

SX-1

Digital Production Environment



TASCAM[®]
a whole world of recording

The SX-1 offers not only an incredibly powerful feature set, but also a carefully considered user interface design that ensures smooth operation, reliability, and ease of use for a host of professional applications in music composition and production.

The Vision

Several years ago, the SX-1 design team envisioned a machine that would combine the power and flexibility of computer-based recording and editing, MIDI sequencing, hardware surface control, dynamic mix automation, on-board and plug-in effects, stereo and surround mixdown, data backup - all of which would be accessible via a powerful and intuitive user interface. Their vision was to enable musicians, composers, and music production professionals to stay focused on the joys of creating and recording music. Their vision was to incorporate all of the important 21st century technologies, but eliminate the digital technology conflicts and computer hardware and software incompatibilities that often accompany computer-based systems.

Their vision is now an exciting reality.

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A Powerful Mixer

At the core of the SX-1 is a powerful mixer, comprised of a comprehensive I/O section that includes both analog and digital interfaces. It starts with 16 high quality mic/line inputs with inserts and phantom power, selectable in groups of four. It also includes 8 channels of ADAT Lightpipe, 2xS/PDIF, and three expansion slots for up to 24 more channels of I/O (optional additional 8-channel interfaces include AES/EBU, TDIF, ADAT and balanced Analog). The remaining ports include: Word Clock In/Out/Thru, SMPTE In/Out, Video In and Thru, Ethernet, VGA, 2 MIDI Ins/4 MIDI Outs and Sony 9-pin. There is simply no computer DAW or standalone workstation on the market with such a comprehensive set of I/O, which also allows the SX-1 to be used as a mixer for modular digital multitracks, analog multitracks, video decks, and/or computer based DAWs.

The console's design starts with a 40 input, 32x8x8 architecture. It has 32 input channels, with 8 busses and 8 returns. The SX-1's mixer has true routing flexibility...you can send nearly any signal anywhere. For example, you could easily route the talkback mic to the hard



The SX-1 is:

- **A sophisticated 40 input, 32x8x8 digital mixing console with highly flexible routing, advanced internal automation, and a plug-in effects architecture**
- **A high-end MIDI sequencer that offers professional editing tools integrated with the audio recorder**
- **A professional hard disk recorder and editor with industry-wide audio file compatibility and surround-stem recording capabilities**
- **A powerful digital, analog and computer audio interface**

disk recorder for slating or funky tracking. Also, if you own high-end analog outboard processors (maybe a pair of 1176's or a Fairchild 670), you could easily patch them into inserts on any mixer channel.

The SX-1 takes the digital console concept even further with prestige, name brand, onboard effects by TC Works and Antares. It also possesses one of the best surround mixing interfaces on the market today, making routing and creation of 5.1 mixes as easy as a few button presses.



The SX-1's tactile control surface features 17 touch sensitive, 100mm, long throw motorized faders...16 channel faders plus one master. The throw of these faders is the same as those on large-format recording consoles like those from SSL and Neve. Other features of the control surface include: horizontal channel

strip, Jog and Shuttle wheel and transport control, and 10-key pad. A color-matched computer keyboard and mouse come as standard equipment with the SX-1. To offer even more functionality, the SX-1 has 16 fader banks that determine which parameters are controlled by the SX-1's faders.

Both a large LCD display and a full-color VGA output are provided for displaying mixing and editing data.

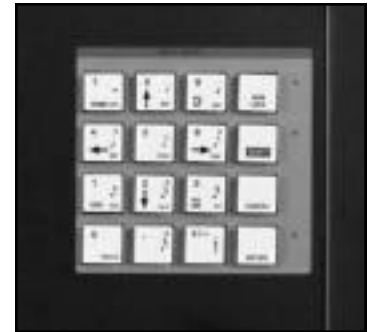
Not only is the SX-1's mixer easy to route - it's even easier to automate. It offers the most extensive automation system ever released for a standalone DAW. All of the audio mixing parameters on the console can be automated from the control surface. Innovative automation capabilities, such as rendering library recall events into the dynamic automation data, set the SX-1's automation system apart from less-advanced systems. One of the most important features of the SX-1's automation system is that it is largely transparent, so the operator can concentrate on the mix instead of "running" the automation system. Most functions are accessible by pressing a single button, as opposed to other systems that require paging through a labyrinth of menus, submenus and parameter settings for even simple operations. While the SX-1's VGA Graphic User Interface allows very detailed editing of automation and other data, it isn't required to make a great mix or even to use the automation.

When all components of the SX-1's digital console are considered... 40 input/8 bus architecture, touch-sensitive motorized 100mm faders, name brand onboard effects, highly sophisticated automation, extremely flexible signal routing, surround mixing, etc. — the SX-1 is clearly a remarkable value.

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A Professional 128-track Sequencer

Another of the SX-1's impressive features is the onboard, 128-track professional sequencer, which is tightly integrated with the onboard multitrack recorder. The SX-1 has the ability to import/export Standard MIDI Files. Nearly all the features that users have come to expect from DAW-based sequencers are included in the SX-1's MIDI engine. In addition to standard features such as Cut/Copy/Paste, professional users will appreciate advanced features such as Step Record, non-destructive Quantize and Transpose, MIDI crescendo, MIDI reverse play, and Ripple editing modes.



The SX-1 is the only machine ever built that achieves this level of MIDI integration. It is important to note that the SX-1's sequencer does not operate in isolation. The sequencer actually runs the automation for the mixing console. Because the playback timing of MIDI events is derived from the sample engine of the hard disk recorder, the timing is supremely accurate and should impress even the most hardened MIDI veterans.

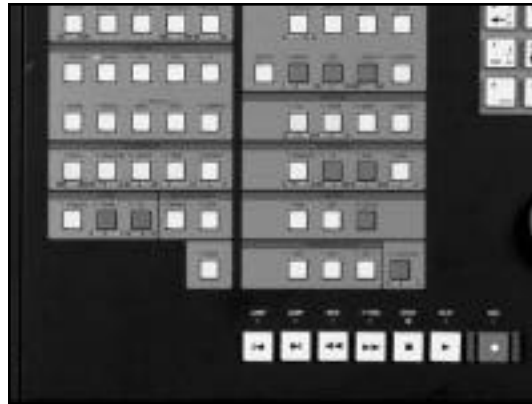
Dedicated Multichannel Stem Recorder for Surround Mixing

The SX-1 features a 6-channel stem recorder for surround mastering applications. Mastering tracks can be polished with outboard compression, EQ, spatial effects and more, using the SX-1's powerful insert routing. The stem recorder records files in either Mac Sound Designer II or PC Broadcast WAV formats. By writing in the two industry-standard files formats to removable SCSI drives, the SX-1's master files can be taken to virtually any computer-based DAW for further editing and sweetening without need for time-wasting file transfers. The stem recorder is also used as the 2-track mixdown recorder. After mixing down, you can take those masters and burn them to a Red Book audio CD via the SX-1's built-in CD-RW drive.

The SX-1 can play back 16 uncompressed tracks of pristine 24-bit audio at one time, but it's capable of far more. With 999 virtual tracks per project that can be freely assigned to any track, anywhere, the SX-1 makes comping together single tracks from large numbers of vocal or instrumental takes an easy task.

A Professional Hard Disk Recorder

The SX-1's hard disk recorder is derived from the same technology in the TEC award-winning MX-2424 and Emmy award-winning MM Series film dubbers. The SX-1 can play back 16 uncompressed tracks of pristine 24-bit audio at one time, but it's capable of far more. With 999 virtual tracks per project that can be freely assigned to any track, anywhere, the SX-1 makes comping together single tracks from large numbers of vocal or instrumental takes an easy task.



As stated previously, the SX-1 can read and write to both PC and Mac discs, and writes time-stamped Sound Designer II and Broadcast Wave files. Therefore, audio files can literally be taken from the SX-1 and imported with single sample accuracy into a variety of DAWs and digital recorders. "Single sample accuracy"

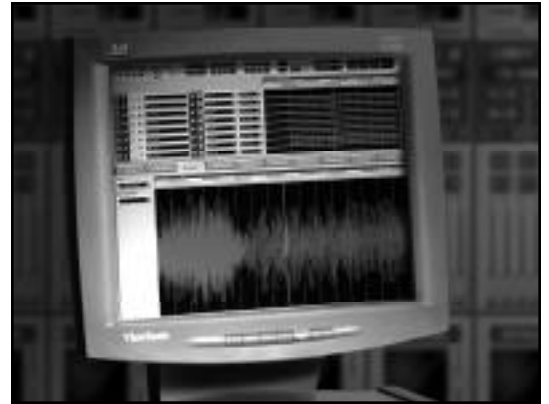
means that when files are transferred, they are put into the exact place in a project you intend them to go...with precision to one 48,000th of a second. This is done by storing the sample rate and the sample offset from absolute zero in the file itself. With only these two parameters, the file can be placed at the exact sample in another DAW's project that has the ability to spot to a time stamp. Some of the compatible DAWs include Pro Tools, Digital Performer, Logic Audio and Nuendo. This feature provides tremendous benefit to recording professionals needing file compatibility with other musicians and studios.

The SX-1 can read and write projects in TimeLine's Open TL format, making it compatible at the session level with popular DAW programs such as Logic Audio and Nuendo as well as the TASCAM MX-2424. You can literally move a hard drive from the SX-1 into your DAW, and open projects in one of these applications.

If you've ever used audio editing software, the SX-1 will feel right at home.

Waveform Editing

Many industry pros would argue that the waveform-based display has been the most significant new feature introduced over the past decade to improve the professional audio recording and editing process. The SX-1's designers saw the possibilities for a custom, full color graphic interface that would take advantage of the SX-1's speed. As such, the SX-1 has a graphic interface that is accessible by connecting a VGA monitor to a rear panel jack. The speed of the waveform display is reminiscent of an oscilloscope's, with a center-rectified playhead and real-time sample-accurate playback. Standard editing conventions have been used in order to give the SX-1 a familiar look and feel. Cut, Copy, and Paste follow standard DAW commands, while other functions are easily accessible via different combinations of controls – including the PS/2 keyboard, the control surface, and the Jog/Shuttle wheel. If you've ever used audio editing software, the SX-1 will feel right at home.



SX-1 Summarized

V1.0 features

- 40x8 digital console...32 channels with 3-band fully variable EQ, comp/gate and DSP insert point each, 8 identical return channels without the DSP insert point; 8 busses with DSP insert point; touch sensitive 100mm motorized faders; and powerful on-board dynamic mix automation.
- Onboard effects...TC Works Reverb, Antares mic/speaker modelers, and a proprietary suite of TASCAM effects.
- 16 track HDR with additional 6-track stem recorder that allows printing of a separate 5.1 mix.
- Professional 128-track MIDI sequencer with non-destructive quantize and transpose, step record and on-the-fly editing, etc.
- Graphic User Interface from VGA Out allows sophisticated editing of audio and MIDI data.
- Built-in LCD screen displays waveforms, mix data, etc.
- Built-in CD-RW drive enables both data backup and stereo mixdown.

Inputs/Outputs

- 16 channels of analog input with mic pre, (XLR and TRS ins) with insert per channel.
- Eight channels ADAT I/O.
- Three option slots for expansion of audio I/O (more ADAT, TDIF, AES/EBU or analog, utilizing the same I/O option cards as the TASCAM DM-24 digital mixer.
- Two S/PDIF I/O
- Word Clock in/out/thru
- SMPTE in/out
- MTC in (dedicated)
- MIDI in
- MIDI out x4
- Video in/thru
- Sony 9-pin
- Ultra Wide SCSI
- VGA out
- LTC out
- Ethernet
- Footswitch
- Keyboard and mouse

Options

- FP-MSX black flat-panel VGA monitor
- ADAT 8-channel I/O card
- TDIF 8-channel I/O card
- AES/EBU 8-channel I/O card
- Analog 8-channel I/O cards