



APPLICATION: The ST400 is an ideal solution for environmental noise & sound monitoring, ambient sound or geological surveys, audio, live sound, noise & vibration assessments, transportation, energy/power, natural resource exploration, subsea contracting & deepsea engineering, underwater acoustics, bioacoustics, vibro-acoustics, surveillance, SATCOM, SIGINT, COMSEC, conditioned based monitoring (CBM), predictive plant maintenance (PPM), marine or land-based construction, medical monitoring, gateway-networks, enterprise storage, or virtually any application where reliable high-speed acquisition/data logging needs to be deployed.

EMBEDDED SYSTEM – NO EXTERNAL COMPUTER REQUIRED: The ST400 encompasses advanced technology and incorporates a high-performance real-time Linux operating system, powered by an embedded modular PC-104 Intel-based architecture and the latest USB2 multi-port technology – featuring high-speed, ultra low-power, high-bandwidth, split-speed transaction modes of operation. System performance is further enhanced with integral self regulating resource management routines to ensure high-reliability and deterministic multi-process operations with multi-level logging capabilities for system audit purposes, along with extensive user-defined configuration options for quick on-the-fly flexible acquisition. The system is designed for interoperability, is fully compatible with standard computing environments and supports an integrated scalable technology platform designed to accommodate a wide range of applications. The open scalable architecture is also fully compatible with other emerging leading edge technology currently in development along with the vast third party PC-104 modules that are readily available worldwide.

INTERNET MONITORING: The advanced web-enabled operations offer remote monitoring, status and full system control. The FTP server provides direct access to the recorded data files for quick view and/or data transfers, including concurrent recording/downloads using any computer. The integrated file management system offers creation of directories with record locking, rename/delete a file or directory, etc.

Web-Enabled Operations

REMOTE MONITORING, SYSTEM STATUS & CONTROL

<http://www.soundtechnology.com/ST400home.jpg>

FTP Server/File Management

FILE TRANSFER, REVIEW DIRECTORIES & FILES

<http://www.soundtechnology.com/ST400FTP.gif>

SYSTEM DATA STORAGE: The internal pocket size USB2 hard drives are removable and can be directly connected to any Windows/Linux based computer for post analysis. Our proprietary dynamic data storage with auto-rollover drive sensing technology is highly intelligent and supports a broad spectrum of user-defined settings. Storage device parameters can be predefined for each drive and the dynamic recording system will automatically sense and rollover drives and/or partitions seeking available storage media.

COMPATIBLE USER-DEFINED DATA STORAGE: Selectable independent dynamic or fixed storage capacity/file size can be set for each drive or common global settings can be selected for all storage media. For example: Let's say you had an 80GB drive and wanted to preserve 50GB for another project. In addition, you plan to later copy the stored information to CD media. In this case, storage capacity could be limited on the target drive to 30GB and the recording file size could be set to 650MB to match the standard CD digital media format. Once a recording session is initiated, the acquisition system will either stop and/or automatically rollover when it reaches 30GB capacity on the target drive based on user-defined parameters. For identification purposes, each directory and/or data file can be named according to location, application, job, task, mission, code, etc. (See ST400FTP link). In this case, the name "SoundScape" was utilized.

USER-DEFINED FILE SIZE: The system offers both fixed file size in addition to dynamic file size mode which automatically adjusts the file size to fit available storage space and protects against creating unwanted file splitting for mission critical data capture. For example, assume a 200MB file size has been selected; however, at the end of the recording session, only 150MB capacity is available. In this case, the dynamic recording system will automatically rollover to the next available storage device and create the 200MB file.

Note: File size can be set to accommodate specific targeted digital media formats such as CD, DVD, USB memory stick, pocket hard drives, or any other storage media for tailor made backup/archive.

SELECTABLE RECORDING MODES: The ST400 offers flexible recording schemes (standard start/stop, continuous, scheduled, plus a wide range of user-selectable recurring frequency recording schemes).

PRECISION CALIBRATION: The recorder has a built-in calibration routine designed to work in concert with our SpectraSeries signal analysis software for referenced/calibrated post data analysis.

SCALABLE & FLEXIBLE: SoundScape is fully scalable to accommodate a wide range of budgets, standard applications, and can be tailored for virtually any related application-oriented task or mission.



SoundScape – reliable and scalable high-performance mobile recording solution . . .

- **EMBEDDED LINUX**
Latest 2.6 optimized kernel with real-time extensions and Advanced Linux Sound Architecture enhancements.
- **SCHEDULED RECORDING**
Flexible programmable recording architecture supports a broad spectrum of end-user requirements . . .
Recurring frequency-based recording sessions (i.e. record 20 seconds every 2 minutes or any other user-defined recording scheme), specific time/date and continuous uninterrupted linear recording modes support a wide range of advanced acquisition applications requiring light weight, large scale data storage and transit; offering remote internet monitoring, control and high-speed file transfers to any local computer worldwide.
- **REMOTE CONTROL**
Secure access and control from any web browser from anywhere with a direct or networked connection.
- **WEB-ENABLED OPERATIONS**
Dynamic GUI/virtual control surface w/auto scaling displays - remote monitoring, system status and control.
- **FTP SERVER**
Remote file viewing, fast data transfers, concurrent record/file download (200MB LAN file transfer rate under 50 seconds with standard high-speed internet connection).
- **REMOTE/DIRECT-NETWORK FILE MANAGEMENT**
Create directories with record file locking, rename/delete files or directories on ST400 data storage system.
- **DATA ACQUISITION**
Dynamic multi-channel high-resolution signal acquisition with precision input conditioning.
- **POST DATA ANALYSIS**
Perform SpectraSeries analysis from the removable hard drives, or download audio files to your local computer via FTP/Network connection.

ST400 BASE SYSTEM FEATURES:

SELF RUNNING, STAND-ALONE RUGGEDIZED MOBILE EMBEDDED SYSTEM – NO EXTERNAL COMPUTER REQUIRED . . .

- High-performance real-time Linux operating system with enhanced ALSA sound system.
- Powered by ultra-high performance Intel M Processor and Intel-based peripheral technology.
- Embedded PC-104 modular architecture for easy expansion.
- Embedded core system has no moving parts other than optional hard drives.
- Deterministic joint multi-process operations and multi-layer parallel computing modes.
- Intelligent system power management for low-power mobile applications.
- Expandable optimized high-capacity shared memory architecture.
- Second-generation dual internal high-speed 7 port USB2 Hub system controllers (14 USB2 ports).
- Extreme low-power consumption for mobile applications (60% reduction).
- Second-generation, bus-powered, multi-port, high-bandwidth USB2 technology.
- System supports USB2 internal/external data transfer rates up to 480 Mbps.
- Advanced “split transaction” scheme is employed for concurrent full-speed/low-speed USB devices.
- Integral backlit LCD character menu system (2x16) for field setups.
- Integrated 191DSA high-resolution acquisition module (rugged BNC connection).
- Signal conditioning (user-selectable independent ICP sensor power, gain, attenuation, impedance).
- Audio monitoring (phones, auxiliary output).
- External 12VDC (9V-35V Range, ~1A system average).
- High capacity single removable hot-plug USB2 pocket drive.
- Built-in dual drive bay system (logic supports up to 250GB/drive).
- Programmable intelligent data storage rollover system with dynamic file size sensing.
- Flexible data storage: internal fixed/removable, external, remote – enterprise storage.
- Selectable file size: CD, DVD, USB, pocket hard drives, or other digital media formats.
- Selectable file types: Windows FAT32 (32GB partition limit)/UNIX (supports unlimited size partitions).
- Continuous gapless linear record mode (uncompressed - full dynamic range).
- Proprietary dynamic data storage automatically detects, senses, and adjusts file size.
- Proprietary recording algorithms prevent errors and data dropouts.
- Ethernet (WAN/LAN/Internet).
- User-defined and selectable recording modes, including continuous and recurring frequency.
- Broad spectrum of selectable configuration options.
- Multi-level logging and audit trail capabilities.
- Intelligent self regulating resource management for optimal system performance.
- Built-in precision calibration process: (calibrated/referenced post signal analysis).