

# FAIRLIGHT XYNERGI

Fairlight has reinvigorated some innovative Australian IP to provide a complete post powerhouse in a single PC.

**Text:** Michael Gissing



► When Australian company dSP ceased trading some years ago and Fairlight purchased their intellectual property, few people knew that dSP had been developing a new disk editing system with integrated video, designed to run on standard PCs using Windows.

Not so long after, Fairlight released Pyxis, a video device with basic editing functionality, designed to integrate with a Fairlight QDC system, but running on a separate Windows PC. To people like me, who had been in a close beta testing relationship with dSP, I recognised that Pyxis was the first offshoot of that dSP IP.

Now with the release of Xynergi, the integration of that IP plus the amazing developments Fairlight has been working on over the past years have blossomed into a product that certainly gets me excited. Having patiently clung to my aging dSPs for years, the release of Xynergi has prompted me to immediately order two systems to replace the dSPs and move into the 21st century of DAWs.

## NEW CENTURY

Most DAWs are still last century – lethargic and energy hungry – either using native processors or dedicated DSP chips. Fairlight has developed a new processor card that brings a phenomenal amount of ultra low-latency processing with an almost unbelievably low level of power consumption. The heart of the new Xynergi system is the Crystal Core (CC-1) card. On a single PCIe card, using FPGA processing (see Issue 54 for more on the CC-1, FPGA et al), one card supports a 192-track editor with a mix engine capable of processing 230 channels, supporting 220 physical inputs and outputs (MADI), 72 buses, onboard video (in HD or SD) with EQ and dynamics on *all* channels plus third-party plug-in support. All this with a total latency of less than 0.5ms! If that isn't enough to blow away most systems, the fact that Crystal Core does all this processing with a mere 12 Watts of power consumption makes this card a total revolution. Fairlight estimates that to do the same processing with conventional DSP chips would consume over 600 Watts. That's a massive power reduction with latency that's impossible to match. Heat is also reduced by a whopping 98%.

FPGA processing deserves its own story, but in a nutshell the CC-1 is a card with one big processor that can be programmed for a variety of tasks. While mainstream computer processors are embracing multi-core technology, the Crystal Core is using an impressive Field Programmable Gate Array (FPGA) to get over 8.6 gigaflops of processing power. Unlike conventional DSP chips, which lock in 32-bit floating point processing, the FPGA approach allows processing to be scaled to task. Fairlight uses this to scale some mix processing like EQ up to 72-bit floating point and less rigorous tasks can be scaled back to 32 bits or less. This makes the system very much

software driven without the typical limitations of older DSP processing and their energy hungry requirements. The Crystal Core is the first real breakthrough in 21st century audio systems. If you want, high sample rates of up to 384kHz are available.

A standard Windows PC with a dual-core processor is all that's needed to get going with Xynergi. A video card like Decklink will also add SDI video in/out options plus composite or component video for using an external monitor or video projector. But enough of the under the bonnet stuff – exciting as that is to me, the business end of operating the Xynergi is where the fun really begins.

## HERE'S THE XYNG

The edit controller of the Xynergi is a combined qwerty-style keyboard with extra buttons for transport control, jog wheel, edit buttons, a numeric keypad, monitor and talkback section, plus a screen with eight touch sensitive rotary pots and 16 buttons that vary with the mode displayed. The whole keyboard is made using a patented in-house design, which can be programmed to display almost any image – even moving video. This makes the keys change from a standard qwerty display to dedicated menu and control buttons. Next to the jog wheel, four main edit buttons change modes depending on how you're editing. Using your left hand to select the edit mode, those buttons let you trim head, tail or region. Select copy mode and those buttons now display copy to head, copy to tail, copy region etc.

The fact that all the keys can display anything also means that power users will be able to get into amazing macros and assign self-labelling keys. Compared to the common keyboard with either a tacky cardboard overlay or the memory of a herd of elephants to remember the Shift/Alt/Ctrl variables of each key, this keyboard changes display so that keys are clearly readable based on the editing or mixing mode you chose. The keyboard also lets you run the rest of your computer's software. Want Kangi characters? Cyrillic? This keyboard will display anything.

## CLIFF'S EDGE

To perfect the keyboard and the practical operating of the Xynergi, Fairlight has employed Cliff Jones, a long-time Fairlight user who formerly ran Soundmonsters in London. The use of an experienced engineer to develop the interface has meant this system is operator driven. Anyone who's familiar with Fairlight or dSP products can immediately get their heads and fingers around the keyboard. For those that come from the world of modified sequencers, there is a mouse. You should learn to avoid it, but it is there. I found it handy to open a project, then left it to gather dust.

After a demo Cliff left me to play and it wasn't hard to

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get into a rhythm of editing. My OMF*i* (Open Media File) loaded blindingly fast. Operating was easy, with jogging and editing logical, ergonomic and with all the expected waveform and clip overlaying. Important issues like networking and sound library management are very good (and getting better). Pyxis video integration is perfect. Anything that needed explaining was sorted without a single glance at some convoluted PDF manual. (Let's face it, manuals are like a Phantom Agent's gun – last resort and a sign of weakness.) The Xynergi has a built-in help and tutorial system called 'Xplain'. Press the Help button and suddenly the display walks you through a process using the actual keys and workflow. You learn by doing the task using the keys in front of you. This is a revolution in self-help.

### FACTORY MODS

For the toy mongers amongst us, Fairlight has included a 64-channel bridge so that third-party plug-ins can be used at the clip and mix level. The in-built display plus the 16 buttons and eight pots around the display make it easy to control plug-ins, EQ and dynamics. The main edit and mix functions are displayed on external computer monitors. A built-in patching and monitoring system enables very comprehensive signal routing both internally and externally. A basic Xynergi system comes with a breakout box, the SX-20, that gives analogue and digital I/O, nine-pin machine control, LTC I/O and video sync, including tri-level for HD work. If more I/O channels are needed, Fairlight has MADI-to-AES or analogue breakout I/O boxes (SX-48) in 48-channel lots. For mix controllers, Fairlight has mapped the Mackie HUI, plus a Fairlight 12-fader sidecar mixer option similar to the fader panel on its Constellation large format mixer.

### POST PRO POWERHOUSE

The combination of disk editor with integrated video plus full mixing with total automation means that Fairlight Xynergi is a complete post tool in a single PC. This is not a first, but the sheer grunt, the elegance and future-proofing of hardware and control surfaces means that the Xynergi is really going to make inroads. Xynergi also packs the power of AVTransfer into its system with OMF*i*, AAF and multi-file format handling for both audio and video.

I have never been more impressed with a product for review. The price is amazing, power saving extraordinary. Video/audio editing and mixing integration is the best I have seen, with a controller and processor that are extremely powerful and functional, plus there's enormous scope for further development. There is so much more I've glossed over to keep the word count reasonable, but a visit to the Fairlight website is highly recommended. ■



### NEED TO KNOW

#### Price

Factory direct from under \$25k

#### Contact

Fairlight Australia  
(02) 9975 1777  
info@fairlightau.com  
www.fairlightau.com

#### Pros

Great price.  
Huge processing power.  
Low energy.  
Tight integration of audio, video & mixer.  
Unique help system.  
Lowest latency.

#### Cons

Six week wait for delivery.

#### Summary

Xynergi is genuinely new technology, which is rare these days. It sees the merging of the two best DAWs ever made – dSP and Fairlight – into a powerful, tightly integrated system that is inexpensive, ultra low in power consumption and flexible for future developments.