ACUO MB

Digital DSP Broadcast Audio console

AEV On Air broadcast console

AEV Broadcast Srl, via della Tecnica 33 – 40050 Argelato (BO) Italy
Web site www.aev.eu e-mail info@aev.eu

Guarantee

The equipment is warranted for a period of 2 years from the date of invoice (ex-works). The warranty does not cover faults provoked by carelessness, natural causes and parts subject to wear. In addition, the cost of shipment is not covered. The warranty will be voided if the equipment is mishandled.

Technical Support

If you require technical support, contact AEV SERVICE giving a clear and concise account of your speciic problem. Quote the serial number of your equipment by referring to the AEV nameplate attached to the equipment itself as this is the most important piece of information to be provided.
Telephone: +39 051 6630904 Fax: +39 051 893605

Factory Service and Repairs

If problems arise while the equipment is being installed, consult this manual and check that the installation is being carried out properly. If the problems still cannot be solved, call the AEV SERVICE Department for further information. If the problem is a minor one we can a telephone call will probably sufice. If, on the other hand, the equipment is to be shipped to AEV for service or repairs.

Shipping Instruction

When shipping the equipment to AEV, use the original package in order to be certain that it will be fully protected during handling. If you need the original package, call us for a new one.
If you ship the equipment in a different packing container, take care to provide a double package by interposing padding material between the two containers in order to fully protect the equipment during shipment. The package should be marked "FRAGILE" in red.
Remember that the RMA number must be clearly visible on the package. If it is not, the equipment will not be accepted.

IMPORTANT: Carefully read this paragraph as it contains important instructions concerning operator safety and directions regarding the installation, operation and maintenance of the equipment.
Failure to observe the safety instructions and information given in this manual **constitutes an infringement of the safety rules and design specifications provided for this piece of equipment**.
AEV Broadcast Srl declines all responsibility if any one of the safety rules given here in is not observed.
AEV Broadcast Srl declines all responsibility if the end-user resells the product.
The equipment is to be used by people capable of operating it in a trouble-free manner and **it is assumed that they are aware of the following safety rules.**

- Keep this manual with the utmost care and close at hand so that it can be consulted whenever needed
- After unpacking the equipment, check it for condition.
- Avoid banging the equipment.
- The packing material (plastic bags, polystyrene, nails, etc.) must never be left within the reach of the children, as **these items are potential sources of danger**.
- Do not use the equipment in places where the temperature is not within the recommended range, as specified by the manufacturer.
- Before connecting the equipment, make sure the nameplate specifications correspond to the mains electricity supply (the nameplate is located on the equipment enclosure).
- Do not remove the sticker from the equipment as it contains important specifications and the relevant serial number.
- To join the equipment to the mains supply, use the power cord purchased with the equipment.
- The equipment must be used only for the purpose it was designed for.

• Abuse or misuse of the equipment is **extremely dangerous** for people, pets and property. The manufacturer declines all responsibility for damage and injury resulting from **improper use** and **mishandling**.
• Certain basic safety rules must be observed when using electrical equipment, in particular: - Never touch the equipment with wet and/or damp hands or other parts of the body.
- Keep the equipment away from drops of water or sprinkling systems.
- Never use the equipment near high heat sources or explosive material.
- Do not introduce any extraneous matter into the equipment.
- Do not allow children or untrained people to use the equipment.
• Before cleaning or servicing the equipment outside, disconnect it from the supply and wait at least 2 seconds before working on it, as recommended by current safety regulations.
• In the event of faults and/or improper operation, turn off the equipment, shut off the electrical power and call your dealer.
• Do not attempt to make repairs and/or adjustments when covers/guards or circuit boards are to be removed.
• Blown fuses inside the power supply indicate that there may be a fault in the power supply itself. The fuses must be replaced by qualified and authorised persons. It is advisable to call your nearest dealer.
• Call your dealer for any repairs and be certain original spare parts are used.
Failure to observe this rule may adversely affect the safety level of your equipment.
• The equipment is to be connected to the mains supply and provided with adequate and efficient earth conductors.
• The electrical wiring must be done in compliance with current electrical codes CEI 64-8 "Electrical specification for domestic buildings".
• When installing, leave a clearance of at least 1 cm around the equipment to allow air to pass freely.
NOTE. This piece of equipment has been manufactured to the highest standards of workmanship. It must be used properly and serviced as recommended to ensure long-term dependable operation.
The installation must be done in order to be able to guarantee an easy access to the cable of feeding.
The device of dissection of the equipment is the cable of feeding, so it must be unconnected from the equipment every time it is necessary to do any type of maintenance.

Contents

MAIN UNIT

Features

audio inputs:
Main unit: 8 double-channels + 2 telephone hybrids/Telco
balanced Micro and line inputs, digital AES/EBU, USB audio I/O interface, TELCO I/O

Faders:
Faders (100 mm) with A/B input selector, 4 bands tones control on each input.

Input functions and channels

- Six Microphone inputs (MIC1,...,MIC6)
- Eight stereo balanced line inputs (LIN1,.....LIN8)
- Two digital AES/EBU input (DIG1, DIG2, DIG3, DIG4)
- Two USB audio inputs (USB1, USB2)
- Two telephone hybrid/TELCO (TEL1, TEL2)

Input channels configuration:

Channel 1 : MIC1 / LINE 1
Channel 2 : MIC2 / LINE 2
Channel 3 : MIC3 / LINE 3 / DANTE1
Channel 4 : MIC4 / LINE 4 / DANTE2
Channel 5 : MIC5 / LINE 5 / DIG AES1
Channel 6 : MIC6 / LINE 6 / DIG AES2
Channel 7 : USB1 / LINE7
Channel 8 : USB2 / LINE8

Input setting

All settings are independent for each input, via encoder.
Channel setting:

- Gain / Level adjustment	-24÷+24 dB
- Input balance	-12÷+24 dB
- tone equalizer High, Medium , Medium Bass, Low	-14÷+14 dB
- Private tel	OFF/ON
- Control Studio	OFF/ON
- PGM assignement	SPEECH/MUSIC
- C. Room Mute	OFF/ON
- ST MU	OFF/ON
- Tally	OFF/ON
- Talk back on C.Studio	OFF/ON
- Line mono (only for Micro inputs)	OFF/ON
- Phantom Power (only for Micro inputs)	OFF/ON

Also you can to select the Bus assignment pushing the following buttons:

- PGM1
- PGM2
- PGM3
- PGM4
- PFL

Master Outputs

PGM1: Analog balanced stereo with XLR connectors
PGM2: Analog balanced stereo with RJ45 connector
PGM3: Analog balanced stereo with RJ45 connector
PGM4: Analog balanced stereo with RJ45 connector
Dig1/2 OUT: digital AES/EBU stereo with RJ45 connector

Auxiliary outputs

Control Room: Analog balanced stereo with RJ45 connector
Control Studio: Analog balanced stereo with RJ45 connector
Mute C. Studio: Analog balanced stereo with RJ45 connector
Headphone: Analog stereo with Jack 6,3 mm connector

Auxiliary input

External: Analog balanced stereo with RJ45 connector

External controls

- Remote Fader with logic controls, (START/STOP) with RJ45 connector (optional)
- GPI Opto-isolated logic inputs
- GPO Opto-isolated logic outputs

Monitoring

- Level control for headphone, Control Room, Control Studio mutable
- External inputs for Monitor
- Headphone with integrated amplifier
- double stereo digital VU-Meter on the TFT display PGM1, PGM2, PGM3, PGM4, DIG1, DIG2, PLF, TELCO1, TELCO2, HEADPHONE, DANTE1, DANTE2

Expansion unit

The ACUO MB serie allow to connect until two Expansion unit inputs faders.
With this smart solution the audio console configuration could allow to expand the inputs channel configuration:

- Only Main Unit: 8 faders
- Main unit + one Exp unit: 12 faders
- Main unit + two Exp units: 16 faders

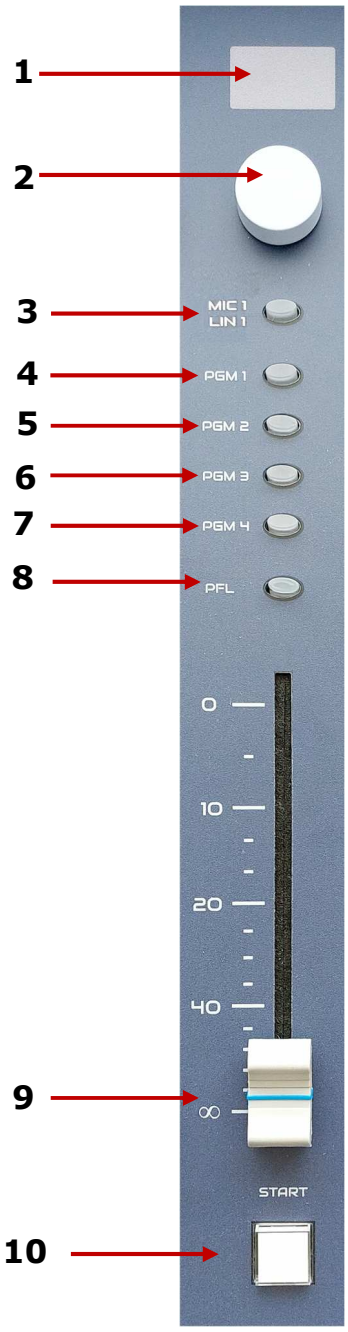
Each Expansion unit supply 4 Micro/Mono channels

The connection with the Main unit is a simple ethernet cable; the CPU of the Main unit will detect the connection with Expansion and automatically update the inputs channels menu.

The Expansion unit allow two redundant PWS connection

Channel 1

All controls on the channel 1 input channel are described below.



1 – label box

2 – knob jog to open the level channel setup, to set gain, balance, parametric equalization

3 – Button to switch the input source signal between the microphone (green light) or stereo (orange light)

4 – PGM1 button for routing the channel to the PGM1 bus. Red light

5 – PGM2 button for routing the channel to the PGM2 bus. Red light

6 – PGM3 button for routing the channel to the PGM3 bus. Red light

7 – PGM4 button for routing the channel to the PGM4 bus. Red light

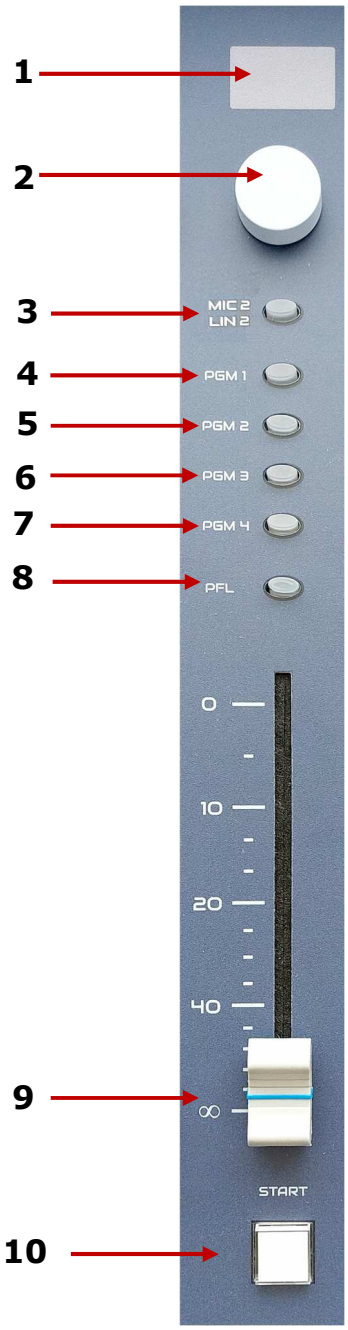
8 - Button enabling the preview PreFaderListen. Blue light

9 – Fader 100 mm

10 – START/STOP button; In Stop mode the button is illuminated with a green light, in START mode the button is illuminated with a red light

Channel 2

All controls on the channel 2 input channel are described below.



1 – label box

2 – knob jog to open the level channel setup, to set gain, balance, parametric equalization

3 – Button to switch the input source signal between the microphone (green light) or stereo (orange light)

4 – PGM1 button for routing the channel to the PGM1 bus. Red light

5 – PGM2 button for routing the channel to the PGM2 bus. Red light

6 – PGM3 button for routing the channel to the PGM3 bus. Red light

7 – PGM4 button for routing the channel to the PGM4 bus. Red light

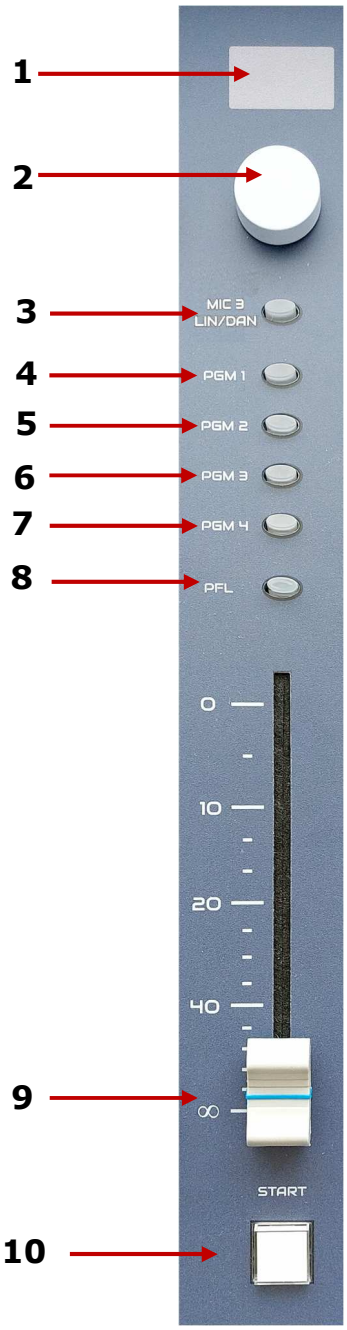
8 - Button enabling the preview PreFaderListen. Blue light

9 – Fader 100 mm

10 – START/STOP button; In Stop mode the button is illuminated with a green light, in START mode the button is illuminated with a red light

Channel 3

All controls on the channel 3 input channel are described below.



1 – label box

2 – knob jog to open the level channel setup, to set gain, balance, parametric equalization

3 – Button to switch the input source signal between the microphone (green light) or stereo (orange light) or Dante (if it is installed the option Dante card)

4 – PGM1 button for routing the channel to the PGM1 bus. Red light

5 – PGM2 button for routing the channel to the PGM2 bus. Red light

6 – PGM3 button for routing the channel to the PGM3 bus. Red light

7 – PGM4 button for routing the channel to the PGM4 bus. Red light

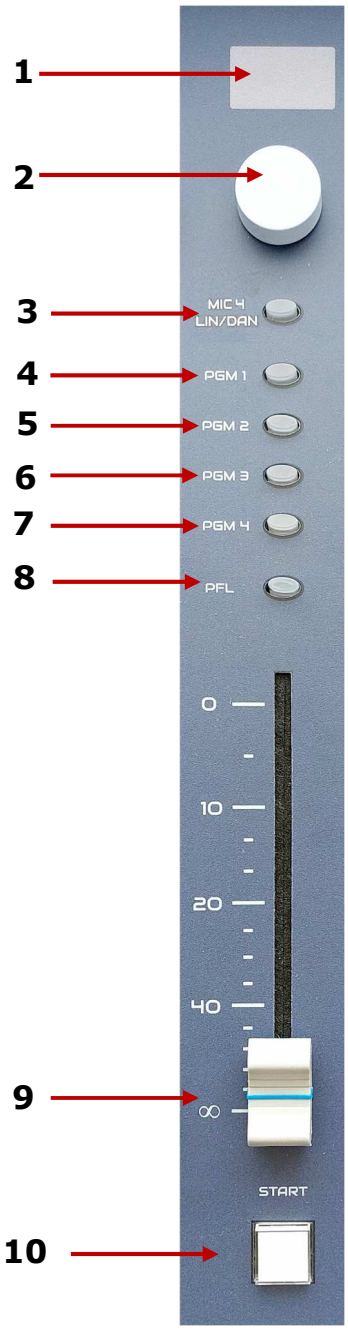
8 - Button enabling the preview PreFaderListen. Blue light

9 – Fader 100 mm

10 – START/STOP button; In Stop mode the button is illuminated with a green light, in START mode the button is illuminated with a red light

Channel 4

All controls on the channel 4 input channel are described below.



1 – label box

2 – knob jog to open the level channel setup, to set gain, balance, parametric equalization

3 – Button to switch the input source signal between the microphone (green light) or stereo (orange light) or Dante (if it is installed the option Dante card)

4 – PGM1 button for routing the channel to the PGM1 bus. Red light

5 – PGM2 button for routing the channel to the PGM2 bus. Red light

6 – PGM3 button for routing the channel to the PGM3 bus. Red light

7 – PGM4 button for routing the channel to the PGM4 bus. Red light

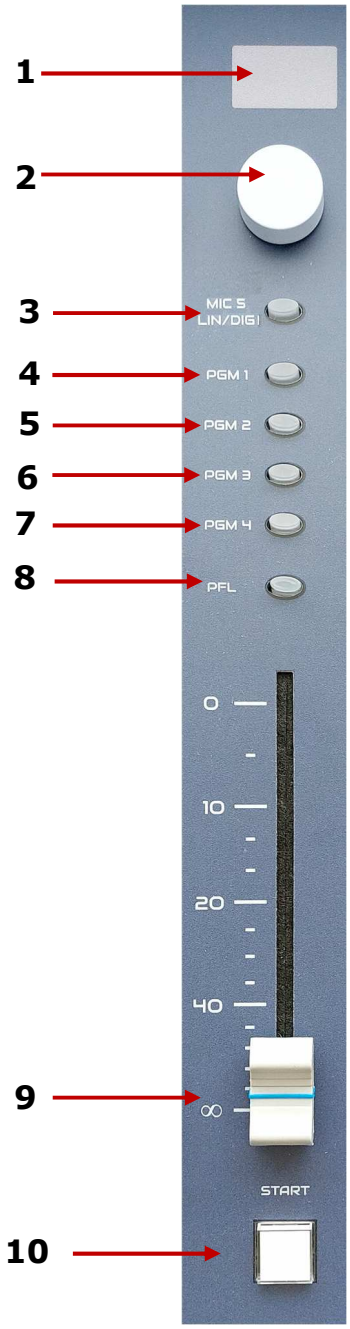
8 - Button enabling the preview PreFaderListen. Blue light

9 – Fader 100 mm

10 – START/STOP button; In Stop mode the button is illuminated with a green light, in START mode the button is illuminated with a red light

Channel 5

All controls on the channel 5 input channel are described below.



1 – label box

2 – knob jog to open the level channel setup, to set gain, balance, parametric equalization

3 – Button to switch the input source signal between the microphone (green light) or stereo (orange light) or digital 1 AES

4 – PGM1 button for routing the channel to the PGM1 bus. Red light

5 – PGM2 button for routing the channel to the PGM2 bus. Red light

6 – PGM3 button for routing the channel to the PGM3 bus. Red light

7 – PGM4 button for routing the channel to the PGM4 bus. Red light

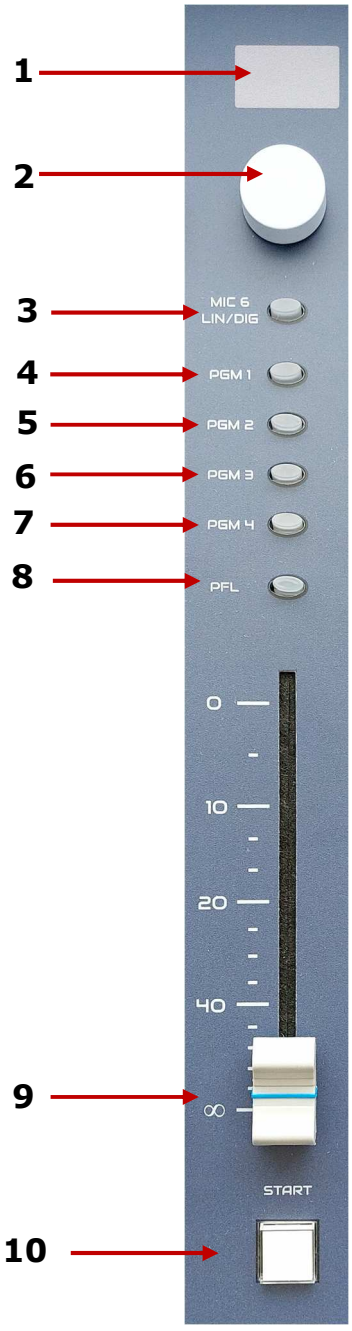
8 - Button enabling the preview PreFaderListen. Blue light

9 - Fader 100 mm

10 – START/STOP button; In Stop mode the button is illuminated with a green light, in START mode the button is illuminated with a red light

Channel 6

All controls on the channel 6 input channel are described below.



1 – label box

2 – knob jog to open the level channel setup, to set gain, balance, parametric equalization

3 – Button to switch the input source signal between the microphone (green light) or stereo (orange light) or digital 1 AES

4 – PGM1 button for routing the channel to the PGM1 bus. Red light

5 – PGM2 button for routing the channel to the PGM2 bus. Red light

6 – PGM3 button for routing the channel to the PGM3 bus. Red light

7 – PGM4 button for routing the channel to the PGM4 bus. Red light

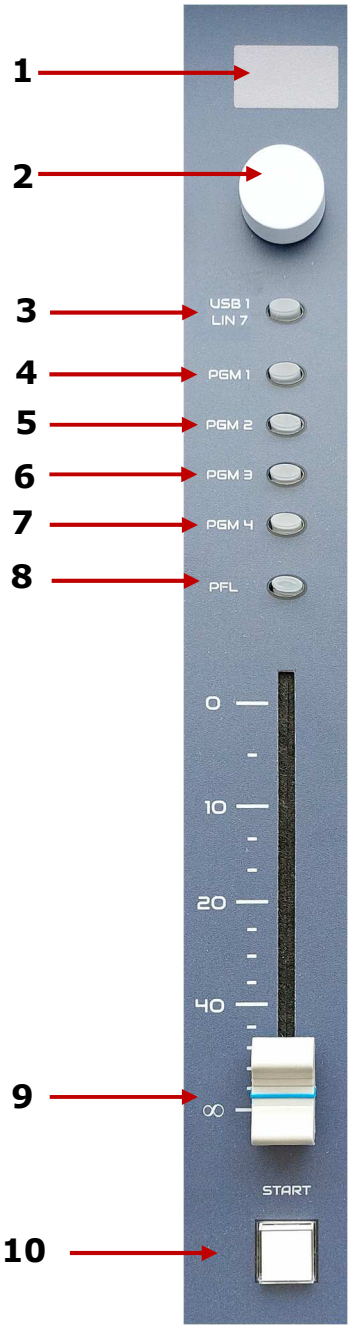
8 - Button enabling the preview PreFaderListen. Blue light

9 – Fader 100 mm

10 – START/STOP button; In Stop mode the button is illuminated with a green light, in START mode the button is illuminated with a red light

Channel 7

All controls on the channel 7 input channel are described below.



1 – label box

2 – knob jog to open the level channel setup, to set gain, balance, parametric equalization

3 – Button to switch the input source signal between the USB1 (green light) or stereo (orange light)

4 – PGM1 button for routing the channel to the PGM1 bus. Red light

5 – PGM2 button for routing the channel to the PGM2 bus. Red light

6 – PGM3 button for routing the channel to the PGM3 bus. Red light

7 – PGM4 button for routing the channel to the PGM4 bus. Red light

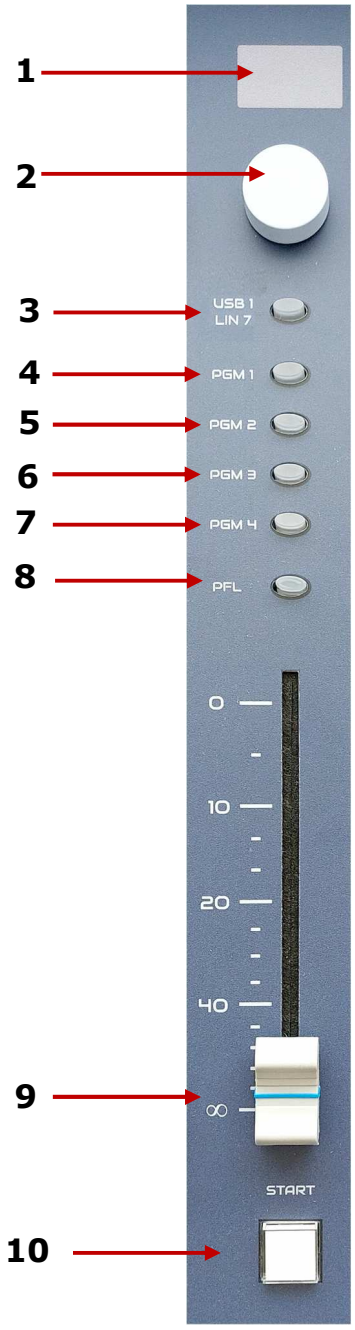
8 - Button enabling the preview PreFaderListen. Blue light

9 – Fader 100 mm

10 – START/STOP button; In Stop mode the button is illuminated with a green light, in START mode the button is illuminated with a red light

Channel 8

All controls on the channel 8 input channel are described below.



1 – label box

2 – knob jog to open the level channel setup, to set gain, balance, parametric equalization

3 – Button to switch the input source signal between the USB2 (green light) or stereo (orange light)

4 – PGM1 button for routing the channel to the PGM1 bus. Red light

5 – PGM2 button for routing the channel to the PGM2 bus. Red light

6 – PGM3 button for routing the channel to the PGM3 bus. Red light

7 – PGM4 button for routing the channel to the PGM4 bus. Red light

8 - Button enabling the preview PreFaderListen. Blue light

9 – Fader 100 mm

10 – START/STOP button; In Stop mode the button is illuminated with a green light, in START mode the button is illuminated with a red light

Expansion unit

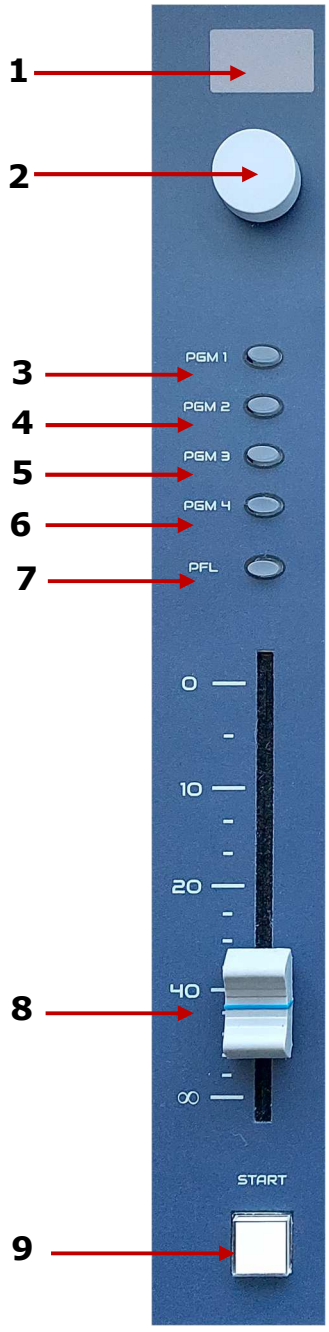
The Expansion inputs unit allow to add four channels microphone/mono inputs the the Main Unit.

It is possible to connect until two Expansion input units, so it is possible to manage the Acuo MB audio console System with:

- Main Unit, eight faders; inputs:
  - 6 microphone
  - 8 stereo line
  - 2 digital AES/EBU
  - 2 Dante stereo (optional)
  - 2 USB stereo
  - 2 telephone hybrids
  - 2 Telco interface
  - 1 bluetooth interface
- Main Unit + 1 x Expansion Unit, twelve faders
  - As Main unit configuration + 4 mono inputs
- Main Unit + 2 x Expansion Units, sixteen faders
  - As Main unit configuration + 8 mono inputs

Expansion Channels 9 to 16

All controls on the Expansion input channel are described below.



1 – label box

2 – knob jog to open the level channel setup, to set gain, balance, parametric equalization

3 – PGM1 button for routing the channel to the PGM1 bus. Red light

4 – PGM2 button for routing the channel to the PGM2 bus. Red light

5 – PGM3 button for routing the channel to the PGM3 bus. Red light

6 – PGM4 button for routing the channel to the PGM4 bus. Red light

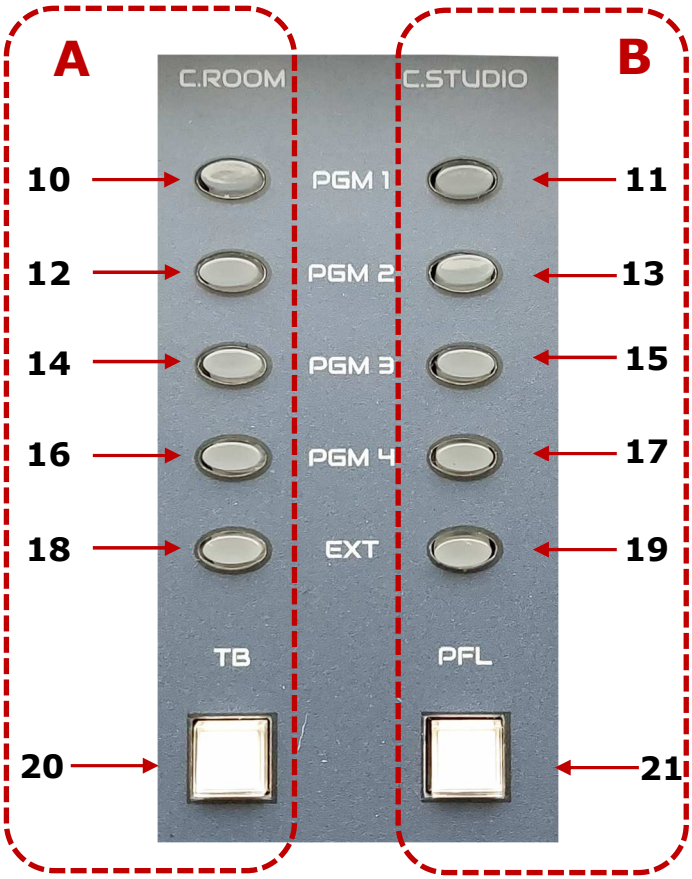
7 - Button enabling the preview PreFaderListen. Blue light

8 - Fader.

9 – START/STOP button; In Stop mode the button is illuminated with a green light, in START mode the button is illuminated with a red light

Monitoring section

In this section it will be possible to select the audio bus to monitor it



Section A – Control Room

10 - Button for selecting the PGM1 bus to C.Room output and Master Headphone

12 - Button for selecting the PGM2 bus to C.Room output and Master Headphone

14 - Button for selecting the PGM3 bus to C.Room output and Master Headphone

16 - Button for selecting the PGM4 bus to C.Room output and Master Headphone

18 - Button for selecting the External audio input bus to C.Room output and Master Headphone

20 - Button to active the Talk Back communication, C.Room to Studio

Section B – Control Studio

11 - Button for selecting the PGM1 bus to C.Studio output

13 - Button for selecting the PGM2 bus to C.Studio output

15 - Button for selecting the PGM3 bus to C.Studio output

17 - Button for selecting the PGM4 bus to C.Studio output

19 - Button for selecting the External audio input bus to C.Studio output

21 - Button to drive the channel with the PFL active to C.Studio output

Talk Back

Talk back Regia to Studio:

When the TB (talk back) button is active, the signal of the enabled microphone is sent to the Control Studio output.

- Channel with function talkback to studio

What happens:

- If it is present and connect the Remote Fader unit, the Talk back button of the remote fader lights up
- the previous selection of the Control Studio flashes
- anyway the audio signal present in the Control studio is replaced by the channel selected in TB

Talk back Studio to Control Room:

(need the Remote Fader unit)

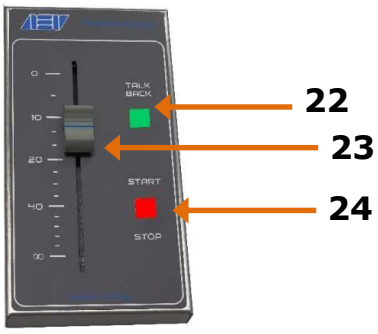
- Channel connected to the Remote Fader unit with talkback function activated

What happens when the remote TB (talk back) button is pressed:

- the Talk back button of ACUO flashes
- the previous selection of the Control Room flashes
- the audio signal present in the Control Room is replaced by the channel connected to the Remote Fader unit
- the signal of the enabled microphone is sent to the Control Room output.

Remote Fader ACUO serie

In order to optimize the operativity, it is possible to connect the option Remote Fader unit to the console with a simple ethernet cable



22 talk Back button Remote Fader

23 ducking slider

24 START/STOP button

20 Talk Back button on ACUO

With the Remote fader it is possible to commad the START/STOP state of the assigned channels, in every channel it is possible to active the assignement in the channel setup
Raising the slider increases the audio of the microphone channels set as SPEECH, and at the same time decreases the audio of the audio channels set as MUSIC

Talk back Studio to Regia :

- Channel connected to the Remote Fader unit with talkback function activated

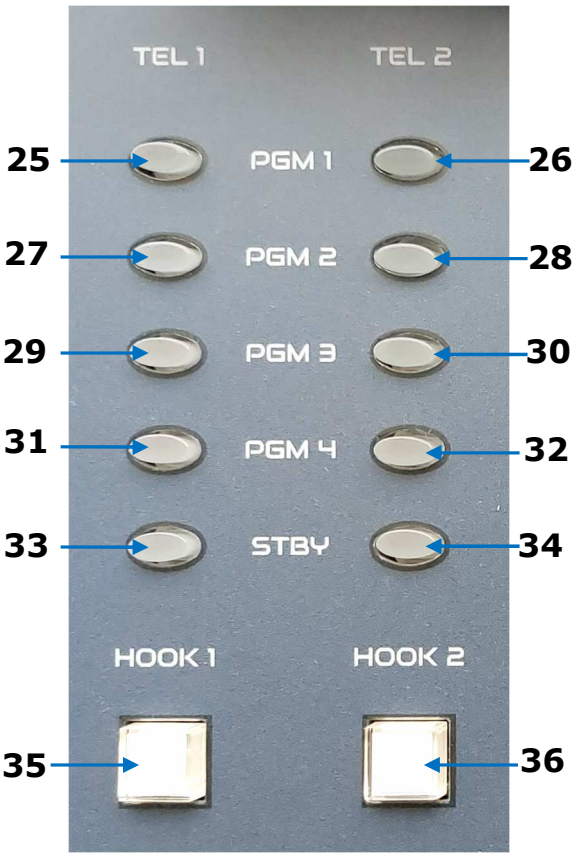
What happens when the remote TB (talk back) button of the REMOTE Fader unit **(22)** is turn ON:
- the Talk back button of ACUO **(20)** flashes
- the previous selection of the Control Room flashes
- the audio signal present in the Control Room is replaced by the channel connected to the Remote Fader unit
-

Talk back Regia to Studio:
When the TB (talk back) button in the ACUO console **(20)** is ON, the signal of the enabled microphone is sent to the Control Studio output.

- Channel with function talkback to studio

What happens:
- the Talk back button of the remote fader lights up **(22)**
- the previous selection of the Control Studio flashes
- the audio signal present in the Control studio is replaced by the channel selected in TB

Telephone/Telco Hybrids section



25 - Button for assigning the TEL1 to the PGM1 bus
26 - Button for assigning the TEL2 to the PGM1 bus

27 - Button for assigning the TEL1 to the PGM2 bus
28 - Button for assigning the TEL2 to the PGM2 bus

29 - Button for assigning the TEL1 to the PGM3 bus.
30 - Button for assigning the TEL2 to the PGM3 bus

31 - Button for assigning the TEL1 to the PGM4 bus.
32 - Button for assigning the TEL2 to the PGM4 bus

33 - Button to set in STANBY the telephone line 1
34 - Button to set in STANBY the telephone line 2

35 – Hook Button to connect the call on telephone channel 1.
36 - Hook Button to connect the call on telephone channel 2

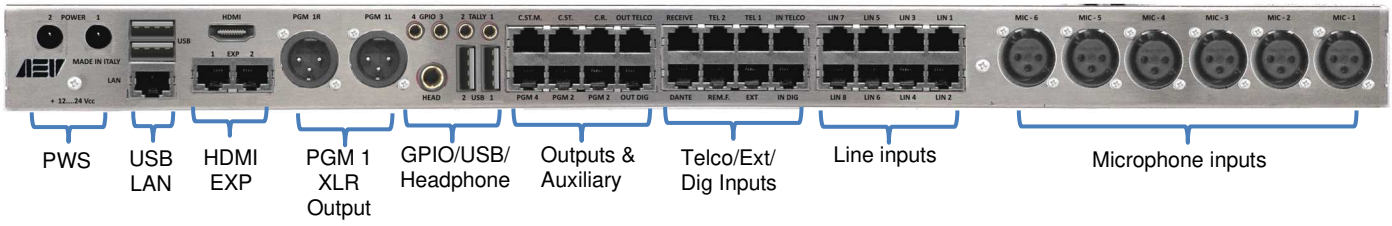
F1 functions button
- if the caller is hook on the telephone line 1, turn ON it to active the PRIV-TEL (purple light)
- if the call is NOT hook, the button select the tel set to telephone line 1 (green light)

F2 functions button
- if the caller is hook on the telephone line 2, turn ON it to active the PRIV-TEL (purple light)
- if the call is NOT hook, the button select the tel set to telephone line 2 (green light)

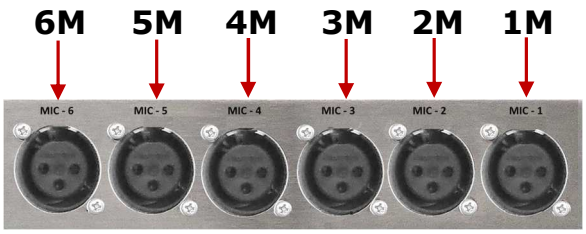
How to manage phone calls

1) the call arrives on Telephone line 1
2) I hook the call with the **HOOK1** button, at this stage the call is hooked on the mixer with the STBY (standby) button automatically active, that is, the caller listens to the active buses on the telephone bar but his audio does not enter the active buses on the telephone channel
3) To broadcast the call on enabled buses, simply deactivate the **STBY** (standby) button; if from the Control Room I want to communicate privately with the caller on line 1, I activate the PRIV-TEL 1 **(F1)** button, in this configuration, only the audio from the external caller reaches the headphones, while the caller only receives the audio from the microphone on which the PRIV TEL function has been enabled; from PRIV-TEL, deactivating **STBY** automatically disables PRIV-TEL
4)) If, while the call is on air, the Director wants to communicate directly and privately with the caller, simply activate the PRIV-TEL button, in which case the STBY button will also automatically activate; if I deactivate only the PRIV-TEL button, the call will still remain in **STBY**, but if I deactivate the **STBY**, the PRIV-TEL will also automatically deactivate.

Rear panel – connections

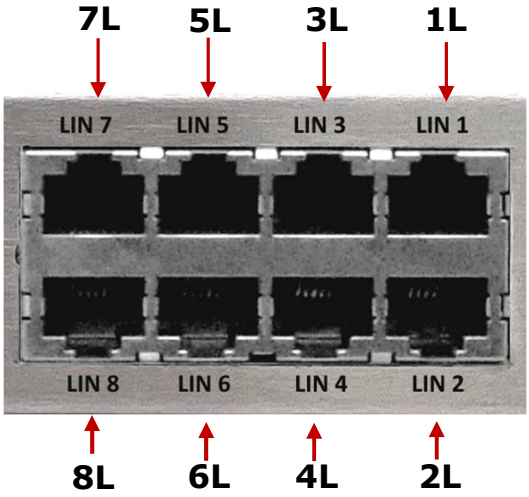


Microphone inputs connection



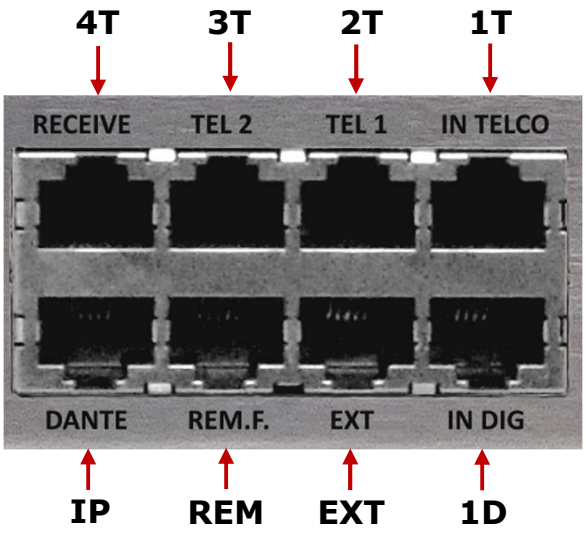
1M – Microphone 1 input XLR F connector.
2M – Microphone 2 input XLR F connector.
3M – Microphone 3 input XLR F connector.
4M – Microphone 4 input XLR F connector.
5M – Microphone 5 input XLR F connector.
6M – Microphone 6 input XLR F connector.

Line inputs connection



1L – Stereo Line 1 input RJ45 connector.
2L – Stereo Line 2 input RJ45 connector.
3L – Stereo Line 3 input RJ45 connector.
4L – Stereo Line 4 input RJ45 connector.
5L – Stereo Line 5 input RJ45 connector.
6L – Stereo Line 6 input RJ45 connector.
7L – Stereo Line 7 input RJ45 connector.
8L – Stereo Line 8 input RJ45 connector.

Telco / Ext / Dig Inputs



1T – Telco 1/2 inputs RJ45 connector.
2T – Telephone line 1 RJ45 connector.
3T – Telephone line 2 RJ45 connector.
4T – Telephone dialer RJ45 connector

1D – AES digital 1/2 inputs RJ45 connector.
EXT – External Line input RJ45 connector.
REM – Remote Fader RJ45 connector.
IP – Dante RJ45 connector.

GPIO /USB/ Headphone connections

G1 – GPO Tally1 TTRS connector.

G2– GPO Tally2 TTRS connector.

G3 – GPIO 3 TTRS connector.

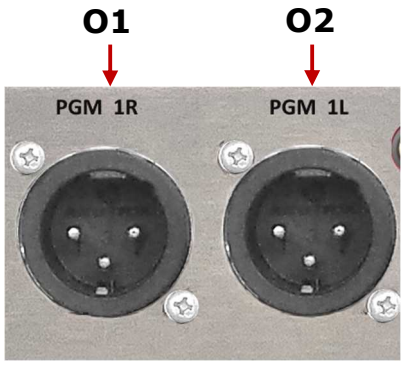
G4 – GPIO 4 TTRS connector.

U1 – USB 1 connector.

U2 – USB 2 connector.

HD – Headphone jack 6,3 mm connector.

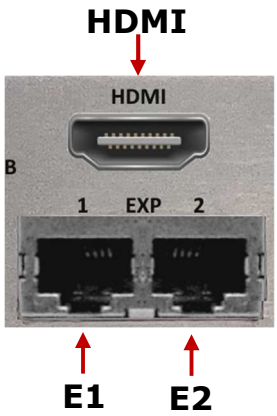
Master PGM 1 output connection



O1 – PGM1 right output, XLR connector.

O2 – PGM1 left output, XLR connector.

HDMI EXP



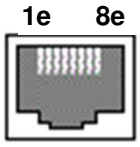
HDMI – HDMI video output.

E1 – Expansion 1 RJ45 connector.

E2 – Expansion RJ45 connector

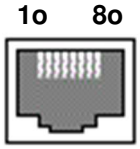
pin out RJ45

Line&DigIn/UTL/AUX/C.Room/C.Studio/Ext



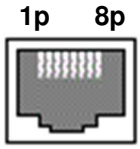
1e – left channel +
2e – left channel -
3e – right channel +
4e – GND
5e – N.C.
6e – right channel –
7e – N.C.
8e – N.C

Digital Outputs RJ45 pin out



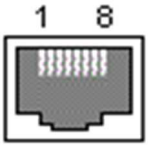
1o – UTL dig +
2o – UTL dig -
3o – PGM dig +
4o – GND
5o – N.C.
6o – PGM dig +
7o – N.C.
8o – N.C.

Remote fader RJ45 pin out



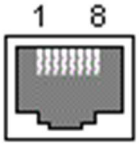
1p – +5v
2p – IN
3p – Start/Stop L
4p – Start/Stop S
5p – Talk Back L
6p – Talk Back S
7p – GND
8p – GND

Tel line/ tel set RJ45 pin out



1t – N.C.
2t – N.C.
3t – N.C.
4t – tel set
5t – tel line
6t – N.C.
7t – N.C.
8t – N.C.

Telco I/O set RJ45 pin out



1te – 1 input/output +
2te – 1 input/output -
3te – 2 input/output +
4te – GND
5te – N.C.
6te – 2 input/output -
7te – N.C.
8te– N.C.

Logic GPI/O port

The ACUO MB supply n. 4 GPIO with connectors TTRS 3,5 mm

All four are GPOs, the last two are also GPIs.
As usual, when active, it closes the RS and R pins of the connector.
As in, to activate it, you need to short the T1/2 pins with S.

- **GPO 1 Out (Start / Stop A)** through the encoder master to the voice GPIO1 (Start / Stop A) select the channel assignment, so when the channel will in Start, the contact between RS and R will close, with the channel in Stop the contact is open .

- **GPO 2 Out (Start / Stop B)** through the Master encoder select GPIO2 (Start / Stop B) and select the channel assignment, so when the channel will put in Start, the contact between RS and R will close , with the channel put in Stop the contact is open.

- **GPO Tally** : Endcoder in each channel, through the Encoder, to the item TALLY set ON , so closes the contact between pins RS and R will close when the channel is put in Start

- **GPO 3** : Endcoder by the Master, under GPO3 select the channel assignment , so, the contact between pins 4 and 17 will close when the channel will put in Start in, the contact will open when you put in Stop the channel.

- **GPI 3 (In Start/Stop A)** : through the Master encoder select **GPIO1 (Start/Stop A)** and select the channel assignment, in which way, from the outside, through a circuit to activate the photo - coupler placed between the pins T and S, states Start and Stop will alternate in the channel , the status of which will be remote using the control **Out Start/Stop A**

- **GPI 4 (In Start/Stop B)** through the Master encoder select **GPIO4 (Start/Stop B)** and select the channel assignment, in which way , from the outside, through a circuit to activate the photo - coupler place between pins T and S states will alternate start and stop of the channel , the status of which will be using the remote control **Out Start/Stop A**

Telephone hybrids / Telco operations

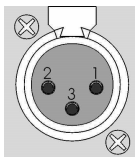
- Incoming Phone Call: **HOOK** button flashes
- Attach incoming call, press the **HOOK** key (it remains lit)
- Telephone call on hold:
  - buttom **HOOK** in ON
  - **STBY** (ON) of the bar phone selected
  - **PRIV TEL** (ON) of the microphone channel
  - Regia Microphone in **STOP**
- Meeting function:
  - (**STBY OFF**) enabled on the same bus hybrids **TEL1**, **TEL2** and possibly a channel with microphone
  - to listen to audio on your phone to activate the corresponding bus C. Room (Regia) and / or C.Studio (studio).
  - **PRIV TEL** (ON) of the microphone channel

TELCO FUNCTION

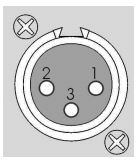
When the Telco RJ45 adapter is connect, the ACUO CPU recognizes the connection and switches the internal circuit in the Telco function;

- all level signals adjust will be the same of the telephone wired connection: TX+, TX-, RX+, RX-
- You can choose the internal bus where you drive the telco audio signal (PGM1, PGM2, PGM3, PGM4)

Sample connection Analog & AES/EBU



INPUT & OUTPUT pins
1 = GROUND
2 = INPHASE
3 = RETURN



Unbalanced Input connection:
A) connect the PIN 1 & 3 togheter or
B) leave pin 3 disconnected, in this case the input signal decrease (-6dB)

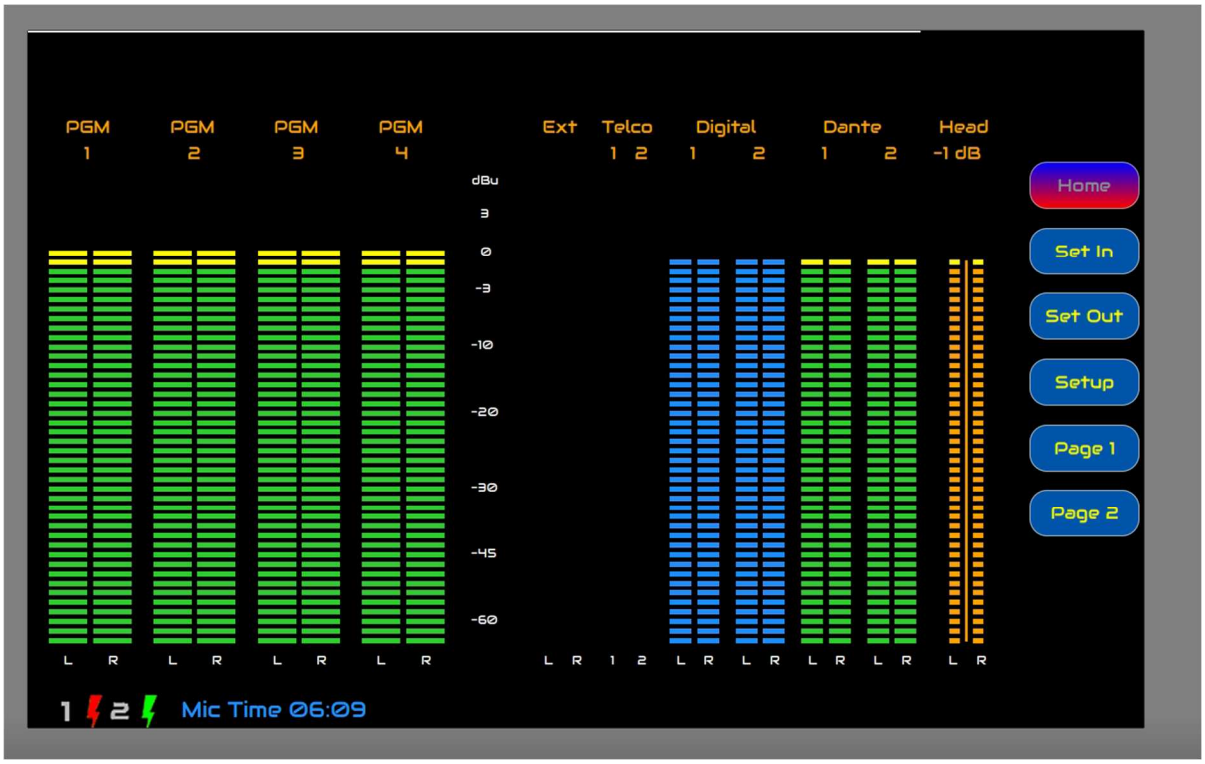
Unbalanced Output connection:
DO NOT connect the PIN 1 & 3 together,to avoid breaking the electronic balancing circuit, leave pin 3 disconnected, leave pin 3 so the signal level decrease (-6 dB), but you will save the electronic balanced output driver

Display control

To control and manage all ACUO funtions there is a Touch LCD display

HOME PAGE

In this page show the level channel meter of PGM1, PGM2, PGM3, PGM4, DIG1, DIG2, DANTE1, DANTE2, TELCO1, TELCO2, EXT, PFL & HEADPHONE



On the right side there are the snapshot key to access to the following menu:

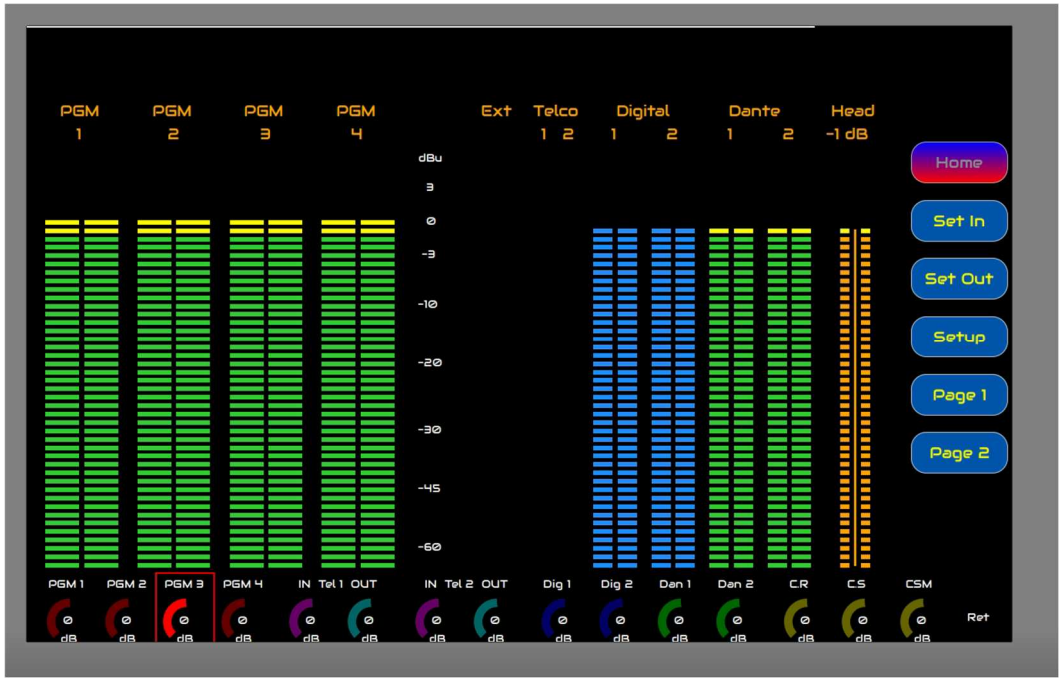
Set In, Set Out, Setup, Page 1 e Page 2

In the lower side there are the PWS 1 and PWS 2 status, if the color of the lightning bolt is GREEN the power supply is ON, if the color of the lightning bolt is RED it means that the power supply is fault or OFF; also the MIC TIMER display how many time the microphone are ON

SET IN section

In this section the user will be able to configurate all inputs line channel of the console

MASTER OUTPUTS



By pressing the Master knob, you can access the adjustment of all audio output levels

SETUP MENU'

In this page there is the management of:

Setup line 3, 4, 5, 6

Line 3/ Digital 1 input

Line 4/Digital 2 input

Line 5/Dante 1 input

Line 6/Dante 2 input

Setup Telephone/Telco

Telephone Line 1/Telco 1

Telephone line 2/Telco 2

Bluetooth/Telco 2

Head Mode

Normal/Split; Normal mode is left and right channels, Split mode is OnAir output in the right channel and PFL in the left channel. There is also the Gain level applied to Split mode

Set PFL Mode

Exclusive, only the last PFL channel selected is valid

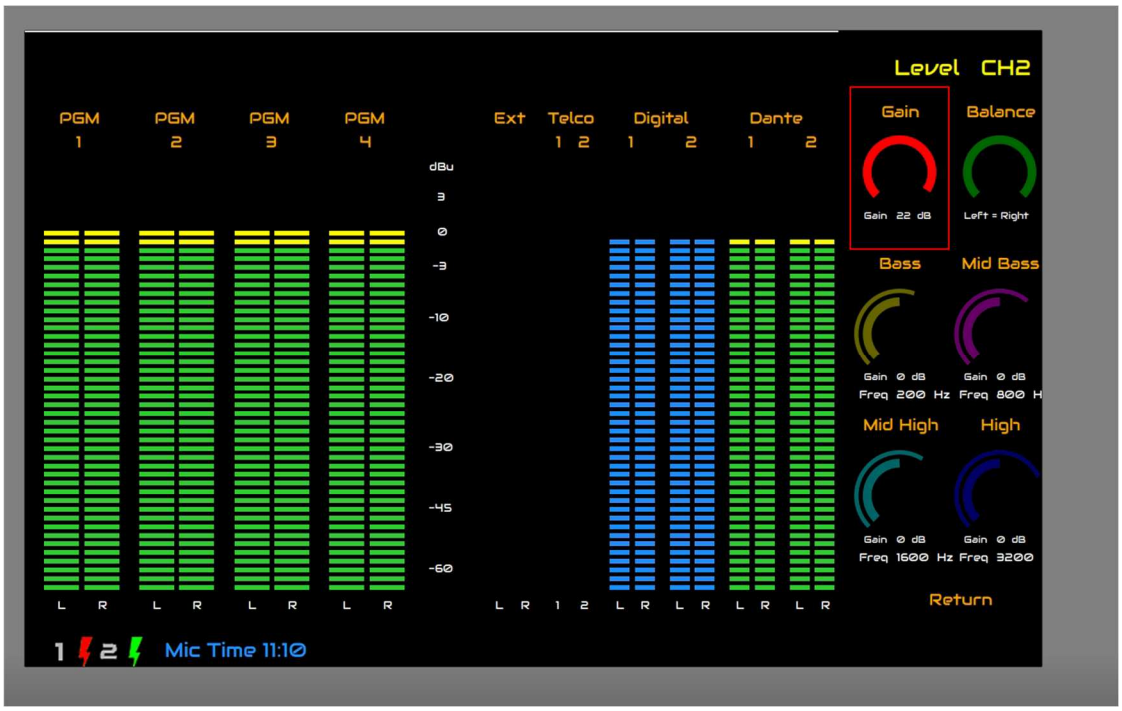
Total, it is possible to active multiple channels in PFL

Set Autofader

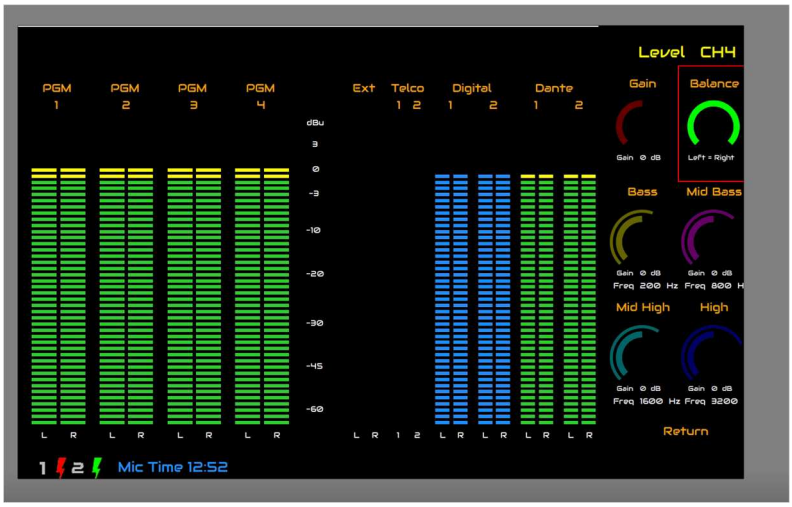
With this function when the user rise up and increase the level of a Speech channel, all Music channels will down rise, decreasing the Music channels signals. It is possible to set in OFF, or to set RF (optional Remote Fader unit) or set another channel.

Channel audio adjustment

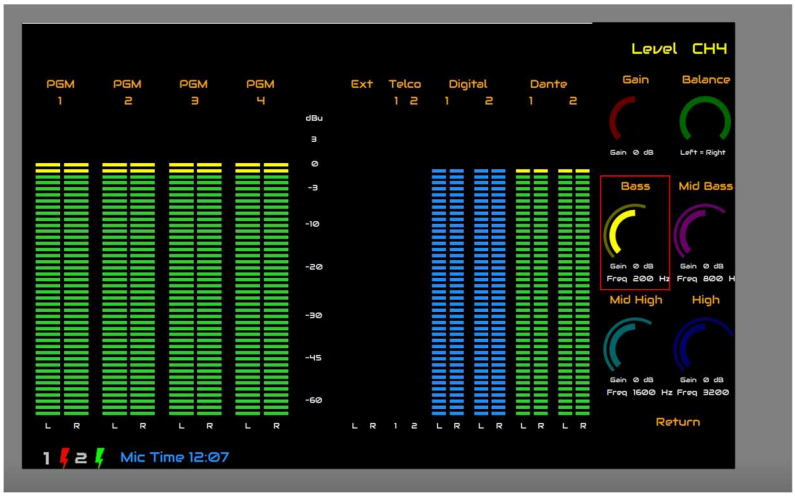
In this page the User is able to set all configuration of the Gain level, the Balance L&R, and parametric equalizer; for each of the four bands it is possible to set the central frequency and the single gain for this band



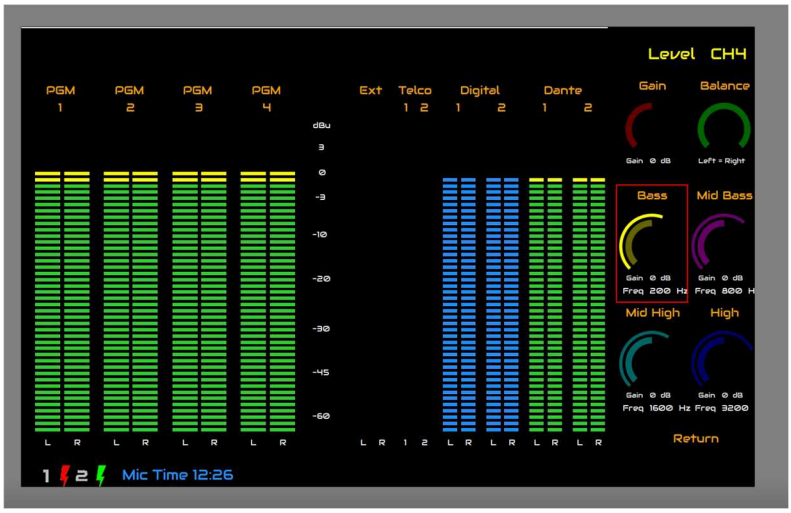
Gain channel level



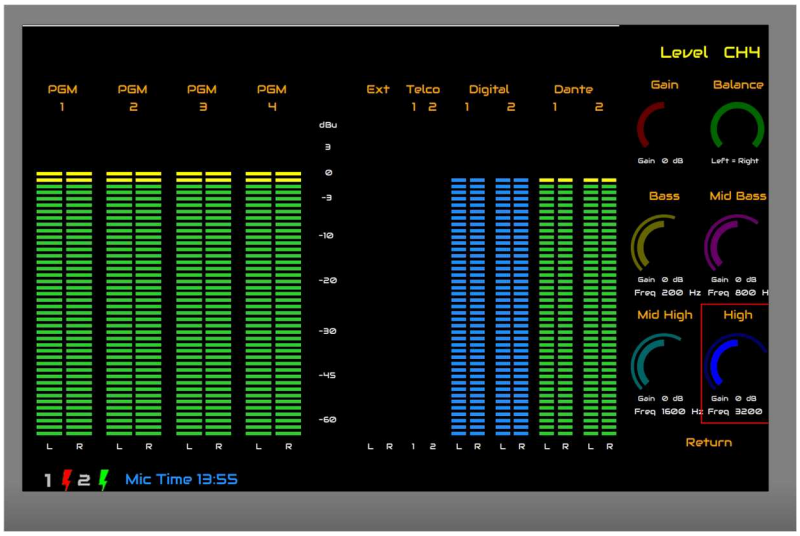
Pressing the channel knob, it will open the related input channel level GAIN, the BALANCE and the parametric equalization developed in four bands, BASS, MID BASS, MID HIGH and High, in each band it is possible to set the frequency and the band level.



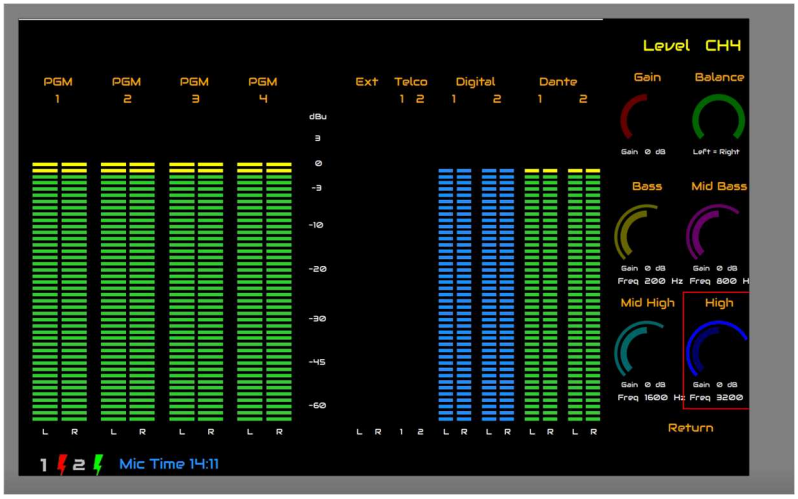
Bass band frequency set



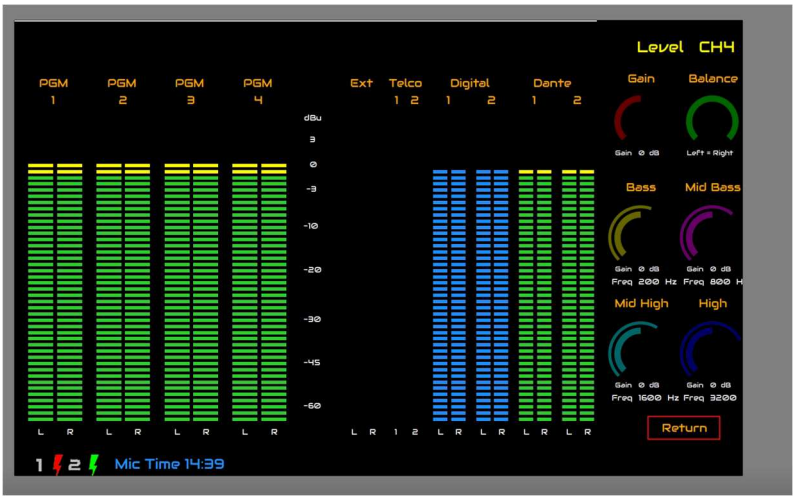
Bass band level adjust



High Band frequency set



High Band frequency level adjust



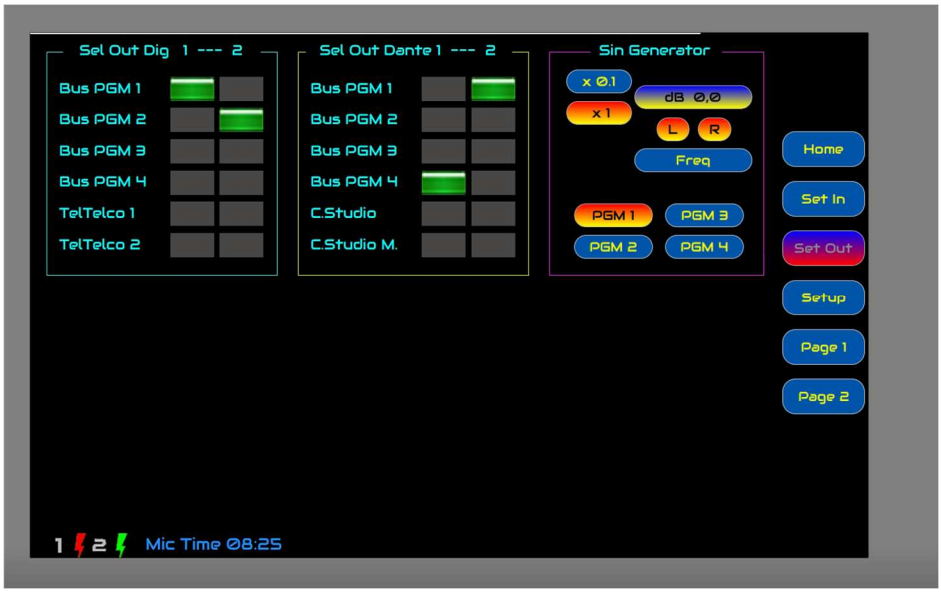
RETURN key to ESC

Microphone Page Setup Input

In this page the User can set all functions of the microphone channel;

- Sensivity adjust of the microphone input
- Phantom power for condenser microphone
- Phase adjust of the audio signal
- Activation of the talkback from Control Room to Studio
- Activation of the talkback from Studio to Control Room
- Mute function on Control Room output with the START of the channel
- Mute function on Control Studio M. output with the START of the channel
- Mute function on Control Room output with the PFL active on the channel
- Speech set channel
- Enable of the microphone to Private Telephone bus
- Activation of automatic START/STOP of the channel when the fader is rising
- Assignements of GPI/O contact to the channel
- Activation of Tally 1&2 commands
- Acces to Set microphone processor (optional)

Outputs assignement Page Setup & Tone generator



Assignment BUS output channel for DIG1 & Dig 2

Assignment BUS output channel for Dante1 & Dante 2

Sinusoidal tone generator with frequency selection

Configurations/Storage/Recall/Delete Setup

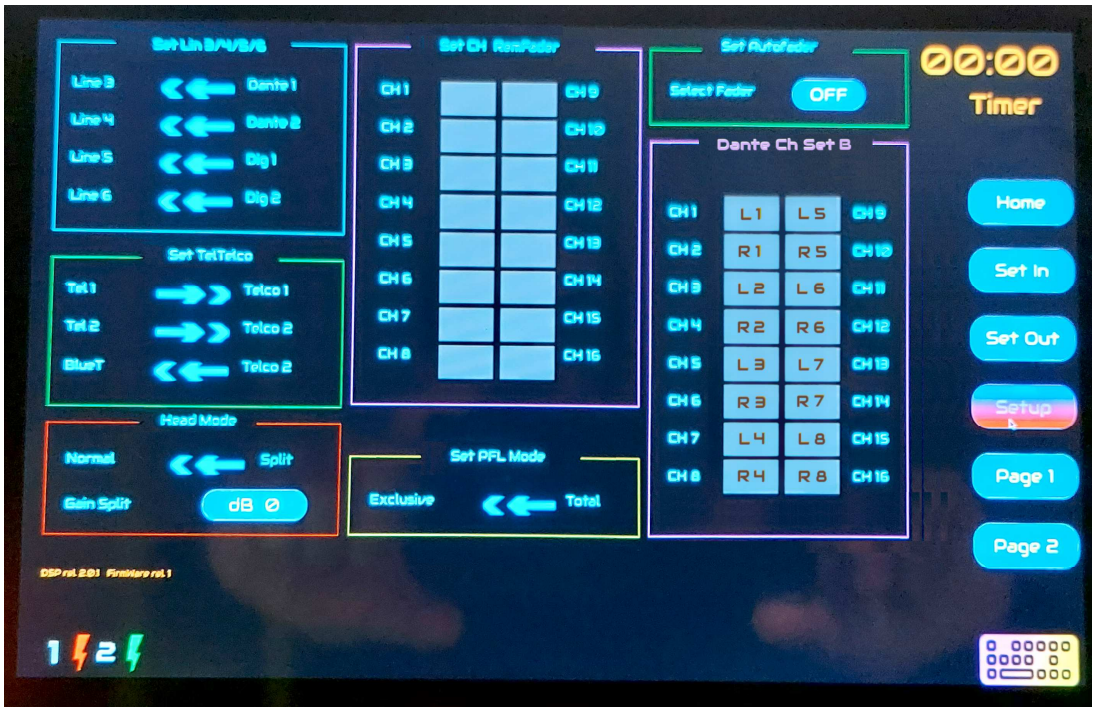
STO: press this key to storage the configuration

RCL: press this key to recall the configuration

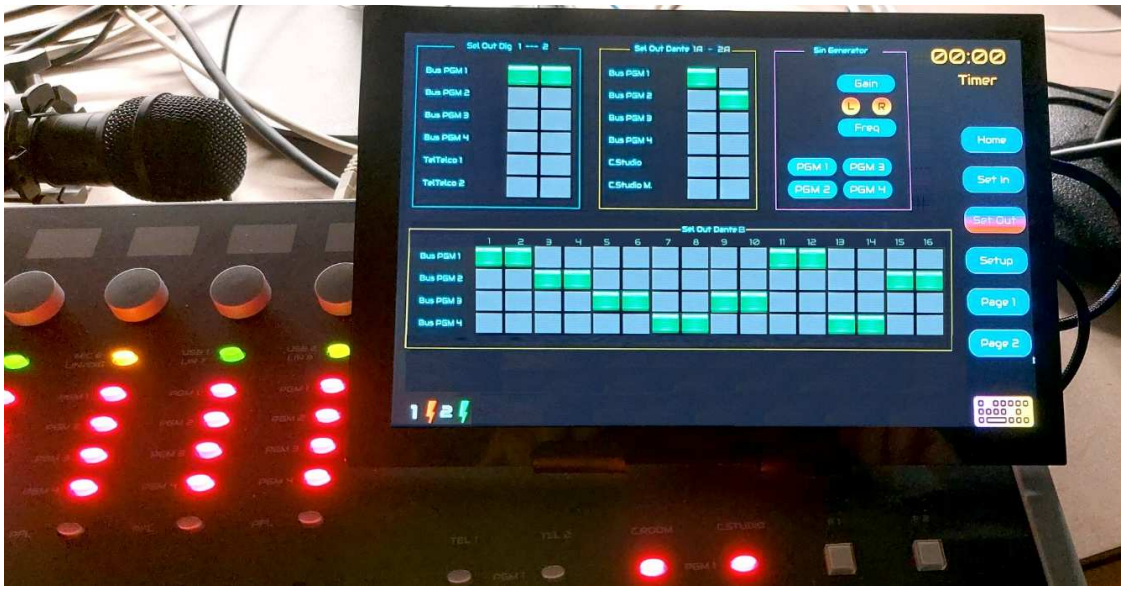
DEL: to delete the configuration

Dante Expansion 16 channels Option

It is available the Dante Expansion 16 IN to 16 OUT.
Whit this optionally features we are able to send and receive 16 Dante channel.
When the Dante Expansion is present, in the SETUP MENU, appear also the Dante table configuration, as show in the following picture:



Also will be a new Out Setup there is a mask to assign the Masters PGM1, PGM2, PGM3, PGM4 to 16 Dante channels, as show in the following mask:



TECHNICAL SPECIFICATIONS

Microphone Inputs
Input configuration Electronically balanced
Sensitivity Level Range Adjustable from –70 ÷-40 dBu
Input Level Range +24 dBu (Digital adj. step 0,5 dB)
Maximum Input Leve l0 dBu
Phantom Supply 48 Vdc selectable
100 mm Fader VCA Digital controlled
Connector XLR Female

Line Inputs & External Input
Input configuration Electronically balanced
Total Frequency response +0.5 dB (20 Hz - 20 kHz)
Harmonic Distorsion + Noise 0,02%
Input Impedance 10 K Ω
Analog Input Level +4 dBu
Headroom + 18 dBu
100 mm Fader control VCA Digital controlled
Connector RJ-45

Digital inputs
Input configuration AES/EBU, IEC958,S/PDIF & EIAJ CP340/1201
Sample Rate Automatic 32, 44.1, 48, KHz converter
100 mm Fader control VCA Digital controlled
Connector RJ-45

Dante™ AoIP I/O (optional)
Dante Audio over IP, AES67 RTP, SMPTE ST2110-30
Sample Rate 44.1/48/96 KHz

Telephone Hybrid / Telco
Input configuration Opto-coupled
Input impedance 600 Ω Bal
Line Compensation Automatically (max 5 Km)
Tx Level +/-12 dBu (Digital adj. step 0,5 dB)
Rx Level Range -12/+24 24 dBu (Digital adj. step 0,5 dB)
Frequency response: 300 Hz ÷ 3400 Hz (-1.5 dB)
Distortion < 1.0 %
Noise -60 dB.

Analog Outputs
Output configuration Electronically balanced
Maximum Output level +24 dBu
Crosstalk -90 dBu
Output Impedance 100 Ω balanced / 50 Ω unbalanced
PGM 1 Output Level Range -12 ÷ +24 dBu
Connector XLR male
PGM 2/3/4 Output Level Range -12 ÷ +24 dBu
Connector RJ-45
C Room Mut.Output Lev. - 12÷ +24 dBu
Connector RJ-45

Digital Outputs
Output configuration AES/EBU, IEC958,S/PDIF & EIAJ CP340/1201
The two digital outputs can be associated with all outputs
Sample Rate 32, 44.1, 48 KHz converter
Connector RJ-45

Headphones
configuration Type Stereo unbalanced (C.Room no Muted)
Output Impedance 50 Ω

Connector Jack TRS female 6,3 mm

Logic I/O
Configuration Optic solid state relay
Two input-4 outputs
Max Voltage 50 Vdc/ac
Max Current 100 mA
Connector mini-jack 3,5 mm female
USB Port 2 x USB 2.0 interface
PWS Switching power supply 87-240 VAC, 50/60 Hz 60 W, output voltage range 10-28 Volt
Redudant PWS available

Dimensions Mainframe
600 x 360 x 44 mm (L x D x H)