

# InnovaSon Sensory

InnovaSon has given live sound mixing its own innovative Gallic interpretation. Christopher Holder asks that you pardon his French.

The sound reinforcement community are a right to be suspicious of digital mixers. In the recording studio a software crash might be a minor annoyance, it might lose you a few hours of work, it may even be very embarrassing, but chances are you won't have 50,000 people queuing up for a refund!

Reliability in a mixer is obviously paramount. But if that chasm of dependability could be crossed, the digital pay-offs are considerable – extra functionality, extra versatility, less weight, no more multicores, on-board

accesses its inputs on different levels), while functionality remains very similar between models.

The system incorporates a mixing control surface and a mix rack (with I/Os) which is connected to the stage I/O rack via two 75Ω coaxial cables (one sending, one receiving). All the D/A and A/D, signal processing, etc. occurs within DSPs in the I/O racks. The control surface brings together banks of faders (each complete with a digital 'scribble' strip, cue, mute and metering), a single 'channel strip' of controls (including gain, 48v phantom power, polarity, HPF, EQ, gate and compressor) and a display unit (which offers a well-conceived graphic representation of what's occurring). No audio passes through the mixing control surface, apart from the

talkback section positioned to the

far right where a mic pre allows you to berate those on stage.

The Stage Box and Mix Box

I/O racks utilise a modular approach to

putting together the most suitable

combination of mic/line and/or digital I/O,

in banks of eight. The modular approach makes it

easy to get the right configuration of analogue and digital inputs on stage (with digital active splitting if need be) to deal with the performance. Likewise it's easy enough to

place additional I/O where you need it – eg. analogue I/O in the mix position to get in and out of your favourite outboard or to drive a delay speaker system. Bear in mind this is all without a multicore in sight! I imagine

InnovaSon has gone for coaxial over fibreoptic in the belief that coax will handle rougher treatment. Incidentally, you can run a maximum of 450 metres of coaxial cable between the consoles Mix Rack and the stage I/O racks, which all neatly rolls onto a garden-hose style storage device.

## Control Control Control

Back to the control surface. Depending on the frame size, you have at your disposal 32, 48 or 96 digital input channels (which can be further expanded) all with full processing, including: four-band fully sweepable parametric EQ, a 12-frequency selectable HPF, compressor/expander, gate (both can run simultaneously), as well as L/C/R panning, and routing. Again,

dynamics and effects... the list goes on.

InnovaSon (pronounced 'in-over-

sun') is more than aware of all this. They're a French company that has been in live pro manufacturing since 1993, and with the likes of the BBC and Radio-France on its client list they must be doing something right.

## Sensory Perception

The Sensory range of digital mixing consoles is InnovaSon's latest venture. The Sensory range comprises three mixing consoles: the Compact Live (32 input faders, left/right/centre faders, and 12 Group/Aux faders); the Grand Live (48 input faders, L/R/C faders and 20 group/aux faders); and the Large Scale Live (96 input faders, 48 group/aux faders [on two levels], L/R/C faders and 24 mix matrix outputs). In essence, the three models represent two different mixer frame sizes (the Large Scale shares the same frame size, as the Grand Live but



depending on the frame size you can then have 12, 20 or 48 group/aux buses, switchable pre/post per channel, and L/C/R routing. To round off the faders, there's three master buses (left/right/mono or centre).

On the output side, you have up to 24 matrix outputs. Being in the digital realm, routing is extremely flexible. You can freely assign any preamp to any input channel, while every mix bus can be routed to any physical output of your audio racks. Furthermore, each of the 24 matrix outputs can access: eight-band fully-parametric EQ, gate, compressor/expander, 1.3s delay (most handy) and digital gain control after conversion. You'll notice that on the output side of things there aren't any 31-band graphic EQ algorithms. InnovaSon has instead opted for, the aforementioned, eight-band fully parametric EQ. Each of the eight filters cover the full bandwidth with  $\pm 15\text{dB}$  of gain range. The advantage of going parametric is the ability to go in nice and narrow (up to an eighth of an octave) and notch out troublesome frequencies. Be that as it may, jettisoning the graphics will take some re-thinking for many people (but, of course, there's no reason why outboard graphics can't still be used, if need be).

As you'd expect, being digital, the Sensory is fully automatable, offering snapshot and moving fader automation. The automation takes in all the console's settings, including preamp parameters, matrix assignments and processing. All the Sensory's knobs and faders have a nice feel to them, smooth with just enough resistance, while, additionally, the faders have a rather good 'detent', where the fader's resistance increases slightly to mark where its preset position was – very neat.

## Sensory Experience

To get some more insight into working with the Sensory, myself and AT contributor, Trevor Cronin, tracked down Melbourne-based engineer, Glenn Helmot. Glenn's had more opportunity than most in this country to put the Sensory through its paces. Trev and I met Glenn at the Myer Music Bowl the day before *Carols by Candlelight*. The show was to be a good test for the new console: lots of inputs, lots of outputs to delays and FOH, and of course there's the high pressure imperative of a concurrent live-to-air broadcast to spice things up further. Despite these pressures (and the driving rain), Glenn's relaxed demeanour was almost zen-like!

**AT: How's this particular Sensory configured for this show Glenn?**

**Glenn Helmot:** As far as inputs go, this one can have up to 72 inputs – 64 via I/O cards, and another eight line inputs on a D-connector. It gives us enough inputs for the orchestra and any particular artist's requirements, as well catering for sub mixes of vocal and clip-on mics for speeches. The outputs are responsible for the sound system drive.

**AT: And how much work have you done with the Sensory?**

**GH:** This is the third show I've done. First up I used it on the Catholic church's Great Jubilee Mass at Colonial Stadium. The Sensory ran the entire system on that, including multiple delay zones of speakers... much like



*Glenn Helmot mans the Sensory console*

here. Each of the console's outputs has its own eight-band parametric, dynamics, compression, gate, time delay, so I was able to EQ, and delay the system from the console without the need for additional outboard. And along with the on-board processing on each channel, the only external device I used on that Jubilee Mass gig was a CD player!

**AT: What are the EQ and dynamics like then?**

**GH:** Actually, really good. All you do is select a channel, switch the compressor/expander, and that'll give you access to all the compressor and gate controls. For the EQ, just hit the EQ button to access four bands of parametric EQ for the selected channel. I think you could describe the EQ and dynamics as being really very clean and transparent – it doesn't try and impart its own 'character', which I think is great. The dynamics are very usable. I mean, on cheaper digital consoles, you just wouldn't bother touching their compressors and gates.

**AT: What other operational stuff are you finding good value?**

**GH:** The copy and paste facilities come in handy. You get a nice sound going on one channel and it's easy to then copy that to other channels. It makes setting up the likes of multiple drum or vocal channels very quick. Also each file or project can be made up of as many as 250 'pages'. Say you had a festival with multiple bands or songs, you can save a new setting [or 'page'] for each of those and recall them instantly when needed.

**AT: So you can save the settings to a floppy and take it to another console?**

**GH:** Sure. And that's sort of what I did for this show. I've got the software loaded into my laptop which I've used to configure the show at home, then I brought in the floppy and loaded it up. Actually, you can remove the surface altogether and run the system from a laptop if need be – dynamics and automation, the lot. Just another fail-safe I suppose.

**AT: What happens if the Sensory's in-built PC crashes, will it still pass audio?**

**GH:** Yes, you can turn off the mixing control surface and



*The Sensory display: showing mix, dynamics, EQ and metering information.*

the racks will stay in the same configuration that they were in and continue to pass audio – it's the Mix and Stage racks that actually are the system.

**AT: Has it crashed?**

**GH:** No. I've looked into this a bit as well. The Eagle Eye Cherry tour has had it out on the road for, I think, about 18 months or more, and it hasn't crashed. The Gypsy Kings have been using it without a problem and it was used on the MTV awards in New York City. I believe the only time anyone had a problem was when someone tried to plug in some muddy BNC connectors for the coax into the racks. Because there's such a high throughput of data, the extra resistance shut it down. Yeah, so it's been really stable. The software platform is DOS-based, not Windows, which gives it extra stability as well.

**AT: How are you finding the I/O routing matrix to work with?**

**GH:** It's about as flexible as it can be, I think. For the main stereo system I've got EAW KF750s, with KF755 down-fills – so the system is split and I can control the top row and the bottom row independently. Same goes for the delay clusters: KF755 down-fills on the bottom and the KF750s on top. So off the Sensory's left master fader I've got an output for the top row, and an output for the down-fills – effectively I've got four fully independent outputs I've assigned to this one fader, which I can toggle through, adjust the parameters for, and see on screen. The right master fader is set up in the same way. Meanwhile the centre/mono fader is running all my outer delays. Again, I've got multiple independent outs assigned to the 'mono' fader, so I can program multiple delay taps on the KF850s out there. Then I've got front-fill, left and right main subs and subs on the outer delay, which I'm controlling from outputs assigned to the group/aux faders. Inputs can be bussed to any or all outputs with levels adjusted independently.

It's a reasonably complex sound system but the InnovaSon's matrixing, bussing and on-board processing made the whole thing very controllable.

**AT: What about the layout? Does it take a real rethink**

*from working with something like a Midas?*

**GH:** My initial reaction was to think the fader spacing was too close. Like most people, I have the desk laid out in a similar way project to project, and when I instinctively reached out for a certain fader I found I was going for the wrong thing. But I think that was more because, visually, there wasn't anything to line things up – no vertical row of pots above the fader. A couple of days later I got used to that, and the faders aren't really that close together – it was just getting used to those different visual cues. After two or three days I was getting around the Sensory as quickly as any analogue console. In the end I was probably quicker. Because I've got the dynamics on board I'm not reaching away to adjust outboard... everything is there.

**AT: What about the audio quality of the preamps?**

**GH:** When I took it out on the Dennis Locorriere [singer from Dr. Hook] shows I pushed the preamps and they seemed to have a lot of headroom. I never got into clip distortion. It was just exceptionally clean, and transparent sounding. I believe InnovaSon designed these mic pres themselves and they've obviously put a lot of work into them. Because, that's the bottom line, it can have all the functionality in the world but it's got to sound good.

## **Mother of an Invention?**

With the introduction of the Sensory range I don't think you're going to find Midas Heritages or Yamaha PM4000s piling up on the side of the road for council pickup. But, the Sensory range does give us an insight into a live sound future in store for us. Digital processing simply offers too many advantages to be ignored, and it looks like InnovaSon has taken the right approach to implementing digital technology into a live sound console. You don't need to undertake a major learning curve to hit the ground running with the Sensory – there's enough that's familiar to hop straight in. But equally, InnovaSon hasn't attempted to unnecessarily recreate an analogue-style work surface – they've employed a VDU, there is assignability in the controls... and this keeps the componentry cost and physical size down. The space saving advantages of Sensory are considerable. If you're leaving racks of compressors and gates in the warehouse, losing the multicore snakes, and teaming the Sensory up with a powered speaker system (in particular), you really are looking at a huge reduction in what's going into the truck. It won't happen overnight, but I've no doubt the Sensory will catch on... it makes too much sense not to.



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