

Advanced Installation Meter v2.0

Satellite System Installation and Troubleshooting Meter



- Same Improved Ruggedized Enclosure as the Version 1.5
- Same User Interface and Functionality as the Version 1.5
- Version 2 Incorporates a New Full Spectrum Capture Link Chip and Faster Processor
- New Wi-Fi, Bluetooth, and Ethernet Connectivity Provide for Easier Firmware Updates and Report Uploads

Optimized for DIRECTV Satellite Services

The Advanced Installation Meter (AIM) was developed in collaboration with DIRECTV to provide a standardized measurement platform for the installation of DIRECTV Satellite Services. The AIM supports ODU alignment for both legacy and SWiM installations. During ODU installation, the AIM's Extended Installation Verification (EIV) confirms the ODU is properly aligned and signal reception has been maximized for all orbital slots. EIV results are saved by the AIM and are available for inclusion with installation documentation, as required.

When system troubleshooting is required, the AIM's extensive troubleshooting modes will walk the user through the troubleshooting process to quickly identify and isolate system problems.

Designed for Field Conditions

The user interface consists of a backlit LCD optimized to provide visibility under both low light and direct sunlight conditions. The keypad includes navigation and softkeys to ease menu selection and navigation, providing quick access to commonly used measurements and functions.

The AIM is protected from environmental and physical damage by a water resistant, reinforced, polycarbonate enclosure, with rubber overmold and a thermal-formed carrying case. Additionally, the LCD has been recessed in the enclosure and is protected by a replaceable LCD lens cover.

A form-fitting rubber access door provides both easy access and protection for the USB and charger port connections. A battery compartment access panel

provides direct access to the Li-ion battery, making battery replacement easy under field conditions.

ODU Alignment

The AIM has been developed to provide a standardized and repeatable method of installing DIRECTV satellite services. The menu-driven system will walk the user through ODU alignment and service verification. Prior to use, the AIM will need to be configured by entering the subscriber's account number, location (zip code), and ODU hardware.

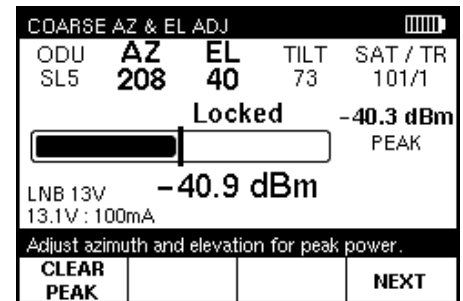
With this information, the AIM will populate the installation screen with the correct azimuth, elevation, and tilt for coarse alignment of the ODU, select the correct data set for service verification, and attach technical data from the installation to the subscriber's account number.

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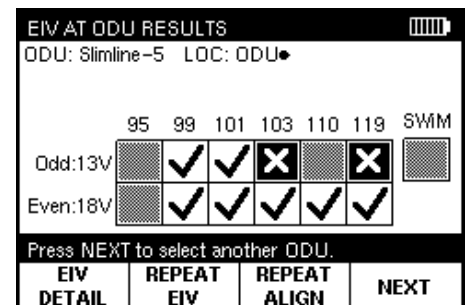
Once the ODU's azimuth, elevation, and tilt parameters have been set, alignment of the ODU may begin. The AIM will automatically determine the orbital slot and transponder for ODU alignment and provides the user with visual and audible indications of signal strength. The audible tone increases in periodicity and volume as received signal level increases, simplifying coarse alignment of the ODU.

Visual signal strength indicators include a numeric readout and a bar graph display of the received signal levels with a peak signal level reference, indicating the highest point of signal reception during the alignment process. When the received signal level matches the peak signal reference, coarse alignment of the ODU has been completed. When required, the AIM supports a second fine tuning alignment process (or dithering) for azimuth and elevation adjustments to Slimline ODUs.



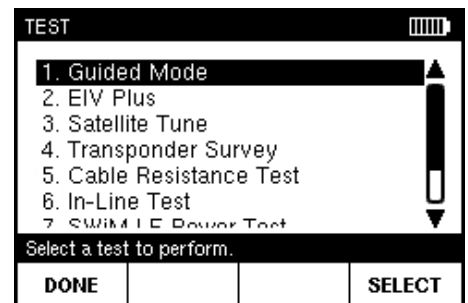
Signal Verification

When ODU alignment has been completed, the AIM's Extended Installation Verification (EIV) check will confirm if the signal strength from each orbital slot is within the limits specified by DIRECTV. EIV will compare signal strength, signal to noise ratios (SNR), frequency offset, and SWiM channel assignments for predetermined transponders in each orbital slot against DIRECTV specifications, providing a pass/fail result for each orbital slot. Should an EIV failure occur, detailed information identifying the orbital slots and cause of the failure(s) may be obtained for corrective action.



Troubleshooting

The AIM supports multiple troubleshooting modes to assist the user in identifying and locating impairments to satellite services. Guided Mode provides a standardized, menu-driven method for troubleshooting which walks the user through the process. Guided Mode divides the installation in zones based on the hardware selected from the Guided Mode menu. In Guided Mode, the user will perform tests in the indicated zone and the AIM will interpret the test results providing a course of action for the user to follow. Guided Mode was created by industry experts at DIRECTV and is a proven method for identifying and resolving impairments to satellite services.



Guided Mode incorporates EIV Plus, a powerful diagnostic tool which identifies signal degradation or loss resulting from frequency down conversion, cable attenuation, baseband conversion, and SWiM channel assignments. Voltage and tone (22 kHz) parameters are also evaluated to ensure communication between the IRD, Switch, and ODU. When detailed channel information is required, the Transponder Survey provides a channel list of Signal Strength, SNR, Frequency Offset, and Channel Lock confirmation. When used with the Cable Test Load probe, the AIM measures the resistance in the coaxial cable to determine if the coax is capable of supporting satellite services.

Whether troubleshooting signal level, hardware communication, or SWiM problems, the AIMs troubleshooting tools will assist the user with problem identification and resolution.

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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	-20° to +50° C (-4° to 122° F)
Storage Temperature	-30° to +65° C (-22° to 149° F)
Battery Charging Temperature	0° to 45° C (32° to 113° F)
Display	240 x 160 pixel, backlit LCD
Weight	1225 grams (2.54 lbs)
Dimensions (H x W x D)	250 x 126 x 61 mm (9.8 x 4.9 x 2.4 in)

INCLUDES THE FOLLOWING:

Carrying case
P/N 2131596000

100 to 240 VAC power adapter
0610177000

12 VDC vehicle power adapter
P/N 2072097000B

Battery pack
P/N 0090070000

"F" connector
P/N 0200690000

25 Ω cable test load
P/N 2011379000

USB flash drive
P/N 0930157003