

# ProAudio Review

## API 1608 16-Channel Analog Console

*A Classic Console is Reborn*

by Stephen Murphy, 04.15.2008

The API 1608 console is outwardly modeled on the original API 1604 console, whose production run spanned much of the 1970s and into the early 1980s. These vintage workhorse consoles continue to hold a great deal of value and demand; to wit, many stock (as well as Franken-modified and resurrected) 1604s are still in daily use in tracking rooms, broadcast facilities and mobile recording operations.

Internally, the 1608 can perhaps be described as the child prodigy born of the vintage 1604 console and the more modern, largeformat Legacy range. In its stock configuration, the 16x8x2 console ships with 16 input channel strips and faders, 12 550A semi-parametric EQ modules and four 560 graphic EQ modules, a stereo-bus master fader, an eight-input summing-bus sub-master module, four dual echo/send return modules (accommodating the console's eight auxiliary sends and returns), eight unpopulated 500 Series module bays, a complete central facilities and monitoring section, and a full meter bridge with illuminated analog VU metering for all 16 input channels (capable of monitoring preamp output, direct output and sub-master output levels) eight echo return busses (capable of monitoring send output levels) and the L/R main program busses.

API also offers an expansion frame loaded with 16 input channels and the same EQ compliment for \$39,900, as well as unloaded (no EQ) versions of the both the console and expander for \$35,000 and \$25,000 respectively. Unfortunately, I cannot tell you about the automation fader package upgrade for a little over ten grand (rumored to also include a DAW fader-control layer!) but perhaps they will make an announcement soon...

### CHANNELING THE FUTURE

Let's start with some generalities: All of the console's generous input and output points are located on the rear panel; all input/return points are actively balanced (excepting instrument inputs) using API's trademark all-discrete 2520 and 2510 op amps, and all output/send points are transformer-balanced; all external I/O connections are on XLR and TRS 1/4-inch jacks with the exception of several DB-25s principally used for multichannel input and monitoring groups; and virtually all buttons on the 1608 illuminate when engaged, which proves to look very cool in a dark control room.

At the top of the channel strip — or bottom rather, as the 1608 retains the reverse-orientation of the original 1604 — is a mic/line/instrument input section outfitted with an API 212 preamp and its customary controls: Gain knob, Mic/Line selector, 48V phantom power, Pad (-20 dB mic/-6 dB line) and polarity reverse. The Mic/Line selector button doubles as a peak level indicator by glowing red (regardless of which input type is in use). Mic and line input connectors are XLR, the Hi-Z instrument input is a switching (overrides mic) TS 1/4-inch jack, and the preamp output is available on a TRS 1/4-inch jack.

Continuing up the strip are the send controls that feed the 1608's eight auxiliary busses. Sends 1-4 are configured as mono sends with individual level controls (in concentric pairs) and send on/off buttons (nice!). The remaining four sends are grouped into stereo pairs 5/6 and 7/8, with each pair having a concentric stereo level and pan knob plus send on/off switch. All sends can be placed pre- or post-fader in odd/even pairs. Borrowing a feature from the Vision range, a To Bus switch on 7/8 routes its level to any of the first four sub-masters, where it can then be summed back into PGM (to aid in independent parallel processing tasks).



*(click thumbnail)*

At the top of the input strip is the routing and output section. Each input channel can be routed to the main stereo program bus (PGM button) and/or directly to any of the eight submaster summing busses (using assignment buttons 1-8). By engaging the PAN button and using the channel's pan pot, also located in this section, the output signal can be placed across a panorama between any selected odd and even summing busses. Note that a channel's post-fader/post-mute XLR direct output is always active.

This section also includes controls for highpass filter engage (FLTR, -3 dB @ 50 Hz, 6 dB/octave) and insert return engage (INS). The half-normaled insert path is placed between the equalizer output and the fader input, and external gear can be connected using the corresponding rear-panel TRS 1/4-inch points.

Speaking of equalizers, each channel's preamp output is half-normaled to the input of the EQ module fitted immediately above it; EQ modules can also be patched for alternate use via the rear-panel 1/4-inch TRS EQ I/O points on the rear panel. Since the proportional Q, reciprocal filtering and other features of the excellent API 550As and 560 are well-known and documented, I'll save the space for more 1608 coverage.

## Fast Facts

### Applications

Studio and project studio

### Key Features

16 input channels with 212L mic preamps; 12 x 550A and 4 x 560 equalizer modules; 8 aux sends, 8 returns and 8 sub-master busses; full stereo and multichannel (5.1) monitoring section; 8 open 500 Series bays; analog VU metering; extensive patch connections on rear panel.

### Price

Starts at \$49,900

### Contact

API Audio | 301-776-7879 | [www.apiaudio.com](http://www.apiaudio.com)

An Alps 100mm fader serves as the channel's primary output level control to the direct out, summing busses, stereo program bus and, of course, designated post-fader sends. Immediately above the fader are the channel's Mute and Solo buttons. Two much-appreciated inclusions here are a solo-safe button, and an assignment button to add the channel to the 1608's single master Mute Group (remember no VCAs/no automation). The specific function of channel Solo buttons is determined by the global selection of PFL, AFL or SIP (destructive soloin-place) on the 845B Central Facilities module. Also located on the 845B are the Mute Group master controls, including the thoughtful option to also mute the pre-fader send outputs on channels assigned to the group.

## CONTROLLING INTEREST

The 1608's center section provides a wealth of monitoring functions including the selection of three sets of monitor outputs (Main, Small1, Small2), with the Main monitoring outputs supporting up to six channels for 5.1 surround monitoring. Other monitoring features include Mono summing, speaker cut, monitor dim (with dedicated level knob) and a master input selector that offers the choice of three external sources (all six-channel capable), the eight aux busses in stereo pairs and the main PGM out. There is also a dedicated headphone amplifier with on/off switch and under-armrest stereo 1/4-inch jack, as well as a full talkback compliment that includes a built-in mic and T/B To Aux, T/B to All and Slate momentary buttons.

Each of the eight summing bus sub-master sections on the 168B module has separate L and R main program bus assign buttons, a bus on/off switch, a bus Solo button (AFL/PFL), and a Trim knob that provides from 0 to 84 dB of attenuation of its respective balanced (unlike the original 1604) 2520-based active combining amplifier. The 1608 also provides similar control of its main stereo bus summing amplifiers, with individual left and right master on/off switches, Trim attenuators and a stereo insert (PGM INS) engage/bypass.

One of the most impressive and flexible sections on the 1608 can be found in a fairly unlikely place: the E1608 Echo Send/Return modules. The echo VU's read echo sends. The VU Return button allows monitoring of the echo return signal.

Each echo return input provides a full output and routing section similar to that found on the channel strip modules, with eight assignment buttons for routing to the sub-master busses and a PGM button for assignment to the main stereo bus, plus a Pan engage button and knob to enable L/R panning across the main L/R busses and odd/even sub-master bus pairs. A return output level knob is also provided along with Solo, Mute and Safe buttons identical in function to those on the full channel strips. Additional Aux and Mix buttons select as the return's input a corresponding rear-panel auxiliary input (on TRS 1/4-inch and DB-25) or the output of the corresponding send bus, respectively.

If the possibilities for this section (and the console in general) aren't already swimming about in your head and expanding exponentially, let me help you along. Not only are these eight mild-mannered "echo returns" really Super Inputs with multiple switch-selectable input sources and full channel-strip solo/mute and routing control, they are also — Tada! — normaled to the console's eight open 500 Series slots. Add in eight 512C preamps and, well, you can guess the rest...

## **ONCE AROUND THE BLOCK DIAGRAM**

The API 1608 is endowed with refreshingly unfettered internal routing and external patching facilities, leaving the user is free to create, configure and reinvent how the console is best used for any immediate purpose or to adapt it over time as needs change. While the use of the 1608 can be as simple and straightforward as desired, some more creative options are certainly possible. For instance, by patching the console's preamp outputs directly to a DAW's inputs and the returns from the DAW into the EQ inputs, the 1608 becomes a simultaneous high-end API multichannel DAW front end and a full-featured multichannel summing mixer with all EQ, sends and sub-master features available for the mix. Likewise, by putting the board's sub-master outputs and routing capabilities to good creative use, multichannel surround mixing is easily possible, complete with built-in, fully calibrateable surround monitoring.

## **SUMMARY**

When I first heard about the API 1608, I couldn't help but wonder what corners were cut and where the skeletons were buried to bring out an API console at under \$50k. As I delved deeper into the product literature and block diagrams, and as confirmed firsthand on my visit to API HQ, not only did I not find cut corners but on the contrary, I was repeatedly impressed with the 1608's expansive and imaginative features: a full compliment of balanced I/O points along all audio paths, full access to individual channel circuit components, adjustment pots at all the important calibration points, extraordinary internal routing options, and an expansive central configuration and monitoring control section.

These are the hallmarks that make largeformat — and large-investment — consoles a joy to use and a relative breeze to maintain. They are essential elements in the hub of a busy, multi-purpose commercial studio and the first things I expected cut to meet such an attractive price point. To say I was pleasantly surprised to find them at all — let alone in such abundance and in such a thoughtful implementation — is a great understatement.