

graphite two. most innovative digital networking radio console.



The **Graphite Two** radio console offers highest flexibility for operators combined with top-level audio quality.

Graphite Two radio consoles can either be installed as stand-alone consoles or as networking consoles with access to all inputs and outputs within a radio center.

They come with an external audio and digital signal processing frame which is connected to the console by an Ethernet connection to control all audio sources and destinations within the network.

Graphite Two consoles offer either TCP/IP Ethernet protocols or IPX/SPX Ethernet protocols in order to connect **Graphite Two** consoles to existing VADIS networks.

Integrated audio interface unit in the console frame

A unique feature is the option to install a break-in / break-out unit within the console frame. The interface unit is fitted with 8 audio input channels which can be configured either as stereo or mono inputs and outputs.

The interface unit uses a Dante protocol-based Ethernet connection to the main frame which can be located in the main control room (MCR).

This solution saves rackspace within the studio and prevents the operating zone from being heated up.

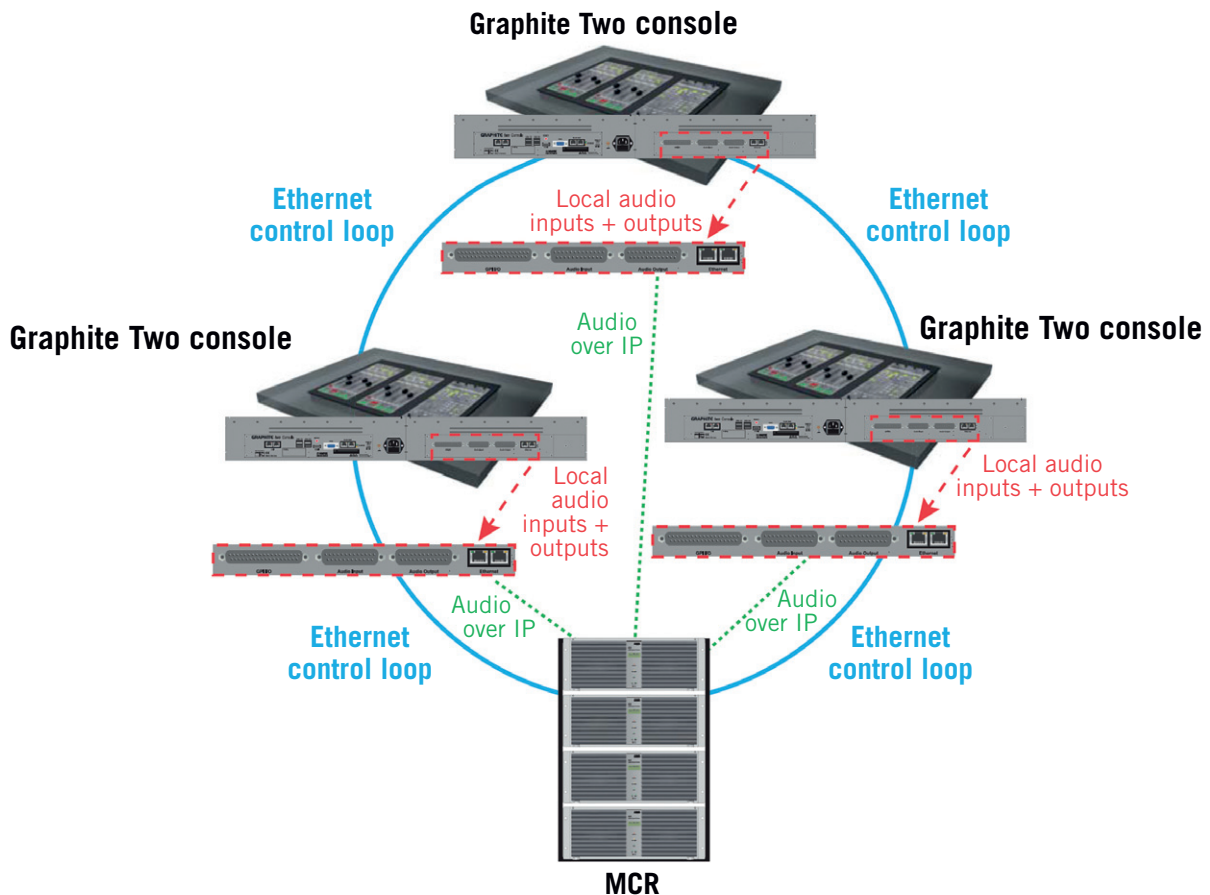
Local microphones and other sources can now be connected directly to the console and studio monitor and headphone amplifier do not require any additional harness.

Available from 8 to 32 faders – up to 640 input and 640 output channels

Graphite Two consoles are available from 8 faders up to 32 faders and can be arranged as in-line consoles or can be split to offer desk top work space in between.

The consoles can be equipped with interface cards for up to 640 input and 640 output channels.

An internal router completes the state-of-the-art feature set.



**comfortable user interface –
easy to configure**



Comfortable graphical user interface (GUI)

The **Graphite Two** graphical user interface identifies automatically all control modules, audio and DSP frames as well as all interface cards within the audio network.

The highly comfortable GUI eliminates the manual setting of IP addresses or any other time-consuming configuration setups – everything happens automatically and without any intervention by the user.

The GUI allows setting a wide variety of control functions such as fader start and stop or on/off functions combined with GPI I/O controls.

Hot-swap of cards without system shut down

Failures within the system are immediately shown to the control computer and all cards and PSUs can be replaced while the system is in operation.

As no other system parts than the console and the audio/ DSP frame carry any IP address, cards and modules can be swapped without setting codes.

Made in Germany

Graphite Two consoles are manufactured with highest possible German quality and serve as most reliable workhorse in any commercial, public and community radio station like all other KLOTZ branded products do since over 20 years.

Fader modules and monitor modules can be combined in any way

Only two different modules are necessary to set up any console with 4 to 32 fader strips. Combining the **Graphite Two** 4 fader modules with the highly sophisticated monitor and telephone module, any mixing console layout can be configured. Fader modules and monitor modules can be mixed in any way.

Both, fader and monitor modules are mounted in two different frame sizes containing PC and PSU which are called the main console frames (MCF).

The **Graphite Two** console frames can be arranged inline or in split mode connected just by a single CAT5 cable. The MCF – which is needed only once in any console regardless of its number of channels – contains the PC, video interface, keyboard and mouse connectors and the PSU. The **Graphite Two** MCF is connected by one single CAT5 cable with the G2 Audio Engine and Router Frame.

The **Graphite Two** console uses traditional faders, knobs and push buttons for audio control giving full tactile feedback to the operators.

Audio control surface available from 4 to 32 faders

Graphite Two consoles are fully modular. Any console layout required can be created combining either a two modules frame or a three modules frame with a main console frame (MCF) hosting the monitor module and one or two fader modules.

Those console frames can be mounted either in-line or can be installed in split mode using the **Graphite Two** Split Kit. The maximum size of a **Graphite Two** console has 32 faders and a monitor section.

Fully assignable fader channels

Any fader channel of a **Graphite Two** console can be configured to control any audio source, bus and audio output located either on a local input and output frame or within the entire audio network.

With the **Graphite Two** console, the configuration and setup of audio channels can be controlled by an external monitor, keyboard and mouse, which are to be connected to the rear side of the console.

All fader channels fitted with OLED are easily labeled and renamed

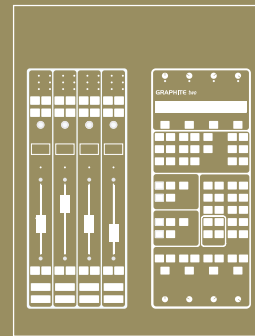
Channel names, sources and destinations, EQ and dynamics can be set using the **Graphite Two** configuration tool. Presets of the console layout as well as monitor and telephone settings can easily be configured and stored by the qualified operator. The external monitor shows channel levels as well as all other sources and destinations available within the audio network and allows selecting any of those by authorized operators.

Graphite Two consoles available from 8 to 32 faders

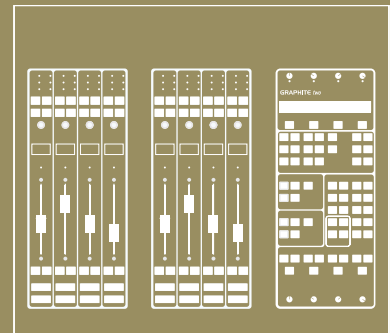
If more than 8 faders are required, **Graphite Two** consoles can be expanded to a maximum of 32 faders by adding further console extension frames to the MCF.

Graphite Two main console frame

for one monitor and one fader module

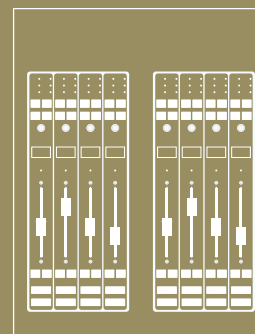


for one monitor and two fader modules

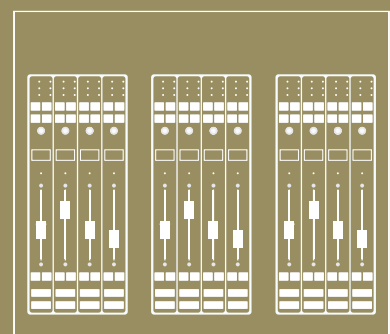


Graphite Two console extension frame

for two fader modules



for three fader modules



The Graphite Two fader module

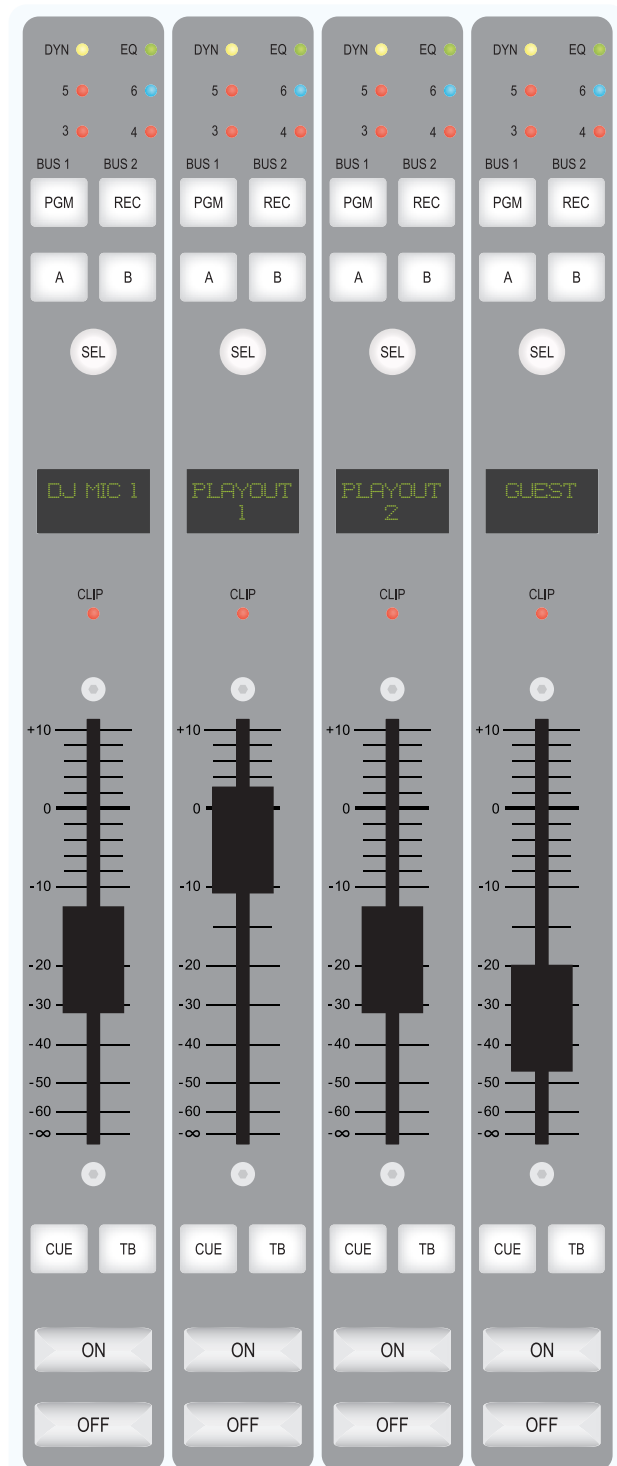
The **Graphite Two** fader module can be mounted in both, the **Graphite Two** MCF and the **Graphite Two** extension unit. Programmable illuminated buttons allow assigning any available source to any fader channel – an ultrabright OLED display on each fader module makes it easy for the operator to keep full overview.

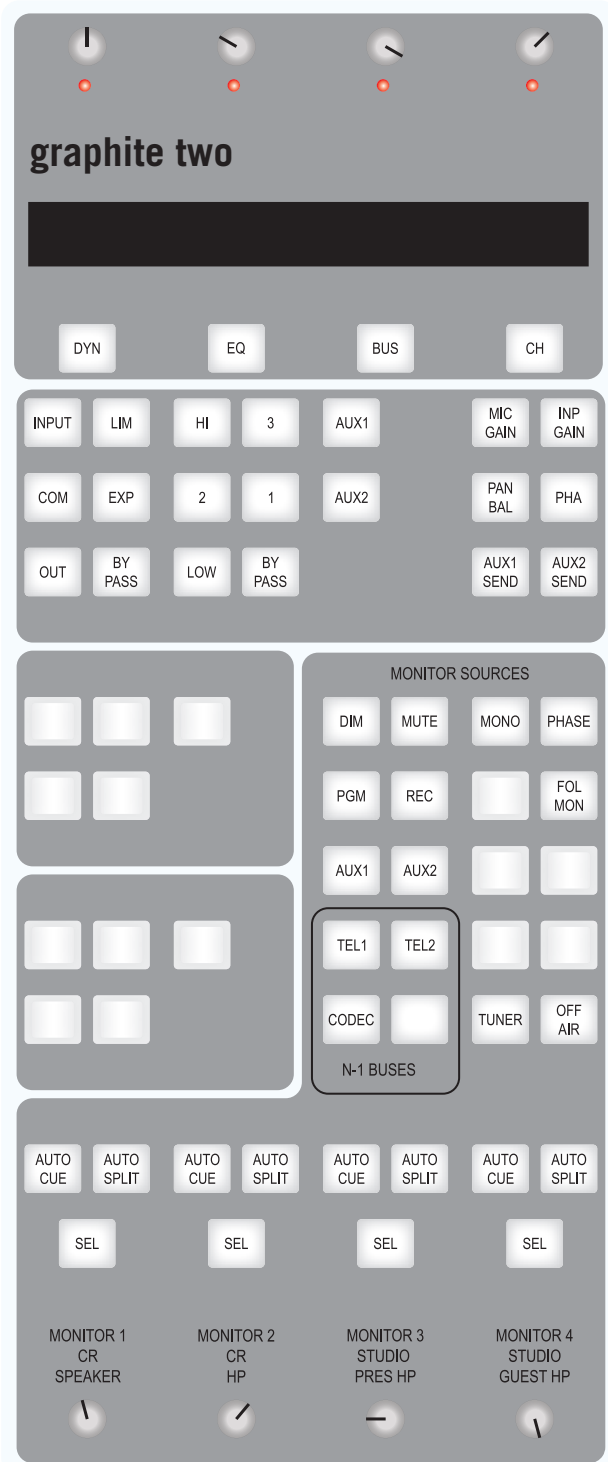
Switching from one input to another or from one preset to another one can be done via a push button. All previous settings including level, DSP settings and GPI formats follow automatically once an audio input is selected. If a new channel with a different volume level is assigned to a fader strip fitted with nonmotorized faders, flashing volume levels. This function allows for a cost-efficient solution to control as many channels with one single fader strip as required.

For highest comfort, professional motorized faders for full automation of input channels are available on request.

The Graphite Two fader module comes with

- 4 fader channels
- Professional 100 mm fader, a motorized version on request
- ON / OF / TB / SEL buttons
- 4 programmable buttons – normally programmed as source A and B, PGM and REC bus select
- Status indication LEDs for secondary buses, EQ, DYN and channel overload
- Professional 100 mm fader
- Alphanumeric ultra-bright OLED displays with 2 lines and 16 characters each
- Illuminated, free lettered push buttons





The monitor/DSP/control module

The **Graphite Two** monitor module is the control unit for all central operating functions and offers DSP control for all audio channels, a highly sophisticated monitor unit and telephone controls for up to 4 telephone lines. The **Graphite Two** monitor module can be mounted at any location as well as in a **Graphite Two** MCF or a **Graphite Two** extension unit.

The Graphite Two monitor module offers

- Access to the DSP functions via 4 rotary encoders, each one associated with an ultra bright OLED display
- Direct access to DSP functionality through dedicated buttons
- Central bus assign
- 10 assignable function buttons for
 - remote control purposes
 - macro programmed events
 - grouped function control, and much more ...
- 5 individual and freely assignable monitor channels
 - with up to 20 selectable monitor sources per channel
 - with integrated auto cue and cue split function
 - with freely programmable monitor functions
- 4 telephone bus buttons
 - with 2 pre-configured buttons for telephone lines
 - with 1 pre-configured button for CODEC
 - with 1 button for free configuration
- Lighted, re-legendable push buttons

g2 audio engine and router frame



The **G2** audio engine and router frame for the **Graphite Two** and **INTEGRA** console family, offers 21 card slots for signal processing, audio interfaces and network cards.

The frame's 32 bit TDM bus guarantees simultaneous low latency and fast signal processing. The **G2** frame can be synchronized by several methods such as external frame synchronization, AES, and fiber optic guaranteeing highest possible audio quality.

Any interface card is automatically determined and manual setting of cards or single channels by entering IP addresses is not required.

A highly comfortable configuration tool guides the user to a fast set-up of even complex audio and control networks. Each frame is equipped with 8 general purpose interface inputs and outputs, which can be individually configured allowing for many different logic functions.

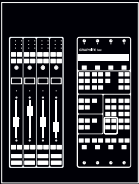
19" 4 RU rack mountable controller equipped with

- 21 slots for **G2** cards such as:
 - Audio over IP interface cards using Dante protocol
 - Fiber optic network
 - Digital and analog in-/outputs
 - Signal processing
 - MADI interface (optical)
- Built-in 8 x 8 GPI (expandable with external GPI box)
- Integrated fanless PSU

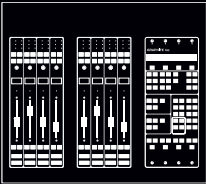


in-line assembly

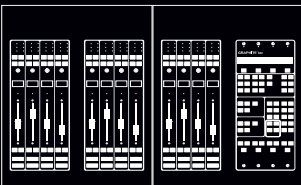
4 faders and monitor section



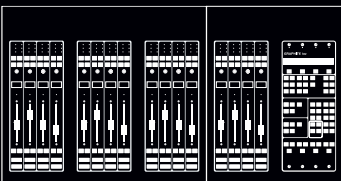
8 faders and monitor section



12 faders and monitor section



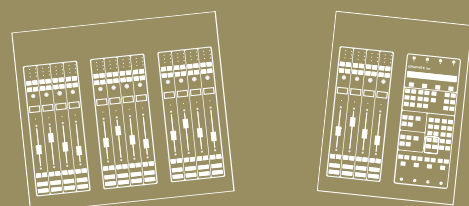
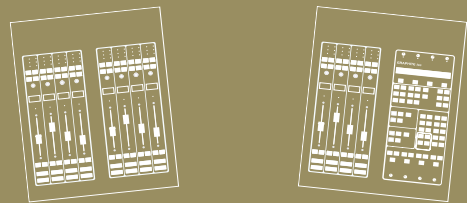
16 faders and monitor section



split assembly

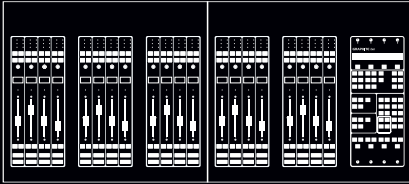
No splitting possible

No splitting possible

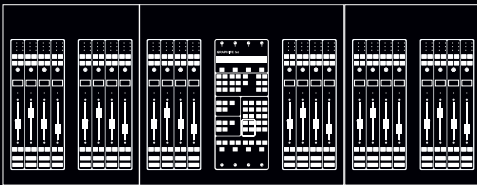


in-line assembly

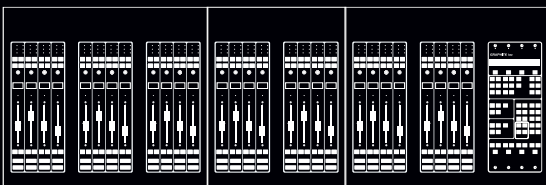
20 faders and monitor section



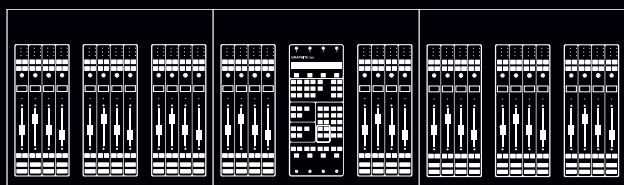
24 faders and monitor section



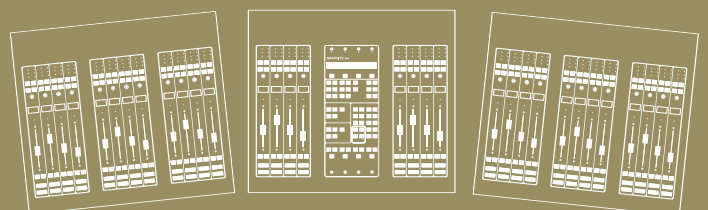
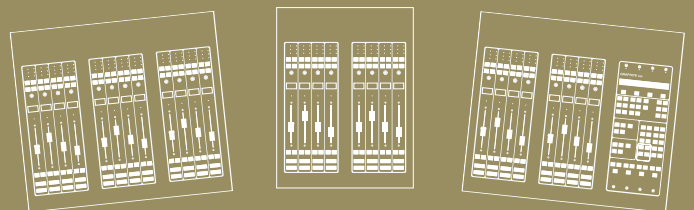
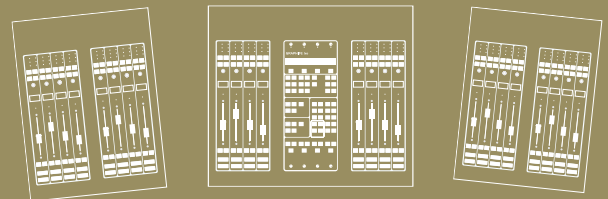
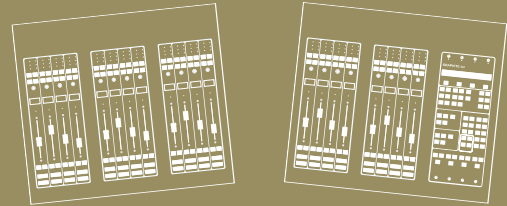
28 faders and monitor section



32 faders and monitor section



split assembly



Basic mixing console

Sizes	Number of faders	4 / 8 / 12 / 16 / 24 / 32
	Fader modules	fitted with 100 mm non-motorized or 100 mm motorized faders
	Monitor DSP Control module	1
Buses	Stereo buses (PGM, REC, PFL, Cleanfeed 3, AUX)	5
	Mono buses (Cleanfeed 1 and 2)	2
Monitor outputs	Analog stereo monitor outputs	4
DSP	DSP cards for: mixing, gain, level meter, 4-band parametric EQ, compressor, limiter, expander, sine tone generator	2

Audio engine and router frame

Controller	Number of slots for interface cards	21
	GPI I/O	8/8
	KVM inputs (keyboard, video, mouse)	Yes
	System clock	44.1 kHz / 48 kHz
	Synchronization	internal crystal, wordclock, F/O clock, AES3
Power Supply	Type	single or redundant internal PSU
	Voltage	110/230 VAC / 50/60 Hz
	Consumption	100 W typ., 250 W max.

Input and output cards for audio engine and router frame

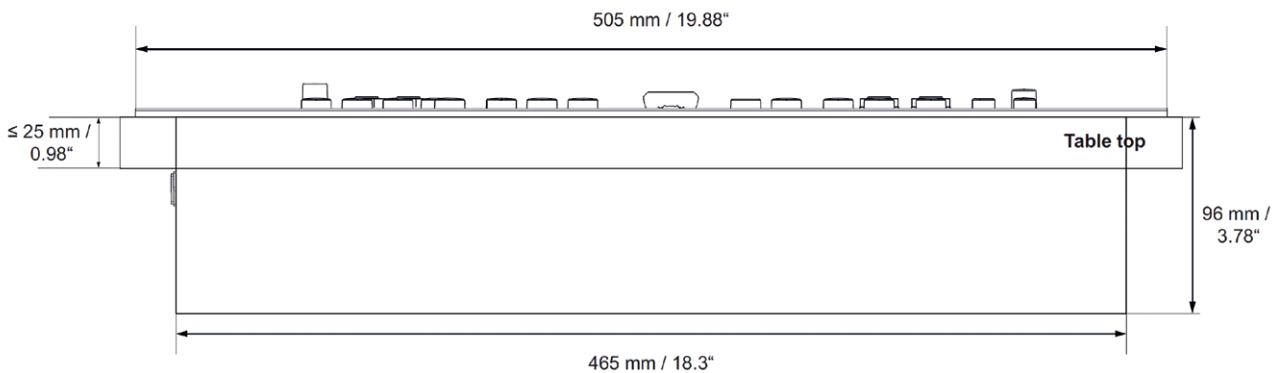
Analog	4 channel microphone card
	8 channel A/D input card
	8 channel D/A output card
Digital	8 channel AES/EBU input card
	8 channel AES/EBU output card

Options	Graphite Two extension kit for a CAT5 cable distance of up to 200 m between console and audio engine
	User Rights Management Software, allowing user specific access to determined functions
Optical audio network accessories	2 x 64 channel bidirectional fiber optic card
	Optical MADI card

Dimensions

Console frame	Width	Depth	Mounting depth	Cutout dimensions
for 2 modules:	450 mm / 17.72"	505 mm / 19.89"	96 mm / 3.78"	W: 396 mm / 15.59" D: 465 mm / 18.31"
for 3 modules:	645 mm / 25.39"	505 mm / 19.89"	96 mm / 3.78"	W: 591 mm / 23.27" D: 465 mm / 18.31"
Audio engine	19" / 4 RU rackmount			

Side view Graphite Two



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