

# inSite

Anritsu's SMIU newsletter that delivers solutions to today's field and maintenance challenges

## Anritsu Handheld Solution Partners Program Helps Ensure Performance of Wireless Networks

Issue 2<sup>4</sup>  
volume

There has never been a more challenging time for wireless professionals who deploy, install, and maintain wireless networks. Spectrum management and interference are bigger issues than ever, as 3G technologies roll out and more wireless networks are installed. Recognizing this, Anritsu Company has developed a partners program designed to simplify the process of ensuring wireless network performance.

The partners program combines Anritsu's recognized expertise in developing handheld test solutions with leading-edge software developers. This synergy of hardware and software will make it easier for field technicians to conduct more detailed analysis and acquire data, as well as for engineering management to analyze that data. Because of these benefits, carriers, installers, and project management firms will operate more profitably. In some estimations, the savings can be millions of dollars, as networks can go live in days rather than weeks because network deployment and installation can be done more efficiently.

All these benefits can be realized now, as the program is off to a fast start.



Figure 1

SweepMasters, LLC and Summittek Instruments have both signed on and each brings unique capabilities that will improve quality of service and optimize the use of the RF spectrum.

With the SweepMasters software, Site Master™ users can easily upload sweep traces directly from the field to [www.sweepmasters.com](http://www.sweepmasters.com), allowing engineering management to view measurement results in near real time from their desks. "The SweepMasters system allows for the production of site-specific data as a means of organizing and communicating the scope of work associated with future deployments. Given the magnitude of site deployments and the efficiencies that can be realized by SweepMasters, we believe the savings can be in the millions for deployment alone,"

said Trent Meilinger, SweepMasters' CEO. "Plus, this data allows for better site deployment so that signal strength and integrity is maximized."

For users of Spectrum Master™, Summittek offers a number of benefits. Summittek's OASIS II software package transforms the MS2711D into a comprehensive spectrum management solution that can perform IM analysis studies, generate channel occupancy statistics, and determine mask compliance. "Clearly, Anritsu is a leader in handheld instruments. We provide an important value-added capability, as OASIS allows a baseline to be established and easily viewed so that there is historical data that transcends events. This allows users to determine the health of a network so that even the slightest degradation can be seen quickly and repairs made," said Rick Hartman, president of Summittek.

Anritsu expects more partners that will provide similar advantages to sign on in the near future. Be sure to check [www.us.anritsu.com](http://www.us.anritsu.com) frequently for updates, so that you can take advantage of these partnerships that will make your job easier.



**Anritsu**  
Discover What's Possible®

# Top 5 Questions of the *Trade* From the SMIU Knowledge Database

## Q&A

**Question:** Whenever I try to use the Power Monitor Mode it says, "Power Monitor not installed." I have a connector; what am I doing wrong?

**Answer:** All Site Master "C" units have the external connector for power monitoring, but Power Monitor is an option (#5) that must be installed at the time of ordering or the unit must be returned for an upgrade. You will also need a power detector, which is an accessory.

**Question:** Why is my display dark when it is extremely hot or cold?

**Answer:** By adjusting the contrast you can compensate and maintain an easy-to-read display. Additionally, the new handheld models have color displays that maintain proper contrast in extreme temperatures.

**Question:** What drivers are available for the handheld instruments?

**Answer:** All publicly available drivers are available from the Anritsu website. Simply go to [www.us.anritsu.com/smiu](http://www.us.anritsu.com/smiu) and download whatever you need.

**Question:** How do I know if my Site Master battery is charging?

**Answer:** The "Battery Charging" indicator on the back panel will be lit when the battery is charging.

**Question:** How do I make a CP and ACPR measurement? Where can I find this information?

**Answer:** Refer to the Handheld Spectrum Analyzer Users Guide, Field Measurement chapter for a detailed explanation of the Adjacent Channel Power Ratio and Channel Power measurement functions and examples.

## Learn Measurements on Your Own PC Using the New Cell Master Demo and Training CD-ROM

Anritsu continues to be your source for field test solutions. Our latest effort is a demo and training CD-ROM that is designed to make sure you get the most out of your handheld test instrument – whether it's Site Master, Spectrum Master, or Cell Master.

In addition to application notes on how to make DTF measurements, the CD

gives you detailed demonstrations of how to perform all of the measurements offered in Site Master, Spectrum Master and Cell Master.

For more hands-on education, the CD contains information on how to register for our ever-popular Site Master training courses. Valuable software tools can be accessed via the CD as well.

The CD-ROM also features brochures and datasheets in .PDF format on the Site Master "C" series, Spectrum Master, and Cell Master as well as links to other resources on the SMIU site and training website.

To get a copy, call (800)ANRITSU or visit [www.us.anritsu.com/CellMasterDemo](http://www.us.anritsu.com/CellMasterDemo)

## FieldHelp

### Wi-Fi Test Solution Lets Technicians Rest Easy

While most end-users see Wi-Fi as a dream come true, wireless network installers have treated it like a nightmare in some respects. That perception is drawn mostly from the lack of efficient test tools to ensure the performance of the "hottest" wireless application. Wireless technicians can now rest easy with the introduction of the FCN4760 frequency converter.

With the ability to sweep from 4.7 to 6.0 GHz, the FCN4760 is used with the Spectrum Master MS2711D to conduct highly accurate interference analysis measurements on IEEE 802.11a networks. The FCN4760 brings all the standard one-button measurement capabilities of

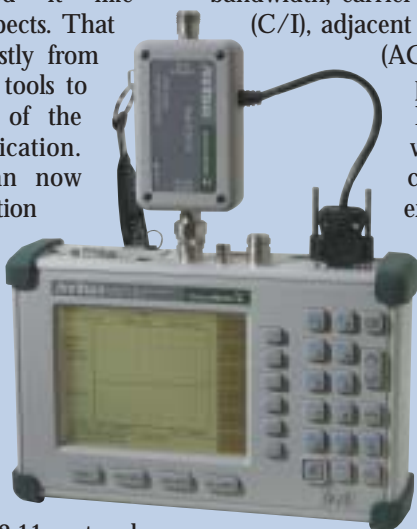
the MS2711D to Wi-Fi applications. These measurements include occupied bandwidth, carrier-to-interference ratio (C/I), adjacent channel power ratio (ACPR), and channel power. Plus, the FCN4760 is designed with a type-N female connector so that external directional or omni-directional antennas can be attached and used for interference sniffing.

By coupling the FCN4760 with the MS2711D's AM / FM / SSB demodulator, users

can identify interfering signals like never before. The MS2711D/FCN4760's

measurement range of -40 dBm to -100 dBm gives it the sensitivity needed for assessing potential interference issues during installation and troubleshooting of 802.11a access points. Full span sweeps can be performed in  $\leq 1.1$  seconds, and minimum sweep time for zero span can be set from  $<50 \mu s$  to 200 seconds. Minimum times for frequency sweeps can also be set over the same wide range, and the unit will ignore faster sweep times for more accurate measurements.

Taking advantage of the widely accepted Spectrum Master design, the MS2711D/FCN4760 combination has a simple multilingual user interface in English, Spanish, French, German, Chinese, and Japanese. It is housed in a rugged case, and has been designed to match the excellent environmental performance of the MS2711D.



# Hostile RF Environments Tamed

In any language, clusters of antenna mazes, extreme altitude, poor climate conditions, and harsh RF environments can be translated into trouble. David Pasechnik of HCJB World Radio was able to tame this type of hostile environment in Ecuador thanks to a Site Master cable and antenna analyzer.

Pasechnik used his Site Master model S113B while deploying an FM system on behalf of HCJB, a broadcast organization that operates one of the world's largest short wave radio stations. The radio system was designed to reach tens of thousands of listeners throughout the globe and, in order to ensure clear reception, Pasechnik relied on the S113B to provide accurate measurements during installation of the FM system.

And what an installation it turned out to be. HCJB World Radio's compound in



“the Site Master  
was used to  
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was in place.”

Ecuador's capital city of Quito sits 12,000 feet above sea level and consists of more than 50 towers and antenna arrays. The Quito complex has television, radio, and other communications systems that vary from 25 kilowatts to 500 kilowatts in output power.

Such a scenario can create major interference problems.

Pasechnik used the S113B to make sure there was no transmission problems. He and his team used the Site Master to perform antenna matching once HCJB's antenna was in place. Given the high amount of RF pollution and mutual coupling present in the complex, matching may have been difficult but it was also imperative.

The S113B has proven to be a valuable tool for HCJB at other sites as well. As was the case in Quito, many of HCJB's complexes have a number of different antenna types. A single location can have multiple AM, FM, and UHF antennas. One such location is HCJB's World Radio Engineering Center in Elkhart, IN, which has multiple transmitters/antennas. Site Master is used at the center to conduct various measurements and ensure performance.

These types of multi-antenna sites can make it nearly impossible for proper antenna matching and adjustments. The S113B has made it a definite possibility, ensuring clear radio transmissions to listeners all over the globe – and in almost any language. That's quite an accomplishment when you consider HCJB World Radio transmits programs that are heard in 115 different countries, and in 100 languages and dialects.

Covering a frequency range of 5 MHz to 1.2 GHz, the S113B has the broad frequency coverage required for applications such as those in which Pasechnik operates. Additionally, HCJB technicians benefit from the S113B's immunity to live site RF interference. The S113B also has built-in distance-to-fault measurement capability and an internal memory that can save up to 70 traces, features that can come in handy in almost any application.

## Have any great user stories you'd like to share?

Contact Katherine Van Diepen at [Katherine.VanDiepen@anritsu.com](mailto:Katherine.VanDiepen@anritsu.com).

Your story may appear in the next issue of In-Site.

A pair of Simmons Redline binoculars will be given out to the best user story each quarter.

# What's Up?

If you're looking to see the latest handheld solutions from Anritsu, you're in luck. We'll be exhibiting at both IMS in Fort Worth, TX and SuperComm in Chicago during June.

If you can't make either of the shows, don't worry. A full slate of Site Master training courses are scheduled through the Summer. Look over the schedule below and register for the class that's most convenient for you.

## *Upcoming dates:*

Sponsor	Dates	Location
Hutton	May 18-19	Dallas (dedicated class)
Hutton	May 20-21	Dallas
Hutton	May 25-26	Atlanta
Tessco	May 25-26	Solon, OH (dedicated class)
Tessco	June 8-9	Lexington, KY (dedicated class)
Tessco	June 8-9	Hunt Valley, MD
Tessco	June 10-11	Hunt Valley, MD
Tessco	June 15-16	Chicago
Tessco	June 15-16	Albuquerque
Hutton	June 15-16	Chicago
Tessco	June 22-23	Puerto Rico
Tessco	July 13-14	Reno, NV
Tessco	July 20-21	Dallas
Primus	July 20-21	TBD
Tessco	August 3-4	Hunt Valley, MD
Tessco	August 5-6	Hunt Valley, MD

## Have a colleague who wants to get this newsletter?

Just send us their name, address, company name and e-mail, and we'll add them to the mailing list. Or they can join SMIU at [www.us.anritsu.com/smiu](http://www.us.anritsu.com/smiu)

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