



Grace Design m802

There's a real demand for outboard preamps to handle multimic recording duties as conventional console use wanes. However, not all pres are made equal. **JON THORNTON** encounters a batch of eight at the higher end of the evolutionary scale.

Based in Boulder, Colorado, Grace Design is one of those pro-audio companies that started manufacturing built-to-order custom designs and just grew. Founded by Michael Grace, the company's first standardised product was the m801 microphone preamplifier in 1994. Since then, the range of products has grown steadily and includes pro audio and high-end audiophile offerings. What has remained constant, though, is a commitment to quality in manufacture and design.

The visible aspect to this philosophy is apparent in the physical appearance of most of the product range, which adheres to the 'build it from girders and make it last for all eternity' school of thought. And underneath this solid, if vaguely utilitarian exterior the same approach is taken to the internals — highest quality components, no capacitors in the audio signal path, highly specified power supplies, highest tolerance possible with passive components; the list goes on and on. For those interested in such things there's a four page document on the company's website that spells it out.

The m802 is a recent addition to the product range, and at heart goes back to Grace Design's core competency — high quality microphone preamplification. Where it differs from the rest of the range is in eschewing the rather chunky analogue controls of its stablemates in favour of a large LCD panel, a rotary encoder and a smattering of pushbuttons. With the addition of a remote control unit, this gives you eight channels of remote controllable analogue preamps. The whole system comprises the base unit, an external power supply and the optional remote control unit. It's optional, because unless you need to control it from a distance or want to control multiple units from a single source, the unit can be

quite happily operated without it.

Starting with the base unit, the rear panel gives eight microphone inputs on XLR and two sets of eight balanced line level outputs, also on individual XLRs. As an option, the M802 can be ordered with additional 130V microphone inputs for use with DPA high voltage microphones. This option is available in blocks of two channels and when fitted, these (4-pin XLR) inputs replace the second row of outputs. One of two digital output boards can also be specified as an option, giving eight channels of AES3 on a DB25 connector, plus either AES3-id outputs on BNC or twin ADAT outputs on lightpipe. The unit supplied for review had two channels of DPA 130V input, and the ADAT variant of the digital board. A chunky DC input socket, remote input and output (on 9-pin D-Subs) and a pair of MIDI sockets finishes things off at the rear.

As a 2U 19-inch rack unit, the m802 is a symphony in brushed stainless steel, with a front panel that is decidedly minimalist. It's dominated by a backlit LCD display with a resolution of 240 x 64 pixels, which in operation shows the status of all eight channels in terms of gain, signal level and indicators for phantom power, phase reverse, etc. Basic operation is extremely intuitive — scroll across the display with the data wheel until you reach the channel you need to edit, push it to select, and then adjust gain with the data wheel and toggle phantom power or phase reverse for the channel with dedicated front panel buttons. Gain range in normal mode is -7dB to +63.5dB in (more or less) 1.5dB steps. Any number of adjacent channels can also be grouped together, so that any subsequent gain adjustments are applied to all channels in a group. This was the first time I had to delve into

the manual, as it involves pressing and holding the Group button having selected the first channel to be grouped, and then scrolling across channels with the data wheel to include them in the group — not as intuitive as other operations but easy enough.

A setup button on the front panel steps through a number of additional modes, which allow presets of the current unit status to be stored and recalled, the behaviour of the meters' peak reading to be altered, and other housekeeping stuff like display contrast and backlight settings. If a digital option board is fitted, this mode also provides options to activate it, and allows adjustment of sample rate, clock source and digital output format (single or bi-wire). With the A-DC option enabled, the bottom line

of the main display shows the current status of these settings with a 'lock' indication if using an external clock source, and the metering switches to a 0dB FS scale, rather than the dBu scaling otherwise shown. The relationship between full scale at the A-DC and output level of the preamp channels can also be altered by accessing a 'hidden' menu on power-up — with four possible choices between +18dBu and +24dBu = 0dBFS in 2dB steps.

The final function available in setup mode is to configure the input routing for each channel. For standard microphone channels (i.e. those without the DPA option fitted), the choices here are between normal and 'Ribbon' mode. Both of these modes use the standard 3-pin XLR input as a source, but engaging Ribbon mode increases the available gain range by 10dB, disables and locks out phantom power on the channel, and bypasses the +48V decoupling capacitors to minimise signal path. If a DPA option is fitted to a given channel, the choices are between normal and the 130V option, which uses the 4-pin XLR installed on the rear panel if fitted. Strangely, a DPA optioned channel can't be set to Ribbon mode, which seems a shame.

If required, connecting the optional Remote Control Unit (RCU) is simple enough. The Philips I2C serial bus is employed for communication purposes, and a serial input and output on the back of the main unit allows up to eight units to be daisy-chained together, putting 64 channels of preamp under the control of a single RCU. Serial connections between RCU and the main unit(s) use 9-pin D-Sub connectors — although the RCU ships with adapters that break these out to male and female XLRs, allowing a standard microphone cable to be used for long runs (up to a maximum of 1000 feet).

The RCU itself is a compact unit, but requires its own external wall-wart PSU to operate. The LCD screen on the remote is exactly the same size and resolution as that on the main unit, and all of the pushbuttons from the main unit are duplicated on the remote, although in this case they are illuminated instead of black. There are some additions, though. Each of the eight displayed channels has an individual channel select button under the display, which makes channel selection much quicker, and two additional buttons allow the remote to scroll back and forth across channels if more than one unit is being controlled. A large LED display shows the gain level of the currently selected channel, and a View button can switch the display to allow metering of 24 channels at a time, which can again be paged through up to a maximum of 64 channels. Handily, even in



this meter mode, individual channels can be selected and the gain level altered using the data wheel.

But the RCU isn't the only remote control option available, as Grace Design has cleverly designed the m802 to emulate a Digidesign PRE so that it can be remotely controlled from Pro Tools via MIDI. There are a couple of caveats to this, though. The first is that the gain range and resolution of a PRE is different to that of the m802 (0-63dB in 3dB steps, as opposed to the m802's -7 to 63.5dB in 1.5dB steps). No real problem here, as in MIDI control mode, the m802 simply ignores the additional steps. The second is the fact that the PRE has certain features (pad, HPF) that the m802 does not — again trying to use these features from Pro Tools simply has no effect. Other than these minor differences, this works just as advertised — just tell Pro Tools that it has the one or more PREs connected and it happily controls gain, phantom power and phase reverse remotely.

So, it's intuitive, easy to use and flexible. but how does it sound? I was lucky enough to put the m802 to work in an application that I suspect it will find much work in — a live recording of a musical. That the recording in question needed 63 channels of mic pres running off a heap of active splitters meant that a pretty broad spectrum of 8-channel preamp solutions was pressed into service, including the m802. And in comparison to all the others — from all price points — the m802 shone simply in its total transparency, frankly astonishing headroom and lack of noise even at quite high gain settings. There is a little noise in the form of slight clicks as the gain settings step up and down, which could be an issue in this sort of application if emergency gain changes are needed, but this was the only significant blot in its copybook. And if I'm nit-picking, building a touring rack of multiple units could be a little untidy due to each one needing its own and not insubstantial and

non-rackmounting external PSU.

But what stands out more than anything is that the remote control functionality has not been implemented at the expense of the quality of the analogue signal path, and vice versa. This unit sounds just as substantial as it looks, and given the flexibility of control options, is equally likely to find a home in the recording studio or on location. ■

PROS Build quality; headroom and noise; intuitive user interface; scalability; emulates PRE for control via Pro Tools.

CONS Slight audio artefacts present when changing gain steps; not much else.

Contact

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