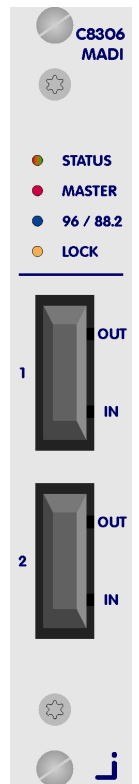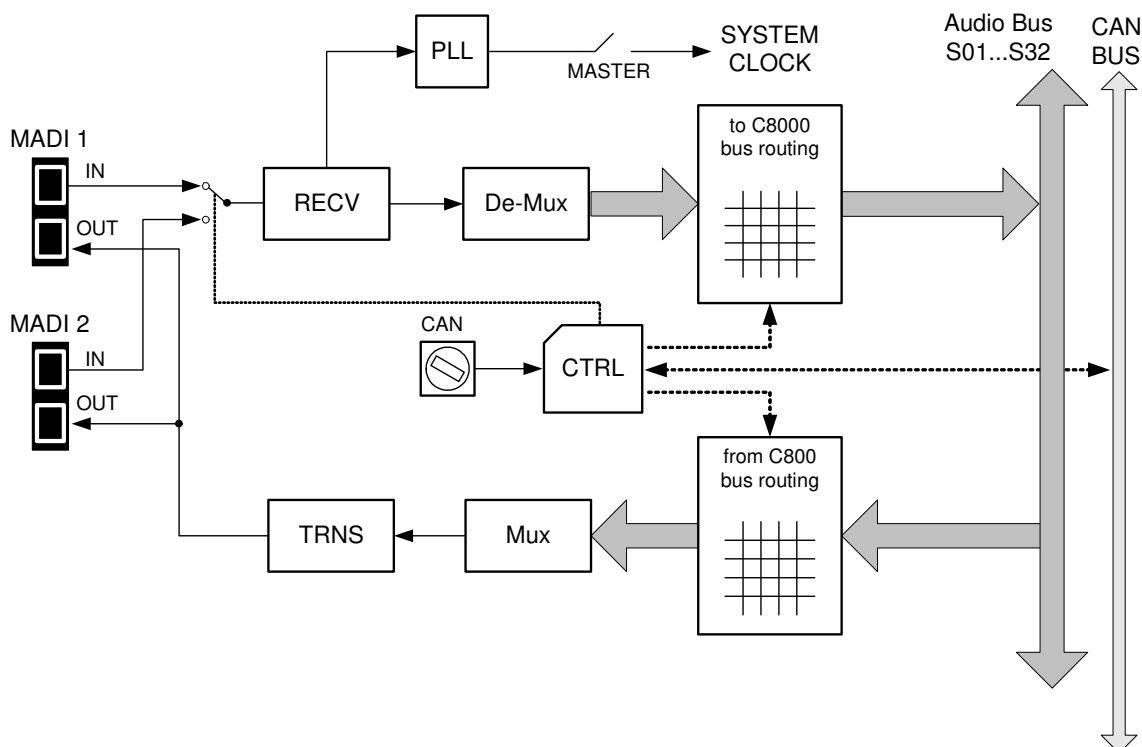## 64ch optical MADI I/O

C8306

features

- Interface for MADI encoded digital audio signals

- Optical receiver and transmitter

- Auto Fail Over between optical IN 1 and IN2

- Word length 24bit

- Extended mode (64ch)

- High sampling mode (32 channels @ 96kHz)

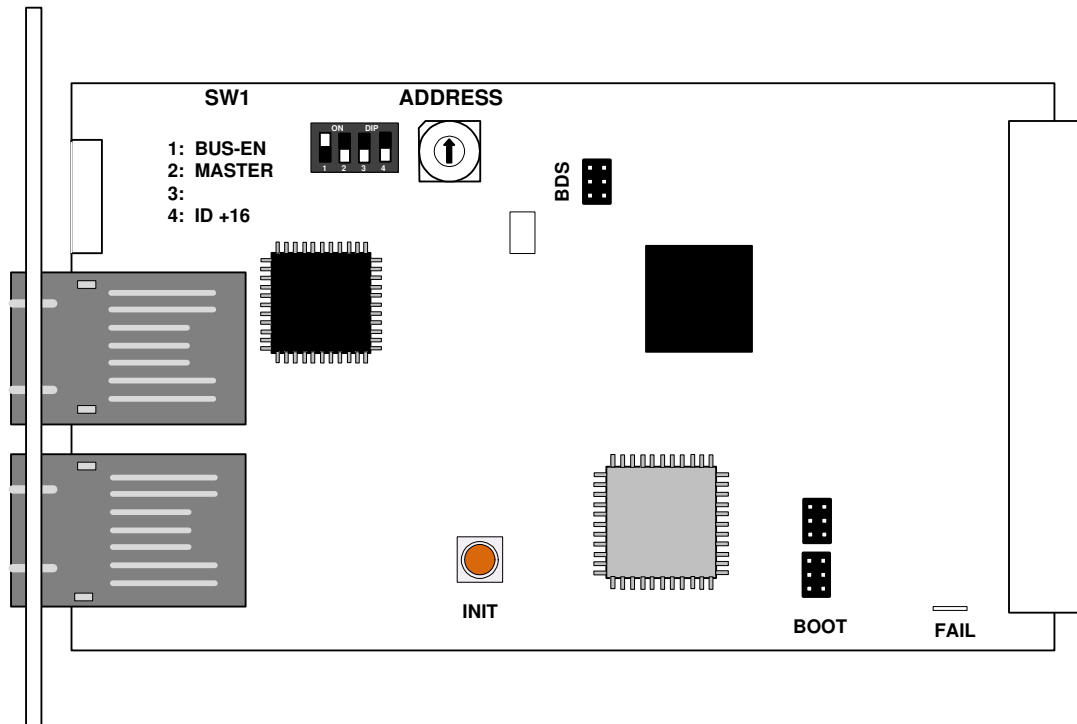- MASTER mode: C8000 frame may be clocked via MADI input

C8306 MADI

STATUS
MASTER
96 / 88.2
LOCK

OUT
1
IN

OUT
2
IN

block diagram

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technical specifications

MADI interface:

standard:	AES 10 (2003)
connection:	Optical module with duplex SC connectors for multi mode fibre. Mono mode connection on request.
data format:	24bit transparent for C- and U-bits according to AES3
sample rate:	48kHz (24bit = max. 64 channels) 96kHz (24bit = max. 32 channels)

Backplane connector:	ref. to DIN 41612, 64pin, a+b, male
Power supply:	+5V DC
Consumption:	approx. 360mA
Dimensions:	3RU, 4HP, 160mmd deep (Euro Format)
Ambient:	10ºC to 40ºC
Humidity:	90%, non condensing

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installation

Initial set up

ADDRESS: This **rotary encoder** sets the **CAN ID** of the **C8306**. The 16 switch positions are hexadecimal numbers (0x0 to 0xF). The CAN address also defines the location of the module icon within the GUI overview of rows three to six.

SW1:

#1 BUS-EN   **ON** = The output configuration will be taken from the **NV** (non volatile) **memory** after power up.

       OFF = will set all bus outputs to Tri-State-Mode (inactive).
Now you may use the frame controller to configure the board.
This configuration will automatically be stored into the **NV memory**
To enable the configuration for the next power up you must **pull out** the module and set **BUS-EN=ON** again.

Important note! Since this type of module has an electronic output routing facility, great care must be taken when installing or exchanging a module when such frame has components which are On Air!
If an unknown output bus configuration is stored, it can cause a conflict with other modules in the frame.
If you are not sure about the output bus configuration you must turn **BUS-EN=OFF** before inserting such a module into a system that is On Air. If all settings are done remotely and the unit fits into the bus assignment scheme of that frame, you must remove it and place the switch back into position **BUS-EN=ON** to activate this setting for the next power up(s).

#2 MASTER   **OFF** = Sync is taken from the c8k frame.

       ON = The **C8306** is sync master for the frame.
Sync is derived from the MADI input.

Important Note! If in MASTER mode and installed into a **C8932** frame the C8306 must be put into one of the red colored fitting rails at the rear of the frame.

#3	**OFF**	=	Internal use and **must** be set to **OFF**.
#4 ID +16	**OFF**	=	**CAN** bus address range is standard (counting from 0x0 to 0xF) see rotary encoder settings above.
	ON	=	**CAN** bus address range is extended by **+16** (counting from 0x10 to 0x1F).
INIT			Pressing the **INIT** button during power up will initialize the module parameters to factory default values.

Web browser based GUI

OVERVIEW

The module overview of a frame (below the display of an example frame):

By simply clicking on the spanner tool symbol ● you will be forwarded to the control pages of the **C8306** and the status pane on the left hand side, which is also shown on mouse over.

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PRESETS: Each preset includes the parameters of the transmitter and the receiver.
There are 8 user-presets available. They can be changed manually or by GPI.
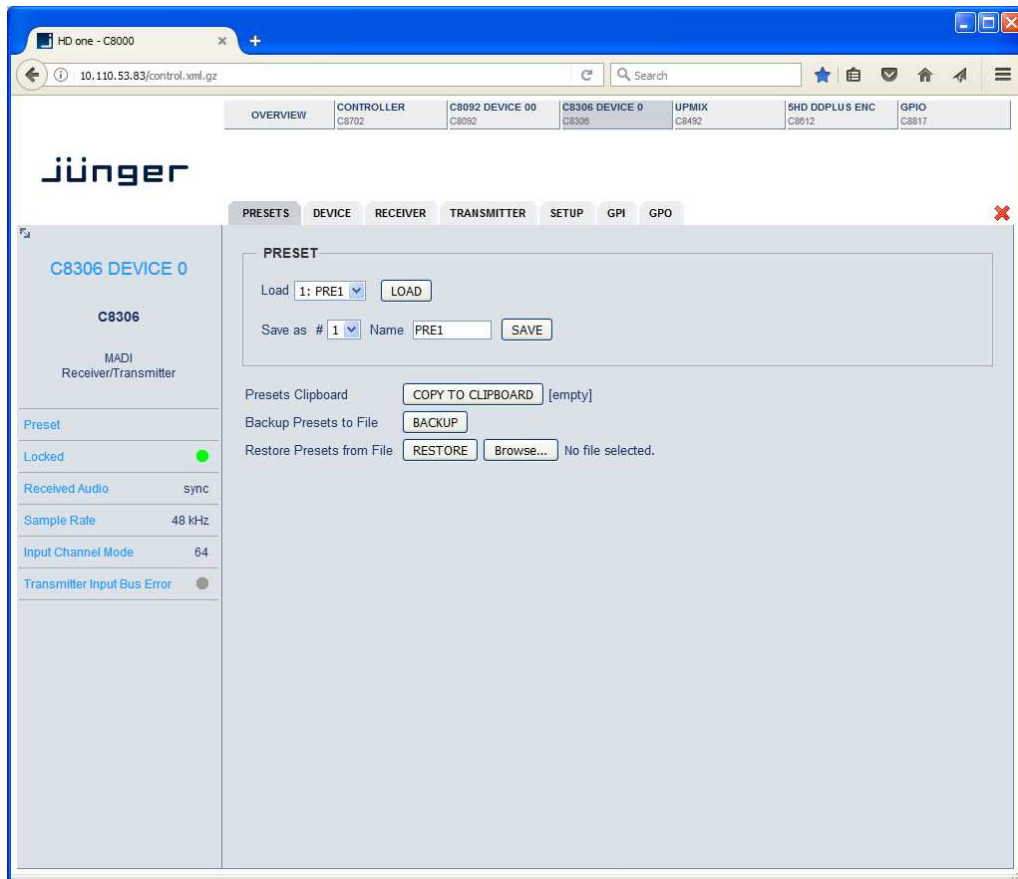
Load	Select a preset by name and press **<LOAD>.**
Save as #	Select a preset NV memory number.
Name	Assign the preset a name (up to 16 digits). and press **<SAVE>**.
Preset Clipboard	**<COPY TO CLIPBOARD>** copies the active preset to a clipboard, the data may be used by other modules inside the same frame.
Backup Presets to File	**<BACKUP>** creates a backup **XML file** which may be saved on a PC.
Restore Presets from File	**<Browse… >** opens a file dialog to select a previously stored preset file. **<RESTORE>** will upload the file and overwrite existing presets for this module.

DEVICE: Display of device specific information
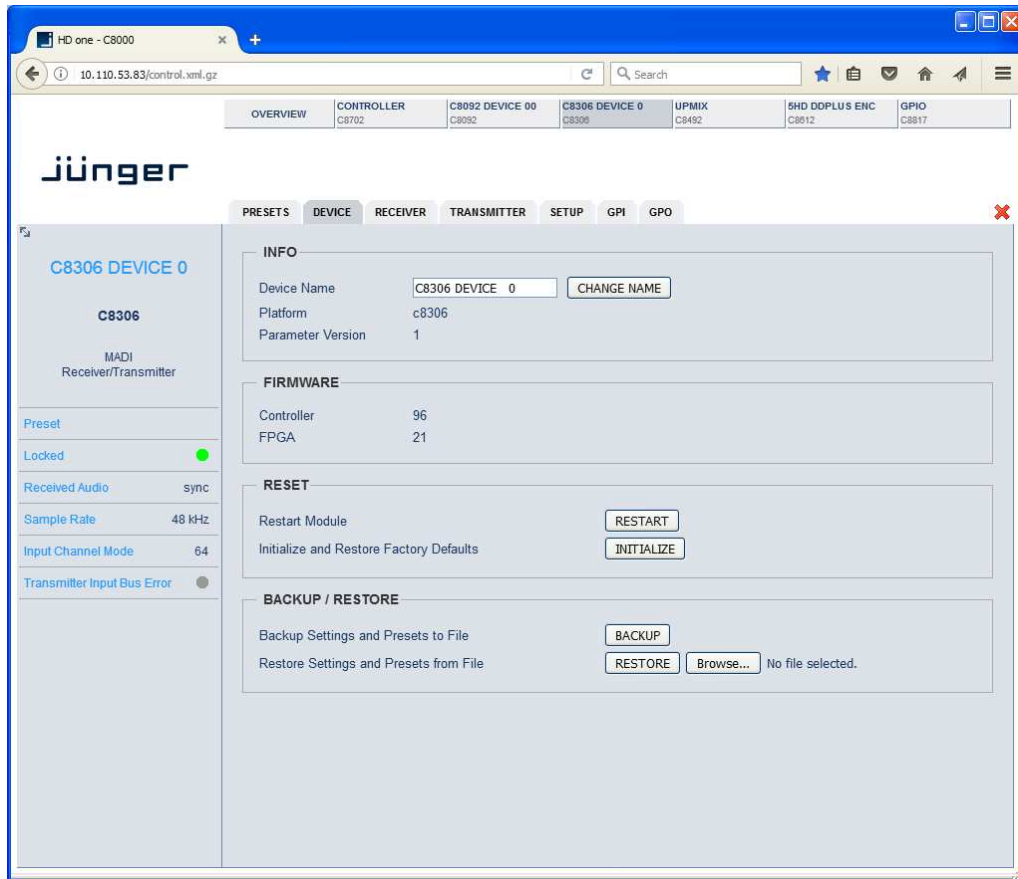
INFO

Device Name   [16 digit ASCII text]
                         Pressing **<CHANGE NAME>** will do so.

Platform   [C8306]
                         Hardware related descriptor.

Parameter Version   [x]
                         Software related descriptor (feature set).

FIRMWARE

Controller   [xy]
                         Actual version of the module controller firmware.

FPGA   [xy]
                         Actual version of the system FPGA.

RESET

Restart Module   **<RESTART>**
                         Pressing the soft button will warm start the module.

Initialize and Restore   **<INITIALIZE>**
Factory Defaults   Pressing the soft button, will clear the parameter memory and
                              will initialize all parameters to their factory default values.

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BACKUP / RESTORE

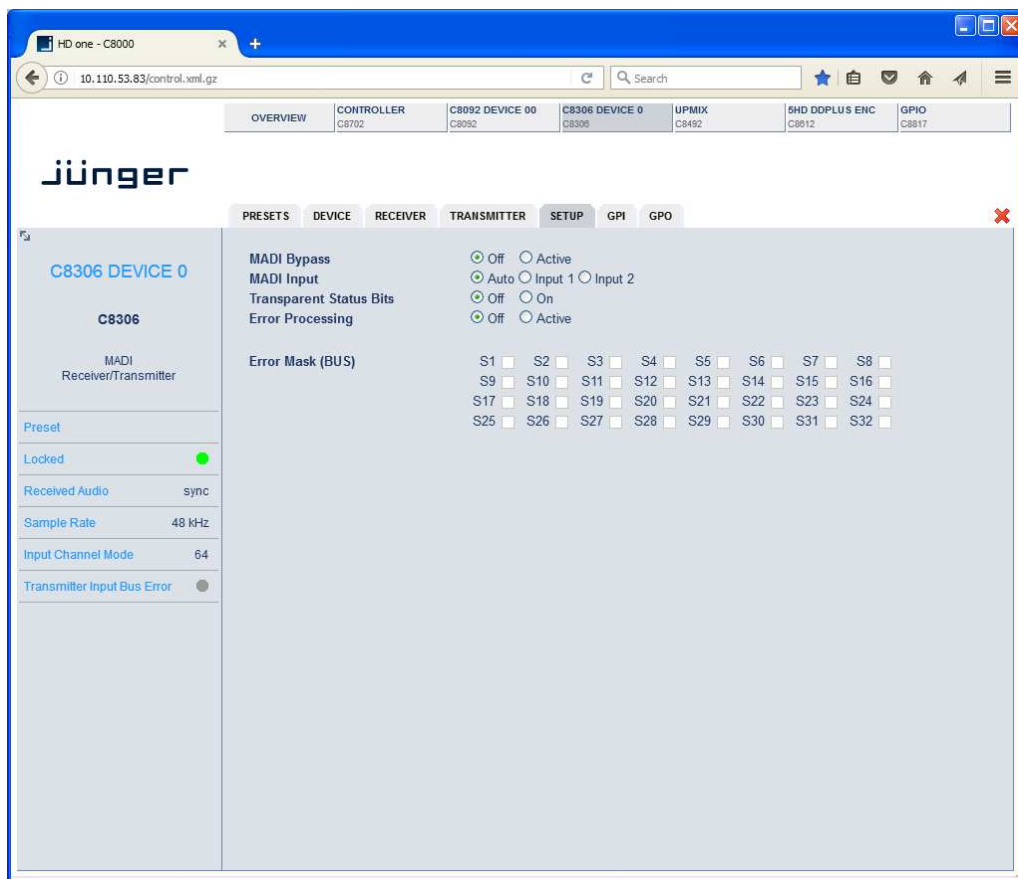|	
Backup Settings and Presets to File	**<BACKUP>** Pressing the soft button will create an XML file that one may store on a PC.
Restore Settings and Presets from File	**<RESTORE>** l Pressing the soft button will upload a backup file that has been selected via soft button **<BROWSE>** and move the previously stored settings back to the module.

SETUP: Set up of device parameters

|	
MADI Bypass	[Off / On] will bypass the MADI processing.
MADI Input	[Auto / Input 1 / Input 2] The Auto mode will automatically select input two if input one fails.
Transparent Status Bits	[Off / On] If set to **Off**, a set of **Professional** channel status bits will be inserted, representing the actual sample rate and the audio status (non audio if applicable) with correct V bit.
Error Processing	[Off / On] (used for remote system monitoring) will turn on the bus error detection in general.

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Error Mask   [S01 … S32]
                                  will turn on error detection for individual busses.

Important note! You must turn off error detection for busses not in use, to prevent bad module status.

RECEIVER: Routing of MADI input signals to the C8000 audio buses
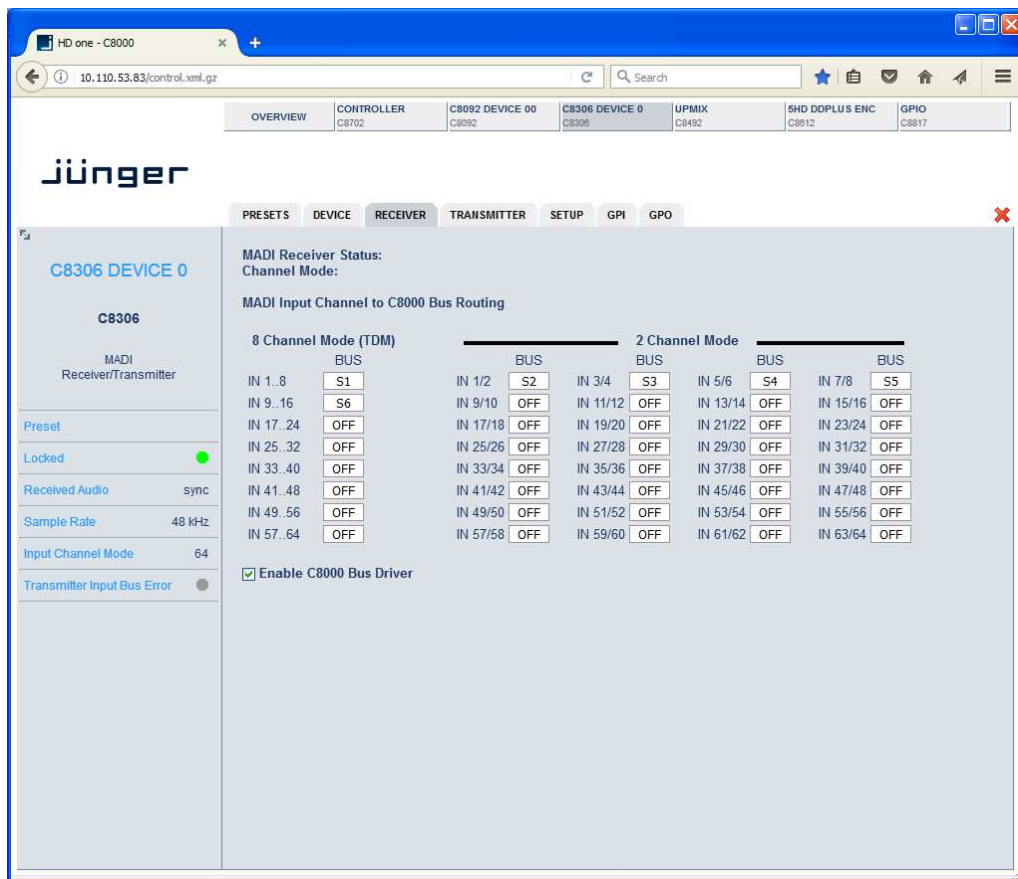
8 Channel Mode   groups of 8 adjacent MADI channels may be multiplexed on one
                                  C8000 audio bus from MADI reception.
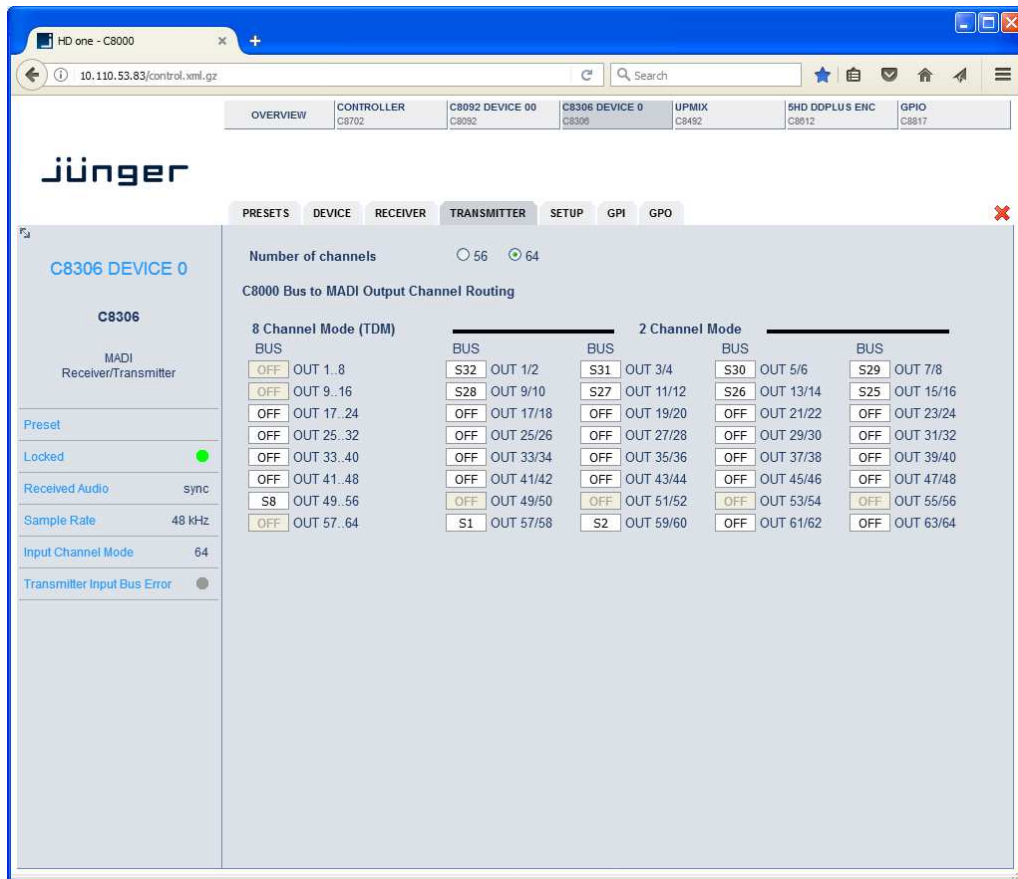
2 Channel Mode   pairs of 2 adjacent MADI channels may be multiplexed on one
                                  C8000 bus from MADI reception.

Enable C8000   will enable all 32 bus drivers. Make sure that there is no
Bus Driver   conflict with other modules occupying the same bus line.

Important note! Only one output is allowed for connection with one bus line.
Bus lines not in use should be set to OFF.

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TRANSMITTER: Routing of inputs to the C8000 audio buses

| Number of channels	[56 / 64] Junger Audio MADI interfaces benefit from the extended MADI mode. It allows for transportation of 64 audio channels over a MADI interface.

C8000 Bus to MADI Output Channel Routing

| 8 Channel Mode	Groups of 8 adjacent audio channels may be taken from one bus line for MADI transmission.
2 Channel Mode	Pairs of 2 adjacent audio channels may be taken from one bus line for MADI transmission.

GPI : Set up of frame wide **GP**I numbers to trigger a dedicated module function or preset. If a **GPI** is detected by an **GPI/O** module **C8817**, it will put an associated number on the CAN bus. Each module in a frame is permanently listening for such numbers
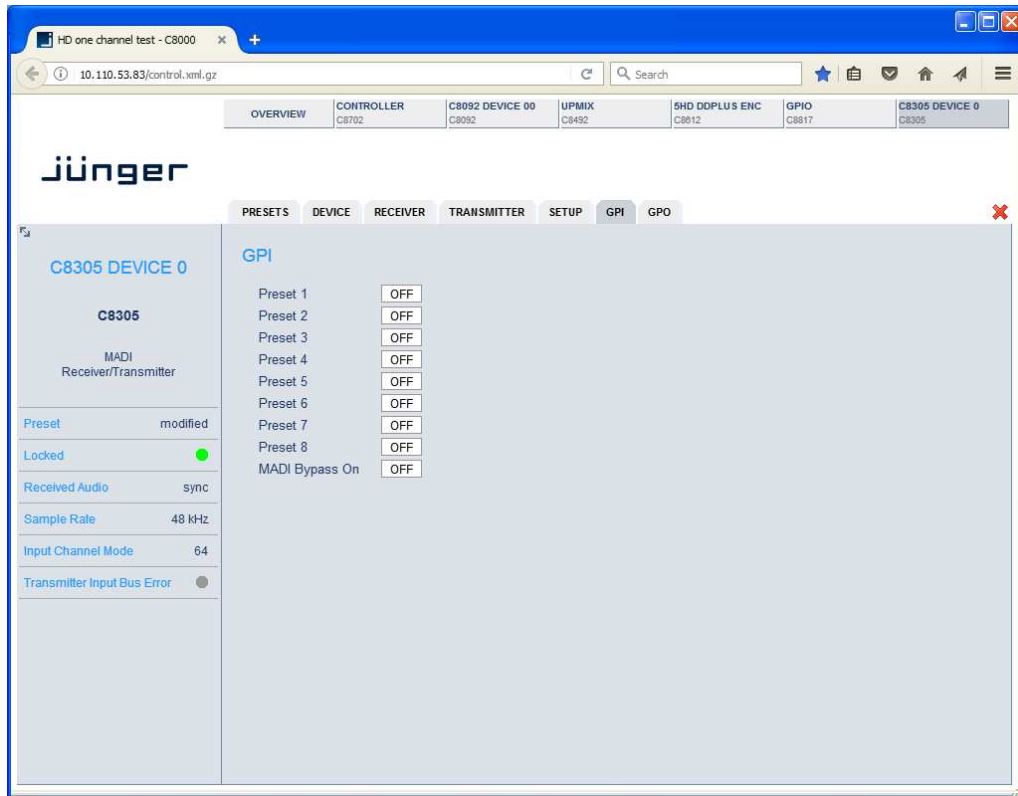
Important Note! Great care must be taken to avoid same numbers being assigned to different presets because it will activate multiple presets, causing great confusion in bigger installations, e.g. where Junger HW remote controller is in place or GPIs are connected with automation systems.

GPO (Tally) :   Set up of frame wide **GPO** numbers to trigger a dedicated **GPO (Tally)** of a **GPI/O** module **C8817** if the associated preset or function is activated.
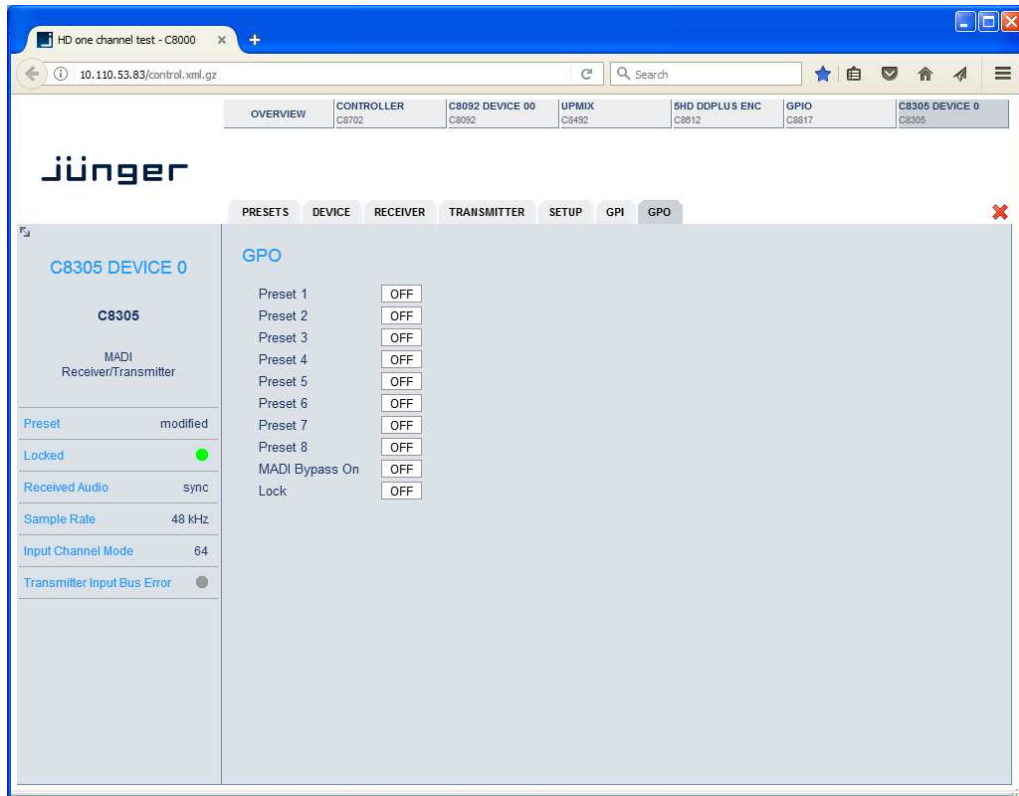
Important Note! Great care must be taken to avoid same numbers being assigned to different presets because the inactive state of one preset will overwrite the active state of another one and the assigned GPO will be cleared causing great confusion in bigger installations, e.g. where Junger HW remote controller is in place or GPOs are connected with other management systems. There is no mechanism implemented to check for doublets.