SONIFEX

Net-Log Network Audio Logger

2014-15

Catalogue

Net-Log Network Audio Logger

Category: Audio Logging.

Product Function: To record 4 mono channels for long term archival and play back over a network.

Typical Applications:
Recording radio station off air transmissions for regulatory purposes, recording board room proceedings, recording courtroom trials.

Features:
- Dedicated reliable multi-channel recording hardware.
- Easy to use Windows™ remote operation for playback, archiving, streaming and configuration.
- Independently configurable channel pairs to record at different sample rates, different bit rates and in mono or stereo.
- Recording duration configuration of the channels to suit your needs, e.g. 2 channels of low quality logging for 12 months together with two channels of high quality logging for 1 month, on one machine.
- Record inputs can be controlled remotely, e.g. snoop recording from mic-live output of a mixer.
- Automated voice recording - each channel can start and stop recording automatically by setting audio threshold levels, which means that it can be used for voice controlled systems and telephony recording.
- Up to 250,000 recordings per channel can be made.
- Each Net-Log has its own IP address, so a number of machines can be installed on the same network.
- Fail-safe alarm indicators and remotes.
- Password protection and security access rights to system.
- Support for hard disk sizes up to 2048GB.
- Recordings can be made using optional G.729 algorithm, allowing longer recordings and lower network traffic. G.729 audio quality is comparable to MPEG L2 at 32kbits/sec when used to record/playback speech.
- Recording on Net-Log can be controlled serially by Crestron and Televic board room controllers.

The Net-Log has been specifically designed for long-term recording and archival by the use of a dedicated hardware recording platform that uses a simple network connection for audio playback.

Playback software on a network connected PC streams the audio to the desktop where it can be played out or saved as a file.

The Sonifex Net-Log is a 4 channel audio logger which can record weeks of programming on a large internal hard-disk. The unit was designed as dedicated hardware for reliability reasons, i.e. there's no PC motherboard in this machine. Although PC based systems are great for playback, they generally aren't robust enough for continuous recording 24/7/365. The Net-Log was designed from the ground up to offer :

- High reliability for continuous operation.
- High quality audio (mpeg compressed).
- Compatibility with existing broadcast & Windows based systems (bwf files can be saved).
- Automatic operation with very simple to use software.

All audio created by Net-Log is Windows Media Player™ compatible so files can be emailed to colleagues and customers and played out on any PC with a sound system.

There are many applications for Net-Log, from radio stations recording their broadcasts for regulatory purposes, to small call centres, law firms and security companies using them for monitoring. Net-Logs have been installed in court rooms & police interview rooms for audio surveillance and offer a cost saving desk-top based logging & filing system for audio.

Radio Broadcast Logging

Where logging is required by the authorities, Net-Log provides a perfect, simple to use, elegant solution providing playback of requested recordings within seconds. But even if logging isn't regulatory, Net-Log can still deliver audio to the desktop of anyone at a radio station – you don't need to go to the racks-room, or central technical area to play out a recording previously made. So it has the following advantages :

- From their desktop, the sales team can check to make sure that advertising was played on time and can create audio files to email to customers.
- Program controllers can snoop on their presenters, checking performance and

checking that scheduled music was played.

- Station managers can check up on their competition and compare it with the sound of their own station.
- The production team have much easier access to recorded audio from past radio shows for the preparation of future stings & trailers.
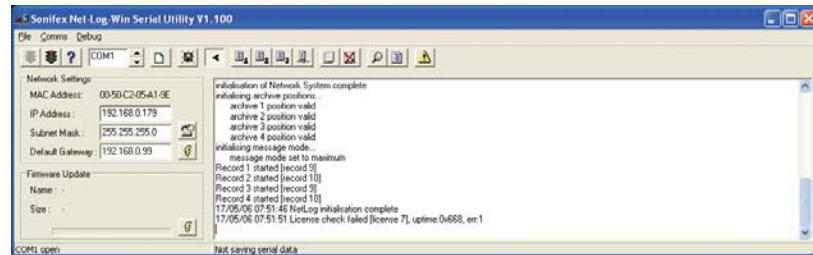
Net-Log records in mpeg layer 2, the standard for radio broadcasting, so that you can be sure that audio files created using Net-Log are compatible with almost every mpeg based automation system available. File downloads can be made in mp2, mp3 or linear .wav format, and broadcast wave format (bwf) files are supported as standard, ensuring tight integration with your playout systems.

Key Features of Net-Log Hardware Description

Net-Log is a 1U rack-mount unit which has 4 mono record inputs on 3 pin XLR sockets with potentiometer gain controls and LED level indicators for each input. These accept 2 stereo, or 4 mono audio streams which are encoded in mpeg layer 2 format and written

to a large internal IDE hard disk drive. he size of the drive is continuously being increased as technology improves and Net-Log can support sizes up to 2048GB. Contact sales@sonifex.co.uk for current drive sizes installed.

Net-Log has 2 serial ports on 9 pin D-types which are used to program the IP address of the machine and to upload new software. Additionally, there is a 15 pin D-type connector used for remote input recording

control and for alarm outputs (hard disk failure and archiving warning).

A 10Mbps RJ45 network port is used to connect Net-Log to your PC network and audio is streamed using TCP/IP. Audio can be streamed simultaneously to one, or many, PCs, as well as simultaneously archiving audio data to an IP server automatically in the background. All the Net-Log configurations and operational features are controlled from a connected PC using the Net-Log-Win software.

Net-Log-Win Software

There are 3 PC applications used to configure and control the Net-Log :

- Net-Util - A utility mainly used to initially configure the Net-Log and solve connection problems.
- Net-Log-Win - This is the application used on a day to day basis to control recording and playback.
- Auto-Archive - This is used to automatically archive/backup files to an
- IP server.

Net-Util Screen.

Net-Util Application

The Net-Util program connects to a Net-Log unit via a serial (COM) port using the supplied serial cable, and is used to :

- Define the IP address of the connected Net-Log.
- Upload network settings.
- Monitor status messages.
- Upload new firmware into the Net-Log.

Net-Log-Win Application

There are 4 main screens in Net-Log-Win which control and configure the connected Net-Log(s) : Recording, Playback, Archiving and Options. Access to these screens can be password protected and users can be configured either to View or Edit each screen. In the top part of the screen, a drop down list allows you to select which Net-Log you wish to connect to and the alarm states are also shown.

The Options screen is the place where you configure the settings of the connected Net-Log. The Options Archive screen in Net-Log-Win is used to configure the IP address and directory of the archiving destination and also to define archives to be written either as the cuts were recorded, or in files of a certain duration, e.g. hourly.

Recording

Unlike normal hard-disk recording systems which stop when the disk is full, on reaching the "end" of the recording data space Net-Log begins to overwrite the oldest recordings, meaning that you always have access to the last recordings made, up to the size of the hard-disk. Additionally, it allows simultaneous recording and playback, so that you don't have to stop the unit recording in order to search and play. Each channel can be given a service name for reference when searching for audio.

Recording can be controlled in 5 different ways :

- Using on-screen buttons in the Manual Record screen.
- Using the Program Record screen to start & stop recording at different times, using up to 20 programs. Programs can be saved to disk.
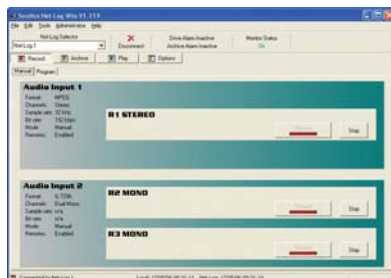
Net-Log-Win Software & Licensing

The Net-Log is initially configured and controlled by Net-Log-Win software which is a suite of three applications which run under MS Windows™ 7/8. The software is sold either as a two stream, or a five stream licence. This means that each Net-Log on a network can simultaneously support either 2, or 5 simultaneous connections to it for playback or archiving. Note that you don't need to buy a licence for each Net-Log if they are on the same network - if you have a number of Net-Logs on a single network, you only need to purchase a single set of licences, e.g. if you have 3 Net-Logs and buy a single Net-Log-Win05 5 stream licence, up to 5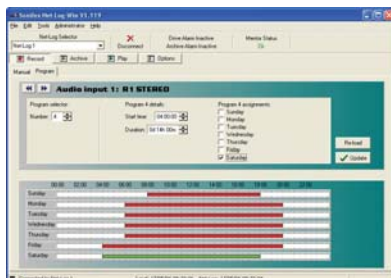 different people can stream from each of the 3 Net-Logs, i.e. 15 separate streams, provided that your network infrastructure can allow for this. Additionally, this is a buy once licence - we don't ask you to re-buy it each year !

Net-Log licensing operates by you providing us with a licence code which appears in a licence window within Net-Log-Win. Once we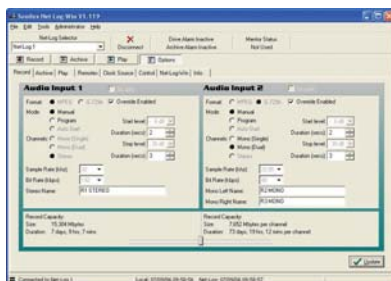've verified the authenticity of your order, we send you an authentication code which you enter into the licence window to licence your Net-Log. If you don't have a licence code, the Net-Log will continue recording but access to the recordings will be denied after 3 days.

Manual Record Screen.

Program Record Screen.

Options Record Screen.

- Using a remote input on the 15 way D-type connector.
- Automatically on voice/sound level, ideal for recording telephone conversations, configured in the Options Record screen.
- By Crestron and Televic board room controllers, via an RS232 serial connection. The controllers are mainly used in meeting rooms and allowing Net-Log to more easily be used for recording in this environment.

In the event of needing to record directly from the Net-Log, there is an emergency Record Control on the front panel of the machine.

Net-Log-Win Playback

Net-Log-Win software for MS-Windows™ 7/8 is used to listen to audio recorded at a previous time and date, or for copying audio to a file, e.g. to email to a client or colleague.

In the Play screens, simply select a Net-Log and the required channel service name and a list of all the recordings made are displayed, sorted by recorded date and time. There are 4 ways to play audio :

- Using the Play Stream screen, selected audio is played out on your PC sound system within seconds.
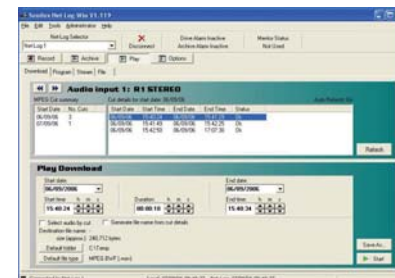- Using the Play Download screen, you can select a recording's date, time and duration and a file is downloaded from the Net-Log and created on your local PC. You can then use separate applications to email the audio file, edit it, or save it to CD, or DVD. Files can be saved as .mp2, .mp3 or linear .wav.
- Using the Play Program screen, you can select a number of recordings, made at the same time over a number of days of the week and save them off to a single directory, e.g. for storing commercials from a particular customer. Files can be saved as .mp2, .mp3 or linear .wav.
- Using the Play File screen, you can open any previously saved audio file for playback. You can also play .mp3 and linear .wav files this way.

Additionally, a separate free player is available within Net-Log-Win to play any audio file created from a Net-Log.
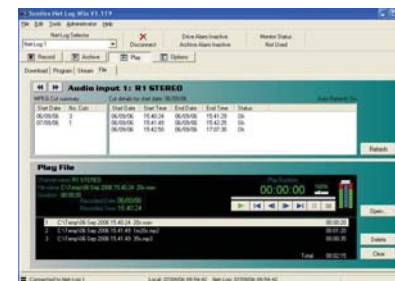

Play Stream Screen.

Play Download Screen.

Play Program Screen.

Play File Screen.

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Net-Log-Win Free File Player.

Archiving

You can use the Archiving function to automatically create long-term backups of the recordings by streaming audio to a separate server disk for archival purposes.

For each recorded channel, you can define an IP address and directory to save files to and Net-Log can create files on that directory either in the same way that they are recorded, or in files of a certain length, e.g. of 1 hour duration.

The Net-Log Auto-Archive utility is run on the server that you are archiving to. It has the following features :

- Simultaneous connection to multiple Net-Logs.
- Automatic log-in, archive and log-out process.
- Status display of Net-Logs on-screen in an easy to understand format.
- Status reports, error reports and archive alarm information can be emailed automatically at regular intervals.
- Can be used to check the status of
- Net-Logs even when archiving is not used or required.

Note that Archiving uses a licence stream.

Specification For Net-Log

Audio Specification

Input Impedance:	>10kΩ balanced.
Maximum Input Level:	+20dB.
Distortion:	<0.1% @ 1kHz + 16dBu.
Signal to Noise Ratio:	90 dB RMS A wtd. 22kHz bandwidth.
Wow and Flutter:	Unmeasurable.
Phase Error at 10kHz:	Unmeasurable.

Please note that the audio specification of the play output depends on the soundcard that you have installed on your PC. Net-Log is a recording device and has no audio output of its own.

Rear Panel Connections, Controls and Indicators

Analogue Inputs:	4 x XLR 3 pin socket.
Input Level Controls:	4 x Rotary pre-set potentiometers.
Network:	RJ45 10Mbps ethernet.
Network Status LEDs:	Rx, Tx, link and collision.
RS232:	2 x 9 way D-type plug.
Alarm Outputs and Remote Inputs:	15 way D-type plug.
Power:	IEC Power plug, 95-265 VAC, 47-63Hz.

Controls and Indicators

Front Panel Controls:	Record control to instantly start recording
Front Panel Power Indicator:	Power LED (blue)
Front Panel Alarm Indicators:	2 x Alarm LEDs, disk drive alarm LED (red), archive alarm LED (red)
Front Panel Level Indicators:	4 x Analogue input level LED, 1 for each channel (green, orange, red)
Rear Panel Network Indicators:	4 x LEDs, receive (RX), transmit (TX), link and collision LEDs

Additional Information

Sample Rates:	16kHz, 22.05kHz, 24kHz, 32kHz, 44.1kHz and 48kHz
Audio Format:	Mpeg layer 2 with bit-rates as below and G.729 low bit rate
Recording Types:	Mono, dual mono, stereo
Hard Disk Capacity:	A minimum hard-disk size of 1TB is fitted. Due to the rapidly changing nature

of disk capacities, the hard-disk size you buy may be larger than this.

PC Soundcard Needed:	Any windows compatible soundcard that can play PCM (.wav) audio files

Equipment Type

Net-Log-01	Net-Log 4 channel audio logger, with large hard disk (contact sales @sonifex.co.uk for current sizes available)
Net-Log-Win01	Net-Log Windows™ software - 2 stream licence
Net-Log-Win05	Net-Log Windows™ software - 5 stream licence
Net-Log-UPS01	1U rack-mount UPS for use with Net-Log
Net-Log-G729	G.729 software licence for one Net-Log (up to 4 mono channels).

Physical Specification

Dimensions (Raw):	1U 19" rack x 220mm deep 48cm (W) x 22cm (D) x 4.2cm (H) (1U) 1U 19" rack x 8.7" deep 19" (W) x 8.7" (D) x 1.7" (H) (1U)
Dimensions (Boxed):	56cm (W) x 30cm (D) x 18cm (H) 22" (W) x 11.8" (D) x 7.09" (H)
Weight:	2.5kg - 5.5lbs

Record Duration

The table below shows the approximate record capacity at different bit-rates for one mono channel on a 1TB hard disk. For 4 mono channels, divide the figures by 4.

Note: Each pair of channels can be given a different bit-rate and * indicates bit-rates for stereo channels only.

(kbit/sec)	Days	(kbit/sec)	Days
8	11572	112	826
16	5786	128	723
24	3857	*144	642
32	2893	160	578
40	2314	192	482
48	1928	*224	413
56	1653	*256	361
64	1446	*320	289
80	1157	*384	241
96	964		

Specification For Net-Log UPS01

Output

Output Power Capacity:	280 Watts/450 VA
Max Configurable Power:	280 Watts/450 VA
Nominal Output Voltage:	230V
Output Voltage Distortion:	Less than 5% at full load
Output Frequency (sync to mains):	47-53Hz for 50 Hz nominal, 57 63Hz nominal
Crest Factor:	Up to 5 : 1
Waveform Type:	Stepped approximation to a sinewave
Output Connections:	(4) IEC 320 C13 (2) IEC Jumpers

Input

Nominal Input Voltage:	230V
Input Frequency:	50/60Hz +/-3Hz (auto sensing)
Input Connections:	IEC-320 C14
Input voltage range for main operations:	160-286V
Input voltage adjustable range for mains operation:	151-302V

Batteries & Runtime

Battery Type:	Maintenance-free sealed Lead Acid battery with suspended electrolyte: leakproof
Typical recharge time:	5 hours
Replacement Battery:	RBC18
RBC™ Quantity:	1
Typical Backup Time at half load:	19.4 minutes (140 Watts)
Typical Backup Time at full load:	5.9 minutes (280 Watts)
Runtime Chart:	Smart-UPS SC

Physical Specification

Dimensions (Raw):	1U 19" rack x 43.2cm (W) x 38.3cm (D) x 4.4cm (H) (1U) 1U 19" rack x 17" (W) x 15" (D) x 1.7" (H) (1U)
Dimensions (Boxed):	47.6cm (W) x 58.9cm (D) x 16.4cm (H)(1U) 18.74" (W) x 23.19" (D) x 6.45" (H)
Weight:	Nett: 10.18kg Gross: 11.73kg Nett: 22.40lbs Gross: 25.80lbs
Colour:	Grey

Mentor Time-Server

The Mentor Time Server is software which runs on a MS-Windows Windows™ 7/8 PC and synchronizes a number of MS-Windows Windows™ 7/8 PC client machines or Sonifex Net-Log units to its time. The client PCs or Net-Logs read the server time and have their time set using TCP/IP at regular intervals.

Clock Sources

Mentor Server can be synchronised to NTP (Time servers on the Internet).

For pricing information, please contact the Sales Department.

Sonifex Mentor Client Installation

The Mentor Client software can be installed on any number of PCs connected to network where a Mentor Server is located, but clock updates will only be performed upto the number of client licences installed on the server.

Mentor Server

The Mentor Server to connect to is identified by its TCP/IP address.

Equipment Type Mentor

MTS-5	Mentor Time-Server 5 client licence
MTS-25	Mentor Time-Server 25 client licence
MTS-100	Mentor Time-Server 100 client licence
MTS-500	Mentor Time-Server 500 client licence

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