DIR911t User Guide

Versions 1.8.3

For manual and software updates please visit www.eventide.com

Contacting Eventide

If you purchased your unit from Eventide, you may contact Eventide for questions and issues related to your Eventide product as follows:

via United States Mail

Eventide Inc.
1 Alsan Way
Little Ferry, NJ 07643
USA

via the Internet

www.eventide.com

via Telephone

USA 201-641-1200

via Facsimile

USA 201-641-1640

via Email

loggers@eventide.com (for DIR911t support)

If you purchased your unit from an authorized Eventide distributor, please contact that distributor for questions and issues related to this product.

Safety Precautions

After unpacking the DIR911t, save all packing materials in case you ever need to ship the unit. Thoroughly inspect the DIR911t and packing materials for signs of damage. Report any shipment damage to the carrier at once; report equipment malfunction to your dealer.

Save these instructions for later use.

Follow all instructions and warnings marked on the unit.

Always use with the supplied power supply. Refer to the specifications section of this manual for power requirements. Be advised that different operating locations may require the use of a different line cord and/or attachment plug.

Slots and openings on the side of the case are provided for ventilation; to ensure reliable operation and prevent the unit from overheating, these openings must not be blocked or covered. Never push objects of any kind through any of the ventilation slots.

This product is equipped with a three-wire grounding type plug. This is a safety feature and should not be defeated.

To prevent shock or fire hazard, do not expose the unit to rain or moisture, or operate it where it will be exposed to water.

Do not attempt to operate the unit if it has been dropped, damaged, exposed to liquids, or if it exhibits a distinct change in performance indicating the need for service.

This unit should only be opened and serviced by qualified service personnel. Removing covers will expose you to hazardous voltages.

Compliance Information

United States FCC Part 68 Telecommunications Statement

This device complies with Part 68 of the Federal Communications Commission (FCC) rules.

The USOC jack required is FJ-11C (standard modular jack). Plugs and jacks used to connect this device to the telephone network must be compliant with the FCC part 68 rules.

The REN is used to determine how many devices can be connected to your telephone line. In most cases, the sum of the RENs of all devices connected to a telephone line should not exceed five (5.0). If too many devices are connected, they might not respond properly to incoming calls.

If this device causes ham to the telephone network the telephone company may temporarily discontinue service. The telephone company will attempt to notify you before discontinuing service, but if this is not practical you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC.

The telephone company may make changes in its facilities, equipment, operation, or procedures that could affect the operation of this device. The telephone company will provide advance notice of any such changes so that you can make the necessary modifications to maintain uninterrupted service.

If you experience trouble with this device, contact Eventide for warranty or repair information:

Eventide Inc.
One Alsan Way
Little Ferry, NJ 07643
201-641-1200

If the device causes harm to the telephone network, the telephone company may ask that it be disconnected until the problem is resolved.

This device cannot be used on public coin phone service provided by the telephone company. Connection to party lines is subject to state laws and/or tariffs.

United States FCC Part 15 Compliance Statement

This device complies with the United States' CFR 47 Part 15 (FCC Part 15). Specifically:

- FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109(a), Class A Digital Device.

Operation is subject to the following two conditions:

- The device may not cause harmful interference.
- The device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device as specified in Part 15 of the FCC rules. These limits are designed to provide adequate and reasonable protection against harmful interference in a residential environment. This equipment generates and can radiate radio frequency energy. If this equipment is not installed and used in accordance with the manufacturer's instructions, it may cause harmful interference to radio, television, and/or wireless communications. However, there is no guarantee that interference will not occur in a particular location or installation. If this equipment does cause harmful interference to radio, television and/or wireless reception (which can be determined by turning the unit off), the user is encouraged to try to correct the interference by trying the following mitigation techniques:

- Reorient and/or relocate the unit.
- Connect the equipment to an outlet on a circuit breaker different from the one to which the unit receiving the interference is plugged.
- Consult an experienced radio/TV technician for assistance.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to identify and Resolve Radio/TV Interference Problems."

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

Changes or modifications to the unit not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Industry Canada ICES Statement

This digital apparatus does not exceed the Class B limits for audio noise emissions from digital apparatuses as set forth in ICES-003 Draft 4 (February 2004).

Warranty Information

The Eventide unit covered by this warranty is built to exacting quality standards and should give years of trouble-free service. If you are experiencing problems that are not cleared up or explained as normal in the manual, your recourse is this warranty.

What this warranty does and does not cover

Eventide warrants this 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; and 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 this 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 that pertain to 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, check with 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:

1. 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.
2. If the unit was shipped from our factory more than a calendar year ago, we assume it is not under warranty unless:
    a) There is a warranty registration form on file showing that it has been purchased within the past year under appropriate conditions.
    b) 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 the dealer received it. 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.

Who performs the warranty work

The only company authorized to perform work under this warranty is Eventide, Little Ferry, New Jersey, USA.

Shipping with the United States or Canada

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 or Federal Express. In areas not served by UPS or Federal Express we will ship by US Mail.

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. If you specify a method that does not permit collect or COD charges, remit sufficient funds to prepay shipping.

Shipping from outside the United States or Canada

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:

- 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. We can arrange to clear incoming shipments for you. If you want our assistance, 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.

- 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.

- 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.

- 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 that vary from location to location.

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Introduction

The DIR911t is Eventide's second-generation Direct Instant Recall (DIR) recorder. Eventide's instant recall recorders take telephone and/or line level input sources as inputs, digitizes them, and stores them in internal memory (or optionally to an internal hard drive). Once recorded, the user is then free to instantly recall any call and playback exactly what came in from the source. Additionally, the unit can record "out of band" data such as Caller ID digits, Automatic Location Identification (ALI) information, and Automatic Number Identification (ANI) information. The unit also offers (but is in no way limited to) the following features:

- Playback speed control. Speed control allows the operator to play back the message slower or faster without any detectable changes in audio pitch.
- Uninterruptible Power Supply. The unit contains an internal battery pack giving the unit up to 5 minutes of back up power.
- External Activation Indication. RS-232 level outputs that indicate that a line is actively recording.
- External Activation Control. RS-232 level (with "relay closure to ground pin" compatibility) inputs that can be used to tell the unit to record.
- Live monitoring. Live monitoring of any input source.
- Re-Record output. A re-record output is available and can be used to record as the unit is playing back.
- Multiple line capability. The DIR911t can independently monitor and record up to 4 telephone lines or 4 line level input sources depending on the configuration purchased.
- Networking. The DIR911t contains a 10/100Mbps Ethernet LAN port for advanced networkability.
- Email calls and status. The unit can send an email to the system administrator when it detects an alarm condition (memory full, etc.) and daily status logs. Additionally it can email call files to the call center manager.
- USB Interfaces for both call archiving and for system upgrades.

- External time synchronization. The unit can synchronize its internal clock to external sources such as NTP time servers, NMEA compatible GPS receivers, and NENA compatible time sources.
- Intelligent call filtering. The unit has extensive user configurable call filters that allow for precise and easy call searches.
- Internal Hard Drives. The device may be factory configured to contain internal hard drives. This option can provide call storage for over 3300 channel hours of recording space stored on a pair of RAID 0 (mirrored) configured internal hard drives.

Front Panel

The front panel of the DIR911t has been designed for simplicity, elegance, and above all ease of use. The controls and ports of the DIR911t front panel is shown in Figure #1.

Further, if you have used the previous Eventide model DIR911 you will immediately be familiar with the new DIR911t.

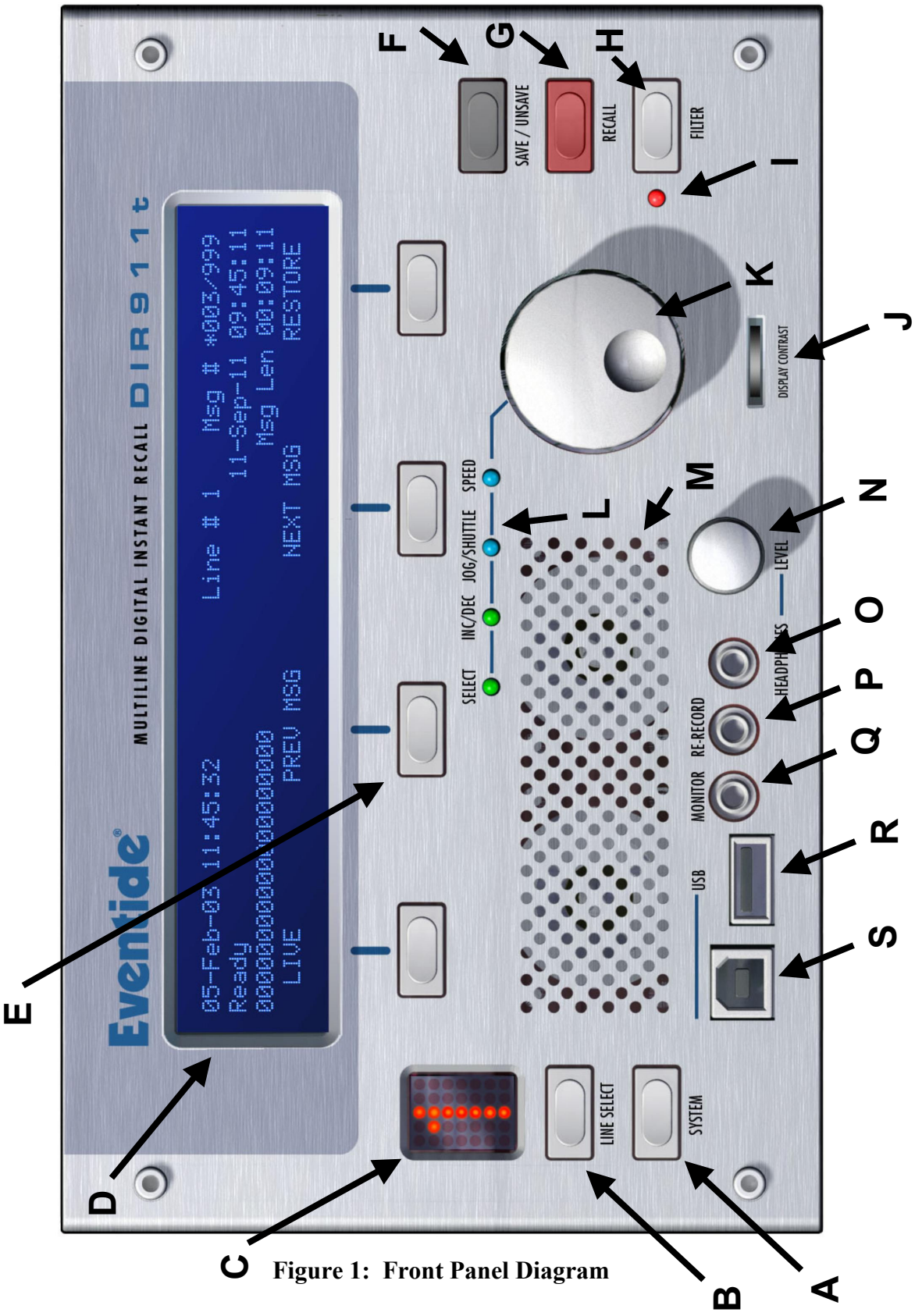

Figure 1: Front Panel Diagram

Each of the controls and ports is described in the Table #1 below.

NOTE: A later chapter completely describes the pin numbering and pin function of each port on the front panel.

Legend	Description
A	SYSTEM BUTTON: The system button is used to enter and exit system mode.
B	LINE BUTTON: The line button is used to select the currently active line. Pressing this button will cycle the unit through the number of lines for which it is configured. When in system mode, this button selects the line for which the current configuration values are to be changed (if it is a line-specific setting).
C	LINE DISPLAY: The 5 by 7 LED array displays the currently active line. When in system mode, the display flashes 'S'
D	LCD SCREEN: The DIR911t contains a 40 by 4 character LCD display used to present information to the user. LCD contrast may be adjusted via the LCD CONTRAST ADJUST thumb wheel (Legend #J)
E	SOFT KEYS: There are 4 soft keys whose function is programmable. The bottom row of the LCD display will indicate the current function of these keys.
F	SAVE BUTTON: Used to toggle the saved state of the current call on the selected line. Calls marked as saved are not deleted when the unit needs space for new calls.
G	RECALL BUTTON: Used to enter recall mode. This is the mode where a recorded call can be played back.
H	FILTER BUTTON: Used to enable and disable the call filter.
I	FILTER LED: Used to indicate whether the call filter is active.

J	LCD CONTRAST ADJUST: The thumb wheel adjusts the contrast of the LCD.
K	MULTI-FUNCTION KNOB: The rotary encoder is used to select and adjust various settings. It is also a push switch.
L	KNOB MODE INDICATORS: These LEDs indicate the rotary encoder mode. There are 4 modes: SELECT – which is used to indicate that the encoder will select from a list of items. INC/DEC – which is used to indicate that the encoder will increment or decrement a value. JOG/SHUTTLE – which is used to indicate that the encoder is used to move to a forward or backward within an call. SPEED – which is used to indicate that the encoder is used to adjust the speed of a call.
M	SPEAKERS: The DIR911t has internal speakers for listening to playback.
N	LEVEL: This knob is used to adjust the volume of the speakers (or the headphones if they are currently in use)
O	HEADPHONE JACK: The DIR911t supports a single set of stereo headphones via this 3.5mm stereo phono jack. When headphones are plugged into the unit, the speakers are muted.
P	RE-RECORD JACK: The DIR911t provides a Re-Record line level output via a 3.5mm stereo phono jack. This output is a copy of the signal provided to the speakers/headphones (before the level adjustment via the LEVEL knob (Legend #N).
Q	MONITOR JACK: The DIR911t provides a Monitor line level output that via a 3.5mm stereo phono jack. The monitor output contains an exact copy of the current line selected.

R	USB A: The DIR911t provides a single USB-A “host” connector. This may be used to connect USB peripherals such as USB storage keys to the unit.
S	USB B: The DIR911t provides a single USB-B “peripheral” connector. This is used for connecting a laptop or similar system to the DIR911t for field service by an authorized Eventide technician.

Table 1: Front Panel Legend

Rear Panel

The DIR911t rear panel is shown in Figure #2.

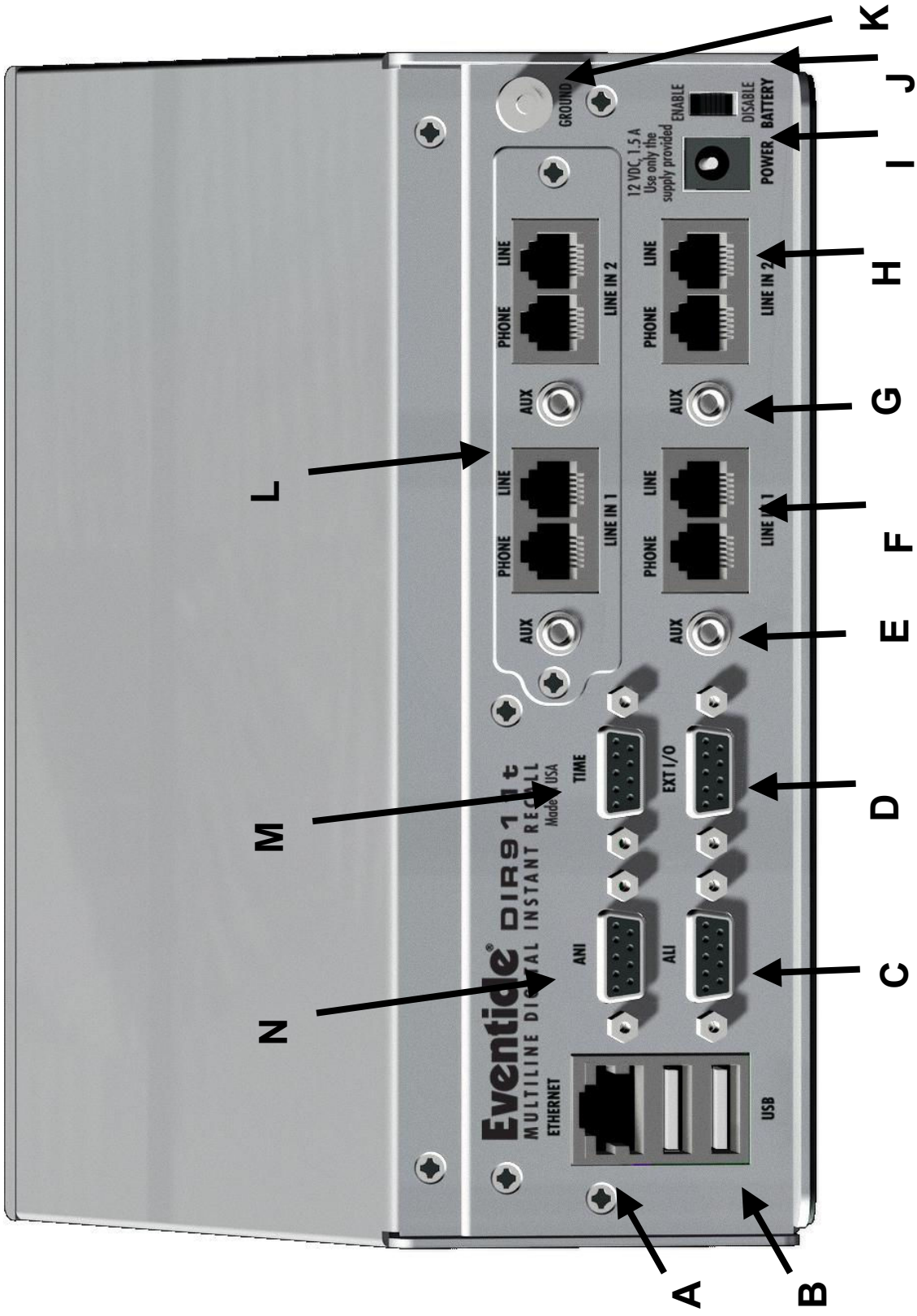

Figure 2: Rear Panel Diagram

Each of the controls and ports is described in the Table #2 below.

NOTE: A later chapter completely describes the pin numbering and pin function of each port on the front panel.

Each of the ports is described below.

Legend	Description
A	ETHERNET PORT: The DIR911t provides a single 10/100Mbps Ethernet LAN connection.
B	USB A: The DIR911t provides two USB-A "host" connectors on the rear panel. These may be used to connect USB peripherals such as USB storage keys to the unit.
C	ALI: This connector is where the ALI serial streams are presented to the unit.
D	EXT I/O: This connector provides external activation inputs and outputs.
E	LINE #1 AUX INPUT: A balanced 3.5mm phono jack for line #1 auxiliary input. (NOTE: unbalanced connectors can be used – the level will be 6dB lower but otherwise function correctly).
F	LINE #1 Telephone Input. One plug is for the telephone line connection the other is for a telephone. Both jacks are parallel and identical.
G	LINE #2 AUX INPUT: A balanced 3.5mm phono jack for line #2 auxiliary input. (NOTE: unbalanced connectors can be used – the level will be 6dB lower but otherwise function correctly).
H	LINE #2 Telephone Input. One plug is for the telephone line connection the other is for a telephone. Both jacks are parallel and thus identical.
I	POWER: A single 3.1mm barrel locking DC connector is used to supply +12V to the unit. Use only the Eventide supplied power supply with the DIR911t.
J	BATTERY ENABLE: This switch is used to enable and disable the internal battery circuit. When in the top position, the battery is enabled. When in the bottom position, the battery is disabled.
K	CHASSIS GROUND: Per FCC rules, this connection is provides chassis ground for the unit.

	chassis ground for the unit.
L	EXPANSION BRACKET: If a four-channel unit is purchased, this is where the connectors for the second set of lines are provided. The line connections are identical to items G-J above.
M	TIME: This connector is where an external GPS receiver is connected to the unit. A serial port console to the unit is also provided on this connector.
N	ANI: This connector is where the ANI serial streams are presented to the unit.

Table 2: Rear Panel Legend

NOTE: A later chapter completely describes the pin numbering and pin function/signal level for each port on the rear panel.

Installation

This section contains detailed instructions for unpacking, installation, and setup of the DIR911t.

Unpacking the Unit

The DIR911t is shipped with the following:

- DIR911t unit
- A +12V power supply with locking barrel connector.
- An IEC cable connecting the power supply to mains power.
- Two RJ-11 cables.
- This user guide.
- Warranty card.
- 19" Rack mount ears and associated hardware.

After unpacking the unit, make sure all required items are present and appear in good working condition.

Installing the Unit

Complete the following steps to install the unit:

1. Telephone Line Connection: For each line to be monitored by the unit, connect the line to the appropriate telephone line jack on the unit. Each line of the DIR911t has two female RJ-11 jacks that are used to connect the unit to the telephone line. Plug the telephone line into one of the two jacks (they are the same so it doesn't matter which). An extension telephone may be connected to the other jack.
2. Auxiliary Line (AUX) Input Connection: For each line level source to be monitored by the unit, plug the source to the AUX 3.5mm TRS connectors. Table #16 gives detailed information regarding the pin-out of this connection.
3. Ethernet LAN Connection. If the unit is to reside on a LAN, plug the Ethernet LAN cable into the rear panel Ethernet port.

4. ALI/ANI Connection. If out of band ALI/ANI sources are to be used with the unit, plug them into the appropriate DB-9 connector on the rear panel. The pinout of the ALI connector is given in Table #17. The pinout of the ANI connector is given in Table #18.

5. Time Sync Connection. If external time synchronization equipment will be used, plug it into the Sync DB-9 connector on the rear panel. The pinout of the Time connector is given in Table 20.

6. Move the rear panel battery switch to the enable position. If there is residual charge in the battery the unit may power up when the switch is moved.

7. Apply Power. Plug the 2.1mm barrel connector into the power supply connector on the rear of the unit. This is a keyed and locking type connection. Make sure to orient the connector such that it plugs into the unit completely. Once plugged in, turn the power supply barrel connector clockwise until it locks into place. You should not be able to remove the connector barrel from the unit when it is locked into place. The unit will power up and display the power-up screen shown in Figure #3.

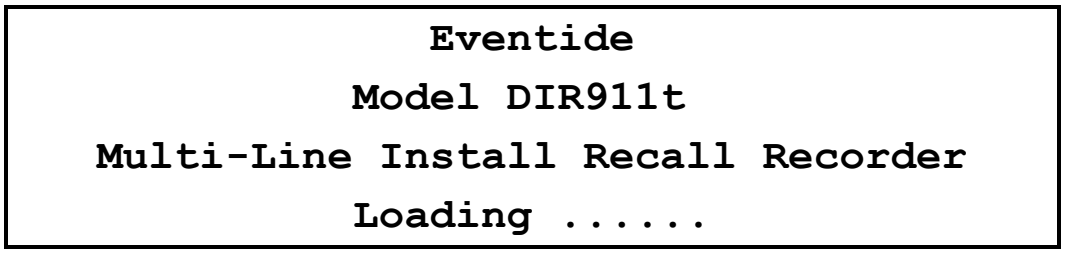

Figure 3: Power Up Screen

A few seconds after power-on, you should see the Jog/Shuttle, Speed, and Filter LEDs illuminate.

After a few more seconds, the Jog/Shuttle LED will go dark and the Filter LED will blink/flicker.

Continuing along, the Jog/Shuttle LED will light again and the Filter LED will continue to flicker.

Finally, the unit will show the screen in Figure #4 and all the LEDs on the front panel will turn on and the version of the software that is loading is displayed on the bottom row very quickly followed by boot status text .

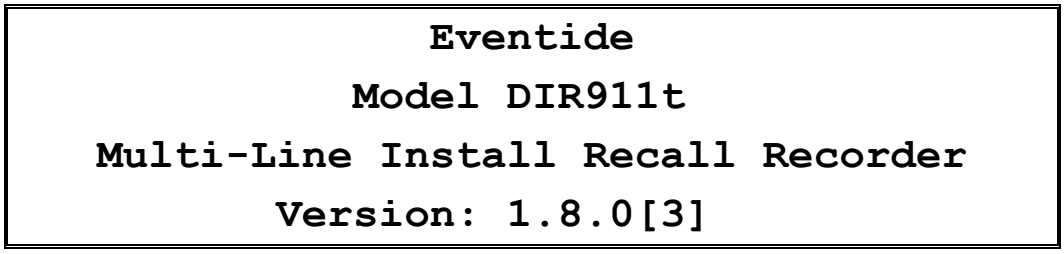

Figure 4: Boot Screen

8. After the unit boots and runs its internal startup tests, it will display the main screen. This is shown in Figure #5.

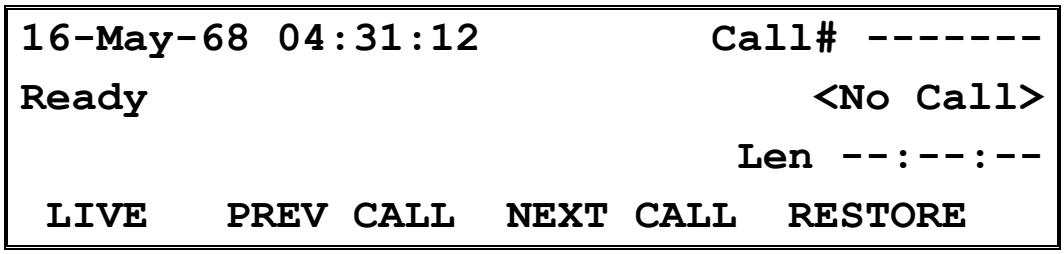

Figure 5: Main Screen

9. At this point you are ready to set the configuration settings to tailor the unit to your environment.

Powering Down the Unit

Units ***should not*** be powered off without first halting the system. Failure to heed this warning may result in lost configurations and/or call database corruption. To halt the system enter the setup mode and select the "Reboot/Halt System" configuration screen. Press the halt button. After a brief period of time, the system will be halted and will quickly blink the JOG/SHUTTLE, SPEED, and FILTER LEDs indicating so.

Operation

The DIR911t always operates in one of three modes: MAIN, RECALL, and SYSTEM. The **main** mode is where the unit spends most of its time and is the mode in which the unit enters upon power-up and when the system or recall modes are exited.

The **recall** mode is used to playback a recorded call under scrutiny. This is where, when playing back a file, the user may move about the playback, pause the playback, adjust the filter parameters of the playback, etc. This mode is entered any time the RECALL key is pressed.

The **system** mode is used to configure system and line specific parameters. This is where the LAN is setup, the line recording parameters and triggers are setup, internal firmware updates are performed, etc. The system mode is entered anytime the SYSTEM key is pressed (unless the unit is already in SYSTEM mode, in which case it is ignored).

Each of these modes is discussed in detail in the sections that follow.

Main Mode

The main mode is entered when the system is powered on or when either the recall or system modes are exited. The normal mode screen is shown in Figure #6

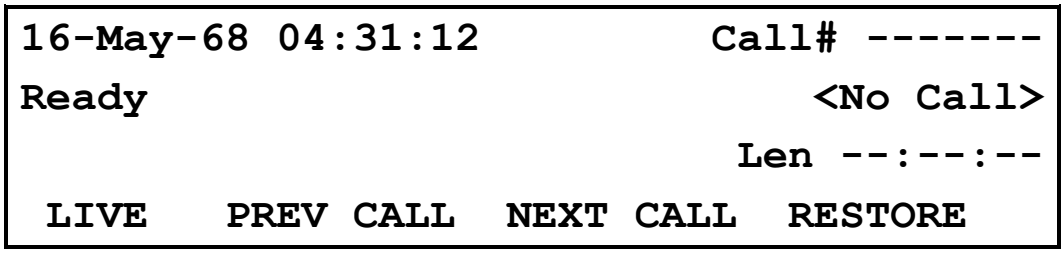

Figure 6: Main Screen

The main mode screen contains a few elements worth noting:

- The current date and time is shown in the upper left hand corner of the screen. If the unit is configured to synchronize its time to the network and it cannot obtain or maintain synchronization, it will alternately flash the current time and a "No External Sync" message.
- If system alerts are present an "ALERT" message will be flashing on the top line between the date and the call number. More details about the alert can be obtained from the ALERT menu described later in this manual.

- The current line selected is shown on the 5x7 LED matrix.
- The current call number and total message count are shown in the upper right hand corner of the screen.
- Directly below the date and time is the current status of the unit. The status field gives you a direct indication of what the unit is currently doing and each entry is described in Table #3

Ready	The unit is idle and is neither playing back nor recording a call from the currently selected line.
Recording	The unit is recording a call. The lines recording are shown after the Recording indicator.
Playing	The unit is playing back a previously recorded call. The percentage of speed-up/slow-down is shown following the Playing indicator.
Paused	The unit is playing back a previously recorded call but playback has been paused.
Rew	The unit is rewinding the current call by a factor displayed after the Rew indicator.
Fwd	The unit is fast-forwarding the current call by a factor displayed after the Fwd indicator.

Table 3: Status Field Descriptions

- Directly below the message counts is the date and time of the currently selected call. When no call is currently stored in the unit, it displays <No Call>.
- The third line is used to display dialed DTMF digits, recovered Caller ID digits, ALI and/or ANI digits and the current call length. The message number of the most recent call is shown in Ready mode.
- The final line contains four soft keys: LIVE, PREV CALL, NEXT CALL, and RESTORE. These are described below:

While in the main mode, four soft keys are used: LIVE, NEXT CALL, PREV CALL, and RESTORE.

The LIVE soft key will enable live monitoring of the currently selected line on the Speaker/Re-Record output. Pressing the LINE soft key again will disable this. When live monitoring, the '*' character will be displayed to the left of the LINE soft key label.

The PREV CALL soft key will decrement the currently selected call and begin playback of that call from its beginning.

The NEXT CALL soft key will increment the currently selected call and begin playback of that call from its beginning.

The RESTORE soft key will restore the unit to main mode.

Pressing the SAVE key will toggle the saved state of the currently selected call. The call is indicated as saved if the display shows '*' to the left of the MSG # field (immediately in front of the call message number).

Recall Mode

Recall mode is used to play back the currently selected message while providing more control over the playback. The Recall mode screen is shown in Figure #7.

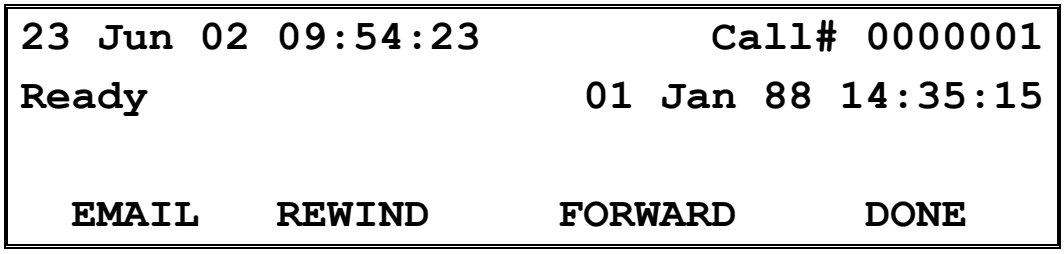

Figure 7: Recall Screen

The first three lines of the LCD screen are identical in function and presentation as the main mode screen. The main change is in the new soft keys: EMAIL, REWIND, FORWARD, and DONE.

The EMAIL soft key is used to email the current message (this is discussed below).

The REWIND soft key will rewind the call by 2 seconds and continue playback. Holding the REWIND soft key will continue the skipping back by 2 seconds.

The FORWARD soft key will fast forward the call by 2 seconds and continue playback. Holding the FORWARD soft key will continue the skipping forward by 2 seconds.

The DONE soft key will return the unit to main mode and set the status to Ready.

Pressing the SAVE key will toggle the saved state of the currently selected call. The call is indicated as saved if the display shows *to the right of the call number.

The KNOB may also be used to maneuver around the call. Pressing the KNOB will pause the call. While paused, turning the KNOB will rewind and fast forward through the call. Press the KNOB again to continue playing.

Emailing Messages from Recall Mode

Pressing the EMAIL soft key while in Recall mode presents the following screen:

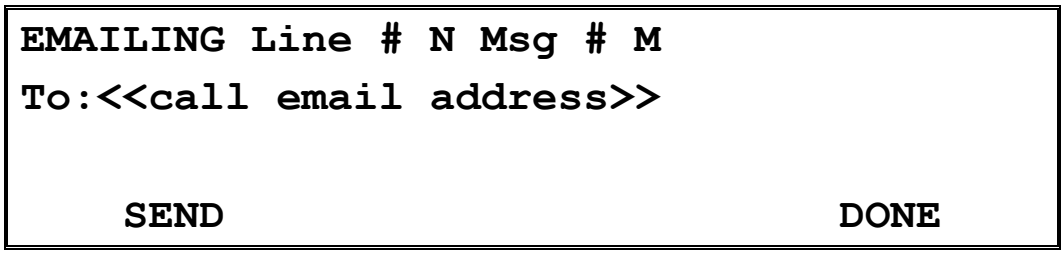

Figure 8: Recall Email Screen

Press the SEND soft key to email the currently selected message (identified by line #N and message number #N as shown above) to the call recipient (this address is set up in the system configuration menus).

Press the DONE key to exit this menu.

System Mode

System mode is where the unit is configured and monitored. The system mode screen is shown in Figure #52.

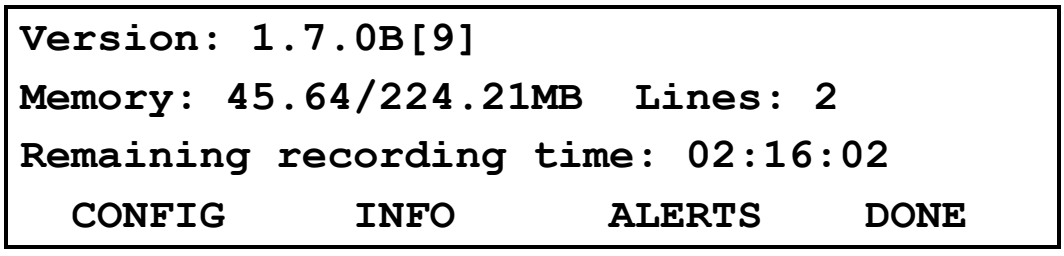

Figure 9: System Screen

The display shows the basic information on the system, as well as the amount of time remaining for recording (free space plus non-saved calls).

NOTE: The remaining recording time is based on recording using the current sample rate and compression setting.

Press the CONFIG soft key to go into the system configuration menu. Press the INFO soft key to enter the information page. And if present, press the ALERT soft key to enter into the system alert page (this would be present only if there are alerts pending).

The system configuration menu is shown in Figure #10.

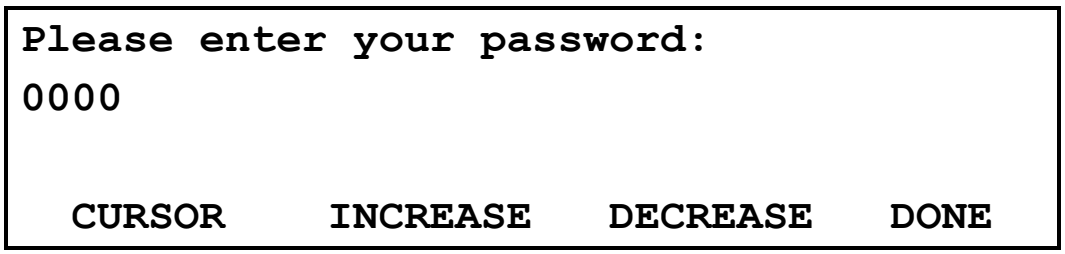

Figure 10: Password Screen

Use the encoder knob to increase and decrease the value. Pressing the encoder knob will move the cursor one location to the right. Use the CURSOR soft key to move the cursor one position to the right. Press the INCREASE key to increase the character at the cursor by one. Press the DECREASE key to decrease the character at the cursor by one. Press the DONE soft key to the system configuration menu (assuming the password is correct, of course).

NOTE: The password screen will bypassed when the unit security setting is in the LOW state. If this is the case, the user will be placed directly in the system screen.

NOTE: the factory default setting for the DIR911t is in high security mode with a default password of: 0000. This means on initial configuration you can simply press the DONE soft key.

At this point you are now in the system screen. This is shown in Figure #11.

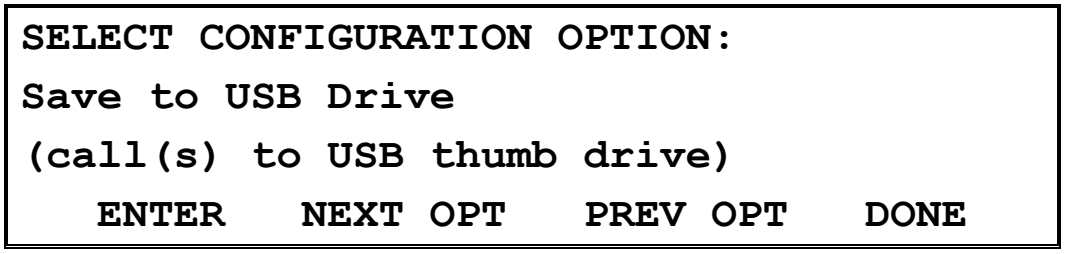

Figure 11: System Screen

It is from this screen that all the various system configuration settings are changed. Turning the encoder will select the parameter (or parameter group) and press the ENTER soft key (or push the encoder) to enter the parameter's configuration menu. Using the NEXT OPT or PREV OPT keys will move about the parameters as well. Press the DONE soft key to return to the main mode.

The following sections detail each configuration option.

Save to USB Drive

The save calls to USB drive screen is shown in Figure #12.

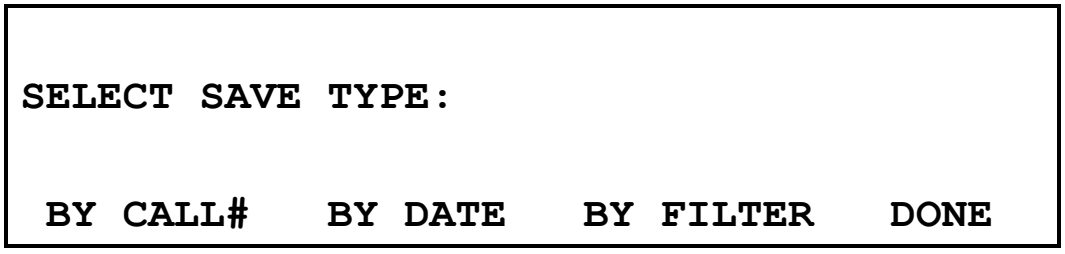

Figure 12: Save Call to USB Drive Screen

The DIR911t is able to save calls recorded and stored internally to an external USB mass storage devices (commonly called USB keys or USB flash drives). This screen is used to select the type of save to perform. "BY CALL #" saves by call number, "BY DATE" saves all calls that fall within a date range given, and "BY FILTER" saves all calls that match the current call filter. The unit will save the call(s) to the first USB drive it finds. Press the DONE soft key to exit this screen.

NOTE: When a call is saved to an external USB key, it is saved with the filename lineN-YYYY-MM-DD-HH-mm-ss.WAV where N is the line number, YYYY-MM-DD is the year, month, day, hours, minutes, seconds of the call.

NOTE: When the call is saved all call metadata (date, time, channel, unit, Caller ID digits, DTMF, etc) are saved as .WAV cue points. If MediaWorks/MediaAgent is licensed for use on the unit, an additional file named "dir911t-calls.xml" is also created.

Save to USB Drive by Call Number

The save calls to USB by call number screen is shown in Figure #13.

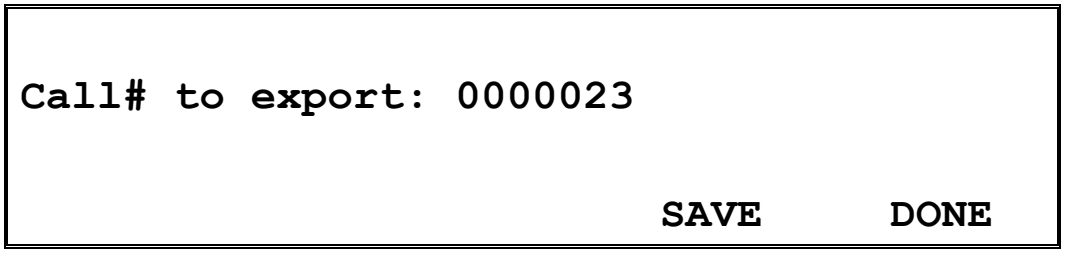

Figure 13: Save Call to USB Drive By Number Screen

Use the knob to select the call number to save, press the SAVE soft key to save the call. A status screen will show the progress. Press the DONE soft key to exit this screen.

Save to USB Drive by Date Range

The save calls to USB by call number screen is shown in Figure #14.

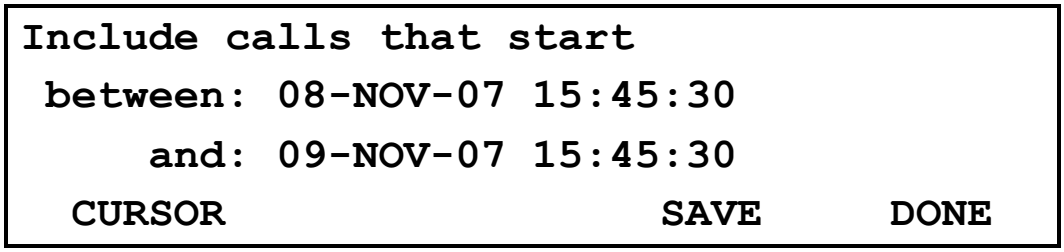

Figure 14: Save Call to USB Drive By Date Range Screen

Use the "CURSOR" soft key to move between the various fields of the between and to date fields. Use the knob to select the appropriate value. When the proper date range has been selected, press the SAVE soft key to save the call. A status screen will show the progress. If there is a large number of calls that match the call filter, this operation may take some time to complete. Press the DONE soft key to exit this screen.

Save to USB Drive by Call Filter

The save calls to USB by call filter screen is shown in Figure #15.

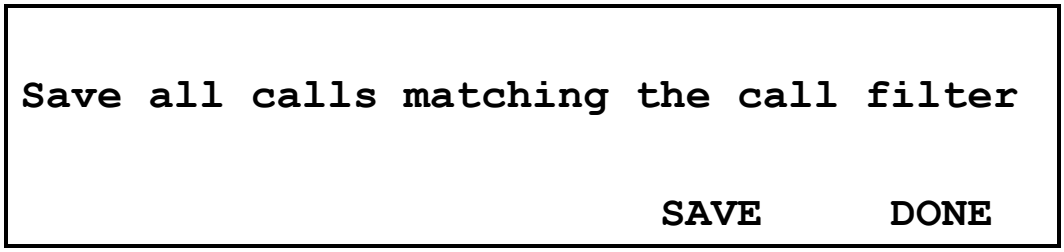

Figure 15: Save Call to USB Drive By Call Filter Screen

Press the SAVE soft key to save all calls that match the current call filter. A status screen will show the progress. If there is a large number of calls that match the call filter, this operation may take some time to complete. Press the DONE soft key to exit this screen.

Set Autorestore Time

The autorestore timer is used to return the unit to the main mode if it is left unattended for the specified amount of time. This doesn't include any of the system configuration menus. The screen is shown in Figure #16.

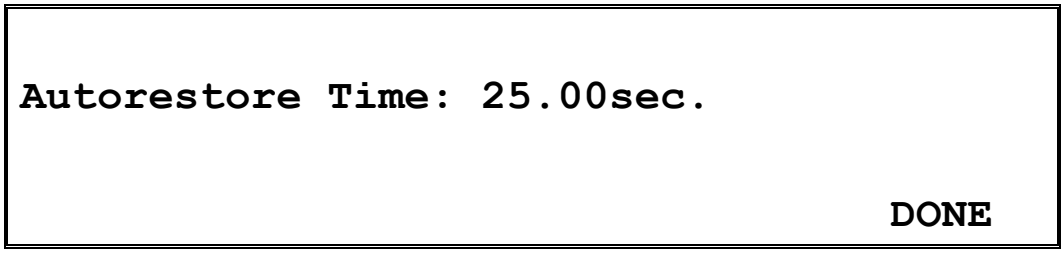

Figure 16: Autorestore Screen

Use the encoder to adjust the autorestore time. Press the DONE key to exit the menu.

Line Auto Jump Setup

The Line Auto Jump feature allows the DIR911t to switch to the line with the most recent call that is being recorded. The screen is shown in Figure #17.

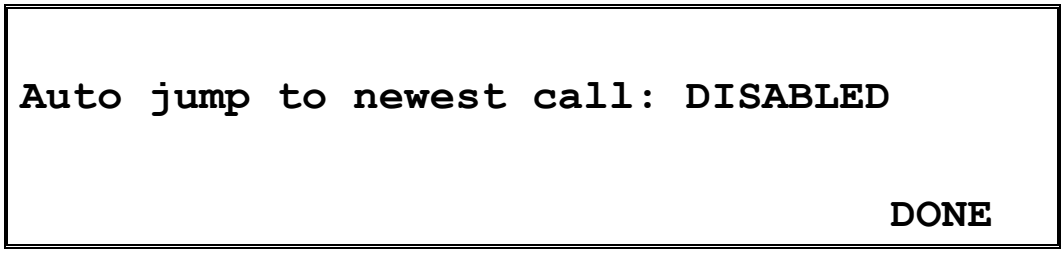

Figure 17: Line Auto Jump Setup Screen

Use the encoder to enable or disable auto jump. Press the DONE key to exit the menu.

High Traffic Mode Setup

The DIR911t operates in one of two traffic modes: HEAVY and LIGHT. When in HEAVY traffic mode, pressing the RECALL button after a call has started playing back will jump to the start of the previous call. When in LIGHT traffic mode, pressing the RECALL button after a call has started playing back will jump to the start of the currently playing call. The screen is shown in Figure #18.

Figure 18: High Traffic Mode Setup Screen

Use the encoder to select HEAVY or LIGHT traffic mode. Press the DONE key to exit the menu.

Call Filter Use Setup

The Call Filter Use feature allows the DIR911t administrator to deny the use of the call filter to non-administrator users. When the call filter is disabled, pushing the FILTER key will show a screen that indicates that the call filter is disabled and to contact the administrator for information. The screen is shown in Figure #19.

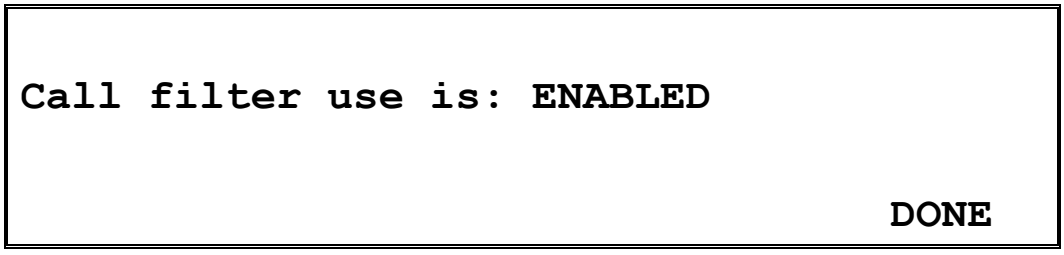

Figure 19: Call Filter Use Setup Screen

Use the encoder to enable or disable call filter use. Press the DONE key to exit the menu.

Telephone & AUX Input Gain

The telephone and AUX input gain screen is shown in Figure #20.

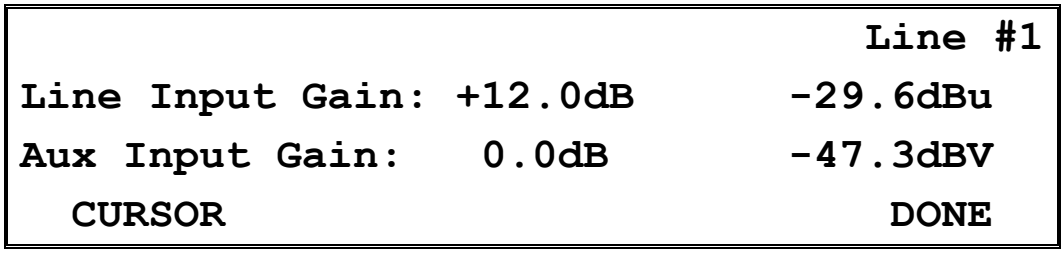

Figure 20: Telephone and AUX Input Gain Screen

This setting is used to boost or attenuate the telephone or AUX input level before being digitized by the DIR911t. The current line signal level is shown for convenience.

Use the encoder to select the gain value. Press the CURSOR soft key to move between the Telephone and Auxiliary gain. Press the DONE soft key to effect the change and exit the menu.

Automatic Gain Control Setup

The Automatic Gain Control (AGC) setup screen is used to enable, disable, and adjust the various parameters for the both the input and output AGC. The screen is shown in Figure #21.

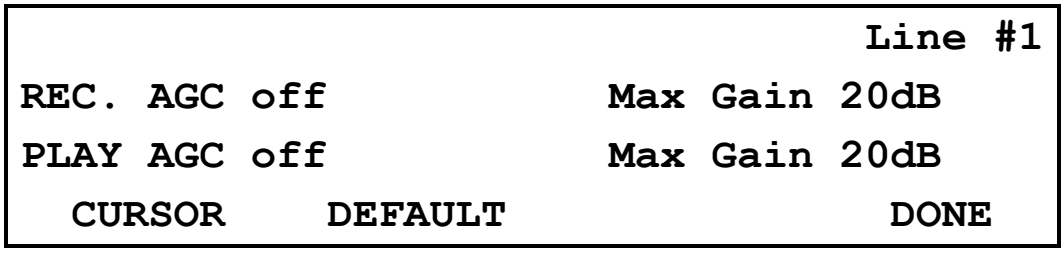

Figure 21: AGC Screen

The AGC can be enabled or disabled. The Gain setting is the upper limit on the AGC gain.

Use the encoder to adjust the selected parameter. Press the CURSOR soft key to select the parameter to adjust. Press the DEFAULT soft key will reset the parameters to their power-on default values. Press the DONE key to exit the menu.

Monitor and Re-Record Output Level Adjust

The monitor and re-record output level adjustment screen is shown in Figure #22.

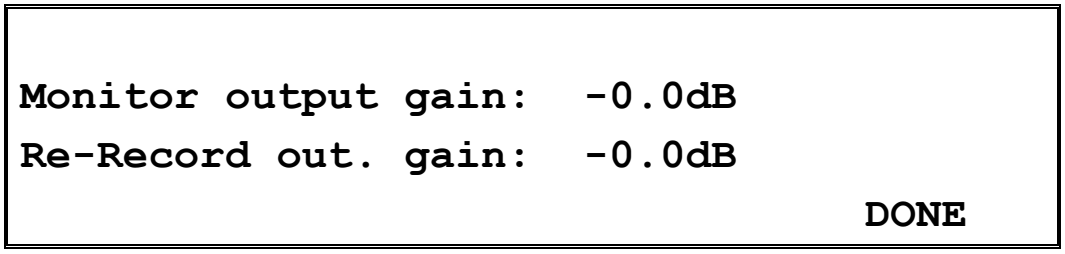

Figure 22: Monitor and Re-Record Output Level Adjust Screen

The Monitor and Re-Record output screen allows for adjusting the output gain for the respective output. This is true analog gain in that it is applied after the D/A conversion process.

Use the encoder to select the level. Press the CURSOR soft key to select between Monitor and Re-Record. Press the DONE soft key to effect the change and exit the menu.

Sampling and Compression

The sampling and compression setup screen is shown in Figure #23.

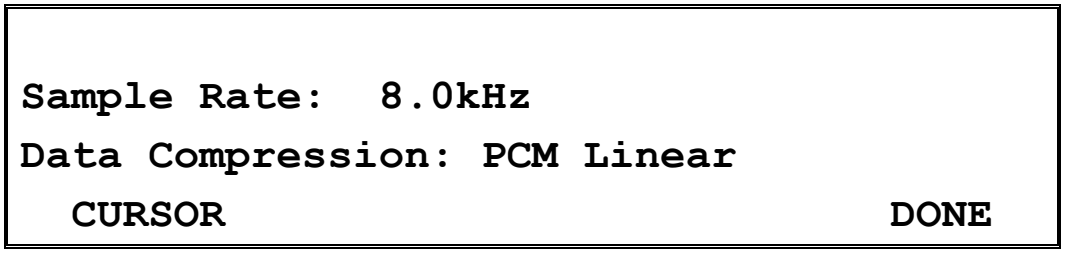

Figure 23: Telephone Activation Level Screen

This screen determines the sample rate and the compression type used to record and compress the calls.

The compression types are detailed below:

Method	Description
PCM Linear	Data is recorded as 16-bit linear PCM samples. This option provides the best fidelity but also consumes the most space.
A-Law	This option records the samples as A-law encoded values. This provides a 2 to 1 compression ratio.
μ-Law	This option records the samples as μ-law encoded values. This provides a 2 to 1 compression ratio.
G726 32Kbps	The ITU's G.723 32Kbps flavor of ADPCM. This option provides a 4 to 1 compression ratio.
GSM 6.10	The GSM 6.10 Voice Codec (used in the European cellular telephone network). This option provides a 9.96 to 1 compression ratio.

Table 4: Compression Methods

Recording Priority

The recording priority activity setup screen is shown in Figure #24.

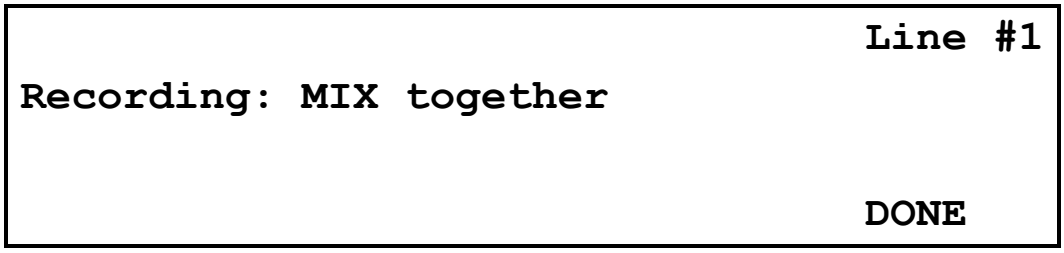

Figure 24: Recording Priority Screen

This screen is used to decide how to handle the telephone line and auxiliary input sources. The options are:

Method	Description
MIX	Mix the telephone and auxiliary inputs together forming a single mono recording of the sources.
LINE ONLY	Record only the telephone line input.
AUX ONLY	Record only the auxiliary input.

Table 5: Line Activation Methods

Use the encoder to select the desired priority. Press the DONE soft key to effect the change and exit the menu.

Recording Activation

The recording activation mechanism setup screen is shown in Figure #25.

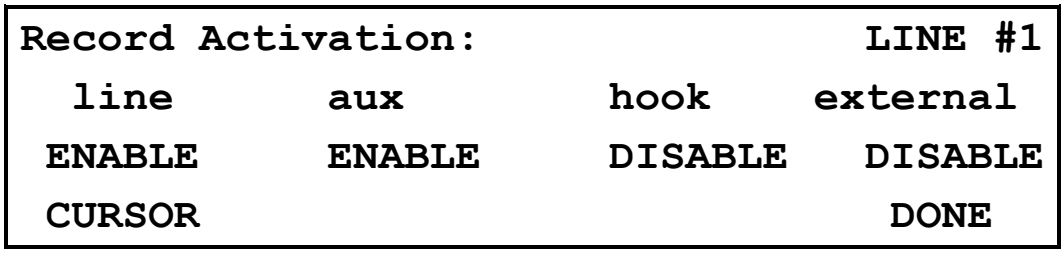

Figure 25: Record Activation Screen

These settings are used by the DIR911t to decide when it should start recording the selected line. One or more of the following methods may activate each line:

Method	Description
LINE	Voice activity on the line (the threshold is set via the VOX Recording Activation menu) can cause recording to begin.
AUX	Voice activity on the AUX (the threshold is set via the VOX Recording Activation menu) can cause recording to begin.
HOOK	Hook Voltage on the telephone line (the threshold is set via the Adjust Off Hook Activation menu) can cause recording to begin.
EXTERNAL	Grounding of the appropriate pin (see Table #19) can cause recording to begin.

Table 6: Line Activation Methods

Use the encoder to scroll through the choices. Each can be explicitly enabled or disabled. Press the CURSOR soft key to select the source. Press the DONE soft key to effect the change and exit the menu.

VOX Record Activation Threshold

The VOX recording activation level setup screen is shown in Figure #26.

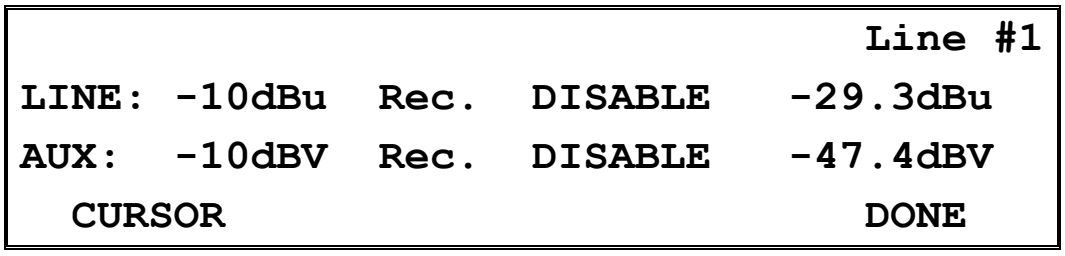

Figure 26: VOX Record Activation Threshold Screen

This setting is used by the DIR911t to decide if there is enough voice activity on the telephone or auxiliary line to start recording. If at any time the voice level on the telephone line is above this value ***and*** the "line" setting in the line activation mechanism screen is enabled the DIR911t will activate the line and start recording. If at any time the auxiliary level is above this value ***and*** the "aux" setting in the line activation mechanism screen is enabled the DIR911t will activate the line and start recording.

Use the encoder to select the threshold value. Press the CURSOR soft key to select between the LINE and AUX thresholds. Press the DONE soft key to effect the change and exit the menu.

Set VOX Hold Time

The telephone voice (VOX) activity hold time screen is shown in Figure #27.

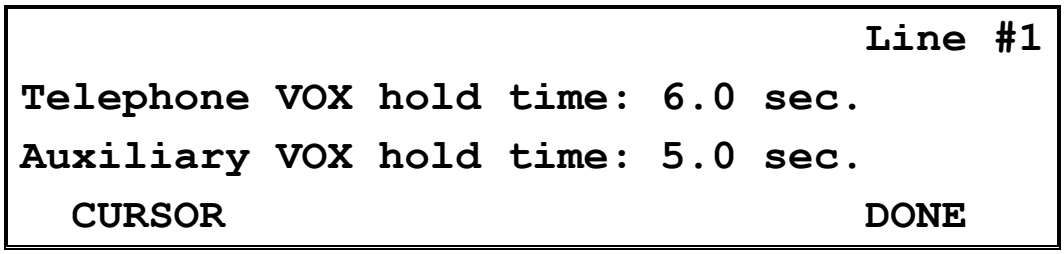

Figure 27: Telephone Activity Hold Time Screen

This setting is used by the DIR911t to decide whether to stop recording based on the length of time since the last activity level on the phone was above the threshold. If the voice detector hasn't detected voice activity on the telephone line ***and*** the VOX setting in the line deactivation mechanism screen is enabled the DIR911t will stop recording.

Use the encoder to select the time value. Press the CURSOR soft key to select between telephone VOX or auxiliary VOX. Press the DONE soft key to effect the change and exit the menu.

Off Hook Activation Level

The off hook activity activation level setup screen is shown in Figure #28.

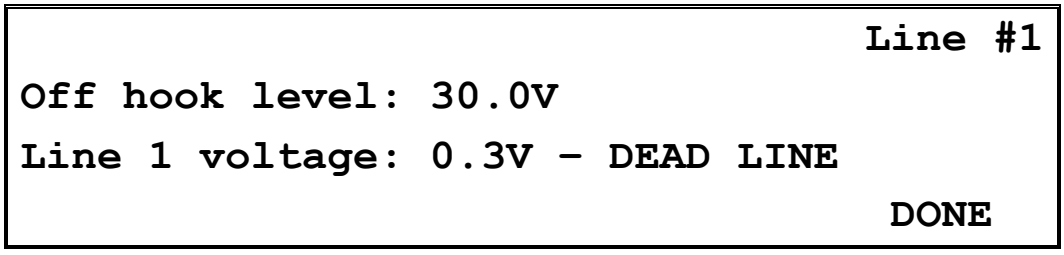

Figure 28: Off Hook Activation Level Screen

This setting is used by the DIR911t to decide if the line voltage is low enough to constitute an off hook condition. If at any time the line voltage is below this threshold

and the HOOK setting in the line activation mechanism screen is enabled the DIR911t will activate the line and start recording. For convenience, the voltage for the current line (as well as its current state) is shown.

Use the encoder to select the threshold value. Press the DONE soft key to effect the change and exit the menu

Test External Relay Closure Activation

The external indication test screen is shown in Figure #29.

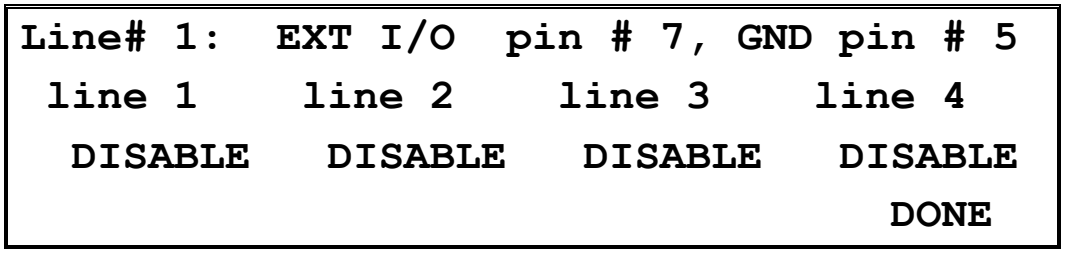

Figure 29: Test External Closure Screen

This screen is used to show the state of the external connections that may affect the unit's decision to start recording a call.

Press the DONE soft key to exit the screen.

Audible Beep Level

The audible beep level screen is shown in Figure #30.

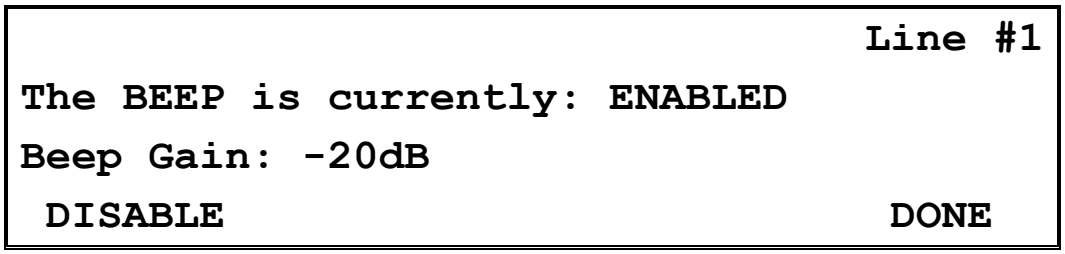

Figure 30: Audible Beep Level Screen

This screen is used to adjust the level of the audible beep that is placed on the telephone line when the line is actively recording.

Use the encoder to select the level. Press the DISABLE soft key to quickly disable the beep. Press the DONE soft key to effect the change and exit the menu.

NOTE: The lowest setting for the level is OFF which means that no audible beep is emitted when the system is recording the line.

ALI/ANI Setup

The ANI setup screen is shown in Figure #31.

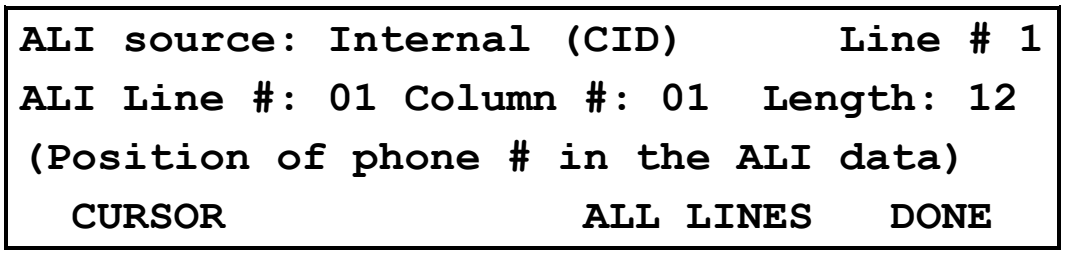

Figure 31: ALI/ANI Setup Screen

This screen is used to set the source of line information: CID (internal caller ID recovered from the line), Automatic Number Information (ANI), and Automatic Location Information (ALI). When set to Internal (CID), circuitry in the DIR911t uses Caller ID to extract the ANI information and presents it on the screen. When set to out of band, circuitry external to the DIR911t is responsible for recovering the ANI information and sending it to the unit via the ANI serial ports.

When set to ANI, circuitry external to the DIR911t recovers the Caller ID information and sends it to the unit for display. The serial message format is identical to Caller ID (the only difference being that the circuitry used to demodulate the CID information is external to the unit).

When ALI data are available, the DIR911t can extract the telephone number identification of the calling party from the data. You will need to set the line number, column number, and the length of the incoming caller's phone number. Using these parameters, the DIR911t will extract the phone number from the ALI serial byte stream. Here is an example of an ALI data stream and how you would set those three parameters:

```
WARNING-LINE
201-641-1200     MM:SS MM/DD/YY
CITIZEN'S NAME
STRNUM TRL PRE STREET NAME
STREET NAME CONT D     SUFX DIR
MAP COORDINATE
COMMUNITY                    ST
BUILDING ID
UNIT         FLR           CLAS
PILOT # NPA-NXX-XXXX         ESN
PSAP IDENTITY
LAW                NPA-XXX-XXXX
FIRE               NPA-XXX-XXXX
EMS                NPA-XXX-XXXX
CF # NPA-XXX-XXXX     LEC
```

If the ALI data received by the DIR911t are in the above from, you would set the line number to 2 for the 2nd line, you would set the column number to 1 for the 1st character of the 2nd line, and you would set the length to 12 to include all numbers in the phone number (including the dashes).

NOTE: The format of ALI data changes from state to state and sometimes from county to county. You will need to verify the format of your particular location. The DIR911t assumes that the data is always formatted as 16 rows with 32 columns (carriage return/new line are ignored in the character count).

Use the CURSOR soft key to select which parameter you wish to change. Use the encoder to select the value. Use the ALL LINES soft key to apply the changes to all the lines.

Configure ALI/ANI Serial Ports

The ALI/ANI serial port configuration screen is shown in Figure #32.

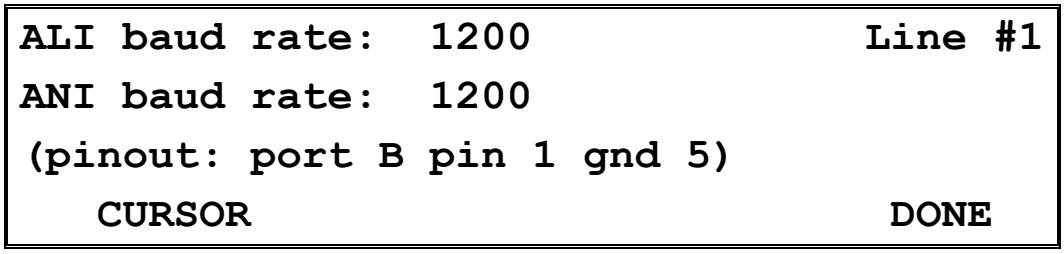

Figure 32: Configure ALI/ANI Serial Ports Screen

This screen is used to set the BAUD rate of the ALI and ANI serial ports. The values supported by the DIR911t are 9600, 4800, 2400, 1200, and 300. Use the encoder to select the appropriate BAUD rate. Use the CURSOR soft key to select the ALI or ANI serial port. Use the DONE key to exit the menu.

Centralized Archiving Setup

The centralized archive setup screen is shown in Figure #33.

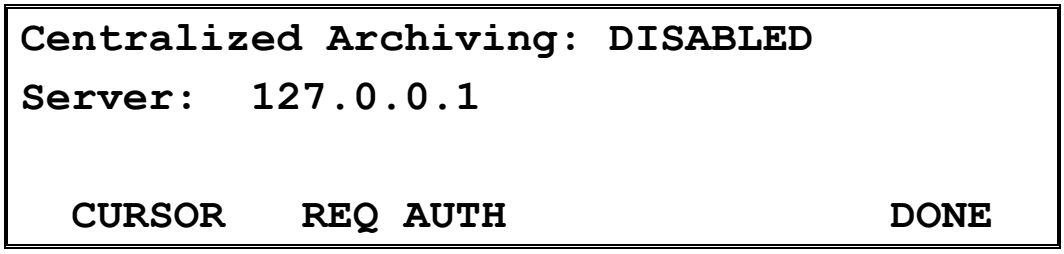

Figure 33: Centralized Archive Setup Screen

This screen is used to configure and enable the DIR911t centralized archiving task. Use the CURSOR key to move between the configuration fields.

The "Centralized Archiving" field is used to enable or disable centralized archiving.

The "Server" field is used to specify the IPv4 or hostname of the centralized archive destination. Turn the encoder to the desired value and press the encoder to select that character and move to the next position

The REQ AUTH soft key is used to request authorization from the centralized archiving server (specified in the server field). Once the configuration fields contain the correct information, pressing the REQ AUTH will cause the DIR911t to send a message to the server indicating that it wants to start archiving calls to that server. The user must then, using the server's configuration method, indicate that the DIR911t is approved for centralized archiving to that server. At this point, the DIR911t will connect to the server and begin archiving calls.

Centralized Archive Pointer Setup

The centralized archive pointer setup screen is shown in Figure #34.

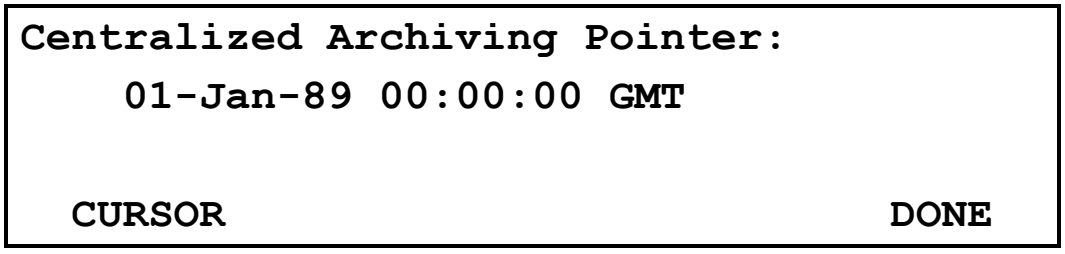

Figure 34: Centralized Archive Pointer Setup Screen

This screen provides a way to set the centralized archive pointer. The centralized archive pointer is a point in time that is used to determine which calls are to be archived. When a call is archived, the pointer advances to the start time of that call and the next unarchived call is scheduled for centralized archiving. Changing the centralized archive pointer will cause all calls that happen on or after that time to be centralize archived, even if they had been previously centralized archived. Press the CURSOR to move between the various fields of the date and time. Turn the encoder to the desired value. Press the DONE soft key to update the pointer and exit this menu.

NOTE: updating the archive pointer may take some time depending on the DIR911t model number and the number of calls currently stored.

Centralized Archive Status

The centralized archive status screen is shown in Figure #35.

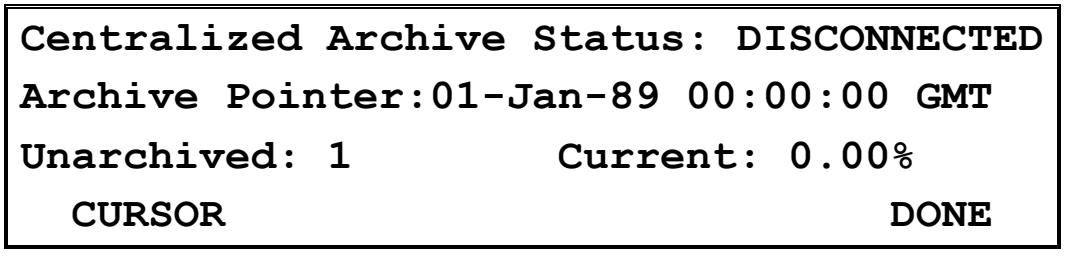

Figure 35: Centralized Archive Status Screen

This screen shows the status of the Centrailzed Archiving task. This includes the state of the task, the current archive pointer, the number of unarchived calls, and the percentage complete of the current call being archived. The RESTART soft key is used to force a

disconnect and (if enabled) an immediate reconnect. Press the DONE soft key to exit this menu.

Date/Time Setup

The date and time setup screen is shown in Figure #36.

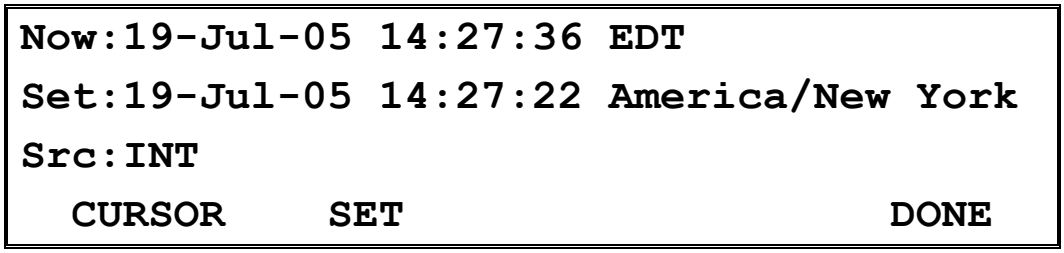

Figure 36: Date & Time Setup Screen

This screen is used to set the unit's time and date. There are many sources to which the DIR911t can synchronize its internal clock. These include its internal battery backed hardware clock, Network Time Protocol (NTP) servers, and NMEA GPS serial streams, and NENA serial streams.

Method	Description
INT	Date/Time information is recovered from the internal hardware clock.
NTP	Date/Time information is received from the designated NTP server.
NMEA	Date/Time information is recovered from the Time port on the rear panel using the NMEA format.
NENA 0	Date/Time information is recovered from the Time port on the rear panel using the NENA 0 format.
NENA 1	Date/Time information is recovered from the Time port on the rear panel using the NENA 1 format.
NENA 2	Date/Time information is recovered from the Time port on the rear panel using the NENA 2 format.
NENA NIS	Date/Time information is recovered from the Time port on the rear panel using the NENA 3 format.
NENA GORGY	Date/Time information is recovered from the Time port on the rear panel using the NENA 4 format.

Table 7: Clock Synchronization Methods

Use the CURSOR soft key to locate the parameter to be changed. Use the encoder to change the parameter. Once all the parameters are set press the SET soft key to effect the changes. Press the DONE soft key to exit the menu.

Ethernet Setup

The Ethernet LAN setup screen is shown in Figure #37.

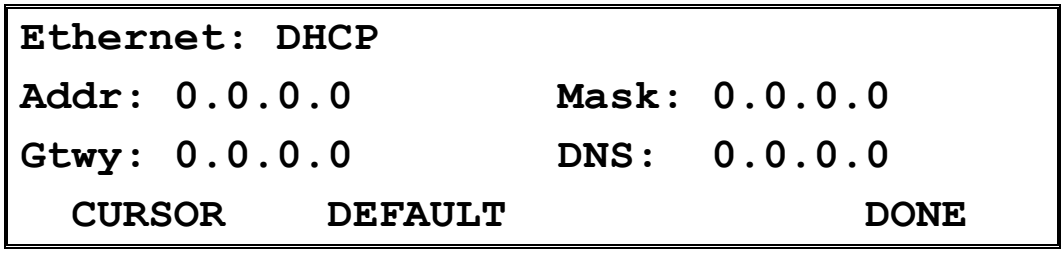

Figure 37: Ethernet Setup Screen

This screen is used to set the IPv4 addresses for the Ethernet port on the unit. There are three settings for Ethernet: OFF, DHCP, and MANUAL. The off setting disables the Ethernet port. The DHCP setting uses the Dynamic Host Configuration Protocol to query an DHCP server for the unit's Ethernet settings. The Manual setting allows the user to specify the addresses manually.

Use the encoder to change the various screen parameters. Use the CURSOR soft key to move the cursor around to the various parameters. Press the DEFAULT soft key to return the Ethernet screen to its default settings. **Press the SYSTEM key to exit the menu without changing anything (for example, to view the IPv4 address without reconfiguring the network port).**

Email Address Setup

The email address setup screen is shown in Figure #38.

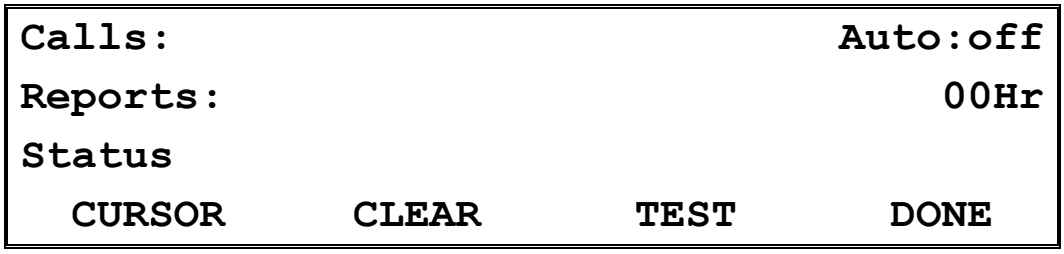

Figure 38: Email Address Setup Screen

The DIR911t is able to send email when certain system alarms are triggered or to forward actual call data as attachments. This screen configures the email addresses to which these messages are sent is entered. The three email addresses configured on this screen are: Calls, Reports, and Status. The Calls email address is the address to which a call is sent (from the RECALL mode screen). The Reports email address is where periodic DIR911t reports are sent. The status email address is the address to which the DIR911t internal system log (a log of all activity pertaining to the operation of the box) is sent.

The Auto: field is used to define when call emails are sent. Off means that no call data is sent. Save means that call data will be sent when the call is marked as save. All means that the call will be emailed when the call has finished recording.

Use the encoder to adjust the selected parameter. The CURSOR soft key used to select the appropriate parameter to adjust. The CLEAR soft key erases the entered email address. The TEST soft key will send a test email to the addresses. Press the DONE key to exit the menu.

Email Server Setup

The email server setup screen is shown in Figure #39.

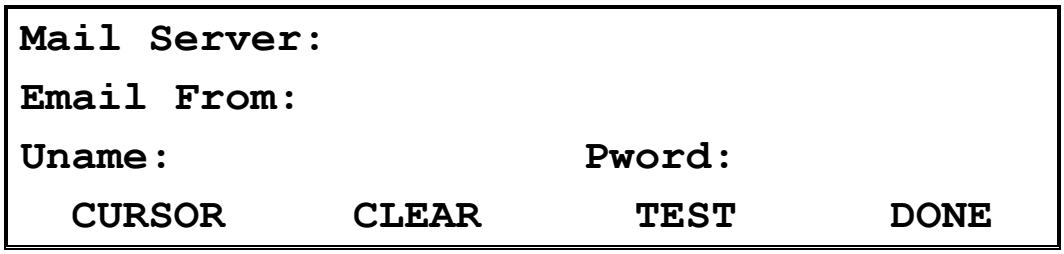

Figure 39: Email Server Setup Screen

This screen is used to configure the email server (sometimes called an SMTP server) that the DIR911t will use to send email. The Mail Server: field is the IP address or fully qualified domain name of the email server. The Email From: field is the address that is placed in the "from" field of the email. To prevent spam and other email abuse, many SMTP servers are configured to authenticate the user before email can be sent. So the DIR911t has a Uname (user name) and Pword (password) field for entering this information.

The protocol used by the DIR911t to send emails is ESMTP with Login authentication. If you are unable to receive emails from the unit, check with your system administrator to make sure your email server is configured to accept this protocol.

Use the encoder to adjust the selected parameter. The CURSOR soft key used to select the appropriate parameter to adjust. The CLEAR soft key erases the entered names/addresses. The TEST soft key will send a test email to the addresses. Press the DONE soft key to exit the menu.

Security Level

The security level screen is shown in Figure #40.

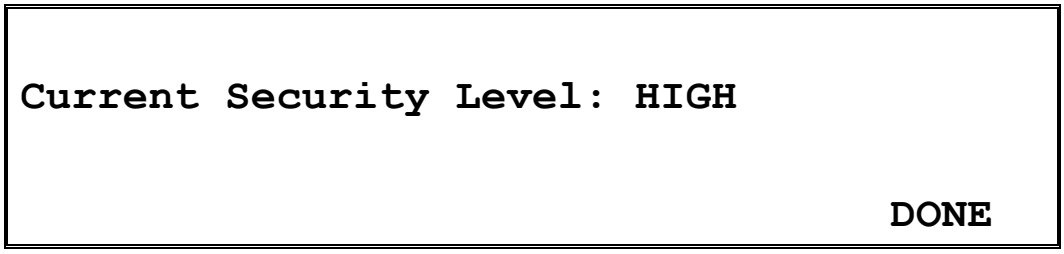

Figure 40: Security Level Screen

This screen is used to adjust the security level of the unit. There are two settings HIGH and LOW. When the box is in the LOW security setting, entry into the system menus is **not** password protected. When the box is in the HIGH security setting, entry into the system is password protected.

Use the encoder to select the security level. Press the DONE soft key to effect the changes.

Use the encoder to select the desired value. Use the CURSOR soft key to select which field to update. Press the DONE soft key to effect the change and exit the menu.

Password Setup

The password setup screen is shown in Figure #41.

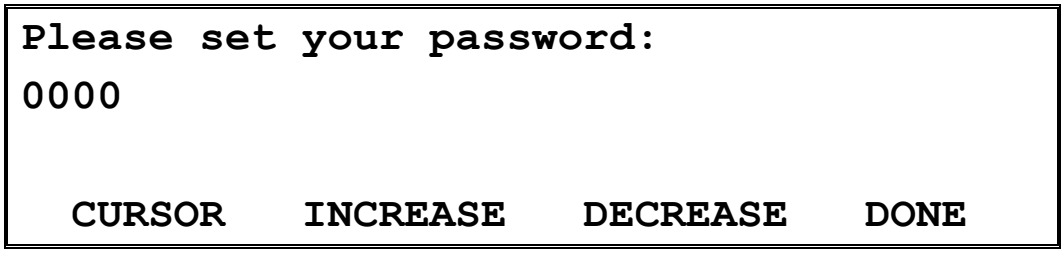

Figure 41: Password Setup Screen

This screen is used to set the password for the unit. The password is used to control access to the system setup screen when in high security mode.

Use the encoder knob to increase or decrease the value. Pressing the encoder knob will move the cursor one location to the right. Use the CURSOR soft key to move the cursor one position to the right. Press the DONE soft key to effect the changes.

Add-On License Key

The Add-On License Key screen is shown in Figure #42.

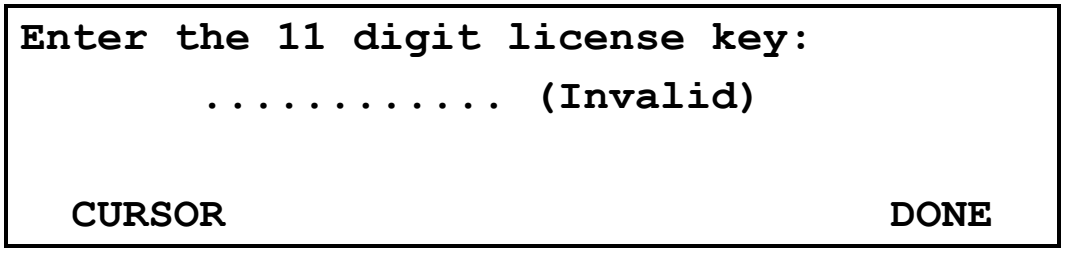

Figure 42: Add-On License Key Screen

Use this screen to enter add-on license keys to enable optional enhanced DIR911t functionality. The encoder selects the character. Push the encoder to advance the cursor by one position. The CURSOR soft key will reposition the cursor at the beginning of the key. Once the license key is valid, the display will indicate this. Press the DONE softkey to record the new key or to exit if the key is invalid.

Add User

The Add User screen is shown in Figure #43.

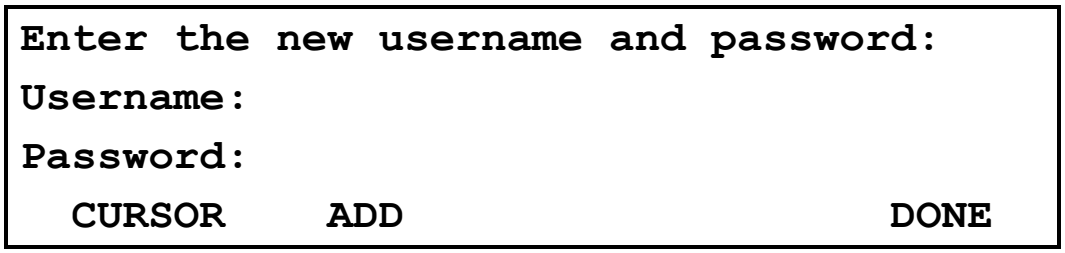

Figure 43: Add User Screen

Use this screen to add new remote users. The encoder selects the character. Push the encoder to advance the cursor by one position. The CURSOR soft key will select either the Username field or the Password field (it will also reposition the cursor to the beginning of each field). When the Username and Password fields are correct, press the ADD key to add the user. Press the DONE softkey to exit the menu.

NOTE: The unit is shipped with a default user named "Eventide" with a password of "12345" (quotes not included). You may use this to initially connect with MediaWorks/MediaAgent. It is highly recommended that upon adding another user, the default account be deleted (or, at the very least, the password changed).

Delete User

The Delete User screen is shown in Figure #44.

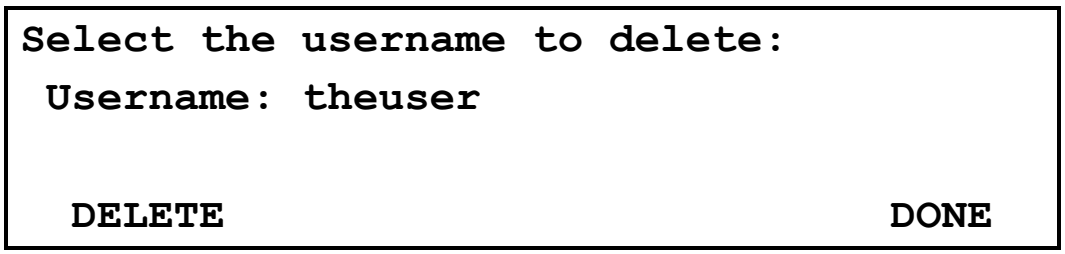

Figure 44: Delete User Screen

This is screen is used to delete a remote user. The encoder selects the username to delete. Pressing the DELETE softkey will permanently delete the user from the list of remote users. Press the DONE softkey to exit the menu.

Configure Line Name

The line naming screen is shown in Figure #45.

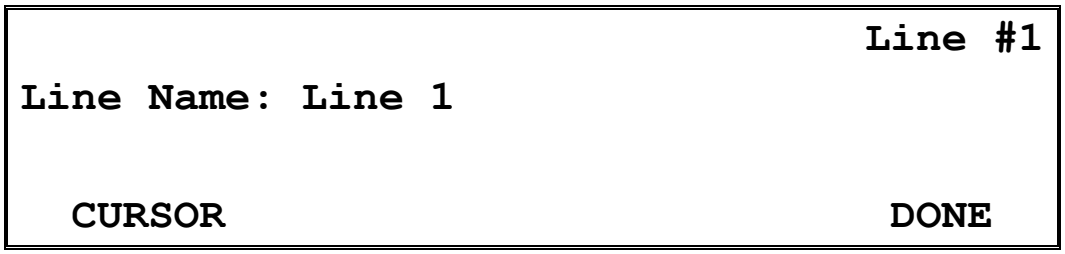

Figure 45: Line Naming Screen

This screen provides a way to individually name the lines of the DIR911t. The line name is predominately used when the DIR911t is configured for centralized archiving or call browsing (using Eventide's MediaWorks recorder client). Press the LINE button to move through the various lines. Turn the encoder to the desired character and press the encoder to select that character and move to the next position. Use the CURSOR soft key to reposition the cursor to the beginning of the name. Press the DONE soft key to save the line name and exit this menu.

Split Mode

The total call count screen is shown in Figure #50.

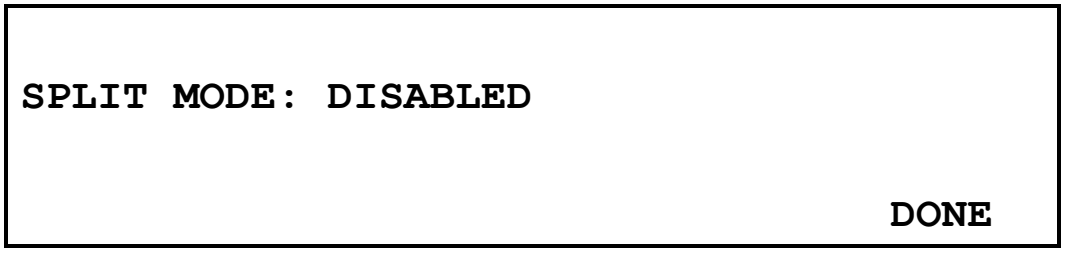

Figure 46: Split Mode Screen

This screen is used to enable/disable split mode operation. Depending on how the DIR911t is licensed, turning the knob will enable split 6 or 8 channel operation. See the Split Mode Chapter for more information.

Import/Export System Configuration

The Import/Export System Configuration screen, shown in Figure #47, provides a way to import and/or export the current DIR911t system configuration. Importing/Exporting is done via a USB key. Exporting a configuration creates a file on the USB key named dir911t.cfg which contains the entire box configuration. Importing a configuration requires a file named dir911t.cfg which contains a previously exported DIR911t configuration and requires a system reboot for the imported settings to take effect.

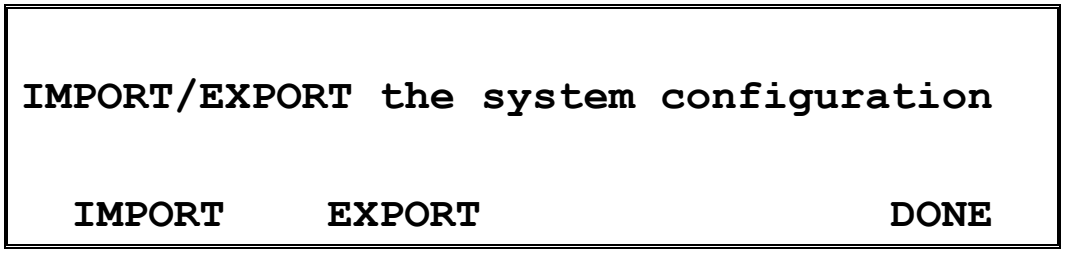

Figure 47: RAID Import/Export System Configuration Screen

Insert a USB key into the USB socket and press the IMPORT key to import saved configuration (remove the key when the unit returns prompts you to reboot the unit). Insert a USB key into the USB socket and press the EXPORT key to export the current configuration (remove the key when the unit returns to the System Mode screen). Press the DONE soft key to exit this menu.

Firmware Upgrade

The DIR911t is very robust in its ability to update its internal firmware. There are two was to accomplish an update: USB, and Internet. The USB option requires you to first go to the Eventide update web site (update.eventide.com) and download the latest dir911t.sys file. The latest file on the server is: downloads/dir911t.sys-latest. Copy this file to the USB Hard Drive Key (it must be in the root or top level directory of the key) and rename it dir911t.sys.

If your DIR911t is connected to the Internet and has outbound TCP port 80 (WWW) open (check with your system administrator) you can use the Internet directly to update your DIR911t. In this case, the DIR911t will go out to the Eventide web site (www.eventide.com) and retrieve the dir911t.sys file itself.

To begin an update, enter the setup mode and select the Firmware Upgrade option. You will be presented with the screen shown in Figure #48.

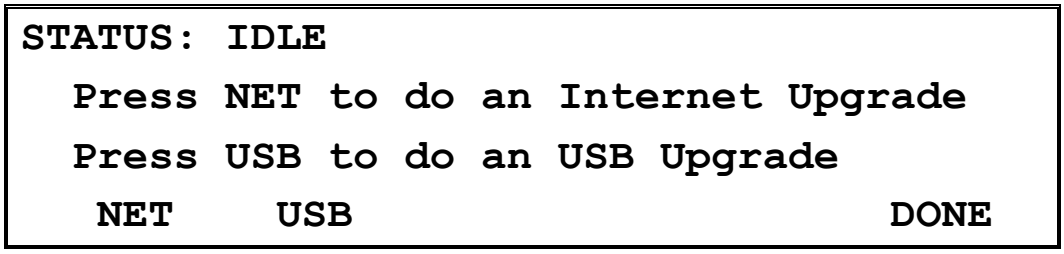

Figure 48: Update Screen

To perform the upgrade via the Internet, simply press the NET key. The DIR911t will locate the latest image file from the Eventide update server, download it, and prompt you to reboot the machine.

To perform the upgrade via an USB key, plug in the key, wait a few seconds for the system to recognize the key, and then press the USB soft key. The system will locate the USB key and copy the dir911t.sys file from the key to the internal storage drive. You will then be prompted to reboot the machine.

Press the DONE key to exit this menu.

Raid Status

The RAID status screen is shown in Figure #49.

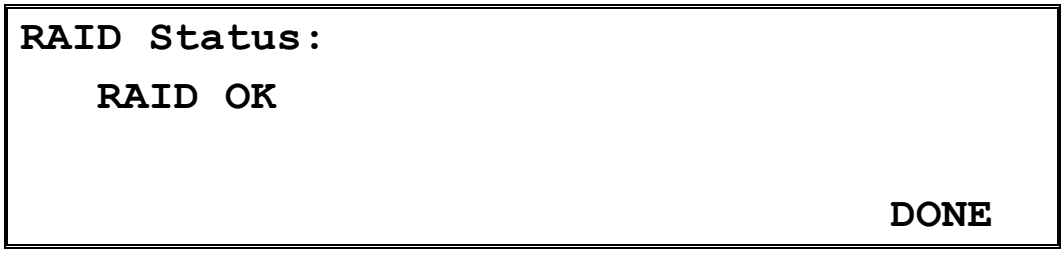

Figure 49: RAID Status Screen

This screen provides a way to ascertain the status of the internal RAID system. If the unit doesn't contain internal hard drives then the screen will indicate that the RAID system is not present. If a RAID drive has failed this screen will indicate its current status and provide options on how to rectify the problem. Press the DONE soft key to exit this menu.

Total Call Count

The total call count screen is shown in Figure #46.

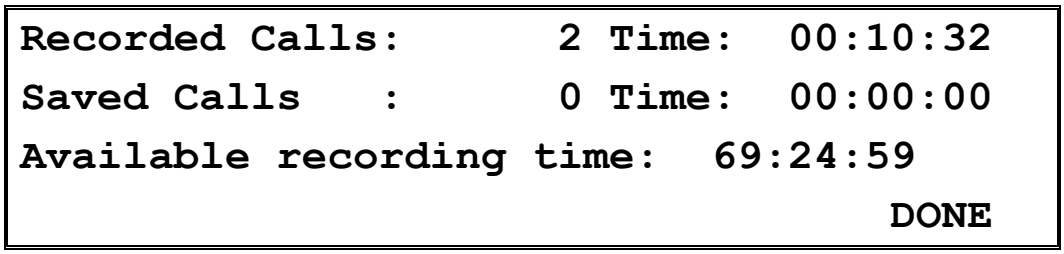

Figure 50: Total Call Count Screen

This screen provides a way to find the total number of calls stored in the unit. Information displayed includes the total number of calls (saved and unsaved) and the remaining call time. There are no parameters on this screen. Press the DONE soft key to exit this menu.

System Halt/Reboot

The system halt/reboot screen is shown in Figure #51.

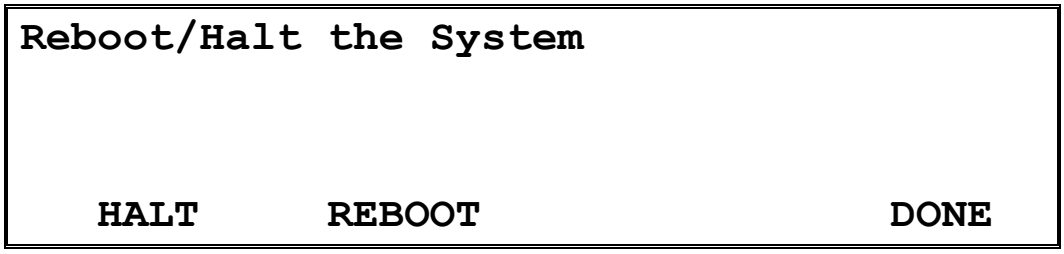

Figure 51: System Halt/Reboot Screen

This screen provides a way to reboot or halt the system. Press the HALT softkey to halt the system. **You must use HALT if you plan to remove power from the system – failure to do so may result in data loss and/or corruption.** The system will indicate that it has been halted by rapidly blinking the JOG/SHUTTLE, SPEED, and FILTER LEDs. Press the REBOOT key to reboot the system. Use this if you simply want to restart the unit.

System Information Screen

The information (INFO) screen is shown in Figure #9.

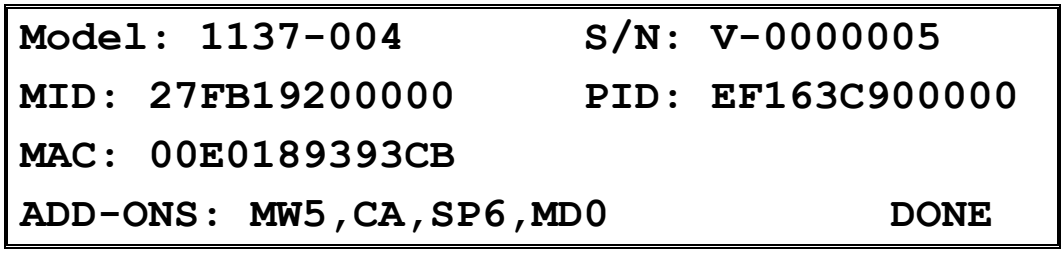

Figure 52: System Information Screen

This screen provides various bits of information about the system. This information may be useful in the event you need to contact Eventide technical support with an issue. There are no parameters on this screen. Press the DONE soft key to exit this menu.

System Alerts Screen

The system alerts screen is shown in Figure #53.

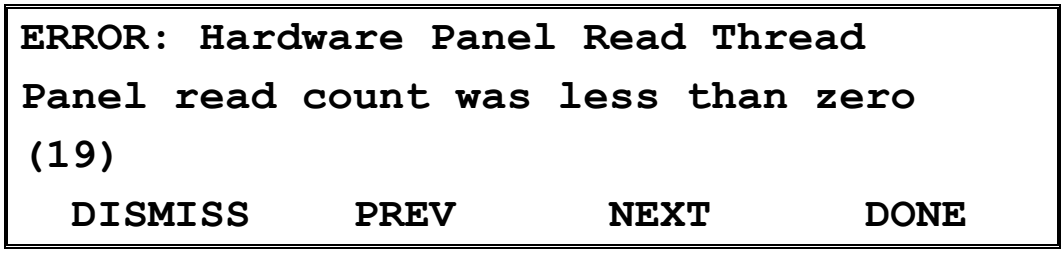

Figure 53: System Information Screen

This screen provides information about anomalies the system has detected. Use the KNOB to scroll through the various alerts. The DISMISS soft key will delete the currently displayed alert. The PREV and NEXT soft keys move to the previous and next alerts. Press the DONE soft key to exit this menu.

Call Filter

The DIR911t has two modes of call filtering: Normal filter and custom filter. Switch between the two by pressing the FILTER key. In normal mode the FILTER LED will be off. In custom mode the FILTER LED will be on.

When the normal filter (FILTER LED off) is selected, the presented calls are filtered by the currently selected line and are ordered by date. All calls that were received on other lines are filtered out. The filter is changed when the line is changed (by pressing the LINE SELECT key).

When the custom filter (FILTER LED on) selected, the calls are filtered by a user defined set of filter criteria. To enter the call filter setup screen, from the main screen press and hold the FILTER key until the screen below is shown:

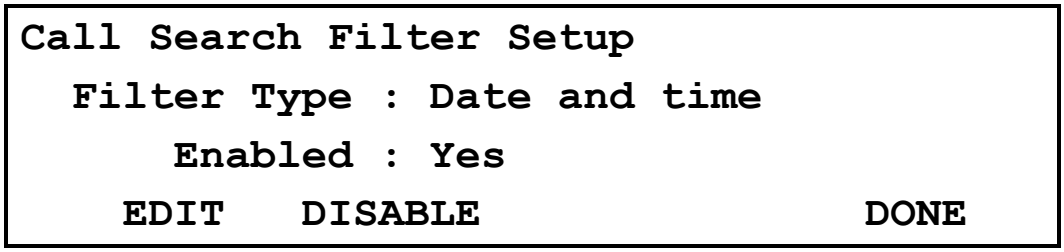

Figure 54: Call Filter Setup Screen

There are four configurable filter types that a call must meet in order to be presented to the user. These are: date and time, incoming line, caller ID digits, and DTMF digits. Setup of these filters is described in the subsections that follow. Each filter may be disabled from consideration if it is not needed and that filter will not be used to determine if a call is a match i.e. a call must meet all enabled filters to be considered a match and disabled filters are not used in the decision.

Use the KNOB to select the filter type. Press the EDIT soft key to edit the parameters of the selected filter. Press the ENABLE (or DISABLE) soft key to ENABLE (or disable) the current filter, and press the DONE key to exit back to the main screen.

Date and Time Filter

The date and time call filter screen is used to constrain the search to include only calls that started within a defined time period. The screen is shown in Figure #55

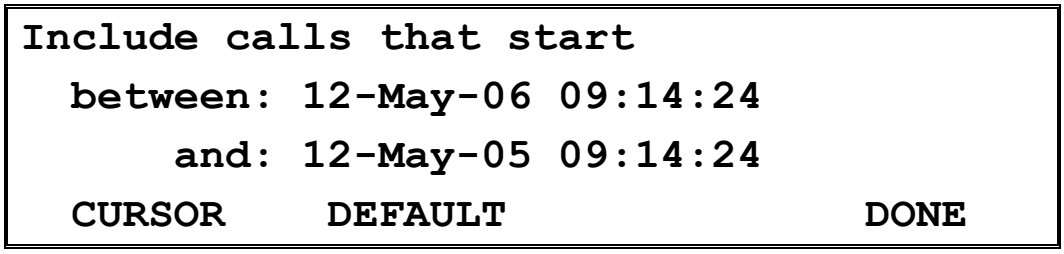

Figure 55: Date and Time Filter Screen

Use the CURSOR soft key to select the various date fields. The KNOB is used to change the value of the currently selected field. The DEFAULT key will return the screen to the default value (which is the current date to start and the current date minus 1 year to end). Press the DONE key to exit back to the call filter setup screen.

Incoming Line Filter

The incoming line filter screen is used to constrain the search to include only calls that were received on certain lines. The screen is shown in Figure #56

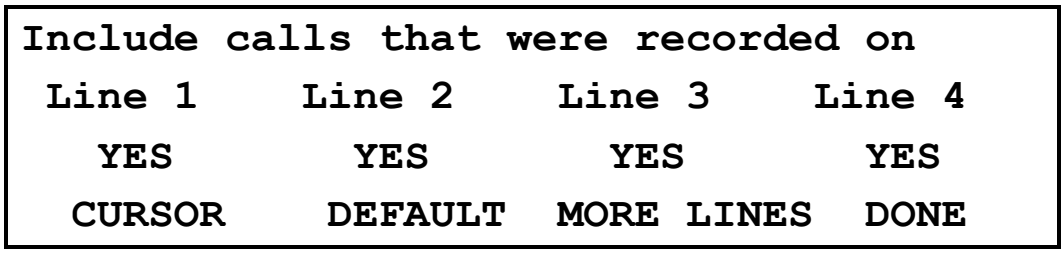

Figure 56: Incoming Line Filter Screen

Use the CURSOR soft key to select the desired line to change. The KNOB is used to change the value of the currently selected field. The DEFAULT key will return the screen to the default value (which is all lines enabled i.e. set to YES). The MORE LINES soft key toggles between Lines 1-4 and Lines 4-8 when split mode is enabled. Press the DONE key to exit back to the call filter setup screen.

DTMF Digits Filter

The DTMF digit filter screen is used to constrain the search to include only calls that were received that start with, contain, or end with a specified series of DTMF digits. The screen is shown in Figure #57

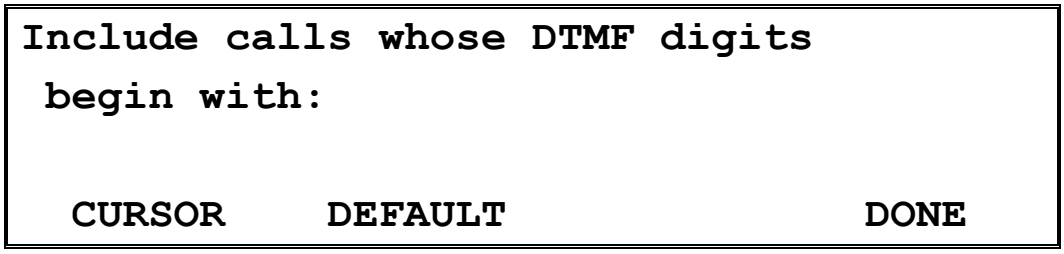

Figure 57: DTMF Digits Filter Screen

Use the CURSOR soft key to select the desired parameter to change. The first field has possible values of "begin with", "contain" and "end with". The second field contains the digits that the call must either begin with, contain, or end with in order to be considered. The KNOB is used to change the value of the currently selected field. The DEFAULT key will return the screen to the default value. Press the DONE key to exit back to the call filter setup screen.

Caller ID Digits Filter

The Caller ID digits filter screen is used to constrain the search to include only calls that were received that start with, contain, or end with a specified series of Caller ID digits. The screen is shown in Figure #58

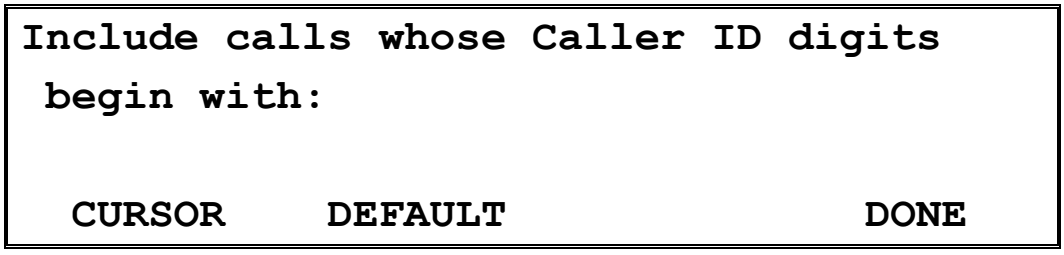

Figure 58: Caller ID Digits Filter Screen

Use the CURSOR soft key to select the desired parameter to change. The first field has possible values of "begin with", "contain" and "end with". The second field contains the digits that the call must either begin with, contain, or end with in order to be considered. The KNOB is used to change the value of the currently selected field. The DEFAULT key will return the screen to the default value. Press the DONE key to exit back to the call filter setup screen.

Split Mode

The DIR911t can operate in one of two modes: normal mode and split mode. In normal mode, each channel is derived from either the line input, the aux input, or a mix of the two as selected by the Recording Priority Screen. Settings that correspond to the both line and aux inputs are used by the channel to decide when to start/stop recording.

In split mode operation, each input source (line or aux) is routed to its own channel, which, depending on how split mode is licensed, essentially doubles the number of channels in the unit. Split mode can be licensed for either 6 channel (line 1-4 and aux 1-2) or 8 channel (line 1-4 and aux 1-4) operation.

When in split mode, channels 1-4 behave as if the Recording Priority Screen were set to "Line Input" and Channels 5-6/8 would behave as if it were set to "Aux Input". The activation methods associated with a given input carry over form normal operation. From the Record Activation Screen: line, hook, and external are triggers that would be used to activate line input recording (i.e. channels 1-4). The aux trigger would be used to activate aux recording (i.e. channels 5-6/8). The values used for these fields are the same as those used in the normal mode.

Said another way, normal and split mode operation both use the same values for all parameters. In normal mode all parameters are used for channels 1-4. In split mode operation, line specific settings are used for channels1-4 and aux specific settings are used for channels 5-6/8.

Factory Defaults

The Table #8 specifies the factory defaults of the DIR911t.

Parameter	Default Setting
Security Setting	HIGH
Password	0000
Recording Activation (all lines)	PHONE ACTIVITY: Enabled AUX ACTIVITY: Enabled OFF HOOK ACTIVITY: Disabled EXTERNAL INPUT: Disabled
Voice Activity Threshold (all lines)	-10dBFS
Auxiliary Activity Threshold (all lines)	-10dBFS
Off Hook Activity Threshold (all lines)	30V
Phone Input Gain (all lines)	+12dB
Auxiliary Input Gain (all lines)	+12dB
Autorestore Time	25 Seconds
Voice Activity Hold Time	6 Seconds
Audible Beep Level	OFF
ANI Setup (all lines)	Internal Caller ID
Re-Record Output Level	0dB
Monitor Output Level	0dB
Ethernet LAN	DHCP

Table 8: Factory Defaults

Connector Pinouts

Front Panel

This section details the connector pinouts for the connectors located on the front panel of the DIR911t. Each connector's relative location on the unit is shown in Figure #59.

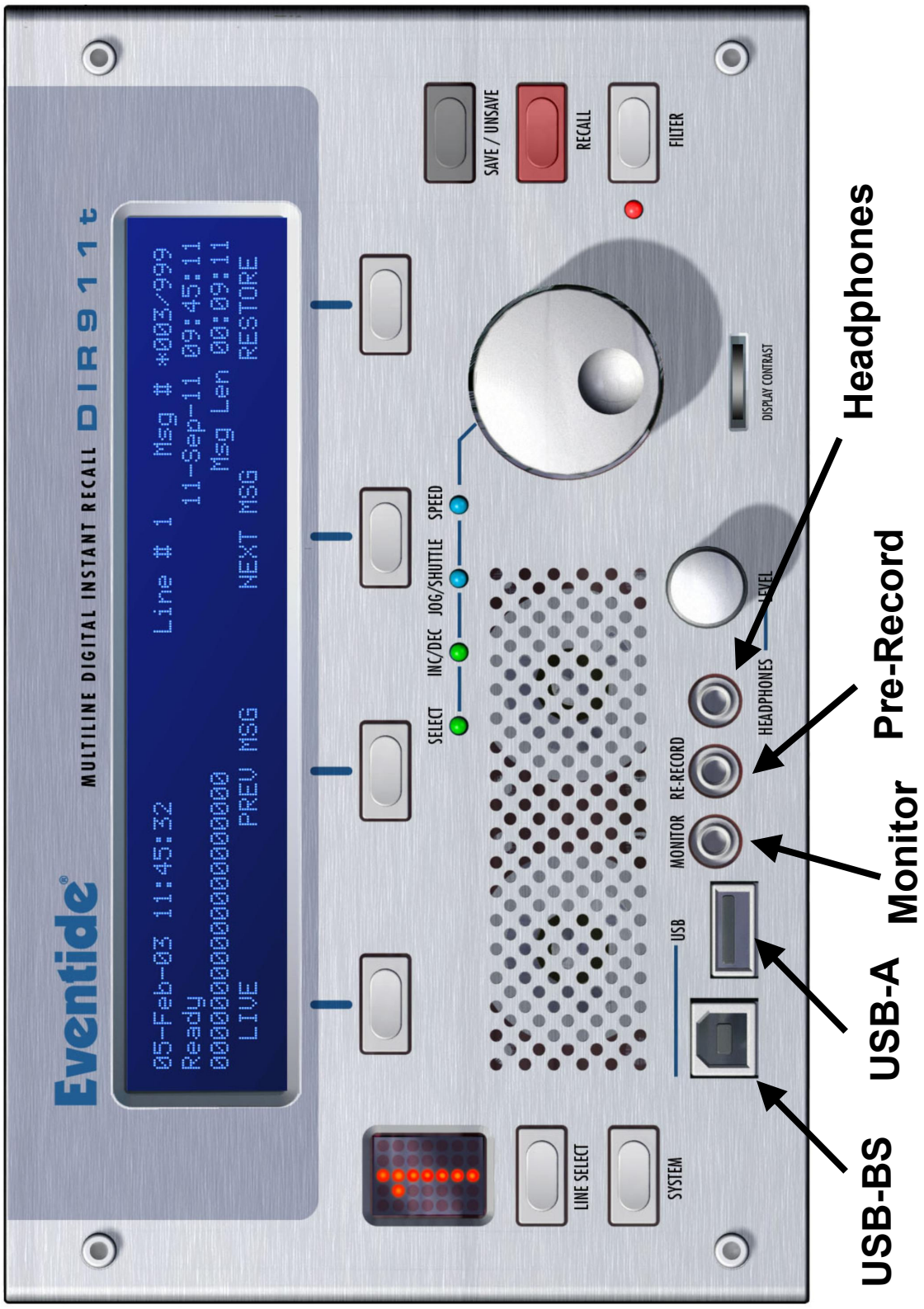

Figure 59: Front Panel Connector Locations

Each of the individual connectors is described in the subsections that follow.

USB A "Host Side" Connector

There is a single "Host Side" USB A type connector on the front panel. This connector is used to connect the unit to standard USB peripherals such as USB Hard Drive Keys. The pin diagram for this connector is shown in Figure #60 and the pin description is shown in Table #9.

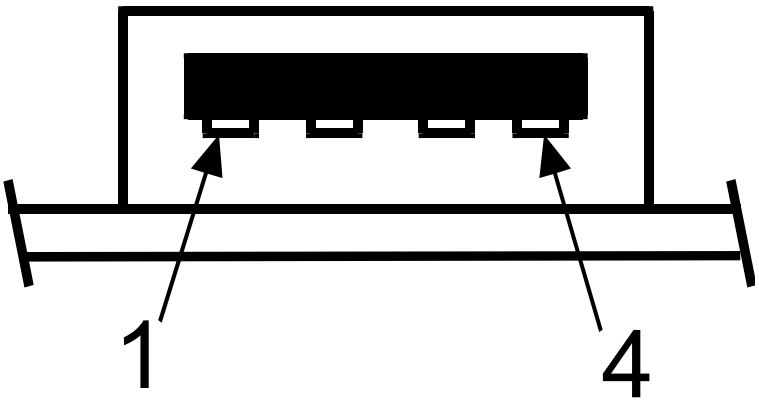

Figure 60: Front Panel USB A Connector Pin Diagram

Pin	Description
1	Vbus
2	D-
3	D+
4	Ground

Table 9: Front Panel USB A Connector Pin Description

USB B "Peripheral Side" Connector

There is a single "Host Side" USB B type connector on the front panel. This connector is used to connect the unit to standard USB hosts such as laptops or PocketPCs. The pin diagram for this connector is shown in Figure #61 and the pin description is shown in Table #10.

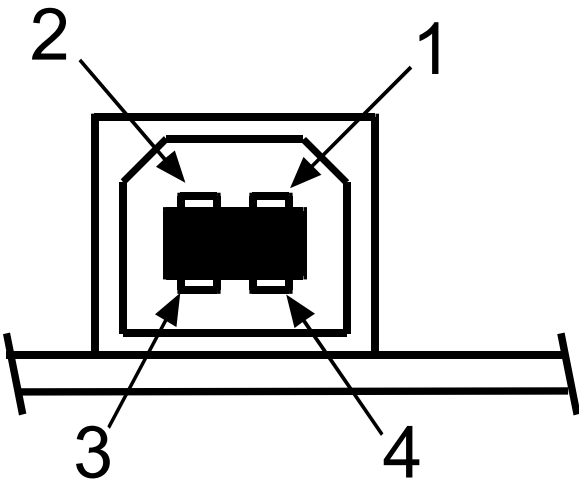

Figure 61: Front Panel USB B Connector Pin Diagram

Pin	Description
1	Vbus
2	D-
3	D+
4	Ground

Table 10: Front Panel USB B Connector Pin Description

Monitor Output Connector

There is a 3.5mm Tip-Ring-Sleeve (TRS) connector that provides the monitor output signal. This connector is used to connect the unit to standard audio recording devices that have industry standard line level inputs. The mating connector for this jack is shown in Figure #62 and the pin description is shown in Table #11.

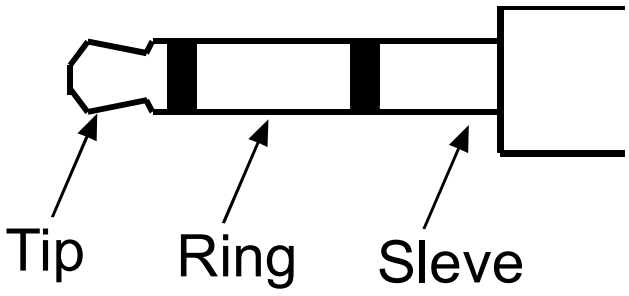

Figure 62: Front Panel Monitor Connector Pin Diagram

Pin	Description
TIP	Left
RING	Right
SLEVE	Ground

Table 11: Front Panel Monitor Connector Pin Description

Re-Record Output Connector

There is a 3.5mm Tip-Ring-Sleeve (TRS) connector that provides the re-record output signal. This connector is used to connect the unit to standard audio recording devices that have industry standard line level inputs. The mating connector for this jack is shown in Figure #63 and the pin description is shown in Table #12.

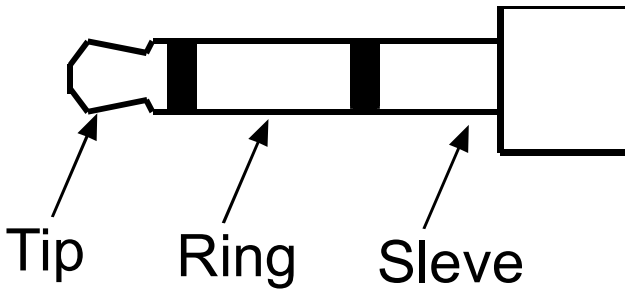

Figure 63: Front Panel Re-Record Connector Pin Diagram

Pin	Description
TIP	Left
RING	Right
SLEVE	Ground

Table 12: Front Panel Re-Record Connector Pin Description

Headphone Output Connector

There is a 3.5mm Tip-Ring-Sleeve (TRS) connector that provides the headphone output signal. This connector is used to connect the unit to headphones. The mating connector for this jack is shown in Figure #64 and the pin description is shown in Table #13.

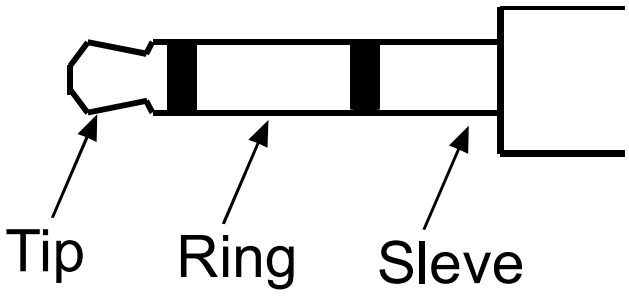

Figure 64: Front Panel Headphone Connector Pin Diagram

Pin	Description
TIP	Left
RING	Right
SLEVE	Ground

Table 13: Front Panel Headphone Connector Pin Description

Rear Panel

This section details the connector pinouts for the connectors located on the rear panel of the DIR911t. Each connector's relative location on the unit is shown in Figure #66.

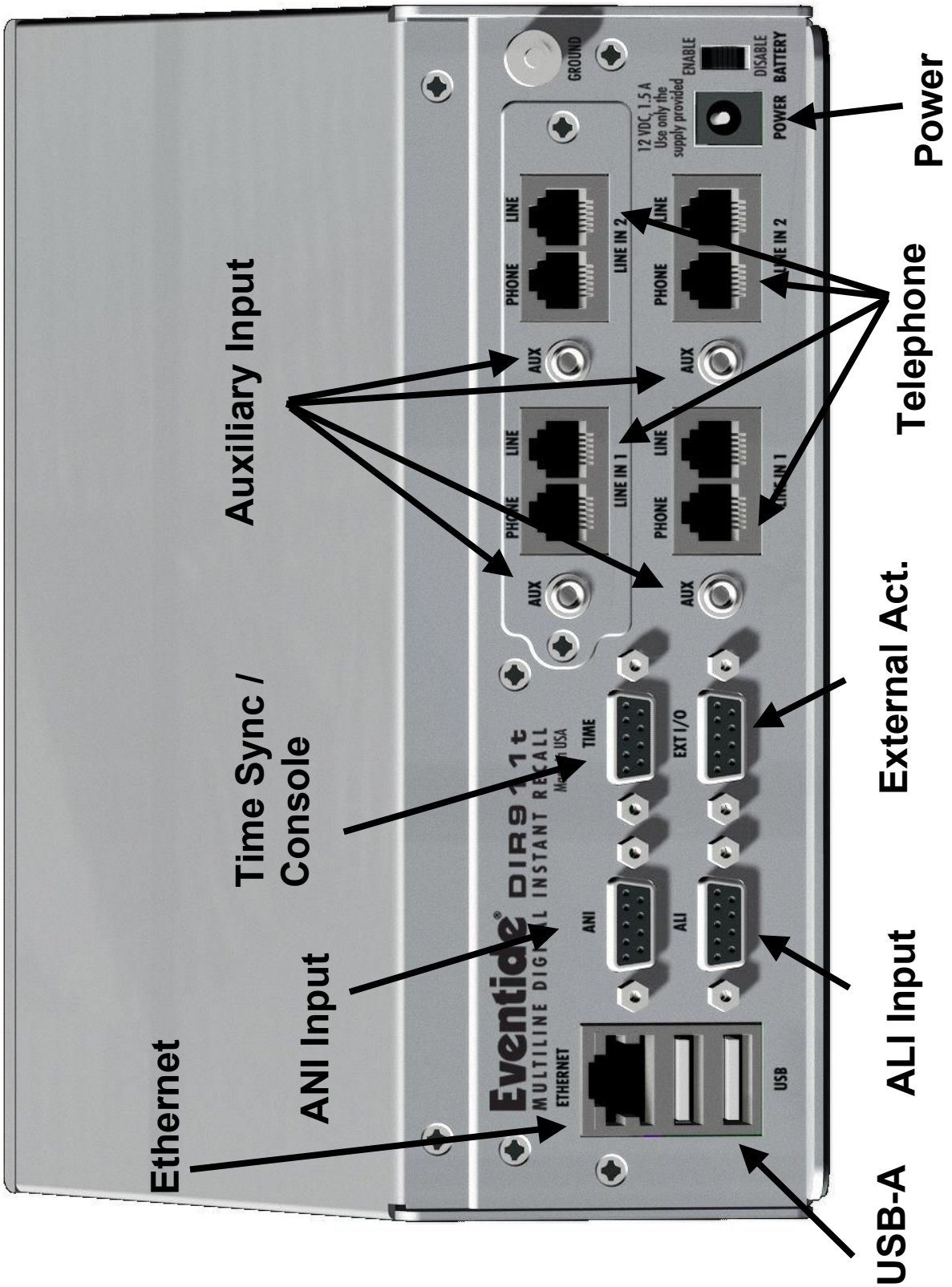
Ethernet
ANI Input
Time Sync / Console
Auxiliary Input
Telephone
Power
External Act.
ALI Input
USB-A
ETHERNET
USB
ANI
ALI
TIME
EXT I/O
AUX
PHONE
LINE
LINE IN 1
LINE IN 2
GROUND
12 VDC, 1.5 A
Use only the supply provided
ENABLE
DISABLE
BATTERY
POWER

Figure 65: Rear Panel Connector Locations

Figure 66: Rear Panel Connector Locations

Each of the individual connectors is described in the subsections that follow.

Power Input Connector

There is a 2.1mm DC barrel type connector on the rear panel that provides DC power to the unit. This should only be connected to the DC power supply provided with the unit. The mating connector for this jack is shown in Figure #67 and the pin description is shown in Table #14.

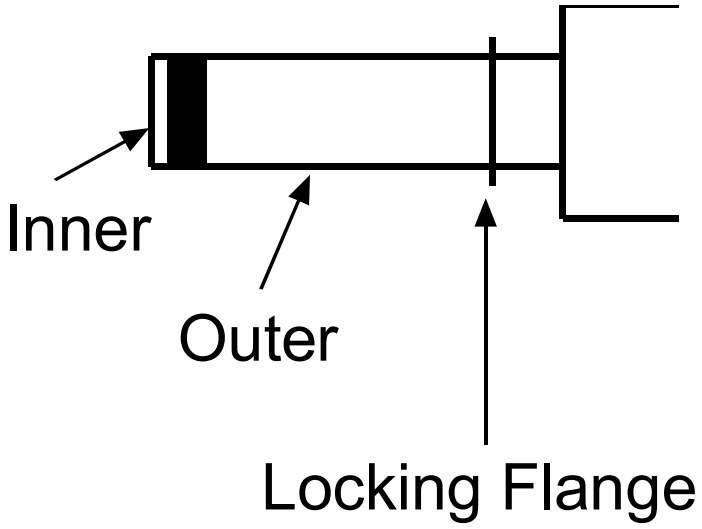

Figure 67: Rear Panel DC Power Connector Pin Diagram

Pin	Description
INNER	+12V at 1.5A
OUTER	Ground

Table 14: Rear Panel DC Power Connector Pin Description

Telephone Line Connectors

There are at least two (and up to four) "dual" RJ-11 telephone line connectors on the rear panel used to connect the unit to telephone lines. The units are "dual" in that there are two physical connectors for each line and the two connectors are pinned out identically. The connector pin diagram is shown in Figure #68 and the pin description is shown in Table #15.

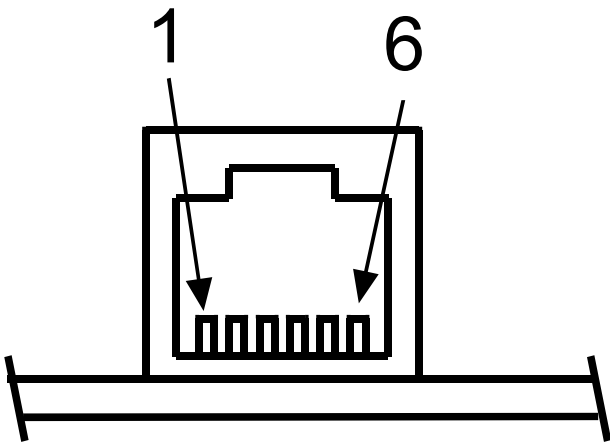

Figure 68: Rear Panel Telephone Line RJ-11 Connector Pin Diagram

Pin	Description
1	No Connect
2	No Connect
3	Tip
4	Ring
5	No Connect
6	No Connect

Table 15: Rear Panel Telephone Line RJ-11 Connector Pin Description

Auxiliary Input Connectors

There are at least two (and up to four) 3.5mm Tip-Ring-Sleeve (TRS) connectors on the rear panel that provides the auxiliary inputs for each line. This connectors are used to connect the unit to standard audio playback devices that have industry standard line level outputs. These jacks accept both differential and single ended signals (although there is a 6dB gain reduction for single-ended signals). The mating connector for this jack is shown in Figure #69 and the pin description is shown in Table #16.

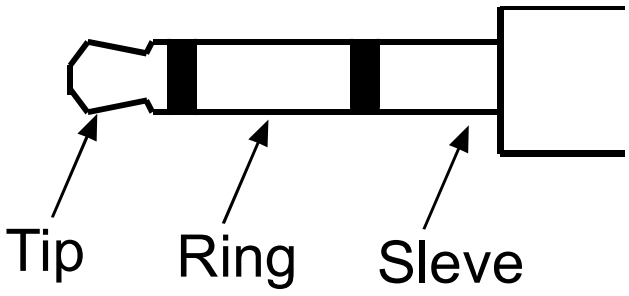

Figure 69: Rear Panel Auxiliary Input Connector Pin Diagram

Pin	Description
TIP	Audio Signal +
RING	Audio Signal -
SLEVE	Ground

Table 16: Rear Panel Auxiliary Connector Pin Description

ALI Input Connector

A single DB-9 type connector on the rear panel is used to connect ALI providing equipment to the unit. The serial signals are standard RS-232 levels. The pin diagram for this connector is shown in Figure #70 and the pin description is shown in Table #17.

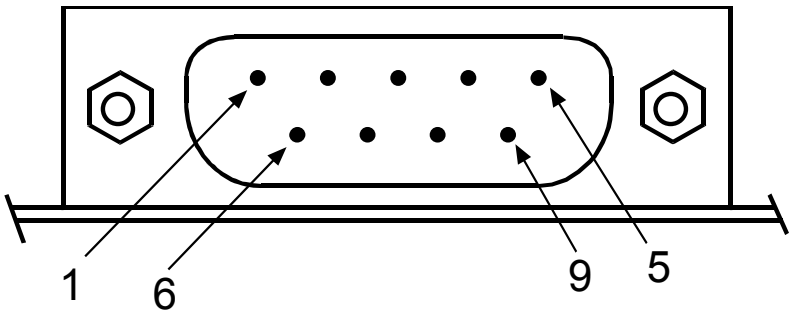

Figure 70: Rear Panel ALI DB-9 Connector Pin Diagram

Pin	Description
1	Line #1 ALI Input
2	Line #3 ALI Input
3	ALI Monitor Output (Factory Use Only)
4	No Connect
5	Ground
6	Line #2 ALI Input
7	No Connect
8	Line #4 ALI Input
9	No Connect

Table 17: Rear Panel ALI DB-9 Connector Pin Description

ANI Input Connector

A DB-9 type connector on the rear panel is used to connect ANI providing equipment to the unit. The serial signals are standard RS-232 levels. The pin diagram for this connector is shown in Figure #71 and the pin description is shown in Table #18.

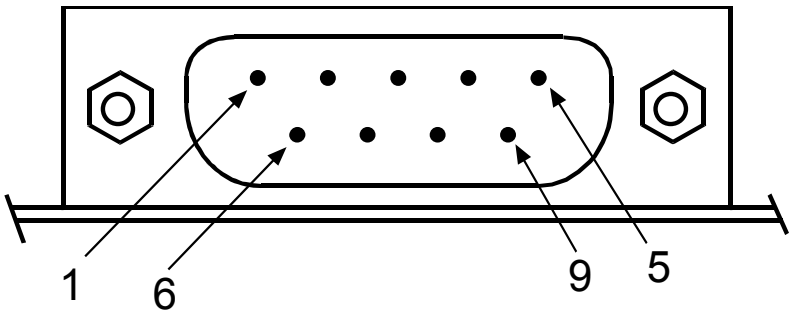

Figure 71: Rear Panel ANI DB-9 Connector Pin Diagram

Pin	Description
1	Line #1 ANI Input
2	Line #3 ANI Input
3	ANI Monitor Output (Factory Use Only)
4	No Connect
5	Ground
6	Line #2 ANI Input
7	No Connect
8	Line #4 ANI Input
9	No Connect

Table 18: Rear Panel ANI DB-9 Connector Pin Description

External Activity Connector

A single DB-9 type connector on the rear panel is used to control the external activity capabilities of the box. This connector provides a standard RS-232 signal level input for each line that can be used to activate the line. The connector also provides a standard RS-232 signal level output for each line that is used to indicate that the line is active. The

pin diagram for this connector is shown in Figure #72 and the pin description is shown in Table #19.

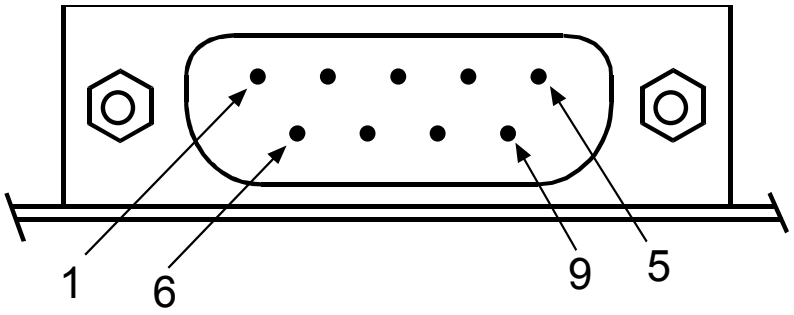

Figure 72: Rear Panel External Activity DB-9 Connector Pin Diagram

Pin	Description
1	Line #1 Active Input
2	Line #3 Active Input
3	Line #2 Activate Output
4	Line #3 Activate Output
5	Ground
6	Line #2 Active Input
7	Line #1 Activate Output
8	Line #4 Active Input
9	Line #4 Activate Output

Table 19: Rear Panel External Activity DB-9 Connector Pin Description

Time Sync Input / Console Connector

A single DB-9 type connector on the rear panel is used to for the time synchronization port, for the console port, and for the external failure alarm indication. These signal levels use standard RS-232 signal levels. The pin diagram for this connector is shown in Figure #73 and the pin description is shown in Table #20.

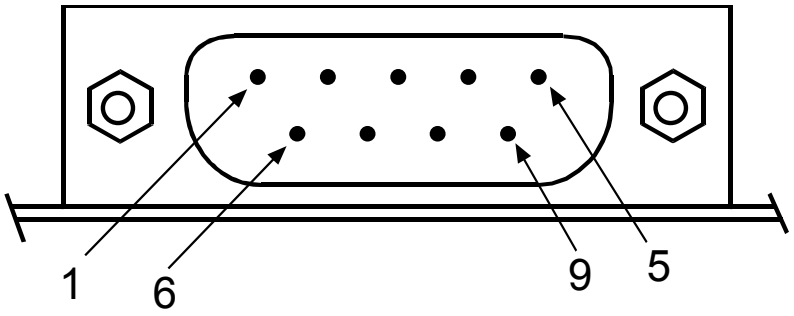

Figure 73: Rear Panel Time Sync/Console DB-9 Connector Pin Diagram

Pin	Description
1	Time Sync Pulse Per Second Input
2	Time Sync Receive Input
3	Time Sync Transmit Output
4	+5V @ 250mA Fused Power
5	Ground
6	No Connect
7	Console Transmit Output
8	Console Receive Input
9	System Alarm Output

Table 20: Rear Panel Time Sync/Console DB-9 Connector Pin Description

USB A "Host Side" Connectors

There are two "Host Side" USB A type connectors on the rear panel. These connectors are used to connect the unit to standard USB peripherals such as USB Hard Drive Keys. The pin diagram for this connector is shown in Figure #74 and the pin description is shown in Table #21.

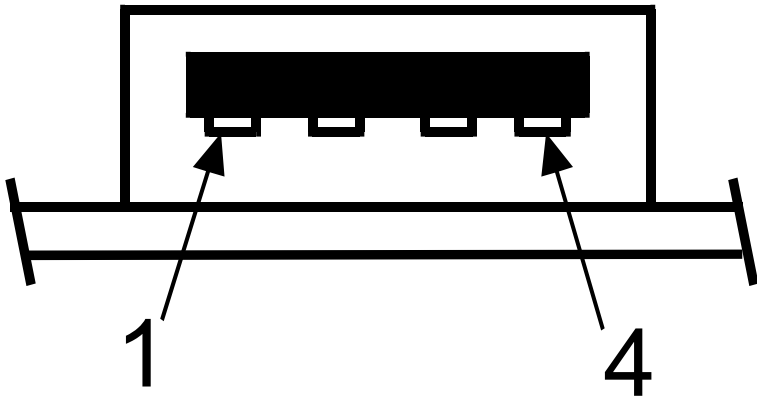

Figure 74: Rear Panel USB A Connector Pin Diagram

Pin	Description
1	Vbus
2	D-
3	D+
4	Ground

Table 21: Rear Panel USB A Connector Pin Description

Ethernet Connector

A single RJ-45 type connector on the rear panel is used to connect the unit to an Ethernet LAN. The pin diagram for this connector is shown in Figure #75 and the pin description is shown in Table #22.

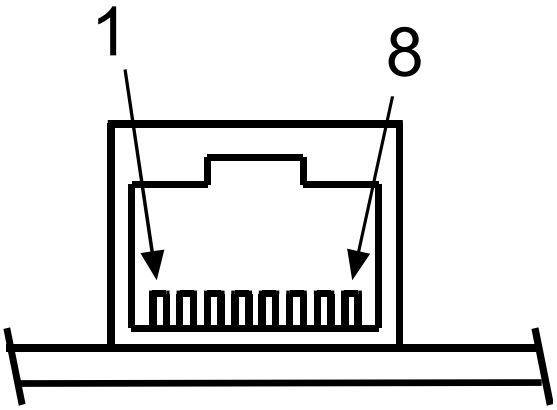

Figure 75: Rear Panel Ethernet RJ-45 Connector Pin Diagram

Pin	Description
1	Transmit +
2	Transmit -
3	Receive +
4	No Connect
5	No Connect
6	Receive -
7	No Connect
8	No Connect

Table 22: Rear Panel Ethernet RJ-45 Connector Pin Description

Reference Documents

The following reference documents may be useful to the reader/user by providing additional information about certain aspects of the DIR911t unit.

Connectors/Connections

- Universal Serial Bus Specification Version 1.1. Available from the USB Trade Association (www.usb.org).
- IEEE 802.3 Specification (otherwise known as Ethernet). Available from the Institute for Electrical and Electronic Engineers (www.ieee.org).
- EIA232 Specification (otherwise known as RS-232). Available from Electronic Industries Associations (www.eia.org).
- Understanding Telephone Electronics, Third Edition, by Stephen J. Bigelow. ISBN: 0-672-27350-0
- Sound Reinforcement Handbook by Gary Davis and Ralph Jones. ISBN: 0-88188-900-8.

Protocols

- Network Time Protocol. More information is available at www.ntp.org.
- SSH, The Secure Shell by Daniel Barrett and Richard Silverman. ISBN: 0-596-00011-1.
- Hypertext Transport Protocol. Available from the World Wide Web Consortium (www.w3.org).
- Hypertext Markup Language. Available from the World Wide Web Consortium (www.w3.org).

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