



By Mark Frink

Every year, there are more new consoles to choose from, on both sides of the analog-digital fence. Some prefer the simplicity and convenience of knob-per-function analog desks, while others enjoy the extra features and benefits offered by digital consoles.

Digital consoles provide several workflow advantages: the ability to save or recall an entire console's settings — even from another console; copy and paste the parameters of one channel to another; storage and recall of favorite EQ, dynamics or effects settings in Libraries; and digital consoles' moving faders can be swapped or "flipped" to show aux send levels — useful in quickly mixing artists' on-stage monitors. Digital consoles often win the day in complex live sound applications.

That said, sometimes an analog console with the right features is just the ticket.

Input equalization (EQ) boosts or attenuates a range of frequencies; e.g., lows, mids and highs. Larger consoles have sweep EQ in one or more bands on each channel, where the center frequency can be adjusted. Fully parametric EQ (PEQ) allows the bandwidth to be adjusted narrower or wider. Smaller mixing consoles usually have simpler equalization controls. Some analog consoles also offer simple single-digit graphic EQ on the mains for tone-shaping speakers.

A number of newer analog consoles have single-knob compressors on some of their channels, and auto-mix can be found on a few as well. Simple on-board digital effects can also be found on various analog consoles, providing fairly complete processing for more basic mixing chores.

Digital consoles have multiple digital effects, as well as parametric input and output EQ, graphic EQ on the mains — even on auxiliary outputs for use as a monitor desk — plus gates, compressors and limiters, providing a complete palette of mixing tools.

Most mixers typically have two, four or eight stereo line-level return channels, allowing effects or playback devices to be mixed in, and sometimes these are counted in the number of channels, though they're not microphone inputs.

High pass filters (HPFs) are commonly found on mic input channels to help control excessive low-frequency information, often due to proximity effect from sound sources right next to microphones. HPFs on less-expensive consoles are often at a fixed frequency, while others can be tuned for optimum performance by sweeping them from a very low frequency well up into the midrange.

Auxiliary sends are used both to send monitor mixes and effects. Monitors are often stereo for in-ear monitors, while wedges tend to be mono, though stereo and even three-channel monitors can be powerful. On a dual-purpose console, monitor mixes are sent pre-fader and pre-EQ, so adjustments to the main mix doesn't affect them. Effects sends are sent post-fader and post-EQ, so they share the main mix attributes.

Matrix outputs can be thought of as a small mixer mixing the mains (L/R and mono) with one or more subgroups, commonly used with front-fills where the use of in-ear monitors reduces the vocals that can be heard in the front rows. Matrix outputs are also helpful for independently controlling auxiliary zones in larger venues, such as the lobby or dressing rooms.

A notable development is consoles that provide digital I/O in the form of FireWire or USB connectivity, allowing the desk to multi-track record or playback from a computer, or two-track to and from a USB memory stick. FireWire also allows consoles to employ multiple digital plugins as inserts.

This month we take a look at some of the new digital and analog console offerings. **PLSN**



PreSonus

StudioLive 16.0.2

presonus.com

Mic Inputs: 8 + 4 mono,
Channel EQ: swept 3-band & swept HPF
Line Inputs: alt. 4 stereo line (2 w/ RCA)
Effects: Dual FX
Graphic EQ: stereo GEQ or PEQ
Masters, Aux & FX busses: 2x1, 4 & 2
Digital I/O: 16x16 FireWire (1394) FW400
Footprint: 16 x 16 inches
Weight: 15 pounds



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Yamaha

IMB-40
(IMB-24 & IMB-32)

yamaha.com

Mic Inputs: 40 mono, 4-band swept mids & 80 Hz HPF single-knob compressor on all mono channels
Line Inputs: 4 stereo plus 4 stereo aux & 1 stereo 2-track
Masters, Matrix, Subs & Aux busses: 2x1, 4, 8 & 8
Digital I/O: USB 2 channel
Footprint & Weight: 68 x 29 inches & 114 pounds



Peavey

32FX
(16FX & 24FX)

peavey.com

Mic Inputs: 32 mono, 3-band swept mid & 75 Hz HPF
Line Inputs: 2 stereo, fixed 4-band EQ & RCA 2-track
Effects & Graphic EQ: Dual FX & Feedback Ferrit, GEQ or PEQ
Master, Subs, & Aux busses: 2, 4 & 6
Digital I/O: Dual-Type USB PC and flash drive
Footprint & Weight: 36 x 23 inches & 30 pounds



Midas

Venice-F 320
(160 & 240)

midasconsoles.com

Mic Inputs: 24 mono, swept 4-band PEQ mids & 80 Hz HPF plus 4 stereo mic inputs, fixed 4-band EQ & 80 Hz HPF
Line Inputs: 2 stereo plus 1 stereo RCA 2-track
Masters, Matrix, Subs & Aux busses: 2x1, 2, 4 & 6
Digital I/O: FireWire (1394) 1 (64ch) FW400 (6 pin)
Footprint & Weight: 40 x 27 inches & 83 pounds



Mackie

3204-VLZ3
(1604 & 2404)

mackie.com

Mic Inputs: 28 mono, 3-band swept mid & 100 Hz HPF single-knob compressors on channels 25-28 & groups 1-4
Line Inputs: 2 stereo plus 1 stereo RCA 2-track
Masters, Subs & Aux busses: 2x1, 4 & 6
Digital I/O: USB 4 x 2 channel
Footprint & Weight: 44 x 25 inches & 39 pounds



Crest

X-20R
(18R, 18M & 20M)

crestaudio.com

Mic inputs: 12 mono plus 4 stereo, 4-band swept mids & HPF
Line Inputs: 1 stereo RCA 2-track
Masters, Subs & Aux busses: 2x1, 4 & 6
Footprint & Weight: 19 x 17.5 (10RU) inches & 30 pounds



Carvin

C2040
(C1240)

carvin.com

Mic Inputs: 16 mono, 3-band swept mid & 100 Hz HPF
Line Inputs: 2 stereo TRS/RCA
Masters, Subs & Aux busses: 2, 4 & 6
Digital I/O: USB 2 channel
9-band main GEQ, optional dual wireless receivers
Footprint & Weight: 22 x 16 inches & 18 pounds



APB Dynamics

ProDesk-448
(424, 432 & 440)

apb-dynasonics.com

Mic Inputs: 48 mono, 4-band swept mids & swept HPF
Line Inputs: 4 stereo TRS/RCA/mini
Masters, Matrix, Groups & Aux busses: 3x1, 4, 4 & 6
Digital I/O: USB 2 channel
Footprint: 63 x 23 inches



Allen & Heath

ZED-436
(420 & 428)

allen-heath.com/zed

Mic Inputs: 48 mono, 4-band swept mids & swept HPF
Line Inputs: 4 stereo TRS/RCA/mini
Masters, Matrix, Groups & Aux busses: 3x1, 4, 4 & 6
Digital I/O: USB 2 channel
Footprint: 63 x 23 inches

Mix Channels: 48 mono and 4 stereo, 4-band PEQ & swept HPF
Masters, Matrix, & Group/Aux busses: LCR, 8 SuperMatrix & 16
Effects & Graphic EQ: Eight total FX racks, up to 16 15-band GEQs
Analog I/O, Console: 8x8 Omni XLR; SB1608 ES Stage Box
Digital I/O: Three EtherSound ports plus three Mini-YGDAI slots
Footprint & Weight: 45 x 22 inches & 49 pounds

Yamaha

M7CL-48ES
(M7CL-32 & 48)

yamaha.com



Mix Channels: 32 mono and 4 stereo, 4-band PEQ mids & swept HPF
Masters, Matrix, & Group/Aux busses: LCR, 4 Matrix & 18
Effects & Graphic EQ: 4 Lexicon FX & 18 BSS GEQ
Analog I/O, Console: 32x16 XLR; 32x16 Compact Stage Rack
Digital I/O: AES, optional AVIOM, CobraNet or MADI cards
Footprint & Weight: 37 x 21 inches & 46 pounds

Soundcraft

Compact Si32
(Si16 & Si24)

soundcraft.com



Mix Channels: 48 mono and 6 stereo, 4-band PEQ & swept HPF
Masters, Matrix, & Group/Aux busses: LCR, 8 Matrix & 16
Effects & Graphic EQ: 6 stereo FX & 12 GEQ
Analog I/O, Stage: 32x8 S-4000S, 16x8 S-1608; Console: 8x8
Digital I/O: Three REAC ports, plus USB
Footprint & Weight: 30 x 25 inches & 44 pounds

Roland

M-480
(M-300 & M-400)

rolandsystemsgroup.com



Mix Channels: 48 mono and 4 stereo, 4-band PEQ & swept LPF/HPF
Masters, Matrix, & Group/Aux busses: LCR, 8 "SuperMatrix" & 16
Effects & Graphic EQ: 6 & 8; up to 8 FX or up to 28 31-band GEQs
Analog I/O, Stage: 48 x 16 XLR; Console: 8 x 8 TRS plus two 8-ch. slots
Digital I/O: Three AES50 ports, 2 slots for additional I/O
Footprint & Weight: 54 x 36 inches & 214 pounds

Midas

PRO3
(PRO6 & PRO9)

midasconsoles.com



Mix Channels: 96 mono and 4 stereo, 4-band PEQ & swept HPF
Masters, Matrix, & Group/Aux busses: 48 total plus 2 monitor busses
Effects & Graphic EQ: 32 w/ optional FX card & up to 48 31-band GEQs, M.A.R.S. onboard multi-track recorder
Analog I/O, Stage: 16x16 or 48x16; Console: 16x16 D-sub & six 8-ch. slots
Digital I/O: Dual EtherSound 64x64 cat5, dual MUXI 64x64 coax
Footprint & Weight: 46 x 31 inches & 99 pounds

Innovason

Eclipse 6T

innovason.com



Mix Channels: 32 mono (8 flexi), 4-band PEQ & swept LPF/HPF
Masters, Matrix, & Group/Aux: 12 mono or stereo total
Effects & Graphic EQ: 4 stereo FX & 12 GEQs
Analog I/O, Console: 16x8; Stage: optional 32x16 D-Rack
Digital I/O: MADI, AES
Footprint & Weight: 19 x 23 (13RU) inches & 53 pounds

DiGiCo

SD-11

digico.biz



Mix Channels: 48 mono and 8 stereo, 4-band PEQ & swept HPF
Masters, Matrix, & Group/Aux busses: LCR, 8 "Matrix+8" & 8/16
Effects & Graphic EQ: Up to 8 stereo FX, up to 24 31-band GEQs
Analog I/O, Console: 48x16, opt. additional 16-ch. XLRM
Digital I/O: AES, FireWire (ProTools 9 LE), opt. 16-ch. A-net
Footprint & Weight: 39 x 28 inches & 125 pounds

Avid

SC48

avid.com



Mix Channels: 64 mono and 4 stereo, 4-band PEQ & swept HPF
Masters, Matrix, & Group/Aux busses: LCR, 8 & 8/16
Effects & Graphic EQ: 8 stereo FX & 32 25-band GEQ
Analog I/O, Console: 4x4 TRS; Stage: 32x16, 48x24 or 64x32
Digital I/O: ACE, SPDIF, optional Dante, EtherSound or MADI
Footprint & Weight: 19 x 21 (12RU) inches & 27 pounds

Allen & Heath

iLive R72

allen-heath.com/ilive

