Eventide®

ATLAS Series Audio Logging and Archiving System

Models VR778, VR725, and VR615

VERSION 1.8.0

141078 v1.8.0   **April 15, 2008**

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Introduction

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Welcome

Welcome and congratulations on your purchase of an ATLAS™ recorder! The ATLAS™ (Advanced Technology Logging and Archiving System) series of recorders is the latest offering from Eventide, the company that invented digital recorders in 1989.

This system manual will help you maximize the use of your purchase. It includes:

- A quick-start bench test, for those who want to quickly familiarize themselves with some basic operations;
- Guidance on installing your recorder;
- Descriptions of all of the controls and menu items on the front panel user interface;
- Step-by-step instructions on how to set up and operate your recorder.

Eventide is committed to your satisfaction. If, after using this manual, you still have questions about the operation of your recorder, contact Technical Support at support@eventide.com or call (201) 641-1200.

The Eventide web site has additional information that may be helpful. Go to http://www.eventide.com.

One last thing: to help us reach you with information on updates and upcoming new features, please send us your warranty card. We do not provide your information to marketers or any other outside organizations.

ABOUT THIS MANUAL

This manual applies to software release 1.8 for the VR615, VR725, and VR778 recorders, as well as for the Recorder Configuration utility.

To identify the recorder software release number, do the following while the recorder is running:

- Press Setup.
- Scroll to "Configuration Info" and select it.
- Check the "Release" item. That is the software version.

To identify the Recorder Configuration utility version number, select Help > About from within the utility.

This manual contains the following information:

Chapter 1, "Introduction": Provides an introduction to the Atlas recorder and describes this manual.

Chapter 2, "Recorder Setup and Operation": Provides information on the following:

- Unpacking
- Performing a Bench Test
- Installing
- Adjusting Settings
- Operating using only the front panel, or with an attached mouse and monitor

Chapter 3, "Recorder Setup and Administration: Provides information on using the Setup menu and on administrative tasks.

Chapter 4, "The Atlas Administrative Client": Provides information about client software used for recorder administration, and detailed instructions on using the Recorder Configuration utility.

Appendices: Provide information on types of available input interface boards with which your recorder may be equipped.

Recorder Setup & Operation

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Unpacking the Recorder

CAUTION! Use care and assistance when lifting and handling the recorder. The VR615 weighs about 30 pounds (14 kg) and the VR725 about 50 pounds (23 kg). The VR778 can weigh as much as 95 pounds (43 kg)!

Check the box for damage. A crushed box, holes, or water damage, for example, could indicate that the recorder has been damaged. Open the box and inspect the recorder and associated accessories. If the equipment appears damaged contact Eventide right away and **save the damaged box and packaging!**

Check that the unit is delivered with the expected configuration and accessories. The packing slip states the contents. In addition, the box will include:

- A configuration sheet indicating installed audio input boards and other I/O boards;
- A warranty registration card;
- One archive medium per archive drive;
- One power line cord per power supply;
- Two server software disks, one labeled "install" and one labeled "update"; and
- This system manual.
- Two keys (We strongly recommend that you keep one of the keys as a spare and put it in a safe place.)

Other accessories may be included, depending on your order. For example, you may receive client disks. Sections 2 and 3 provide instructions for the client software.

General Specifications

VR615 AND VR778

The Eventide ATLAS™ series of digital recorders is based on very similar server (recorder) software and identical client (PC user) software. The primary differences among different units in the product line are physical, e.g., size, power, storage configuration, etc. The following table highlights the differences among the products. This is a summary only, and does not replace the individual unit specifications.

Table 1–Specification Summary for VR615 and VR778

Product view	Atlas VR615	Atlas VR778
Front Panel GUI	320x240 color TFT LCD display, soft keys, fixed keys, scroll wheel, keypad, volume control, speaker	
Front Panel I/O	USB, 1/8" line level output, 1/8" headphone output	
Remote software	Windows-based remote call browser Windows-based remote administration client	
Operating System	Linux	
Call Record Database	Internal relational database with programmable retention	
Channel Inputs	Compression Rates (kbits/s): 13.3, 16, 32, 64 Mu-law Frequency Response: 200 to 3400 Hz Signal to Noise: -50dB Crosstalk: -60dB AGC: 24dB Boost Impedance: >10Kohm	

Network	Ethernet 100Mb/Sec	
Height	3-1/2" (2 rack units)	7" (4 rack units)
Depth	19"	26"
Power	150 watts nominal	200-300 watts
Power supplies	Single	Dual hot-swap
Weight	30 pounds nominal	55-95 pounds
Analog channels	8-48	16-160
Digital channels	16-48	16-96
Maximum hard disk capacity	2 drives, RAID 1	2-6 drives, RAID 1 or RAID 5
Standard archive drives	1 9.4GB DVD COMBO (DVD-RAM/R)	2 9.4GB DVD COMBO + 1 CD-RW
Standard hard disk storage	2 X 120GB	2 X 120GB
Optional storage	—	2 X DDS-4, Removable hard drives

FRONT PANEL DETAILS – VR615 AND VR778

Atlas VR615

Atlas VR778

Above are the full front panels for the VR615 and the VR778. The VR778 in its standard configuration has two DVD Combo drives and a CD-RW drive. The VR615 has a single DVD Combo drive. Available optional drives include:

- Iomega REV® drives;
- DDS-4 tape drives;
- Removable hard drives; and
- Solid-state drives for special applications.

The display presents information on the operation of the recorder.

The bottom row of keys is referred to as the "soft keys" and their function is defined by the bottom line of the display, which changes depending on context.

The side keys have fixed functions and are referred to as mode keys.

The Knob and keypad are used for data selection and entry. Frequently an item is "scrolled to" by turning the Knob and then selected by pressing it. The keypad enters numeric and other data.

There are three LEDs to the left of each archive drive.

READY indicates that there is a medium in the drive

RECORD indicates that the drive is archiving

FAULT indicates that there is a problem with the drive or medium

The power switch is operated with a key - two of which are supplied. Note: You should avoid using this switch to power down the unit. Use it to power up only.

The audio section provides a headphone jack and volume control for it. There is also a constant level Line Out jack. The USB connectors are for alphanumeric keyboard connection or modem connection (used for remote diagnostics).

REAR PANEL DETAILS

Typical VR615 Rear Panel

Shown connected are the AC power and Ethernet port. The connector on the lower right is for the single 16-channel analog telephony board.

Power Supply 8 7 6 5 4 3 2 1 f e d c b a
Typical VR778 Rear Panel with Slot Labeling

This VR778 shows connections to the dual-redundant power supplies and the Ethernet port. The four large connectors in the center are for the four 16-channel telephony boards in this unit. The small D connector on the second panel from the right is an RS-232 connector for the optional label printer. Slots 1 through 8 can contain telephony boards. Slot 1 holds the lowest-numbered channels.

VR725 & BLANK PANEL UNITS

These members of the Atlas series use either a touch screen display, which acts both as a monitor and a mouse, or an external standard computer monitor and mouse. All operations performed by the front panel controls on the VR615 and VR778 can be performed by the touch screen. The Atlas blank panel models are lower-cost alternatives for those who intend almost all operation to be remotely controlled over the network. Installation can be accomplished with a "borrowed" monitor, mouse and keyboard

Product view	*VR725*	*VR778-Blank Panel*
Front Panel GUI	640 x 480 Touch screen Display or external monitor and standard computer mouse	
Front Panel I/O	USB, 1/8" line level output, 1/8" headphone output	
Remote software	Windows-based remote call browser Windows-based remote administration client	
Operating System	Linux	
Call Record Database	Internal relational database with programmable retention	

Channel Inputs	Compression Rates (kbits/s): 13.3, 16, 32, 64 Mu-law Frequency Response: 200 to 3400 Hz Signal to Noise: -50dB Crosstalk: -60dB AGC: 24dB Boost Impedance: >10Kohm	
Network	Ethernet 100Mb/Sec	
Height	5-1/4" (3 rack units)	7" (4 rack units)
Depth	21" w/o cables, Display protrudes 2″	26"
Power	200 watts nominal	200-300 watts
Power supplies	Dual hot-swap	Dual hot-swap
Weight	50 pounds nominal	55-95 pounds
Analog channels	8-96	16-160
Digital channels	16-96	16-120
Maximum hard disk capacity	4 drives, RAID 5	2-6 drives, RAID 1 or RAID 5
Standard archive drives	2 X 9.4GB DVD COMBO (DVD-RAM/R)	2 X 9.4GB DVD COMBO + 1 CD-RW
Standard hard disk storage	2 X 250GB	2 X 120GB
Optional storage	2 X DDS4 (SCSI), 1TB Hot-swap RAID	2 X DDS-4, Removable hard drives, 3rd DVD

FRONT PANEL DETAILS – VR725 WITH TOUCH SCREEN

The touch screen display is on a locking door that protects the power switch and optional hot-swap RAID array.

Door open to show RAID hard drives

The VR725 employs a touch screen display for control, instead of dedicated buttons and keypad. All functions, including SETUP, can be accessed from this panel. When necessary an alphanumeric keyboard appears on the screen so that non-numeric data such as channel names can be entered. The RAID disk array (up to 1 TB of storage) can be accessed and disks can be exchanged while the recorder is operating by opening the monitor door. Two DVD Multi-drives are standard for archiving on DVD-RAM.

Audio monitoring/playback is accomplished with an integral amplifier/speaker unit (bottom right) with headphone jack, line-level output, and volume control.
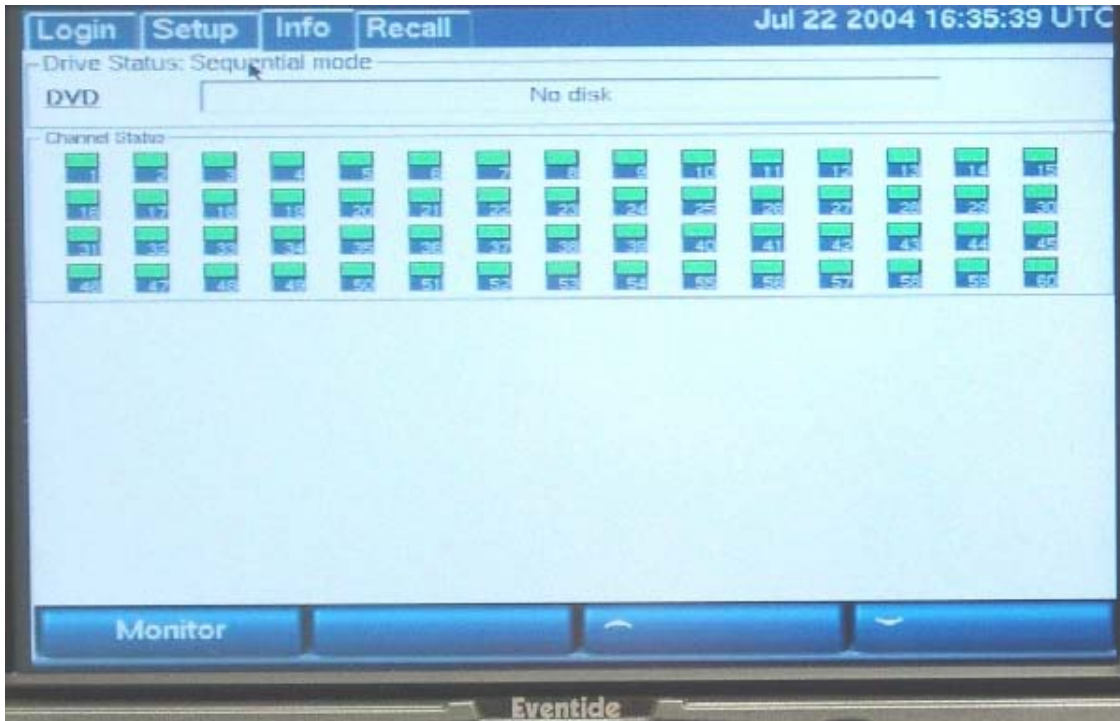
The touch screen display of the VR725 performs all the functions of the display AND the keypad / soft keys present on the VR615 and VR778. When necessary, a vertical scroll bar allows additional channel or data selection, and an alphanumeric keyboard allows data entry of channel names and other required SETUP information.

This power button, immediately below the screen, controls the screen backlight ONLY. Turning it off does not affect recorder operation in any way. It can be used as a "screen saver" if desired.

The door lock (left) can be opened to access critical recorder controls and the hot-swap RAID disk array.

The recorder power switch (bottom right) is behind the locked door, as are the USB connectors for the optional keyboard. Two keys are supplied.

Note: You should avoid using this switch to power down the unit. Use it to power up only.

The audio section provides a ¼"
headphone jack and a constant level Line
Out jack for convenient re-recording. A
volume control (not shown) controls
speaker and headphone volume.

REAR PANEL DETAILS

Typical VR725 Rear Panel

*Left to right: Dual Hot-Swap power supplies, connector panel for Ethernet, USB,
Keyboard, Mouse, Label Printer connector (COM1), and splitter cable. To the right of
the upper cable connector is the Time Source input (COM2) and four telephone board
connectors, 1 (left) through 4 (right).*

Bench Test

Before installing the unit, you may want to run a brief bench test, especially if you are unfamiliar with Eventide ATLAS™ series recorders. The following steps are just one suggested bench test, which you can modify as you wish. If you change settings, note the defaults first and set them back to the defaults after you complete the test.

Plug in the provided line cord(s) to the appropriate line voltage.

Turn and hold the key for 1 second and release it. (VR725: unlock the door and hold the switch for 1 second.) The boot process will start and diagnostic messages will scroll by on the front panel screen or monitor.
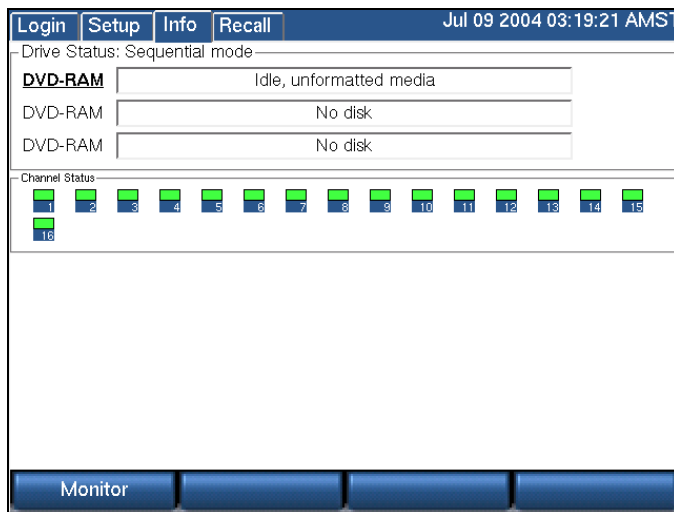
After several minutes, the screen will show the INFO display, one of three top-level displays. The others are SETUP and RECALL, accessed by the mode keys.

Place a new archive medium in the archive drive. The associated Drive Status indicator will change from "No disk" to "Unformatted media."

We do not recommend formatting it for now. Wait until you are actually ready to start archiving. You will learn more about archiving later in the manual. Eject the disk by selecting its drive and pressing the Eject soft key.

The Channel Status section tells you which channels the recorder recognizes as ready for recording. If you ordered a 16-channel unit, whether analog-only, digital-only, or a combination, you should see 16 green steady indicators.

Channel	Start Time	Duration
5	2004-06-30 21:58:06 AMST	0:00:17
6	2004-06-30 21:58:06 AMST	0:00:17
7	2004-06-30 21:58:06 AMST	0:00:17
8	2004-06-30 21:58:06 AMST	0:00:17
9	2004-06-30 21:58:06 AMST	0:00:17
10	2004-06-30 21:58:06 AMST	0:00:17
11	2004-06-30 21:58:06 AMST	0:00:16
12	2004-06-30 21:58:06 AMST	0:00:16
13	2004-06-30 21:58:06 AMST	0:00:16
14	2004-06-30 21:58:06 AMST	0:00:16
15	2004-06-30 21:58:06 AMST	0:00:16
16	2004-06-30 21:58:06 AMST	0:00:16

Likewise for 24 channels, 32 channels, and so on. This is a good time to make sure you see the expected number of channels.

Press the RECALL button. No calls are listed at this point. When calls are recorded they will be listed, as seen in the figure to the right, and may be played back.

- Select the SETUP mode and scroll through the items. Try these exercises. If you need a hint, scroll to the item in parenthesis.
- Read the default IP address and net mask of the recorder. (IP Address)
- Change the IP address. (IP Address)
- What time zone is the recorder set to? Change it to your local time zone (you can change it back later if you want to). (Time Zone)
- What is the recorder's internal date and time? Change them. (Date/Time)
- Read what types of boards are installed in the recorder. (Board Configuration)
- Change the DETECT setting of Channel 5. Put it back to the
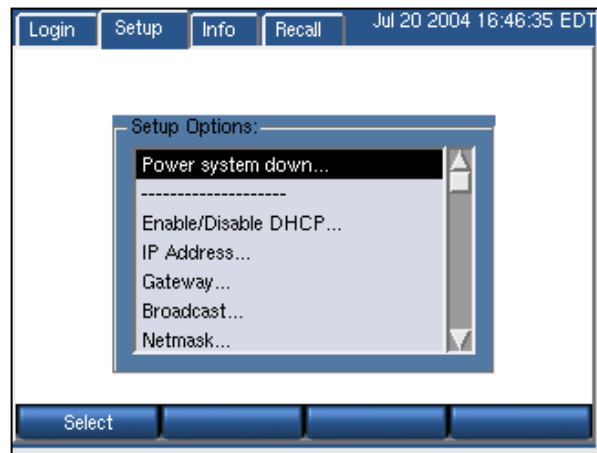
original setting. (Channel Configuration)

- Toggle AGC for Channel 6. (Channel Configuration)
- Read the serial number of the unit from the front panel. (Serial Number)
- Shut down the unit as follows: Go to SETUP. Choose the item to perform a System Shutdown. Answer "yes" to the prompt. After the recorder completes its controlled shutdown procedures, the unit will shut down.

Caution: Do not force a shutdown by pulling the power plug or using the power switch. A forced shutdown can result in corrupted files and loss of data.

Installation

Caution: Some ATLAS™ recorder models are heavy! Do not attempt to lift or install these units without assistance. Do not attempt to rack mount any model without either shelf or rack-slide support. Rack slides are available as an option from Eventide. Do not support these units using only the mounting ears.

GENERAL

The ATLAS™ series recorders are best perceived as computer equipment. They have essentially the same requirements, both physical and electrical, as standard PCs, and similar attention should be paid to their environment to assure long life and reliable operation. Site preparation, especially for larger installations, may include providing rack cabinets and concentrating communication wiring – phone lines, radio, etc. – nearby.

OPERATING LIMITS

The installation should allow the units to operate within their electrical and physical operational limits.

Parameter	Range or Limits
Voltage	100 - 250VAC
Frequency	47 - 63 Hz
Power	VR615 - 150W/300W, VR725-200W/400W, VR778 - 200W/600W

(typ/max)	
Temperature	Operating +5C (41F) to 40C (104F)
Humidity	10% - 80% relative, non-condensing
Altitude	-2,000 to +10,000 feet operating, 22,000 feet non-operating. If operated at high altitudes, take special care that airflow is unrestricted by dust or obstacles.

Shock and Vibration	These units contain hard drive storage units and mechanical components that are sensitive to mechanical vibration. They are intended for operation in fixed locations. Vibration-isolation mountings are required for use in mobile operation.		
	Shock	Operating	1G, 11ms half-sine
		Non-operating	40G, 11ms half-sine
	Vibration	Operating	.2G, 5-300Hz
		Non-operating	1G, 5-300 Hz

Orientation	The archive drives are sensitive to orientation. The recorder should not be mounted more than 15 degrees off the horizontal plane.

LOCATION CONSIDERATIONS

When choosing a location, consider the following:

- **Operating Limits.** The location must respect the unit's operating limits, as listed in the Operating Limits section of this manual.
- **Convenience.** If the unit will be operated from its front panel, then it should be comfortably accessible to the operator. Service personnel should have access to the unit.
- If the unit is to be installed in a rack, special rack units that provide a horizontal writing surface are available.
- **Security.** If the unit must be physically secure, then it can be placed in a locked equipment room with limited access. This will also help ensure data security.

- Consider that a user with access to the unit can remove power, disconnect the input cables, play back recordings, monitor calls, remove archive media, and do other things to compromise your data. Logins are no protection against a determined attacker.
- In short, if you are concerned about malicious users making a purposeful effort to gain **unauthorized access to your data**, then the only real protection is to place the unit in a secure location.
- **Cable lengths.** For analog signals, such as POTS lines and radio receiver outputs, cable lengths are not likely to be an issue. An adequate level can be obtained thousands of feet from the signal source. The unit has programmable adjustments for low or high signal levels.
- That being said, shorter cable lengths will create less signal attenuation and noise than longer cable lengths.
- For digital inputs, see the Appendices for more information.
- **Particulates.** The archive drives and, to a lesser extent, the fans and hard drives, can be damaged by smoke and dust. If you find dust build up on the surfaces or the fans being clogged, consider changing the location.
- **Power dropouts or surges.** The unit should be protected from power dropouts and surges. The chosen location should have line power available that is not on the same circuit as equipment that draws a large current on start-up, such as electric motors or compressors or banks of fluorescent lights. Line voltage fluctuations, brown-outs, and power outages can result in loss of data and damage to the unit.
- An Uninterruptible Power Supply is required to mitigate these problems. See the section entitled *Connecting AC Power and UPS* for a list of approved UPS units.
- **Spilled liquids.** Liquids spilled on the unit can damage it. The location should not encourage people to place coffee cups on the unit, for instance.
- **Shock.** Shocking the unit while the hard drives are operating could damage the hard drives. The location should not be subject to vibration or jolting while the unit is operating.

MOUNTING OPTIONS

As normally provided, the unit can be mounted on any surface that can bear its weight and that does not tilt more than 15°. It can be rack mounted if the rack has a shelf to support it, and the front panel attached to the rack with the screws

provided to prevent casual removal. It must not be mounted solely with the mounting ears and rack screws!

If no rack shelf is available, a rack-slide rail install kit, which includes slide rails, rear slide supports, brackets, and mounting hardware, can be ordered:

> **Rack-Slide Rail Kit for the VR778: Eventide Part# 324343**

> **Rack-Slide Rail Kit for the VR725: Eventide Part# 324430**

> **Rack-Slide Rail Kit for the VR615: Eventide Part# 324355**

Alternatively, a center rack mounting option is also available for each Atlas recorder as well:

> **Center Rack Mount Kit for the VR778: Eventide Part# 108110**

> **Center Rack Mount Kit for the VR725: Eventide Part# 108109**

> **Center Rack Mount Kit for the VR615: Eventide Part# 108108**

OTHER CONSIDERATIONS

The recorder is shipped with two keys. One key should be kept in a safe place as a backup spare. You should consider preventing casual access to the other key as well. The key should not be used to power down the recorder unless necessary. It should be shut off using the SETUP/Power down option. Otherwise, data corruption could occur. If it is necessary to use the key to shut down the recorder, turn the key and hold it for one second and release the key. **Do not continue holding it until the recorder shuts down**.

CONNECTING AC POWER AND UPS (UNINTERRUPTIBLE POWER SUPPLY)

The recorders use a "universal" power supplies. This means you can plug it into any line (mains) voltage from 100 volts to 240 volts nominal. However, to prevent unplanned shutdowns caused by power glitches or interruptions, the recorder requires a UPS unit that meets certain minimum characteristics:

The UPS must provide power for a long enough period to allow orderly shutdown of the recorder in case of power failure.

If your facility has a backup generator, the UPS should provide power long enough to operate the recorder until the generator becomes operational after a power failure (typically a minute or less) PLUS a period long enough to allow orderly shutdown of the recorder in case of generator failure.

The UPS should be an approved model, i.e., one that can communicate its status to the recorder. This isn't strictly necessary if your facility is manned and personnel are trained to shut down the recorder using the appropriate procedure in case of power failure. However, an approved UPS will keep the recorder running and perform a safe shutdown when its battery power gets low.

Eventide offers commercial-grade, heavy-duty rack-mount UPS units. We have tested the following units and confirm they work with the recorders.

Manufacturer	Rating	Eventide Part #	Rack Height
APC / Tripp-Lite	1500VA, 940W, 120V	427213-001	2U (3-1/2")
APC / Tripp-Lite	1500VA, 940W, 240V	427213-002	2U
APC / Tripp-Lite	750VA, 120V	427214-001	2U
APC / Tripp-Lite	750VA, 240V	427214-002	2U
APC / Tripp-Lite	3000VA, 2700W, 120V	427215-001	2U
APC / Tripp-Lite	3000VA, 2700W, 240V	427215-002	2U

In addition, consumer-grade UPS units may be available locally and are suitable for more casual installations. We have tested the following units and confirm they work with the recorders.

Manufacturer	Model	Recommended for
APC	Back-UPS ES 500	VR615
APC	Back-UPS ES 725	VR778, VR725, VR615

To connect your recorder to a UPS, simply plug the UPS into an AC socket, and plug the recorder into the UPS using the power cord provided. If you use an approved UPS, also connect the UPS to one of the recorder's USB connectors on the rear panel using the cable provided with the UPS. This communication link

will perform a safe shutdown when necessary, and also allow the recorder to notify you (by display and optionally by email) if there is a power problem. Some recorders are available with dual redundant power supplies. To preserve redundancy, it is acceptable to use a separate UPS with each line cord.

BEFORE YOU CONNECT AUDIO SIGNALS TO THE RECORDER...

Before you connect the telephone lines, radio outputs, or other signals to be tapped and recorded, set the recorder's internal clock, date, time zone, and channel names. If you are installing new software on a currently operating recorder, disconnect the audio inputs until you have restored the configuration of the recorder, including channel selection and time zone. The reason for this is that the recorder will begin recording as soon as it detects an input signal. Calls with the wrong time, date, and time zone may get recorded and will likely remain on the recorder for a long time. This might be confusing later when you search, filter, and archive calls. Refer to the section entitled "Setting the Date, Time, and Time Zone."

CONNECTING TELEPHONE, RADIO, AND OTHER ANALOG AUDIO SIGNALS TO THE RECORDER

This section applies to units equipped with the Analog Input Board. If you are not sure if you have this board installed, follow the steps in the section entitled "Bench Test," specifically step 8e, earlier in this manual. You can also check the printed back-panel diagram that was packed with your recorder.

The Analog Input Board handles interfacing to analog audio signals. The number of channels per board will vary depending on which is ordered, with 8, 16, and 24 channels being standard configurations. Each board presents a 25-pair "blue ribbon" connector at a slot in the rear panel. When viewing the VR615 recorder from the rear, the Analog Input Board is in the bottom horizontal slot. For the VR778, the lowest-numbered channel board is in Slot 1, as shown in the figure in the section entitled "Rear Panel Details." Slot 8 is nearest the power supply. Slot 1 is eight slots over from the power supply. The VR725 telephone boards are numbered left to right when viewed from the rear.

A mating connector is provided for each board unless a Quick Install kit has been ordered (next section). The connector has two rows of contacts. One row is numbered 1 through 25, and the other row is numbered 26 through 50.

Numbering is such that pin 1 is opposite 26, and 25 is opposite 50. Each audio input requires two wires, in what is known as a "balanced" configuration. There is no "ground" connection. The channel and connector pin correspondence is detailed in Appendix 8.

Eventide offers a Quick Install kit that, besides pulling together the parts you will need for a convenient installation, brings Channel 1 to the white-blue pair. It is described in the next section.

To connect a telephone line to a given channel, simply connect the two wires to the two pins for that channel. It is not necessary to check or observe polarity.

To connect an audio source such as the line output or recording output of a radio, connect the "hot" lead to one pin and the ground or shield lead to the other. Again, there is no distinction between input pins - either can be connected to the "hot" lead.

Any audio source may be connected, provided that the audio voltage is nominally in the .1 - 1 Volt range and remains fairly constant. Differing voltage levels are compensated for when setting up the card parameters from the recorder front panel. Not recommended are sources with greatly varying levels, such as "speaker" outputs. Also unusable are "microphone" signals, whose levels are too low by far to be usable without preamplification.

Please refer to the Appendices for connection information for the optional "HiFi" audio board.

THE OPTIONAL QUICK INSTALL KIT

For each telephone recording board in the recorder, you will have received either a mating blue-ribbon connector or, if ordered as an option, a Quick Install kit. The connections for the mating blue-ribbon connector are detailed in the appendix, and the pins are numbered on the connector itself for reference.

The Quick Install kit, Eventide part #109033-003 (3 meter cable) and #109033-007 (7 meter cable), include the following components:

Cable

Connects the recorder telephony board to the punch block. The rear-entry connector (right in photo) goes to the recorder and is fastened to the telephony board rear panel with small wire bails on each side. The end-entry (left in photo) connector goes to the punch block and is held in place with a Velcro strip.

Note: *This cable may have special wiring! Before substituting a standard 50-pair extender cable for this cable, confirm that the telephony board(s) in your recorder do not have special connections. Please refer to the telephony board appendix. If you need a greater length, you may use an extender cable in series with the cable provided as part of the kit whether or not it is one with special wiring.*

Punch block

This is a convenient (and standard) appliance used to connect twisted pair telephone wiring to the recorder. Using a "punch down tool" (not provided), the telephone wires are forced into a slit cut in the contacts in the block, which makes a firm electrical and physical connection. The blocks are usually mounted in the orientation shown.

Each block has 50 rows and four columns. The contacts in each column are paired: Each outside contact is connected to the one next to it. There is no contact between the pairs.

By declaring the left side of the punch block (opposite the connector) as the connection point for the telephone (or other audio) lines, you have a common location to connect your physical wiring.

Bridging Clips

The right side (nearest the connector) has each column connected to an associated connector pin-pair so that the top row is connected to pin 1, the next row to pin 26, the third to pin 2, etc. Thus, adjacent vertical rows form one signal pair.

When you connect the first telephone line, you just start at the top and connect the wire pair to the first two rows on the left. The next wire pair would go to the next two rows down, on the left.

Finally, to connect the telephone line to its associated recorder input, slip two bridging clips over the two center contacts in each row.

The purpose of the punch block system is to centralize your connections, as well as to provide a clean way to isolate the telephone or radio system from the recorder, should it become necessary. The components can be isolated by removing clips, rather than removing wires.

CONNECTING DIGITAL TELEPHONE LINES

Refer to the Appendices.

CONNECTING TO AN ETHERNET NETWORK

Connect to an Ethernet network by attaching a network cable between the RJ45 jack on the back of the recorder and your hub or router. The cable should be CAT5 or equivalent with a male RJ45 plug for the recorder end. Do not use a crossover cable. On the VR778, use the RJ45 jack on top. See the section entitled "Network Settings" for information on administering the network settings for the recorder.

CONNECTING A KEYBOARD

If you are using the remote administration client, Eventide's Recorder Config product, then a keyboard is not required to operate the recorder. One can be used

to perform system administration tasks from the front panel and for diagnostic work. Connect a PS2 keyboard to the PS2 connector on the back panel (purple on the VR615 & VR725). Connect a USB keyboard to any USB connector. No keyboard is necessary with the touch screen display, but one may be used if desired. Connecting a USB keyboard to an operating recorder does not require rebooting the system, but connecting a PS2 keyboard sometimes does.

CONNECTING HEADPHONES

Connect headphones to the 1/8" jack labeled "Headphone" on the front panel. Suitable headphones are available from Eventide (part# 324200). Most headphones with an appropriate plug can be used and adjusted to a comfortable level with the front panel volume control.

CONNECTING LINE-LEVEL EQUIPMENT

A line-level audio output is available at the 1/8" jack labeled "Line Out" on the front panel, if you wish to connect an external recorder such as a Philips Cassette recorder to the recorder for excerpting calls to cassette. A high-quality rack-mount recorder can be obtained from Eventide on special order under part number 324375. In addition, most standard cassette units with record capability can derive an appropriate signal level from this jack.

CONNECTING A LABEL PRINTER

An optional Label Printer can be connected to the rear COM1 RS-232 connector to make labels for archive media as they are recorded. (The COM2 connector, if present, is reserved for an external time source.) The Seiko SLP-100 label printer can be ordered from Eventide as part number 324254, and a two-roll pack of labels (Seiko SLP-2RL) as 324171

Overview of the Front Panel User Interface

There are three main screens: SETUP, INFO, and RECALL. Depending on the recorder model, you select the desired mode with a dedicated button, or with the

touch screen or mouse. Depending on how user permissions are set up, you may not have access to all of these screens.

At the bottom of the display are four soft key labels, whose functions are selected either by pressing a dedicated button or by the mouse or touch screen. Their labels and functions will change with context.

The encoder wheel can be turned or pressed. Usually, turning it will let you scroll through a list of items. Pressing it will let you select an item. On the VR725 and blank panel models with external monitor, a scrollbar and mouse or touch screen click perform the same function.

A numeric keypad (hardware or displayed) allows you to enter numbers, IP addresses, and numeric data.

The volume control adjusts the speaker and headphone volume.

SETUP SCREEN

The SETUP screen allows you to view and set various recorder parameters, such as IP address, time and date, network parameters, and user accounts.
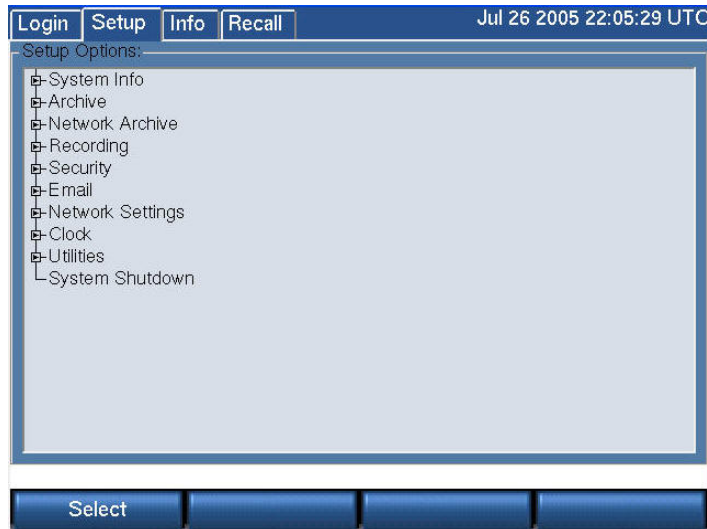
See Table 3–SETUP Screen for brief description of the settings on this screen.

Note: If you are in the process of setting up a recorder, the very first thing *you should do is set the Time Zone of the recorder, found in the Clock subsection.*

In keeping with the hierarchical menu structure used for Setup and the large number of functions, we use a heading for each function showing the full hierarchy, MODE: TOP LEVEL: SUB FUNCTION. E.g., the section describing how to set the time zone is headed: **Setup: Clock: Time Zone**

INFO SCREEN

The INFO screen allows you to view and set parameters for your archiving tasks, check individual channel status, and enable live monitoring.
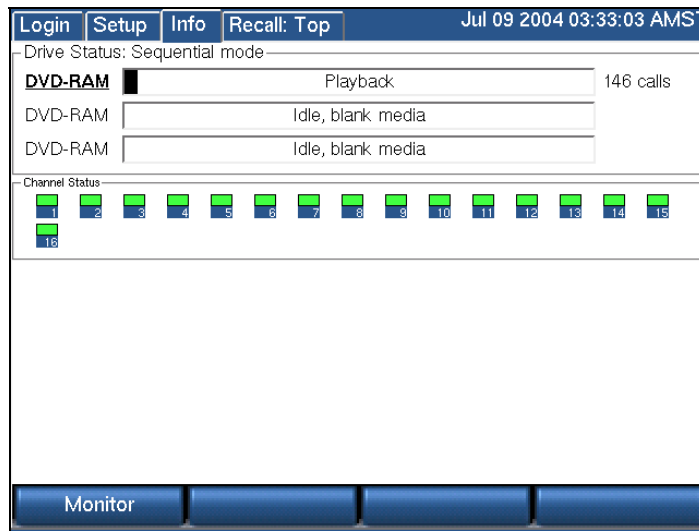
The top half shows the current status of your archiving drive or drives. The "Drive Status" will say either "Sequential mode" or "Parallel mode," depending on how it was set inside the SETUP screen. Each archive drive will have an individual status indicator that looks like a wide, horizontal rectangle. To the left of the rectangle is the type of archive drive (DVD-RAM or DDS-4). To the right of the rectangle is the number of calls on the disk. Inside the rectangle are status messages and a progress bar.

Table 2–INFO Screen Messages

DISPLAY	DESCRIPTION
No Disk	The drive is empty.
Loading	A medium has been loaded and the recorder is scanning it to learn its status.
Unloading	A medium is being ejected.

DISPLAY	DESCRIPTION
Idle, Unformatted Media	An unformatted medium is inserted.
Idle, Blank Media	A formatted, blank medium is inserted.
Idle, Used Eventide Media	A medium with one or more recorded calls is inserted.
Idle, Full Eventide Media	A full medium is inserted.
Eventide Configuration Media	A medium containing recorder configuration information is inserted.
Eventide Call Metadata	A medium containing call metadata is inserted.
Preparing for Playback	The medium is preparing for browsing. "Browsing" means the viewing, searching, and playing back of calls. While preparing, the recorder is loading the calls from the archive into an internal database.
Playback	The medium is ready for browsing.
<A black bar progress indicator>	The progress indicator provides a graphic view of the remaining capacity of the archive medium.
<The start time of the call currently being archived>	As each call is archived, the start time and date of the call are displayed.

The bottom half of the INFO screen displays information about live incoming calls. Each small block represents a channel. Each channel displays its number and a color:

- Green – The channel is ready for recording.
- Red – Audio is being recorded.
- Blue – Audio is being monitored.
- Gray - The channel is not ready for recording. The audio interface board may be missing or has not been recognized by the recorder.
- Yellow – The channel has been disabled by the "Record on Demand" feature

Lastly, a Monitor soft key brings up a list of channels that can be selected for live monitoring.

RECALL SCREEN

The RECALL screen is where you view, search, and play back calls. Calls are displayed as rows, one row per call. You can specify which columns to display. The default view is Channel Number, Start Time, and Duration. Searches are accomplished by applying filters to the main call list. Calls can be filtered on date and time, channel number, and dialed DTMF digits, among other parameters.

Playing Audio Records

To play back a record,

- From the main RECALL screen, highlight any record, and press the recorder control knob. The audio record will play, and a timeline will display at the top of the screen showing the record's playback status and general attributes.

- Press Next to play the next audio record, in descending sequence. Press Previous to play the previous record. Press Pause to pause playback for the current record.
- Press Varispeed to play the selected record at faster or slower playback speeds. Moving the control clockwise to the left speeds playback for the record; moving it counterclockwise slows it down.

Using Filters

Pressing the RECALL soft key automatically retrieves all audio records resident on the recorder (below). Use a combination of all available filters to refine your search to find exactly the set of records you're looking for.

Click the **Filters** soft key on the bottom left of the recorder console; the filters popup screen now displays:

Note: The recorder screen synchronizes all soft keys with its active function; whichever buttons display onscreen are the current functions for that soft key.

Descriptions follow for using each type of filter.

Note: *Be sure to adjust your column displays to show the criteria by which you're filtering. See the*
Displaying Columns on page 44 to do this.

By Channel

The *By Channel* filter allows you to select audio records by individual channels.

- After clicking **Filters** from the main RECALL screen, highlight **By Channel** in the Filters window. Now press the **Add/Edit** soft key at the bottom left of the RECALL screen.
- The screen refreshes to display new options:

- To select individual channels, highlight the channel and press the **Toggle** soft key. (A check mark with display in that channel's checkbox to its left to designate that it has been selected.)
- To deselect a channel, highlight one that has been selected, and press the **Toggle** soft key. The check mark will be subsequently removed from its checkbox.
- To select all channels, press **Select All.** (When all channels are selected, this soft key switches to **Unselect All.**)
- When all channels you want to include in the search are selected, press **OK.** The search will now be performed and display all records meeting your channel criteria.

By Call Length

The *By Call Length filter* allows you to select audio records by their duration.

- Press the **Filters** soft key from the RECALL screen's main display; when the Filter window displays, highlight **By Call Length.**
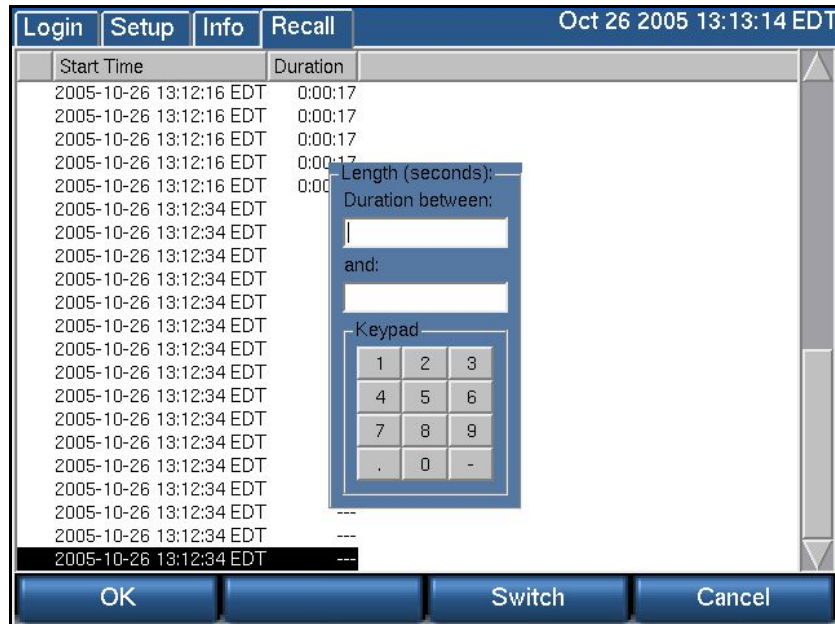
- The cursor displays in the top text box. Enter in here the beginning (most brief) duration period in the time span. Enter all values in seconds.
- Next, press the **Switch** soft key, and the cursor moves to the second text box. Enter here the maximum length of duration for the time span you're defining. (Switch toggles between the entry fields, so use it to return to the first field to change the beginning value, if need be.)
- When finished, press **OK** to retrieve all records that meet this time frame criterion. To cancel the action, press **Cancel.**

By Date/Time Range

The *Date/Time Range* filter allows you to select audio records by specific time frame.

- Press the **Filters** soft key from the RECALL screen's main display; when the Filter window displays, highlight **Date/Time Range.** The Date/Time Range window now displays:

- The cursor displays initially in the *Calls after* date range entry field. Depending on your interface*, use the forward or back soft keys or the up and down arrow keys to move the date ahead or back.

*Note: The mechanics of the Date/Time Range filter vary depending on your display system. For users of the VR725, which employs a touch screen and mouse support, the dates and times can be changed by using the up and down arrow keys next to each field. Move to another entry field by clicking on it or touching it. For all other Atlas models, soft keys are provided for back and forward navigation, and a Switch soft key is provided for toggling between entry fields.

- Move to the *Calls before* and enter these date and time parameters. When finished, click **OK,** and the search will return all audio records between the dates and times you selected.

By DTMF Digits

Use the DTMF (Dual Tone Multi Frequency) Digits to filter all calls by this audio record value.

- Press the **Filters** soft key; when the Filter window displays, highlight **DTMF Digits.** The DTMF Digits selection window now displays:

- Enter a series of DTMF numbers in the entry box provided, using the keypad (for touch-screen users), a keyboard, or the recorder number keys. Enter a period (".") to select a wildcard search. Use the backspace soft key to move the cursor to another point in the number sequence.
- Press **OK,** and the search will retrieve all records that match these DTMF criteria.

By CLID Digits

Use the CLID (Caller ID) Digits to filter all calls by this record attribute.

Press the **Filters** soft key; when the Filter window displays, highlight **CLID Digits.** The CLID Digits selection window now displays:
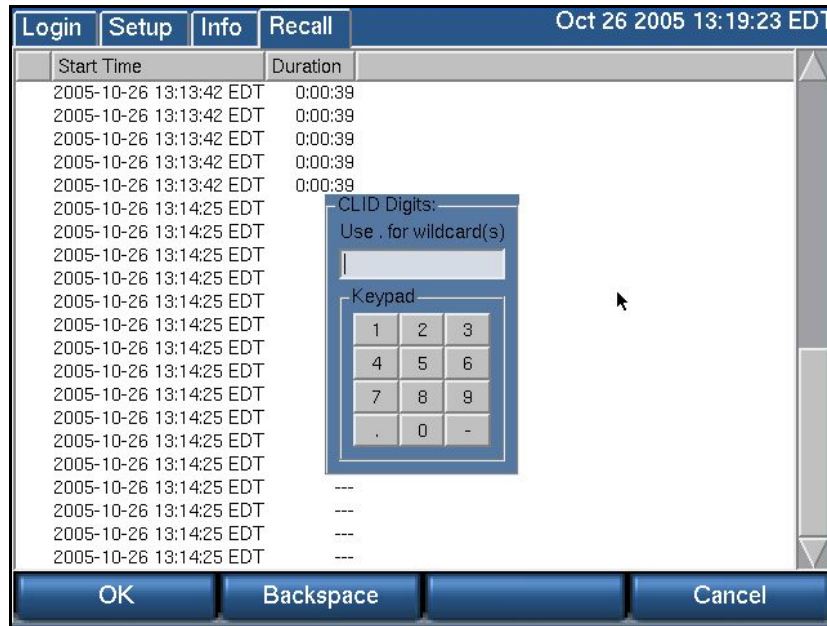
- The procedure for filtering CLID digits is identical as that for DTMF digits described above.
- When finished, click **OK** to perform the search by the selected CLID digits.

Displaying Columns

The main screen's soft key **Columns** is used to configure which column information displays on your screen.

- Click **Columns,** and the Column Selection window displays:
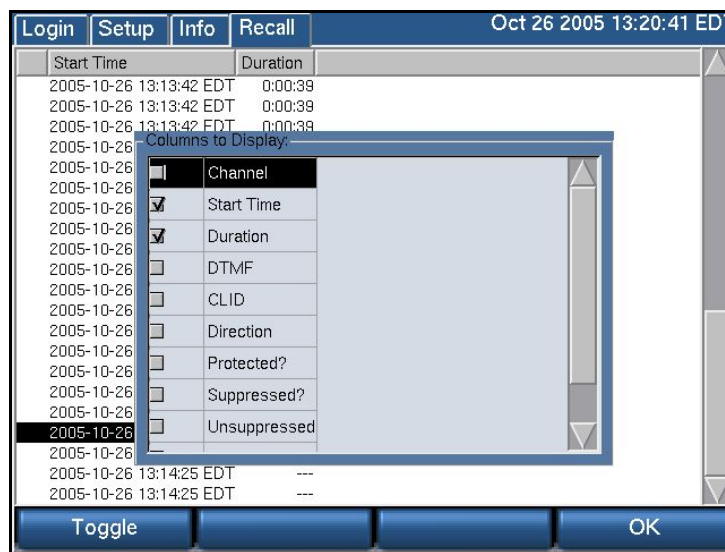
- Select a column type to display by highlighting it and clicking **Toggle.** To deselect a column, do the same thing, except with a column heading already selected.
- When finished, click **OK,** and the records in the database will display with these selected columns and their associated information.

Creating Playlists from the RECALL Screen

Playlist is a term used to describe grouping calls that share similar characteristics or attributes. Grouping them allows you to quickly retrieve them as a custom group. You can easily group several or hundreds of calls from the RECALL screen by following these procedures

- When you access the RECALL screen, all calls resident on your recorder display. (Calls that are in progress display with a red circle to the left of the channel number). To begin creating a playlist, press the **More** soft key. The soft key options listed at the bottom of the screen change to *Mark Protected?, Make List, Show Lists*, and *More.* Select the **Make List** soft key (below):

- The screen now refreshes in an aqua green background, indicating that you can make selections for a new playlist.

---

*Note: The **Mark Protected?** Option is used to give an audio record a status wherein it cannot be deleted from the recorder's hard drive. You may see if a selection has this status by selecting the Mark Protected option in the Columns selection process (see Displaying Columns).*

- Highlight a selection, and click **Add.** The entry will now display in red lettering.
- When a selected entry is highlighted, the **Add** soft key changes to **Remove,** which permits you to deselect it quickly from the playlist.;

- After you select all the entries you wish to include on the new playlist, press **More** to proceed.
- The soft keys refresh to reflect your progress in this process; from the ones displayed, click the **List Done** soft key.
- The screen refreshes with a listing of each audio record selected.

- Now the soft keys function as toggle buttons to define attributes to the custom playlist you're creating. From left to right, the soft keys are
  - **Play Silence/Skip Silence.** Use this soft key to determine if this playlist will play or skip silent passages between audio records.
  - **Sequential/Multitrack**. This toggle determines whether records are played in sequence by time recorded, or if records in the playlist are played progressively by time. Calls that occur simultaneously or with any time overlap play back concurrently.
  - **VariSpeed/Scrub**. This option allows you to play back a selected record from the playlist at different speeds. Rotate the control knob to the left to slow down playback; rotate it to the right to speed it up. Note that playback speed is not an attribute that is saved with the playlist.

  When all attributes for the playlist are defined, press the **More** soft key to proceed.

- A new set of Soft key values now display. Click **Save** to save this custom playlist.

- From this screen, use the **Backspace** soft key to delete the default playlist title ("Unnamed Playlist") and enter your own. Use the forward and backward arrow soft keys to position the cursor to insert a character.
- When finished, click **Done;** your playlist is now displayed with all others when you click the **Show Lists** soft key from the opening RECALL screen.

- Press the respective soft key to play the playlist, rename a selected playlist, or delete a selected playlist altogether.

Recorder Setup & Administration

3

This section discusses setup and administration of the recorder from the front panel. On entering Setup mode, the following screen appears. This screen is a hierarchical menu of available functions. Double clicking on any topic (except System Shutdown) reveals a submenu. A top level item can also be expanded to its submenu by clicking the small box to the left of the item. A second click of the box or double click of the heading collapses the menu.

Any number of top level items can be expanded at once. If the listed items exceed the available screen area, a scroll bar appears to the right of the screen to allow access to them.

The Setup menu is hierarchical. This means that instead of one long list of functions, they are collected in groups, and each group can be "expanded" by clicking on its name or on the small box to its left. Likewise, the group can be "collapsed" by clicking on the box or on the name of an expanded group.
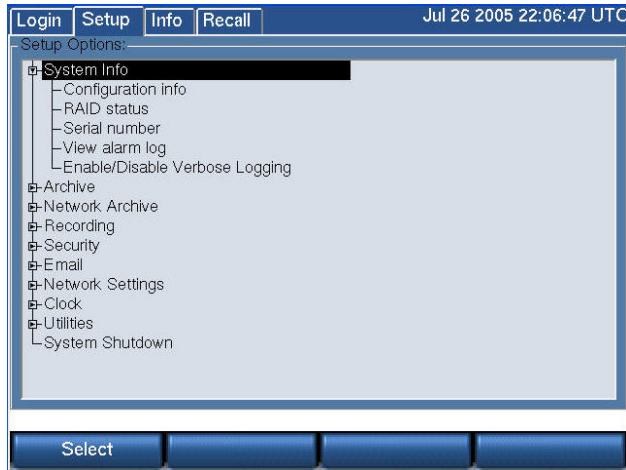
In this example, System Info has been expanded into its submenu, which shows Configuration info, RAID status, and other items.

Organization

This Setup section is organized in a manner identical to the Setup menu itself. Each expandable menu group has an associated subsection, and each subsection explains the individual menu items in the group. The individual menu items have headings that allows them to be identified with their location, e.g., the heading **"Setup: System info: Serial number"** identifies the serial number explanation as belonging to the Setup mode, and being in the System info group.

Contents

Table 3 describes the Setup Menu.

Note: If you are in the process of setting up a recorder, the very first thing you should do is set the Time Zone of the recorder, found in the Clock subsection.

Table 3–SETUP Screen

Menu Section	Abbreviated Description
System Info	Provides information on hardware and software configuration of your recorder, and status of the RAID disk system.
Archive	Allows configuration of the archive drives and selects archiving methods and backup.

Network Archive	Configures unit to allow archiving on an external network.
Recording	Configures the hardware recording boards and channels, and selects how many and how long calls are retained.
Security	Determines user privileges and whether logins are required.
Email	Configures the parameters necessary for the recorder to send email to selected users for exceptional conditions.
Network Settings	Configures the recorder to work with your network.
Clock	Allows recorder time to be set, and synchronization source to be selected.
Utilities	Provides methods for saving recorder configuration and "metadata" info and migration aids.
System Shutdown	Provides a controlled, or safe and orderly, shutdown of the recorder.

SETUP: System Info

System Info provides data about your recorder. This information is especially valuable if you encounter problems or unexpected operation. If you ever require technical assistance with your recorder, this is the first place we (and you) should look for the information needed to help.
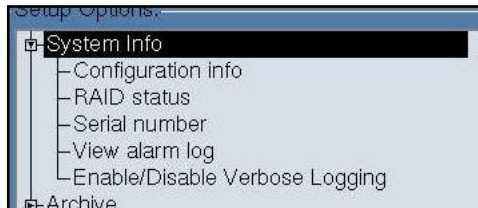
SETUP: SYSTEM INFO/CONFIGURATION INFO
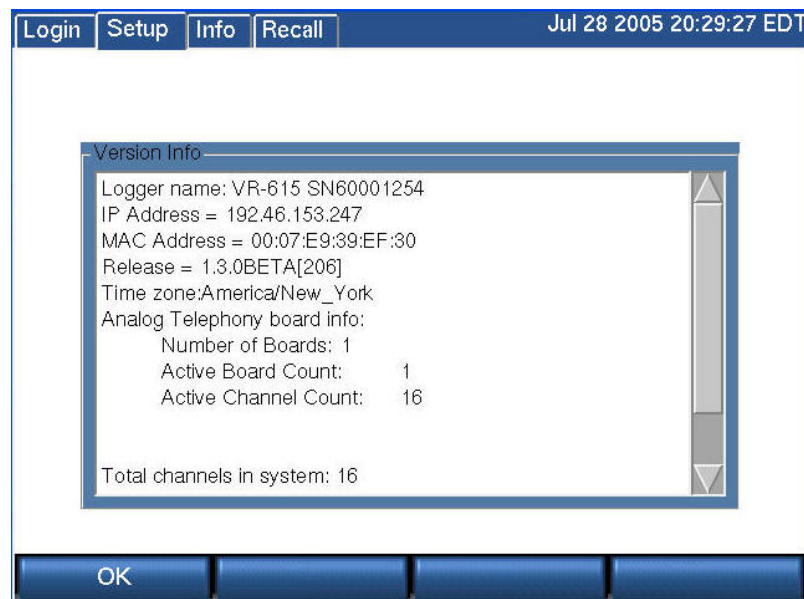
This **Version Info** screen displays the following settings.

Recorder Name: model and serial numbers concatenated. This name also will be displayed by the optional Eventide remote client software.

IP Address: a 4 octet address for network connections.

MAC Address: the fixed hardware-level address of the recorder.

Release: the software version number.

Time Zone: the recorder's internal time zone settings displayed as the selected locale in the main screen. Note that the upper right corner of the display shows time zone as a three-letter code.

Number of input interface boards.

Total channels of recording capability in the system.

Memory: MemTotal: the total RAM, in kilobytes. (See below: the right-hand scroll bar accesses this information.
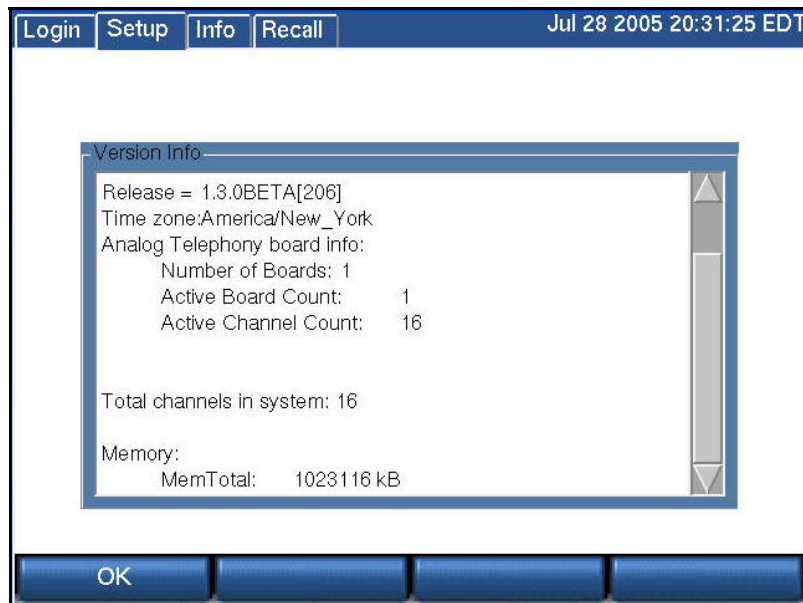
Recorder License Key Information
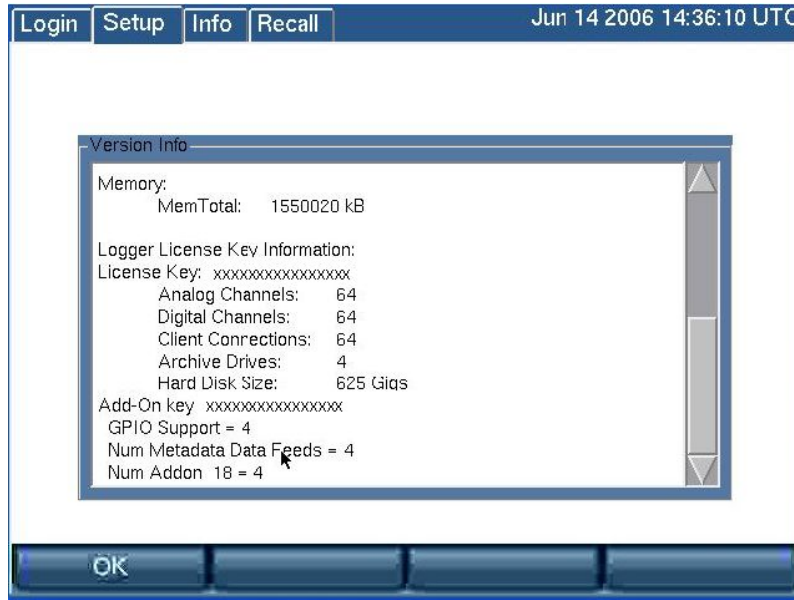
License Key: The recorder license key displays here, along with a list of licensed features and the number or capacity of licensed components. Licensed features for this key include analog and digital channels, MediaWorks and MediaAgent connections, archive drives, and hard disks.

If you exceed licensed features by adding unlicensed components to the recorder, such as hard drives or boards, the license key will become invalid. You can obtain a license for these components or remove the components to restore full recorder operation.

If the recorder does not have a valid license key, it will display alert message #52 or #53, depending upon how long it has operated without a license key. Alert #52 displays if you are within the 7-day grace period, and alert #53 displays if the grace period has expired.

If the grace period expires, the recorder will continue to record and store normally, but the following functions will be disabled:

- Recall

- Live Monitor

- Archive: including centralized archive, centralized archiving failsafe, network attached storage, and DVD, USB, and FireWire (IEEE 1394) drives.

- MediaWorks connection

- MediaAgent connection

Add-On Key: This displays any add-on software license keys, which are used to enable optional features on the recorder. The configuration information shows the feature names and number or capacity of components licensed for it. Optional features include MediaCoach connections, GPIO board support, metadata feeds, centralized archiving, centralized archive failsafe, MDC-1200 decoding, and support for more than one network archive (NAS device). The configuration information does not include licensing for custom scripts that contain an embedded software license key. The licensing for Custom Script Source Files is embedded at the top of the file and can be viewed under Configuration Files.

SETUP: SYSTEM INFO: RAID STATUS
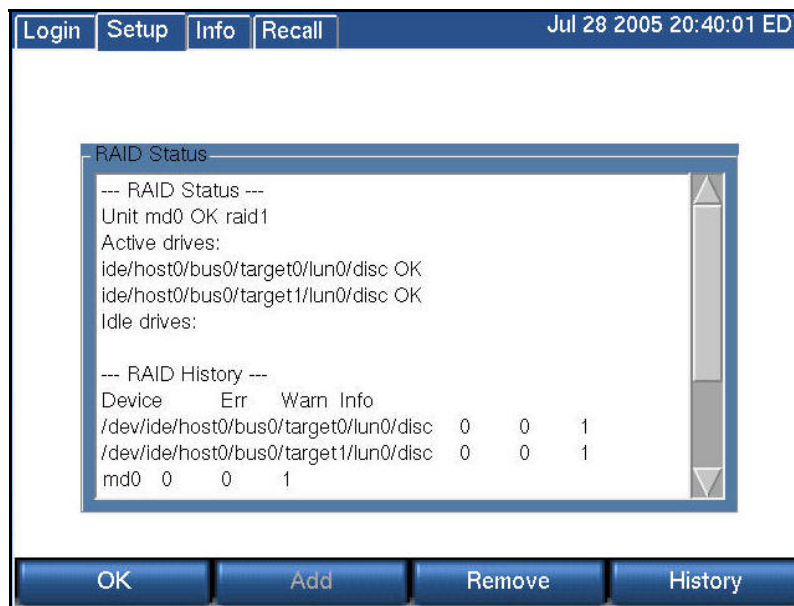
The **RAID Status** screen has three sections:

RAID Status enumerates the active and idle drives present in the system, and the overall health of the storage system.

RAID History shows the number of errors and warnings, if any, which have occurred since the system was installed.

RAID Usage (below) shows how full the disks are. In this example, only a tiny portion of the drives are full. (Calls are stored on the largest "partition" in the array.) In a lightly-used recorder, it may take months or years to fill the disks. A recorder with many channels and a high recording duty cycle will show "almost full" fairly soon after installation, and will remain thus indefinitely, since newer calls will replace older ones.
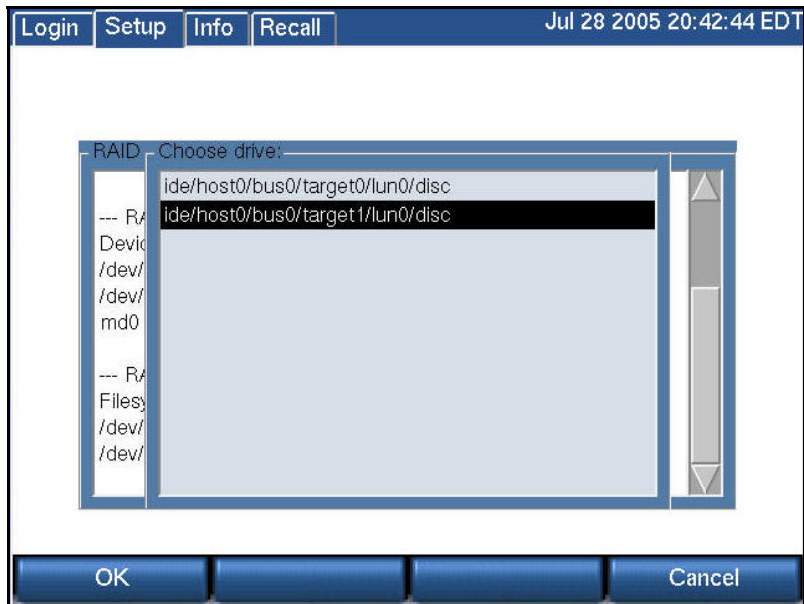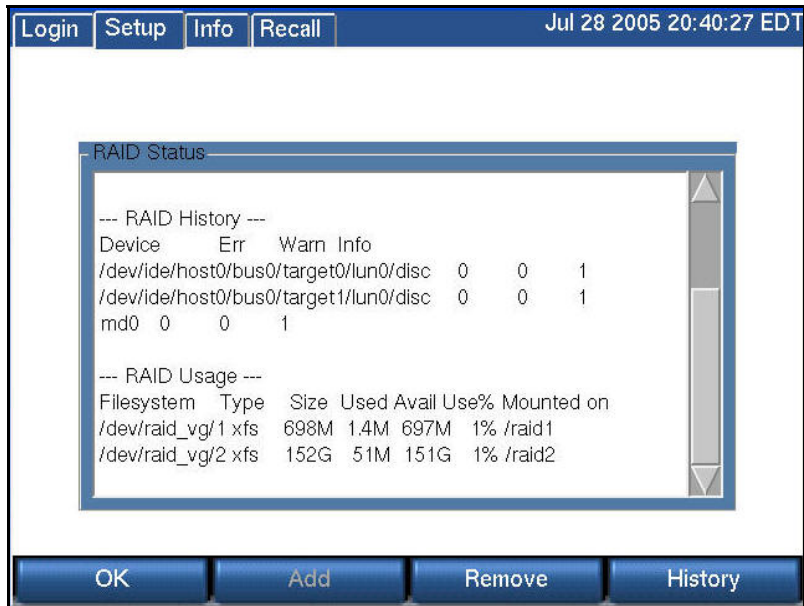
Pressing either the Remove or History soft key brings up a screen (above) that allows you to select a drive. When you do so and select OK, either the history of the drive will be displayed, or you will have an opportunity to delete the selected drive. Doing so will degrade the RAID array, and a warning message is displayed.

The screen below displays the result of removing and then adding a RAID drive. Note that the Status now shows "syncing RAID array md0" since the removed disk must be resynchronized.
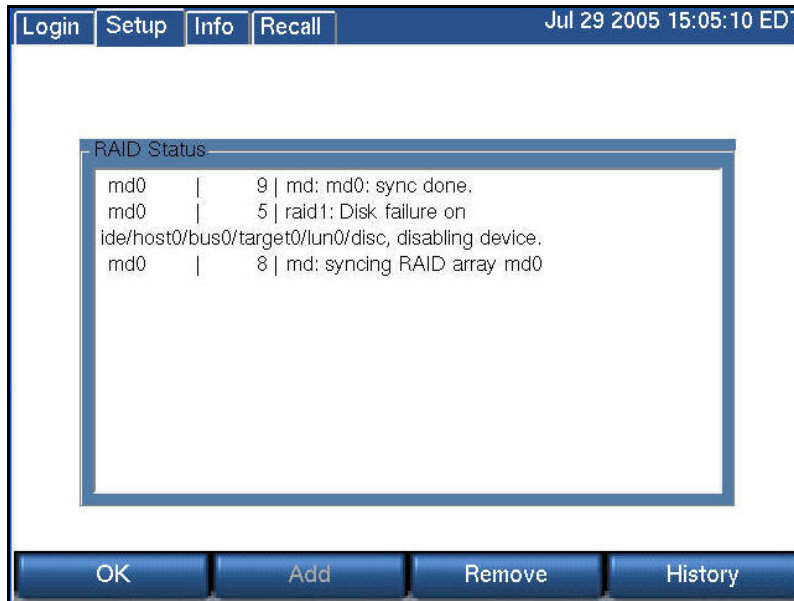
SETUP: SYSTEM INFO: SERIAL NUMBER
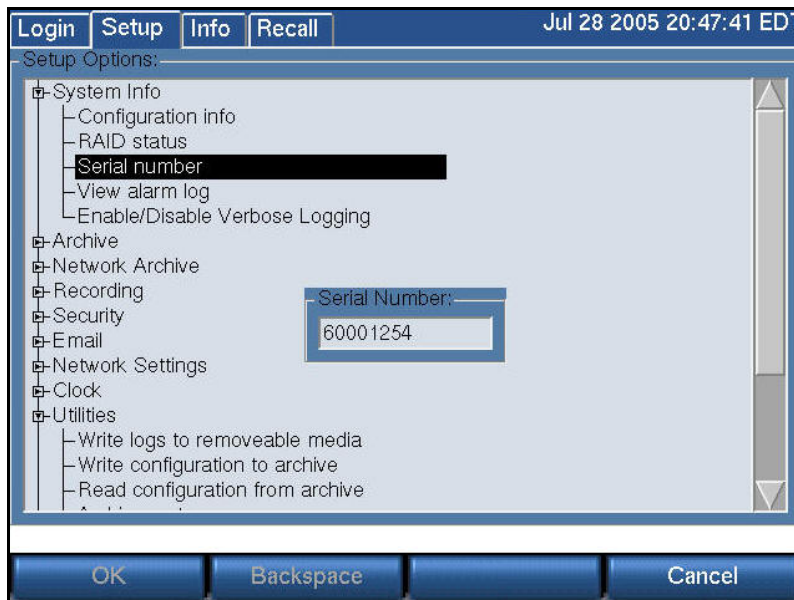
This is a display-only function and it displays the recorder serial number. (The grayed-out soft keys are functional only when the unit has no Serial Number, which only occurs with a new unit.)

Select the License Key option to view your registration information for your recorder:
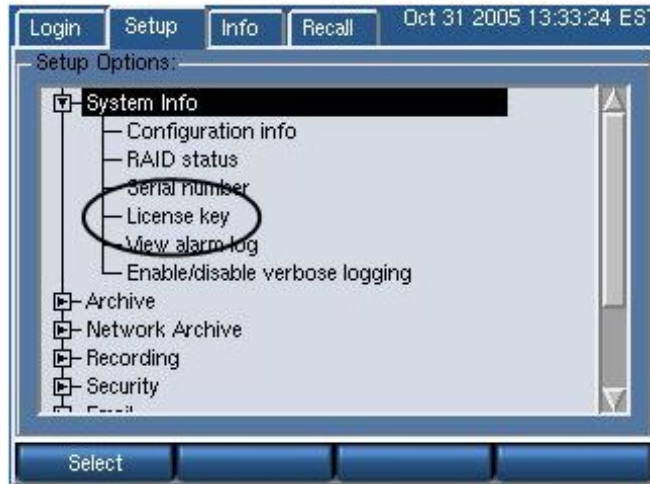
- Highlight the License key option from the System Info directory, and press **Select.** The screen refreshes with your assigned licensed key listed:

Note: In the illustration above the license key was removed for security reasons.

For all recorders shipping with version 1.4.0 and above installed, a sticker with your license key will be affixed on the equipment. Users with existing recorders upgrading to version 1.4 must contact Eventide to get this information.

A recorder without a valid license key will provide you full functionality for the first seven days, after which it will be diminished until a valid key is entered.

Your license key information also displays on the *Config Info* screen.

SETUP: SYSTEM INFO: ADD ON LICENSE KEY

This specifies any add-on software license keys, which are used to enable optional features on the recorder, such as MediaCoach connections, GPIO board support, metadata feeds, centralized archiving, centralized archive failsafe, MDC-1200 decoding, and support for more than one network archive (NAS device).
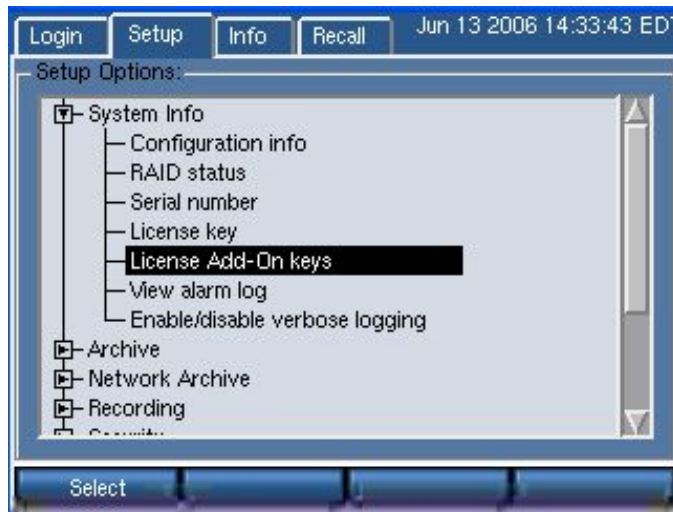
Select it, and enter the value provided to you by Eventide to enable these features. From the entry screen, you can add, edit, or remove an existing license key.

If the features that require an add-on license key are not installed on your unit, the License Add-On Keys entry is disabled.

SETUP: SYSTEM INFO: VIEW ALARM LOG
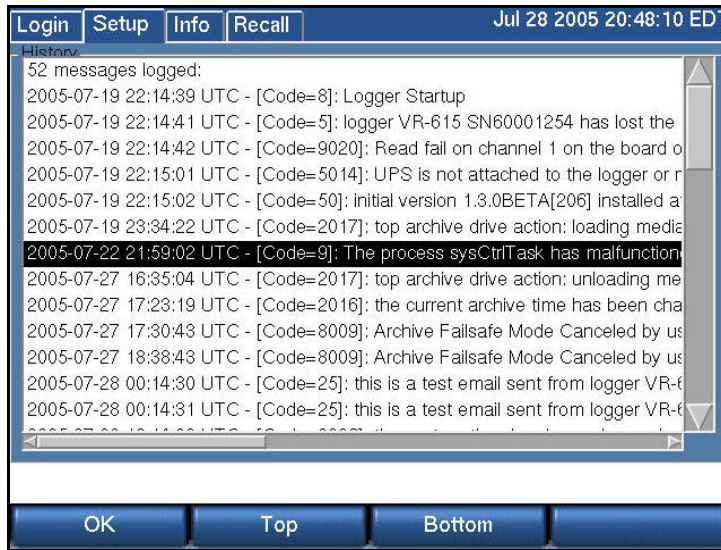
The Alarm Log History screen displays important and potentially critical events in the operational history of the recorder. This is valuable both for diagnostic purposes and to determine if settings have been changed. These messages can also be selectively emailed to users.

This log can become voluminous, and the Top and Bottom soft keys along with the scrollbar speed navigation through the entries.

SETUP: SYSTEM INFO: ENABLE/DISABLE VERBOSE LOGGING

This function, when enabled, places additional information in the system logs. The Enable key toggles the function, and switches the soft key between "Enable" and "Disable." OK accepts the final decision.

SETUP: Archive

This section discusses only a portion of the very important subject of archiving. In particular, it covers the mechanics of setting up the recorder to archive in the manner and according to the philosophy decided for your site. Additional details are found in the discussions of actually selecting, using, and recycling archive media.

SETUP: ARCHIVE : ARCHIVING TYPE

This function selects sequential or parallel archiving on recorders with two or more archive drives. Parallel archiving produces multiple disks with the same call data. Sequential archiving begins the subsequent disk(s) where the previous one finished.
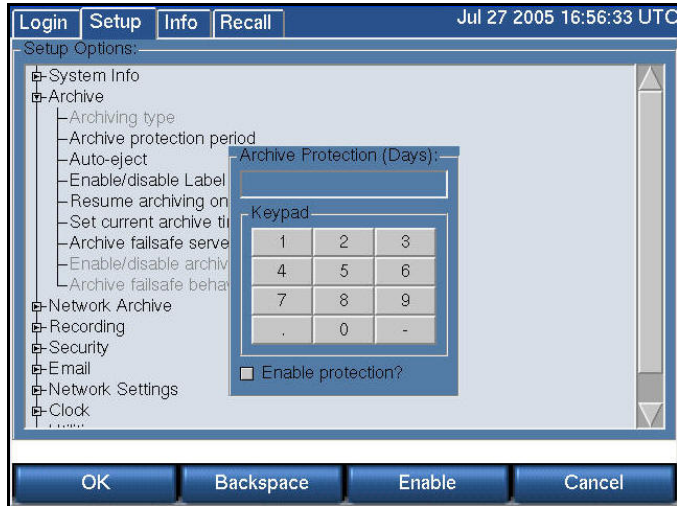
Entering a number and checking the "Enable protection?" box activates a feature that allows you to attach a set number of days to a disk during which the disk cannot be formatted in the recorder. It is intended to guard against unintentional formatting. When a protected disk is inserted into the recorder, the date of the latest call on the disk is compared with the current date, as displayed on the recorder. If the difference between the two dates is less than the number of days that was set as the protection period, then the recorder will not permit the disk to be formatted.

Important: The Archive Protection feature must be enabled before a recording on that medium begins. You cannot add the feature to a disk that already contains recorded calls. Also note that this is a recorder function only. If you put the medium in a PC drive there is no protection. We recommend using the "Write Protect" tab on DVD-RAM media for protection of critical archive media.

SETUP: ARCHIVE: AUTO-EJECT
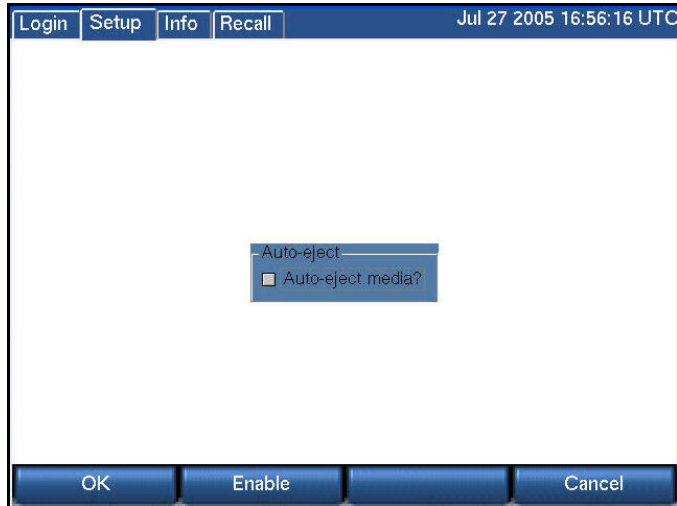
Checking "Auto-eject media?" causes archive media to be automatically ejected when the medium is recorded. This is especially valuable if you are using DVD-RAMs with the optional label printer, since you can simply grab the label and stick it on the cassette. If you are not using the label printer, it may be more convenient to refrain from ejecting the media, since that way you can use the Media Info function of the archiving system to give you the start and stop time of the archive, which may then be manually written on the disk.

SETUP: ARCHIVE: ENABLE/DISABLE LABEL PRINTING
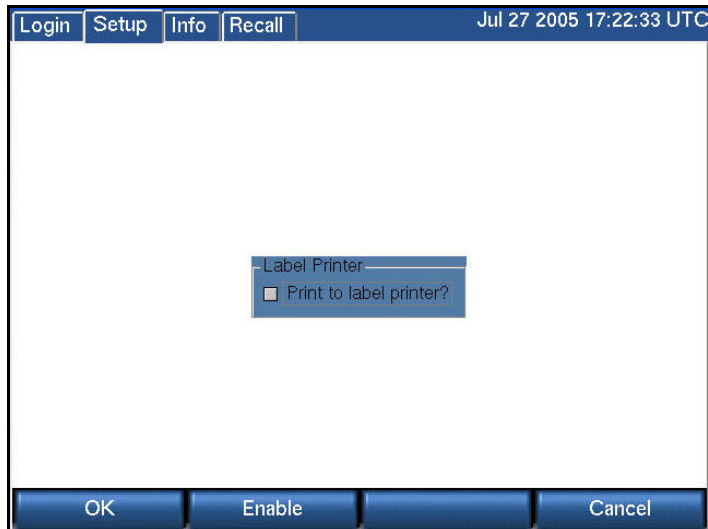
Checking the "Print to label printer?" box causes a label to be printed each time an archive medium is completed. If enabled, the optional label printer must be

connected and powered up, or error messages will appear warning you that the operation has failed.

SETUP: ARCHIVE: RESUME ARCHIVING ON STARTUP
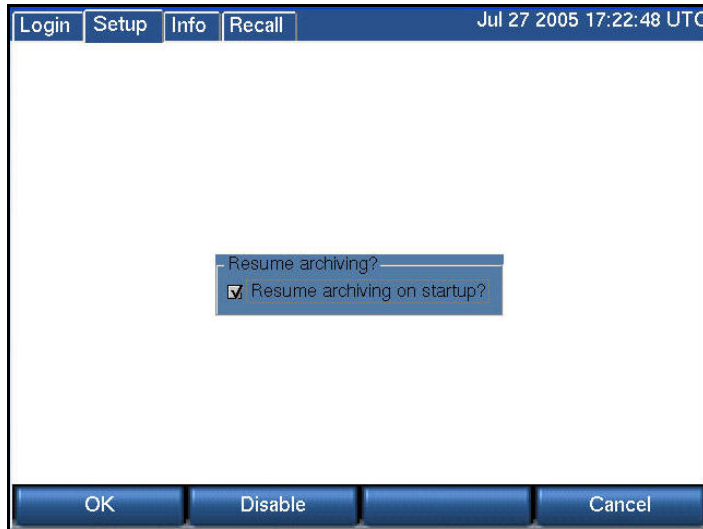
If "Resume archiving?" is enabled, then a recorder that is turned off while an archive medium is being recorded will automatically continue recording that archive from where it left off when the recorder is restarted. If it isn't enabled, then any archive media in the recorder when power is applied will appear as they would if they were simply inserted in the drive.

SETUP: ARCHIVE: SET CURRENT ARCHIVE TIME
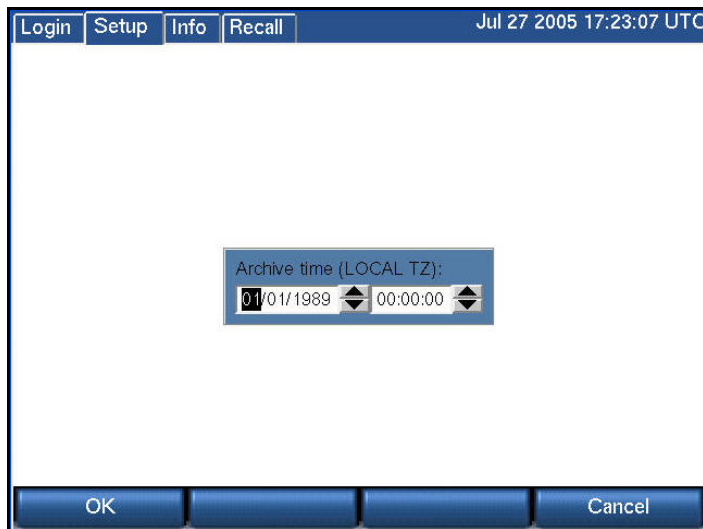
When you start archiving, the first call to be archived is determined by an internal "archive pointer". This pointer tracks where you left off archiving with the previous disk, so that the next disk will begin where the previous one left off. Also, if you are in the middle of a disk and you stop archiving, for whatever reason, such as the need to browse calls on the disk, you can resume archiving at the point where you left off. The goal is to ensure that only consecutive calls are recorded on each disk, making labeling and searching easier. This pointer is maintained automatically.

However, there are times when you may want to manually set the current pointer location. For example, you may have misplaced an archive disk and you want to re-archive calls. Of course, to do so the calls must still be present on the RAID.

To manually set the current archive time, use the arrow soft keys and the scroll wheel to adjust the setting. On a touch screen display, select the field and entry by clicking on the field or the up/down arrows. Press OK when you are content with your selection. The next time you start archiving, the calls on your RAID closest to the new archive time setting will be archived first.

When you have completed recording a medium whose starting time you have selected with the Set Archive Time feature, the time pointer is set to the time of the end of the medium just recorded. It is NOT set to the end of other data that may have been archived. Sometimes this is desired behavior, such as when you want to record more data than will fit on a single medium from the starting time you set. Sometimes it may not be, such as when you want to continue archiving from the end of the last medium you recorded in the normal sequence. If the second is your requirement, you can note the desired time and reset the archive pointer to this time. If you failed to make a note, you can take the most recent archive medium, read the "Media info" for that disk, and set the pointer to that time.

Important: As noted in the display, the Archive time is set in LOCAL time. If you are setting the archive time to start at the end of a previously recorded archive medium, you will probably use the "Media Info" feature to check on the end time of that medium. The recorder displays "Media Info" in UTC since the archives are portable and must be compatible over time zones and different playback hardware. To dovetail the recorded and new archive times, you must convert your local time to UTC for this setting. For example, if "Media Info" shows an archive completed at 14:02:00 UTC and you are in the EST time zone, you would want to set Archive time to 09:02:00.

SETUP: ARCHIVE: ARCHIVE FAILSAFE SERVER

Failure of an archive medium or drive isn't normally a grave concern since the data remains on the hard drive and can be copied to another medium or on another drive. However, some installations employ redundant recorders to assure that failure of one unit will not cause any loss of recorded data. In such installations, it is normally not desired to make two sets of archives, but the availability of a duplicate recorder makes another option convenient: If the primary recorder stops archiving for any reason, the redundant recorder can take over this function. To implement this, you must:

Confirm both recorders are connected to the same signal sources and have identical settings.

Designate one of the recorders as the secondary server: Select "Archive failsafe server" and enter the address of the PRIMARY server in the normal fashion. This is accomplished in the screen above by entering and accepting (with the OK soft key) the IP address of the server.

Enable the secondary server to periodically check the primary: using the screen "Enable/disable archive failsafe," toggle the Enable box so that is checked, and press the OK soft key. (See screen immediately below.)

Determine the behavior of the failover mechanism: Select desired "Archive failsafe behavior" and toggle Archive failsafe error on "out of media." Checking this box in effect allows the secondary recorder to act as an extension of the primary recorder for archiving. Not checking it causes the secondary to take over only in the case of an archiving failure in the primary. (See the second screen, below.)

SETUP: ARCHIVE: ENABLE/DISABLE ARCHIVE FAILSAFE

See **Setup: Archive: Archive failsafe server,** above.

SETUP:ARCHIVE:ARCHIVE FAILSAFE BEHAVIOR
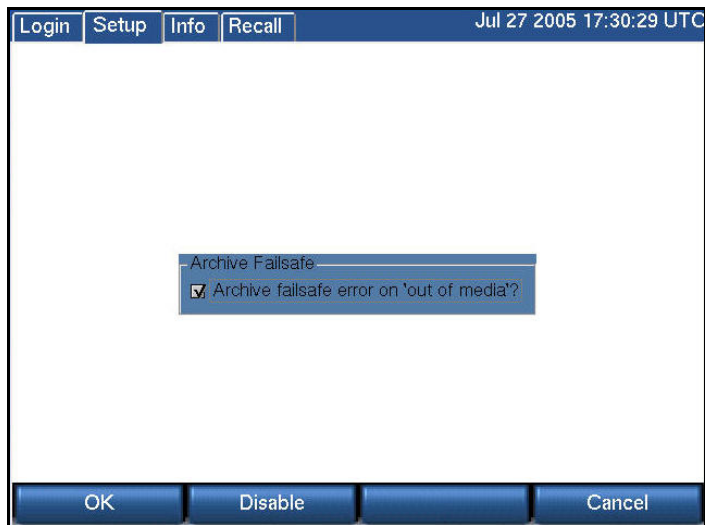
See **Setup:Archive:Archive failsafe server** above.

The recorder is able to archive not only to its own internal drives and removable media, it can also use network attached storage (NAS) on a typical Microsoft Windows network for archiving.

*Note: It is required that **Hostname** and **Share Name** be configured in order for network archiving to be enabled.*

Setup:Network Archive:Enable/Disable Network Archive

Check to enable or uncheck to disable the Network Archive feature.

SETUP:NETWORK ARCHIVE:HOSTNAME
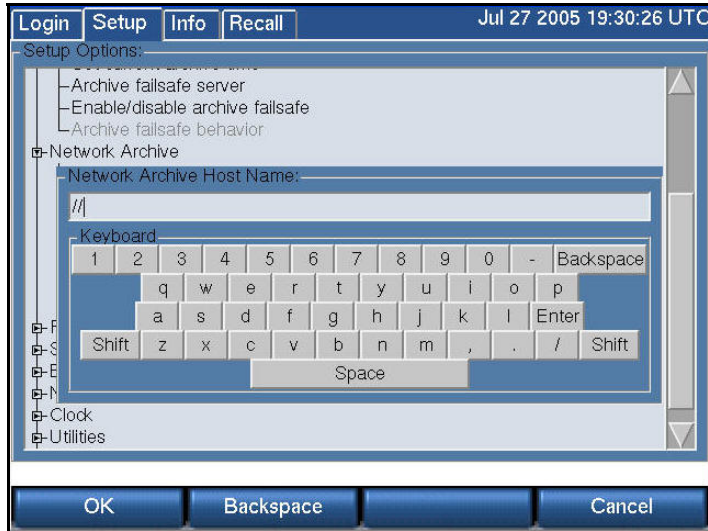
Hostname - the NETBIOS or DNS name of the server where the archives will be stored. This server must be a Microsoft Windows server or other system that emulates Microsoft Windows file sharing.

SETUP:NETWORK ARCHIVE:SHARE NAME

Share Name - the name of the share on the server where the archives will be stored. Microsoft Windows syntax for specifying a network location is

\\Hostname\Sharename

For example, if your network administrator has specified that your Atlas Archives can be stored at

\\BigServer\AtlasArchives

the NAS Hostname should be configured as BigServer, and the Share Name should be configured as AtlasArchives.

SETUP:NETWORK ARCHIVE:WORKGROUP

Workgroup - The Workgroup or Domain of the server where archives will be stored.

SETUP:NETWORK ARCHIVE:USERNAME

Username - a valid username that has been granted read/write access to the hostname and share name where the archives will be stored.

SETUP:NETWORK ARCHIVE:PASSWORD

Password - the Password associated with the Username on the Microsoft Windows server.

SETUP:NETWORK ARCHIVE:SET CURRENT NETWORK ARCHIVE TIME

Set Current Network Archive Time works identically to **Setup:Archive:.Set current archive time.** There is no requirement that the local media and the network archive times be the same. They can be set and reset independently.

This section discusses how to view and adjust settings on the Eventide Analog Input Board and the individual channels. The Analog Input Board provides an interface to analog signals, and is optimized for voice recording of telephone lines. Eventide offers interfaces to other types of signals, such as digital PBX stations and high-quality broadcast radio. Contact Eventide for more information, and check the Appendices to the manual.
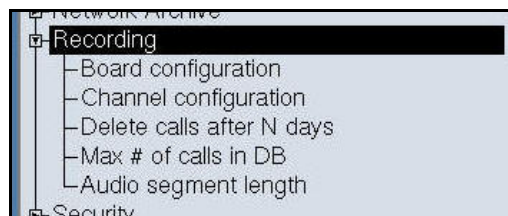
Board configuration is used primarily to select the recording algorithm that digitally encodes the audio inputs. Channel configuration adapts each input to the characteristics of its signal.

Once you have set the recorder's internal clock, configured the input board or boards, and configured the channels, the recorder begins recording. There is no record Start/Stop control; recording begins when the input lines are connected and the appropriate signal triggers recording. Therefore, the recorder's internal clock settings and any board or channel configuration changes should be set prior to connecting incoming signals to the audio input boards.
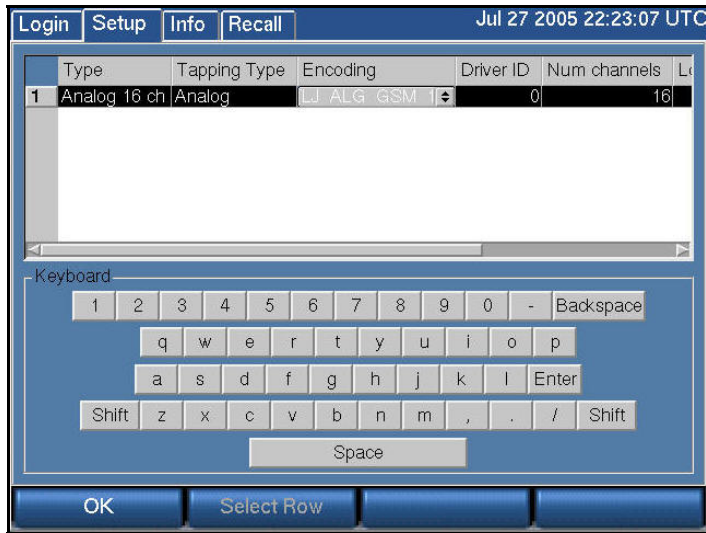
Board-level settings apply to all channels on the board.

The Board Configuration Screen

To get to the board configuration screen:

SETUP → Board Configuration

The figure to the right shows a system with a single Analog Input Board.

Navigating with the scroll wheel

To scroll vertically turn the scroll wheel (if there is only one board, this will not apply); to scroll horizontally, press the scroll wheel to select a board and turn the scroll wheel; after scrolling horizontally, press the "Select Row" soft key to go back to scrolling vertically.

Navigating with the touch screen or mouse

To select a board, click the board number. To select a cell, click on the cell. Use the horizontal scrollbar to bring the cell onto the screen if necessary.

The available settings to view or adjust are

- **Type** — The field is not editable; it displays the type of board installed.

- **Tapping Type** — The field is not editable; it displays the type of signal that can be tapped with the board.
- **Encoding** — The field is editable and sets the encoding algorithm for all of the channels on the board. See the next section for more information. To set the encoding algorithm:
    o Select the board you want to adjust.
    o Select the "Encoding" entry you want to adjust by turning the scroll wheel.
    o Press the scroll wheel or click on the up/down arrows to change the setting.
    o To move horizontally to view other cells in the row, turn the scroll wheel.
    o To move vertically to select another row, press Select Row.
    o To exit the screen, press OK.
- **Driver ID** — A unique identifier for the board for internal use. Not editable.
- **Num Channels** — The number of recording channels available on the board. Not editable.
- **Recorder Ch Start** — The first channel number that is assigned to the board. Editable. By default the board installed in the lowest numbered slot will be assigned channels starting at Channel 1. The next board will be assigned channels consecutively starting from where the previous board left off. For example, the first 16-channel board will be assigned Channels 1-16; the second board will be assigned Channels 17-32. If you want to reverse the order, you can set the second board to start at 1, and the first board to start at 17.

  Changing the default assigned channels can bring up some issues. Avoid changing the Recorder Ch Start setting if the new setting will point to the first channel of a different type of board. If you do that, then you also might have to change the parameters of each channel. During the factory install, the individual channel settings are set to reasonable values for the board. Those settings may not work for a different type of board.

  To set the first channel assigned to the board:

    o Select to the board you want to edit.
    o Select the "Recorder Ch Start" entry you want to edit and click on it or press the scroll wheel.
    o Key in the desired channel number and press "Enter."

o **System Ch Start** — The first channel number that is assigned to the board as part of a system of two or more recorders. Editable. This number defaults to the same number as Recorder Ch Start. This setting is for future use when multiple recorders can be integrated to appear as a single recorder to administration clients and remote call browsing software.

CHOOSING AN ENCODING ALGORITHM

The following encoding algorithms are available:

- 13 kbit/s GSM (factory default)
- 16 kbit/s G726
- 32 kbit/s G726
- 64 kbit/s Mu Law

The data rate indicates the amount of storage used per second of recording. The default will give you the most channel-hours. Encoding algorithms always represent a compromise between storage space and perceived quality. All the algorithms listed are general-purpose, and are not restricted to voice. You might want to select either the 32 or 64kbit/s algorithm if your recordings are going to be used by other decoding equipment, such as with fax recording. Fax in particular is very sensitive to the compromises made in reduced-bit-rate encoding. The human ear is much less so.

The encoding algorithm is set on a per-board basis. All channels on a given board must use the same algorithm. For this reason, you should plan to group all fax or other special lines on the inputs of as few boards as possible. That way, only those boards will need to record at a high bit rate, and storage space will be conserved.

You can experiment with these algorithms to get the best balance between sound quality and storage space. Be aware that if you change the setting while recording, a few seconds of audio glitches will occur on the audio currently being recorded.
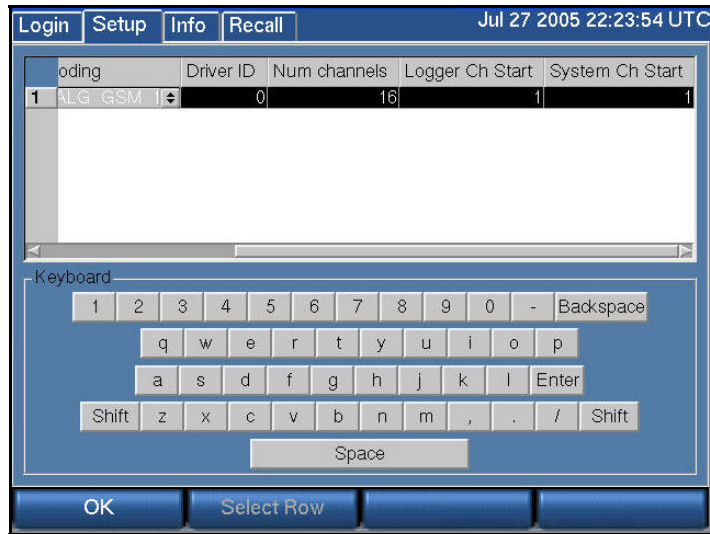
SETUP:RECORDING:CHANNEL CONFIGURATION

This section discusses how to view and edit settings for individual recording channels on the Analog Input Board. Eventide offers other interface boards. Contact Eventide for more information, and check the Appendices to the manual.

If the recorder is networked and you have the Recorder Config administration client, we recommend you use it to change channel names. In fact, we recommend it for all configuration tasks. You will find it to be quicker and more convenient. In any case, if you are not networked and you are going to change channel names, connect a PS2 or USB keyboard to the recorder. This will allow entry of alphabetic characters. Other settings can be set with the numeric keypad on the front panel. You can also use the touch screen or monitor and mouse on units so equipped.

The Channel Configuration Screen

The figure below shows a 16-channel Analog Input Board with the factory default settings.

To navigate inside this screen and view or adjust settings, follow these steps:

1) Scroll vertically and select the desired row.

2) Turn the scroll wheel or use the scroll bar to move horizontally; highlight the desired cell to be edited.

3) Press the scroll wheel or click on the cell to select the desired cell.

4) If the cell has a "spinwheel" symbol, then adjust the value by turning the scroll wheel and press the scroll wheel when done. Turn the wheel to continue moving horizontally. With a touch screen, click on the arrows to raise or lower the setting, and click Enter or select another cell for the value to take.

5) If the cell is a check box, press the scroll wheel or click on the box to check or uncheck it. Turn the wheel or click on another cell to continue moving horizontally.

6) If the cell is a numerical value with no spin wheel, then enter the desired value using the numeric keypad and press "Enter" twice.

7) When done editing a row, press "Select Row" to scroll to a different row, or press "OK" to exit the screen.

Important: Before you change channel names...

When you change the channel name and you browse calls on the server, all calls on the channel will display the new channel name, including calls that existed before the change. Calls browsed from an archive behave in the opposite way. The channel name in existence when the archive was first created will be displayed for all calls on the archive, even calls that were recorded to the server with a newer channel name. Therefore, if you wish to associate the old channel name with the calls that were recorded when the old channel name was in use, and only with those calls, then archive the calls on a blank disk before you change the channel name and do not append more calls to this disk later on, after the change. When you browse the archive you will see the old channel names associated with the appropriate calls.
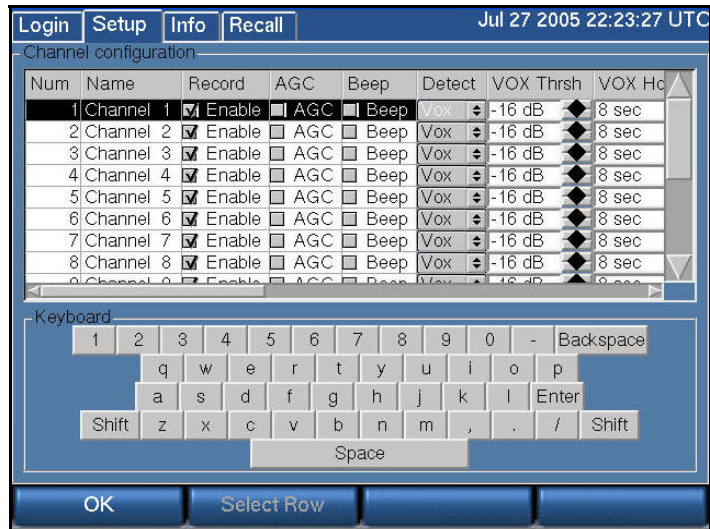
Num: Not editable. The channels are numbered consecutively, starting from the first physical channel of the input board in the lowest numbered slot. So Row Number 1 of the screen is always associated with that physical input channel.

Name: Editable with an attached or on-screen keyboard.

The Channel Configuration screen is the only place where the channel name is visible on the front panel. When you browse calls, you will only see the channel number (1, 2...). The channel names are visible when you browse calls with the Eventide Remote Call Browser client.

The channel name can be up to 32 characters. It can identify the signal source for each input channel. Telephone number, radio station call letters, ATC frequency and function, or any other free-form data may be entered here. While up to 32 characters of data may be entered and saved, display constraints suggest that you choose the first few characters most carefully. For example, in the Live Monitor client application, the "Detail View" display only shows the first few characters in the limited space available, so "**Radio Station** WABC 770KHz" would be less useful than "**WABC 770** NYC Radio station." There is no requirement to modify these identifiers. The factory default "Channel 01" ... "Channel nn" may be serviceable.

Record: This is the Record enable checkbox. This setting is accessed by a client software feature that permits you to remotely disabled recording temporarily on a selected channel. This box must be checked in order to enable recording. When recording is disabled on a channel, it displays yellow on the INFO screen.

AGC: Activates or deactivates Automatic Gain Control. Automatic Gain Control assures that recordings take advantage of the full dynamic range of the recording process. If you record at too high a level, the signal will "clip" and sound very distorted. If you record at too low a level, the signal will sound very soft and have a poor signal-to-noise ratio. Enabling AGC gives extra margin when recording telephone calls where the local party may be much louder than the distant one-it will boost the gain by up to 24dB when the distant party is speaking. AGC should be enabled in most cases. It can be disabled in installations where audio levels are well-controlled (e.g., broadcast radio stations).

BEEP: Enables a "Beep tone" to signify to callers that the call is being recorded. Activating the beep places a short, distinctive tone on the respective channel of the input connector. This tone is approximately 65 milliseconds in duration at a frequency of 1455Hz. It serves to indicate that the call is being recorded, and is required by some state laws. Of course, the beep will only be audible to the callers if the recorder is connected directly to the telephone line in question; if an amplifier or other device is interposed it will serve no purpose. Beep tones are only generated on Analog Input Boards, not on Digital PBX or T1/E1 interface boards.

DETECT: This setting determines when an input channel is active and should be recorded. There following options are available for this parameter:

- **VOX:** Starts recording if the audio input signal is above the Vox threshold.
- **TRV:** Starts recording if the DC input voltage is *lower* than the TRV (Tip-Ring Voltage) threshold, indicating an "off-hook" condition.
- **GPIO:** Uses an input signal from an optional General Purpose Input/Output (GPIO) board to trigger recording start and stop. The pin pair that carries the input signal is specified in GPIO Pin column. Recording starts on a high signal and stops on a low signal. This allows a variety of external devices to trigger recording.
- **Scheduled:** Uses the Scheduled Recording facility to designate start and stop recording settings.
- **Always:** Forces the channel to record regardless of input signal or voltage conditions. Useful if there are periods of silence that need to be documented, such as dead air on a broadcast station or long periods of dead silence in a courtroom.
- **Disable:** Disables recording for the channel.

New for Release 1.5

The factory default is *VOX.*

VOX Thrsh: If Record Enable Mode is VOX, this sets the trigger level for recording. Recorders with version 1.1.5 or above software will see a value between -48dB and 0dB. Units running earlier software versions will see an integer between 0 and 32767. The factory default is -16dB or 5000.
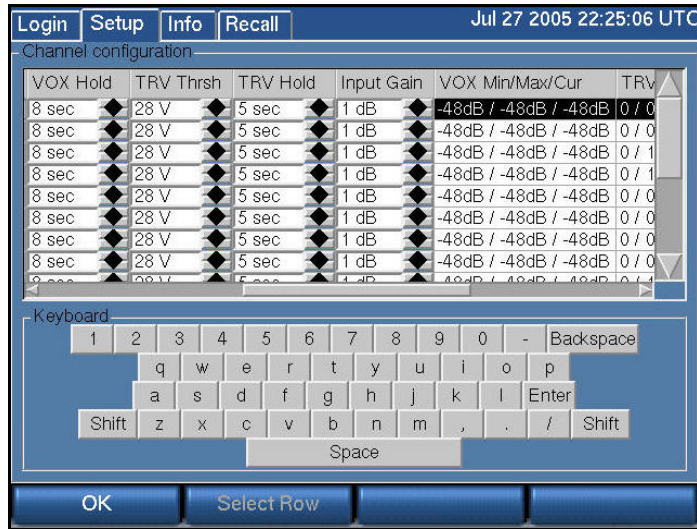
VOX Hold: If Detect is set to VOX, this sets the number of seconds the channel will continue recording after the signal drops and remains below the threshold. The factory default is 8 seconds.

Setting this for too long a value will record long periods of silence at the end of transmissions; too short a value may break a single call into apparent multiple calls.

TRV Thrsh: This sets the DC voltage at which a phone line is assumed to be in the off-hook state and eligible for recording. On a normal, clean telephone line, this does not have to be set too finely. On-hook voltages are typically 40-55 volts, off-hook under 10 volts. The factory default of 28 volts will probably be suitable.

Noisy telephone lines, lines at a great distance from the central office, and lines that are recorded at one location but answered at another can have unusual voltage profiles and may require adjustment.

TRV Hold: If Detect is set to TRV, this sets the number of seconds the call will continue to be recorded after the telephone goes on-hook. The factory default is 5 seconds. The on-hook state is then considered to define the end of the conversation.

With a line that has normal ringing voltage on it (±105V at 20-30 Hz), TRV will also respond to the ringing voltage. This means that, with a default of less than four seconds, each ring will appear to be a separate call. By setting TRV hold to five seconds or more, with a normal ringing cadence only one call will be logged from the beginning of the ring to completion of the conversation.

If you have set a channel to TRV, a special (non-programmable) feature will detect and flag a disconnected line if the tip/ring voltage stays below 3 volts for 10 minutes. If this happens, it generates a severity 2 (warning) alert indicating *signal loss* (Alert #9016), and recording is stopped on that channel as long as the voltage remains below 3 volts. When the voltage equals or exceeds 3 volts, it generates the corresponding "Resolved" alert for Alert #9016 to indicate the signal is restored, and normal TRV detection and recording will resume.

Input Gain*:* Gain (or attenuation) in dB of the input channel - used to set recording level.

VOX Min/Max/Cur: Real-time display of signal input level - useful for setting channel gain. This is not an editable item. This cell is an excellent tool for diagnosing recording problems, such as one call being broken up into multiple calls.
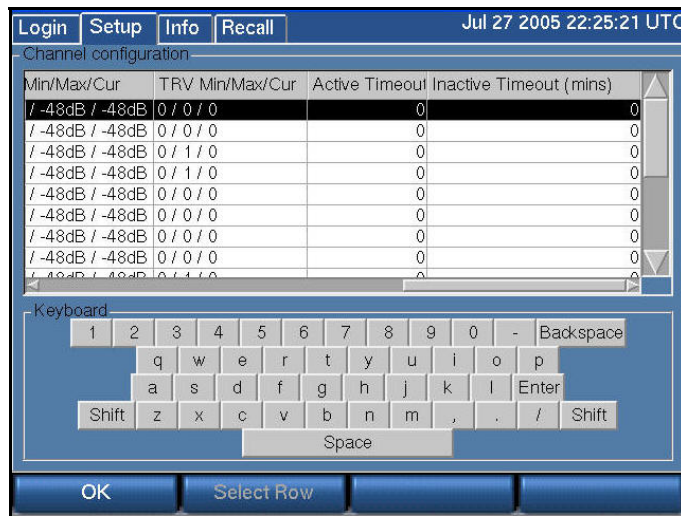
TRV Min/Max/Cur: This non-editable item shows you the real-time minimum, maximum, and current value of the DC voltage at the channel input. The current value will indicate if the phone is on- or off-hook; the Min and Max will show the highest (on-hook) and lowest (off-hook) voltages seen by the channel input. If the current value fluctuates over a wide range when you are not using the telephone,

it probably means that the line is very noisy. This tool can help you set the TRV Thrsh value or diagnose problems such as spurious calls.

Activity Timeout: Timeout value in seconds. When set, alert #3001 ("Channel was active for more than X seconds") is issued if a channel is continuously active for longer than the timeout value. The factory default is 0, which disables the function. The timeout will occur for both VOX and TRV Detect settings.

The alert consists of a red window that pops up on the front panel of the recorder, with a message that the activity timeout alert has triggered. This setting does not affect the actual recording of the call. It simply issues an alert.

Activity Timeout is useful for calling attention to open or defective telephone circuits. When a channel is set for TRV detection, a LOW voltage activates it. If the circuit is open due to a broken wire, the voltage will always be LOW, and the recorder will issue an alert if this condition persists. If you are going to use this feature, then you should set this value to one that is longer than any reasonably expected call or message to avoid nuisance alerts.

Inactivity Timeout: Timeout value in seconds. When set, alert #3002 ("Channel was inactive for more than X seconds") is issued if there is no activity on the channel for longer than the timeout value. The factory default is 0, which disables the function.

The alert consists of a red window that pops up on the front panel of the recorder, with a message that the inactivity timeout alert has triggered. This setting does not affect the actual recording of the call. It simply issues an alert.

Inactivity Timeout is useful for alerting you to circuits that should have signals but do not. If you are monitoring a radio channel and the radio is turned off, the inactivity timeout will eventually call this to your attention. Likewise, an unused (but active and paid-for) telephone line can be identified with this feature. Of course, legitimate inactivity can span weekends and holiday periods. Setting periods too short can result in nuisance alerts.

New for Release 1.5

GPIO Pin: Specifies a value indicating the input pin pair on the GPIO board that is used for triggering recording to start or stop. (This field is used with the detect GPIO setting.)

For the NI PCI-6503 24-channel GPIO board, values are as follows:
0: specifies pin pairs 47+48 (PA0)

1: specifies pin pairs 45+46 (PA1)

2: specifies pin pairs 43+44 (PA2)

3: specifies pin pairs 41+42 (PA3)

4: specifies pin pairs 39+40 (PA4)

5: specifies pin pairs 37+38 (PA5)

6: specifies pin pairs 35+36 (PA6)

7: specifies pin pairs 33+34 (PA7)

8: specifies pin pairs 7+8 (PC4)

9: specifies pin pairs 5+6 (PC5)

10: specifies pin pairs 3+4 (PC6)

11: specifies pin pairs 1+2 (PC7)

For the NI PCI-6527 48-channel GPIO board, values are as follows:

0: specifies pin pairs 47+48 (DIG+/-0.0)

1: specifies pin pairs 45+46 (DIG+/-0.1)

2: specifies pin pairs 43+44 (DIG+/-0.2)

3: specifies pin pairs 41+42 (DIG+/-0.3)

4: specifies pin pairs 39+40 (DIG+/-0.4)

5: specifies pin pairs 37+38 (DIG+/-0.5)

6: specifies pin pairs 35+36 (DIG+/-0.6)

7: specifies pin pairs 33+34 (DIG+/-0.7)

8: specifies pin pairs 31+32 (DIG+/-1.0)

9: specifies pin pairs 29+30 (DIG+/-1.1)

10: specifies pin pairs 27+28 (DIG+/-1.2)

11: specifies pin pairs 25+26 (DIG+/-1.3)

12: specifies pin pairs 23+24 (DIG+/-1.4)

13: specifies pin pairs 21+22 (DIG+/-1.5)

14: specifies pin pairs 19+20 (DIG+/-1.6)

15: specifies pin pairs 17+18 (DIG+/-1.7)

16: specifies pin pairs 15+16 (DIG+/-2.0)

17: specifies pin pairs 13+14 (DIG+/-2.1)

18: specifies pin pairs 11+12 (DIG+/-2.2)

19: specifies pin pairs 9+10 (DIG+/-2.3)

20: specifies pin pairs 7+8 (DIG+/-2.4)

21: specifies pin pairs 5+6 (DIG+/-2.5)

22: specifies pin pairs 3+4 (DIG+/-2.6)

23: specifies pin pairs 1+2 (DIG+/-2.7)

PBX NT/TE [Sync, Pbx, Phone]: This column is only important for NGX boards; it is a tool for installation and troubleshooting. The data will look like this: 1.1 /

0.66 [2,1,0]. The first two numbers are signal levels in volts. The first of the pair is the level of the signal coming from the PBX, and the second is the signal level coming from the phone set.

The three numbers inside the brackets are the total error counts for the channel since the last reconfiguration or reboot:

1. Sync errors are more general errors on the channel as a whole.
2. PBX errors are errors in the signal from the PBX.
3. Phone errors are in the signal from the phone.

These errors can signify problems and can affect recording: if the errors are increasing at a steady rate, it indicates that there is a problem. However, if the error counts aren't all zero, it might not be an indication of a serious issue: for example, someone may have unplugged and then plugged back in a phone.

Problems can be caused by:

1. Line issues (bad taps, line lengths, tap lengths etc).
2. Unsupported phone set or line card.
3. The wrong PBX is set in the board configuration.

Steps for Setting Levels, Thresholds, and Hold Times

It is undesirable for single conversations to be broken up into multiple calls. There is a lag between each stop and start, so some of the conversation will be lost. Setting levels and thresholds properly will help you avoid this condition. This applies to channels set for VOX detect.

If you are seeing this condition, or if you simply want to check how well the default parameters match your facility, try this procedure:

1) Disable AGC.

2) Set the Input Gain. It should be set with signals that best match what will be seen during normal operation. Watch the VOX Min/Max/Cur values and adjust the gain so that the current value ranges between -6dB and -1dB while a signal is present.

3) Enable AGC (if desired). Not recommended for broadcast recording, recommended for communications or telephone channels.

4) Using the VOX Min/Max/Cur cell, note the VOX Cur value with no signal present, but with the cabling still connected to account for line noise. Then note the VOX Cur value with the lowest-level input signal that you are likely to see during use.

5) Set the VOX Threshold using the values from the previous step. The threshold should be higher than noise but lower than your lowest signal.

Another possible cause for conversations recorded on multiple separate calls is Hold time. This would apply to both VOX Detect and TRV Detect. Conversations with pauses longer than the Hold setting will generate a stop-recording signal. When the conversation resumes, a start-recording signal will create a second call. To determine if this is happening, listen to the last several seconds of a call. If you hear a pause in the conversation longer than the Hold time, followed by a second separate call of the same conversation, then the length of the pause caused the stop-recording signal. If you wish, you can increase the Hold time. The downside is that longer periods of silence will be recorded at the end of EVERY call on that particular channel. For example, a 15-second Hold time on Channel 3 will cause a 15-second period of silence to be recorded on every call on Channel 3.

SETUP: RECORDING: DELETE CALLS AFTER N DAYS
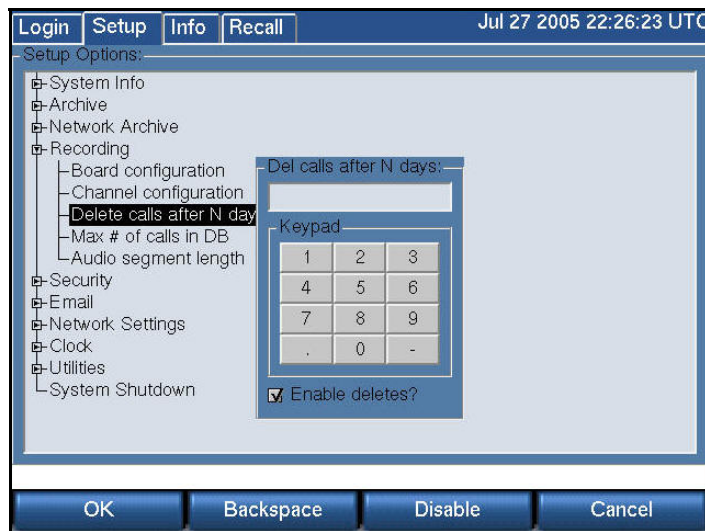
You can set the database to begin deleting calls after a certain number of days. If you set this feature to 60, calls over 60 days old will be deleted. The deletion does

not occur immediately; calls start being deleted at the start of the next day (after midnight). Enter the number of days maximum, or uncheck the "Enable deletes?" box if you want to keep calls for as long as there remains space on the disk.

SETUP: RECORDING: MAX # OF CALLS IN DB
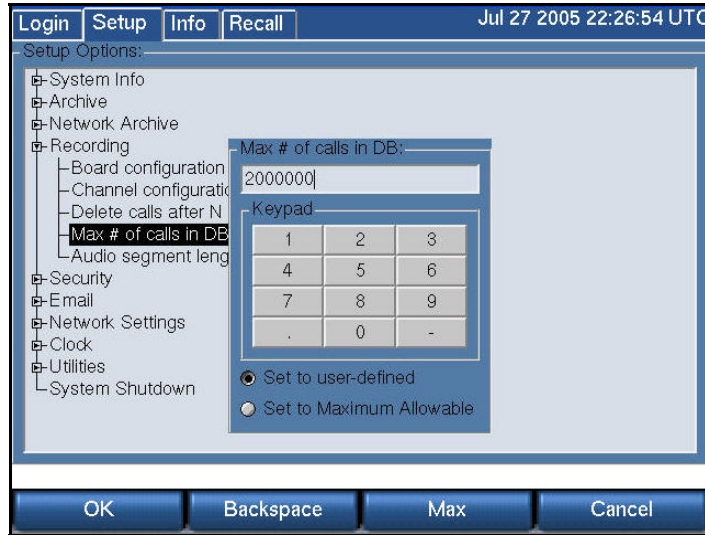
If the RAID becomes full, calls will be deleted starting with the oldest calls. In this case the number of stored calls is self-limiting.

You can manually set a limit to the total number of calls that the internal database will store. After the set number is reached, the oldest calls will begin getting deleted. Deletion will not occur immediately; calls start being deleted at the start of the next day (after midnight) as a safety measure. This feature is enabled by default with a value of 200,000.

To Disable, i.e., to allow as many calls as possible to be stored, select the "Set to Maximum Allowable" with the mouse or Max soft key.

SETUP: RECORDING: AUDIO SEGMENT LENGTH

When audio is received continuously, such as with a radio broadcast, it is possible to have "calls" as long as the maximum, which is 12 hours. This can be very inconvenient, and this facility allows you to set the maximum length of any continuous recording. The minimum length is 1 minute and the maximum is 12 hours, with the entry in minutes. If you don't want to limit segment length, uncheck the "Enable audio limit?" box.

SETUP: Security

At a site where a recorder may have multiple operators and different people are authorized to perform different functions, both Login and user-privilege security options are provided.
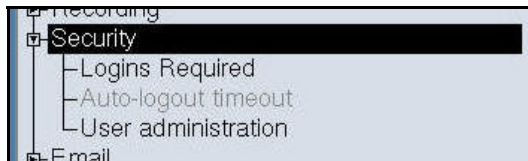
It is important to remember, however, that complete security is difficult to achieve, and if the recorder is physically accessible, then the security provided by keys and passwords may well be illusory!

For best security, keep your recorder in a physically protected area!

SETUP:SECURITY:LOGINS REQUIRED

Turning on the login feature presents users with a Login button on the front panel. Users will have to log in to reach other screens. To enable the user login feature check the box with Enable or the mouse and select OK.

SETUP: SECURITY: AUTO-LOGOUT TIMEOUT
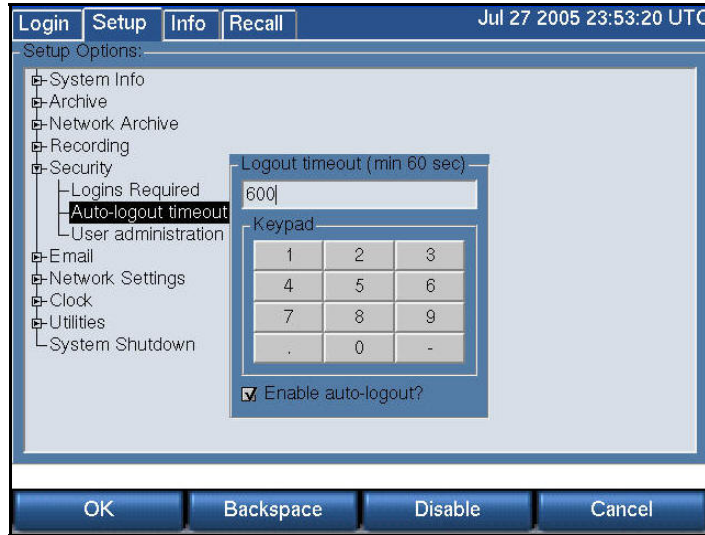
The auto logout feature automatically logs out the current user after a preset time. To enable auto logout, enter the number of seconds you would like to have the panel accessible. The minimum is 60 seconds, but this gives you little time to do anything. In fact, you may find it difficult to disable auto logout. We recommend 600 seconds (10 minutes), and this is the factory default.

To disable auto logout, log in if necessary and uncheck the "Enable auto-logout?" box.

For many installations, security is an important issue. Who should have access to the front panel of the machine and what screens and functions should be available to that user? This section will help you set up users and privileges. These privileges will apply to the remote clients—that is, the clients will not bypass the privileges that you set from the front panel.

About Security Groups

Users can be administered by name and password and assigned to one of a list of built-in "groups." Privileges are associated with each group, and group members gain those privileges. The privileges associated with each group are set up at the factory and cannot be modified. There are no user-definable groups.

- Security Group
- Privileges
- Admin
- All available privileges, including the ability to create new users.
- Research
- Browse and play back recorded calls (**RECALL** screen only).
- Archiver
- Ability to archive calls (**INFO** screen only).
- Maintenance
- Ability to change system settings (**SETUP** screen only).
- Monitor
- Ability to monitor live calls (**INFO** screen only).

Managing Users

To add users, plug a keyboard into the USB connector on the front or back of the recorder. If you don't have a USB keyboard, you can plug a PS2 keyboard into its round 6-pin connector on the rear panel, but it may be necessary to reboot the recorder for it to be recognized. The keyboard is necessary for inputting alphabetic characters. With a touch screen recorder, you can also use the keyboard that appears on the screen, but a keyboard may be more convenient. For a non-touch screen recorder, follow these steps.

Security Group	Privileges
Admin	All available privileges, including the ability to create new users.
Research	Browse and play back recorded calls (**RECALL** screen only).
Archiver	Ability to archive calls (**INFO** screen only).
Maintenance	Ability to change system settings (**SETUP** screen only).
Monitor	Ability to monitor live calls (**INFO** screen only).

1) Press SETUP, scroll to User Administration and select it.

2) Press "Add."

3) Type in a login name for the user and hit the ENT button on the front panel twice. Use the scroll wheel or the keyboard arrow keys to scroll to the Password cell, and press the encoder wheel to edit the cell.

4) Type in a password using the keyboard or the front panel numeric keypad. The password consists of a string of from three to 10 digits. Of course, longer passwords are more secure.

Important: It is easy to place spaces at the beginning or end of the password accidentally. Please make sure there are no spaces in the password field.

After typing in the password, press "ENT" twice.

5) Repeat steps 3 and 4 to enter data for the FirstName, MiddleName, LastName, and Suffix cells, if desired. These cells are descriptive and can be left blank.

6) (**Scrollwheel models**): For the Channels cell, pressing the scroll wheel to edit the cell will bring you to a list of channels. Scroll to each channel and check the box if you want the user's privileges to apply to that channel. Rather than using the scroll wheel, you may find it easier to use the arrow keys and the F8 key of the keyboard. F8 will place a check mark in the box. Press OK when done. (**Touch screen/keyboard models**): Select the cell and type the channel range(s) as a comma-separated list with a start and stop channel or a single channel. E.g., "1-3, 7, 9-10" type in the cell would allow access to channels 1,2,3,7,9, and 10. Press Enter twice to complete each user entry.

7) For the group cells (Admin, Research, etc...), choose the group that the user will belong to and check the box using F8 or the encoder wheel.

8) For the Email Addr cell, type in the user's email address, if desired. This email address will be used in conjunction with the Email Alert feature (discussed in the Recorder Settings section). When certain alerts are generated by the recorder, the user will receive an email message through this address.

Press the OK soft key to save the settings and add the user to the recorder account.

For a touch screen recorder, or for one with a monitor and mouse, steps 3 through 8 require clicking the individual cells to get the information to "take." The horizontal scrollbar is used to bring cells onto the screen as necessary.
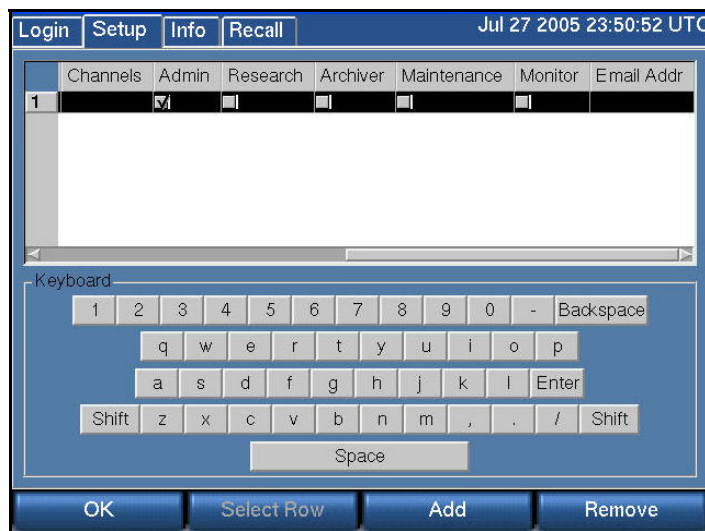
SETUP: Email

Setting these parameters is very similar to the normal email setup procedure on a PC, e.g., the *accounts* settings in Microsoft Outlook or Outlook Express. You will need the same information for these settings as you would for normal email, and can obtain them from your network administrator (or possibly by looking at your PC email settings).

All entries requiring IP addresses can use "fully qualified domain names" or numerical addresses. FQDN (e.g., <host.domain.com>) is recommended since IP addresses frequently change. The recorder does not have to be rebooted for the email settings to take effect.

SETUP:EMAIL:ENABLE/DISABLE EMAILS

Enable/Disable Email globally permits emails to be sent when enabled. Email still requires further configuration in the Security section to determine to whom it will be sent.

SETUP:EMAIL:SMTP SERVER
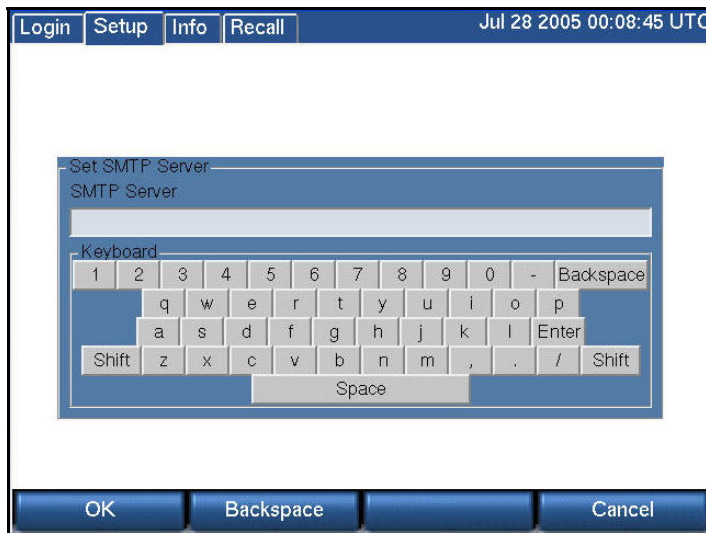
SMTP Server. Be sure you are authorized to use the SMTP server in question. Many are set to disallow "relaying" to prevent "spam." This is likely to be a problem if the recorder isn't on the same network, and may be a problem even on the same network if the recorder doesn't have an "account."

SETUP:EMAIL:SMTP PORT
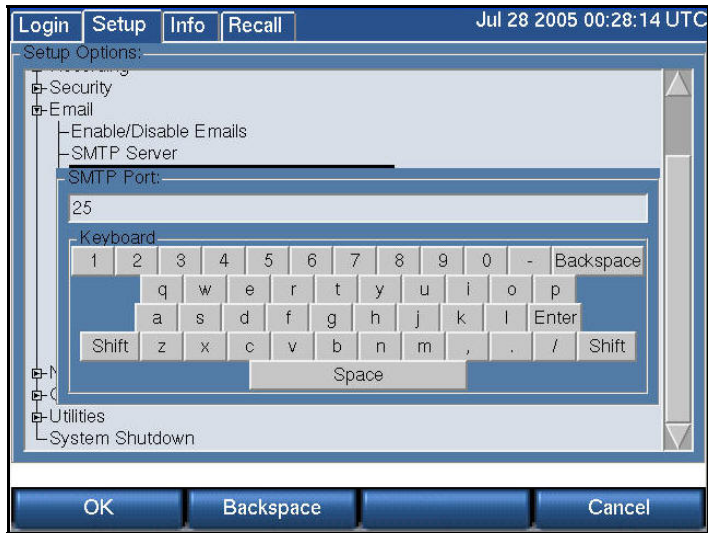
Port 25 is the default used by SMTP servers. If a different port is to be used, it may be entered here.

SETUP:EMAIL:LOCAL HOSTNAME
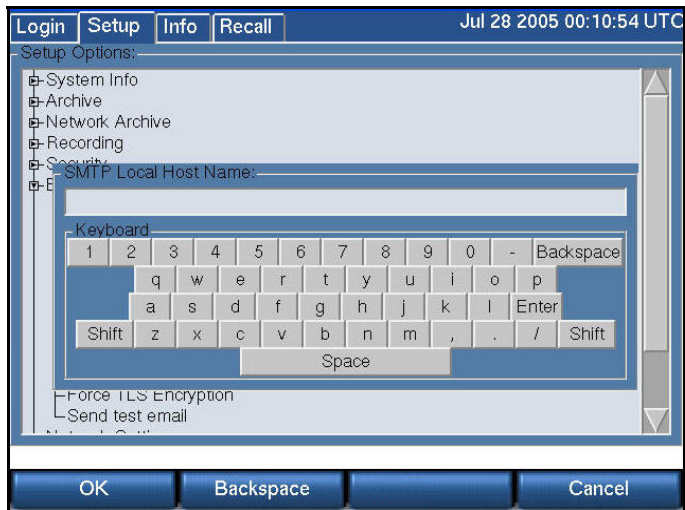
This is the hostname of the recorder if one has been assigned by the network administrator. Example: recorder.yourdomain.com.

SETUP:EMAIL:SMTP USERNAME
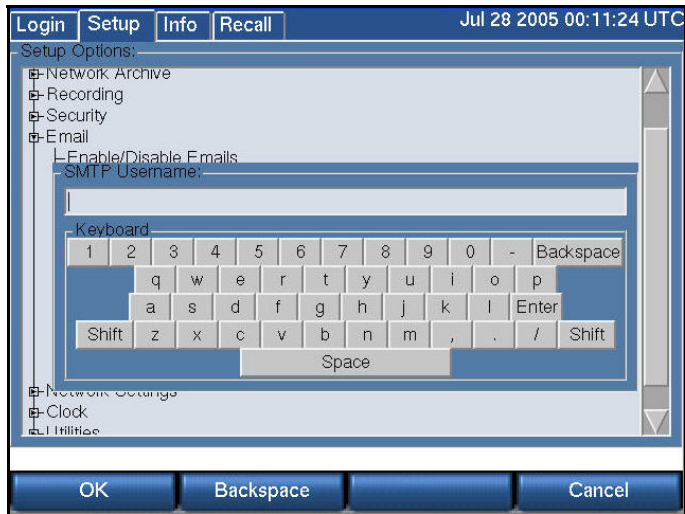
SMTP Username (may be required by the SMTP server-see your administrator).

SETUP:EMAIL:SMTP PASSWORD
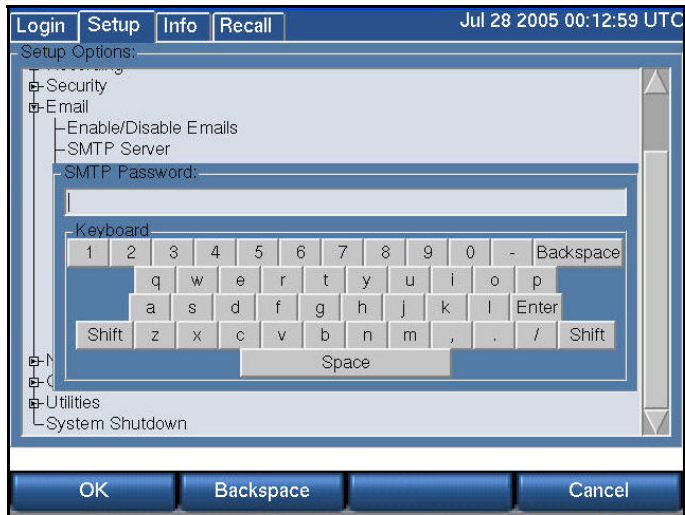
SMTP Password (may be required by the SMTP server-see your administrator).

SETUP:EMAIL:SMTP FROM ADDRESS
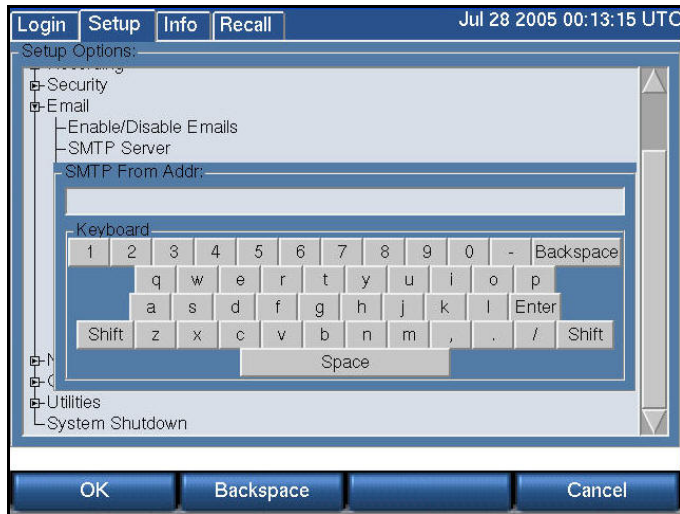
SMTP From Address (The address you want to appear as the sender when the user receives an email, e.g., "Eventide Recorder 2").

SETUP:EMAIL:SMTP REPLY-TO ADDRESS
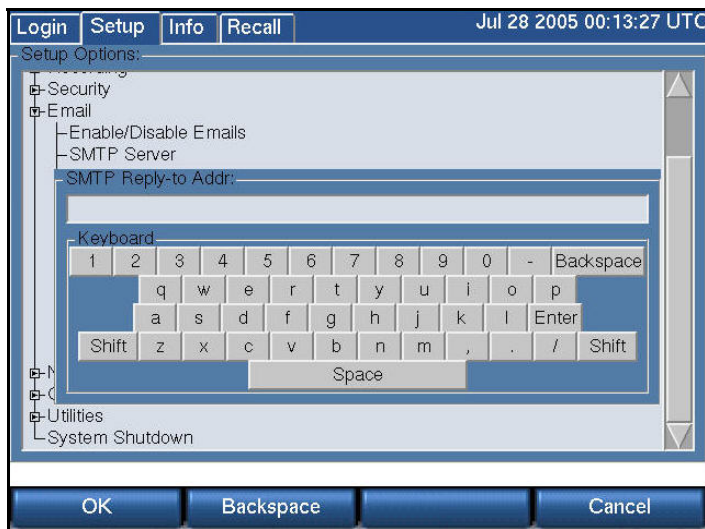
SMTP Reply-To Address (not required: the recorder does not accept or respond to incoming email).

SETUP:EMAIL:SMTP ERRORS-TO ADDRESS
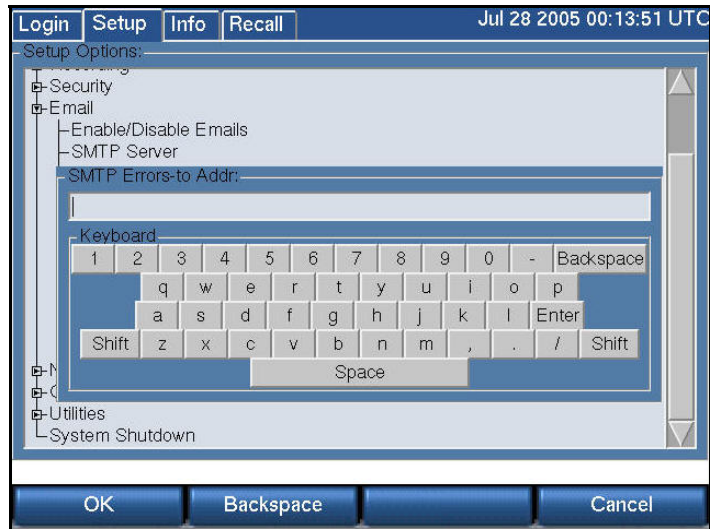
SMTP Errors-To Address (not required: an address that can receive "bounce" messages if the recipient's mail can't be delivered).

SETUP:EMAIL:FORCE TLS ENCRYPTION

Enabling this function forces the recorder to use an authentication algorithm for outgoing email. Disabling permits the email client to send unauthenticated email if the SMTP server doesn't provide for authentication.

SETUP:EMAIL:SEND TEST EMAIL
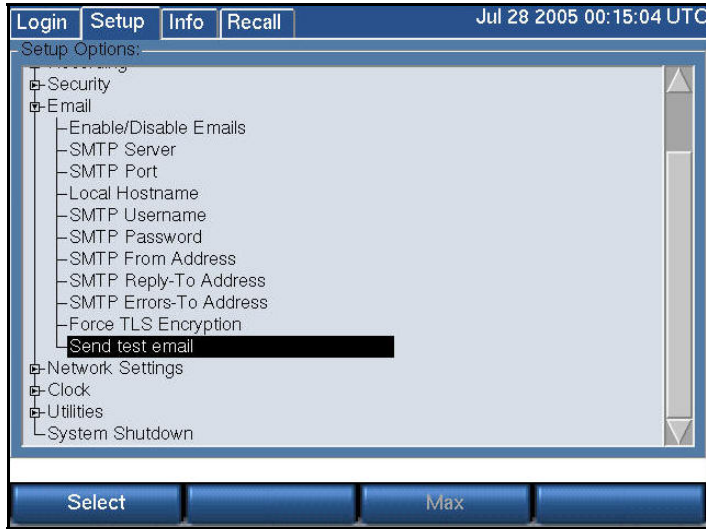
"Send Test Email" will send a test email to all of the users with administered email addresses. We recommend you use this feature to check your settings and connectivity. Once the test email has been sent, you can confirm that it has gone out by checking the recorder Alarm Log for a list of recipients, and, of course, by checking with the recipients as to whether they received it.

SETUP: Network Settings

If desired, the ATLAS recorder can connect to a TCP/IP-based Ethernet network. The recorder includes a 10/100 Mbit/s twisted pair network interface. It is not strictly necessary to connect the recorder to a data network. However, a networked recorder provides advantages. For instance, you will be able to use Eventide's optional remote clients for administration, viewing and playing recorded calls, monitoring, and other functions. You can set up the recorder to send email alerts for certain conditions. And you can synchronize to an NTP server.

New for Release 1.5

The Atlas recorders support two network interface cards (NICs), which provide greater flexibility in your installation.

Primary and Secondary network devices are configured separately, but employ the same gateway. (The gateway will automatically detect the IP address of any computer residing on either network.)

The recorder is shipped with the following default network settings:

Net mask	IP Address	Subnet or Network
255.255.0.0	123.45.67.89	123.45.0.0
255.255.255.0	123.45.67.89	123.45.67.0

Select either network device entry to view or modify these settings.

The appropriate settings can be obtained from your network administrator, or automatically with DHCP.

SETUP:NETWORK SETTINGS:ENABLE/DISABLE DHCP

If your network administrator tells you to use DHCP (Dynamic Host Configuration Protocol), then enable DHCP as follows by checking the box and selecting OK. With DHCP enabled, the other network settings are set automatically by the DHCP server and cannot be changed manually. The settings remain readable since the information, the IP address in particular, may be needed for client setting.

If you are using the remote administration and call browsing software provided by Eventide, then you should ask your network administrator to provide a "static IP address" to the recorder. The client software will be unable to use services provided by the recorder if the recorder's address changes, as it sometimes does with DHCP.

SETUP:NETWORK SETTINGS:IP ADDRESS, GATEWAY, NET MASK, NETWORK

If you are not using DHCP, then you must set the network parameters manually from the front panel. There are some considerations in setting these parameters.

The IP address must not be in use by another device. If it is, then the address may not "take" and even if it is accepted operation will be unreliable.

If you need the recorder to communicate with other devices on the network, such as an administration client, an NTP server, or the internet, then the devices must either be on the same subnet, or on a different subnet that can be reached over a gateway. In the latter case, the address of the gateway must be added to the recorder.

Speaking of subnets, the subnet is determined by the NETMASK setting. Your subnet is the result of an AND operation between the 4-octet net mask and the 4-octet IP address. Below are two common examples of net masks.

Your facility's network administrator will be able to help you in assigning the proper IP address, net mask, broadcast address and, if necessary, gateway address for the recorder. If the recorder will be sending email, one or more DNS servers must be entered. To set the addresses, simply enter them in the blanks, using Switch or the mouse to change fields.

Net mask	IP Address	Subnet or Network
255.255.0.0	123.45.67.89	123.45.0.0
255.255.255.0	123.45.67.89	123.45.67.0

SETUP:NETWORK SETTINGS:DNS SERVERS

Set from one to three DNS server(s) by entering the correct address and using Switch to traverse the fields.

SETUP:NETWORK SETTINGS:BROADCAST

Set the broadcast address.

SETUP: Clock

This section discusses setting the recorder **date, time, and time zone, and synchronizing it with an external time source**. This must be accomplished before you connect your incoming audio lines. If you are installing new software on a currently operating recorder, you should disconnect your audio inputs until you have set the time zone or restored the recorder configuration.

The current setting of the internal clock is observed in the display in the upper right corner of the screen. The time zone is a three-letter code that is factory-set to UTC (Universal Time).

When using the internal clock or NTP, Daylight Savings Time adjustments are handled automatically.

SETUP:CLOCK:DATE/TIME

The internal clock is accurate to a nominal one second per day.

To initially set the internal clock, first set the time zone to UTC (see below), then set the time and date to the current UTC time using the knob or arrows and accept it with OK. If you will be using NTP or an external time source, an approximate clock setting is all that is necessary.

This site provides the current UTC time:
http://www.time.gov/timezone.cgi?UTC/s/0/java

SETUP:CLOCK:TIME ZONE

To set the recorder time zone, first select your continent (above screen), select Continue, and then select your city or a city in your time zone (below screen). Finally select OK. (If you prefer to use UTC, simply select **Use UTC**.)
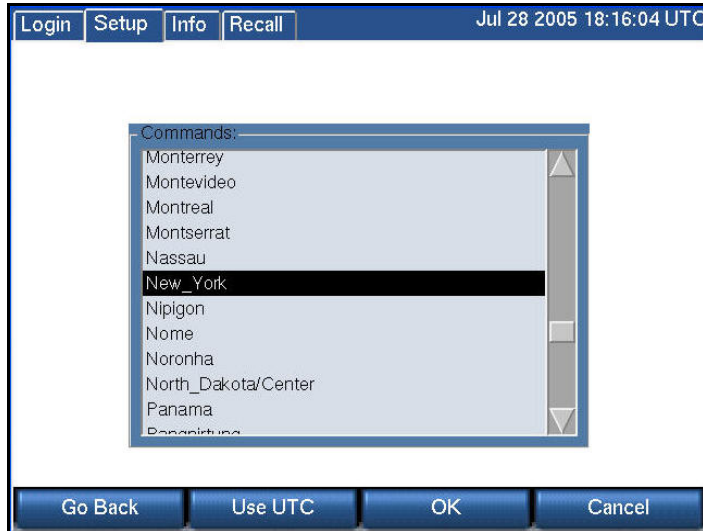
SETUP:CLOCK:NTP SERVER

You can connect to up to three NTP (Network Time Protocol) servers. First you will have to set up the recorder on your network. See the "Network Settings" section. Of course, if you are using an NTP server over the internet, you will need a reliable internet connection.

Eventide does not provide a default for the NTP server address because it is best to select one near to you so as to minimize delays and outages caused by distance

and multiple network hops. Because the NTP server synchronizes the internal recorder clock, a continuous connection is not required, but periodic connection is. Historically, a list of National Institute of Standards and Technology (NIST) internet time servers can be found on the web at:

http://www.boulder.nist.gov/timefreq/service/time-servers.html

For example, either time-a.nist.gov (129.6.15.28) or time-b.nist.gov (129.6.15.29) has been known to work well on the east coast of the United States.

Note: Once you have selected NTP servers the Date/Time menu choice will be grayed out.

After you have activated NTP, wait a few minutes and then view Time sync status (below) to confirm that the recorder is following the NTP-supplied time.

To disable NTP time synchronization, select NTP Server and delete all NTP server names. After pressing OK, the Date/Time menu choice will no longer be grayed out.

SETUP: CLOCK:I RIG-B SETTINGS

IRIG-B

If you have ordered optional IRIG-B support, then the recorder will be equipped with an IRIG-B time code reader. An IRIG-B time code generator can be connected to the BNC connector on the back of the recorder.

Note: The date is not affected by the IRIG generator. Set the date using the "Date/Time" menu.

- Set the time zone to the desired time zone for normal operation as described above.
- Set the internal clock of the recorder to the wrong time so that time synchronization will be obvious.
- Scroll to "IRIG-B Settings" and select it.
- Verify that the checkbox is checked, indicating that the setting is enabled.
- Use the encoder wheel or pick a value with the touch screen to set the offset between the time zone to which the generator is set and UTC. For example, if the generator is set to output EST time, set the recorder for -5. If outputting EDT, set to -4. If outputting UTC, set to 0. The purpose of

this setting is to convert the output of the generator to UTC, which the recorder requires for its internal calculations.

- Press OK to save the settings.
- Connect the IRIG-B time code generator to the BNC connector on the back of the recorder labeled "Time Code Input."
- Observe the time display at the upper right section of the front panel display. Verify that it synchronizes shortly after you have activated it.

SETUP: CLOCK: RS232 TIME SETTINGS
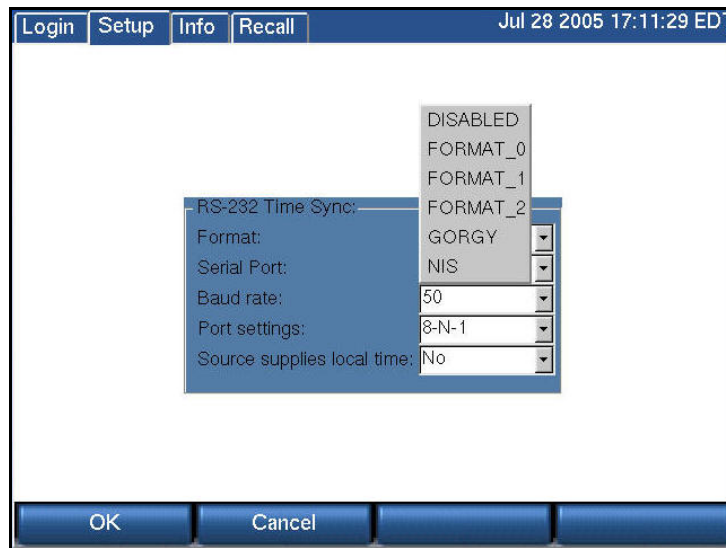
Time Code Synchronization Over RS-232

A NENA-compliant time code generator (available from Spectracom, ESE, and other companies) can be connected to the system's serial port. The VR615 has one serial port. Either the time code generator or a label printer can be connected. The VR725 and VR778 have two serial ports. The time code generator and a label printer can be used simultaneously.

The date is not affected by the time code generator. Set the date using the "Date/Time" menu item as described above.

Important:: Disconnect the RS-232 cable from the recorder when making setting changes. Otherwise the recorder front panel controls may become unresponsive. Reconnect the cable AFTER all settings are made and saved.

- Set the internal clock using the steps in the section entitled "Internal Clock" above.
- Set the internal clock of the recorder to the wrong time so that time synchronization will be obvious.

- Set the recorder to match the time code source.

SETUP RS-232 TIME SETTINGS

- Select the "Format" to match the generator's time format. Format 0, Format 1, Format 2, GORGY, and NIS are available. DISABLE, of course, will prevent the RS-232 source from being used.
- Select the COM port to which the generator is connected.. If the display uses the notation "/dev/ttySn," then use S0 for COM1, and S1 for COM2. For the VR615, there is no setting selection. If the VR615 is using a label printer, the printer uses COM1 and RS-232 time sync cannot be used. For the VR725 and VR778 with a label printer, the printer must use COM1, and you should set the recorder to use COM2 for the sync signal. If there is no label printer you can select either port for the RS-232 time sync.
- Match the Baud entry to that of the generator.
- Select the Port settings to set the communications parameters for data bits, stop bits, and parity.
- Select Yes for "Source supplies local time" if your generator is on local time; select No if it supplies UTC.
- Press the encoder wheel or OK to save the settings.
- Connect the time code generator to the RS-232 connector on the back of the recorder. For the VR778 with a label printer, leave the printer on COM1 and use COM2 for the generator.
- Observe the time display at the upper right section of the front panel display. Verify that it synchronizes to the external source shortly after you have activated it.

SETUP:CLOCK:TIME SYNC STATUS
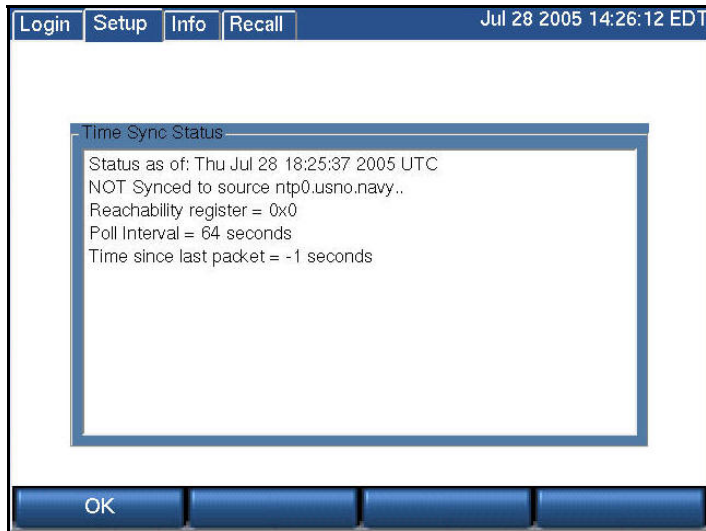
The Time Sync Status screen shows whether the recorder is correctly synchronized to an external source. The top screen shows that it is not receiving NTP synchronization. The bottom screen shows the recorder operating in synchrony with NTP source time.nist.gov.
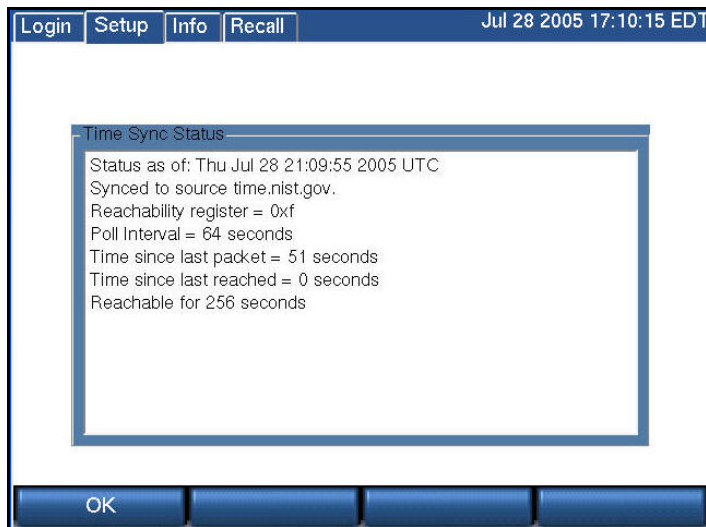
SETUP:Utilities

These "utilities" are especially helpful for maintaining, backing up, and migrating your recorder settings.

When you create a disk with recorder information and settings, we strongly recommend that you immediately label it both with a description of the contents, the date, and the recorder serial number.

Only DVD-RAM, USB, and REV media can be used for these utility functions.
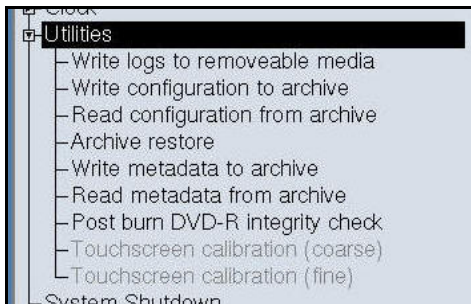
SETUP:UTILITIES:WRITE LOGS TO REMOVABLE MEDIA
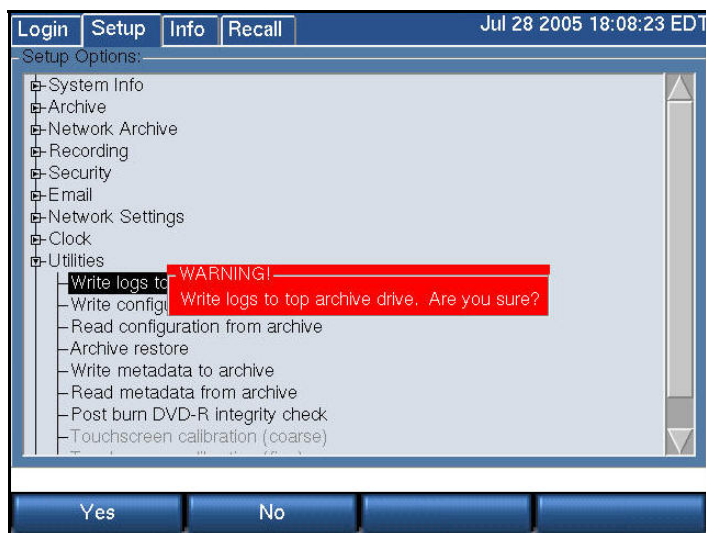
The system logs contain many clues and information that can help diagnose problems with the recorder. Especially if your recorder isn't connected to the internet, it may be necessary to send this log information to Eventide to assist in finding a problem.

The procedure for using this function is to simply insert a blank formatted archive medium in the recorder, select Write logs to removable media, and select "Yes" when asked to confirm your wish. You must use a separate disk for each different utility item to be saved.
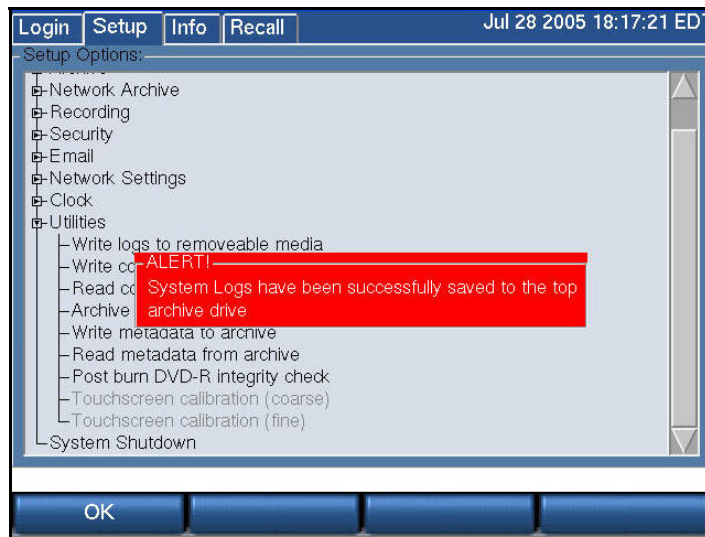
SETUP:UTILITIES:WRITE CONFIGURATION TO ARCHIVE
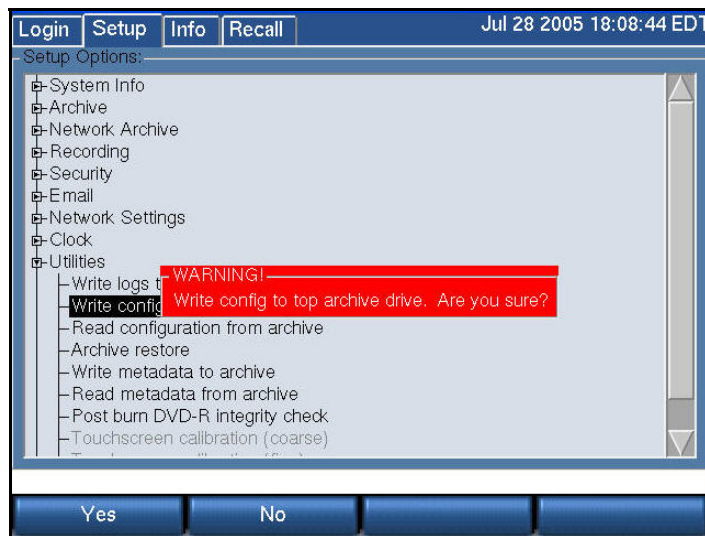
You can save your settings to an archive disk. If the settings are lost, you can read them back into the recorder. Settings include your channel names, user accounts, network settings, and clock synchronization settings). Insert a blank, formatted archive medium and select "Write configuration to archive." Note the warning and select "Yes" to continue.

If you have multiple recorders, mark the disk with the recorder's serial number. You should not read back settings from a disk that has settings from a different recorder. The recorders may be configured differently and the settings may not be interchangeable.

Having a backup of your configuration is very valuable, and you should make one even if you have decided that you do not wish to archive any recorder recordings. We recommend creating one and putting it in a safe place along with the spare key.
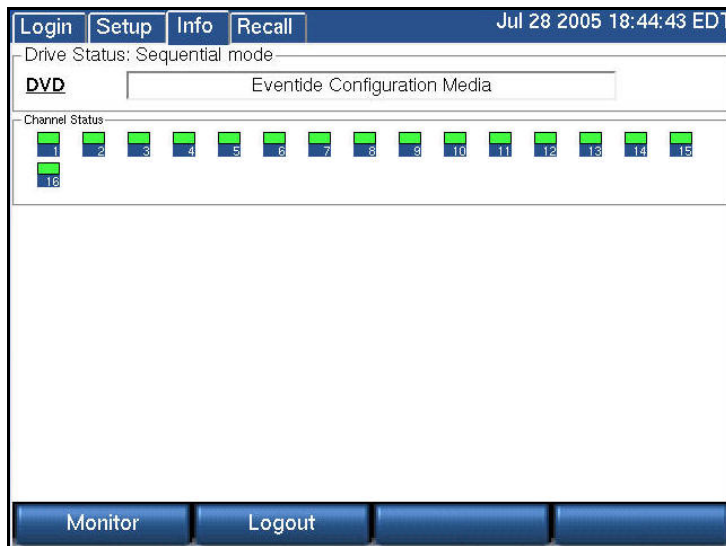
SETUP:UTILITIES:READ CONFIGURATION FROM ARCHIVE
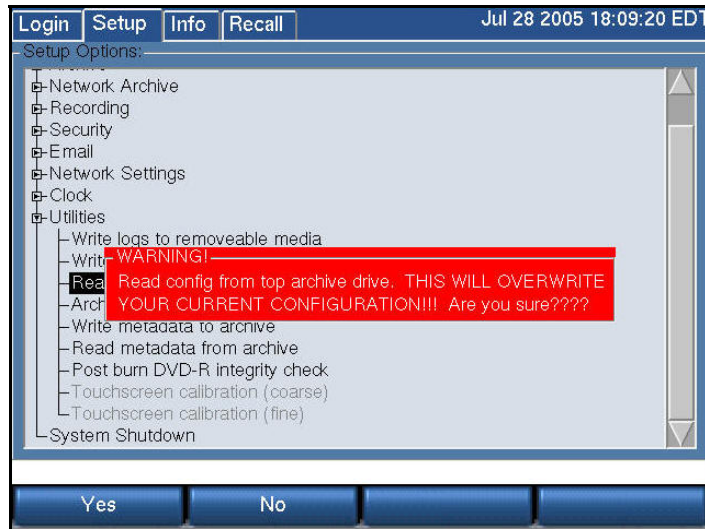
Before reading back (restoring) the settings, make sure the settings on the disk are appropriate to your recorder. As mentioned in the previous section, you should not read back settings if the settings are from a different recorder, or if you have added input boards to the recorder or made other configuration changes that render the old settings inappropriate.

To read back the settings, insert the DVD-RAM with the settings, and select "Read configuration from archive." Note any warnings and select "Yes" to continue.

Important: Reboot the recorder. Because some settings take effect on rebooting and some do not, if you do not reboot, your settings may be inconsistent and may cause the recorder to fail.

SETUP:UTILITIES:ARCHIVE RESTORE

In the Archiving section of the SETUP mode there is a menu item "Archive restore." If you insert previously–recorded archive media into one or more drives, it will allow you to select that drive with the knob and perform a restore operation, i.e., copy the calls from that medium back to RAID. Several checks are performed before the medium is transferred:

- Does the serial number of the recorder that recorded the archive medium agree with that of the destination recorder?
- Are the channel names of the recorder the same as the destination?
- Does the format of the data on the archive conform to that of the destination?
- Is there any problem with or damage to the archive medium to be transferred?
- Are all (or some) of these calls duplicates of calls already on the recorder?

- And the perennially popular "Are you sure" you want to go ahead with the transfer?

If none of these are appropriate for the medium, or if you indicated that you wish to proceed, the archive transfer will commence. All drives operate independently. You can restore archive media in all available drives, or you can even record archives on one medium while restoring from another.

A couple of important points:

- The restoration process cannot continue once the RAID is full, so unless you have a special reason for doing otherwise, always restore from the most recent archive backwards.
- If you are restoring archives after a new installation, use the Set current archive time facility to make sure that new archives are only recorded from the present forward. If you don't set this and begin new archiving after you have restored your archives from a previous installation, you might find yourself "re-archiving" the restored archives.

When you are done restoring your archives, be sure to restore the "metadata" archive disk as well.

New for Release 1.7 **SETUP:UTILITIES:ARCHIVE RESTORE: PERIOD TRANSFER**
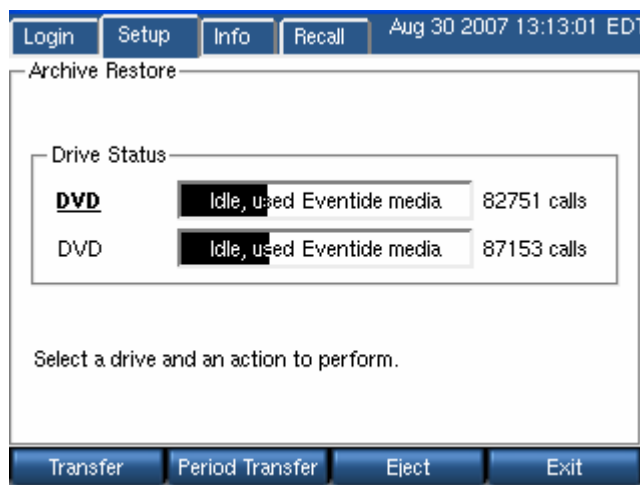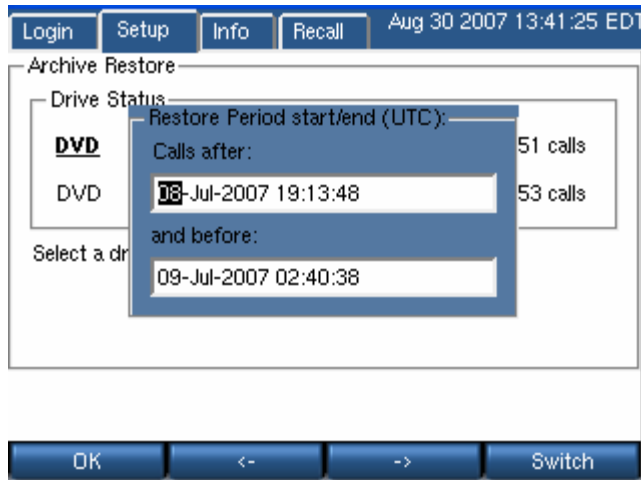
To restore a subset of calls from an archive, use Period Transfer, also found at the Archive Restore screen. Set the time period and hit OK, and then proceed as you would with a full disc Archive Restore.

SETUP:UTILITIES:WRITE METADATA TO ARCHIVE

"Metadata" means data about data, and is just a fancy way of saying that there is (potentially) some data about calls associated with the calls. For example, when you use the Browser Client to "protect" a call from being erased, or when you add "incident" data to a specific call, this is considered metadata. This metadata is not (and typically cannot) be stored with the call archives themselves. Why? Because in most instances, archiving takes place contemporaneously with recording, or shortly thereafter. However, the decision to protect a call, or to add or change information about a call or incident can occur much later. Therefore, this

information may not be present when the archive is recorded and so obviously cannot be recorded along with the archive.

The "Write metadata to archive" menu item allows you to gather all this later-entered data on one medium, and to restore it to the recorder if necessary. (It will not normally be necessary, but the purpose of saving it is the same as the purpose of archiving – backup and safety.)

To create a metadata archive, insert a DVD-RAM medium in an available drive and format it if necessary. Select "Write metadata to archive" and confirm you want to do so by pressing the YES soft key. Remove the disk and store it with your archives.

To restore the metadata to the recorder, insert the metadata archive and select "Read metadata from archive" and confirm the operation.

Unlike the calls themselves, metadata takes a very small amount of space on a disk, and the entire recorder can be backed up on a single metadata disk. Metadata is stored in most cases the equivalent of "forever" and so the most recent metadata backup will suffice to restore this data to all archives. Therefore, you should determine a reasonable schedule for making these backups – once a week, perhaps – and keep only a couple of disks in rotation for this purpose.

SETUP:UTILITIES:READ METADATA FROM ARCHIVE
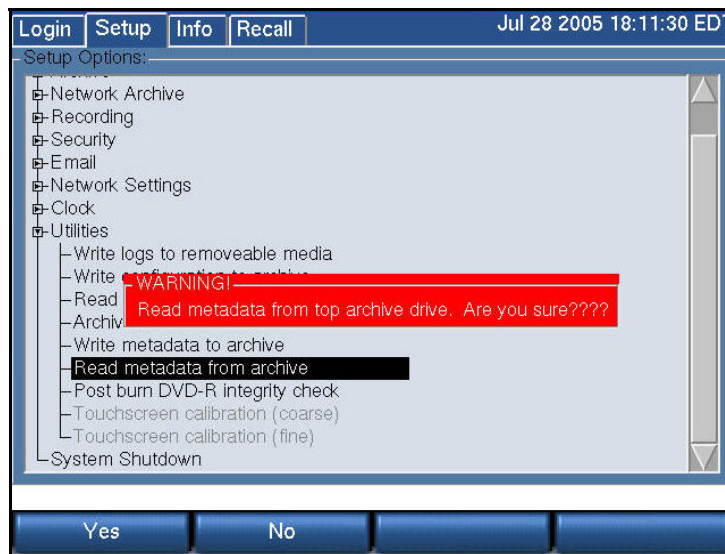
Read metadata from archive restores the metadata saved in the above procedure. After receiving the usual warning, "Yes" deposits the information back on the RAID and associates it with the appropriate calls.

TOUCH SCREEN CALIBRATION (COARSE AND FINE)

This item only applies to the VR725, or to blank-panel units that may have the Eventide Touch screen Monitor attached. When shipped with or as part of a recorder, the touch screen is pre-calibrated. You may need to perform this function if the adjustment drifts over time, or if you have to replace the monitor.

There are two selections – Coarse and Fine calibration. Coarse allows you to coordinate the display with the touch screen at four points; fine provides a 25-point calibration. When performing this calibration, use the pointer provided or an object with a reasonably sharp point, as you want to get it as nearly precise as possible. Select the calibration desired and touch the points as instructed by the program. Note that you must touch AND HOLD the pointer on the screen until the program goes to the next calibration point. This is different from normal operation in which you can just poke an item and have it register.

SETUP: System Shutdown

Always use System Shutdown to turn off the recorder safely! Do not force a shutdown with the power switch or by unplugging the recorder, which can result in lost or corrupted data.

This section describes how to shut down the recorder. For information on starting the recorder, see "Starting and Shutting Down."

To shut down the recorder, you can perform a controlled shutdown or a forced shutdown. In most circumstances, you should only perform a controlled shutdown. This allows the recorder to close all open files and complete current database operations before shutdown. A forced shutdown can result in corrupted files and loss of data. It can also damage any archive media in the process of being written, and possibly leave either gaps or duplications in your archives. (In addition, Eventide strongly recommends using the recorder with a UPS to allow a controlled shutdown in the event of a power failure.)

CONTROLLED SHUTDOWN

To perform a controlled shutdown of the recorder:

1. Press SETUP.

2. Select System Shutdown.

3. You are prompted to confirm the shutdown. Press the "Yes" soft key, and the recorder starts to shut down. Please be patient as this can take minutes, especially if an archive medium is being written.

If for some reason, it is not possible to use this standard method to perform a shutdown, a controlled shutdown can still be accomplished using the following, somewhat riskier, alternative.

Use the front panel key switch (VR615 and VR778) or front panel power switch (VR725) to initiate a controlled shutdown by pulsing the switch for up to one second, as follows:

- Turn the VR615 and VR778 front panel key clockwise for up to one second, or push the VR725 front panel power switch for up to one second.

- Do not pulse the switch for more than one second or else a forced shutdown occurs that can result in lost and corrupted data.

FORCED SHUTDOWN

A forced shutdown should only be performed when a controlled shutdown is impossible.

Caution: A forced shutdown can result in corrupted files and loss of data.

To perform a forced shutdown of the recorder:

- For recorders with a front panel power switch (VR725), push and hold the power switch until the recorder shuts down. For recorders with a front panel key switch (VR615 and VR778), turn the front panel key switch clockwise, and hold the key in that position until the recorder shuts down.
- An alternative way to perform a forced shutdown is to turn off the power supplies from the back panel, or unplug the power supplies.

Recorder Operation

STARTING AND SHUTTING DOWN

To start the recorder, use the front panel key switch or front panel power switch, depending upon the unit. For recorders with a front panel key switch (VR615 and VR778), insert the key provided, turn it clockwise, hold it for up to one second, and release it. Do not hold the key in the turned position for more than one second or it will force a shutdown before the unit completes the startup. For recorders with a front panel power switch (VR725), the switch is behind the locked door on which the display is mounted. The switch serves the same function as the key switch on other models, and the same one-second rule applies.

To shut down the recorder, you can perform a controlled shutdown or a forced shutdown. In most circumstances, you should only perform a controlled shutdown. This allows the recorder to close all open files and complete current database operations before shutdown. A forced shutdown can result in corrupted files and loss of data. It can also damage any archive media in the process of being written, and possibly leave either gaps or duplications in your archives. (In addition, Eventide strongly recommends using the recorder with a UPS to allow a controlled shutdown in the event of a power failure.)

Caution: A forced shutdown can result in corrupted files and loss of data.

To perform a controlled shutdown of the recorder:

1. Press SETUP.
2. Select System Shutdown.
3. You are prompted to confirm the shutdown. Press the "Yes" soft key, and the recorder starts to shut down. Please be patient as this can take minutes, especially if an archive medium is being written.

If for some reason, it is not possible to use this standard method to perform a shutdown, a controlled shutdown can still be accomplished using the following, somewhat riskier, alternative.

Use the front panel key switch (VR615 and VR778) or front panel power switch (VR725) to initiate a controlled shutdown by pulsing the switch for up to one second, as follows:

- Turn the VR615 and VR778 front panel key clockwise for up to one second, or push the VR725 front panel power switch for up to one second.

- Do not pulse the switch for more than one second or else a forced shutdown occurs that can result in lost and corrupted data.

Eventide does not recommend forcing a shutdown, but if it becomes necessary, see "Forced Shutdown" on page 127 for more information.

RECORDING

General

Once you have set the recorder's internal clock, configured the input board or boards, and configured the channels, you are ready to begin recording. There is no record Start/Stop control. Recording begins when the input lines are connected and an appropriate signal triggers recording.

When a channel is recording, the channel indicator on the INFO screen will show flashing red.

RAID

Calls are recorded to a RAID system, which is an abbreviation for "Redundant Array of Independent (or Inexpensive) Disks."

The RAID status menu item just below Configuration Info gives information on the logical RAID type, the partitions, and the physical drives, and additional information as described earlier. Information included on this screen includes array status, capacity including percentage filled, and "history." The Status item is of particular interest, in that it shows at a glance whether the array is operating normally, is "Rebuilding" as it will do when a new installation is made or a drive has been replaced, or operating with reduced redundancy if a drive is defective.

Some models of the recorder are available with drive "hot swap" capability. That will also be shown in this display. Complete details on the RAID status display is found at Setup: System Info: RAID Status.

SEARCHING, SORTING, AND PLAYING CALLS

General

You can view a list of calls on the RAID or on an individual archive. You can add filters to help you search for a call or group of calls. And you can play back individual calls through the recorder's front speaker or headphone jack.

Considerations

You may find it more convenient to use the MediaWorks or MediaAgent remote clients for viewing and playing back calls. The front panel has limited display space, so, even with filtering, you may have to do a lot of scrolling to find your calls. Horizontal space is very limited, so you will not be able to display more than a few columns at a time. And it may take more time for the calls to be retrieved and displayed from the front panel than from the remote clients. Lastly, the remote clients have functionality not available from the front panel, for example, the ability to play back multiple calls with a single command.

Viewing Calls

To view a list of calls, first choose whether you want to view calls from the RAID (hard drive) or calls from an archive. To choose the RAID, press INFO and make sure that none of the archives are displaying the message "Playback." If an archive is displaying "Playback," then select it with the scroll wheel or touch

screen/mouse, and press "Stop Browsing." Then press RECALL.

To choose an archive, press INFO and select the archive drive with the scroll wheel or click the bar with touch screen or mouse. Press Browse Archives and wait for the display to indicate "Playback." Then press RECALL.

A list of all calls stored on the chosen medium will be displayed in tabular format.

Filtering and Searching

Using the front panel to scroll through hundreds or thousands of calls is not practical. To search for particular calls or groups of calls, you can place filters on the list of calls. Pressing the Filters soft key from the RECALL screen brings up a list of parameters that can be filtered:

- Channel Number
- Call Length
- Date and Time
- Outgoing Dialed DTMF digits
- Incoming CLID (Calling Line Identification)
- Call Direction
- If the call is saved, suppressed, or unsuppressed

Filters are additive. If you filter on "Channel 10" and "duration of 5-10 minutes," you will only see calls that exist on Channel 10 **and** have a duration of 5-10 minutes. As you add filters, the list of calls will shorten accordingly. The default setting is all filters removed.

To filter on **Channel Number**:

Filters → By Channel → <check off the desired channels to view from the list> → OK

In the special case of NO boxes checked, the filter is disabled and ALL channels will be displayed.
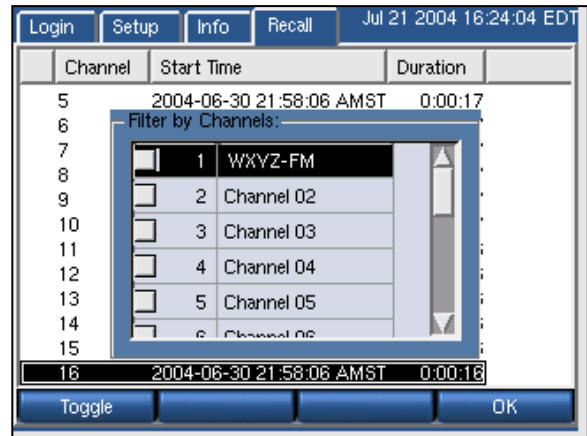
To filter on **Call Length**:

Filters → By Call Length → *<enter minimum duration>* → Switch → *<enter maximum duration>* → OK

The calls displayed will fall between the two parameters, but will not include the parameters. In other words, a range of 51 to 53 seconds will only display calls with a duration of 52 seconds, but not 51 or 53. A range of 51 to 52 will display no calls.
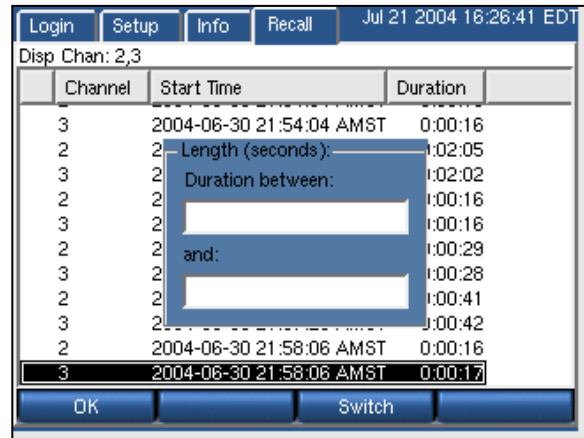
To filter on **Date/Time Range**:

Filters → By Date/Time Range → <enter the start date and time using the left and right arrows and the scroll wheel> → Switch → <enter the end date and time using the left and right arrows and the scroll wheel> → OK

Touch screen or Mouse: Click on field desired and click on up/down arrows to select date/time
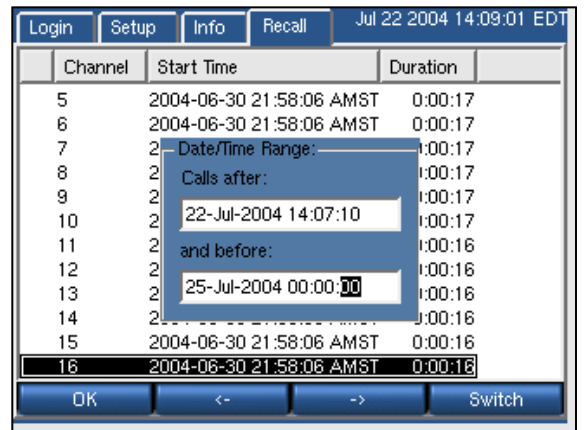
To filter on dialed **DTMF digits**:

Filters → By DTMF digits → *<enter the string of digits>* → OK
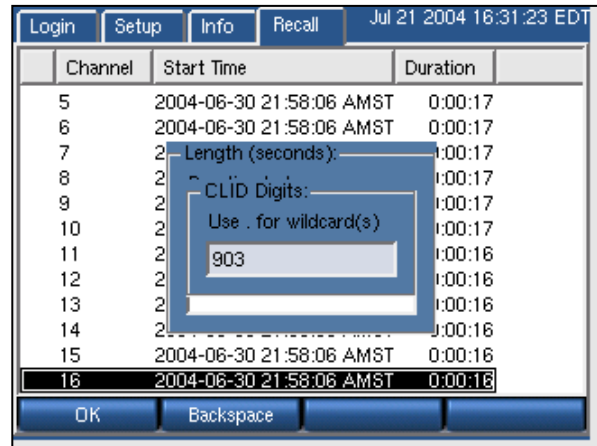
Calls with the string of digits anywhere in the captured digits will be displayed.

To filter on **CLID**:

Filters → By CLID → <*enter the string of digits*> → OK

Calls with the string of digits anywhere in the CLID will be displayed.

Columns

The calls are displayed as a list, with multiple attributes per call. By default, only the Channel Number, Start Time, and Duration are listed. There are, however, eight total attributes, any of which can be displayed. These attributes are:

- **Channel** – Channel number the call was recorded on.
- **Start time** – The time at which the call was initiated.
- **Duration** – The call duration.
- **DTMF** - Dialed DTMF digits.
- **CLID** - Calling Line Identifier, the telephone number of the incoming caller, if this data is available from your central office.
- **Direction** - Not used at this time. It will always say "Unknown."
- **Saved?** - Calls can be tagged so that they will not be erased when the hard disk fills up. If the call is tagged to be saved, this field will say "Y."
- **Suppressed?** - If checked the call has been suppressed.
- **Unsuppressed?** - If checked, the call has been unsuppressed.

To change the displayed columns:

RECALL → Columns → <select or deselect the desired columns by toggling the associated checkbox> → OK

Depending on the width of the column data, you may have to remove columns before adding new ones.

Playing Back Calls

Playing back calls from the front panel is simply a matter of scrolling to and selecting the desired call by either pressing the scroll wheel or clicking on the call. The call will play through the front panel speaker or through the headphones. A progress counter and location indicator will be displayed as the call plays.

To fast-forward or fast-reverse through the call, turn the scroll wheel. (There is no touch screen or mouse equivalent of this function.)

To stop playing the call, press the scroll wheel or click on it again.

Press **Next** to stop playing the call and begin playing the next call in the list.

Press **Previous** to stop playing the call and begin playing the previous call in the list.

Press **Pause** to pause playback.
Pressing **Pause** brings up some new buttons.

Press **Resume** to resume playback.

Looping

You can set up a looped playback by designating a start point and end point inside a call. Play the call and pause at the desired start point. Press **Loop Start** and a green tic mark will appear on the progress line. Resume and pause again at the desired stop point. Press **Loop End** and a red tic mark will appear. Resume and the call will play back between your two designated loop points. Here is the sequence:
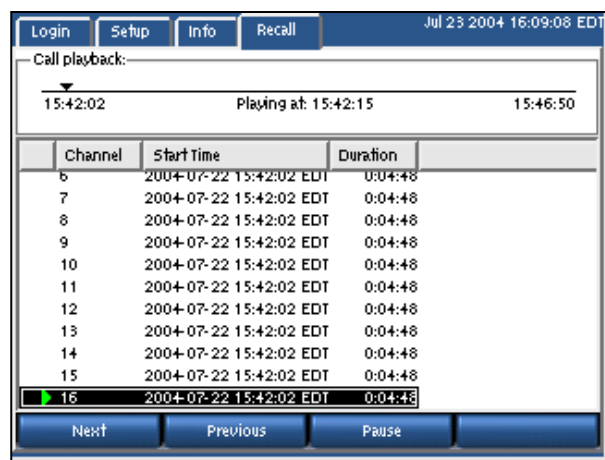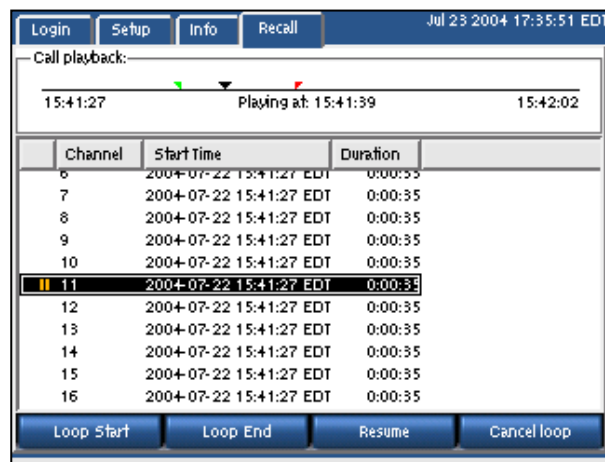
Pause → Loop Start → Resume → Pause → Loop End → Resume

If you chose an end point earlier than the start point, the tic marks will change color. The earlier point will always be the start point.

To cancel the loop, press **Pause** and then press **Cancel Loop**. The tic marks will disappear. Then press Resume or press the scroll wheel to stop playback.

ARCHIVING

This section consolidates and duplicates (in part) information in the archiving sections of the Setup menus. Here you will find a discussion of the various aspects of archiving. The Setup section of this manual is a reference and shows the menu location of all of the functions.

General

The recorder allows archiving recorded messages on removable media, such as DVD-RAM or DDS-4 tape. The VR615 has one archive drive, the VR725 two, and the VR778 will have from one to three drives.

Normally archive period selection is automatic: The recorder maintains an internal pointer to the end of archived data and will automatically start recording the next inserted medium from where the previous medium left off. This pointer may be overridden. See the section entitled "Setting Current Archive Time" below for instructions.

In recorders with two (or more) archive drives there are two modes of archiving: sequential and parallel. Sequential archiving simply means that when a medium is full, the recorder will check the next drive and, if it has a formatted and blank medium installed, it will start recording on that medium. With the parallel archiving mode selected, if a recorder has blank, formatted media in both drives and archiving is begun, the same data will be recorded on both media. In recorders with a single archive drive the setting has no effect.

In cases where immediate archiving is critical, there is a feature called "Failsafe archiving." This provides for transferring archive recording to a second, redundant recorder, in case there's a problem with an archive medium or drive in the primary recorder.

Under some circumstances, such as replacing a recorder or installing new software, you might want to restore previously recorded archives to the recorder hard drive. The Archive restore feature provides for this.

Before selecting the archiving mode, the user should determine whether to record archives at all. The storage capacity of the recorder is so great that it may well exceed the normal retention time of the data. There is little point (beyond redundancy) of recording archives if they will be erased and reused while the data remains on the recorder! If it is decided to record archives, there are various strategies. They depend primarily on the staffing of the facility in which the recorder is installed and the rate at which information is being stored on the recorder. Some considerations:

If your recorder is recording a hundred or more channels on a fairly steady basis, you will find that enough data to fill one side of a DVD-RAM will be acquired every six or so hours. Since it requires about an hour to transfer this much data to the medium, in any 24-hour period at least two media will have to be exchanged (or turned over). In this situation, if you do not have someone available to do this for at least one shift, five days per week, you might eventually get behind and lose data. (Note that this is an unusual situation - recorders are rarely this busy, and if they are, it is typically only during business hours.)

If your recorder is recording a handful of channels sporadically, you might literally get a year or more of data on the hard drive. If you decide to archive calls as they come in, the archive medium will easily keep up with the incoming recordings, and will only get filled in a week or maybe even a month. An alternative strategy might be to record a new medium every week (or month) on a fixed schedule, and let the data accumulate on the hard drive in the interim. This has the benefit of making the archives fit a defined period, which might be more convenient for subsequent research, and is easily scheduled.

Most applications will fall between these extremes; the recorder makes it easy to adjust your strategy so that archive media exchange won't be demanding or burdensome, and can be done on a convenient schedule.

Caution! Your archive medium may be your only copy of vital data. We recommend that any time you insert an archive in a drive capable of writing to it for purposes of viewing or reading the data, you activate the "Write Protect" tab.

Media Selection

This section assumes you are using DVD-RAM disks for archiving. DDS tapes can also be used, with some limitations, on special order (contact Eventide). Eventide recommends any of the following configurations of media for DVD-RAM archiving:

> ➤ **5.2GB DVD-RAM, single-sided, inside a Type 2 or Type 4 cassette.**

> ➤ **9.4GB DVD-RAM, double-sided, inside a Type 2 or Type 4 cassette.**

Some considerations on media selection:

- Double-sided disks will have to be manually flipped over to record both sides.

- Type 2 and Type 4 cassettes are recommended because they can be opened and the disk removed. This is useful if you want to use a computer to play back the disks, since most computers will not accept the cassette. It is also useful if you want to purchase a spindle of single-sided disks and place them inside the cassette.

- In a facility with high call volume, you can save money and storage space by purchasing spindles of single-sided bare disk media and only a few cassettes. You would place the media in the cassettes to record them, and back on the spindle when recording is complete. Besides expense, another advantage is that the bare medium can't be written in a DVD-RAM drive on a computer, so there is less chance of data being unintentionally overwritten. Some disadvantages are 1) the bare disks are not as physically well protected when they are removed from the cassette, 2) the bare disk is harder to label.

- A low call-volume facility may also wish to use single-sided disks. If the facility wants to change the archive disks on a set schedule (say, once a month), it might make sense to use single-sided disks that end up being 1/2 or 3/4 full, rather than double-sided disks that end up being mostly empty.

One last note on data protection: Although the recorder incorporates an archive protection mechanism, this is only effective when playing the archive in the recorder itself. When playing the archive in an ordinary PC that accepts the cassette, it is not protected from being overwritten unless the write protection tab on the cassette is set.

CD-R Media: CD-R media are **not supported** for archiving. This is mentioned here because it is sometimes difficult to distinguish a blank, generic CD-R from a DVD-R. If you try to archive onto a CD-R, it won't work, and it may not be immediately clear why, so be sure to confirm that you are using the proper (DVD) archive medium.

Sequential and Parallel Modes

These modes apply only to recorders with more than one archive drive. Otherwise, the setting has no effect.

Sequential mode means that archiving will continue automatically to the next available medium. In the figure below the top disk is writing calls. When the disk fills up, archiving will continue on the middle drive, and then on the bottom drive. The middle and bottom drives must contain formatted, blank media. After the disks are full, they can be flipped if they are double-sided, and the process will continue. For example, when the top disk, Side A, fills up, the middle disk, Side A, will begin recording. Meanwhile you can flip the top disk to Side B and recording will continue there AFTER the middle drive, Side A, and the bottom drive, Side A, are full.

Parallel mode means that archiving will *not* continue automatically to the next available drive. Instead, you can begin recording on the top drive and begin recording on the middle drive simultaneously (and the bottom drive if you wish) and all drives will record the same data. This mode uses more disks but provides redundancy.

To set the mode:

- Press SETUP.
- Scroll to and select "Archiving Type," and select the desired mode.
- Press OK.
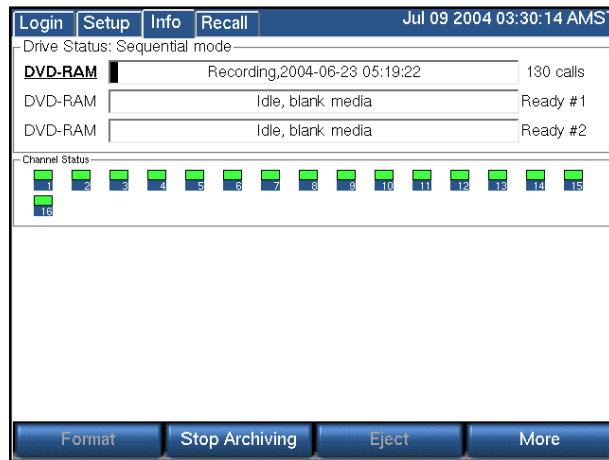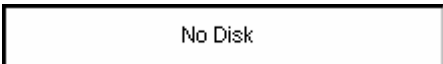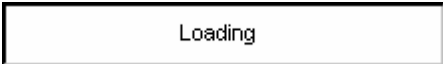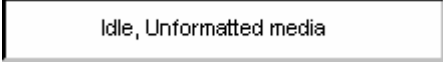
Special Note: Optional software is available for recorders with two archive drives that allows different user accounts access to specific drives. This software only functions for the parallel archiving mode.
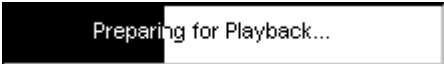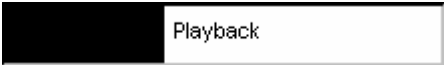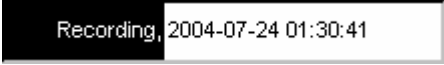
DVD-RAM Drive Operation

The INFO screen is the primary user interface for archiving.

The top half shows the current status of your archiving drive or drives. The "Drive Status" will say either "Sequential mode" or "Parallel mode." Each archive drive will have an individual status indicator that looks like a wide, horizontal rectangle. To the left of the rectangle is the type of archive drive (DVD-RAM, R-HD, REV, or DDS-4). To the right of the rectangle is the number of calls on the disk, or a "Ready" message during sequential archiving. Inside the rectangle itself is one of a number of possible messages and indications. At the bottom of the screen are soft keys that change depending on context. The following table provides more information.

Table 4–INFO Screen Archive Drive Messages and Soft Keys

Display	Description	Available Soft keys
No Disk	The drive is empty.	Eject
Loading	A medium has been loaded and the recorder is scanning it to learn its status.	—-
Unloading	A medium is being ejected.	—-
Idle, Unformatted media	An unformatted medium is inserted.	Format, Eject
Idle, Blank media	A formatted, blank medium is inserted.	Format, Start Archiving, Eject, More, Archive Period, Media Info, Print Label, Back

Idle, used Eventide media	A medium with one or more recorded calls is inserted	Format, Resume Archiving, Eject, More, Media Info, Print Label, Browse Archive
Idle, Full Eventide media	A full medium is inserted	Format, Eject, More, Media Info, Print Label, Browse Archive, Back
Preparing for Playback...	The medium is preparing for browsing. "Browsing" means the viewing, searching, and playing back of calls. While preparing, the recorder is loading the calls from the archive into an internal database.	—-
Playback	The medium is ready for browsing. Only one drive at a time can be ready for playback, the Recall screen identifies that drive and shows its calls.	More, Media Info, Print Label, Stop Browsing, Back
Recording, 2004-07-24 01:30:41	The progress indicator provides a graphic view of the remaining capacity of the archive medium. As each call is archived, the start time and date of the call are displayed.	—-

Other messages can appear in the rectangle, such as those that identify media that contain Eventide configuration or metadata.

Selecting and Deselecting an Archive Drive

Scroll wheel: Turning the wheel will "bold" the designator of each drive successively. When the desired drive is selected, press the wheel.

Touch screen: Simply click on the horizontal bar of the desired drive.

Once a drive has been selected, the Archiving soft keys will appear on the screen. *For the steps below, press the More soft key as necessary until the listed soft key appears.* To deselect Archiving mode, click the More soft key as often as necessary until the Exit soft key appears, then click Exit.

Opening/Closing the DVD-RAM Drive

The drive can be opened by pressing the eject button on the drive itself only if the drive is empty. For security reasons (both to protect operations in progress and to protect the archive media), media cannot be ejected from the open/close button on the drive panel itself. To eject these disks:

- Press the "Eject" soft key.
- To close the drive, simply push it back in, or press the open/close button on the drive panel.

Formatting Archive Media

All archive media used with the Eventide recorder must be formatted. To format a disk:

- Place the medium into any of the recorder's drives.
- Select that drive by turning and pressing the scroll wheel or by clicking its bar.
- Press the "Format" soft key.
- Press "Yes" at the prompt.

When format is complete, the display will say "Idle, Blank Media" with no calls recorded.

Start Archiving

Once the medium is formatted, archiving can begin. Select the drive and Press the "Start Archiving" soft key. The display will say "Recording" with the start date and time of each call as it is being archived. The calls counter will increment.

Stop Archiving

The correct method of halting the archiving process is through the Stop Archiving soft key. This will ensure that the process completes cleanly so that the archived data does not become corrupted. To halt archiving:

Select the drive and press the "Stop Archiving" soft key. The display will say "Idle, Used Media."

Resume Archiving

After halting the archiving process using the Stop Archiving soft key, you can resume archiving where you left off by using the Resume soft key. To resume archiving:

Select the drive and press the "Resume" button. The calls should continue being archived at the point they left off.

The resume function will not be available on the disk if you have archived to a second disk in between the time you have stopped and attempted to resume on the first disk. In other words, if you stop archiving and the disk is only partially full, use the same disk when you resume. If you use another disk, you will no longer be able to append files to the first disk. (Of course, you can format the first disk to reuse it but you will lose the existing files.)

This is a consequence of a feature that ensures that archives contain consecutive calls, so that archives can be cataloged more easily. While archiving, the recorder maintains an internal pointer to the current file being archived. If archiving is stopped and resumed, the recorder compares the pointer to the most recent call on the disk. If it matches, then the Resume soft key will be displayed and calls will be archived consecutively. Otherwise, the Resume soft key will not be displayed and a blank archive medium must be inserted.

Viewing Media Info

You can view information about your archive media.

- Insert the disk in a drive.
- Select the drive by turning and pressing the scroll wheel or by clicking its bar.
- Press the "More" soft key.
- Press the "Media info" soft key. A window pops up with information about the archive medium.
- Press "OK" or Exit to quit.
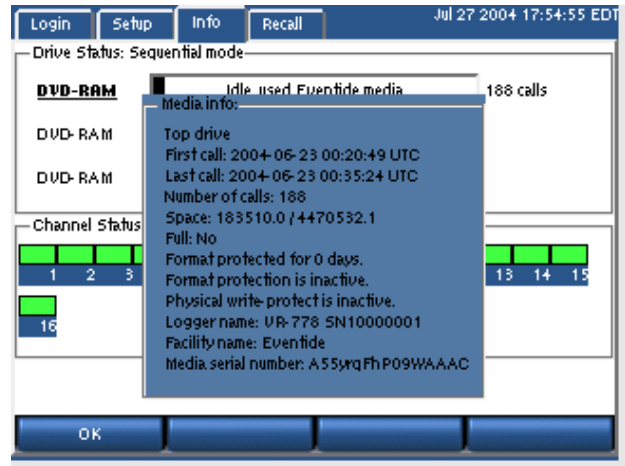
The following information is available for viewing:

- The start time of the earliest call on the archive
- The start time of the latest call on the archive
- The number of calls
- Used disk space in kilobytes
- Full? (Yes/No)
- Number of days for which format protection is enabled
- Format protection active/inactive
- Physical write protect active/inactive
- The recorder's model and serial number

Printing a Label

Eventide offers an optional label printer. If the printer is installed, the recorder can print a label showing the dates of the first and last calls, along with some other useful information. To print a label for an archive medium:

- Insert the disk in a drive.
- Select the drive by turning and pressing the scroll wheel or by clicking its bar.
- Press the "More" soft key.
- Press the "Print Label" soft key.

You can also set the recorder to print a label automatically when the medium is full. To do this:

- Press SETUP.
- Scroll to and select "Enable/Disable Label Printing."
- Check the "Enable" box and press "OK."
- Some considerations:

Only apply the label to the indented portion of the cassette shell intended for this purpose. The label is printed with the drive identification on the far right, so you will know the medium to which it should be affixed. This information is irrelevant after label application, and must be manually cut off so that the label will fit in the indented area.

Selecting The Archive Period

You can create an archive medium that covers only a particular period, such as the duration of an incident, or a particular period such as a day or a week. To further refine the selection of calls on the archive medium, you can copy only "protected calls," i.e., those which you have selected to be preserved. By selecting a period and the calls within that period, you can make a disk that archives only a specific incident despite the presence of many unrelated calls during the same period. Creating this archive does not affect the archive "pointer" which determines at what time the next archive will start. It is a completely different process.
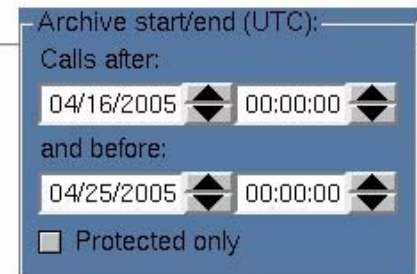
To create a "selected period" archive:

- Insert a blank medium in the archive drive and format as described above.
- Reselect the archive drive with the Idle, Blank media legend.
- Press "More" twice and select the "Archive period" soft key
- Select the start date/time and end date/time of the desired archive period.
- Toggle "Protected only" to the desired state.

- Confirm that this is the desired period and press OK. Note that archives are created in UTC, so you may have to make a mental correction for your local time zone.

The archive will now be written to the medium.

Browse Archive Media

You browse calls on an archive just as you browse calls on the RAID. Browsing means you can view attributes of calls, such as date and time, search calls, and play them back. To browse an archive:

- Insert the disk in a drive.
- Select the drive by turning and pressing the scroll wheel or by clicking its bar.
- Press the "More" soft key.
- Press the "Browse Archive" soft key. The display will indicate "Playback" when the archive is ready.
- Press RECALL to view, search, and play back the calls.

To stop browsing an archive:

- Return to INFO screen.
- Select the drive that indicates "Playback."
- Press "More."
- Press "Stop Browsing" soft key.

Archive Protection

Archive protection is a feature that allows you to attach a set number of days to a disk during which the disk cannot be formatted in the recorder. It is intended to guard against unintentional formatting. When a protected disk is inserted into the recorder, the date of the latest call on the disk is compared with the current date, as displayed on the recorder. If the difference between the two dates is less than the number of days that was set as the protection period, then the recorder will not permit the disk to be formatted.

Important: The Archive Protection feature must be enabled before recording begins. You cannot add the feature to a disk that already contains recorded calls.

To enable archive protection:

- Press SETUP.
- Scroll to and select "Archive Protection Period."
- Press the "Enable" soft key.
- Punch in the number of days that you want for the protection period.
- Press "ENT" or "OK."

Insert a blank, formatted disk in the recorder and start archiving. The disk will be protected.

Auto-Eject

The auto-eject feature, when enabled, will cause the archive disk to eject automatically when full. This provides the operator with an obvious indication that the disk must be flipped over or replaced.

To set the auto-eject feature:

- Press SETUP.
- Scroll to and select "Auto-Eject."
- Press the "Enable" soft key to enable it or "Disable" to disable it.
- Press "ENT" or "OK."

Resuming Archiving on Start-Up

If the recorder is recording to an archive and is shut down normally, this feature, when enabled, will cause archiving to resume when the recorder is rebooted.

The feature is enabled by default. To set the feature:

- Press SETUP.
- Scroll to and select "Resume Archiving on Start-up."
- Press the "Enable" soft key to enable it or "Disable" to disable it.
- Press "ENT" or "OK."

Setting Current Archive Time

When you start archiving, the first call to be archived is determined by an internal "archive pointer". This pointer tracks where you left off archiving with the previous disk, so that the next disk will begin where the previous one left off. Also, if you are in the middle of a disk and you stop archiving, for whatever reason, such as the need to browse calls on the disk, you can resume archiving at the

point where you left off. The goal is to ensure that only consecutive calls are recorded on each disk, making labeling and searching easier. The pointer is maintained automatically.

However, there are times when you may want to manually set the current pointer location. For example, you may have misplaced an archive disk and you want to re-archive calls. Of course, the calls must still be present on the RAID.

To manually set the current archive time:
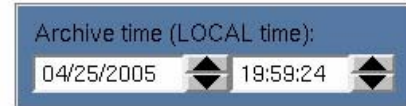
- Press SETUP.
- Scroll to and select "Set Current Archive Time." (If desired, make a note of the time shown in the window before changing it.)
- Use the arrow soft keys and the scroll wheel to adjust the setting. On a touch screen display, select the field and entry by clicking on the field or the up/down arrows.
- Press "OK".

The next time you start archiving, the calls on your RAID closest to the new archive time setting will be archived first.

Important: *After manually setting the current archive time, you will not be able to use the* Resume Archiving *function on a used disk. You must use a blank archive medium..*

When you have completed recording a medium whose starting time you have selected with the Set Archive Time feature, the time pointer is set to the time of the end of the medium just recorded. It is NOT set to the end of other data that may have been archived. Sometimes this is desired behavior, such as when you want to record more data than will fit on a single medium from the starting time you set. Sometimes it may not be, such as when you want to continue archiving from the end of the last medium you recorded in the normal sequence. If the second is your requirement, you can reset the archive pointer to where it was as noted above (step 2). If you failed to make a note, you can take the most recent archive medium, read the "Media info" for that disk, and set the pointer to that time.

Designating and Activating an Archive Failsafe Server

Failure of an archive medium or drive isn't normally a grave concern since the data remains on the hard drive and can be copied to another medium or on another drive. However, some installations employ redundant recorders to assure that failure of one unit will not cause any loss of recorded data. In such installations, it is normally not desired to make two sets of archives, but the availability of a duplicate recorder makes another option convenient: If the primary recorder stops archiving for any reason, the redundant recorder can take over this function. To implement this, you must:

- Confirm both recorders are connected to the same signal sources and have identical settings.
- Designate one of the recorders as the secondary server: Select "Archive failsafe server" and enter the address of the PRIMARY server in the normal fashion.
- Enable the secondary server to periodically check the primary: Select "Enable/disable archive failsafe," toggle the Enable box so that is checked, and press the OK soft key.
- Determine the behavior of the failover mechanism: Select desired "Archive failsafe behavior" and toggle Archive failsafe error on "out of media." Checking this box in effect allows the secondary recorder to act as an extension of the primary recorder for archiving. Not checking it causes the secondary to take over only in the case of an archiving failure in the primary.

Writing Call "Metadata" to an archive

"Metadata" means data about data, and is just a fancy way of saying that there is (potentially) some data about calls associated with the calls. For example, when you use the Browser Client to "protect" a call from being erased, or when you add "incident" data to a specific call, this is considered metadata. This metadata is not

(and typically cannot) be stored with the call archives themselves. Why? Because, in most instances, archiving takes place contemporaneously with recording, or shortly thereafter. However, the decision to protect a call, or to add or change information about a call or incident can occur much later. Therefore, this information may not be present when the archive is recorded and so obviously cannot be recorded along with the archive.

The "Write metadata to archive" menu item (as part of SETUP) allows you to gather all this later-entered data on one medium, and to restore it to the recorder if necessary. (It will not normally be necessary, but the purpose of saving it is the same as the purpose of archiving – backup and safety.)

To create a metadata archive, insert a DVD-RAM medium in an available drive and format it if necessary. Select "Write metadata to archive" and confirm you want to do so by pressing the YES soft key. Remove the disk and store it with your archives.

To restore the metadata to the recorder, insert the metadata archive and select "Read metadata from archive" and confirm the operation.

Unlike the calls themselves, metadata takes a very small amount of space on a disk, and the entire recorder can be backed up on a single metadata disk. Metadata is stored in most cases the equivalent of "forever" and so the most recent metadata backup will suffice to restore this data to all archives. Therefore, you should determine a reasonable schedule for making these backups – once a week, perhaps – and keep only a couple of disks in rotation for this purpose.

LIVE MONITORING

A maximum of eight channels can be monitored in real time from the front panel. You can monitor a single channel or multiple channels.

- To monitor calls:
- Navigate to the INFO screen.
- Press the "Monitor" soft key. A list of channels will appear.
- Scroll to and select the desired channels, and use the Toggle soft key.
- Press "OK."
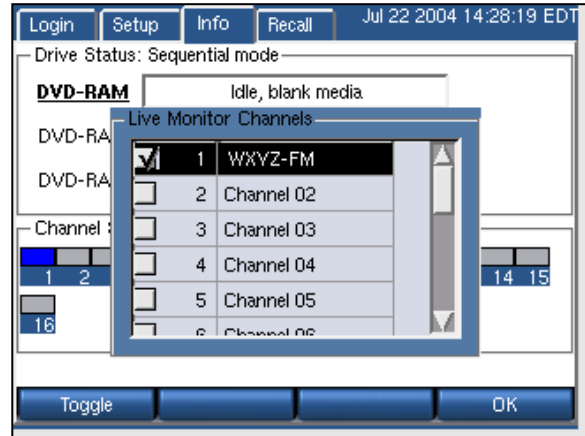
The selected channel status indicators will turn blue. The audio will be heard through the front panel speaker, or through headphones connected to the jack labeled "Headphones."

Channels are deselected using the same method.

The Atlas Administrative Client

4

WHAT IS REMOTE CLIENT SOFTWARE?

Eventide offers optional client software that works in conjunction with a Windows PC and the VR615, VR725, and VR778 recorders. The clients include an administration client that allow you to administer the recorder, and user clients that allow you to play back calls, monitor calls, and perform other tasks remotely via a PC connected to the recorder through a network.

DO YOU NEED TO INSTALL THE CLIENT SOFTWARE AT ALL?

The Eventide ATLAS™ recorders are designed as standalone products and it is not necessary to install the clients to use the product. A non-networked recorder controlled only by the front panel controls may be adequate for your organization. The advantages and extra functionality that come with the clients may or may not be important to your needs.

The **advantages** to using the clients are these:

- Perform tasks at your desk, rather than at the recorder.
- Perform tasks more easily, with a full-sized computer monitor and a keyboard and mouse. This is especially true for certain tasks:
    - Changing the Channel Name parameter;
    - Adding users when login is enabled;
    - Administering the recorder as an email client to send email alerts;

- o Changing Channel Configuration parameters.
- Multiple users can log in and use the recorder simultaneously.
- Get extra functionality:
  - o View long lists of calls in a tree format;
  - o Save calls as WAV files;
  - o Burn CDs;
  - o View and print reports;
  - o Play back calls on archives on a PC, without the recorder;
  - o Setting "facility name";
  - o Call suppression configuration;
  - o Tag calls for protection from being deleted;
  - o Compare user accounts on multiple servers;
  - o View call and archiving statistics.

Eventide offers two user clients, **MediaWorks** and **MediaAgent.** These completely redesigned clients are designed for Server versions 1.4.3 and above. Each has their own separate manual, which is provided to you with the software purchase. (Note that Call Record Browser, Timeline Editor, and Live Monitor are no longer supported.)

The Recorder Configuration Program

The PC-based administrative client **Recorder Configuration** application provides you a seamless interface to virtually all of the functions available in the "SETUP" menu of the hardware server (recorder) unit. In fact, this program and SETUP interact so intimately that only one may control the recorder at a time. The client is particularly valuable when you are working with a multi-recorder system, since you can control them all from a single location and use the features of the program to make sure the user and other setups are coordinated.

Differences between the Client functions and Front Panel SETUP

This section describes the server hardware — installation, connection, setup, etc. Because the Administrative Client software performs almost all of the same functions as the front panel SETUP, this section of the manual covers only aspects necessary for operating the software. Practical details of SETUP — e.g., how to set VOX levels and off-hook detection, are discussed in the Setup Guide and Reference section.

These functions can only be performed from the front panel (and why):

- Power system down (no way to restart)
- Adjust network parameters (e.g., IP address) or activate DHCP (can't access unit over network until this is done or if changed)
- Select NTP address or configure external time source or set time (requires viewing display, possibly configuring external hardware)
- Configure front-panel login requirements or auto-logout timeout (only applies to front panel)
- Configure archiving and label printing (requires physical access to drives and printer)
- Write and read machine configuration to archive (requires physical access to drives)

These functions are only available in the Administrative Client software:

- Setting "facility name"
- Call suppression configuration
- Compare user accounts on multiple servers
- View call and archiving statistics logs
New for   - Editing configuration text files
Release
1.5   - Editing user-defined metadata custom fields
- Setup scheduled recording

The PC-based Administrative Client is very similar to the SETUP function on the server. Which one you use in a given instance is largely a matter of preference.

Installation

The user installing the program must have Administrator permissions for the workstation on which the installation is being performed.

- Insert the CD and click on the vrSeriesClients icon. Click NO when you are asked about limited user accounts.
- Read and agree to the License Agreement.

- Select which programs to install. Eventide recommends installing the Administration Client only on computers where people are authorized to perform administration of the server functions.
- Click NEXT, and accept the default directory for installation unless there is a very good reason for doing otherwise.
- Click Install.
- A window will appear showing progress. During the installation, a window asking about "permissions" will appear. Click "No."
- Click "Close."

If you are installing the Eventide client software from a Windows Administrator account but want it to be used by people with limited user accounts, the procedure is as follows:

- Insert the CD and click on the vrSeriesClients icon. After reading the instructions in the window, Click Yes when you are asked about limited user accounts.
- Follow the instructions in the window for creating the user group and adding users to it, and restart the installation. This time click "No" since you have already created the group.
- Read and agree to the License Agreement
- Select which programs to install or upgrade. If the program(s) are already installed on the computer, select Upgrade. We recommend installing the Administration Client only on the computers of people authorized to perform administration of the server functions.
- Click NEXT, and accept the default directory for installation unless there is a very good reason for doing otherwise.
- Click Install.
- A window will appear showing progress. During the installation, a window asking about "permissions" will appear. Click "Yes."
- Click "Close."

When the installation is complete, there will be a new program group "Eventide VR Series" in the program menu. If the computer user will be using one or more of the client programs frequently, it would be a time-saving gesture to copy and add the appropriate icon(s) to the computer's "desktop."

STARTING THE CLIENT

Launch the program by selecting **Recorder Configuration** from your *Eventide VR Series* directory.

The following startup screen now displays:
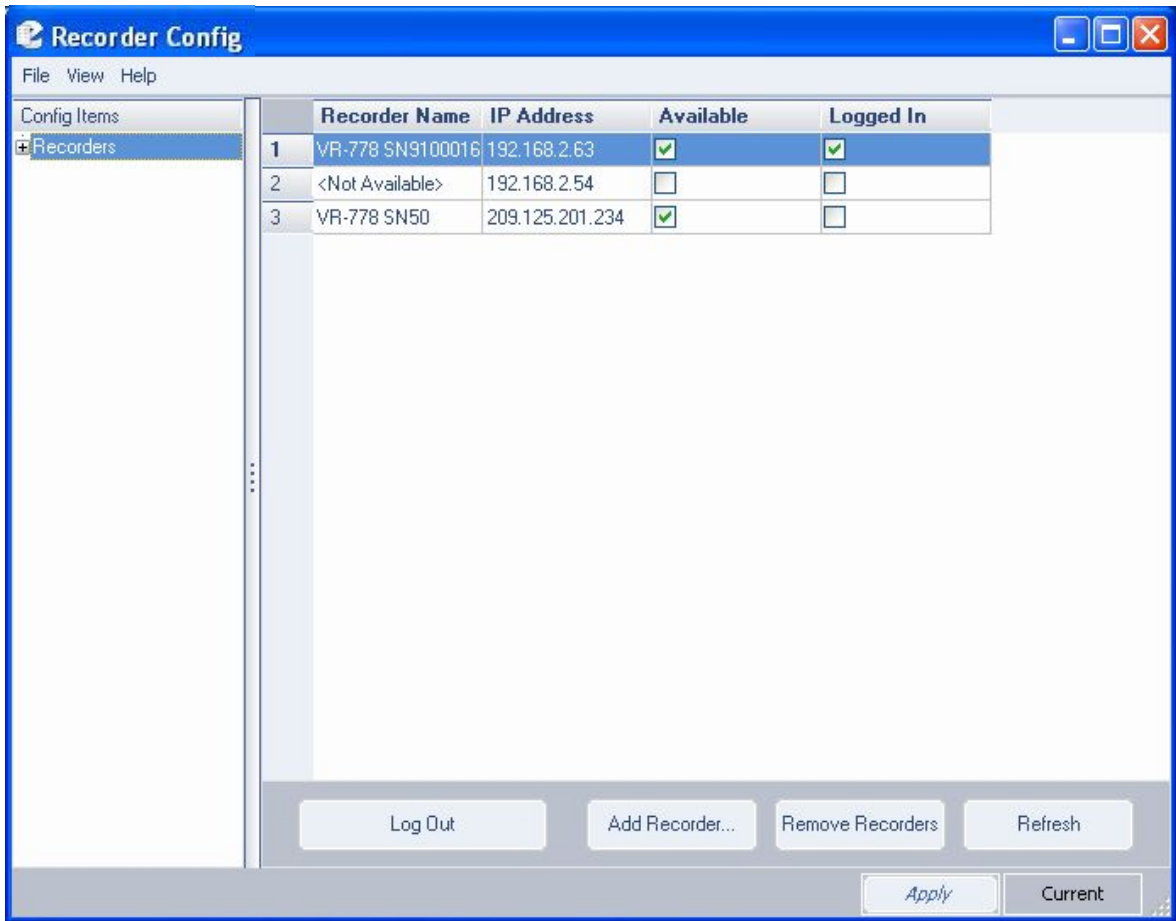
Figure 1–Administrative Client Startup screen

The first time you run the client software, you must specify the recorders to which you want to connect.

To do so, click **Add Recorder** and enter the IP address of the recorder you wish to add in the New Recorder window. You'll find the IP Address on the recorder front panel display by selecting the Configuration Info display. After entering the IP address using standard notation (e.g., 192.168.1.101), the selected recorder will be added to the main window and will be identified by its name and IP address.

Two additional columns, *Available* and *Logged In* will display the current status of the recorder.

- If you enter an invalid IP address, you will be asked to re-enter it.
- If you enter a valid IP address but no recorder can be found, it will be listed as <Not Available>
- If you enter a valid IP address, the available column will be checked, but you will be not shown as "Logged In."
- In a multiple recorder system, click **Add Recorder** and fill in IP addresses until the list is complete.

SERVER LOGIN

Select a recorder by clicking its number to the left of its name. If you wish to log into multiple units (and they all have the same administrative password), then click on multiple blocks by holding down the <ctrl> key while clicking, or select a group with the mouse and <shift> key. Then click **Log In to Selected Recorders**.

Enter the user Name and Password in the window and click OK. (If you want to log in as "read only," deselect the Read/Write box that appears checked as a default.) The selected recorder(s) now will display with its respective "Available" and "Logged In" boxes checked.

- If you enter an invalid password or invalid user name (or both), you will get a message saying the user name and/or password are invalid. (For security reasons, it does not say *which* is invalid.)
- If you log in to a recorder that was connected but is now off line, you will receive a Login Failed message.
- If you log in to a recorder that has been connected to in read/write mode by another program, or is in the SETUP mode at the front panel, a message displays indicating that you are restricted to read-only mode.

The following screens illustrate the login process and some typical messages associated with login and logout.

Figure 2–Server login window

Figure 3–Successful login message

Figure 4–Read-only access message

Figure 5–Automatic logout message

To prevent one administrator from locking out others, the administrative client automatically logs the user out if there has been no activity for more than ten minutes.

Note: If someone attempts to use the recorder front panel's SETUP mode they will receive a "Locked" notification." However, it is possible to break the lock from the front panel since it may be necessary to do so to shut down power or perform other important operations. In this case, the Configuration Client user is warned that any unapplied changes have been lost.

Once you have successfully logged in with read/write privileges on all selected units, you can now modify the settings of the server.

SERVER SETTINGS

The **Config Items** menu is the key to selecting the server features and functions to be displayed or modified.

The program organizes the modification settings in a hierarchical directory tree. Here the menu is fully expanded for the VR778 but remains collapsed for the VR615. Clicking on any of the menu items launches that respective administrative process.

Figure 6–Config Items administrative options
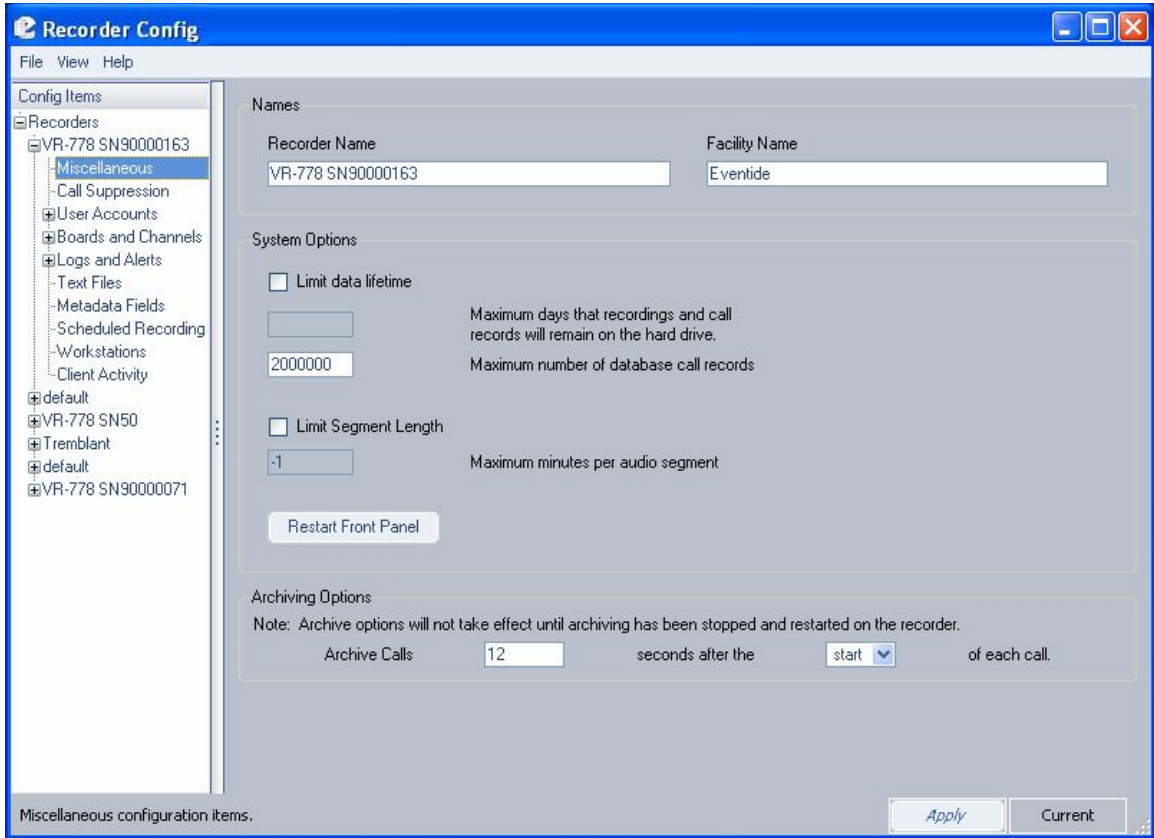
Miscellaneous

Figure 7–Miscellaneous Configuration screen

The Miscellaneous Configuration screen allows you to modify the call recorder naming conventions and other associated general options. The *Recorder Name* and *Facility Name* respectively default to the recorder model number and serial number, and the designated owner. For either, you can change the settings by simply typing in replacement information and clicking **Apply**. (The significance of the System Options is discussed in the SETUP section.) The Recorder Name and Facility Name are simply for your convenience in identifying units, and have no operational significance. For example, you can change the displayed default (model, serial number,) to something that better identifies it in your facility. This has no effect on the actual serial number.

In the **Limit Data Lifetime** area of the screen, you can denote the number of days data is retained on the server's hard drive. Default is 30 days. Additionally,

you may designate the number of call records retained in the database. Default is **-1**.

Under **Limit Segment Length,** you can set an absolute maximum time limit for each call record. Default is 10 minutes.

New for
Release 1.6

Beneath **Archiving Options**, you can designate the delay parameters for archiving a call.

In the text box following "Archive Calls," select the number of seconds you wish to wait before beginning an archive. Default value is 12 seconds. Next, in the drop-down list following the text "seconds after the," select either **Start** or **End** of the call. After you modify archiving values, you must re-start your recorder for the new settings to take effect.

Any of the values described can be changed by simply overwriting them with new values, and clicking **Apply.**

Call Suppression
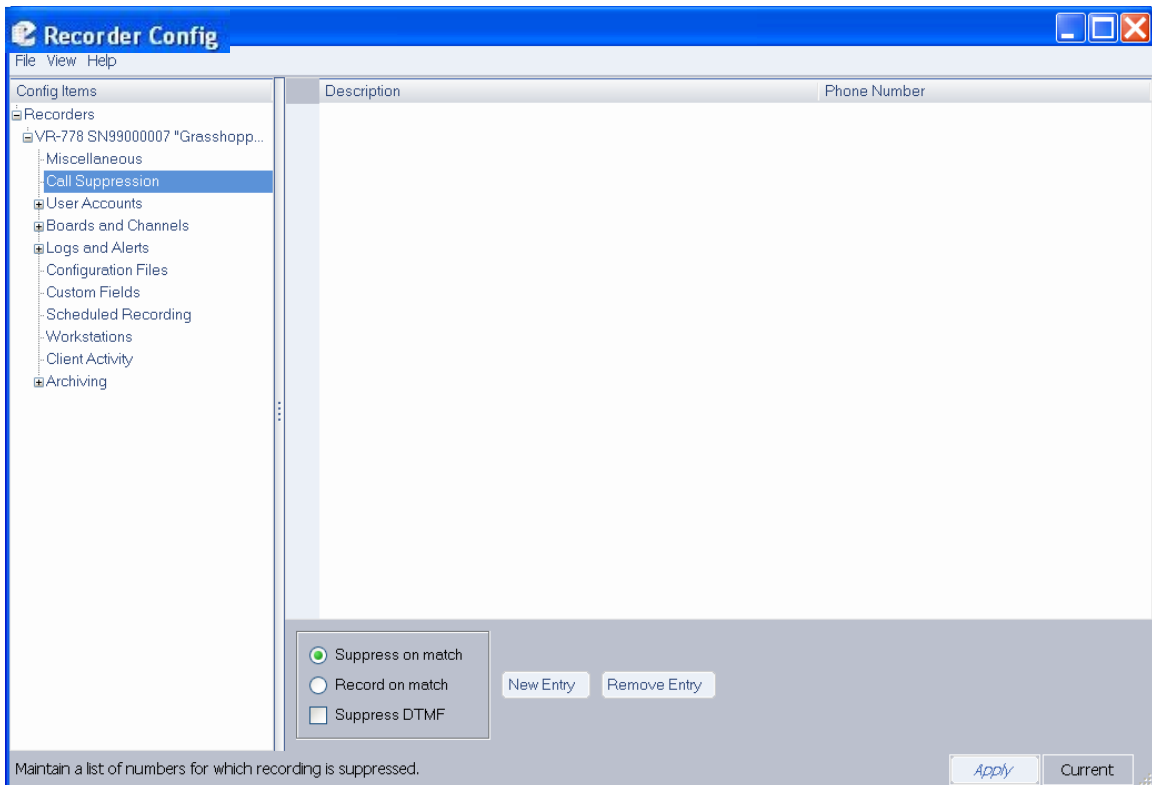
Figure 8–Call Suppression screen

The Call Suppression screen provides the means to suppress, or prevent, calls from recording (audio data will not recorded, but the recorder retains non-audio data about the calls). This feature is accessible only from the Recorder Configuration utility and not from the recorder front panel. This feature can be used for a variety of purposes, including implementing a legally mandated attorney-client privilege, or assuring privacy for undercover officers or high-ranking officials.

Two mutually-exclusive suppression methods are provided:

- **Suppress on match:** Suppresses recording for all calls that match a telephone number in the list. The recorder discontinues recording a call as soon as the telephone number is recognized.

- **Record on match:** Suppresses recording for all calls except for those that match a telephone number in the list.

The suppression method applies to the entire list of telephone numbers rather than to individual telephone number entries. To select a suppression method, click on the radio button next to it.

The **Suppress DTMF** feature applies to all call suppression. When recording is suppressed for a call and this feature is enabled, the recorder will not store a record of the telephone keypad dialing tones (Touch-Tones*) that occur during the call. This can be useful to prevent the storage of sensitive data transmitted by DTMF during a call, such as social security numbers, passwords, and personal identification numbers. Click the checkbox to enable this feature.

To suppress recording, you must select a suppression method, and create a list of telephone numbers. Then you must enable record suppression on a channel-by-channel basis by marking the Enable Record Suppress checkbox in "The Channel Configuration Screen." The following instructions describe how to create and manage a list of telephone numbers.

To add a new entry to the list of numbers, click **New Entry**. This displays a text entry box, similar to the following:

Enter a full or partial telephone number. A call containing this numeric sequence within its telephone number will cause a match. For example, if you enter 800-555-1234, any calls from this number will cause a match, but if you enter only 555, any calls with this sequence within the number will cause a match.

A partial number allows you to specify all calls from an area code or exchange. Whereas the **Suppress on match** method is typically used for very specific telephone numbers, the **Record on match** method is often used with a partial number sequence. For example, if you want to match on an area code and

exchange, you can enter 800-555. (Note that a call from 900-880-0555 will also match this number.)

Enter a description and click **OK**. The new entry displays in the list on the right side of the screen.

To remove an existing entry, select it in the list, and click **Remove**. The system displays a message asking for confirmation.

Click **OK** to proceed or **Cancel** to stop the action.

User Accounts
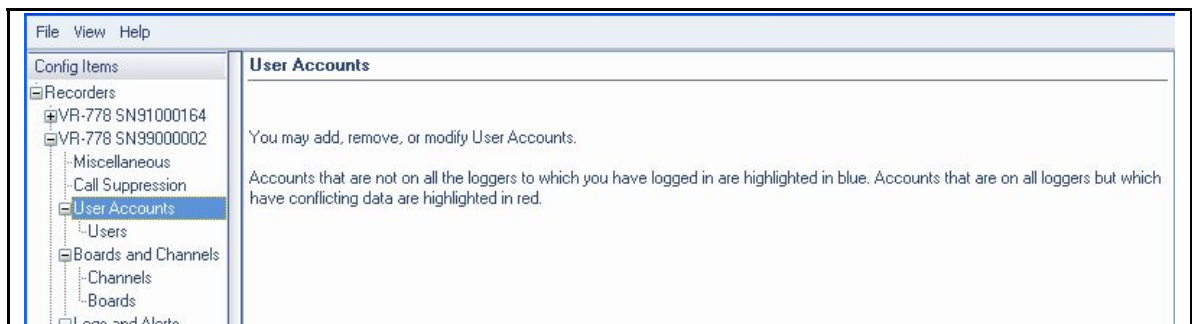
Figure 9–User Accounts screen

Note the text in the **User Accounts** window. The highlighting feature is reserved for the administrative client, as described below.

Click **Users** beneath *User Accounts* in the directory tree to access the User Information screen:
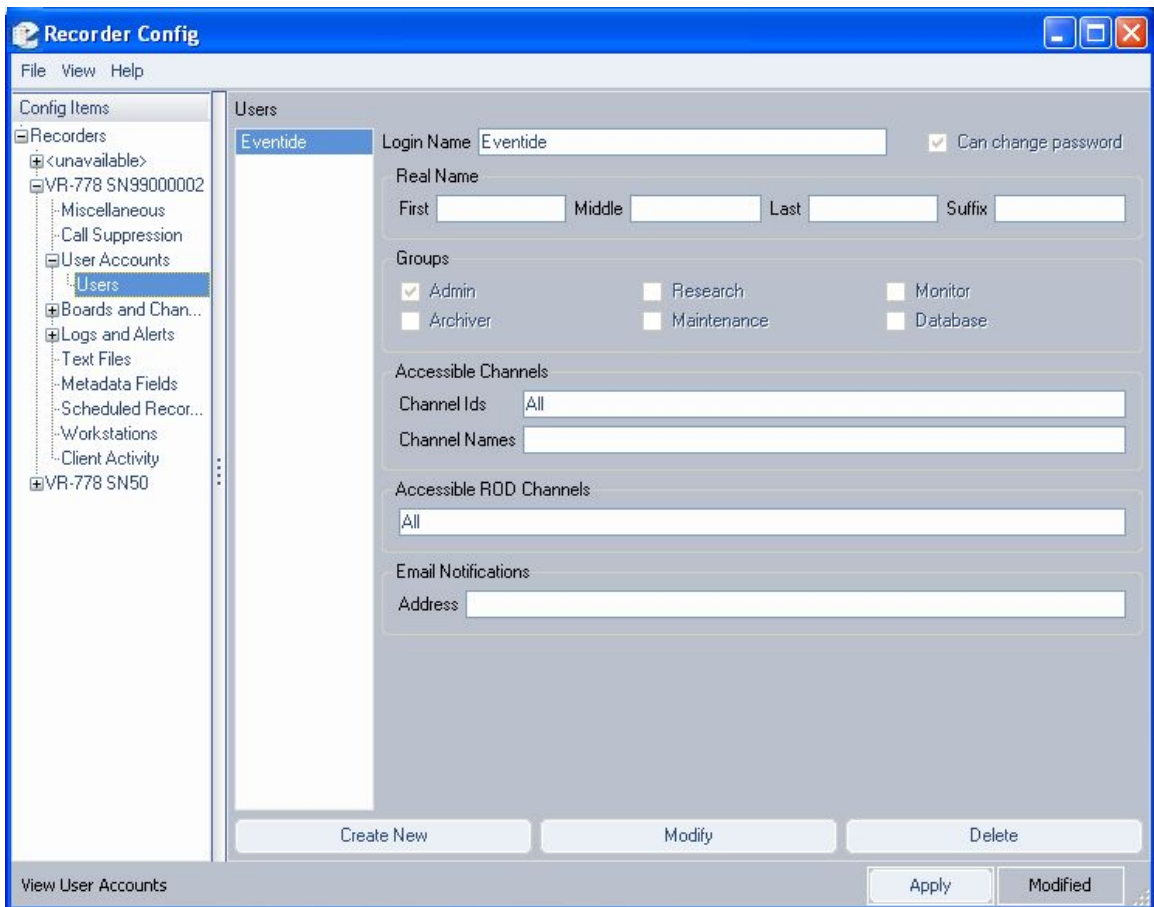
Figure 10–User Administration screen

This window serves the same purpose as the User Administration function on the server (see the SETUP section.) It also has the added capability to compare user listings on multiple recorders, and highlight in blue or red users for which information differs between recorders. You must have active connections for all recorders you wish to compare.

The illustration shows the View User Accounts window, which is accessible exclusively in read-only mode. It shows the users only on the selected recorder. If there are users on other recorders that match or partially match each other but have no counterpart on the selected recorder, they do not display.

To delete a user, select the user with the mouse, click **Delete** and choose whether that user should be deleted from the selected recorder or from all.

Figure 11–Delete User message

To add or modify user information, click **Modify** button or double-click on a user's name. Clicking **Create New** launches a blank screen, onto which you enter new user information.

Figure 12–User information screen (Modify mode)

In any case, you can make new or changed user profiles effective for the single recorder selected (default) or replicate the changes/additions for that user to all recorders to which you are logged in. You must have write permission to a recorder in order to make modifications. If you do not have write permission, the Modify button is inaccessible. In this, case you will have to log out and then log back in to only units to which you can gain access.

Boards and Channels

The Boards and Channels item allows you to configure telephony and audio boards installed in the recorder as well as specific channels provided by the boards.

CHANNELS

Selecting the Channels item displays the Channels Configuration screen, similar to the following:

	Name	Board Id	Enable Record Suppress	Beep	AGC	Gain dB	Record Enable	Vox Thrshld dB	Vox Hold Seconds	TRV Thrshld Volts	TRV Hold Seconds	GPIO Pin	Activity Timeout Seconds	Inactivity Timeout Seconds	Miscellar Config Text
1	Channel 1	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
2	Channel 2	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
3	Channel 3	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
4	Channel 4	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
5	Channel 5	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
6	Channel 6	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
7	Channel 7	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
8	Channel 8	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
9	Channel 9	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
10	Channel 10	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
11	Channel 11	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
12	Channel 12	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
13	Channel 13	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
14	Channel 14	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
15	Channel 15	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
16	Channel 16	1	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
17	Channel 17	2	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
18	Channel 18	2	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
19	Channel 19	2	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
20	Channel 20	2	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	
21	Channel 21	2	☐	☐	☐	1dB	Vox	-16dB	8	28	5		0	0	

The Channel Configuration screen displays identical information to the server's front panel. The signal parameters are usually more conveniently set from the server, since this is typically where the actual audio lines are located and it is

often necessary to make adjustments and connections external to the hardware in the process of setup. (Descriptions for each adjustment are discussed in the Setup section.) In order to make adjustments from this window, either enter an appropriate number, or increment, decrement, or select the value as appropriate. When all modifications are finished, click **Apply.**

BOARDS

Selecting the Boards item displays the Boards Configuration screen, which allows you to select an installed telephony or audio board for configuration.

While the optional digital PBX boards can be configured for a large number of different PBXs, the boards require customized setup at the factory, and in most cases their configurations should not be changed.

This section covers the following boards:

- Analog Telephony Board Configuration
- M-Audio HiFi Audio Recording Board Configuration
- AI Logix NGX
- AI Logix E1/T1
- VoIP Gateway Configuration

Analog Telephony Board Configuration

If you select an analog board and click on the Edit Selection button, it displays the Analog Board Configuration window, similar to the following:
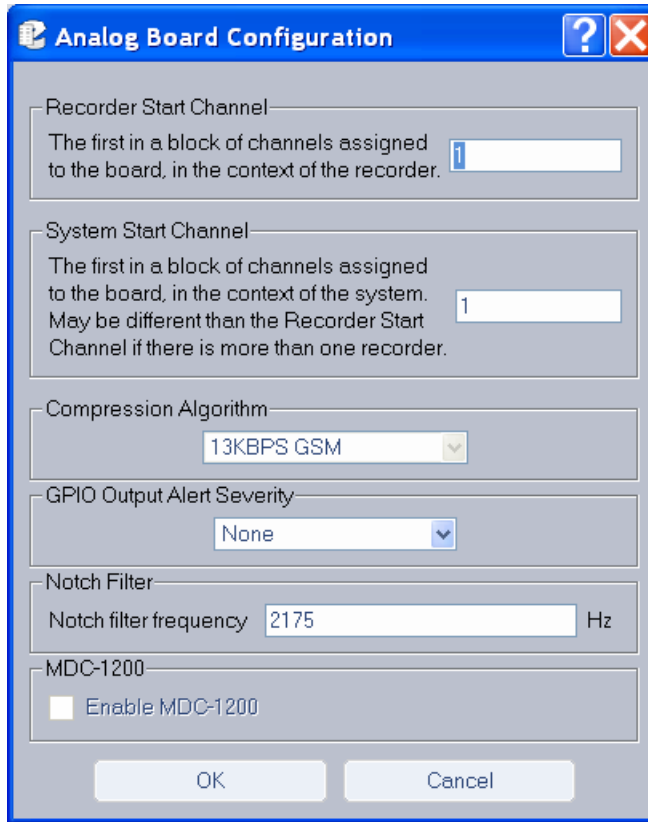
Figure 13–Analog Board Configuration window

- **Recorder Start Channel** – Displays the first channel number for the block of channels that are assigned to this board at the factory. Do not change.

- **System Start Channel** – Displays the first channel number for the block of channels that are assigned to this board at the factory when the recorder is used in a multi-recorder setup.

- **Compression Algorithm** – Assigns a compression algorithm for use with the board. Options include *13 KBPS GSM, 16 KBPS G.726 ADPCM, 32 KBPS G.726 ADPCM,* and *64 KBPS mu-law.*

New for Release 1.7

- **GPIO Output Alert Severity** – Sets the alert level for triggering a GPIO signal. This feature only applies to Eventide 8- or 16-channel analog telephony boards.

  For the 8- and 16-channel analog boards, the signal is output via tip/ring pins 24 and 49 ("Relay: general alarm"), unless the board has reversed connections (where pin 1 is at the bottom of the connector), in which case, pins 27 and 2 are used.

Values:

– None: No GPIO alarm signal is generated.
– Alert Level 1: "Info" alerts or higher; ignores acknowledgement.
– Alert Level 2: "Warning" alerts or higher; ignores acknowledgement.
– Alert Level 3: "Error" alerts or higher; ignores acknowledgement.
– Alert Level 4: "Severe Error" alerts or higher; ignores acknowledgement.
– Alert Level 1 (Unack): "Info" alerts or higher.
– Alert Level 2 (Unack): "Warning" alerts or higher.
– Alert Level 3 (Unack): "Error" alerts or higher.
– Alert Level 4 (Unack): "Severe Error" alerts or higher.

Default: Alert Level 3 (Unack).

Severity settings implicitly include higher levels; for example, if you set the severity to Level 1, any alert of severity 1 through 4 will trigger the signal, whereas for Level 4, only the most severe alerts will trigger the GPIO signal. To identify the severity level of an alert, see Table 8–Alert Messages, or view the configuration for a specific alert using the Recorder Configuration utility (Logs and Alerts > Alerts > Edit/View Selection).

The "Unack" settings specify that the GPIO signal will be turned off when the alert is acknowledged in MediaWorks or MediaAgent, whereas the standard settings allow the GPIO signal to continue when the alert is acknowledged in MediaWorks or MediaAgent.

Example: At Alert Level 3 (Unack), a GPIO signal is triggered on Alert #1008 (severity 3): "The system is experiencing a high load. This may indicate a problem." If this alert is acknowledged in MediaWorks or MediaAgent, the signal is turned off.

Note: The GPIO alert output feature also works with an optional GPIO board, but only at the default alert severity setting, Alert Level 3 (Unack), and only if the recorder does not contain any Eventide 8- or 16-channel analog telephony boards. In this case, the signal is output on the first pair of output pins on the GPIO board (pins 51+52 on 48-channel GPIO board or pins 31+32 on the 24-channel GPIO board). The GPIO board requires an add-on license key.

New for Release 1.8

- **Notch Filter Frequency** – Specifies a frequency to be filtered. The notch filter detects and filters out a single frequency pilot tone, line-proving tone or guard tone from a two-way radio signal, so that the voice data can be more clearly understood. You can specify any frequency in the range 200 – 3200 Hz. Some commonly used tones include the following (in Hz.): 1950, 2100, 2175, 2300,

2323, 2600, 2800, 2970. The filter operates with a minimum notch depth of 55 dB and bandwidth of +/–3% maximum at –3 dB. This feature is supported on Eventide analog telephony boards only.

- **Enable MDC-1200** – Enables MDC-1200 decoding, which will decode leading or trailing audio frequency-shift keying (AFSK) data in two-way radio signals and provide the four-digit unit ID of the transmitting radio unit. Other MDC-1200 data, such as emergency alarm, pre-defined status message, selective call, call alert, and radio check, can be obtained using custom scripts. MDC-1200 decoding is supported for analog telephony boards only and requires an add-on software license key.

    To obtain the radio ID for transmissions/calls, create a custom field named RADIO_ID of type string. Radio IDs can then be accessed in call records through MediaWorks. Note that a new call record is triggered when a transmission contains a radio ID different from the current call.

M-Audio HiFi Audio Recording Board Configuration

The M-Audio Board (below) uses the Ogg Vorbis compression scheme (similar to MP3) for better audio quality at high compression rates with extended frequency response.
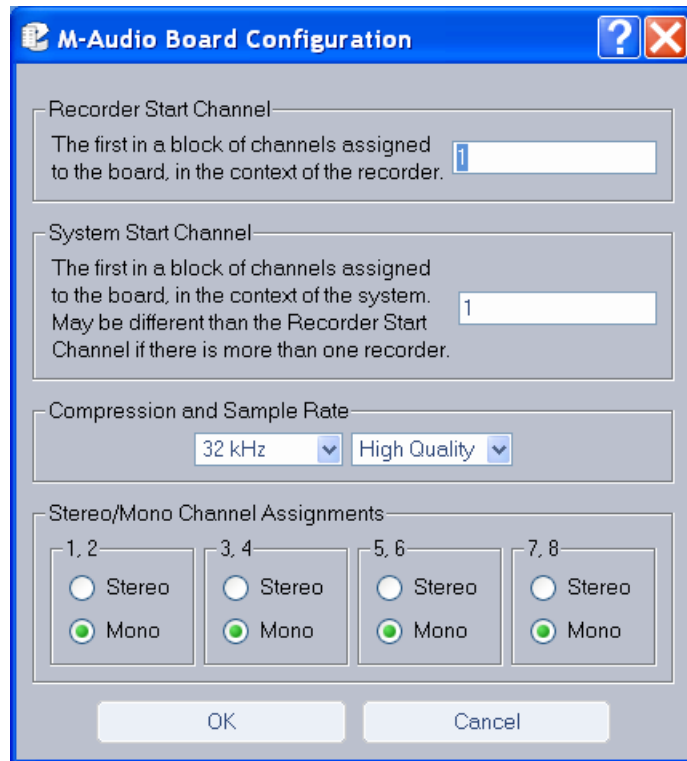
Figure 14–M-Audio Board Configuration window

- **Recorder Start Channel** – Displays the first channel number for the block of channels that are assigned to this board at the factory. Do not change.
- **System Start Channel** – Displays the first channel number for the block of channels that are assigned to this board at the factory when the recorder is used in a multi-recorder setup.
- **Compression and Sample Rate** – M-Audio supports the following sampling rates: *8 KHz, 12 KHz, 16 KHz, 22.050 KHz, 24 KHz, 32KHz, 44.1KHz,*and *48KHz.* Additionally, you can select one of two compression algorithms, *Low Quality* or *High Quality.* The former reduces file size; the latter provides better audio quality.
- **Stereo/Mono Channel Assignments** – Select here whether channels will deliver stereo or mono output. Each 8-channel board appears as only four channels on the display, as the channels are configured in pairs (stereo).

AI Logix NGX Configuration

The Administrative Client also supports operation with the AI Logix NGX digital PBX board.

To view its settings and attributes, from the Boards Configuration screen highlight the board in the right display area and click **Edit Selection**:
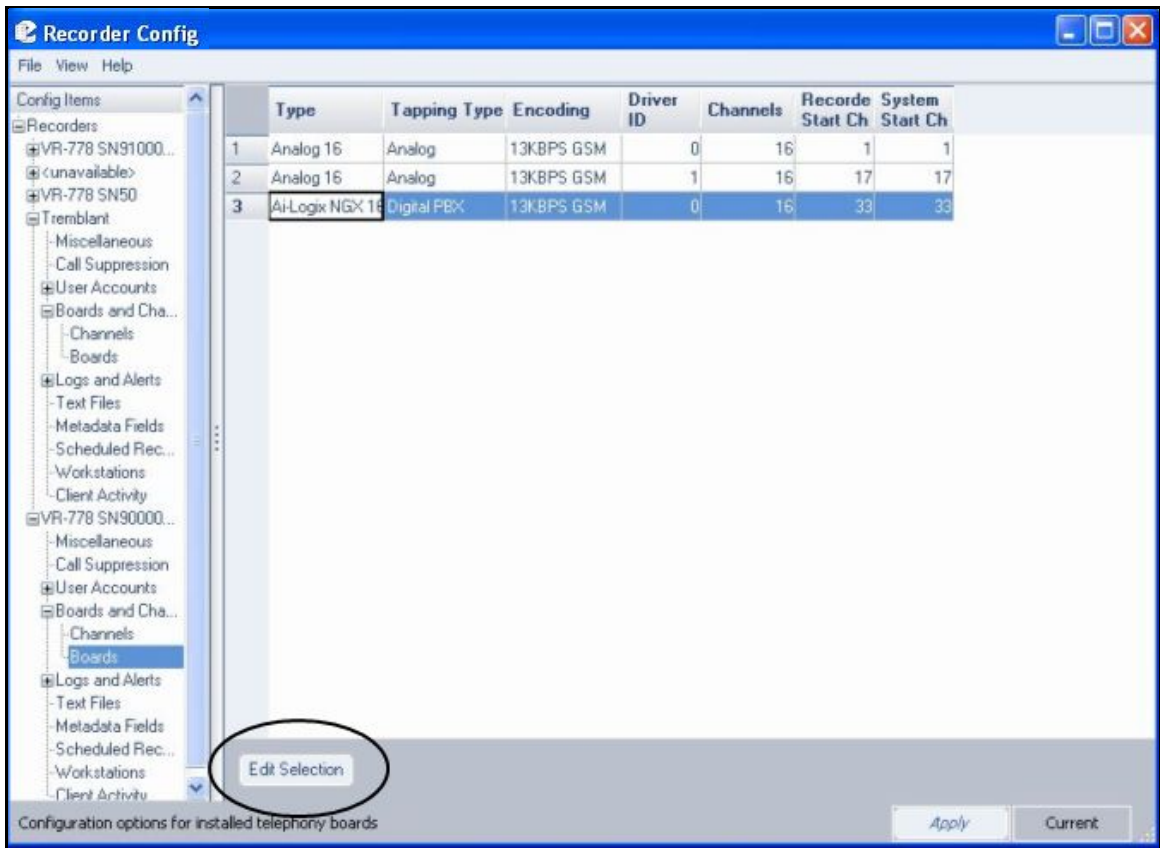
Figure 15–Board Configuration Screen

The following screen now displays:
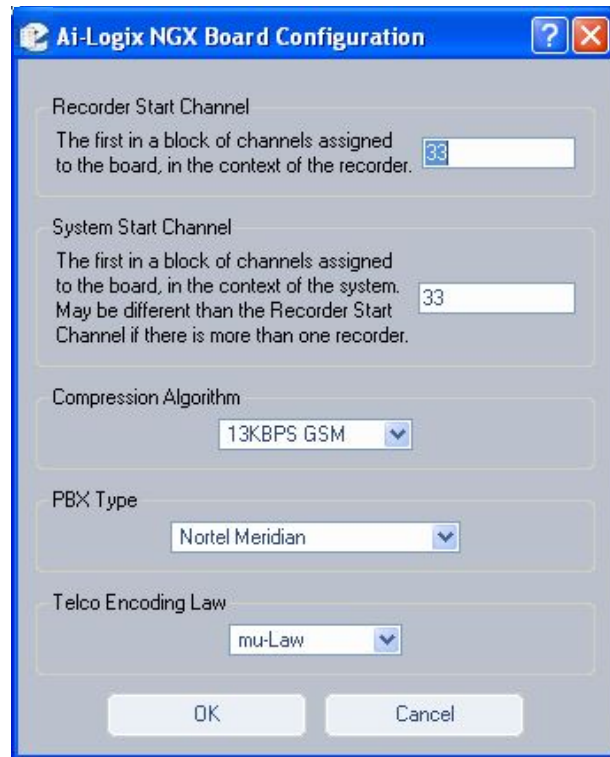
Figure 16–Ai-Logix NGX Board Configuration screen

Descriptions follow for each area of the screen.

- **Recorder Start Channel** – Displays the first channel number for the block of channels that are assigned to this board at the factory. Do not change.
- **System Start Channel** – Displays the first channel number for the block of channels that are assigned to this board at the factory when the recorder is used in a multi-recorder setup.
- **Compression Algorithm** – Assigns a compression algorithm for use with the board. Options include *13 KBPS GSM, 16 KBPS ADPCM, 32 KBPS ADPCM,* and *64 KBPS mu-law.*
- **PBX Type** – Lists all supported PBX types.
- **Telco Encoding Law** – Supported encoding types are *A-law* and *mu-law.*

AI Logix E1/T1 Configuration

The Administrative Client also supports operation with AI Logix E1/T1 boards.

Figure 17–E1/T1 Board Configuration screen

The installation and configuration of an E1 or T1 board is done entirely at the factory, and it is typically not required that any of the configuration parameters be changed. Suffice to say that depending on the board installed, the successive list of options change, as do the recorder start channels. Contact an Eventide representative before you change the settings on this screen.

The Administrative Client also supports operation with AI Logix E1/T1 boards.

New for Release 1.6

VoIP Gateway Configuration

To change the configuration, select the VoIP proxy board and click **Edit:**
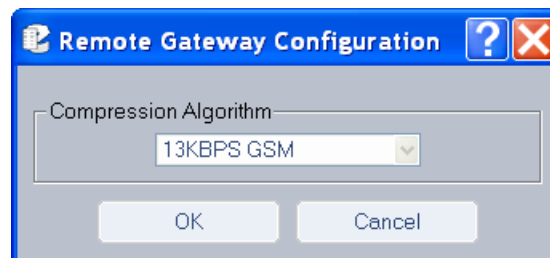
Select the Compression Algorithm from the drop-down list. Options include 13 KBPS GSM, 16 KBPS ADPCM, 32 KBPS ADPCM, and 64 KBPS mu-law. When finished, click **OK.**

For more information on Remote Gateway Configuration, see the section on "Eventide Voice Over Internet Protocol (VoIP) Implementation."

Channel Groups

To set up channel groups, do the following:

1. Log into the recorder you wish to configure.
2. Go to Boards and Channels: Channel Groups
3. If there are currently no channel groups, click Add Group, enter a name and click OK. It will automatically be selected.
4. Select channel names that you want to add to this group. (Ctrl+click to select or deselect multiple non-consecutive channel names, shift+click to select consecutive channel names.)
5. Click the right arrow to add the selected channels to the group.
6. To delete channels, select them from the right hand column and click the left arrow.

CHANNEL NAMES

With the addition of Channel Groups, Centralized Archiving, and Archive Failsafe, the naming of channels on each recorder in your installation has taken on new importance. If you are not using these features, you do not need to change anything, but if you are, there are some points to consider for ease of use, archiving and improved search results:

1. Channel names on Centralized Archiving sources should be unique among all systems connected to the same destination.
2. Channel names on Centralized Archive Failsafe pairs should be identical.

Changing channel names that were already in a channel group will remove the channel from the group unless you add the new name to the list of channels names in that channel group. This can be useful if you want to prevent new calls on a channel from being archived as part of a channel group without removing the earlier recorded calls.

Logs and Alerts

The Atlas server not only logs data, it also generates system alerts and maintains statistics on many critical areas of operation.

ALERTS
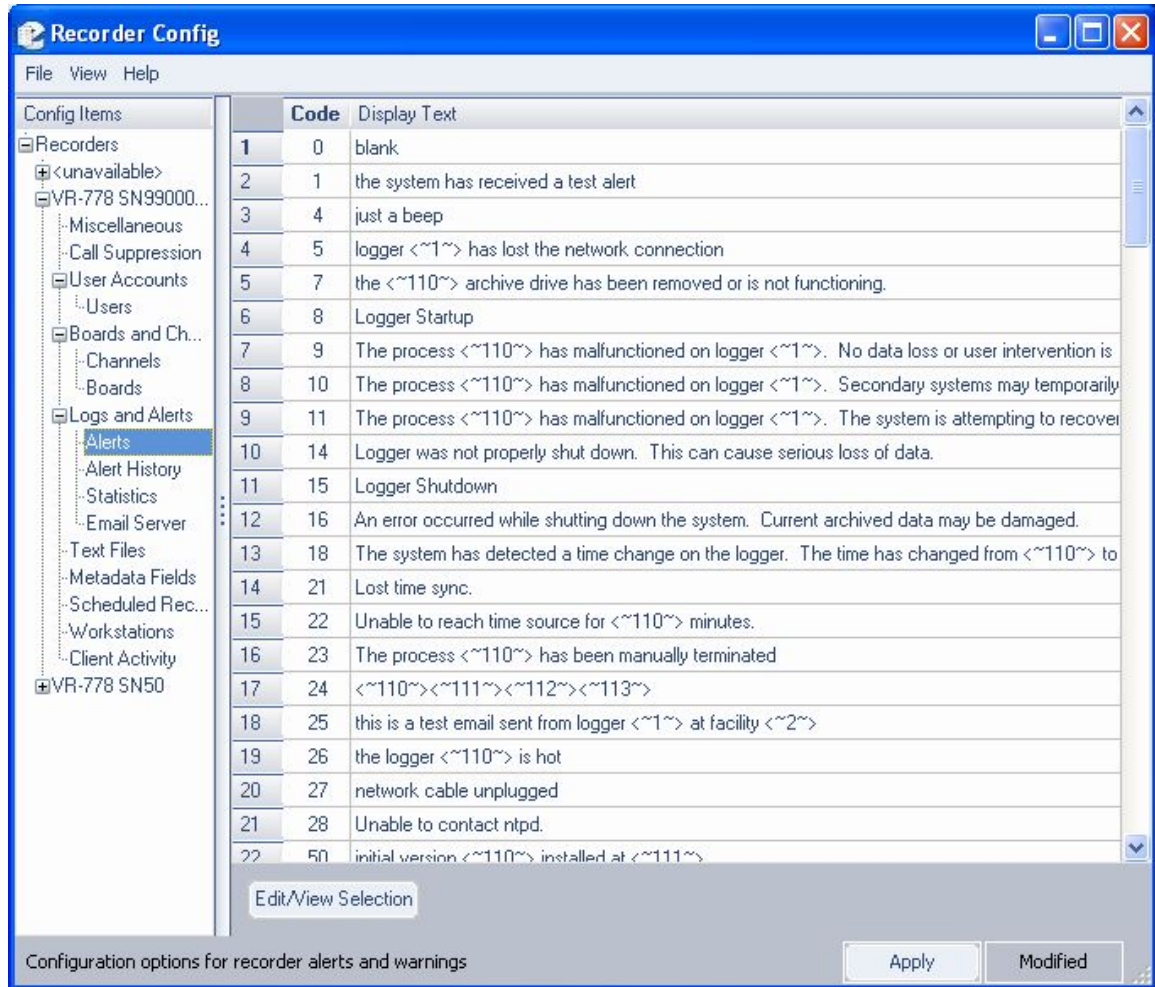
Figure 18–Alerts Screen

The Alerts screen provides the text content for all alert messages in the system. To edit an alert, highlight it and click **Edit/View Selection.** Perform any edits, and click **Apply.**

ALERTS HISTORY

Figure 19–Alerts History screen

This screen lists an ongoing history of what alerts were invoked, and what system incident occurred to invoke them. To save a listing as an ASCII text file, highlight the entries you'd like to save, click **Export Selected,** select a name for the file, and click **Save.**

STATISTICS

The Recorder Daily Statistics screen provides you comprehensive numerical data on call volume, call data statistics, and detailed archive information. It also implicitly alerts you to impending or actual loss of data due to insufficient storage.

Recorder Config

File   View   Help

Config Items
Recorders
VR-778 SN91000164
Miscellaneous
Call Suppression
User Accounts
Boards and Channels
Channels
Boards
Logs and Alerts
Alerts
Alert History
Statistics
Email Server
Text Files
Metadata Fields
Scheduled Recording
Workstations
Client Activity
VR-778 SN99000002
VR-778 SN50

Time (UTC)	Calls Total	Calls This Period	Calls with Audio	Audio Data Size (KB)	Unarchived Audio Size (KB)	Unarchived Calls	Audio KB Archived This Period	Oldest Call On Disk (UTC)	Curre Time
2006-12-15 04:00:00	88,511	0	88,507	1,552,297	1,552,297	88,511	0	2006-12-05 02:21:51	1989

Recorder Daily Statistics   Apply   Modified

Figure 20–Statistics screen

Descriptions follow for each statistical area displayed.

- **Time:** Date and time statistics were compiled.

- **Calls Total:** How many calls are recorded on this unit.

- **Calls This Period:** How many calls were recorded in the one-day period between Time entries.

- **Calls with Audio:** When a call is suppressed, there is still a call record created that includes its start time, duration, caller ID, and DTMF info. The audio for the suppressed call is not recorded, however, and they are subtracted from the total number of calls.

- **Audio Data Size(KB):** How many KB (1024 Bytes) of audio are available for playback.

- **Unarchived Audio Size (KB):** How many KB (1024 Bytes) of audio remain to be archived before the archiving catches up with the present time. If this

number gets larger each day, then it means you're not keeping up and may eventually lose data.

- **Unarchived Calls:** Similar to above, but number of calls instead of raw data size.

- **Audio KB Archived This Period:** In this case, how much audio was archived in the preceding day. Indicates whether disks are being changed appropriately, etc.

- **Oldest Call On Disk:** This is perhaps the most critical of all statistics logged. As a hard drive is filled, older calls begin being overwritten. Ultimately, this should directly determine your archiving strategy for moving older calls to other media.

- **Current Archive Time:** As archive media are written, this time is incremented. All calls after this time and date have not been archived. (All calls before *may* have been archived, assuming the archive was recorded before they were erased due to lack of storage.)

EMAIL SERVER
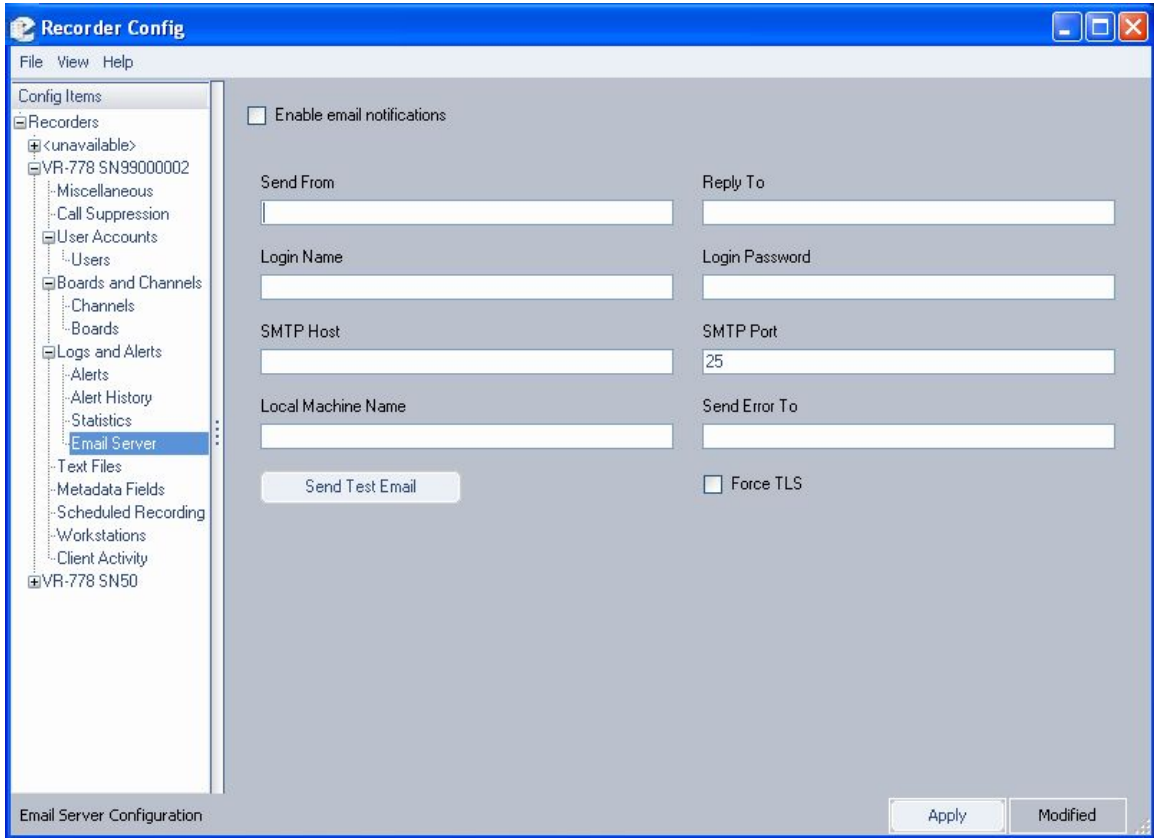
Figure 21–Email Notification screen

You can have the recorder send emails to designated recipients by filling in the Email Server Configuration page and checking the **Enable email notifications** checkbox. . The information needed here is discussed in the SETUP section. You designate individual users to receive notifications under user administration.

Configuration Files
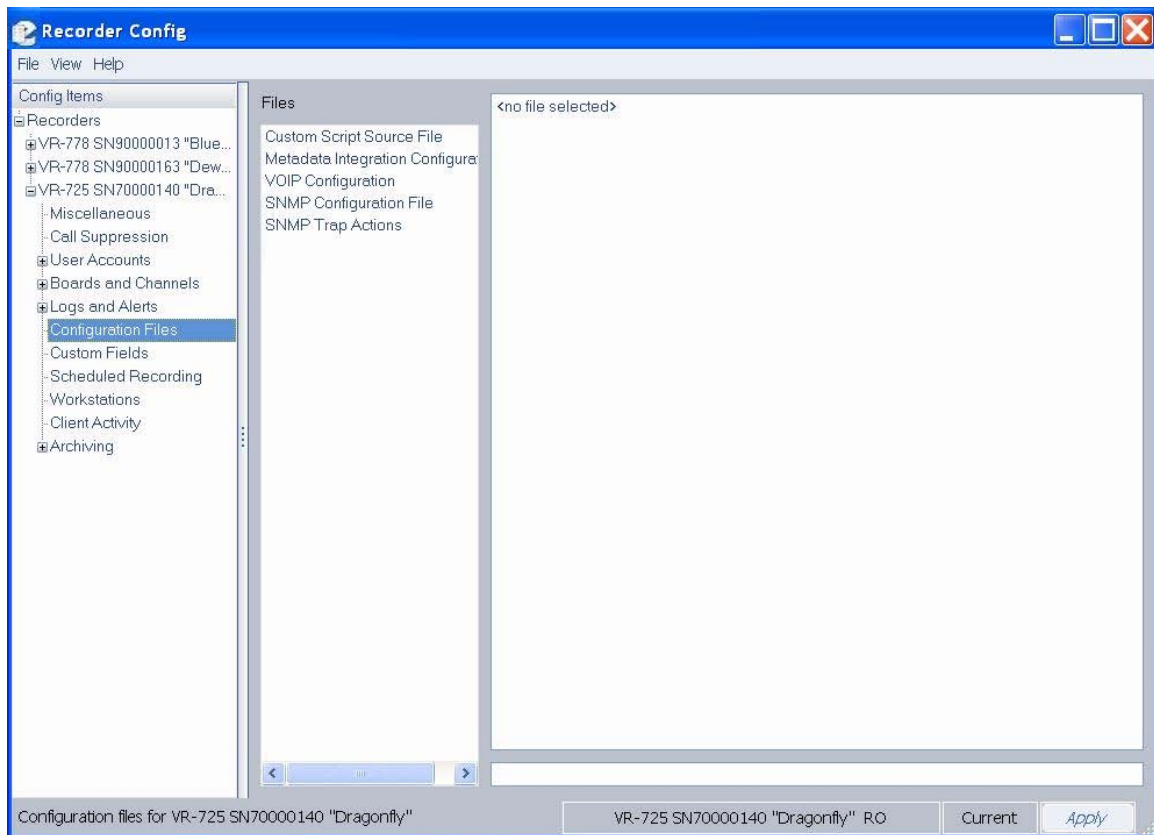
Figure 22–Configuration Files screen

The Configuration Files screen is used to view and edit configuration text files contained on the selected recorder. Some of the features supported through the configuration files require additional software license keys.

To access a configuration file, select a file listed in the **Files** column and the contents will be displayed in the column on the right.

To edit a configuration file, move the cursor to the point at which you'd like to modify or append the file, and perform all necessary changes. You must have read/write access to modify a configuration file.

Caution: Changing a configuration file could interfere with the operation of the recorder. Do not modify custom script source files. Any change to a custom script will invalidate its license and prevent the script from functioning, thereby interfering with the intended operation of the recorder system.

When you're finished, click **Apply,** and all changes will be saved to the file.

The following types of configuration text files are supported:

- **Custom Script Source File:** This type of file contains purpose-built code that has been designed to meet customer or site-specific requirements. Eventide professional services offers this customized add-on code via scripting in the file. The scripting capability is extremely powerful and flexible and can serve many purposes. It can provide additional functionality through integration with an external database, CTI server, or Computer Aided Dispatch system. Use of this feature requires an additional software license key, which is embedded at the top of the file. When the file contains customized code, it must not be modified in any way; otherwise, it invalidates the license and prevents the script from functioning. By default all installations will contain a minimal script as a place-holder, which does not contain an embedded license key. But to avoid unnecessary script alerts, do not modify this default script either.

- **Metadata Integration Configuration File:** This file is used to configure the recorder to recognize user-defined metadata feeds that arrive via a network connection or serial port. Use of this feature requires an additional software license key and custom scripting placed in the file to identify the format and parsing of the metadata.

- **SNMP Configuration File:** This file is used to configure the recorder for network management using the Simple Network Management Protocol (SNMP). SNMP is used to manage network devices.

  The SNMP configuration file describes the identity of the Eventide recorder so that an SNMP client can query the recorder for information. The configuration file allows you to set the following SNMPv2-MIB values for the recorder:

  – **rocommunity:** Specifies the community name used to authenticate messages. Public is the default read-only community. Set this to match the desired read-only community name for your system.
  – **syslocation:** Specifies the location of the recorder (character string).
  – **syscontact:** Specifies contact information such as name, email address, and phone number of a person to contact about the recorder (character string).
  – **sysname:** Specifies a name for the recorder (character string).
  – **sysdescription:** Specifies a description for the recorder (character string).

  The Eventide recorder provides read-only monitoring for supported SNMP Management Information Bases (MIBs). The following MIBs are supported:

- **RFC1213-MIB (MIB-II):** IETF standard MIB that provides the core set of managed objects for monitoring statistics (e.g, device status and number and status of device interfaces) and for management control of devices on a managed TCP/IP network; raw MIB data requires interpretation by a management application.
- **SNMPv2-MIB (RFC3418):** Provides standard SNMPv2 information, including system name, location, description, contact, and uptime.
- **IP-MIB (RFC4293):** Provides information for monitoring and management of Internet Protocol version 4 within the managed entity.
- **TCP-MIB (RFC4022):** Provides information for monitoring and management of the Transmission Control Protocol within the managed entity.
- **UDP-MIB (RFC4113):** Provides information for monitoring and management of the User Datagram Protocol within the managed entity.
- **HOST-RESOURCES-MIB (RFC2790):** Provides information for monitoring and management of the host recorder.
- **IF-MIB (RFC2863):** Provides information for monitoring and management of network interfaces within the managed entity.
- **RDBMS-MIB (RFC1697):** Provides information for monitoring and management of relational database implementations.
- **DISMAN-EVENT-MIB (RFC2981):** Defines event triggers and actions for network management.
- **NOTIFICATION-LOG-MIB (RFC3413):** Provides a common local logging infrastructure for other MIBs; intended primarily for senders of notifications but can be used by receivers.

New for Release 1.7
- **SNMP Trap Actions:** This file defines what happens when SNMP traps (alerts) are received by the recorder. For example, the recorder can perform a controlled shutdown when it receives an Object ID (OID) indicating that the Uninterruptible Power Supply (UPS) battery is low.

- **VOIP Configuration:** This file is used to configure the network proxies for Voice over Internet Protocol.

Custom Fields
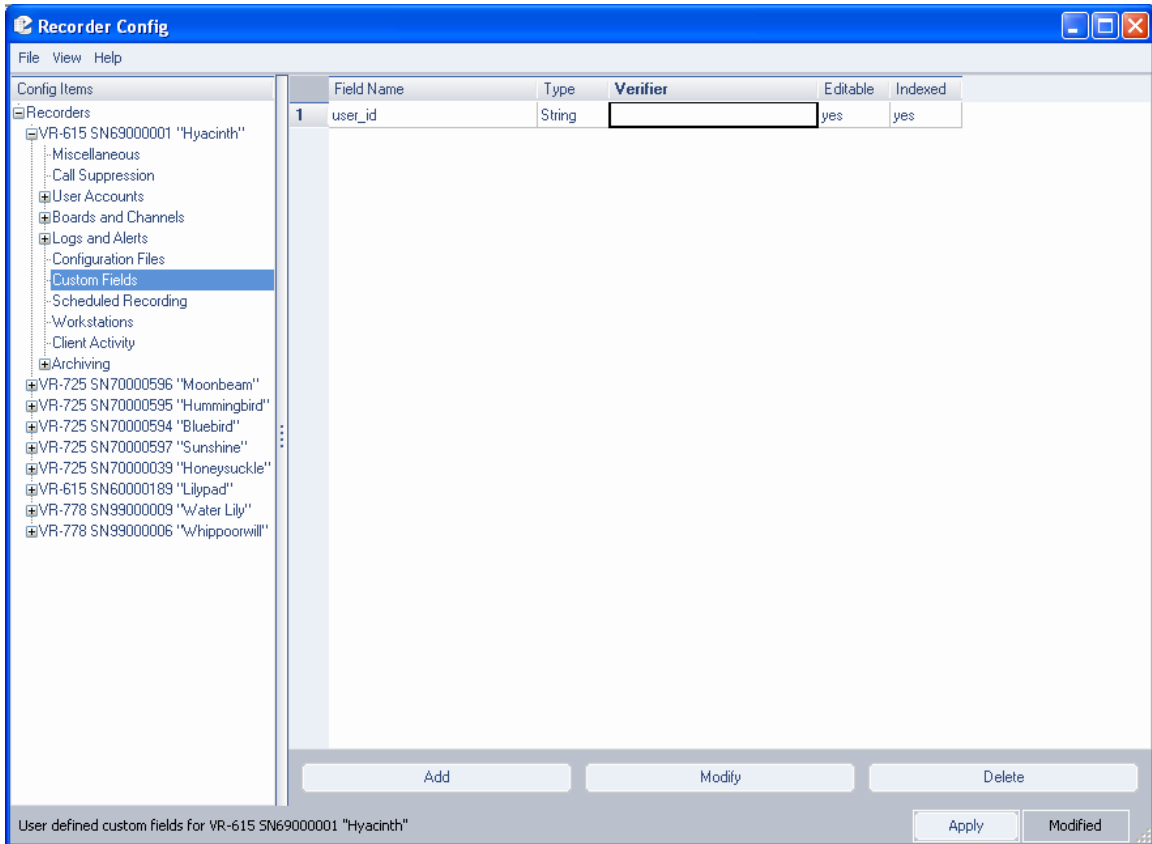
Figure 23–Custom Fields screen

The Custom Fields screen allows you to designate new database fields for inclusion in detail information for call records displayed in MediaWorks or MediaAgent. As a matter of course, data must exist for the fields in order for its information to be displayed accurately.

Like the Text Field screen, you must have Read/Write access to the selected recorder to perform any additions, changes, or deletions. The activity buttons at the bottom of the screen (*Add, Modify, Delete*) will display grayed out if you do not have this permission.

Adding, Modifying, and Deleting Fields

To add a new entry, click **Add;** the following entry screen displays:
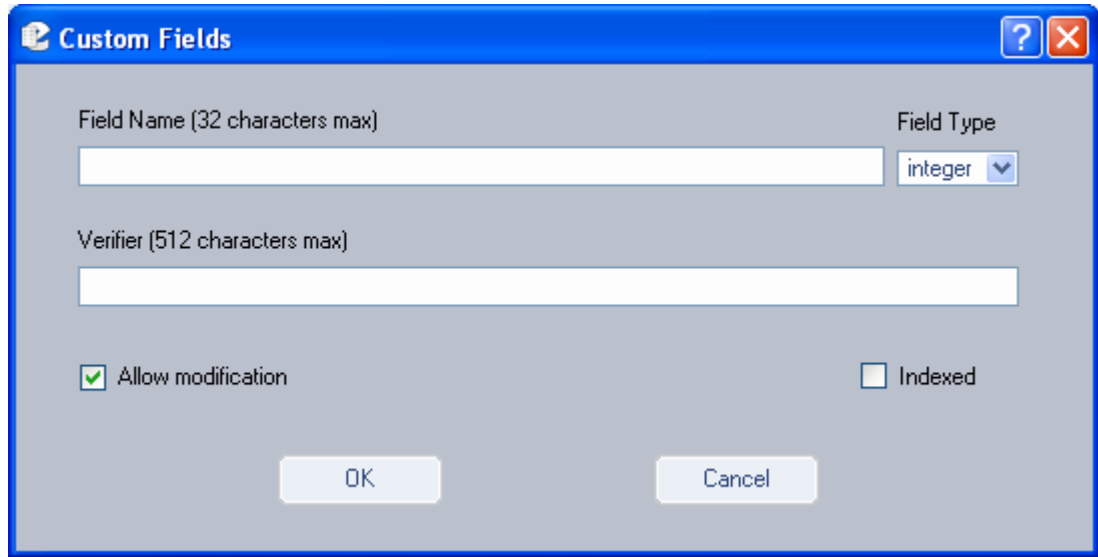
Figure 24–Add Field window

- In the **Field Name** field, enter a name for the new field.
- From the **Field Type** drop-down list, designate the type for this field. Options are *Integer, Date,* or *String.*
- In the **Verifier** field, optionally enter a regular expression that will validate the information in this field.
- **Allow Modification** designates whether this field will be editable after it is created. By default, this option is selected. If you deselect this checkbox, you will be unable to make changes to the field hereafter.
- **Indexed** will make this field an indexed field in the database, thereby improving its retrieval time. Default is deselected.

When all information is complete, click **OK.**

To modify an existing field, highlight its respective number to the left of its name, and click **Modify.** If the field has been designated as editable, you will access the same screen described above, with that field's information displaying. If the field is not editable, you will receive the following message:

Figure 25–Custom Field Not Editable message

After you access the Edit screen, you are permitted only to modify two aspects of the field: *Verifier* and *Allow Modification.*

If you need to change the name of a field, or any other characteristic not supported by the Edit mode, you must delete the field and re-enter it with the new attributes.

To delete an existing field, highlight its number, and click **Delete.** The following confirmation window then displays:

Figure 26–Custom Field Delete Confirmation message

Click **Yes** to proceed, click **No** to cancel the action.

Scheduled Recording
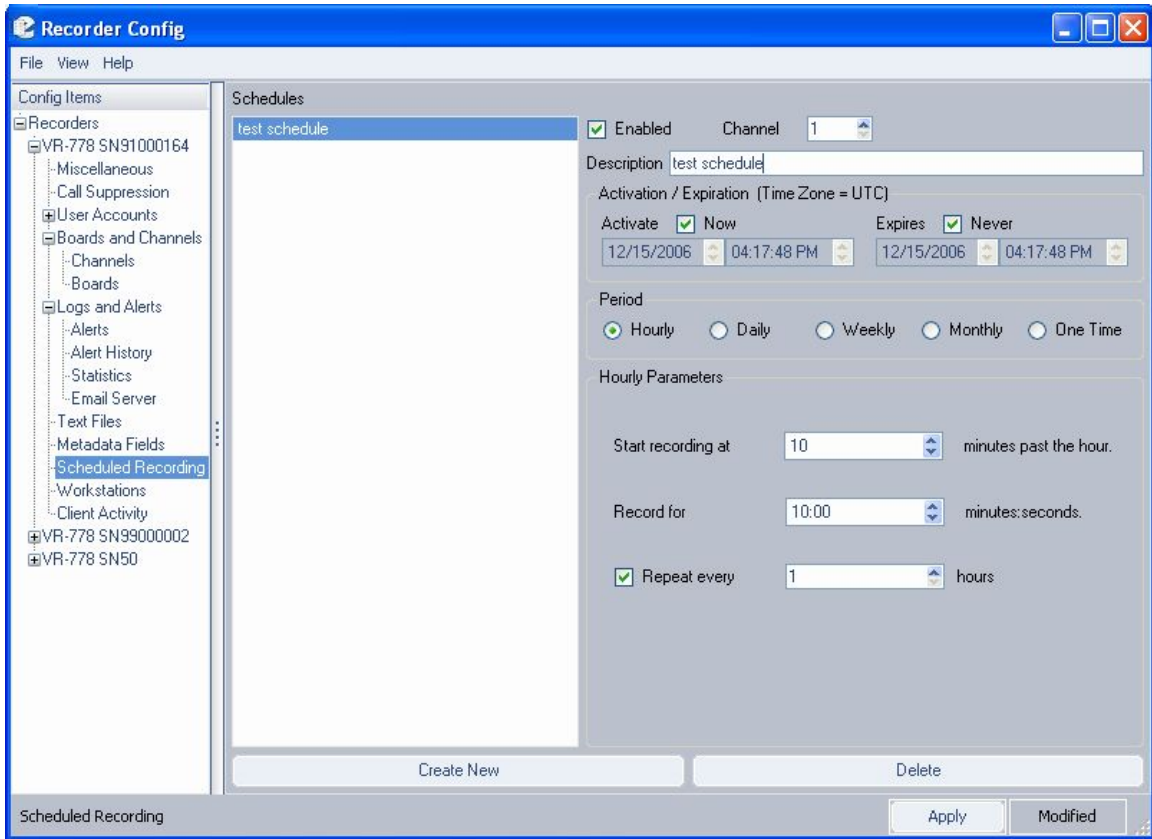
Figure 27–Scheduled Recording screen

The Scheduled Recording configuration allows you to set specific timeframes for recording. To add, modify, or delete schedules on this screen, you must have Read/Write permissions for the system. The activity buttons at the bottom of the screen (*Create New, Delete*) display as grayed out if you do not have Read/Write access.

Adding, Modifying, and Deleting Files

To add a new schedule, click **Create New;** the following screen displays:
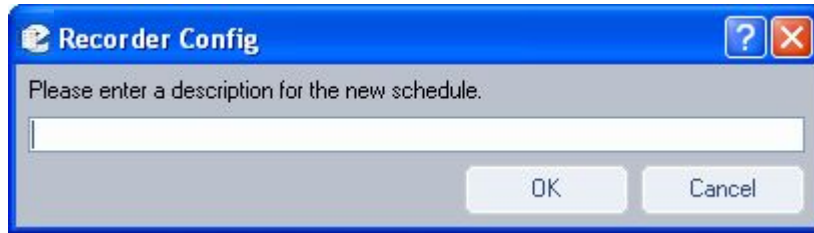
Figure 28–Scheduled Recording Description entry

Enter a name for the new schedule here, and click **OK.** The schedule listing at the left side of the screen subsequently refreshes with this one listed at the bottom.

Descriptions follow for each of the fields included in a scheduled recording:

- **Enabled** – Select this checkbox to enable this schedule. Default is deselected.

- **Description** – The name of the schedule.

- **Activate** – The date and time the schedule activates.

- **Expires** – The date and time the schedule ends.

- **Period** – Select *Hourly, Daily, Weekly, Monthly,* or *One Time* to denote the frequency of the schedule.

- **<Period> Parameters** – The parameters displayed depend upon the selected Period. See the next section, *Scheduled Recording Parameters,* for information on these parameters.

- Once you've completed all the fields, click **Apply** to save the schedule.

To modify an existing schedule, select a schedule in the *Schedules* column, and the right side of the screen displays the schedule. Providing you have Read/Write access for the selected recorder, you can now modify any settings. When finished, click **Apply** to save the schedule.

To delete an existing schedule, select the schedule in the *Schedules* column, and click **Delete**. You are asked to confirm the deletion. Click **Yes** to proceed, click **No** to cancel.

SCHEDULED RECORDING PARAMETERS

The information in the Parameters area of the screen depends upon which period you select. Descriptions follow for each period.

- *Hourly:* The entry screen's Parameters area displays with the following fields:

Figure 29–Scheduled Recording (Hourly) Parameters

Start recording at XX minutes past the hour – Enter the number of minutes past the top of each hour.

Record for XX minutes: seconds – Enter the length of time to record.

Repeat every XX hours – Select the checkbox to enable a repeat, and enter the number of hours after which this scheduled recording will repeat.

- *Daily:* The entry screen's Parameters area displays with the following fields:

Figure 30–Scheduled Recording (Daily) Parameters

Start recording at XX minutes past midnight – Enter the number of hours and minutes into the designated day to initiate recording.

Record for XX hours: minutes: seconds – Enter the length of time to record.

Repeat every XX days – Select the checkbox to enable a repeat, and enter the number of days after which this scheduled recording will repeat.

- *Weekly:* The entry screen's Parameters area displays with the following fields:
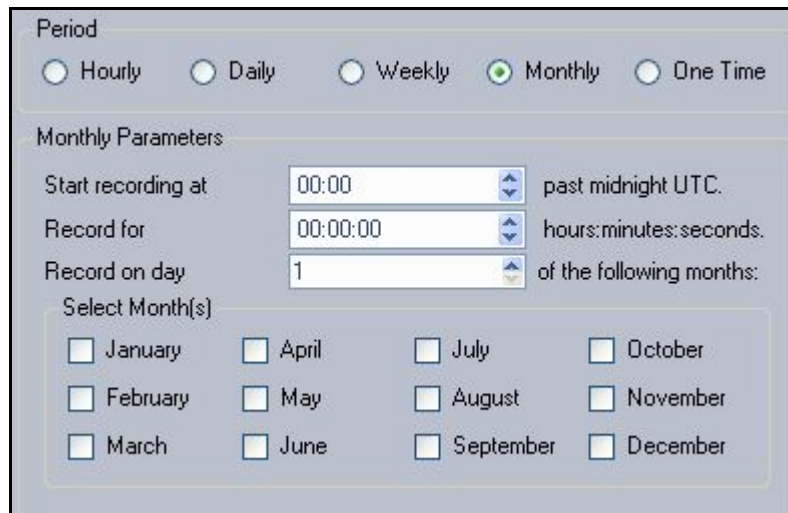
Figure 31–Scheduled Recording (Weekly) Parameters

Start recording at XX minutes past midnight – Enter the number of hours and minutes into the designated day to initiate recording.

Record for XX hours: minutes: seconds – Enter the length of time to record.

Select Day(s) of the week – Check all days in for the selected weekly during which you'd like recording to occur. At least one day must be selected; as many as seven may be selected.

- *Monthly:* The entry screen's Parameters area displays with the following fields:

Figure 32–Scheduled Recording (Monthly) Parameters
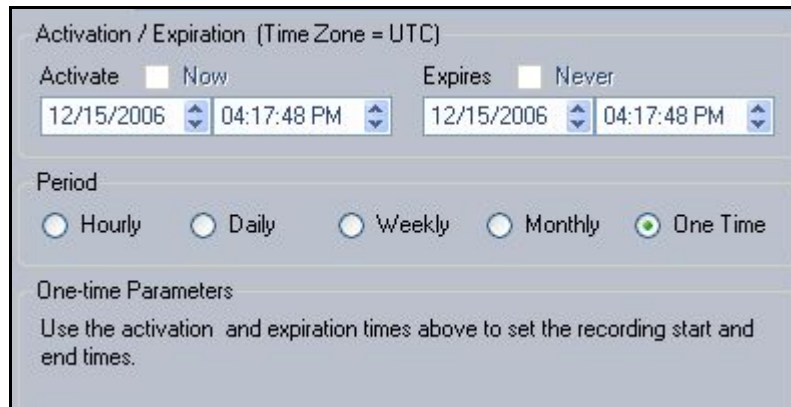
Start recording at XX minutes past midnight – Enter the number of hours and minutes into the designated day to initiate recording.

Record for XX hours: minutes: seconds – Enter the length of time to record.

Record on day XX of the following months – The day of the designated month on which you would like to record.

Select Month(s) – Check all months you want to apply this scheduled recording. At least one month must be selected; as many as twelve may be selected.

- **One Time:** The entry screen's Parameters area displays with the following fields:

Figure 33–Scheduled Recording (One Time) Parameters

One-time only recordings use the general parameters described above section, and do not require any time-specific designations.

Archiving: Archive Drives
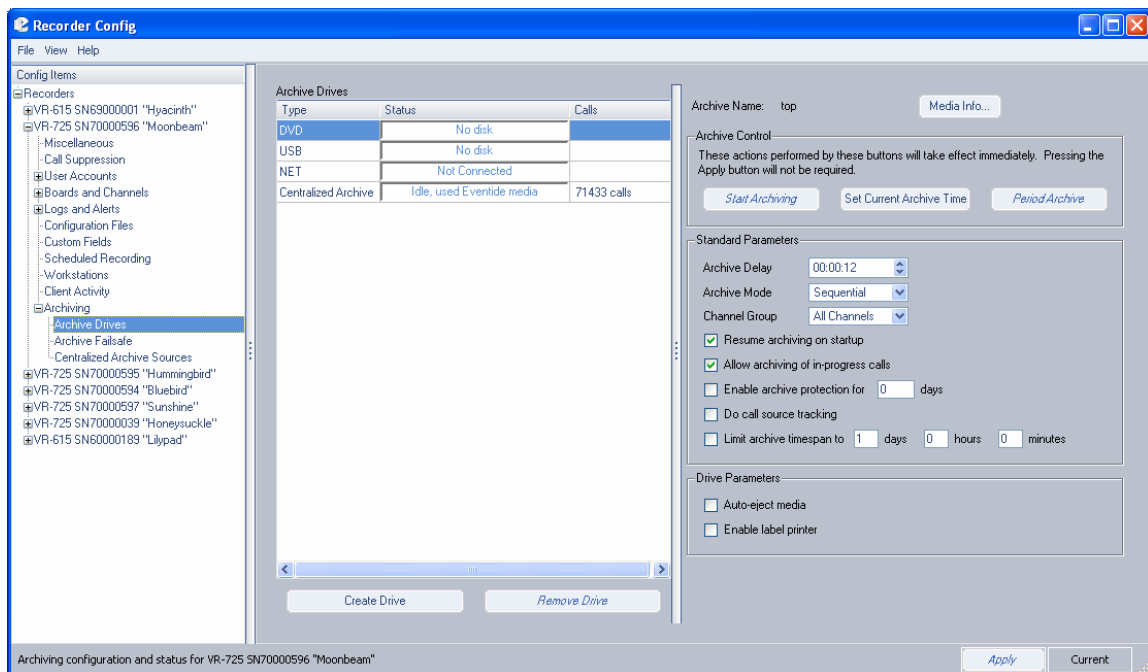
The DVD-RAM view.

There is an Archive Control section common to all drive types:

1. The left-most button changes based on context. It can be Start Archiving, Resume Archiving, Begin Standby, or Cancel Standby.
2. Set Current Archive Time. This opens a dialog box that allows you to set the current archive time on the selected drive.
3. Period Archive.

There is also a set of Standard Parameters common to all drive types:

1. Archive Delay (time in hours:minutes:seconds)
2. Archive Mode (Sequential / Parallel for systems with two DVD-RAM, R-HD or REV drives; Standalone for other drive types)
3. Channel Group (defaults to "All Channels" and lists any custom groups on the system)
4. (Yes/No) Resume archiving on startup
5. (Yes/No) Allow archiving of in-progress calls
6. (Yes/No) Enable archive protection for (number) days
7. (Yes/No) Do call source tracking
8. (Yes/No) Limit archive timespan to (number) days (number) hours (number) minutes

There is a Drive Parameters section specifically for DVD-RAM:

1. Auto-eject media
2. Enable label printer
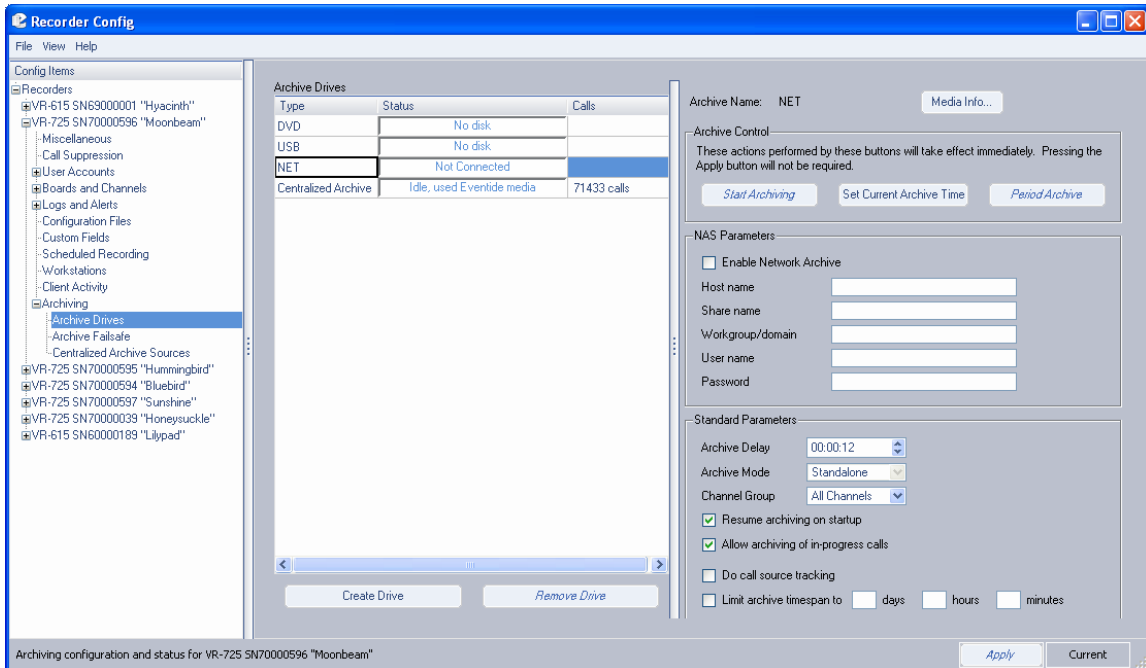
The NET Drive View

NET Parameters are the same configuration options as offered on the recorder's Setup screen. To successfully enable a network archive drive, you must provide at least a hostname and sharename, and the rest of the parameters may be required as well (check with your network administrator.)

New for Release 1.7

Centralized Archiving (CA) Configuration

Note: Use of the optional Centralized Archiving feature requires an add-on software license key.

Using Recorder Configuration, log into all machines involved in the desired Centralized Archiving configuration at the same time. If you are adding a new machine to an already existing configuration, you only need to log into the new source and the destination machine.

For each source machine:

1. Make sure that all channels are named appropriately, as discussed in the Channel Names section.
2. Go to Archiving: Archive Drives.
3. Click the Create Drive key.

4. Select Centralized Archive and click OK.
5. Enter the IP address of the destination machine.
6. Enter the name by which you want to identify the centralized archiving drive. Note that the name should be distinct for each drive unless it is intended to be part of an Archive Failsafe pair, in which case the drives in the pair must have identical names.
7. Click OK and the drive will be created immediately, visible at the front panel and in the Archiving: Archive Drives pane. The status will say "Check Configuration" but it is not necessary to check anything yet.

Then Go to the destination recorder's Archiving: Centralized Archive Sources pane. For each source listed, select the source, click Approve and then click Apply.

At this point the status message for the drives at each source will display either "idle, blank media" or "Check Configuration." There are three triggers for the Check Configuration status message:

1. The destination has not approved the source.
2. The source has exceeded its number of licensed CA drives.
3. The custom fields on the source are missing on the destination.

Solutions:

1. Approve the source at the destination.
2. Either delete unused catapult drives or buy additional licenses.
3. Add all of the source's custom fields to the destination recorder.

In practice, archiving to a Centralized Archiving drive is done identically to how one archives to a DVD-RAM drive. From the source recorder's front panel Info screen or from Recorder Configuration's Archiving: Archive Drives pane, select the drive you wish to archive to and start archiving. The calls archived in this way are stored on the destination Atlas recorder just like any other call, and are subject to the same limits on number of calls and data retention as calls recorded locally; for long term archiving, these calls should be further archived to DVD-RAM or NET drives.

Configuring Additional NET Drives

More NET drives can now be configured via Recorder Configuration. Configuring additional NET drives will require an additional license. To `configure an additional NET drive`:

1. Go to Archiving: Archive Drives.
2. Click the Create Drive key.
3. Select Network Attached Storage and click OK.
4. Enter the host name and share name of the network archive (and any other necessary parameters.)

Centralized Archive Failsafe Configuration

Note: Use of the optional Centralized Archive Failsafe feature requires an add-on software license key.

1. The Centralized Archive Failsafe pair must be connected to identical call inputs.
2. Set up a Centralized Archiving drive on each recorder in the pair. These should point at the same destination recorder and must be given exactly the same name, but this name must also be unique to this pair and not given to any additional Centralized Archiving drives that connect to the failsafe controller.
3. Approve both recorders at the destination recorder's Archiving: Centralized Archiving Sources pane.
4. Check the "Enable Centralized Archive Failsafe" checkbox on both recorders in the archive failsafe pair. Apply this change.

At this point, Archive Failsafe is ready to be armed. If you start archiving on one recorder, the other will display "ready standby" where it would normally display "start archiving." Additionally, you can log into the controller recorder and arm, disarm and set the archive time on both recorders in the failsafe pair simultaneously.

Archiving a Channel Group

1. Log into the recorder you wish to archive a channel group from.
2. Go to Archiving: Archive Drives.
3. Select the drive you wish to archive to.
4. From the Channel Groups pull down menu, select the channel group you wish to archive to this drive.
5. Click Apply to apply the change.

At this point, any archiving done to this drive will archive calls only from the channels in the channel group selected.

Period Archiving With Recorder Configuration

1. Load Eventide formatted media on the Atlas recorder.
2. Log into the recorder with the Recorder Configuration utility.
3. Go to Archiving: Archive Drives pane.
4. Select the drive that you want to archive to.
5. Click the Period Archive button.
6. Enter the start and stop times that you want to archive.
7. Click the OK button; the recorder will begin archiving this period to the drive.

To combine this feature with Channel Groups, be sure to set and apply the channel group you wish to archive from before starting the period archive.

Call Source Tracking (CST)

Call Source Tracking is an option that prevents calls from being left out of archives. Because of the inherent nature of the technology involved, Atlas systems do not always receive calls from VoIP and Centralized Archiving sources in real-time; they can, under certain conditions, end up receiving calls hours or even days after they were originally recorded. This has a significant impact on archiving; for example, on a busy Atlas system with both local input board sources and VoIP channels, if:

1. The archive pointer on a DVD-RAM drive is set to current time.

2. Calls are currently coming in on the local input channels.
3. Due to temporary but severe network congestion, the VoIP gateway has buffered an hour's worth of calls which are just now transferring to the Atlas recorder.

Starting to archive calls to this DVD-RAM drive would leave the hour of VoIP calls unarchived. Because of this, archive drives can optionally be set to use Call Source Tracking, which will prevent any archive from writing past the current archive time of any source that is not currently up-to-date.

In the same scenario as the above, but with CST turned on, the result would be the DVD-RAM drive would pause in archiving mode, idle, until the VoIP system caught up to the archive time that had been initially set, at which point the DVD-RAM would begin to fill with all of the calls, leaving nothing unarchived.

This feature is optional only because a Call Source may be temporarily off-line and one needs to archive calls anyway. In that case, turn off CST, create the archive you need, then turn CST back on and reset the archive time.

This section discusses setup and administration of the recorder from the front panel. On entering Setup mode, the following screen appears. This screen is a hierarchical menu of available functions. Double clicking on any topic (except System Shutdown) reveals a submenu. A top level item can also be expanded to its submenu by clicking the small box to the left of the item. A second click of the box or double click of the heading collapses the menu.

New for Release 1.6

Workstation Setup

The Workstations Setup area is used to assign specific channels to a workstation location and a user. When a user is logged in at a designated workstation location, metadata information is generated on the server tagged with that user's name for all calls received.

Click the Workstations option under Logs and Alerts, and the Workstations main screen displays:
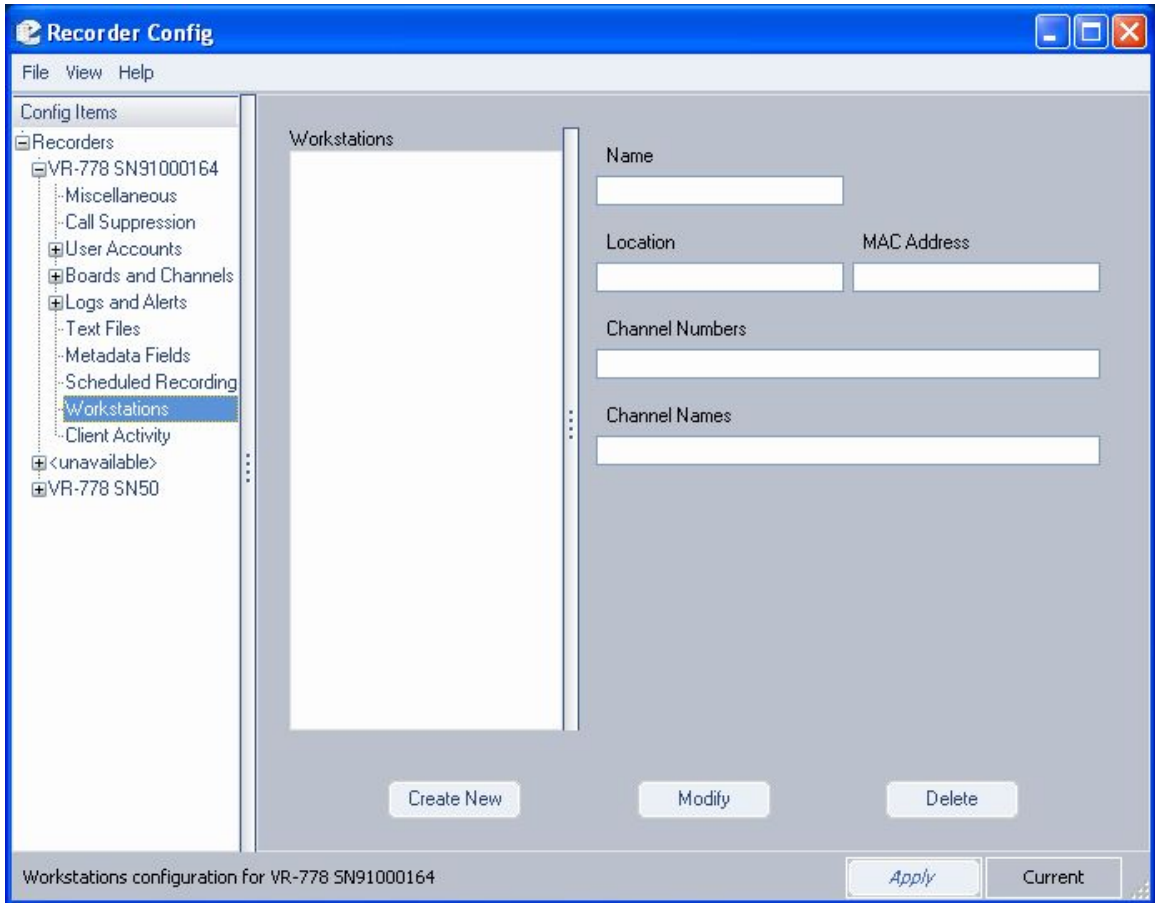
All existing workstation locations are listed in the *Workstations* area of the screen. Click on an entry to display the attributes associated with the location on the right side of the screen. All fields displayed here are read-only, and can be edited only from the **Edit Workstation** window.

CREATING A NEW WORKSTATION

From the Workstation main screen, click **Create New;** the **New Workstation** window now displays:

Enter the workstation name, location identifier, the channel numbers associated with this workstation, channel names, and the MAC address of the workstation in the fields provided.

Note that each workstation must have a unique MAC address, which is a unique hardware identifier for the workstation's Ethernet adapter.

To find out what MAC address is assigned to your Windows-based PCs,

- From Windows' programs, select **Accessories,** then **Command Prompt.**
- When the Command Prompt screen displays, type **ipconfig /all** and press Enter.
- The following information now displays (below):

Your MAC address is the Physical Address, in this example 00-13-20-FB-94.

EDITING AN EXISTING WORKSTATION

From the Workstation main screen, highlight a workstation in the Workstation column and click **Modify.** The **Edit Workstation** window now displays:
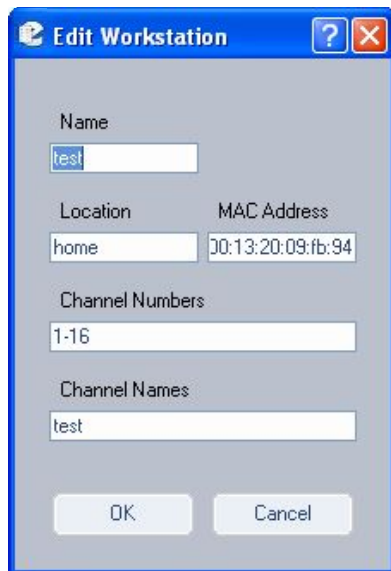
All fields listed can be modified. However, the MAC address, if entered correctly the first time, should not be change.

When all changes are complete, click **Ok** to save; click **Cancel** to abort the process and leave the values unchanged.

DELETING AN EXISTING WORKSTATION

From the Workstation main screen, highlight a workstation location you would like to remove and click **Delete.** The following confirmation screen now displays::
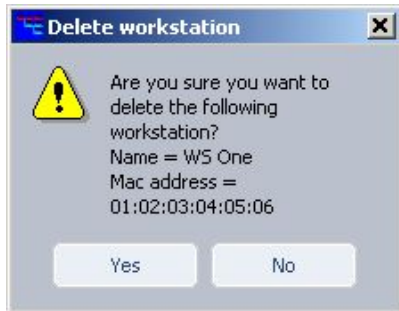
Click **Yes** to permanently delete the selected workstation; click **No** to cancel the action.

FINAL WORKSTATION CONFIGURATION (METADATA TAGGING)

Finally, to complete workstation setup, you must create a new metadata field called **user_id.** This field is automatically populated by the caller ID value associated with an incoming call to a workstation, and is stored in the system's metadata tables.

Note: You must have read/write authority in order to complete this process.

To perform this action,

- Go to the **Metadata Fields** option beneath the Logs and Events directory tree, and click **Add** to launch the *User-Defined Metadata* window (below):
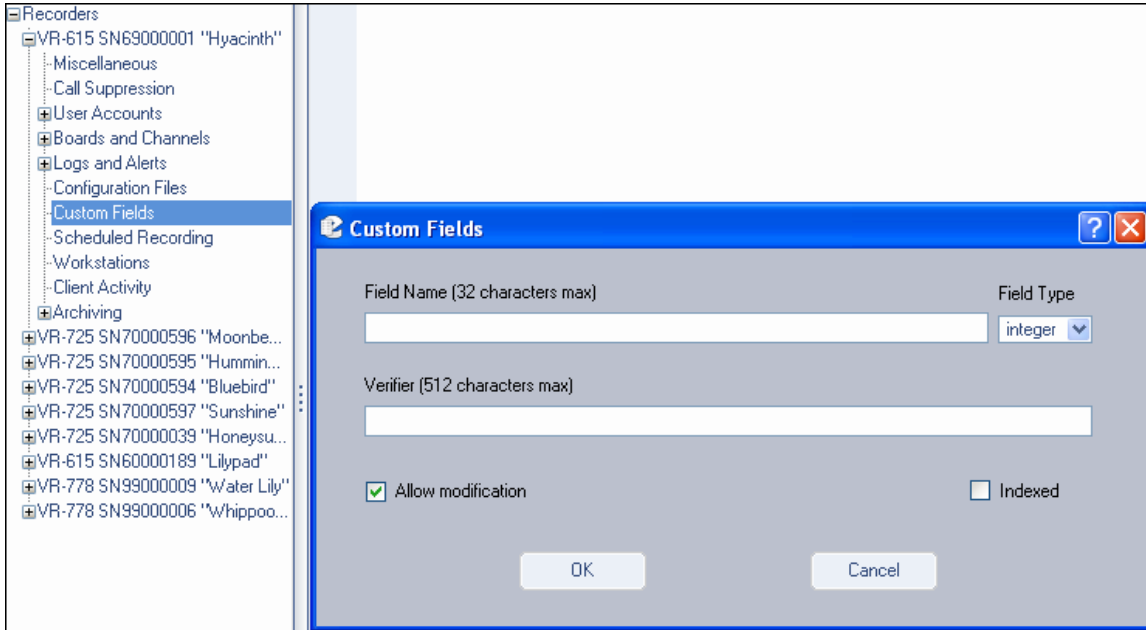
- In Field Name, enter **user_id** (this name is not case-sensitive) and in the Field Type select **string.** If you wish to be able to perform searches by this value, check the **Indexed** checkbox. When finished, your screen should look like this:
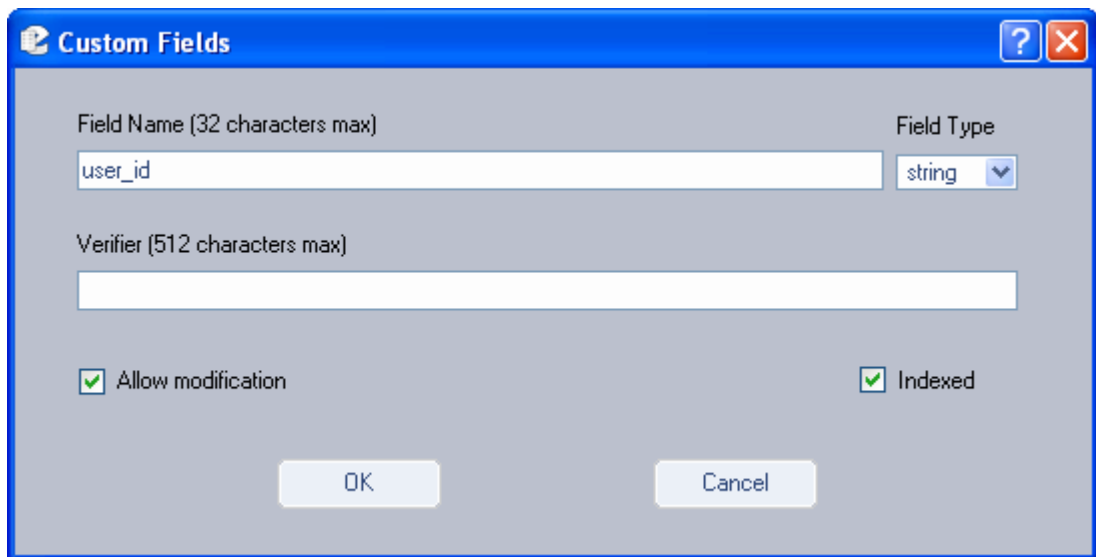
- Click **OK,** and your workstation setup is now complete and ready to go.

Client Activity

The Client Activity option allows you to view specific, detailed information about all configured clients. It is a read-only resource that is accessed by clicking the **Client Activity** menu option:
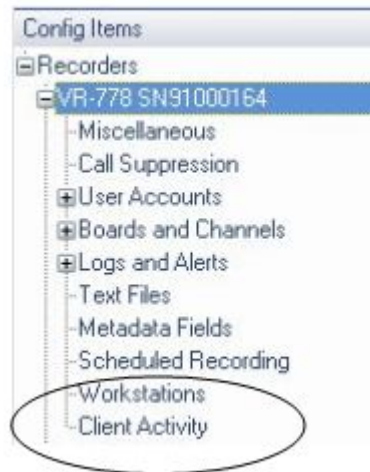
The screen refreshes to display client information across multiple criteria:

Workstation	User	Client Id	Application	Login Time	Logout Time	License In Use	Client Type	Client Address
	Eventide	00:e0:18:96:89:d9	Eventide MediaWorks	2006-11-30 15:40:34	2006-11-30 18:05:15	No	1	192.168.2.11
	Eventide	00:E0:18:96:89:D9	Eventide MediaAgent	2006-12-06 17:50:57	2006-12-07 19:28:19	No	2	192.168.2.11
	Eventide	00:16:76:8B:05:07	Eventide MediaAgent	2006-12-07 15:30:13	2006-12-07 17:39:01	No	2	192.168.2.10
	Eventide	00:18:DE:06:A9:AD	Eventide MediaAgent	2006-12-05 17:08:30	2006-12-05 21:15:14	No	2	192.168.2.111

If a workstation has been set up for a user, details of its configuration will display in the first column (see previous section for information on Workstation Setup).

FILE MENU

Apply – Saves and applies the current values.

New for Release 1.6 **Print** – Prints activity reports for multiple system criteria:
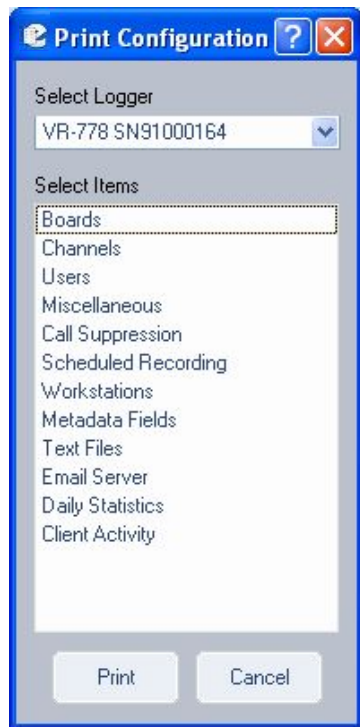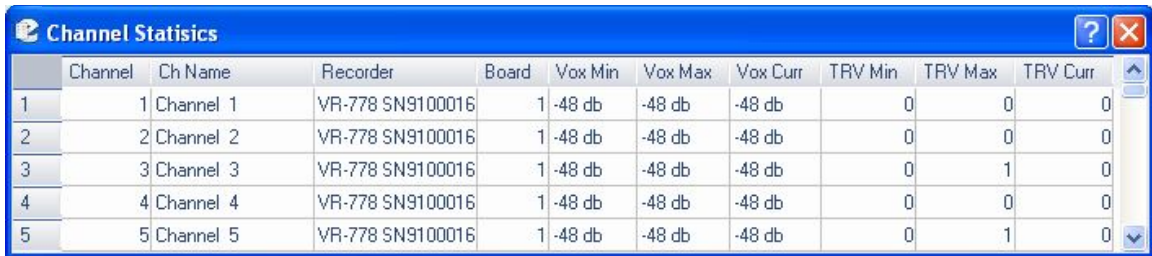
In addition to those listed in the illustration, reports are may be generated for the following criteria: Archiving, Network Archiving, Security, Email, Network Settings, and Clock.

To generate a report, highlight a listed criteria, and click **Print.**

Exit – Closes all active sessions and exits the program.

Channel Stats – (below) displays the audio and voltage levels of the signals being applied to the hardware recording board(s). This information is useful for verifying normal operation of the recorder and confirming that all channels are receiving signals. (Typically this is accessed from the front panel while making adjustments, and the meaning and adjustment of the numbers is discussed in the SETUP section.) This display is for the analog telephony boards. Other input options will show differing data. If you are logged into multiple recorders, their data will also be shown here.

	Channel	Ch Name	Recorder	Board	Vox Min	Vox Max	Vox Curr	TRV Min	TRV Max	TRV Curr	
1	1	Channel 1	VR-778 SN9100016	1	-48 db	-48 db	-48 db	0	0	0	
2	2	Channel 2	VR-778 SN9100016	1	-48 db	-48 db	-48 db	0	0	0	
3	3	Channel 3	VR-778 SN9100016	1	-48 db	-48 db	-48 db	0	1	0	
4	4	Channel 4	VR-778 SN9100016	1	-48 db	-48 db	-48 db	0	0	0	
5	5	Channel 5	VR-778 SN9100016	1	-48 db	-48 db	-48 db	0	1	0	

Figure 34–Channel Statistics menu option

Show Alerts – which is activated and deactivated by clicking, generates onscreen, real-time alerts from the recorder. For example, if you are changing parameters and someone uses the front panel to break the "lock" your program has, you will be notified. A red check mark in front of the menu item indicates it is enabled.

HELP MENU

About – Lists release information specific to this version of the Administrative Client.

Appendix 1

Server Software Installation and Upgrade

Just as with any computer, the ATLAS series recorders require a software "Operating System" and a number of "application programs" to be functional and to perform useful work. The "OS" in this case is Linux, and the application programs are a combination of standard programs and programs written and maintained by Eventide to work with its custom hardware environment.

As part of the manufacturing process, we install the recorder software. Because software is an ever-extending morass of features, bugs, and changes, we occasionally create "upgrade" software to bring older recorders up to the current software "version." It is sometimes desirable or even necessary to apply these upgrades to customer's units, and the purpose of this Appendix is to discuss and explain the process so that customers can confidently perform upgrades (and even installations) without factory intervention.

Why Re-installation May be Necessary

The recorders use redundant disks, so a single drive failure should not cause loss of data or software. However, if multiple disks in an array fail due to a common cause (e.g., lightning or other power surge), you will have to re-install the software when they are replaced. It is also possible that certain hardware additions and software upgrades will require re-installation. **Specifically, upgrading from version 1.1.x to version 1.2.x or higher requires re-installation.**

Why Upgrades May be Necessary or Desirable

There are several reasons why you may need to do an upgrade:

- Problems (bugs) are found in the version currently running;
- Hardware upgrades or changes require new software;
- Valuable features are available in the new release;
- Factory support requires a more recent software version.
- If your system is operating satisfactorily, you might prefer to leave things alone. If you're a feature-hungry IT guy, well, upgrade away!

The Software Upgrade/Installation Process

The actual process of upgrading (or re-installing) your software is simple and is almost completely automated. It goes like this:

- Archive your call data!
- Archive your recorder configuration!
- Remove all archive media.
- Insert the update or installation CD ROM in the top DVD drive. (If archive drives are not DVD, insert the update medium in the CD ROM drive.
- Power down the recorder.
- Restore power.
- Exhibit patience while the software loads. When finished, the CD ROM will eject automatically. Remove it from its tray.
- Power down the recorder.
- Restore power.
- Exhibit even more patience while the new software gets comfortable.

If this is a new installation rather than an upgrade, restore your configuration .

If this is a new installation rather than an upgrade, restore your archives, most recent first, along with your "metadata."

Some Details, Especially About Installation

The above list is really it. The hardest part is the "Exhibit patience" part since the second time you are asked to do so, you may need to exhibit it for an hour or more. The software does a lot of checking to make sure everything is OK. Here are some further thoughts.

If you do a new installation, all your calls will be erased. If you have archived your calls, you can restore them as described below. An upgrade will theoretically leave your calls in the same state as they were earlier, and, in fact, it almost always does. But: why take chances? You are probably archiving anyway, so can it hurt to be up to date?

If you do a new installation, you will have to reconfigure the recorder in accordance with the Setup instructions. This is greatly simplified by the Read/Write Configuration to Archive feature. Please read the information in SETUP carefully before you start the installation! After an installation, check the

Serial Number displayed in the SETUP mode display. If it is zero or not set, change it to match the serial number on the label on the rear panel.

If you upgrade the recorder, be sure to read the "release notes" or other information to see if there are any new SETUP items that must be configured.

Restoring Archives when Installing New Software

In the Archiving section of the SETUP mode there is a menu item "Archive restore." If you insert previously–recorded archive media into one or more drives, it will allow you to select that drive with the knob and perform a restore operation, i.e., copy the calls from that medium back to RAID. Several checks are performed before the medium is transferred:

Does the serial number of the recorder that recorded the archive medium agree with that of the destination recorder?

Are the channel names of the recorder the same as the destination?

Does the format of the data on the archive conform to that of the destination?

Is there any problem with or damage to the archive medium to be transferred?

Are all (or some) of these calls duplicates of calls already on the recorder?

And the perennially popular "Are you sure" you want to go ahead with the transfer?

If none of these are appropriate for the medium, or if you indicated that you wish to proceed, the archive transfer will commence. All drives operate independently. You can restore archive media in all available drives, or you can even record archives on one medium while restoring from another.

A couple of important points:

The restoration process cannot continue once the RAID is full, so unless you have a special reason for doing otherwise, *always restore from the most recent archive backwards.*

If you are restoring archives after a new installation, *use the Set current archive time facility to make sure that new archives are only recorded from the present forward.* If you don't set this and begin new archiving after you have restored your

archives from a previous installation, you might find yourself "re-archiving" the restored archives.

When you are finished restoring your archives, be sure to restore the "metadata" archive disk as well.

Potential Problems

As we have said, the process is automated. At least for an upgrade, beyond inserting/removing the disk, removing/applying power, and exhibiting patience, there is little for you to do.

The most common problem we have observed has been failure of the upgrade drive (the one in which you place the CD ROM) to recognize the medium. If this happens, the recorder just powers up normally and the CD never ejects. In such a case, manually eject the CD, and again shut down the unit. Next, visually inspect the medium, confirm it has no scratches, it's clean, it's right-side-up, and it's carefully centered in the drive tray. Then try again. If the drive persistently refuses to recognize the CD, yet works correctly when archiving, you probably have a defective upgrade CD, or one that differs enough from the drive's calibration to make reading the CD problematic. You can try copying the CD ROM to another blank, burning a new one, requesting a replacement, etc.

Much less common: The CD can't be read completely, and the upgrade/install process hangs up and the CD does not eject. In either case, try the procedure again from the beginning. For an installation, no damage will be done as long as the install eventually completes correctly. For an upgrade, there is a possibility that configuration information will have been lost, in which case it can be restored manually or from the configuration archive that you made before starting the upgrade. Do NOT, however, try to resume normal recorder operation until the upgrade has completed normally.

PLEASE Read the Release Notes

Software upgrades will normally come with printed information, and possibly with a "README" file on the disk. If anything in the release notes contradicts something you read here, go with the release notes!

Appendix 2

PBX and Digital Telephony Hardware Information

In addition to analog recording, the recorders can record digital telephony signals, both from different vendors' digital PBX and from T1/E1 lines. We suggest that Eventide perform this configuration. If you need to install a digital telephony interface in an installed recorder, please contact us.

This configuration page will only be available in the Administrative Client program if you have one or more NGX boards installed in your recorder. The list to the right shows some of the systems with which the recorder is compatible.

Please contact Eventide for an up-to-date list.
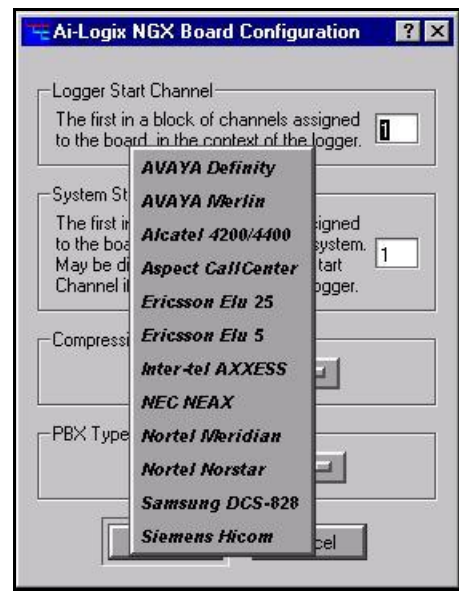
Appendix 3

Connection Information for the HiFi Recording Board

Below is a rear-panel drawing and pinout diagram of the HiFi recording card furnished when that option is ordered. This card has both audio inputs and outputs, but only the inputs are used in this application. Recordings made with this card use the Ogg Vorbis algorithm to reduce storage requirements while still providing excellent audio quality and frequency response.

In the abbreviations below, "A" simply stands for "Audio."

AIN = Audio Input pin (channel number).

AOUT = Audio output pin (number).

AGND = Audio ground.

All grounds are equivalent. For an unbalanced audio input, connect the hot input to AIN (channel) and the ground input to any AGND pin. If the source is balanced using a transformer, connect the + signal to AIN (channel) and connect both the – signal and the ground lead to any AGND pin. If the source is "balanced" using op-amps, connect the + signal to AIN (channel) and connect the ground lead to any AGND pin. Do not connect the – signal to the recorder.

The mating connector kit for M-Audio Hi-Fi card is Eventide p/n 105200. It includes one DB44 male connector (solder type) and one DB44 hood. Each Hi-Fi card is supplied with one kit.

Configuration of the HiFi recording board has fewer steps than the telephony board: You can select the sampling rate, and whether a given channel is to record or not. Unlike the telephony board, non-recording channels cannot be "live monitored," either from the front panel or from the Live Monitor client program.

```
44 = AOUT 2      30 = AGND        15 = AOUT 1
43 = AGND        29 = AGND        14 = AGND
42 = AGND        28 = AIN 1N      13 = AIN 1
41 = AIN 2       27 = AGND        12 = AGND
40 = AGND        26 = AGND        11 = AIN2N
39 = AOUT 3      25 = AGND        10 = AGND
38 = AGND        24 = AGND         9 = AOUT 4
37 = AIN 4       23 = AIN 3        8 = AGND
36 = AGND        22 = AGND         7 = AGND
35 = AGND        21 = AOUT 6       6 = AOUT 5
34 = AIN 5       20 = AGND         5 = AGND
33 = AGND        19 = AGND         4 = AIN 6
32 = AOUT 8      18 = AOUT 7       3 = AGND
31 = AGND        17 = AGND         2 = NC
                 16 = AIN 8        1 = AIN 7
```
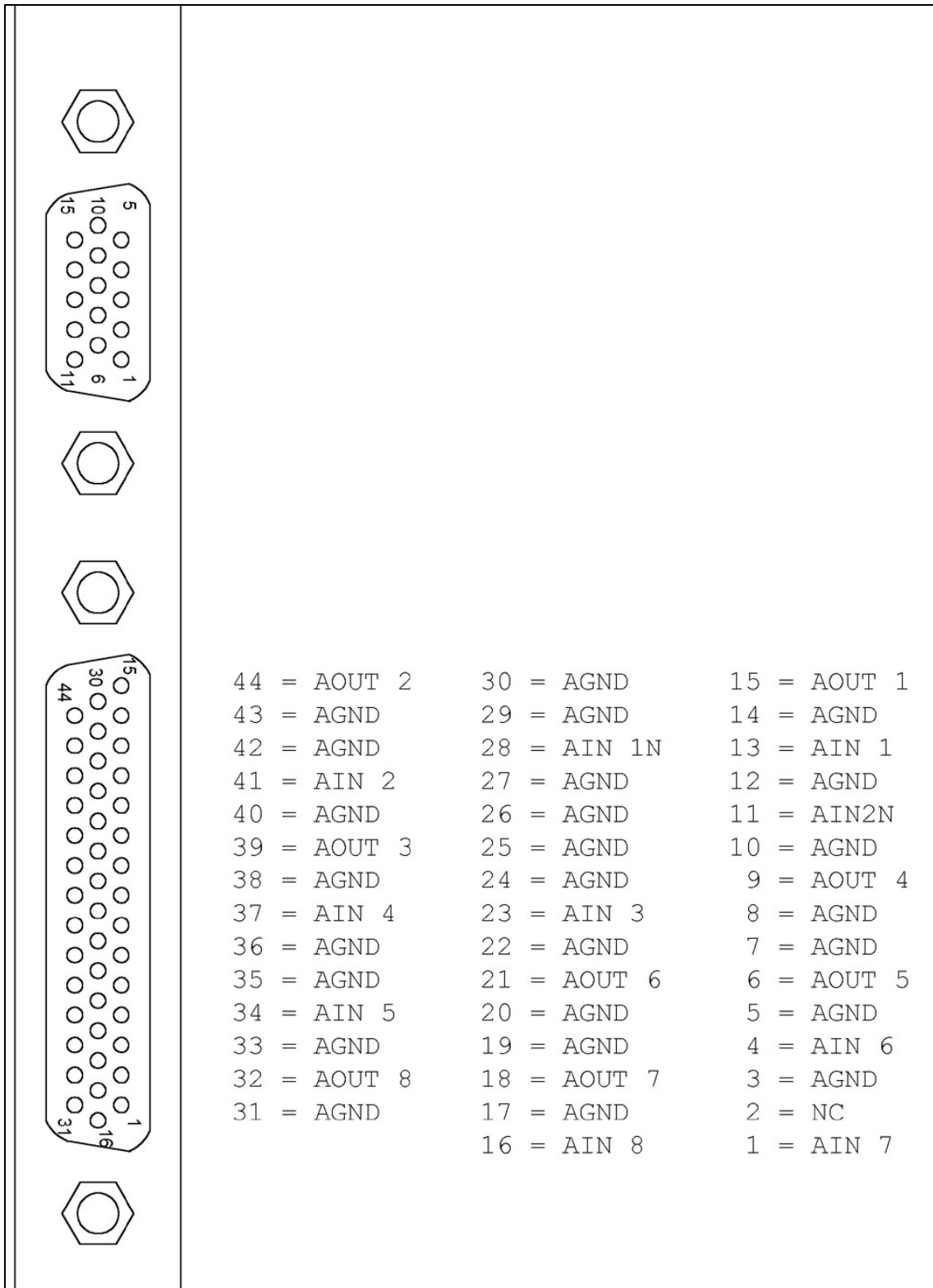
M-Audio 1010LT HiFi board connection diagram

Appendix 4

Optional General Purpose Input/Output (GPIO) Boards

Note: The optional GPIO board feature requires an add-on license key from Eventide.

The following uses can be made of a GPIO board:

- The start and stop of recording on a channel can be triggered by a GPIO board input signal. (See "The Channel Configuration Screen" for more information.) The logic of GPIO-triggered recording can be customized using the custom script feature (see Custom Script Source File under "Configuration Files").
- A recorder alert can trigger a GPIO output signal. (See GPIO Alert Output Severity under "Analog Telephony Board Configuration" for more information.)

Eventide supports the following optional GPIO boards for use with recorders:

New for Release 1.8

- National Instruments PCI-6503 Board (24-Channel)

- National Instruments PCI-6527 Board (48-Channel)

Caution: The National Instruments specifications for these GPIO boards describe the maximum ratings for their input or output signals. Connections that exceed these maximum ratings can damage the board and the recorder. Neither Eventide nor National Instruments are liable for any damages resulting from signal connections that exceeed these maximum ratings.

New for Release 1.8

NATIONAL INSTRUMENTS PCI-6503 BOARD (24-CHANNEL)

This board provides a 24-bit parallel, digital I/O interface with:

- 24 static digital I/O lines (non-isolated 5 V TTL/CMOS) in 8-bit ports, 2.4 mA

- 50-pin male D-type I/O connector

- No switches or jumpers

See Figure 35–GPIO Board Pin Assignments (NI PCI-6503) for the connector pin assignments. For detailed specifications, refer to PCI-6503 on the National Instruments web site (www.ni.com).

NATIONAL INSTRUMENTS PCI-6527 BOARD (48-CHANNEL)

This board provides a 48-bit, parallel, isolated digital I/O interface with:

- 24 optically-isolated digital inputs (5 V TTL/CMOS)

- 24 digital switch outputs (5 V TTL/CMOS)

- 100-pin female 0.050 D-type I/O connector

- No switches or jumpers

See Figure 36–GPIO Board Pin Assignments (NI PCI-6527) for the connector pin assignments. For detailed specifications, refer to PCI-6527 on the National Instruments web site (www.ni.com).

PC7	1	2	GND
PC6	3	4	GND
PC5	5	6	GND
PC4	7	8	GND
PC3	9	10	GND
PC2	11	12	GND
PC1	13	14	GND
PC0	15	16	GND
PB7	17	18	GND
PB6	19	20	GND
PB5	21	22	GND
PB4	23	24	GND
PB3	25	26	GND
PB2	27	28	GND
PB1	29	30	GND
PB0	31	32	GND
PA7	33	34	GND
PA6	35	36	GND
PA5	37	38	GND
PA4	39	40	GND
PA3	41	42	GND
PA2	43	44	GND
PA1	45	46	GND
PA0	47	48	GND
+5 V	49	50	GND

Figure 35–GPIO Board Pin Assignments (NI PCI-6503))

Eventide has adopted static port assignments on the PCI-6503, as follows:

Input channels 0 – 7: Port A (PA0–PA7); pin pairs 47+48 to 33+34

Input channels 8 – 11: Port C upper nibble (PC4–PC7); pin pairs 7+8 to 1+2

Output channels 0 – 7: Port B (PB0–PB7); pin pairs 31+32 to 17+18

Output channels 8 – 11: Port C lower nibble (PC0–PC3); pin pairs 7+8 to 1+2

Input						Output with Readback
	DIG+2.7	1	51	DIG+5.7		
	DIG–2.7	2	52	DIG–5.7		
	DIG+2.6	3	53	DIG+5.6		
	DIG–2.6	4	54	DIG–5.6		
	DIG+2.5	5	55	DIG+5.5		
	DIG–2.5	6	56	DIG–5.5		
	DIG+2.4	7	57	DIG+5.4		
	DIG–2.4	8	58	DIG–5.4		
	DIG+2.3	9	59	DIG+5.3		
	DIG–2.3	10	60	DIG–5.3		
	DIG+2.2	11	61	DIG+5.2		
	DIG–2.2	12	62	DIG–5.2		
	DIG+2.1	13	63	DIG+5.1		
	DIG–2.1	14	64	DIG–5.1		
	DIG+2.0	15	65	DIG+5.0		
	DIG–2.0	16	66	DIG–5.0		
	DIG+1.7	17	67	DIG+4.7		
	DIG–1.7	18	68	DIG–4.7		
	DIG+1.6	19	69	DIG+4.6		
	DIG–1.6	20	70	DIG–4.6		
	DIG+1.5	21	71	DIG+4.5		
	DIG–1.5	22	72	DIG–4.5		
	DIG+1.4	23	73	DIG+4.4		
	DIG–1.4	24	74	DIG–4.4		
	DIG+1.3	25	75	DIG+4.3		
	DIG–1.3	26	76	DIG–4.3		
	DIG+1.2	27	77	DIG+4.2		
	DIG–1.2	28	78	DIG–4.2		
	DIG+1.1	29	79	DIG+4.1		
	DIG–1.1	30	80	DIG–4.1		
	DIG+1.0	31	81	DIG+4.0		
	DIG–1.0	32	82	DIG–4.0		
	DIG+0.7	33	83	DIG+3.7		
	DIG–0.7	34	84	DIG–3.7		
	DIG+0.6	35	85	DIG+3.6		
	DIG–0.6	36	86	DIG–3.6		
	DIG+0.5	37	87	DIG+3.5		
	DIG–0.5	38	88	DIG–3.5		
	DIG+0.4	39	89	DIG+3.4		
	DIG–0.4	40	90	DIG–3.4		
	DIG+0.3	41	91	DIG+3.3		
	DIG–0.3	42	92	DIG–3.3		
	DIG+0.2	43	93	DIG+3.2		
	DIG–0.2	44	94	DIG–3.2		
	DIG+0.1	45	95	DIG+3.1		
	DIG–0.1	46	96	DIG–3.1		
	DIG+0.0	47	97	DIG+3.0		
	DIG–0.0	48	98	DIG–3.0		
	+5 V	49	99	+5 V		
	GND	50	100	GND		

Figure 36–GPIO Board Pin Assignments (NI PCI-6527))

Appendix 5

NIST Time Servers

You can search the web for NIST Time Servers. Historically, a list of National Institute of Standards and Technology (NIST) internet time servers can be found on the web at:

http://www.boulder.nist.gov/timefreq/service/time-servers.html

This list provides each server's name, IP address, and location. It is probably best to select one near to your location. If you have difficulty with using a server name, you can access the server using the IP address instead.

Appendix 6

Eventide VR778 or VR725 with DDS-4 Tape Drives

Overview

With DDS-4 tape drives installed in the VR778 or VR725, archiving is different than with other types of removable media such as DVD-RAM. This addendum discusses considerations when using tape for archiving. The Operator's Manual describes all aspects of these recorders in detail. Plead read the Operator's Manual before reading this document so that you will understand the differences between a recorder with DVD media and a recorder with DDS-4 tape.

LOADING A TAPE AND PREPARING FOR ARCHIVING

To prepare the VR778 or VR725 to archive to tape:

- Make sure the tape is not write-protected (the protect tab should be closed).
- Insert a tape in a tape drive.
- When you are asked what you want to do with the archive:

If you loaded a new tape or one that has never been used in a recorder, select Format. After formatting is complete, press the knob and select Start Archiving. If the tape has calls on it but you want to erase those calls, select Format. After formatting is complete, press the knob and select Start Archiving. If the tape has calls on it and you want to keep those calls, select Resume Archiving.

Ejecting a Tape

If a tape is full, the recorder will automatically stop archiving on the tape. If a tape is currently archiving and you want to eject it, press the knob and select Stop Archiving. When the tape returns to Idle status, press the knob and select Eject. Wait for a message saying that it is safe to remove the tape, then press the Eject button on the tape drive itself.

Playing Calls from a Tape

With DVD-RAM, the recorder saves calls as individual files. With tape, the recorder stores large groups of calls in single files called *tape archives*. Each tape archive can be as large as 4.7GB (the same size as one side of a 9.4GB DVD-RAM). As many as four tape archives can fit on one DDS-4 tape. Before any calls can be played from a tape, a tape archive must be selected, and all calls in the archive must be transferred to hard disk. Once the calls are on hard disk they can be played in much the same manner as calls on a DVD-RAM or on the recorder's internal RAID.

There are two ways to play and archive tape. One is to load it into a PC that has a DDS-4 tape drive and use Eventide's Remote Client software. The second is to play it in the recorder in which it was recorded.

Playing a tape in the recorder is very similar to playing a DVD archive, except that there is a preparatory step involved. When you press the Browse Archive soft key, you must select the desired tape archive, of which there may be several on a tape. The selected tape archive will then be copied to the recorder's internal hard disk. When the transfer is complete, Recall mode will work the same as it does with DVD-RAM.

Note: *This transfer may take 30 minutes or more! Please be patient!*

To set up a PC for playing tapes from a recorder you will need:

- Multimedia PC
    - Minimum requirements:
    - 2GHz Intel Pentium 4
    - 512MB DRAM
    - 50GB free space on hard disk
    - Sound card and speakers
    - Keyboard, mouse, monitor
    - Microsoft Windows XP
- Eventide Clients, Version 1.1, dated 21 Jan 2004 or later
- DDS-4 Tape drive
- Hewlett-Packard P/N C5686A (HP Surestore DAT 40i - 40GB internal DDS-4 drive)
- SCSI Controller
- Adaptec Model 29160LP

Following the manufacturers' instructions, install the SCSI controller and tape drive in the PC. Then, turn on the PC and install the Eventide Client software. Once the PC is set up, you are ready to play calls from a tape:

- Load a tape in the tape drive and wait several seconds for the tape to load.

- Run the **Tatu** utility (Tape Archive Transfer Utility). This is located in the directory selected while installing the Eventide Client software. From the Start button in Windows, select Programs, then Eventide VR Series, then Tatu. Instructions for using Tatu are included in this document.

- Once Tatu has started, select a tape archive from the right panel and click on the arrow. When the transfer has finished, the progress bar will be full and the arrow will go dim. The transfer can take as long as an hour, depending on the size of the tape archive.

- When the transfer is complete, exit Tatu and start the Call Record Browser/MediaWorks.

- In the Recorders and Archives panel you should see the archive you just transferred, listed as Archive: followed by a date. Click on the archive, then click OK to enter the Call Record Browser.

From this point, you can select calls and play them as described in the Operator's Manual.

Appendix 7

Eventide Tape Archive Transfer Utility (Tatu)

The Eventide Tape Archive Transfer Utility or Tatu," is a standalone application that enables users of the VR Series recorders that archive to DDS tapes to transfer the archives from the tapes to the hard drive of their PCs. After affecting this transfer, the Eventide Call Record Browser will automatically display these archives for searching and playback.

The user interface to Tatu is quite intuitive:
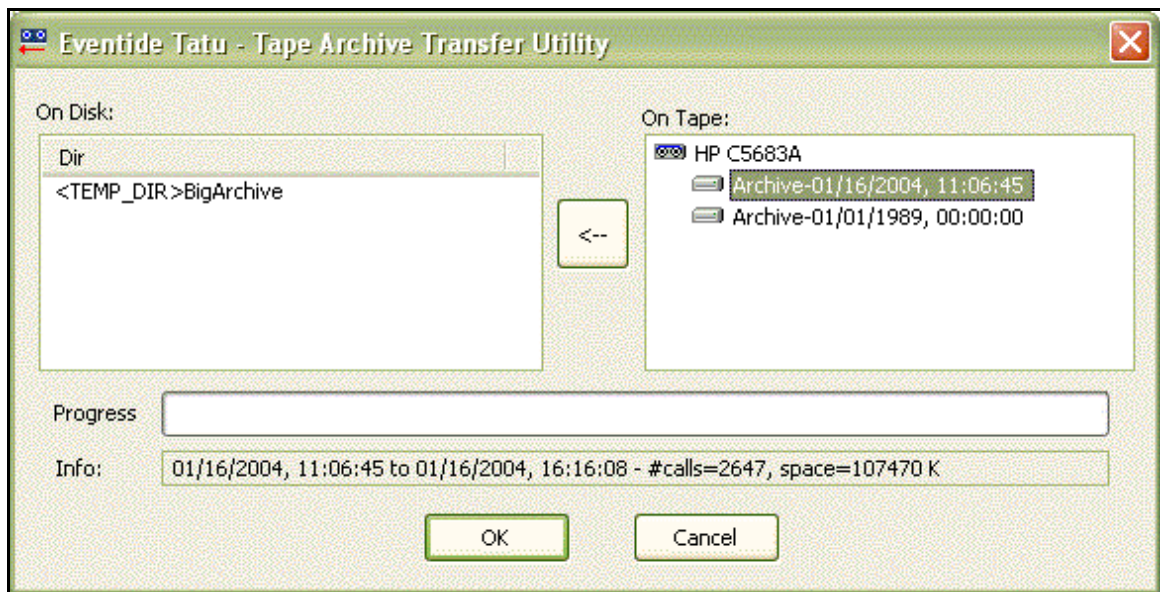
When you launch Tatu from the Startup Menu, it brings up a splash screen that notifies you that it is searching for tape drives and indexing the archives in them. This may take several minutes as the tape drive spins up. When Tatu has finished performing the index, the splash screen goes away and the main dialog comes up.

On the right, in a tree control, are listed the tape drives and the archives contained on the tapes in the drives. On the left, in a list, are the archives already present on the hard drive. When you select and archive in the tree, information is displayed in the "Info" bar. The information consists of:

- Date and time the archive began.
- Date and time the archive ended.

- Number of calls in the archive.
- Total space taken up by the archive (in kilobytes).

If a tape archive is selected and you click on the "transfer arrow," the archive will begin transferring to the temporary directory on the hard drive. The temporary directory is specified from the preferences on the Call Record Browser. The transfer arrow will gray out during the transfer. When the transfer is finished, the arrow will become active again.

Selecting a hard drive archive from the left list will enable the "Delete Archive" button and you may click this button to delete the hard drive archive to free some space.

This is not implemented in 1.1. You must go the temporary directory and delete it manually.

Appendix 8

The Channel Wiring for Eventide Analog Telephony Boards

All Atlas series recorders that are equipped to record analog telephone calls ("POTS") are furnished with one or more Eventide analog telephony boards. Eventide provides 8-, 16-, and 24-channel analog telephony boards. The 8- and 16-channel boards may contain either standard or reverse pin-outs on the Telco connector, whereas the 24-channel boards all contain standard pin-outs.
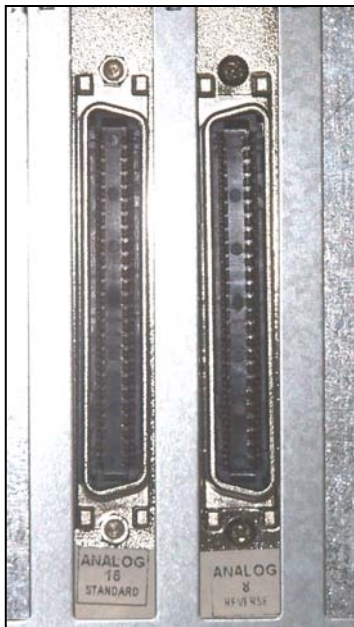
All boards are labeled with the number of channels and pin-out type (either standard or reverse), except for very early versions of the 16-channel board. If you have one of these unlabeled Eventide analog boards in your recorder, it is a 16-channel board with reverse pin-outs.

For standard and reverse pin-out assignments, see Table 5–Eventide Analog Board Standard Pin-Outs (8-, 16-, and 24-Channel Boards) and Table 6– Eventide Analog Board Reverse Pin-Outs.

The Eventide Quick Install kits available for these boards come with cables that compensate (if necessary) for the pin ordering so that when wiring the punch down blocks, the lines are in order according to normal telephone company practice. Contact your Eventide representative to purchase your Quick Install kit.

Table 5–Eventide Analog Board Standard Pin-Outs (8-, 16-, and 24-Channel Boards)

Chan	Pins	Chan	Pins	Chan	Pins	Chan	Pins	Chan	Pins	Chan	Pins
1	1 + 26	5	5 + 30	9	9 + 34	13	13 + 38	17	17 + 42	21	21 + 46
2	2 + 27	6	6 + 31	10	10 + 35	14	14 + 39	18	18 + 43	22	22 + 47
3	3+ 28	7	7 + 32	11	11 + 36	15	15 + 40	19	19 + 44	23	23 + 48
4	4 + 29	8	8 + 33	12	12 + 37	16	16 + 41	20	20 + 45	24	24 + 49

Table 6–Eventide Analog Board Reverse Pin-Outs (8- and 16-Channel Boards)

Channel	Pins	Channel	Pins	Channel	Pins	Channel	Pins
1	50 + 25	5	46 + 21	9	42 + 17	13	38 + 13
2	49 + 24	6	45 + 20	10	41 + 16	14	37 + 12
3	48 + 23	7	44 + 19	11	40 + 15	15	36 + 11
4	47 + 22	8	43 + 18	12	39 + 14	16	35 + 10

Important: The wiring is reversed, in the sense that Channel 1 would be connected to the violet-slate pair, not the white-blue pair, if you are using standard telephone cables. On a 25-pair block terminated in standard telephone color code order, Channel 1 would be at the bottom of the block.

Appendix 9

Alert Configuration

In the course of operation, the recorder may generate a variety of alerts, which are messages about aspects of the system operation. These messages have different severity levels that range from informational messages to severe errors. You can configure how alert notification is handled, as well as other alert features.

This section describes how to configure alert notification, including where to display and email the alerts. It also provides the following information about alert messages:

- Table 8–Alert Messages: A list of alert messages, including the alert code, severity level, message text, and suggested actions.

- Table 7–Alert Severity Levels: A list of alert severity levels and descriptions.

Use the following procedures to configure alert notification.

First, enable email notification for the desired user accounts. This can be done only from the Recorder Config administration client, not from the front panel. Users who are enabled to receive email notification will receive ALL of the emailed alerts.

- Run Recorder Config and log into the recorder.
- In the left pane, choose Users.
- After a list of users appears, choose a user and select Modify. A window should pop up allowing you to edit the user settings.
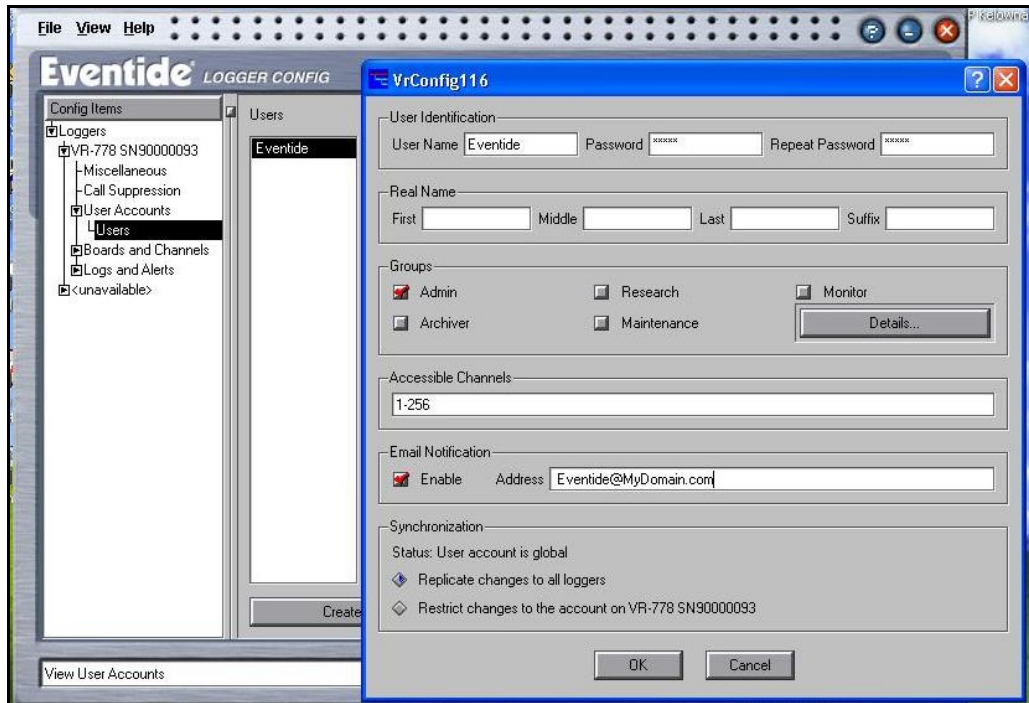
- In the Email Notification section, check the box labeled Enable and type in the user's email address.
- Hit OK to close the Modify window.
- Repeat for other users that should receive email notifications.
- Hit Apply button.

Second, configure the display and email settings for each of the available alerts.

- In the Recorder Config left pane, select Logs and Alerts, then select Alerts. A list of available alerts will appear in the right pane.
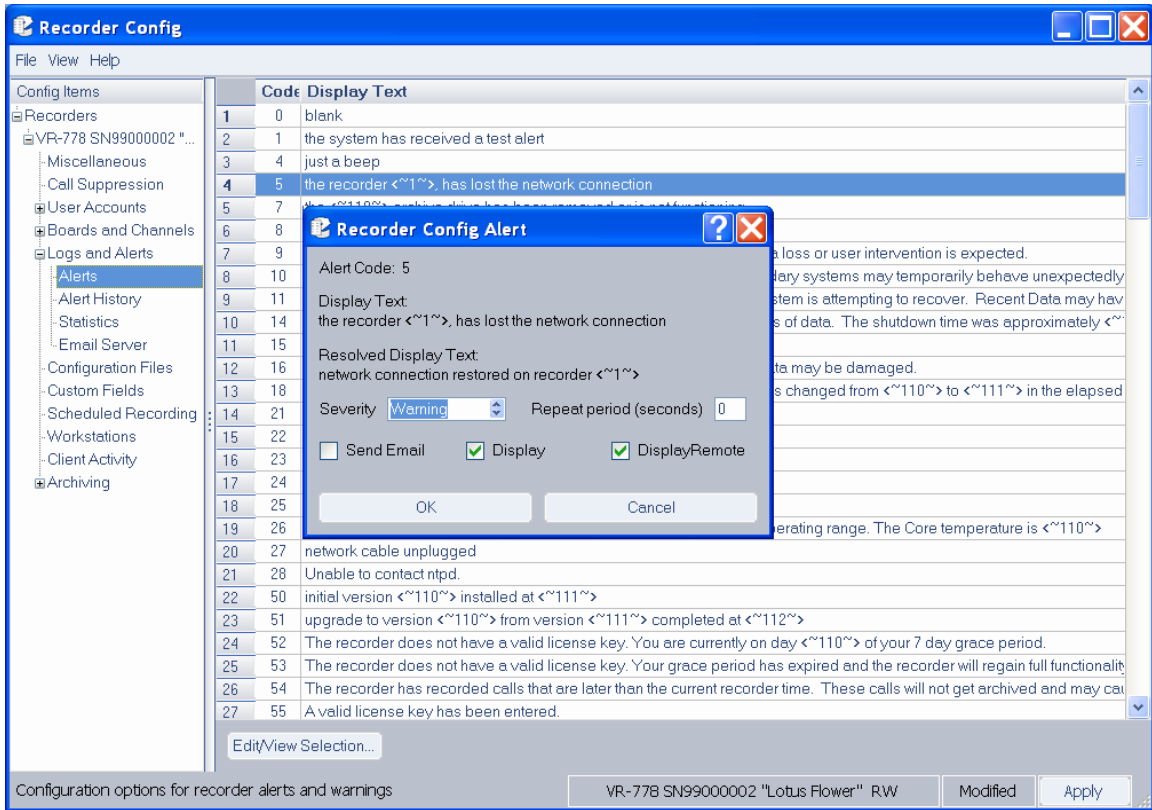
- In the list of alerts in the right pane, select an alert by clicking on the row number in the leftmost column (to the left of the Code column).
- Click the Edit/View Selection button. This displays the alert message configuration dialog , which allows you to adjust settings for the alert.
- Click the Display checkbox if you want the alert message to be displayed in a red popup on the recorder front panel.
- Click the DisplayRemote checkbox if you want the alert message to be displayed in a popup on the PC running the Recorder Config remote client.
- Click the Send Email checkbox if you want a notification to be mailed to the list of enabled recipients.
- Click the OK button.
- When you have finished changing the alerts, make sure to click the Apply button on the Alert Configuration window so that the changes are saved.

Lastly, enable the recorder to send emails.
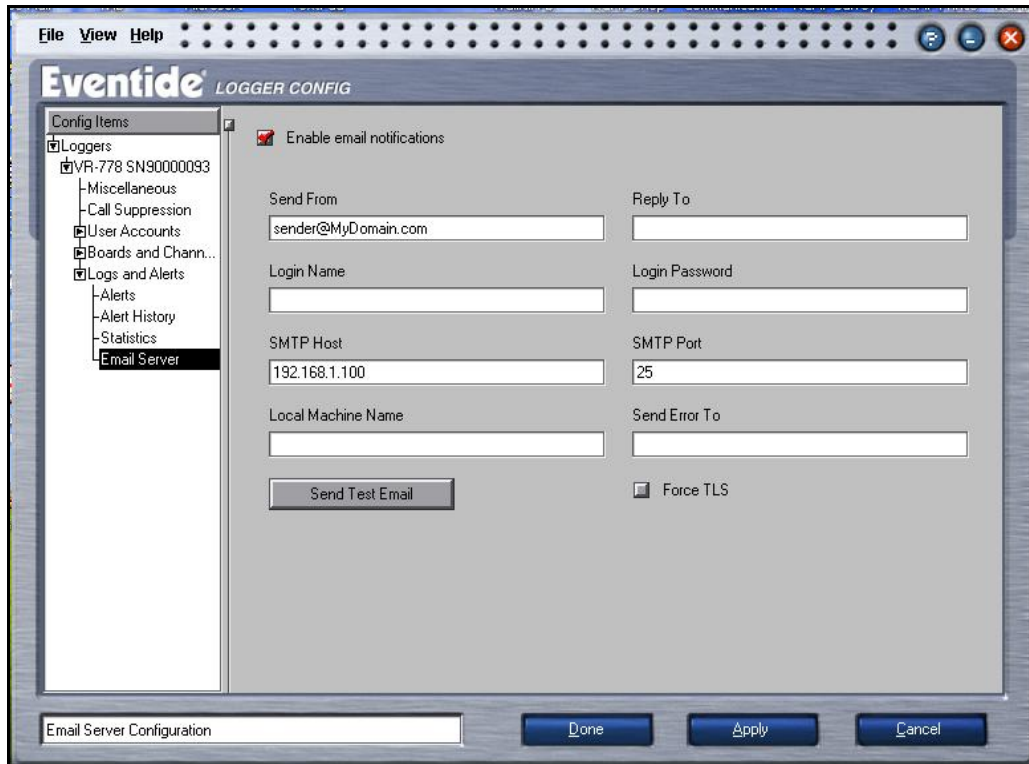
- In the left pane, choose Logs and Alerts, when the Logs and Alerts tree expands, choose Email Server.
- In the right pane, check the Enable Email Notifications checkbox.
- Add the necessary information for your SMTP server.
- At a minimum, enter the IP Address of the SMTP server under SMTP Host.
- Usually the Send From field will require an email address of an account on the SMTP server, in the form of name@domain.com.

Some servers require sender authentication, so the Login Name and Login Password fields may need valid entries.

- SMTP Port is usually 25. Make sure your SMTP server is bound to a different port before changing.
- Some SMTP Servers will require a Local Machine Name. The recorder's name is Eventide. Enter something that looks like Eventide.yourdomainhere.com. But leave it blank unless it is required. Do not put an "@" symbol in this box—this will cause an error.
- The Force TLS checkbox is usually left unchecked; if your SMTP server requires an encrypted TLS connection, check this box.
- The Reply To and Send Error To fields are usually not required, but can be filled out if desired, in the form name@domain.com.

- Hit Apply button.
- Test your settings with the Send Test Email button. If it works, the users who have been enabled to receive notifications will receive a test message.

Table 7–Alert Severity Levels

Severity Level (S)	Name	Description
1	Info	An informational message or notice that does not require acknowledgement. Example: Alert #8, "Recorder Startup."
2	Warning	Indicates trouble. Example: Alert #6004, "Primary Raid mount failed, and the recorder recovered when secondary mount suceeded.
3	Error	Indicates an error that could result in possible loss of data. Example: Alert #5010, "The UPS on recorder <name> was found but is not functioning properly."
4	Severe Error	Indicates a serious problem. Example: Alert #9024, "Analog Telephony Board <name> has malfunctioned and has been disabled."

Table 8–Alert Messages

Code	S	Text	Description
1	1	The system has received a test alert	No action required. The "send test email" button has been pushed, either on the front panel or in the Recorder Config client.
5	2	Recorder <~1~> has lost the network connection	The recorder's Ethernet connection has been lost. The recorder may be in the process of shutting down, or the cable may be unplugged.
7	3	The <~110~> archive drive has been removed or is not functioning.	Check that the archive drive is present and functioning.
8	1	Recorder Startup	No action required. The recorder has been started.
9	1	The process <~110~> has malfunctioned on recorder <~1~>. No data loss or user intervention is expected.	No Action Required if the alert only happens occasionally.
10	3	The process <~110~> has malfunctioned on recorder <~1~>. Secondary systems may temporarily behave unexpectedly. No data loss or user intervention is expected	No Action Required if the alert only happens occasionally.

Code	S	Text	Description
11	3	The process <~110~> has malfunctioned on recorder <~1~>. The system is attempting to recover. Possible loss of recent data has occurred	Verify that the expected number of calls for the past few days is recorded on the RAID. Do the same for the current archive medium.
14	1	Recorder was not properly shut down. This can cause serious loss of data.	This alert displays when the system comes back online from a hard power off. In most cases no action is required.
15	1	Recorder Shutdown	No action required. The recorder has been shut down normally. This message does not appear after a forced shutdown.
16	2	An error occurred while shutting down the system. Current archived data may be damaged.	Verify that the current archive medium can be browsed and played.
18	1	The system has detected a time change on the recorder. The time has changed from <~110~> to <~111~> in the elapsed time of <~112~> seconds. This may be normal.	No action required.
21	1	External time source not present	Recorder expects an external time source and is not finding one. Verify that the time source is connected.
22	1	External time source of type <~110~> was detected in the system at time <~111~>	No action required.
23	1	The process <~110~> has been manually terminated	No action required.
24	1	<~110~><~111~><~112~><~113~>	No action required.
25	1	This is a test email sent from recorder <~1~> at facility <~2~>	No action required.
26	3	The recorder <~110~> is hot	Verify that fans are operational. Verify that RAID is ok (SETUP->Raid Status.)
27	1	Network cable unplugged	Check network cable connection.
28	1	Unable to contact the NTP(Network Time Protocol) server.	Check network connections and make sure that the address of the NTP server is correct.
50	1	Initial version <~110~> installed at <~111~>	A history of installed versions.
51	1	Upgrade to version <~110~> from version <~111~> completed at <~112~>|	A history of system upgrades.

Code	S	Text	Description
52	2	Recorder does not have a valid license key.	You are currently on day <~110~> of your 7 day grace period. Please contact Eventide for a valid license key.
53	3	Recorder does not have a valid license key.	Your grace period has expired and the recorder will regain full functionality when a valid license key is entered. Some functionality of the Recorder has been suspended until a valid license key is entered. Please contact Eventide for a valid license key.
54	1	The recorder has recorded calls that are later than the current recorder time. These calls will not get archived and may cause problems when you attempt to display them.	Check the system clock and time zone. Contact Eventide for further information.
1002	2	A call failed to be recorded on the recorder. the call start time was <~110~>	Verify if a call record exists. If it does, attempt playback. If no audio, contact Eventide.
1003	1	Calls are being removed from the hard disc without ever having being archived. the calls currently being deleted started on <~110~>	Start archiving immediately.
1004	1	The hard disc is full. normal operations are continuing and the oldest call on the recorder will now be deleted to make room for new calls. the first call deleted on this recorder started at <~110~>	No action required. However, be aware that calls cannot be recovered once they are deleted. Make sure your archives are up to date.
1005	2	A small amount of data may have been lost from channel <~110~> on the call that at <~111~>. This data loss my not be noticeable.	Play back the call in question. If this message occurs frequently, or if the data loss is noticeable, contact Eventide.
1006	2	Calls are not being recorded due to a recording problem. Error:<~110~>	Check general operation of the recorder. If INFO screen channel indicators are gray, contact Eventide.
2001	1	The media in the <~111~> archive drive is almost full	No action required.
2002	1	The media with id <~110~> in the <~111~> archive drive of recorder <~1~> is full	Change medium.
2004	1	Warning: the operation of <~110~> was performed when the drive was in a bad state. Please retry the operation	

Code	S	Text	Description
2005	1	System configuration saved to the <~110~> archive drive	No action required.
2006	2	System configuration was NOT saved to the <~110~> archive drive because of the error: <~111~>	Try a different medium or take action based on the error.
2008	2	System Logs were NOT saved to the <~110~> archive drive: <~111~>	Ensure that the archive medium is blank and in the correct drive.
2009	1	System configuration was loaded from the <~110~> archive drive. Please shutdown and reboot your system	Reboot.
2010	2	System configuration was NOT loaded from the <~110~> archive drive because of the error: <~111~>	Take action based on the error.
2014	1	Writing archive to the <~110~> archive drive failed. Please insert new media into the <~110~> archive drive and hit the 'resume' soft key to retry.	Try a different medium.
2016	1	The current archive time has been changed on the recorder from <~110~> to <~111~>.	No action required.
2017	1	<~110~> archive drive action: <~111~>.	
2019	1	Call Meta Information saved to the <~110~> archive drive <~111~>.	
2020	2	Call Meta Information was NOT saved to the <~110~> archive drive <~111~>.	Ensure that the archive medium is blank and in the correct drive
2021	1	Call Meta Information was loaded from the <~110~> archive drive.	
2022	2	Call Meta Information was NOT loaded from the <~110~> archive | <~111~>.drive because of an error.	Refer to the error for possible action.
2024	3	The <~110~> archive drive medium was improperly removed and may be damaged. The recorder will attempt to recover but some data loss is possible. In the future please use the Eject soft key and wait for the drive status to read "Safe To Remove Media".	
2025	1	The recorder <~1~> is currently not archiving to any drive.	No action required.

Code	S	Text	Description
2026	2	The recorder <~1~> does not appear to be archiving properly. the Recorder is recording calls, but they do not appear to be archived. this may be because of a time change on the system or other normal activity. If you believe this is a problem please stop archiving and restart it.	Check archiving operation.
2027	1	All media on the recorder <~1~> is either full or in the wrong state to continue archiving.	Archiving will not continue until blank archive media is inserted and manually re-started.
2030	1	The media loaded in the <~110~> archive drive is damaged.	Error: <~111~> The media is damaged and some data loss is possible. If possible, archive the information on the media again. Contact Eventide for further assistance if data is missing.
2031	2	The media in the <~110~> archive drive with start time <~111~> and end time <~112~> has encountered problems saving data.	The archive media may be faulty or damaged. Please insert new Media and archive again. The system archive time has not been changed.
2032	1	Archive media format failed on the <~110~> archive drive	Please check that the media is not write-protected or damaged. Error: <~111~>.
2033	1	A media error was encountered while loading the <~110~> archive drive to browse mode.	The archive media may be damaged and have missing or incomplete calls. This error could be caused by defective media or an improper system shutdown. The archive has the start time <~111~> and end time <~112~>.
2200	2	The recorder <~1~> is not in standby mode.	No action required.
2202	2	Archive Failsafe has been triggered on the recorder <~1~>: <~110~>.	No action required.
2203	1	The recorder <~1~> has been placed in standby mode for the recorder <~110~>.	
2204	1	Archive Restore complete on the <~110~> drive of recorder <~1~>.	No action required.
2300	1	Network Archive connected to address <~110~>, share <~111~>.	No action required.
2301	2	Network Archive to address <~110~>, share <~111~> is NOT active.	

Code	S	Text	Description
2302	2	Network Archiving share is not connected.	Check network connection and ensure that network share is active..
3001	1	Channel <~110~> was active for more than <~111~> seconds.	Generated as a result of your channel settings for "Active Timeout." Verify that the channel is recording correctly.
3002	1	Channel <~110~> was inactive for more than <~111~> seconds.	Generated as a result of your channel settings for "Inactive Timeout." Verify that the channel is recording correctly.
4001	1	A label has been printed for the archive media on the <~110~> drive.	No action required.
4002	2	Label printing failed on the <~110~> drive. Error: <~111~>	Take action based on error. Check printer connection; cycle power on the printer; form feed one label and attempt to print again.
5000	2	Communications with the UPS backup power supply has been lost on the recorder <~1~> in facility <~2~>. Please ensure that the UPS is properly connected to the recorder	Check UPS connection.
5002	2	Power has been lost on the recorder <~1~> in the facility <~2~>. The UPS is currently providing power	No action required.
5005	2	Power has not been restored on the recorder <~1~> in the facility <~2~> and will be shut down shortly	Restore power to the recorder.
5008	2	The battery on recorder <~1~> has been exhausted and is being shut down.	Restore power to the recorder.
5010	3	The UPS on recorder <~1~> was found but is not functioning properly	Check UPS. Brand and model should be supported by Eventide.
5013	1	UPS is attached and functioning normally	No action required.
5014	1	UPS is not attached to the recorder or not working properly	Check UPS. Brand and model should be supported by Eventide.
6000	4	A hard disc has failed on the recorder <~1~>. please fix it	Contact Eventide.
6001	4	RAID on recorder <~1~> now degraded. Please fix it .	Contact Eventide.

Code	S	Text	Description
6002	1	The RAID has been changed: <~110~>	No action required if the change is expected..
7000	1	Email failure. Error: <~110~>	Take action based on error. Send a test email message to check email function.
7001	1	An unknown error code of <~110~> was received	
7002	1	An email has been sent to <~110~><~111~> with the subject "<~112~>"	No action required.
7003	1	The alert <~110~> has been acknowledged by user <~111~>	No action required.
8001	1	The user <~110~> has requested a system shutdown	No action required.
8002	1	The user <~110~> has been automatically logged out	No action required.
8003	1	Client login with username <~110~>, version <~111~>, client string <~112~>	No action required.
8004	1	Client has logged out with username <~110~>	No action required.
8005	1	Client login has failed with username <~110~>	No action required.
8006	1	The system time has been changed on recorder <~1~> by user <~110~>. the old time was <~111~>. the new time is <~112~>	No Action Required if the time change is expected.
8007	1	Configuration change by user <~110~>: <~111~>	No action required if the change is expected.
8008	1	Shutdown requested via key. please wait.	No action required.
8009	1	Archive Failsafe Mode Canceled by user <~110~>.	
9000	4	The board of type <~110~> has failed on recorder <~1~>. the failed board is board number <~111~>. it has failed <~112~> times	Replace board.
9001	4	The board of type <~110~> in position <~111~> could not be found	A board may have been removed from the recorder.

Code	S	Text	Description
9002	4	Failed to open the board of type <~110~> in position <~111~>. Error: <~112~>	Take action based on error. Possibly requires board replacement if alert persists.
9003	4	Failed to configure the board of type <~110~> in position <~111~>. Error <~112~>	Take action based on error.
9004	2	DSP sync Error on the board of type <~110~> in position <~111~>. sync error count is <~112~>. Over run count is <~113~>	Possible connection error to input board. Board will recover automatically. If alert persists contact Eventide.
9005	4	Failed to configure port <~112~> on the board of type <~110~> in position <~111~>. Error <~113~>	Take action based on error.
9006	3	Signal lost on port <~112~> on the board of type <~110~> in position <~111~>	Input signal has been lost. Check connections to input board.
9007	3	Frames lost on port <~112~> on the board of type <~110~> in position <~111~>	Contact Eventide.
9008	2	AIS alarm on port <~112~> on the board of type <~110~> in position <~111~>	Contact Eventide.
9009	2	Yellow alarm on port <~112~> on the board of type <~110~> in position <~111~>	Contact Eventide.
9010	2	LOSMF alarm on port <~112~> on the board of type <~110~> in position <~111~>	Contact Eventide.
9011	2	LOCRC4MF alarm on port <~112~> on the board of type <~110~> in position <~111~>	Contact Eventide.
9012	2	TS16RAI alarm on port <~112~> on the board of type <~110~> in position <~111~>	Contact Eventide.
9013	2	Failed to open channel <~111~> on the board of type <~110~>. Error: <~112~>	Take action based on error.
9014	2	Failed to configure channel <~111~> on the board of type <~110~>. Error: <~112~>	Take action based on error.
9016	2	No signal present on channel <~111~> on the board of type <~110~>.	Input signal has been lost. Check connections to input board.
9017	2	Recording could not be started on channel <~111~> on the board of type <~110~>.	Contact Eventide.

Code	S	Text	Description
9018	2	Recording could not be stopped on channel <~111~> on the board of type <~110~>.	Contact Eventide.
9019	3	Read timeout on channel <~111~> on the board of type <~110~>.	Contact Eventide.
9020	3	Read fail on channel <~111~> on the board of type <~110~>.	Contact Eventide.
9021	3	Analog continuity check error on channel <~110~>.	No action required.
9022	4	Analog continuity number not being updated channel <~110~>.	Contact Eventide.
9023	4	<~110~>(<~111~>) has not been heard from in <~112~> seconds. The recorder may not be recording.	Contact Eventide.
9024	4	Analog Telephony Board <~110~> has malfunctioned and has been disabled.	Contact Eventide.

Appendix 10

Eventide Voice Over Internet Protocol (VoIP) Implementation

WHAT IS VOIP?

VoIP is a technology that allows telephone calls to be made over local area networks or the Internet. VoIP systems convert analog voice signals into digital data packets and supports real-time, two-way transmission of conversations using the Internet Protocol (IP).

VoIP calls can be made on the Internet using a VoIP service provider and standard computer audio systems. Alternatively, some service providers support VoIP through ordinary telephones that use special adapters to connect to a home computer network.

VoIP services convert your voice into a digital signal that travels over the Internet. If you are calling a regular phone number, the signal is converted to a regular telephone signal before it reaches the destination. VoIP can allow you to make a call directly from a computer, a special VoIP phone, or a traditional phone connected to a special adapter.

THE ADVANTAGES VOIP PROVIDES

Each analog call is set up and delivered from a pair of dedicated copper wires from the caller to the called party. This creates a dedicated physical connection for a single call with extremely good quality. The technology is sufficient to carry one call at a time over the pair of dedicated copper wires.

VoIP encapsulates the audio data into data packets. These packets are then sent to the network. The same copper wire is now capable of carrying significantly more than one conversation. The same device used to send voice is also capable of sending other packetized information simultaneously like data, video and instant messages. So at the very least VoIP is a much more efficient medium to transport voice, and at the very best, will produce a much richer experience for the user when one considers the enhanced features of video and instant messaging.

Moreover, VoIP can be deployed with little or no cost, or can be an elaborate application designed with your specific needs in mind. You either are looking for a new telecommunications system or you want to enhance the one you have. Additionally, VoIP can coexist with a PBX installation and provide an industry-standard means for transporting audio.

VoIP systems typically operate on a LAN, which permits you to utilize your existing network infrastructure for telephony. It does differ from legacy PBX systems, which usually work when power goes out because they are simple to back up and all of the telephones get their power from the PBX. In a VoIP system, to get that type of redundancy, you need back up power for all of your LAN equipment, plus consider how you will power the IP telephones during a power outage.

TECHNICAL CONSIDERATIONS

VoIP's handling of audio data differs significantly from how it is done on a conventional, circuit-based network. On the latter, once a connection is established, it is defined between two fixed points, and both the upstream and downstream data are handled by the same pair of wires. VoIP's digital architecture uses different wires for upstream and downstream data, and the data path is undefined. Audio is carried through RTP (Real Time Protocol) packets, which can be routed through different paths. As a result, data packets of audio data can become unsynchronized and be delivered out of their original sequence.

To address this, VoIP uses a buffering system that synchronizes delayed packets. The inherent delay caused by packet buffering should never exceed 500 ms.

Networks are by no means limited to carrying only voice data. As such, a packet filtering mechanism is used to detect and isolate RTP audio data packets from other data types carried across the network.

Eventide VoIP Topology

IP Phone 2

Cisco Ethernet Switch 1

IP Phone 1

SPAN port that is configured to forward data traffic from two or more IP phones. (Listen only.)

RSPAN permits the traffic from IP Phone 3 to be forwarded to Cisco Ethernet Swtich 1 and on to the VoIP gateway.

Eventide Gateway (MS Windows)

Eventide Call Recorder

The VoIP gateway records RTP traffic from IP sources it is configured to monitor.

Cisco Ethernet Switch 2

IP Phone 3

PREREQUISITES FOR VOIP INSTALLATION

First, your call recorder must have firmware version 1.6 or higher installed to support the recording of VoIP transmissions.

In order to successfully implement voice over IP, each call recorder must have installed an **Eventide VoIP gateway** on the network. The gateway is a separate, rack-mounted installation that passively captures data from the VoIP phone set and interfaces with the call recorder via the LAN. As such, it acts essentially as an intermediary between the two. Eventide call recorders can support more than one gateway, in the event your call recorder installation requires more than the 96 channels supported by a single gateway, or if you wish to 'tap' the VoIP system from different locations. (Tapping is the term used for creating permanent access ports for network monitoring.)

Finally, the topology of your network must be configured to allow all call data to be visible to a single Ethernet port, which is attached to the gateway.

NETWORK REQUIREMENTS

Your VoIP installation differs from a PBX phone system in that there exists no centralized point from which to access the system. As such, it is imperative that you configure your network topology to route all calls to your gateway from a single Ethernet connection. This is most effectively accomplished using a Cisco Systems Ethernet switch that supports Switched Port Analyzer (SPAN) technology or Remote Switched Port Analyzer (RSPAN) technology. These components create copies of the audio packets being sent across the network and send them to another designated port for network analysis. In RSPAN's case, it places audio traffic on a SPAN port from different network switches.

For detailed information on SPAN and RSPAN, go to the following page on the Cisco Systems web site:

One way to ensure that all audio data for recording is being received by the gateway is by using *The Parrot DSC Maintenance Tool*, a utility that tracks network traffic and lists the IPs and MAC addresses of all connected phone sets and computers. The Maintenance Tool comes preinstalled on the VoIP gateway system, and is located in the following directory:

C:\program files\cybertech\parrot dsc\maintenancetool.exe

___

Note: *Your gateway must be successfully configured prior to using this utility. See the* **Gateway Configuration** *section for a description of this task.*

___

Launch the program, and the following window displays:
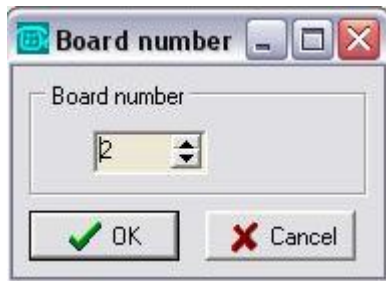
- Select Board Number **2,** and click **OK.**
- A blank screen with a command prompt now displays: enter the following command to generate a listing of all traffic currently active in the system:

  ip_list ? ?

- Press **Enter,** and a listing now displays:

```
Parrot DSC Maintenance Tool

File  Settings  About

-> ip_list ? ?
Current IP list (total entries 18)
adap   ch           ip         mac          prot codec vlan  time
----------------------------------------------------------------
   0          192.53.103.103 00-04-5a-6a-49-66 A-    -     -  187s
   0           192.168.1.38 00-01-02-3f-b7-c7 --    -     -  128s
   0            192.168.2.1 00-04-5a-6a-49-66 A-  2 un    -  105s
   0           192.168.2.10 00-16-76-8b-05-07 A-    -     -   11s
   0           192.168.2.13 00-08-a1-00-d6-6f A-    -     -    5s
   0           192.168.2.14 00-80-ad-7a-82-73 A-  2 un    -   23s
   0           192.168.2.50 00-01-02-63-86-36 --    -     -  128s
   0           192.168.2.63 00-07-32-00-f4-4e A-    -     -    5s
   0          192.168.2.153 00-04-13-24-6c-98 A-    -     -  112s
   0          192.168.2.156 00-80-ad-7a-82-73 A-    -     -    8s
*  0      0  192.168.2.209 00-04-f2-04-e7-0d AP  0      -   14s
   0          192.168.2.232 00-04-13-24-65-b1 A-    -     -  187s
   0          192.168.2.233 00-80-ad-78-21-fa --    -     -    8s
   0          192.168.2.235 00-13-20-08-60-88 --    -     -   14s
   0          192.168.2.237 00-13-20-09-fb-94 --    -     -   37s
*  0      1  192.168.2.239 00-04-f2-04-eb-4a AP  0      -   49s
   0          192.168.2.246 00-11-11-e1-1c-34 --    -     -    1s
   0           193.120.10.3 00-04-5a-6a-49-66 --    -     -   22s
->
->
```

Each line in this report describes one detected system on the network. Descriptions follow for each column displayed:

adap: The number of the Ethernet adapter on which this device was seen. This numbers reflect the values you enter in the Selected Adapters section of the configuration file for the gateway in Recorder Configuration.

ch: The channel number, if any, you have assigned to this IP or MAC address.

ip: The IP address of the device.

mac: The MAC address of the device.

prot: An **A** displays in this column if this device is sending or receiving data on a port you designated as an audio port. A **P** displays if the port is designated a signaling port.

codec: Not applicable for this purpose.

vlan: The designated virtual local area network (VLAN), if any, to which this device is assigned.

time: The number of seconds passed since activity occurred to or from this device.

To refresh the listing on the screen, simply reenter the command **ip_list ? ?**

If you require more extensive network analysis resources, use a network protocol analyzer like Ethereal, a freeware program available at <u>http://www.ethereal.com</u> or Wireshark at <u>http://www.wireshark.org</u>

Bandwidth is a critical issue for VoIP installations. If insufficient bandwidth is available for the gateway to receive the audio, compress it, and send it to the server, a delay occurs that can impact audio synchronization. For a VoIP configuration on a local area network using a T1 connection, bandwidth does not typically pose a problem.

In order to assure sufficient bandwidth, Eventide suggests implementing VoIP on a virtual local area network (VLAN). A VLAN is a logical group on the network that effectively prioritizes network traffic to ensure enough bandwidth. VLANs also greatly ease the configuration issues surrounding SPAN and RSPAN ports.

The MAC or IP addresses of all active phone sets must be designated. This information is entered in the Text Files area of the Atlas Series Administration tool, VR Config, version 1.6. Additionally, *port ranges* for both the signaling ports (the call's attributes) and audio ports (the actual audio data packets) must be designated. Only calls that occur on ports in these designated ranges are recorded; all others are ignored.

The call recording server and the gateway must be configured in a way that allows them to recognize each other's presence. The call recorder knows of the gateway from its IP address, so Eventide strongly suggests that the gateway be configured with a static IP address. This is also helpful for Eventide technical support, in the event system maintenance needs to be performed using either a modem or virtual private network (VPN).

If for whatever reason the call recorder disconnects, the gateway will begin caching all audio received. As soon as the connection is restored, all buffered audio is forwarded to the server. No audio will be lost if the disconnect is a relatively short one, but if the server is down for an extended period, some audio will be lost due to limits of its caching facility. Note that during a time of disconnect, Live Monitor will not function, and all channels display as grayed out.

It is imperative for the call recorder and the gateway to have the same time source, in order for audio data to be correctly sequenced and archived. This is most easily achieved by synchronizing them to a single NTP (Network Time Protocol) server, or any other reliable time source.

GATEWAY CONFIGURATION

- Use Recorder Configuration 1.6 or greater to log in to the server.

- Go to the Configuration Files area for the selected call recorder. This is where configuration is performed that allows the call recorder to communicate with the VoIP gateway.

- From the **Files** column, highlight the VoIP Configuration file:
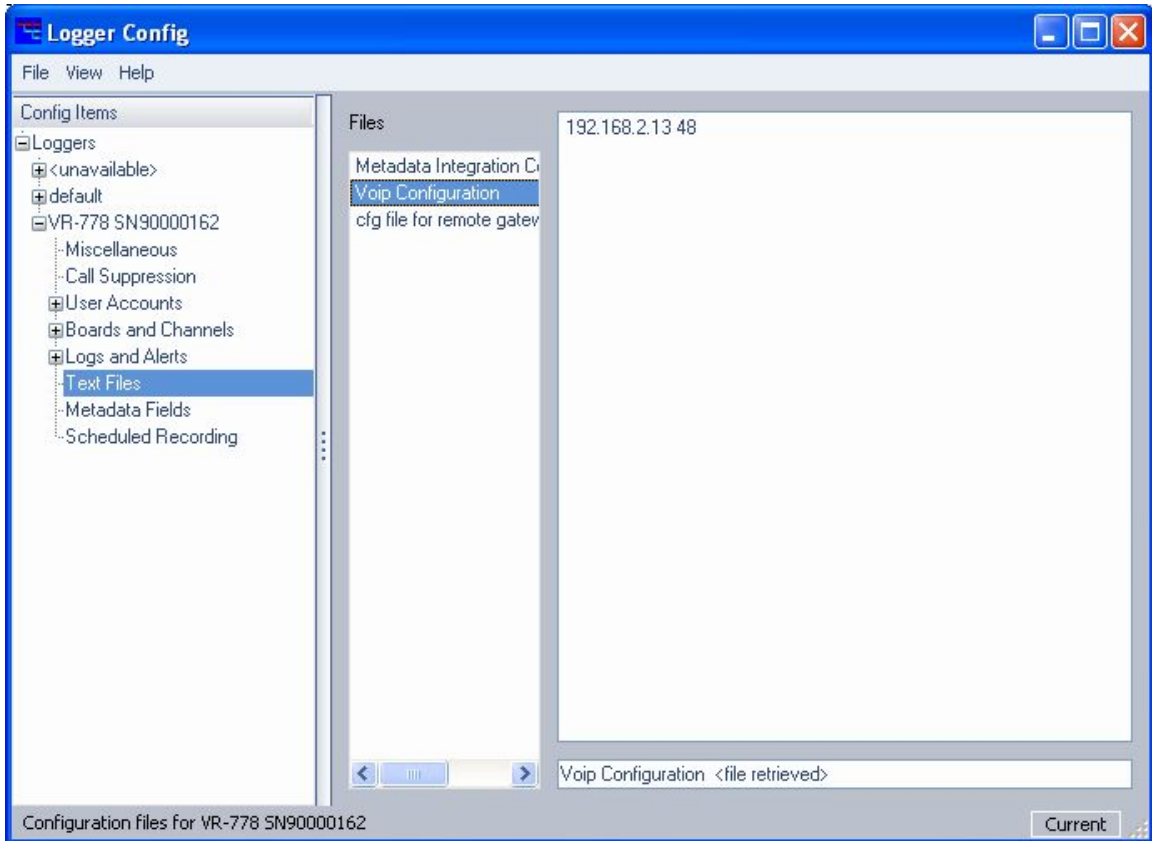
- This file contains information that defines all gateways that the call recorder should look for and communicate with. Each line of the file contains the IP address of the VoIP gateway, followed by a space, followed by the number of channels configured for that gateway. In the illustration above, the gateway at this IP address (192.168.2.13) is configured for 48 channels.

- If your gateway is not yet configured, add it here in this format. If the call recorder came preconfigured from the factory to operate with a VoIP gateway, this entry already displays. You will, however, be required to change the IP address to whichever IP you have assigned the gateway on your network.

- When all changes are made to the file, go to the **File** menu, and click **Apply.** You must now reboot the call recorder in order for them to take effect.

After rebooting, launch Recorder Configuration again to edit the configuration file for that specific gateway:
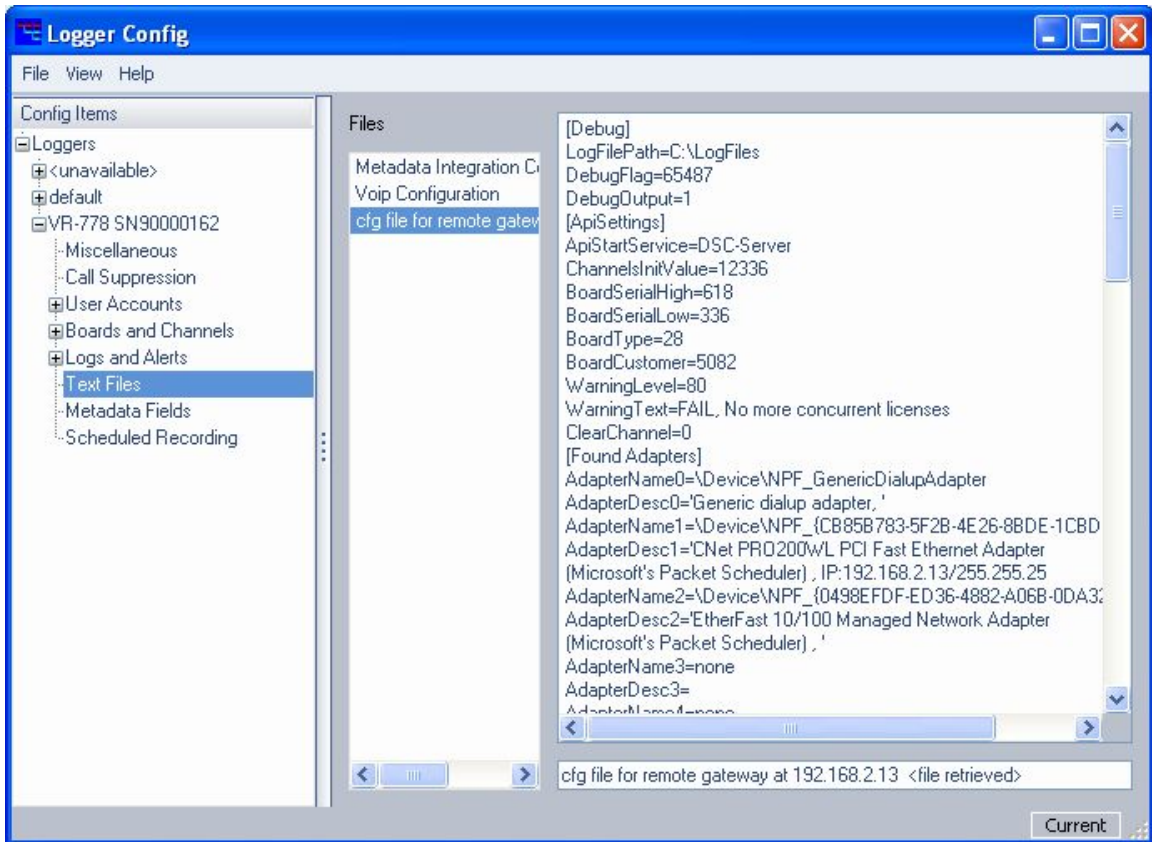
This file **(cfg file for remote gateway)** is downloaded to the call recorder from the VoIP gateway. As such, it will not display until the presence of the gateway has been detected on the network by the call recorder. A majority of lines in this file remain unchanged; the following, however, must be modified to suit your configuration:

- **Selected Adapters:** from the **Found Adapters** section of the file, copy the name of any network adapters (Ethernet cards) that you wish to use to capture VoIP traffic.

- Under **Protocol Ports,** select the port range for VoIP signaling between the phones and PBX system.

- Under **Audio Ports,** select the port range for VoIP audio packets.

- Under **IpToChannel** or **MacToChannel,** define the specific IP or MAC address for each phone set on the network:

```
[IpToChannel]
IpForCh000=192.168.2.209
IpForCh001=192.168.2.239
IpForCh002=192.168.2.14
IpForCh003=192.168.2.156
IpForCh004=192.168.2.155
[MacToChannel]
MacForCh000= 00-00-00-00-00-00
```

- The number of channels enabled for recording on this gateway is limited by the number of channel licenses purchased from Eventide. You must either use IP addresses or MAC addresses, not a combination of the two. Consequently, the address format not employed should be entered all as zeros.
- When finished, go to the **File** menu, and click **Apply.** For your changes to take effect, you must now reboot the gateway.

ARCHIVING

The archiving facility of the Atlas series is wholly dependent upon time stamps to generate accurate and sequential archives. An audio record is eligible for archiving 15 seconds after it concludes recording. If a disconnect between the gateway and the recorder occurs, this impacts how the archive pointer caches the calls, and the sequence in which calls will be received and ultimately archived. If the delay is significant, an alert displays that details the conditions of the disconnect, and some calls will not be archived. In such a case, Eventide suggests doing a period archive.

New for Release 1.8 ### VoIP SOFTWARE UPGRADE

This section describes how to upgrade the VoIP software on the Eventide VoIP gateway.

The gateway and the recorder must use compatible versions of Eventide software; that is, they must both be updated with software from the same release level. Eventide recommends upgrading the gateway first.

Note: After the upgrade, the gateway must be restarted.

Before beginning the upgrade, make sure that the system is not in use and all archiving is up to date.

Upgrade the VoIP gateway as follows:

1. Load the CD-ROM containing the software upgrade.

2. Click on Start>Run. The Run dialog displays, allowing you to enter the name of a program to open.

3. Type `d:\upgrade.bat` and press Enter. The upgrade program displays messages in a command window as it upgrades the software. Then a prompt similar to the following is displayed:

   ```
   Enter PBX Type: ALCATEL AVAYA CISCO ERICSSON H323 MITEL NEC
   NORTEL SIEMENS SELTA SIP or VOX
   ```

4. Type the name of the PBX manufacturer as displayed in the list and press Enter. After a brief wait, the Firmware Update window displays, similar to the following:
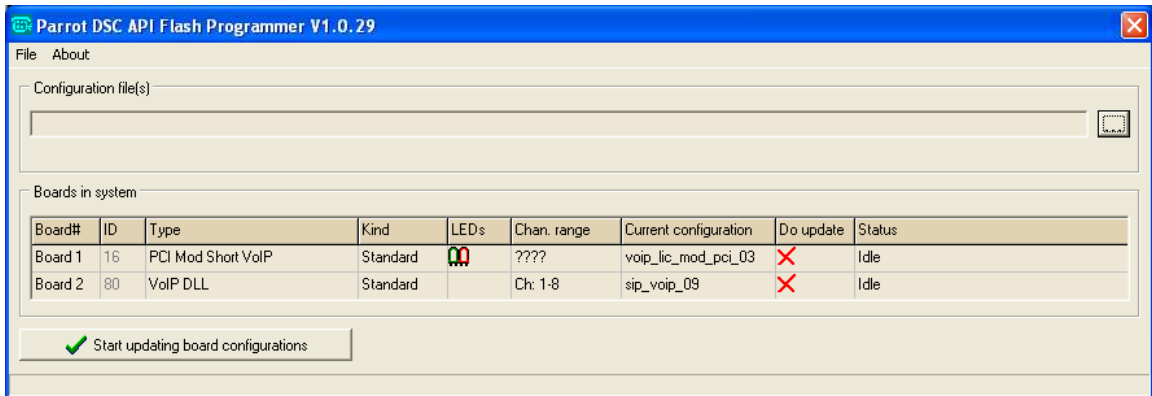
5. Use the information in this window to determine whether the VoIP gateway firmware needs to be upgraded (as follows). For the board listed as Type **PCI Mod Short VoIP** (and only this board), the Current Configuration column must show **voip_lic_mod_pci_03**, which is the latest version of firmware.

   A. If this board shows the latest version of firmware, you do not need to update the firmware. Close the window using the "X" in the upper right corner to cancel. After all the windows close, you must complete the gateway upgrade by rebooting the gateway. (Don't forget to upgrade the recorder software and test the recorder to verify that recording works normally.)

   B. If this board does not show the latest version of firmware, you must update the firmware for this board using the following steps.

6. To mark this board for a firmware update, click on the red "X" in the Do Update column, and it will change to a green checkmark. (Do not update the firmware for other boards listed.)

7. To select the firmware file, click on the browse button ("...") to the right of the Configuration File field. Then select the **voip_lic_mod_pci_03.zmx** file located in D:\ (the CD-ROM drive root folder) and click Open. The Firmware Update window is displayed with the name of the firmware file shown in the Configuration Files field.

8. To begin the firmware update, click on the "Start updating board configurations" button. After the update completes successfully, the Status column for this board should show "Programming successful" and a message is displayed saying, "To re-activate (updated) boards, the system must be rebooted!!!"

9. Click the OK button, and after all the windows close, you must complete the gateway upgrade by rebooting the gateway.

Don't forget to upgrade the recorder software and test the recorder to verify that recording works normally.

Limited Warranty

The Eventide ATLAS series recorders are built to exacting quality standards and should give years of trouble-free service. If you are experiencing problems, your recourse is this warranty.

Eventide Inc. warrants the products unit to be free from defects in workmanship and material under normal operation and service for a period of one year from the date of purchase, as detailed below. At our discretion within the warranty period, we may elect to repair or replace the defective unit. This means that if the unit fails under normal operation because of such defect, we will repair the defective unit at no charge for parts or labor. We also assume a limited responsibility for shipping charges, as detailed below.

The warranty does not extend beyond repair or replacement as stated herein and in no event will we be responsible for consequential or incidental damages caused by any defect, and such damages are specifically excluded from this warranty. Our sole obligation is to repair or replace the defective unit as described herein.

The warranty DOES NOT COVER any damage to the unit regardless of the cause of that damage. The unit is a complex piece of equipment that does not react well to being dropped, bounced, crushed, soaked or exposed to excessively high temperatures, voltages, electrostatic or electromagnetic fields. If the unit is damaged for these or similar causes, and the unit is deemed to be economically repairable, we will repair it and charge our normal rates.

The warranty DOES NOT COVER shipping damage, either to or from Eventide. If you receive a new unit from us in damaged condition, notify us and the carrier; we will arrange to file an insurance claim and either repair or exchange the unit. If you receive a new unit from a dealer in damaged condition, notify the dealer and the carrier.

If we receive the unit from you with apparent shipping damage, we will notify you and the carrier. In this case, you must arrange to collect on any insurance held by you or your carrier. We will await your instructions as to how to proceed with the unit, but we will charge you for all repairs on damaged units.

Who is covered under the warranty

The warranty applies to the original purchaser of a new unit from Eventide or an Authorized Eventide Dealer. Demo units are also covered by this warranty under slightly different circumstances (see below). Units that are used, or have been used as part of a rental program, are not covered under any circumstances.

It is your responsibility to prove or to be able to prove that you have purchased the unit under circumstances which affect the warranty. A copy of your purchase invoice is normally necessary and sufficient for this.

If you have any questions about who is an Authorized Eventide Dealer, call us.

Units with the serial number plate defaced or removed will not be serviced or covered by this warranty.

When the warranty becomes effective

The one-year warranty period begins on the day the unit is purchased from an Authorized Eventide Dealer or, if the unit is drop-shipped from Eventide, on the day shipped, plus a reasonable allowance for shipping delays. This applies whether or not you return your warranty registration form.

When we receive a unit, this is how we determine whether it is under warranty:

If the unit was shipped from our factory within the past calendar year, we assume that it is under warranty unless there is evidence to the contrary, such as its having been sold as used or rented, etc..

If the unit was shipped from our factory more than a calendar year ago, we assume it is not under warranty unless there is a warranty registration form on file showing that it has been purchased within the past year under appropriate conditions or if you send a copy of your purchase invoice indicating warranty status along with the unit.

If the unit was used as a demo, the warranty runs from the date that it was received by the dealer. The original purchaser gets the unexpired portion of that warranty.

When you send a unit for repair, you should indicate whether or not you believe it to be under warranty. If you do not say the unit is under warranty, we will charge you for the repair and we will not refund unless the charge was caused by an error on our part. If you believe the unit to be under warranty and you do say it is but we disagree, you will not incur any charges until the dispute is resolved.

Reading the above, you can see that it is to your advantage to send in the warranty registration form when you purchase the unit. If we know who you are, we can send you updates and notifications, and advise you of our new products. It will also enable you to receive pre-shipment of certain parts.

Who performs warranty work

The only company authorized to perform work under this warranty is Eventide Inc., Little Ferry, New Jersey. While you are free to give personal authorization to anyone else (or to work on it yourself), we will not honor claims for payment for parts or labor from you or from third parties.

However, we and our dealers do try to be helpful in various ways. Our dealers will assist, usually without charge during the warranty period, in determining whether there is a problem requiring return to the factory, and alleviating user error or interconnection problems that may be preventing the unit from operating to its full capability.

We are available for consultation if the dealer is unable to assist.

If a part is found to be defective during the warranty period and you wish to replace it yourself, we will normally ship the part immediately at no charge, provided your warranty registration form is on file. We reserve the right to request that the defective part be returned to us.

Shipping within the 50 United States

You are responsible for getting the unit to our door at no cost to us. We cannot accept collect or COD shipments.

We will return the unit to you prepaid, at our expense, using an expeditious shipping method, normally United Parcel Service. If you are in a hurry and want us to use a premium shipping method (such as air express, next day air, etc.), be sure you tell us and agree to pay shipping charges collect. If you specify a method

that does not permit collect or COD charges, remit sufficient funds to prepay shipping.

Shipping outside the 50 United States

If you purchased the unit from a dealer in your country, consult with the dealer before returning the unit.

If you wish to return the unit to us, please note the following:

1. The unit must be prepaid to our door. This means that you are responsible for all shipping charges, including customs brokerage and duties. When a unit is shipped to us it must be cleared through United States Customs by an authorized broker. You must make arrangements for this to be done. Normally, your freight forwarder has a branch in the United States that can handle this transaction. If you want our assistance in clearing incoming packages, you must notify us before shipping the unit for repair, giving full details of the shipment, and including a minimum of $250.00 in US funds to cover the administrative and brokerage expenses. Any balance will be applied to the repair charges or refunded. If a balance is due to us, we will request a further prepayment.

2. All shipments will be returned to you collect. If this is impossible because of shipping regulations or money is due us, we will request prepayment from you for the appropriate amount.

3. All funds must be in $US. Payment may be made by check drawn on any bank in the US, or by telegraphic funds transfer to our bank. If you send US currency, be sure that it is sent by a method you can trace, such as registered mail. If you wish to pay by Letter of Credit, be sure that it affords sufficient time for work to be performed and the L/C negotiated, and that it is free from restrictive conditions and documentation requirements.

4. We reserve the right to substitute freight carriers. Although we will attempt to honor your request for a specific carrier, it is frequently necessary to select a substitute because of difficulties in communication or scheduling.

This warranty gives you specific legal rights and you may also have other rights which vary from location to location.

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