

PAUL WHITE examines one of Drawmer's MX budget range of units to see whether corners have been cut, and discovers that some corners have actually been added!

For as many years as I can remember, Drawmer products have been black, sensibly priced and incredibly dependable — that is, until the MX series turned up in the shops. The new MX units are still dependable and still predictable in operation, but feature restyled metallic panels with black screening and a price tag that doesn't seem at all sensible — at least, not from the viewpoint of anyone trying to make a living out of manufacturing them. According to Drawmer, the MX series' low price tags are made possible by using circuit elements drawn from existing Drawmer products and by simplifying the control systems where possible, not by reducing quality. Though the MX units are aimed largely at the home recording market, they are still professional-quality devices. Indeed, if I have a criticism of the new MX40 quad gate, it is that, in one respect at least, it's *too* professional.

A gate spends most of its life connected via the insert points of a console, and I can't think of a single mixing console in the low to mid-price project studio market that doesn't have unbalanced insert points, on TRS jacks wired for unbalanced send and return

operation. Yet the MX40 is fitted only with balanced XLRs, which means that the majority of owners will have to make up special unbalancing XLR-to-jack leads to connect it to their systems (full wiring details are provided). Of course, those with truly professional desks who want to add a few low-cost, pro-quality gates to their systems are onto a winner.

OVERVIEW

Drawmer's MX40 is the second processor in the MX series, the first of which was the MX30 gated compressor/limiter, reviewed in *SOS* back in June 1997. The MX40 is a 4-channel gate which features, instead of the familiar Drawmer high- and low-pass side-chain filter controls, a simplified system utilising a single filter-frequency control knob operating a band-pass filter. It also has just a single external key input, so although you can trigger as many gates as you like together, you can't apply independent external triggers to them. However, if no external key is applied you can select external key to make any of the channels trigger at the same time as channel 1 — good for tightening up sloppy sections, providing the tightest player goes through channel 1.

The MX40 has been simplified in one or two other ways: it doesn't have a variable attack control, and the variable range control found on Drawmer's studio-standard DS201 has been replaced on the MX40 by a single button providing either 20dB or 90dB of attenuation when the gate is closed. Indeed, the buttons outweigh the knobs on this model, with each channel sporting six buttons and just three knobs. There's also a Slave link switch between channels 1,2 and 3,4 allowing pairs of gates to be linked for stereo operation. When pairs are linked, the left-hand channel controls govern both channels.

In some ways, then, the MX40 is less than a DS201, but it also includes a function that the DS201 doesn't have: Peak Punch mode. When this is switched in, the leading edges of transient sounds triggering the gate are boosted slightly to give added impact, a little like

Four times able

DRAWMER
MX40
QUAD GATE



the effect you get from lengthening a compressor's attack time to add attack to drum sounds. Again, this is a preset option with no facility for further tweaking, but it's one that really works well, especially when you need to harden up drums.

THE CONTROLS

The channel controls comprise:

- **Threshold:** fully variable.
- **Release:** fully variable.
- **Trigger Frequency:** fully variable between 50Hz and 8kHz. If you don't need the filter, a button is provided to switch it out, and if you need to key from the rear-panel External jack, there's a Trigger Source button for this purpose.
- **Key Listen:** the MX40 also features the Key Listen mode of the DS201, so if you want to hear what the gate side-chain is hearing, all you have to do is press a button. You can also leave Listen mode engaged if you want to use the channel as a band-pass filter rather than a gate — unorthodox, but sometimes useful.
- **Peak Punch:** When the Peak Punch feature is active, as shown by a green status LED, it boosts the first 10ms or so of each signal triggering the gate by around 6dB. The release characteristics of this boost are handled automatically using proprietary circuitry.
- **Range:** switchable from -20dB to -90dB
- **Bypass** button, with red status LED.
- **Slave** switch: slaves the right-hand channel to the left.

The DS201's traffic-light gate metering has been retained, along with some cutesy graphics depicting 'above and below threshold' signals, and overall, the control panel manages to look both clear and sophisticated. Each of the knobs has a pointer fitted to the skirt for accurate alignment, and sensible calibrations are placed around the controls.

On the rear panel, all the audio ins and outs are on balanced XLRs optimised for +4dBu operation, as mentioned earlier, though the unit is also quite happy in -10dBV systems. The key input is unbalanced on a standard jack, and power comes in via an IEC mains connector, not from a wall wart. Converting from 240 to 120V operation is possible, but you have to go inside the unit and move a couple of links — it's not switchable. ►



pros & cons

DRAWMER MX40

pros

- Professional performance.
- Excellent Peak Punch feature.
- Surprisingly flexible.
- Very good value.

cons

- Having only balanced ins and outs means the user will have to make up or buy balanced-to-unbalanced leads to use the unit with unbalanced console insert points.

summary

The MX range is a real gift to the quality-conscious project studio owner working to a budget.

SOUND ON SOUND

OPERATION

The first thing you might reasonably ask concerning a gate that has no attack-time control is "Does it click?" While it's possible to make the gate click by setting unreasonably high thresholds on slow-attack sounds, adjusting the threshold to a more sensible setting completely avoids clicking, so I have to assume that a piece of Drawmer's intelligent attack-time control circuitry has found its way into the MX40. Obviously, switching in Peak Punch on non-percussive sounds is a bad idea, but other than that, the operation is as predictable and vice-free as you'd expect from a top-of-the-line Drawmer processor.

Activating Peak Punch on weak drum sounds provides a dramatic increase in definition and punch, so if you do much drum work the MX40 is worth looking at for this feature alone. The fact that it does not offer a variable attack precludes the type of creative effect which slows the attack of a normally percussive sound, such as a piano, but how often do you really want to do that? For all conventional gating jobs, the MX40 does the job professionally and without complexity, though you don't get the ducking mode of the DS201.

Drawmer virtually invented the gate side-chain filter, and their preferred filter topography has always been a separate high and low-pass shelving filter, both of which could be independently varied in frequency. To save both panel space and cost, the

"Peak Punch works extremely well on drums..."

limiting, but how many times do you run a session where more than one external gate keying source is used? A bonus of this system is that any number of the gates may be synchronised to the same external trigger (useful for gating stereo material from an external key), or you can make any of the gates track channel 1 simply by not plugging in an external key. This latter facility is sometimes useful for polishing up a vocal section where not everybody finishes at the same time. Routing the tightest vocal through channel 1, in effect, cuts off the others at the same time as the channel 1 vocal stops, preventing raggy phrase endings. While this doesn't always sound as natural as a more professional group of singers, it can salvage an awkward situation without being too obvious, especially if you add reverb afterwards.

SUMMARY

Though the MX40 is a relatively inexpensive unit that provides four channels of frequency-conscious gating, it is also a well designed and professional processor, even down to the fully balanced inputs and outputs. For most routine jobs it will deliver results every bit as good as the more expensive DS201, and it's only when you start to stray away from the more common studio tasks that its abilities will be stretched. In spite of a few small compromises, the inclusion of the Peak Punch feature and the novel external keying arrangement makes this a hugely useful gate that can do some tricks denied its more costly siblings.

Peak Punch works extremely well on drums, bringing about a quite significant improvement to weak or poorly defined sounds, while the very simple control setup makes it easier for even the inexperienced user to get good results on routine material. There's little or no tendency for the gate to retrigger when it shouldn't, the controls do exactly what you expect them to do, and the Drawmer 'traffic lights' gate status readout always lets you know whether the gate is open, closed, or closing.

For the smaller studio needing a few flexible, high-quality gates, the MX40 is ideal, but I also envisage it being used in a number of more serious studios where there may already be a couple of more expensive gates with all the bells and whistles available to handle the trickier jobs.

GATE BASICS

As everyone who has a studio will have discovered, a recording is often accompanied by a degree of unwanted noise. The main purpose of a noise gate is to reduce this noise, by closing down the signal path when the signal falls below a 'threshold' set by the user. Usually you'd set the threshold just above the level of the unwanted noise. When the gate is open, the wanted signal and the noise pass through, with the noise (hopefully) being masked by the signal. When the wanted signal pauses, the gate closes, shutting off the background noise (which you'd otherwise be able to hear quite clearly, with no noise to mask it) at the same time. There are many other uses of gates, too, and if you're unfamiliar with how they work, you might like to

check out the following past *SOS* articles, which explain the principles and some of the applications of these important tools:

- Using The Drawmer DS201 Dual Gate: January 1996 (the information in this article is also applicable to other gates).
- Noise Gates Masterclass: July 1993.
- Using The Compressor And Noise Gate: October 1990.
- How it Works — The Noise Gate: October 1988.

Also check out the *SOS* Bookshop for books on recording techniques. Paul White's own book *Recording & Production Techniques for the Recording Musician*, for example, has a chapter devoted to gates and expanders.

MX40 uses a single band-pass filter with a bandwidth of around one octave, so obviously it isn't going to be as precise as the filters on a DS201, but with tests on drum material I found I could still separate out sounds reasonably well. For example, in a complex drum mix, I was able to coax the gate to trigger only on hi-hat and cymbal sounds. Similarly, there's enough flexibility to reduce the likelihood of false gate triggering from microphone spill that's in a different frequency band to the signal being recorded — useful if you've got a banjo and a double bass playing on the same session.

Having a single external key input may seem

A Drawmer Distribution Ltd, Charlotte Street Business Centre, Charlotte Street, Wakefield, West Yorkshire.

T 01924 378669.

F 01924 290460.

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