Digico SD11B

It's a compact and highly featured console at a highly attractive price with broadcast features a plenty. ROB JAMES is impressed.

Although console manufacturer Digico has only existed for ten years it was built on the foundations laid by Soundtracs and in particular by design guru John Stadius. The new company swiftly established an enviable reputation for rock-solid live consoles and has been instrumental in the wider acceptance of digital desks for live applications. More recently, Digico has recognised the synergy between live console virtues and the requirements of broadcast. The SD7B and SD10B spearheaded the push and Digico has been listening carefully to sound supervisors' comments. The result is a set of broadcast friendly features.

The latest console, Project 'Box Fish' AKA the SD11, fulfils the need for a small unit with the same characteristics as its larger siblings. Remove the end cheeks and armrest and the console will drop into a 19-inch rack. Available in three versions, at the top of the hierarchy in both completeness and price the SD11B is the broadcast version. (UK£8,560 + VAT).

When designing a digital audio mixing console a number of fundamental decisions affect the outcome and the selling price. Processing may employ dedicated DSP chips, programmable logic, general purpose CPUs or a combination. Similarly, control of the processing can be undertaken using dedicated components or a computer, e.g. a Windows or Linux PC. Regardless of the underlying technology the user interface may resemble a traditional analogue surface, a WIMP interface, with or without touchscreens, or a combination of hardware controls, faders, knobs and buttons with screens. Even now, after decades of

Moore's law, DSP capacity is still a consideration and there are often trade-offs to be made. Architectures vary from pretty much fixed, as in an analogue console, to what is in effect a constructor set to design your own console to suit the tasks at hand with processing where you need it most; the SD11B lies somewhere in the middle of this continuum. The Digico approach provides a massive amount of processing with an easy to understand structure and a high degree of flexibility. Sound quality is excellent and floating point maths at up to 40 bits translates to plenty of internal headroom; not always the case with digital consoles. The processing engine and user interface is controlled by an embedded Windows PC. This confers a number of benefits. Offline configuration is possible on a laptop and a laptop can be used to control the entire console. Due to the way in which the internal PC is implemented it is to all intents and purposes immune to viruses and malware, whether introduced accidentally or on purpose. For install applications security options can be set that limit operator access to various parameters.

The user interface is built around a 15-inch touchscreen using conventional motorised faders, shaft encoders, three-line colour LCD displays and three types of button — round ones without indicators, round with built-in annular illumination and oblong illuminated. Digico notes that it may be easier to use a PDA stylus than your finger on the touchscreen, I agree.

The 12-fader strips each have 100mm touch-sensitive motorised faders with an 8-segment bargraph

meter alongside, Mute and Channel Select buttons and an LCD display. The 12 faders control four horizontal banks two layers deep, 96 logical strips in total. Surface layout is resolutely right-handed with the assignable channel controls to the right of the screen. Below these are the Undo/Redo and left/right channels select buttons and Touch Turn Encoder and button which, as the name implies, can control any rotary on the screen. To its right is the master volume rotary and just below Snapshot Previous and Next. Alongside the fader bank are Master Screen Assign and Layer Select with the four Bank Select buttons and LCD displays below. To the left of the faders, at the top of their travel, is the headphone socket. Above this, the LCD function select button and a block of four buttons for Screen Scroll up & down, Option All and 2nd Function. Alongside the left of the screen, seven Quick Select buttons switch the Channel Strip Assignable Rotaries between the Gain, LP, HP, Comp, Gate, Aux and Pan blocks. The Screen Scroll buttons move between controls in a block. At top-left lies the headphone mute button and gain, Talkback switch and gain, the Solo bus controls, eight macro buttons, a USB port and screen brightness/light brightness pots.

Around the back the panel is pretty packed. On the left is a user-replaceable PSU. Sixteen XLRs deal with the analogue mic/line inputs (with mic pres); eight more are for the line outputs and two for stereo AES I-O. Coaxial MADI and Word clock I-O are on BNCs and there is a special locking Cat5e connector for optional additional I-O in the shape of a Digico D-Rack (32 analogue ins and 8 analogue outs.) MIDI in out and thru are on DINs and completing the picture there is an RJ45 network socket, two USB sockets, a D-sub 15-pin VGA connector for an overview screen and PS2 mini-DINs for keyboard and mouse. Under the overhanging top there is a connector for a light.

Channels are colour coded on the screen. Light-blue for inputs, red for groups, purple for Auxes and blue-green for matrix channels.

To Assign a channel to the on screen controls and associated knobs and buttons, touch anywhere in the channel on the screen (except the Aux Send area). Fader touch select is also active as a default but if you find this annoying because you inadvertently brush faders and end up adjusting the wrong channel it can be disabled. The channel assigned currently to the hardware controls is coloured gold. The channel strips displayed on the touchscreen are pretty comprehensive but one of the joys of employing a computer driven screen is that much greater detail and seldom used controls can be accessed in pop-ups by simply touching the relevant block. For example, touching the EQ section pops-up a graphic display of the EQ curve. I would have liked to be able to control the EQ by touching and moving nodes on the graph.

Mix-minus feeds, often vital in broadcast, are easily created at the channel direct out and talkback can be directed to this output. Backstop PFL, beloved of many a sound supervisor, is achieved electronically by changing the active range of the fader a little and using the fader motor to hold position a millimetre or two from the end stop when the fader is closed. Pulling back on the fader activates PFL, releasing it cancels. Although ingenious, the feel is not quite as positive as the mechanically sprung over-press found on P&G faders and there is a delay in fader movement on release. Digico also provides a variation on the theme, Auto Fader PFL. In this mode when the fader is below a defined threshold PFL is activated and when it is above a defined threshold it is deactivated.

Meter scale and ballistics can be chosen from eight presets or set manually. I would like to have seen a loudness meter option.

Multichannel inputs and buses can be viewed folded down into a single control strip or unfolded across the surface so that each leg is visible and adjustable independently. For recording or splits there is an option to copy a D-Rack's inputs to the MADI output. The recorder outputs can be returned via MADI and monitored on the console with 'checking' between the live sources and the recorder outputs. Two SD11s can be used 'mirrored' via a simple Cat5 crossover cable and mirroring offers double the number of faders and complete processing redundancy.

When it comes to the naming of parts, each console manufacturer has its own lexicon. Digico describes its DSP design as Stealth Digital Processing and this processing engine employs a large Super FPGA (Field Programmable Gate Array) and Analog Devices Tiger SHARC dedicated DSP chips for effects. A console configuration together with snapshots, macros, etc. is called a Session.

Each input channel and output bus is described as 'Flexi' which means mono or stereo at will. Thus the 32 input channels are effectively 64 when all are in stereo mode and the 12 buses are effectively 24 with a master bus and two stereo Solo buses in addition. The Master bus can be configured as LR, LCR, LCRS or 5.1.

Every input channel has full processing and I do mean full. There are 24dB/octave HP and LP filters, four-band parametric EQ with two different band curve characteristics, compressor and gate, insert point after the filters or after the compressor/gate and access to all buses. The first dynamics module can be used as a de-esser or a single or multiband compressor. The second dynamics module can be switched to compressor with side-chain, gate or ducker. Delays can be specified in terms of seconds, feet, metres or beats-per-minute.

Output channels are similarly blessed and also include groups with bus to bus routing. Eight Control Groups are available, configurable for VCA type, moving fader and Mute Group. Six internal effects processors provide everything many people will ever need with high quality reverbs and a decent selection of other effects such as choruses, delays and pitch-shift. Six dynamic equalisers are the icing on the cake. As you might expect from a manufacturer best known for live consoles there are a number of features that reflect this, for example the 12 X 32-band +/-12dB graphic equalisers and (if you must) Digitube valve emulation.

Unlimited snapshots can be saved and recalled. The parameters which will be reset on recall are user-defined per channel function, per snapshot or globally. Macros provide a powerful toolkit for initiating a sequence of actions at the press of a single Macro button, a Function key on an external keyboard or a GPI closure. Commands can be captured from the console surface or entered from a list.

Waves Sound Grid is available as an option and the console provides control of plug-in parameters and snapshot automation from the console surface.

Everything on this board feels rugged and well capable of surviving life in an OB, a fly-pack or as part of a touring rig. The example I had for evaluation arrived in a hefty flightcase with a neat angle adjuster and LED lighting strips powered from the console light output to illuminate the surface when necessary.

As an inveterate reader of user manuals I probably shouldn't be saying this but never having seen a Digico console like this in the metal before I was able to get signals into and out of the SD11 and manipulate them on the way without consulting the documentation at all. This is in no small part thanks to a default set-up that makes life easy on first acquaintance. However, this disguises the power and flexibility on offer when you dig deeper. As with any console it takes a while for things to fall naturally to hand but in this case the process is rapid. The SD11B soon feels like a broadcast console should, which makes it a very serious and attractive proposition at an unprecedented price point. Other broadcast console manufacturers should be nervous. ■

PROS Offers proper broadcast features at an unprecedented price; built like a tank; feels 'right'.

CONS Back stop PFL could be better; no built-in Loudness meter; no graphical touch EQ adjustment.

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