Advanced Installation Meter 2
Operation Manual

DIRECTV

innovative technology to keep you a ***step ahead***

Putting Innovation Within Reach

Product innovation at Trilithic has always been characterized by one thing: it's practical. It makes life easier for customers. It's the natural result of listening to them. That philosophy has been the driving force behind the company's growth from its beginnings as a two-man engineering team in 1986 to its current position as a global manufacturer with more than 130 employees.

A privately held company, Trilithic broadened its original RF and microwave component product line by acquiring filters manufacturer Cir-Q-Tel and instruments manufacturer Texscan, adding broadband solutions to the product line. The company also expanded operations to Thailand in 2001, to meet increasing demand for its products in the growing markets of Asia.

As new communications applications continue to emerge, part of Trilithic's business has evolved into managing change—helping customers respond quickly to market opportunities with innovative technology and individualized solutions. But the core value of Trilithic's business approach—listening to customers—hasn't changed. Keeping that focus intact will help provide better products in the long run and ensure continued growth for decades to come.

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Chapter 1

General Information

Where to Get Technical Support

When you need instructions for using the AIM, your first resource for help is this manual. If you cannot find the information you need, you can:

- Go to the DIRECTV Satellite Installer website or other websites provided by DIRECTV. DIRECTV websites contain product specifications and information, tips, release information, marketing information, Frequently Asked Questions (FAQs), bulletins and other technical information. You can also check these websites for product updates.
- Contact Solid Signal at 877.312.4547 or email info@solidsignal.com.

For quicker support response when calling or sending e-mail, please provide the following information:

- Your name and your company name
- The technical point of contact (name, phone number, e-mail)
- The AIM serial number, firmware and hardware version numbers
- A detailed description of the problem you are having, including any error or information messages

Warranty

Trilithic, Inc. warrants that each part of this product will be free from defects in materials and workmanship, under normal use, operating conditions and service, for a period of fifteen (15) months from date of shipment. The obligation of Trilithic, Inc. under this warranty shall be limited, at the sole option of Trilithic, Inc., to replacing the product or repairing any defective part.

This warranty and the rights created hereunder are neither transferable nor assignable without the prior written consent of Trilithic, Inc.

Replaceable items such as batteries, soft cases, and input connectors, etc. are not included nor covered by this warranty.

The remedy set forth herein shall be the only remedy available to the Buyer under this warranty, and, in no event, shall Trilithic, Inc. be liable for incidental or consequential damages for any alleged breach of this warranty. This warranty shall not apply to any part of the product that, without fault of Trilithic, Inc., has been subsequently altered or modified, nor shall it apply to any failure caused by a part not supplied by Trilithic, Inc. and subsequently attached to or incorporated into the product. This warranty shall not apply to any damage caused by accident, fire, or other casualty, negligence, misuse, or to any cause whatsoever other than as a result of a defect directly attributable to Trilithic, Inc.

Except for the warranty and exclusions set forth above, and the warranties, if any, available to the buyer from those who supply Trilithic, Inc., there are no warranties, express or implied (including, without limitation, any implied warranty or warranty of merchantability of fitness for a particular purpose), with respect to the condition of the product.

Return Policy

Before returning a product for service, please call Solid Signal at 877.312.4547 for further instructions.

How this Manual is Organized

This manual is divided into the following chapters:

- **Chapter 1: General Information** provides Trilithic contact information and describes how this operation manual is structured.
- **Chapter 2: Introduction** introduces what the AIM is and what it does. This chapter discusses the practical application, connections and controls of the AIM. Finally, this chapter discusses the battery of the AIM and how to update your firmware.
- **Chapter 3: Getting to Know Your Meter** describes a brief overview of the features, buttons, and controls of the AIM.
- **Chapter 4: Setting Up the Meter** describes how to configure and operate the AIM. This chapter provides instructions for entering registration information, as well as setting the meter's volume, display contrast and brightness, time limits for power-saving features, and date and time.
- **Chapter 5: Setting Up a Job** describes the steps needed to set up the information for the installation job. This chapter provides instructions for entering the account number, selecting the ODU type, selecting the switch type, and entering the zip code.Chapter 5, "Appendix" shows the technical specifications of the AIM as well as any error codes that may appear on the display screen of the AIM.
- **Chapter 6: Installing an ODU** describes the steps needed for aligning and performing follow-up Extended Installation Verification (EIV) for each ODU. This chapter provides instructions for how to complete these processes using the AIM.
- **Chapter 7: Performing EIV** describes the steps needed to perform Extended Installation Verification (EIV) at selected points in the distribution network to quickly confirm that the installation is satisfactory for all supported orbital slots. EIV is an easy way to pinpoint any potential problems with the installation. This chapter provides instructions for performing EIV at the ODU and other locations in the distribution network.
- **Chapter 8: Performing Other Network Tests** describes the steps to The AIM stores records for tests performed on the AIM, as well as screenshots. This chapter provides instructions for how to view records, delete records, and transfer records to or from the AIM using a USB flash drive.

- **Chapter 9: Managing Records** describes the steps needed to to view records, delete records, and transfer records to or from the AIM using a USB flash drive.
- **Chapter 10: Updating the Meter** describes the steps needed for updating the meter's firmware.
- **Chapter 11: Appendix** shows the technical specifications of the AIM.

Conventions Used in this Manual

This manual has several standardized conventions for presenting information:

- Connections, menus, menu options, and user-entered text and commands appear in **bold**.
- Section names, web, and e-mail addresses appear in *italics*.

A NOTE is information that will be of assistance to you related to the current step or procedure.

A CAUTION alerts you to any condition that could cause a mechanical failure or potential loss of data.

A WARNING alerts you to any condition that could cause personal injury.

Precautions

Do not use the AIM in any manner not recommended by the manufacturer.

A strong electromagnetic field may affect the measurement accuracy of the AIM.

Use only the battery charger supplied with the AIM.

All spent batteries should be disposed of according to local laws and guidelines.

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Chapter 2

Introduction

What is the AIM?

Overview

Congratulations on your new Advanced Installation Meter (AIM) 2! The AIM 2 was developed in collaboration with DIRECTV to provide customized features for installing and troubleshooting DIRECTV satellite receiver systems.

The AIM is a rugged meter suitable for both indoor and outdoor use. When fully charged, the AIM can be used to install satellite receiver systems in approximately six single-family homes on a single charge. Both an AC power adapter and a convenient vehicle power adapter are provided for charging the meter. The carrying case protects the meter and its accessories during transport and storage.

The AIM's large display and keypad make it easy to navigate to the features you need. On-screen directions guide you through ODU installation, Extended Installation Verification (EIV), and other test processes.

The AIM lets you track information for each account, including account settings and test results. You can also transfer this information from the meter to a PC using a USB flash drive.

New Wi-Fi, Bluetooth, and Ethernet connectivity provide for easier firmware updates and report uploads, as well as through the USB port.

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Chapter 3
Getting to Know Your Meter

Overview

Before using your instrument, take a few minutes to familiarize yourself with the instrument, its basic conventions, and its navigational tools. This section provides a brief overview of the instrument's features, buttons, and controls.

Equipment Supplied with the AIM

The AIM comes with the following:

- AIM meter
- Carrying case (with shoulder strap and hand strap)
- 100 – 240 VAC power adapter
- 12 VDC vehicle power adapter
- 25 Ω cable test load
- 2 GB USB flash drive (containing AIM Operator Manual)

Replacement Parts

The following replacement parts are available for the AIM:

Part Number	Description
2131596000	Carrying case (with shoulder strap and storage pocket)
0610177000	100 – 240 VAC power adapter
2072097000B	12 VDC vehicle power adapter
0090070000	Battery pack
0200690000	"F" connector
2011379000	25 Ω cable test load
0930157003	2 GB USB flash drive (containing AIM Operator Manual)

A Guided Tour of Your AIM

Front View

1. **IRD F Connector**
2. **ODU F Connector**
3. **Softkeys –** Select options that correspond to the onscreen labels above
4. **Arrow buttons** – Navigate up and down to select an option in a list, as well as right or left when entering information
5. **OK button** – Selects the option highlighted on the screen
6. **Alphanumeric buttons –** Enter text or select a numbered list option
7. **Back button –** Go back to the previous screen
8. **Function button –** Quickly change the display contrast, display brightness, volume, enable Rain Mode, and capture screenshots
9. **Power button** – Turn on and off the meter (with a long press) or backlight (with a quick press)
10. **HOME button** – Displays the HOME screen
11. **CONFIG button** – View, delete and transfer records, change meter settings, and upgrade the meter's firmware.
12. **HELP button** – Displays instructions to help you complete the task being performed
13. **MUTE button** – Turns on and off the sound on the meter

Right Side View

1. **Gigabit Ethernet Port**
2. **USB 2.0 Port (Type A)**
3. **DC Charge Port**

Back View

1. **Serial number**
2. **Battery door**

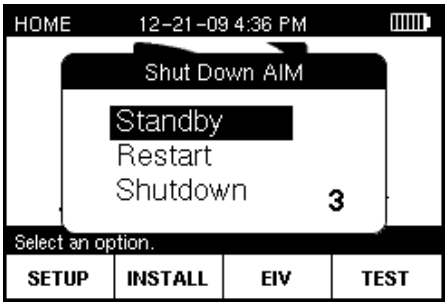
Powering Your Meter

Power-On

To turn on the AIM, press and hold the **POWER** button until the backlight turns on and the meter sounds a tone. The meter turns on, briefly displays a splash screen, and then displays the **HOME** screen.

To start a job, press **SETUP** and follow the instructions in “Starting a Job” in Chapter 5.

Standby Mode



You can place your AIM in a power-saving state called **Standby** mode. Standby mode lets you turn off the AIM display and other features to extend the charge of the battery. You can quickly exit Standby mode and resume working on the screen where you left off.

Press and hold the **POWER** button until the **SHUT DOWN AIM** screen appears.

Use the up/down arrow buttons to highlight **Standby** and press **OK**. The meter enters Standby mode.

To exit Standby mode, press the **POWER** button.

Restart

Press and hold the **POWER** button until the **SHUT DOWN AIM** screen appears.

Use the up/down arrow buttons to highlight **Restart** and press **OK**. The meter turns off and restarts.

Power-Off

Press and hold the **POWER** button until the **SHUT DOWN AIM** screen appears.

Use the up/down arrow buttons to highlight **Shutdown** and press **OK**. The meter turns off.

Hard Reset

If the AIM is unresponsive to button presses, perform a hard reset.

Press and hold the **POWER** button for 10 to 30 seconds until the meter turns off.

Wait for several seconds, then press the **POWER** button again. The meter should turn back on.

NOTE

If the AIM does not turn on after a hard reset, connect the AIM to the AC power adapter (see the Battery Charging section later in this chapter), then press the POWER button.

If the meter still does not turn on, return the AIM to Trilithic Customer Service. See the Return Policy section later in the manual.

Power Management

Your AIM is powered by a 6-cell 10.8 Volt 4.4 Ah lithium-ion battery pack. The battery supplies power to the meter, as well as to the LNB and SWiM during installation of an ODU.

When fully charged, the AIM's battery provides sufficient power to install satellite receiver systems in approximately six single-family homes on a single charge.

The AIM has the following power-saving features that help to extend the battery charge:

- If no buttons have been pressed on the AIM for 2 minutes, the backlight on the display turns off. The backlight automatically turns back on when you press any button on the meter.
    - If no buttons on the AIM have been pressed for 10 minutes, the meter enters a power-saving mode called **Standby**. The AIM automatically exits Standby mode when you press and hold the **POWER** button until the backlight turns on.
      If no buttons on the AIM have been pressed for 30 minutes, the meter automatically turns off. To turn the meter on, press and hold the **POWER** button until the backlight turns on.
    - You can customize the time periods for each of the power-saving features on the AIM (see Chapter 4: Setting Up the Meter). However, extending the time period longer than the default setting shortens the time that the battery charge lasts.


NOTE

If you are using your AIM for the first time, you should fully charge the battery before use. See the following Battery Charging section.


NOTE

You can quick press the POWER button to toggle the display backlight on/off.

Battery Charging

You can charge the AIM's battery from a power outlet using the AC power adapter provided with the meter. After the initial charge, you also can charge the AIM in your vehicle while the vehicle is running using the vehicle power adapter. The AIM can be charged while it is powered off or while it is powered on, which allows you to use the AIM while it is charging.

The battery icon in the top right of the AIM display indicates the power level of the battery. To prevent the AIM from shutting down during an installation, recharge the battery before the battery icon shows only one remaining bar of power. If the battery icon flashes, the battery should be immediately recharged to prevent shut down. Allowing the AIM to shut down due to low battery does not harm the battery or the meter. However, the meter should not be left with a depleted battery for an extended period (such as weeks or months of storage).

You should fully charge the AIM's battery before you use it for the first time.

1. Plug the AC power adapter into a power outlet, or with your vehicle running, plug the vehicle power adapter into a 12 VDC socket (such as a cigarette lighter socket).
2. Plug the other end of the power adapter into the AIM's power input connector.

   The charging process begins. A plug icon appears at the top of the display and the bars in the battery icon sequentially flash to show that the meter is charging. (If the meter is off, a battery icon appears on the display.)
3. When the charging process is complete, the display shows a filled battery icon.

   Unplug the power adapter from the AIM's charging connector. Then unplug the other end from the power outlet or 12 VDC socket.

To protect the battery pack, the meter does not allow battery charging when ambient temperatures are above 113°F (45°C) or below 32°F (0°C).

Use only the AC power adapter or vehicle power adapter provided with the meter to charge the meter battery.

For maximum battery performance, the battery must be fully charged prior to its first use. To maintain battery level accuracy, it is recommended to perform monthly deep battery discharges by allowing the battery charge to fully deplete until the meter powers off, then fully recharging the battery.

Battery Replacement

If necessary, you can replace the AIM's battery. To obtain a new battery, contact Trilithic. See the *Spare Parts List* earlier in the manual.

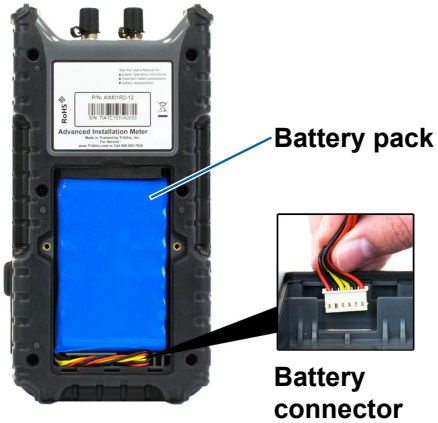
You also can return your AIM to Trilithic Customer Service and request that the battery be replaced. See the *Return Policy* section.

CAUTION

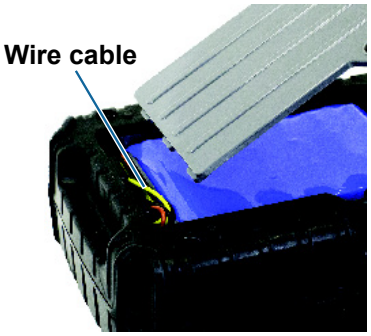
Make sure the AIM is turned off and is not connected to a power source before you remove and replace the battery.

1. Using a Phillips-head screwdriver, loosen and remove the 2 screws from the battery door as shown here.
2. Remove the battery cover by lifting up on the top of the door.

3. Remove the battery pack.
4. Remove the battery connector by pulling straight up.



5. Connect the battery connector into the slot at the bottom right of the cavity (the slot is keyed to only accept proper insertion).
6. Insert the battery so that the cable is in the bottom left corner, as shown here. Place the upper right corner of the battery into the cavity first, so that the foam is compressed to allow the pack to fit snugly.



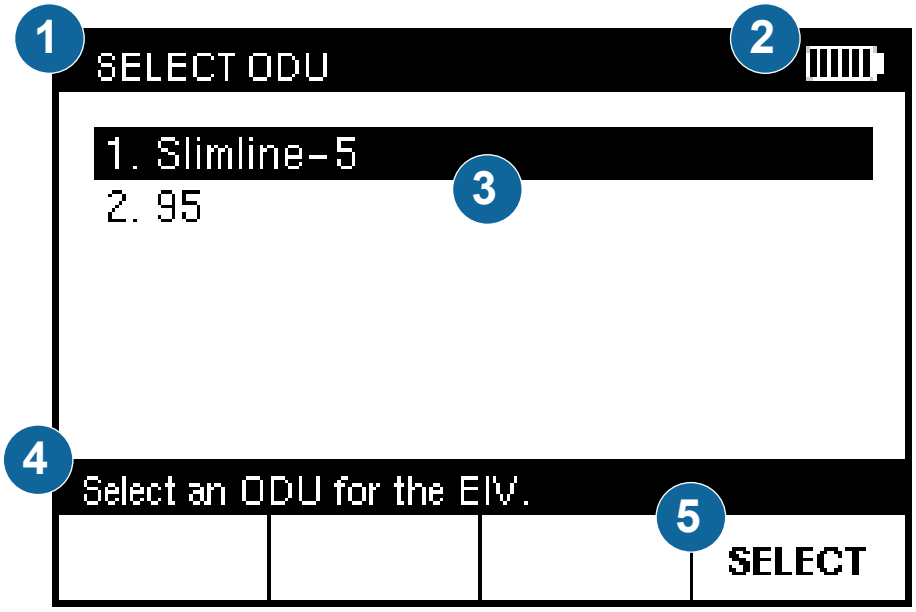
7. Push the wire cable down into the pathway. Then insert the bottom of the battery door into the slots at the bottom of the cavity.
8. Tilt the battery door back into place and tighten the 2 screws with a Phillipshead screwdriver.
9. To confirm that the battery has been installed correctly, press and hold the Power button to make sure that the AIM turns on.
10. Follow local guidelines for battery disposal.

NOTE

After replacing a battery, the displayed battery level may not represent the actual battery life until the battery is fully recharged.

Display and Navigation

Display Screen



The AIM has a large LCD display with a backlight for easy readability. Each screen that appears on the display has the following:

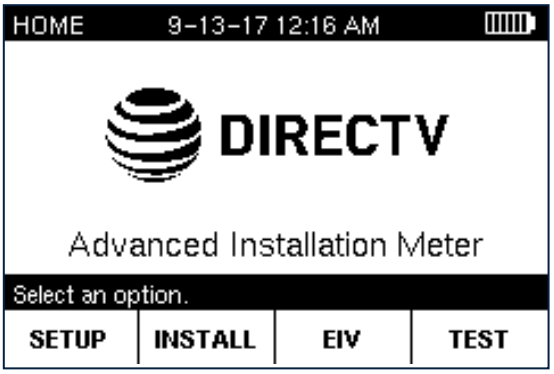
1. **Title bar –** Indicates the screen that is displayed
2. **Battery icon –** Indicates the power level of the battery
3. **Main area –** Shows information about the task being performed.
4. **Message bar –** Provides instructions to guide you through the task being performed or status messages
5. **Softkey labels –** Indicate options that vary based on the screen shown. To select an option, press the button below that option

Navigation

Keep in mind the following guidelines when using the meter buttons to navigate through the AIM's features:

- *To select a softkey option*, press the button below that option.
- *To highlight an option in a list*, do one of the following:
  - Use the arrow buttons to highlight the option.
  - Use the alphanumeric keypad to enter the number for the option.
- *To select a highlighted option in a list*, do one of the following:
  - Press the **NEXT** or **SELECT** softkey (based on the screen)
  - Press the **OK** button
- *To return to the **HOME** screen*, do one of the following:
  - Press the **DONE** softkey (if available)
  - Press the **HOME** button
- *To return to the previous screen*, do one of the following:
  - Press the **BACK** softkey (if available)
  - Press the **BACK** button

HOME Screen

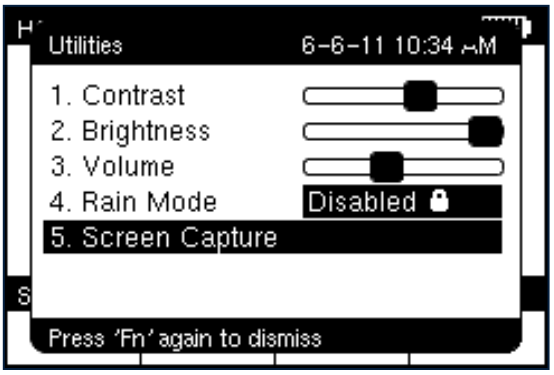


The HOME screen lets you access the AIM's main features. You can press the **HOME** button at any time to access the **HOME** screen.

The HOME screen provides four softkeys that correspond to each of the main features of the AIM:

- **SETUP** – Lets you set up the information for a job. See *Chapter 5: Setting Up a Job*.
- **INSTALL** – Guides you through the steps for aligning and performing follow-up Extended Installation Verification (EIV) for each ODU. See *Chapter 6: Installing an ODU*.
- **EIV** – Guides you through the steps for performing Extended Installation Verification (EIV) at the ODU or another location to help you troubleshoot a problem. See *Chapter 7: Performing EIV*.
- **TEST** – Lets you run network tests to help you troubleshoot a problem with an installation. See *Chapter 8: Performing Other Network Tests*.

Capturing a Screenshot



If at any time you encounter a screen you want to save for reference later, you can take a screenshot and save it as a record.

You can capture a screen by either of these ways:

- Press the **Function** button and then 5
- Press **Function**, use the up/down arrow buttons to highlight **Screen Capture**, then press **OK**

The screenshot is automatically saved as a record on the AIM. For instructions on viewing a screenshot, see the *Viewing Records* section.

Chapter 4

Setting Up the Meter

Overview

Before you use your AIM, you should enter registration information, including your ID, name, phone number, and company. You also should review the meter's settings. You can change the following settings:

- Wi-Fi
- Bluetooth
- Ethernet
- Volume
- Display contrast and brightness
- Time and date, including format
- Time limits for automatically turning off the display backlight, entering Standby mode, and turning off the meter

NOTE

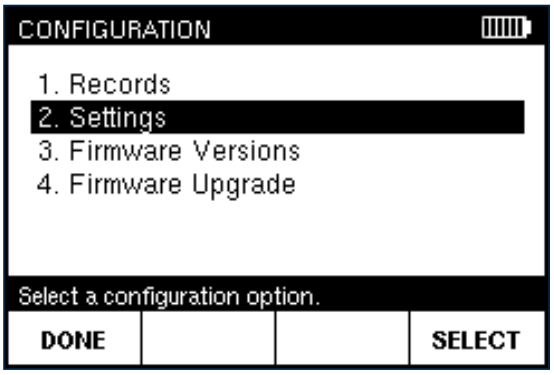
To quickly adjust the setting for display contrast, display brightness, or volume, you can press Function from any screen.

On the UTILITIES window, use the up/down arrow buttons to highlight the setting you want to change, then use right/left arrow buttons to select the new level. Press Fuction to exit.

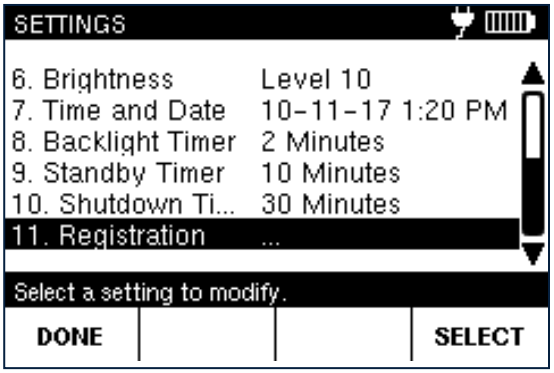
Entering Registration Information

Before you use your AIM, you should enter registration information in the meter, including your name, ID, phone number, and company.

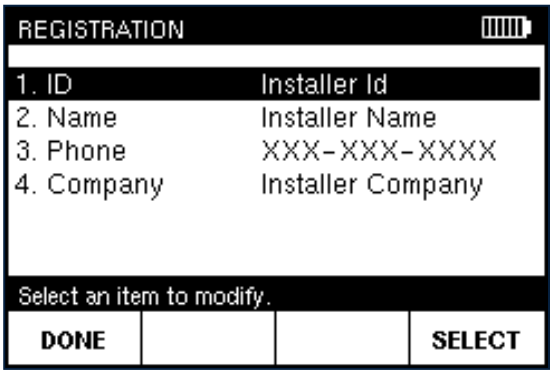
1. Press the **CONFIG** button to go to the **CONFIGURATION** screen.
2. Select **Settings** and press **SELECT** to go to the **SETTINGS** screen.



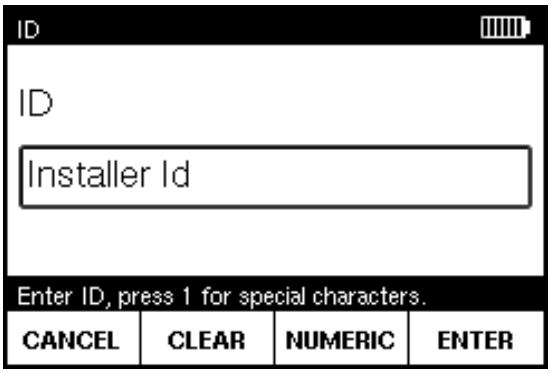
3. Select **Registration** and press **SELECT** to go to the **REGISTRATION** screen.



4. Select the item you want to enter (**ID, Name, Phone,** or **Company**). Then press **SELECT** to go to the entry screen.



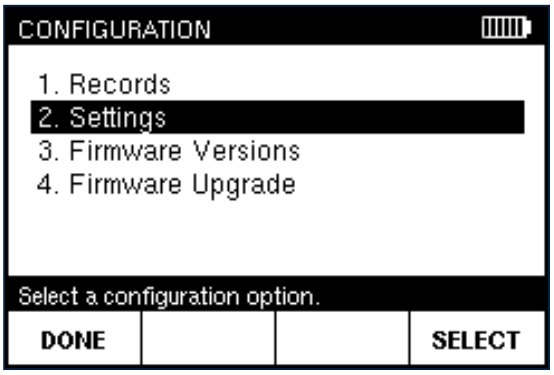
5. Use the alphanumeric keypad to enter the ID, name, phone number or company.



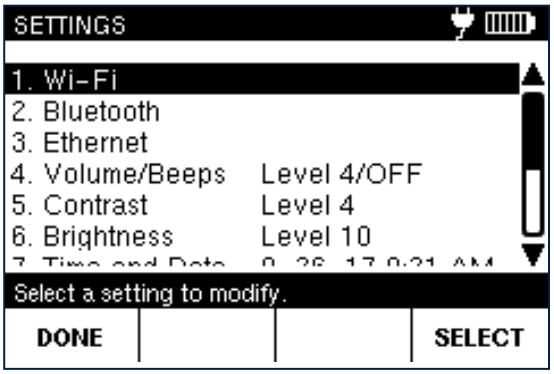
   - To delete a character, press the **Back** button. You also can use left/right arrow buttons to navigate within your entry, or press **CLEAR** to delete the entry and start over. Press **CANCEL** to exit without saving changes.
   - To enter only numbers, press **NUMERIC**. To enter letters and numbers, press **ALPHA**. To enter capital letters, continue pressing the letter button until the capital letter appears.
   - To enter a space or a special character (such as -, #, &, or +), press the **1** button repeatedly until the space or character you want to enter appears.
6. Press **ENTER** to save and return to the **REGISTRATION** screen.
7. Repeat Steps 4–6 for each item on the **REGISTRATION** screen.
8. When finished, press **DONE** to return to the **SETTINGS** screen.

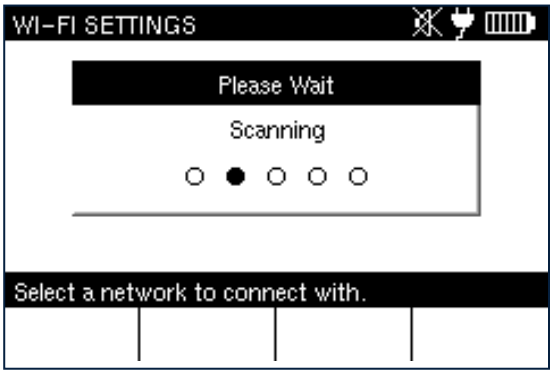
Setting up the Wi-Fi Connection

1. Press **CONFIG** to go to the **CONFIGURATION** screen.
2. Select **Settings** and press **SELECT** to go to the **SETTINGS** screen.



3. Select **Wi-Fi** and press **SELECT** to go to the **WI-FI SETTINGS** screen. The AIM will scan for all available Wi-Fi networks.





4. Select the network you want to connect to, then press **SELECT** to go to the entry screen.

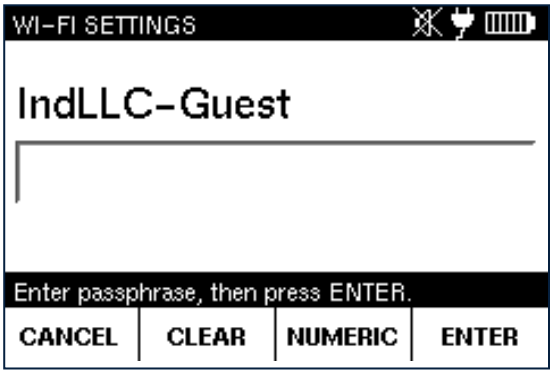
   If you don't see your network listed, select the **SCAN** softkey to rescan.

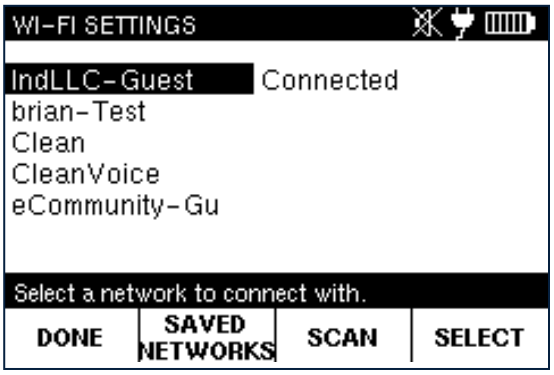
5. Use the alphanumeric keypad to enter the password.

   - To delete a character, press the **Back** button. You also can use left/right arrow buttons to navigate within your entry, or press **CLEAR** to delete the entry and start over. Press **CANCEL** to exit without saving changes.
   - To enter only numbers, press **NUMERIC**. To enter letters and numbers, press **ALPHA**. To enter capital letters, continue pressing the letter button until the capital letter appears.
   - To enter a space or a special character (such as -, #, &, or +), press the **1** button repeatedly until the space or character you want to enter appears.

6. Press **ENTER** to save and return to the **WI-FI SETTINGS** screen. "Connected" should now appear next to the Wi-Fi network.

7. When finished, press **DONE** to return to the **SETTINGS** screen.



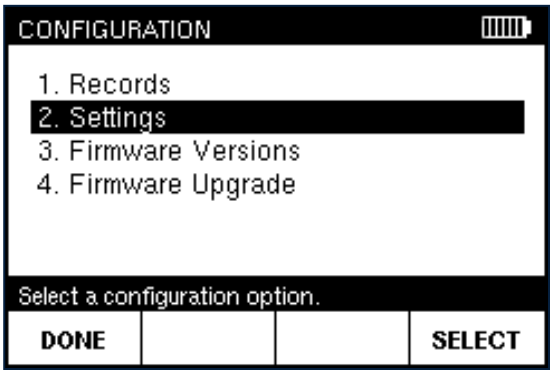


NOTE

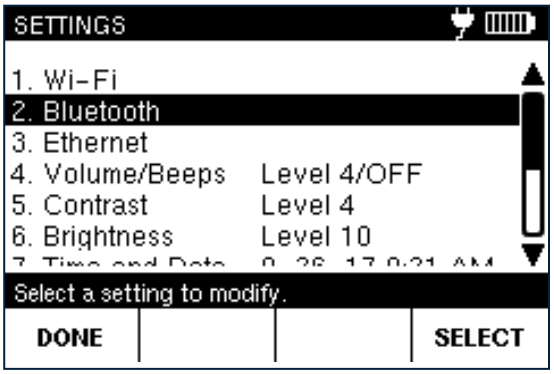
You can see all Wi-Fi networks you have connected to in the past by selecting the SAVED NETWORKS softkey. To connect to a different network, select the network and press SELECT.

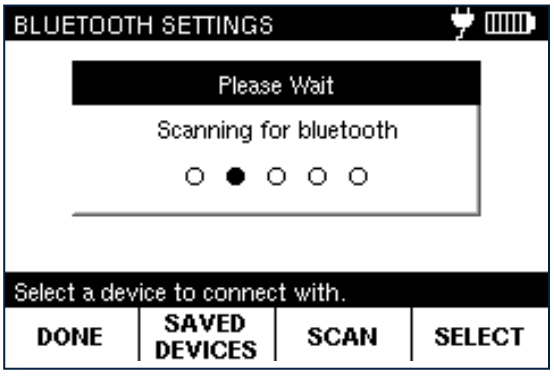
Setting up the Bluetooth Connection

1. Press **CONFIG** to go to the **CONFIGURATION** screen.
2. Select **Settings** and press **SELECT** to go to the **SETTINGS** screen.



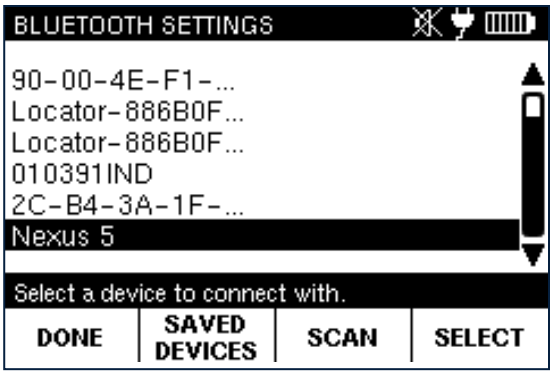
3. Select **Bluetooth** and press **SELECT** to go to the **BLUETOOTH SETTINGS** screen. The AIM will enable Bluetooth and scan for all available Bluetooth devices.

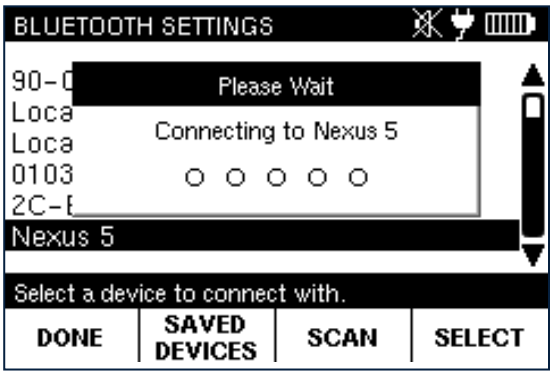




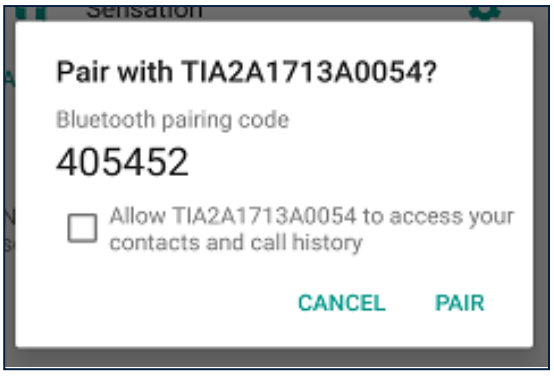
4. Select the device you want to connect to, then press **SELECT**. The AIM will attempt to pair and connect with the device.

   If your device is not found, make sure Bluetooth is enabled on your device, and press the **SCAN** softkey to rescan.





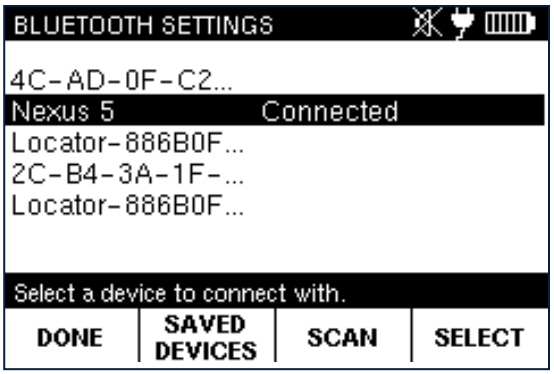
5. The AIM and your Bluetooth device will then prompt you to verify the Bluetooth Passkey number. Select **OK** on the AIM to confirm.
6. On your Bluetooth device, it should also display a message to accept the Bluetooth Passkey. Press **PAIR** to continue.



7. On the AIM, “Connected” should now appear next to the Bluetooth device.

   You can now check for firmware updates using your Bluetooth device’s (e.g. smartphone) internet connection. See the Firmware Update section later in this manual.

8. When finished, press **DONE** to return to the **SETTINGS** screen.

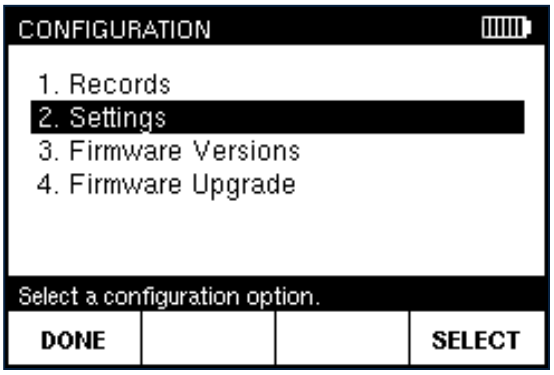


NOTE

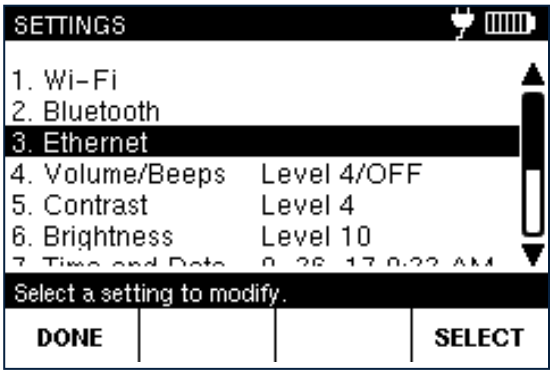
You can see all Bluetooth devices you have connected to in the past by selecting the SAVED DEVICES softkey. To connect to a different device, select it and press SELECT.

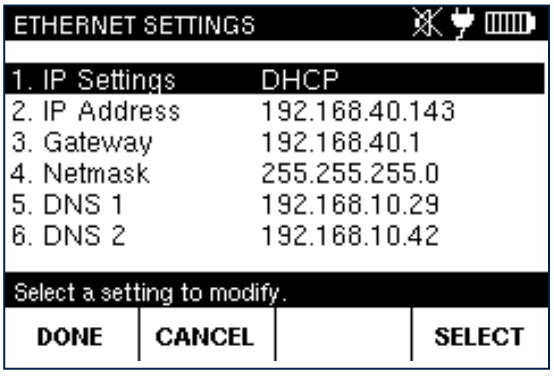
Setting up the Ethernet Connection

1. Press **CONFIG** to go to the **CONFIGURATION** screen.
2. Select **Settings** and press **SELECT** to go to the **SETTINGS** screen.
3. Connect the Ethernet cable to the Ethernet port of the AIM.



4. Select **ETHERNET** and press **SELECT** to go to the **ETHERNET SETTINGS** screen. The AIM will display the current Ethernet settings, including the AIM's IP address, gateway IP address, subnet mask, and DNS addresses.

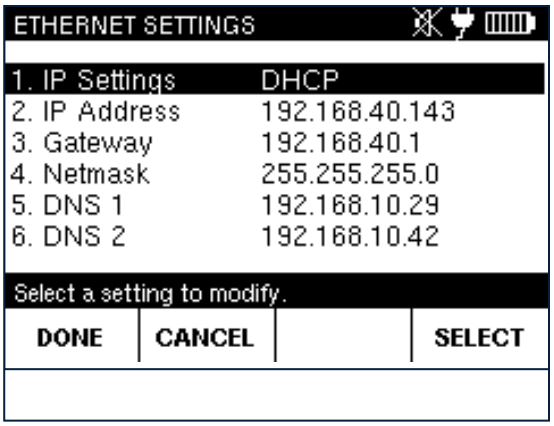


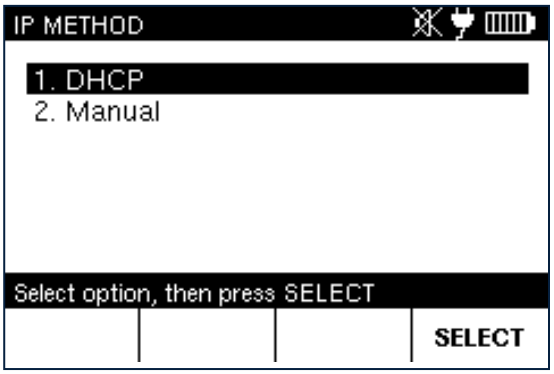


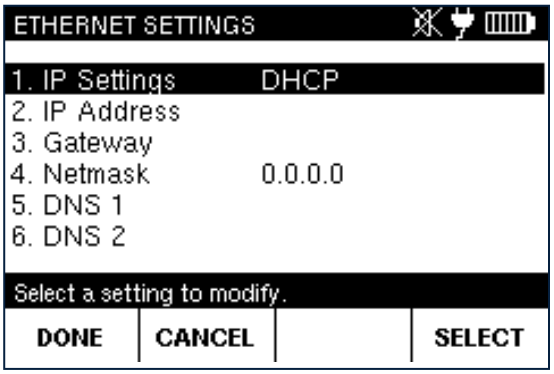
IP Settings

The IP Settings menu is used to set which type of network connection to establish when logging into a network.

1. Select **IP Settings** and press **SELECT** to go to the **IP METHOD** screen.
2. Select the IP mode for the following options and press **SELECT**:
   - Select **DHCP** to automatically obtain an IP address and settings from a DHCP server. These cannot be adjusted.
   - Select **Manual** to manually enter the network settings. In this mode, all the network settings must be entered as shown in the following sections.



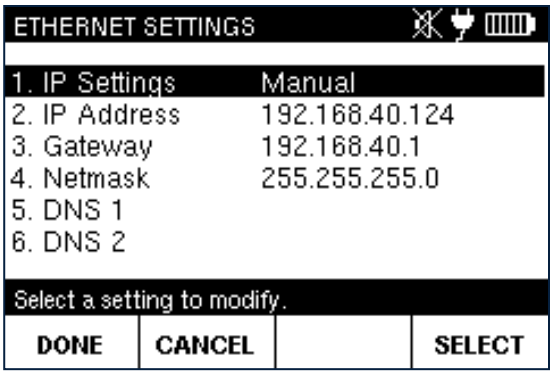


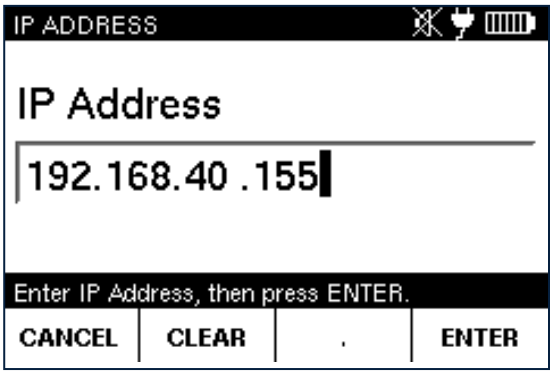


IP Address

Once **IP Settings** is set to **Manual**, you can set each of the network IP address values.

1. Select **IP Address** and press **SELECT** to go to the **IP ADDRESS** screen.
2. Enter the IP address and press **SELECT**.
   - To delete a character, press the **Back** button. You also can use left/right arrow buttons to navigate within your entry, or press **CLEAR** to delete the entry and start over. Press **CANCEL** to exit without saving changes.
3. Press **ENTER** to save and return to the **ETHERNET SETTINGS** screen.



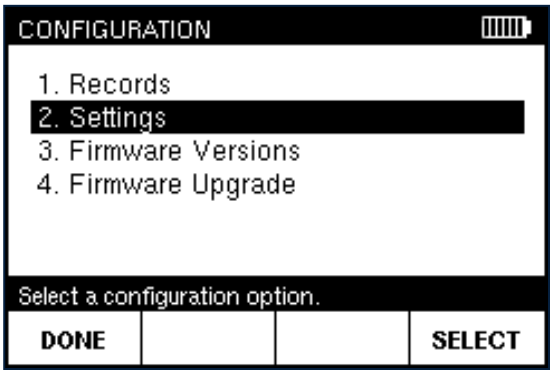


Gateway, Netmask, and DNS Addresses

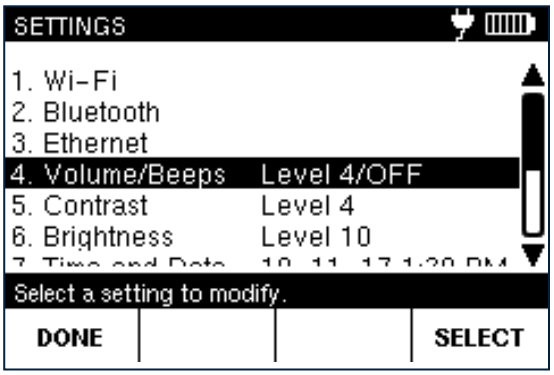
Select each of the other IP settings as necessary and modify using the steps above.

Changing the Volume Settings

1. Press **CONFIG** to go to the **CONFIGURATION** screen.
2. Select **Settings** and press **SELECT** to go to the **SETTINGS** screen.



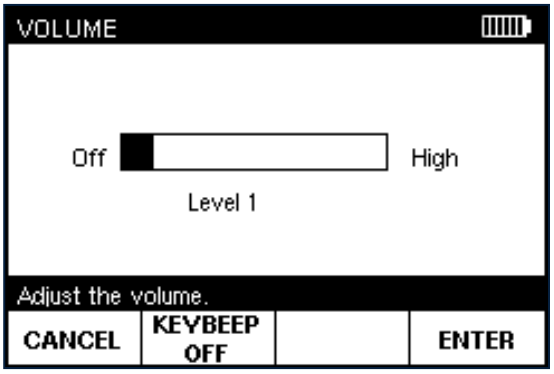
3. Select **Volume** and press **SELECT** to go to the **VOLUME** screen.



4. Use the up/down arrow buttons to select the desired volume setting.

   To turn on or off the tone that sounds each time a key is pressed, press the **KEYBEEP ON / OFF** softkey.

5. When finished, press the **ENTER** softkey to return to the **SETTINGS** screen.

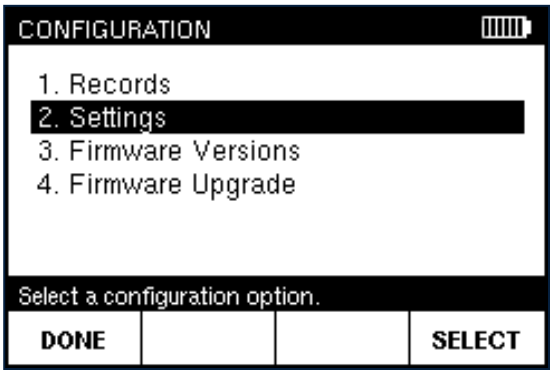


NOTE

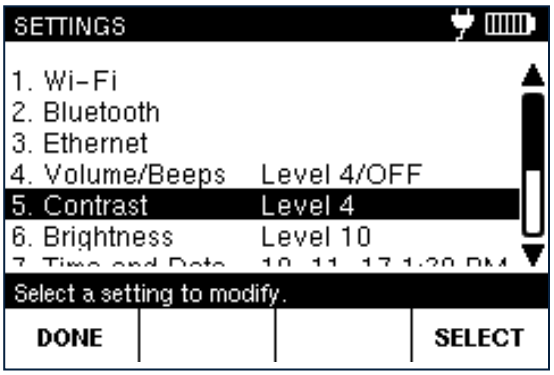
You can temporarily turn on or turn off the meter sound by pressing MUTE. You also can press Function to quickly adjust the volume setting.

Changing the Display Contrast or Brightness

1. Press **CONFIG** to go to the **CONFIGURATION** screen.
2. Select **Settings** and press **SELECT** to go to the **SETTINGS** screen.



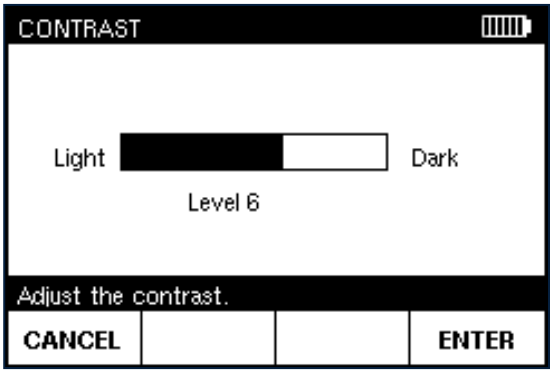
3. Select **Contrast** or **Brightness** and press **SELECT** to go to the respective screen.



4. Use the left/right arrow buttons to select the desired setting.

   To turn on or off the tone that sounds each time a key is pressed, press the **KEYBEEP ON / OFF** softkey.

5. When finished, press the **ENTER** softkey to return to the **SETTINGS** screen.

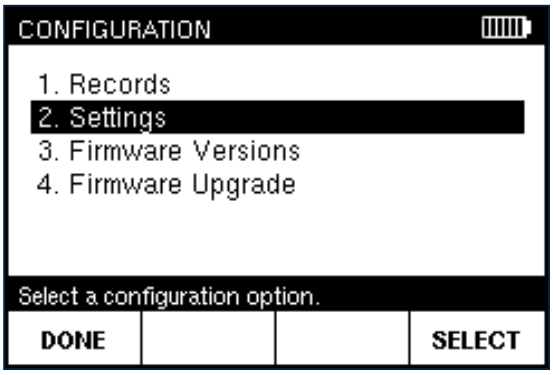


NOTE

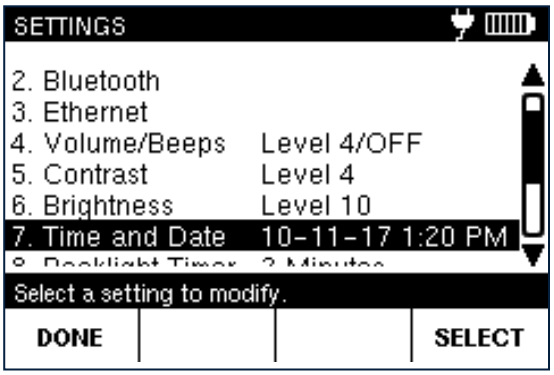
You can press Function to quickly adjust the display contrast or display brightness settings.

Changing the Time and Date Settings

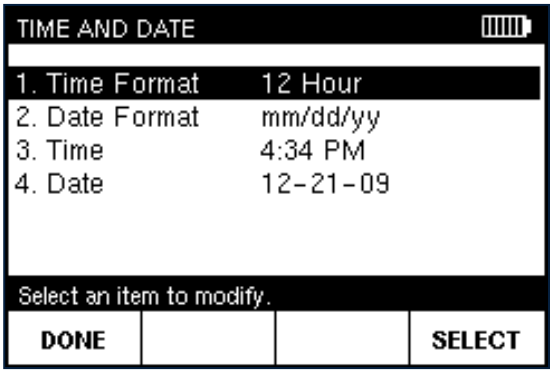
1. Press **CONFIG** to go to the **CONFIGURATION** screen.
2. Select **Settings** and press **SELECT** to go to the **SETTINGS** screen.



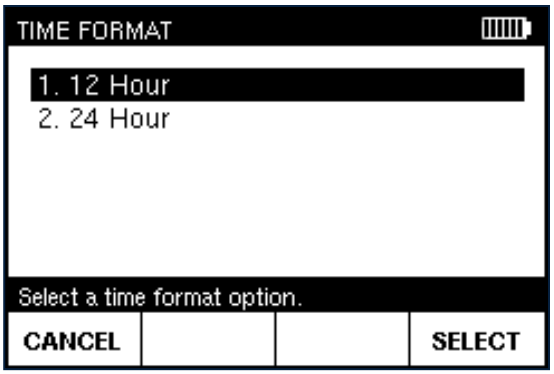
3. Select **Time and Date** and press **SELECT** to go to the **TIME and DATE** screen.



4. Select the desired setting to adjust (**Time Format**, **Date Format**, **Time**, or **Date**). Then press **SELECT** to go to the entry screen.



5. Select the desired format setting, or use the numeric keypad to enter the time or date. Then press **SELECT** to return to the **TIME and DATE** screen.



   - To delete a character, press the **Back** button. You also can use the left/right arrow buttons to navigate within your entry, or press **CLEAR** to delete the entry and start over. Press **CANCEL** to exit without saving changes.
   - Press the **AM** or **PM** softkey to select the time of day.

6. When finished, press the **DONE** softkey to return to the **SETTINGS** screen.

Changing the Automatic Timer Settings

1. You can change the automatic timer settings for your AIM, including:

   - **Backlight Timer** – If no buttons have been pressed on the AIM after the specified time limit, the backlight on the display turns off.

     The backlight automatically turns back on when you press any button on the meter.

   - **Standby Timer** – If no buttons on the AIM have been pressed after the specified time limit, the meter automatically enters a power-saving mode called Standby.

     The AIM automatically exits Standby mode when you press and hold the POWER button until the backlight turns on.

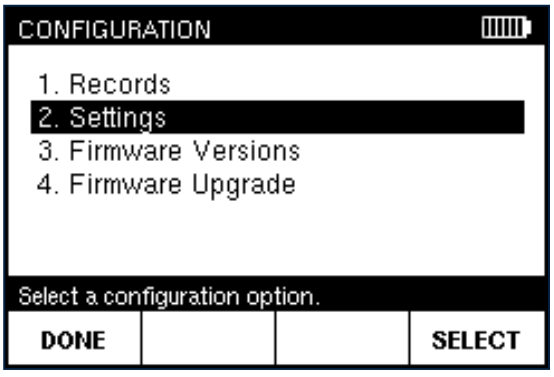
   - **Shutdown Timer** – If no buttons on the AIM have been pressed after the specified time limit, the meter automatically turns off.

     The meter can be turned back on by pressing and holding the POWER button until the backlight turns on.

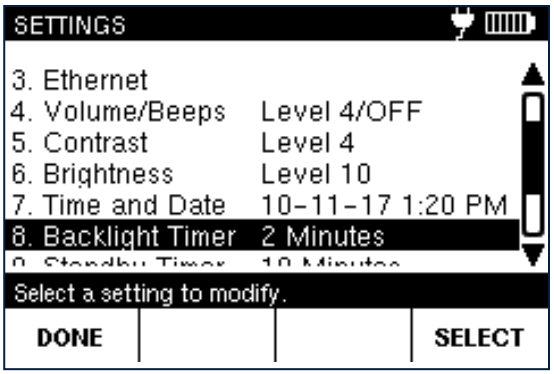
The AIM's automatic timer settings are designed to help extend the battery charge.

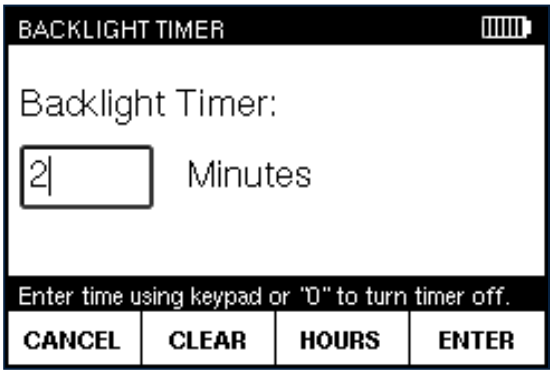
You can customize the automatic timer settings. However, extending the time period longer than the default setting decreases the time that the battery charge lasts.

1. Press **CONFIG** to go to the **CONFIGURATION** screen.
2. Select **Settings** and press **SELECT** to go to the **SETTINGS** screen.



3. Select the desired automatic timer setting to adjust (**Backlight Timer**, **Standby Timer**, or **Shutdown Timer**). Then press **SELECT** to go to the entry screen.
4. Use the numeric keypad to enter a timer setting.
    - To delete a character, press the **Back** button. You also can use the left/right arrow buttons to navigate within your entry, or press **CLEAR** to delete the entry and start over. Press **CANCEL** to exit without saving changes.
    - Press **HOURS**, **MINUTES**, or **SECONDS** to switch between time units. The maximum value is 4 hours.
5. When finished, press the **NEXT** softkey to return to the **SETTINGS** screen.





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Chapter 5

Setting Up a Job

Overview

Before you perform tasks for an installation using the AIM, you need to set up the information for the job. Setup tasks include setting up:

- Account number
- Notes (optional)
- Dish type
- Reverse band / International LNB
- Switch type
- Zip code

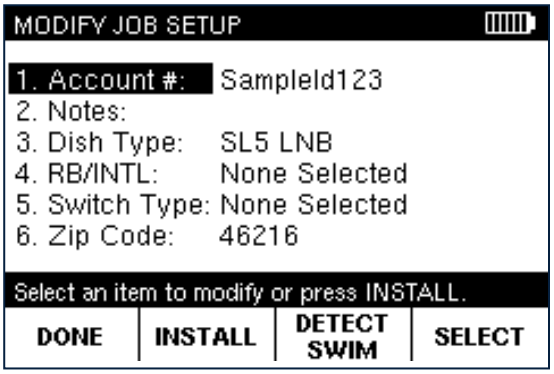
Starting a Job

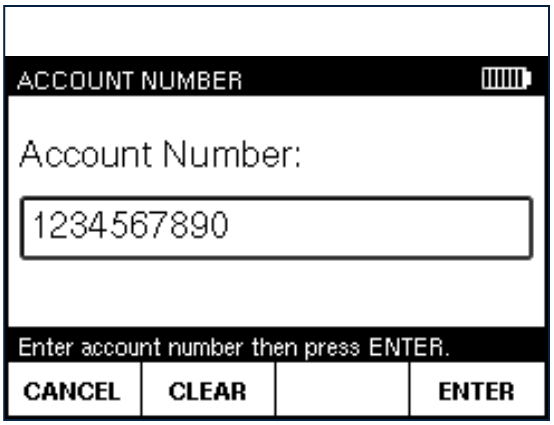
To start a job, enter the account number for the installation. The AIM stores information about the tasks you perform for the installation in records associated with the account number.

For the first job at an installation, you also set the dish type, reverse band/international LNB, switch type, zip code, and notes either by accepting the default settings (based on the previous job), or by changing the default settings. See the *Modifying the Setup for a Job* section.

1. From the **HOME** screen, press **SETUP** to go to the **MODIFY JOB SETUP** screen.
2. Select **Account #**. Then press the **SELECT** softkey to go to the **ACCOUNT NUMBER** screen.
3. Using the numeric keypad, enter the account number for the job (up to 22 digits). Then press **ENTER**.
    - To delete a character, press the **Back** button. You also can use the left/right arrow buttons to navigate within your entry, or press **CLEAR** to delete the entry and start over. Press **CANCEL** to exit without saving changes.

    The **MODIFY JOB SETUP** screen reappears, showing the account number you entered and the default settings for:
    - Notes
    - DishType
    - Reverse Band / International LNB
    - Switch Type
    - Zip Code
4. When finished, press **DONE** to return to the **HOME** screen. To install an ODU without returning to the **HOME** screen, press **INSTALL**.





NOTE

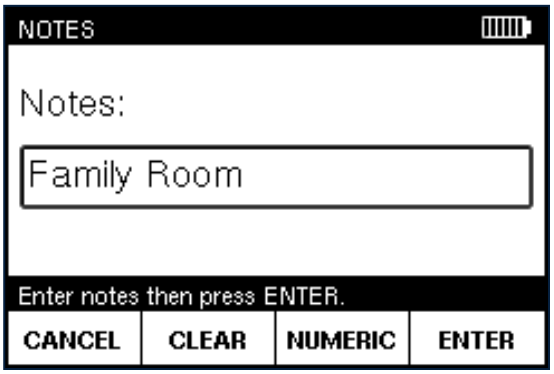
The default settings are based on the values entered for the previous job.

Modifying the Setup for a Job

You can change the dish type, reverse band/international LNB, switch type, and zip code settings for a new job or the current job from the **MODIFY JOB SETUP** screen. You also can add notes for the job to include key information about the job, such as the specific room of the installation.

To access the **MODIFY JOB SETUP** screen, press **SETUP** from the **HOME** screen.

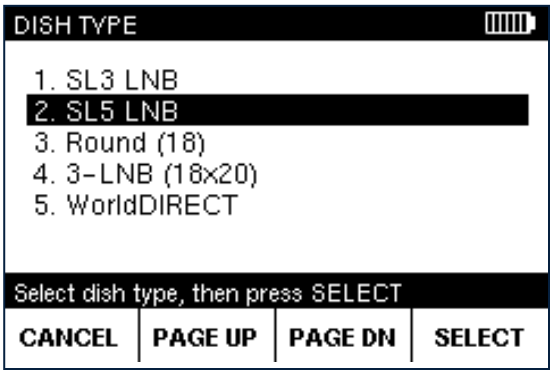
Notes



1. On the **MODIFY JOB SETUP** screen, select **Notes** and press **SELECT** to go to the **NOTES** screen.
2. Using the keypad, enter the notes for the job.
   - To delete a character, press the **Back** button. You also can use left/right arrow buttons to navigate within your entry, or press **CLEAR** to delete the entry and start over. Press **CANCEL** to exit without saving changes.
   - To enter only numbers, press **NUMERIC**. To enter letters and numbers, press **ALPHA**. To enter capital letters, continue pressing the letter button until the capital letter appears.
   - To enter a space or a special character (such as -, #, &, or +), press the **1** button repeatedly until the space or character you want to enter appears.
3. When finished, press **ENTER** to return to the **MODIFY JOB SETUP** screen.

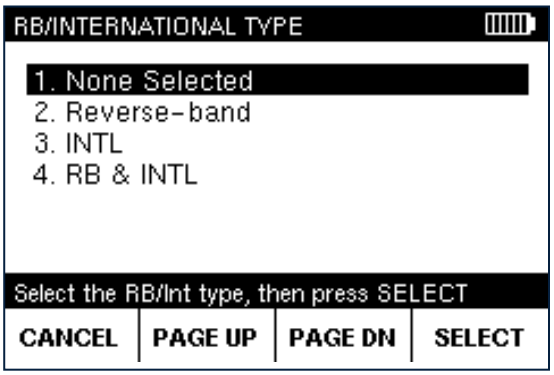
Dish Type

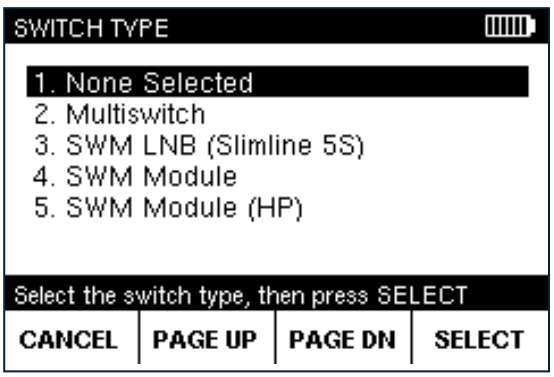
1. On the **MODIFY JOB SETUP** screen, select **Dish Type** and press **SELECT** to go to the **DISH TYPE** screen.
   - You also can press the number for an option to highlight it.
   - To scroll quickly through the dish types, press **PAGE UP** or **PAGE DN** softkeys. To exit without saving changes, press **CANCEL**.
2. When finished, press **SELECT** to return to the **MODIFY JOB SETUP** screen.



Reverse / International LNB

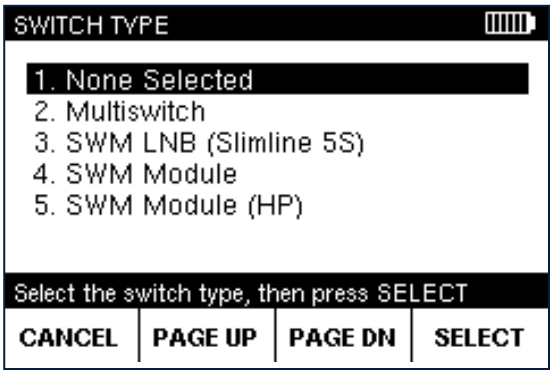
1. On the **MODIFY JOB SETUP** screen, select **RB/INTL** (Reverse Band / International) and press **SELECT** to go to the **RB/INTERNATIONAL** screen.
2. Select the type of LNB for the job and press **SELECT**.
   - You also can press the number for an option to highlight it.
   - To exit without saving changes, press **CANCEL**.
3. Select the type of switch for the job and press **SELECT**.
4. If the SWiM LNB is a module, you may also have to select the channel configuration.
5. When finished, press **SELECT** to return to the **MODIFY JOB SETUP** screen.





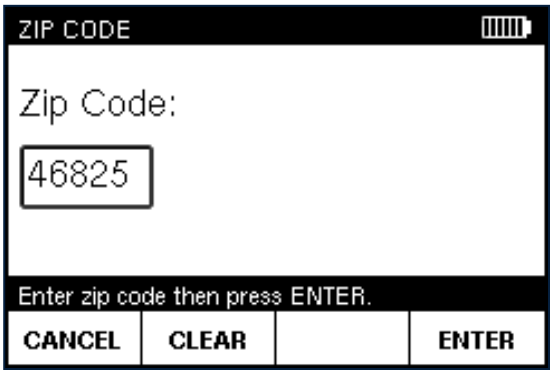
Switch Type

1. On the **MODIFY JOB SETUP** screen, select **Switch Type** and press **SELECT** to go to the **SWITCH TYPE** screen.
2. Select the type of switch for the job and press **SELECT**.
   - You also can press the number for an option to highlight it.
   - To exit without saving changes, press **CANCEL**.
3. If the SWiM LNB is a module, you may also have to select the channel configuration.
4. When finished, press **SELECT** to return to the **MODIFY JOB SETUP** screen.



Zip Code

1. On the **MODIFY JOB SETUP** screen, select **Zip Code** and press **SELECT** to go to the **ZIP CODE** screen.
2. Use the numeric keypad to enter the zip code for the job.
   - To delete a character, press the **Back** button. You also can use the left/right arrow buttons to navigate within your entry, or press **CLEAR** to delete the entry and start over. Press **CANCEL** to exit without saving changes.
3. When finished, press **ENTER** to return to the **MODIFY JOB SETUP** screen.



NOTE

Make sure you set up the zip code correctly. It is required to determine the thresholds for EIV testing.

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Chapter 6
Installing an ODU

Overview

The AIM guides you through the steps for aligning and performing follow-up Extended Installation Verification (EIV) for each ODU.

Aligning the ODU

The tasks for aligning an ODU vary depending on the type of ODU. All ODU types require coarse adjustments to be made in the azimuth and elevation directions. The 95° ODU also requires an adjustment in the tilt direction. To make coarse adjustments, move the ODU in the appropriate direction and use the AIM to determine the position that obtains the maximum possible signal power.

Slimline ODUs require fine adjustments (dithering) to be performed in the azimuth and elevation directions to further hone the signal power. To dither, rotate the fine adjustment jack screws to:

- Obtain a “reference” signal power on one side of the beam peak
- Obtain the identical strength on the other side of the beam peak
- Split the difference between the two reference points to obtain the maximum signal power for all applicable orbital slots.

The AIM guides you through the dithering process using a series of audible tones to notify you when the reference values have been obtained.


NOTE

The DIRECTV training materials are the primary source of ODU installation instruction. Those documents supersede the instructions in this manual.


NOTE

If you encounter an issue during the installation process and want to save information for reference later, you can capture an image of the AIM screen and save it as a record. See the Chapter 3: Capturing a Screenshot section.

The table below indicates which tasks need to be performed for each ODU. When an installation includes two ODUs, you must perform the installation tasks for each ODU. The AIM Install feature guides you through the tasks based on the selected ODU. When using the AIM to align an ODU, refer to the appropriate sections for assistance:

- Task A. Installation Setup
- Task B. Coarse Azimuth Adjustment
- Task C. Coarse Elevation Adjustment
- Task D. Tilt Adjustment (95°, 3-LNB, Slimline-5, and Slimline-5S (SWiM) ODUs
- Only)
- Task E. Fine Elevation Adjustment (Slimline ODUs Only)
- Task F. Fine Azimuth Adjustment (Slimline ODUs Only)

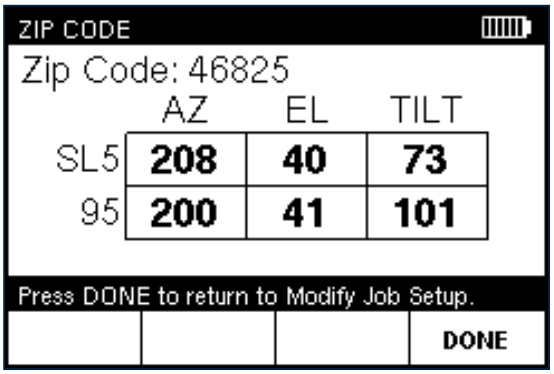
ODU Installation Tasks

ODU	Supported Orbital Slots	Setup	Coarse Azimuth Adjustment	Coarse Elevation Adjustment	Tilt Adjustment	Fine Elevation Adjustment (Dither)	Fine Azimuth Adjustment (Dither)
3-LNB (18" x 20")	101, 110, 119	✓	✓	✓	✓		
95°	95	✓	✓	✓	✓		
Round (18")	101	✓	✓	✓			
Slimline-3	99, 101, 103	✓	✓	✓		✓	✓
Slimline-5	99, 101, 103, 110, 119	✓	✓	✓	✓	✓	✓
Slimline-3S (SWiM) Slimline-3DS (DSWiM) Slimline-3D2 (DSWiM2) Slimline-3DR (DSWiM2)	99, 101, 103	✓	✓	✓		✓	✓
Slimline-5S (SWiM) Slimline-5DR (DSWiM2)	99, 101, 103, 110, 119	✓	✓	✓	✓	✓	✓
World Direct	95, 101	✓	✓	✓	✓		

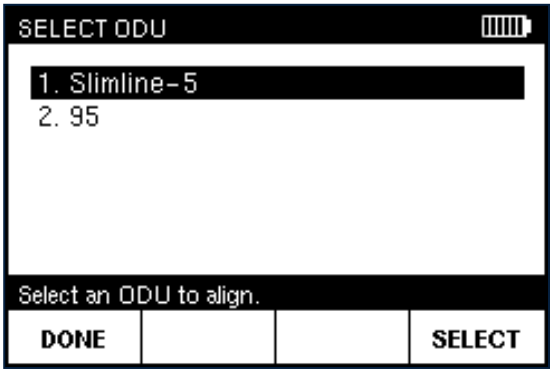
Task A. Installation Setup

1. Set up the job for the installation. See the ***Starting a Job*** section in ***Chapter 5***.
2. From the **HOME** screen, press **INSTALL**.

   The **PRE-CONFIGURE ODU** screen appears showing the default azimuth and elevation coordinates for the job. If appropriate, the default tilt coordinate also appears.



3. Perform the ODU site survey. Using the AIM azimuth and elevation coordinates, confirm that the selected location has a clear line-of-sight to the supported orbital slots (see the ODU Installation Tasks table on the previous page).
4. Install the ODU according to the DIRECTV procedure.
5. Connect the AIM's ODU F Connector to the ODU's LNB output.
6. Press **NEXT** on the **PRE CONFIGURE ODU** screen.
   - If the installation includes two ODUs, the **SELECT ODU** screen appears. Highlight the ODU to align and press **SELECT** to continue.

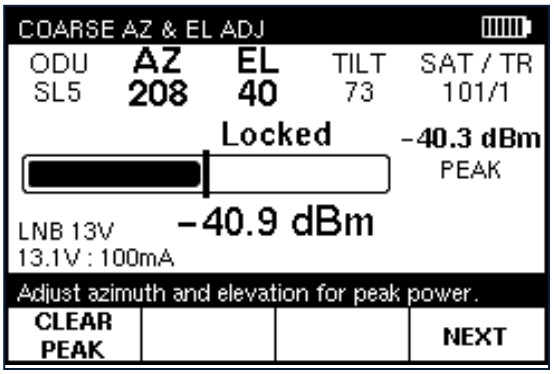


NOTE

The default coordinates for the job are based on the ODU type and zip code selected for the job.

Task B. Coarse Azimuth Adjustment

1. While monitoring the signal power bar on the **COARSE AZ & EL ADJ** screen, rotate the ODU on the mast in the azimuth direction until the maximum signal power is reached.
2. Lock down the mounting bracket collar on the mast.
    - "Locked" appears on the screen when the signal power is above the minimum level required to supply the IRD.
    - The PEAK measurement is the maximum signal power achieved thus far during the installation process. To clear the peak, press **CLEAR PEAK**.



Task C. Coarse Elevation Adjustment

1. Loosen the ODU's elevation lock-down screws.
2. While monitoring the signal power bar on the **COARSE AZ & EL ADJ** screen, rotate the ODU in the elevation direction until the AIM indicates that it is "locked" onto the signal and the maximum signal power is reached.

> NOTE
> ***You might need to alternate between performing the coarse elevation adjustment and the coarse azimuth adjustment to achieve the maximum signal power.***

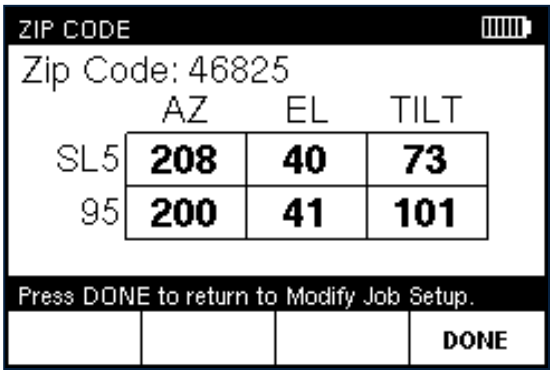
3. Tighten the elevation lock-down screws.
4. Press **NEXT** to continue.

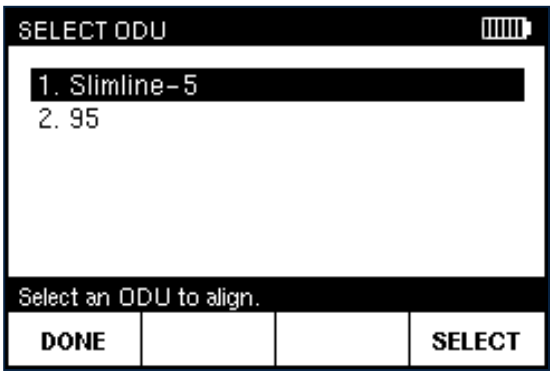
Task D. Tilt Adjustment (95°, 3-LNB, Slimline-5, and Slimline-5S (SWiM) ODUs Only)

1. Loosen the ODU's tilt lock-down screws.
2. While monitoring the SNR bar on the **TILT ADJ** screen, slowly rotate the ODU around the tilt axis until the maximum SNR value is reached.

   SNR ("signal-to-noise" ratio) is a measure of the received signal strength relative to the strength of the received noise, which is an indication of the quality of the signal.
3. Tighten the tilt lock-down screws.
4. Press **NEXT** to continue.

   For 3-LNB ODUs only, the **VERIFY AZ & EL** screen appears following the tilt adjustment to ensure the azimuth and elevation are still properly aligned. Adjust the coarse azimuth and elevation if necessary following the steps in the Task B. Coarse Azimuth Adjustment and Task C. Coarse Elevation Adjustment sections.



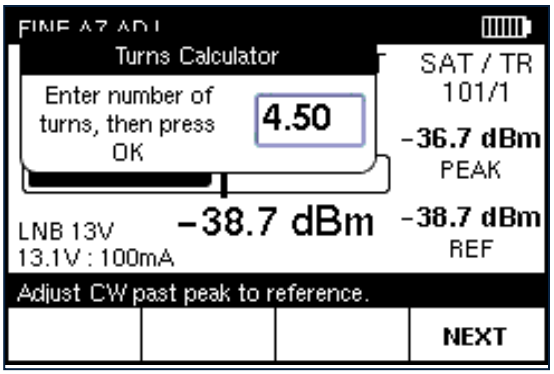


Task E. Fine Elevation Adjustment (Slimline ODUs Only)

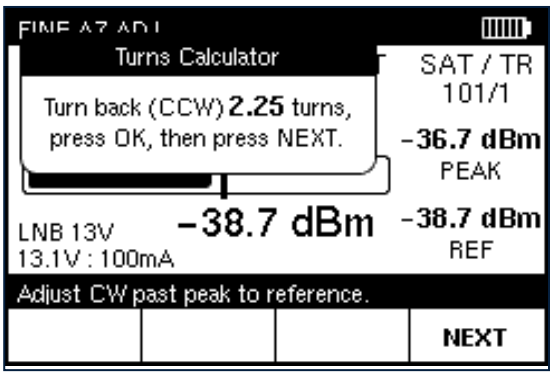
1. Loosen the ODU's elevation lock-down screws.
2. Turn the ODU's elevation jack screw counterclockwise 2 turns.
3. On the **FINE EL ADJ** screen, press **SET REF** to set the reference value.

   The AIM sounds a confirmation tone and displays the reference value.
4. Zero out the readout dial on the elevation jack screw.
5. Turn the elevation jack screw clockwise until the meter begins to sound a series of beeps, indicating that the reference value is within 1 dB. Continue turning until the meter sounds a confirmation tone and the displayed signal power matches the reference value (about 4 turns).

6. Refer to the ODU's dial and use the AIM's numeric keypad to enter the number of turns it took to return to the reference value (e.g. 4.50 for four and a half turns). Then press **OK**.
7. Zero out the readout dial on the elevation jack screw.

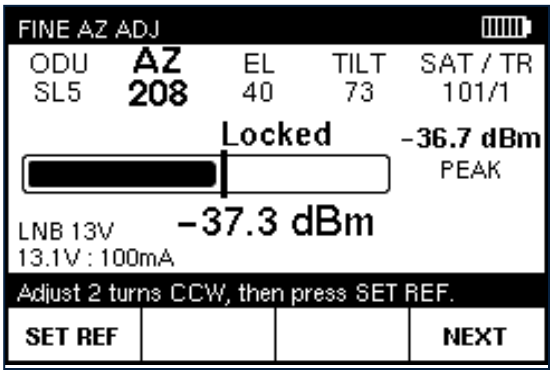


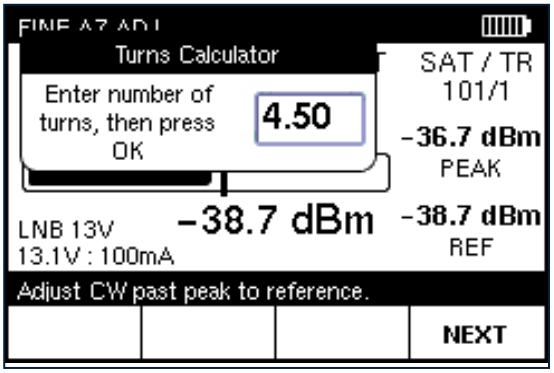
8. Refer to the AIM screen and turn the elevation jack screw counterclockwise the number of turns indicated on the AIM screen.
9. Tighten the elevation lock-down screws.
10. Press **OK** and then **NEXT** to continue.

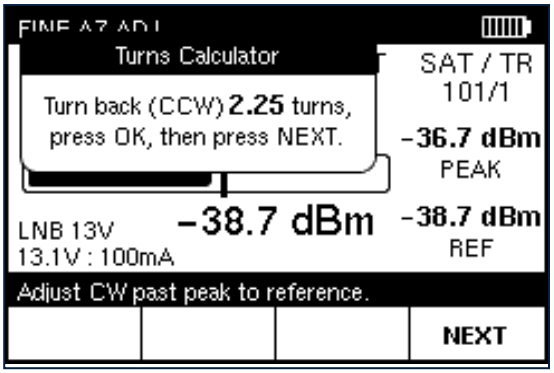


Task F. Fine Azimuth Adjustment (Slimline ODUs Only)

1. Loosen the ODU's azimuth lock-down screws.
2. Turn the ODU's azimuth jack screw counterclockwise 2 turns.
3. On the **FINE AZ ADJ** screen, press **SET REF** to set the reference value. The AIM sounds a confirmation tone and displays the reference value.
4. Zero out the readout dial on the azimuth jack screw.
5. Turn the azimuth jack screw clockwise until the meter begins to sound a series of beeps, indicating that the reference value is within 1 dB. Continue turning until the meter sounds a confirmation tone and the displayed signal power matches the reference value (about 4 turns).
6. Refer to the ODU's dial and use the AIM's numeric keypad to enter the number of turns it took to return to the reference value (e.g. 4.50 for four and a half turns). Then press **OK**.
7. Zero out the readout dial on the azimuth jack screw.
8. Refer to the AIM screen and turn the azimuth jack screw counterclockwise the number of turns indicated on the AIM screen.
9. Tighten the azimuth lock-down screws.
10. Press **OK** and then **NEXT** to continue

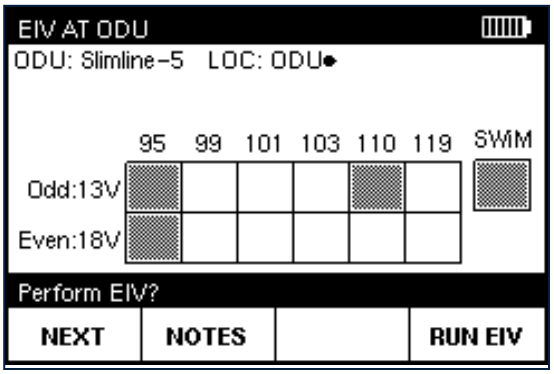






Performing EIV Following ODU Installation

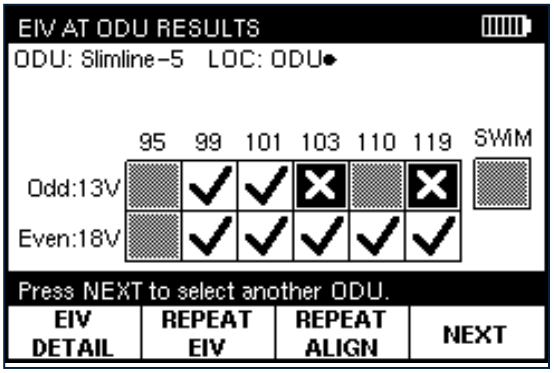
When you complete the alignment process for the ODU, the EIV AT ODU screen appears. You can:



- Immediately perform Extended Installation Verification (EIV) on the ODU that you just aligned. Follow the steps below.
- If the installation includes two ODUs, you can press **NEXT** to return to the **SELECT ODU** screen and align the other ODU.
- Press **DONE** to return to the **HOME** screen and perform EIV later. For instructions, see the Performing EIV section.

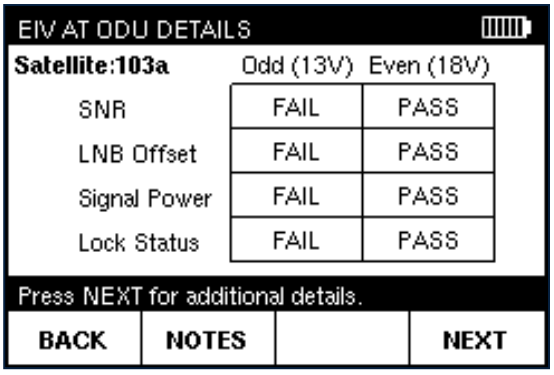
To perform the Extended Installation Verification (EIV) for the ODU that you just aligned:

1. On the EIV AT ODU screen, press RUN EIV and wait briefly for the results.
2. On the EIV AT ODU RESULTS screen, review the results for all supported orbital slots and SWiM channels (if applicable). A satisfactory result is indicated by a checkmark. A problem is indicated by an X.

   If a checkmark appears for all supported orbital slots, the ODU alignment is acceptable.

   If X appears for an orbital slot, perform the following steps:

   - Press **REPEAT EIV** to confirm the problem.
   - If X appears again for one or more orbital slots, you can press **EIV DETAIL** to determine which tests failed. Troubleshoot any failures following the instructions provided by DIRECTV.
   - To repeat the alignment process, press **REPEAT ALIGN**.

3. When you have finished reviewing EIV results on the **EIV AT ODU RESULTS** screen, you can press **DONE** to return to the **HOME** screen.

   If the installation includes two ODUs, you can press **NEXT** to return to the **SELECT ODU** screen and align the other ODU.


NOTE

On the EIV AT ODU DETAILS screen, you can press NEXT to view the details for another orbital slot, or press BACK to scroll back through the details to the EIV AT ODU RESULTS screen.

You also can press NOTES to add a note about the EIV.

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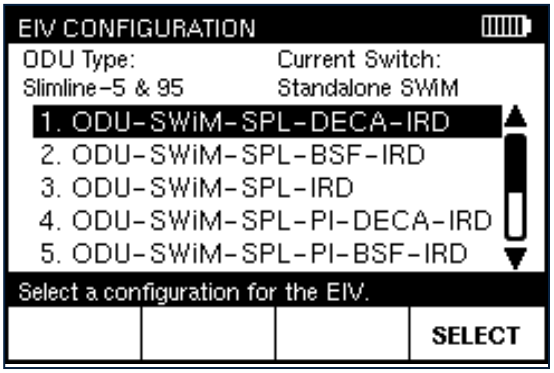
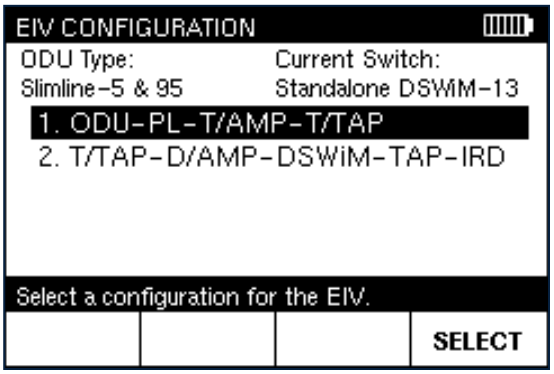
Chapter 7
Performing EIV

Overview

Extended Installation Verification (EIV) can be performed at any point in the installation to quickly confirm that the installation is satisfactory for all supported orbital slots. EIV is an easy way to pinpoint any potential problems with the installation. The AIM guides you through the steps for the testing.

1. Set up the job for the installation. See the ***Starting a Job*** section in ***Chapter 5***.
2. From the **HOME** screen, press **EIV** to go to the **EIV CONFIGURATION** screen.
3. Highlight the equipment configuration for the installation and press **SELECT** to go to the **EIV LOCATION** screen.





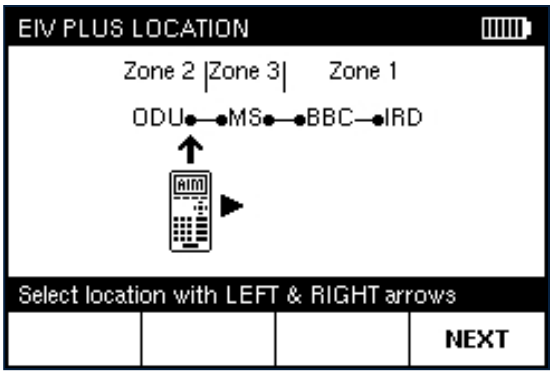
NOTE

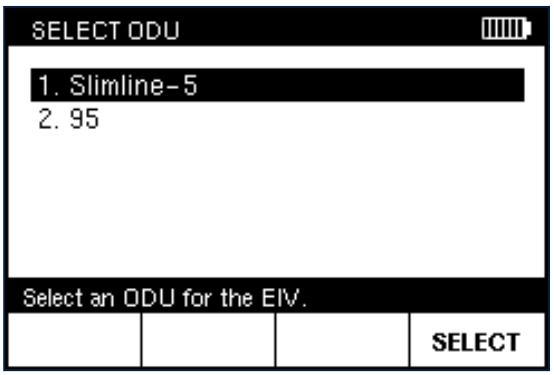
If the installation includes a DSWiM-13, the EIV CONFIGURATION screen shows two location paths, one from the ODU to the T/TAP, and one from the T/TAP to the IRD.

4. Use the left/right arrow buttons to position the image of the AIM under the location where you are testing.
5. Connect the AIM ODU F connector at the location in the distribution network where you want to test. Then press **NEXT** to go to the **EIV** screen.

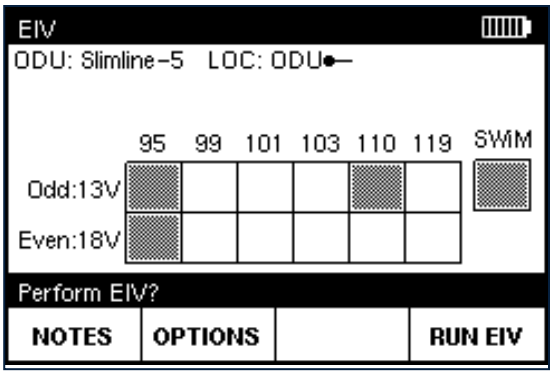
   To test between the ODU and the multiswitch, disconnect the cable connecting the ODU to the multiswitch and connect it to the AIM's ODU F connector.

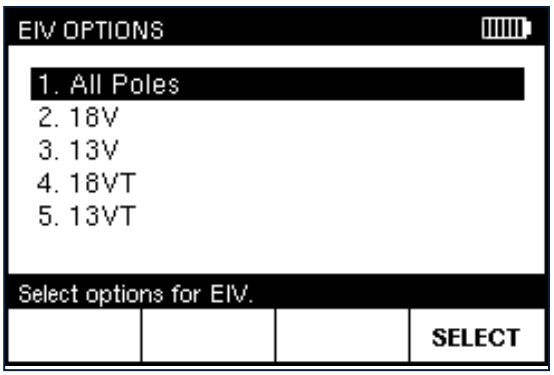
   If the installation includes two ODUs, the **SELECT ODU** screen appears. Highlight the ODU for which you want to perform EIV and press **SELECT** to go to the **EIV** screen.

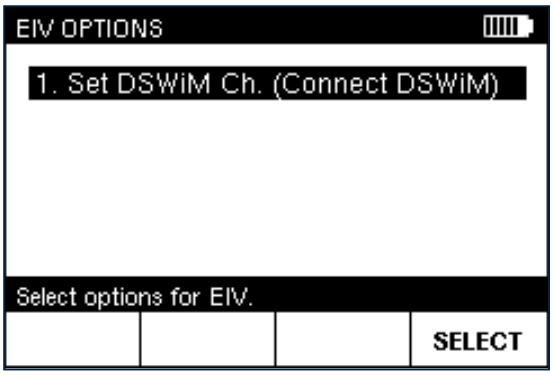




6. On the EIV screen, you can do one of the following:
    - To select an individual polarity for the EIV, press **OPTIONS**. On the **EIV OPTIONS** screen, highlight the polarity for the **EIV**. Then press **SELECT** to continue.
    - To select the channel for an installation with a DSWiM-13, where the test location is between the DSWiM and IRD, press **OPTIONS**. On the **EIV OPTIONS** screen, press **SELECT**. Then highlight the DSWiM channel and press **SELECT**.
    - To add a note about the EIV, such as details about where the EIV is being performed, press **NOTES**. Then enter the note.
    - To run the test, press **RUN EIV** and wait briefly for the results.







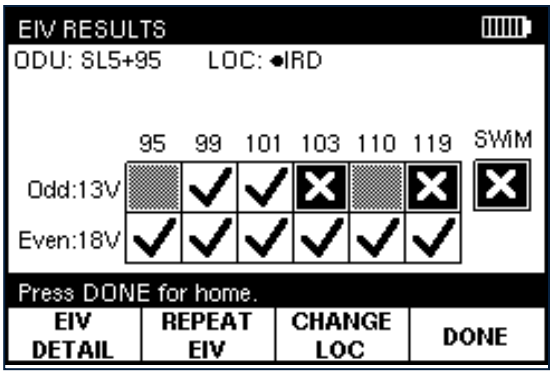
7. On the **EIV RESULTS** screen, review the results for all supported orbital slots and SWiM channels (if applicable). A satisfactory result is indicated by a checkmark. A problem is indicated by an X. An inconclusive result is indicated by a dash.

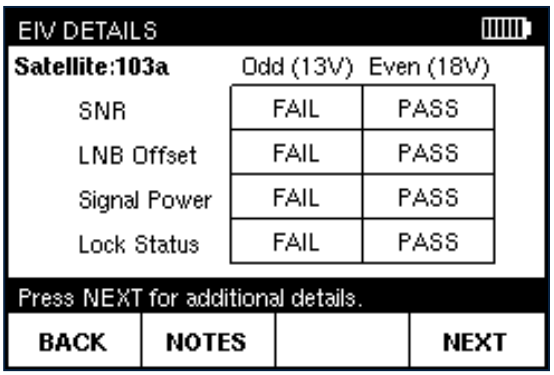
   If a checkmark appears for all supported orbital slots, the ODU alignment is acceptable.

   If an X appears for an orbital slot, perform the following steps:

   - Press **REPEAT EIV** to confirm the problem.
   - If an X appears again for one or more orbital slots, you can press **EIV DETAIL** to determine which tests failed. Troubleshoot any failures following the instructions provided by DIRECTV.

   To change the location where you are testing, press **CHANGE LOC**.





NOTE

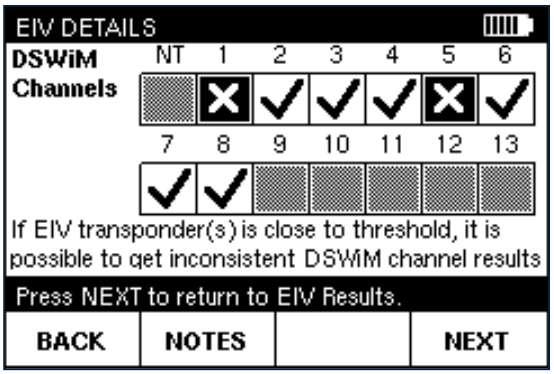
On the EIV DETAILS screen, you can press NEXT to view the details for another orbital slot, or press BACK to scroll back through the details to the EIV RESULTS screen.

You also can press NOTES to add a note about the EIV.

If an X appears for the SWiM or (DSWiM), at least one EIV transponder has failed. However, this is not conclusive that the SWiM itself has failed. Troubleshoot any failures following the instructions provided by DIRECTV.

8. When you have finished reviewing EIV results on the **EIV RESULTS** screen, you can press **DONE** to return to the **HOME** screen.

   You also can press **CHANGE LOC** to perform EIV for another location.



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Chapter 8

Performing Other Network Tests

Overview

If there is a problem with a DIRECTV installation, you can run network tests to help you troubleshoot the problem. These tests include:

- Guided Mode
- EIV Plus
- Satellite Tune test
- Transponder Survey
- Cable Resistance test
- In-Line test
- SWiM LF Power test
- SWiM Channel Assignments test

The AIM guides you through the steps for each test.

NOTE

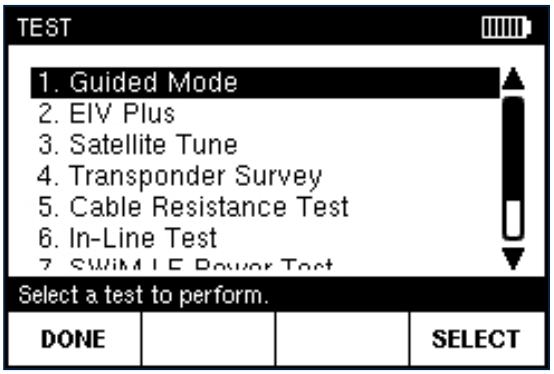
If you encounter an issue while performing a test and want to save information for reference later, you can capture an image of the AIM screen and save it as a record.

Using Guided Mode

Guided Mode is an optimized troubleshooting process that lets you quickly and easily identify equipment failures in an installation. The AIM guides you through a series of tests to pinpoint the source of the failures. After each test, the AIM identifies the faulty component or recommends the next location for testing to isolate the issue. It also saves the results of the test for later review. Guided Mode makes troubleshooting easy by using the AIM's built-in intelligence to recommend the next step.

Guided Mode leads you through a series of tests (called EIV Plus) at various locations in the distribution network. EIV Plus can also be used as an independent troubleshooting tool. For more information on EIV Plus, see the next section.

If a Guided Mode test fails and the failure could be due to inclement weather, you can use the Rain Mode feature to continue troubleshooting in Guided Mode. Rain Mode allows for a slight degradation in the RF signal in order to account for environmental conditions, allowing you to continue troubleshooting beyond the ODU. If a Guided Mode test was run using Rain Mode, the Rain Mode icon appears on the Results screen. While Rain Mode accounts for environmental factors, it does not increase the chance of passing Installation Verification (IV) at the IRD.



1. Set up the job for the installation. See the ***Starting a Job*** section in ***Chapter 5***.
2. From the **HOME** screen, press **TEST** to go to the **TEST** screen.
3. Highlight **GUIDED MODE** and press **SELECT** to go to the **GUIDED SETUP** screen.

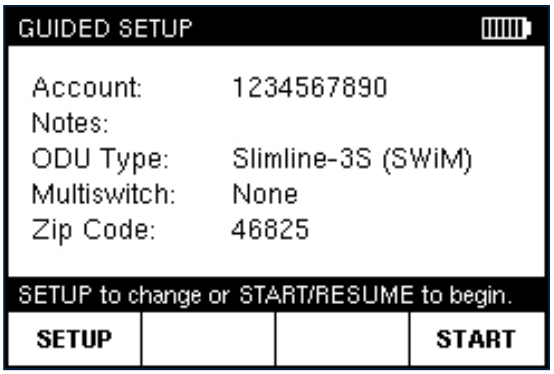
NOTE

Guided mode is not available for DSWiM-13 configurations or for the Slimline-3DS ODU.

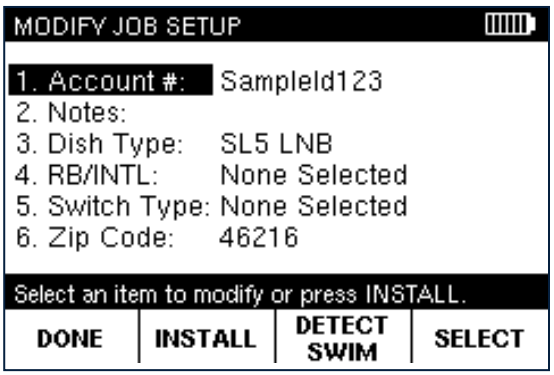
NOTE

Rain Mode can only be enabled in Guided Mode after the ODU has been repointed as part of troubleshooting; it remains disabled at all other times while in Guided Mode. The unlock icon on the Function menu indicates that Rain Mode can be enabled. When the lock icon is shown, Rain Mode cannot be enabled.

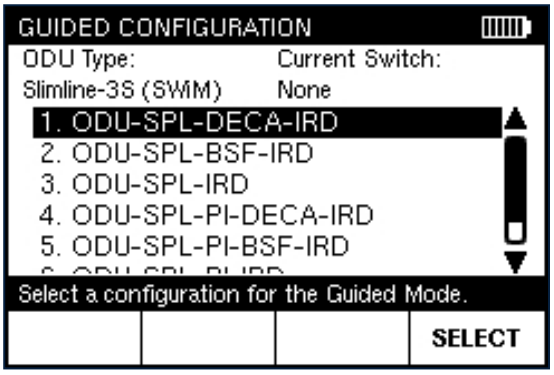
4. Verify the setup information for the job. Then press **START** to go to the **GUIDED CONFIGURATION** screen.



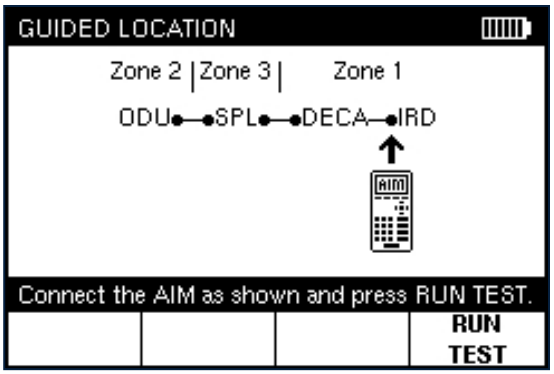
If the setup information is incorrect, press **SETUP** to go to the **MODIFY JOB SETUP** screen. Follow the instructions in the ***Starting a Job*** section in ***Chapter 5*** to modify the setup information. Then press **RETURN TO GUIDED** to return to the **GUIDED SETUP** screen.



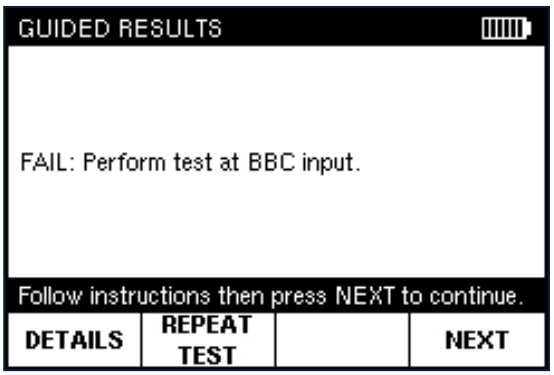
5. Highlight the equipment configuration for the installation and press **SELECT** to go to the **GUIDED LOCATION** screen.



6. Connect the AIM ODU F connector at the location in the distribution network indicated on the display. Then press **RUN TEST** and wait for the results.



7. On the **GUIDED RESULTS** screen, review the results of the EIV Plus. Then do one of the following:



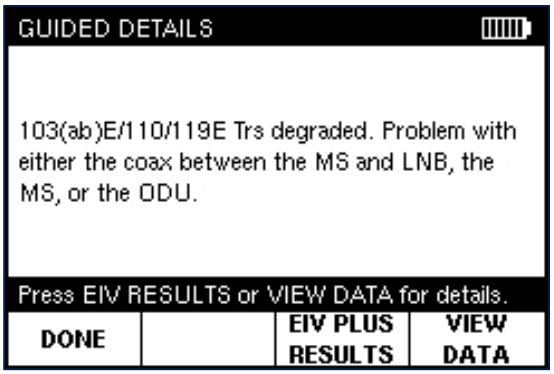
   - To view detailed results, press **DETAILS** to go to the **GUIDED DETAILS** screen. Go to Step 8.
   - To repeat EIV Plus at the same location, press **REPEAT TEST** and wait for the results of the test.
   - If results indicate a problem with the ODU alignment, press **REPOINT** to go to the **PRE CONFIGURE ODU** screen. Then follow the instructions in ***Chapter 6*** to align the ODU.
   - To continue troubleshooting, press **NEXT** to go to the **GUIDED LOCATION** screen and perform EIV Plus at a new location. Repeat Step 6.
   - When all problems have been addressed and troubleshooting is complete, you can press **DONE** to return to the **TEST** screen.

NOTE

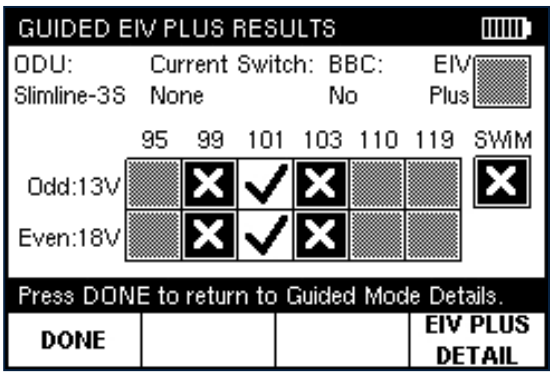
If it is raining and an attempt to realign the ODU fails, you can enable Rain Mode to account for environmental conditions and continue troubleshooting.

Press Fn and then 4 to enable Rain Mode. Press Repeat Test and wait for the results of the test. The Rain Mode icon appears on the Results screen to indicate the test was run in Rain Mode. If the test fails again, the failure may be due to signal degradation from the rain, or there may an issue with the LNB.

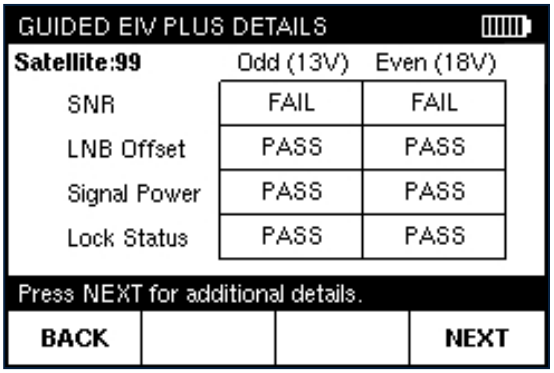
8. On the **GUIDED DETAILS** screen, review the possible problems with the installation. Then do one of the following:



   - To view results of the EIV Plus, press **EIV PLUS RESULTS** to go to the **GUIDED EIV PLUS RESULTS** screen. Go to Step 9.
   - To view cumulative results for all EIV Plus tests performed in Guided Mode for the installation, press **VIEW DATA** to go to the **GUIDED DATA** screen. Go to Step 10.
   - To continue troubleshooting, press **DONE** to go back to the **GUIDED RESULTS** screen. Go back to Step 7.

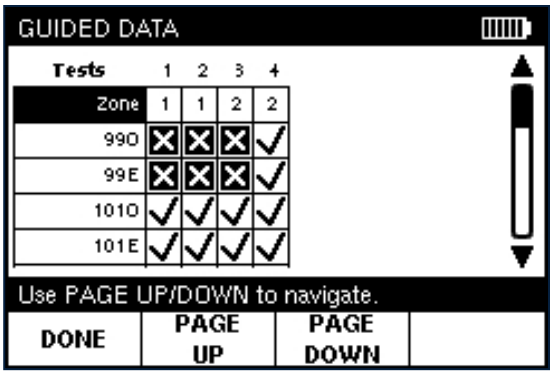


9. On the **GUIDED EIV PLUS RESULTS** screen, review the results for all supported orbital slots and SWiM channels (if applicable). A satisfactory result is indicated by a checkmark. A problem is indicated by an X. An inconclusive result is indicated by a dash.



   - If an X appears for one or more orbital slots, you can press **EIV PLUS DETAIL** to determine which tests failed. Then press **NEXT** to view the details for another orbital slot, or press **BACK** to scroll back through the details to the **GUIDED EIV PLUS RESULTS** screen.
   - When you have finished reviewing EIV Plus results on the **GUIDED EIV PLUS RESULTS** screen, you can press **DONE** to return to the **GUIDED DETAILS** screen.

10. On the **GUIDED DATA** screen, review the results for each EIV Plus performed in Guided Mode for the installation. Results for each EIV Plus are listed in sequential columns; a satisfactory result is indicated by a checkmark and a problem is indicated by an X.



    - Press **PAGE UP** or **PAGE DOWN** to navigate through the results.
    - When you have finished reviewing results on the **GUIDED DATA** screen, you can press **DONE** to return to the **GUIDED DETAILS** screen.

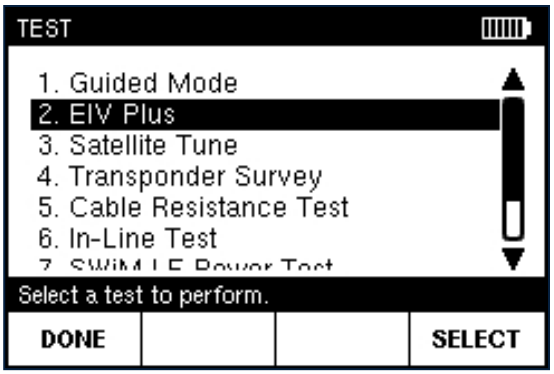
Performing EIV Plus

You can use EIV Plus to perform a series of tests to help you quickly identify potential problems with an installation. EIV Plus performs the same tests as in Guided Mode, but requires you to interpret the results and determine the next steps for troubleshooting (instead of providing a recommendation).

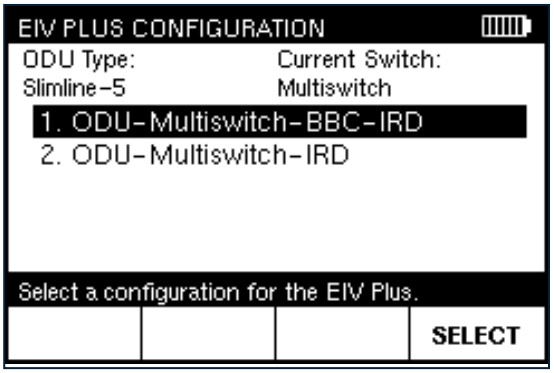
EIV Plus and Guided Mode include one or more of the following tests, depending on the configuration:

- **B-Band Transponder test** – For Slimline-3 and Slimline-5 ODUs, verifies proper operation at low-frequencies (250 to 750 MHz).
- **A-Band Transponder test** – For Slimline-3 and Slimline-5 ODUs, verifies proper operation at high frequencies (1650 to 2150 MHz).
- **LNB Verification test** – For all Slimline ODUs, verifies that the installed equipment matches the configuration entered in the AIM.
- **22 kHz Tone Control test** – For all ODUs except SWiM ODUs and Round (18”), verifies the tone control of the multiswitch and the LNB.
- **18-Volt test** – For all ODUs except SWiM ODUs, verifies the voltage control of the multiswitch and the LNB.
- **BBC Switched Mode test** – For configurations with BBCs, verifies the Ku band passes through the BBC in switched mode.
- **SL3 101 Transponders on Tone Ports test** – For Slimline-3 ODUs, verifies the 101 transponders using 13-Volt and 18-Volt tones.
- **SWiM Channel Assignments test** – For SWiM ODUs and SWiM multiswitches, verifies the Receiver IDs (RIDs) and SWiM channel assignments for each IRD.

If an EIV Plus test fails and the failure could be due to inclement weather, you can use the Rain Mode feature to continue troubleshooting with EIV Plus. Rain Mode allows for a slight degradation in the RF signal in order to account for environmental conditions, allowing you to continue troubleshooting beyond the ODU. If an EIV Plus test was run using Rain Mode, the Rain Mode icon appears on the Results screen. While Rain Mode accounts for environmental factors, it does not increase the chance of passing Installation Verification (IV) at the IRD.



For easy troubleshooting, you can use Guided Mode to let the AIM's built-in intelligence guide you through a series of EIV Plus tests at recommended locations to identify an issue. Or, you can perform EIV Plus at any location in the distribution network for an installation, following the steps below.

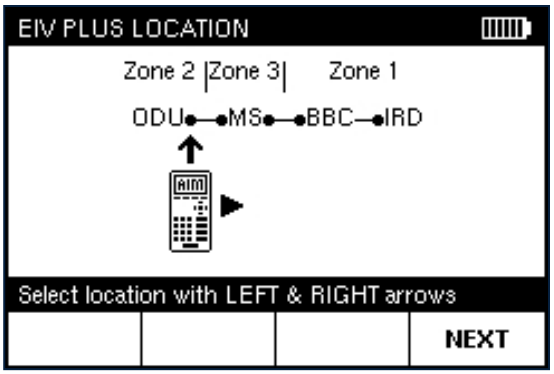


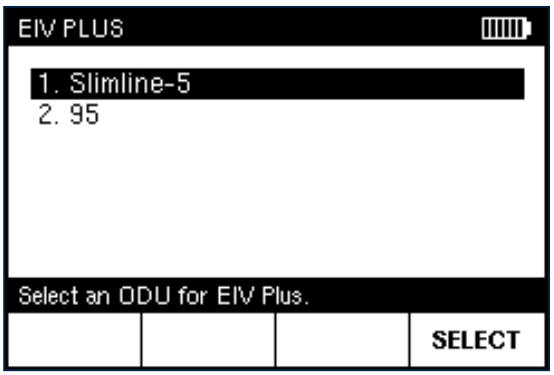
1. Start the job for the installation.
2. From the **HOME** screen, press **TEST** to go to the **TEST** screen.
3. Highlight **EIV Plus** and press **SELECT** to go to the **EIV PLUS CONFIGURATION** screen.
4. Highlight the equipment configuration for the installation and press **SELECT** to go to the **EIV PLUS LOCATION** screen.

5. Use the left/right arrow buttons to position the image of the AIM under the location where you are testing.
6. Connect the AIM ODU F connector at the location in the distribution network where you want to test. Then press **NEXT** to go to the **EIV PLUS TEST** screen.

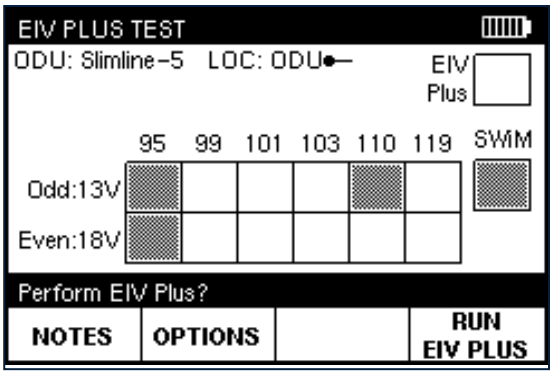
   To test between the ODU and the multiswitch, disconnect the cable connecting the ODU to the multiswitch and connect it to the AIM's ODU F connector.

   If the installation includes two ODUs, the **EIV PLUS** screen appears. Highlight the ODU for which you want to perform EIV Plus and press **SELECT** to go to the **EIV PLUS TEST** screen.

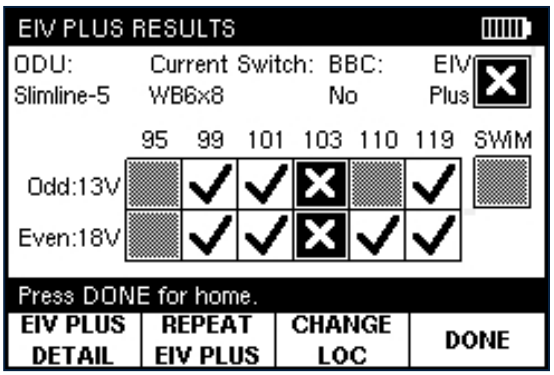




7. On the **EIV PLUS TEST** screen, you can do one of the following:



   - To select an individual polarity for the EIV Plus, press **OPTIONS**. On the **EIV PLUS OPTIONS** screen, highlight the polarity for the EIV Plus.Then press **SELECT** to continue.
   - To select the channel for an installation with a DSWiM-13 where the test location is between the DSWiM and IRD, press **OPTIONS**. On the **EIV PLUS OPTIONS** screen, press **SELECT**. Then highlight the DSWiM channel and press **SELECT**.
   - To add a note about the EIV Plus, such as details about where the EIV Plus is being performed, press **NOTES**. Then enter the note.
   - To run the test, press **RUN EIV PLUS** and wait briefly for the results.



8. On the **EIV PLUS RESULTS** screen, review the results for all supported orbital slots and SWiM channels (if applicable). A satisfactory result is indicated by a checkmark. A problem is indicated by an X. An inconclusive result is indicated by a dash.
   - If a checkmark appears for all supported orbital slots, the ODU alignment is acceptable.
   - If an X appears for an orbital slot, perform the following steps:
     - Press **REPEAT EIV PLUS** to confirm the problem.
     - If X appears again for one or more orbital slots, you can press **EIV PLUS DETAIL** to determine which tests failed. Troubleshoot any failures following the instructions provided by DIRECTV.

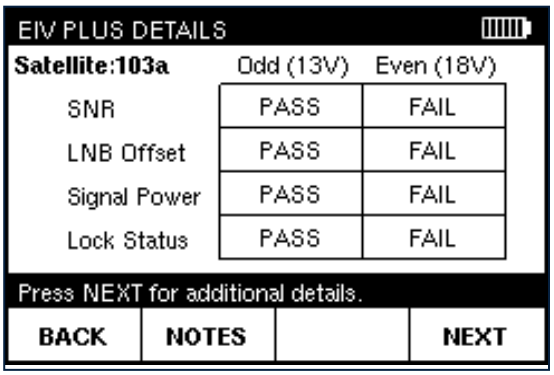
NOTE

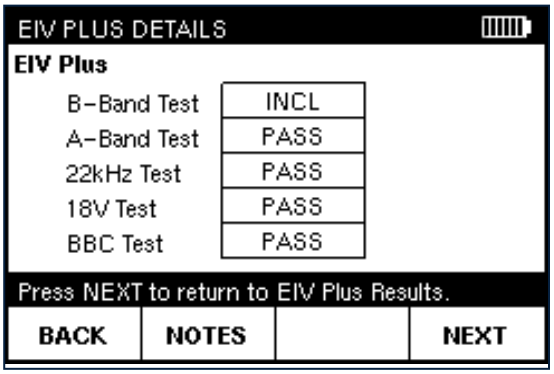
If it is raining and an attempt to realign the ODU fails, you can enable Rain Mode to account for environmental conditions and continue troubleshooting.

Press Fn and then 4 to enable Rain Mode. Press Repeat Test and wait for the results of the test. The Rain Mode icon appears on the Results screen to indicate the test was run in Rain Mode. If the test fails again, the failure may be due to signal degradation from the rain, or there may an issue with the LNB.

9. When you have finished reviewing EIV Plus results on the EIV PLUS RESULTS screen, you can press DONE to return to the HOME screen.

   You also can press CHANGE LOC to perform EIV Plus for another location.





NOTE

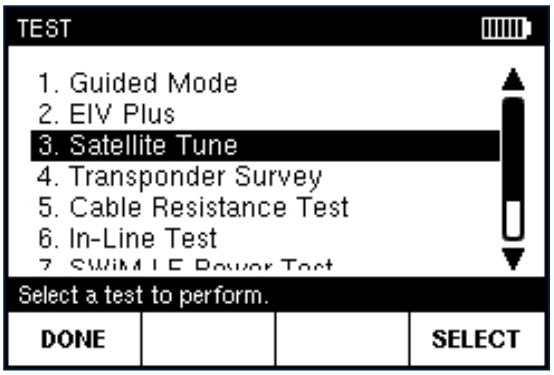
On the EIV PLUS DETAILS screen, you can press NEXT to view the details for another orbital slot, or press BACK to scroll back through the details to the EIV PLUS RESULTS screen.

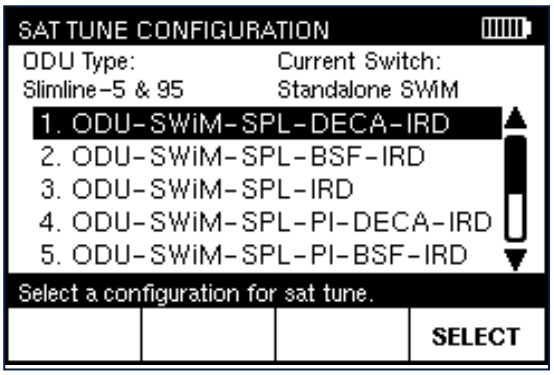
You also can press NOTES to add a note about the EIV Plus.

Performing a Satellite Tune Test

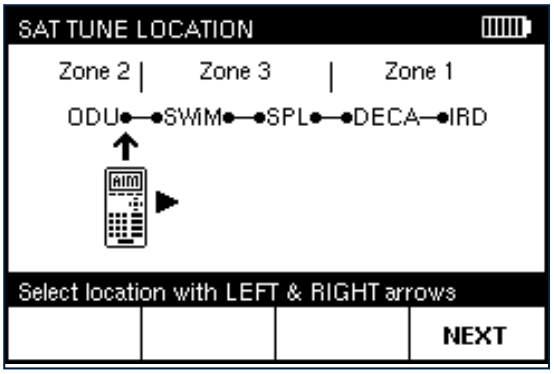
You can use the AIM's Satellite Tune feature to tune to any DIRECTV transponder. Connecting the AIM in different locations in the distribution network, you can progressively test each segment of the connection between the ODU and the IRD to locate a problem.

1. Set up the job for the installation. See the ***Starting a Job*** section in ***Chapter 5***.
2. From the **HOME** screen, press **TEST** to go to the **TEST** screen.
3. Highlight **Satellite Tune** and press **SELECT** to go to the **SAT TUNE CONFIGURATION** screen.
4. Highlight the equipment configuration for the installation and press **SELECT** to go to the **SAT TUNE LOCATION** screen.





5. Use the left/right arrow buttons to position the image of the AIM under the location where you are testing.



6. Connect the AIM ODU F connector at the location in the distribution network where you want to test.

   To test between the ODU and the multiswitch, disconnect the cable connecting the ODU to the multiswitch and connect it to the AIM's ODU F connector.

7. Press **NEXT** to go to the **SAT TUNE** screen.

8. If the installation includes two ODUs, highlight the ODU to test and press **SELECT** to continue.

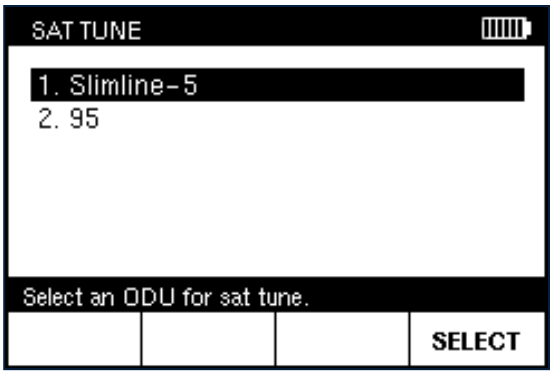
9. Highlight the orbital slot to test or use the keypad to enter the slot number, and press **SELECT** to continue.

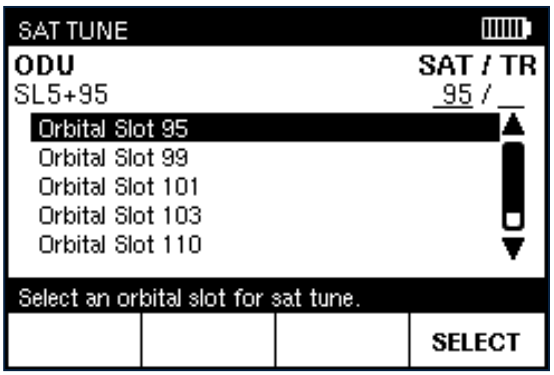
10. If you want to set the SWiM (or DSWiM) channel for the test, do the following:

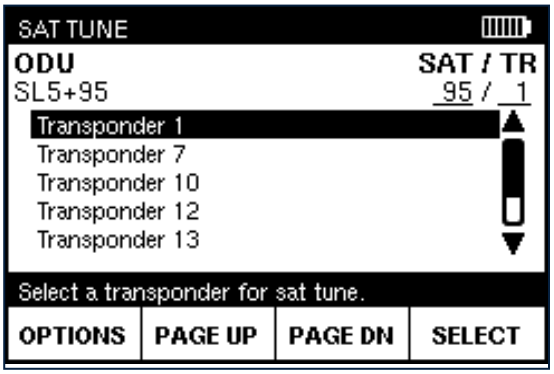
    - Press **OPTIONS**.
    - On the **SAT TUNE OPTIONS** screen, press **SELECT** to select **Set SWiM Ch. (Connect SWiM)**.
    - Highlight the desired channel and press SELECT.

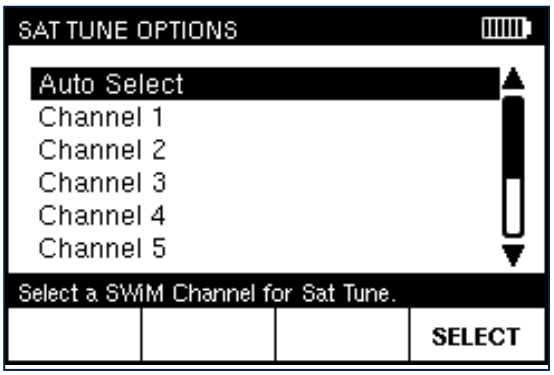
11. Highlight the transponder to test. Then press **SELECT** and wait briefly for the results of the test.

    You also can use the keypad to enter the transponder number. Use **PAGE UP** or **PAGE DN** to scroll quickly through the transponders.

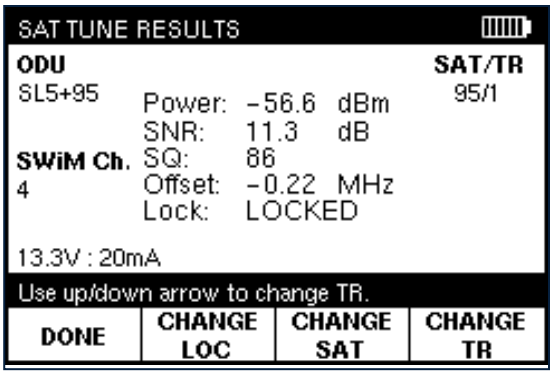








12. On the **SAT TUNE RESULTS** screen, review the results of the test. The screen shows:

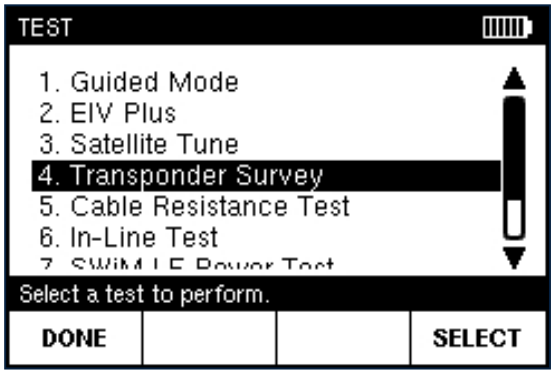


    - **Power** of the transponder signal (in dBm—power ratio in decibels of the measured power referenced to one milliwatt).
    - Measurement of the signal-to-noise ratio, expressed as **SNR** in decibels.
    - Measurement of the signal quality, expressed as an **SQ** value between 0 and 100.
    - Frequency **offset** of the transponder signal from its expected frequency (in megahertz).
    - Indication as to whether the transponder signal is above the power **lock** threshold.
13. Troubleshoot any problems following the instructions provided by DIRECTV.
    - To repeat the test at a different location, press **CHANGE LOC**. Then go to Step 5.
    - To repeat the test at a different orbital slot, press **CHANGE SAT**. Then go to Step 9.
    - To repeat the test at a different transponder, press **CHANGE TR**. Then go to Step 10.

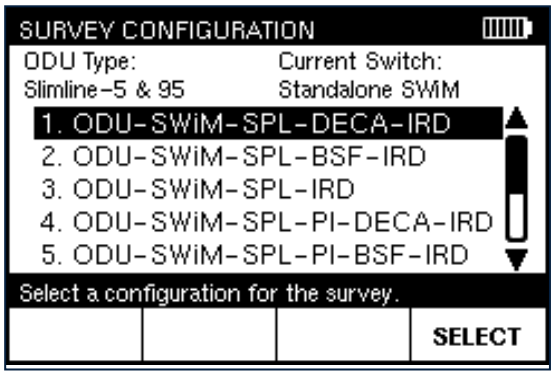
      To repeat the test for a sequential transponder, use the up/down arrow buttons to change the transponder number to the next or previous transponder. The SAT **TUNE RESULTS** screen updates to show the results of the test for the selected transponder.
14. Press DONE to return to the TEST screen.

Performing a Transponder Survey

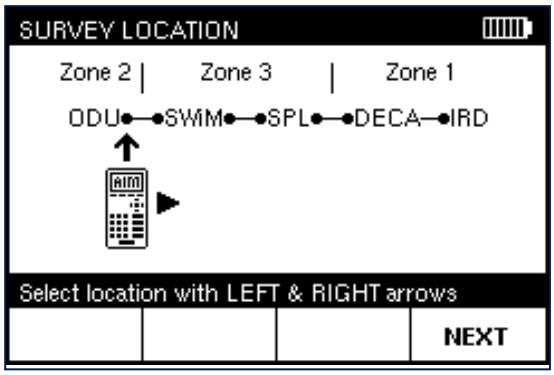
You can use the AIM's Transponder Survey feature to record the signal power, signal-to-noise ratio (SNR), frequency offset, and lock status for all transponders that can be received using the selected equipment. This can help to determine the location of a problem for an installation. Connecting the AIM in the distribution network, you can progressively test each segment of the connection between the ODU and the IRD to locate a problem.



1. Set up the job for the installation. See the ***Starting a Job*** section in ***Chapter 5***.
2. From the **HOME** screen, press **TEST** to go to the **TEST** screen.
3. Highlight **Transponder Survey** and press **SELECT** to go to the **SURVEY CONFIGURATION** screen.

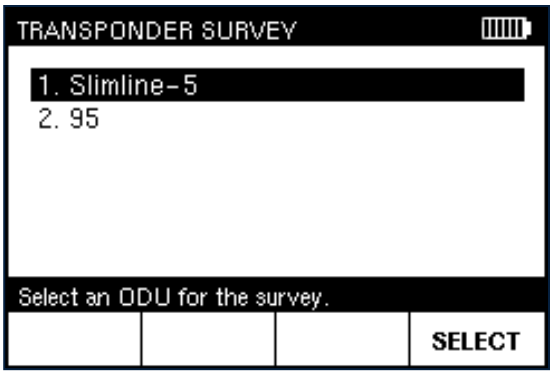


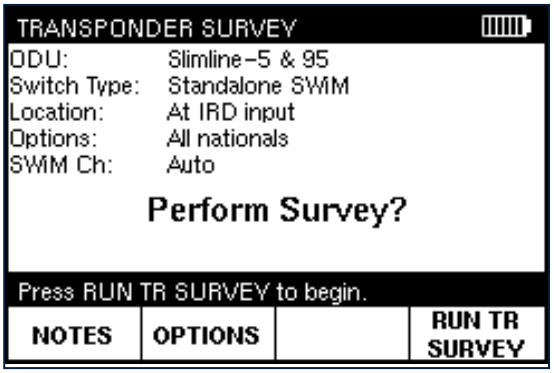
4. Highlight the equipment configuration for the installation and press **SELECT** to go to the **SURVEY LOCATION** screen.



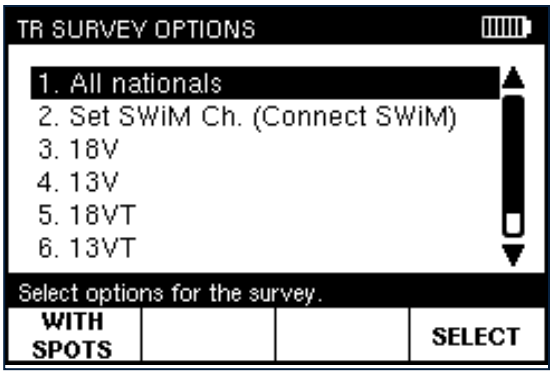
5. Use the left/right arrow buttons to position the image of the AIM under the location where you are testing.

6. Connect the AIM ODU F connector at the location in the distribution network where you want to test.
7. Press **NEXT** to go to the **TRANSPONDER SURVEY** screen.
8. If the installation includes two ODUs, highlight the ODU to test and press **SELECT** to continue.
9. If you want to select an individual polarity for the transponder survey, do the following:
    - Press **OPTIONS**.
    - On the **TR SURVEY OPTIONS** screen, highlight the polarity for the survey.
    - To continue, press **SELECT** to go to the **TRANSPONDER SURVEY** screen.





10. If you want to set the SWiM (or DSWiM) channel for the transponder survey, do the following:
    - Press **OPTIONS**.
    - On the **TR SURVEY OPTIONS** screen, highlight **Set SWiM Ch. (Connect SWiM)**.
    - Highlight the desired channel and press **SELECT** to go to the **TRANSPONDER SURVEY** screen.



11. Press **RUN TR SURVEY** to start the test. The screen indicates each orbital slot and transponder as they are scanned.
12. When the scan test is complete, press **VIEW** to go to the **TR SURVEY RESULTS** screen.

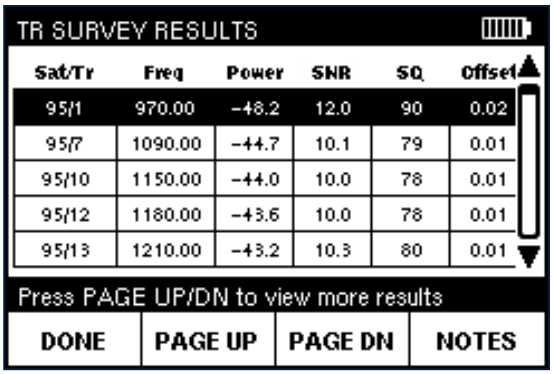
NOTE

To add a note about the transponder survey, such as details about where the survey is being performed, press NOTES.

NOTE

To test spot transponders in the survey, press WITH SPOTS. To remove spot transponders from the survey, press WITHOUT SPOTS.

13. Use the up/down arrow buttons to review the results of the test. The screen shows the following information for each transponder:



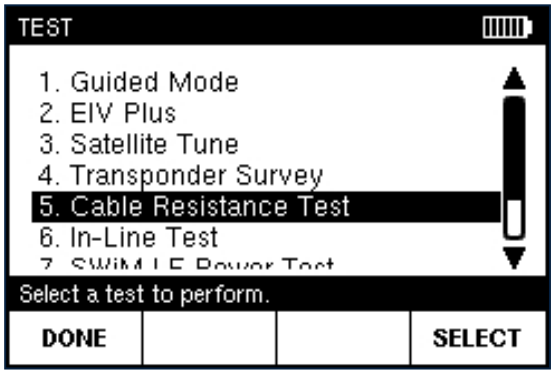
    - **Frequency** of the transponder signal
    - **Power** of the transponder signal (in dBm—power ratio in decibels of the measured power referenced to one milliwatt)
    - Measurement of the signal-to-noise ratio, expressed as **SNR** in decibels
    - Measurement of the signal quality, expressed as an **SQ** value between 0 and 100
    - Frequency **offset** of the transponder signal from its expected frequency (in megahertz)
    - Indication whether the transponder signal is above the power **lock** threshold
    - **Voltage** supplied (in volts)
    - **Current** supplied (in milliamps)
    - **ODU** used
    - **SWiM** channel used
14. Troubleshoot any problems following the instructions provided by DIRECTV. To repeat the test at a different location, press **CHANGE LOC**
15. Press DONE to return to the **TEST** screen.

NOTE

Use PAGE UP and PAGE DN to scroll quickly through test results. Press the left/right arrow buttons to navigate through the columns.

Performing a Cable Resistance Test

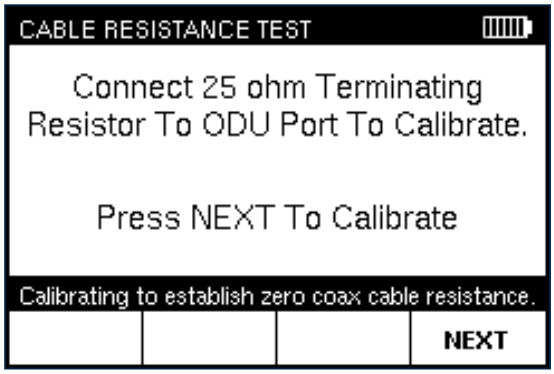
You can use the AIM's Cable Resistance test feature to help determine whether there is a problem with a cable used in the distribution network. To complete this test, you must use the 25 Ω Cable Test Load (provided with the AIM). By placing the Cable Test Load on the end of a cable, you can determine the resistance value for the cable. A high resistance value indicates that the cable may have been inadvertently cut. A low resistance value indicates that the cable may have a short.



1. Set up the job for the installation. See the ***Starting a Job*** section in ***Chapter 5***.
2. From the **HOME** screen, press **TEST** to go to the **TEST** screen.
3. Highlight **Cable Resistance Test** and press **SELECT** to go to the **CABLE RESISTANCE TEST** screen.
4. Connect the 25 Ω Cable Test Load to the AIM ODU F connector.
5. Press **NEXT** to confirm the resistance of the Cable Test Load.

   If the resistance is outside of the allowable range, a message appears. Perform the following steps:

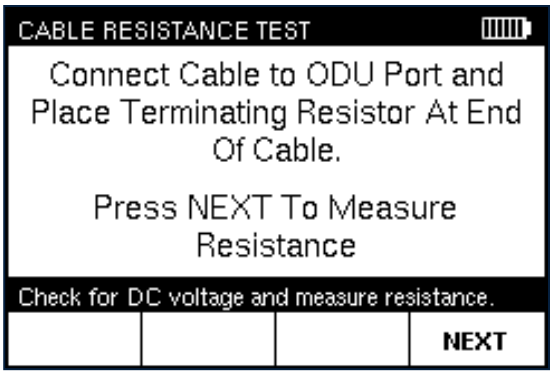
   - Press **RE-TEST** to confirm the problem.
   - If the resistance is still outside of the range, the Cable Test Load has failed. Replace the Cable Test Load and re-start the Cable Resistance test.

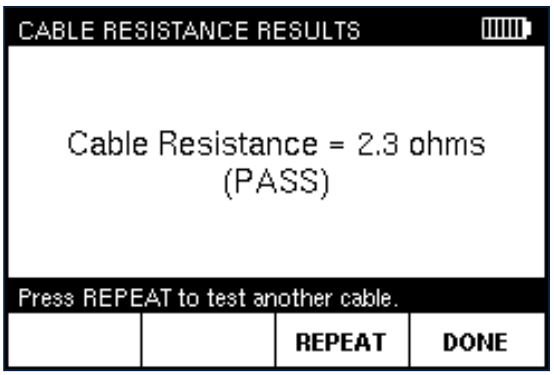


25 Ω Cable Test Load

6. Connect the Cable Test Load to one end of the cable you want to test. Then connect the other end of the cable to the AIM ODU F connector.
7. Press **NEXT** and wait briefly for the results of the test.
8. On the **CABLE RESISTANCE RESULTS** screen, review the resistance of the cable in ohms, adjusted for the 25 Ω Cable Test Load.
9. Troubleshoot any problems following the instructions provided by DIRECTV.

   To repeat the Cable Resistance test, press **REPEAT**.
10. Press **DONE** to return to the **TEST** screen.





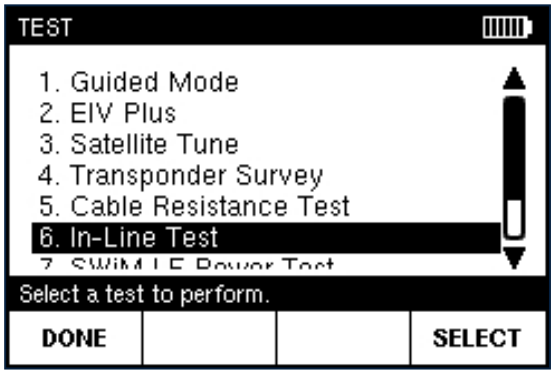
NOTE

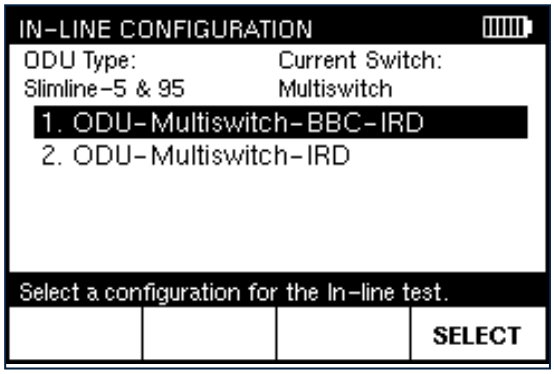
If a message appears stating that DC voltage was detected, the cable is not connected to the Cable Test Load. Make sure you are testing the appropriate cable, then press NEXT to continue the test.

Performing an In-Line Test

You can use the AIM's In-Line test feature to help determine the cause of a problem in an installation. Connecting the AIM in series with the equipment, you can progressively test each segment of the connection between the ODU and the IRD to locate a problem. The AIM can measure the voltage, current, and 22 kHz signals to verify that the correct control signals are being transmitted through the coaxial cable.

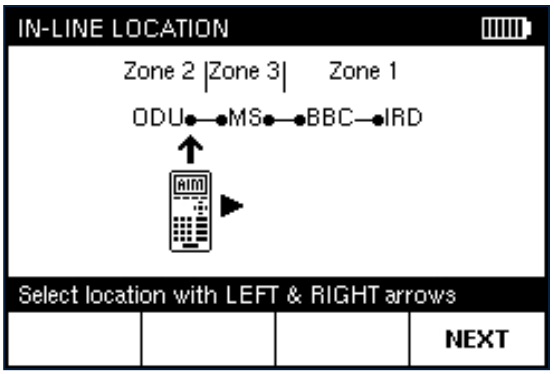
1. Set up the job for the installation. See the ***Starting a Job*** section in ***Chapter 5***.
2. From the **HOME** screen, press **TEST** to go to the TEST screen.
3. Highlight In-Line Test and press SELECT to go to the IN-LINE CONFIGURATION screen.
4. Highlight the equipment configuration for the installation and press SELECT to go to the IN-LINE LOCATION screen.



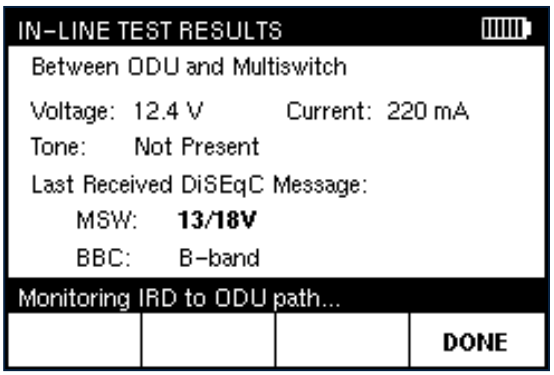


5. Use the left/right arrow buttons to position the image of the AIM under the location where you are testing.
6. Connect the AIM in series with the equipment at the location where you want to test.

   To test between the ODU and the multiswitch, disconnect the cable connecting the ODU to the multiswitch and connect it to the AIM's ODU F connector. Then connect the AIM's IRD F connector to the multiswitch.



7. Press **NEXT** and wait briefly for the results of the test.
8. On the **IN-LINE TEST RESULTS** screen, review the results of the test. The screen indicates whether the test passed or failed. The screen also shows:



   - **Voltage** supplied (in volts).
   - **Current** supplied (in milliamps).
   - If present, amplitude of the 22 kHz **tone**.
   - Indication as to whether **DiSEqC** commands are being received by the multiswitch (**MSW**) and **BBC**.
9. Troubleshoot any problems following the instructions provided by DIRECTV.
10. Press **DONE** to return to the **TEST** screen.

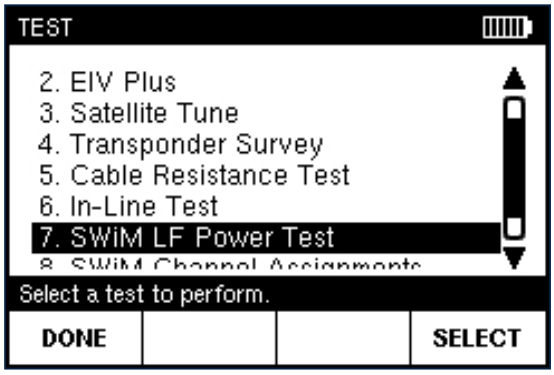
NOTE

As messages are received from the multiswitch (MSW) and BBC, the multiswitch port and BBC frequency range flash bold. If no messages are received, "N/A" appears.

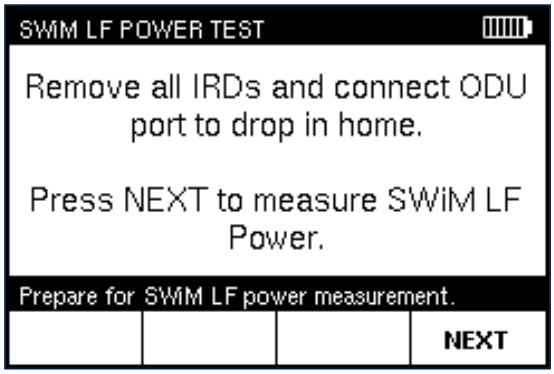
Performing a SWiM LF Power Test

You can use the AIM's SWiM LF Power test feature to determine whether there is a communications problem between the SWiM and the IRD. To perform this test, disconnect all IRDs in the distribution network, then connect the AIM in place of an IRD. The AIM determines whether the SWiM LF Power level is sufficient.

1. Set up the job for the installation. See the ***Starting a Job*** section in ***Chapter 5***.
2. From the **HOME** screen, press **TEST** to go to the **TEST** screen.
3. Highlight **SWiM LF Power Test** and press **SELECT** to go to the **SWiM LF POWER TES**T screen.



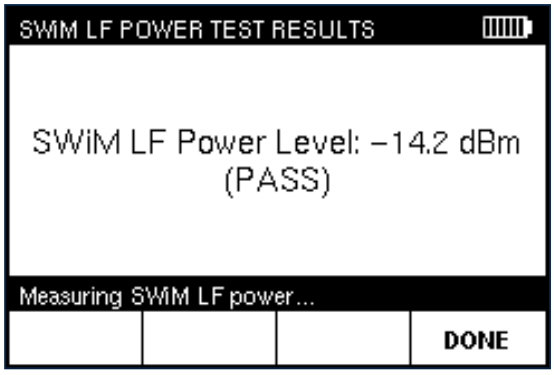
4. Disconnect all IRDs in the distribution network. Then connect the AIM in place of an IRD.
5. Press **NEXT** and wait briefly for the results of the test.



6. On the **SWiM LF POWER TEST RESULTS** screen, review the results of the test.

   The screen shows whether the SWiM LF power level is sufficient.
7. Troubleshoot any problems following the instructions provided by DIRECTV.

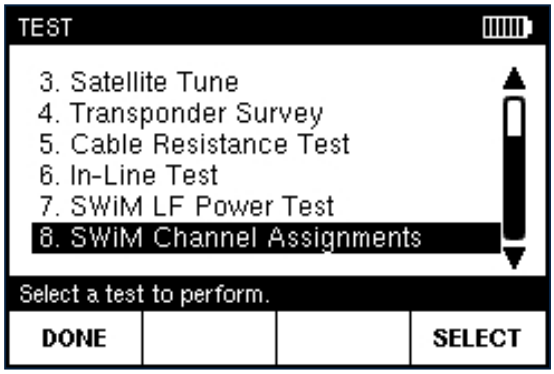
   To repeat the SWiM LF Power test in case of a failure, press **RETRY**.
8. Press **DONE** to return to the **TEST** screen.



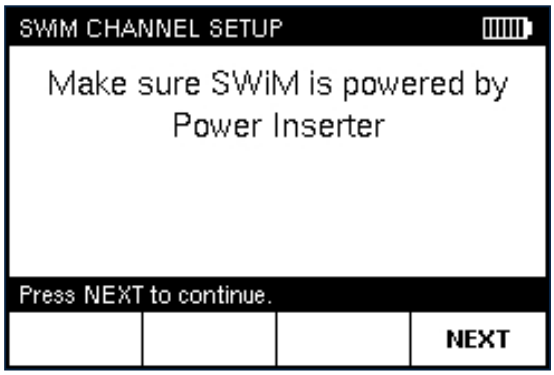
Performing a SWiM Channel Assignments Test

You can use the AIM's SWiM Channel Assignments test feature to view the Receiver IDs (RIDs) and assigned SWiM or DSWiM channels for each IRD in the installation. If you suspect that the network could be oversubscribed, the results show whether all available SWiM or DSWiM channels are used, indicating the possibility that the number of IRDs in the network exceeds the SWiM's capacity.

To perform this test, connect the AIM at any point in the distribution network between the SWiM and the IRD. Power for the SWiM must be provided by an external power inserter, since the AIM cannot be used to provide power during the test.



1. Set up the job for the installation. See the ***Starting a Job*** section in ***Chapter 5***.
2. From the **HOME** screen, press **TEST** to go to the **TEST** screen.
3. Highlight **SWiM Channel Assignments** and press **SELECT** to go to the **SWiM CHANNEL SETUP** screen.
4. Connect the AIM ODU F connector at any point in the distribution network between the SWiM and the IRD. Make sure that power for the SWiM is provided by an external power inserter.
5. Press **NEXT** and wait briefly for the results of the test. screen.



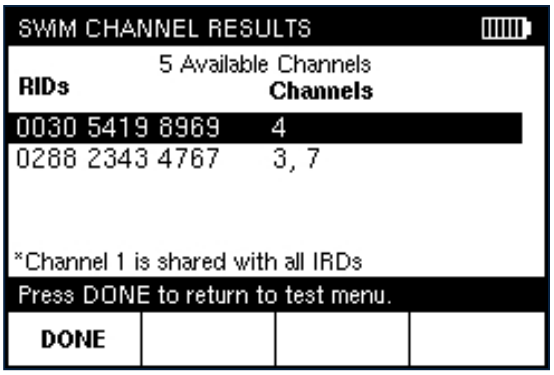
NOTE

The DSWiM requires an open channel to run the test. If all channels are subscribed, a message appears stating that all channels are occupied and to remove the IRD and try again.

6. On the **SWiM CHANNEL RESULTS** screen, review the results. For each IRD in the network, the screen shows the RID and the SWiM channel used. The number of available SWiM channels is also indicated.

   Troubleshoot any problems following the instructions provided by DIRECTV.

7. Press **DONE** to return to the **TEST** screen.



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Chapter 9

Managing Records

Overview

The AIM stores information for each account, including the results for each EIV, EIV Plus, Guided Mode test, and Transponder Survey. Screenshots are also stored as records. For all accounts, you can:

- View records
- Delete records
- Transfer records to and from a USB flash drive

The AIM can hold up to 100 records for each record type. When there are 100 stored records for a particular record type and a new record is added, the oldest record of that type is deleted.

Understanding Records

The AIM stores the following types of records:

- **EIV** – Test results and data for a particular EIV.
- **EIV+** – Test results and data for a particular EIV Plus.
- **Guided** – Test results and data for a particular Guided Mode test.
- **Survey** – Test results and data for a particular Transponder Survey.
- **Image** – Thumbnail screenshot, as well as the date and time the image was taken, and the associated account number.

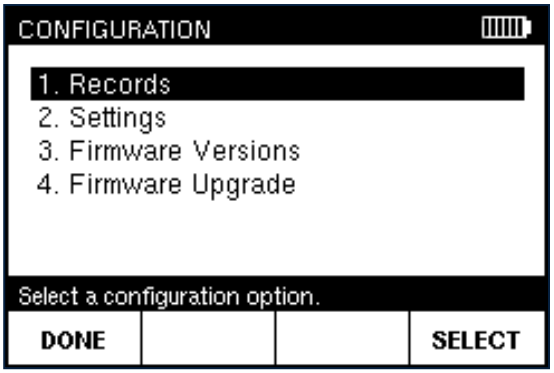
Viewing Records

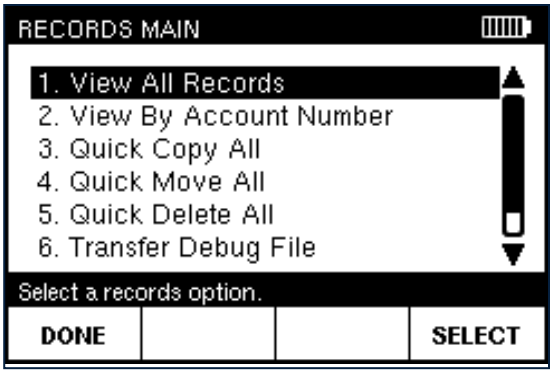
You can view records for tests performed on the AIM, including EIV, EIV Plus, Guided Mode, and Transponder Survey, as well as screenshots. You can select a record to view from a list of all records on the AIM, or view records by account number.

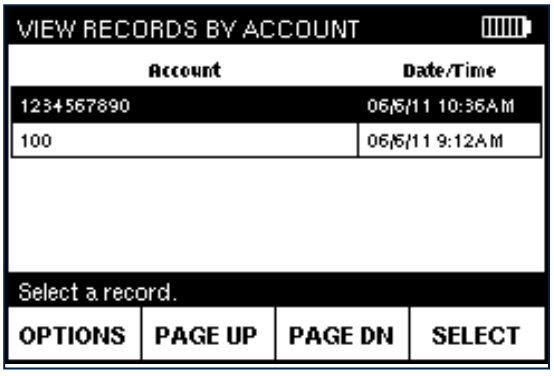
1. Press **CONFIG** to go to the **CONFIGURATION** screen.
2. Highlight **Records** and press **SELECT** to go to the **RECORDS MAIN** screen.
3. Highlight **View All Records** and press **SELECT** to go to the **VIEW RECORDS** screen.

   Alternatively, if you want to view records for a selected account number, do the following:

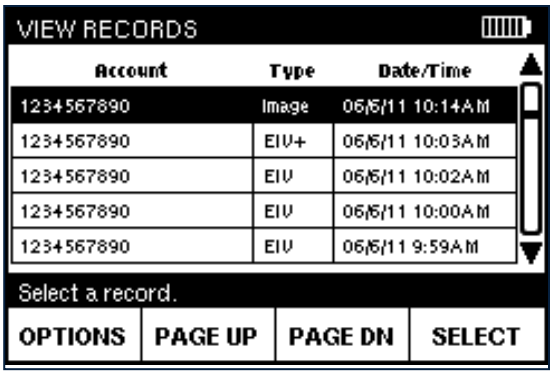
   - Highlight **View By Account Number** and press **SELECT** to go to the **VIEW RECORDS BY ACCOUNT** screen.
   - Highlight the account number you want to view and press **SELECT** to go to the **VIEW RECORDS** screen.



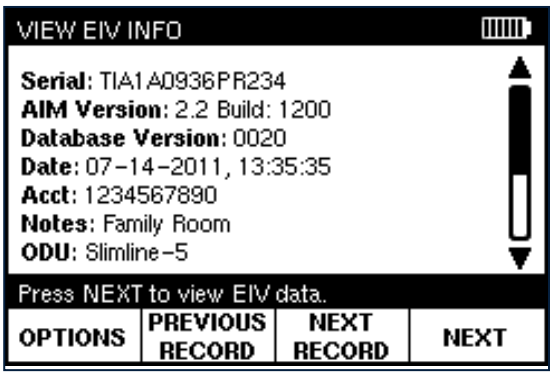


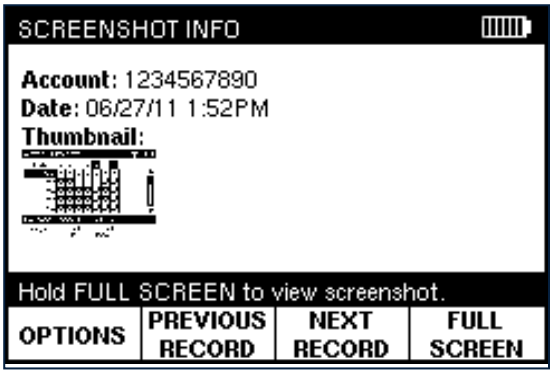


4. Highlight the record you want to view and press **SELECT**. The **VIEW INFO** screen for the selected record appears.



5. On the **VIEW INFO** screen, you can do the following (example screens are shown):
   - Copy, move, or delete the record by pressing **OPTIONS**. On the Options window, highlight the action you want to perform and press **OK**.
   - View the next or previous record by pressing **NEXT RECORD** or **PREVIOUS RECORD**.
   - For a test record, view the results of the test on the **VIEW DATA** screens for the selected record by pressing **NEXT**.
   - For a screenshot, press and hold **FULL SCREEN** to view the full image on the **SCREENSHOT INFO** screen.

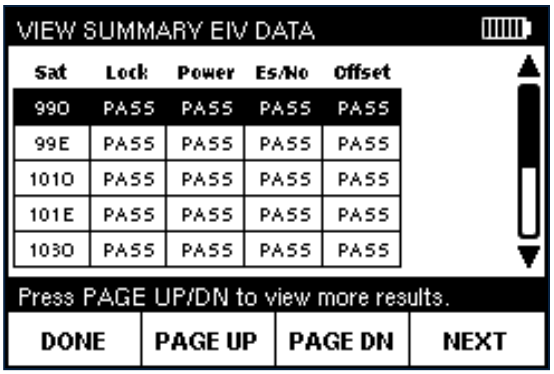


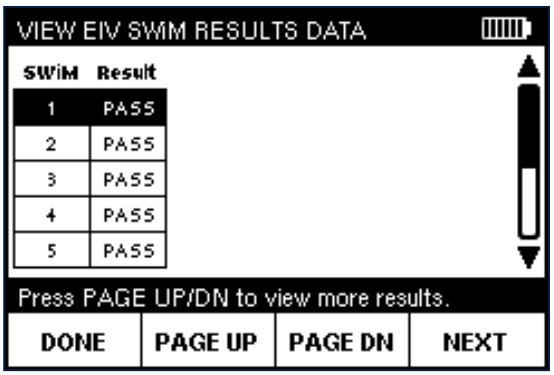


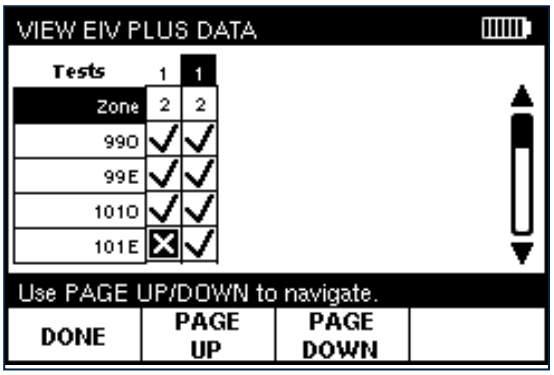
6. On the **VIEW DATA** screens, you can do the following (example screens are shown):
    - Scroll through the results using **PAGE UP** and **PAGE DN**.
    - View the next data screen by pressing **NEXT**.
    - Return to the VIEW RECORDS screen by pressing DONE.

    For more details on results for a specific test, see the Performing EIV section (for EIV) or the Performing Other Network Tests section on (for EIV Plus, Guided Mode, or Transponder Survey).

    If the column header for an EIV Plus or Guided Mode test is black with white text, this indicates that the test was run in Rain Mode.



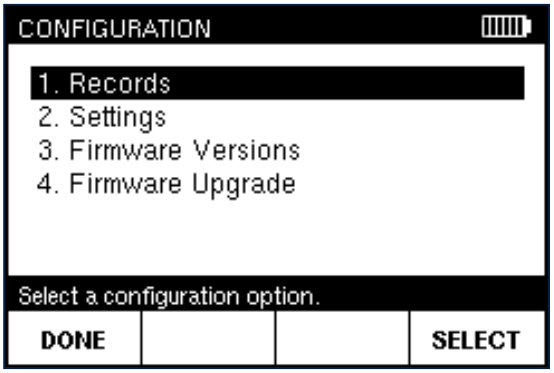




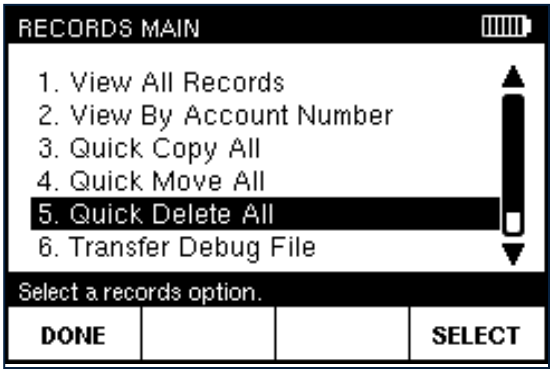
Deleting Records

You can delete records stored on the AIM, including:

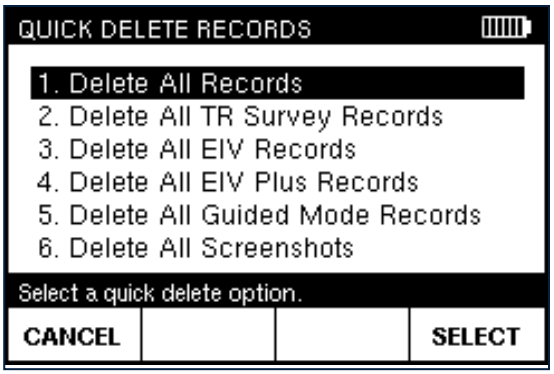
- An individual record
- All records for a selected account
- All records for all accounts
- All records of a selected type (EIV, EIV Plus, Guided Mode, Transponder Survey, or Screenshots).



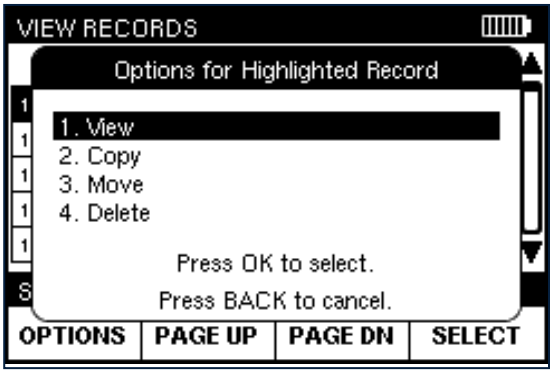
1. Press **CONFIG** to go to the **CONFIGURATION** screen.
2. Highlight **Records** and press **SELECT** to go to the **RECORDS MAIN** screen. Then highlight one of the following:
    - To delete all records on the AIM or records of a selected type, highlight **Quick Delete All** and press **SELECT**. Go to Step 3.
    - To delete an individual record, highlight **View All Records** and press **SELECT**. Go to Step 4.
    - To delete all records for an account, highlight **View By Account Number** and press **SELECT**. Go to Step 5.



3. To delete all records on the AIM or records of a selected type, do the following on the **QUICK DELETE RECORDS** screen:
    - Highlight the type of records to delete and press **SELECT**. You can select **Delete All Records** to delete all records on the AIM, or select a specific type of records to delete.
    - Go to Step 6.

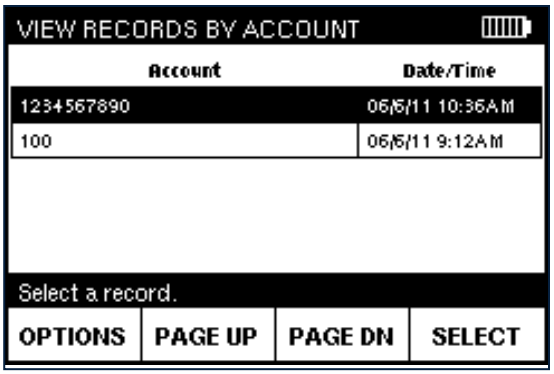


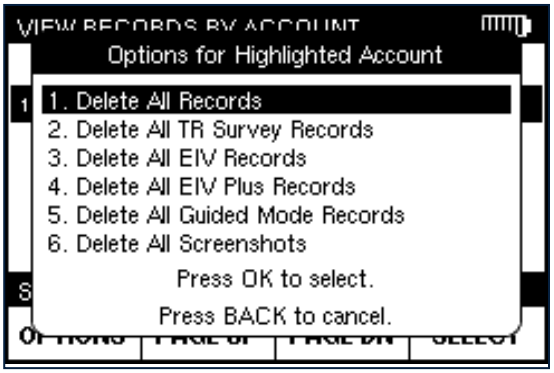
4. To delete an individual record, do the following on the **VIEW RECORDS** screen:
    - Highlight the record to delete and press **OPTIONS**.
    - On the **Options** window, highlight **Delete** and press **OK**.
    - Go to Step 6.



5. To delete all records for an account, do the following on the **VIEW RECORDS BY ACCOUNT** screen.
    - Highlight the account number and press **OPTIONS**.
    - On the **Options** window, highlight **Delete...** and press **OK**.
    - Highlight the type of records to delete and press **OK**. You can select **Delete All Records** to delete all records for the account, or select a specific type of records to delete.
    - Go to Step 6.
6. On the message that appears to confirm the deletion, press **OK**.

    The records are deleted. Press **OK** again to acknowledge the deletion, and the **RECORDS MAIN, VIEW RECORDS**, or **VIEW RECORDS BY ACCOUNT** screen appears.





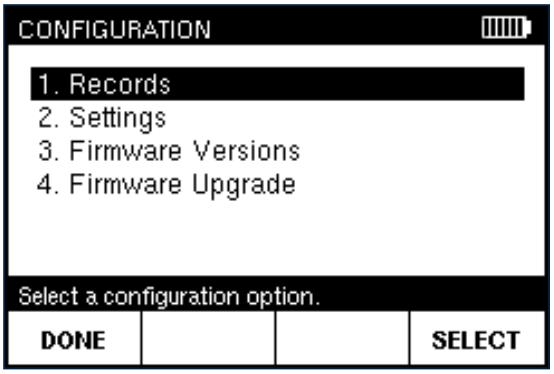
Transferring Records

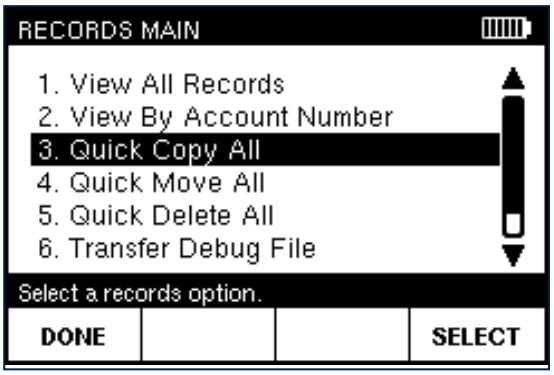
You can transfer records from your AIM to a PC using a USB flash drive. You also can transfer records from a USB flash drive to the AIM (see page 92). You can transfer:

- An individual record
- All records for a selected account
- All records for all accounts
- All records of a selected type (EIV, EIV Plus, Guided Mode, Transponder Surveys, or Screenshots).

When transferring records between the AIM and a USB flash drive, you can choose from two options:

- To retain a copy of the records on the device you are transferring from, select **Copy**.
- To permanently delete the records from the device you are transferring from, select **Move**.



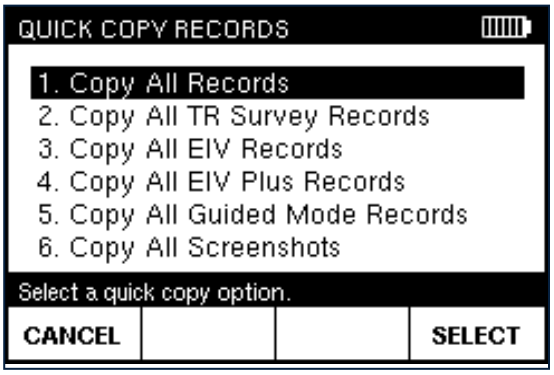


Transferring records from the AIM to a USB flash drive

1. Insert the USB flash drive in the appropriate USB connector on the meter.
2. Press **CONFIG** to go to the **CONFIGURATION** screen.
3. Highlight **Records** and press **SELECT** to go to the **RECORDS MAIN** screen. Then highlight one of the following options:
    - To transfer all records on the AIM or records of a selected type, highlight **Quick Copy All** or **Quick Move All** and press **SELECT**. Go to Step 4.
    - To transfer an individual record, highlight **View All Records** and press **SELECT**. Go to Step 5.
    - To transfer all records for an account, highlight **View By Account Number** and press **SELECT**. Go to Step 6.

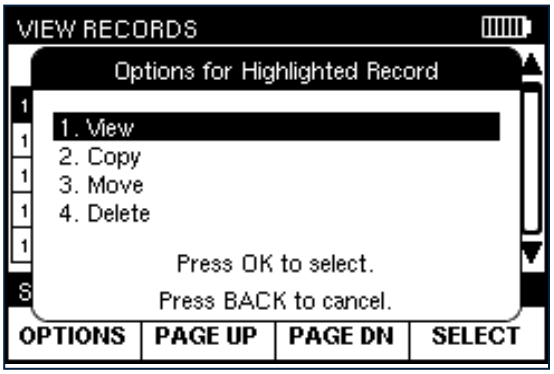
4. To transfer all records on the AIM or records of a selected type, do the following on the **QUICK COPY RECORDS** (or **QUICK MOVE RECORDS**) screen:

    - Highlight the type of records to transfer and press **SELECT**. You can select **Copy All Records** (or **Move All Records**) to transfer all records on the AIM, or select a specific type of records to transfer.
    - Go to Step 7.



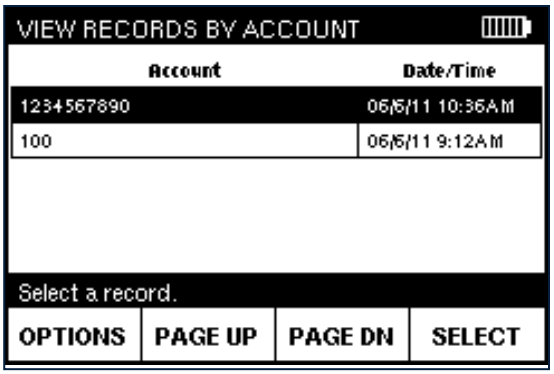
5. To transfer an individual record, do the following on the **VIEW RECORDS** screen:

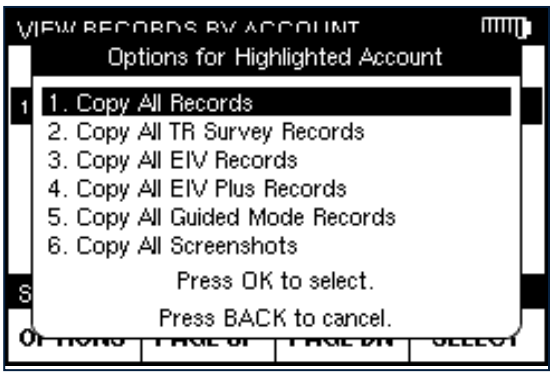
    - Highlight the record to transfer and press **OPTIONS**.
    - On the **Options** window, highlight **Copy** or **Move** and press **OK**.
    - Go to Step 7.



6. To transfer all records for an account, do the following on the **VIEW RECORDS BY ACCOUN**T screen:
    - Highlight the account number and press **OPTIONS**.
    - On the **Options** window, highlight **Copy...** or **Move...** and press **OK**.
    - Highlight the type of records to transfer and press **OK**. You can select **Copy All Records** or **Move All Records** to transfer all records for the account, or select a specific type of records to transfer.
    - Go to Step 7.
7. On the message that appears to confirm the transfer, press **OK**.

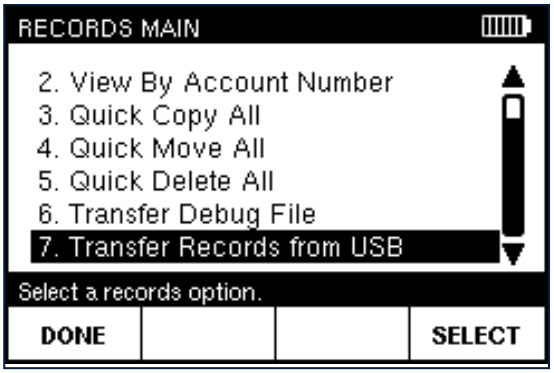
    The records are transferred, and the **RECORDS MAIN, VIEW RECORDS**, or **VIEW RECORDS BY ACCOUNT** screen appears.

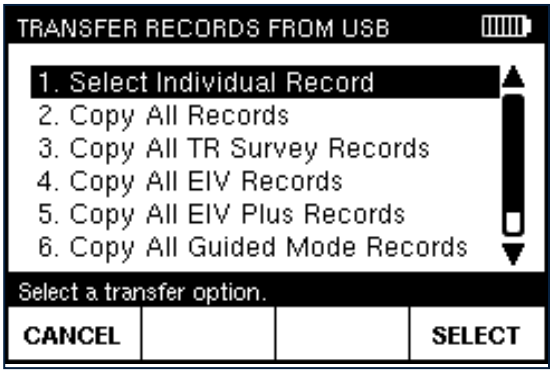




Transferring records from a USB flash drive to the AIM

1. Insert the USB flash drive in the appropriate USB connector on the meter.
2. Press **CONFIG** to go to the **CONFIGURATION** screen.
3. Highlight **Records** and press **SELECT** to go to the **RECORDS MAIN** screen.
4. Highlight **Transfer Records from USB** and press **SELECT** to go to the **TRANSFER RECORDS FROM USB** screen. Then highlight one of the following options:
    - To copy an individual record, highlight **Select Individual Record** and press **SELECT**. Highlight the record to copy and press **SELECT**.
    - To copy all records from the USB drive, highlight **Copy All Records** and press **SELECT**.
    - To copy all records of a selected type from the USB drive, highlight the type of records to copy and press **SELECT**.





5. On the message that appears to confirm your transfer, press **OK**.
6. The records are transferred to the AIM, and the **RECORDS MAIN** or **TRANSFER RECORDS FROM USB** screen appears.

NOTE

You also can view, move, or delete an individual record from the Options screen. Press OPTIONS, highlight the desired option, and press OK.

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Chapter 10

Updating the Meter

Overview

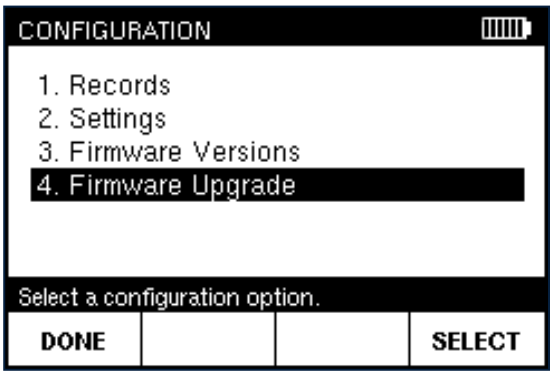
You can update your AIM as new features become available via the Internet or USB flash drive.

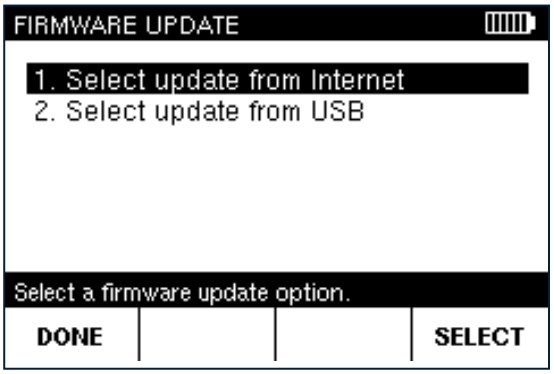
You can update the meter firmware without plugging the AIM into a power outlet, as long as the battery icon on the display shows at least two remaining bars of power. If the battery icon shows less than two bars of power, the meter must be plugged into a power outlet using the AC power adapter.

To view the current AIM firmware version, press **CONFIG** to go to the **CONFIGURATION** screen. Then highlight **Firmware Versions** and press **SELECT**.

Updating the Firmware

1. Press **CONFIG** to go to the **CONFIGURATION** screen.
2. Select **Firmware Upgrade** and press **SELECT** to go to the **FIRMWARE UPGRADE** screen.
3. The **FIRMWARE UPGRADE** screens appears with the following options:
    - Select update from the Internet
    - Select update from USB

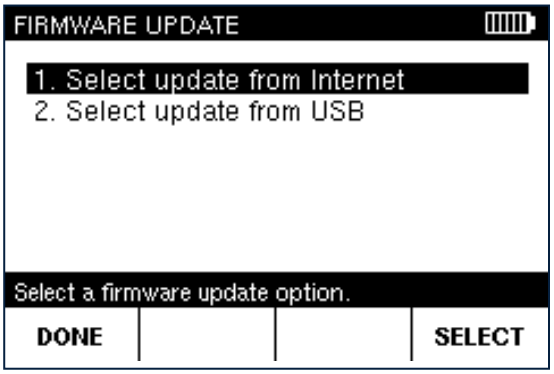




Update Firmware from the Internet

The AIM can update firmware from an Ethernet connection or via Wi-Fi.

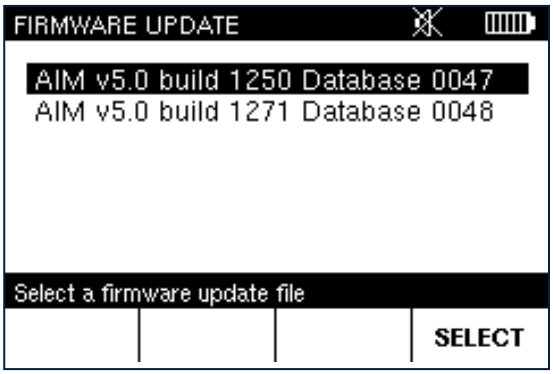
Make sure the Ethernet connection has been set up and you have connected a Ethernet cable to the port on the AIM.



If using Wi-Fi, make sure the Wi-fi network has been set up. The AIM will then connect to the network.

1. Select the **Select update from Internet** option and press **SELECT**. The AIM connects to the update server and shows the available updates.
2. Select the update version and press **SELECT.**

   The firmware update process begins. A message appears when the firmware update is complete and the meter automatically restarts with the new firmware.

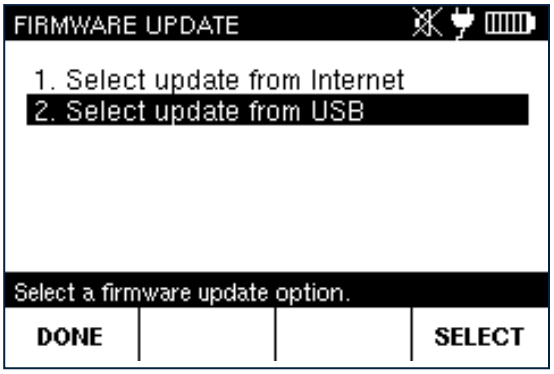


Update Firmware from a USB Flash Drive

1. Insert the USB flash drive that contains the firmware update into the USB port on the meter.
2. Wait 15 seconds, then select the **Select update from USB** option and press **SELECT**.

   The available updates on the USB flash drive appear. Choose which update you want to use and press **SELECT**.

   The firmware update process begins. A message appears when the firmware update is complete and the meter automatically restarts with the new firmware.



3. After the meter turns on and the **HOME** screen appears, you can remove the USB flash drive from the USB port.

Chapter 11

Appendix

Specifications

Frequency Range	250 MHz to 2150 MHz
Signal Level Range	-10 to -69 dBmV
RF Input Connector	Replaceable “F” connector (2)
Input Impedance	75 Ω
LNB Power Supply	13 Volts / 18 Volts
SWiM Power Supply	21 Volts
Communications	Wi-Fi (802.11 b,g and n, 2.4 GHz); Bluetooth (4.0 and BLE dual mode); and Gigabit Ethernet USB flash drive (Linux format only)
Battery	6-cell, 10.8 Volt, 4.4 AH rechargeable Li-ion
Operating Temperature	-29° to +52° C (-20° to 126° F)
Storage Temperature	-40° to +65° C (-40° to 149° F)
Battery Charging Temperature	5° to 37° C (-41° to 99° F)
Display	240 x 160 pixel, backlit LCD
Weight	1225 grams (2.54 lbs)
Dimensions (H x W x D)	350 x 126 x 61 mm (13.7 x 4.9 x 2.4 in)

Made in U.S.A.