ARC.

Samsung CEC/ARC help: Visit here.

Vizio TV CEC/ARC help:

1. From the AUDIO menu on your TV, change the Digital Audio Setting to Dolby Digital or Bitstream.
2. From the AUDIO menu, disable the TV's internal speakers.
3. From the SYSTEM menu, enable CEC Function.
4. From the CEC menu, select Device Discovery to register the sound bar with the TV.
The following steps are for use with a VIZIO TV, steps may differ by TV manufacturer. See your TV's user manual for more information.
If you want to use the volume buttons on the TV remote control to control the sound bar, enable System Audio Control from the CEC menu

To enable, disable, or adjust CEC settings:
1. Press the MENU button on the remote. The on-screen menu is displayed.
2. Use the Arrow buttons on the remote to highlight System and press OK. The SYSTEM menu is displayed.
3. Use the Arrow buttons on the remote to highlight CEC and press OK. The CEC menu is displayed.
4. Use the Arrow and OK buttons to adjust each setting:
• CEC - Select Enable to use the TV remote to control CEC devices connected to HDMI. Select ARC Only for plug and play of an audio device connected to the HDMI ARC input. The ARC setting does not support video devices connected to the audio device (Select Enable to enable support for these devices). Select Disable to turn CEC off.
• Device Discovery - Use this function to determine if your device is connected and supports CEC. (Required for Enable option only)
5. Press the EXIT button on the remote

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Sony TV reset CEC command

From Sony manual: Unplug the AC power cord (mains lead) and wait for 2 minutes (3 minutes for models equipped with an OLED panel).

For anyone who google searches this issue, this is how I fixed it:

force stop AudioOutputService
clear data on AudioOutputService
force stop bravia sync settings
clear data on bravia sync settings
powered off TV and unplugged it
unplugged all hdmi cables (both sides from tv and soundbar)
unplugged sound bar
turned back on tv, wait for it to fully turn on.
Plug in sound bar
Run Bravia sync

Plug everything else in now.

was able to now see the sound bar under the bravia device list and was able to switch to it for sound.

FAQ ATV4K

How should I set ATV4K if I'm trying to display DV content from LLDV source to a HDR10 display?
Video set to 4K Dolby Vision.
Match Range set to Off.
Results in everything being output in DV, when you have an HDFury device spoofing an LLDV display.

Video set to 4K SDR.
Match Range set to On.
SDR is output as SDR, HDR as HDR, and DV as DV (with the spoofing).

Note that when you start up the ATV4K the first time after configuring the LLDV EDID in the HDfury device, the ATV4K should bring up a prompt asking if you want to test for Dolby Vision compatibility. You need to pass this test before any LLDV would be output. Passing the DV test will set video to 4K Dolby VIsion, so you would need to reset it to 4K SDR if that is your preferred option.

Also, if you ever change the configured EDID, the ATV4K will notice and ask you to test for Dolby VIsion compatibility again. Once you pass the test with a particular EDID, the ATV4K will remember the next time you configure that EDID and not ask to test Dolby Vision again.

There is an additional option: Match Frame Rate that will output the same frame rate as the source is encoded rather than always upscaling to 4K60. Although the ATV4K currently does not support content encoded at true 24P. It will output true 24P as 23P that results in frame drops that may or may not be noticeable.

Netflix on ATV4K only show 5.1 titles?
One tip to save other Apple TV users some confusion, it may not say Atmos in the menu of the app (ex 5.1 in Netflix) you're using at first, but as long as you see Atmos under audio settings, just begin playing content you know supports Atmos and the app will adjust. Prime Video and Netflix seems similar in this regard. As for titles we know have Atmos, Prime video has Jack Ryan, Netflix The Old Guard and Disney + the Mandalorian. Each of those is platform original and there for should be available in every region.

After having installed VRROOM**, i am no longer able to control the sound system volume when using the ATV4K remote?**
A: Re-sync the ATV4K remote with your ARC or eARC sound system.

TV does not turn off when i turn off ATV4K and/or sound continue to play when i turn off ATV4K
Some users also reported success by toggling above ATV4K option OFF>ON and some had success by toggling TV CEC OFF>ON.

Actually there is an interesting caveat. With Sleep set to any time period and you are on the Apple TV homescreen, using the TV remote will turn the Apple TV off. If you have something playing with sound (ex. Channels TV app or Plex) the Apple TV won't turn off. ATV4K behavior

Alternatively, if TV does not turn OFF from ATV4K, you can try this trick/tips:
Here's the deal with HDMI CEC on my LG OLED. The Apple TV will send the 'On' command through HDMI. But the TV will not accept any 'Off' commands through HDMI therefore the Apple TV will send an

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'Off' command through the remotes IR. When turning off your ATV, keep holding the remote towards the TV and it will turn off the TV. Works every time.

I cannot get Atmos from ATV4K but I can from other source.
Make sure your Apple TV 4K Audio setting Change Format is turned off. If you had it turned on to get at least Dolby Digital 5.1 out of your TV before you got **VRR**OOM. Turn Change Format off, ATV4K will then detect the **VRR**OOM as Atmos compatible.

I can get Atmos from all sources and all apps but not from Netflix on Shield 2019 or ATV4K?
If you can get Atmos on Prime and Disney + from both devices no problem but never better than 5.1 from Netflix – simply go into your Netflix account setting on a Laptop and check your audio payback setting and make sure it is set to high and not any lower and restart your source.

My ATV4K remote is not working for ARC or eARC sound system volume control?
ATV4K source remote is different because it just waits if there is "audio system" device on the network that it can control. If there is then it shown in the remote menu "hdmi control(via receiver)"
That will only work if the source sees an audio system in the CEC network.
It is just ATV4K trying to discover if audio system is present or waiting for your ARC or eARC sound system to advertise it is there.
Of course sometimes when there is no audio then ARC or eARC sound system is not active and then volume doesn't do anything.

FAQ LLDV>HDR10

What is LLDV and why is it used?
Dolby Labs created LLDV for Sony Dolby Vision TVs. HDfury enables the sending of LLDV to HDR10 TVs and projectors

How to turn on LLDV>HDR?
1. In EDID Tab, select Custom EDID 10 or use Copy TX sink EDID and Modify and select Custom LLDV.
2. In HDR tab, select "Use custom HDR when input is LLDV"
You might need to restart your source.

If you have the **VRR**OOM set so the ATV4K sends Dolby Vision LLDV instead of HDR10, the ATV skips the DV to HDR conversion and directly tone maps the Dolby Vision source to LLDV.   The result can be amazingly better to have the **VRR**OOM output the LLDV from the ATV4K as HDR10 than have the ATV4K sending HDR10 to your TV.

If I have a less than full bandwidth 18Gbps display or PJ can I still view LLDV?
Yes as long it supports HDR. Most DV content is actually 4K24 so if you set Match Frame Rate to ON your projector might be able to accept 4K24 422 12bit.
For example the Epson 6040 is limited to 4K60 4:2:0 8-bit. It can support 4K24 4:2:2 12-bit HDR (or LLDV to HDR) as that signal is under the 10.2 Gbps limitation of the chipset used in the Epson 6040.
Also there is no such thing as 422 10-bit in the HDMI specs. And 444 10-bit is a higher bandwidth than 422 12-bit.

I have a display that supports HDR and Dolby Vision should i set the Arcana for LLDV to HDR conversion?
No, it is not necessary to have the **VRR**OOM convert LLDV to HDR10 if your display supports Dolby Vision, except if you have unusual delay or if its DV30 only and you want/need to overcome this limitation.

What series LG OLEDS support both full Dolby Vision and also LLDV?
The LG OLEDs from 7 series on support both full Dolby Vision and LLDV.

What is Maximum Luminance and MaxCLL value in Dolby Vision?
LLDV to HDR conversion for Maximum Luminance only affects LLDV output and not full Dolby Vision. The Maximum Luminance value tells the player what the maximum brightness your TV is capable of. The player takes that into account when tone mapping full Dolby Vision to LLDV.
There is a Maximum Luminance value in the Dolby Vision data block that can be adjusted in the LLDV->HDR settings. Its default value is 1000 nits and is used to tell the player what max luminance to use when tone mapping the Dolby Vision content to LLDV. There is also a nits option value in the HDR settings of the **VRR**OOM. This value may or may not be used by the HDR TV when tone mapping HDR input. The only way to determine how it is used is to adjust the value and check the results. Changing the HDR nits value should have an immediate effect, if any. Typically, lowering the nits value will result in a brighter picture at the risk of clipping highlights. It might seem counter intuitive but telling the TV that the content has a lower max luminance means that the TV does not need to use as much compression to reduce the dynamic range of the content to fit the range that the TV is capable of displaying. Too much compression is what results in an overly dark picture. If the HDR TV has Dynamic

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Tone Mapping, the HDR metadata might not be used at all when tone mapping. So changing the metadata nit values would make no difference in the result. You could turn off DTM and see if changing nit values makes a difference in the resulting picture.

So basically, The HDfury **VRR**OOM tells the player what the max luminance is; the player then performs tone mapping of the full Dolby Vision signal to LLDV taking the max luminance value into account. It is not a simple brightness adjustment.

The Max Luminance value is not changed and is always output as 4000 nits. So if your HDR TV uses Max Luminance in tone mapping the results after changing the HDR nits values may be lessened. HDR Max Luminance is the maximum luminance of the HDR grading monitor used when creating the HDR. Titles graded with a 4000 nit monitor are referred to as Mastered at 4000 nits. MaxCLL represents the brightest pixel contained in any frame of the content. Most newer TV models use MaxCLL and have less reliance on Max Lum. Changing the LLDV nits value may need a restart of the title depending on the player. ATV4K is probably the worst player for testing different values since each time an adjustment is made it requires a new test for Dolby Vision. This is because the Max Luminance value is contained in the EDID presented to the player. The ATV4K recognized the EDID had changed and wants you to test Dolby Vision again.

Why when I select a new EDID do the ATV4K want to retest Dolby Vision?
The ATV4K keeps a memory of successful EDIDs.   If you configure a new EDID it will ask to retest Dolby Vision and/or HDR. But the next time you configure that same tested EDID it won't ask to test again.

What value should the LLDV value for max Lum be set to for most users?
For most users, the default LLDV value for Max Lum of 1000 nits will be good. Most HDR TVs do a good job of tone mapping 1000 nits. And if you set the HDR setting to LLDV Sync, the HDR MaxCLL metadata value sent to the TV will always match the value set for LLDV.

Why do I have a red tint and colors that are too saturated?
If you set the DV primaries to DCI-P3 and send the LLDV to a display device that does not have a DCI-P3 color profile; the colors, when applying a BT2020 color profile instead, will appear more saturated including a red tint noticeable on faces. The solution is to send BT2020 and not DCI-P3.

If you have a display that supports DCI-P3 but the fire stick 4k only supports RGB and YCbCr how can you force it to output DCI-P3?
When you set the LLDV->HDR Primaries setting to DCI-P3, the Fire Stick is told that the TV wants DCI-P3 instead of BT2020. Even though the Fire Stick may not have a DCI-P3 color format output option, the Dolby Vision to LLDV tone mapping performed by the Dolby provided software should output DCI-P3 colors. The ATV4K does not have a DCI-P3 output option and it does send DCI-P3 colors when the DV EDID is configured to DCI-P3.

How do you set the Oppo UDP 203/205 to output LLDV instead of Dolby vision?
In Oppo HDR Setting, set Dolby Vision Processing to Player-led. You can leave HDR to Auto if you only want LLDV for Dolby Vision discs. If you want the Oppo to convert SDR and HDR10 to LLDV, set HDR to Dolby Vision.

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How do you tell if the Oppo UDP 203/205 is setup correctly and outputting LLDV?
Do a long press on the Oppo remote Information button. Scroll down to Output Information. You should see: Format Dolby Vision and Color Space 12-bit. That is confirmation of LLDV output from the Oppo.

FAQ SONOS Arc

Audio cuts in and out, what could it be?

If the audio cuts in and out on an ARC or eARC sound system, try power cycling it (unplug the power cord, wait a few seconds, and then plug it back in). Verify the cable from **VRR**OOM Arcana ARC/eARC audio out.

It seems there is distortion or surround channel cutting in and out, what could it be?

If anything weird is happening with your video or audio, your FIRST step should be to make sure the HDMI cables between your source and the **VRR**OOM and between the **VRR**OOM and your TV/PJ are known to be good at full speed (We recommend Zeskit, Kabeldirekt or Cable Matters from Amazon). Even if you sent FRL5 video with Atmos over the cables and the **VRR**OOM showed the full 1200MHz speed, and even if they pass the built-in Apple TV 4K Dolby Vision tests, there may still be intermittent errors, like distortion or surround channels cutting in and out. Many users finally determined the problem to be caused by a 1-foot cable between **VRR**OOM and their displays. Use only cables that are at least 6 feet/2 meters and max 12 feet/4 meters for copper. We recommend using SONOS supplied cable from **VRR**OOM eARC output to SONOS Arc.

FAQ NVIDIA SHIELD

Why my Shield is not offering Atmos from all APPS?
There are several factors, the Shield model: Shield 2017 or Shield 2019/2020/Pro, the APP in use and the TV maximum capabilities. **VRR**OOM offer dedicated Scaler mode that will advertise full 4K HDR/SDR or LLDV at input even if your display is only 10.2Gbps or 1080p capable. However please understand that sending HDR or LLDV signal to a SDR display will results in washed out colors. If your TV is only SDR capable, only use a SDR EDID mode such as 4K60 444 8b SDR. Make sure to always reboot the Shield after changing the scaler setting

For Sonos and most others:
Service/App - Title Played - Arc Audio reported in Sonos App (make sure to always restart the APP to have accurate audio format reported)

4K SDR Display or EDID set to 4K SDR

Disney+ - The Mandalorian - Dolby Digital Plus 5.1
Disney+ will not output Atmos in 4K SDR > 1080 SDR on Shield 2017 and PRO.
Netflix - The Old Guard - Dolby Digital Plus 5.1 (Netflix playback screen displays Ultra HD 4k and 5.1) on Shield 2017
Netflix will not output Atmos in 4K SDR > 1080p SDR on Shield 2017 but will do it on Shield 2019/2020/Pro.

4K HDR Display or EDID set to 4K HDR

Disney+ - The Mandalorian - Dolby Atmos (DD+)
Disney+ will output Atmos in 4K HDR > 1080p HDR on Shield 2017 and PRO.
Netflix - The Old Guard - Dolby Digital Plus 5.1 (Netflix playback screen displays HDR and 5.1)
Netflix will not output Atmos in 4K HDR > 1080p HDR on Shield 2017 but will do it on Shield 2019/2020/Pro

I can get Atmos from all sources and all apps but not from Netflix on Shield 2019 or ATV4K?
If you can get Atmos on Prime and Disney + from both devices no problem but never better than 5.1 from Netflix – simply go into your Netflix account setting on a Laptop and check your audio payback setting and make sure it is set to high and not any lower and restart your source.

Prime APP on Nvidia Shield 2019 is not giving me Atmos?
Try turning off Dolby Audio processing.

FAQ AUDIO

I hear an audio echo?
If anyone is having issues with echo on your audio, the problem may be that the audio channel being sent to your TV is actually getting played through the built-in TV speakers (which is hard to notice when your sound bar is right in front of or below your TV) and you're hearing two sets of speakers slightly out of sync. Checking the sound-output setting on your TV will confirm if that is the cause. You can fix it by setting your **VRR**OOM to mute the output going to the TV/display from the config page (mute TX0 or mute TX1), so no audio gets sent to TV and you only hear audio from HDMI sound system or ARC/eARC sound bar.

I'm experiencing lip-sync issue after installing VRROOM?
The only possible situation with HDMI source at **VRR**OOM input is that audio is AHEAD of pic. You can fix it by adding delay on your sound system. AUDIO cannot be LATE (assuming you did not force delay yourself). For folks with an Apple TV, the Wireless Audio Sync feature will automatically and very accurately take care of remaining (audio before video) sync. It didn't work before **VRR**OOM because it can't delay video and got confused.

My TV displays unsupported audio format banner continuously, what can I do?
Some TV will go nuts/crazy if you send ATMOS signal to their input, probably the Atmos MAT metadata of it that they don't like, in such case you can mute TX0 or TX1, under **VRR**OOM webserver > config so NO ATMOS is sent to the TV.
Actually anyone with any issue should try that especially if issue when playing Atmos only!
Verified/Affected models: Sony XF9005 - X900F and Samsung UN75NU6950FXZA

I cannot get any sound to a brand new/never used SONOS Arc from any source at VRROOM input when VRROOM is connected to a non CEC capable projector/monitor or display
In order to get audio from any sources at **VRR**OOM input, users of brand new/never used SONOS Arc must go through the APP setup process while connected to a CEC capable display, if you never went through the SONOS APP setup process with your SONOS Arc soundbar yet, please connect it to any HDMI display that offer CEC support and complete the SONOS APP setup process, once done you can connect it back in your setup with a non CEC capable display, monitor or TV and you will be able to get Full Audio from any source to SONOS Arc as expected. This SONOS restriction requires such initial setup first with CEC capable display. If your SONOS Arc has been setup before, then there is no need to set it up again after **VRR**OOM is connected and you can just proceed normally.

FAQ VIDEO

I notice a short black screen / resync when starting a content that i didn't have or noticed when connected direct to TV?
All that is normal, you will have the same if you insert any device in between, like an AVR, splitter, matrix, switcher, video processor, and the more device you have in the same chain, the longer this will take, the only way to have that nearly not noticeable is SOURCE > DISPLAY direct since signal goes straight to panel driver.
If menu is 60Hz and content 24Hz then there will be a resync like for any video format change, if you have SOURCE > TV, then sure you never noticed it but insert any device in between and you will have the exact same, just normal, HDMI resync.

My TV brightness seems to fluctuate, what can I do?
Some TV will go nuts/crazy if you send ATMOS signal to their input, probably the Atmos MAT metadata of it that they don't like, in such case you can mute TX0 or TX1, under **VRR**OOM webserver > config so NO ATMOS is sent to the TV.
Actually anyone with any issue should try that especially if issue when playing Atmos only!
Verified/Affected models: Sony XF9005 - X900F and Samsung UN75NU6950FXZA

I have loss of sync, drop or black screen playing high bandwidth signals?
This is a cable issue, replace cables by HDfury, Zeskit, Cable Matters or KabelDirekt from Amazon in min6ft/max12ft and you will be fine. If you need fiber cable for high bandwidth in 30ft(10m) or 60ft(20m), please visit this page.

Disclaimer: *3rd party and/or custom firmware providing extra features are not covered in this manual.*

FAQ ARC/eARC <> HDMI input switching

How to use VRROOM when retrieving ARC or eARC sound from display?
Always use the display remote (or the display remote IR codes with a universal remote) to switch between TV HDMI input and TV APPS. It is mandatory and extremely important to use your TV remote or TV remote IR codes to switch between TV APPS (ARC sound) and the TV HDMI input where **VRR**OOM is connected. Whenever you click TV remote APP selection or input channel selection there will be a multitude of CEC commands flying. **VRR**OOM capturing these are essential to switching the audio. Please verify this is the case carefully so it is consistent and ok. We expect this to be one of the main issues due to the flakiness of CEC implementations overall in consumer video. Also verify TV other inputs to make sure audio flows through TV ARC into **VRR**OOM and then to ARC/eARC. You can also use a source remote and press a button for **VRR**OOM to switch to it. Please note that if you don't use CEC and ARC sound retrieval, then the above is irrelevant.

How I can switch between TV ARC/eARC and HDMI INPUT?
For HDMI/ARC/eARC switching to work, when you use your TV remote and select APPS on TV, then **VRR**OOM should switch to ARC or eARC(From TV) on the main OLED or webserver page, when you use your TV remote and select HDMI input where **VRR**OOM is connected or simply use a source remote to turn it ON or MENU button, then **VRR**OOM OLED should report audio from HDMI INPUT. As long as this does not work correctly it means that ARC/eARC/CEC is not working as it should and you should try new update when they comes out and report back via our discord support server: here.
When TV sees a source it asks the source what it is. The source responds it is "audio system". Then TV starts ARC or eARC and turns off its own TV speakers and allows TV remote volume control to pass as CEC commands. Now all audio either from tv apps or routed to TV via TV HDMI inputs will flow back via ARC or eARC.
To enable HDMI audio from **VRR**OOM input then **VRR**OOM must be instructed to switch to its own input audio rather than use the ARC or eARC from TV. This happens with two ways: TV remote is used to select the input where **VRR**OOM is connected OR the **VRR**OOM input source issues routing change - message which happens when you press Menu button on ATV4K for example
When **VRR**OOM is rebooted this entire sequence is interrupted and all start from scratch and again the timing when the sound system tells "audio system" vs when ATV4K source send its routine message is random.
VRROOM play no role in that, **VRR**OOM only listens to these commands and they come randomly after power up.
Sometimes TV is first and sometimes ATV4K is first so the startup selection by **VRR**OOM will be random
It is only in sequence if you never reboot **VRR**OOM.

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FAQ TV Remote for Volume Control on eARC/ARC sound system

How to use TV remote for controlling eARC/ARC sound system volume?
Please note that this DOES NOT apply to SOURCE REMOTE for volume control.
In basic principle the only way that TV remote can start working is that TV enters "system audio" mode (it's a different mode from "audio system"). The only possible way for a TV to enter a "system audio" mode is by receiving a certain command via CEC. In "system audio" mode TV mutes its own speakers and starts controlling external products via CEC commands. The only equipment issuing this command is an ARC or eARC sound system. No other device can control TV to enter this mode. Anyone having issue where TV remote does not work then it means the ARC or eARC sound system has not yet issued the command or TV have not yet reacted to it. As long as TV does not mute its TV speaker, then TV remote control for volume will not work.

Solution could be:
1) Turn TV CEC OFF>ON or CEC SCAN
Some TVs might have delay after CEC ON to detect equipment.

2) ARC/eARC sound system HDMI cable unplug/replug
Some TVs might have delay after ARC/eARC sound system replug to detect it and switch to "system audio" mode.

3) ARC/eARC sound system power cord remove/reconnect
Some TVs might have delay after ARC/eARC sound system replug to detect it and switch to "system audio" mode.

4) TV Power cord unplug, wait 3min, replug
Some TVs might have delay after power cord unplug/replug to switch to "system audio" mode.

5) Some order or power up sequence might need to be found in particular setup.

6) Unplug/replug **VRR**OOM HDMI Out.
It can help if luckily that is corresponding to option number 5 above in your setup.

Highlight Hardware Features:

VRROOM **Exclusive: 8K FRL5 40Gbps/1200MHz + Full HDMI and ARC/eARC Audio out**
VRROOM central is featuring 4 HDMI inputs, 2 HDMI video output with scaling option, 1 dedicated HDMI full audio output at 720p or 1080p and 1 dedicated ARC/eARC audio output, LAN Control, RS232, L/R stereo or Optical 5.1 output, Relay port, IR RX, IR/Light sensor, IR window, OLED display and 4 buttons on the side allowing to enter/exit and perform change in the device system menu.
All inputs are capable of 4K120/8K FRL5/HDR/HLG/DV/LLDV/HDR10+ up to 40Gbps for video and support any sound format in existence today, HDMI TX0 and TX1 video outputs are capable of outputting 40Gbps and all sound formats as well.
VRROOM default in FRL5 splitter mode and can be set in different Matrix/Scaler modes ensuring your setup remains optimized at its best capabilities.

4×2 Splitter/Switcher up to 8K FRL5 40Gbps + HDMI audio out + eARC/ARC audio out
Splitting any signal up to 4K120 4:4:4 10b 1200MHz signal is now a reality, thanks to IR/RS232/push buttons, Webserver or Android/iOS APP, you can easily switch between 4 inputs that will be replicated to 2 outputs for video and 4 outputs for audio (two FUHD + HDMI Audio out + eARC/ARC Audio out). HDCP conversion and scaling rules are auto configured and applied on the fly in order to always output the type of video signal and HDCP encryption that your display or sink device is expecting.

4×2 Matrix up to 600MHz 18Gbps + 1080p Downscaled output + HDMI and eARC/ARC audio out
Matrix solution is available for HDMI stream up to 4K60 4:4:4 8b, 4K60 4:2:2 12b, 4K120 4:2:0 8b or 8K30 4:2:0 8b. Process two 18Gbps signals at the same time from 2 sources to 2 sinks devices and have one of the channel duplicated and converted in res/hdcp/chroma/color depth/color space/etc + 2 Audio outputs via HDMI and eARC/ARC audio out.

3×1 Matrix up to 600MHz 18Gbps + 1x1 FRL5 + HDMI and eARC/ARC audio out
RX0 supports FRL5 and RX1-3 offer signal Matrix for HDMI stream up to 4K60 4:4:4 8b, 4K60 4:2:2 12b, 4K120 4:2:0 8b or 8K30 4:2:0 8b. Process one FRL5 and 18Gbps signals at the same time from 2 sources to 2 sinks devices + 2 Audio outputs via HDMI and eARC/ARC audio out.

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Highlight Video Features:

HDR Fixer

VRROOM is capable of injecting and extracting live Infoframe and HDR metadata at any resolution in real time. Decipher incoming HDR/HLG/DV metadata and AVI infoframe, build your own Custom HDR metadata and AVI infoframe thru HDfury metadata and infoframe creator, translate HLG>HDR, replace or boost value from any metadata on the fly or simply disable all or just some of them. Additionally **VRR**OOM also support VSIF, AUD, HVS, HFV and others infoframes.

EDID Manager with endless possibilities

Download EDID from any inputs or outputs, Upload or assign any EDID to any of the 4 inputs from a list of 100 predefined EDIDs (10 custom / 90 dedicated). It loads and reset HPD to present your chosen one automatically. New Automix system offers full control over video and audio capabilities up to bit depth and sampling rate for each audio mode. **VRR**OOM automatically use, replace or modify DV datablock from connected DV capable sink.

Ultimate capabilities Up&Down Scaler up to 4K60 4:4:4 600MHz/18Gbps

Always feeding best capabilities HDMI signal to connected sink devices, automatically. No matter if you have HDMI first generation or second generation equipment, any devices always get the best possible signal in FHD(1080p) or UHD(2160p). Featuring Upscale, Downscale, Passthru and Bypass mode as well as Chroma Conversion, Color Space and Color Depth modification on the fly at 8, 10, 12 and 16bit for FHD, UHD and DCI 4096x2160p.

Highlight Audio Features:

Extract up to Atmos HBR over TrueHD from TV eARC Input to ANY sound system HDMI input or eARC
eARC extraction (for up to Atmos High Bit Rate over True HD) is possible when eARC TV is connected at **VRR**OOM TX0 HDMI video output, extracted sounds from TV APPS or other devices at TV inputs will be output from **VRR**OOM HDMI audio output or eARC audio output that can feed any sound system HDMI input or eARC port.

Extract up to Atmos over DD+ from TV ARC Input to ANY sound system HDMI input or ARC
ARC (for up to DD+/Atmos over DD+ bitstream) is possible when ARC TV is connected at **VRR**OOM TX0 HDMI video output, extracted sounds from TV APPS or other devices at TV inputs will be output from **VRR**OOM HDMI audio output or ARC audio output that can feed any sound system HDMI input or ARC port. Optionally Optical output can also be used for ARC retrieval.

Max Audio formats extracted from any HDMI sources to feed ANY sound system via HDMI/ARC/eARC
Through a dedicated HDMI Audio output and eARC/ARC Audio output, any HDMI sound format from any incoming signal is automatically extracted and forwarded via a 720p/1080p self-generated stream to feed any sound system HDMI input or via ARC and eARC Audio output for sound system with ARC or eARC port only.

Highlight Convenience Features:

Autoswitch ANY sources
TMDS/pixel clock switching, sole switch in the world capable of autoswitching sources such as ATV4K, X1X, Shield or any others sources devices who keep sending +5v in standby and that no switcher in the world can autoswitch.

Furiously advanced Web Server
Discover the brand new HDfury Webserver. More powerful with more options available, controlling your HDfury has never been so easy, fast and elegant. No more driver installation or hassle of any kind, superfast in-system firmware update and wide compatibility with any web browser devices (Mac/Win/Linux/iOS/Android and others). Just type in your **VRR**OOM URL in your browser address bar and start controlling and supervising your setup!

HDMI Explorer (OSD/OLED/WEB)
Signal and setup info is everywhere and always available at first sight. Enhance your AV knowledge thru exact signal timing report with up to 3 digits decimals accuracy on frame rate. Display source name, resolution, chroma, colordepth, colorspace, hdcp, cst1, VIC, eotf, colorimetry, primaries, white point, max/min lum, maxCLL, maxFall, range and various infoframe (hdr, hlg, dv, spd, aud, hvs, vsi, hfv). Our new generation hardware is bringing HDMI explorer to another level, simply anything that travel thru is intercepted and exposed to the user via OLED display, On Screen Display or Web server.

RS232 and IP Control your unit and command your display
Initially build for and by the JVC PJ owners community, **VRR**OOM is now capable of sending any custom RS232 commands to any RS232 capable display based on incoming signal types or particular metadata value. Decide which RS232 commands to send to your display when content is 3D, HDR10, SDR BT709, SDR BT2020, LLDV and more. All **VRR**OOM controls are also available via RS232 and IP commands in order to ensure a total control from any serial or IP/LAN based computer.

TOTAL CONTROL
VRROOM can be controlled via IR/RS232/IP/push buttons or any web browser based devices (MAC/WIN/Linux/Android/iOS/etc..) thru embedded Webserver. RS232 is compatible for any serial based computer, IR control and various physical buttons for configurations are also available. Thanks to the community, IR pronto code list is added to iRule and Logitech Harmony for even easier and seamless integration

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Highlight HDCP Features:

Unique HDCP Doctor

Providing a total of 15 HDCP 1.4 and 2.3 engines for decryption/encryption, HDfury **VRR**OOM offers a total HDCP workaround solution including HDCP 2.3 > HDCP 1.4 and HDCP 1.4 > HDCP 2.3 both ways conversion within the same unit. It is capable of connecting any HDCP1.x or HDCP2.x source devices to any HDCP1.x or HDCP 2.x sink devices. Each RX block decrypts the input first whether its 1.x or 2.x. Then each output port can individually encrypts it to 1.4 or 2.2 or not encrypt it at all if it was not encrypted initially. Dual conversion can be operated on all channels simultaneously.

Display HDCP 2.3 Content with Non-HDCP2.3 Compliant Devices

HDCP 2.3 is the new copy-protection scheme for 8K FUHD content. Source devices, including media servers and head-ends like Netflix, will encode their 8K content with this new scheme. TVs must be HDCP 2.3-enabled to play it, and everything in the video chain including switches and receivers must be compliant as well, or the display will go dark and/or display a HDCP error message. Bad news for consumers who have purchased expensive, high-bandwidth, processor-rich switchers, receivers and displays to accommodate 8K. Once **VRR**OOM is an active part of your setup such issue will not bother you ever again.

Main Specifications

❯ 4x Input / 2x Output Splitter/Matrix/Scaler + 2x Audio out (HDMI2.1/HDMI1.4/DVI1.0 compatible)

■ FRL5 40Gbps Pass through

■ 8K24/25/30/50/60 <> 4K24/25/30/50/60/100/120 <> 1080p24/25/30/50/60/100/120

Upscale/Downscale with or without colordepth maintained and with or without chroma conversion.

■ Video Bandwidth - 40 GBP/sec.

■ HDR10+/VRR/All Dolby Vision Support.

■ 4K 10, 12, 16 Bit Support

■ 16 Bit Per Pixel Deep Color Depth Available (48 Bit)

■ Max Res: 4K120 4:4:4 10b, 8K60 4:2:0 10b, 8K30 4:2:2 12b

■ Signal Conversion: Resolution, Chroma Subsampling, Color Space, Color Depth, HDCP

❯ HDCP Doctor (HDCP Workaround solution to any HDCP error)

■ HDCP 2.3 > HDCP 1.4 conversion

■ HDCP 1.4 > HDCP 2.3 conversion

■ HDCP x.x > HDCP x.x conversion

■ Dual HDMI2.1 & HDMI 1.4 combined

■ Dual HDCP 1.4 & HDCP 2.3 combined

❯ CEC Support: For inter-device control between both inputs and the primary output TX0 HDMI channel.

❯ OLED infoscreen and OSD to provide useful and insight view of signal information

❯ Audio Extracting: Audio De-Embedder of Optical & Analog L/R

❯ Advanced EDID management via IR, IP, RS232 or Webserver

■ Improved EDID Management solution with either a Selected EDID bank, Custom uploaded EDID, Self-generated Automix EDID or a Fixed basic EDID.

■ Sniff EDID from connected sink devices, Save, Edit, Load any custom EDID table at any time.

■ Select and pick any EDID of your choice from a preloaded list of EDID tables, it loads and reset HPD to present your chosen one automatically.

■ AutoMix EDID feature will create a custom EDID by mixing both sink EDID connected to the splitter output ports.

■ Mostly all possible video and audio EDID flags can be forced in Automix

■ Each input can run a specific/individual EDID.

❯ Infoframe Modes: Capture, edit, block or replace HDR metadata, AVI & VSIF.

Read SPD, Audio, HDMI Vendor, HDMI Forum

❯ Control Modes: IR, IP, RS232 or Webserver for Linux/MAC/Win/Android/iOS.

❯ HDMI Booster/Extender: Capable of extending 1080p resolution up to 15m. in and 15m. out (30m. total for 1080p), UHD resolution up to 10m.

❯ HDMI Doctor: Solves most HDMI integration issues such as HDCP, EDID, HPD, and audio breakout.

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> HDMI Equalevel: Precise signal equalization for both input and output signals delivers the best possible picture quality with no dropouts.
> Hot-Plug control: Force the input device to always see an active connection.
> Deep Color Support
> xvYCC Color Support
> Flexible/Portable/Plug'n Play
> 3D Ready: Capability to pass 3D stereoscopic signal formats.
> Public API/DLL access and extensive control to extract, edit and inject HDR metadata, AVI and VSIF Infoframe. Read SPD, Audio, Vendor Specific and more.
> Share your config with the community, display any text on OSD, set your start page, remove visually annoying or lamp consuming artifacts like TV channel logo and more.

Supported Audio/Video Signals

> Supported Format: SD/HD/FullHD/UHD/FUHD, basically INPUT/OUTPUT any video format up to 4K120 4:4:4 10b or 8K30 422 12b FRL5 1200MHz 40Gbps.
> Supported Resolution examples:
480p/720p/1080i/1080p24/1080p25/1080p30/1080p50/1080p60/1440p50/1440p60/2160p24/2160p25/2160p30/2160p50/2160p60/2160p120/4320p60 and DCI
> Support all UHD/BR and HDR standard resolution: 8K30 4:2:2 12bit BT2020 HDR, 8K60 4:2:0 10bit BT2020 HDR, 4K120 4:4:4 10bit, ..
> Support all VESA mode video formats (PC Resolutions) up to ultra-high resolution such as WQSXGA, QUXGA, QFHD, WQUXGA, 4K/UHD, 8K/FUHD.
> Support any Audio format such as PCM at up to 192kHz, compressed audio (IEC61937), DSD, DST,DTS, DTS-HD, Dolby True HD, DTS-MA, HBR, DD+, DTS:X and Dolby Atmos.

Technical Specifications

> I/O: 4x HDMI In, 4x HDMI Out, IR, RS232, RJ45, Analog Mini Jack, Optical S/PDIF Out.
> OLED Display: 3.12" diagonal, 256×64, 16 blue colors
> Audio: PCM at up to 192kHz, compressed audio (IEC61937), DSD, DST, DTS, DTS-HD, Dolby True HD, DTS-MA and HBR.
> Power Supply: External 12 Volt
> Input Lag: <1ms (nanoseconds count)
> Product Dimensions: 4.5"L x 7.3"W x 0.9"H – in CM: 11.5 x 18.5 x 2.4 Weight: 520g – 1.15 LBS
> Shipping Dimensions: 6.3" x 4.2" x 3.3", Weight: 16 oz
> Enclosure: Black PVC/black metal with Blue OLED
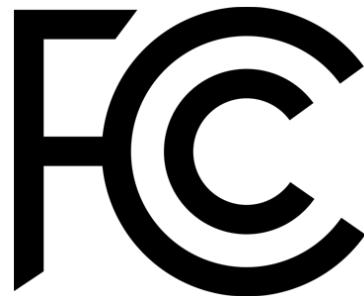> Regulation: CE, EAC, FCC, RoHS, WEEE

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Certifications

VRROOM_CE Certification

VRROOM_RoHS Certification

VRROOM_FCC Certification

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Pro Tips

-Dolby Vision: DV mode 0 and 1 travels thru 8b RGB container, so it is normal that **VRR**OOM report RGB 8b when playing such DV mode. If **VRR**OOM is not directly connected to your DV TV and you have equipment in between, please first connect **VRR**OOM TX0 output to your TV input and let **VRR**OOM sniff the DV string from your TV EDID and present it to your source, therefor allowing you to go thru equipment that doesn't support Dolby Vision.

- HDMI TX0 Output is CEC/ARC and eARC capable.

- Ex of AVI InfoFrame:
BT.2020 RGB 00:E8:64:5D:00
BT.2020 YCbCr 4:2:2 20:E8:64:5D:00
BT.2020 YCbCr 4:4:4 40:E8:64:5D:00
BT.2020 YCbCr 4:2:0 60:E8:64:5D:00
4k24 422 709 ycbcr no-bt2020 20:88:00:00
4k24 422 ycbcr bt2020 20:c8:60:00
4k24 444 709 ycbcr no-bt2020 40:88:00:00
4k24 444 ycbcr bt2020 40:c8:60:00
1080p 422 709 ycbcr no-bt2020 20:88:00:10
1080p 422 ycbcr bt2020 20:c8:60:10

-iRule use \x0D instead of \r (or \x0A for /n) to terminate the RS232 command string.

- Some sources like X1S or K8500 might need to have powercord removed/reconnected between EDID changes

- Atmos via ARC require HDMI Cable that support 192khz ARC, even if a cable support 600MHz video signal it can still fail for 192khz audio signal.

- You can read one, or mix two or three connected Sink EDIDs, apply forced flags and algo to it and then save it as an EDID file, thus creating your own Custom EDID variation.

- Any 4:2:2 signals is always processed at 12b and never clipped. That's why it mentions "up to 12b".

- Source VS **VRR**OOM frame rate reported: Actually very few devices will report the correct frame rate. It is all about the clock frequency, the theory is 24/1.001 = 23.976023976
BUT there is no PLL (https://en.wikipedia.org/wiki/Phase-locked_loop) at the source that actually gives a corresponding clock which would yield that. So once a signal leaves the source, the clock is always off and usually ebbs and flows, means changes all the time. We just decided to show what it really is from the particular source rather than approximating what it should be as many are doing since they cannot report exact frame rate like we are doing with **VRR**OOM.

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Team HDfury thanks you for your support

For help visit our support server or contact us.

www.HDfury.com

VRROOM was built with love and passion.