

Consoles considered

Resolution's essential briefing on the latest mixers

API

After a highly successful debut at the AES Show in autumn 2018, the 2448 has quickly become sought after as a mid-sized console that packs API's large format punch. The console, which made its official European debut this year at Musikmesse Frankfurt, has already been commissioned into multiple studios around the world, with over a dozen consoles currently on order and in production at API's factory. The 2448 is available in 24, 32 or 48 channel sizes, with eight busses like the 1608 series. The most important difference from the 1608 is in-line configuration, with the bonus of two signal paths on each channel. The 2448 also offers Final Touch automation as an option.

The API 2448 has both a large fader path for tracking, and a small fader path for monitoring, offering a total of 56 channels for mixing through the Program Bus. Both audio paths are contained in the 648C channel module, with the large fader path including API's 212L Mic preamp, offering up to 55dB of gain, and the small fader path providing all the tools for mixing signals, with up to 10dB of gain via a rotary potentiometer.

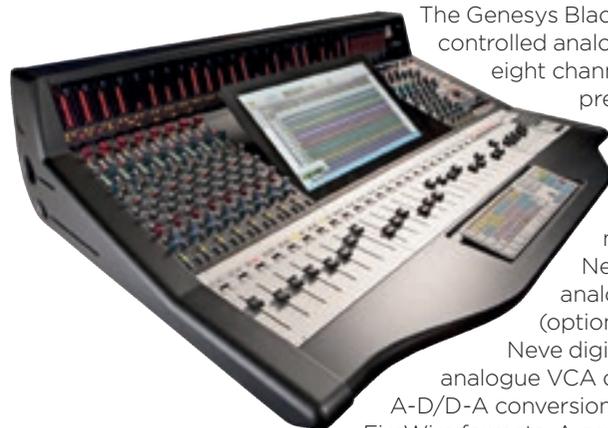
The API 2448 boasts both 1550A parametric EQ and 560 Graphic EQ giving you the choice of two of API's flagship EQs. Each input channel has a medium-size analogue VU meter with the first eight meters also operating on summing buses. Additional meters are provided for the master section, eight Auxes and four stereo returns. The master section



provides an extensive array of tools including the sends, summing busses, solo bus, talkback, monitoring and stereo returns. The four stereo returns section boast 500 Series slots to accommodate your favourite 500 series EQ or compressor. The stereo buss section includes API's 529 stereo buss compressor (review *Resolution* V18.1) — inspired by the legendary 2500 — and gives you the unmistakable API mix buss sound thanks to its 2520 and 2510 op-amps and choice between old/new compression types.

www.apiaudio.com

AMS Neve



The Genesys Black is a digitally controlled analogue console, offering eight channels of 1073 mic/line preamps, 16-channels of DAW/Tape monitoring, hands-on control for Pro Tools, Nuendo and more, 8 channels of Neve digitally controlled analogue 4-band EQ and (optionally) 8 channels of Neve digitally controlled analogue VCA dynamics and channel A-D/D-A conversion via MADI, AES and FireWire formats. A central touch screen,

six auxiliary buses, eight group buses, two main outputs, four effects returns, 5.1 monitoring, two cue mixes, talkback services and an integrated footprint with internal power supply complete the picture.

The modular design means you don't have to wait until you can afford the full 32-fader system to become a Genesys-equipped studio. There's a 'classic' look and feel to the controls, but every switch operates as a soft-switch, which means every routing decision and every switch setting can be saved and instantaneously reset. The well-known Neve analogue EQ and optional dynamics modular cassettes can also be recalled. Options include upgrading to digitally controlled, analogue Neve 1084 Classic EQ, VCA-style digital control of analogue dynamics and Neve A-D/D-A converters for the monitoring section.

www.ams-neve.com

Yamaha



The central component of the RIVAGE PM7 system is the CSD-R7 digital mixing console. The same size as RIVAGE PM10's control surface, the CSD-R7 has the DSP engine built in. Featuring 120 input channels, 60 mix buses, 24 matrices and a comprehensive selection of 48 top-quality plug-ins, RIVAGE PM7 also provides a similar mixing capacity to RIVAGE PM10.

RIVAGE PM7 uses Yamaha's TWINLANE networking technology, the dedicated network uses optical cable to handle up to 400 channels of audio. Combinations of the RPi0622 and/or RPi0222 I/O racks and HY256-TL or HY256-TL-SMF audio interface cards allow input via Hybrid Microphone Preamplifiers with analogue input stages, as well as digital sections with Virtual Circuit Modelling of Rupert Neve Designs transformer and SILK processing circuitry. Rio3224-D2 and Rio1608-D2 I/O racks ensure that a RIVAGE PM7 system can be fully integrated with Yamaha's CL and QL series digital mixers. Version 2.0 of the RIVAGE PM series firmware includes a number of new features such as 5.1 surround and mix minus capability for broadcast applications, Rupert Neve Designs Portico 5045 Primary Source Enhancer, and the Dual Console function.

www.yamahaproaudio.com

Avid



The Pro Tools S6 modular control surface provides an intuitive mixing workflow for sound engineers, with superior ergonomics and intelligent studio control. Designed to be the physical manifestation of Avid's Pro Tools software, the modular approach of the S6 not only allows audio professionals to configure a console precisely for their needs, but also accommodates future growth. With the Avid S6, you can start with a basic system and add fader packs and rotary control modules as need dictates. The Avid S6 comes in two flavours, the M40 version, which allows you to expand the S6 up to a 64-fader mixer, while the M10, geared for smaller spaces, expands up to 24 faders.

Dolby Atmos integration streamlines complex workflows and delivers efficient audio mixing for the leading immersive audio format. Combined with Pro Tools S6 and Pro Tools Ultimate, the premium suite of Pro Tools Dolby Atmos mixing tools include built-in Dolby Atmos panning and advanced automation with the Dolby Rendering and Mastering Unit (RMU).

With the recent EUCON software and the free Pro Tools Control app, users can control track recording, playback, and other transport functions on their S6 remotely from an iPad. Ideal for capturing ADR and foley performances, it gives users the flexibility to be anywhere in the studio during a mixing session. EUCON software also enables users working on large-scale post-production sessions to operate S6 Soft Keys to easily control multiple audio workstations simultaneously, accelerating mixing workflows for film and TV post production.

www.avid.com

LAWO



The mc²56 incorporates groundbreaking features drawn from Lawo's mc²96 flagship console, while retaining the compact size and versatile design which suits applications ranging from broadcast trucks to live performance. Optimized for IP video production environments, the mc²56 has full native support for SMPTE 2110, AES67/RAVENNA and DANTE, featuring unique capabilities such as IP-Share gain compensation and DSCA Dynamic Surface to Core Allocation.

Available in frames from 16 to 112 faders, the mc²56 supports up to 8,192x8,192 crosspoints, 888 DSP channels, 144 summing buses and 128 aux buses at 44.1-96kHz operation. In addition to Button-Glow and coloured touch-sensitive encoders, colour-TFTs provide enhanced visibility and faster access in low light conditions, while Lawo's eye-catching LiveView provides thumbnail previews of video streams directly in the fader labeling displays. With a 64-fader surface suited to most OB vehicle dimensions, a 16-fader stand-alone extender may be added to an mc²56 for subsequent expansion at any time.

The recently-introduced A_UHD Core is a network-based, software-defined audio DSP engine which "elevates mc²56 and mc²96 consoles to the next dimension". Utilizing the IP network as an extension of the console core's backplane, Lawo's UHD Core can be located anywhere on the network. Its ultra-high processing density with greater than 1,000 mc² fully featured DSP Channels can either be utilised by a single mc² console for coping with the most challenging productions or be shared amongst up to four consoles. Due to a flexible licensing model the UHD Core is ideal for both mobile applications and facility use.

www.lawo.com

Calrec



Calrec showed its Type R modular, expandable, IP-based radio mixing system for the first time in the UK at the Broadcast Video Expo in February. Type R makes use of standard networking technology and combines it with configurable soft panels that can be tailored to operator needs. Type R's physical control system consists of three slimline panels: a fader panel, a large soft panel and a small soft panel. Each is compatible with COTS (Commercial off-the-shelf) hardware and powered over Ethernet to keep cabling to a minimum.

At the heart of Type R is a simple 2U core with integrated I/O resources to get customers up and running immediately. A single core can power up to three independent mixing environments, with no sharing of DSP resources. Networking is through AES67 compatible connections, which means the desk can link to other Calrec consoles fitted with the necessary interface. But the main reason for targeting the radio market with the Type-R is because radio, unlike TV, has already unequivocally embraced AoIP.

Also making its UK debut at BVE was ImPulse core, Calrec's next

generation audio processing platform (*Resolution* V18.1, page 50). ImPulse is a powerful audio processing and routing engine with AES67 and SMPTE 2110 connectivity. With control connectivity via IP, surfaces can be physically remote and connected over standard networks using COTS hardware. This technology enables all Calrec customers to make the transition to next generation audio (NGA) and IP infrastructures, and provides the flexibility to do so without an overhaul of production equipment. ImPulse provides 3D immersive path widths and panning for NGA applications, 5.1, 5.1.2, 5.1.4, 7.1, 7.1.2 and 7.1.4 input channels, busses, monitoring and metering are available. It has an integral AoIP router, which fully supports NMOS discovery and connection management, as well as mDNS/Ravenna discovery. Two 5U ImPulse cores can be combined to provide full redundancy and can be physically remote from each other for disaster recovery.

www.calrec.com

Solid State Logic

At the end of March 2019 SSL launched SiX "the ultimate desktop mixer". As a condensed professional console, SiX tempts with a big console sound and an impressive set of features in a format small enough to stick in a bag. Despite being the smallest mixer SSL has ever offered, SiX was generally received as a 'good value' offering at £999. It offers two recording channels with SuperAnalogue mic pres, an essential one knob version of the classic SSL Channel Compressor, a new two-band Channel EQ, inserts and 100mm faders. There is a two-knob version of the legendary G-Series Bus Compressor on the main mix bus and the unique Listen Mic Compressor on the Talkback.



In mixdown mode it is a very capable twelve channel summing system that offers analogue detail, depth and width to your mixes. "With over 30 years' involvement in the design of SSL consoles, when developing the concept of SiX, I really thought hard on what our users appreciate about our larger consoles; what helps their workflow and delivers quality results for them" said Niall Feldman, SSL director of new products.

www.solidstatellogic.com

Cadac

The Cadac CDC five with its 48 inputs and 24 assignable busses is the latest addition to the Cadac digital console line. Based on an evolution of Cadac's 'high agility' operating system, the CDC five has the benefits of an intuitive operating system and faster work flow, all on a single 23.5" screen.

The most noticeable difference between the CDC five and its larger siblings is the lack of a stand-alone 6.5" screen. The GUI of this control screen can be accessed with a swipe down action on the large 23.5" (or via a hard button to the left of the screen). There are also a number of hard buttons to the left of the screen to aid navigation when this screen is in use. As with the rest of the range the CDC five comes with an integrated 64 x 64 Waves interface. The CDC five has been conceived as a single box solution, so it utilises an internal PSU, and local I/O has been increased to 16 analogue inputs, complimenting the eight analogue outputs and eight digital inputs and outputs on the back plane.



www.cadac-sound.com

Stage Tec



The Stage Tec AVATUS is a powerful and advanced IP-based audio mixing console system for use in broadcast or large-scale live music production in theatres and arenas. Any area of the surface may be assigned as required to be the master or monitor section and then returned to channel functionality. Channel parameters such as EQ or dynamics are controlled using a per-channel bank of rotary encoders, while routing and most other channel functions are accessed through one of two 21" touchscreens. The upper touchscreen will normally act as the meter bridge, but the functions of the two screens may be exchanged: for example, in performance, once the main channel settings have been made, the meters may be placed immediately in front of the operator.

AVATUS is compatible with major audio networking systems including Dante and AES67, and also with broadcast control protocols such as EmBER+, AES70, RAS, ROSS and Mosart among others. Connectivity to audio resources and between console components is entirely by TCP/IP via Ethernet, resulting in total flexibility of system topography. Multiple consoles of any size may co-exist on the network and access whatever DSP and I/O resources are required. A network-based system allows an audio production to be configured and/or controlled from a remote location with a browser application running on any computer or similar compatible device. For example, a major musical event can be fully line-checked on site using a tablet and subsequently mixed and produced in a studio hundreds of miles away.

www.stagetec.com

Studer



The Studer Vista 5 Black Edition (BE) is a cost effective mixer surface that combines a Studer control surface with support for the Infinity Core processing engine that has advanced capabilities such as Dynamic EQ plug-ins and full Core redundancy with up to 1000 MEQs (Mono Equivalent Channels). Available in 22, 32 and 42 fader sizes The Studer Vista 5 BE supports an optional TFT meter bridge. Some of the console's features include Studer's unique Vistonics interface and FaderGlow technology that provides the

operator with an instant overview of the console status, by illuminating each fader in one of eight, freely assignable colours.

In 2018 HARMAN Professional Solutions announced significant upgrades to the Studer Infinity Core Mixing Processor, utilizing Moore's Law benefits to increase processing power with new models offering 300, 600 and 1000 MEQ channels, and the new Studer Compact Infinity Core, providing Studer processing in a compact 2RU frame with 300 and 600 MEQ versions, each with 4 A-link ports and redundancy. The new Infinity Core models utilize Intel E5 Xeon CPUs, which provide 50% more processing power than previous models.

The Vista 5 BE supports any of Studer's range of Infinity Core products, including the Infinity Core 300, 600 and 1000, as well as the new Studer Infinity Core Commercial off the Shelf (COTS) solution. This IT-friendly solution allows customers to run Studer's real-time audio processing on their own server hardware just by adding a standard PCIe Infinity CoreLink card.

www.studer.ch

Rupert Neve Designs

The 5088 is an expandable 16-channel line mixer that provides 8 group busses, 8 auxiliary sends, 4 stereo effects returns and a stereo output buss. That basic functionality of input and output routing, meters and faders provides a solid foundation on which you can build an analogue console to satisfy your own particular requirements — adding microphone preamplifiers, equalisation and dynamics processing from the Portico or Shelford series, mono or stereo input modules, and the company's own SwiftMix automation to suit your facility's needs.

For maximum compatibility, SwiftMix communicates via a 9 bit HUI over ethernet protocol. SwiftMix's implementation provides precise fader-mapped calibration, which allows the motorised analogue fader to match levels previously set in the DAW. System setup can be accomplished in moments by connecting a single ethernet cable to the DAW host computer and then adding SwiftMix as a HUI Controller in the DAW. No drivers are required for PC or Mac, and channels are automatically assigned and matched to channels in the DAW.

The all-new, fully discrete analogue architecture in the 5088 represents a culmination of Rupert Neve's vast analogue circuitry knowledge. Custom high-voltage and discrete op-amp cards have been designed specifically for the 5088, which the company



say eliminate crossover distortion entirely. These new op-amp cards offer extended headroom, dynamic range, and frequency response while generating exceptionally low noise and distortion. Custom-designed transformers are also included on every single input and output of the 5088, electrically isolating the console with a true floating ground while also imparting the sound quality of his classic designs.

As your studio grows or your workflow

changes over time, the 5088 can be reconfigured or expanded to meet your needs. The 5088 is a fundamentally different console philosophy, very carefully thought-out to avoid any unnecessary features. Instead, Rupert and his team have focused on designing the most efficient, direct, and best-sounding audio paths through a console that integrates seamlessly with any outboard gear in the world.

www.rupertneve.com

PreSonus



The PreSonus StudioLive 32 Series III is a 32-channel digital mixer/recorder with 32 microphone inputs and motorised faders. Equipped with 32 XMAX microphone preamps, EQs and dynamic effects on each channel and an internal 32-track SD recorder, this mixer covers most bases for a band with the ambition to record themselves. The console features an AVB Ethernet interface that allows you to network multiple StudioLive mixers and compatible computers, and transfer up to 55 audio channels to and from a Mac or Windows PC. The USB 2.0 interface makes bidirectional digital exchange and recording of up to 38 tracks possible at the same time.

The newly re-designed 'Fat-Channel' provides the user with high-quality effects and EQs for each channel. High-pass filters, gates, compressors, limiters and fully parametric EQs can be found on all channels and buses. This allows you to select from a library with presets for EQ and compression or to use the vintage presets for the four internal digital processors (two delays, two reverbs). Everything can be freely edited and saved. If you like working on motorised faders, this setup provides outstanding value.

www.presonus.com

Zähl

The AM1 console is the result of collaboration between engineer and designer Michael Zähl (the engineer who built Conny Plank's custom console) and producer Mark Ernestus. The AM1 is built to order, and features some unique features such as an MS matrix at the insert stage of stereo modules and a continuously variable stereo base on sends and returns. The Zähl EQ section (the 500-series version of which we review in this issue) has already built a reputation with insiders. At Superbooth '19, Michael Zähl presented the console and its unique CV-channel, which he developed together with Mark Verbos.

The CV channel is a stereo channel-based entirely on VCA technology. Every parameter except input gain (21 parameters) is voltage controllable via a combination of a control for positive/negative modulation amount and a 12-position rotary switch for selecting modulation source. Five external CV inputs are available for outboard sources on the back panel, there are seven internal CV sources, plus four CV 'busses' on the console for sharing selected external CV inputs between CV-A modules. If you're after an unusual custom mixer, this is surely worth a look



www.zaehl.com

Schertler

Prime 5 is the newest and smallest member of Schertler's high-quality compact mixer family. The 5-channel audio mixer is based on the same technology used in Schertler's ARTHUR mixer (review, *Resolution* V15.7). "It's a great concept and it has been extremely well thought out and executed, with high quality audio paths, and great sounding preamps and EQ," George Shilling decided. The same high-quality preamps are found on the input channels, the hi-voltage (48V) power supply offers superior headroom, and the same 'No Negative Feedback' circuit design gives a fast response and natural attack.

The three mic channels each feature balanced XLR input and unbalanced line/instrument input, Gain, Insert, Insert/Direct Out, 48V and 10V Phantom power, 3-band EQ, Pan, Mute — plus two post-/prefade Aux Sends, a channel fader and VU meter. There's an additional stereo line channel with balanced inputs (Pan controls also enable configuration of inputs as two separate monos), Gain, Aux Sends and channel fader. The master section features L/R faders and VU meters, Main and two Aux outs, plus a stereo digital reverb with independent controls for volume and decay regulation, and a headphone section with volume control.

www.schertler.com



Trident Audio Developments



The Trident 68 is the latest in Trident's line of Series 80-based recording consoles. It's all analogue, of course, and is available in 16- or 24-channel sized. It's modular to the extent that each input, subgroup, and master has its own circuit board, but they're mounted in buckets of eight to save some assembly cost. Another cost-saving measure is that inputs and outputs are electronically balanced, with no transformer. It's an inline design with a monitor volume and pan on each channel strip. There's a three-band EQ with sweepable high and low shelving bands, a sweepable mid band with wide or narrow Q, and a steep (18 dB/octave) 50Hz low cut filter. Each channel has independent mic, line level, and recorder return (monitor) inputs. Connections are fast and easy with DB-25's throughout the board and XLR's for Master and Main outputs. With a flexible yet powerful 3-band EQ at its core, including selectable channel inserts and 'monolithic preamps' driving the inputs, the Series 68 consoles offer a wide array of summing and mixing options.

www.tridentaudiodevelopments.com

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