Sonifex RM-4-C8

Designed for non-critical listening in mission critical environments, rackmount monitors need to be seen and heard. ROB JAMES finds one that redefines the breed through its flexibility and also doesn't sound bad.

Anyone who has spent any length of time in a big facility or a broadcaster will be familiar with the concept of rack audio monitors. The idea is simple, provide a means of monitoring signals passing through the rack for identification and checking purposes. With a properly designed analogue jackfield this is simply a matter of jacking the monitor into listen jacks of the source or sources you are interested in. Old style rack monitors are mostly pretty simple beasts with a couple of PPMs (stereo in some cases) and fairly rudimentary audio amplification and loudspeaker(s). If you were lucky the most commonly used sources would be hard-wired to a selector switch. The audio quality would have disgraced the average tranny but that wasn't really the point.

Fast forward to today and the requirement to monitor various signals in a rack environment is still there but, in the digital age, we are faced with stereo AES streams, Dolby Digital and Dolby E encoding and, in video facilities, embedded audio streams within SD (Serial Digital) and HD SD (Hi Def SD) video. While there are already ways of dealing with such signals, Sonifex has produced a compact and elegant solution for monitoring several formats in one unit. Sonifex has a great reputation for producing the essential but often 'forgotten until you need them' red boxes at a reasonable price and its new departure into the new and blue Reference Monitor series is no exception.

The UK£950 (+ VAT) RM-4-C8 version I had on test combines local metering and monitoring of up to eight mono audio sources in analogue and/or AES digital formats with extensive remote control via USB.

Audio sources are divided into Banks. As standard there are just two, with four mono channels per Bank, thus there are two groups of four XLR inputs on the rear panel. In each of these groups two sockets accept either mono analogue or stereo AES digital streams, auto-sensing which type of signal has been applied; very clever! There are a maximum of six Banks depending on which option cards (if any) are fitted. Banks are selected using the left-most rotary source selector on the front panel. Pressing the rotary steps through all the Banks, returning to the first when you press the knob with the last Bank selected. Turning the knob selects the input in the Bank for monitoring on the Left Speaker and headphone output. As you would expect, the right-hand rotary source selector does the same for the Right Speaker and headphone output.

The four 26-segment LED bargraph meters look at the four inputs of the selected bank. A variety

of common characteristics/ballistics are provided, selected via DIP switches on the base of the unit. These include BBC PPM, VU, Nordic, DIN and AES-EBU digital PPM. Self adhesive scales for each option are provided and brightness can be adjusted using an instrument screwdriver via a small hole in the front panel. Adjacent to the level meters, five LEDs are used as a phase meter. This simply indicates the degree of correlation between the left and right sources selected currently.

Positive, internally illuminated pushbuttons provide the expected functions of Dim (by 10dB), Left Cut, Right Cut, Mono Sum, Phase Invert (Right-hand Source) and M+S (Middle and Side). The M+S function is both encode and decode, i.e. if the unit is fed with L+R then engaging M+S encodes and when fed with M+S it will decode. This affects the internal speakers, the headphone and line level outputs. The centre detented +/-6dB balance (pan) pot affects the internal speakers and headphone output and the Level pot affects the internal speakers, the headphone output and, optionally, the line-level outputs. Four indicator LEDs show if the loudspeaker protection limiter is operating, if the currently selected source is within 0.5dB of Clipping and if Left and Right digital inputs are locked.

Returning to the rear panel, the inputs are accompanied by two XLR line level outputs for stereo analogue or an AES pair on the left-hand socket (configured by the bottom panel DIP switches). A 15-pin D-sub gives GPI-O access to remote functions and tallies and there is the alternative of a 9-pin D-Sub RS-232 or a B Type USB serial for remote control from a PC running the freely downloadable Sonifex SCi software.

Tally outputs include an Audio Overlevel Alarm, Underlevel Alarm, triggered when either of the currently selected input sources falls below -20dBu for longer than 20 seconds, and the Sustained Phase Error Alarm is triggered when the phase difference between the currently selected inputs remains consistently above 90 degrees for longer than 5 seconds. These tallies, together with an alarm reset have obvious applications in transmission and transfer suites. The mains socket is IEC and, as is often the case with professional rackmounting boxes, there is no power switch.

Input termination for the AES-EBU inputs is switchable via the base-plate DIP switches to suit specific installations but Sonifex wisely recommends that for optimum reliability, termination is left switched on at all times. Input level selection is also on a DIP switch bank with gain switched in 6dB steps for a maximum of +18dB over the standard settings.

Although this is a 1U unit Sonifex has gone to great pains to ensure that audio quality is streets ahead of the average rack monitor. To this end the three-way speaker system is fed by class D amplifiers via an active crossover with the drivers mounted in sealed, custom profiled and moulded, infinite baffle, magnetically shielded chambers and the whole unit has been built like a tank with welded stainless steel case, more lid-fixing screws than I have ever seen before, foam sealing and a megalithic slab of alloy for the front panel to eliminate the possibility of internal rattles. For the really keen, there is a five-band parametric equaliser to further tailor the sound to the installation environment, accessible from the SCi software.

I was delighted by the RM-4C-8. It does what it purports to do and is completely intuitive in operation. Output level is more than impressive for such diminutive speakers. Truly this is the ghetto-blaster of rack monitors. At more modest levels, although it cannot break the laws of physics, the bass is more implied than present but it is surprisingly accurate. The build quality is impeccable and the metal knobs are deliciously tactile. Everything feels as if it should last a lifetime.

The optional extra interfaces rocket it into a different league in price and capabilities. You will know if you need the pricier options and will be well used to paying the premium.

For the rest of us the RM-4C-8 and its siblings are professional pieces of kit at very reasonable prices that should receive a hearty welcome in all manner of facilities. ■

PROS Massive build quality; ideal blend of function and form; value for money.

CONS Good reproduction but not hi-fi; options pricey (but par for the course); bottom panel DIP switches may not be convenient in some installations.

EXTRAS There are two other units in the Sonifex Reference Monitor range. The RM-2S4 has two LED meters and four stereo inputs and the RM-2S10 has two LED meter and 10 stereo inputs.

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