SSL C10 HD

Solid State Logic steers its broadcast console range into inexperienced operator territory with a 'baby' C100 of sorts. ROB JAMES charts its ins and outs.

Whether we like it or not, broadcast operating practices have changed. It is no longer a given that 'proper' sound supervisors will mix shows. Against this background it behoves console manufacturers to adapt and provide tools that enable good — or, at the very least, adequate — sound mixes to be produced by unskilled operators, and, in some cases, no operator at all.

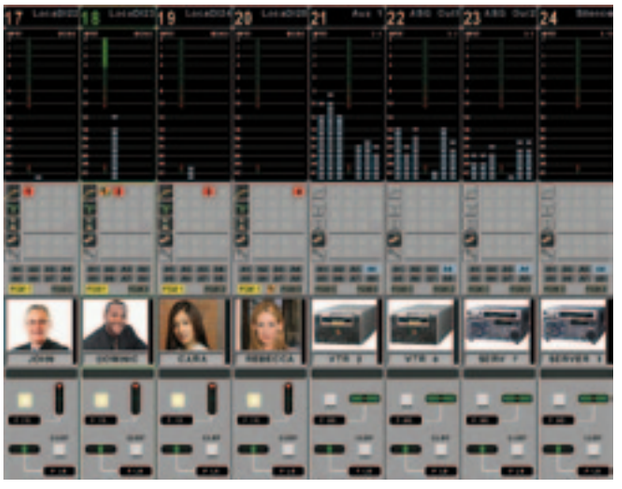
SSL has a number of well regarded broadcast consoles — not least the C100. However, that is a craft console, and, while offering the skilled operator a plethora of possibilities, it is overkill in many situations. Enter, then, the C10 HD. While this can be thought of as a baby C100, it has some highly desirable features of its own, and a trick or two up its sleeve.

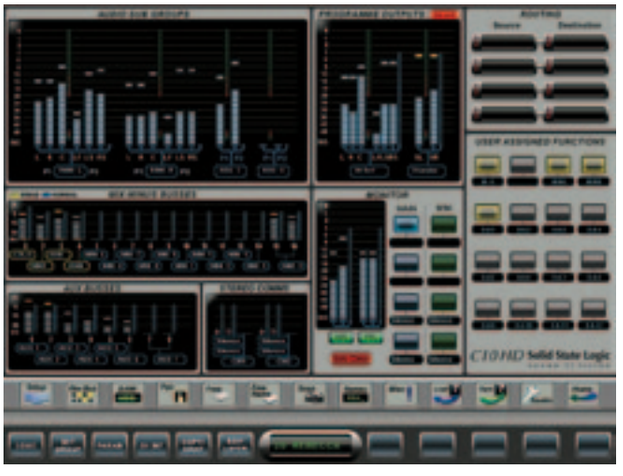
C10 has 24 or 32 fader strips, each of which can be attached to mono, stereo, or 5.1 channels. Fader pitch is 33mm, as is the latest C100 surface, as opposed to the standard 40mm.

Although the C100 family resemblances are obvious — control surface and under the hood — the emphasis is different. Mix engine and philosophy are congruent, but the C10 is aimed at a different target audience. Where the C100 is intended for experienced sound professionals working on complex sports and light entertainment shows, the C10 can be used by inexperienced operators. It also interfaces with news automation systems so that faders, monitoring, and more can be remote controlled via the vision switcher — in the case of the Ross Overdrive — or directly.

Minimum price of admission to the C10 HD world is around GBP £50k. This is no poverty-specified package either, with a sensible complement of analogue and digital I-O included.

Despite the assignable Master Channel, this is very much a strip-based console with fader, 10 routing buttons, two modifiers, plus two assignable 'Quik-Knobs' and buttons as the primary controls. This makes it simple and logical for an operator to switch on a channel, then route it to, say, Program 1, and to set up mix-minuses (N-1s). Big sister C100 uses assignable routing; the C10 approach is more accessible.





Greater complexity, with up to 10 user-definable layers and operator control of EQ and dynamics, is present if the application demands it, but can be hidden easily from less knowledgeable users.

Centre section philosophy provides metering for output signals and overlays other information as required. Compared with the C100, screen layouts have been de-cluttered, although I miss the EQ graphs. Mode switches load projects with no necessity to go into menus. Below these, 16 user-definable keys can be run as 16 discrete keys or, with banking turned on, provide many more options. The Touchscreen has a further 16 softkeys, used as buttons or simply as indicators — to show that the power supplies are healthy, for example.

Most of the encoders have migrated to the Master Channel, leaving just the two 'Quik-Knobs' in each strip. Functions are programmable — aux sends and pan, for instance. Assignments can vary by channel type, so when calling up a mic channel preset, for example, one encoder might well be used for remote analogue mic gain.

Regardless of application, the C10 needs to be configured by somebody who knows what they are doing. Projects are the top level of organisation and can be created to serve the needs of types of show and specific shows. Then there are presets. For a regular talk show you would name presets after the presenters: the operator reads the script and sees that today it's Fred, Janet and Bert, so simply recalls their presets with 'Eyeconix' pictures and all the predetermined EQ and dynamics settings, etc. For 'craft' users, XY routers with all sources and destinations are available for patching along with reverse interrogation — in other words, which sources are feeding a given destination.

Access levels are password protected. Administrators have access to all menus, the highly sophisticated routing set-up, and everything on the surface; Standard is for a reasonably skilled engineer — blocking access to the set-up pages, but allowing full use of all the controls, and presets, etc; Preset locks out most menus and the processing controls; and Locked is for when the console is being run by a news automation system with the entire surface locked out.

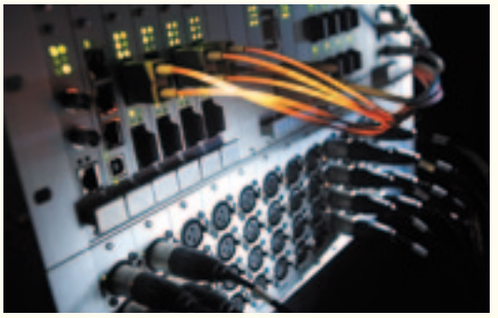
It is somewhat unusual to find a 'Help' button on a hardware console, but the C10 HD has one near the bottom of the Touchscreen. This is not an indication of complexity, rather an exemplar of C10 user friendliness. When prodded, the button goes green and a red message appears warning that Help is enabled. Pressing or turning a control pops up a help screen with advice pertinent to the specific control.

Sixteen audio sub-group buses are presented as either eight stereo or two 5.1 plus two stereo. The two programme buses can each be 5.1 or stereo. There are eight conventional mono aux buses which can be paired for stereo with a lot of broadcast options. For example, you can choose to have an independent pan or follow the stereo; prefade sends can be set to mute when the fader is opened or vice-versa; and you can globally assign pre/post to a bus, then override it locally.

Among the many broadcast-oriented functions there is auto-muting of specified groups or 'conferences'. When a fader is opened, the fader starts with positive indicators and the mix-minus buses can be used as extra auxes, if required.

Backend

The console uses the Blackrock DSP engine series, which is now fitted as standard on the C100. This is a condensed version of the original Centauri DSP core into a single PCIe card, plugged via an extension cable into an ITX form factor motherboard. Powered by 16 of the latest generation SHARC chips with two FPGAs handling signal routing and an embedded Power PC, this is, in effect, a console on a card. One or two mezzanine cards, each of which contains four MADI ports deal with I-O. The PCIe interface is used purely to power the card. The control surface modules are connected to the processing by Ethernet, and the interface card also contains an embedded Power PC chip.



An SSL Linux distribution server handles the dual 2.5 RAID 1 disk drives, which contain folders with desk set-ups, presets, and an area for housekeeping, such as software updates. Settings can be saved to a memory stick inserted into any computer on the network, or even to an iPhone.

Processor(s) and power supplies are built into the console making it completely self contained. There are no fans; convection cooling is employed throughout.

SSL offers a range of I-O options with Alpha-Link units as the entry level. A new remote-controlled I-O — the Alpha-Link Live — with dual redundant power supplies in basic form, offers 24 analogue I-Os and 12 AES pairs with sample rate conversion on the first four. Up to three eight-way mic pre units (the Alpha-Link 8RMP) can be connected to a single Alpha-Link Live. Control data is carried over MADI. Alternatively, there is a new compact modular rack chassis (the B-RIO) that supports redundant systems and can take five cards — for example, 12-channel remote-controlled mic pres, 32 AES output pairs, or 24 analogue I-Os. A fibre changeover box offers full redundancy. The MORSE-configurable MADI router system can be specified for resource sharing between consoles in a facility — also with full redundancy, if required, as well as a range of SDI embedders and de-embedders, and more. About the only missing element is Dolby E, although it is perfectly possible to employ a third-party unit.

EQ is four-band, and that includes any bands you set to act as filters. I think this can be an advantage on a broadcast console. Assuming you use one band as a high-pass filter, you can arrange the others in the optimum configuration for fast working — low shelf, peaking mid, and high shelf.

Dynamics are compressor-limiter only. Parameter adjustment is kept simple, with just four knobs and optional feed-forward for brick-wall limiting. The Extras button accesses further goodies, such as auto-make up gain and side-chain keying for voiceover buses, etc. Processing order can be arranged in any way you wish in both channels and groups so dynamics postfader is possible — hurrah!

A stereo to 5.1 (or 4.1 to keep the centre clean) upmix algorithm is built in, which SSL claims is specifically tailored for upmixing ambiences. This is available on any stereo channel feeding a 5.1 bus.

Mix-minus buses are presented initially as conventional routing buses, so you can route a strip to a mix-minus bus, then add the strips you want to contribute. The alternative subtractive mode is engaged with push and hold; now every strip except the initiating channel gets routed to the mix-minus bus, and the routing buttons on other strips become deselects.

Auto Mix is a really useful productivity aid for unscripted discussions, topical shows, and multi-mic light entertainment. It allows the operator to concentrate on the balance without having to dance on the faders performing continuous fades between contributors. It is easy to set up. There is no need to set a threshold, but there is a 'weighting' control per strip so that the source dominance can be adjusted. In effect, Auto Mix maintains the equivalent gain of a single microphone while minimising crosstalk and extraneous background. You just set the mic gains individually, tweak the Weight, and that's it. Attack and Release times are set via a menu, but will seldom need to be touched. I'm sure some purists will protest, but, from what I heard, this implementation is so good that not to use it would be as Luddite as mixing without a limiter.

Ironically, as digital equipment becomes ever more reliable, system specifiers are more than ever concerned about fall over precautions. For years people have been promoting the virtues of hot-plug modules and fast boot times as insurance against on-air failure. With the option of a fully-mirrored redundant system SSL avoids all this, and switching to the 'hot spare' Blackrock DSP engine is near instantaneous. Provided all I-O goes via a MORSE (MOdular Resource Sharing Engine) MADI router or a B-RIO modular I-O, all the sources are duplicated between the master and slave systems, and switch-over is seamless. Although the control surface is not fully redundant, the links to it use an Ethernet spanning tree topology and thus confer a degree of redundancy; for instance, if you spill coffee in a fader bay, it is possible to reconfigure the surface rapidly by disabling the out of service bay and sliding (bank switching) the remaining bays to cover the missing bay. The mouse becomes the back-up in the event of touch-screen failure.

The C10 is a console for its time with simple and elegant operation, some exceptionally clever and useful features, and heavy-duty redundancy options. It is also a lot deeper than I can go into here. In 24-fader guise it is particularly compact and will be attractive to people assembling 'fly-packs' and small OB trucks, all at a price that won't frighten the horses. The C10 HD should be on every broadcaster's shortlist. ■

PROS Superbly executed compact broadcast console; automix that actually works and will beat all but the most competent operator; 5.1 upmix at the touch of a button.

CONS Some display symbols are a bit cryptic; no EQ graphics on strip displays; everyone will have their own detailed wish list.

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