8800SX Cable Calibration Procedure

Best Practices

8800SX Cable Calibration Procedure
# Items Required for Cable Calibration

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(2)</td>
<td>Type N-(M) to BNC (F) adapters (Provided with the 8800SX)</td>
</tr>
<tr>
<td>2</td>
<td>(1)</td>
<td>BNC (F) to BNC (F) barrel adapter Cobham (PN: 20335)</td>
</tr>
<tr>
<td>3</td>
<td>(1)</td>
<td>10 dB attenuator (BNC)</td>
</tr>
<tr>
<td>4</td>
<td>(1)</td>
<td>3 ft. BNC (M) to BNC (M) double shielded RG-223 “Reference Cable” Cobham (PN: 63351)</td>
</tr>
<tr>
<td>5</td>
<td>(1)</td>
<td>3 ft. BNC (M) to BNC (M) double shielded RG-223 “Test Cable” Cobham (PN: 63351)</td>
</tr>
</tbody>
</table>
Interconnect

- Connect Type N adapters
- Connect 1 of the adapters to the 8800SX GEN Port
- Connect the other adapter to the 8800SX ANT Port
- Connect the 10 dB Attenuator
- Connect the 10 dB Attenuator to the N adapter on the 8800SX ANT Port
8800SX Initialization

- From the System Menu, select the “Sys Reset” Button

- Select the Yes button when you receive the prompt: “Do you want to restore factory defaults?”
8800SX Initialization

- From the Utilities Menu, select Presets>Clear Display.
  - Note: Touch the grey bar at the top to access the menu bar.

- This will remove any tiles that may have been previously displayed.
8800SX Initialization

- Select the following tiles to be displayed:
  - Generators – Generator
  - Receivers – Receiver
  - Meters – RSSI
8800SX Initialization

- Maximize the Generator and Receiver Tiles.
8800SX Initialization

• Configure the RF Generator Tile.
  – Port: GEN
  – Enable: ON
  – Level: -12 dBm

• Configure the RF Receiver Tile.
  – Frequency: 136.125 MHz
  – Lock: ON
  – IF BW: 10 kHz
  – Port: ANT
  – AGC: Auto
Procedure

1. Connect the Reference cable.
   - Connect the Reference cable from the 8800SX GEN Port to the attenuator on the 8800SX ANT Port.
Procedure

2. Set the Receiver AGC.
   • Note the level displayed on the RSSI Meter. Example: -22.3 dBm

3. Change the Receiver Tile AGC setting from auto to manual -20 dBm.
   This value is set to be the next higher value than what is indicated by the RSSI Meter.
   Setting the AGC to a fixed range prevents automatic ranging from choosing a different setting.
Procedure

4. Establish a zero dB Reference (dBr).
   • Change the RSSI Meter units control from dBm to dBr.
   • Note that the meter now reads 0.00 dBr.
Procedure

5. Add the test cable in-line with the reference cable.
   - Disconnect the reference cable from the 10 dB Attenuator on the 8800SX ANT Port. (Leave the attenuator on the 8800SX ANT Port.)
   - Using a BNC barrel connector, connect the test cable to the reference cable as shown.
   - Connect the other end of the test cable to the 10 dB Attenuator on the 8800SX ANT Port.
Procedure

6. Record the measured Cable Loss of the test cable.
   • The RSSI Meter now indicates the amount of insertion loss of the test cable at this frequency.
   • Record the loss factor for this frequency.
   • Set the RSSI Meter units back to dBm.

7. Repeat Section 1 procedure for the following frequencies:
   • 440.125 MHz
   • 810.125 MHz
1. From the Utilities menu, choose Auto-Test.
Configure Auto-Test

1. Select the Cable Loss function button.
2. Enter the recorded loss values into the appropriate frequency band areas on the Cable Loss Screen.
3. Press the Home Button when complete.
Procedure is Complete

The cable calibration is now complete. The Auto-Test application will use the entered values to correct the measured power meter readings by the amount of the cable loss.
8800 Options and Accessories

8800SX Options and Accessories

139942 8800SX Digital Radio Test Set

Standard Accessories
- Fuse, 5 A, 32 V, Mini Blade
- AC Power Cord - USA
- AC Power Cord - Europe
- Front Cover

Internal Battery
- NiMH: 110 V, Cylindrical
- NiMH: 110 V, Flat Pack
- NiMh: 110 V, Flat Pack, Qty 3

Options
- 8800OPT01 DMR
- 8800OPT02 dMR
- 8800OPT03 NDXN
- 8800OPT04 P2S
- 8800OPT05 P2S Phase 2
- 140215 8800OPT06 DMR Repeater Test
- 13338 8800OPT09 ARB # T98
- 13339 8800OPT10 Tracking Generator
- 13340 8800OPT11 Occupied Bandwidth

13309 8800OPT12 Internal Precision Power Meter (Meter + Sensor)

13342 8800OPT13 External Precision Thru-Line Meter (for use with Bird WPS Sensor)

13343 8800OPT14 PTC

13341 8800OPT15 AAR Channel Plan

13936 8800OPT20 R&S NRT-Z Power Sensor Support

13937 8800OPT21 Selectable Notch Filters

13938 8800OPT22 SNR Meter

13525 8800OPT101 Kenwood NDXN Auto-Test

13526 8800OPT102 Kenwood SXG2 P2S Series Auto-Test

13527 8800OPT103 Motorola APX Auto-Test

13528 8800OPT104 Motorola MOTOTRBO™ Auto-Test

139315 8800OPT105 Motorola ASTRO® 25 XTS5000™ Auto-Test

Languages
- 8800OPT300 Simplified Chinese
- 8800OPT301 Traditional Chinese

113350 8800OPT302 Spanish

113353 8800OPT303 Portuguese

113354 8800OPT304 Malay/Indonesian

113355 8800OPT305 Korean

113356 8800OPT306 Arabic

113357 8800OPT307 Polish

113358 8800OPT308 Russian

113359 8800OPT309 Japanese

113360 8800OPT310 German

113361 8800OPT311 French

139625 8800OPT312 Italian

8800SX Accessories

138313 Calibration Certificate - 8800 Series

82560 AC27003 Attenuator - 20 dB/150 W

67076 Spare Internal Battery

114479 External Battery Charger

114477 Hard Transit Case

114478 Soft Carrying Case

114475 Appendix Kit

114348 Precision DTF/VSW Accessory Kit for 8800

69397 AC25081 Site Survey Software

92793 501/D Bird Power Sensor

114312 Power Source Kit

112861 Microphone

62404 DC Cord/Cigarette Adapter

63936 AC2400H DMM Test Leads

112277 10 AMP Current Shunt, 0.01 Ohm

67411 Scope Probe Kit

Extended Warranties

114481 Extended Standard Warranty 36 Months

114482 Extended Standard Warranty 60 Months

114483 Extended Standard Warranty 36 Months with Scheduled Calibration

114484 Extended Standard Warranty 60 Months with Scheduled Calibration

Select 8800SX Accessories Overview

Soft Case 114478

The soft case allows full operation of the 8800SX while inside the case. The laptop-style design is lightweight and provides extra protection during field operation. Storage pockets provide extra space for spare batteries, test cables, etc.

Hard Transit Case 114477

The hard transit case features form-fitted slots for the 8800SX protective cover, precision VSWR/DTF Kit, power supply, 150 W attenuators, spare battery, and more.

Precision DTF/VSWR Accessory Kit 114348

This accessory kit provides all items necessary for accurate and precise VSWR, Return Loss, and Distance-to-Fault measurement. The kit includes a case, return loss bridge, power divider, 50 Ω calibrator, and two N-type test cables specifically designed for the 8800SX.

Bird 501/D Thru-Line Power Sensor 92793

The 8800SX also supports the Bird 501/D Thru-Line Power Sensor as an external power meter for users that already have the 501/D. This capability requires 8800OPT13 and provides simultaneous forward and reverse power measurements up to 500 W and VSWR measurements that are displayed on the 8800SX screen.
Questions or Comments?

Contact Information

For information about pricing for our products, contact the sales office by calling VIAVI Solutions at (800) 835-2352 or emailing AvComm.Sales@viavisolutions.com.

For technical/product support, calibration, maintenance and general customer service inquiries, you can contact our help desk by clicking here, calling (800) 835-2350, or emailing AvComm.Service@viavisolutions.com.

Click here for more information on the 8800SX and latest software versions and training materials.