Yamaha SW1000XG Soundcard

Could This Be The Mother of All Sound Cards?

Reviewed by Tony Thomas

As someone who jumped on the desktop music and audio production bandwagon early (circa 1994), I saw the potential of sound cards with MIDI and audio recording capability. My first cards were a Turtle Beach Monterey and a Roland RAP 10. I liked the RAP because of its built-in Sound Canvas and the Monterey for its on-board Motorola 56K DSP and excellent audio quality. Of course, other than the ill-fated Quad, there were no programs that really took advantage of the Monterey's DSP. Five years later, sound cards are finally reaching maturity. Yamaha's revolutionary SW1000XG is certainly proof of that. With the same DSP that is in its top-of-the-line mixer and DSP Factory and the XG sound arsenal of its MU100R, the supercharged SW stretches the definition of sound card. Calling the SW1000XG a sound card is like calling a Lamborghini a car.

Let's Punch In

Although the DSP Factory is getting the lion's share of publicity right now, the Audio XG Factory (as the SW has been dubbed) may be the better "factory" for the home studio owner. Besides functioning as a sound card, the SW1000XG has a built-in twelve channel hardware mixer (configured as 6 stereo pairs), five digital processors plus a digital EQ (that won't sap the CPU of your computer), 1267 MIDI sounds and 46 drum sets, an ingenious digital fold back input that allows you to record the output of the digital mixer (WAV files and MIDI sounds) to a stereo track in the digital domain. At first, the ramifications of the digital fold back aren't all that clear. After a while, it sinks in. Look at it this way: After a sound enters the inputs (switchable mic and line level, by the way, sans phantom), it never has to leave the digital realm as all audio and MIDI

sounds can be mixed and effects added totally in the digital domain. (Did I also say that it has a S/PDIF out?) This effectively eliminates the need for a card with multiple audio outputs, a big mixing desk and a rack full of MIDI modules and effects gear (though you can tie the SW directly to the DSP Factory in the digital domain if you want total, unmitigated overkill). Having a hardware mixer and built-in digital effects means that you are no longer a slave to your CPU. There is no mixer lag or plug in snags if you just use the SW1000XGs mixing and effects. Of course, you can buss several tracks into the hardware mixer channels and mix plug in effects with hardware effects if your system is up to the task, but even so, you'll be able to do more with the SW1000XG before your processor begins to choke and sputter.

Breaking the Sound Limit

The MIDI capabilities of the SW are also impressive. If you are familiar with other instruments that adhere to Yamaha's XG spec like the MU series and the DB50XG, you'll understand what I am talking about. While not as controllable as synths that give you access to every parameter, the SW lets you tweak the parameters that matter most plus add effects as an integral part of the sound. This means incredible control of your sounds and effects even while sequencing. When used with Gary Gregson's wonderful XG Edit program (which is a must buy for anyone who buys the SW - in fact I'm at a loss at why it isn't bundled), the formidable sonic power of the SW's MIDI arsenal becomes apparent. XG Edit allows you access all of the sounds, effects, drumsets and mixing capabilities of the SW and can be run at the same time as your sequencer by using a multiple client MIDI utility like Hubi's Loopback Device. You can create layered sounds with effects which will rival those found in the most expensive synth. If the internal sounds weren't enough, you can add more using PLG cards. The two available now are a DX-7 (yes!) on a card (PLG100XG) and a VL synth on a card (PLG100VL). Seven more are reportedly in the works incorporating other sonic options. There is also a PLG100VH vocal harmony module which adds a sixth effect. You can only use a single PLG card at one time on the SW, but some kind of card cage type device is reportedly on the drawing board which allow multiple PLG cards to be used at the same time like the MU100R and MU128.

Fade Out

Using the SW1000XG is a delight. To your application program, the SW appears as two sound cards for inputs (numbered one and two to correspond to the analog and digital inputs) and as 6 sound cards for output (corresponding to the six virtual mixer outs). Of course, you are not limited to 12 tracks - you can sub mix as many tracks as you want to each pair of outs. However, the twelve tracks won't tax your CPU while any other tracks you sub mix will. The SW's drivers are a work in progress. The ones that come on the

CD have some some timing and MIDI in anomalies when used with certain programs (Cubase and Cakewalk have been identified) . I installed two interim drivers sequentially and that fixed a MIDI in timing problem I had with Cakewalk 8. Revised Win95/98 as well as ASIO, Direct X and NT drivers are planned for release sometime in 1999. One glaring flaw in the drivers is the lack of an input gain control. You must adjust the gain at the source. Another flaw is that the unit boots up in mic input mode. This is supposedly the XG standard, but it made for some interesting moments until I learned how to switch it to line using XG Works or XG Edit. I wish someone would create a simple utility The SW comes with the XG Works program as something of a bonus. XG Works is full-function sequencer with some audio capabilities and with effects control and a mixer for the SW1000XG. It works well and could function as a main sequencer if your needs aren't that demanding. I like the fact that it has built in rhythm patterns which could come in handy for the percussively challenged. It lists for over $100 and is a good addition to the package. The documentation is much leaner than I would have liked. There is an essential 442 question answer FAQ on the XG Factory website and I think that this should have been included on the CD with the XG Works manual, at least a shareware version of XG Edit and Hubis loopback device. All in all, however, I think that the SW is a phenomenal value for its street price of about $530. It's the sound card to beat, by far!

For more information:

http://www.yamaha.co.uk/xg/html/products/p_sw1k.htm

http://www.xgfactory.com/

http://www.yamaha-xg.com/english/xg/products/sw1000.html

Addendum (9/26/99)

Yamaha just released a new multi-client driver that allows you to control the SW1000XG using two programs simultaneously. Also, there is a Direct X beta driver available.

It is available at: http://www.xgfactory.com/