

# Grace Design M906

While most attempts at monitoring controllers have concentrated on 'high value' attributes, just as in everything else an upper elite category has also materialised. **ROB JAMES** takes pipe, slippers and tired-but-comfortable cardigan and attempts to go audiophile.



**I**N THE PAST, dedicated monitor controllers were generally only found in film and broadcast installations. In the film world monitoring is, or was, inextricably linked with record and machine control. Broadcast often has requirements unique to the specific installation. For the most part, monitor control in production and postproduction environments was more than adequately taken care of by the mixing console. Now, the mixing console is an endangered species in many applications, its crown usurped by the workstation. Once you accept that there is no need for a conventional console, the requirement for some sort of monitor controller, at the minimum a precision volume control, becomes clear. Grace Design's concept for the M906 began with exactly this premise although there is a great deal more to the UK£4,300 (+ VAT) M906 than simple volume control.

Based in Colorado, Grace Design's core products are mic preamps, designed with an audiophile approach. Attention to detail is meticulous, possibly even obsessive, with the ambition of producing products demonstrating impeccable specification figures and real-world performance to satisfy the most golden-eared practitioners. The new monitor controllers and headphone amplifier are a logical extension of the same design philosophies.

The M906 is a three-box design. The linear power supply is a separate unit feeding the main 2U rackmount processor. The control surface is relatively compact and connects via a 15-pin D-Sub. The M906 can handle a variety of digital and analogue inputs in stereo and 5.1 and offers two alternative sets of 5.1 speaker outputs plus headphones, cue and a 'fixed' 5.1 output for recording. Analogue inputs come in 5.1 balanced and unbalanced flavours plus two

balanced stereos. Digital input options are 5.1 AES-EBU, 5.1 ADAT, stereo AES x 2, stereo SPDIF and stereo ADAT.

Convertors can be clocked to any of the digital inputs or a high stability, low jitter internal clock. The M906 also features a PLL relocking feature dubbed s-lock. This is claimed to be able to deal with less than perfect external sync sources and provide a stable, low jitter clock to the D-ACs. Connections are well thought out — Tascam DA-88 format 25-pin D-Subs for each of the 5.1 outputs with parallel wired left and right XLRs for the two speaker sets.

There are two common approaches to the problem posed by monitor control of analogue and digital sources. Digital sources can be converted to analogue when they arrive at the unit or analogue signals can be converted to digital with digital to analogue conversion as the final stage on the way to the speakers. It might appear that there are advantages to the latter approach when the majority of sources are digital, as is often the case in a workstation environment. However, any change in level means that the signal requires dithering before conversion. Chances are that any digital signal you are listening to has already been dithered and multiple dithering is not a recipe for pristine audio. The digital approach does however bring control convenience, especially in broadcast situations.

As might be expected from a company with a reputation built on audiophile mic pres, Grace follows the 'convert to analogue on input' approach. Circuit topology uses balanced 'transimpedance' (current feedback) input amplifiers. The gain control elements are digitally controlled attenuators. All audio switching is made with sealed gold contact relays and the output amplifiers can drive long lines at impedances as low

as 300ohms. All resistors in the analogue signal path are 0.5% tolerance surface-mount thin-film. The only signal coupling capacitors (polymer film) are used to eliminate any DC offset at the attenuator inputs. Digital to analogue converters are of the preferred multibit variety — Burr-Brown PCM1730s to be exact. The separate power supply employs a shielded EMI filter before the toroidal transformer, followed by separate regulated supplies for the digital and analogue circuitry. Additionally, each circuit section has its own regulation, 24 in total. All good audiophile stuff (*Pause to tap out pipe. Ed*).

Brushed, non-magnetic, stainless steel, blue alpha LEDs and the round, pretty and functional, internally illuminated buttons all conspire to give the units a classy feel, somewhat reminiscent of esoteric hifi. The surface is laid out logically with input selection in the top two rows on the left and the individual speaker channels Solo/Mute plus function toggle below. Separate bright blue LED alpha displays show the current headphone and main output levels. On the right, the System LCD is at the top with Select, Monitor+Cue and Cal buttons in the top row, Mono, Dim and Mute above the main volume and Speaker set toggle, and Talkback send alongside. All switching is done with relays and level control comes courtesy of digitally controlled attenuators. As a result of this, all the I-Os can be trimmed in 0.5dB increments while maintaining a claimed 0.05dB tracking accuracy.

In operation, the M906 swiftly becomes entirely natural. All the buttons you will use when monitoring act silently but positively and the rotary controls are nicely detented. Calibration takes a bit more thought at first, but the comprehensive options available more than compensate. Performance is subjectively in line with the paper specifications and Grace Design's reputation. In terms of transparency and accuracy the M906 is a black belt contender in a tiny, elite group. Lengthy comparison tests with its few real rivals will be the only way to separate them sonically. The M906 will be completely at home in mastering suites and plush listening rooms where money is no object. ■

**PROS** One manufacturer's take on the purist approach to monitor control; distinctive appearance; construction.

**CONS** Appearance may be too distinctive for some; main unit runs surprisingly warm; audiophile price.

**EXTRAS** There is an AES loop-thru option available for the M906 — factory fit UK£285 (+ VAT) or subsequent upgrade UK£325 (+ VAT).



Two stereo versions, the UK£2,150 (+ VAT) M904 with front panel controls and the UK£2,795 (+ VAT) M904b with a similar remote control to the M906, are also available. Optional remote for m904 is UK£1,075. The M902 Headphone amplifier (UK£1,215 + VAT) is also noteworthy not only as a reference headphone monitor but also as an excellent stereo D-AC.

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