HARRIS®

SATCOM Simplified™

reconn™

MOBILE SATCOM TOOLKIT

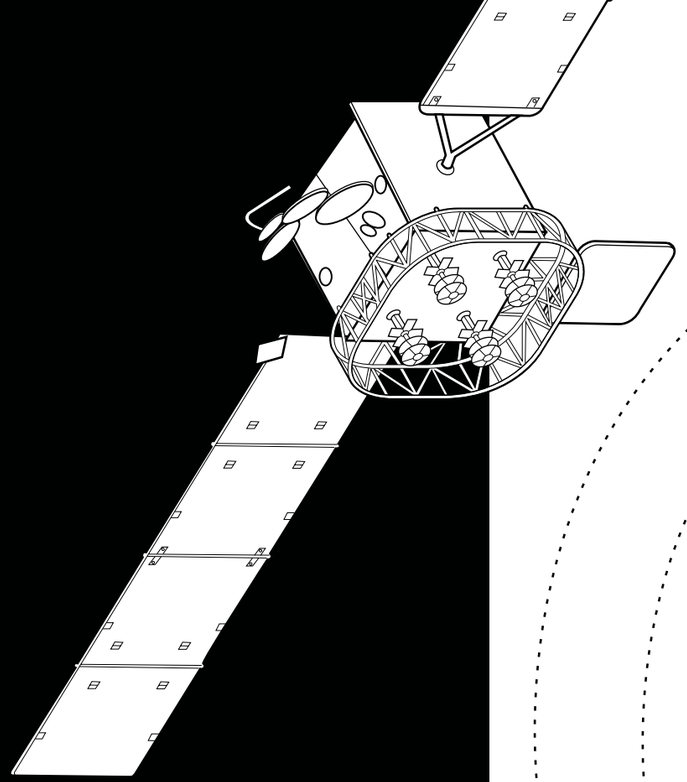
Reconn™ simplifies the SATCOM setup process.

Reconn™ is the answer to many problems that have plagued satellite communications operators for decades. An operator typically requires a spectrum analyzer, power meter, multimeter, compass, inclinometer, GPS receiver, magnetic declination map, and a laptop to set up and maintain a satellite communications terminal. Measuring just 12.3"W x 7"H x 5"D, Reconn™ combines all of those tools in a hand-carried, easy-to-use unit that fits nicely in your laptop bag.

When connected to the global Reconn™ Outpost™ network, Reconn's data can be shared remotely for additional analysis, making it the most powerful and only testing suite of its kind on the market.

Key Features

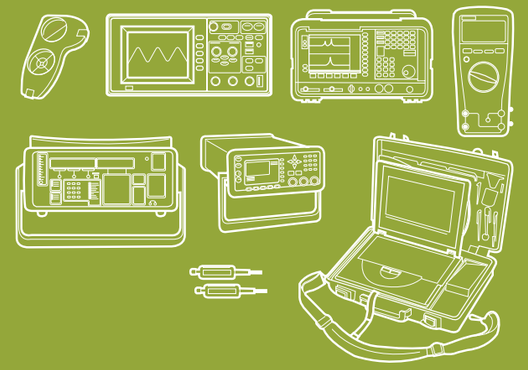
- Intuitive multi-touch user interface
- Ideal for small and medium aperture antennas
- Integrated troubleshooting workflows
- Remote hardware monitoring through Outpost™
- Wired or wireless operation
- Spectrum analyzer with "DVR" capability
- Built-in power meter, multimeter, and LNB tester
- Less than 10 lbs



User Experience

Reconn™ was conceived by a former SATCOM operator who saw an opportunity to improve the setup and troubleshooting experience. Reconn™ is designed for the end-user.

The Reconn™ hardware platform is designed to integrate directly with the iPhone® 4/4S mobile device—providing a familiar and user-friendly software interface.



Reconn™ Reduce the Bulk

Reconn™ replaces the size, cost, and training effort required to test a SATCOM link using traditional equipment by condensing the necessary functionality into a single device.

Reconn™ weighs in at less than 10 lbs and is about the size of a shoe box: 12.3"W x 7"H x 5"D.

LOCATE the Satellite

Use the iPhone® to identify your location, select the target satellite, and verify a clear line of sight for the terminal setup.

ACQUIRE the Link

Connect Reconn™ directly to the terminal to verify a satellite link using the spectrum analyzer and power meter. For troubleshooting scenarios, the built-in multimeter and LNB tester provide additional convenience.

SUSTAIN the Link

Sustaining a connection is now easier using the monitoring feature; connect Reconn™ to the terminal and access data remotely through Outpost™

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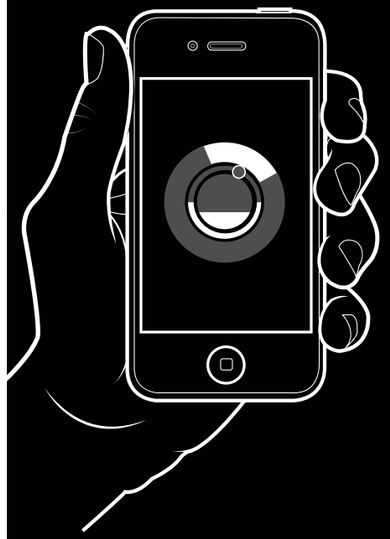
Reconn™ iPhone® Software

Once attached to Reconn™, the Reconn™ software provides a multi-touch interface with the onboard components. Using a spectrum analyzer will never be the same.



Surveyor™ iPhone® Software

Reconn™ comes bundled with a manual pointing tool that enables the user to locate a satellite using a combination of GPS and augmented reality through the camera.

Outpost™ Desktop Software

Reconn™ Outpost™ is a web-based desktop software application that gives you remote access to the data being recorded by Reconn™ in real time.

Reconn™ UI Software

Snapshots
Capture a snapshot of the spectrum analyzer view so that you can reference it later.

Pinch-zoom and slide
Use the spectrum analyzer interface just like you would a map on your mobile phone.

Reconn™ Spectrum Analyzer

Most spectrum analyzers have a user interface that hasn't changed much since the 1960's. Reconn™ has redefined the way users interact with a spectrum analyzer. You can pinch-zoom to change the span and scale. Slide your finger left or right to scan the frequency, or up and down to scan the reference level.

Need more control?
In addition to touch control you can also input parameters numerically.

Reconn™ Power Meter

Having a power meter on hand provides a more accurate measurement of the power level coming from the terminal; measure frequency on C, X, and Ku bands.

Reconn™ Multimeter

With a multimeter at your fingertips, you will have what you need to test a connection to make sure the terminal is operating properly.

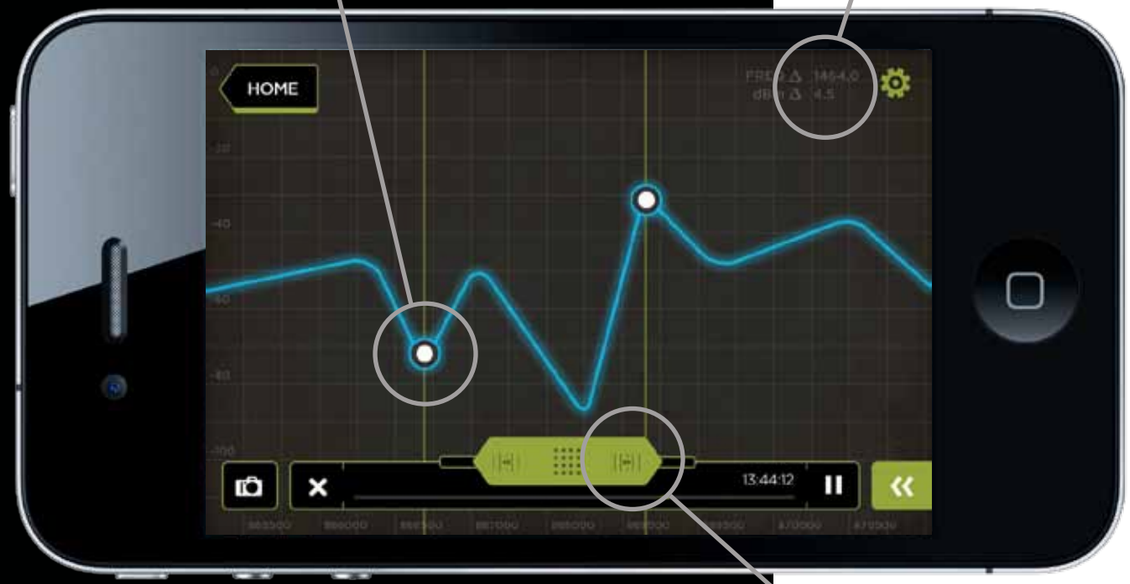
Reconn™ LNB Tester

Testing an LNB in the field is no simple task. We've changed that by providing an easy-to-use system to apply a DC bias and 10-MHz reference to verify the LNB is operating properly.

Reconn™ UI Software

Markers
Adjust markers on the carrier to set comparison points.

Deltas
View the delta values of the frequency and power axis.



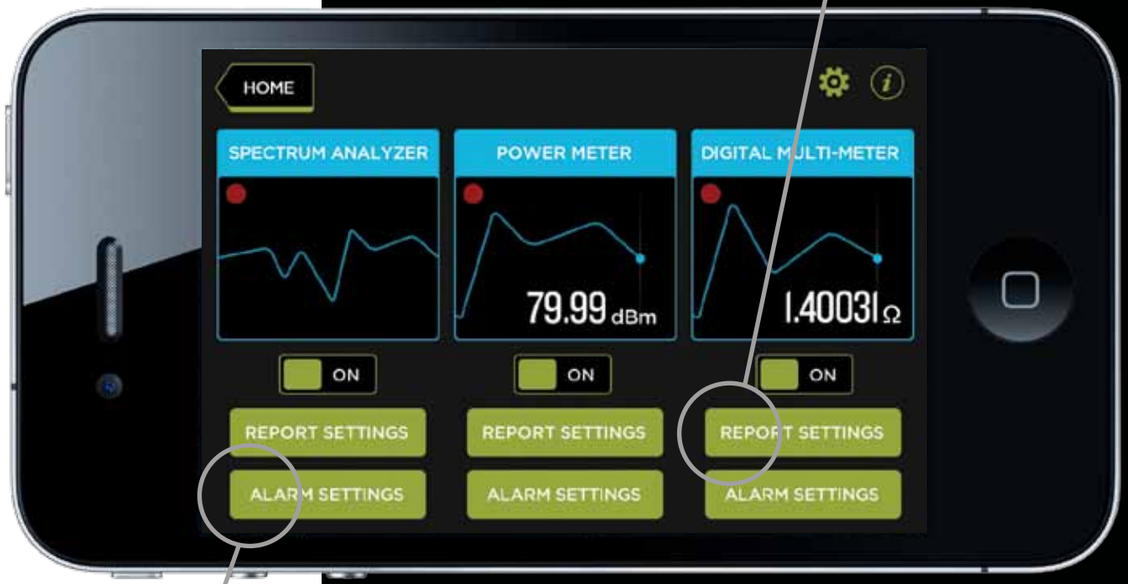
Go Back in Time
When DVR is enabled, your view is recorded, so you can go back and view changes over time.

Reconn™ Digital Video Recorder Markers

Ever wish you could go back and see what your analyzer displayed just a few seconds ago? We've incorporated a "DVR" functionality in Reconn™ which allows you to go back in time and replay the analyzer display. You can tap "record" anytime and continuously record for up to 10 minutes.

Markers are simple to use—just turn them on and use your fingers to set them where you want them.

Set Reports
Set the frequency for reports so that you can monitor changes over time.



Set Alarms
Define a threshold to receive notifications immediately when issues occur.

Reconn™ Alarms & Reports

Use Reconn™ alarms and reports to track data thresholds; you'll be notified immediately when issues occur and can review reports to see historical records of when the issues occurred.

Detailed Instructions
Get the details on what needs to be completed at each step and be directed to the testing tools needed to verify the connection.

Customize It
Workflows can be customized to your specific operation to help reduce training overhead.

Step-by-Step
Step through complex workflows at your own pace.

Reconn™ Workflows

Whether you are setting up a satellite terminal or troubleshooting a downed link, we've incorporated a workflow system to help guide the user through the process. Workflows not only improve efficiency, but can be incorporated into your operation to significantly reduce training overhead.

Surveyor™ Pro Software

Surveyor™ Pro Site Survey

Working in an unfamiliar and potentially hostile territory requires quick satellite acquisition. With Surveyor™ simply select your satellite, point to the sky, and follow the guides to locate the satellite and confirm a clear line of sight. It's that easy.

Outpost™ Desktop Software

Web-based software
works on PC and Mac

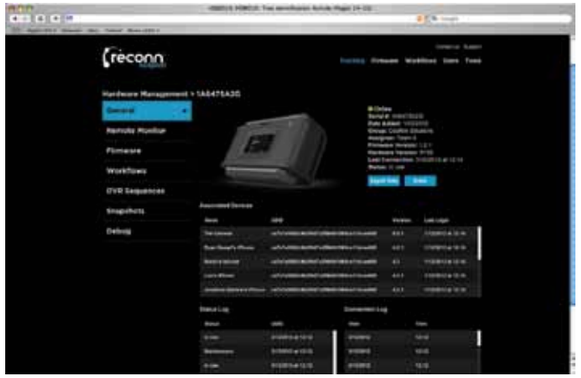
Reconn™ Outpost™ Remote Hardware Monitor

Reconn™ Outpost™ is a web-based desktop software application that gives you remote access to the data being recorded by Reconn™ in real time, so when an expert can't be on site, he can still help remotely.

Connecting to Outpost™ is as simple as connecting Reconn™ to the internet. Once connected, data recorded by Reconn™ can be viewed remotely by logging into the secure web portal.

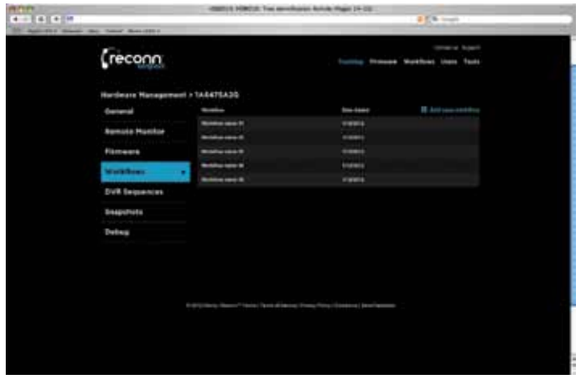
Remote Data Analysis

When the on-site operator can't figure out the problem, having an offsite technician connect remotely will save time and money.



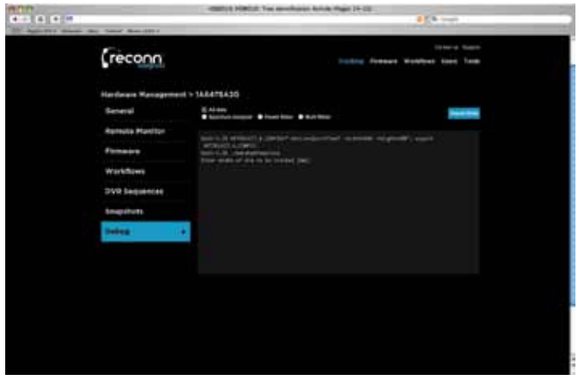
Inventory Management

Outpost™ is also used to manage your Reconn™ hardware inventory. Track who it's assigned to, where it's located, and when it was last connected.



Workflow Manager

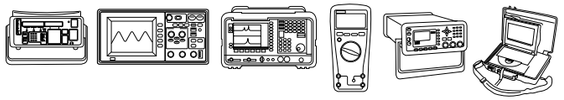
Use Outpost™ to manage the workflows on your Reconn™ devices.

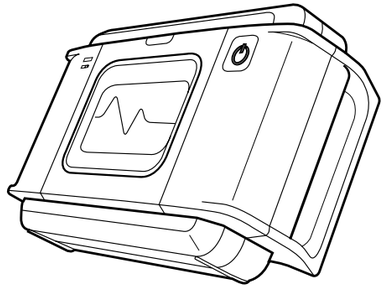


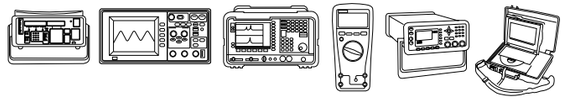
Remote Support

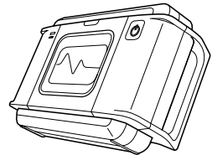
Outpost™ is your hub for updating your Reconn™ software and can also be used by our support team when you need technical support.

How does Reconn™ compare to existing SATCOM testing suites?









Equipment

Spectrum Analyzer • Power Meter • Multimeter
• GPS Receiver • Panasonic Toughbook® Laptop
• Compass • Inclinometer • Declination Map
• Satellite Finding Software • Terminal Documentation
• SATCOM Training Material • Cell Phone
• Troubleshooting Chart • Modem Software Suite
• DC Power Source • 10-MHz Reference Source

Training

- 10 months SATCOM theory
- How to use a spectrum analyzer
- How to acquire a satellite
- How to test and troubleshoot a terminal
- How to configure a satellite modem

- 2 weeks mobile-based immersive training
- How to use a smartphone
- Video-based instructions in application
- Hands-on instruction in application

Shipping

Four transit cases of test equipment @ $150/case = $600/one-way trip, $1200 round trip

10-lb device fits in user's laptop bag.

Site Setup

1-hour setup, following guidance from quick deploy card and the use of at least 2 laptops and 5 software applications

45-min. setup time, following step-by-step video instructions on Reconn™ workflow sets. One user interface for all setup tasks.

Troubleshoot

Follow flow diagram in back of terminal documentation pack, or rely on tribal knowledge of SATCOM

Step-by-step workflow videos on Reconn™ to diagnose and repair most faults

Cost ($)

- $200,000 training cost
- $1200/trip shipping cost
- At least 1 operator required to stay with terminal
- A typical Field Support Representative in Afghanistan costs $350,000/yr

- $0/trip shipping cost
- Operator free to move about area while still maintaining 100% positive control of terminal
- Operator support levels reduced

Wired or Wireless

Reconn™ can operate in both wireless (128-bit encryption) and wired (mounted) mode. Wireless can also be disabled to comply with IA policies.

Reconn™ Connectors

Reconn™ Battery

Reconn™ comes with a built-in battery for up to 2 hours of battery life, and can run off the included AC or DC power jack.

Reconn™ Features and Specs

System Features

- 12.3"W x 7"H x 5"D
- Less than 10 lbs total weight
- Wi-Fi transceiver: 802.11 b/g/n
- iPhone® interface through 30-pin connector or 128-bit encrypted Wi-Fi
- GPS receiver
- 2-hr. battery life typical
- 10-36 Vdc input
- AC adapter 85-256 Vac
- 2 USB ports
- RJ-45 ethernet port
- iPhone® 4 and 4S ready
- Travel case included

Spectrum Analyzer

- Frequency range: 950 MHz to 2.15 GHz
- Span width: 0 to 1300 MHz
- Resolution bandwidth: 10 kHz, 30 kHz, 300 kHz, 1 MHz
- RF sensitivity: greater than –120 dBm typical
- Reference levels: selectable –10 dBm to –70 dBm in 10-dB steps
- Scale: 5 dB/Div and 2 dB/Div
- Dynamic range: 80 dB
- Amplitude accuracy: ±1 dB typical
- Frequency accuracy: ±1 KHz typical
- Input connector: N(f)

Power Meter

- 4.4 GHz–14.5 GHz (C,X,Ku)
- Power range: –50 dBm to +20 dBm; accuracy: ±0.25 dB
- Interface: N(m)

Multimeter

- Voltage: 1 mV to 300 Vdc or Vac RMS
- Current: 0.1 mA to 4.0 A
- Resistance: 0–4 MΩ
- Interface: banana jacks

LNB Tester

- Individually enabled Ref./DC supply
  - 10-MHz reference signal; +5 dBm
  - DC bias: 18 Vdc
- Interface: N(m)

Software

- Surveyor™ Locate app
- Reconn™ Acquire and Sustain app
- Outpost™ Desktop Remote Monitoring web app

Environmental

- Temperature, non-operating: –30°C to +70˚C
- Temperature, operating: 0°C to +50˚C
- iPhone® 4S, non-operating: –20°C to +45°C
- iPhone® 4S, operating: 0°C to +35°C
- Water-resistant: Splash

Ships With

- Reconn™ device
- iPhone® 4S 16GB
- Travel case
- DC car charger
- AC power cord
- Multimeter test leads
- Standard cable kit
- Cable converter kit

Future Capabilities

- Monitor and control
- Additional mobile platforms

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Reconn™ Video

See our video and learn more
at connectwithreconn.com

Government Communications System
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