

PLAYER ZERO

AUDIO PLAYER

Local and Streaming Audio Player



USER MANUAL



PRECAUTIONS
FEATURES
INSTALL & CONNECT
START-UP & OPERATION
PANEL FUNCTIONS
TECHNICAL DATA
SW
TP-CONTROL
WebGUI
LUA-SDK

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1. PRECAUTIONS

1.1 IMPORTANT REMARK



WARNING: SHOCK HAZARD - DO NOT OPEN

AVIS: RISQUE DE CHOC ÉLECTRIQUE - NE PAS OUVRIR



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING (If applicable): The terminals marked with symbol of “⚡” may be of sufficient magnitude to constitute a risk of electric shock. The external wiring connected to the terminals requires installation by an instructed person or the use of ready-made leads or cords.

WARNING: To prevent fire or shock hazard, do not expose this equipment to rain or moisture.

WARNING: A device with Class I construction shall be connected to a mains socket-outlet with a protective earthing connection.



WARNING: This product must not be discarded, under any circumstance, as unsorted urban waste. Take to the nearest electrical and electronic waste treatment centre.



This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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1.2 IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this device near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other device (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the device.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug the device during lightening sorts or when unused for long periods of time.
13. Refer all servicing to qualified personnel. Servicing is required when the device has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Disconnecting from mains: When switching off the POWER switch, all the functions and light indicators of the unit will be stopped, but fully disconnecting the device from mains is done by unplugging the power cable from the mains input socket. For this reason, it always shall remain easily accessible.
15. Equipment is connected to a socket-outlet with earthing connection by means of a power cord.
16. The marking information is located at the bottom of the unit.
17. The device shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on device.

1.3 CLEANING



Clean the unit with a soft, dry clean cloth or slightly wet with water and neutral liquid soap only, then dry it with a clean cloth. Be careful that water never gets into the unit through any hole. Never use alcohol, benzine, solvents or abrasive substances to clean this unit.

NEEC AUDIO BARCELONA, S.L. accepts no liability for any damage that may be caused to people, animal, or objects due to failure to comply with the warnings above.

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**Thank you for choosing our device Ecler PLAYER ZERO!
We appreciate your trust.**

It is **VERY IMPORTANT** to carefully read this manual and to fully understand its contents before any connection in order to maximize your use and get the best performance from this equipment.

To ensure optimal operation of this device, we strongly recommend that its maintenance be carried out by our authorised Technical Services.

All ECLER products are covered by warranty, please refer to www.ecler.com or the warranty card included with this product for the period of validity and conditions.

2. FEATURES

PLAYER ZERO is a compact stereo audio player able to play music content from local storage devices (USB/MICRO SD), Internet streaming services (online radios, etc.) and digital media exchange (DLNA, AirPlay) with the following main features.

2.1 MAIN FEATURES

- 1 unbalanced stereo audio output, RCA connector and mini-jack (with stereo/mono selection).
- Compatible with mp3, ogg, WAV, AIFF and FLAC audio formats.
- One USB port and one MICRO SD card slot for access to local media content.
- Ethernet interface with RJ45 connector for communication with web setup application as well as Internet streaming reception.
- Wi-Fi interface (client or master mode) for communication with web application conFiguretion as well as Internet streaming reception.
- Fully conFigureble through web application (point-to-point or through the same LAN)
- 2 GPI (General Purpose Inputs) ports, to trigger the 2 available events.
- Silence detection event.
- Internal clock with up to 240h autonomy (without AC adapter) and automatic synchronization with NTP services.
- **Modular firmware:** PLAYER ZERO has a firmware with modular services that allow each user to personalize its operation and adapt it to the size of his project or to his business model. The firmware includes, among other functions and services:
 - Calendar event triggering

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3.3 AUDIO OUTPUT CONNECTIONS

PLAYER ZERO has 1 unbalanced stereo output on its rear panel.

The signal output connectors are 2 x RCA and 1 x stereo mini-jack.

3.4 ETHERNET PORT FOR CONFIGURETION AND INTERNET CONNECTION

An RJ-45 connector allows the unit to be connected to an Ethernet network or even directly (point-to-point) to a computer.

This connection provides access to Internet contents, and to the conFiguretion of the unit using a web browser on the computer, which points to the IP address of the PLAYER ZERO, showing the web application embedded in the unit. Refer to the [PLAYER ONE & PLAYER ZERO web GUI application](#) manual for more information.

3.5 WI-FI INTERFACE FOR CONFIGURETION AND INTERNET CONNECTION

A Wi-Fi interface allows the unit to be connected to a Wi-Fi network or even directly (point-to-point) to a computer by Wi-Fi.

This connection provides access to Internet contents, and to the conFiguretion of the unit using a web browser on the computer, which points to the IP address of the PLAYER ZERO, showing the web application embedded in the unit. Refer to the [PLAYER ONE & PLAYER ZERO web GUI application](#) manual for more information.

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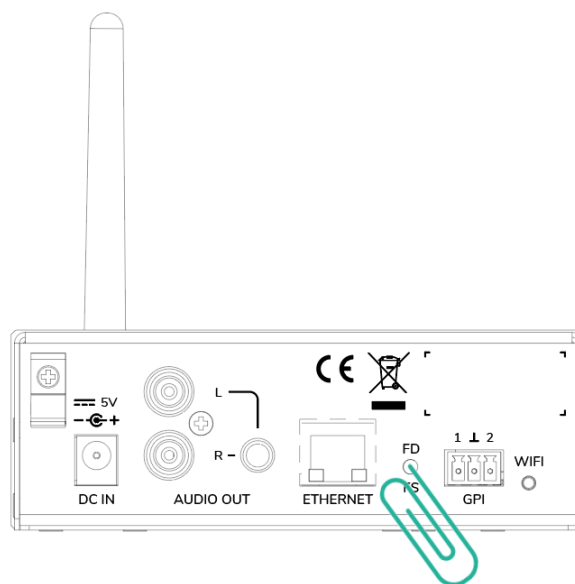
4. START-UP and OPERATION

Ecler recommends **configuring PLAYER ZERO with your web application to enjoy its full functionality**. Please refer to the [PLAYER ONE & PLAYER ZERO web GUI application manual](#) to know all the functionality it offers.

Plug the power cord into the back of the device to turn it on.

4.1 RESTORE DEFAULT / FIRMWARE UPDATE

PLAYER ZERO has two functionalities that can be done via the FD/FS button on the rear panel:



- **Restore Factory Defaults:** Restore factory settings. Press and hold the FD/FS button on the rear panel for 10 seconds with a small pin or paper clip while the unit is powered on.
- **Fail Safe (Restore firmware):** Install the latest firmware published on the Ecler website or a firmware file hosted on one of the local storage systems (USB/MICRO SD).

While the unit is unplugged, press and hold the FD/FS button with a small pin or paper clip and then plug in the unit. The front LEDs will start flashing rapidly for 3 seconds (at this point the FD/FS button can be released).

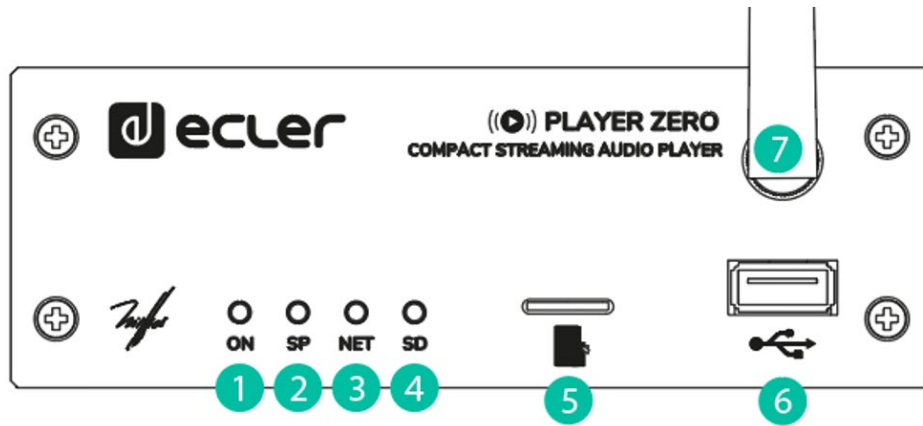
⚠ To restore the latest released firmware, it is necessary to connect the device to a DHCP server with Internet access, to download the firmware.

If this action is not performed correctly, you may lose all device settings and parameters. **Be sure to save a backup copy of the device settings before executing this action.**

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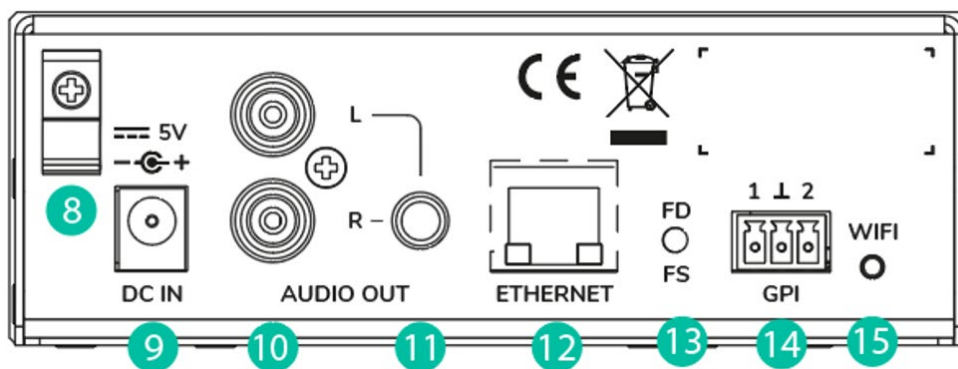
5. PANEL FUNCTIONS

5.1 FRONT PANEL



- | | |
|--|--|
| <ol style="list-style-type: none"> 1. ON LED: power indicator. 2. SP LED: signal present indicator. 3. NET LED: network traffic indicator. 4. SD LED: Micro SD source operation indicator. | <ol style="list-style-type: none"> 5. MICRO SD/MICRO SDHC slot: for local audio content playback. Up to 2TB. FAT16/32 format. 6. USB 2.0 port: for local audio content playback. Up to 2TB. FAT16/32 and NTFS format. 7. WiFi Antenna. |
|--|--|

5.2 REAR PANEL



- | | |
|---|--|
| <ol style="list-style-type: none"> 8. Security flange for power supply cable 9. External power supply connector 10. 2 x RCA stereo output 11. Stereo mini-jack output | <ol style="list-style-type: none"> 12. RJ-45 connector 13. Factory Default / Fail Safe button 14. GPI Port 15. Indicator Light, WIFI |
|---|--|

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6. TECHNICAL DATA

6.1 TECHNICAL SPECIFICATIONS

PLAYER ZERO

DIGITAL ENGINE	
Processor	MIPS Single Core 64bits 580MHz
AUDIO CONVERTERS	
Sampling rate	48kHz
Resolution	16bit
Bit rate	32~320kbps
Frequency response	5Hz - 24kHz (-3dB)
MEDIA PLAYER	
Audio sources	Local storage (USB & microSD), Internet radio, AirPlay, DLNA
Dynamic range	From -80 dB to 0 dB
THD + Noise	< 0.008% (1kHz, 1Vrms)
ANALOGUE AUDIO OUTPUTS	
Number of outputs	2 x Stereo output (unbalanced)
Connection type	RCA estéreo, minijack 3,5mm
Max output level	6dBV / 5k ohm
Output impedance	460 ohm
Dynamic range	TBC
Crosstalk	TBC
CONNECTIVITY	
Ethernet	RJ45 10/100Mbps
Wi-Fi	2.4GHz Wi-Fi, 802.11 b/g/n
Wi-Fi antenna	Front panel
Programing and control	Web Application, RePlayer & Gallery. Third party integration: JSON
REMOTE CONTROL CONNECTIONS	
GPIs	2 ports, Dry contact to ground, 3 pin Terminal block

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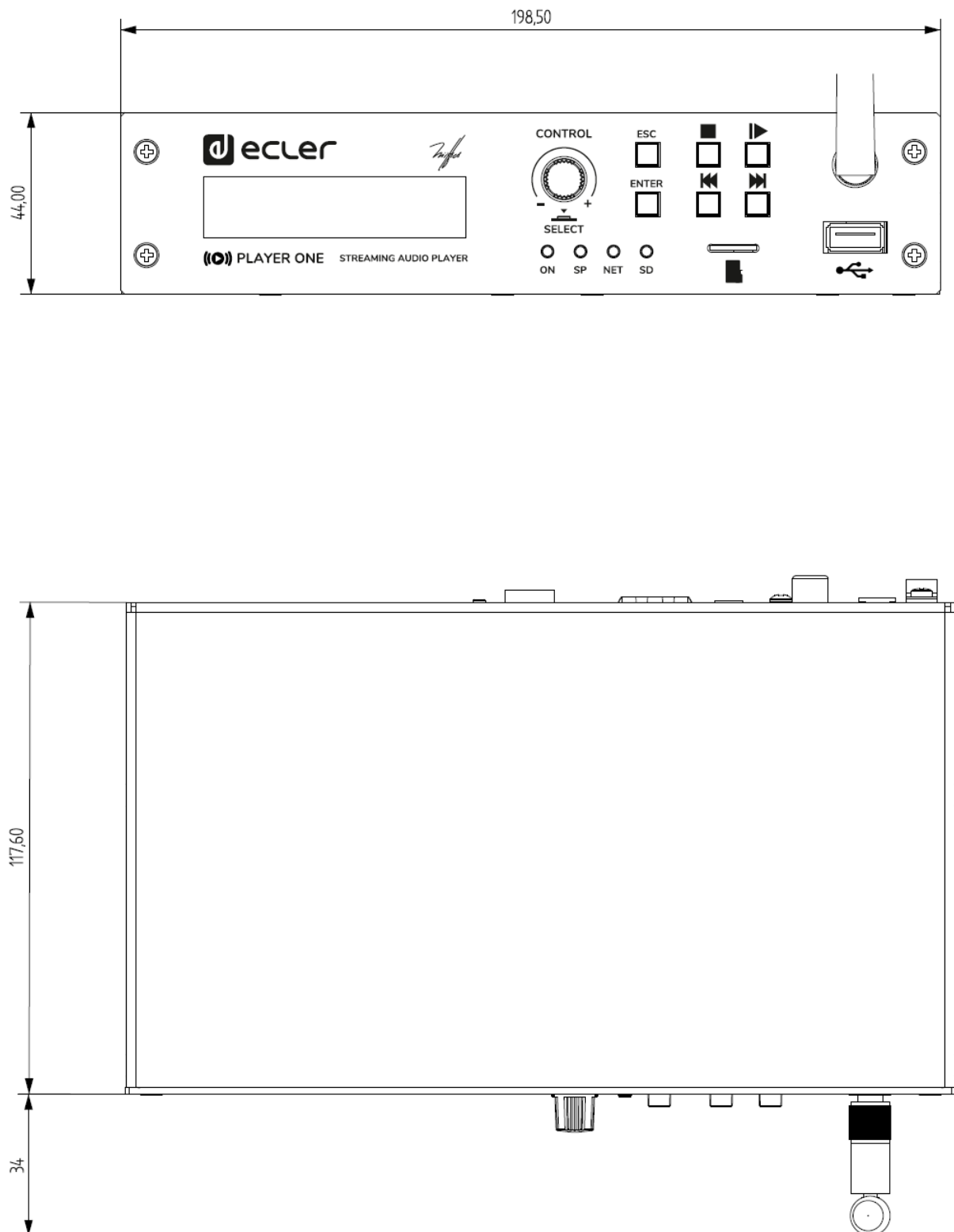
REAL-TIME CLOCK	
Retention time	240 hours approx.
Accuracy	±1 minute / month
MONITORING AND CONTROL	
Display	No
LED indicators	Front panel: NET, SP, SD, Power Rear panel: Wifi
Buttons	Rear panel: Factory Defaults / Fail Safe (pin-hole)
LOCAL STORAGE	
Micro SD	Front panel micro SD slot Supports micro SD SDXC
USB	Front panel USB female connector Support USB 2.0 High Speed (480 Mbps)
Capacity	Up to 2TB
File system	Supports FAT16, FAT 32, VFAT and NTFS (read-only) Multi-partition up to 1
Playable audio files	mp3, ogg, WAV, FLAC, AIFF, m3u, pls
Files analysis	65354 playable folders 65354 playable folders within each folder 65354 playable files within each folder
Folder hierarchy	Up to 8 containing the root directory
Sorting	UNICODE Up to 100 folders, 100 files by folder (Folders/files over 100 sorted in the FAT order)
ELECTRICAL	
Power supply	External, universal, 5VDC (included)
AC mains requirement	90-264VCA 50-60Hz
AC mains connector	International AC plugs set
Power consumption	4.5 VA / 2.2 W
Ventilation	Passive

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PHYSICAL	
Operating temperature	Min 0°C, +32°F Max +35°C, +95°F
Operating humidity	< 85% HR
Storage temperature	Min -10°C, +14°F Max +50°C, +122°F
Storage humidity	< 90% HR
Installation options	Desktop, rack (1/3 of 1UR)
Included accessories	AD/DC Power Supply, WiFi antenna, adhesive rubber feet, rack tray screws , GPI connector, warranty card and standard user guide
Optional accessories	VEO-RACK19 Compatible
Dimensions (WxHxD)	126.5 x 44 x 132 mm / 4.98" x 1.73" x 5.19"
Weight	0.6 Kg / 1.32 lb
Shipping dimensions	450 x 220 x 60 mm / 17.71" x 8.66" x 2.36"
Shipping weight	0.8 Kg / 1.76 lb

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6.2 MECHANICAL DIAGRAM

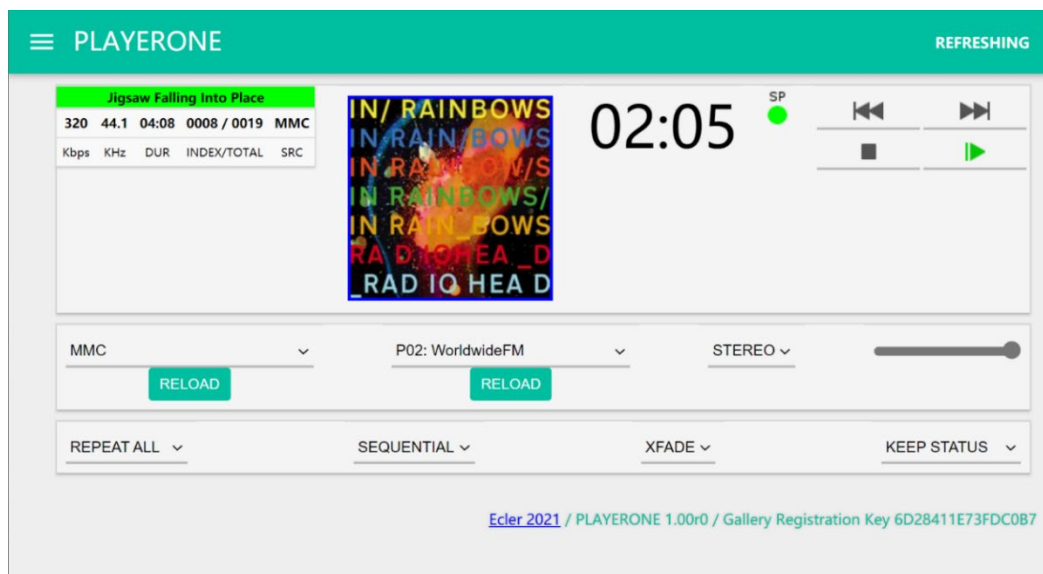


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PLAYER ONE / PLAYER ZERO – Web GUI (v1.00r0)

AUDIO PLAYERS

Streaming and local media audio player



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7. Web GUI (v1.00r0)

PLAYER ONE / PLAYER ZERO has a web application, embedded in the device itself, that allows you to configure it. It is not necessary to install any additional software. With this application, you can configure the device's advanced options, create playlists, schedule calendar events, create scripts or control basic functions remotely. The application can be accessed in a web browser from any device that is connected to the same local network, via Ethernet (wired) or WiFi.

7.1 FIRST STEPS

In order for the device to access the PLAYER ONE / PLAYER ZERO web application, **it must be connected to the network, either via a cable (RJ-45 connector) or wirelessly (WiFi).**

- **Wired (Ethernet connection):** By default, PLAYER ONE / PLAYER ZERO is set to DHCP mode. It will be assigned an IP address automatically.
 - Make sure that the static IP network parameters are compatible with your local network and the existing IP range of the system.

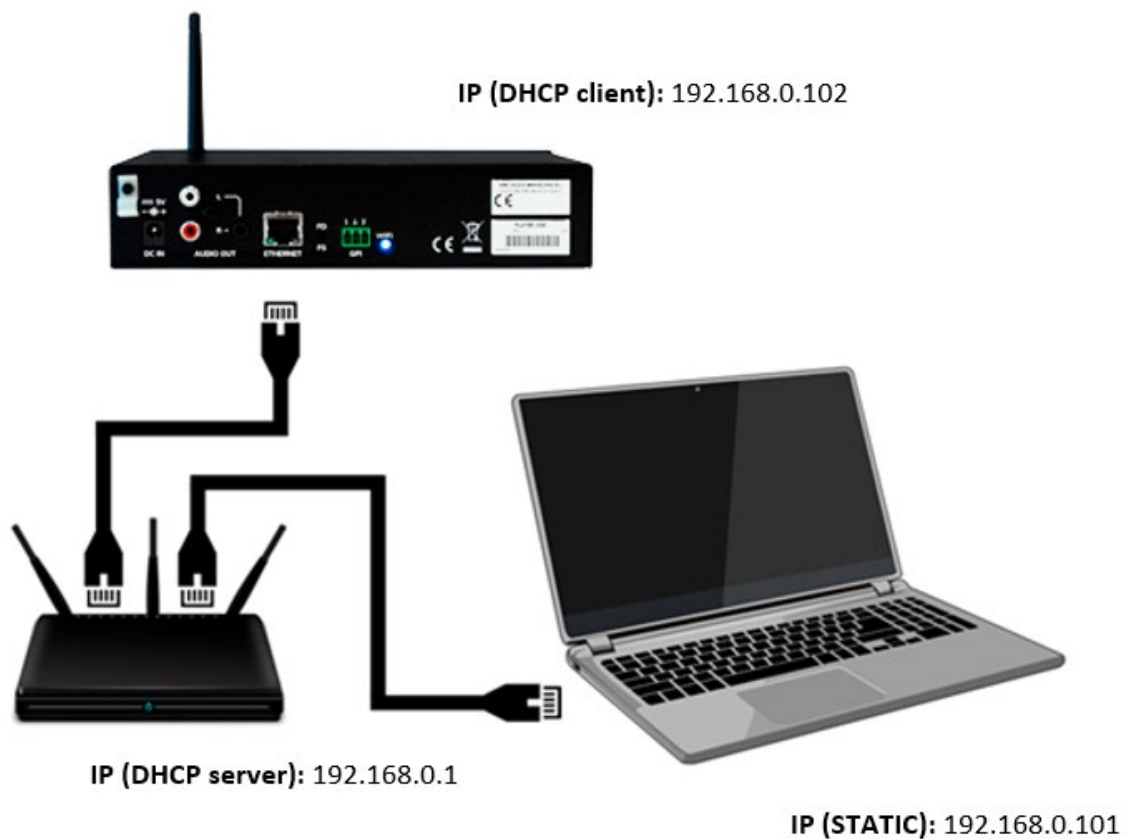


Figure 2: example of connection to a local network via the Ethernet network interface (wired)

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- **WiFi:** PLAYER ONE / PLAYER ZERO has a WiFi network interface, which means that mobile devices can stream audio to the device. It can be configured wirelessly. There **two modes of operation:**

- **MASTER mode:** point-to-point connection. The device's WiFi network interface is set to this mode by default. Connect your WiFi device (computer, smartphone, etc.) as a client of the device via your WiFi network wizard (connect to the PLAYER-WIFI network, default SSID). The default password is: 0123456789.

Please Note: in this operating mode, no Internet connection is available. However, it will be useful when opening the web application for the first time and configuring the network parameters according to your needs.

- **CLIENT mode:** this connection mode allows the device to connect to your preferred WiFi network. Mobile devices must then be connected to the same network in order to be able to configure PLAYER ONE / PLAYER ZERO. If your WiFi network has an Internet connection, both PLAYER ONE / PLAYER ZERO and the mobile devices will have Internet access.

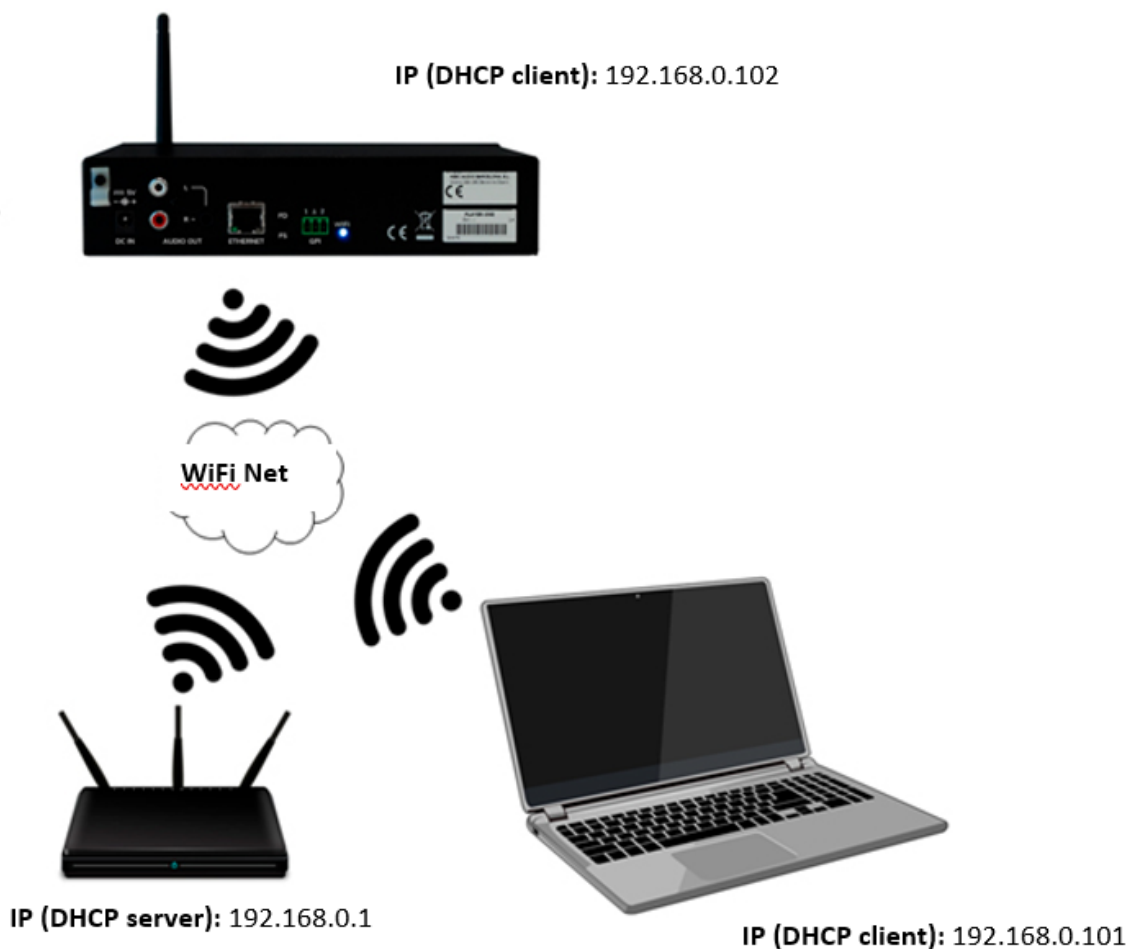


Figure 3: example of connection to a local network via WiFi network interface (wireless)

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PLAYER ONE / PLAYER ZERO devices use the mDNS service so that they can be accessed intuitively through a web browser on the same local area network (LAN). To access the web application easily, enter “devicename.local/” into the search bar of your browser. By default this is, "**playerone.local/**" for PLAYER ONE, "**playerzero.local/**" for PLAYER ZERO.

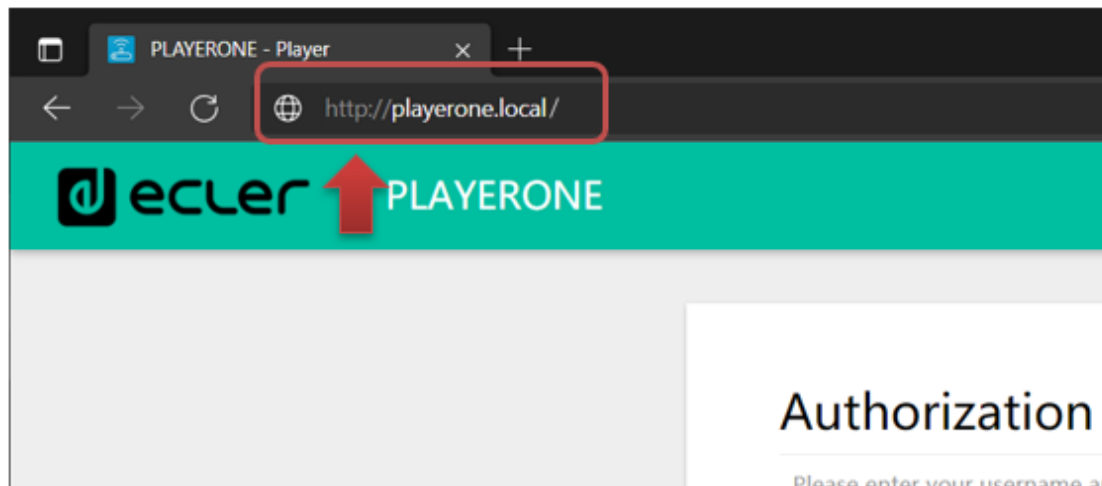


Figure 4: access via mDNS service

If you prefer (or if the mDNS service is not available), you can also access the device using the IP assigned to the PLAYER ONE / PLAYER ZERO:

- **PLAYER ONE:**
 - Press and hold the MENU button for a few seconds until the conFIGuration menu appears.
 - Navigate by pressing the NEXT button, until the display shows WIFI or ETHERNET, depending on the chosen connection.
 - Press the rotary encoder (SELECT)
- **PLAYER ZERO:**

As there is no screen to show you the IP, you need to find it on the web GUI of the DHCP server (Switch/Router). Refer to the manufacturer's documentation.

Icon	Device Name	IP Address	Protocol	MAC Address	Icon
	Player One	192.168.1.9	DHCP	0C:CF:89:21:E6:FD	
	Player Zero	192.168.1.146	DHCP	30:EB:1F:2B:CB:E0	

Figure 5: web GUI Router example

Type the IP address of the device into the navigation bar of your browser (the IP shown in Figure 15 does not have to match the one assigned to your device).

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You will see the welcome screen. To access the application, the username and password are as follows (preset):

- **Username:** root
- **Password:** ecler

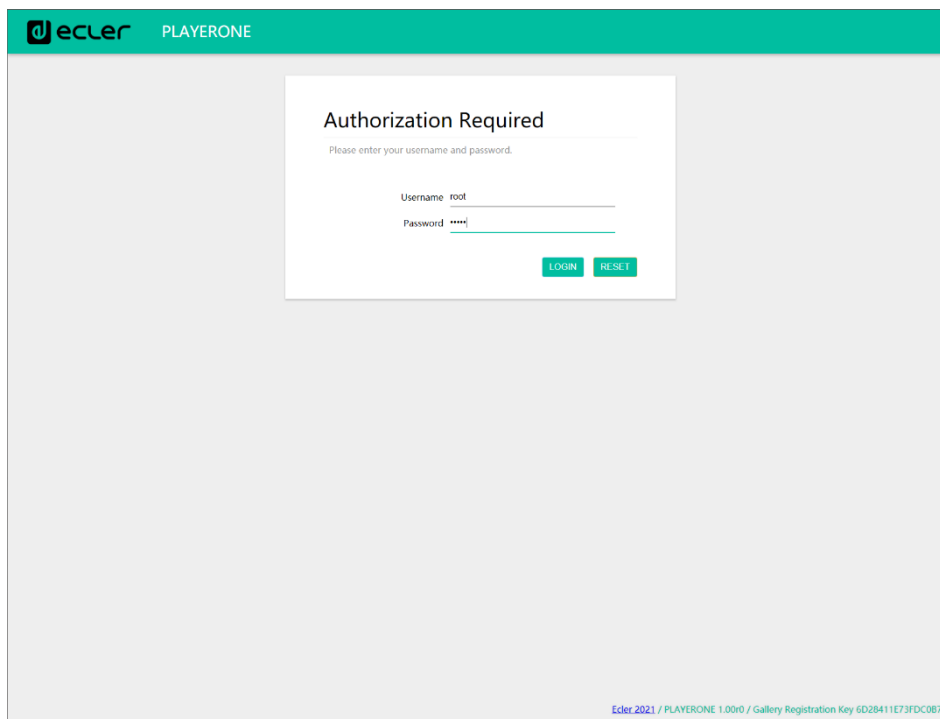


Figure 6: web application welcome page

7.1.1 QUICK GUIDE FOR ETHERNET CONNECTION

1. Connect the PLAYER ONE / PLAYER ZERO to a switch/router via the Ethernet interface (wired).
2. Connect the computer/smart device to the same network.
3. Enter "playerone.local/" for PLAYER ONE, or "playerzero.local/" for PLAYER ZERO, into your browser.

7.1.2 QUICK GUIDE FOR WIFI CONNECTION

1. Connect the computer/smart device to the PLAYER-WIFI network. Password: 0123456789
2. Enter "playerone.local/" for PLAYER ONE, or "playerzero.local/" for PLAYER ZERO, into your browser.

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7.2 DEVICE

7.2.1 PLAYER

This page in the PLAYER ONE / PLAYER ZERO menu displays information about playback, streaming tags and detailed information about the audio content, and in addition, it shows the album art. It also allows basic functions to be controlled remotely, such as PLAY/PAUSE, STOP, PREV and NEXT; source selection and user presets; repeat, play, and fade modes; channels (stereo/mono), volume control; and reset mode. There is useful information at the bottom of the page as well, such as the firmware version and the [Ecler Gallery](#) registration key.

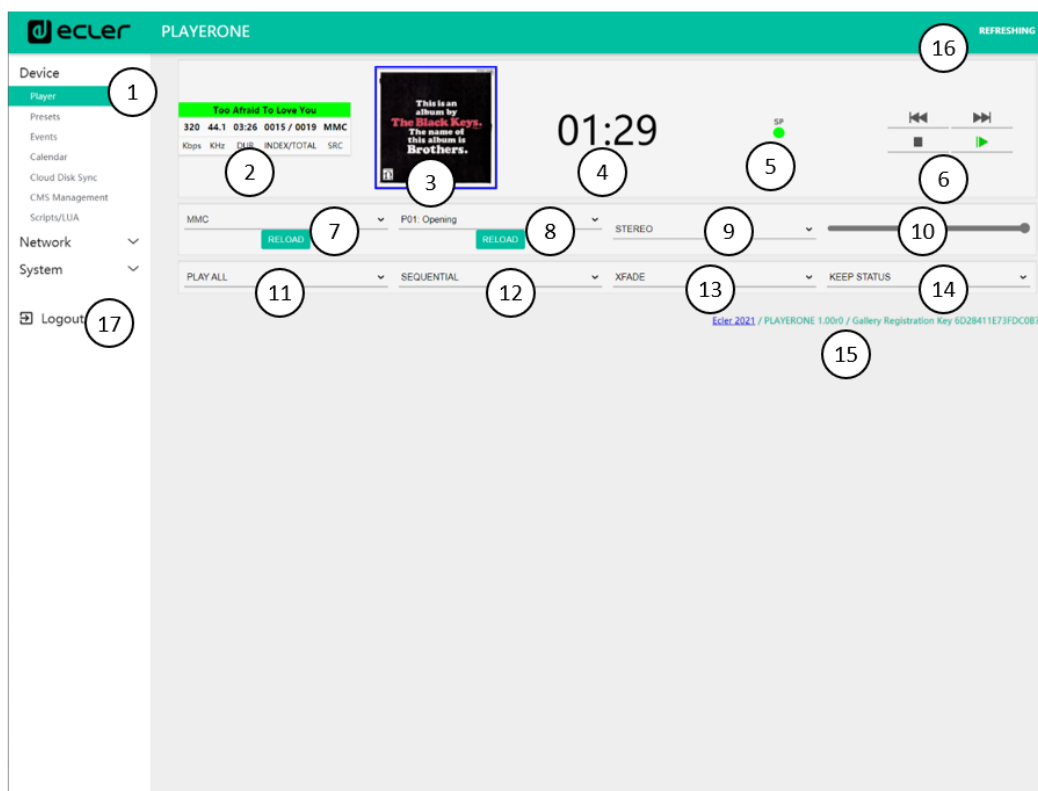


Figure 7: player page (Player)

1. **Navigation menu:** displays the web application's different navigation menus and submenus.
2. **Streaming information:** displays information about the stream or the audio file (depending on the way it is configured). If this information is not available, the default value is displayed, which is the URL.
 - ID3 Tags: title, artist, album, etc.
 - Kbps: bit rate/s
 - KHz: sampling frequency
 - DUR: duration
 - INDEX/TOTAL: index or position within all the files
 - SRC: source (USB, MMC, NET, etc.)

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3. **Album art:** displays the album art for the file. For the album art to be correctly displayed, the device needs to have an Internet connection. If the album art cannot be displayed, it will show a default image.
4. **Playback time:** time elapsed since the start of playback of the URL or audio file.
5. **Signal presence:** this will be green if the device has an audio signal at its output. If the device is not playing any audio, or if the volume level is too low, or the device is muted, it will be grey. This virtual LED will be the same colour as the SP LED on the front of the device. It is useful for dealing with issues when there is no audio signal.
6. **Playback controls:** allow the device's playback controls to be operated remotely: PREV, NEXT, STOP, PLAY/PAUSE.

Please Note: PLAYER ZERO has no playback controls on the front panel.

7. **Sources:** allows one of the available sources to be selected. The RELOAD button allows the current source to be reloaded.
8. **Presets:** allows one of the available presets to be selected. The RELOAD button allows the current preset to be reloaded. If changes are made to the current preset, a reload is required in order for the changes to be applied.
9. **Stereo-mono:** selection of stereo output (left and right channels) or mono output (same signal on left and right channel).
10. **Volume:** allows the volume to be controlled remotely.

Please Note: PLAYER ZERO does not have a volume control on the front panel.

11. Repeat mode:

- PLAY ALL: Plays through the entire playlist once.
- PLAY ONE: Only plays the first item in the playlist.
- REPEAT ALL: Repeats the entire playlist on a loop.
- REPEAT ONE: Only repeats the first item in the playlist.

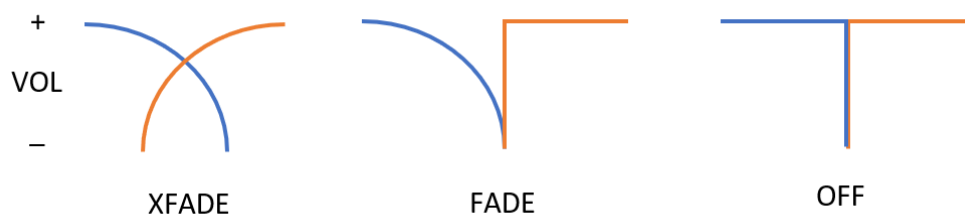
12. Play mode:

- SEQUENTIAL: Plays through the entire playlist in alphanumeric order.
- RANDOM: plays through the entire playlist in pseudo-random order.

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13. Transition mode, for transitions between audio files:

- XFADE: The file that is playing fades out at the end of playback, as the next file increases in volume. There is a smooth transition between files (approx. 5 sec.). There is some overlap between tracks.
- FADE: The file that is playing fades out at the end of playback (approx. 2.5 sec.). There is a smooth transition between files. There is no overlap between tracks.
- OFF: deactivated. There is an abrupt transition between files. There is no attenuation or overlap between audio files.



PLEASE NOTE: if the playback file is short (2-3 sec. tone, for example) and XFADE transition mode is used together with REPEAT ONE/ALL repeat mode, special attention must be paid to the playback times of the files, and the transitions. This may cause unexpected behaviour.

14. Reset mode:

- KEEP STATUS: when the device is reset, the playback status will be maintained: source, preset, playback (PLAY, STOP, etc.) repeat mode, etc.
- LOAD PRESET 1: when the device is reset, it automatically loads preset 1.

15. Information: this displays the following relevant information:

- Year of development
- Device firmware version
- Ecler Gallery platform registration key

16. Screen refresh: allows the screen refresh to be paused (SP, playback time, file information, etc.). It also shows the number of changes made to a configuration before it is saved.

17. Logout: this logs you out of the web application. You will be redirected to the welcome screen.

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7.2.2 PRESETS

PLAYER ONE/ PLAYER ZERO allows up to 20 presets or user conFiguretion memories to be created. If you recall a preset stored in the device at a later date, it will recall all the settings that are stored in that preset.

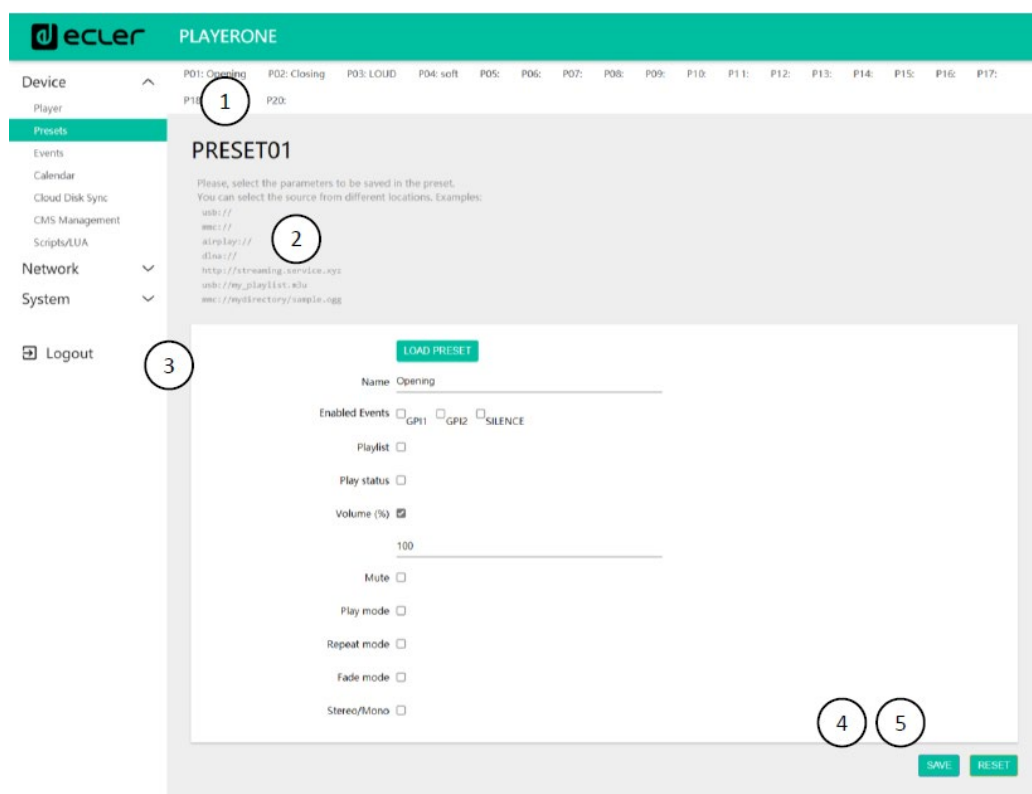


Figure 8: Preset conFiguretion example

1. **Page header:** this will show the 20 presets. Their default names are: P01, P02...P20. When you click on the name, it will display the conFiguretion for that preset. The names that appear for the presets can be edited within the preset conFiguretion. After this setting is saved in the preset, you need to refresh the browser page (F5) in order to display the changes in the header.
2. **Information:** displays useful information for configuring the presets.
3. **ConFiguretion options** for the selected preset.
4. **Save button:** saves the settings made to the preset that is being edited.
5. **Reset button:** resets the changes made to the last conFiguretion that was saved in the preset that is being edited.

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- **Source path/url:** this stores a network or local address in the preset. This address must be a valid address for the correct playback of audio content on the device. You can refer to the application prompts for entering local addresses (USB, SD, AirPlay, etc.). You can click on "Source path/url" (blue) to open the address that is entered in this field in a new browser tab. This option is available on several pages within the application. It is useful for checking that an audio source (Internet radio, for example) is functioning correctly, or for copying the address to create playlists (.m3u file, for example). See technical information (datasheet) for audio and playlist formats that are supported by the player.

Please Note: Internet radios saved via the front panel of PLAYER ONE are stored in the Playlist field.

- 5. Play status:** if this option is enabled, the status of the player will be overwritten when loading the preset.
- 6. Volume (%) /MUTE:** if this option is enabled, the volume/MUTE of the player will be overwritten when loading the preset (in %).
- 7. Play mode:** if this option is enabled, the play mode (sequential/random) will be overwritten.
- 8. Repeat mode:** if this option is enabled, the repeat mode (play all, play one, repeat all or repeat one) will be overwritten.
- 9. Fade mode:** if this option is enabled, the transition mode between tracks within a playlist (off/fade/cross-fade) will be overwritten.
- 10. Stereo/Mono:** if this option is enabled, the mono or stereo output selection will be overwritten.

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7.2.2.1 EXAMPLES OF AUDIO SOURCES

Please Note: the addresses shown are **examples**, these Internet radio or local file addresses may not work on your player.

Media Path	Media Location	Items included in the play queue (just valid audio media)
usb://	USB storage device, root folder	Media stored in the USB root folder and up to the third level of sub-folders in it
mmc://	SD card storage device, root folder	Media stored in the SD card root folder and up to the third level of sub-folders in it
usb://musicfolder/jazz/	USB storage device, \musicfolder\jazz folder	Media stored in the USB device \musicfolder\jazz folder and up to the third level of sub-folders in it
mmc://musicfolder/jazz/	SD card storage device, \musicfolder\jazz folder	Media stored in the SD card \musicfolder\jazz folder and up to the third level of sub-folders in it
mmc://evacuation_message.mp3	SD storage device, root folder	mp3 single file named evacuation_message.mp3
usb://evacuation_message.mp3	USB storage device, root folder	mp3 single file named evacuation_message.mp3
usb://...path.../my_collection.m3u mmc://...path.../my_collection.m3u	Defined by the m3u playlist file	Media pointed by my_collection.m3u playlist ...path... is the folder path where the m3u file is located
usb://...path.../my_songs.m3u8 mmc://...path.../my_songs.m3u8	Defined by the m3u8 playlist file	Media pointed by my_songs.m3u8 playlist ...path... is the folder path where the m3u8 file is located
usb://...path.../best_of_rock.pls mmc://...path.../best_of_rock.pls	Defined by the pls playlist file	Media pointed by best_of_rock.pls playlist ...path... is the folder path where the pls file is located
http://www.ecler.com/music/party_songs/party.m3u	Defined by the m3u playlist file	Media pointed by party.m3u playlist, and located in a Internet url (corporate web, etc.)
http://www.ecler.com/music/party_songs/party.pls	Defined by the pls playlist file	Media pointed by party.pls playlist, and located in a Internet url (corporate web, etc.)
http://65.60.19.42:8040/	Real-time streaming	Media served by an Internet audio streaming service with url http://nnn.nnn.nnn.nnn:port (in the example http://65.60.19.42:8040/)
http://stream1.megarockradio.net:8240	Real-time streaming	Media served by an Internet audio streaming service with url http://url:port
http://208.92.53.90:443/LOS40_SC	Real-time streaming	Media served by an Internet audio streaming service with url http://url/folder
http://media_musicradio.com/channel01.m3u	Real-time streaming	Media served by an Internet audio streaming service, a playlist with url http://url/playlist.m3u

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7.2.3 EVENTS

3 events are available: 2 of them are triggered by the GPI ports (by means of external, potential-free contact closures, which are connected to the GPI ports on the rear panel of the unit) and the other is triggered by silence detection. Both types of events can be configured on the Events page. By selecting the tab that corresponds to the event, you can access its configuration.

Please Note: bear in mind that, for the events to work correctly, they must be enabled in the preset currently in operation.

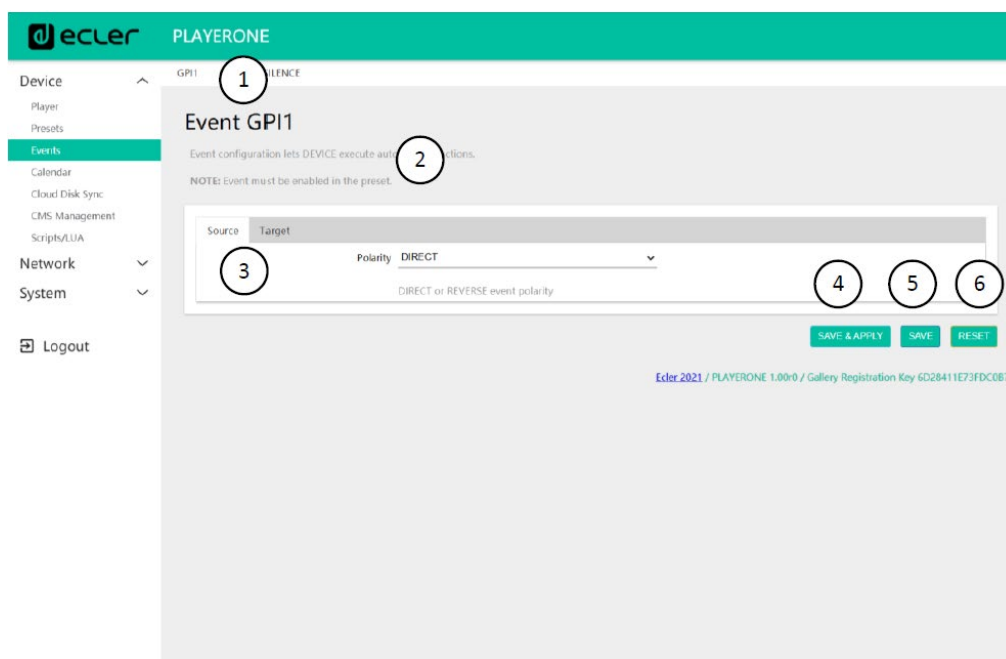


Figure 9: GPI event configuration example

1. **Page header:** displays GPI and silence events. When you click on the name, it will display the configuration for that event.
2. **Information:** displays useful information for configuring the events.
3. **Configuration options** for the selected event.
4. **Save & Apply button:** saves the changes made to the GPI that is being edited and applies them. If the preset that is currently in operation has such an event enabled, it is not necessary to reload the preset.
5. **Save button:** saves the changes made to the GPI that is being edited without applying them. In this way, if the preset that is currently in operation has such an event enabled, the changes will only be applied when the preset is reloaded.
6. **Reset button:** resets the changes made to the last saved configuration in the event that is being edited.

Please Note: you can configure the different tabs (Source, Target) before saving, and the changes are retained.

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7.2.3.1 GPI EVENTS

There are 2 GPI events: GPI1 and GPI2. They can each be configured to trigger in different ways and perform independent actions.

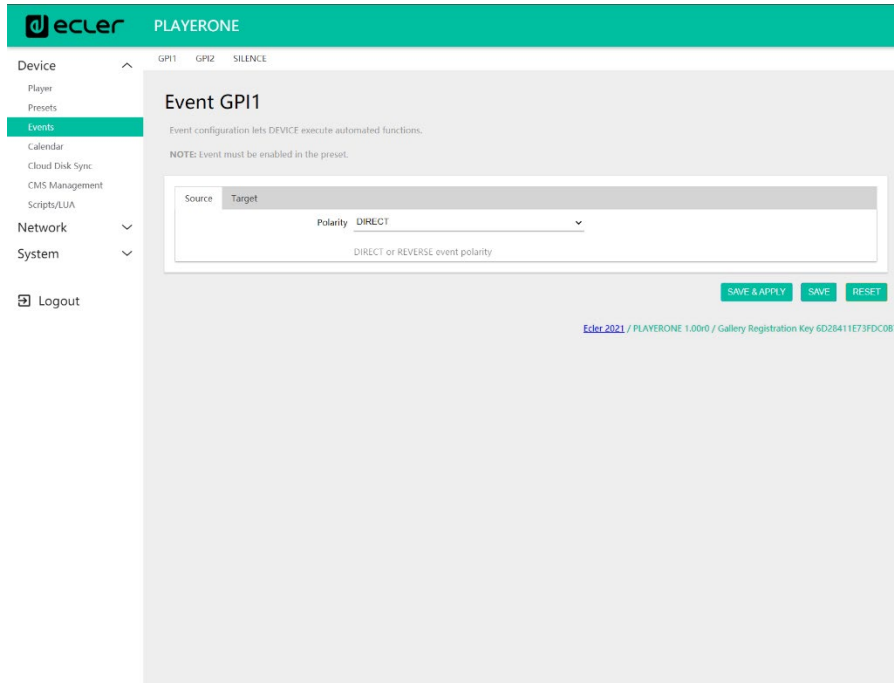


Figure 10: GPI conFiguretion, Source

- **Source:** source
 - **Polarity:** polarity, direct or inverse; to define the trigger, by contact closure or contact release.

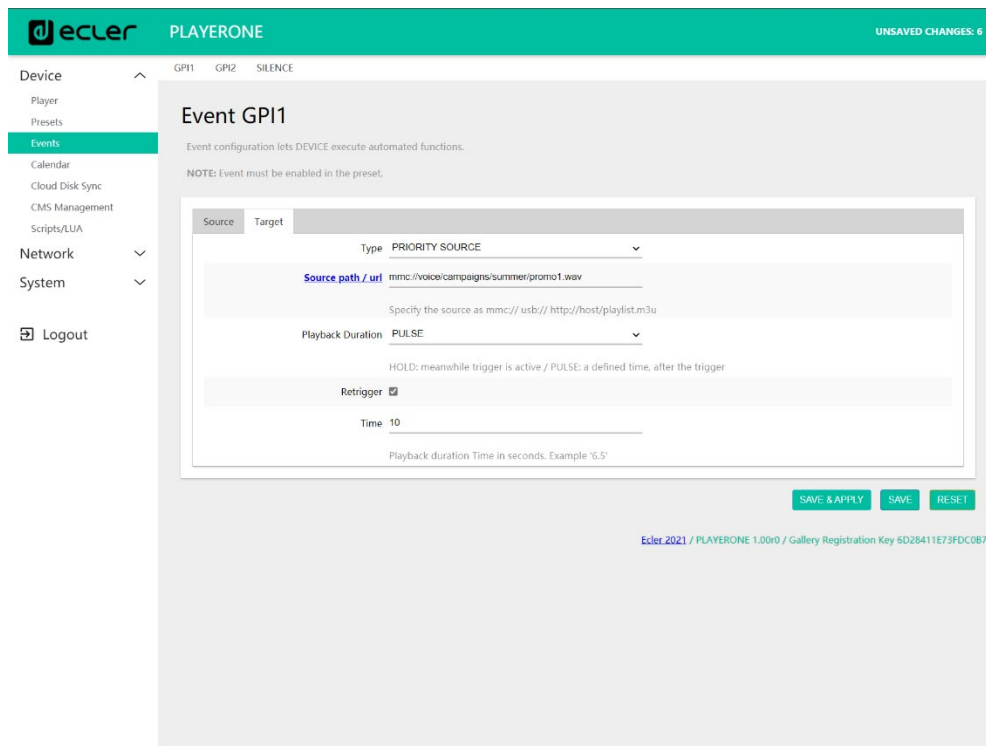


Figure 11: GPI conFiguretion, Target

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- **Target tab:** an action that the device will perform after GPI activation. There are several options or types of event (Type):
 - **Internal:** internal stimulus. This is useful for triggering actions within a Script.
 - **Preset recall:** loading a preset. Select the preset you want to load with the GPI activation.
 - **Transport control:** control of current playback, play/pause, play, stop, next, prev.
 - **Load & Play Source:** loading and playback of a source. The source must be specified in the "Source path/url" field.
 - **Priority Source:** playback of a source with priority over programmed audio. The source specified in the "Source path/url" field attenuates the source that is playing (programmed audio). When the priority audio ends, the programmed audio resumes playing, gradually returning to its previous volume.
 - If the **HOLD option** is selected, the source specified in the "Source path/url" field will be given priority WHILE the stimulus is held (GPI direct/reverse, as specified in the "Source" tab).
 - If the **PULSE option** is selected, the source specified in the "Source path/url" field will be prioritized for the time (in seconds) specified in the Time field. The Retrigger option allows the priority event to be re-triggered without waiting for it to finish and restarting the timer.

Please Note: a priority event can be useful for playing announcements, pre-recorded announcements, emergency announcements, etc. For more information on priorities see chapter [Regarding Priorities](#).

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7.2.3.2 SILENCE DETECTION EVENT

PLAYER ONE/ PLAYER ZERO has a special event, the SILENCE detection event: absence of a real analogue audio signal at the unit's outputs. This allows the player to continue playing the media when the programmed audio that is being played ends, or is interrupted for any reason, which may sometimes happen due to certain problems that may arise (loss of Internet, accidental disconnection of the network cable, bad files, etc.): "The show must go on".

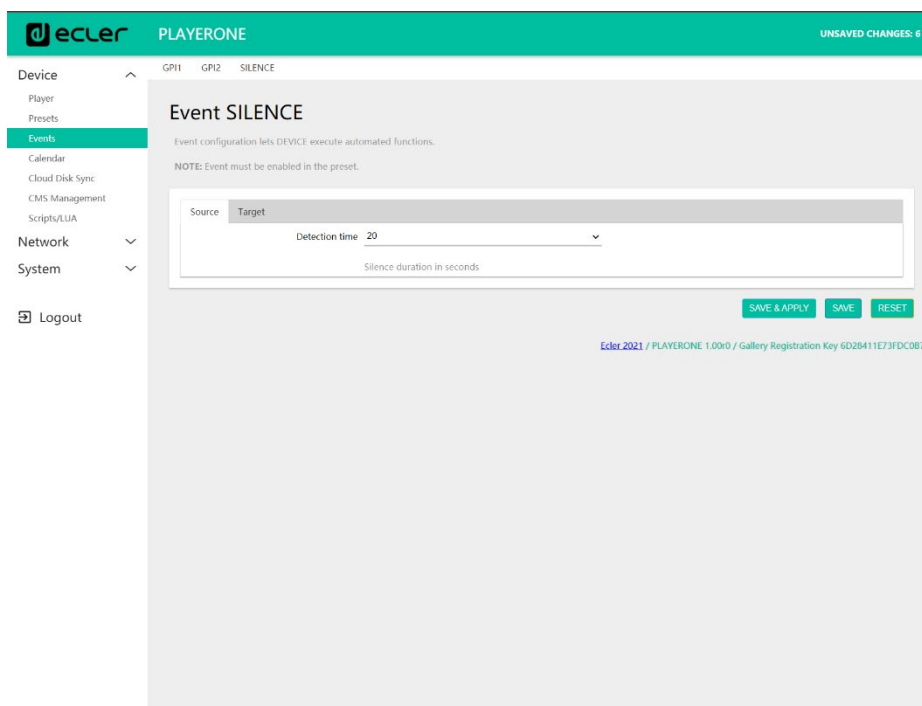


Figure 12: silence event configuration

- **Source tab:** waiting time, or trigger threshold (detection time). Select the time allowed for silence (no audio signal) before the event is triggered.
- **Target tab:** select the action that PLAYER will perform when the specified waiting time has elapsed.
 - **Internal:** internal stimulus. This is useful for triggering actions within a Script.
 - **Preset recall:** loading a preset. Select the preset you want to load when the silence event is activated.
 - **Load & Play Source:** loading and playback of a source. The source must be specified in the "Source path/url" field.

Tip: configure the uploading of local audio content (hosted on USB or uSD) as an action. This will ensure that you always have audio available, regardless of network connection issues that may occur outside of the player. Likewise, if you want to load a preset, ensure that the audio address stored in the selected preset is a local one (e.g. usb://) and that this preset has Play Status overwrite enabled, so that the PLAY option is selected. This will force the local medium to play, ensuring the continuity of the musical programme.

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7.2.4 CALENDAR

The Calendar page allows calendar-triggered events to be configured.

A calendar event performs a certain action, such as loading a message with priority, in accordance with conFIGurable parameters: date, time, repetitions, etc.

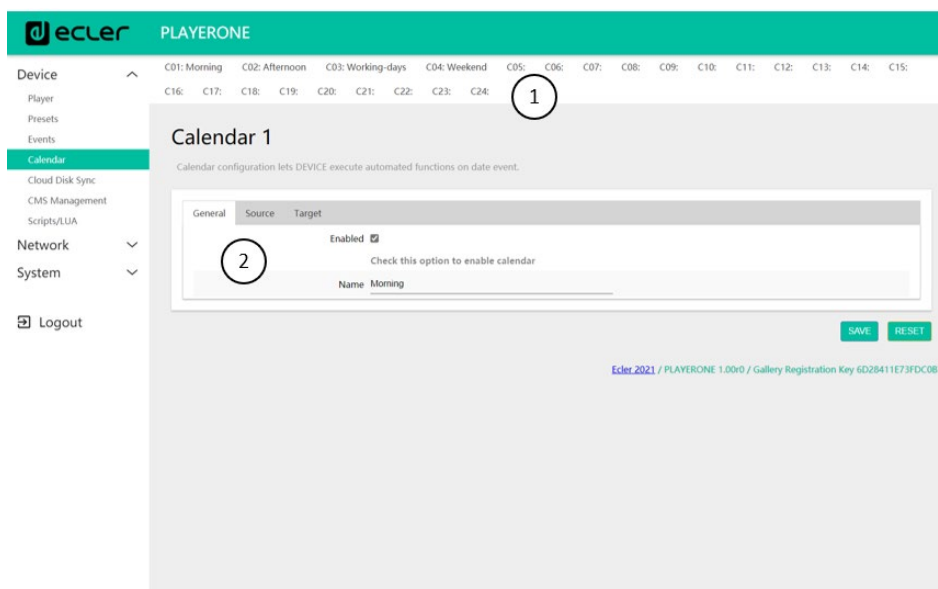


Figure 13: example of configuring a calendar event

1. PLAYER ONE/ PLAYER ZERO has **24 calendar events available**, each of which are fully conFIGurable. The default names are: C01, C02...C24. When you click on the name, it will take you to the conFIGuration for that calendar event. The names that appear for the calendar events can be edited within the preset conFIGuration. After this setting is saved in the calendar event, you need to refresh the browser page (F5) in order to display the changes.
2. The conFIGurable parameters of each calendar event are grouped into 3 tabs:
 - **General:** activation/deactivation of calendar events and their name
 - **Source:** start/end date, start/end time, and event repeat conditions
 - **Target:** action to be performed when the event is triggered

Please Note: before configuring calendar events, make sure that the time zone is set correctly: System/Name and time.

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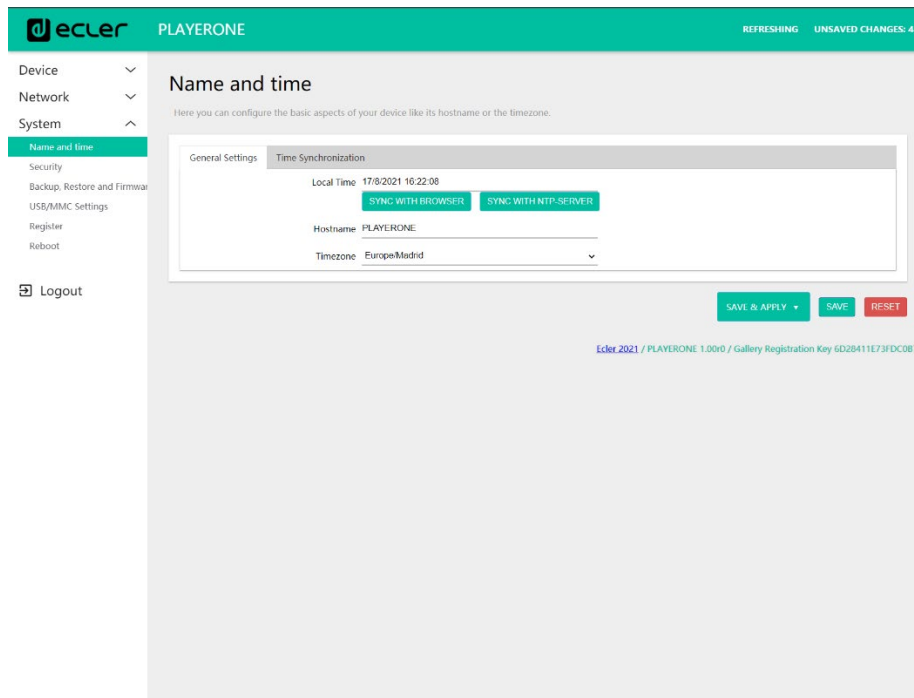


Figure 14: Name and Time configuration

7.2.4.1 GENERAL

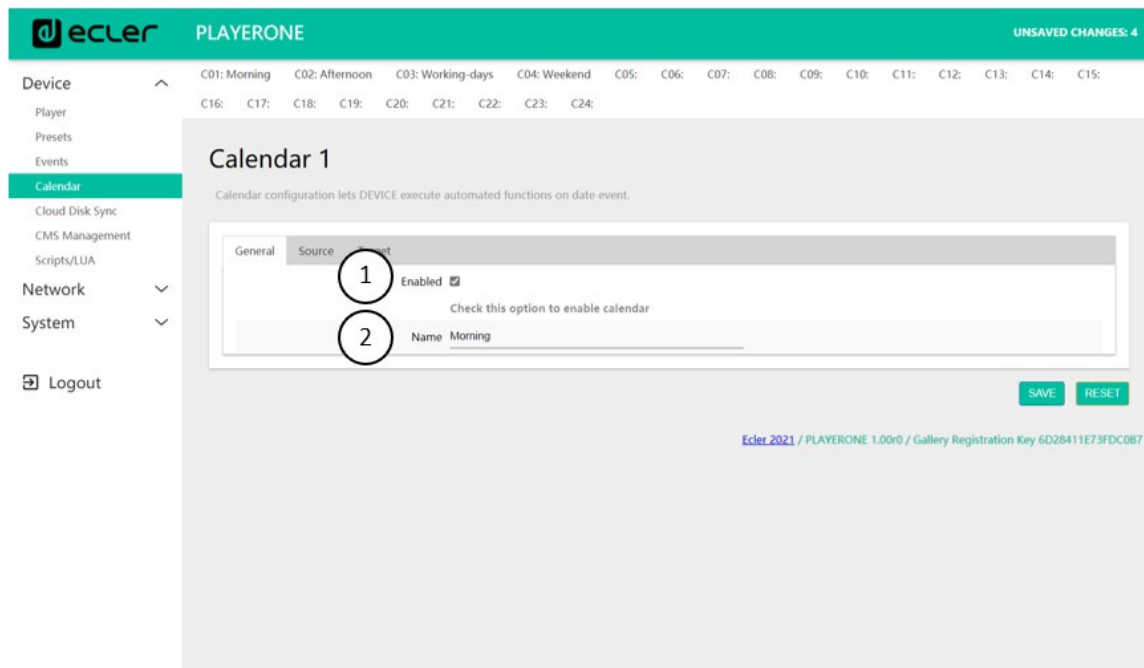


Figure 15: configuring a calendar, General

- **Enable:** allows you to enable or disable the calendar. If the calendar is enabled (ready for activation by dates/times), it will be enabled in all presets.
- **Name:** name of the calendar.

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7.2.4.2 SOURCE

In the SOURCE tab, the parameters for the triggering time/date and event replay conditions are configured.

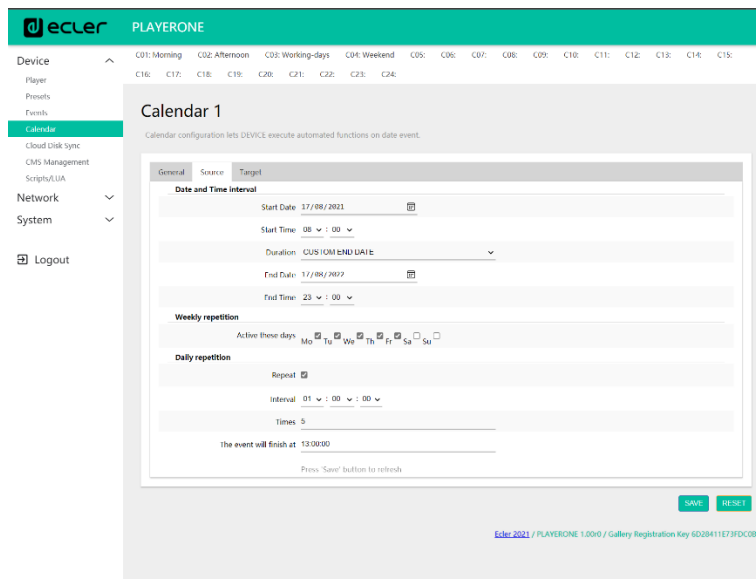


Figure 16: configuring a calendar, Source

7.2.4.3 DATE AND TIME INTERVAL

Defines the date and time when the event starts and the date and time when the event ends, if there is a specific end date and time.

- **Start date:** start date for the event. This field is not mandatory. If no specific date is selected ("dd/mm/yyyy"), the event will start on the same day as the changes are applied. If you select a date that is before the current date, the event will be valid as of the day the changes are applied.
- **Start time:** start time for the event. This field is mandatory. If there is a repeat condition, this will be the time at which the event is triggered for the first time each day.
- **Duration:** duration or validity of the calendar event. This allows calendar event duration settings to be selected.
 - **FOREVER:** This option is selected by default. The calendar event will not have an end date.
 - **CUSTOM END DATE:** end of the calendar event. This allows you to set the date and time when the calendar event will be triggered for the last time, regardless of repeat conditions.



Figure 17: interval example

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7.2.4.3.1 WEEKLY REPETITION

Weekly mask, or days of the week on which the calendar event will be repeated, at the time indicated in "Start Time".

For example, if you select Monday to Friday (weekdays), the configured event will not be triggered on Saturdays and Sundays (weekends).

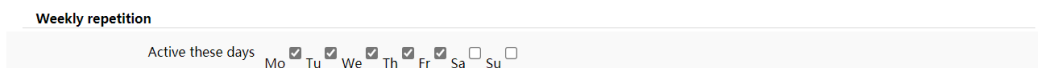


Figure 18: example of a weekly mask

Please Note: if you do not select at least one day of the week, the calendar event will never be triggered. Also, if you set an event to be triggered on a day of the week which is not selected in the weekly mask, it will never be triggered.

7.2.4.3.2 DAILY REPETITION

Daily repetitions. This option is set to be deselected by default. Selecting it will open a drop-down menu where you can configure the repetition conditions:

- **Interval:** repetition interval. This indicates how often the calendar event triggering is repeated, beginning at the Start Time.
- **Times:** number of repetitions. This indicates the number of times that the calendar event will be repeated, with time in between as indicated by the value in "interval". The first time the event is triggered each day does not count as a repetition, so if you want an event to be triggered twice a day, "times" should be set to 1 (the first time + 1 repetition). This value must be equal to or greater than 1.

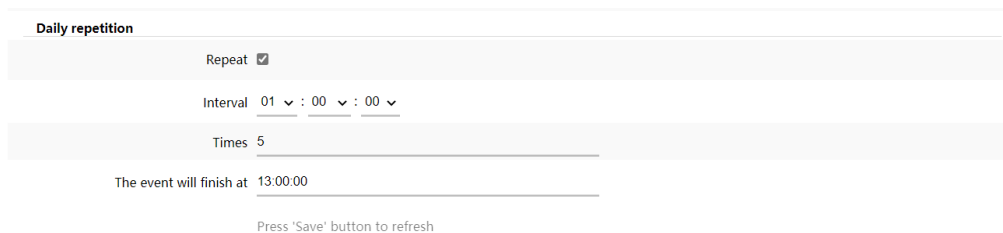


Figure 19: daily repetition example

- **"The event will finish at"** indicates the time at which the calendar event will run for the last time each day. This parameter cannot be configured (read only). It is intended to help the user configure the "Interval" and "Times" parameters in a more efficient way.

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7.2.4.4 TARGET

An action that is executed each time the calendar event is triggered.

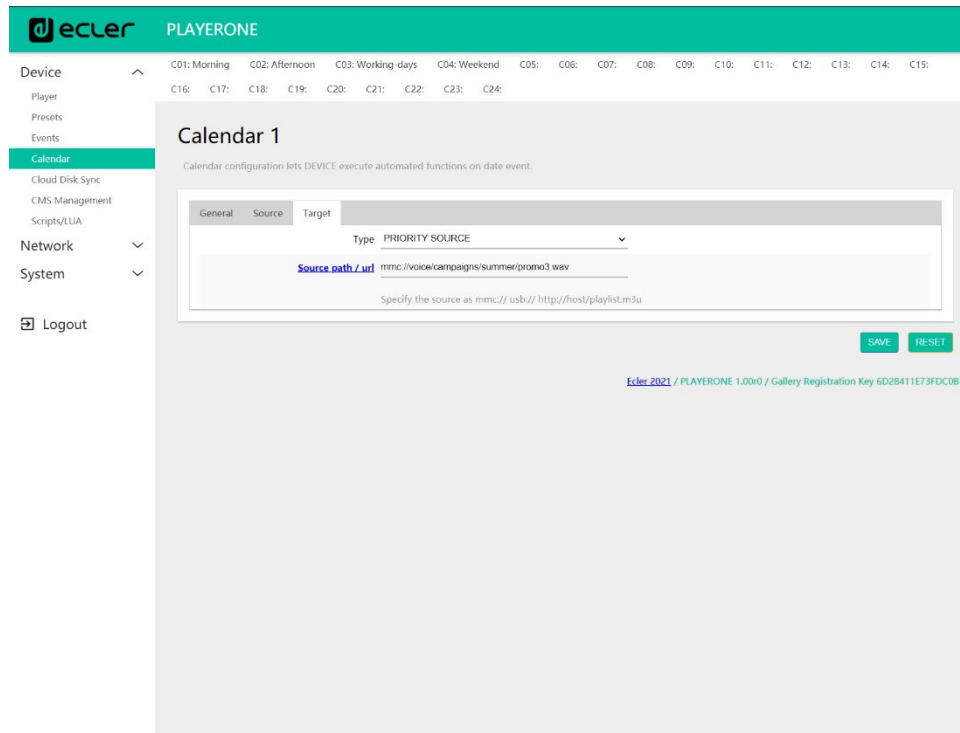


Figure 20: calendar event example, Target

This action may be:

1. **Internal:** internal stimulus (does not perform an action directly, but allows actions to be triggered via scripts)
2. **Preset recall:** loading a preset
3. **Transport control:** pressing a button on the transport bar; STOP, PLAY, PREV, NEXT, PLAY/PAUSE
4. **Load & Play source:** loading and playback of a source
5. **Priority source:** playback of a source with priority. The source with priority will overwrite the source that is currently playing. When the priority announcement/message ends, the source that was playing will start to play again.

7.2.4.5 REGARDING PRIORITIES

Calendar events have **lower** priority than events that are triggered by GPI. Therefore, different degrees of priority can be established. For example, in a shop, calendar-based events can be used to trigger voice messages indicating an offer, while GPI events can be used to trigger an evacuation message.

In addition, there is a higher level index that determines priority if it is the case that 2 calendar-based triggers occur at the same time. For example, CALENDAR02 is set to repeat a message every hour and CALENDAR03 is set to repeat a message every two

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The calendar is enabled, and it is given an identifying name.

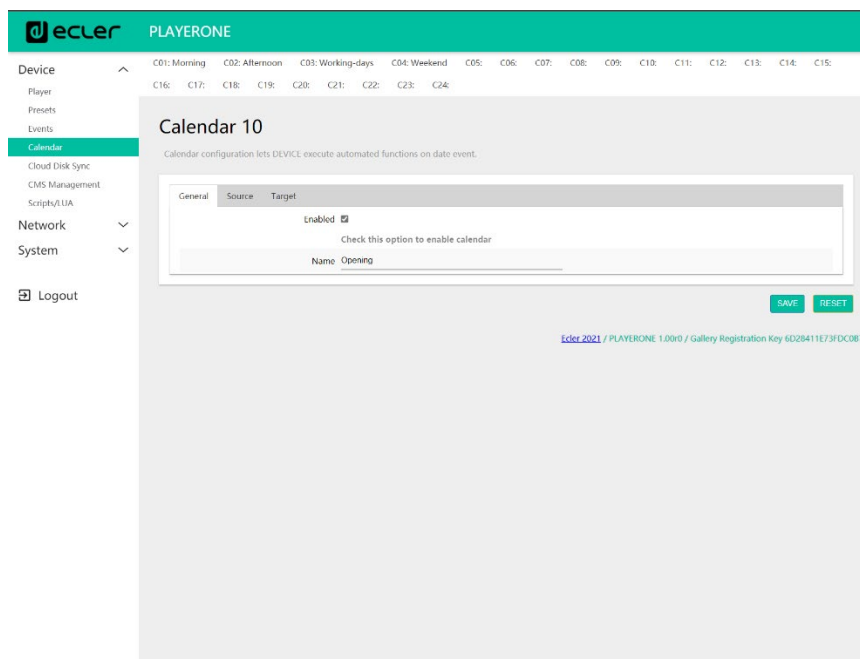


Figure 22

Since no start date is specified, "Start date" is left as the default value ("dd/mm/yyyy"). This means that the event is active from the day the changes are applied. The time is known (9:45 a.m.), and it is to be played every day, without an end date (FOREVER).

Since the event is to be repeated from Monday to Friday, the corresponding days are selected in the weekly mask.

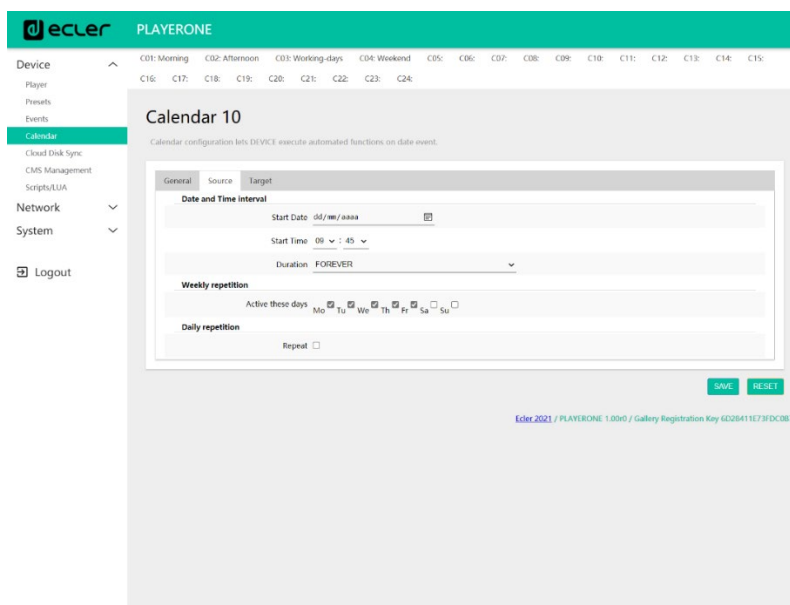


Figure 23

The action of loading and playing the specified stream is configured.

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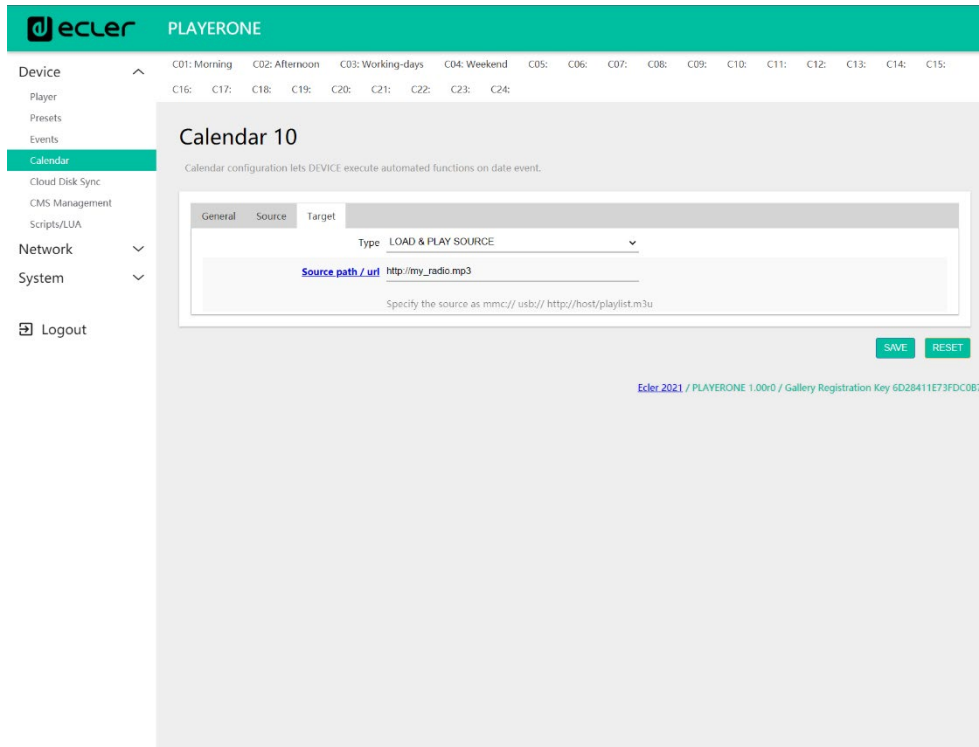


Figure 24

The calendar event that will stop the playback of the background music is configured in the same way as the last one. The only difference is that this time the action in question is to stop the playback; STOP. This calendar event will be given a different name and start time.

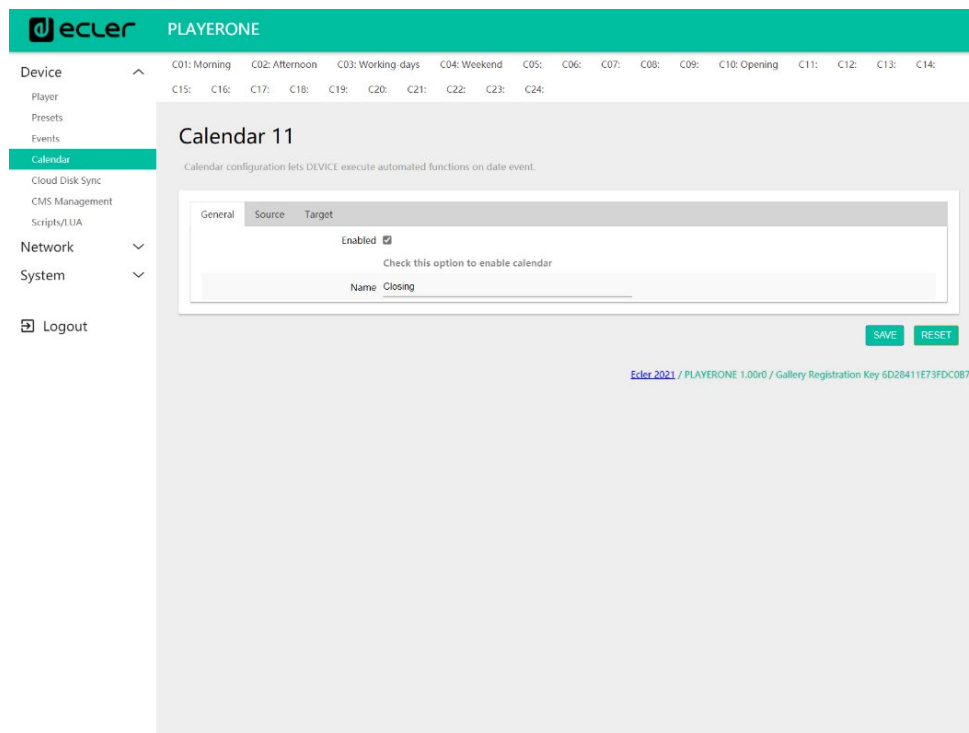


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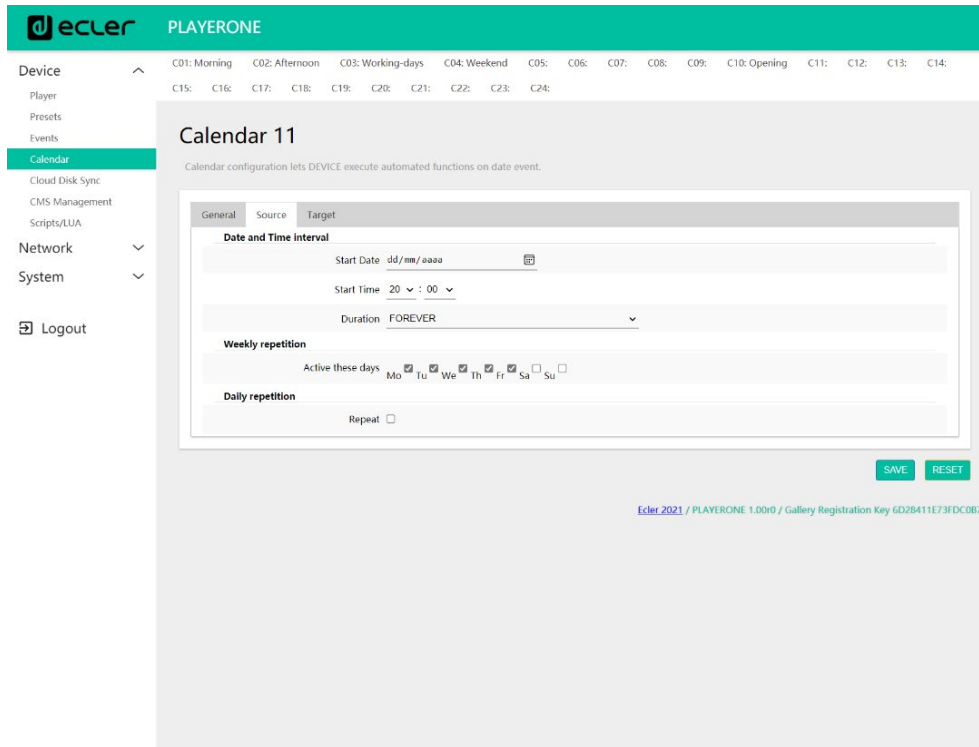


Figure 26

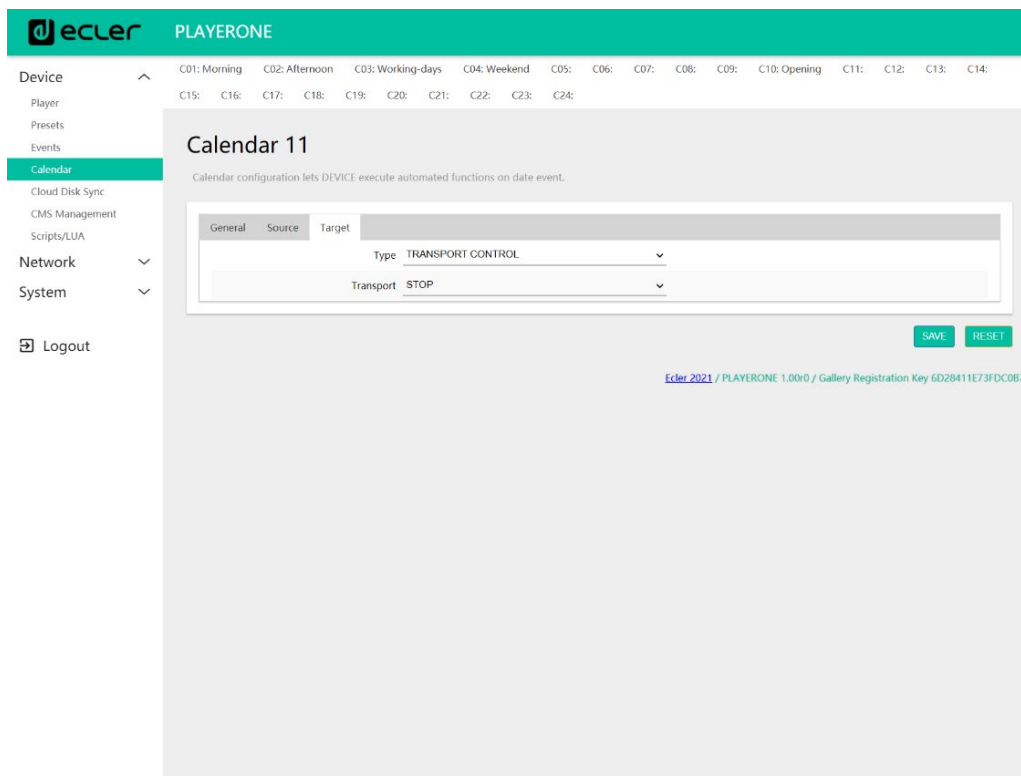


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7.2.4.6.2 CALENDAR FOR CLOSING ANNOUNCEMENTS

Every day, the closing time of the establishment will be indicated (pre-recorded message) 15 minutes before closing. It will be recalled again 5 minutes before closing.

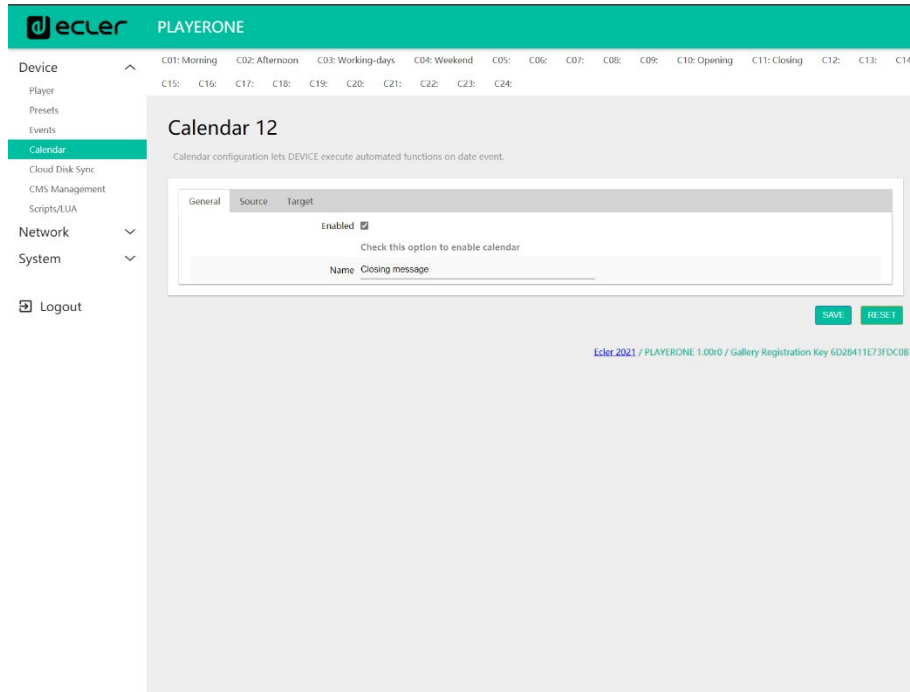


Figure 28

The message should be played twice a day: 15 minutes before closing (at 7:45 p.m.) and 5 minutes before closing (at 7:55 p.m.). Therefore, it will be necessary to configure a calendar event that repeats one time, 10 minutes after it is triggered for the first time. This is achieved by enabling Repeat and configuring the Interval and Time parameters correctly.

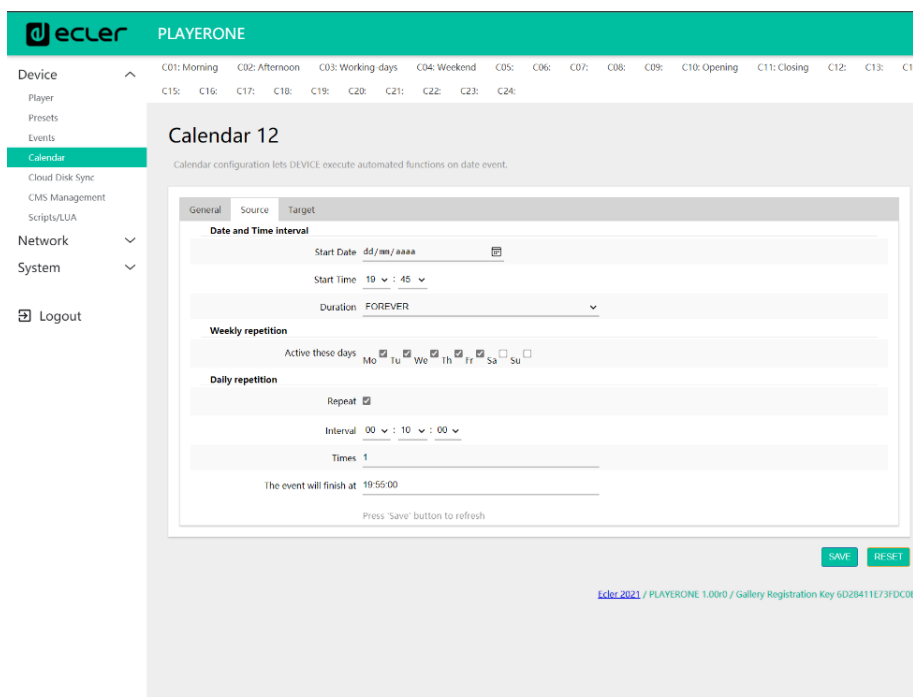


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Finally, the message located on the SD card ("mmc://...") will be announced with priority.

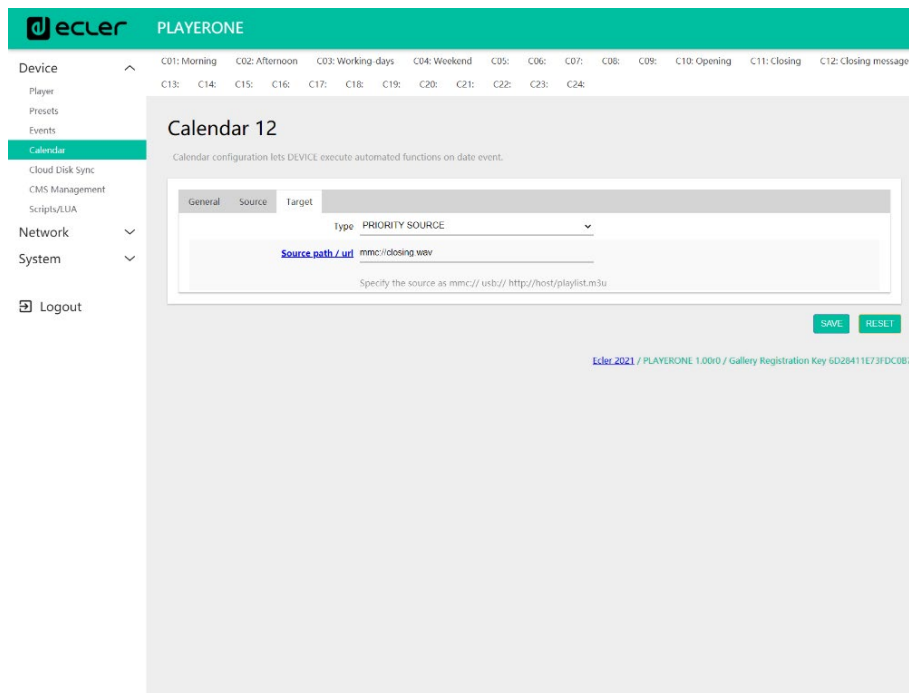


Figure 30

1.1.1.1 CALENDAR FOR CHRISTMAS CAMPAIGN

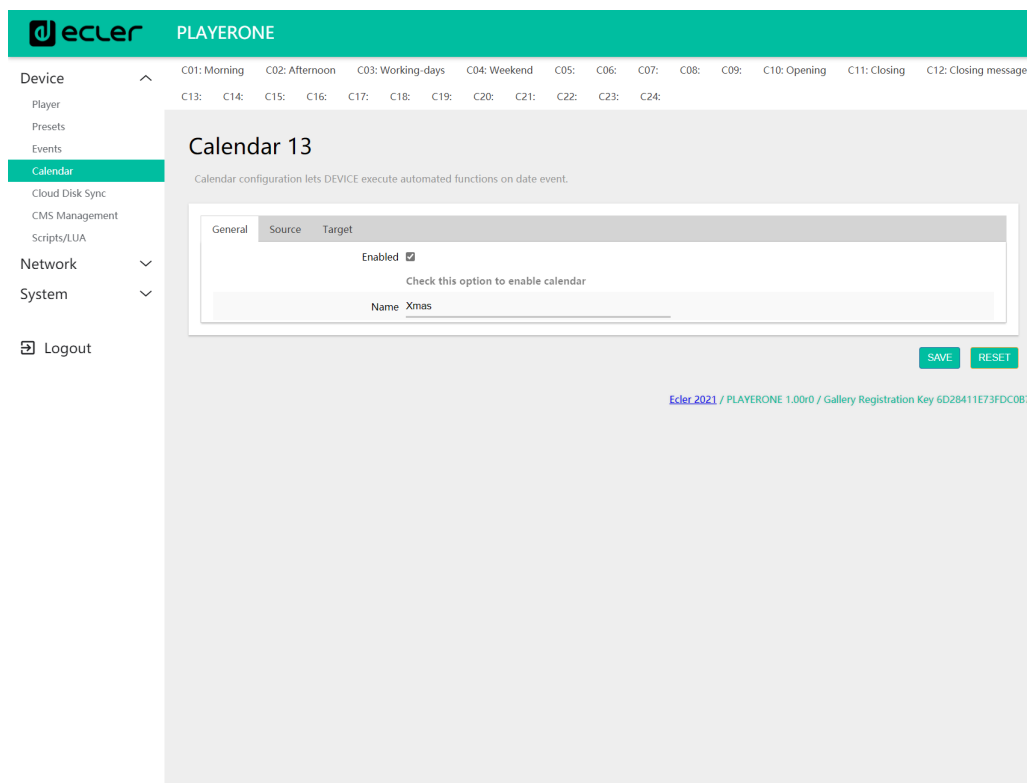


Figure 31

As this is for a specific calendar interval (15/12/21 to 15/01/22), an end date is set by choosing CUSTOM END DATE and setting the *End date* and *End time* parameters correctly.

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Regarding repetitions, the message has to be played every 30 minutes, and it is known that the establishment closes at 8:00 p.m. As there will be no audio at 8:00 p.m., we will set the number of repetitions in such a way that the last time the event is triggered is 30 min before closing.

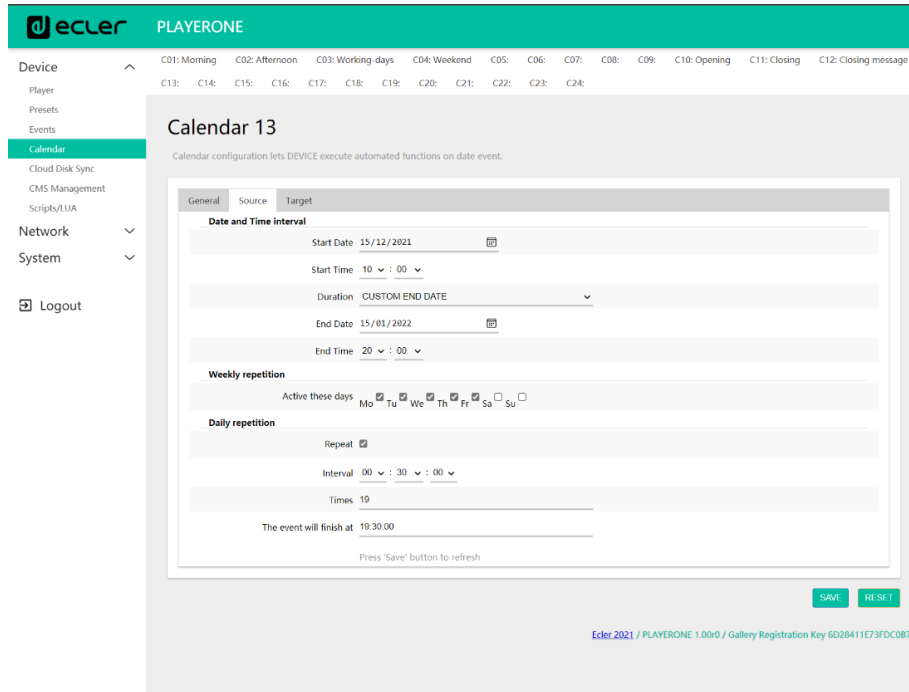


Figure 32

Finally, the message located on the USB device ("usb://...") will be announced with priority.

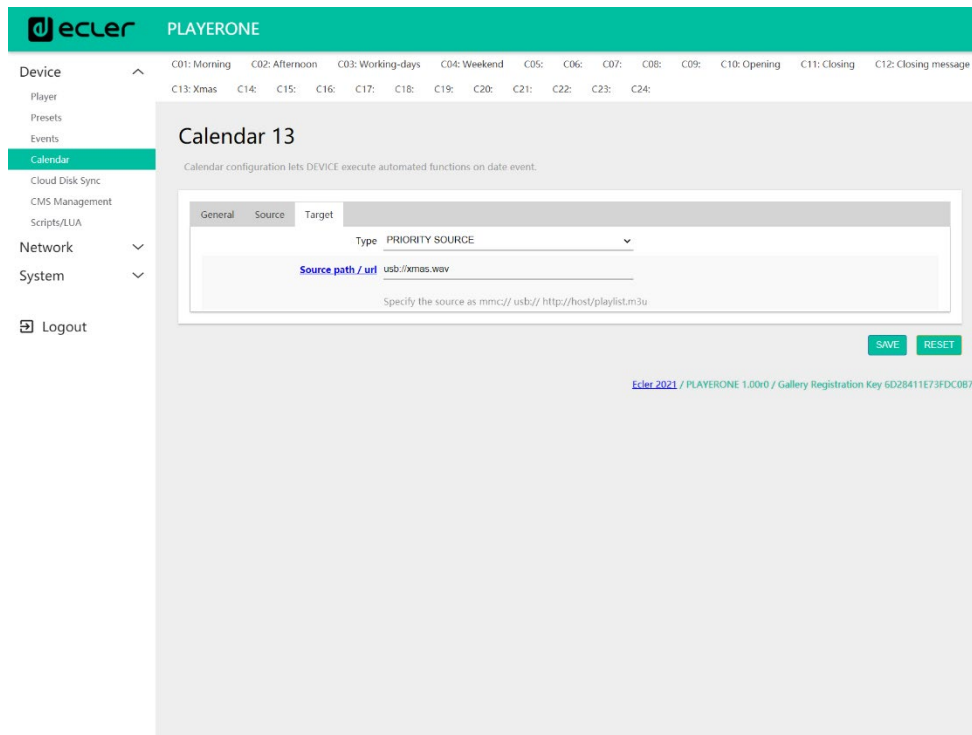


Figure 33

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7.2.5 CLOUD DISK SYNC

The Cloud Disk Sync module allows the device to download remote audio content to local storage media (USB/uSD). When it is active, it checks a remote location that hosts audio content on a daily basis, compares it to the current content stored on local media (USB/uSD) and, if necessary (if differences are detected), syncs the local content to make it an exact copy of the remote content. This is a safe method of playing content during the device's working hours (during the day), as it is stored on local media, and does not carry the same risks as receiving real-time streaming.

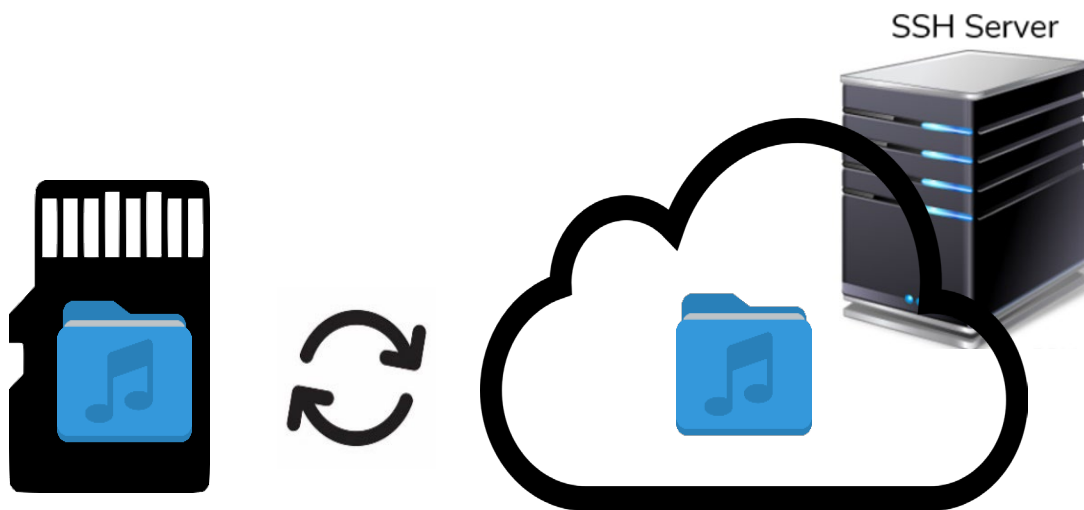


Figure 34: syncing folders with Store and Forward (rsync)

PLAYER ONE/PLAYER ZERO enables syncing through **Store and Forward (rsync)**.

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7.2.6 STORE AND FORWARD (RSYNC)

The **Store & Forward** module allows you to sync the content of the USB/uSD device with a folder that is hosted on a remote server on a daily basis. It also allows for automatic playback of this content, in combination with the Load preset1 reboot mode. **This service uses the rsync (Remote Sync) sync tool.**

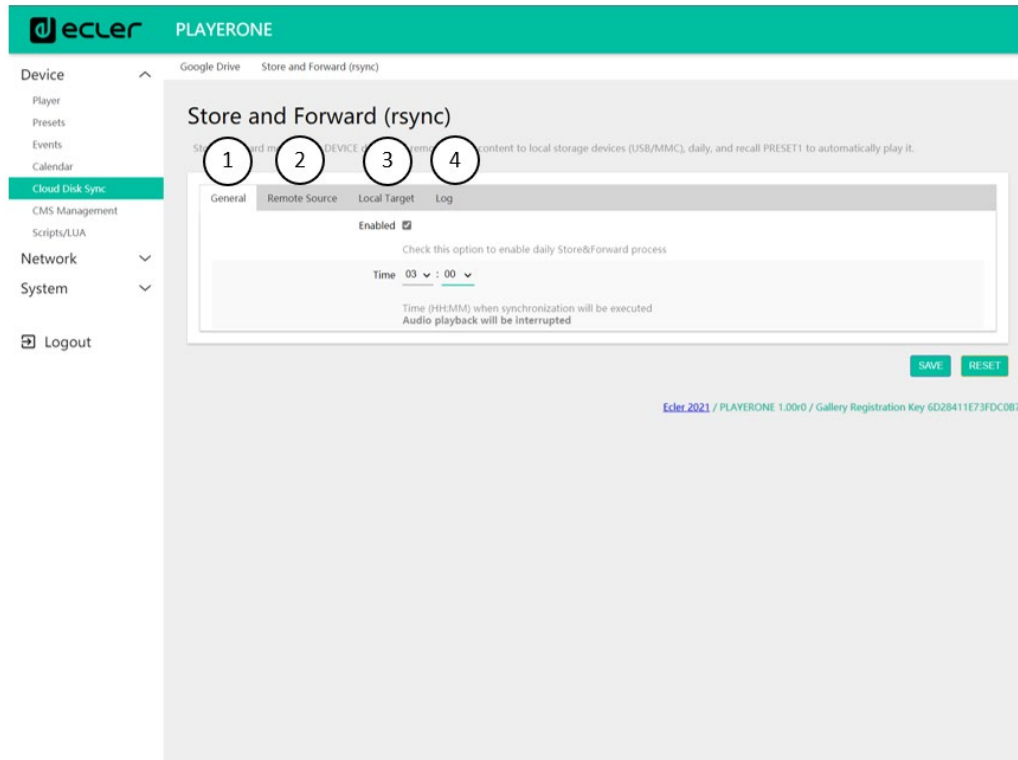


Figure 44: Store & Forward module

1. **General:** enables the S&F service and selects the sync time.
2. **Remote source:** remote server conFiguretion.
3. **Local target:** conFiguretion of the local folder where the content is stored.
4. **Log:** activity log for the S&F module

For more information on the Store & Forward service, please [refer to the chapter ConFiguretion of an SSH server for Store & Forward \(rsync\).](#)

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7.2.6.1 GENERAL

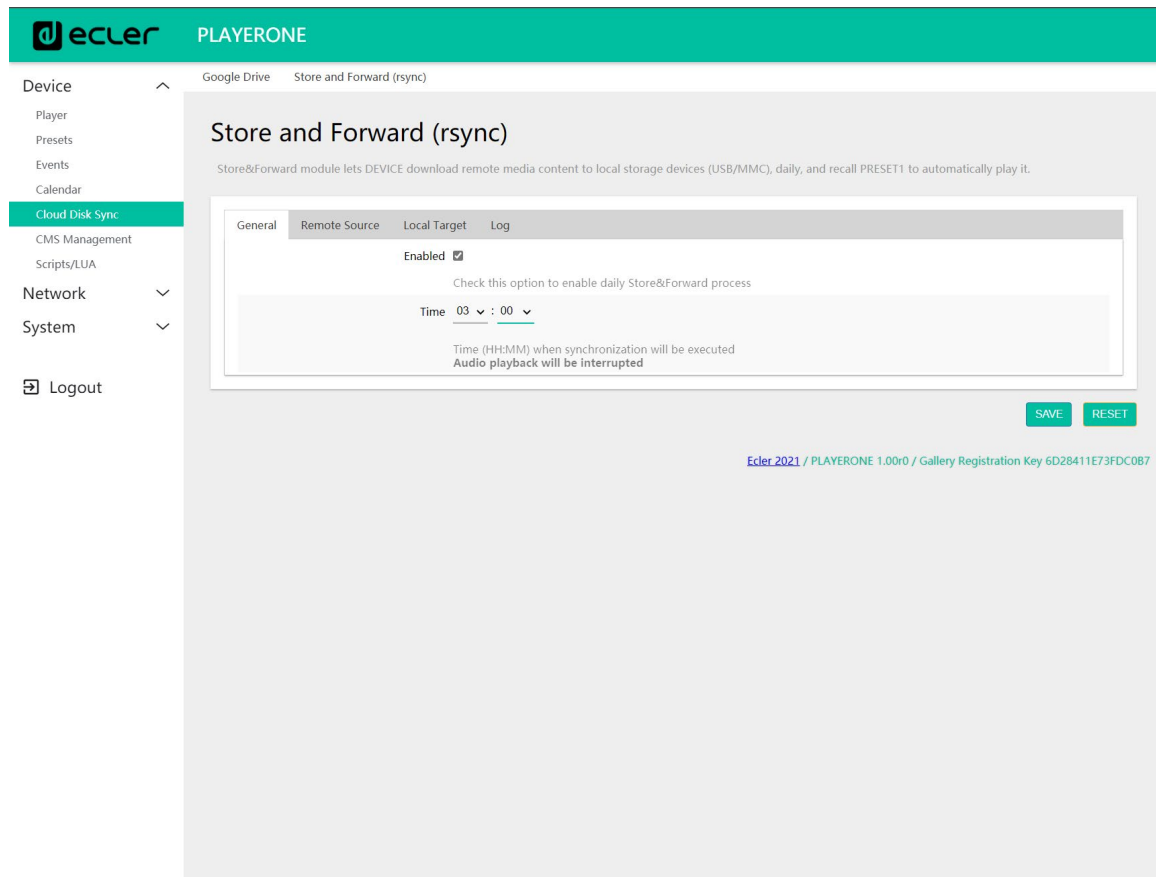


Figure 45: S&F, General

- **Enabled:** This enables/disables the running of the daily sync.
- **Time:** time at which the daily sync is run.

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7.2.6.2 REMOTE SOURCE

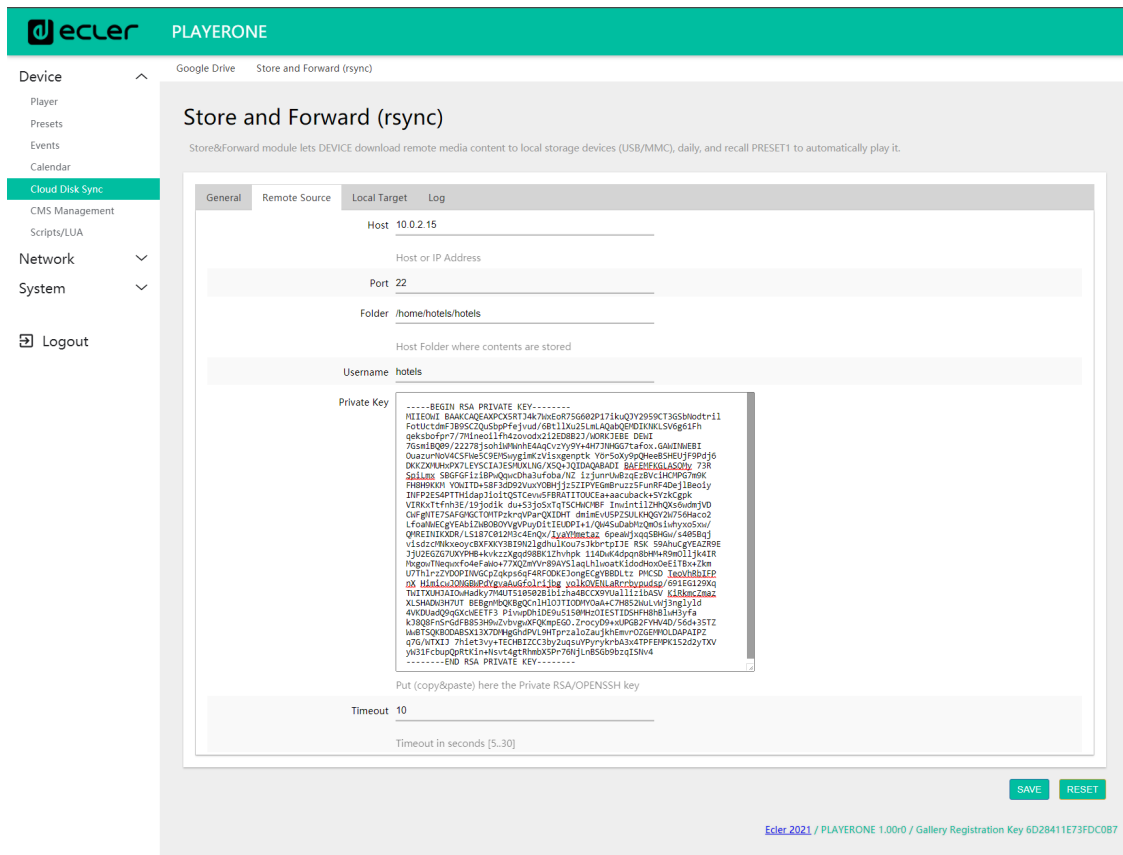


Figure 46: S&F, Remote source

- **Host:** host or IP address of the server.
- **Port:** server port, by default, 22
- **Folder:** directory within the server where the audio content that is to be synced is stored.
- **Username:** user or name of the content group
- **Private key:** private password generated for the indicated user or content group.

Please Note: for security and efficiency reasons, the remote server where the content is hosted must be **SSH**, and public and private passwords must be enabled and used.

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7.2.6.3 LOCAL TARGET

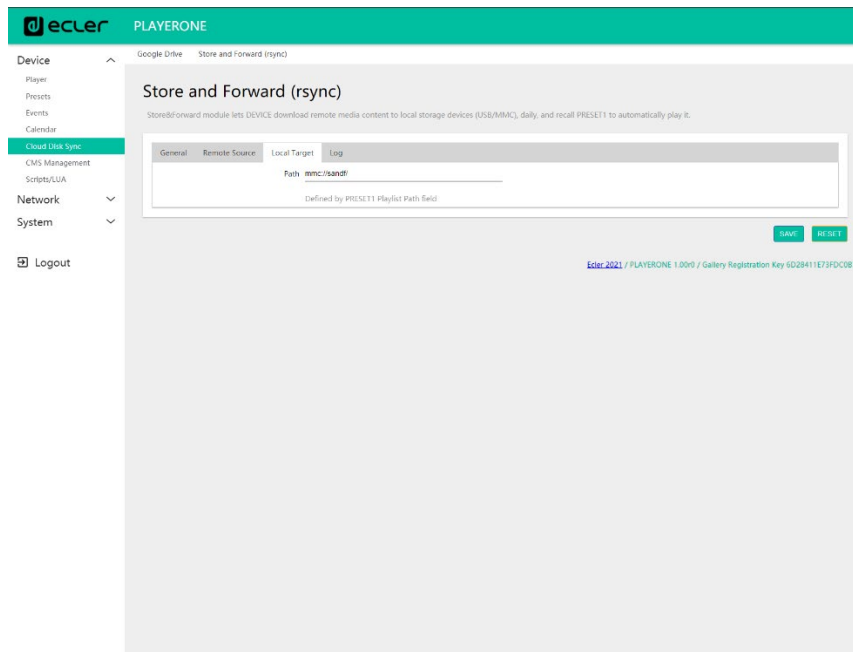


Figure 47: S&F, Local target

- **Path:** defined by the Playlist Path field for PRESET01. This can be changed in the preset settings.

7.2.6.4 LOG

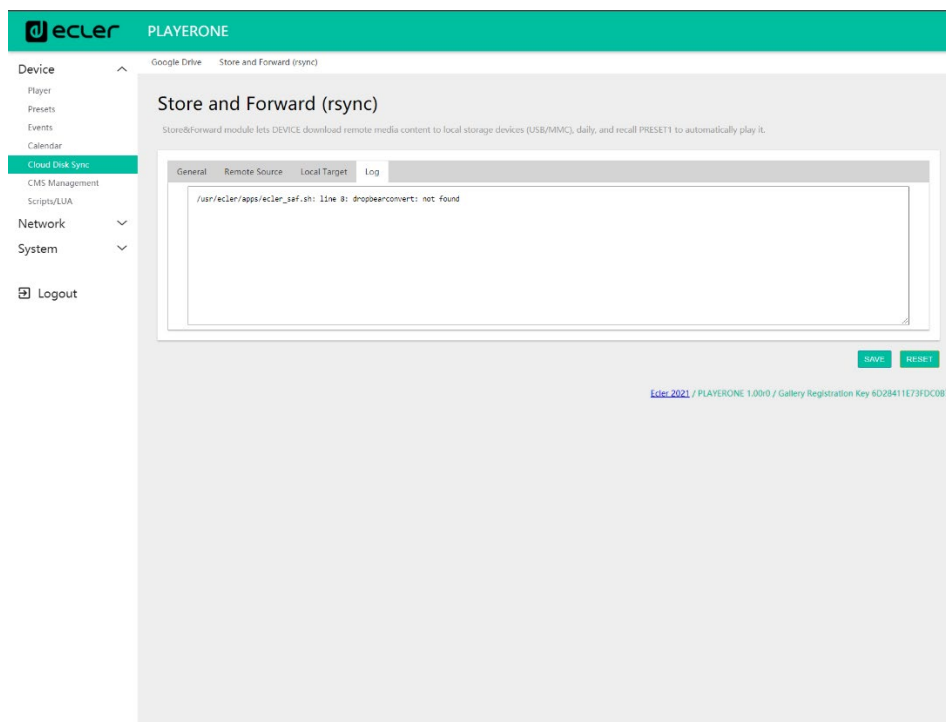


Figure 48: S&F, Log

- This displays information and activity in relation to the rsync syncing process. It is useful for debugging possible server or device configuration problems.

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7.2.7 SCRIPTS / LUA

A script is a simple program; a file of instructions written by the user in LUA language (<https://www.lua.org/>).

Each script can be thought of as a script that the player runs; a series of pre-programmed tasks that are run when a certain stimulus is received.

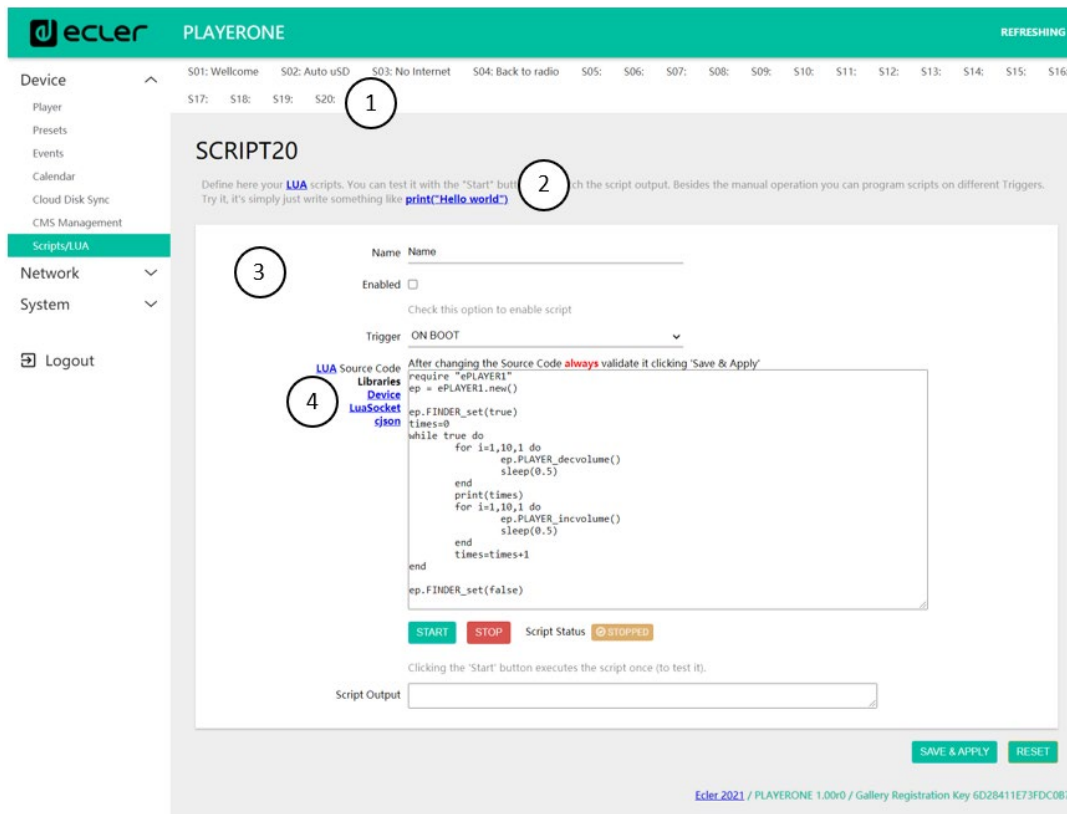


Figure 49: Script example

1. PLAYER ONE/ PLAYER ZERO has **20 scripts** available, each of which is completely configurable. The default names are: S01, S02...S20. When you click on the name, it will take you to the configuration for that script. The name that appears here for the script can be edited within the script configuration. After this setting is saved in the script, you need to refresh the browser page (F5) in order to display the changes.
2. Useful information for script configuration and Lua reference manual.
3. Parameters of each script that can be configured:
 - **Name:** name given to the script by the user. This name will appear in the header of the Scripts/LUA page.
 - **Enable:** enables or disables the script.
 - **Trigger:** stimulus that triggers the execution of the script. There are different ways to trigger a script or automate tasks:

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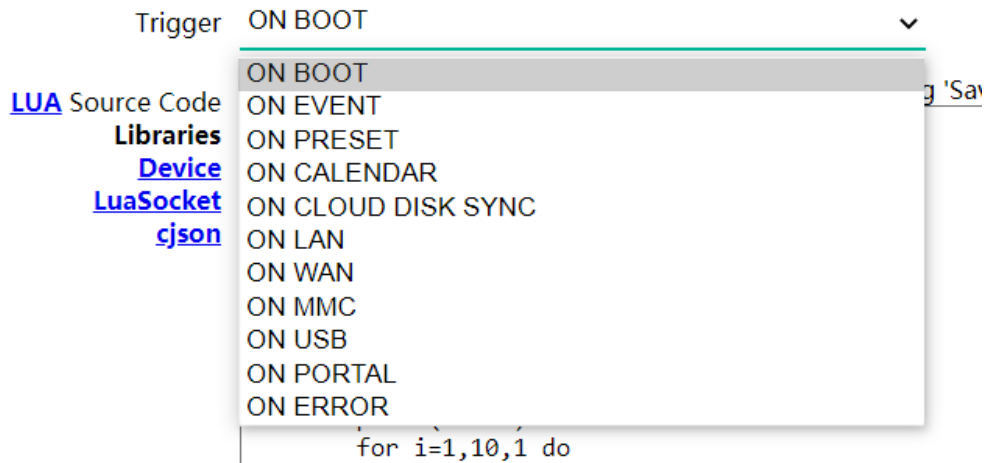
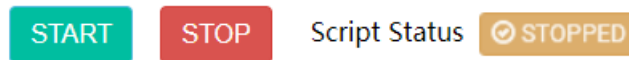


Figure 50: available stimuli

- **ON BOOT:** when the device boots up. Start-up tasks can be configured.
- **ON EVENT:** when a GPI event (GPI1 or GPI2), or the silence detection event (SILENCE), is triggered
- **ON PRESET:** after loading a preset. One of the 20 presets has to be selected, and when it is recalled the script will be triggered.
- **ON CALENDAR:** when a calendar event is triggered. One of the 24 calendar events has to be selected, which will, in turn, trigger the script.
- **ON CLOUD DISK:** when syncing with a remote server is successfully completed (with sync result "OK"). It must indicate the server it synced with rsync.
- **ON LAN:** when detecting whether the LAN (local network) is available or not.
- **ON WAN:** when detecting whether the WAN (Internet access) is available or not.
- **ON MMC:** when a uSD card is connected or disconnected, and recognized correctly by the device.
- **ON USB:** when a USB device is connected or disconnected, and recognized correctly by the device.
- **ON PORTAL:** when syncing with the Ecler Gallery is successfully completed (with sync result "OK").
- **ON ERROR:** when the error indicated in "Error code" with a code occurs. A table of error codes can be found in the PLAYER ONE PLAYER/ZERO programming library (programmer's appendix).
- **LUA Source Code:** the text of the script must be entered in this field.

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4. **Execution buttons:** script execution and stop buttons. The START button runs the script immediately, without the need for the programmed stimulus to occur. The script must be saved before you click on this button in order for the changes to be applied. This is useful for testing. The STOP button stops the running of the script. These functions are especially useful during script programming, as they allow you to check the actions executed by each script and debug the code.



Clicking the 'Start' button executes the script once (to test it).

Figure 51: script execution buttons

- **Status:** shows the status of the script: RUNNING (flashing) the script is running, or STOPPED (steady), the script has finished or stopped.
- **Script output:** output/return value of the script. You can write output messages that will appear on this screen. This is useful for debugging scripts.



Figure 52: example of a script return value

- **Documentation for programmers:** links (blue) available on the device for consultation (Internet connection required):
 - **LUA:** LUA programming language manual
 - **Device:** PLAYER ONE/PLAYER ZERO LUA library (programmer's annex). Details the objects, functions, and parameters of the library. Interface between LUA and the firmware of the device using the JSON protocol.
 - **LuaSocket:** LuaSocket library documentation.
 - **cjson:** LUA CJSON module documentation. Provides JSON support for LUA.

The following chapters show a number of examples of simple scripts. Keep in mind that this PLAYER ONE/PLAYER ZERO programming and customization tool is very powerful, as the same script can execute several tasks which can be linked together, depending on various circumstances, and thus implement an entire logic and intelligence in the way it works.

The only limit is your imagination!

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7.2.7.1 EXAMPLE SCRIPT01:

Write messages on the LCD screen

The following is an example of how to write a message on the LCD. This message has been configured so that, when the player starts up, the message "Hello Ecler" is displayed on the screen for 10 seconds.

Please Note: this is only available for PLAYER ONE. PLAYER ZERO does not have an LCD screen.

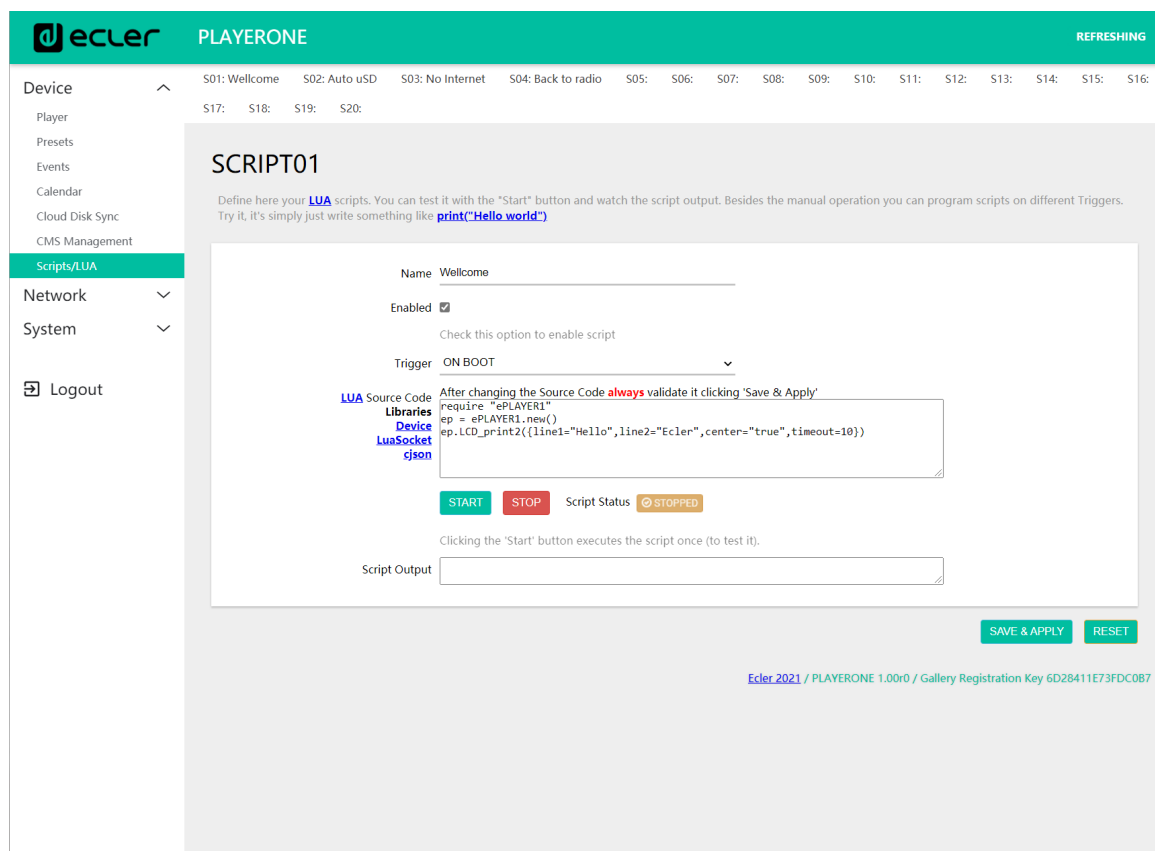


Figure 35

- require "PLAYER"
- ep = PLAYER.new()
- ep.LCD_print2({line1="Hello",line2="Ecler",center="true",timeout=10})

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7.2.7.2 EXAMPLE SCRIPT02:

Automatically play uSD cards when inserted

There are applications in which the local storage medium will change depending on the user. For example, an activity room in a gym where, for each session, different instructors will change the music. In other words, they will connect their USB device or uSD card to play their content. This can be automated so that users simply have to insert their device into the device, and playback starts automatically. This avoids unauthorised tampering and/or saves them from having to read the manual for the device.

So, the following example script automatically plays the uSD card as soon as it is inserted. You could create a script to do the same thing with the USB device, by simply changing the trigger and the URL.

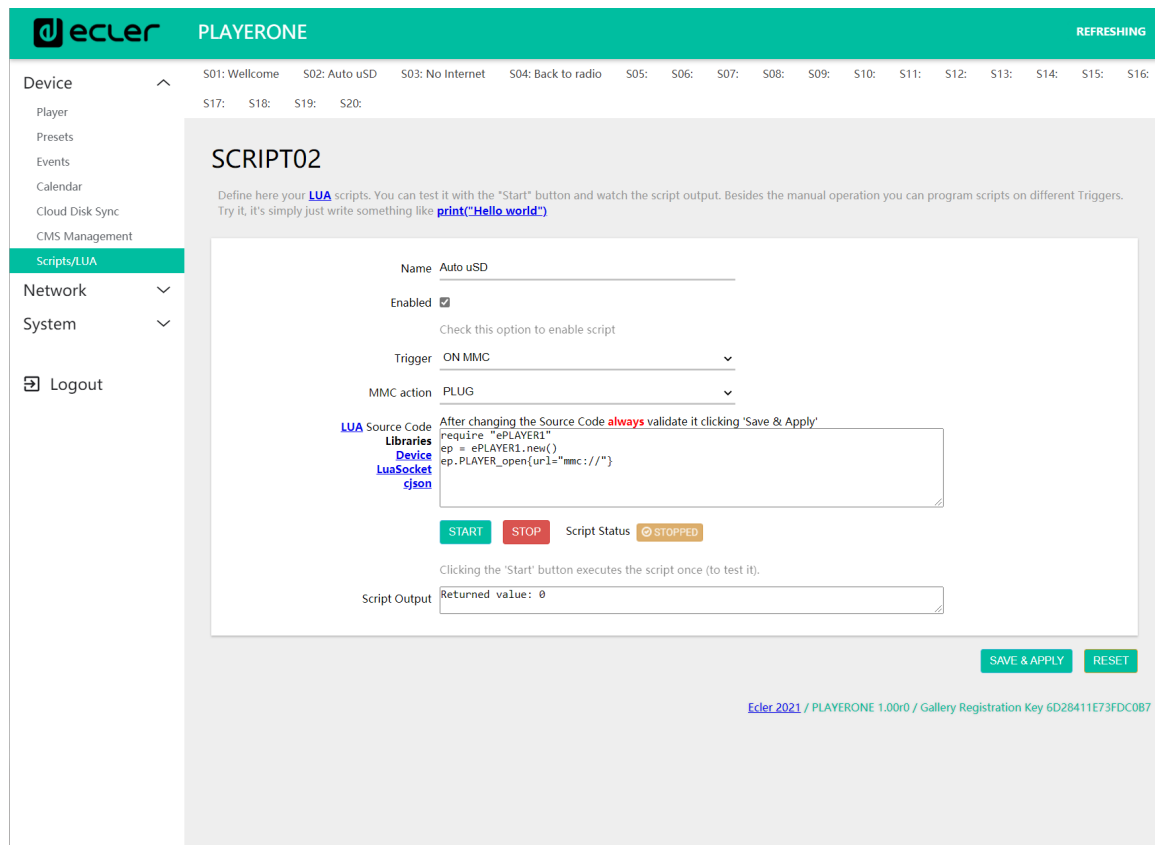


Figure 54

- require "PLAYER"
- ep = PLAYER.new()
- ep.PLAYER_open{url="mmc://"}

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7.2.7.3 EXAMPLE SCRIPT03:

Messages can be configured for practical uses. The following script displays a "NO INTERNET" message that flashes when the Internet (WAN) connection is lost. It has also been written in such a way that we can use the "blink" function multiple times within the same script. In addition, it loads preset1, which has local audio content stored and set to play (PLAY) when loaded, in order to ensure continuity of the music program.

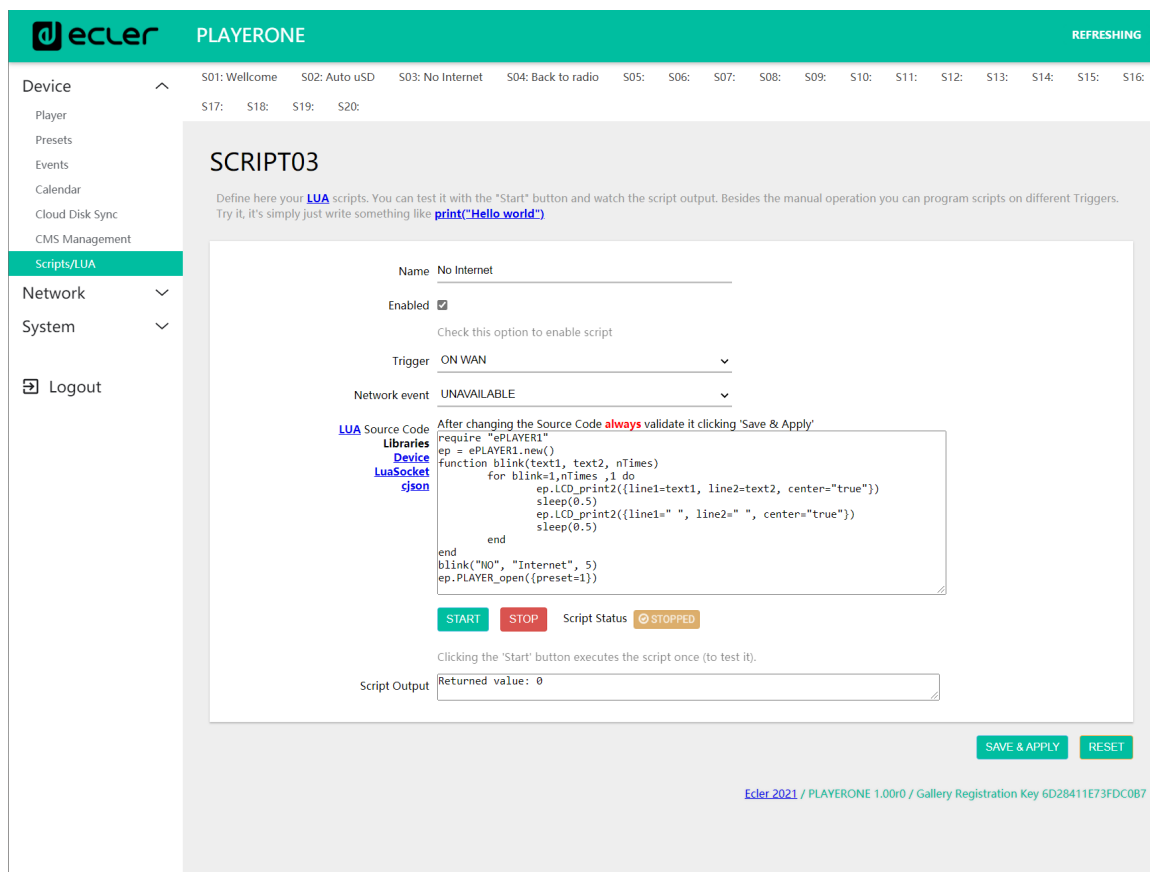


Figure 55

```

require "PLAYER"
ep = PLAYER.new()
function blink(text1, text2, nTimes)
  for blink=1,nTimes,1 do
    ep.LCD_print2({line1=text1, line2=text2, center="true"})
    sleep(0.5)
    ep.LCD_print2({line1=" ", line2=" ", center="true"})
    sleep(0.5)
  end
end
blink("NO", "Internet", 5)
ep.PLAYER_open({preset=1})

```

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7.2.7.4 EXAMPLE SCRIPT04:

Play an Internet radio station when the Internet connection is restored.

The following script loads a preset when an available Internet connection (WAN) is detected. It can be good to use this in combination with the silence detection event:

The device is playing an Internet radio station, however, due to a network problem, it no longer has access to the radio. After a few seconds without audio, the silence detection event is triggered, and the device starts playing content from the uSD card (back-up music). However, you want the radio that was playing to start up again automatically once the Internet connection is available again.

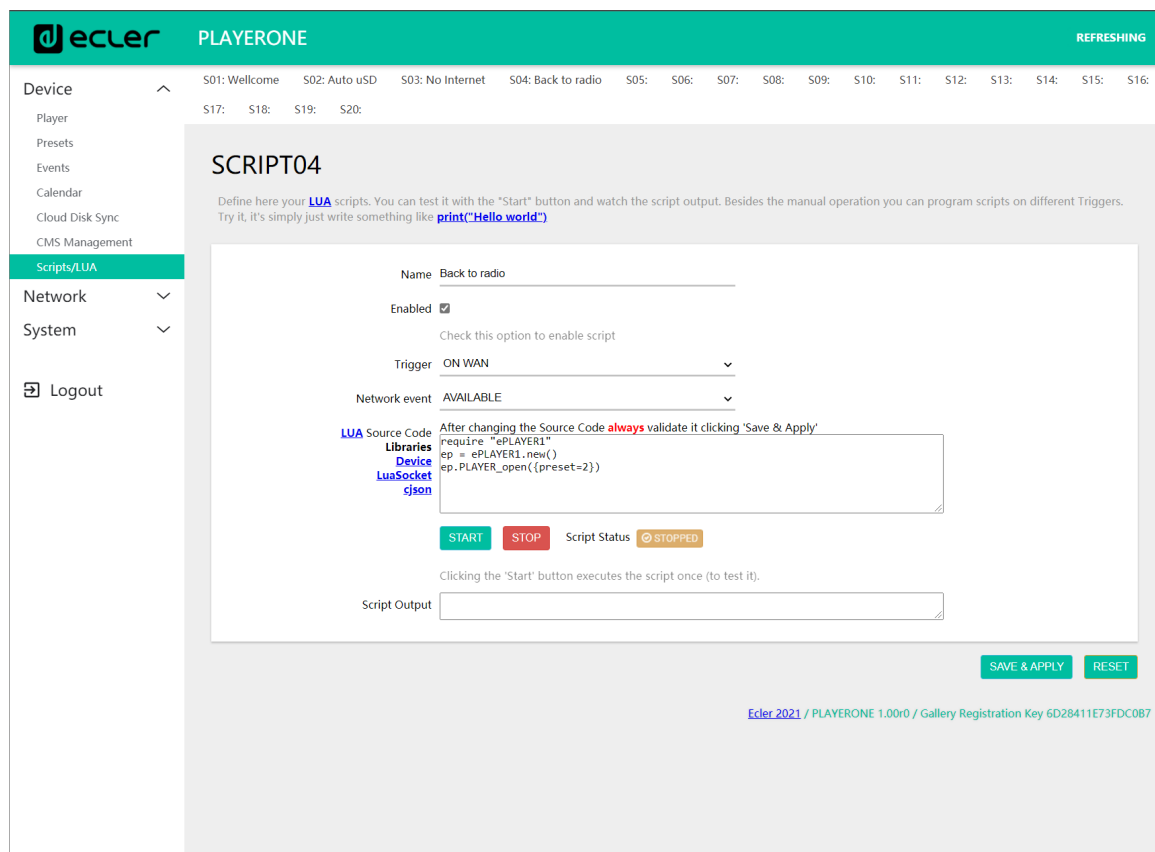


Figure 56

```
require "PLAYER"

ep = PLAYER.new()

ep.PLAYER_open({preset=2})
```

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7.3 NETWORK

Allows you to configure the Ethernet and WiFi network interfaces.

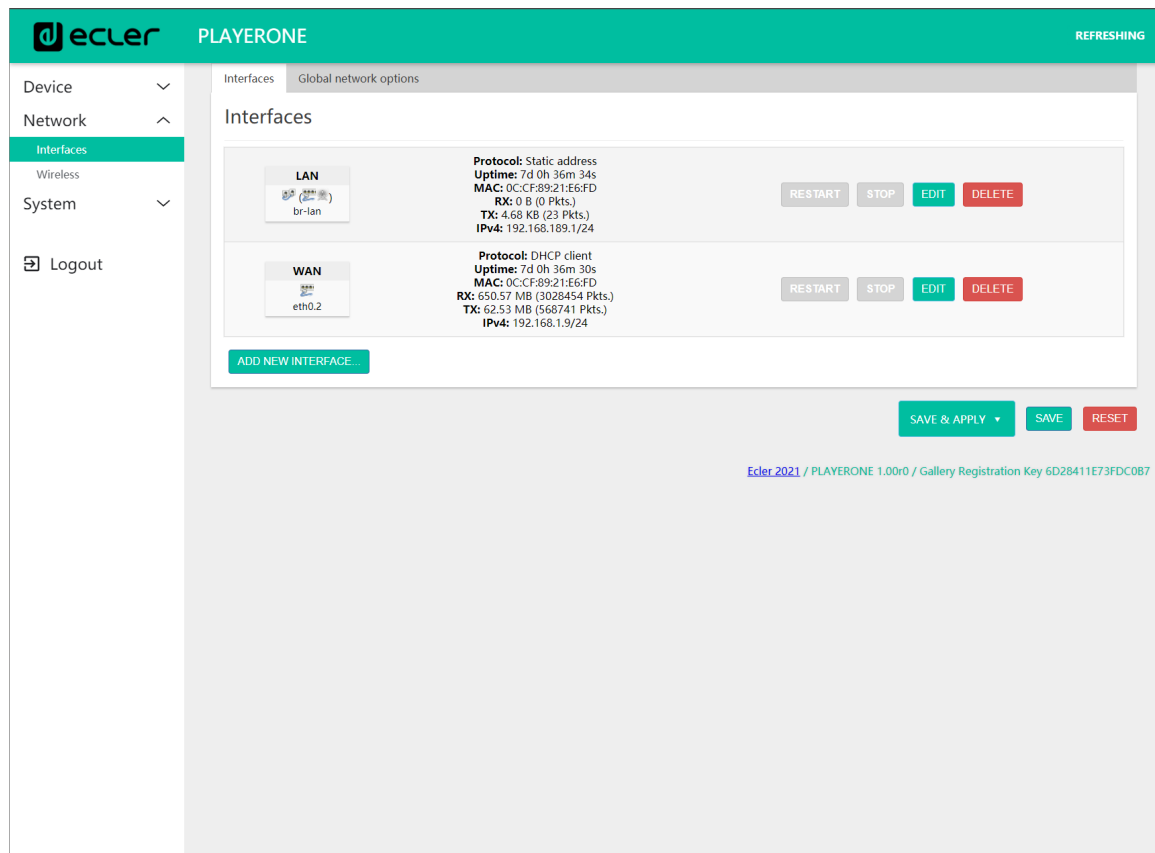


Figure 57: Network, Interfaces

- **Interfaces:** allows parameters to be edited for the wired connection, RJ-45 Ethernet port (LAN/WAN).
- **Wireless:** allows parameters to be set for the wireless connection, WiFi interface.

Please Note: for detailed information on all network parameters, click on this [link](#).

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7.3.1 CONNECTION VIA RJ-45 CABLE

By default, PLAYER ONE/PLAYER ZERO has automatic network addressing (DHCP). To change to manual addressing (editing network parameters), access the web application and go to the Network/Interfaces menu.

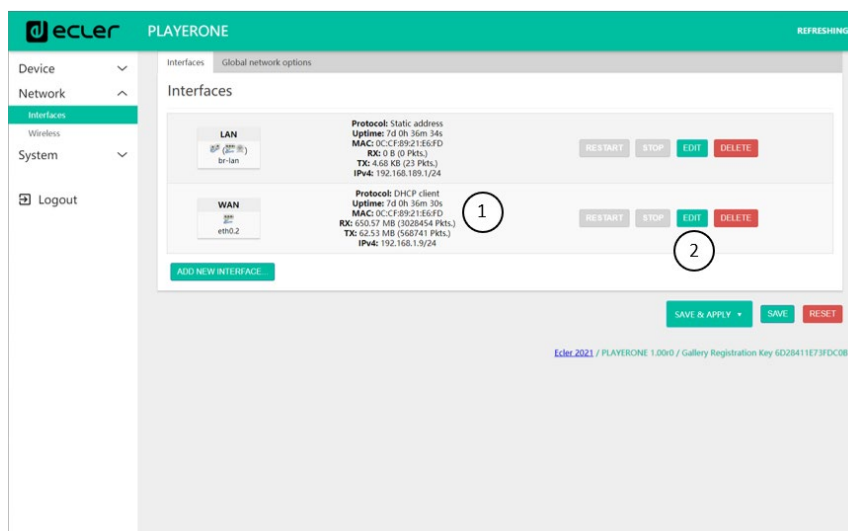


Figure 58

1. Network information: checking network parameters and network information

- **Protocol:** DHCP client/static address
- **Uptime:** connection time
- **MAC:** MAC address of the device
- **RX:** amount of data received
- **TX:** amount of data transmitted
- **IPv4:** IP address of the device

2. Edit network parameters: accesses the Ethernet interface configuration

Press the EDIT button to access the Ethernet interface configuration.

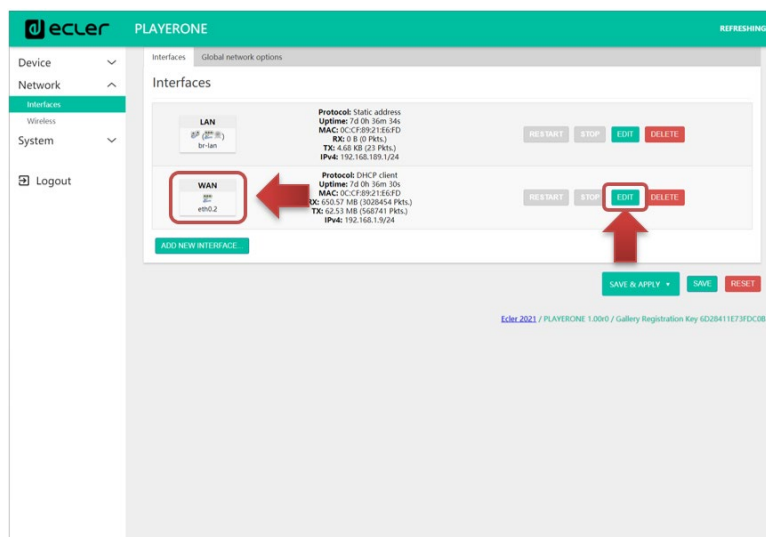


Figure 59 : accessing the network configuration

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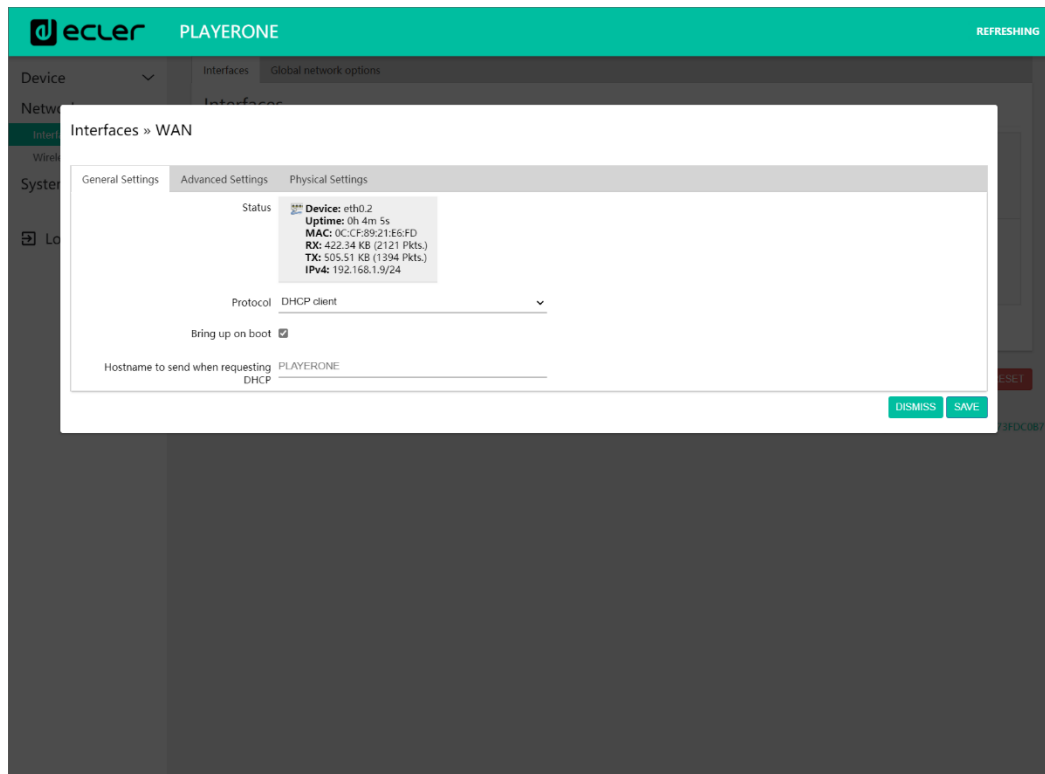


Figure 60: editing network parameters

Select Static address mode and press the SWITCH PROTOCOL button to edit the network addressing manually.

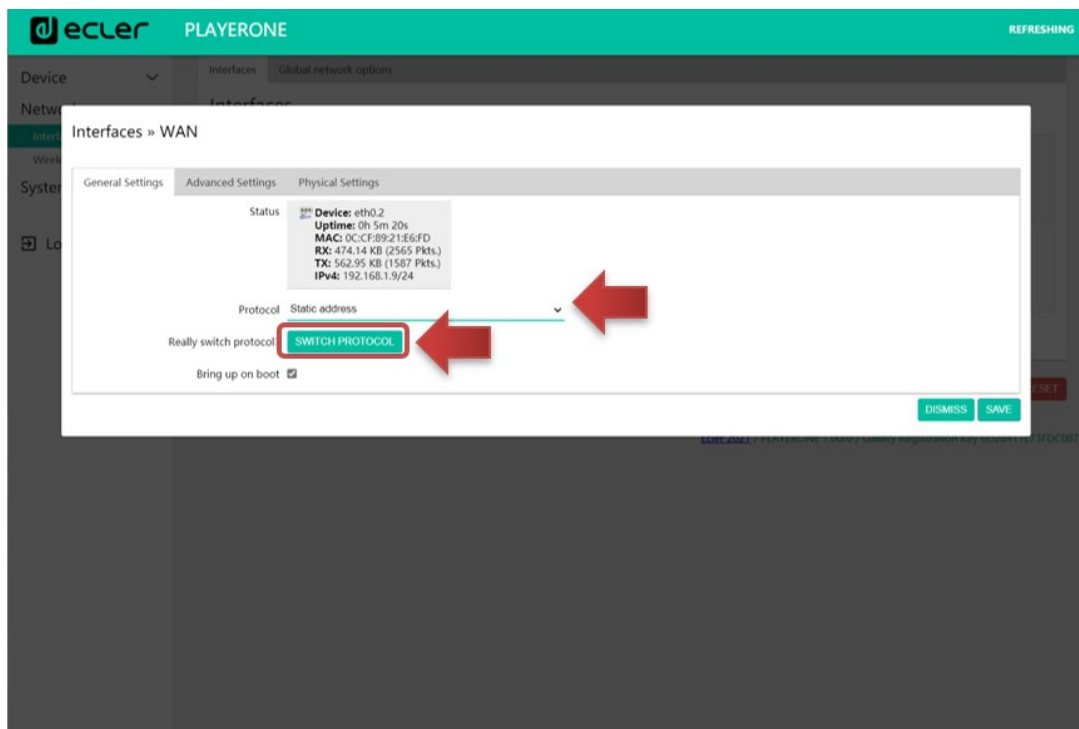


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Configure the network parameters according to your infrastructure:

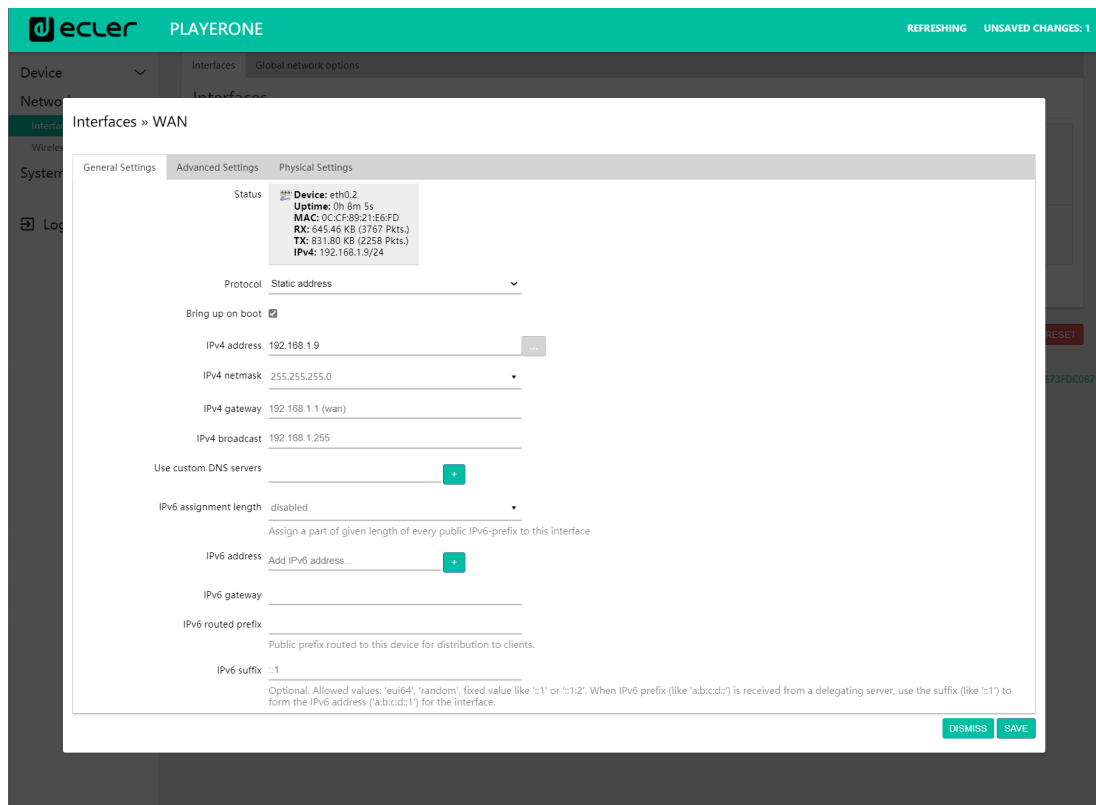


Figure 62

- **IPv4 address:** device network address
- **IPv4 netmask:** subnet mask
- **IPv4:** gateway (switch/router with Internet access)
- **DNS1:** Domain Name System 1 (optional)
- **DNS2:** Domain Name System 2 (optional)

Save the changes on the Edit page, and apply them on the Network/Interfaces page.

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7.3.2 POINT-TO-POINT WIRELESS CONNECTION

PLAYER ONE/PLAYER ZERO can establish a point-to-point wireless connection with a WiFi interfaced device (PC, smartphone, tablet, etc.), either for accessing the web application or for streaming via AirPlay/DLNA.

Make sure that the wireless connection is enabled and the device is set to MASTER (Access Point) mode.

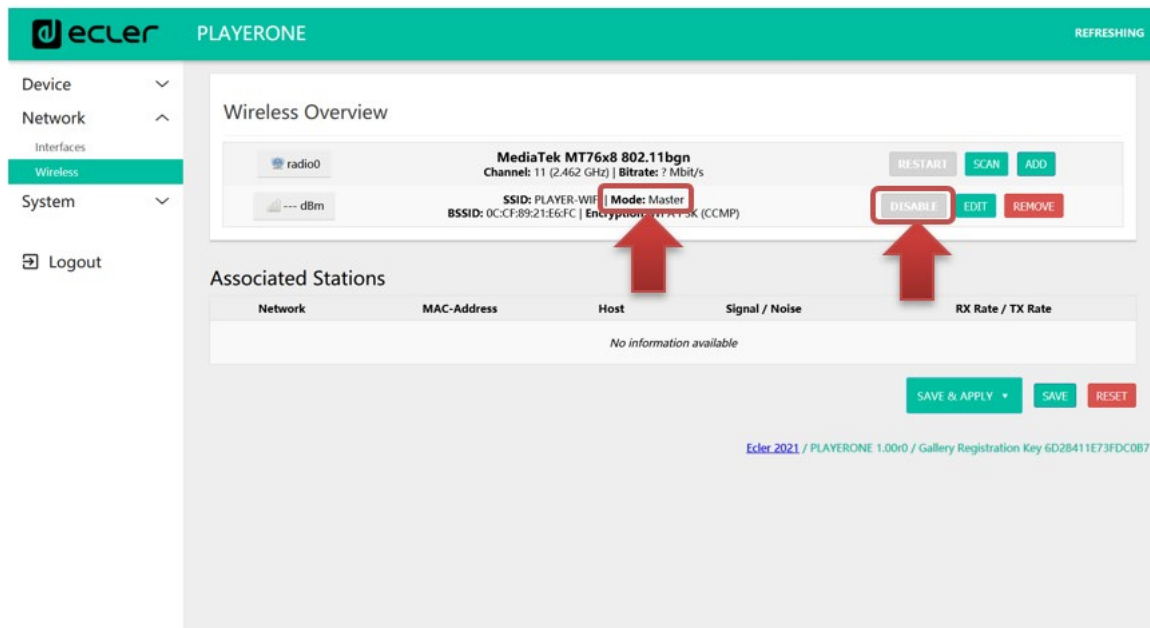


Figure 63: WiFi interface configuration

In your device's WiFi settings, select your device's WiFi network (factory default: PLAYER-WIFI), and enter the password (0123456789). A point-to-point wireless connection will be established.



Figure 64: WiFi settings on a smartphone

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If you have more than one Ecler player in the same system, or you simply want to customize the parameters with which the network is displayed, we recommend changing the SSID and password of the WiFi network of your device(s). To do this, click on the EDIT button and adjust the WiFi network parameters according to your needs. When you have made the changes, save and apply them.

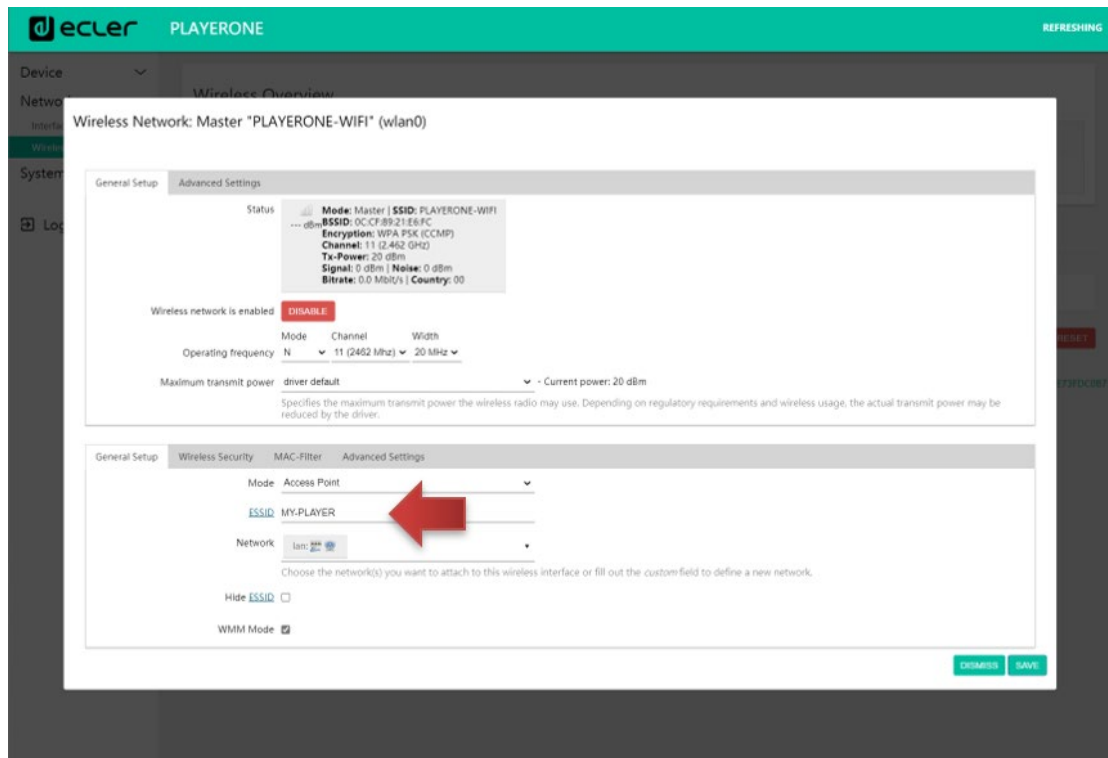


Figure 65: editing WiFi network SSID

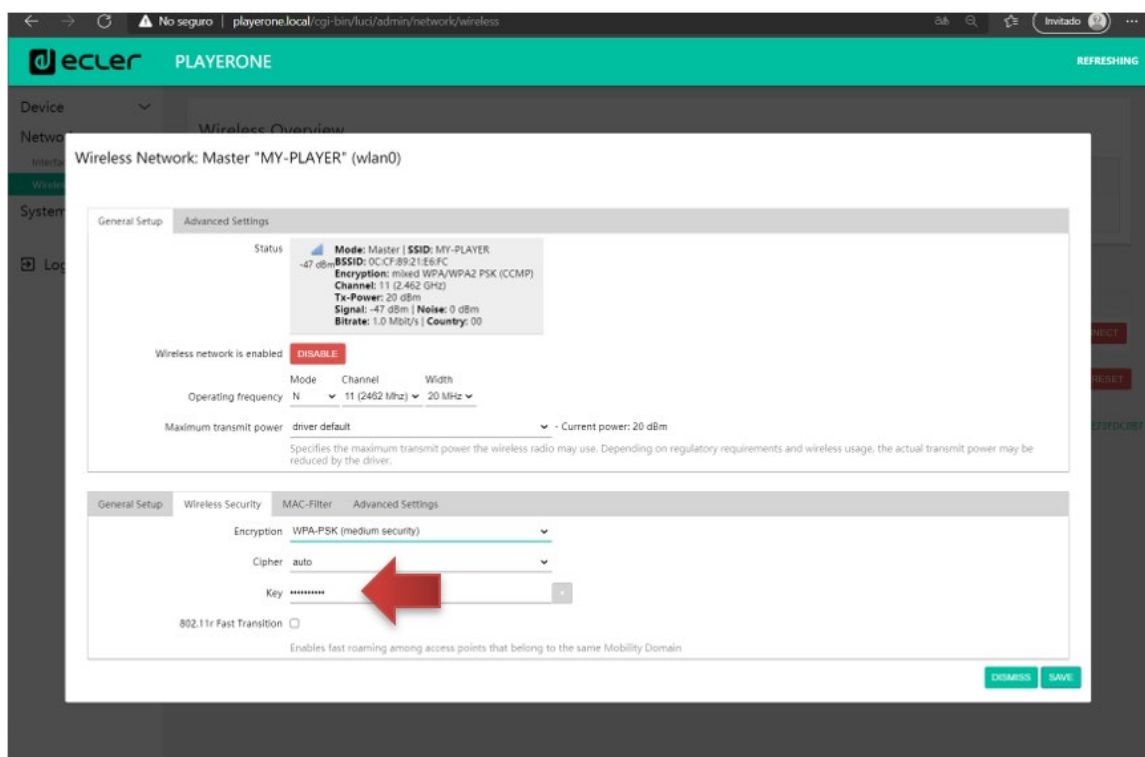


Figure 66: editing WiFi password

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7.3.3 CONNECTING TO A WIFI NETWORK

PLAYER ONE/PLAYER ZERO can connect to the Internet via a home WiFi network to access network addresses, such as Internet radios or remote file syncing services.

On the WiFi interface configuration page, click SCAN.

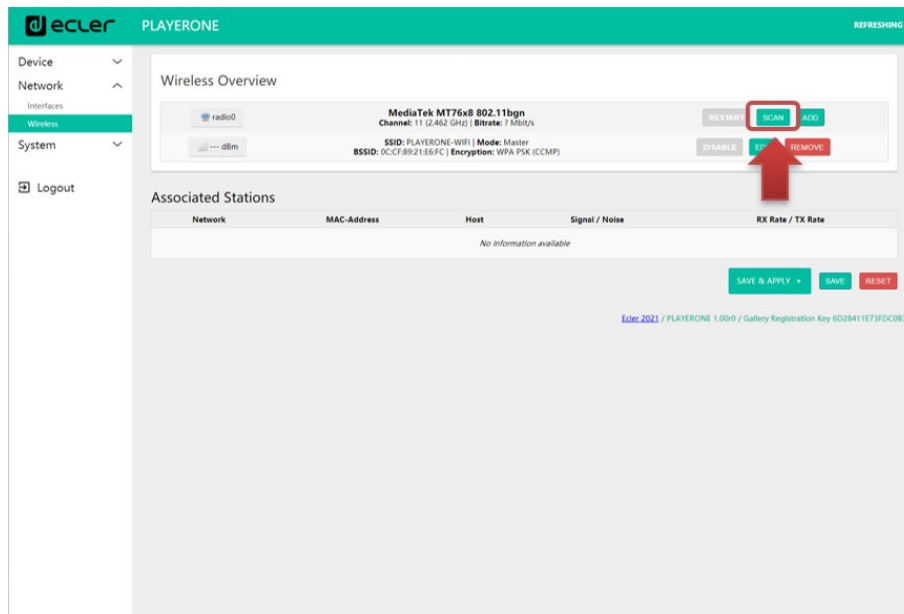


Figure 67

Select your home WiFi network.

Please Note: PLAYER ONE/PLAYER ZERO is only compatible with 2.4GHz wireless networks.

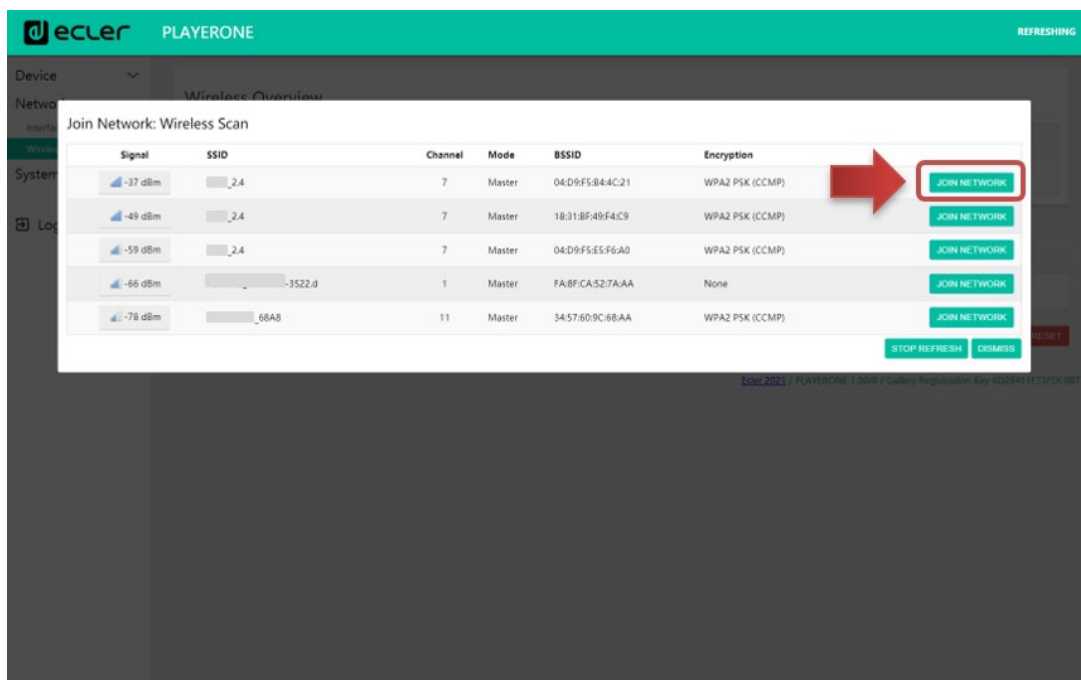


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Enter the password of the WiFi network you want to connect to and press the SUBMIT button.

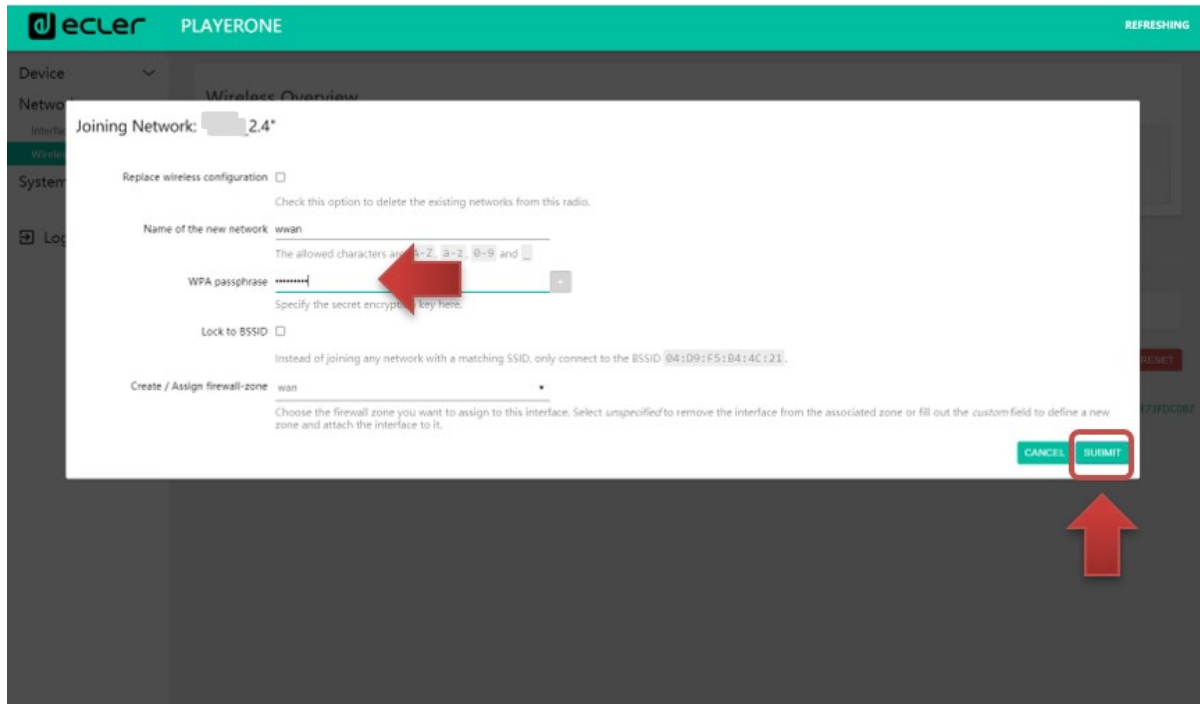


Figure 69

The WiFi network settings are shown below. Press the SAVE button if you do not need to make any additional changes.

Please Note: the operating mode has changed to Client.

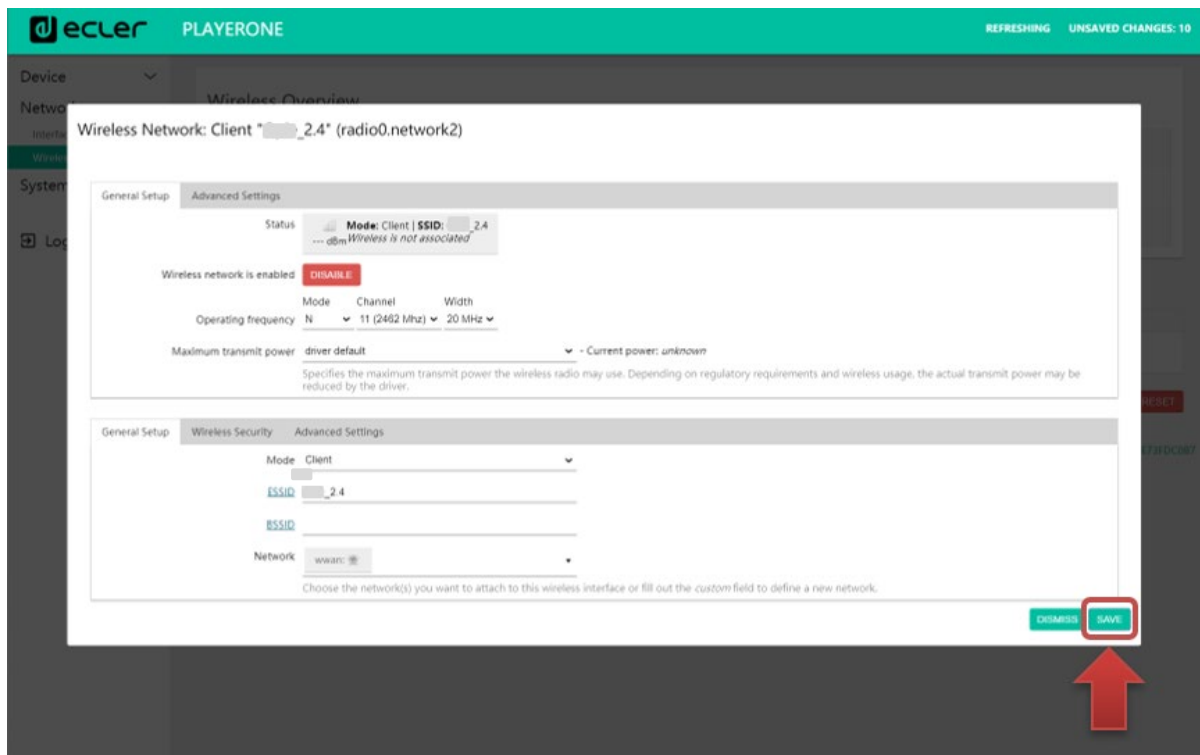


Figure 70

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A wireless connection to your WiFi network will be established.

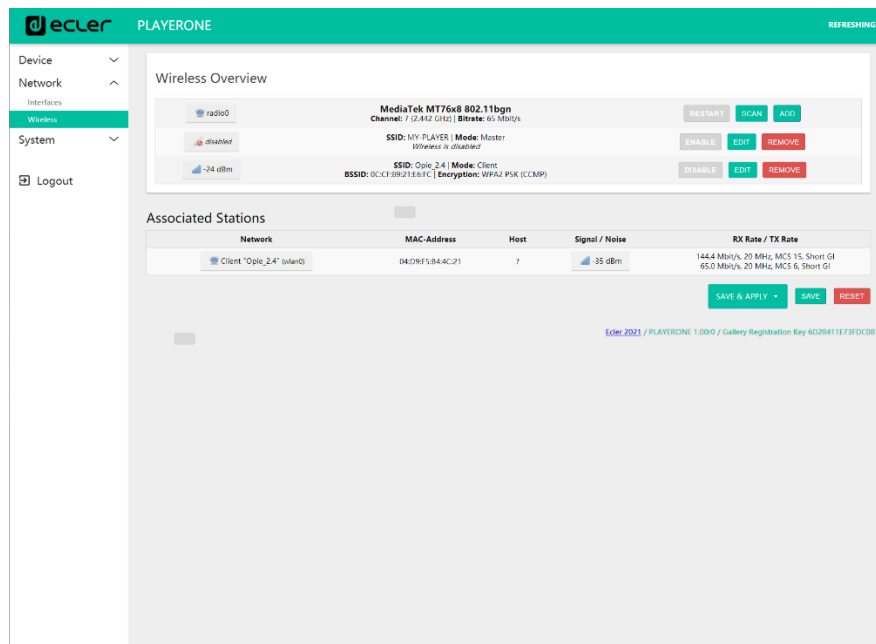


Figure 71

7.4 SYSTEM

In the Settings menu you can make changes as an administrator, such as changing the device name, or the password for accessing the web application, or local media encryption, resetting the device to factory settings, saving backups, updating firmware, etc.

7.4.1 NAME AND TIME

Device name and time sync settings.

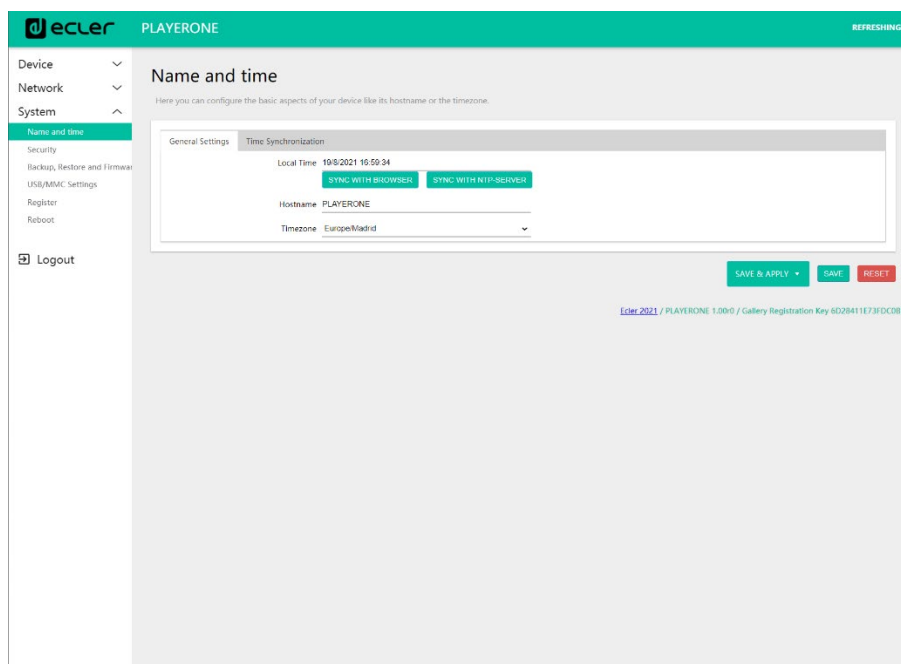


Figure 72: Name and Time, General settings

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7.4.1.1 GENERAL SETTINGS

- **Local Time:** setting the time on the device. You can sync it with the browser time (Sync with Browser), and/or you can sync it via NTP server: recommended if you have an Internet connection and you are using calendar-triggered events.
Please Note: syncing with an NTP server means you don't have to worry about summer and winter time changes.
- **Hostname:** device name. Name that will be displayed on other services such as AirPlay, RePLAYER control application or mDNS. By default, this is "playerone" for PLAYER ONE and "playerzero" for PLAYER ZERO. Enter "hostname.local/" in your browser's search bar to access the device's web GUI: playerone.local/ or playerzero.local/ by default.
- **Timezone:** setting the time zone. It is important to set this correctly if you are managing calendar events.

7.4.1.2 TIME SYNCHRONIZATION

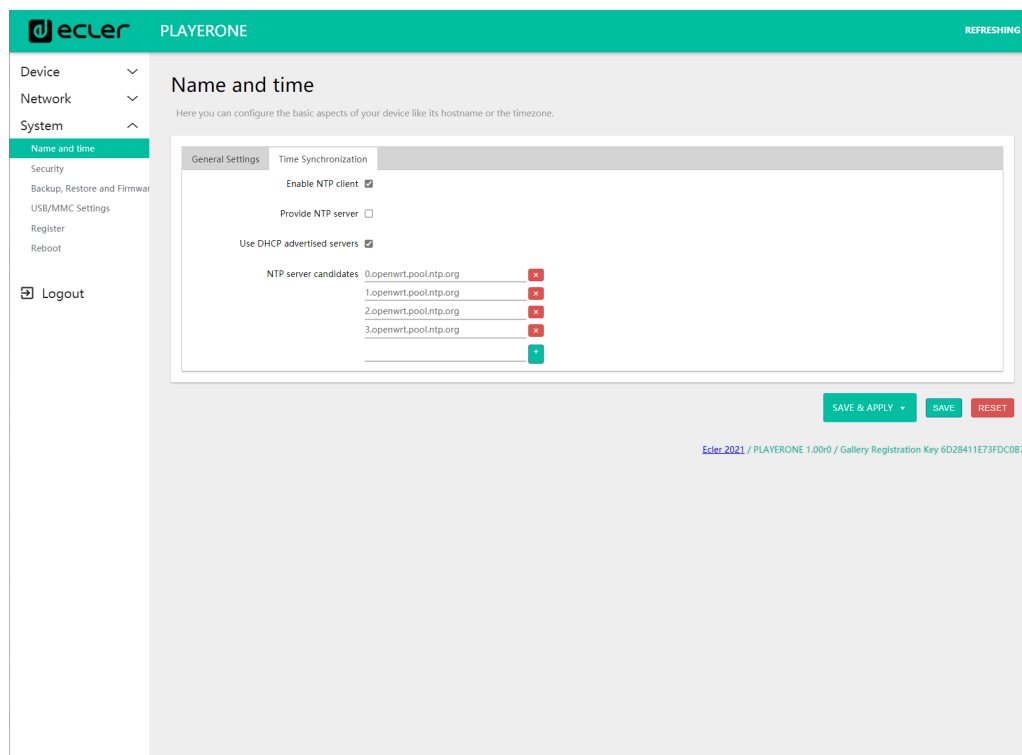


Figure 73: Name and time, Time synchronization

Enable/disable time syncing with an NTP server. This also allows you to manage the candidate servers for syncing.

Please Note: PLAYER ONE/PLAYER ZERO has an internal clock that means that you won't lose the time setting if it is not connected to the mains or not synced with an NTP service. However, please note that this clock has an accuracy of ± 1 minute/month.

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7.4.2 SECURITY

On this page, changes can be made to prevent unauthorized personnel from tampering with the player.

7.4.2.1 WEB PASSWORD

Password for accessing the web application. By default, **ecler**.

Please Note: the user is always **root**. This cannot be changed.

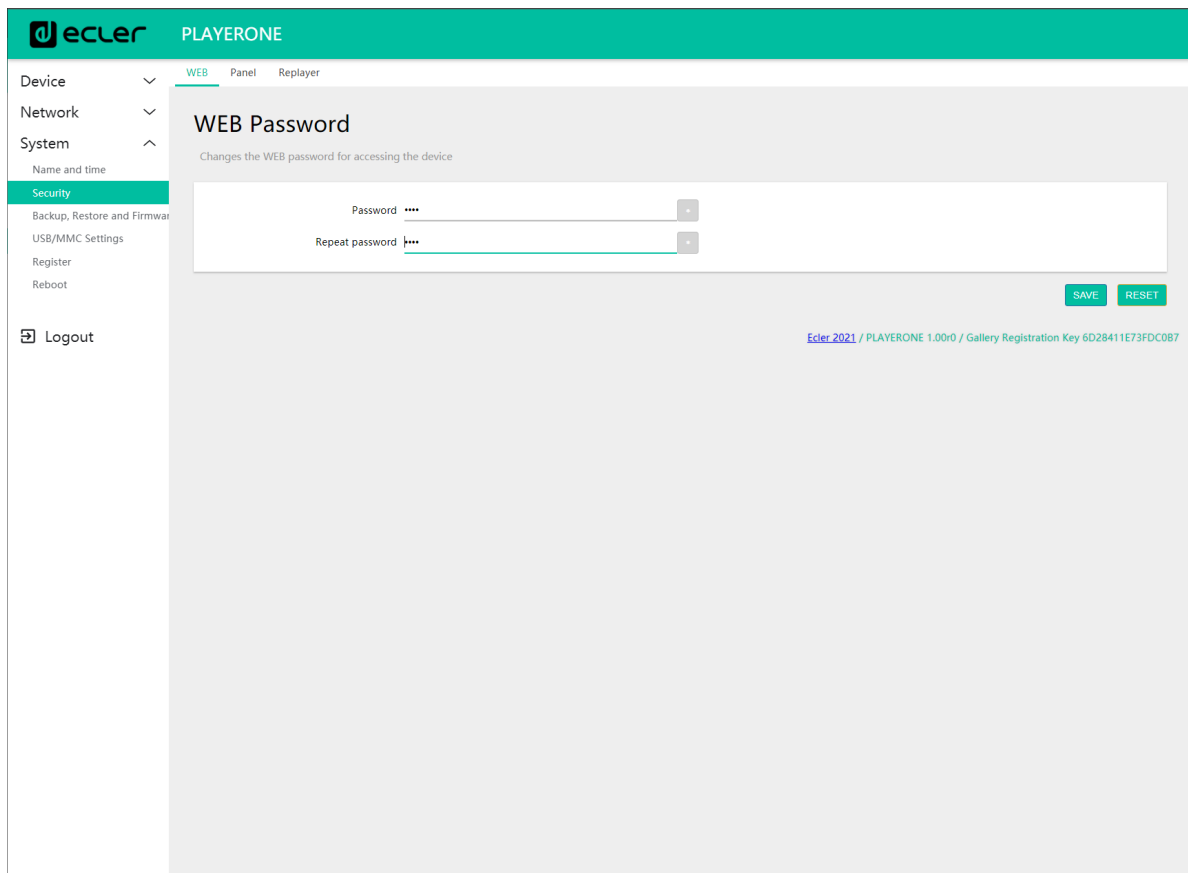


Figure 74

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7.4.2.2 FRONT PANEL FUNCTIONS

Setting the front panel button lock to prevent unauthorised tampering or changing of administrator settings. Only available on PLAYER ONE.

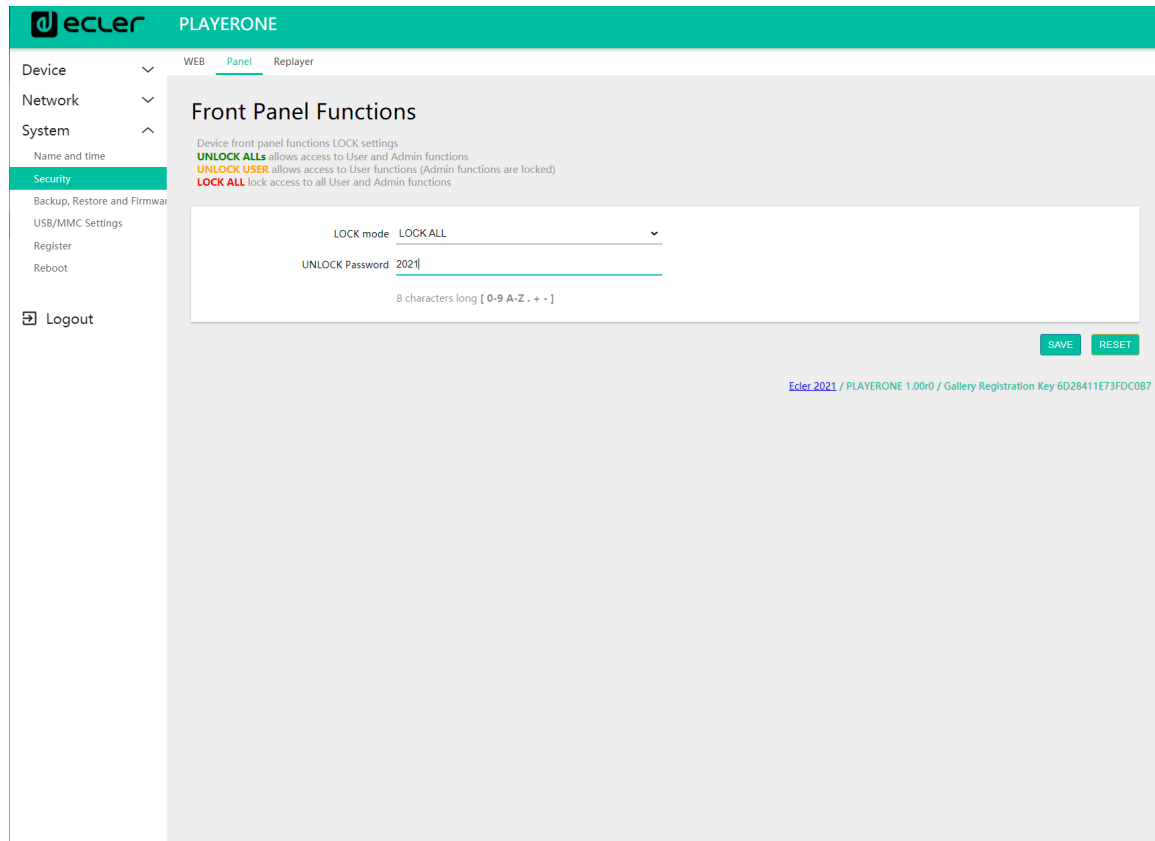


Figure 75

- **LOCK mode:** selection of the lock mode
 - **UNLOCK ALL:** unlocks all buttons on the front panel.
 - **UNLOCK USER:** locks access to the device conFIGuration menu (administrator functions), allowing the use of all other functionalities.
 - **LOCK ALL:** locks all buttons on the front panel.
- **UNLOCK Password:** Password for unlocking. If the device is in lock mode, once you have entered the password, you will have a window of time in which to use the device. After you stop using it, the device will automatically lock the controls again.

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7.4.2.3 REPLAYER

4-digit PIN for accessing the device via the RePLAYER control application. Click on this [link](#) to find all the information and documentation related to the control application.

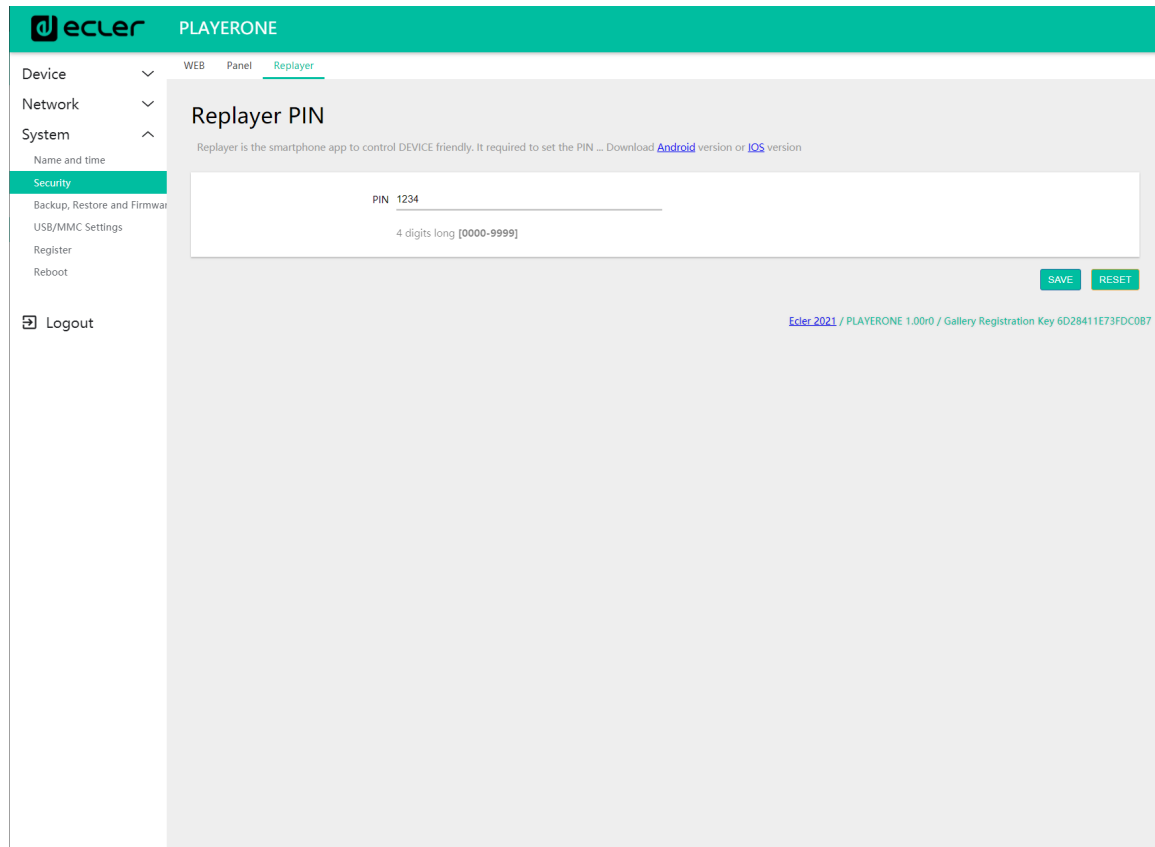


Figure 76

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7.4.3 BACKUP, RESTORE AND FIRMWARE

Manage backups of your device and retrieve conFiguretion files, and also update the firmware version.

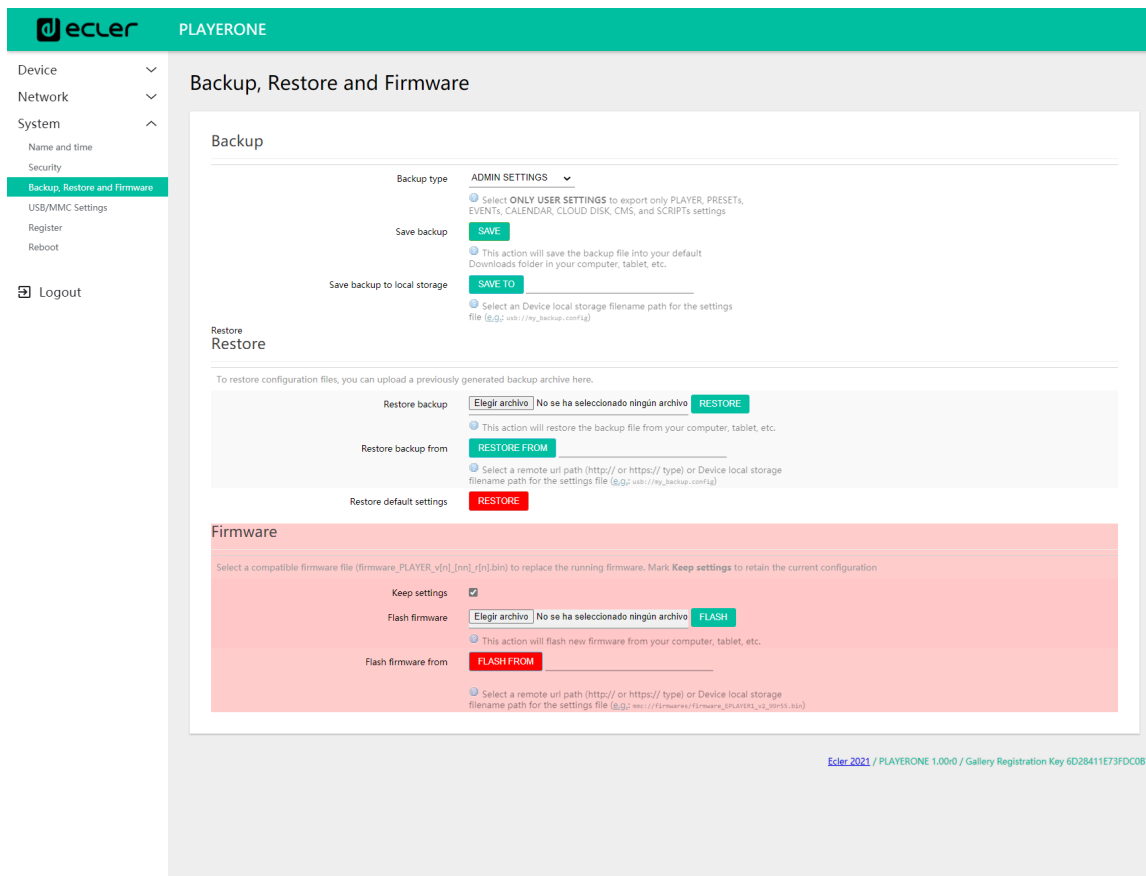


Figure 77: System. Backup, restore and firmware

7.4.3.1 MAKE BACKUPS

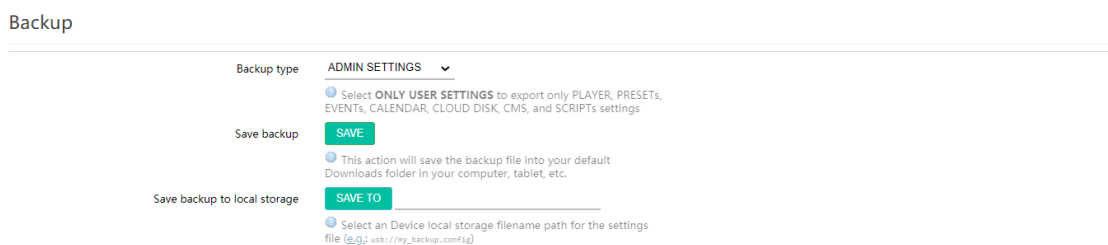


Figure 36: Backup

- **Backup type:** type of backup.
 - **ADMIN SETTINGS:** saves all settings (both administrator and user settings).
 - **USER SETTINGS:** only saves the user settings.
 - **GALLERY SETTINGS:** saves the settings that are compatible with the Ecler Gallery platform.

Player	✓	✓	✓
Presets	✓	✓	✓*
Calendars	✓	✓	✗
Events	✓	✓	✓
Scripts	✓	✓	✓
Store and Forward	✓	✗	✓
Front panel lock settings	✓	✗	✗
Network settings	✓	✗	✗
System: Name, Time & NTP	✓	✗	✗
Player Profile	✓	✗	✗
Encryption	✓	✗	✗
Web password	✓	✗	✗

*Partial: no playlist

Figure 78: types of backup or conFiguretion files

- **Save Backup:** generates a backup that will be stored in the download folder which is configured in your browser.
- **Save backup to local storage:** generates a backup that will be saved to the specified local storage address, with the specified name. For example, "mmc://backups/copy1.config" (example of a folder on a uSD card inserted in the player)

7.4.3.2 RESTORE BACKUPS AND FACTORY SETTINGS

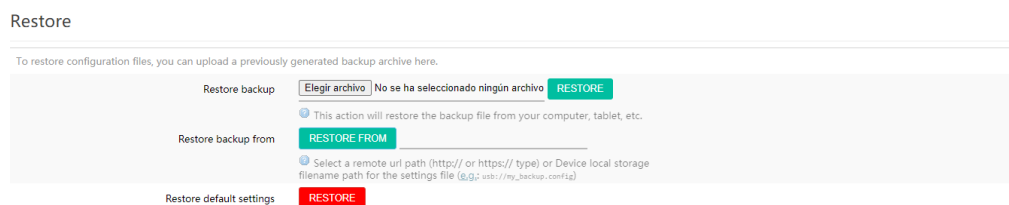


Figure 79: Restore backup

- **Restore backup:** restores a conFiguretion file (or backup) hosted on your computer, tablet, server, etc.
- **Restore backup from:** restores a conFiguretion file hosted on one of the device's storage media, USB or uSD. You can also restore a file hosted in a remote location, URL address.
- **Restore default settings:** restores the device to factory defaults. Administrator and user settings will be lost.

Please Note: if encryption is being used and you restore it to factory settings or restore an administrator file, the content on the storage media will not be able to be recovered.

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7.4.3.3 FIRMWARE UPDATE

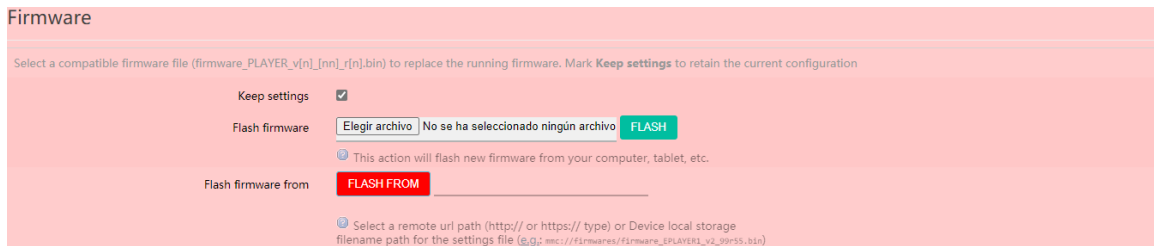


Figure 80: Firmware

- **Keep Settings:** keeps the device's current settings. If you want to return to factory settings after updating the firmware, deselect this box. It is selected by default.
- **Flash Firmware:** updates via a firmware file hosted on your computer, tablet, server, etc.
- **Flash Firmware from:** updates via a firmware file hosted on one of the device's storage media, USB or uSD. You can also use a file hosted in a remote location with a URL address.
-

7.4.4 USB/MMC SETTINGS

This allows you to view the space used on the local storage media and manage the encryption function, if desired: for reasons of **security**, data **protection**, to protect the music content stored on the uSD card or USB device, etc. In this way, if the local storage media is removed without authorisation, the data will still be protected, as it will only be readable by the device that encrypted it.

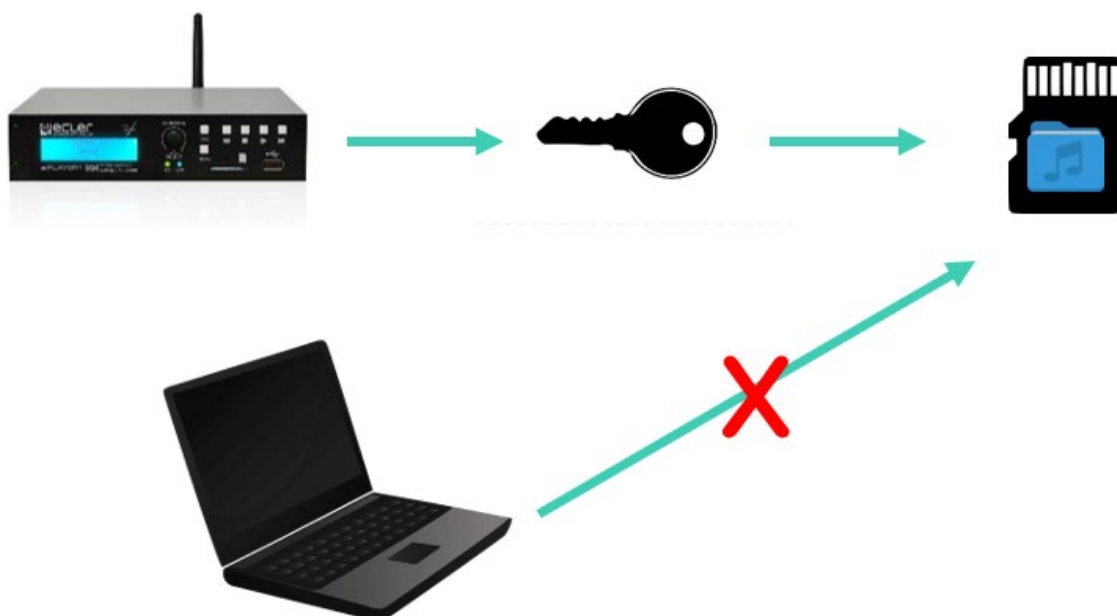


Figure 81: encryption concept

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It **operates** as follows:

1. The device encrypts the media, formatting the external drive. This process **deletes all content** from the memory of the uSD or USB device.
2. This process **may take several minutes**. "FORMATTING..." is displayed on the LCD screen for the duration of the process (PLAYER ONE only).
3. At the end of the process, "NO FILES" will be displayed on the LCD screen, indicating that it has been **formatted correctly** and there are no audio files on the external media (PLAYER ONE only).
4. The external drive is now ready to download content using the "**Cloud disk sync**" tool - **Store and Forward (rsync)**.

Please Note: once this feature is disabled, if you re-enable it, you will need to restart the process described above.

Some **considerations** with regards to the encryption function:

- The encryption process is **destructive**, as formatting the external drive deletes all the files on it.
- Once this function is enabled, any **other external device** (uSD or USB) that is inserted into the corresponding port, and which **does not contain the** encryption keys, **will be encrypted** and therefore all files will be deleted. As a result, it will not be able to play content other than that which is hosted on the media that the device itself has encrypted.
- The external storage media **cannot be read by any other device** (including other PLAYER ONE/PNeELAYER ZERO) that does not have the encryption keys.
- The content can be read by the device that encrypted it, **as long as** the encryption option **is not changed**. That is, if the encryption function is disabled, the device will stop using this function and therefore will be able to read any external storage media. However, it loses the keys to the previously encrypted external media, and you will therefore not be able to play the content stored on them.

Please Note: encryption is a tool that is **designed to be used in conjunction with** content syncing **tool**: "Store and Forward" (rsync). The external storage media, as it is encrypted, cannot be read or written to (copy contents) by any device, such as a computer. Therefore, the only device capable of copying content onto the media is the player that encrypted it. The "Store and Forward" (rsync) tool make this possible.

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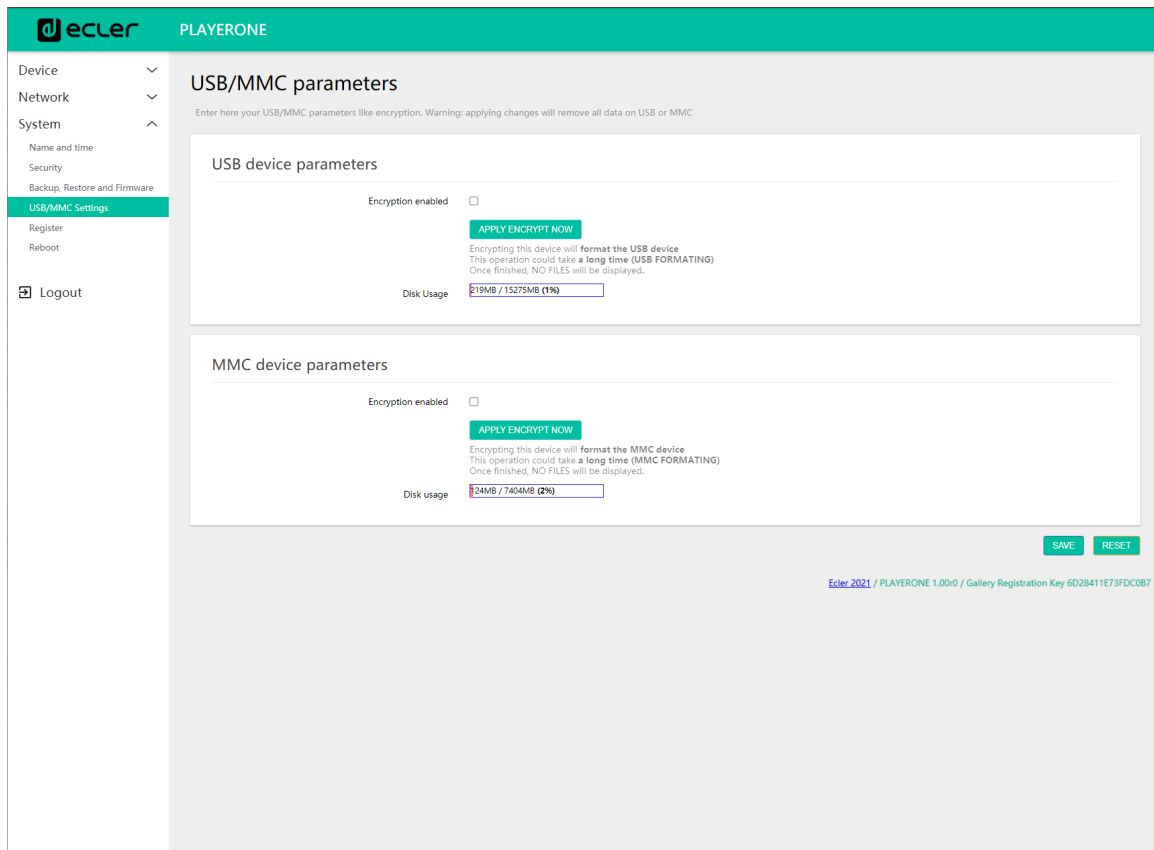


Figure 82: USB/MMC Settings

- **Encryption enabled:** enables/disables media encryption, USB or uSD. If you save this setting, the device will encrypt the disk the next time the drive is mounted, either when the media is inserted or when the device is rebooted.
- **Apply Encrypt now:** immediately encrypts the media.
- **Disk Usage:** capacity of the storage media in MB, and percentage of the storage media that is in use (%), uSD card and USB device respectively. If no media is found, "NO DISK" will be displayed on the LCD screen (PLAYER ONE only)

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7.4.6 REBOOT

Allows you to reboot the device from the web application. Click the PERFORM REBOOT button to force the player to reboot.

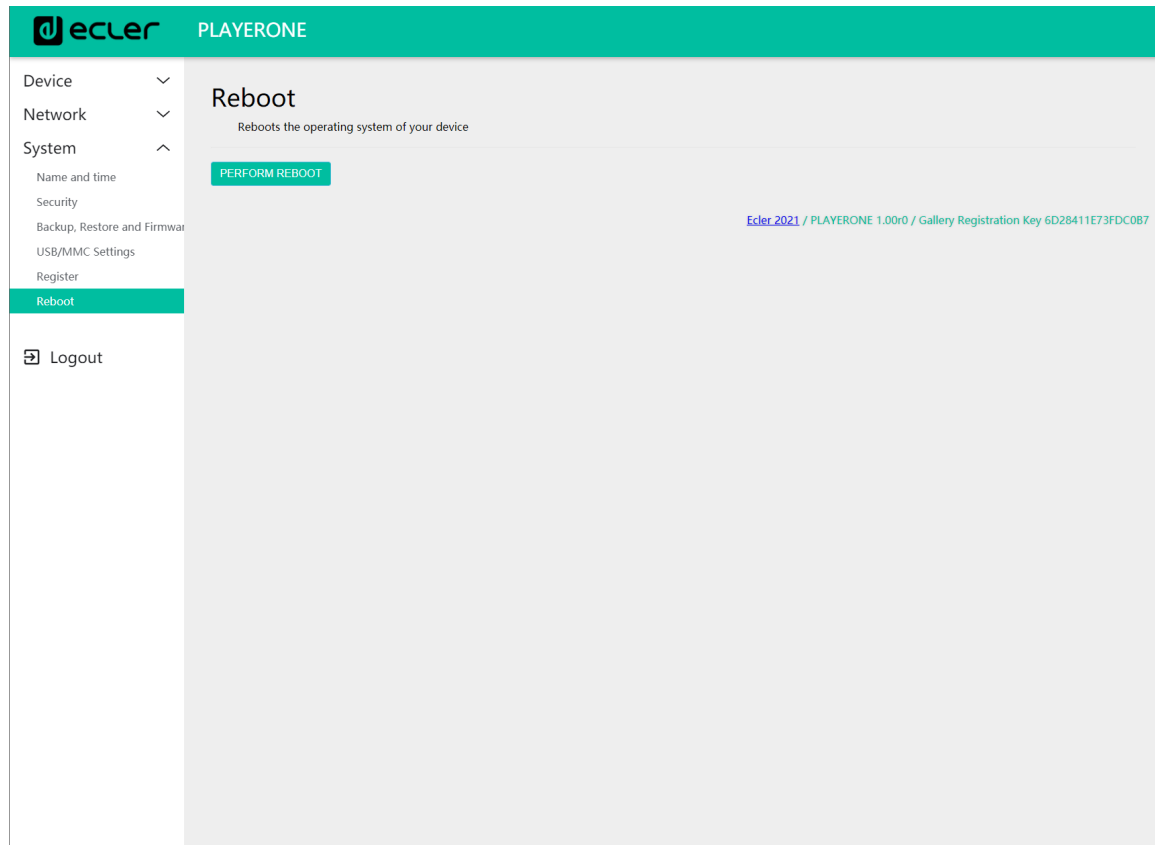


Figure 84: Reboot

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7.5 SSH SERVER CONFIGURETION FOR STORE & FORWARD (RSYNC)

The Cloud Disk Sync module, Store and Forward, on the PLAYER ONE/PLAYER ZERO allows the device to download remote audio content to local storage media (USB/uSD). When active, it daily checks a remote location that hosts audio content, compares this content with the current content stored on its local media (USB/uSD) and if necessary (if differences are detected), synchronises the local content so that it is an exact copy of the remote content. This is a safe method of playing content with the device during working hours (during the day), storing it on a local media without the risks associated with real-time streaming.

Store and Forward utility for synchronizing music content remotely uses rsync (Remote Sync) tool for it.

In this guide, it is shown an example of how to configure a **SSH server using Linux** (Ubuntu Desktop 18.04.2 LTS). It is important, that all machines, server and clients, are connected to the same network (LAN/Intranet).

Important note: for configuring Store and Forward cloud-based, would be necessary to hire a VPS (Virtual Private Server) service in order to get a Public IP and access to the SSH server over the Internet.

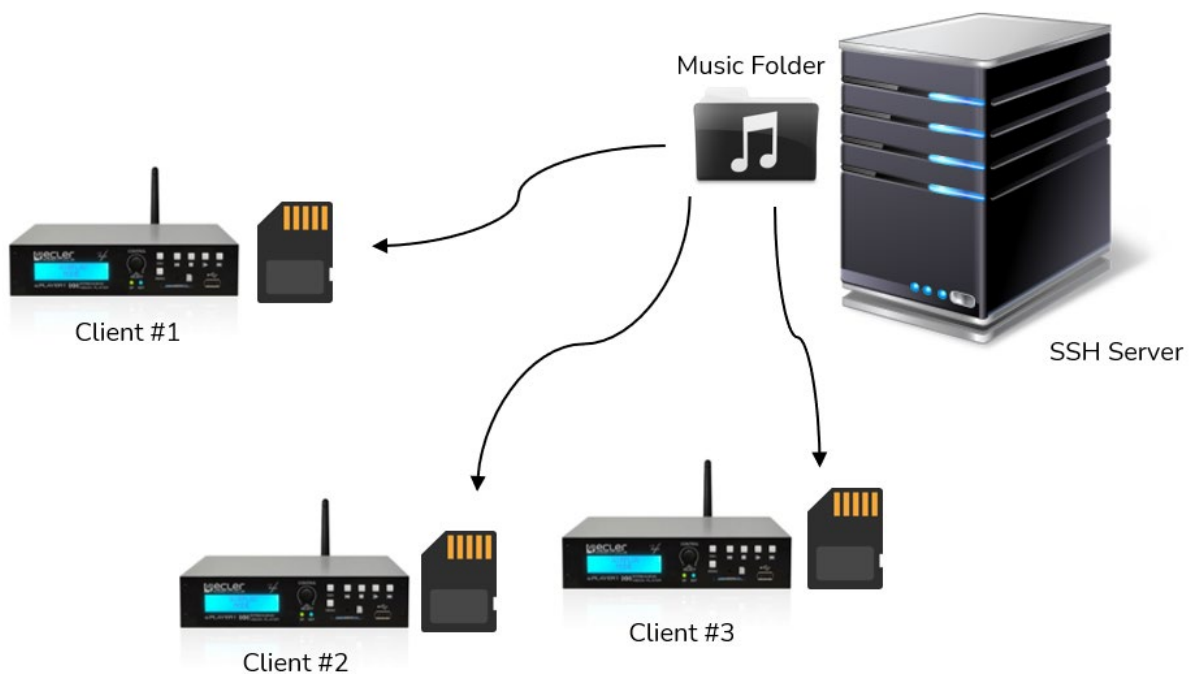


Figure 85: S&F synchronization

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7.5.1 CONTENT GROUPS

A **content group** is a group of devices that synchronize the same audio content using the **Store and Forward utility**. It is necessary to create a different user for each content group. Thus, a device assigned to a content group can access only to the content assigned to that group, and not to other content. This procedure states for security. Each content group will manage its private key to access assigned content in the server that hosts all the music, advertisements, voice messages, etc.

Each content group, or user, can have associated multiple connections at the same time. The maximum number of simultaneous connections will depend on the power of the hardware (server).

So, we will be creating as many content groups, or users on Linux, as contents (music folder e.g.) we want to manage.

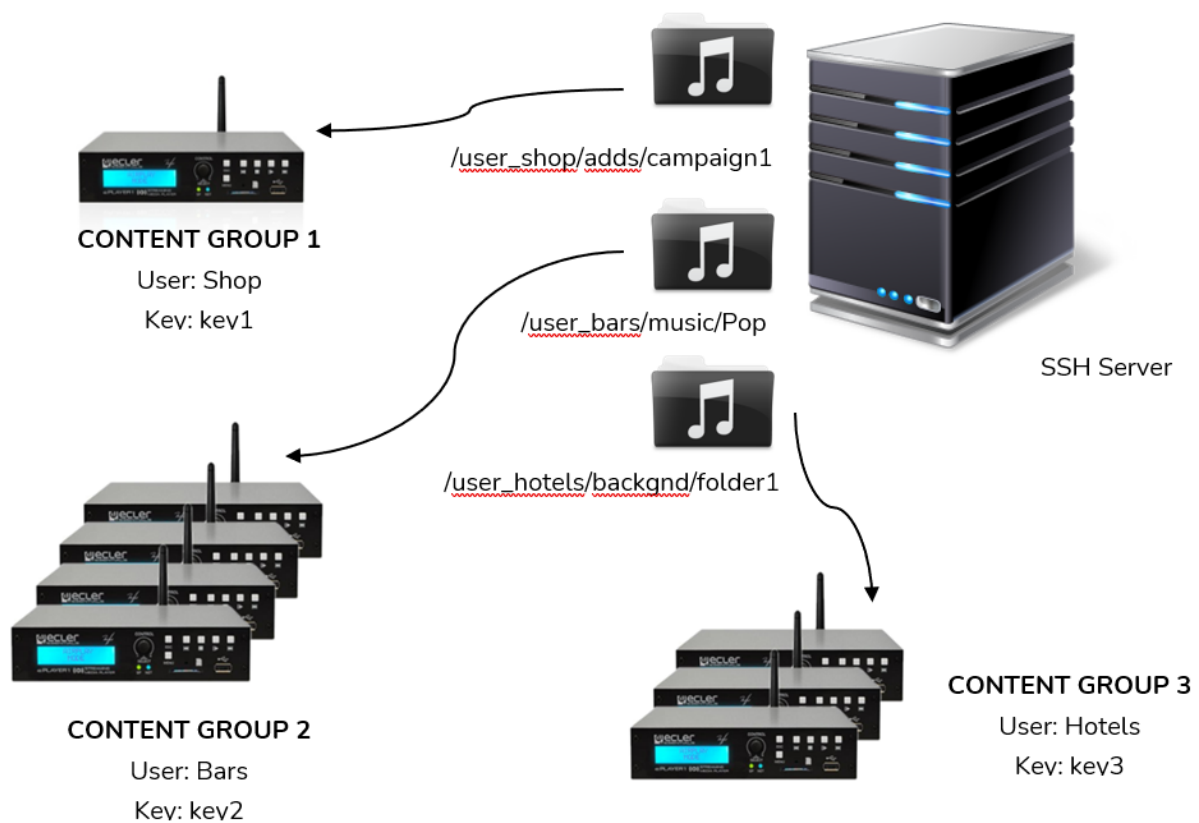


Figure 86: content groups

For a simple configuration, it is possible to create a single user, so, every device can access to its content using the same user and key. It is skipped security level in this configuration. A skilled user could configure the Store and Forward using the embedded web server in the player (changing the folder assigned to it), in order to access to any content in the SSH server, since the key is known.

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It is recommended to create a user per content group for professional applications in which the same SSH server hosts content for different companies. However, if the final user is generating its own content, a single user would be enough.

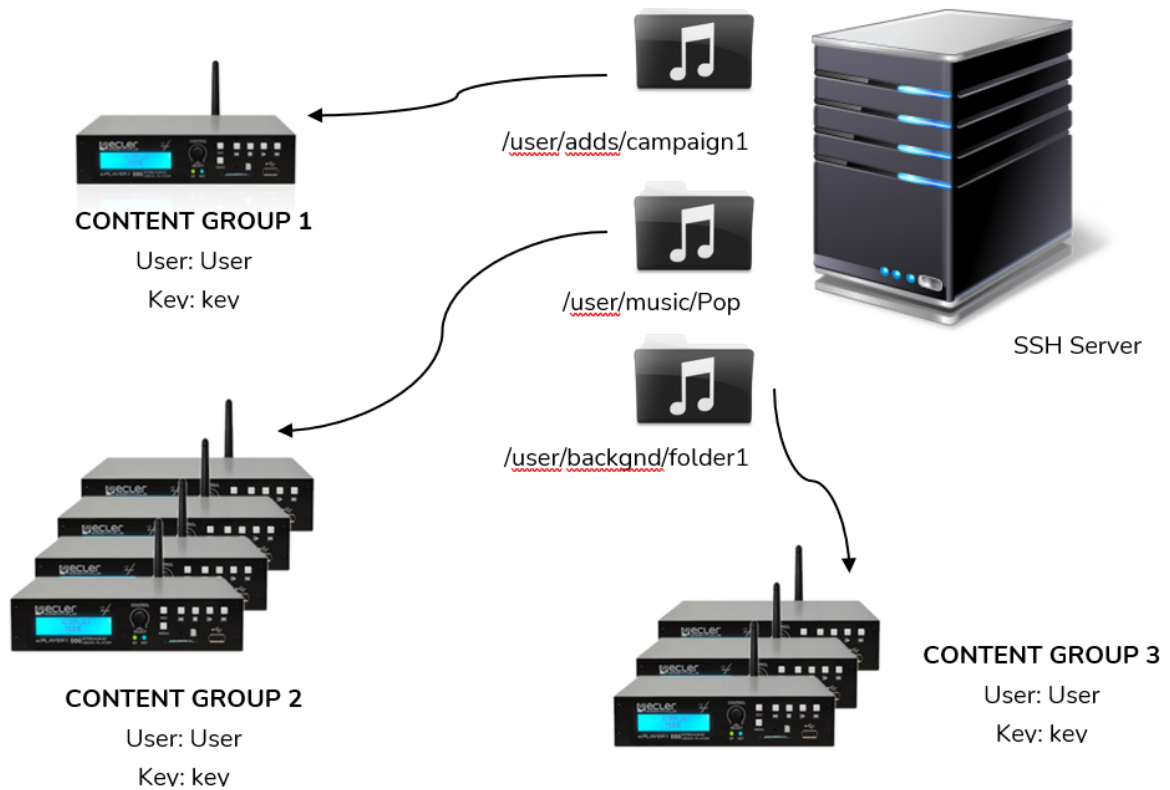


Figure 87: single user

7.5.2 INSTALLING SSH ON LINUX

First of all it is necessary to install the SSH package on Linux. Open a terminal and type:

```
sudo apt-get install ssh
```



You can open a terminal by using the shortcut `{ctrl + alt + T}`.

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7.5.3 CREATING USERS ON LINUX

There will be created as many users as content groups have to be managed. To add a new user, type:

```
sudo adduser <new_user_name>
```

Where <new_user_name> stands for the name you want to give to the content group, for example:

```
sudo adduser hotels

ecler@ecler: ~
File Edit View Search Terminal Help
ecler@ecler:~$ sudo adduser hotels
Adding user 'hotels' ...
Adding new group 'hotels' (1001) ...
Adding new user 'hotels' (1001) with group 'hotels' ...
Creating home directory '/home/hotels' ...
Copying files from '/etc/skel' ...
Enter new UNIX password: Enter a password for the user
Retype new UNIX password: Repeat the password
passwd: password updated successfully
Changing the user information for hotels
Enter the new value, or press ENTER for the default
Full Name []: Enter
Room Number []: Enter
Work Phone []: Enter
Home Phone []: Enter
Other []: Enter
Is the information correct? [Y/n] y Enter "y" + Enter
ecler@ecler:~$
```

Figure 88

Now, login as the new user:

```
su <user_name>
```

And enter the password introduced in the step before.

In this example:

```
su hotels

hotels@ecler: /home/ecler
File Edit View Search Terminal Help
ecler@ecler:~$ sudo adduser hotels
Adding user 'hotels' ...
Adding new group 'hotels' (1001) ...
Adding new user 'hotels' (1001) with group 'hotels' ...
Creating home directory '/home/hotels' ...
Copying files from '/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for hotels
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n] y
ecler@ecler:~$ su hotels
Password:
hotels@ecler: /home/ecler$
```

Figure 89

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7.5.4 GENERATING SSH KEYS

Before generating the SSH keys, it is necessary to go first to the home folder of the new user. To do this:

```
cd
```

Then use the following command to generate the keys and press enter to each question showed up:

```
ssh-keygen -m PEM
```

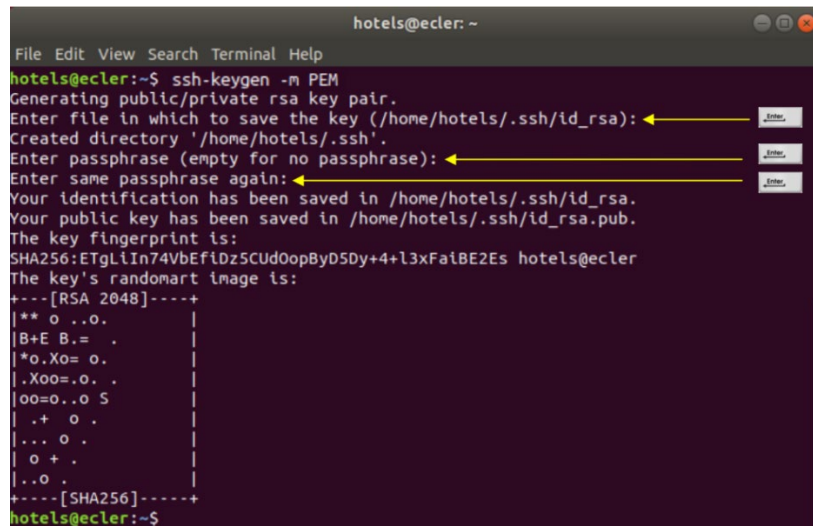


Figure 90

Add the public keys to the authorized keys. Use the following command:

```
cat .ssh/id_rsa.pub >> .ssh/authorized_keys
```

Display the private key you will need to introduce in the PLAYER's Store and Forward configuration page:

```
cat .ssh/id_rsa
```

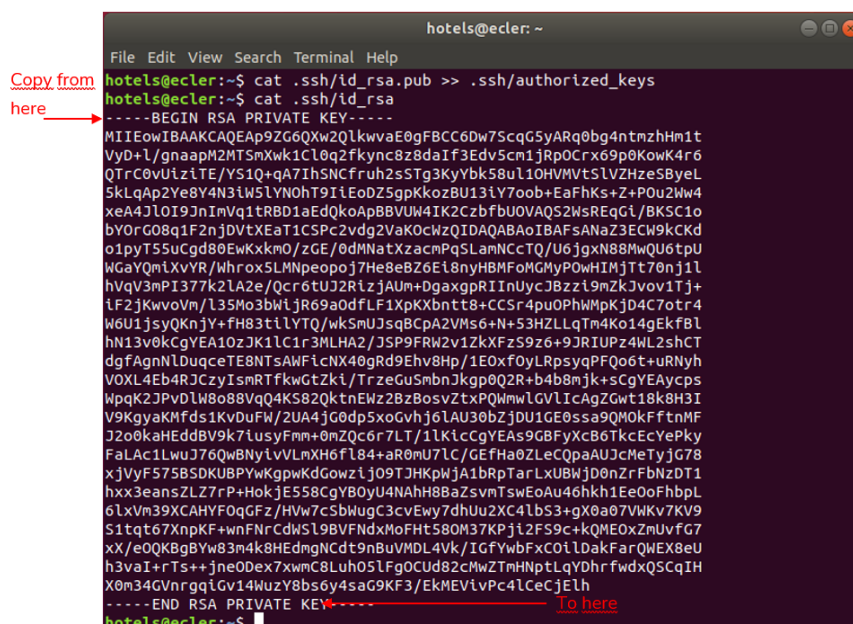



Figure 91

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7.5.5 ADAPTING SSH KEYS TO THE LATEST UBUNTU VERSION

Newer Linux versions have out-dated the RSA algorithms used by PLAYERS.

PLAYER Store & Forward LOG will display an error message as follows:



```

General Remote Source Local Target Log
Key is a ssh-rsa key
Wrote key to '/tmp/saf-dropbear.key'
username=Tech-Support
hostname=192.168.0.67
timeout=25
port=22
source=/home/documents/bgm
target=/media/usb/

ssh: Connection to Tech-Support@192.168.0.67:22 exited: No matching algo hostkey
rsync: connection unexpectedly closed (0 bytes received so far) [Receiver]
rsync error: error in rsync protocol data stream (code 12) at io.c(226) [Receiver=3.1.3]
  
```

Due to that, the **server configuration must be modified** to allow PLAYER RSA running.

To quick solve this, we recommend you use the following command in the server terminal:

```

sudo sh -c 'echo "HostKeyAlgorithms +ssh-rsa" >> /etc/ssh/sshd_config'
sudo sh -c 'echo "PubkeyAcceptedAlgorithms+=ssh-rsa" >> /etc/ssh/sshd_config'

sudo systemctl restart sshd
  
```

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7.5.6 ADDING AUDIO CONTENT TO THE SSH SERVER

The next step is to place the correct audio content in the SSH server for each specific user or content group. Thus, it will be created a folder inside the home directory of each content group:

```
sudo cp -r <path_with_content> <path_to_place_it>
```

In this example, it will be copied the audio content in directory

```
sudo cp -r /home/ecler/sandf/hotels /home/hotels
```

Notice that in directory `/home/ecler/sandf/` it is storage all the different audio content, for each content group or user, organized in folders.

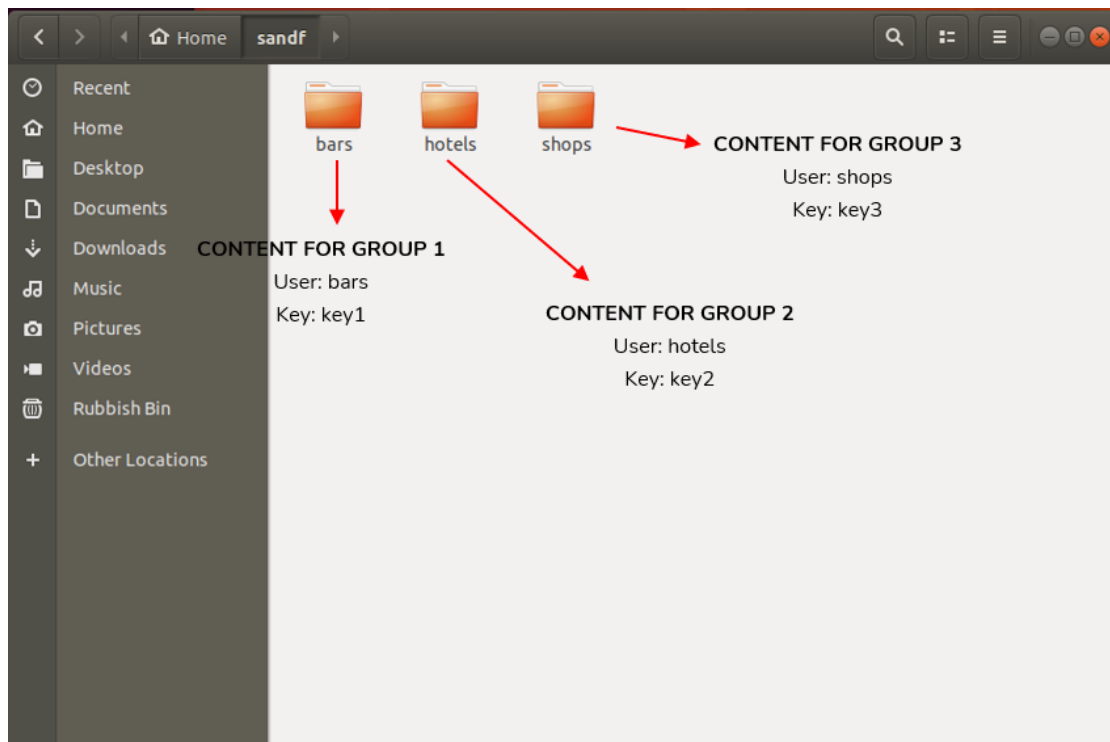


Figure 92

Copy the new directory created `/home/hotels/hotels`. It is the folder where audio contents are storage in the host and need to be copied into PLAYER ONE/PLAYER ZERO S&F's configuration page.

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7.5.7 CONFIGURING THE REMOTE SOURCE IN THE PLAYER

Finally, it can be configured the remote source (SSH server) in the S&F application.

- **Host:** is the IP of the SSH server. To check it you can type on the Terminal:

ifconfig

```
ecler@ecler: ~
File Edit View Search Terminal Help
ecler@ecler:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::a9c4:b724:7e2f:3f7 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:36:08:13 txqueuelen 1000 (Ethernet)
    RX packets 3109 bytes 2947550 (2.9 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 1493 bytes 182308 (182.3 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 376 bytes 35340 (35.3 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 376 bytes 35340 (35.3 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

ecler@ecler:~$
```

Figure 93

- **Port:** Port of the SSH server. 22 (by default)
- **Folder:** the directory inside the SSH server with the audio content to sync
- **Username:** user or name of content group
- **Private key:** key generated for the user or content group

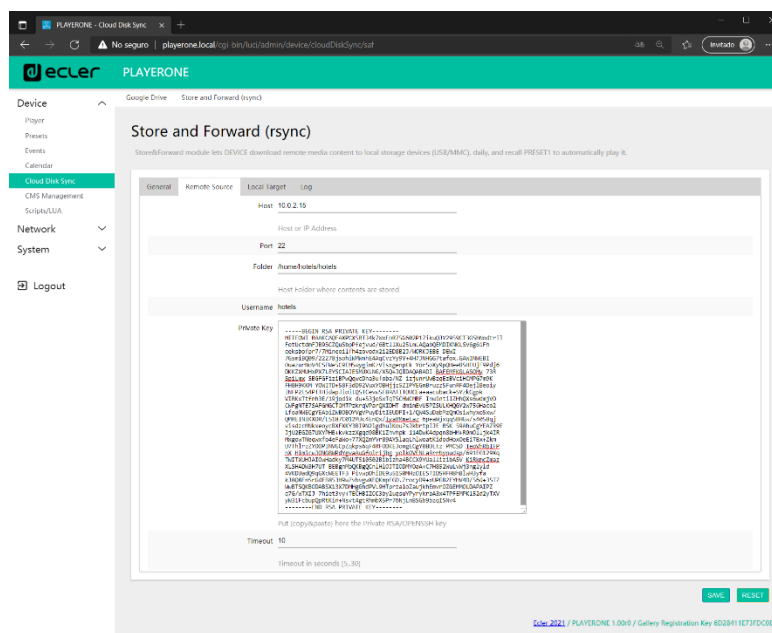


Figure 94

This configuration is the same for every device in the content group.

Repeat steps 3 to 6 for every content group you want to configure for Store & Forward.

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THIRD-PARTY CONTROL PROTOCOL

PLAYER ONE- JSON Commands



USER MANUAL

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8. TP-CONTROL PLAYER JSON Commands PRODUCT OVERVIEW

JSON (JavaScript Object Notation) is a lightweight data-interchange format that allows **PLAYER ONE** to communicate with third-party devices and platforms, such as EclerNet Manager. JSON is a text format that is completely language independent but uses conventions that are familiar to programmers of the C-family of languages. Visit the official website for more information: <https://www.json.org>

- The communication with can be established using Ethernet or WiFi and the TCP/IP transport protocol, always by means of the **2003 TCP port**.
- To check IP address, hold ENTER button for 2-3 seconds to enter admin menu.
- To let some control systems (like CRESTRON®, EXTRON®, AMX®, RTI®, VITY®, MEDIALON®, etc.) process the messages more easily, PLAYER ONE allows to the end of each message with a CR (\n) -line feed, character 10-.
- All commands answer {"result":true} (success) or {"result":false} (something failed)

8.1 PLAYER COMMANDS

SET PLAYER STEREO/MONO

Mono mode

```
{"jsonrpc": "2.0", "method": "Player.Stereo", "Stereo": false}
```

Stereo mode

```
{"jsonrpc": "2.0", "method": "Player.Stereo", "Stereo": true}
```

SET PLAYER FADE

No fade

```
{"jsonrpc": "2.0", "method": "Player.Fade", "Fade": 0}
```

Cross Fade

```
{"jsonrpc": "2.0", "method": "Player.Fade", "Fade": 1}
```

Fade

```
{"jsonrpc": "2.0", "method": "Player.Fade", "Fade": 2}
```

SET PLAYER MODE

Player mode Sequential

```
{"jsonrpc": "2.0", "method": "Player.Mode", "PlayMode": 0}
```

Player mode Random

```
{"jsonrpc": "2.0", "method": "Player.Mode", "PlayMode": 1}
```

SET PLAYER REPEAT

Play all

```
{"jsonrpc": "2.0", "method": "Player.Repeat", "Repeat": 0}
```

Play one

```
{"jsonrpc": "2.0", "method": "Player.Repeat", "Repeat": 1}
```

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Repeat all

```
{"jsonrpc": "2.0", "method": "Player.Repeat", "Repeat": 2}
```

Repeat one

```
{"jsonrpc": "2.0", "method": "Player.Repeat", "Repeat": 3}
```

GET SHORT PLAYER INFORMATION

```
{"jsonrpc": "2.0", "method": "Player.GetStats"}
{"title": "Brian Hyland - Sealed With a Kiss", "counter": "19:30", "txtSource": "NET", "status": 1}
```

GET FULL PLAYER INFORMATION

```
{"jsonrpc": "2.0", "method": "Player.GetStatsEx"}
{"title": "Elvis Presley - Judy", "counter": "07:02", "txtSource": "NET", "status": 1, "SourceList": ["", "MMC", "USB UNAVAILABLE", "DLNA", "AIRPLAY", "JVL PLAYLIST", "MUSICUP"], "source": 6, "preset": 1, "volume": 100, "txtVolume": "0dB", "stereo": 1, "repeat": 2, "playmode": 0, "fade": 1, "bootpreset1": 0, "sp": 1, "bitrate": "128", "duration": "--:--", "freq": "44.1", "playlist_index": " 0006 / 0056"}
```

PLAYER ADD NEXT PLAYLIST ITEM

With this function user can manage device playlist simply inserting next item before the end of current item.

set next item to "next_item.mp3"

```
{"jsonrpc": "2.0", "method": "Player.QueueNextElem", "url": "mmc://next_item.mp3"}
```

PLAYER INSERT PRORITY ITEM

With this function user can insert a priority item that will be played "over" the actual playing item. Current playing item will be fade.

set next item to "priority_item.mp3"

```
{"jsonrpc": "2.0", "method": "Player.PrioritySetElem", "url": "usb://priority_item.mp3"}
```

PLAYER PLAY

If the player is paused or stopped use this function to start current loaded item reproduction, otherwise the player is paused.

```
{"jsonrpc": "2.0", "method": "Player.Play"}
```

PLAYER STOP

```
{"jsonrpc": "2.0", "method": "Player.Stop"}
```

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PLAYER NEXT

```
{"jsonrpc": "2.0", "method": "Player.Next"}
```

PLAYER PREVIOUS

```
{"jsonrpc": "2.0", "method": "Player.Prev"}
```

INCREMENT VOLUME

Increment volume just one dB

```
{"jsonrpc": "2.0", "method": "Player.Volume", "Action": "inc"}
```

DECREMENT VOLUME

Decrement volume just one dB

```
{"jsonrpc": "2.0", "method": "Player.Volume", "Action": "dec"}
```

SET VOLUME

Param volume is expressed in %. To set volume to 50% use next command.

```
{"jsonrpc": "2.0", "method": "Player.Volume", "Volume": 50}
```

OPEN PLAYLIST URL

Url param must be any valid device url.

```
{"jsonrpc": "2.0", "method": "Player.Open", "Url": "http://50.7.181.186:8060"}
```

OPEN PRESET INDEX 10

Preset param must be a valid preset index 1 to 20

```
{"jsonrpc": "2.0", "method": "Player.Open", "Preset": 10}
```

OPEN SOURCE INDEX 4 AIRPLAY (FROM AVAILABLE SOURCES LIST)

Source must be a valid player source index. Please check “Get of list available sources” to know all valid sources.

```
{"jsonrpc": "2.0", "method": "Player.Open", "Source": 4}
```

GET LIST OF AVAILABLE SOURCES

This command returns the list of available sources.

```
{"jsonrpc": "2.0", "method": "Source.GetList"}
{"SourceList": ["", "MMC", "USB UNAVAILABLE", "DLNA", "AIRPLAY", "ROCK
80s", "DISCO
80s"]}
```

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8.2 CONFIGURETIONS COMMANDS

RESET DEVICE SETTINGS

Restore device factory default settings. All your settings will be lost.

```
{"jsonrpc": "2.0", "method": "Settings.Reset"}
```

RESTORE DEVICE SETTINGS FROM URL

Restore device settings to values in url file.

```
{"jsonrpc": "2.0", "method": "Settings.Restore", "url": "http://ecler.com/my\_player\_config.config"}
```

BACKUP CURRENT DEVICE CONFIGURETION

Backup device settings to url. Available configurations: user, admin or gallery.

```
{"jsonrpc": "2.0", "method": "Settings.Backup", "url": "mmc://backups/gim.config", "user": "admin"}
```

GETTING DEVICE VARIABLE VALUE

This function returns a device variable value. Please check the Player LUA manual in order to check all the interface.settings.variable values.

In order to retrieve preset01.settings.bname (preset name) user should send next command to the PLAYER ONE:

```
{"jsonrpc": "2.0", "method": "CFG.get", "interface": "preset01", "section": "settings", "variable": "bname"}
{"value": "AFTERNOON PRESET"}
```

SETTING DEVICE VARIABLE VALUE

This function set a device variable value. Please check the Player LUA manual in order to check all the interface.settings.variable values.

In order to set preset01.settings.bname (preset name) user should send next command to the PLAYER ONE:

```
{"jsonrpc": "2.0", "method": "CFG.set", "interface": "preset01", "section": "settings", "variable": "bname", "value": "MIDNIGHT PRESET"}
```

STORE CHANGES IN DEVICE INTERNAL MEMORY

This function stores all interface variables to the internal device memory. Should be called after set all the changes. PLAYER ONE must reload the data using [reload functions](#).

```
{"jsonrpc": "2.0", "method": "CFG.commit", "interface": "preset01"}
```

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8.3 PRESET COMMANDS

Preset variables for GFG.get and CFG.set. Please check Player LUA manual. [_Preset variables.](#)

RELOAD PRESET

Reload indicated preset index. Index should be a valid preset index 1..20. Must be called after modifying preset variables and call commit command

```
{"jsonrpc": "2.0", "method": "Preset.Reload", "Index": 1}
```

8.4 EVENT COMMANDS

Event variables for GFG.get and CFG.set. Please check Player LUA manual. [Event variables.](#)

RELOAD EVENT

Reload indicated event. Name should be: GPI1, GPI2 or SILENCE. Must be called after modifying event variables and call commit command.

```
{"jsonrpc": "2.0", "method": "Event.Reload", "Name": "GPI1"}
```

8.5 CALENDAR COMMANDS

Calendar variables for GFG.get and CFG.set. Please check Player LUA manual. [Preset variables](#)

RELOAD CALENDAR

Reload indicated calendar. Calendar index should be a number 1..24. Must be called after modifying calendar variables and call commit command. Reload calendar 24 example:

```
{"jsonrpc": "2.0", "method": "Calendar.Reload", "Index": 24}
```

8.6 STORE AND FORWARD COMMANDS

SAF variables for GFG.get and CFG.set. Please check Player LUA manual. [SAF variables](#)

RELOAD SAF

Reload SAF conFiguretion. Must be called after modifying SAF variables and call commit command.

```
{"jsonrpc": "2.0", "method": "SAF.Reload"}
```

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8.7 SCRIPT COMMANDS

Script variables for GFG.get and CFG.set. Please check Player LUA manual. Script variables.

RELOAD SCRIPT

Reload script conFiguretion. Index should be script index 1 to 20. Must be called after modifying Script variables and call commit command. Reload script 7 example:

```
{"jsonrpc": "2.0", "method": "Script.Reload", "Index": 7}
```

EXECUTE SCRIPT 6

```
{"jsonrpc": "2.0", "method": "Script.Command", "Index": 6, "Command": "Start"}
```

KILL SCRIPT 3

```
{"jsonrpc": "2.0", "method": "Script.Command", "Index": 3, "Command": "Stop"}
```

QUERY SCRIPT 11 STATUS

```
{"jsonrpc": "2.0", "method": "Script.Status", "Index": 11}
{"status": "Idle"}
```

8.8 REGISTER COMMANDS

ADD REGISTER LINE

Add line to device LOG. Possible line values are: Trace, Warning, Error.

Add a warning line example:

```
{"jsonrpc": "2.0", "method": "Device.Log", "Severity": "Trace", "Message": "This is a warning message"}
```

8.9 DEVICE COMMANDS

DEVICE REBOOT

```
{"jsonrpc": "2.0", "method": "Device.Reboot"}
```

GET DEVICE VERSION

```
{"jsonrpc": "2.0", "method": "Device.GetVersion"}
{"version": "3.04r0"}
```

DEVICE UPDATE FIRMWARE

With this function user could update device firmware to an specific version. User must provide firmware url. Device setting will be saved.

```
{"jsonrpc": "2.0", "method": "Device.Update", "url": "https://www.ecler.com/new_firmware.bin"}
```

DEVICE BOOT CONFIG COMMAND

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Available BootPreset1 options are: 1 – PRESET1, 2 – keep status

```
{"jsonrpc": "2.0", "method": "Device.BootPreset1", "BootPreset1": 2}
```

DEVICE GET MAC

```
{"jsonrpc": "2.0", "method": "Device.GetMac"}
{"mac": "32 41 41 20 40 42"}
```

DEVICE GET GALLERY REGISTRATION KEY

```
{"jsonrpc": "2.0", "method": "Device.GetRegkey"}
{"regkey": "2E1BB146B2DB2WA1"}
```

8.10 PANEL COMMANDS

PANEL SET LOCK SETTINGS

Set panel Lock to “UNLOCK ALL” “UNLOCK USER” “LOCK ALL”. Set panel password to Pass.

```
{"jsonrpc": "2.0", "method": "Device.Panel", "Lock": "LOCK ALL", "Pass": "1234"}
```

PANEL GET LOCK SETTINGS

```
{"jsonrpc": "2.0", "method": "Device.GetPanel"}
{"Lock": "UNLOCK ALL", "Pass": ""}
```

FINDER COMMANDS

Start/stop finder operation

```
{"jsonrpc": "2.0", "method": "Device.Finder", "Finder": true}
```

LCD FUNCTIONS

Print text on device frontal display. Two lines are available and aligned centre if Centre variable is true. Is possible to specify the display timeout in seconds.

```
{"jsonrpc": "2.0", "method": "Device.Print", "Line1": "Hi", "Line2": "Bye", "Center": true, "Timeout": 3}
```

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9.1 PLAYER LUA SDK V1.02

9.1.1 CHANGELIST

- **v1.02 – xxxx/xx/xx**
 - ✓ Added DEV_reboot function
 - ✓ Added CFG_backup2 function with type parameter: user, admin and gallery
 - ✓ Bug fix CFG_backup was calling to Device.Backup instead Settings.Backup
 - ✓ Typo, Calendar general_enabled changed to bEnabled
 - ✓ Typo, Scripts enabled change to bEnabled
- **v1.01 – 2018/03/14**
 - ✓ Added DEV_mac function
 - ✓ Added DEV_regkey function
- **v1.00 – 2018/02/08**
 - ✓ First version of the document also named “Preliminary version”

9.2 HOW TO USE PLAYER MODULE

In order to use PLAYER module you must include it in your source code using require statement. PLAYER automates this function for you, but you can also include PLAYER module manually and create your PLAYER object as you need using the next two lines of code:

```
require "PLAYER"
mydev = PLAYER.new()
```

In this case you can program actions directly to your PLAYER device, but also it is possible to access PLAYER directly from your PC (in this case it is recommended to use some LUA development tool like Eclipse/LUA)

If you want to use PLAYER directly from your PC you can call “new” function with IP and PORT parameters as shown next:

```
require "PLAYER"
mydev = PLAYER.new("10.120.120.4", 2003)
```

Where 10.120.120.4 is the PLAYER IP address, that you can check by pressing ENTER button for 10 seconds and going to WIFI or ETHERNET menu. 2003 is the JSON port.

One time PLAYER object is created is possible to access all functions in it.

Let see what you can do.

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9.2.1 CONVENTIONS

- **n** indicates number
- **b** indicates Boolean
- **txt** indicates text

9.2.2 PLAYER FUNCTIONS

Access player functions like repeat, fade, etc.

Functions

Function:

```
PLAYER_stereo(bStereo)
```

Description:

Set the player output mode to stereo or mono

Parameters:

bStereo – *boolean*, set to true for stereo output, otherwise mono output is selected

Function:

```
PLAYER_fade(nFade)
```

Description:

Set the player fade mode

Arguments:

nFade – *integer* 0-OFF, 1-XFADE, 2-FADE

Function:

```
PLAYER_mode(nPlayMode)
```

Description:

Set the player playlist sequence mode

Arguments:

nPlayMode – *integer* 0-SEQUENTIAL, 1-RANDOM

Function:

```
PLAYER_repeat(nRepeat)
```

Description:

Set the player repeat mode

Arguments:

nRepeat – *integer* 0-PLAY ALL, 1-PLAY ONE, 2-REPEAT ALL, 3-REPEAT ONE

Function:

```
PLAYER_getStats()
```

Description:

Get the player statistics and status

Return:

String – xml string containing all the player status

In the next example you could see how to obtain the player stats and how to parse it using cJSON library.

```
require "PLAYER"
```

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```
ep=PLAYER.new()
json_text=ep.PLAYER_getStats()
print(json_text)
```

```
cjson=require "cjson"
value=cjson.decode(json_text)
print("SourceList[3]= " ..
```

output

```
{"title":"The White Stripes - Seven Nation
Army","counter":"52:52","txtSource":"NET","status":1,"SourceList":
[["","MMC","USB","DLNA","AIRPLAY"],"rock
alternativo"],"source":5,"preset":1,"volume":100,"txtVolume":"0dB","stereo":1,"repeat":2,"playmode":0,"
fade":1,"
bootpreset1":0,"sp":1,"bitrate":"192","duration":"--:--","freq":"44.1","playlist_index":" 0001 /
0001","playlist_url":"mmc://radiobob-alternativerock-mp3-hq?
sABC=5n6s2sr8%230%23no8617362n29q2o435p17n54928n16s5%23gharva&amspams=playerid:tune
in;skey:15 17236200","priority":""}
SourceList[3]=USB
```

Function:

[PLAYER_queue\(urlNextElem\)](#)

Description:

Add next playlist item. Using this function you can compose your own playlist. In order to do a continuous play it is necessary to queue next item prior to the end of the current one.

Arguments:

urlNextElem – url of the item to add

Function:

[PLAYER_priority\(urlElemPriority\)](#)

Description:

Use this function to play priority sounds over the normal playlist. It apply

Return:

String – url of the priority element

Function:

[PLAYER_play\(\)](#)

Description:

If the player is paused or stopped use this function to start current loaded item reproduction, otherwise the player is paused.

Function:

[PLAYER_stop\(\)](#)

Description:

Use this function to stop the current player reproduction.

Function:

[PLAYER_next\(\)](#)

Description:

Use this function to advance to the next item. It retains the play state after advance is done.

Function:

[PLAYER_previous\(\)](#)

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Description:

Use this function to move back to the previous item. It retains the play state.

Function:

```
PLAYER_incvol = function()
```

Description:

Use this function to increase the player volume

3dB. Function:

```
PLAYER_decvol = function()
```

Description:

Use this function to decrease the player volume 3dB.

Function:

```
PLAYER_setvol = function(perc)
```

Description:

Use this function to set the current player volume

Arguments:

nVolume – *integer* 0 to 100

Function:

```
PLAYER_setvol = function(perc)
```

Description:

Call this function to set the mute player parameter.

Arguments:

bMute – *boolean* set to true to mute the player, otherwise unmute the player.

Function:

```
PLAYER_open = function( options )
```

Description:

Call this function to open/load a preset or source or url

Arguments:

url (optional) – String of the url you want to open e.g. mmc://my-music/ http://my.server/music-mp3
 preset (optional) – integer from 1 to 20. Indicates the preset you want to open
 source (optional) – integer from 1 to 24 representing MMC, USB, DLNA, AIRPLAY and presets from PRESET1 to PRESET 20 (preset must be configured properly)

How to load “PRESET 12”?

```
require "PLAYER"

ep = PLAYER.new()

ep.PLAYER_open({preset=12})
```

How to load url “http://my.server/music-mp3”?

```
require "PLAYER"

ep = PLAYER.new()

ep.PLAYER_open({url="http://my.server/music-mp3"})
```

How to load source “AIRPLAY”?

```
require "PLAYER"

ep = PLAYER.new()

ep.PLAYER_open({source=4})
```

*note the { } around the parameter which indicates optional arguments

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9.2.3 CONFIG. (CFG) FUNCTIONS

Set and get PLAYER parameters: PRESET, SAF, CAL, EVENT, SCRIPT and LOG. Please refer to the corresponding section to check how to set/get each parameter.

Functions

Function:

`CFG_reset()`

Description:

Restore PLAYER configuration to its initial state (factory defaults). Please note that using this function you will lose all your changes.

Function:

`CFG_restore(urlRestore)`

Description:

Restore PLAYER settings from the urlRestore file e.g.
mmc://good-settings.config http://my.server/PLAYER/mycompany.settings

Arguments:

urlRestore – String indicating the url where settings you want to restore

Note:

If you want to apply all settings you must call `DEV_reboot` or call every `XXX_reload` function to apply changes one per one.

Function:

`CFG_backup(urlBackup, bUser)`

Description:

Backups PLAYER settings to urlBackup.

Arguments:

urlBackup – String indicating the url where settings are stored e.g. mmc://good-settings.config http://my.server/PLAYER/mycompany.settings
bUser – Boolean set to true for user settings only, otherwise all the settings are backed up to the target destination

Function:

`CFG_backup2(urlBackup, type)`

Description:

Backups PLAYER settings to urlBackup.

Arguments:

urlBackup – String indicating the url where settings are stored e.g. mmc://good-settings.config http://my.server/PLAYER/mycompany.settings
type – String available possibilities are: user, admin and gallery. Select gallery for Player, Events, , Scripts, Player Profile and Network settings. Select user for Player, Presets, Events, Calendar, Cloud Disk, and Scripts. Select Admin for all the available settings.

Function:

`CFG_get = function(interface, section, variable)`

Description:

Return the value of the selected variable “interface.section.variable”

Arguments:

interface – must be a valid interface: preset, saf, calendar(01..24), event (gpi1,gpi2, silence), , script and log.
section – variable's section. Most of the cases is “settings”
variable – variable's name.

Return:

String with the variable value.

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Function:

`CFG_set = function(interface, section, variable,value)`

Description:

Set the value of the selected variable “interface.section.variable” to “value”

Arguments:

interface – must be a valid interface: preset, saf, calendar(01..24), event (gpi1,gpi2, silence),
gdrive, script and log.
section – variable's section. Most of the cases is “settings”
variable – variable's name.
value – variable's value.

Function:

`CFG_commit = function(interface)`

Description:

Commit interface changes. After changes all variables in one interface it's necessary to dump changes to PLAYER internal memory. Do it one time for each modified interface.

Arguments:

interface – must be a valid interface: network, wireless, preset, saf, calendar(01..24), event (gpi1, gpi2, silence), gdrive, script and log.

9.2.4 PRESET FUNCTIONS

Set and get PLAYER PRESET parameters. There are 20 presets available. Each preset can configure: name, events enabled, playlist, media alias, play status, volume, mute, play mode, repeat mode, fade mode, stereo/mono.

Functions

Function:

`PRESET_reload(index)`

Description:

Reload preset conFiguretion. Call it after modify the preset conFiguretion using CFG_set and CFG_commit

Arguments:

index – number indicating the preset number (from 1 to 20)

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9.2.4.1 PRESET VARIABLES

presetNN.settings.bname	Preset name
presetNN.settings.eventList	List of enabled events separated by % (GPI1%GPI2%SILENCE)
presetNN.settings.bPlaylist	1 to overwrite playlist
presetNN.settings.loadPlaylist	url of the playlist. Must be enabled using presetNN.settings.bPlaylist
presetNN.settings.mediaAlias	Alias of the enabled playlist. It appears as source
presetNN.settings.bStatus	1 to overwrite status
presetNN.settings.status	Preset status must be PLAY or STOP
presetNN.settings.bVolume	1 to overwrite preset volume
presetNN.settings.volume	Preset volume in % (from 0 to 100)
presetNN.settings.mute	1 indicates mute, 0 to unmute
presetNN.settings.bPlayMode	1 to overwrite play mode
presetNN.settings.playMode	RANDOM or SEQUENTIAL
presetNN.settings.bRepeatMode	1 to overwrite repeat mode
presetNN.settings.repeatMode	PLAY ALL, PLAY ONE, REPEAT ALL or REPEAT ONE
presetNN.settings.bFadeMode	1 to overwrite fade mode
presetNN.settings.fadeMode	OFF, XFADE or FADE
presetNN.settings.bStereo	1 to overwrite stereo/mono mode
presetNN.settings.stereo	MONO or STEREO



- All variables are optional.
- NN indicates a number 01 to 20

```
require "PLAYER"
ep = PLAYER.new()

ep.CFG_set("preset03", "settings", "bname", "My first preset")
ep.CFG_set("preset03", "settings", "bPlaylist", 1)
ep.CFG_set("preset03", "settings", "mediaAlias", "Alias of my first preset")
ep.CFG_set("preset03", "settings", "bVolume", 1)
ep.CFG_set("preset03", "settings", "volume", 100)
ep.CFG_set("preset03", "settings", "loadPlaylist", "mmc:///")
ep.CFG_set("preset03", "settings", "eventList", "GPI1%SILENCE")
ep.CFG_commit("preset03")

ep.PRESET_reload(3)
```

9.2.4.2 PRESET EXAMPLES

At this moment you can load the configured preset with this instruction:

```
ep.PLAYER_open({preset=3})
```

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9.2.5 EVENT FUNCTIONS

Event functions lets PLAYER execute automated functions. There are 3 possibilities GPI1, GPI2 and SILENCE settings.

Functions

Function:

[EVENT_reload\(txtEvent\)](#)

Description:

Reload event conFIGuretion. Call it after modify the preset conFIGuretion using CFG_set and CFG_commit

Arguments:

txtEvent – String indicating the event to reload (GPI1, GPI2 or SILENCE)

9.2.6 EVENT VARIABLES

When programming GPI1 or GPI2 these variables are available

gpiN.settings.source_polarity	Event polarity DIRECT or REVERSE
gpiN.settings.target_type	INTERNAL, PRESET RECALL, TRANSPORT CONTROL, LOAD & PLAY SOURCE or PRIORITY SOURCE
gpiN.settings.target_preset	If target_type=PRESET RECALL put here the preset number 1 to 20
gpiN.settings.target_transport	If target_type=TRANSPORT CONTROL enter here one of this options: STOP, PLAY, PREV/RW, NEXT/FW
gpiN.settings.target_loadsource	if target_type=LOAD & PLAY SOURCE or target=PRIORITY SOURCE put here the url you want to load and play
gpiN.settings.target_priomode	If target_type=PRIORITY SOURCE enter here the priority mode. Choose between HOLD or PULSE
gpiN.settings.target_prio_retrigger	If target_priomode=PULSE set to 1 to active retrigger option. 0 to disable it
gpiN.settings.target_prio_pulse_time	If target_prio_retrigger=1 put here the playback duration



N should be 1 or 2 (for GPI1 or GPI2)

While programming SILENCE these variables are available

silence.settings.source_detecttime	Put here the detection time in seconds
silence.settings.target_type	INTERNAL, PRESET RECALL, LOAD & PLAY SOURCE
silence.settings.target_preset	If target_type=PRESET RECALL put here the preset number 1 to 20
silence.settings.target_loadsource	if target_type=LOAD & PLAY SOURCE or target=PRIORITY SOURCE put here the url you want to load and play

9.2.7 CALENDAR (CAL) FUNCTIONS

Calendar functions lets PLAYER execute automated functions on a date/time. There are 24 different calendar events available.

Functions

Function:

[CAL_reload\(nIndex\)](#)

Description:

Reload calendar conFiguretion. Call it after modify the calendar conFiguretion using [CFG_set](#) and [CFG_commit](#)

Arguments:

nIndex – number indicating the calendar to reload (1 to 24)

9.2.7.1 CALENDAR VARIABLES

calendarNN.settings.general_description	Calendar name or description
calendar01.settings.bEnabled	Set to 1 to enable this calendar
calendarNN.settings.source_start_date	Start date (YYYY/MM/DD). Could be blank
calendarNN.settings.source_start_time	Start time (HH:MM). Could be blank.
calendar.settings.source_end_enable	Could be FOREVER or CUSTOM END DATE
calendarNN.settings.source_end_date	If CUSTOM END DATE is selected put here the calendar end date (YYYY/MM/DD)
calendarNN.settings.source_end_time	If CUSTOM END DATE is selected put here the calendar end time (HH:MM)
calendarNN.settings.source_week_nonactive	Week mask where calendar is not active. Should be a string of days. Each day is represented by his 2 first letters (MoTuWeThFrSaSu)
calendarNN.settings.source_repeat_enable	1 indicates that the calendar must repeat the selected interval time up to the number indicated in times variable. 0 no repetition
calendarNN.settings.source_repeat_interval	If repeat is enabled this parameter indicates the repetition time
calendarNN.settings.source_repeat_times	If repeat is enabled this parameter indicates the repetition's number
calendarNN.settings.target_type	INTERNAL, PRESET RECALL, TRANSPORT CONTROL, LOAD & PLAY SOURCE or PRIORITY SOURCE
calendarNN.settings.target_preset	If target_type=PRESET RECALL put here the preset number 1 to 20
calendarNN.settings.target_transport	If target_type=TRANSPORT CONTROL enter here one of this options: STOP, PLAY, PREV/RW, NEXT/FW
calendarNN.settings.target_loadsource	if target_type=LOAD & PLAY SOURCE or target=PRIORITY SOURCE put here the url you want to load and play

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9.2.8 STORE AND FORWARD (SAF) FUNCTIONS

Store and Forward module let PLAYER download remote media content from a rsync/ssh server to local storage devices (same as PRESET1), daily, and recall PRESET1 to automatically play it.

Functions

Function:

[SAF_reload\(\)](#)

Description:

Reload Store and Forward configuration. Call it after modify the Store and Forward configuration using CFG_set and CFG_commit

9.2.8.1 STORE AND FORWARD VARIABLES

saf.settings.bEnabled	Set to 1 to enable daily Store and Forward synchronization
saf.settings.time_param	Enter here the synchronization hour (HH:MM)
saf.settings.host	Put here the rsync/ssh server address
saf.settings.port	Enter here the rync/ssh port (default 22)
saf.settings.source_path	Enter here the server folder where the contents are stored
saf.settings.source_user	SSH/rsync username parameter
saf.settings.source_key	Enter here your private SSH/rsync key
saf.settings.source_timeout	Enter here the SSH/rsync operation timeout (in seconds)

9.2.9 REGISTER (LOG) FUNCTIONS

Register functions that allows the user to write to the PLAYER internal REGISTER

Functions

Function:

[LOG_trace\(txtLog\)](#)

Description:

Add to PLAYER LOG register a trace line

Arguments:

txtLog – String containing the text you want to add. The source of the register line will be equal to “ScriptNN” where NN represents the script calling LOG_trace

Function:

[LOG_warning\(txtLog\)](#)

Description:

Add to PLAYER LOG register a warning line

Arguments:

txtLog – String containing the text you want to add. The source of the register line will be equal to “ScriptNN” where NN represents the script calling LOG_warning

Function:

[LOG_error\(txtLog\)](#)

Description:

Add to PLAYER LOG register a error line

Arguments:

txtLog – String containing the text you want to add. The source of the register line will be equal to “ScriptNN” where NN represents the script calling LOG_error

9.2.10 DEVICE (DEV) FUNCTIONS

Device functions allows the user to setup firmware and general PLAYER configurations.

Functions

Function:

```
DEV_reboot()
```

Description:

Reboot the PLAYER immediately.

Function:

```
txtVersion = DEV_version()
```

Description:

Get the PLAYER firmware version

Return:

txtVersion – string containing PLAYER firmware version formatted

Function:

```
DEV_update(urlFirmware)
```

Description:

Installs a new PLAYER firmware version. After installation device is rebooted automatically

Arguments:

urlFirmware – Url containing the path where PLAYER firmware resides. Must be a local storage device or http/https url.

Function:

```
total, used, percent = DEV_get(devUrl)
```

Description:

Get the PLAYER firmware version

Arguments:

devUrl – url of local storage device. Must be mmc:// or usb://

Return:

total – number representing total number of bytes of external storage device used – number of bytes representing the used size
percent – number parameter representing the used percentage

Example:

```
require "PLAYER"
ep=PLAYER.new()

print("usb", ep.DEV_get("usb://"))

total,user,percent=ep.DEV_get("mmc://")
print("mmc", total, user, percent)
```

```
usb    7823420    4223365
mmc    15629312    68912  0
```

Function:

```
DEV_boot(nBoot)
```

Description:

Set device boot mode to nBoot

Arguments:

nBoot – number indicating load PRESET1 (bBoot=2) or keep settings (nBoot=1)

Function:

```
bEncrypt = DEV_isEncrypted(devUrl)
```

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Description:

Get local storage encrypted flag

Arguments:

devUrl – string must be mmc:// or usb://

Return:

bEncrypt – boolean, true, if local storage is encrypted

Function:

```
bEncrypt = DEV_isEncrypted(devUrl)
```

Description:

Get local storage encrypted flag

Arguments:

devUrl – string must be mmc:// or usb://

Return:

bEncrypt – boolean, true, if local storage is encrypted

Function:

```
bEncrypt = DEV_mac()
```

Description:

Get device MAC address

Return:

jsonMAC – json string representing MAC address value

```
require "PLAYER"
device=PLAYER.new()
w()
```

```
{"mac":"A8 40 41 16 47 D6"}
```

Function:

```
bEncrypt = DEV_regkey()
```

Description:

Get device Registration Key code

Return:

jsonMAC – json string representing Registration Key code

```
require "PLAYER" device=PLAYER.new()
print(device.DEV_regkey())
```

```
{"regkey":"A269FCEAB4F1C20B"}
```

9.2.11 PANEL FUNCTIONS

Panel functions allows the user to setup firmware and general PLAYER configurations.

Functions

Function:

```
PANEL_set=function(lockMode, password)
```

Description:

Set the panel lock mode and password

Arguments:

lockMode – string indicating lock mode. Possible options are UNLOCK ALL, UNLOCK USER, LOCK ALL password – string with the LOCK/UNLOCK password. Max length is 8. Valid characters are: 0-9 A-Z

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Function:

```
lockMode, password = PANEL_get()
```

Description:

Set the panel lock mode and password

Return:

lockMode – string representing lock mode. Possible values are UNLOCK ALL, UNLOCK USER, LOCK ALL
password – string with the LOCK/UNLOCK password

9.2.12 FINDER FUNCTIONS

Finder functions allows the user to run finder operation on PLAYER.

Functions

Function:

```
FINDER_set(bLigth)
```

Description:

Start or Stop finder operation. If finder is active, PLAYER display blinks.

Arguments:

bLigth – boolean, set to true to start finder operation (display blink). Set to 0 to stop finder operation (normal state)

9.2.13 LCD FUNCTIONS

LCD functions allows the user to show messages on PLAYER LCD display. The texts are limited to LCD physical dimensions: 2 lines per 16 columns.

Functions

Function:

```
LCD_print(txtLine1, txtLine2, center, timeout)
```

Description:

This functions shows a message on the PLAYER LCD display

Arguments:

txtLine1 – String corresponding to the text on the first LCD line
txtLine2 – String corresponding to the text on the second LCD line
center – Boolean, set to true to center the text on the LCD display
timeout – Number of seconds that message is showed in PLAYER LCD display

Function:

```
LCD_print2({txtLine1,txtLine2,bCenter,nTimeout})
```

Description:

This functions shows a message on the PLAYER LCD display. Parameters are optional.

Arguments:

txtLine1 (optional) – String corresponding to the text on the first LCD line
txtLine2 (optional) – String corresponding to the text on the second LCD line
center (optional) – Boolean, set to true to center the text on the LCD display
nTimeout (optional) – Number of seconds that message is showed in PLAYER LCD display

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All product characteristics are subject to variation due to production tolerances. **NEEC AUDIO BARCELONA S.L.** reserves the right to make changes or improvements in the design or manufacturing that may affect these product specifications.

For technical queries contact your supplier, distributor or complete the contact form on our website, in [Support / Technical requests](#).

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