



In the best of all possible worlds, Digital Audio Workstations would be powerful, flexible, and expandable, with an intuitive interface and an open architecture for future upgrades.

They would incorporate multi-track recording, automated digital mixing, graphical waveform editing, time compression and expansion, pitch shifting and harmonizing, true SMPTE chase and VITC scrub, 16 Bit sampling with MIDI control, and comprehensive real-time digital effects processing.

In the best of all possible worlds, such powerful workstations also would be readily affordable. Welcome to the world of



SPECTRAL
SYNTHESIS



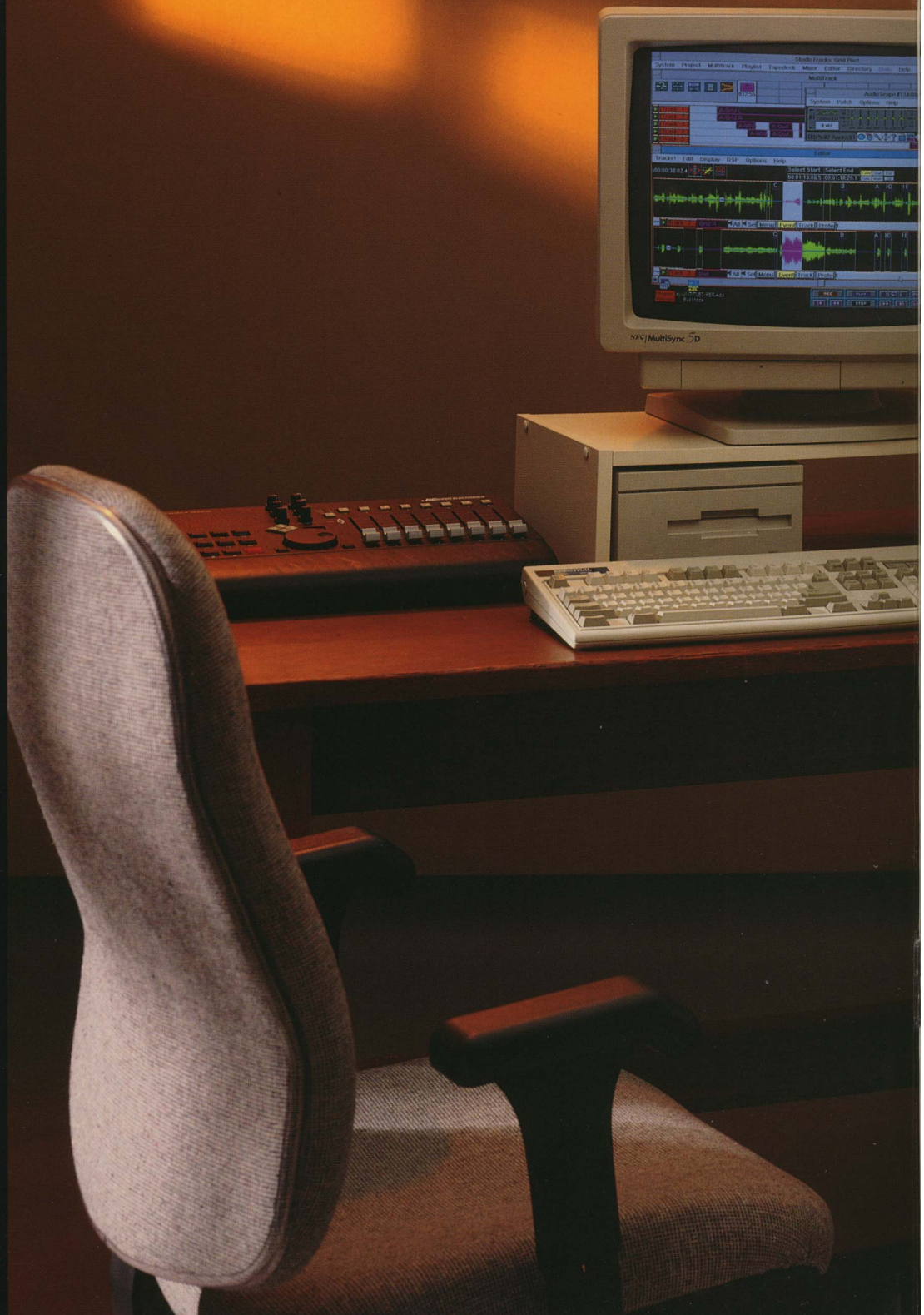
**YOUR CHOICE:
WE WORK WITH THE BEST**

At Spectral Synthesis, we're dedicated to doing one thing better than anybody else in the world: designing and manufacturing modular DAWs. One way we stay focused on our goal is by not trying to do too much. We don't manufacture every piece of ancillary equipment that can be used with our systems. Instead, we simply make certain our products will perform flawlessly with the best of those products available from other companies — now and in the future.

We also recognize that, in the area of AD/DA conversion, there is room for subjective judgment. So, even though we offer our own AD/DA converters, which have earned enthusiastic reviews from our customers, we make it easy to interface with virtually any outboard digital audio converter of your choice.

It's all part of SPECTRAL's uncommon way of doing business. We want to make sure our products perform to meet your highest expectations, even if that means letting somebody else contribute part of the package. Because, at the heart of every SPECTRAL system is a basic commitment to audio professionals: We will listen, learn, and design products accordingly. The results of our commitment are having a growing impact in hundreds of audio, video post, and broadcast facilities around the world.

SPECTRAL WORKSTATIONS:

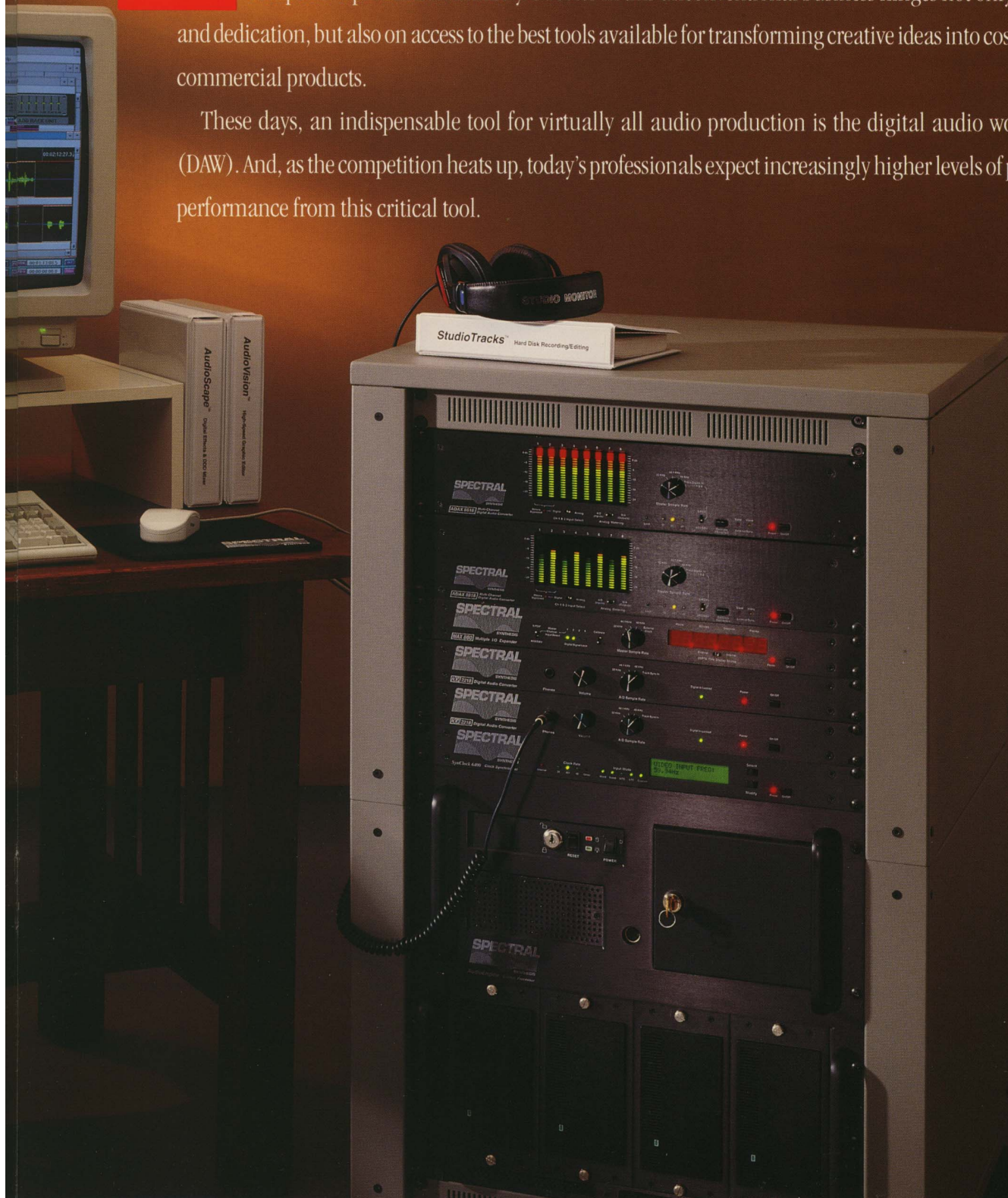


POWERFUL TOOLS DESIGNED FOR AND BY AUDIO PROFESSIONALS

A

s an audio professional, you know it's tough getting ahead in today's fast-changing and highly competitive production industry. Success in this unconventional business hinges not only on talent and dedication, but also on access to the best tools available for transforming creative ideas into cost-effective commercial products.

These days, an indispensable tool for virtually all audio production is the digital audio workstation (DAW). And, as the competition heats up, today's professionals expect increasingly higher levels of power and performance from this critical tool.



THE WORKSTATION THAT DOES IT ALL

A

list of features and capabilities in today's ideal DAW might look something like this:

- Up to 24 simultaneous active tracks, playback & record — in any combination
- Up to 256 virtual tracks for flexible project creation
- Up to 40 track-hours of recording time — more in the future
- Expandable I/O from 2 to 24 channels, digital or analog
- Real-time support for Magneto-Optical removable media drives
- On-the-Fly punch-In/Out for fast recording and over-dubbing
- Built-in virtual digital mixer with assignable track routing
- A fully functional digital audio bus for instantaneous and noise-free signal routing
- Digital patch bay with instant recall of saved patches
- True, seamless digital integration between system components for real-time, sample-accurate digital audio transfers
- Expandable, real-time digital effects processing, including submixing, compression and limiting, graphic and parametric EQ, delay, and reverb
- A full array of DSP functions, including reversing, inverting, gain adjustment, normalization, click removal, pitch shifting, as well as time compression and expansion
- Non-destructive EDL play list and graphical editing
- Instant play list edit auditioning (no wait for edit computations)
- Sound objects that snap to markers or edit points
- Looping between markers with adjustable loop range and play list editing while looping
- Up to 10 levels of "UNDO" with AutoSave and QuickSave options
- Unlimited number of cross-fades with fully adjustable lengths
- Colorful and intuitive multi-tasking graphical interface
- Fluid, "analog feel" Scrub and Jog functions using mouse or scrub wheel on external control surface
- Scrub and Jog to external video via VITC with sub-frame accuracy
- Machine control over video; single control point for audio edit-to-picture
- Time code lock to SMPTE (LTC or VITC) or MTC
- True chase lock capability to SMPTE (LTC or VITC), MTC, AES-EBU, AES Null, tachometer, SuperClock, house sync, or composite video
- Remote work surface for tactile control of mix faders, panning, and edit functions
- Assignable "Hot Keys" to customize control and edit features
- User defined Macro support to speed frequent operations
- Auto-Mix feature for fully automated mixing with internal override control or via external MIDI sequencer
- 16-Bit sampling (8 to 32 voices) and high-speed graphical sample editing with full MIDI control
- CMX file auto-conforming support
- Unattended backup for project or sound library to M-O drive or tape
- Real-time auditioning of sounds from disk or M-O sound libraries (up to 8,000 sounds per library or project)
- Sound sharing among multiple projects to save disk space
- Modular, expandable, upgradable, and engineered to maintain backwards hardware compatibility
- File interchange support for AIFF, Microsoft WAVE, IRCAM, MIDI sample dump, RAW and other formats as well as sample rate conversion

- Industry standard digital interfaces for compatibility with nearly all third-party outboard AD/DA converters, digital mixers, and digital effects units

NO SURPRISE: SPECTRAL DOES IT ALL

You probably won't be surprised to learn that all the features and capabilities listed above are available in our systems*. An impressive list, to be sure, but what you need goes far beyond features packed in a box. You need to know how this sophisticated tool will perform in your everyday working environment. How well do all those features function as a whole—as an integrated and comprehensive system? Is the system flexible? Will it conform naturally to the way you prefer to work? Equally important, will the system be cost-effective? Will it pay for itself quickly, and then start enhancing your overall production profitability? Answers to these questions will lead to the workstation that's right for you.

FROM SOUND TO NUMBERS



The ADDA-2218 is SPECTRAL's stereo analog to digital plus digital to analog convertor. Supports standardized AES/EBU or S/PDIF protocols. Analog connections provided in both balanced XLR and unbalanced RCA.

*16 to 24 track upgrade announced for 1993, certain features only in version 2.x of StudioTracks

ONE SIZE DOES NOT FIT ALL

DIGITAL TO THE MAX



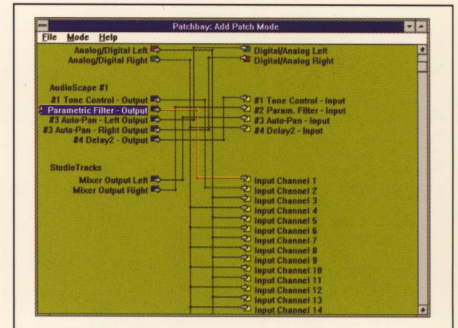
The MAX-880 provides an eight channel digital connection as four sets of stereo S/PDIF. ADDAs or other externally referenced converters may then add the analog interface, or go direct to outboard digital processing equipment including certain mixers.

No single audio workstation design or configuration can please everybody—the video post engineer, the music composer, the film sound effects designer, the jingle producer, and the radio production engineer. Compromise systems often lead to frustration or unnecessary expense. Sometimes both. That's why SPECTRAL systems are configured from discrete, modular hardware and software components. You get all the power you need, right where you need it. And, you don't pay for what you really can't use.

This brochure presents an overview of SPECTRAL products and typical system configurations. (Detailed technical data sheets for individual products are available on request.) We'll start with the design concept at the heart of SPECTRAL's unparalleled combination of processing power, system flexibility, and cost-effective performance.

THE SOUND OF A FASTER BUS

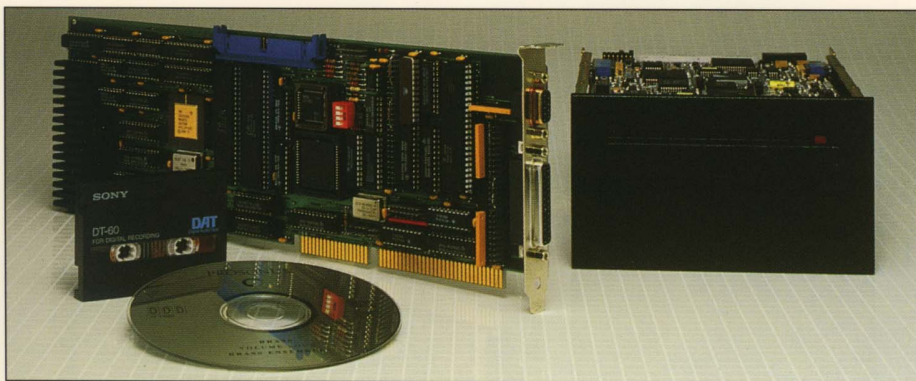
Real-time processing of digital audio signals requires transferring enormous amounts of data from one place to another at incredible speed. An ordinary computer bus (e.g. ISA bus or NUBUS) can handle a



few channels with limited bandwidth, but if you ask such a bus to simultaneously carry multiple channels of 20 kHz bandwidth audio, you're in serious trouble. It can't do it in real time. You'll have to wait.

That's why every SPECTRAL system incorporates a proprietary high-speed digital audio pathway: the FlyBy™ Digital Audio Bus. This lightning-fast, dedicated data highway provides over 100 simultaneous digital audio connections at a sampling rate of 44.1 kHz.

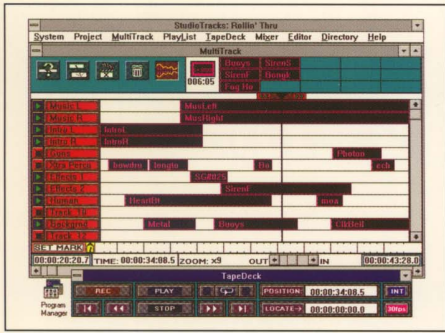
The FlyBy bus is fundamental to SPECTRAL's seamless integration of all operating functions: signals can be routed through the system for real-time editing, mixing, and effects processing without ever leaving the digital domain. No matter how many steps of manipulation and processing you perform, you will never have to degrade your signal through multiple AD/DA conversions. No other competitively priced system offers this essential capability.



DIGITAL STUDIO™: AN EASY STEP INTO HARD DISK RECORDING

The Digital Studio™ SCSI hard disk controller is the basic building block of SPECTRAL's recording and editing systems. Working in conjunction with SPECTRAL's StudioTracks™ software and a FlyBy™ bus controller, Digital Studio provides true CD-quality sound, random access to sound files, and real-time execution of play list edits without altering source

material. A single Digital Studio subsystem (one SCSI bus) provides as many as 12 simultaneous, bi-directional digital tracks with two SCSI hard disks. If you need more tracks, you simply add the MT800 SCSI bus daughter board and more hard disks for up to 16* tracks. Your recording capability grows right alongside your requirements.



MAKE TRACKS...FAST

StudioTracks™ software gives you full control over the immense processing power of the Digital Studio. Operating in the Microsoft WINDOWS™ environment, StudioTracks presents a colorful, high-resolution, and eminently intuitive “workplace.” All recording, mixing and editing operations can be performed using a mouse or trackball, through keyboard entry, or with MIDI control work surfaces such as the JLCooper CS-10.

Thanks to feedback from dozens of production

professionals, we’ve expanded and refined StudioTracks to become the most versatile and comprehensive recording/editing tool available. Our graphical Multitrack screen is just the ticket for rapid, flexible manipulation of sound objects of any length—and you can hear the results immediately! You can construct up to 256 virtual tracks, and then create intermediate mixdowns without losing your ability to re-edit later. The zoom control and position markers let you focus instantly on a specific work area, and you can insert markers “on the fly.” However, if you prefer a more traditional approach, you can easily construct a custom EDL (“play list”) screen format and then edit by entering time code cues.

MIX, CUT, PASTE, ZOOM

StudioTracks also includes a built-in 16x2 mixer with L/R stereo panning, with faders assignable to an external MIDI controller. All mixes can be automated using the Automix feature or an external MIDI sequencer. Virtualized mixing capability lets you enable all 256 tracks.†

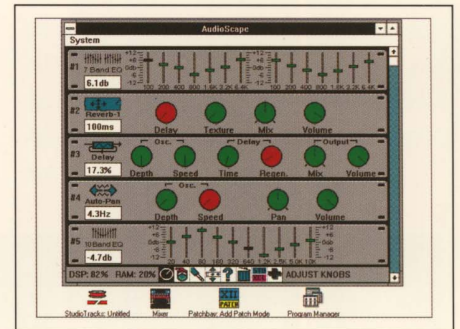
Finally, StudioTracks includes a built-in Graphical Waveform Editor, which provides DSP functions such as Gain control, Mute, Invert, Normalize, and cut-and-paste waveform editing. You can zoom in for a detailed waveform display, and then easily edit “pops” or “glitches,” cut-and-paste consonants in dialogue, or perform other operations requiring extreme editing accuracy.

The Digital Studio/StudioTracks package includes numerous other features, including unattended back-up, shared sound libraries, sound segment and event copying, extensive directory system, project control, multiple scrub modes—features too numerous to fully discuss

in this overview. Suffice it to say that SPECTRAL’s Digital Studio harnesses far more processing power, and does so with greater operating flexibility and higher sonic fidelity, than any other hard disk recording system anywhere near its price range.

OUR DSP POWERED ENGINE

The SynthEngine™ is a powerful sub-system comprised of from one to four DSP boards whose operation is completely under software control. Each board contains two DSPs working in parallel, and with more boards, the system gains in power and flexibility. The engine can be used in conjunction with the Digital Studio to provide seamlessly integrated, real-time digital effects processing. It also can serve as a true 16-Bit sampler, or as an integrated high speed graphical sample editor.

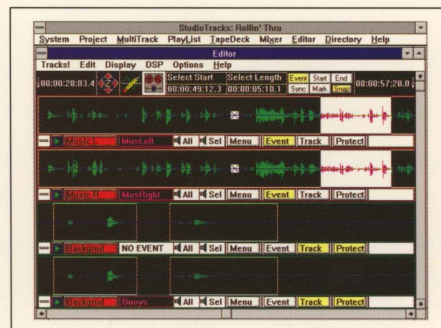


For real-time digital effects processing, the SynthEngine operates under the control of our AudioScope™ software. Using this program, you can construct your own on-screen “effects racks,” and then use them for real-time compression, delay, reverb, graphic EQ, or parametric EQ. Using the PatchBay™, all effects, as well as the program’s auxiliary sub-mixers, can be patched to any track or I/O pair in the system. Patches and settings can be stored for later recall, and all processing modules are fully MIDI controllable. AudioScope also includes the 3D Mixer, an enhanced 12x4 fully automated digital mixer with pre/post send controls, pan, solo, mute, fader grouping, polarity reversal, and L/R swap.



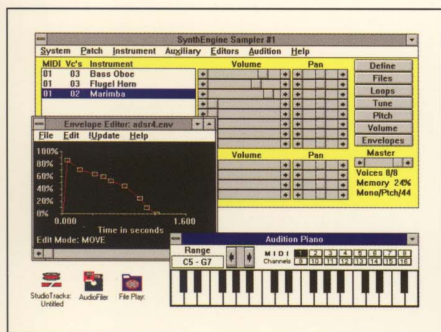
ANALOG TRACKING

The ADAX-8818 combines the ADDA and MAX designs to offer eight channels of analog input and output in a single even more cost effective package. Includes metering, switchable between input and output channel modes.



SIXTEEN VOICES, NO CONVERSION

When you couple the SynthEngine Sampler™ software with one or two SynthEngine boards and sample RAM daughter cards, you give your system all the power of a fully integrated, 16-Bit polyphonic sample playback system. Each board with RAM offers as many as 16 voices and up to 66 seconds of sampled sound capacity. Samples can be fired directly into the hard disk recording and editing system with no conversion stages in between. All instruments may be triggered and controlled by any external MIDI controller or sequencer.



CUTTING EDGE EDITING

Yet another SPECTRAL software program, AudioVision™ is a lightning fast and remarkably productive graphical sample file editor. AudioVision™ is the fastest product of its kind because it uses the DSP to calculate its screen refreshes as well as its edits. You can actually perform simultaneous and synchronous editing of up to 16 channels of sound! Listen to and adjust the mix of up to 8 sample files, then combine into a single multi-timbral sound. Loop setting is done in real-time, while you listen to the results! Cross-fade the loops, fade in or out with variable curves, scale and normalize levels, time compress and expand, filter, pitch shift, or reverse the audio, plus more. Preview some effects instantly. Edit the envelope or superimpose a sound's envelope over another sound. And there's virtually no wait as you perform flawless cut and paste editing in AudioVision. Finally, since it's all done in RAM, it's completely non-destructive until you save your file to disk.

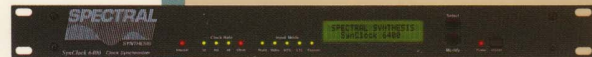
THE TURNKEY SOLUTION: AUDIOENGINE™

So far, we've been looking at discrete system hardware and software components: building blocks you assemble to work in conjunction with an appropriate host computer. For many of our customers, this is the most cost-effective approach.

However, for those who prefer a complete, fully integrated, turnkey system, we have it: the AudioEngine™ series. Every AudioEngine comes fully configured with host control CPU, SCSI drive(s), StudioTracks software, digital audio converters, high resolution color monitor and MIDI port. Completely assembled and tested, with all software installed, your AudioEngine arrives ready to start work immediately.



DIGITAL SYNCHRONY



The SynClock 6400 converts reference signals—black burst, SMPTE LTC, AES/EBU, Word, SuperClock, and Tach—into Word, SuperClock, and AES/EBU clock outputs. LTC is jammed to the video reference, and VITC is converted to LTC.

Before we go further, let's establish one important point: this is a modular turnkey system. Some other turnkey workstation makers leave you locked into a fixed, one-size-fits-all, soon-to-be-obsolete piece of hardware. Not SPECTRAL. To begin with, you order your AudioEngine with the capabilities (and price tag) you want. You can choose among several available CPU, software package, and backup system options. Also, you can specify the number of hard drives, DSP boards, and I/O channels you want. In other words, you start out with an AudioEngine package precisely tailored to your needs. After that, you are still free to expand and reconfigure as your needs change.

For a growing number of music production and audio for film/video professionals, the AudioEngine presents an ideal solution. It provides the convenience and the assurance that accompanies a pre-assembled, fully tested, and field-proven turnkey system. Yet it does so without sacrificing exceptional operating flexibility, an open door to future upgrades, and a price/performance ratio far beyond the reach of competitive systems.

S P E C T R A L

DEDICATED TO
DIGITAL SINCE
1 9 8 7

At SPECTRAL, we make a full range of digital audio hardware and software products for professional applications. Period. That's our mission today, just as it was when the company started back in 1987. For professionals who depend on their tools for survival, the continuity and stability of a product's manufacturer can be as important as the product's performance. You might want to know that SPECTRAL has continued under the same management and ownership, and with the same engineering talent, since its inception. Also, we've expanded sensibly, always devoting the lion's share of our resources to product development, manufacturing quality control, customer technical support, and thorough beta testing. We never forget that our continued growth depends on building credibility in a relatively small — and extremely discerning — professional marketplace. Today, Spectral Synthesis, Inc. is one of the largest independent companies in the world devoted exclusively to digital audio workstations. But we're still small enough to listen, and to learn. At the foundation of our success is our ability to respond, quickly and creatively, to the real-world needs of working professionals in music recording, broadcast, and post-production. Consequently, when you invest in a SPECTRAL product, you invest in a dynamic and mutually supportive relationship. We count on you to tell us what tools you want and how you want them to work. In return, you can count on us to supply them. You also can count on us for the kind of knowledgeable and hassle-free technical support only an independent, specialized company can provide. Give us a call. We're listening. If we don't offer exactly what you want, tell us. You'll probably find it in our next product.



19501 - 144th Ave. N E
SUITE 1000 A
WOODINVILLE, WA 98072
TELEPHONE: 206-487-2931
FAX LINE: 206-487-3431

MADE IN USA