

# PRO AUDIO REVIEW

Gear & Software Reviews For The End-User

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The opening notes of Richard Strauss' "Also Sprach Zarathustra" are heard. A mysterious black monolith appears in an otherwise lifeless landscape. Man-apes emerge from their caves and gather around in a confused frenzy, touching, examining and even tasting the new arrival. As the music builds to its famous climax, the man-apes' confusion gives way to a sense of wonder as they begin to understand the gift that has been bestowed upon them.

It has been pointed out to me that this sounds a lot like the "Dawn of Man" sequence from Stanley Kubrick's *2001: A Space Odyssey*. Actually, this was the scene after API delivered its new DSM-24 Discrete Summing Mixer to my studio (well, everything except the tasting part, and the fact that it wasn't so much a gift as a four-week loan).

At 42-inches high, API's monolith may not be as tall as the one from *2001: A Space Odyssey*, but it does have a lot more knobs, switches and I/O jacks – far better than the one in the movie, in my opinion. The question is:

## Fast Facts

■ **Applications:**  
Studio

■ **Key Features:**

Discrete analog summing mixer with 24 to 72 line inputs (via API 8200 modules); full talkback and control room monitoring/switching (via an API 7800 master module); stereo buss or dual mono compression (via an API 2500 compressor); analog VU and LED level metering; full TT front-panel patchbay; DAW inputs on DB-25 connectors; custom configurations are available

■ **Price:**

\$15,900 (DSM-24); \$24,500 (DSM-48); \$34,600 (DSM-72)

■ **Contact:**

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

## API DSM-24 Discrete Summing Mixer

will it usher in a new era of high-quality analog mixing for the digital audio workstation-based studios that can afford its \$15,900 starting price?

### FEATURES

The DSM-24 is essentially a 24-channel API line-mixing console on wheels, all wired up and ready to roll. Going far beyond other analog summing mixers intended for use with DAWs, API's Discrete Summing Mixer provides much of the functionality of a large console (minus mic pres and EQ) including talkback, metering, control room speaker switching and two-track monitoring, plus channel inserts, sends and returns. For those who need more than 24 inputs, the DSM is also available in 48-channel (\$24,500) and 72-channel (\$34,600) configurations.

Contained within the DSM-24's rack are three API 8200 eight-channel line input modules (for engineers who never evolved past the Pleistocene era, that's 24 inputs total), an API 7800 control room master module, an API 2500 stereo buss compressor, an API 424 four-buss interface and a VU meter panel.

Two prewired TT patch bays provide front-panel access to every stage of the mix path including channel inserts, effects send and busses. Analog input from the DAW to the mixer is accomplished via three DB25 connectors (wired to the TASCAM standard) located

on a panel in the rear of the rack. On the same panel are inputs and outputs (all XLR) for connecting up to three two-track decks, plus additional outputs to feed large and small control room speakers.

Each input channel on the 8200 modules features an input level knob and center-detented pan control plus two send level knobs. Also on each channel are mute, insert-select and AFL solo buttons with corresponding color-coded LEDs (red, green and yellow, respectively). All inputs, outputs, inserts and sends are balanced and calibrated for +4dBu operation, and all are available on the TT patch bay.

The 7800 master module is the brain of the operation, exerting control over all internal summing and routing tasks while simultaneously performing as a full-on control room monitoring section. The internal circuitry of



the 7800 – including judicious use of the legendary API 2520 and 2510 discrete op amps – is identical to that found in the revered API Legacy console series.

On the 7800 front panel is a AFL solo level control, send and buss output level controls (each with an engage switch/LED) plus a master fader that controls the level sent to the stereo outputs. The cue and control room sections contain provisions for talkback, including level knob and momentary buttons for talkback and slate, and control room monitoring. Monitoring controls include a control room volume knob plus dim switch and dim level control, a mono summing switch, small/large speaker selection switch, and monitor left/right cut buttons. A bank of six buttons selects the control room monitor program source (from stereo buss, sends, or the three two-track inputs).

The 7800 also contains the amp circuit that drives the stereo analog VU meters found on the meter panel mounted at the top of the DSM rack. The buss and send master outputs loop through the meter panel to give life to the eight five-segment Aux and Bus LED meters. The DSM's talkback mic is also mounted on this panel.

Last, but certainly not least, is the fantastic API 2500 stereo buss compressor (one of my personal favorites). The 2500 features the common compressor controls (threshold, ratio, attack and release) and the unique (thrust, feed-forward/feedback detection type, and variable L/R link with band-pass filter shape selector). The 2500 also provides three compression knee settings, switchable analog VU meters, and makeup level control. Like the 7800, the signal path in the 2500 is fully discrete and features plenty of 2520 and 2510 op amp circuits. The 2500 also features a "soft bypass" mode that disengages only the gain reduction circuit as well as a relay-controlled hard bypass that routes the input directly to the output.

Unfortunately, there simply isn't room in this article for complete coverage of all the API modules that comprise the DSM-24. Please see the API website for further information and product manual downloads.

## IN USE

I recently read an article that mentioned that users of analog summing mixers to compliment a DAW setup often liken the sound to that of mixing on a full-scale Neve or API console. Well, my friends, mixing on the DSM-24 *is* mixing on an API console. It instantly brought me back to the times when I have been given the opportunity to work on

that little slice of sonic heaven that is an API console. I never roam far from my API 212L preamps, but, for me, mixing on an API console is unfortunately a rare treat.

The DSM-24 (or "Tower of API Goodness" as I like to call it) arrived via special delivery around 12 noon, and within forty-five minutes I was mixing a Nuendo project on it. The unit arrived completely wired-up and calibrated, and a default summing channel setup (level fully up, pan in center, sends down) was already dialed in across all three 8200 modules.

A small console power supply (small meaning it is not rack mounted) provides mains power to all modules and panels, with the exception of the 2500 compressor, which is powered via a separate IEC cord. Three eight-channel TRS to DB25 snakes made the DAW-to-DSM hook up quick and easy. I completed the initial setup by patching the small and large speaker control room outs to my two sets of Westlake monitors (powered via Carver amps).

As you can see, despite the apparent complexity of the DSM system, it did not take much more time to set up than a typical self-contained, rackmount summing mixer. In fact, most of the set up time was spent re-routing tracks from the internal DAW mixer to the 24 analog outputs of three RME Fireface 800 audio interfaces. Later, once my initial excitement subsided somewhat, I took the time to patch the two sends to the headphone distribution system, and hook up some playback decks and feed a stereo mix back into the computer.

I spent the next several days working out best practices for using the DSM in conjunction with my studio equipment and workflow. As I didn't receive any manuals, and there really isn't a DSM manual (as far as I know), it took a little longer than expected to establish a comfortable command of all the functions (and I even had a leg-up, having used the 2500 on several previous occasions).

From a sonic standpoint, I couldn't have been more pleased with the DSM-24. I understand that the debate rages on regarding the benefits of analog summing versus digital in-the-box summing, and well it should. The API DSM stays out of the fray simply because mixes on the DSM sound like they were mixed on an API console – say no more! And with 24 discrete input channels (plus buss and aux returns), I did not have to do too much digital submixing prior to outputting to the DSM.

From a workflow standpoint, incorporating a 24-channel analog mixer into the mix process does, as to be expected, take a fair amount of extra work compared to mixing in the comput-

er. There are some issues regarding setup time and settings recall that anyone thinking of going the discrete analog route should take time to consider.

Per-channel level, effects and EQ automation in the DAW, of course, make a seamless transition to being output on individual channels. But automated pans and pan placement in general do not – unless you want take the luxury route and dedicate two analog channels as a stereo pair for each mono DAW track (while I am entertaining the idea of selling my Audi to get the DSM-24, I'll have to think really hard before getting a home equity loan for a DSM-72). Clearly this is not the solution for everyone, if for no other reason than its effect on the signal-to-noise ratio.

So, just like in the old days, pans must be dialed in on the DSM for each mix, and paper track sheets become useful (if not a necessity) again. Or you can work only with submixes in the computer sent to stereo pairs on the DSM and retain full recall. I ended up adopting a combination of the two as a happy medium, using center-panned tracks and other tracks that were common to all songs in an album project on their own channels and working with submixes-to-stereo pairs for everything else.

Another thing to consider is your tracking workflow. Although the DSM is primarily marketed as a DAW-to-analog mixing solution, its well-appointed control room monitoring and talkback facilities make it useful for tracking as well. Figuring out how to best incorporate the DSM and your tracking preamps/inputs into a latency-free mix solution takes some consideration and experimentation. Thankfully, the DSM is as thoroughly flexible as a full console and, with a little bit of applied logic, many solutions present themselves.

## SUMMARY

While I easily could go on for another several pages raving about the DSM – I have barely scratched the surface here – it ultimately won't answer the question on everyone's mind: Is analog summing better than digital summing? In this context, the better question to ask is: Do I want to do my mixing in the computer or through a genuine API analog console?

And my question to you is: Anyone interested in a lightly used Audi A4 for, say, \$15,900...

*PAR Studio Editor Stephen Murphy has over 20 years production and engineering experience, including Grammy-winning and Gold/Platinum credits. His website is [www.smurphco.com](http://www.smurphco.com).*