Lawo mc²90

With many console manufacturers concentrating on adding value and features further down their ranges it's nice to encounter a flagship product once in a while. ZENON SCHOEPE looks at a desk that proves that they still can build them the way they used to.

AT A TIME WHEN so much energy is being put into creating models that fit further down manufacturers' ranges, it is refreshing if not unusual to encounter a product that redefines a brand's top end; a flagship. That's where Lawo's mc²90 sits. It's an interesting time to announce a desk like this and there was clear significance attached to its launch at the AES in Paris. Part of me thinks Lawo is positioning itself strategically with a new high end board but I also think it's part of the product range recreation that started with the mc²66.

The m²66 was a significant product for Lawo most simply for how it looked — a light year away from the staid and proper demeanour of the mc²80 and mc²82. There was also the matter of how it operated and again this was a departure from the 80 and 82; almost mainstream by comparison and extremely approachable.

It was something of a triumph from a marketing standpoint and it will be remembered that the world became aware of Lawo as a brand through the mc²66 because it enjoyed a much higher profile internationally than models like the mc²80 and mc²82. Lawo has always been very strong in the German broadcast market but it has only relatively recently begun breaking out into new territories with the establishment of sales and distribution offices. This happened because it had the 'international' mc²66; many territories just wouldn't get the mc²80 and mc²82.

The mc²66 was created to sit beneath the mc²82 in terms of price and size. It was not modular, which was a big change for Lawo, and only small changes

to the worksurface were accommodated, but its fixed presentation made it look like a 'proper' mixing console that people could identify with. A problem I have with the mc²80 and mc²82 desks is that they are so configurable and customisable that different permutations often don't even look like they are the same species. The main option on the mc²66 was whether it had 48 or 60 faders.

The big modular mixing console tradition harks back to analogue and was continued on in the mc²80 and mc²82 –- the 82 is one with the long fader strips and five Free Controls and the 80 has small fader strips and three Free Controls. The 82 is aimed into production and the 80 into broadcast but they share the same functionality; it's how it is presented that is different.

Many customers still want modular designs and Lawo argues that if you don't produce a modular design then you need to create a different desk for application. With the mc²90 the objective was to produce a type of modular design that suits production and broadcast use but to avoid small modules like those on the mc²82 and to create a surface layout that is immediately recognisable and approachable like the mc²66.

If I cut to the chase immediately, that is effectively what has been achieved (so let's all go to the beach!).

The modularity is restrained because rather than sub-strip component modularity the blocks are bigger and faders, touchscreen, bus assignment, automation and machine control, and Free Controls all have the same panel size and can be arranged pretty much

wherever you want with the exception of the meter bridge.

Most will have the faders at the arm rest but you can prioritise operation to the block immediately above and rearrange the Centre section according to whether you do a lot of surround panning on joystick, have to route and configure regularly, or want the automation or intercom panels closer.

Genetically the mc²90 is very closely related to the mc²66; in fact they run the same cores. The difference is one of accessibility — the mc²90 has much more extended control. Automation data is fully interchangeable.

The smallest mc²90 has 8 faders on the left and the right of the centre section, the biggest has 96 faders and channels top out at around 384 with full processing and around 80 'tiny' channels (level, mute, panning, aux sends) — same as the mc²66.

The surface is about 35% more expensive than an equivalent mc²66 and amounts to around Euro 350,000 for a typical configuration. So the mc²90 is top of the range and it looks it. This is a big desk with a lot of depth and I couldn't reach the top of the strips without standing up. I'd have to stand for part of the set-up but with planning I could sit for the mixing without issues.

I will compare and contrast the mc²90 with the mc²66 throughout the course of this article and concentrate on the differences in the new board, which will ship with all its bells and whistles in November.

The fundamental operational concept involves centralised control in the centre section (analogous to
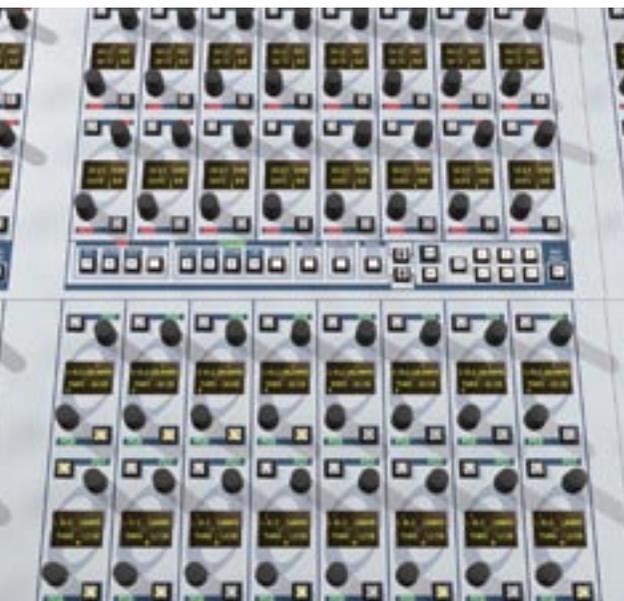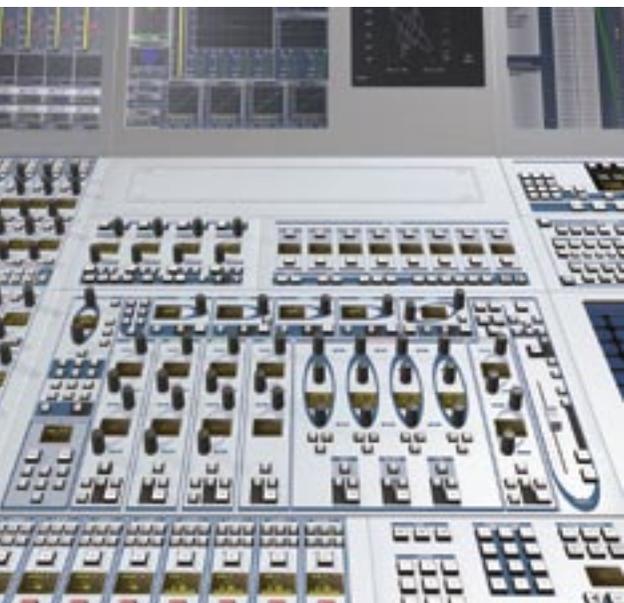
an Assignable Facilities Unit, Fat Channel, call it what you will) and decentralised control on the channel strips by way of Free Controls (assignable knobs with switches).

You have six Banks of channels and two layers in each Bank and you can see Layer 1 and Layer 2 channels contributions on a strip — same functionality as the mc266 but it doesn't have controls for the second layer. The modularity means that you can put fader blocks for the second layer directly above the fader blocks at the armrest for a stacked up almost super in-line arrangement.

With two operators on a desk becoming increasingly common for large productions, Lawo has addressed the issue of how you share in-depth control on a console that majors on a Centralised control section. The mc²90 offers the second operator local centralised control by using an 8-wide block of Free Controls. You activate this on a button and it allows you to view and tweak the fat channel components using dedicated keys for the different sections that conform to the colour-coding in the Centralised section. It really is rather clever and gives control of absolutely every single parameter on a selected channel in a logical and consistent manner. The Core has two PFL and two AFL buses so the second operator will also be able to monitor his progress on headphones.

This is a best of both worlds type of approach that's not restricted to two-man operation because you could use it for convenience when you're working away from the Centralised section. I like operation methods that give me a variety of different ways to achieve the same result; I don't like operating systems that force me to do something in the one correct way. You can isolate a bay quickly, display the relevant group of parameters, tweak them, switch back and continue as before. It is the sort of 'higher' distributed control that digital should be offering us and by now we really should all be ready for it.

The desk is very rich in knobs and switches and nicely legended up but to give stronger operational clues particular sections are demarcated stylistically and through colour coding. So you always know what EQ looks like and the same goes for pan and image controls, for example. It means that on the mc²90 you end up grabbing controls because of what they look like rather than what their legending and displays say they are. It might sound a little simplistic but it does lodge in your brain and after extended use it becomes ingrained as part of the ergonomics. EQ is always blue, auxes are always green and it's carried through consistently across the board and in the displays.

With a nod towards the useful coloured-coded fader caps on analogue desks — something that can't be achieved with the silver or black of touch-sensing faders — channel fader strips have illuminated sections at their base that can be coloured to reflect their status be it channel, group, or VCA master, for example. That's invaluable on a busy big desk with stacks of layers and you can even customise the colours yourself.

General Purpose Channels offer all the worksurface controls without the DSP so you can control a workstation via MIDI with elaborate mapping of parameter to control. These are treated in the same way as audio channels within the snapshot and dynamic automation. You could also use them to control camera mic pres remotely, which is handy if you return to a venue regularly.

Faders can be programmed for response in that you can create a soft 'notch' at a specified point in their travel making it easier for you to find your reference level by feel alone. You can also program the faders resistance to movement so they are more resistive when moving away from the null and less resistive when moving towards it in elastic band fashion. It's brilliant and you can do the same for the joystick.

You can also audition EQ, dynamics or stereo image control (called Listen Sensing) locally without committing it to the output — it's an mc²82 feature. It means that while the original signal is passing to the output you can solo the EQ, for example, get it right and then activate it to the output. For fast turnaround music shows with little or no soundcheck and rehearsal time you won't be restricted to subtle changes on-air for fear of being heard, you'll be able to do the job properly despite the circumstances.

Automation is the same as on the mc²66 but the Centralised section gains status displays for automation in each module. You have Read and Write buttons for faders and Mutes and all the modules and you can program the Free Control switches to do the same if you want. The Free Control displays are OLEDs and as such look great while the 'meter bridge' screens are also worthy of mention with near 180-degree visibility.

Configuration employs Lawo's I-O identifier process which carries though the desk and the routing — it will handle stereo but not 5.1 channels.

There's a funky trackball and the coolest of keyboards that is built into the armrest — you revolve the armrest to reveal it and then roll it back when done.

Monitoring selection functions have been placed on a touchscreen — the desk works to all surround formats — and there's the expected flexible selection of mix minus and talk-to functions.

A main advancement is that of redundancy. Lawo has redundancy in the signal path from the mic preamp to the programme output using a star network topology with mirroring of all components. It's now added a redundant control system in the worksurface using a similar star architecture. In the mc²66 a PC controls the whole surface and if that fails so does the worksurface. On the mc²66 worksurface all modules are connected to the control system via USB but for the mc²90 Lawo has changed the control system to module interconnect to Ethernet. Each module has a small PC (these run no operating system and boot their software from the controlling system) with two Ethernet plugs and both of these go to a switch and then to a control system. Both control systems therefore always have a connection to each module and they themselves are synchronised through another Ethernet connection. In case of failure, one takes over from the other.

On a desk of this sophistication a balance has to be struck between what the console can display and what you need to see. I believe there is a limit to the amount of information an operator can handle and anything above this becomes a distraction. There's also what I call the TV effect — a desk that uses a screen as an important part of the information delivery method can quickly negate any ergonomic considerations on the worksurface as the operator cannot help but become screen-dependant. And desk operation is about using your ears not your eyes.

I like the fact that the mc²90 can give you the metering and leave you free to concentrate on the worksurface as your primary feedback method because that's where the operational value lies — not in some cheap screen.

I also think it is wonderful that a manufacturer can still build a desk like this and that there are customers who will buy it. If I've learnt anything from my short time with the mc²90 it is that digital desk worksurfaces are moving on from an operational standpoint despite the fact that many new iterations of popular desks tend to play a little on the safe side. In this respect the mc²90 is different and what I would describe as an advanced operational surface.

I'm interested to understand why this is and I believe it is because if you trace Lawo's worksurface development back to mc²80 and mc²82, they really didn't come at the task from the same direction as most other manufacturers did. Those two boards were complex for their time and still stand out as being a little peculiar now. The mc²90 draws on that originality but moves it on via the mc²66 to make control far more accessible and more 'traditional' in digital desk terms. This combination adds up to something that is still refreshingly different but also incredibly powerful. The question is, are you up to it? I'm sure plenty will be. ■

| **PROS** | Modularity; redundancy; ergonomic layout and logical presentation; decentralised centralised operation; even more accessible than the mc²66. |
| **CONS** | It's big; can't handle 5.1 channels; did I say it's big? |

Contact

LAWO, GERMANY:
Website: www.lawo.de