AEQ

FORUM IP PLUS

FRcore
AoIP Console Engine

AEQ

FORUM IP PLUS

Broadcast Digital Audio Mixer

The FORUM IP PLUS is a new digital audio broadcast mixing console, specifically designed for ON AIR control but adapts to a diversity of workflows and functionalities.

It incorporates all the basic features required for such operations : automatic monitor muting, cough muting, fader start, control signalling, control signals for automating external equipment, external communications management, talkback or intercom functions, and many more.

The console adapts perfectly to diverse scenarios, including auto-control, traditional Studio-Control operation, small TV audio production controls, general sound production, mixed configurations, and integrates perfectly with AoIP Networked installations. The FORUM IP PLUS combines ergonomics, precision, and user-friendly control to meet both basic operational needs and the most demanding requirements.

All essential functions such as channel activation, level adjustment and routing, are directly accessible on each channel of the FORUM IP PLUS control surface. Gain adjustment ensures effective and precise regulation of reference audio levels for each channel, while less common adjustments are grouped into a contextual control set on a 7" touchscreen, offering specific functions and detailed settings for each channel. With just one or two taps on the display, the interface ensures simplicity and clarity for dynamic, error-free operation.
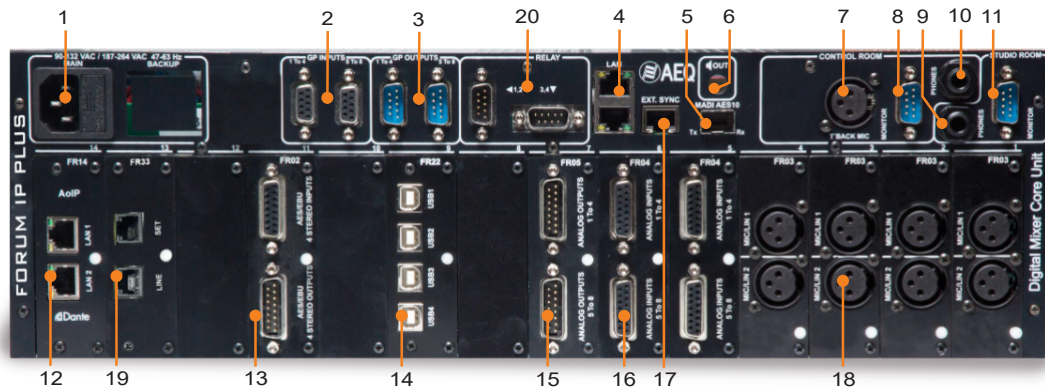

The flexibility of the AEQ FORUM IP PLUS configuration allows to assign any system input signal to any control channel and very simple reconfiguration of signal distribution directly from the console surface.

The FORUM IP PLUS features a set of memory banks to store channel and signal settings, including the surface' signal distribution, output bus routing, signal processing parameters and their activations. This allows to create a "bespoke" console for example different programs with diverse technical requirements.

OUTSTANDING FEATURES

• One to six modules with 4 faders each, and 1 control and monitoring module.

• Digital audio mixer with IP connectivity for ON AIR broadcast applications.

• Ergonomic surface with a touchscreen, including local IP audio with an optional microphone connected to the surface, headphones, Bluetooth connection, and CUE output.

• Audio processing: 3-band parametric equalizer, filters, and dynamics.

• Up to 32 mono sum-buses for program outputs, ancillaries, monitoring, and clean feeds. Direct signal routing from inputs to multiple outputs without using buses.

• Virtual FORUM option, enabling remote control from a parallel control surface on a PC or tablet, with expanded simultaneous channel usage.

1. AC Power Input. Optionally redundant
2. GP Inputs
3. GP Outputs
4. Ethernet control ports
5. MADI Multi-Channel Fiber-Optic Comms Port
6. Stereo CUE Speakers output
7. Talk Back Microphone
8. Control Room Monitoring
9. Studio Secondary Headphones
10. Studio Primary Headphones
11. Studio Monitoring
12. AoIP Multichannel Module
13. Digital Input / Output Module
14. USB Module
15. Analogue Output Module
16. Analogue Input Module
17. Time Sync Port
18. MIC / LINE Input Modules
19. DIgital TELCO Hybrid Modules
20. Relay GP Outputs

ENGINE CONNECTIVITY

One of main advantages of the design of the FORUM IP is translated into a simple installation and configuration.
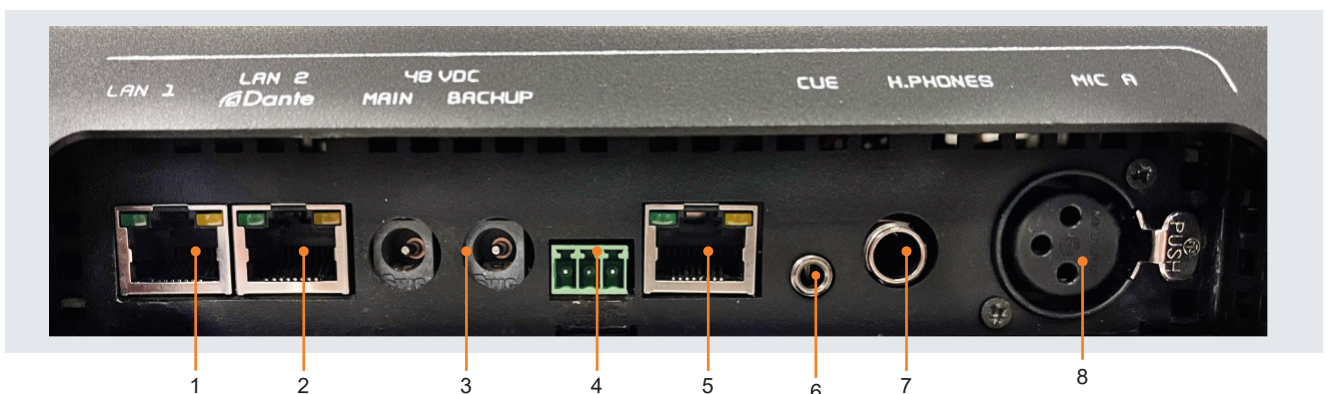
FORUM IP´s flexible I/O capabilities allow the unit to interface with external devices for cough muting, remote control, ON-AIR lights, etc. by using its 8 opto-coupled GPI/Os and 4 relay-operated control outputs. Additionally, there are up to more than 240 additional Virtual GPI/O's available for control and automation functions.

FORUM IP´s Engines have built-in outputs for both studio and control room headphones and dedicated monitors for studio and control-room.

The Engines also has built-in Ethernet ports for configuration and remote control. AES10 MADI interface is available as an option.

Forum IP IP has an audio engine chassis in 19" 3U format with modular structure. The top area includes input and output connectors, common to any configuration and one additional self-control and talkback microphone input. At the bottom, 14 slots are provided to install multiple analogue and digital audio, IP multichannel and phone hybrid I/O interface boards.

CONTROL SURFACE MODULE CONNECTIVITY

1. LAN1 (Control)
2. LAN2 (AoIP DANTE)
3. Dual Power Input
4. Power supply output for fader modules (Flush-mounted version)
5. Control port for the fader modules (Flush-mounted version)
6. CUE
7. Control Headphones
8. MIC A (Self-control / Talkback)

Control Surface (channels)

The FORUM IP PLUS control surface features one to six 4-fader modules and a control module for adjustments, programming, monitoring, and talkback. Signal assignments to channels are fully user-definable, allowing any input signals present in the system to be assigned to any channel. This flexibility enables a single channel to control one signal at a given time and a different signal at another, adapting to various programs or operators. Additionally, these signal-to-channel assignments can be saved in memory for later use by different users or for specific applications.

The incorporation of motorized faders will expand the capacity of the fader modules, as it allows maintaining the precision of the level adjustment in A/B configuration, and each physical module can also work as a set of virtual modules, organized in pages, so that the operator handles one page of each module, while having other pages of each module stored with signals that can be on standby or active on air.

Thus, FORUM IP PLUS allows not only mixing, processing and routing of signals on the control surface, but also maximum precision and ease of handling in level adjustment and routing of hidden signals, up to the maximum number of inputs and outputs, including not only those of conventional analog and digital modules of various types, but a large additional amount through up to 64 available channels by integrating the AES67/Dante network.

1 Rotary encoder for the channel input gain. If pressed, the encoder transfers the channel control to the touch screen in the control section and activates the contextual keys to assign the advanced configuration controls: dynamics, equalization, balance and sends to auxiliary outputs, telephones,..,

2 Four direct main routing keys, to send the audio to the program bus, to the audition bus and two Aux buses.

3 Channel Display with contextual information relevant to the input signal or signals.

4 Free Programmable buttons.
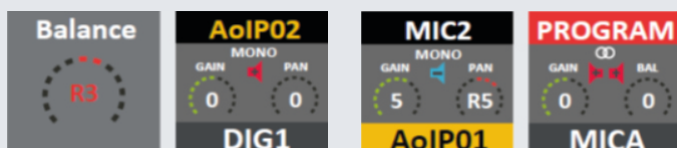
5 CUE switch.

6 100 mm (4") motorized fader.

7 Channel activation buttons.

8 Programmable channel-keys: according to the configuration, they can operate as an OFF channel-muting key, A/B switch in dual channels, Talk Back button for 4-wire channels or using other special configurations.

9 Switch Protectors with light signalling

Fader channel display Information

The display represents the name of the input signal assigned to the channel, the gain level, balance or panoramic, the phase configuration (L+R+,L+R-,L-R+,L-R-), the audio mode configuration (Stereo, Mono L, Mono R, L+R) and the ON-AIR status, among other functions. If the console has been programmed for A/B input mode channel operation, the display will show at the bottom the name of the B signal. In configuration mode, it shows gain levels, balance or panoramic status, and the selected source.

Screen and Advanced Configuration Controls

The control surface display integrates two high-precision stereo digital VU meters, assignable to master outputs or, using the CUE keys, to any selected signal.

Programmable Keys

The FORUM IP PLUS allows the programming of predefined special functions, such as: configuring GPIs and GPOs, controlling hybrids and codecs, sending signals to the VU meters, setting up additional intercom communications. The 20 programmable keys enable users to activate or deactivate these additional functions at will.

Advanced Configuration

Each fader channel on the FORUM IP PLUS control surface includes an encoder labelled GAIN, which also acts as a "SELECT" button to access advanced configuration functions.

This configuration takes place on the multi-function touchscreen located in the control and monitoring section.

Operation involves tapping virtual keys on the screen, navigating graphical menus, and using multi-touch gestures. For enhanced precision, the encoder below the screen features a TOUCH & TURN function, enabling precise adjustments of highlighted parameters on the display.

Control and Studio Monitoring

The FORUM IP PLUS provides independent monitoring sections for control room and studio. Each section includes independent level controls for control monitors, studio monitors, headphones, and the CUE monitor. When making selections or adjustments, the touchscreen displays a window showing the selected parameters and adjustments in real time.

The FORUM IP PLUS also includes centralized and independent control for:
• ON AIR signaling
• Signal assignment to monitors and headphones
• Monitor path levels
• Cough muting
• Remote PFL activations

Talk-back

In the upper-left corner of the control area is the Talkback Level Control. This control allows communication with studio microphones, external 4-wire circuits, hybrids, and audio-codecs. Each channel's FUNCTION key can be programmed for talkback purposes. To communicate via studio monitors, one of the keys adjacent to the main display can be programmed.
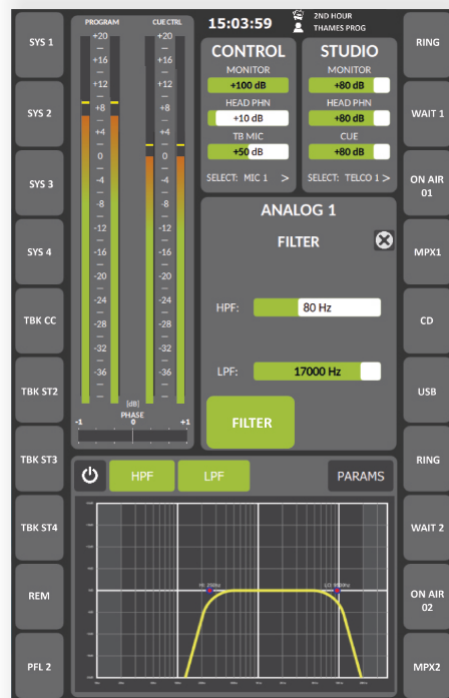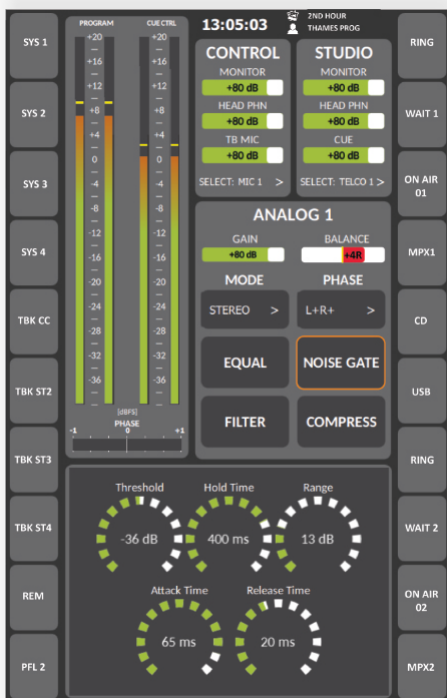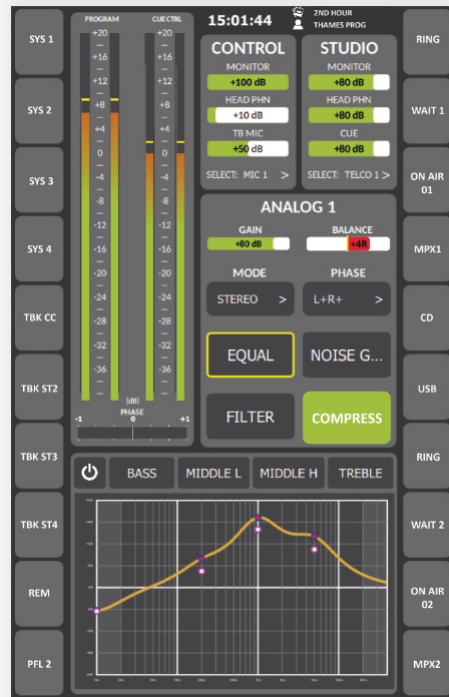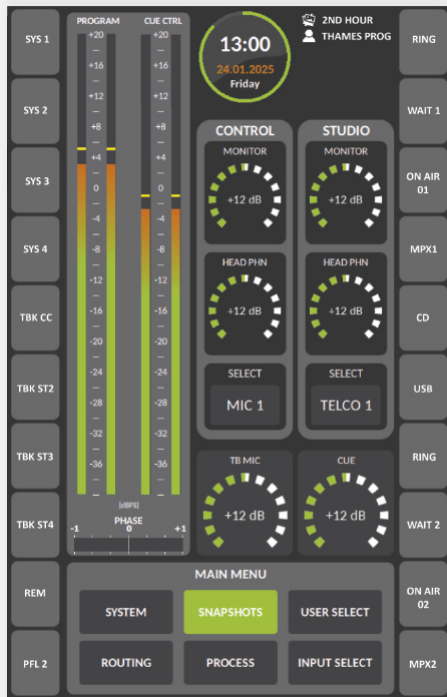
Control Surface (control and monitoring)

Touchscreen Menus

The touchscreen on the FORUM IP PLUS provides instant access to a variety of general functions, including:
- Activation and adjustment of audio effects such as equalization, filters, and limiters.
- Management of configurations and memory presets.
- General deactivation of audio effects.
- Timer and stopwatch for time management.
- Phase adjustment.
- Insertion of a test signal.

The labels for programmable keys and the main VU meters are always visible. When leaving the idle screen to adjust a process or access another function, the VU meters reduce in size to make room for additional visual elements and operations, ensuring seamless control and usability.

FORUM IP PLUS VIRTUAL : YOUR CONTROL SURFACE ON A PC OR A TABLET

This app, designed to complement the FORUM IP PLUS digital console, is displayed on a Windows or iOS device, whether PC or tablet:
• An exact representation of the console's control surface, spread across two screens, allowing for parallel or alternating control of the surface and dual or remote management.
• The fader bank supports up to 24 faders, whether physically present or not. With this application, consoles that don't have 24 physical faders gain the capacity to do so.
• Includes an extended set of vumetres.

In fact, the app is a virtual copy that includes all the physical controls available on the FORUM IP PLUS physical control surface, as well as the most advanced functions of its main menu and 8 stereo vumeters.

You'll have complete control over FORUM IP PLUS without needing to be physically near the device. You can activate and deactivate fader channels on the air, move faders, activate and modify EQ, gain, balance, or panning, save and load memory settings, activate programmable keys or presets, and even manage phone calls if the console is equipped with fully integrated or external digital phone hybrids.

The standby screen displays the VU meters, the control and monitoring section, and 12 faders on each screen. At the top are fader page keys for operating additional faders.

System Components

MODULAR CONTROL SURFACE

Control and monitoring module

- One per mixing console.
- Depending on the version, it can be installed flush-mounted, separate or grouped adjacent with the fader modules, or inside a desktop chassis.

FRPF CTRL Flush-mounted or "sunk" into your technical furniture.

FRPD CTRL Desktop version. It needs a desktop chassis.

Fader module

- Depending on the version, it can be installed flush-mounted, separate or grouped adjacent with other fader or control and monitoring modules, or inside a desktop chassis.
- 4 channels per module.
- Largest configuration: 6 fader modules per console.

FRPF CH Flush-mounted or "sunk" into your technical furniture .

FRPD CH Desktop version. It needs a desktop chassis.

Desktop chasis

There are two desktop chassis formats available, to be equipped with a control & monitoring module and several fader modules in order to complete the configuration.

FRP SDT 12: DESKTOP CHASSIS FOR 12 FADERS
To be equipped with 3 fader modules plus 1 control & monitoring one.

FRP SDT 16: DESKTOP CHASSIS FOR 16 FADERS
To be equipped with 4 fader modules plus 1 control & monitoring one.

REMOTE CONTROL APPLICATION

VIRTUAL FORUM SOFTWARE

A software application compiled for Windows or iOS operating systems that offers a simple way to remotely control the console, as well as monitor and adjust any audio parameter.

It includes and extended set of volumeters.
It can be used on standard or touch screens. Hardware not included.

FR CORE PLUS ENGINE: FRAME WITH COMMON I/O

19" 3U chassis with 14 slots to install input and output cards at the back.
It also includes the following connections, available also at the back:
- MIC/LINE input for talk-back and self-control.
- Studio and control room speaker and headphone outputs.
- 8 GPI (inputs) and 8 GPO (outputs) (both opto-coupled) and 4 relay-operated GPO outputs.
- 2 Ethernet 10/100 T ports.
- 1 external time sync port.

FR FSA: **OPTIONAL REDUNDANT POWER SUPPLY FOR FR CORE**.
Additional internal power supply module with standard universal 100-240V 50/60Hz AC input.

FRCORE PLUS INPUT/OUTPUT MODULES

Analogue and digital input output modules in several formats to be inserted into the 14 back slots of FR CORE PLUS. Note that FR11 is internal and doesn't occupy a slot.

FR02: DIGITAL INPUT/OUTPUT MODULE:
- 4 AES/EBU Digital stereo inputs.
- 4 AES/EBU Digital stereo outputs.
- SRC on all inputs.
- AES/EBU and SPDIF digital audio formats are supported.

FR03: MICRO/LINE INPUT MODULE:
- 2 MICRO or LINE inputs - menu selectable.
- 48-volt Phantom Power ON/OFF - menu selectable for each input.
- Up to 4 of these modules can be installed per console.

FR04: ANALOGUE INPUT MODULE:
- 8 electronically balanced line-level mono inputs.
- Configurable as 4 stereo inputs.

FR05: ANALOGUE OUTPUT MODULE:
- 8 electronically balanced line level mono outputs.
- Configurable as 4 stereo outputs.

FR11: SYNCHRONOUS MULTICHANNEL AUDIO LINK AES 10 MADI:
Handles up to 64 audio channels in each direction allowing FORUM IP PLUS to communicate with another console or a router hundreds of meters away using a simple pair of fiber-optic lines. Two bi-directional fiber-optic ports (input and output).
The SFP port is built into the console and does not occupy an I/O slot. This module cannot be used simultaneously with the FR14 module (AoIP).

FR14: MULTICHANNEL AoIP NETWORK LINK, DANTE™ or AES67:
Incorporates 32 AoIP input channels to the console, while publishing 32 audio outputs to be used by any other device in the network.
- Two RJ45 connectors (operating either in redundant or Daisy chain modes).
- Up to two cards of these can be installed in a console.
- One FR14 always comes in FORUM SPLT PLUS, pre-configured with 4 IP connections to the control surface, leaving another 28 for free use. It can't be used simultaneously with FR11.

FR21: BLANK INPUT/OUTPUT MODULE COVER:
Covers unused input and output module slots on the rear of the chassis.

FR22: USB DIGITAL INPUT/OUTPUT MODULE:
- 4 USB Digital stereo Inputs/Outputs.
- SRC on all inputs.
- "USB audio standard device" implementation for computer operating systems.

FR33: DIGITAL TELEPHONE HYBRID MODULE:
-For POTS telephone analogue lines
 Telephone line connector.
- Telephone set connector.
- Up to two of these cards can be installed in a console.

External accessories and devices

WIRING ACCESORIES

In order to facilitate a quick connection of the console in any installation, audio and data cables using the console connectors can be provided.

DB15M AU: male DB15 connector with 6-meter long cable including 4 balanced and shielded unterminated pairs, to be used for 4 inputs in FRCORE PLUS.

2 DB15M AU: two male DB15 connectors with 6-meter long cable including 8 balanced and shielded unterminated pairs, to be used for 8 inputs in FRCORE PLUS .

DB15F AU: female DB15 connector with 6-meter long cable including 4 balanced and shielded unterminated pairs, to be used for 4 outputs in FRCORE PLUS engines.

DB9F AU: female DB9 connector with 6-meter long cable including 2 balanced and shielded unterminated pairs, to be used for 2 monitoring outputs in FRCORE PLUS engines.

DB9M GPI: male DBP connector with 6-meter long unterminated wire to be used for GPI in FRCORE PLUS engines.

DB9F GP0: female DB9 connector with 6-meter long unterminated wire to be used for optically- coupled GPO in FRCORE PLUS engines.

DB9F RY: female DB9 connector with 6-meter long unterminated wire for relay-operated GPO in FRCORE PLUS engines.

ADDITIONAL EQUIPMENT WITH AoIP INPUT AND OUTPUTS

NETBOX Audio interfaces

Netbox interfaces allow the input or output of audio channels from remote locations to the AoIP Network. These network nodes increase the overall amount of local and remote audio channels with IP network connectivity.

NETBOX 32 AD

Features 16 mono analogue (or 8 stereo pairs) + 8 stereo digital channels. Thanks to its large input / output capacity, it is especially suited for central control and link rooms, or to expand the number of analogue and digital audio channels in large mixing consoles.

NETBOX 8 AD

Provides 8 input and 8 output channels, distributed in 4 analogue mono plus 2 digital stereo connections. Stereo digital signals can be configured to comply with AES/EBU or SPDIF standards. The second digital stereo one can also be switched to a USB connector in order to facilitate the connection to a workstation. It can be useful to connect the console to recording cabins, booths or other auxiliary areas.

NETBOX 4 MH

Provides 4 micro / line inputs, 4 line outputs and 4 stereo headphone outputs. Includes 4 GPI and 4 GPO, as well as additional GPIOs for signalling boxes such as Studiobox. It can be powered using PoE.

Other Audio interfaces

You can use 3rd parties devices in order to increase the I/O capacity of the console.

Functionality

- Cough muting, ON-AIR signaling for control and studio.
- Fader start, remote PFL, talkback, and automatic monitor muting.
- Configurable N-1 outputs.
- Integrated external equipment control (hybrids and AEQ audiocodecs) via programmable keys.
- Independent Pre-Fader/Post-Fader configuration for all routings to sum buses.
- Control communications via 10/100 Ethernet connection using TCP/IP protocol.
- Auto-start (selectable) with the latest settings or default configuration.
- Input signals assignable to any control channel.
- Storage of signal settings in memory: one basic configuration and six user-defined configurations.

General Features

- Independent control and studio monitoring with configurable VU meters for all system signals.
- Two CUE monitoring outputs for Pre-Fader listening.
- 4 direct-routing buttons on each channel.
- Three integrated amplified headphone outputs: Control (x2) and studio.
- Two high-precision stereo VU meters. Eigth high-precision stereo vumeters with Forum IP Plus Virtual option.
- Test tone generator.
- Externally synchronized clock, timer, and stopwatch.
- Silent convection cooling, ideal for self-operated formats.
- Optional redundant power supply.

Common Engine Connectivity

- Integrated studio and control room speaker and headphone outputs.
- Integrated CUE output.
- Integrated micro-line input for talkback and self-control, with phantom power.
- Multichannel: 32 bidirectional channels via one AoIP module (AES67 technology, Dante format), with 4 channels reserved for communication with the control surface.
- Synchronization via AES/EBU and Dante.
- 8 opto-coupled GPI's, 8 opto-coupled GPO's and 4 GPO's with relays.

Modular Engine Connectivity

- Extractable modules for easy maintenance.
  Inputs and Outputs
- Admits up to 14 multiple input and output modules, 4 of them can be dual micro-line, two digital phone hybrid and two AoIP.
- Multichannel modules: AoIP through 1 (by default) or 2 (optional) 32-channel Dante AES67 modules. Alternatively, MADI through optional internal 64 I/O module.

System Processing Capabilities

- 48 kHz, 24 bit internal sampling frequency.
- Gain control.
- Selectable balance/panorama control on all channels.
- Selective phase inverter.
- Audio processing for 20 stereo signals.
- Pre-defined audio processing that allows manual adjustment. Available audio effects: 3-band parametric equalizer, high
- pass and low pass filters, compressor/limiter, and noise gate.
- Audio gain adjustment for up to 128 inputs, including those embedded.

Control Surface Features

CONNECTIVITY
- LAN 1: RJ45, Ethernet
- LAN 2 and DANTE: RJ45, Ethernet, configurable in Dante Controller.
- CUE: Balanced mono 3.5 mm jack.
- Control headphones: Stereo 6.35 mm jack.
- Control microphone input: XLR 3-pin, configurable phantom.
- Bluetooth: Bidirectional, mono output and stereo input.
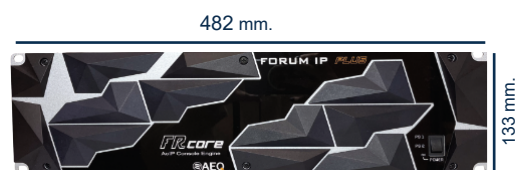- Dante: 4 bidirectional audio channels on LAN 2 port.

FEATURES
- Fader channels: until 6 modules. Each for 4 physical channels. Motorized faders.
- Channel display: 1.54-inch color IPS.
- Channel encoder: Rotary with push-button (SELECT, GAIN).
- Main screen: 7-inch TFT-LCD multitouch display. Resolution: 1280 x 800, with IPS.
- Encoder with push-button for precise adjustments.
- Internal system: Linux on muticore processor.
- Control and studio monitoring adjustment section: Encoders and push-buttons.

CORE Physical Specifications

DIMENSIONS AND WEIGHT OF CORE

FR CORE
- Width: 482 mm
- Depth: 320 mm (16").
- Height: 3U rack 133 mm (5,3/8").
- Weight: About 6 kg, depending of configuration.

482 mm.

133 mm.

Technical Specifications

Control Surface Physical Specifications

FLUSHMOUNT SURFACE DIMENSIONS

FRPF CH 4-fader module

FRPF CTRL control / monitoring modules

With side trims sizes	Body sizes
Width: 190,2 mm.	Width: 170,2 mm.
Depth: 345,6 mm.	Depth: 325,6 mm.
Heigth: 59 mm.	Heigth: 59 mm.

Maximum thickness of the board: 30 mm.

FLUSHMOUNT DIMENSIONS ACCORDING TO CONFIGURATION

1 Module
Width: 176 mm.
Depth: 332 mm.

2 Modules
Width: 346,2 mm.
Depth: 332 mm.

3 Modules
Width: 517 mm.
Depth: 332 mm.

4 Modules
Width: 687 mm.
Depth: 332 mm.

5 Modules
Width: 857 mm.
Depth: 332 mm.

6 Modules
Width: 1028 mm.
Depth: 332 mm.

7 Modules
Width: 1198 mm.
Depth: 332 mm.

190,2 mm.

345,6 mm.

DESKTOP CHASSIS DIMENSIONS

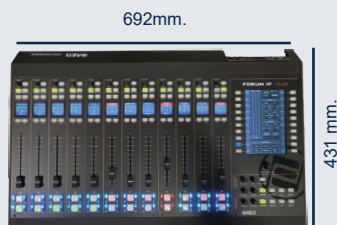**FRP SDT 16: DESKTOP CHASSIS FOR 16 FADERS**

Width: 862 mm.
Depth: 431 mm.
Height: 51,5mm.

FRP SDT 12: DESKTOP CHASSIS FOR 12 FADERS

Width: 692 mm.
Depth: 431 mm.
Height: 51,5mm.

692mm.

431 mm.