HDR-CC
User Manual

1-channel audio client
for streaming SPS channels (HD2-HD4)

HDR-CC User Manual V2.0

Bundle Version: 2.1.0

January 2023

Your audio. Our solution.

2wcom

Contents

1 About this manual

This user manual is available in PDF format to download and on request by paper.

You can download the latest version of this user manual here:

http://download.2wcom.com/products/HDR-CC_KCTR

1.1 References and hyperlinks in this PDF file

If you are reading this manual as a non-print version, please note that this PDF file contains bookmarks. You can navigate through the document via the content overview in your PDF viewing software if you enable bookmarks view.

All references to pages, sections, figures, and tables in the text identify a location within this PDF file. Click on the reference to jump to the referred passage in the text.

1.2 Tags and their meanings

The following signal words and signs warn you about risks and dangers:

DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	Describes precautions necessary to protect the equipment.
	Contains useful information for the user.


Warning of general danger situation


Warning of electric shock


Warning of hot surface


Warning of fire hazard

2 For your safety

The device conforms to the relevant European directives and is safely constructed. Nevertheless, some residual dangers remain. 2wcom Systems GmbH accepts no liability for any damage caused by non-observance of the safety instructions.

- Read through this user manual carefully before using the device. If you pass on the device, be sure to also include this user manual.
- Any improper use of the device and all actions on the device not described in this user manual are considered as misuse outside the statutory limits for liability of the manufacturer.
- Only operate the device if it is in a technically perfect condition. If the device or a part of it is defective, take the device out of operation. Do not repair the device yourself. In case of any damages, send the device to 2wcom immediately for inspection or dispose of it properly according to the regional disposal regulations.
- Keep the device away from unauthorized persons.

Danger from electric current!

- Plug the device into a grounded power socket only. Never remove the grounding wire/contact.
- Do not open the housing of the device by yourself. Do not touch open electrical parts.
- Dangerously high voltages are present inside the housing. Even after disconnecting the mains supply, dangerously high voltage levels may be present for a certain time.
- Do not touch the device when your hands are wet.
- Never expose the device to liquids. If any liquid gets inside the housing, immediately disconnect the device completely from the power supply. Do not continue operating the device.

Fire hazard due to overheating or electric current!

- Ensure sufficient heat dissipation during operation. Avoid the following when installing the device:
  - Non-ventilated environment, e.g. a narrow shelf or built-in cabinet
  - Extremely warm or cold place
  - Direct exposure to sunlight
  - Too high or too low temperatures
  - Extremely wet or dusty environment
- Do not cover the ventilation openings of the device to avoid heat accumulation.
- Do not operate the device in the presence of flammable gases.
- Do not place objects with open flames, such as burning candles, on the device.
- Do not place any heavy objects on the supply cord. A damaged cord can lead to fire or electric shock hazards.
- When disconnecting the supply cord, always pull on the plug, never on the cable, to avoid cord damage.

Danger from explosive atmosphere!

- Do not use the device in an explosive environment.

Warning of hot surface!

The device may heat up greatly during normal operation despite an active cooling system.

- Do not touch the surfaces of the device during or shortly after operation.

Risk of equipment damage!

- Before each use, check the housing, the front panel, the cable and the power plug for visible damage and defects (e.g. scratches, cracks, wear and tear, damaged insulation, improper plug connections or extension cables).
- If the power cord is damaged, immediately disconnect the power plug. Never use the device with a damaged power cord.
- All damaged components must be replaced immediately.
- Only use a grounded three-wire power supply cord and plug that complies with the national regulations.
- Make sure that the power socket is next to the device and readily accessible to the user.
- External devices which are connected to the device could be damaged by the device or damage the device itself if the output levels exceed the specified limits.
- Do not use corrosive detergents on the device such as benzene, thinner, alcohol or acetone. Clean the surface of the device with a soft, dry cloth only.

3 Product overview

3.1 About the HDR-CC

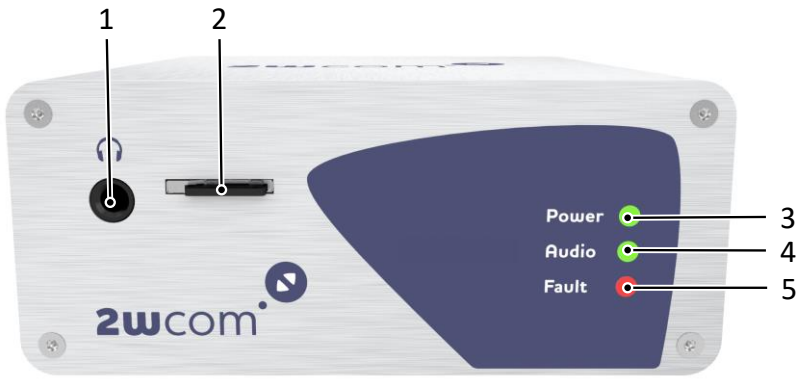
The HD Radio Capture Client (HDR-CC) is a device that fits perfectly with generation 4 HD radio systems. It can take in one digital or analog stereo audio channel and provide it to an Importer. Compressed with an HD Radio codec, the audio is sent via IP. This enables setups that allow the supplemental channels like HD2, HD3 or HD4 to be located remotely from the Importer.

Thanks to the HDR-CC's basic sound processing capabilities, the supplemental channels can be more equal in loudness compared to the main program service—or the sound processing just fits better to your content.

The only thing you have to do is to set up the Importer IP and directly connect audio to the small box's XLR connectors. Power over ethernet or external power supplies are supported to simplify the wiring. Complicated audio switching to meet the requirements for emergency alerts are no longer necessary.

Because of a new feature implemented by XPERI into the latest generation 4 importers, the entire emergency alert for all supplemental channels on the transmitter can be provided by just one HDR-CC. It requires a setup that just has AES audio connected to the capture client as well as a GPI to trigger the alarm. When the alarm is triggered, the HDR-CC logs into the Importer and replaces all supplemental channels (HD2-HD4) with the alarm program. After the GPI is released, the HDR-CC logs out and the Importer continues with its normal operation.

3.2 Front panel



1 **Headphone:** 3.5 mm socket for the connection of headphones

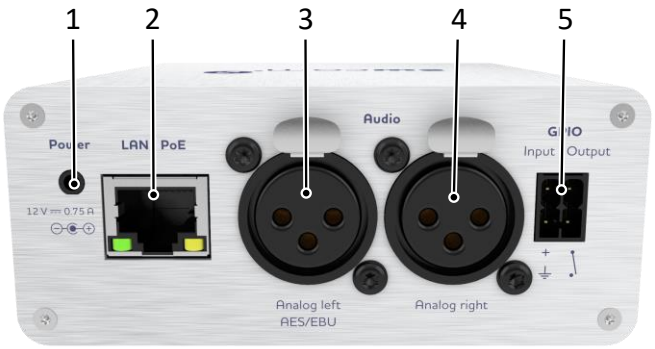
2 **SD card slot:** SD card reader for 2wcom service

3 **[Power] LED:** LED indicator:
- green if all power supply cords are connected and the power supply is OK.
- flashes (green/red) if only one power supply cord is connected and the power supply is OK (only when there is more than one power supply)

4 **[Audio] LED:** LED indicator; will correspond to the alarm status for the input.
- off if no input alarms are enabled
- green if input alarms are enabled and the input is OK
- red if the input is bad

5 **[Fault] LED:** LED indicator; will be red if alarm is triggered

3.3 Back panel



1 **Power:** 12 V PSU power supply. An external power adapter (wall plug) converts AC power to DC power for use with this jack.

2 **LAN / PoE:** RJ-45 connector; 10/100/1000 Base-T interface
- Audio and GPIO transmission via gigabit Ethernet
- Power-over-Ethernet adapter

3 **Analog left; AES/EBU:** - Female XLR socket. Input of the left channel of the analog audio signal, balanced > 10 kΩ
- AES/EBU input for digital audio left/right

4 **Analog right:** Integrated XLR female socket. Input of the right channel of the analog audio signal, balanced > 10 kΩ

5 **GPIO:** Remote control inputs/outputs for GPIO transmission

4 First steps

4.1 Checking the delivery contents

Use the following list to check the completeness of delivery. The delivery contents may vary in exceptional cases.

- HDR-CC
- Network patch cable
- Terminal block
- Optional: 12V wall plug PSU
- Link to product data

4.2 Installing the device

For the device to operate safely, note the following regarding the location:

- Place the device on a stable, even surface.
- Avoid direct sunlight, direct proximity to radiators and air conditioners, dust, water and chemicals.
- When setting up the device, make sure that the device has sufficient heat dissipation.
- Make sure that the cables are well organized and that there is no risk of tripping over them.

4.3 Connecting the device

To connect the signals and the power supply:

1. For digital audio, connect the signal input to [AES/EBU].
2. For analog audio, connect the signal inputs to [Analog left] and [Analog right].
3. Connect a network patch cable to [LAN/PoE] and to your existing network.
4. For a redundant power supply, connect the power cord to [Power].

✓ You have connected the device.

4.4 Accessing the web interface

The device can be fully operated via the integrated web interface using an internet browser. For this purpose, use a computer that is connected to the same IP network that the device is connected to.

Prerequisite: You have already connected the [LAN/PoE] interface to the network.

To access the web interface:

1. The HDR-CC is delivered with DHCP settings from our factory. Enter the following address in your browser or use the qr-code: *https://hdr-cc.local*

   ➢ A login screen appears.
2. Enter the username and password.

✓ The main page of the web interface appears.

If you have connected multiple HDR-CCs, then they will automatically generate unique URLs in the following scheme: *https://hdr-cc-1.local*, *https://hdr-cc-2.local*, and so forth.

The default login data (case sensitive) are:

- For read-only access: **user** / **user**
- For full access: **manager** / **manager** or **admin** / **admin**

Change the login data as soon as possible to avoid unauthorized access to the HDR-CC and document the login data in a safe place.

4.5 General operation

The HDR-CC has an integrated web interface. You can make all configurations and operations using a web browser.

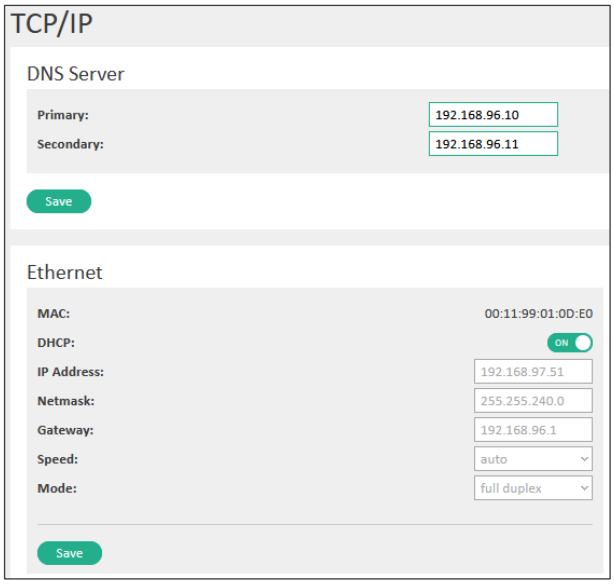
Note the following rules when operating the device via web interface:

- If you want to keep any changes made in the configuration of the device, click the corresponding **Save** button.
  The changes in each block must be saved individually. If you changed data in several blocks or tabs, click the **Save** button under each block to save all changed data. Otherwise, any unsaved block will be reset to the previously saved status when leaving the page.
- If you do not want to keep the changes, leave the page without saving or reload the page.
- Use a decimal point as the decimal separator in numbers in the input fields (i.e. “6.5” for “six and a half”).

5 Network settings

5.1 TCP/IP: Configuring the ethernet interfaces

The HDR-CC has 1 Ethernet interface for configuration and data transmission.



To configure the ethernet interfaces:

1. Navigate to the page **TCP/IP**.
2. Configure the parameters for the DNS Server, Ctrl and Data interfaces.

   The necessary address settings depend on the individual network and should be assigned by the responsible network administrator, if applicable.

3. Click **Save**.

✓ The ethernet interfaces are now configured.

Parameters

Primary	Enter the IP address of the primary domain name server (DNS).
Secondary	Enter the IP address of the secondary domain name server (DNS).
DHCP	Enable dynamic host configuration protocol (DHCP) which enables the device to get an IP address automatically.
IP Address	If DHCP is disabled, then assign an IP address to the interface.
Subnetmask	Enter the subnetmask for the IP address.
Gateway	Enter the address of the local system that is used for the internet access (e.g. the router).
Speed	The speed is set to auto.
Mode	The mode is set to full duplex.

5.2 NTP: Synchronizing date and time

The HDR-CC can automatically synchronize its date and time with an external NTP server.

1. Navigate to the page **NTP**.
2. Configure the parameters.
3. Click **Save**.

✓ You have synchronized the date and time with an external NTP server.

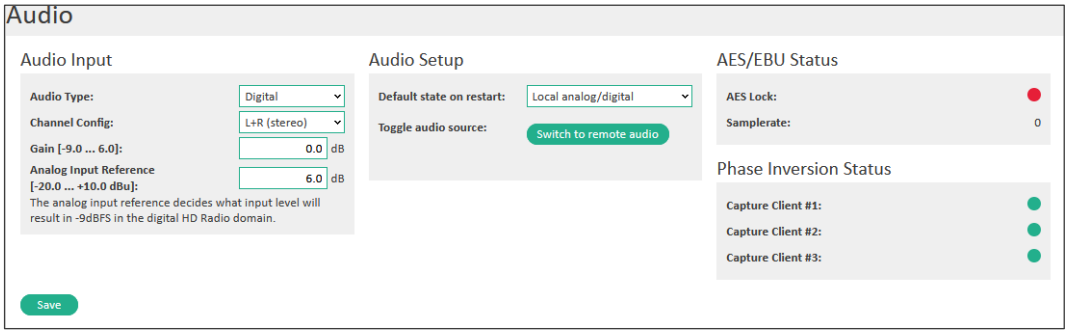
Parameters

1. NTP Server	Enter the IP address or network name of the first NTP server to be used.
2. NTP Server	Enter the IP address or network name of the second NTP server to be used.
Synchronization	Start or stop the synchronization with the NTP server.
Update interval	Enter the time interval for synchronization in seconds.

6 Client Settings

6.1 Configuring the audio settings

Since the device either uses analog or digital audio, you must set the right type of audio in the web interface. You can also configure further audio settings.



1. Navigate to the page **Audio**.
2. Configure the parameters for the audio input and the audio setup.
3. Click **Save**.

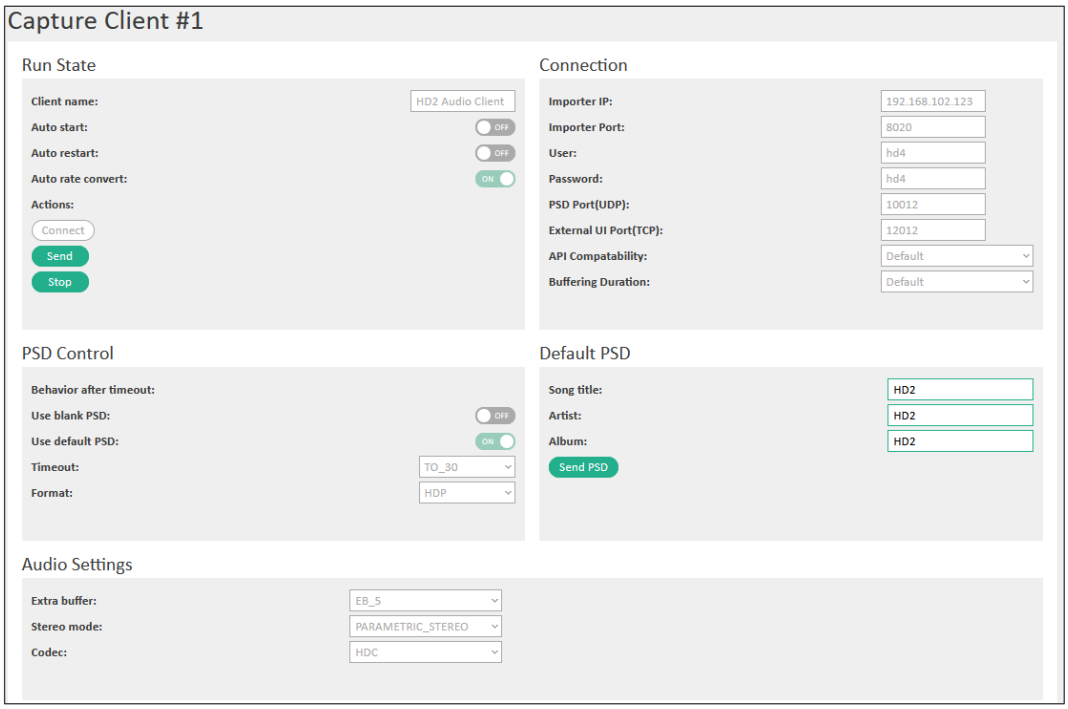
✓ If digital audio is selected and a digital signal is connected, the lock status and sample rate are displayed in the block **AES/EBU Status**. The block **Phase Inversion Status** gives Information on whether the phase of a capture client is inverted or not.

Parameters

Audio Type	Select the audio type according to the signal that is connected to the device.
Channel Config.	Select the stereo mode.
Gain	Set the audio gain in a range from -9.0 to 6.0 dB.
Analog Input Reference	Enter a value from -20.0 to +10 dBu that defines which input level results in -9dBFS in the digital HD Radio domain.
Default state on restart	Define how the device behaves on restart: Either use the local audio or the remote audio.
Toggle audio source	Click **Switch to remote/local audio** to switch to the other audio source. If local audio is active, the HDR-CC uses the locally connected AES/EBU or analog audio from its input to send it to an Importer via the capture clients. With remote audio selected, the HDR-CC sends the audio that is specified on the page **Decoder** to the Importer via the capture clients.

6.2 Setting up the capture client

The capture client can take in one digital or analog stereo audio channel and provide it to an Importer/Exporter.



Prerequisite: Make sure that the Importer is operating in a configuration that supports the number of channels (HD2, 3 or 4). The Importer itself must not provide the service that the HDR-CC will provide to it.

To set up the capture client:

1. Navigate to the page **Capture Client**.
2. In the block **Connection**, configure the following parameters. Most of these fields are filled out by default settings that usually do not need to be changed, but can be configured in the Importer settings.

Importer IP	Enter the IP address of the Importer.
Importer Port	Enter the port that is set in the Importer for this purpose.
User	Enter the user name that is set in the Importer.
Password	Enter the password that is set in the Importer.
PSD Port (UDP)	Enter the PSD port that third-party applications can use to send PSD data to the HDR-CC.
External UI Port (TCP)	Enter the external UI port that can be used by an Importer or any other service to display telemetry data from the HDR-CC.
API Compatibility	Select the version of the Importer/Exporter.
Buffering Duration	Select a buffering duration.

3. In the block **Run State**, configure the following parameters.

Client name	Enter the client name that will be sent to the Importer for better reference.
Auto start	Enable auto start to establish the connection and send audio to the Importer once after restart.
Auto restart	Enable auto restart to establish the connection and send audio to the Importer continuously every 30 seconds after restart.
Auto rate convert	Enable sample rate conversion in the client.

4. In the block **PSD Control**, configure the following settings:

Use blank PSD	After timeout, a blank PSD without any information is sent.
Use default PSD	After timeout, the default PSD is sent.
Timeout	Define the timeout duration necessary for triggering the set action.
Format	Select the PSD format.

5. In the block **Default PSD**, enter the information to be sent as default PSD after timeout.
6. In the block **Audio Settings**, configure the following parameters.

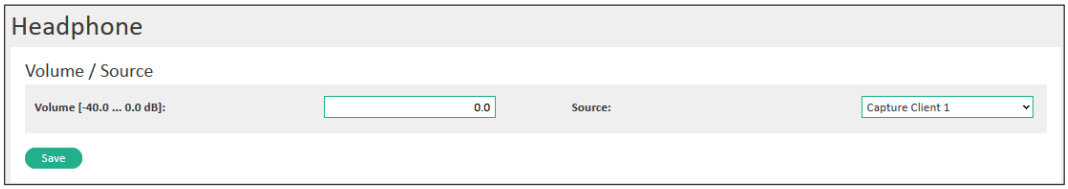
Extra buffer	After timeout, a blank PSD without any information is sent. Selekt the buffer duration, for example EB_5 is an extra buffer duration of 5 seconds.
Stereo mode	After timeout, the default PSD is sent.
Codec	Define the timeout duration necessary for triggering the set action.

7. Click **Connect**.
8. To start sending audio to the Importer, click **Send**. To stop sending the audio, click **Stop**.
9. Click **Save**.

✓ The capture client is now connected to an Importer/Exporter. The status of the connection is displayed on the page **Overview**.

6.3 Changing the headphone volume

The input signal can be monitored via the headphone interface.



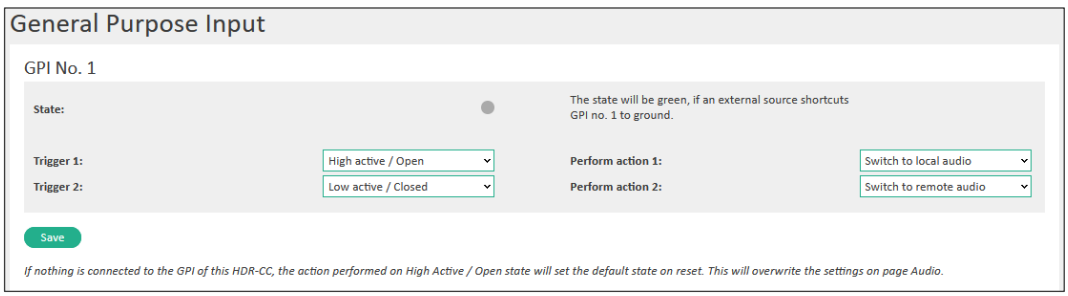
To change the volume of the headphone output:

1. Navigate to the page **Headphone**.
2. In the block **Headphone**, select the source for the headphone output.
3. Set the volume for the headphone output in a range from -40.0 to 0.0 dB.

✓ The volume of the headphone output is now adjusted.

6.4 Setting rules for GPI trigger

You can set rules for actions in case an external source shortcuts GPI no. 1 to ground or not.



To configure the GPI settings

1. Navigate to the page GPI.
2. Define when the type of trigger: "Low active" for the GPI being shortcut to ground or "High active" for the opposite
3. Define the action that takes place in case the GPI is triggered.
4. Click **Save**.

✓ The virtual LED **State** is green if the GPI is shortcut to ground.

If nothing is connected to the GPI, then the action performed on **High active / Open** state sets the default state on reset. This will overwrite the settings on the page **Audio**.

7 System settings

7.1 Entering device information

For better identification of the HDR-CC, you can enter device-specific data.

1. Navigate to the page **Global**.
2. Configure the parameters in the block **System info**.
3. Click **Save**.

✓ The saved information is now displayed in the banner.

Parameters

Name	Enter the name of the device for better reference.
Location	Enter the location of the device.
Description	Enter further important information on the device.

7.2 Setting up session timeout

Session timeout is a security feature that automatically logs out the user after a period of inactivity. You can define the period of inactivity or disable session timeout.

1. Navigate to the page **Global**.
2. In the field **Session timeout**, enter the value in minutes for the period of inactivity necessary to automatically log out the user. Enter “0” to disable this function.
3. Click **Save**.

✓ You will now be automatically logged out after the set period of inactivity.

7.3 Changing the title of the browser tab

You can change the title of the browser tab to display the information you need for better reference.

1. Navigate to the page **Global**.
2. In the field **Browser Tab Title**, enter the information you want to display. You can use variables for specific information. Variables will update automatically if the corresponding information changes. View the possible variables by hovering over the input filed.
3. Click **Save**.

✓ The title of the browser now displays the configured information.

7.4 Updating the firmware

You can upload ARM firmware stored locally or from a TFTP server to the device.

1. Navigate to the page **Global**.
2. In the block **Firmware** update, click **Browse/Drop file**.
3. Select the firmware file you want to upload.
4. Click **Upload** to upload the firmware file. The upload may take a while. Do not interrupt this process.
5. After a successful upload, follow the prompt to restart the device.

✓ After the restart of the device, the new firmware is active.

7.5 Uploading and activating an SSL-Certificate

An SSL certificate is a digital certificate that provides authentication for a website and enables an encrypted connection.

To upload and activate an SSL certificate:

1. Navigate to the page **Global**.
2. In the block **SSL-Certificate**, click **Browse/Drop file**.
3. Select the SSL certificate file (*.pem) you want to upload.
4. Click **Upload**. The upload may take a while. Do not interrupt this process.

✓ You have uploaded an SSL certificate.

7.6 Saving settings to a local file

You can download the current settings and save them as a file. You can upload this file later to restore the settings or upload it to another device to copy the settings.

1. Navigate to the page **Global**.
2. In the block **Settings download**, click **Generate**.
   - ➢ A file is being created. This may take a few seconds.
   - ➢ The download option with the time and date of file creation appears.
3. Click **Download**.
4. Save the file to a location of your choice.
5. Click **Save**.

✓ You have saved settings to a local file. To upload and activate the settings stored locally, see 7.7 Uploading and activating settings from a file.

7.7 Uploading and activating settings from a file

You can upload a settings file to restore previous settings or copy the settings from another device. For information on how to generate a settings file, see 7.6 Saving settings to a local file.

1. Navigate to the page **Global**.
2. In the block **Settings update**, click **Browse/Drop file**.
3. Select the settings file you want to upload.
4. Click **Upload** to upload the settings file. The file upload may take a while. Do not interrupt this process.
5. After a successful upload, follow the prompt to restart the device.

✓ After the restart of the device, the new settings are active.

7.8 Generating and downloading a diagnostic report

In case of any problems or failures, you can generate and download a diagnostic report to send to 2wcom.

To generate and download a diagnostic report:

1. Navigate to the page **Global**.
2. In the block **Diagnostic Report**, select the time period for which the device captures all activities.
3. Click **Generate**. A file is being created. This may take a while. Do not interrupt this process.
   - ➢ The download option with the time and date of file creation appears.

4. Click **Download**.
5. Save the file to a location of your choice.

✓ You have generated and downloaded a diagnostic report.

7.9 Rebooting the device

To reboot the device:

1. Navigate to the page **Global**.
2. In the block **Control**, click **Now** in the field **Reboot Device**.

✓ The device restarts. After the restart, you will have to log in again.

7.10 Restoring factory settings

Restoring the factory settings will delete all configurations that were made by a user except for the IP address of the CTRL interface. This also applies to the access accounts.

To reset the device to factory settings:

1. Navigate to the page **Global**.
2. In the block **Control**, click **Now** in the field **Load Factory Settings**.

✓ You have restored the factory settings.

7.11 Changing login data

The default accounts are a read-only access (Guest account), a full access without a permission to manage the user accounts (Manager account), and a full access (Admin account). The user account SFTP service is used only for the access from an external SFTP client for uploading audio files and saving them in the internal storage.

Change the login data after the first login to the web interface.

The default login data for the first login are (case sensitive):

- Guest account: “guest”/ “guest”
- Manager account: “manager”/ “manager”
- Admin account: “admin”/ “admin”
- FTP service: “sftpuser”/ “sftpuser”

To change the login data:

1. Log in as an admin.
2. Change the login data for an account in the corresponding block and repeat the new password.
3. Click **Save**.

✓ You have changed the login data.

7.12 Adapting the access for user accounts

You can configure the access to certain web interface pages for the manager and guest accounts.

Prerequisite: You are logged in as an admin.

To adapt the access for manager and guest accounts each individual HDR-CC menu:

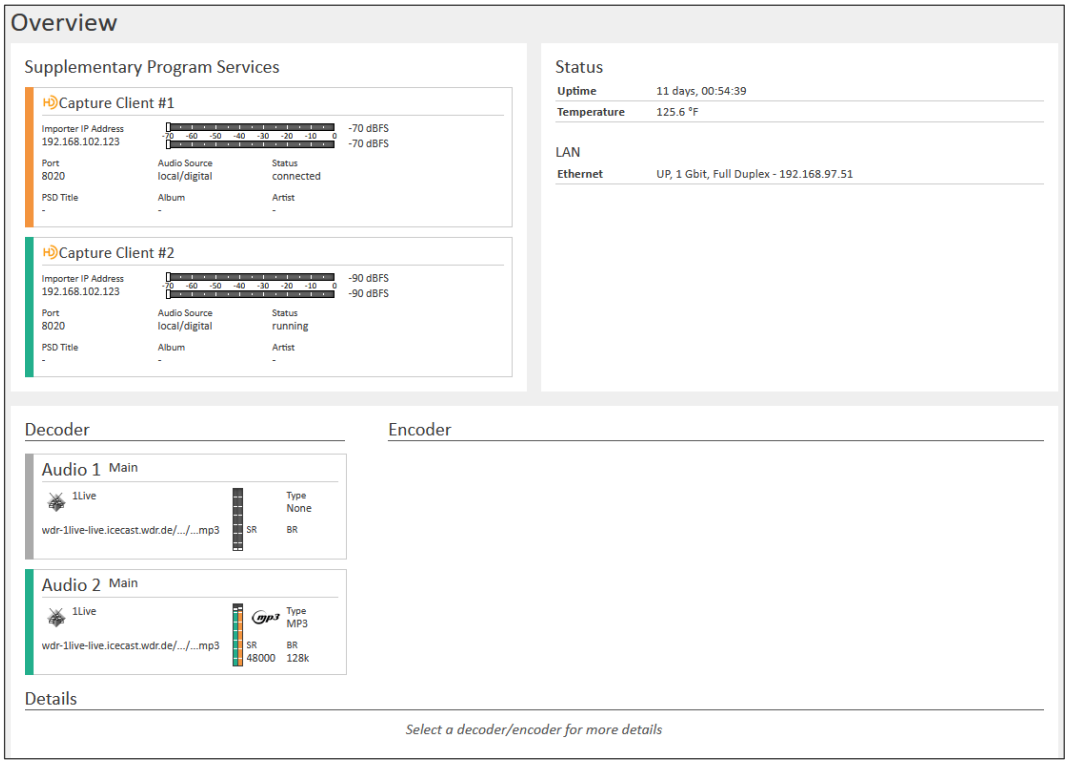
1. Navigate to the page **User**.
2. Click on the tab **Menu Access**.
3. Enable or disable the access to the separate menus by setting the corresponding switch to either **ON** or **OFF**.
4. Click **Save**.

✓ The new access configuration is now active.

8 Status information

8.1 General overview

The page **Overview** gives you general information on the status of your HDR-CC. The appearance of this page might differ depending on the settings.



The audio levels of the outputs are displayed in the block **Supplementary Program Services**.

The block **Status** gives general device-specific information as well as information on the ethernet interface.

The block **Decoder** displays the status of the currently active decoders:

Green: Enabled
Gray: Disabled
Red: Error

- To view more details on a decoder, click on the corresponding panel.
  - ➢ The **Details** view below the block **Decoder** now displays the status of the decoded audio.
- To reset the counters in the status fields, click **Reset Counters**.

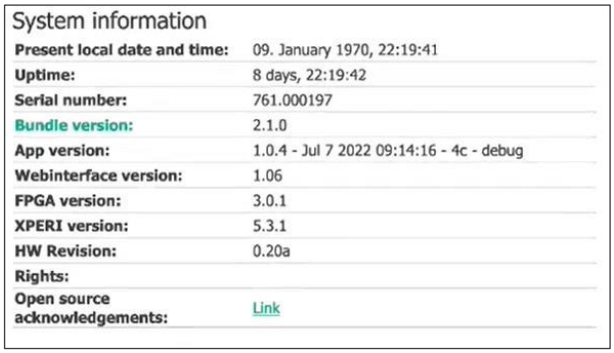
The following abbreviations and terms may appear in the status overview:

SR	Sampling Rate
SW	Sampling width
FEC	Forward error correction
Bitrate	Audio bit rate
Buffer	Delay buffer for decoded audio
Err	The number of errors in the decoder (e.g. failed samples, no audio, PER)
Jitter	Packet jitter of the incoming IP stream
Missed	The number of lost/missing packets

PER	Packet error rate of the input stream
Reordered	Number of carried out reorderings of IP packets
Recov.	Number of recovered packets
Unrecov.	Number of unrecovered packets

System Information

The page **Global** gives specific information on the device, such as the uptime and time of the last boot, serial number, activated rights and software version. The current version of your HDR-CC is the **Bundle Version**.



8.2 Device status

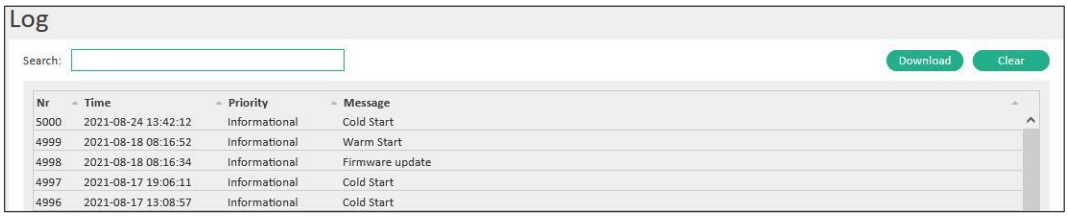
The page **Device** gives information on the current status of the hardware.

- The block **General** displays the CPU temperature and its load.

8.3 Log

The HDR-CC records all important system events, such as restart and error messages in a log. You can view the log, sort the entries, search for a specific entry, save the list as a log file, and clear the log.

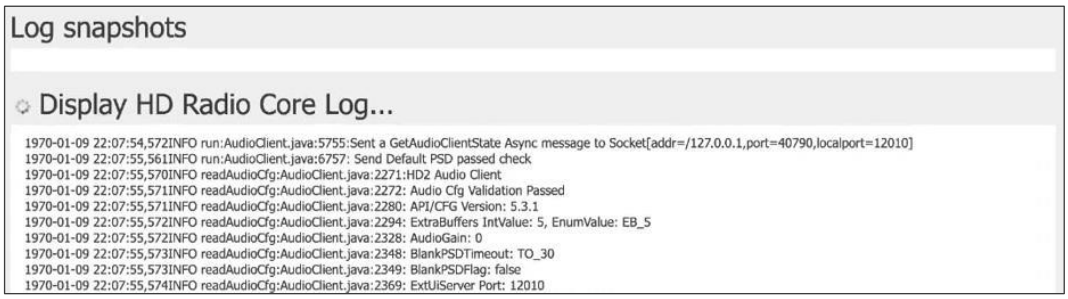
- To sort the log entries, click on the column header of the parameter by which you want to sort the entries. To reverse the order, click that header again.
- To search for a specific entry, enter a term into the search bar.
- To save the list to a log file, click **Download**.
- To delete all log entries, click **Clear**. Confirm your choice in the dialog window.



For more information on alarm messages, see 8.5 Priority of alarm messages.

8.4 Core log

The core log records all events that happen in the intern HDR library. To view the core log, navigate to the page **Core Log**.



8.5 Priority of alarm messages

Priority	ID/Code	Definition
Emergency	0	System is unusable
Alert	1	Actions must be taken immediately
Critical	2	Critical condition
Error	3	Error condition
Warning	4	Warning condition
Notice	5	Normal but significant condition
Informational	6	Informative message
Debug	7	Debug-level message

In case of an alarm, an error report with the priority of the error will be sent to the Network Operations Center (NOC). The responsible second-level support will decide by means of this information how urgent the alarming case is and what measures are necessary. The event will be recorded in a log entry.

9 Further information

9.1 Maintenance and disposal

No special maintenance is necessary on the device. Do not use corrosive detergents on the device such as benzene, thinner, alcohol or acetone.

Remove dust on the housing of the device with a soft, dry cloth.

Electrical appliances do not belong in domestic waste. Dispose of the device in an environmentally friendly manner via suitable collection systems in accordance to the local regulations.

9.2 Troubleshooting, support and warranty

More often than not, it is only a small detail that has been overlooked and leads to a problem. Therefore, read the entire user manual carefully, as this will help you to understand, prevent and eliminate typical problems. Use the following table to self-check common error sources prior to contacting our support.

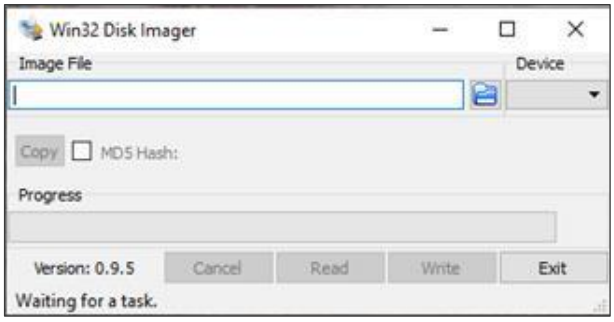
Report failures by email to **support@2wcom.com**. For a support request to 2wcom, please have the serial number of the device ready. You can find the serial number of your device on the page **Global** and on the sticker on the rear side of the device: “S/N xxx.xxxxxx”.
For information on the warranty of 2wcom products, visit *https://www.2wcom.com/terms-and-conditions/*.

Problem	Possible Causes	Solution
Only power LED lights up, no other LEDS or turned on even after 45 seconds only the power LED is on	Corrupt SD card	Use the recovery guide to create a new SD card or restore the old SD card.
The LEDs turn on after a couple of seconds, but they never turn off	App/Device is not starting correctly	Request on-screen support or use the recovery guide to either create a new SD card or restore the old SD card.
The LEDs turn on after a couple of seconds and they turn off after 10-45 seconds, but I can’t access the device	The device is booting correctly, but maybe got no DHCP release or has a static IP	Listen to the IP readout on the headphone jack when the LEDs turn off. Test to access the fallback IP: 192.168.178.100/24
No audio levels are shown on the overview page	Not connected to Importer or wrong audio setup?	Please make sure that local audio is configured on the page **Audio**, and that analog/digital audio is configured correctly. Please make sure that the Importer is connected, otherwise the overview page will show no levels.
HDR-CC is not connecting to the Importer/Exporter	Wrong API version?	Please check your Importer/Exporter version and select the API version on the page **Capture Client** accordingly.

Recovery guide

If your HDR-CC is not booting up or you are not able to connect to it through DHCP, recover the device by re-writing the current SD card or creating a new SD card.

1. Make sure the SD card has at least 4 GB.
2. Install a disk image tool on your PC, for example *Win32DiskImager*.
3. Use the following link to download the latest recovery image:
   https://download.2wcom.com/products/HDR-CC_KCTR/software/hdrcc_recovery.zip
   - ➢ This image starts the device in DHCP mode, but it will fall back to the following IP settings if no DHCP lease could be obtained after 35 seconds. The IP address will be read out on the headphone interface.
     IP: 192.168.178.100
     Netmask: 255.255.255.0
     Gateway: 192.168.178.1
     No DHCP, No DNS
4. Insert the microSD card into the reader.
5. Start the disk image tool.
   - ➢ In Win32DiskImager, the following screen appears.

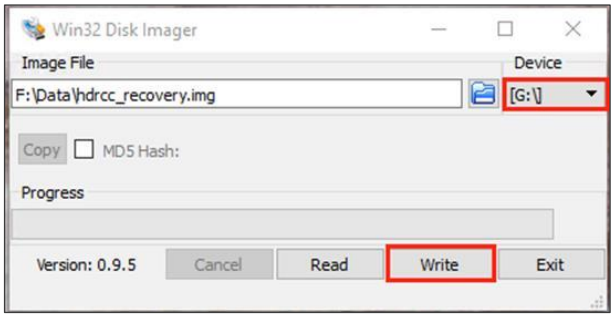


6. Select the SD card as the device to write to.

NOTICE **Selecting the wrong device can format your PC.**

- ➢ Make sure to select the correct device to write to.

7. Select the image file that you downloaded previously.
8. Click **write**.
9. Confirm the writing dialog if you are sure that the correct device is selected.
   - ➢ This process may take a few minutes.



10. Insert the SD card into your HDR-CC. Make sure the SD card is inserted correctly.
11. Connect either Power over Ethernet (PoE) using the RJ45 interface or use the PSU input to plugin with 12 V (DC) 0.75 A wall plug and connect your device to your LAN.
    - ➢ 3-5 seconds after connecting power to the HDR-CC, all LEDs light up. The LEDs turn off after a successful boot. This takes up to 45 seconds, depending on DHCP lease.

✓ You have rewritten the SD card and recovered the device.

9.3 Manufacturer

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Web www.2wcom.com

10 Technical details

Audio

Formats

Codec	HD Radio® Codec, PCM
Sample Rates	32 kHz, 44.1 kHz, 48 kHz
Digital Audio Bandwidth	10 Hz through to 22.5 kHz mono & stereo @48kHz sample rate
Sample rate converter	8:1 (up) and 1:7,5 (down) with bypass modes

Interfaces

Audio

Digital (in)	1x AES/EBU, 110 Ω bal., integrated XLR
Analog (in)	1x L/R, > 10k Ω bal., 2 integrated XLR connectors
Headphone (out)	L/R, < 10 Ω, 6,3 mm
Analog reference level	+9dBu (max. +18dBu)
Digital reference level	-9 dBFS (adjustable)
Dynamic range	16 Bit, > 89 dB 24 Bit, > 130 dB
Frequency Response	0.1 dB; 20 Hz...20 kHz

Ethernet

Connector	1x RJ45
Type	Auto switching 10/100/1000 BASE-T
Protocol	TCP, UDP, IGMP, ICMP, DHCP, HTTP, HTTPS SNMPv2c, NTP

Contact closure

Connector	Phoenix contact terminal block
Inputs	1 inputs
Outputs	1 floating relays (SPST) (for DC: max. 30 V, 0.5 A)

Internal storage

Data	internal audio files
Size	4 GB, 8 GB, 16 GB

Control & Monitor

Front panel

3 LEDs	Power, Audio, Fault

Ethernet

LEDs	Link and activity

Datasheet Version 18.09.2020
These data are subject to modifications and amendments. Errors excepted.

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Technical Details 2/2

General data

Power consumption	<10W
Case dimensions	Height: 1.65 inch (42mm) depth: 3.93 inch (100mm), width: 3.93 inch (100mm),
Weight	< 1.0 lb (<500 g)
Material	aluminium
Operating temp. range	0...+45°C
Storage temp. range	-40...+70°C
Languages	English

Power supply

12V PSU	1x external wall plug, 90...260 VAC, 47...63 Hz to 12V
PoE PSU	Power over Ethernet Adapter

Certifications & compliance with standards

Certifications	RoHS, CE, FCC
Standards	NRSC-5, EN 60950, EN 55024, EN 61000-6-2, EN 61000-32, EN 61000-3-3

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