8800SX Cable Calibration Procedure

Best Practices
## 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.
Procedures

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

<table>
<thead>
<tr>
<th>Standard Accessories</th>
<th>8800SX Digital Radio Test Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuse, 5 A, 32 V, Mini Blade</td>
<td>Power Supply</td>
</tr>
<tr>
<td>AC Power Cord - USA</td>
<td>AC Power Cord - China</td>
</tr>
<tr>
<td>AC Power Cord - Europe</td>
<td>AC Power Cord - UK</td>
</tr>
<tr>
<td>Adapter, Nm to BNC(II), Qty 3</td>
<td>Front Cover</td>
</tr>
</tbody>
</table>

### Options
- 113334 8800OPT01 DMR
- 113335 8800OPT02 DPRM
- 113336 8800OPT03 NKDN
- 113337 8800OPT04 P25
- 113895 8800OPT05 P25 Phase 2
- 140215 8800OPT06 DMR Repeater Test
- 113338 8800OPT09 ARB T96
- 113339 8800OPT10 Tracking Generator
- 113340 8800OPT11 Occupied Bandwidth
- 113309 8800OPT12 Internal Precision Power Meter (Meter + Sensor)
- 113342 8800OPT13 External Precision Thru-Line Meter (for use with Bird WPS Sensor)
- 113343 8800OPT14 PTC
- 113344 8800OPT15 AAR Channel Plan
- 139836 8800OPT20 R&S NRT-Z Power Sensor Support
- 139837 8800OPT21 Selectable Notch Filters
- 139838 8800OPT22 SNR Meter
- 138525 8800OPT101 Kenwood NKDN Auto-Test
- 138526 8800OPT102 Kenwood SX20 P25 Series Auto-Test
- 138527 8800OPT103 Motorola APX Auto-Test
- 138528 8800OPT104 Motorola MOTOTRBO™ Auto-Test
- 139315 8800OPT105 Motorola ASTRO® 25 XTS5000™ Auto-Test

### Languages
- 113350 8800OPT300 Simplified Chinese
- 113351 8800OPT301 Traditional Chinese

## Accessories
- 138313 Calibration Certificate - 8800 Series
- 62560 AC27003 Attenuator - 20 dB/150 W
- 67076 Spare Internal Battery
- 11467 External Battery Charger
- 114477 Hard Transit Case
- 114478 Soft Carrying Case
- 114475 Antenna Kit
- 114348 Precision DTF/VSAR Accessory Kit for 8800
- 63927 AC25081 Site Survey Software
- 92793 5017D Bird Power Sensor
- 114312 Mounting Bracket
- 112861 Microphone
- 62404 DC Cig/Electric Cigarette Adapter
- 63936 AC24090 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

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

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/VSAR Accessory Kit

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

#### Bird 5017D Thru-Line Power Sensor

The 8800SX also supports the Bird 5017D Thru-Line Power Sensor as an external power meter for users who already have the 5017D. This capability requires 8800OPT115 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 Service.Americas@aeroflex.com.

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