**Product Brochure** 

## /inritsu

# Site Master™ S331L

Handheld Cable & Antenna Analyzer Featuring Classic and Advanced Modes

2 MHz to 4 GHz Cable & Antenna Analyzer 50 MHz to 4 GHz Power Meter



#### Site Master<sup>™</sup> S331L Cable & Antenna Analyzer Overview

"Site Master is the most trusted, reliable, and preferred cable and antenna analyzer by tower contractors, installation and maintenance contractors, and wireless service providers."

#### Introduction

Anritsu is proud to introduce the new Site Master<sup>™</sup> S331L, our 9<sup>th</sup> generation compact handheld Cable & Antenna Analyzer. The S331L is newly designed from the ground up. We took all of our experience, customer feedback, field trials, and the latest technology advancements, and developed the best value in a low cost, field optimized, trusted, reliable, rugged, easy to use, one port Cable & Antenna Analyzer.



S331L Site Master Handheld Cable and Antenna Analyzer and Laptop

#### Optimized for field use

- >8 hour battery life
- Instant On from standby mode
- Highest RF Immunity
- ► Built-in InstaCal<sup>™</sup> Module
  - Fast, one connection calibration
- ► FlexCal<sup>™</sup> Calibration
- One calibration for all frequencies
- Built-in Power Meter
- Rugged and reliable
- Impact, dust and splash resistant
- ► Smallest, lightest Site Master<sup>™</sup>

#### Easy to use

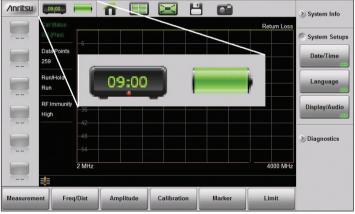
- Integrated Help function
- S331D-like Classic Mode
- S331E-like Advanced Mode
  - Additional markers
  - Customizable shortcuts
  - Full-screen view
- Multiple USB ports
- ▶ 800 x 480 7" TFT touch screen
  - Alphanumeric keyboard
  - EZ Name Quick Matrix
- Backlit keypad

#### Efficient sweep management

- Internally store >1000 files
  Sweeps, setups, screenshots
- Fast preview of stored sweeps
- ► Line Sweep Tools (LST) Software
  - Edit sweeps, rename, archiveGenerate PDF or HTML reports
- Standard \*.dat sweep file format
- Compatible with HHST
  - Widely accepted by operators
- SweepMasters DIRECT
  - Online trace delivery service



S331L Site Master is splash resistant



Starting out fully charged at 9:00 am

### Rugged, dust and splash resistant, reliable, lightweight and portable

Site Master S331L is rugged, dust and splash resistant, reliable, field proven and always ready, even if you're not. At under 2.0kg (4.4lbs) including battery, it's effortless to carry whether you are on level ground, climbing a large tower, or heading through a roof hatch, your Site Master easily goes along with you.

#### Beginning of a traditional workday

With the battery fully charged, you're ready for a full workday of measurements. This is the longest lasting Site Master operation time we've ever offered in a handheld cable and antenna analyzer. You won't need to look for outlets and drag power supplies with you from site to site anymore. Now you can focus on what matters, making measurements and getting the job completed.



All day on battery and still running at 5 pm

#### 8 hours later, still running and still measuring

After 8 continuous hours of battery operation, the Site Master S331L is still measuring. We understand that 8 continuous hours is an unlikely scenario, but we are proud of the S331L's extended battery life and feel it deserves to be recognized.

The S331L also has intelligent power saving features to extend the operating time further, providing as much as 10 hours of operation.

Features like sleep mode with instant on, handy for travelling between sites, and auto-display brightness that will reduce the screen backlight automatically if the instrument has not been accessed for some time. One touch of the screen, keypad, or twiddle-knob will automatically restore brightness levels.



#### **Efficient Menu Screen**

The Menu Key activates the touch screen menu for one button access to all of the Analyzers modes, and quick access to the dedicated setup shortcut icons



Main menu screen provides one touch mode selection

#### **One Button Help**

An intelligent, useful help menu launches with the press of the Help Key.



#### On screen Help Menu

#### Markers & Limits

Using the stylus pen (provided) or fingers, users can drag or place markers and limits anywhere on the measurement screen. Values can also be entered with number keys, or by turning the rotary knob. Several easy and convenient ways to place markers and limits where you want them, or use the auto search max/min peak functions if you prefer.



Dragging markers and limits with fingers is really easy and convenient

#### **Convenient Shortcuts**

User defined shortcuts can be created for one-button access to commonly used functions. (Advanced Mode only)



User definable shortcuts for frequently used functions





Convenient multiple USB ports

#### Multiple USB ports

The Site Master S331L comes with two USB type A ports and one USB type mini B port. This allows for a quick and convenient file transfer, memory expansion, or you can add an external mouse or keyboard to enhance usability. You can even charge your cellphone in case it happens to run out of battery power.



InstaCal<sup>™</sup>/Power Meter module

#### Field replaceable module

We know accidents can happen out there, so we developed a field replaceable module solution to save valuable time and money, allowing you to keep your productivity up. If a user accidentally damages the Power Meter module by putting too much power into it, simply contact Anritsu and we will send you a replacement exchange module\* that simply plugs into the dedicated slot and is held in with 4 screws. There's no need to return your instrument, no need to recalibrate the instrument, (calibration factors are stored within each module) and most importantly, down time is reduced to the absolute minimum. Order a spare module for your field kits and your downtime in the event of an accident is essentially zero.



Easy to see backlit keys

#### LED Backlit Keypad

The LED backlit keypad allows for operation in dimly lit environments. Whether it's the winter season, or you are just working late into the evening, you'll be able to see the keypad without any strain. You'll know exactly what key you are pressing so you can complete your measurements more efficiently.

\*Charges may apply. Exchange module pricing is based on defective core returned to Anritsu. Contact Anritsu for more details.





Built in Power Meter measurement screen

#### Internal Power Meter

The Site Master S331L includes a convenient, easy to use, built in power meter.

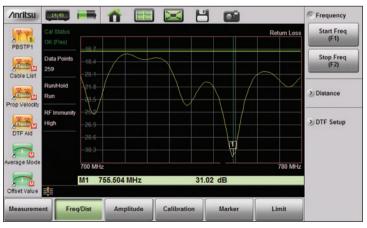
Setting the transmitter output power of a base station properly is critical to the overall operation of wireless networks. A very small change in power levels can create a large change in actual coverage area, resulting in dropped calls and low data rates.



Classic mode can reduce or eliminate training for experienced Site Master users.

#### Classic Mode

The Site Master S331L offers a convenient Classic Mode that's easy to use. If you have used the Site Master D series model, or even older Site Master models, you'll find this Classic Mode familiar and easy to use. We didn't keep all of the D characteristics though, Classic Mode allows you to use the convenient popup keyboard for saving data. Complex filenames are no longer limited to 16 characters, there's plenty of characters available to suit any filenames you might require.



Advanced mode contains several powerful new features not available in Classic mode.

#### Advanced Mode

The Site Master S331L also offers a mode with more capability, we call it Advanced Mode. Advanced Mode has a much more modern look and feel to it, and many users will immediately appreciate the new Advanced Mode GUI and button layout/function. With Advanced Mode you also get some extra capabilities such as 8 markers instead of 6. There are 6 customizable touch screen icons for quick recalling of regularly used setups, making operation easier and more efficient.

Mode
Enter

Classic mode selector screen. Same familiar layout as D models.

#### **Classic Mode Measurement Selector Screen**

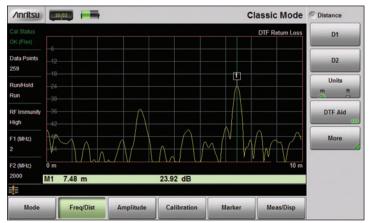
The Site Master S331L classic mode was developed based on customer feedback. Many of our loyal customers have asked us to create an easy to use GUI like the one they have become accustomed to on the Site Master D models. The result of that valuable feedback is what we are proud to announce as Classic Mode.

D1 = 0 ft	DTF Info, based on current setup:	C DTF Info
D2 = 4.49 ft		Edit
F1 = 700 MHz	Distance Resolution = 0.43 ft Max Usable Distance = 55.81 ft	
F2 = 2700 MHz	Freq Span = 2000 MHz Freq Step = 7.752 MHz	Units m ft
Data Points = 259		
Windowing = Nominal Side Lobe	Hint: To increase Max Usable Distance: increase Number of Points or decrease Freq Span. To improve Distance Resolution: increase Freq Span.	
Cable Name = NONE		
Prop Velocity = 0.88		
Cable Loss = 0.1 dB/ft	ried Share	
Keep current values CONTINUE		

DTF Aid Parameter Screen. Same familiar layout as D models.

#### Classic Mode Distance-to-Fault Aid Menu Screen

DTF Aid screen contains the same options in a similar layout format as the Site Master D models. Former Site Master D model users should have no difficulty setting DTF parameters in Classic Mode. We've even added some useful hints to help optimize the settings.



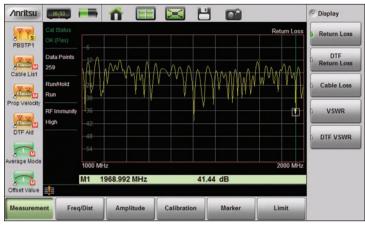
#### Classic Mode Distance-to-Fault Measurement

Here is an example of the Classic Mode Distance-to-Fault (DTF) measurement screen. Notice the Distance menu buttons labeled "D1" and "D2" just as they are in the D models.

These changes allow users experienced with older Site Master models to become immediately productive with the new S331L. Saves training costs and downtime.

Distance-to-Fault (DTF) measurement screen.

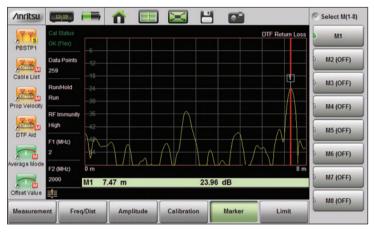




Easier access to desired measurement types in Advanced Mode

#### Advanced Mode Measurement Selector Screen

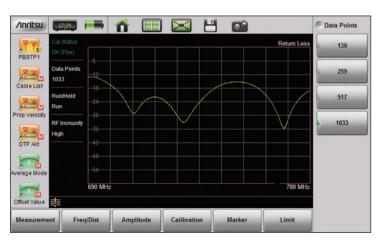
In Advanced Mode, users no longer need to press the Mode key before selecting desired measurement. Users are now able to select the desired measurement directly, simply by pressing the primary menu key "Measurement" then choose the desired measurement from the secondary menu keys on the right side.



8 Markers in Advanced Mode provides more flexibility

#### More Markers in Advanced Mode

In Advanced Mode you have 8 markers available to you. That's 2 additional markers which can be used as you wish, either as additional regular markers, additional delta markers, or additional bounded markers. Provides more flexibility than Classic Mode.



With 1033 datapoints you can extend the maximum Distance-to-Fault range easily

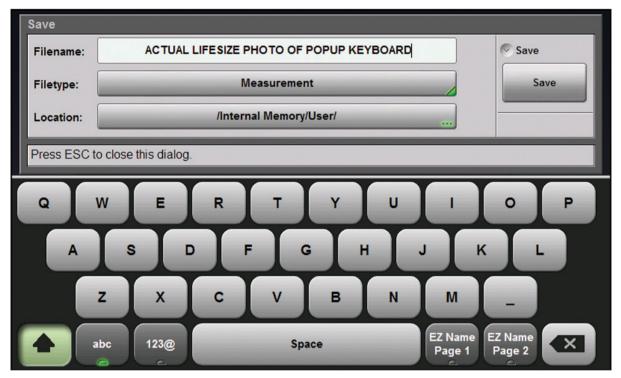
#### 1033 Datapoints

You have up to 1033 datapoints available for use. Increased datapoints can be used to provide better frequency resolution for your VSWR/RL measurements, or they can be used to extend the maximum distance range for your Distance-to-Fault (DTF) measurements without sacrificing distance resolution. A handy feature at your fingertips.

#### Large, easy to see touch screen Keyboard

A large built-in popup keyboard saves valuable time in the field when entering trace names.

For Cable and Antenna Analysis, an EZ Name Matrix can be customized for quickly naming your line sweeps



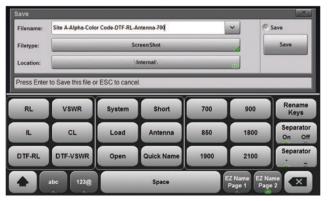
Buttons are large, easy to see and press. Makes file saving easier than ever.

#### EZ Name Quick Naming Matrix saves valuable time

Unique to Anritsu, the customizable EZ Name Quick Naming Matrix saves valuable time. Users can preset up to 36 commonly used names. The resulting time saved is immediately beneficial. Save file names labeled with Site ID, Sector, Color Code, Measurement type, Termination and Frequency in less than 5 seconds. Now you can label the traces of the entire site in minutes instead of hours.

Filename:	Site A-Alpha-Col	lor Code			~ ©	Save
Filetype:		Scr	een Shot			Save
Location:		\h	nternal\	_		
Press Enter	to Save this file	or ESC to cancel				
Site A	Site D	Alpha	Delta	Color Code	Color Code	Rename Keys
Site B	Site E	Beta	Epsilon	Color Code	Color Code	Separato On Of
Site D				Color Code	Color Code	Separato
Site C	Site F	Gamma	Zeta	Color Couc		-

Most common site name requirements are preprogrammed into the EZ Name Matrix. Page 1 of 2 shown.



18 additional customizable EZ Name buttons available on page 2.

#### Site Master<sup>™</sup> S331L Cable & Antenna Analyzer Features

#### Cable & Antenna Analyzer

#### OSL Calibration just got a lot easier!

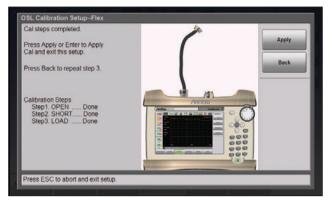
The S331L guides you through the entire OSL calibration process with not only text instructions, but with actual on screen photos to aid the user during the entire process. What could be easier? InstaCal<sup>™</sup> of course, *psst*...we have that too!



Actual instrument on-screen instructions.

#### Step 1

Connect Open as shown. S331L will automatically guide you through the entire OSL calibration sequence step by step with pictures and instructions on screen



Actual instrument on-screen instructions.

Step 4 Complete!

#### Internal InstaCal/Power Meter

Quick, easy (one connection), and accurate calibrations anytime, anywhere with InstaCal. Measure power anytime with the built in power meter. With these two standard items built into the instrument, you will always be prepared for whatever scenario you may encounter.



Close up view of instrument top panel showing internal InstaCal Module

#### InstaCal in action

Simply connect the test port cable to the InstaCal module, select InstaCal in the calibration menu, then the S331L does the rest automatically!



Actual instrument on-screen instructions.

#### Site Master<sup>™</sup> S331L Cable & Antenna Analyzer Measurements



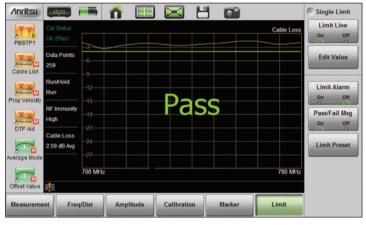
#### Cable & Antenna Analyzer

∕inritsu	15:42		ñ 🗉		1		C Display
YY	Cal Status OK (Flex)					Return Loss	Return Loss
PBSTP1	Data Points 259	14.6					DTF Return Loss
Prop Velocity	Run/Hold Run	16.8 22.4 25					Cable Loss
	RF Immunity High			-	$\sim$		VSWR
DTF Aid				-			DTF VSWR
werage Mode		35.4 700 MHz		V		780 MHz	
Offset Value Measureme	nt Fre	q/Dist	Amplitude	Calibration	Marker	Limit	

Return Loss measurement screen (Advanced Mode)

#### Return Loss/VSWR Measurement

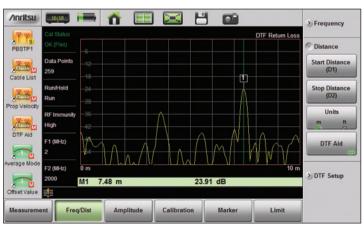
Poor Return Loss/VSWR can damage transmitters, reduce the coverage area, increase dropped and blocked calls, and lower data rates.



Cable Loss measurement screen (Advanced Mode)

#### **Cable Loss Measurement**

This an important commissioning check. Excessive loss reduces the coverage area and can mask return loss issues, creating false good readings later.

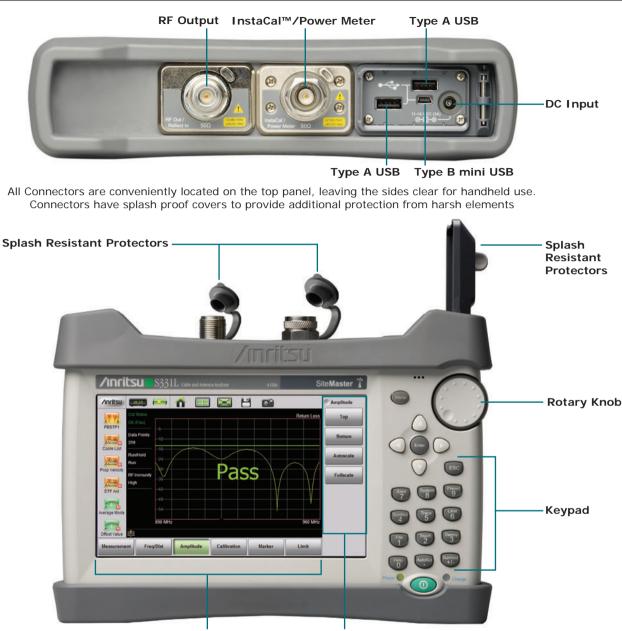


#### Distance-to-Fault (DTF) Measurement

DTF can be used to identify and precisely locate faulty cables, components, or connector pairs with poor Return Loss/VSWR in meters or feet. Use 1033 points in Advanced mode to get more maximum distance without sacrificing resolution.

Distance-to-Fault measurement screen (Advanced Mode)

#### **Physical Information**



Main Menu Keys

Submenu Keys

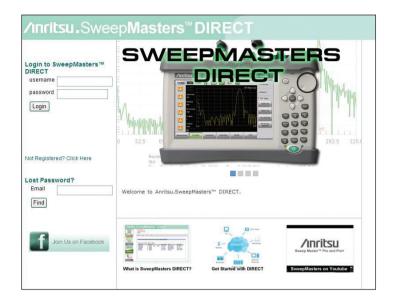
**Size:** 250 mm x 177 mm x 61 mm (10 in. x 7.1 in. x 2.4 in.) **Weight:** < 2.0 kg (4.4 lbs), including battery



#### SweepMasters DIRECT Online Trace Delivery Service

Capture	Capture and upload multiple traces from the
	Anritsu Site Master S331L.

Deliver Deliver multiple traces in a timely manner Prevent un-authorized users from accessing the traces.



#### What is SweepMasters DIRECT?

SweepMasters DIRECT, available from SweepMasters<sup>™</sup>, is an easy-to-use online trace delivery system for your cable and antenna analyzer test results. It allows you to capture, upload, and deliver traces using an online trace delivery service. Every Anritsu S331L instrument is authored to use the SweepMasters DIRECT online trace delivery service.

#### How are results delivered?

When you are ready to deliver results, links to the organized traces, as well as a PDF report, are sent via e-mail to the project management company or wireless carrier you specify. Passwords prevent unauthorized access to your data.

This fulfills two of the usual requirements for cable and antenna system testing.

#### Who is SweepMasters?

SweepMasters is one of Anritsu's business partners, providing web-based services for Anritsu's cable and antenna analyzers.

#### Professional Enterprise Services available from SweepMasters™

#### Sweep Master Pro<sup>™</sup>

Capture and automatically rename line sweeps.

Verify that the cables and antennas meet specifications.

Sweep Master Pro is an enterprise level web-based line sweep and tracking tool perfect for large multi cell-site installation and maintenance projects. This enterprise level tool allows users to Capture and upload.

Sweep Master Pro enables a manager to capture the cable, antenna, and PIM traces that are uploaded by contractors or field technicians to a password protected web site. Sweep Master Pro will automatically place marker and limit lines and apply pass/ fail criteria for all traces with red/green flagging for quick project review status.

#### Measurements types:

Return Loss, Cable Loss, Distance-to-Fault, Transmission Measurements, PIM, Distance-to-PIM™

#### Services:

- Bulk measurement upload
- Automatic renaming of traces to network operator standards
- Verifying measurements
- Automatic pass/fail analysis of traces to network operator standards
- Trace Accept/Reject Red sweep/Green sweep tools
- Fraud detection
- Current progress visible to all

#### Site Access Information:

- Site location information
- · Access instructions for field workers
- Nearest hospital location for emergencies

#### Sweep Master Pro+

Capture and automatically rename line sweeps.

Verify that the cables and antennas meet specifications.

Manage documents and acceptance decisions

Report, and generate reports, automatically.

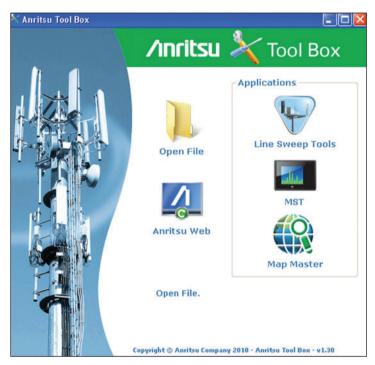
Sweep Master Pro+ has enhanced enterprise level document capture capabilities, project management capabilities, and complete reporting capabilities. The Sweep Master Pro+ simplifies project management, shortens rework time, and dramatically eases reporting tasks.

#### Site Master<sup>™</sup> S331L Line Sweep Tools

#### Line Sweep Tools (for your PC)

Collect	Sweeps from Anritsu line sweep gear
Verify	That cables and antenna systems meet specifications and that the sweeps were done properly

**Report** Findings quickly to the standards required by contract



#### The Anritsu Tool Box

The Anritsu Tool Box (included on disc or freely downloadable at www.anritsu.com) is a convenient central location where Anritsu supporting software programs and online support options can be found for most of our handheld product portfolio. Simply choose the desired application that suits your needs. The Anritsu Tool Box comes with LST and grows as more Anritsu tool box programs are added.

#### Marker and Limit Line Presets

Presets make applying markers and a limit line to similar traces quick and easy. They only need to be set once, and recorded. After this, applying them to a similar trace requires only one button push. This speeds up trace processing and makes providing consistent marker and limit line settings easy.

#### Naming Grid

A naming grid function makes changing file names, trace titles, and trace subtitles from field values to those required by contract simple and quick. Once the naming grid is populated with user defined file name segments, a few simple button presses will then fill out the file, title, and sub-title names. Quickly applied to multiple traces, the naming grid can save time, increase efficiency and accuracy.

#### **Report Generator**

The report generator will create a professional PDF or HTML based report. Reports includes GPS<sup>1</sup>, power level<sup>1</sup>, company logo<sup>2</sup>, instrument and calibration status along with a display of all open traces. It also may contain additional information such as addresses and phone numbers.

 $\ensuremath{\mathsf{HTML}}$  type reports may be post edited using programs such as Microsoft Word.

Line Sweep Tools (LST) is a free PC based program that increases productivity for people who deal with numerous Cable and Antenna traces every day. LST is the next generation of Anritsu's familiar Handheld Software Tools (HHST) and shares its user interface, giving a new face to the term "ease of use."



#### Cable Editor<sup>3</sup>

Instrument Cable Lists may be retrieved from the instrument, modified as required, and uploaded back into instrument.

#### Signal Standard Editor<sup>3</sup>

Signal Standard Lists may be retrieved from the instrument, modified as required, and uploaded back into instrument.

#### Distance to Fault<sup>4</sup> (DTF)

Easily convert Return Loss or VSWR traces to Distance to Fault traces with one button press.

#### Measurement Calculator

Provides quick conversion between commonly used measurement units such as VSWR, RL, and others.

Capture: Plots to Screen, Database, \*.dat, \*.jpg

Connect: To PC using USB, Ethernet, Serial

**Download:** Lists/measurements and live traces to PC for storage and analysis.

Upload<sup>3</sup>: Lists/measurements from PC to instrument.

#### Supported File Types

Input: \*.dat, \*.vna, \*.mna, \*.pim, \*.tm Output: \*.dat, \*.vna, \*.pim, \*.tm, \*.csv, \*.bmp, \*.jpg, \*.png <sup>1</sup>Model dependent <sup>2</sup>Optionally set by user <sup>3</sup>Instrument type/model must match original <sup>4</sup>Only \*.dat and \*.vna file types supported

#### **Ordering Information – Options**

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\$331L	Description
Includes all items listed in description	Cable and Antenna Analyzer - 2 MHz to 4 GHz
	Internal InstaCal <sup>™</sup> - 2 MHz to 4 GHz
	Internal Power Meter - 50 MHz to 4 GHz

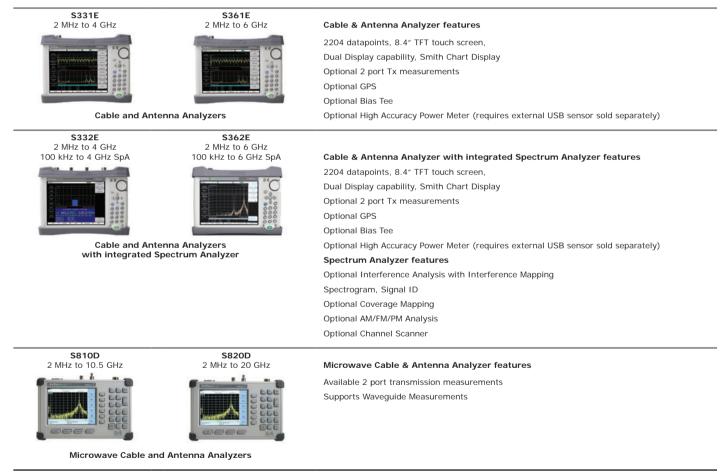
#### **Calibration and Extended Warranty Options**

Warranty	Warranty with Z540 Calibration	
S331L-ES210	N/A	Warranty Extension to 2 Years, Return to Anritsu
S331L-ES310	S331L-ES313	Warranty Extension to 3 Years, Return to Anritsu
S331L-ES510	S331L-ES513	Warranty Extension to 5 Years, Return to Anritsu

#### **Calibration Only Options**

S331L-0098	Standard Calibration to Z540
S331L-0099	Premium Calibration to Z540 plus test data

#### Other Site Master Models From Anritsu (more data available at www.anritsu.com)



#### Ordering Information (continued)



Recommended Spare Accessories (not included)



Part Number	De
2000-1691-R	Re
2000-1687-R	Re

10580-00321

10580-00253

#### Description

Replacement Stylus with coiled tether Replacement Torque Multiplier N(m)

#### Manuals (soft copy included on disc and at www.anritsu.com)

User Guitte	∕inritsu
Site Master S331L Cable and Arternia Analyzer	
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	0000

#### Part Number Description

S331L Site Master User Guide (Hard copy included) Site Master S331L Maintenance Manual

#### **Optional Accessories**

Calibration Components, 50 Ω	
Part Number	Description
OSLN50-1	Precision Open/Short/Load, N(m), 42 dB, 6.0 GHz, 50 $\Omega$
OSLNF50-1	Precision Open/Short/Load, N(f), 42 dB, 6.0 GHz, 50 $\Omega$
2000-1618-R	Precision Open/Short/Load, 7/16 DIN(m), DC to 6.0 GHz, 50 $\Omega$
2000-1619-R	Precision Open/Short/Load, 7/16 DIN(f), DC to 6.0 GHz, 50 $\Omega$
22N50	Open/Short, N(m), DC to 18 GHz, 50 $\Omega$
22NF50	Open/Short, N(f), DC to 18 GHz, 50 $\Omega$
SM/PL-1	Precision Load, N(m), 42 dB, 6.0 GHz
SM/PLNF-1	Precision Load, N(f), 42 dB, 6.0 GHz
Phase-Stable Test Port Cables, Armored (recommended for use with tightly spaced con	nectors and other general purpose applications)
Part Number	Description
15ND50-1.5C	1.5 m, DC to 6 GHz, N(m) to 7/16 DIN(m), 50 $\Omega$
15NDF50-1.5C	1.5 m, DC to 6 GHz, N(m) to 7/16 DIN(f), 50 $\Omega$
15NN50-1.5C	1.5 m, DC to 6 GHz, N(m) to N(m), 50 $\Omega$
15NNF50-1.5C	1.5 m, DC to 6 GHz, N(m) to N(f), 50 $\Omega$
15NN50-3.0C	3.0 m, DC to 6 GHz, N(m) to N(m), 50 $\Omega$
15NNF50-3.0C	3.0 m, DC to 6 GHz, N(m) to N(f), 50 $\Omega$
Phase-Stable Test Port Cables, Armored w/ Reinforced Grip (recommended for cable	& antenna line sweep applications)
Part Number	Description
15RNFN50-1.5-R	1.5 m, DC to 6 GHz, N(m) to N(f), 50 $\Omega$
15RDFN50-1.5-R	1.5 m, DC to 6 GHz, N(m) to 7/16 DIN(f), 50 $\Omega$
15RDN50-1.5-R	1.5 m, DC to 6 GHz, N(m) to 7/16 DIN(m), 50 $\Omega$
15RNFN50-3.0-R	3.0 m, DC to 6 GHz, N(m) to N(f), 50 $\Omega$

Interchangeable Adaptor Phase Stable Test Port Cables, Armored w/Reinforced Grip (recommended for cable and antenna line sweep applications. It uses the same ruggedized grip as the Reinforced grip series cables. Now you can also change the adaptor interface on the grip to four different connector types)



Part Number 15RCN50-1.5-R 15RCN50-3.0-R

15RDN50-3.0-R

15RDFN50-3.0-R

Description 1.5 m, DC to 6 GHz, N(m) to N(f), 7/16 DIN(m), 7/16 DIN(f), 50 Ω 3.0 m, DC to 6 GHz, N(m) to N(f), 7/16 DIN(m), 7/16 DIN(f), 50 Ω

3.0 m, DC to 6 GHz, N(m) to 7/16 DIN(m), 50  $\Omega$ 

3.0 m, DC to 6 GHz, N(m) to 7/16 DIN(f), 50  $\Omega$ 

Calibration Components, 75 Ω		
	Part Number	Description
Carlo	22N75	Open/Short, N(m), DC to 3 GHz, 75 $\Omega$
	22NF75	Open/Short, N(f), DC to 3 GHz, 75 $\Omega$
	26N75A	Precision Termination, N(m), DC to 3 GHz, 75 $\Omega$
	26NF75A	Precision Termination, N(f), DC to 3 GHz, 75 $\Omega$
	12N50-75B	Matching Pad, DC to 3 GHz, 50 $\Omega$ to 75 $\Omega$

#### **Optional Accessories** (continued)

Adapters		
	Part Number	Description
	510-90-R	7/16 DIN(f) to N(m), DC to 7.5 GHz, 50 $\Omega$
	510-91-R	7/16 DIN(f) to N(f), DC to 7.5 GHz, 50 $\Omega$
	510-92-R	7/16 DIN(m) to N(m), DC to 7.5 GHz, 50 $\Omega$
	510-93-R	7/16 DIN(m) to N(f), DC to 7.5 GHz, 50 $\Omega$
	510-96-R	7/16 DIN(m) to 7/16 DIN (m), DC to 7.5 GHz, 50 $\Omega$
	510-97-R	7/16 DIN(f) to 7/16 DIN (f), DC to 7.5 GHz, 50 $\Omega$
	1091-379-R	7/16 DIN(f) to 7/16 DIN(f), DC to 6 GHz, 50 $\Omega,$ w/ Reinforced Grip
Ser Contraction of the second se	510-102-R	N(m) to N(m), DC to 11 GHz, 50 $\Omega$ , 90 degrees right angle
	1091-26-R	SMA(m) to N(m), DC to 18 GHz, 50 $\Omega$
	1091-27-R	SMA(f) to N(m), DC to 18 GHz, 50 $\Omega$
	1091-80-R	SMA(m) to N(f), DC to 18 GHz, 50 $\Omega$
	1091-81-R	SMA(f) to N(f), DC to 18 GHz, 50 $\Omega$
	1091-172-R	BNC(f) to N(m), DC to 1.3 GHz, 50 $\Omega$
Precision Adapters		
	Part Number	Description
	34NN50A	Precision Adapter, N(m) to N(m), DC to 18 GHz, 50 $\Omega$
	34NFNF50	Precision Adapter, N(f) to N(f), DC to 18 GHz, 50 $\Omega$
Attenuators for use with Power Meter		
	Part Number	Description
	3-1010-122	20 dB, 5 W, DC to 12.4 GHz, N(m) to N(f)
	42N50-20	20 dB, 5 W, DC to 18 GHz, N(m) to N(f)
	42N50A-30	30 dB, 5 W, DC to 18 GHz, N(m) to N(f)
	3-1010-123	30 dB, 50 W, DC to 8.5 GHz, N(m) to N(f)
	1010-127-R	30 dB, 150 W, DC to 3 GHz, N(m) to N(f)
	3-1010-124	40 dB, 100 W, DC to 8.5 GHz, N(m) to N(f), Uni-directional
	1010-121	40 dB, 100 W, DC to 18 GHz, N(m) to N(f), Uni-directional
	1010-128-R	40 dB, 150 W, DC to 3 GHz, N(m) to N(f)
Miscellaneous Accessories		
	Part Number	Description
	67135	Anritsu Backpack (For Handheld Instrument and PC)
	760-256-R	Large Transit Case with Wheels and Handle
		5
Anritsu		
-14-		
84 8		

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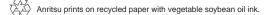
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