ACUO 908 Serie

AEV On Air broadcast console

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

Features

audio inputs:
8 double-channels
balanced Micro and line inputs, digital AES/EBU, USB audio I/O interface

Faders:
Faders (100 mm) with A/B input selector, 3 bands tones control on each input.

Input functions and channels

- Four Microphone inputs: (MIC1, MIC2, MIC3, MIC4)
- Eitgh stereo line inputs: (LIN2, LIN3, LIN4, LIN5, LIN6, LIN7, LIN8)
- Two digital AES/EBU input: (DIG1, DIG2)
- Two USB audio inputs: (USB1, USB2)

Input channels configuration:

Channel 1 : MIC1 / LINE1
Channel 2 : MIC2 / LINE2
Channel 3 : MIC3 / LINE3
Channel 4 : MIC4 / LINE4
Channel 5 : DIG1 / LINE5
Channel 6 : DIG2 / LINE6
Channel 7 : USB1 / LINE7
Channel 8 : USB2 / LINE8

Input setting

All settings are independent for each input, via encoder.
Channel setting:
- Gain / Level adjustment   -12÷+12 dB
- Input balance   -12÷+12 dB
- tone equalizer High, Medium , 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 1   OFF/ON
- Tally 2   OFF/ON
- Talk back on C.Studio   OFF/ON
- Phantom Power (only for Micro inputs)   OFF/ON

Also you can to select the Bus assignment pushing the following buttons:
- PGM
- UTL
- AUX
- CUE

Master Outputs

PGM:Analog balanced stereo with XLR connectors
UTL: Analog balanced stereo with XLR connectors
AUX: Analog balanced stereo with RJ45 connector
PGM Dig: digital AES/EBU stereo with RJ45 connector
UTL Dig: 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
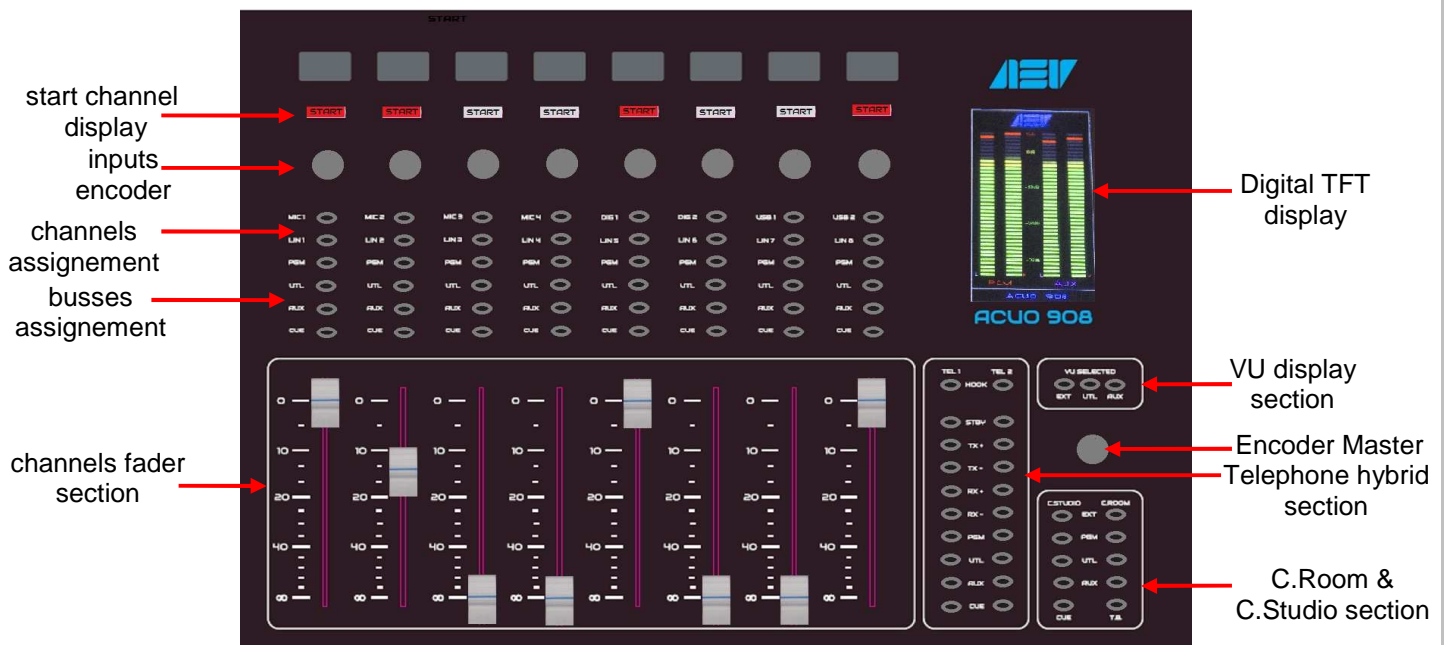
Auxiliary input
External : Analog balanced stereo with RJ45 connector

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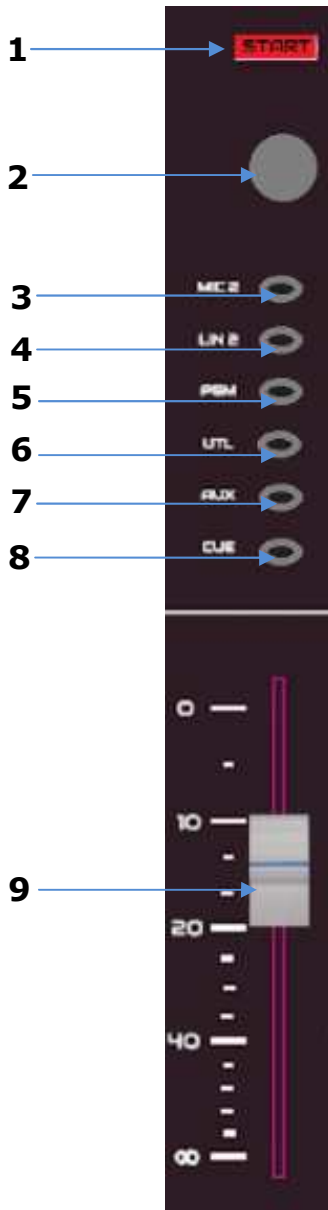- GPO Opto-isolated logic outputs

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 PGM (fixed) SEL (EXT, UTL, AUX)

start channel
display
inputs
encoder

channels
assignement

busses
assignement

channels fader
section

Digital TFT
display

VU display
section

Encoder Master
Telephone hybrid
section

C.Room &
C.Studio section

Micro - Line channel (channels 1 – 4)

All controls on the Micro-Line input channel are described below.

1 – START lamp, it lights when the channel fader is active

2 – knob jog ; directly it select the Gain input level the range is -12 ÷ +12 dB;

in sequence, the following commands:

1th push-buttom Balance adjust (-12 ÷ +12 dB)

2th push-buttom Treble band adjust (-14 ÷ +14 dB)

3th push-buttom Middle band adjust (-14 ÷ +14 dB)

4th push-buttom Bass band adjust (-14 ÷ +14 dB)

5th push-buttom Private Tel active (OFF/ON)

6th push-buttom TB Studio to C.Room active (OFF/ON)

7th push-buttom PGM bus selection (Speech/ Music)

8th push-buttom Control Room Mute active (OFF/ON)

9th push-buttom Mute C.Studio active (OFF/ON)

10th push-buttom Tally active (OFF/ON)

11th push-buttom TB Regia to C. Studio active (OFF/ON)

12th push-buttom Phantom power for the condenser microphone active (OFF/ON)

3 – MIC to activate the microphone source (only with the channel in STOP)
microphones.

4 – LINE to activate the line source (only with the channel in STOP)

5 – PGM Button for routing the channel to the PGM bus.

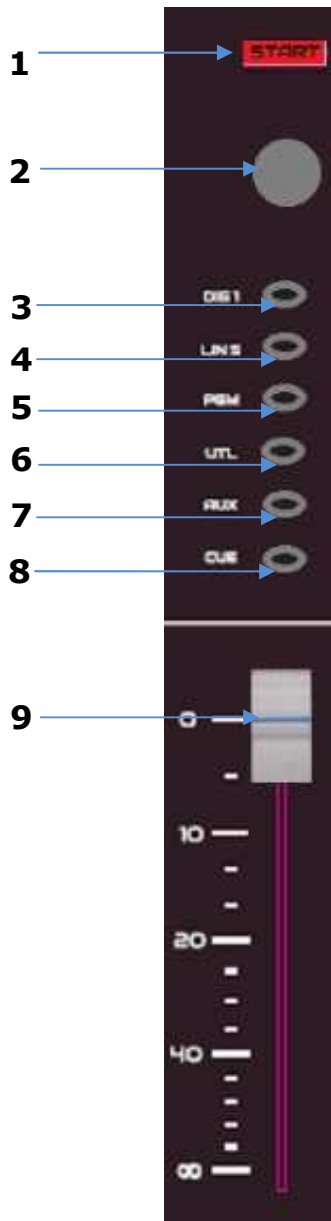**6** – UTL Button for routing the channel to the UTL bus.

7 – AUX Button for routing the channel to the AUX bus.

8 - Button enabling the preview CUE.

9 - Fader.

Dig - Line Module (channels 5 – 6)

All controls on the Dig-Line input channel are described below.

1 – START lamp, it lights when the channel fader is active

2 – knob jog ; directly it select the Gain input level the range is -12 ÷ +12 dB;

 in sequence, the following commands:

1th push-button Balance adjust (-12 ÷ +12 dB)

2th push-buttom Treble band adjust (-14 ÷ +14 dB)

3th push-buttom Middle band adjust (-14 ÷ +14 dB)

4th push-buttom Bass band adjust (-14 ÷ +14 dB)

5th push-buttom Private Tel active (OFF/ON)

6th push-buttom TB Studio to C.Room active (OFF/ON)

7th push-buttom PGM bus selection (Speech/ Music)

8th push-buttom Control Room Mute active (OFF/ON)

9th push-buttom Mute C.Studio active (OFF/ON)

10th push-buttom Tally active (OFF/ON)

11th push-buttom TB Regia to C.Studio active (OFF/ON)

3 – DIG to activate the digital AES/EBU source (only with the channel in STOP)

4 – LINE to activate the line source (only with the channel in STOP)

5 – PGM Button for routing the channel to the PGM bus.

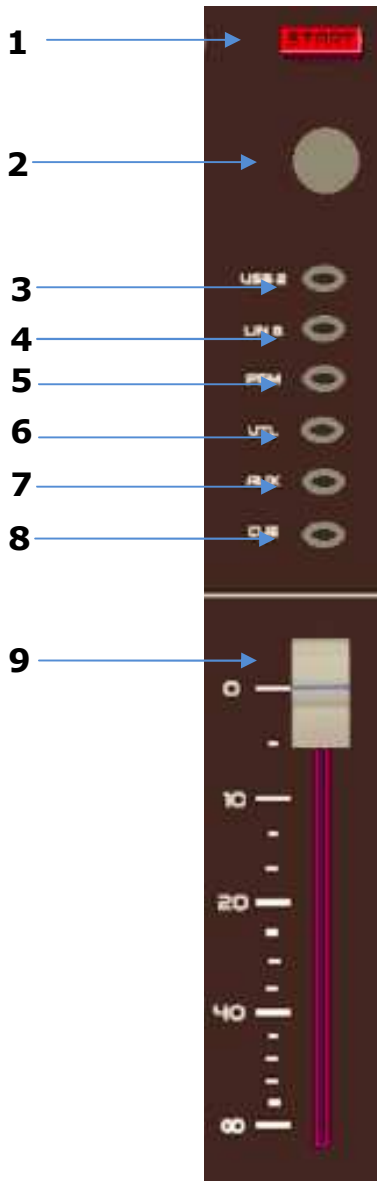**6** – UTL Button for routing the channel to the UTL bus.

7 – AUX Button for routing the channel to the AUX bus.

8 - Button enabling the preview CUE.

9 - Fader.

USB - Line Module (channels 7 – 8)

All controls on the USB-Line input channel are described below.

1 – START lamp, it lights when the channel fader is active

2 – knob jog ; directly it select the Gain input level the range is -12 ÷ +12 dB;

 in sequence, the following commands:

1th push-button Balance adjust (-12 ÷ +12 dB)

2th push-buttom Treble band adjust (-14 ÷ +14 dB)

3th push-buttom Middle band adjust (-14 ÷ +14 dB)

4th push-buttom Bass band adjust (-14 ÷ +14 dB)

5th push-buttom Private Tel active (OFF/ON)

6th push-buttom TB Studio to C.Room active (OFF/ON)

7th push-buttom PGM bus selection (Speech/ Music)

8th push-buttom Control Room Mute active (OFF/ON)

9th push-buttom Mute C.Studio active (OFF/ON)

10th push-buttom Tally active (OFF/ON)

11th push-buttom TB Regia to C. Studio active (OFF/ON)

3 – USB to activate the digital usb source (only with the channel in STOP)

4 – LINE to activate the line source (only with the channel in STOP)

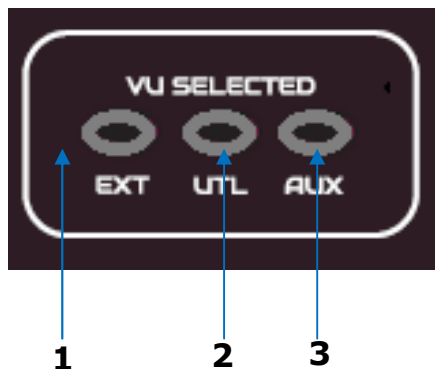**5** – PGM Button for routing the channel to the PGM bus.

6 – UTL Button for routing the channel to the UTL bus.

7 – AUX Button for routing the channel to the AUX bus.

8 - Button enabling the preview CUE.

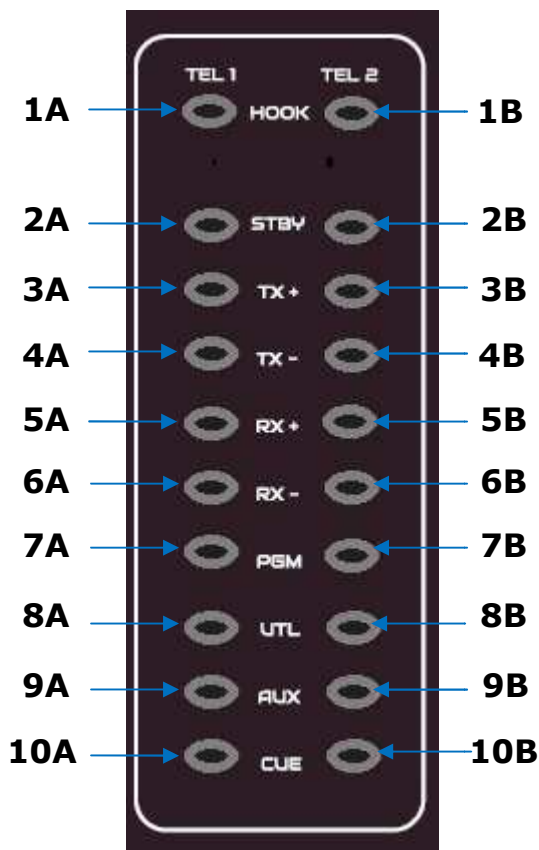**9** - Fader.

Monitoring section

1 - Button for selecting the EXT input on Switched digital VUMeters.

2 - Button for selecting the Master UTL output on Switched digital VU-Meters.

3 - Button for selecting the Master AUX output on Switched digital VU-Meters.

Telephone hybrids section

1A - HOOK button for telephone line 1 hook-up.
1B - HOOK button for telephone line 2 hook-up.

2A - Button for Stanby state for telephone line 1.
2B - Button for Stanby state for telephone line 2.

3A - Button for TX+ adjust for telephone line 1.
3B - Button for TX+ adjust for telephone line 2.

4A - Button for TX- adjust for telephone line 1.
4B - Button for TX- adjust for telephone line 2.

5A - Button for RX+ adjust for telephone line 1.
5B - Button for RX+ adjust for telephone line 2.

6A - Button for RX- adjust for telephone line 1.
**6B** - Button for RX- adjust for telephone line 2.

7A - Button for assigning the tel1 to the PGM bus.
7B - Button for assigning the tel2 to the PGM bus.

8A - Button for assigning the tel1 to the UTL bus.
8B - Button for assigning the tel2 to the UTL bus.

9A - Button for assigning the tel2 to the AUX bus.
9B - Button for assigning the tel2 to the AUX bus.

10A -Button for assigning the tel2 to the CUE bus.
10B -Button for assigning the tel2 to the CUE bus.

Room & Studio section
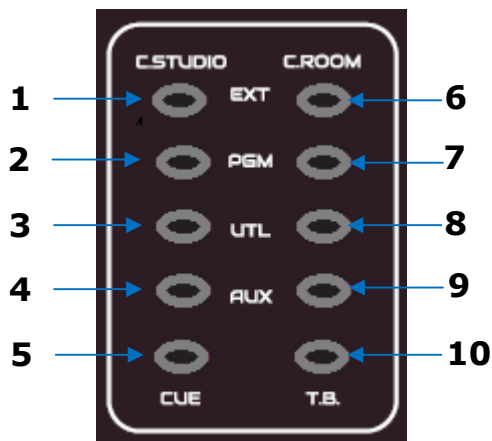
Control Studio selection

1 – Button for selecting the EXT input for routing it to the Control Studio output.
2 – Button for selecting the master PGM output for routing it to the Control Studio output.
3 – Button for selecting the master UTL output for routing it to the Control Studio output.
4 – Button for selecting the master AUX output for routing it to the Control Studio output.
5 – Button for selecting the CUE bus for routing it to the Control Studio output.

Control Room selection

6 – Button for selecting the EXT input for routing it to the Control Room outputs.
7 – Button for selecting the master PGM output for routing it to the Control Room outputs.
8 – Button for selecting the master UTL output for routing it to the Control Room outputs.
9 – Button for selecting the master AUX output for routing it to the Control Room outputs.

Master setup

Master knob jog ; directly it select the Gain headphone level, the range is -∞ ÷ +8 dB;
in sequence, the following commands:

1 th push-buttom Control Room level (-∞ ÷ +8 dB)
2 th push-buttom Control Studio level (-∞ ÷ +8 dB)
3 th push-buttom PGM output level (-12 ÷ +12 dB)
4 th push-buttom External input level (-12 ÷ +12 dB)
5 th push-buttom CUE interlock (OFF/ON)
6 th push-buttom PGM Digital sample rate (32, 44.1, 48, 96 KHz)
7 th push-buttom UTL Digital sample rate (32, 44.1, 48, 96 KHz)
8 th push-buttom channel's selection to GPIO 1 (Start/STOP A) command
9 th push-buttom channel's selection to GPIO 2 (Start/STOP B) command
10 th push-buttom channel's selection to GPO 3 (Start/STOP C) command

Talk Back

10 – Button to active the Talkback function to the Control Studio outputs.

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

- Channel with function talkback to studio (TBST: ON)
- Channel in STOP

What happens:
- the Talk back button of the remote fader lights up
- the previous selection of the Control Studio flashes
- the audio signal present in the Control studio is replaced by the channel selected in TB
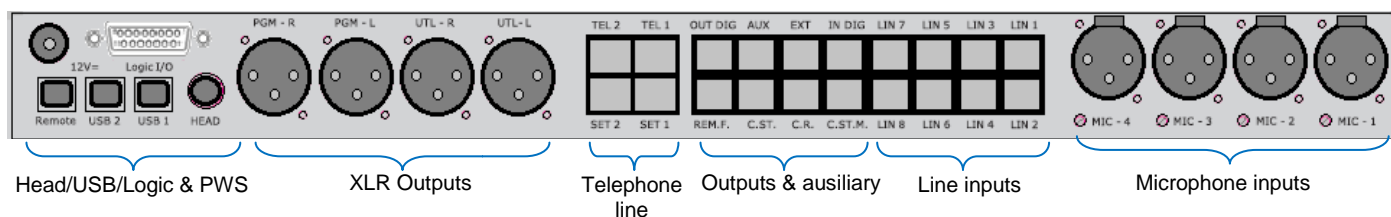
Talk back Studio to Regia :
(need the Remote Fader)
- Channel connected to the Remote Fader unit with talkback function activated (STCR: ON)
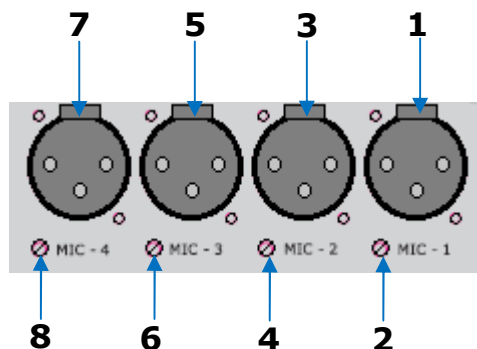- Channel in STOP

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.

Rear panel – connections

Head/USB/Logic & PWS   XLR Outputs   Telephone line   Outputs & ausiliary   Line inputs   Microphone inputs

Microphone inputs connection

1 – Microphone 1 input XLR F connector.
2 – Trimmer adjusting the MIC 1 input level from 0 ÷ to +30 dB for very low volume microphones.
3 – Microphone 2 input XLR F connector.
4 – Trimmer adjusting the MIC 2 input level from 0 ÷ to +30 dB for very low volume microphones.
5 – Microphone 3 input XLR F connector.
6 – Trimmer adjusting the MIC 3 input level from 0 ÷ to +30 dB for very low volume microphones.
7 – Microphone 4 input XLR F connector.
8 – Trimmer adjusting the MIC 4 input level from 0 ÷ to +30 dB for very low volume microphones
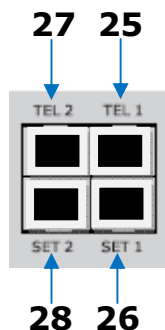
Line inputs connection
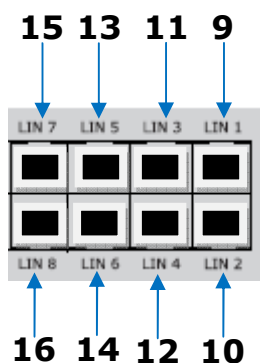
9 – Line 1 input RJ45 connector.
10 – Line 2 input RJ45 connector.
11 – Line 3 input RJ45 connector.
12 – Line 4 input RJ45 connector.
13 – Line 5 input RJ45 connector.
14 – Line 6 input RJ45 connector.
15 – Line 7 input RJ45 connector.
16 – Line 8 input RJ45 connector.

## Outputs & Ausiliary connection
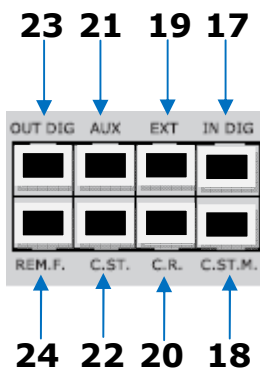
17 – Dig1 & Dig2 input RG45 connector.
18- Control Studio Mutable output RJ45 connector
19 – External input RG45 connector.
20 – Control Room output RJ45 connector.
21 – AUX output RJ45 connector
22 – Control Studio output RJ45 connector.
23 – PGM Dig & UTLDig input RG45 connector.
24 – Remote Fader RG45 connector.

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Telephone connection

27 25

TEL 2   TEL 1

SET 2   SET 1

28 26

25 – Connector RJ45 for telephone line 1.
26 – Connector RJ45 for telephone service 1.
27– Connector RJ45 for telephone line 2.
28– Connector RJ45 for telephone service 2.

Outputs XLR connection

32   31   30   29

PGM - R   PGM - L   UTL - R   UTL- L
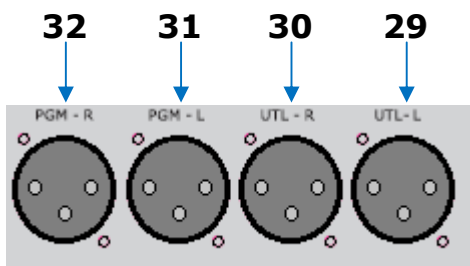
29 – UTL left channel XLR connector.
30 – UTL right channel XLR connector.
31 – PGM left channel XLR connector.
32 – PGM right channel XLR connector.

Head/USB/Logic & PWS connections

34   33

12V=   Logic I/O
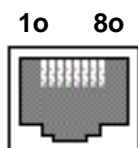
Remote   USB 2   USB 1   HEAD

38 37 36 35
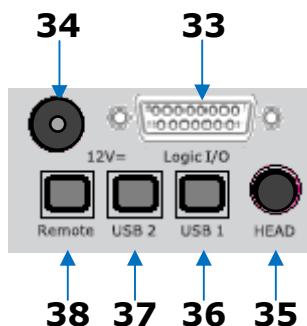
33 – Logic I/O DB15 connector.
34 – PWS connector.
35 – Headphone jack 6,3 mm connector.
36 – USB 1 connector.
37 – USB 2 connector.
38 – USB serial connection.
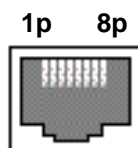
Line in /AUX/C.Room/C.Studio/Ext
RJ45 pin out

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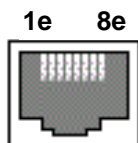
1e – left channel +
2e – left channel –
3e – right channel +
4e – GND
5e – N.C.
6e – right channel –
7e – N.C.
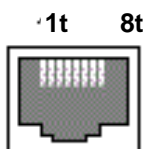**8e** – N.C

Digital Outputs RJ45 pin out

1o   8o

1° – left   anne +
2° – left   anne –
3° – right   anne +
4° – GND
5° – N.C.
6° – right   anne –
7° – N.C.
8° – N.C

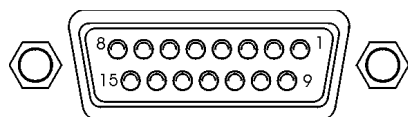## Remote fader RJ45 pin out

1p   8p

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

Tel line/ tel set RJ45 pin out

1t   8t

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

Logic I/O pin out

8 ○○○○○○○○ 1
15 ○○○○○○○ 9

1 – 9 – GPO1 Start/Stop A; Start=close, Stop=open
2 – 10 – GPO2 Start/Stop B; Start=close, Stop=open
3 – 11 – GPO Tally; (Start)+(Tally ON)
4 – 12 – GPO3 ; (Start) on attached channel
5 – 13 – GPI1 Start/Stop IN A ; Toggle
6 – 14 – GPI2 Start/Stop IN B ; Toggle
7 – +5V
8 – GND
15 – GND

1
9 GPO 1 (OUT Start/Stop A)

2
10 GPO 2 (OUT Start/Stop B)

3
11 GPO T (TALLY)

4
12 GPO 3 (OUT Start/Stop C)

5
13 GPI 1 (IN Start/Stop A)

6
14 GPI 2 (IN Start/Stop B)

7
+5Vdc

8
15 GND
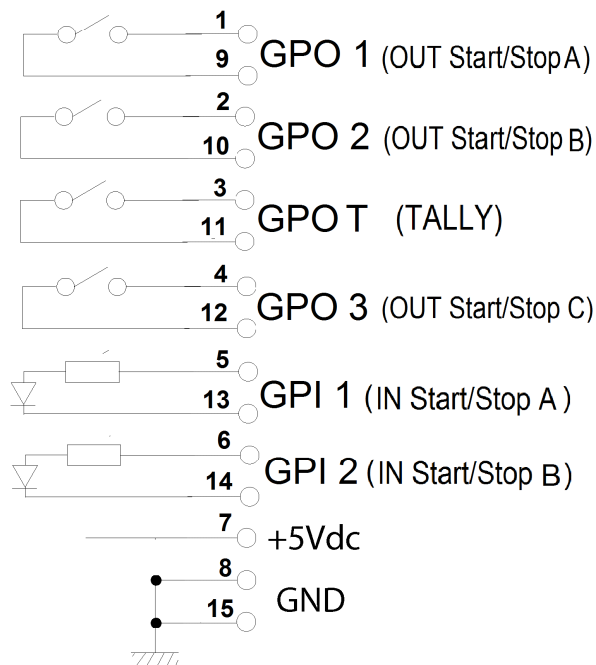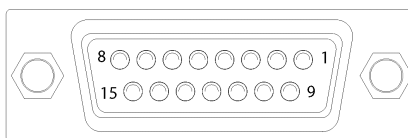
Out Start/Stop A: with the Master knob jog to the **GPIO1 (Start/Stop A)** function, to assign the input channel, so when this channel is in Start, the contact between the pins 1 and 9 will close, with the channel in Stop, the contact will open.

Out Start/Stop B: with the Master knob jog to the **GPIO2 (Start/Stop B)** function, to assign the input channel, so when this channel is in Start, the contact between the pins 2 and 10 will close, with the channel in Stop, the contact will open.

GPO Tally : this function is enabled (ON) by the channel's encoder; when the channel changes over to START mode, a stable contact is activate between the pins 3 and 11.

GPO 3 with the Master knob jog to the **GPIO2 (Start/Stop C)** function, to assign the input channel; when the channel changes over to START mode, a stable contact is activate between the pins 4 and 12.

In Start/Stop A: with the Master knob jog select the function **GPIO1 (Start/Stop A)** and assign the channel; so every time that the opto-copled between the pins 5 and 13 will active by the external circuit, the channel changes between the START and STOP mode. The state of the channel will sent to the external device by the **Out Start/Stop A** contact.

In Start/Stop B: with the Master knob jog select the function **GPIO2 (Start/Stop B)** and assign the channel; so every time that the opto-copled between the pins 6 and 14 will active by the external circuit, the channel changes between the START and STOP mode. The state of the channel will sent to the external device by the **Out Start/Stop B** contact.

Telephone hybrids – operation

- Incoming Phone Call: The button HOOK flashes

- Attach incoming call: Press the HOOK (the button glows)

- Phone call on hold:

    o   HOOK ON
    o   press the STBY button, the external user hears the audio signal of the selected bus on the corresponding telephone line

- Communicate privately with the external telephone user phone:
    o   HOOK (ON)
    o   STBY (ON)
    o   CUE (ON) of the selected telephone line
    o   PRIV TEL function atctive (ON) of the microphone channel
    o   MIC channel in STOP

 • Function Meeting of the two phone calls:

    o   (STBY OFF) enabled on the same bus (PGM or UTL or AUX) tothe   hybrid channel
          TEL1, TEL2 and a channel with microphone
    o   to listen to audio of the telephone lines to activate the corresponding bus in the C.
          Room selection (Regia) and / or C.Studio (Studio).

TECHNICAL SPECIFICATIONS

Microphone Inputs

Input configuration	Electronically balanced
Input Impedance	200 Ω
Sensitivity Level Range	Adjustable from −70 ÷-40 dBu (Trimmer adj.)
Input Level Range	±12 dBu (Digital adj. step 0,5 dB)
Maximum Input Level	- 30 dBu
Phantom Supply	48 Vdc selectable
100 mm Fader	VCA Digital controlled
Connector	XLR Female

Line Inputs

Input configuration	Electronically balanced
Input Impedance	10 K Ω (600 Ω wired)
Input Level Range	±12 dBu (Digital adj. step 1,0 dB)
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, 96 KHz converter
100 mm Fader control	VCA Digital controlled
Connector	RJ-45

Telephone Hybrid

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 dBu (Digital adj. step 0,5 dB)
Frequency response	300 Hz ÷ 3400 Hz (-2 dB) ; 300 Hz ÷ 3400 Hz (-1.5 dB)
Distortion	< 1.5 %
Noise	-60 dB.

Analog Outputs

Output configuration	Electronically balanced
Output Impedance	100 Ω
PGM Output Level Range	-12 ÷ +12 dBu
Connector	XLR male
UTL/AUX Output Level Range	0 dBu fixed
Connector	RJ-45
C Room Mut.Output Lev.	- 12÷ +12 dBu
Connector	RJ-45

Digital Outputs

Output configuration	AES/EBU, IEC958,S/PDIF & EIAJ CP340/1201
Sample Rate	Automatic 32, 44.1, 48, 96 KHz converter
Connector	RJ-45

Headphones

configuration Type	Stereo unbalanced (C.Room no Muted)
Output Impedance	50 Ω
Connector	JACK 6,3 mm

Logic I/O

Configuration	Optic solid state relay
Max Voltage	50 Vdc/ac
Max Current	100 mA
Connector	DSUB 15 pole female
USB Port	2 x USB 2.0 interface

Dimensions	460 x 360 x 44 mm (L x D x H)