



## Solid State Logic Duality

First there was the AWS 900, which combines DAW control with analogue processing bulk, now comes Duality which adds more bulk and some big console sensibility. **ROB JAMES** looks at a desk with at least two different sides to it.

**DUALITY — THE NAME** says it all, the yin and yang of the audio world — digital and analogue. All but the most die-hard exponents of the recording arts accept that the DAW is now an indispensable feature of the production landscape. At the same time, even the workstation's strongest advocates are coming around to the idea that analogue still has a lot to offer. A high-quality analogue front end has long been recognised as essential and there is a growing body of belief that analogue summing is preferable to digital. Recognising this, SSL says it is exploring what the next evolutionary stage will be. In its own words: 'The concept was to produce something not quite as large or expensive as a 9000XL yet bigger than an AWS 900+. It's all about choices, different ways of working. As always in audio technology there are ten different ways of achieving the same result. Duality kind of addresses all of those things at the same time. It's grown out of the AWS 900 but it's an awful lot more than a big brother. It has the SuperAnalogue mic pre technology from the 9000 married to the workstation control of the AWS. It's a beast of an analogue front end for a workstation.'

Duality is more than skin deep. SSL has dispensed with the traditional in-line architecture but has built two inputs into each channel strip. This allows the workstation to be inserted at some point along the line into an analogue channel path. The channel can be split with the resources divided between the inputs. In a normal tracking scenario the workstation will

take its output just after the mic preamp, returning the signal for monitoring through the rest of the strip. Cue feeds can be sourced from the same point as the workstation feed to provide zero-latency monitoring. In this scenario the control room monitors will be subject to the workstation latency but this is of no practical consequence. Each strip actually has two mic preamps. The first is the ultra clinical SuperAnalogue, the second is VHD Variable Harmonic Drive from the E-Signature strip. VHD adds second or third order harmonic distortion in controlled amounts. This feature is born out of customer feedback on earlier consoles, which were considered to be just too clean for many modern production styles. People have been using plug-ins to achieve a similar effect but these tend to be rather one-dimensional in terms of sound. With normal drive the effect is just to warm up the signal a bit. Thanks to a channel trim on the output of this stage it is possible to heavily overdrive the VHD input and then it can be as dirty as you like. Here we have the essence of Duality's split personality.

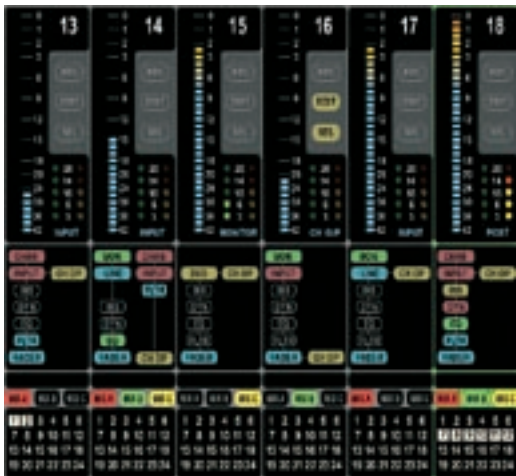
Line inputs can be returned to the mic preamp for mixing. The gate/expander has side-chain listen, a fast attack setting and a hold mode. Adjacent channel dynamics can be linked, but there is a restriction. If, say, you want two stereo pairs linked separately you have to leave a strip unlinked between them. Otherwise you will have a link group of four strips.

Unlike the AWS 900 there are dual filters, low pass and high pass. EQ characteristics default to E-Series with G-Series a button press away. The insert point

is a moveable feast and the two stereo cue sends can take the post fader signal or the other unused input. This can also be used as another input into the mix bus, providing extra inputs at mixdown and there are four mono aux effect sends. Every strip has a surround panner with LFE feed, Left/Right pan, Front/Rear pan and front divergence allowing the centre speaker contribution to be varied. A new variant of SuperCue monitoring automatically mutes DAW returns on record enabled tracks when you punch-in.

Routing bears more than a passing resemblance to digital console practice. Most of the channel control is done from the centre section routing tile. This makes it possible to set multiple channels at the same time. There are 24 track buses with masters and the bus outputs are available on the channel inputs providing sub-grouping capabilities alongside the usual VCA and servo control groups, all without any physical re-patching.

Track buses are partitioned in groups of six providing four reassign 5.1 stems or four triple stereo. The main 5.1 compressor has a new 'average' mode. This makes sense since the usual link arrangement where the loudest signal sets the processing for all linked channels is inappropriate in many circumstances, e.g. when there is a lot of LFE activity. The three main mix buses (A, B and C) can be three stereos or one 5.1. Downmixing to stereo is also provided with adjustable parameters. Four stereo return channels accept line level signals for routing onto the main mix and foldback buses.



Multiple TFT screens offer a lot more information than a conventional meterbridge with automation fader position, analogue level and workstation level. Processing assignment in each of the two paths is also shown. When it comes to resetting the console, each screen can be paged through the settings for each of its six associated channel strips. Therefore multi-operator Total Recall becomes possible, speeding up the process to the point where it is almost painless. Total Recall on steroids.

Talkback, listen, slate and red-light control are included as expected. All audio interfacing appears on 25-pin Sub-D connectors on the rear of the console. Thanks to comprehensive logical patching the need for external manual patching is considerably diminished when compared with a conventional analogue console. The external patchbay can be significantly reduced with consequent cost and space savings. To extend the console in the same style an optional Producer Table will be available along with a patchbay module.

The built-in automation offers fader and cut and is always slave to an external clock source. SSL has experimented with full dynamic automation for analogue consoles but has concluded that it is just too expensive and cumbersome to implement properly.

Automation can also be written to the workstation under control. A few unassigned keys in the centre section allow for future software developments.

While the console obviously works quite happily in stereo, 5.1 is certainly not an afterthought. Duality is an up-front acknowledgement that 5.1 is here to stay as the de facto surround format driven by the requirements of HDTV. 5.1 music for its own sake is still regrettably rare.

The marriage between analogue console and DAW control is the most obvious manifestation of split personality. DAW control is basically the same as the AWS 900, which means multiple HUI for Pro Tools and Mackie Control for workstations that can use this protocol. Pro Tools has a limit of 32 faders for HUI control, something not shared by most of the other DAWs, such as Nuendo and Sonar, which can currently use up to 48 Duality faders. Every eight faders require a MIDI DIN socket. There are eight of these, one is used for MTC and one is for 'future expansion'.

The fader and rotary above it control console and workstation levels respectively. These controls can be flipped at a button press to put the workstation level control on the faders, in effect 'layering' the console.

Of the two basic approaches to DAW control, HUI/Mackie Control or proprietary protocols, the former is more common. SSL's choice of these protocols means Duality will work with all major workstations, including Pyramix, Pro Tools, Nuendo,

Logic Audio, and many others. Ultimately though, control performance will depend on the DAW. The same applies to DAW automation. The analogue fader and mute benefit from the on-board SSL automation while the workstation automation is dependent on the DAW under control.

A large, four-button trackball with concentric shuttle wheel connected to the workstation is mounted in the armrest. The rest of the DAW controls are almost identical to the AWS-900. This means a lot of dedicated buttons (Duality has an extra row), a 5-inch TFT with soft keys and rotary encoders, transport control keys plus jog/shuttle.

Plug-ins can be controlled from the screen, encoders and softkeys in the centre section or, in Mackie Control mode, you can have up to 48 faders controlling a plug-in 'horizontal' style, ideal for complex instruments. It is easy to become obsessed with being able to control every last workstation function from the console but this rather misses the point. Providing there is adequate control when tracking and mixing it will often be quicker and easier to use mouse and keyboard for complex editing, especially for the generations weaned on computers.

Some of the less visible features also warrant attention. There is a lot of surface mount componentry in Duality. This brings potential reliability benefits and also considerably reduced power consumption. Each bay of 24 strips requires one IEC mains cable and that's it. Current draw is remarkably low at around 600W for a 48-channel board resulting in air conditioning savings and at least one prospective client reckons he will save one monthly lease payment a year on energy savings alone. Since all the processing and power supplies are contained in the surface there is no longer any need to waste space on a separate machine room.

Although Duality's internal intelligence uses SSL's proprietary processors rather than a disguised PC, there is an Ethernet port to communicate with an external computer. The new Studio Browser software is not only for housekeeping, along with the built-in CompactFlash socket, but in the future will also offer other possibilities. One SSL innovation is dubbed 'Eyeconics'. This allows a small image to be placed in the screen above each channel strip making identification of sources intuitive and of course there is no language barrier. SSL provides a library of icons and, via the Studio Browser, users can add their own pictures (*You can imagine where this will lead. Ed*).

On the face of it Duality could be seen simply as the AWS 900's bigger brother but when you see it in the metal there is a lot more to it. This console has an instant air of rightness about it, in the 'big gun' console sense. There is real gravitas that the

AWS 900 has never quite achieved. Not only will upper-end project studio owners like it but it has client appeal as well. The console is available in 48-, 72- or 96-channel configurations with UK£130,000 as the entry point. Extra 24-channel bays can be added to 48 or 72 frames as a retrofit.

The face of music recording is changing once again. SSL is convinced there has been a resurgence in the middle level studio market, driven at least in part by the current popularity of bands playing 'real' instruments. So what is Duality? An SSL for the 'Noughties' perhaps as at the time of writing three 48s and a 96 have already been sold. It offers a number of distinct sound signatures and, for a lot of music production, this is exactly what is required. Continuing the split personality theme, the dual architecture with split signal path allows you to route the signal through the channel strip in several ways. It gives you the best of both worlds, you can track using mix sound and it's all easy to configure. You can do these things on a traditional console, but with lots of patching and messing about. Unlike the AWS 900 every channel has dual dynamics and dual filters so this is a true large format analogue console in the SSL tradition.

For me, variable harmonic drive is certainly one of the stars of the show. In the short time I spent with the console this feature transformed some very ordinary drum sounds into something far more interesting and an equally ordinary bass guitar into something reminiscent of late 1960s Colosseum.

Where the AWS 900 is more obviously an adjunct to a DAW, Duality is a distillation of SSL's analogue wisdom with digital control expertise. The internal patching and multiple-operator Total Recall make this a very quick and intuitive console to operate. The DAW facilities are a recognition of the facts of modern recording life. They are here to stay, they're not going away, so we may as well get used to it. Duality gives us an interesting glimpse of where the future may lie. ■

**PROS**

Mid-range analogue lives!; at last, some analogue console innovation; fast and productive; interesting sounds at a touch.

**CONS**

Workstation control, especially with Pro Tools, is out of scale with the console i.e. limited to 32/48 strips; more 5.1 compressors would have been useful.

**Contact**

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