



SCU-1800

User Guide and Overview

Updated Last: December 2020



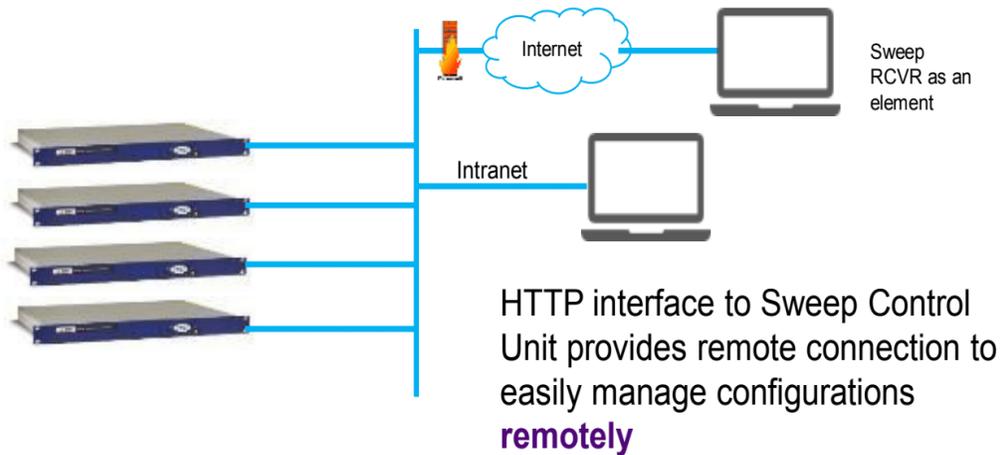
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SCU-1800

Introduction

SCU-1800 High Level Overview

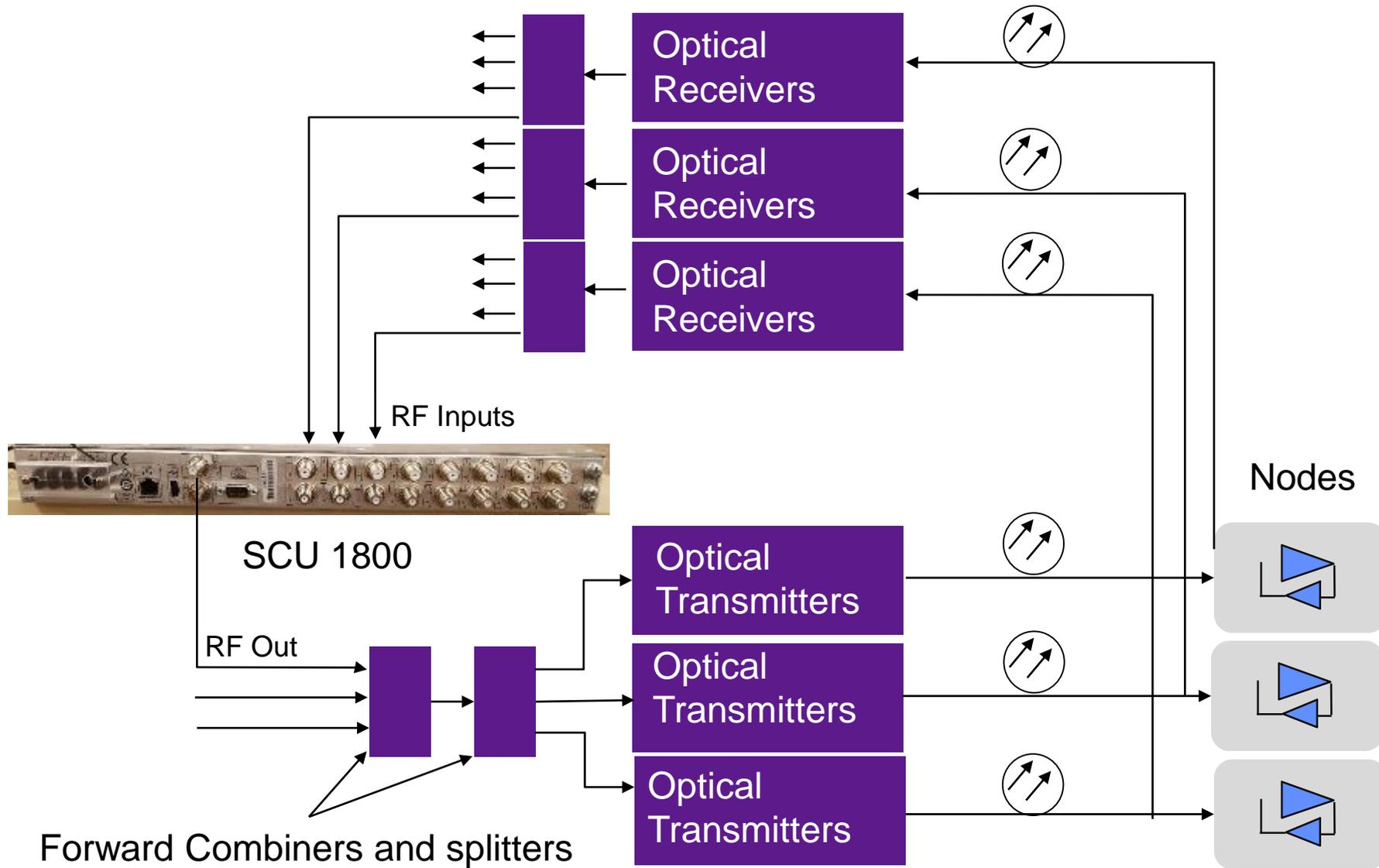


Configure Sweep Locally from a laptop



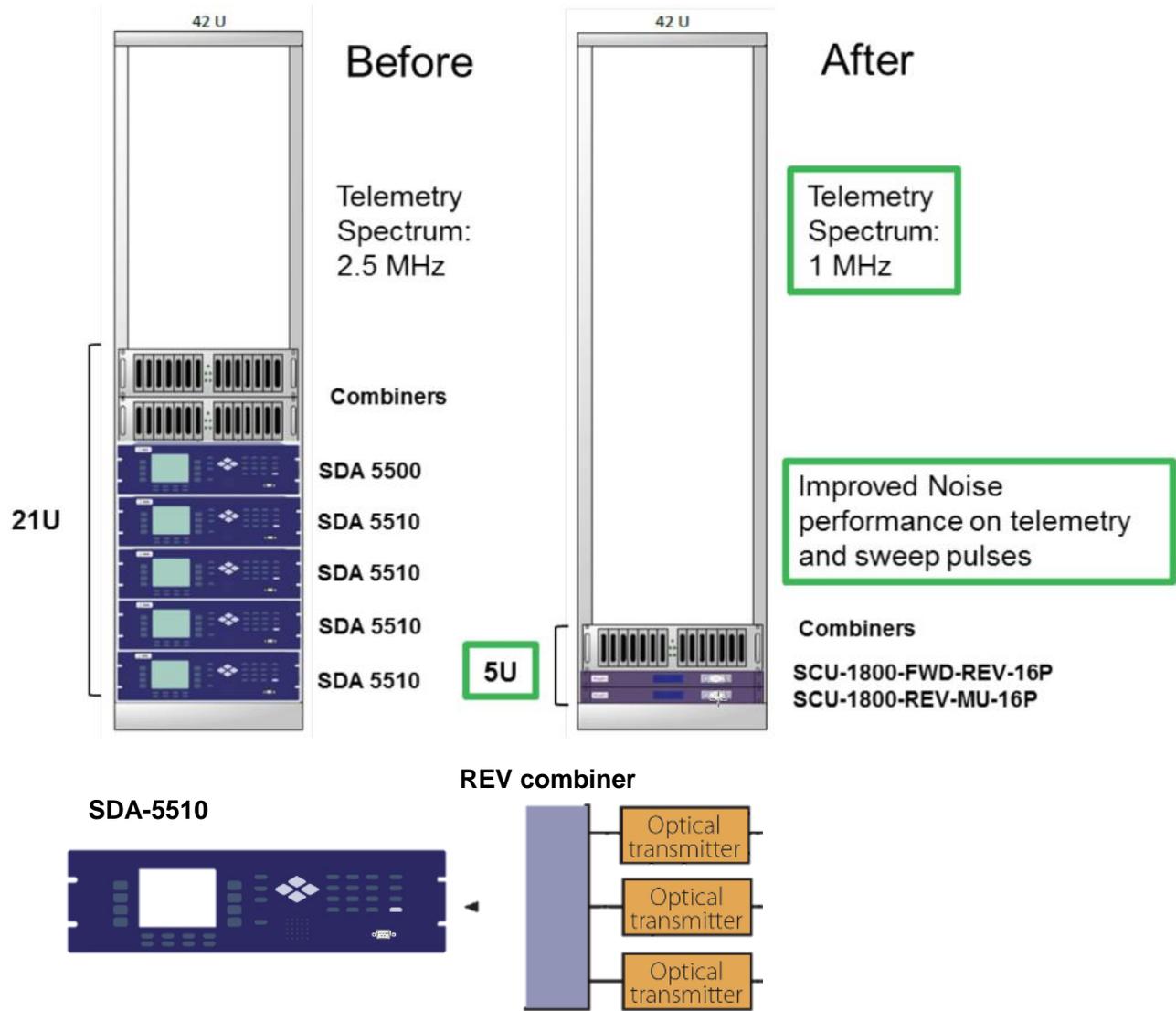
- Available in two mode configurations
 1. Forward Sweep + Single User Reverse Sweep
 2. Multiple User Reverse Sweep Only
- Can be configured remotely via Ethernet
 - HTTP or HTTPS supported
- Forward channel plans can be learned on the ONX and uploaded to the SCU
 - Recommended if using any active channels as sweep points
- Backward compatible with DSAM-6300
- Optional to use all 16 reverse input ports
 - Minimize additional RF combining
- SCU sweep points are spurious free with a narrow bandwidth
 - Provides -50dBc adjacent channel specs

SCU 1800 Headend RF Connection Diagram



Note: that the forward carriers are not fed back into the SCU1800

SCU-1800 Benefits



Space conserving 1RU sweep control unit with 16 switchable return sweep ports

- Less combining required
- Improved noise performance

The headend/hub SCU-1800 Sweep Control Unit provides **non-interfering downstream sweep to 1.218 GHz and upstream sweep to 204 MHz on up to 16 ports.**

The sweep is remotely configurable via Ethernet and browser, and a **sweep plan** can be built from imported **OneExpert CATV channel plan**

SCU-1800 Configuration Overview

Configuring the Static IP Address

- Using the front panel of the SCU-1800 press the down arrow to view and set the static IP address
- Once IP address is visible press the “Checkmark” button to enter the IP edit mode on the font panel
- Using the directional arrows will allow users to configure the proper Static IP address for this device
 - Up / Down – Changes the digit value (0 – 9)
 - Left / Right – Moves the cursor to the next digit
 - Press the “Checkmark” button to set the IP address
- Press the down arrow to enter the network’s Netmask and Gateway addresses

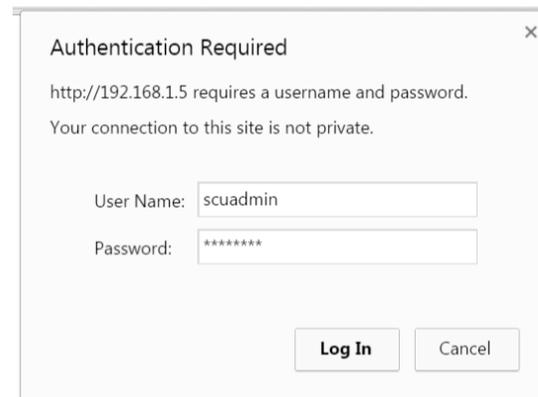


Logging into the SCU-1800

- Using a web browser navigate to the IP address on the front of the SCU-1800 that will be configured

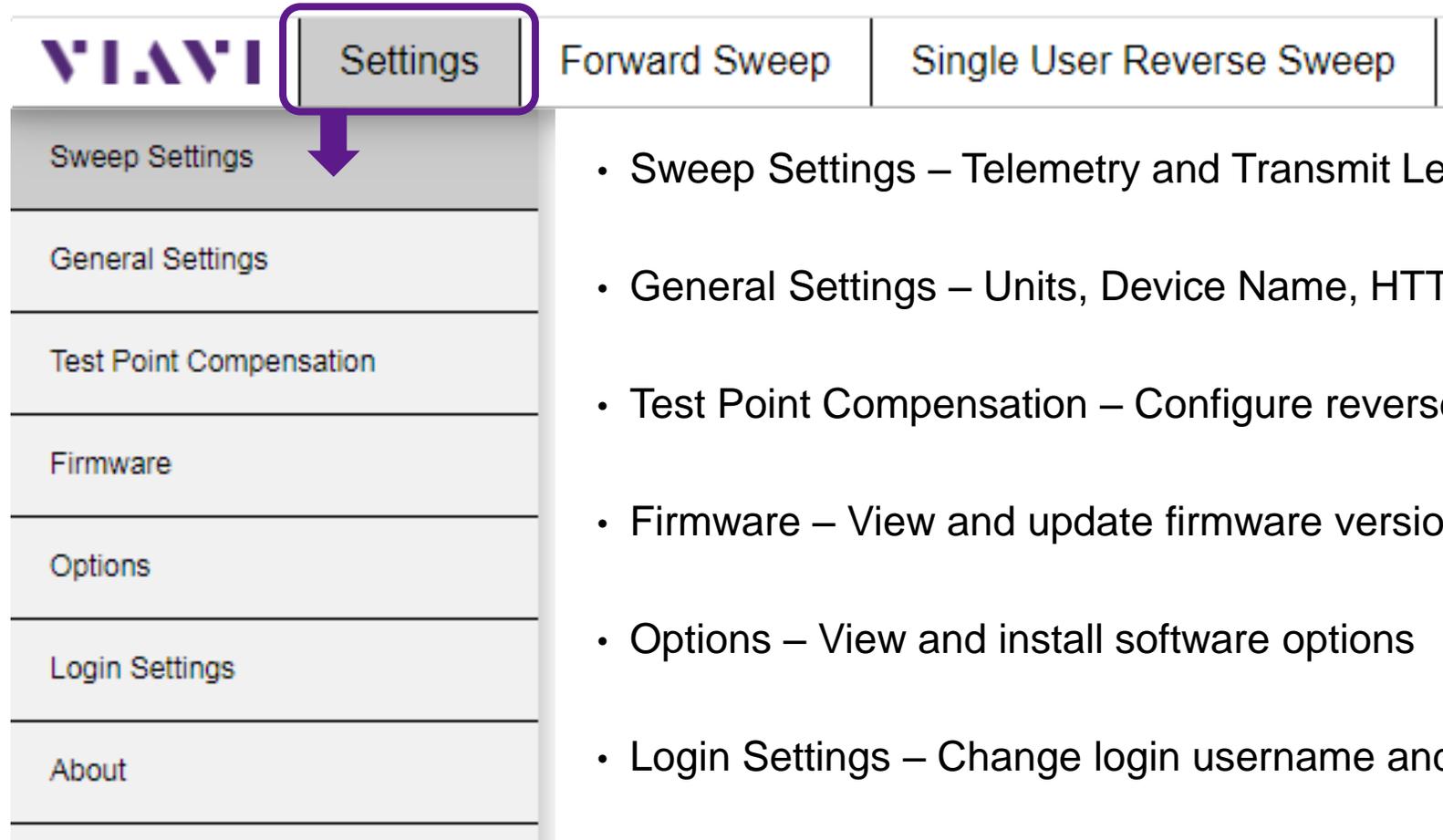


- When prompted, enter the SCU-1800 user name and password
 - Default Username is “scuadmin” and the default password is “scuadmin”



Navigating the SCU Configuration Menu Page

The SCU Configurations are accessible via the “Settings” menu from the top row of buttons



- Sweep Settings – Telemetry and Transmit Level settings
- General Settings – Units, Device Name, HTTPS, and Mode Selection
- Test Point Compensation – Configure reverse test point compensation per port
- Firmware – View and update firmware versions
- Options – View and install software options
- Login Settings – Change login username and password
- About – Serial number and calibration information

Sweep Settings

The screenshot shows the Viavi Settings interface. At the top, there are tabs for 'Settings', 'Forward Sweep', and 'Single User Reverse Sweep'. The 'Settings' tab is active, and the 'Sweep Settings' sub-tab is selected in the left-hand navigation menu. The main content area is titled 'Sweep Settings' and contains the following configuration options:

- Forward Telemetry Frequency (MHz): 51
- Forward Telemetry Level (dBmV): 40
- Forward Sweep Level (dBmV): 40
- Reverse Telemetry Frequency (MHz): 7
- Rapid Reverse Sweep Capable:
- Automatically start sweep at power on:

A purple 'Submit' button is located at the bottom right of the settings panel.

- Forward Telemetry Frequency – Sets the downstream telemetry signal frequency – this will need to be set in the field sweep unit (ONX or DSAM) to be able to communicate with the SCU-1800
- Independently set the transmit level of the telemetry signal and transmit level of sweep pulses – if the telemetry signal is set in the duplex rolloff then the transmit level may need to be increased to overcome the attenuation of the system duplexers
- Reverse Telemetry Frequency – Sets the upstream telemetry signal frequency – this will be communicated to the field sweep unit (ONX or DSAM) in the forward telemetry to enable bi-directional communication
- Rapid Reverse Sweep Capable – If enabled will instruct capable ONXs to use the Rapid Reverse Sweep method
- Automatically start sweep at power on – If enabled will activate sweep based on previously set configurations when power is restored to the SCU-1800

General Settings

Sweep Settings
General Settings
Test Point Compensation
Firmware
Options
Login Settings
About

General Settings

Signal Level Units

Device Name

HTTPS Enabled

Demo Mode

- Signal Level Units – Change which units are used for displaying signal levels – dBmV, dB μ V, dBm
- Device Name – The default device name is “SCU-1800” this can be changed to better identify specific SCUs
- HTTPS Enabled – If enabled the web interface to the SCU-1800 will utilize secure sockets to communicate to further enhance network security
- Demo Mode – Not available on all SCU-1800 models – Allows the SCU operation to be changed between “Forward Sweep” or “Multi User Reverse Sweep” modes

Reverse Test Point Compensation

- Test Point Compensation mathematically adjusts the measured reverse sweep signals to compensate for additional loss that may be desired to compensate for on the field unit sweep results
- The SCU allows all 16 ports to be independently compensated
- Apply TPC to Reverse Telemetry Level
 - If checked, the SCU will apply the port specific test point compensation value to the reverse telemetry signal and reverse sweep points before sending that information back to the field instrument
 - If the box is not checked then only the reverse sweep points received at the SCU will have reverse TPC applied and the telemetry signal will not be affected by the configured TPC value

Port	TPC(dB)
1	7
2	3
3	4
4	6
5	1
6	9
7	5
8	11
9	5
10	7
11	3
12	4
13	6
14	9
15	1
16	6

Apply TPC to Reverse Telemetry Level

Submit

Firmware

- The Current firmware version installed is shown under the “Firmware Package Version”
- To update firmware on the SCU press the “Choose File” button, find the desired SCU firmware upgrade package, then press the “Upgrade Firmware” button

The screenshot displays the Viavi web interface. At the top, there is a navigation bar with the Viavi logo on the left and three menu items: 'Settings', 'Forward Sweep', and 'Single User Reverse Sweep'. Below this is a sidebar menu with the following items: 'Sweep Settings', 'General Settings', 'Test Point Compensation', 'Firmware' (which is highlighted), 'Options', 'Login Settings', and 'About'. The main content area is titled 'Firmware' and contains the following information:

- Firmware Package Version**: 5.2.400
- A link: **Firmware Details**
- Firmware Upgrade** section containing:
 - A button labeled 'Choose File' next to the text 'No file chosen'.
 - A prominent purple button labeled 'Upgrade Firmware'.

Options

- See what current options are installed into the SCU-1800
- To add an option on the SCU press the “Choose File” button, find the desired SCU option upgrade file, then press the “Deploy” button

Options

Current Options

Catalog Number	Option Name	Option Type	Expiration
SCU-1800-SW-REV-16PORT	SCU-1800 Enable 16 port Reverse Sweep	perm	
SCU-1800-SW-FWD	SCU-1800 Forward Sweep	perm	
SCU-1800-SW-REV-SWP-MU	SCU-1800 Reverse Sweep Multi User	perm	
SCU-1800-SW-REV-SWP	SCU-1800 Reverse Sweep Single User	perm	

Deploy Option File

No file chosen

Changing Username and Password

1. The default username and password can be reset on the SCU-1800 to a customized field
2. Usernames and Passwords must be 6 characters or longer of any combination of letters, numbers, and special characters
3. If the new login information is lost, or forgotten, users can reset the SCU's default login using the LCD panel

VIavi Settings Forward Sweep Single User Reverse Sweep

Sweep Settings

General Settings

Test Point Compensation

Firmware

Options

Login Settings

About

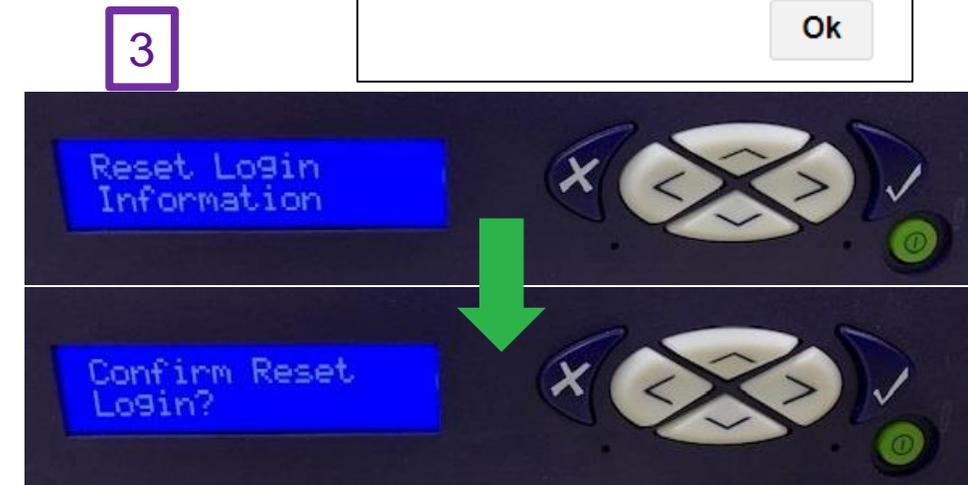
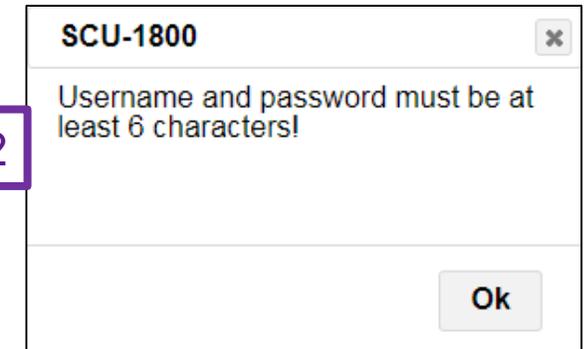
Login Settings

New Username

New Password

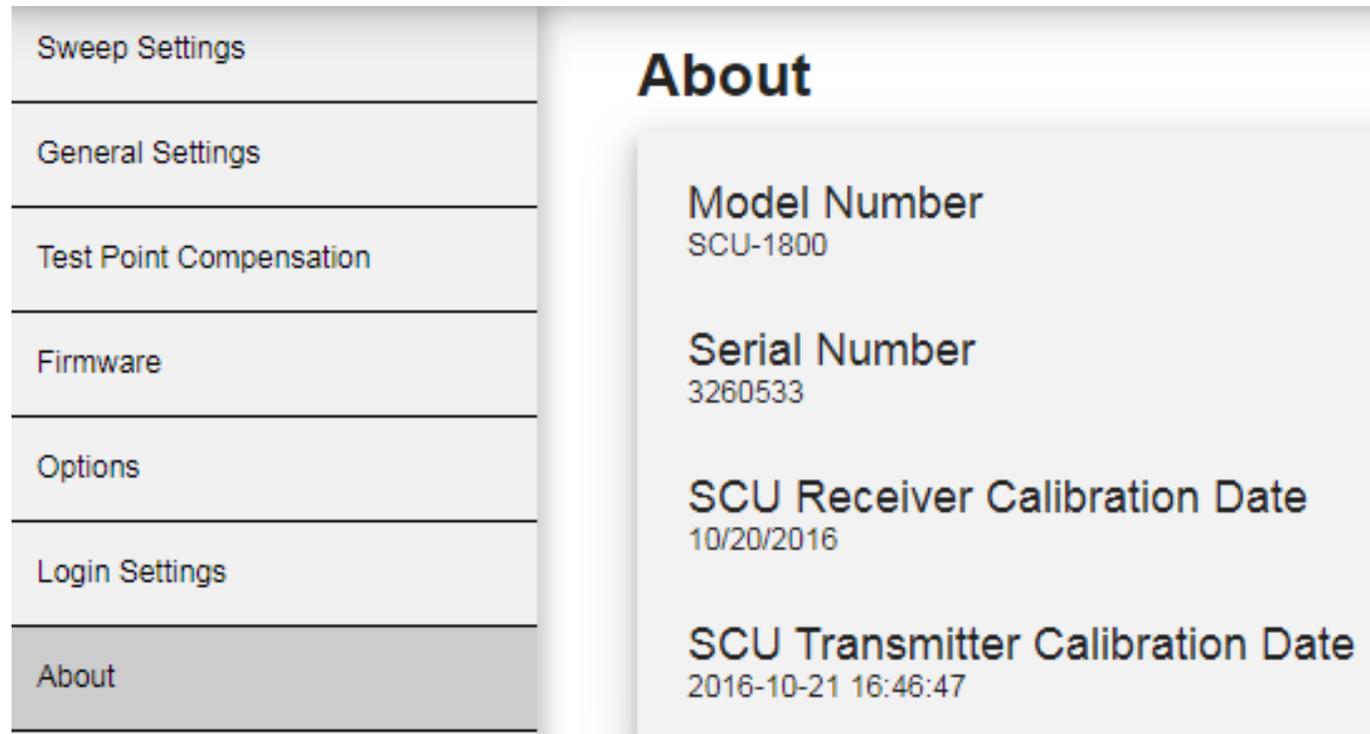
Confirm Password

Submit



About

- Shows the Model Number, Serial Number, SCU Receiver Calibration Date, and SCU Transmitter Calibration Date



Sweep Settings
General Settings
Test Point Compensation
Firmware
Options
Login Settings
About

About

Model Number
SCU-1800

Serial Number
3260533

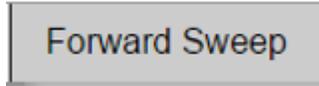
SCU Receiver Calibration Date
10/20/2016

SCU Transmitter Calibration Date
2016-10-21 16:46:47

Overview of Forward and Reverse Sweep Menus

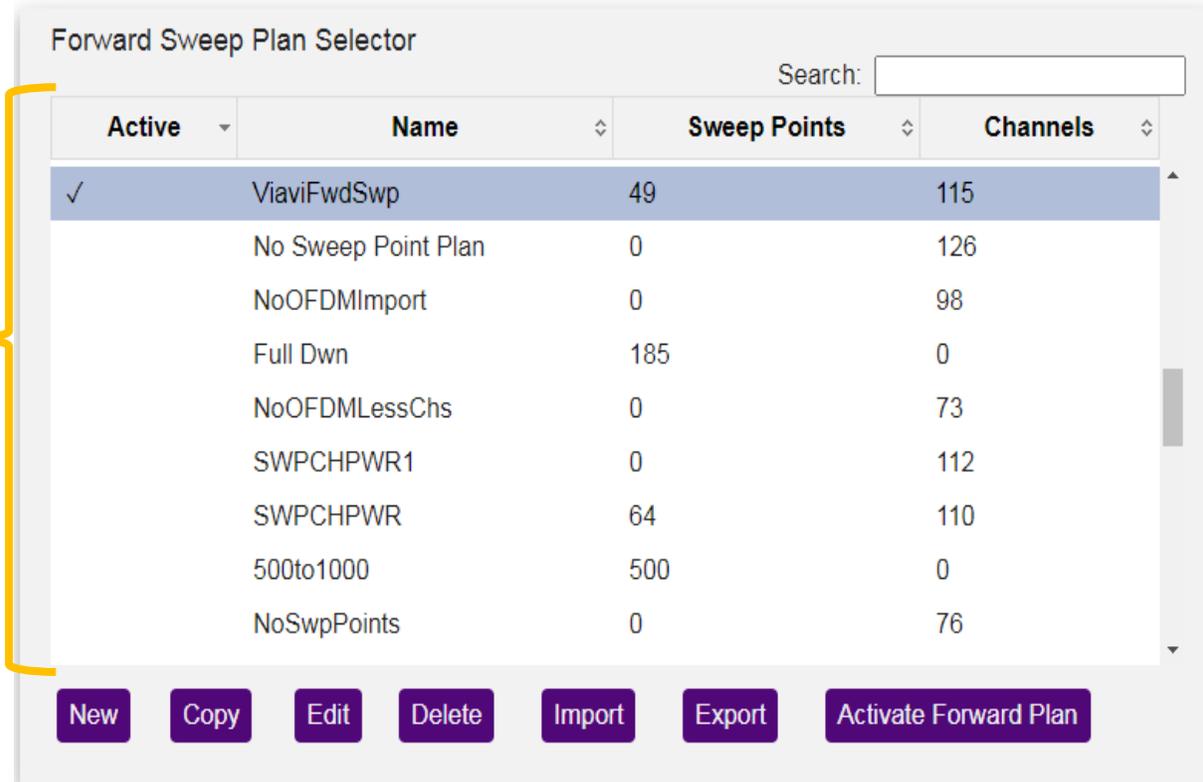
Forward Sweep Menu Overview

- Once in the SCU-1800 press the Forward Sweep Tab



- The big window shows all previously configured forward sweep plans
 - Currently active plan will have a check mark next to it under the Active column
- Plans in the list can be searched by Name or number of Sweep Points
- Columns are sortable by clicking on them

Forward Sweep Select

A screenshot of the "Forward Sweep Select" window. At the top, it says "Forward Sweep Plan Selector" and has a search box on the right. Below is a table with four columns: "Active", "Name", "Sweep Points", and "Channels". The first row is highlighted in blue and has a checkmark in the "Active" column. Below the table are several buttons: "New", "Copy", "Edit", "Delete", "Import", "Export", and "Activate Forward Plan". A yellow bracket on the left side of the screenshot highlights the table area.

Active	Name	Sweep Points	Channels
✓	ViaviFwdSwp	49	115
	No Sweep Point Plan	0	126
	NoOFDMImport	0	98
	Full Dwn	185	0
	NoOFDMLessChs	0	73
	SWPCHPWR1	0	112
	SWPCHPWR	64	110
	500to1000	500	0
	NoSwpPoints	0	76

Forward Sweep Menu Buttons

Once in the SCU-1800 press the “Forward Sweep” Menu:

- **New** - To create a new sweep plan (reviewed in detail below)
- **Copy** – Will duplicate the highlighted plan and add “(copy)” to the end of the original plan’s name
- **Edit** – Allows editing the plan name as well as the sweep points of the highlighted plan
- **Delete** – Will delete the highlighted plan from the SCU’s list of plans
- **Import** – Allows sweep plans to be imported from previously exported SCU sweep plans
- **Activate Forward Plan** – Will change the highlighted plan to the active forward sweep plan that the SCU will use

Forward Sweep Select

Forward Sweep Plan Selector

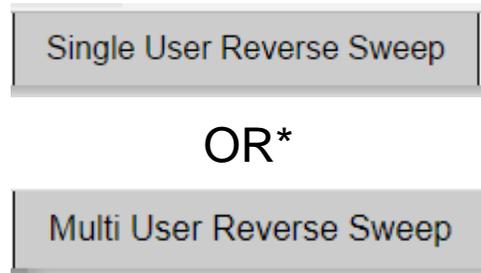
Search:

Active	Name	Sweep Points	Channels
✓	ViaviFwdSwp	49	115
	No Sweep Point Plan	0	126
	NoOFDMImport	0	98
	Full Dwn	185	0
	NoOFDMLessChs	0	73
	SWPCHPWR1	0	112
	SWPCHPWR	64	110
	500to1000	500	0
	NoSwpPoints	0	76

New Copy Edit Delete Import Export Activate Forward Plan

Reverse Sweep Menu Overview

- Once in the SCU-1800 press the Reverse Sweep Tab will vary depending on which version of SCU-1800 was purchased and which configuration is active
- Either “Single User Reverse Sweep” or “Multi-User Reverse Sweep” buttons will appear – this helps indicate which version of Reverse sweep this SCU is currently using



- Either type will reveal a window like the one shown
- The big window shows all previously configured reverse sweep plans – Currently active reverse sweep plan will be checked under the Active column
- Plans in the list can be searched by Name or number of Sweep Points and columns can be sorted by clicking them

Reverse Sweep Select

Reverse Sweep Plan Selector

Search:

Active	Name	Sweep Points
✓	ViaviRevSwp	294
	PeriodicFreq	10
	AusPlanRev	51
	LarrysRev3	207
	Larry Rev	37
	heatmptest	24
	AItest2	19
	heatmptest2	11
	carl	82

New Copy Edit Delete Import Export Activate Reverse Plan

Enable Reverse Sweep

Enable Reverse Sweep

- Check if reverse sweep is desired to be actively used with this SCU
- Use if ONLY forward sweep is desired
- Not shown if Multi-User Reverse Sweep is active

Reverse Sweep Menu Buttons

Once in the SCU-1800 press the “Single User Reverse Sweep” or “Multi-User Reverse Sweep” Menu:

- **New** - To create a new sweep plan (reviewed in detail below)
- **Copy** – Will duplicate the highlighted plan and add “(copy)” to the end of the original plan’s name
- **Edit** – Allows editing the plan name as well as the sweep points of the highlighted plan
- **Delete** – Will delete the highlighted plan from the SCU’s list of plans
- **Import** – Allows sweep plans to be imported from previously exported SCU sweep plans
- **Activate Reverse Plan** – Will change the highlighted plan to the active reverse sweep plan that the SCU will use

Reverse Sweep Select

Reverse Sweep Plan Selector

Search:

Active	Name	Sweep Points
✓	ViaviRevSwp	294
	PeriodicFreq	10
	AusPlanRev	51
	LarrysRev3	207
	Larry Rev	37
	heatmaptest	24
	AITest2	19
	heatmaptest2	11
	carl	82

New **Copy** **Edit** **Delete** **Import** **Export** **Activate Reverse Plan**

Enable Reverse Sweep

Setup a Forward Sweep Plan

Steps for Setting up SCU-1800 to perform Sweep

- The SCU-1800 can be configured to either utilize existing live channels as sweep points, OR to inject sweep points in-between carriers in their guard band
- Use Live Channels as Sweep Points
 - To setup the SCU-1800 for forward sweep using live active carriers as sweep points can be done either by manually entering in the active channel plan information for each channel
 - Or by using the ONX to identify channels and import this information into the SCU-1800



- To insert sweep points into the channel guard band
 - This configuration is done completely on the SCU-1800 and is a manual entry of each sweep point

Completely Manual Forward Sweep Setup

- Manually Creating Each Channel in the SCU-1800

Creating a Downstream Sweep Plan

- Once in the SCU-1800 press the “Forward Sweep” button
 - This will show all the previously configured forward sweep plans and allow the user to create or edit forward sweep plans
- To create a new Forward Sweep plan press the New Button

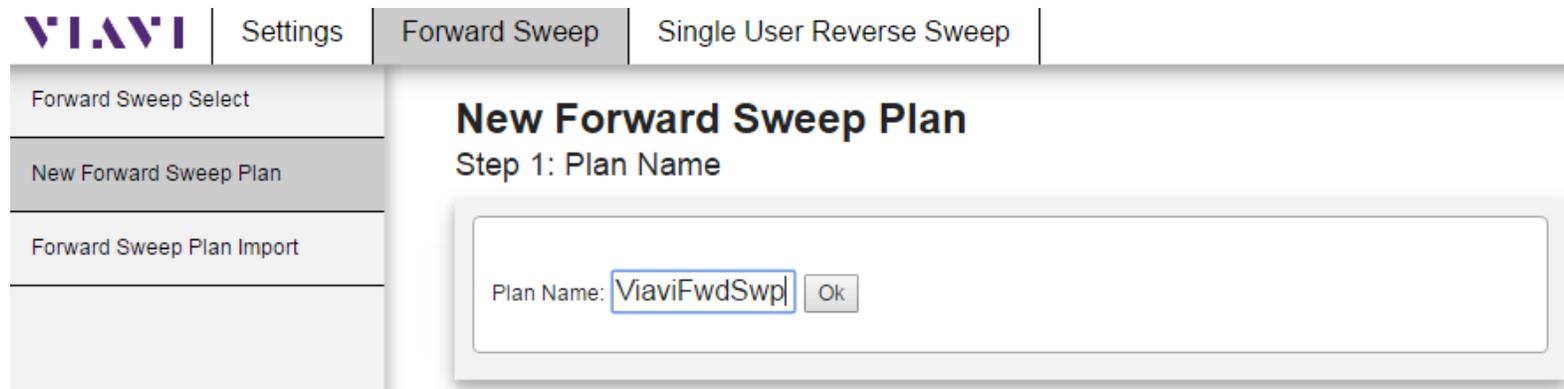
The screenshot displays the 'Forward Sweep Select' interface. At the top, there are navigation tabs: 'Settings', 'Forward Sweep', and 'Single User Reverse Sweep'. The 'Forward Sweep' tab is active. Below the tabs, there is a sidebar with three options: 'Forward Sweep Select', 'New Forward Sweep Plan', and 'Forward Sweep Plan Import'. The main content area is titled 'Forward Sweep Select' and contains a 'Forward Sweep Plan Selector' window. This window has a search bar and a table with the following data:

Active	Name	Sweep Points	Channels
✓	heatmaptestFwd	6	0
	Larry	209	110
	Training Room 3	143	126
	blah	0	0
	Cube5	204	109
	Below1G	99	111
	AusPlan	223	106
	AUS Forward test	0	0
	Full Spectrum	393	0

At the bottom of the 'Forward Sweep Plan Selector' window, there are several buttons: 'New', 'Copy', 'Edit', 'Delete', 'Import', 'Export', and 'Activate Forward Plan'. The 'New' button is highlighted with a yellow box.

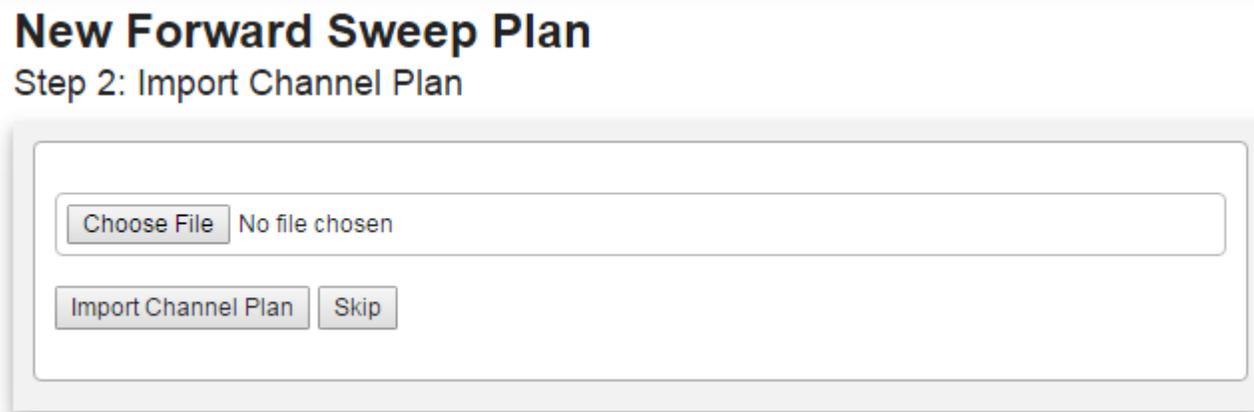
Label Sweep Plan and Import Active Channel Plan

- Next label the new forward sweep plan and press OK



The screenshot shows the Viavi software interface. At the top, there are tabs for 'Settings', 'Forward Sweep', and 'Single User Reverse Sweep'. The 'Forward Sweep' tab is active. On the left, there is a sidebar with options: 'Forward Sweep Select', 'New Forward Sweep Plan', and 'Forward Sweep Plan Import'. The main area displays a dialog box titled 'New Forward Sweep Plan' with the subtitle 'Step 1: Plan Name'. Inside the dialog, there is a text input field labeled 'Plan Name:' containing the text 'ViaviFwdSwp', followed by an 'Ok' button.

- Since this is a manual entry of the active channel plans we will not be importing any channel plan, so press the “Skip” button



The screenshot shows the same 'New Forward Sweep Plan' dialog box, now at 'Step 2: Import Channel Plan'. The dialog contains a file selection area with a 'Choose File' button and the text 'No file chosen'. Below this, there are two buttons: 'Import Channel Plan' and 'Skip'.

Adding or Deleting channels from the sweep plan

- If modifications to the channel plan are desired existing channels can be deleted from the “Sweep Points List” table
- Individual channels can be added manually to the sweep plan in the “Define Active Carriers in system which will be used as sweep points” section
- Manual entry of the channel type, center frequency, channel bandwidth, and Level are required
- Press the “Add Channel” to add the configured channel to the “Sweep Points List”

New Forward Sweep Plan

Step 3: Add any additional sweep points.

Plan Name: Back

Sweep Points List

Search:

Type	Frequency (MHz)	Span (MHz)	Level (dBmV)	Info
Channel	57.000	6	20.00	DIGITAL
Channel	63.000	6	20.00	DIGITAL
Channel	69.000	6	20.00	DIGITAL

Point Count: 3 Delete Selection

Use level from channel plan build

Define Active Carriers in system which will be used as sweep points

Note: These carriers are not generated by the SCU but will be measured by the field instrument

Add Individual Active Channels to be used as sweep points

Note: These are active carriers that are to be used as measured sweep points by the field instrument but were not included in the channel plan import.

Channel Type	Center Frequency (MHz)	Channel Bandwidth	Level (dBmV)
<input type="text" value="Digital"/>	<input type="text" value="79"/>	<input type="text" value="6 MHz"/>	<input type="text" value="20"/>

Add Channel

Level is the power level of the channel at the RF Combiner and is used by the field unit to estimate point to point attenuation during unreferenced sweep tests

Adding standalone Sweep Points to the Sweep Plan

- Additional sweep points can be added to the sweep plan when vacant spectrum is desired to be used while performing sweep tests
 - Either as a contiguous range of sweep points
 - OR as individual sweep points

Define carriers to be injected by the SCU-1800

Note: These are pulsed sweep points generated by the SCU-1800 in unoccupied spectrum

Add Multiple Sweep Injection Points

Note: This function inserts a sweep point at the start frequency given and will inject a sweep point every XX MHz defined by the Sweep Carrier Spacing up to and including the Stop Frequency if the Stop Frequency lands on the spacing boundary. This function utilizes a 500kHz guard band spacing and will only insert sweep points where there is at least 500kHz available from any previously defined carrier or sweep point.

Valid Frequency Range: 42 - 1218 MHz Valid Carrier Spacing Range: 1 - 8 MHz

Start Frequency (MHz)	Stop Frequency (MHz)	Sweep Carrier Spacing (MHz)
<input type="text" value="863"/>	<input type="text" value="1000"/>	<input type="text" value="6"/>

Add Individual Sweep Injection Points

Note: These are pulsed sweep points injected by the SCU-1800. Recommended to have 500kHz available spacing for each point.

Center Frequency (MHz)

Save the new sweep plan by pressing the “Back” button

New Forward Sweep Plan

Step 3: Add any additional sweep points.

Plan Name:

Sweep Points List

Search:

Type	Frequency (MHz)	Span (MHz)	Level (dBmV)	Info
Channel	57.000	6	20.00	DIGITAL
Channel	63.000	6	20.00	DIGITAL
Channel	69.000	6	20.00	DIGITAL

Point Count: 3

Use level from channel plan build

Define Active Carriers in system which will be used as sweep points

Note: These carriers are not generated by the SCU but will be measured by the field instrument

Add Individual Active Channels to be used as sweep points

Note: These are active carriers that are to be used as measured sweep points by the field instrument but were not included in the channel plan import.

Channel Type

Center Frequency (MHz)

Channel Bandwidth

Level (dBmV)

Activate Newly Created Plan

1. To activate the newly created Forward Sweep plan, find and select the name used during the plan setup then press the “Activate Forward Plan” button
2. The active sweep plan and current status is also shown at the bottom of the display under “Forward Plan”

Forward Sweep Select

Forward Sweep Plan Selector

Search:

Active	Name	Sweep Points	Channels
✓	ViaviFwdSwpManual	0	3
	No Sweep Point Plan	0	126
	NoOFDMImport	0	98
	Full Dwn	185	0
	NoOFDMLessChs	0	73
	SWPCHPWR1	0	112
	SWPCHPWR	64	110
	500to1000	500	0
	NoSwpPoints	0	76

New Copy Edit Delete Import Export **Activate Forward Plan**

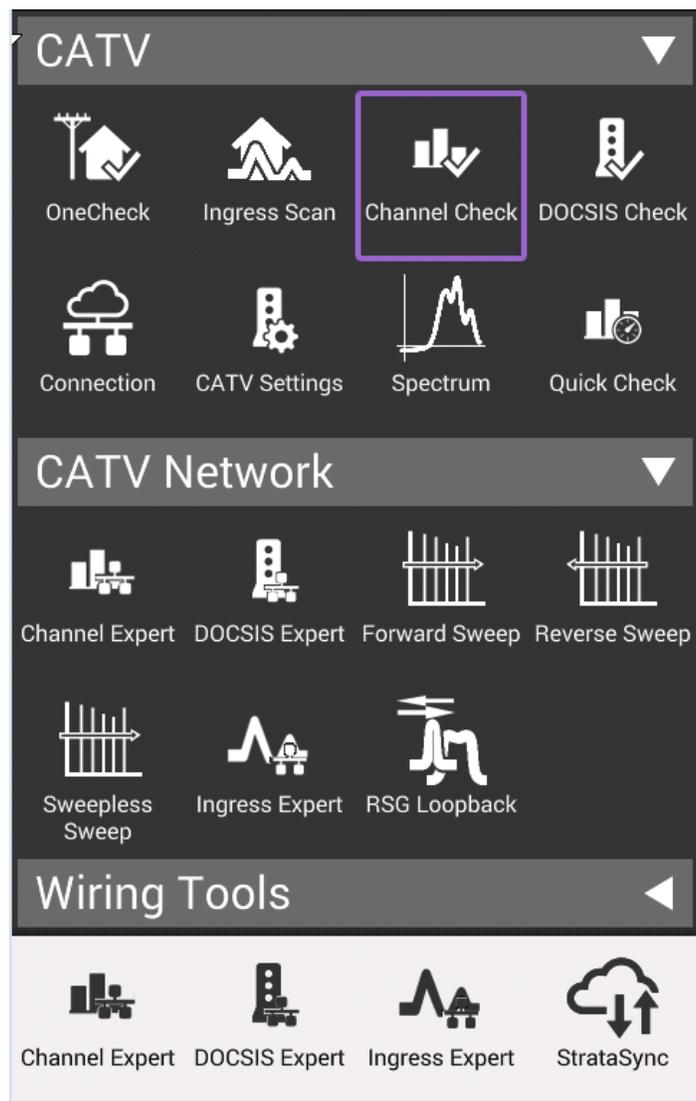
Forward Plan

ViaviFwdSwpManual
Not Running

Use ONX to Build Forward Sweep Channels

- Using an ONX-CATV detected channel line up and levels

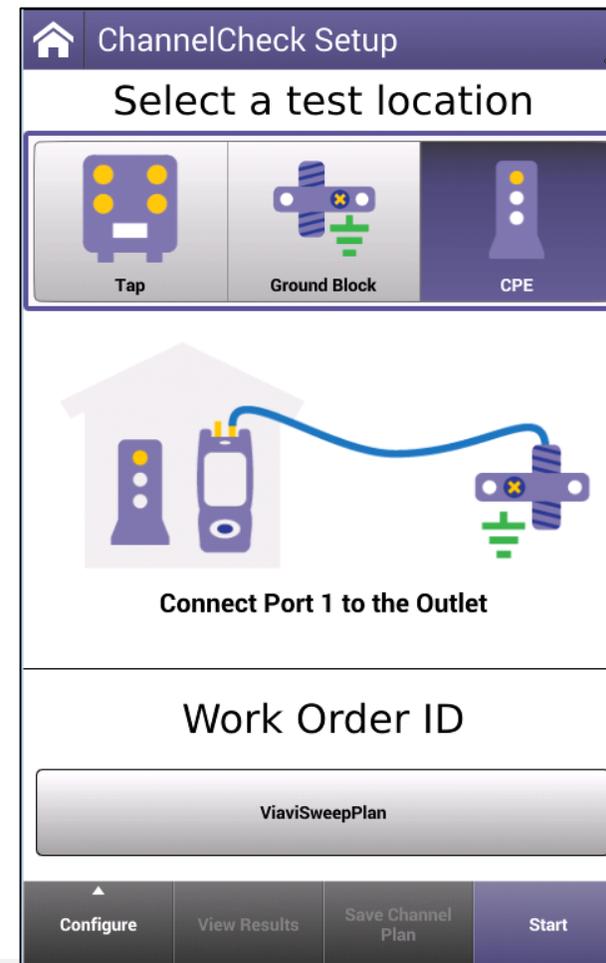
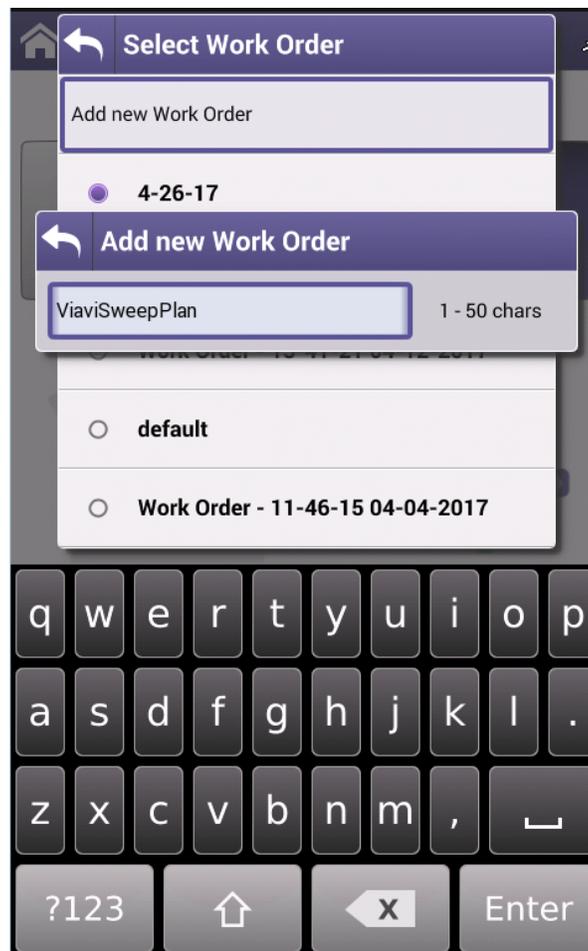
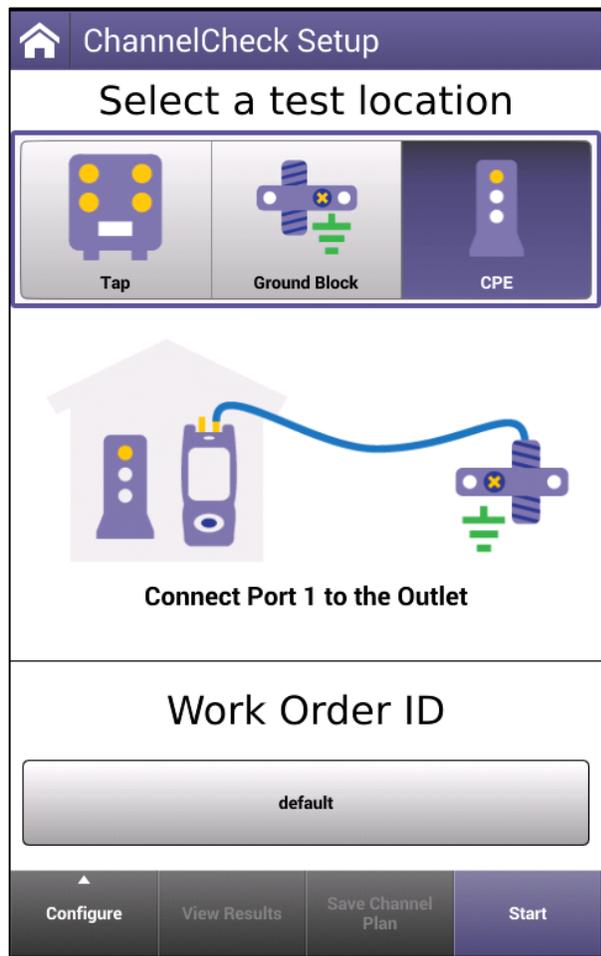
Using an ONX to build the active channel plan



- To build a channel plan that can be imported into the SCU-1800 the ONX must first find all the channels so they can be saved and exported
- Below are the steps necessary to operate the ONX in order to get the channel plan:
 - Make sure the ONX-CATV is connected to a live CATV network with all the channels present
 - Recommend building the channel lineup at the RF Combining network prior to the forward optical laser
 - This will allow the field sweep unit to more accurately determine attenuation from the headend to the field
 - Connect the live RF feed to Port 1 of the ONX-CATV device
- Now enter Channel Check mode

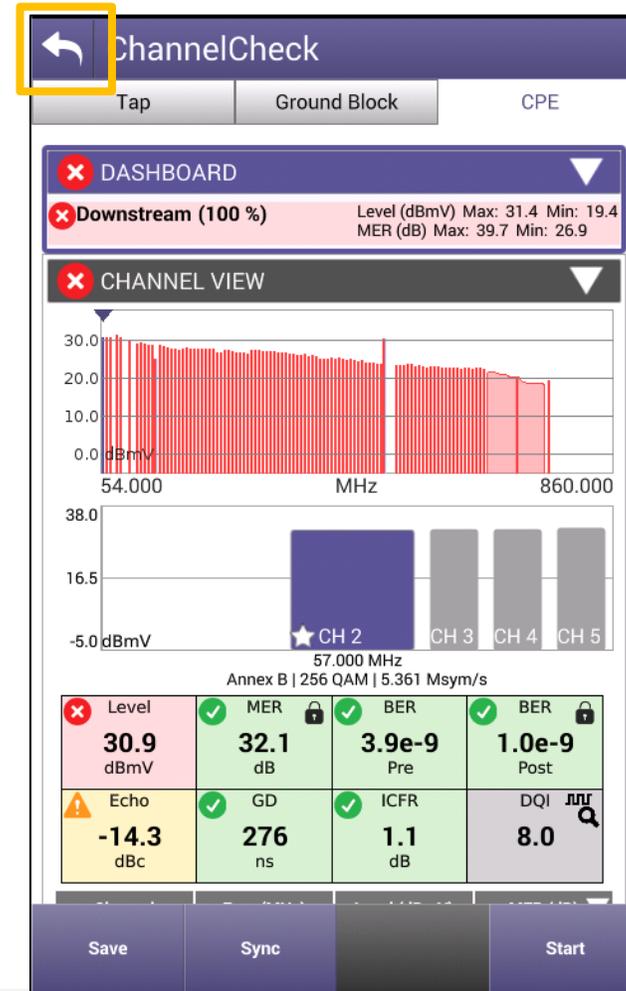
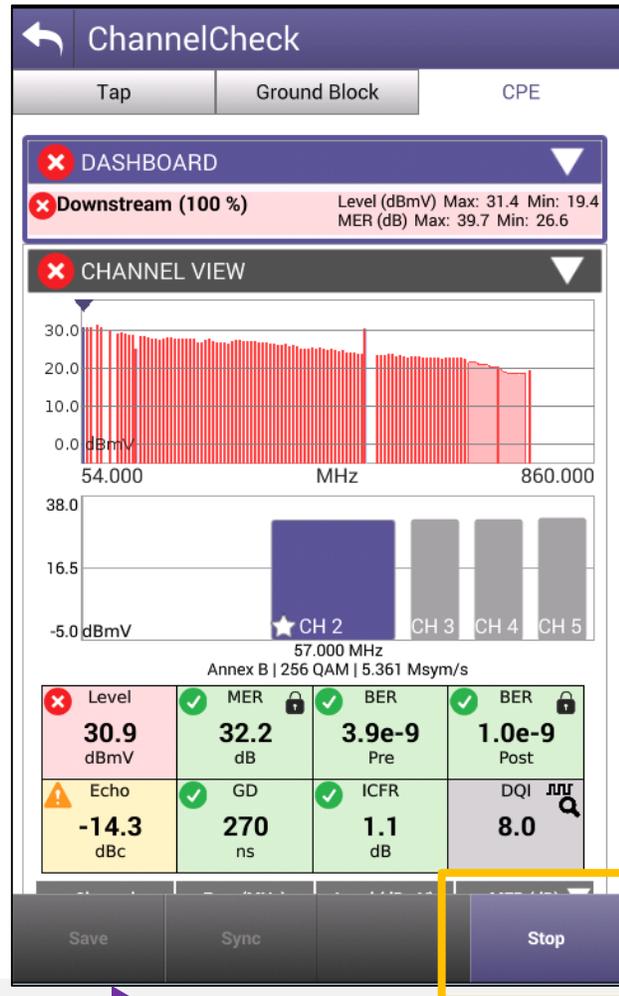
Using an ONX to build the active channel plan

- Create a new Work Order ID
 - Should be descriptive as you will need to find and copy that file later
- Press the Start button to beginning testing the live channel lineup



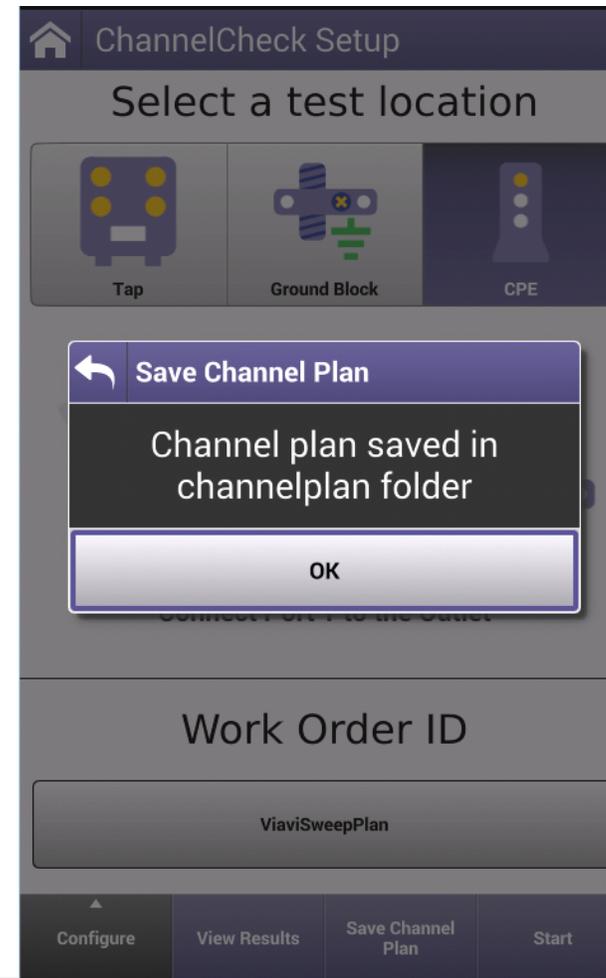
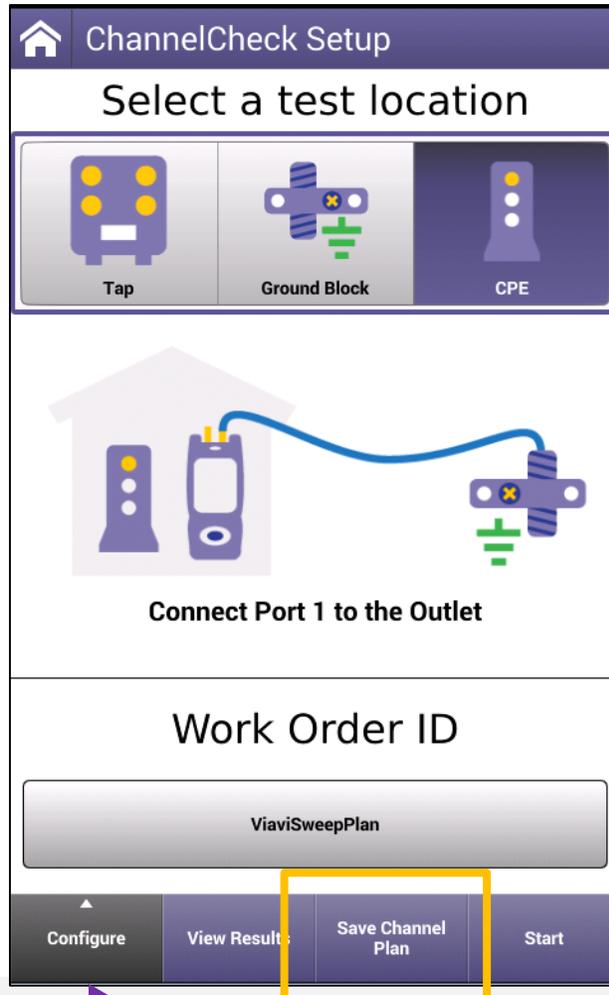
Saving the Channel plan on ONX-CATV

- Once the test has reached 100%,
- Press the Stop button then the Back button

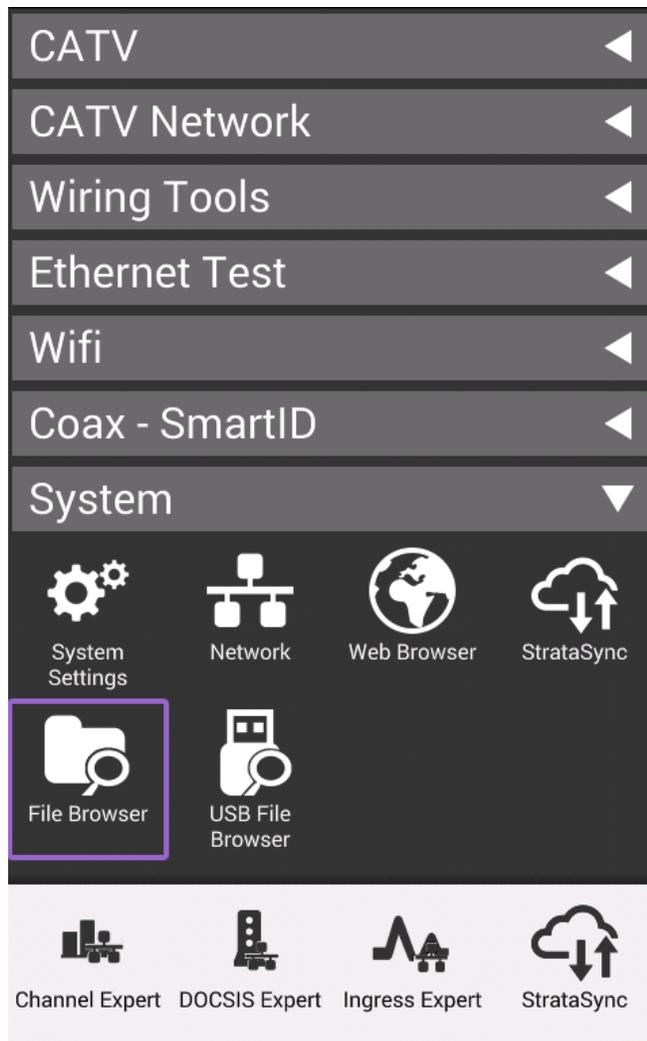


Save the channel plan

- When at the Work Order ID and Test Location display press the “Save Channel Plan” button at the bottom
- Now the channel plan has been saved to the ONX-CATV in a folder



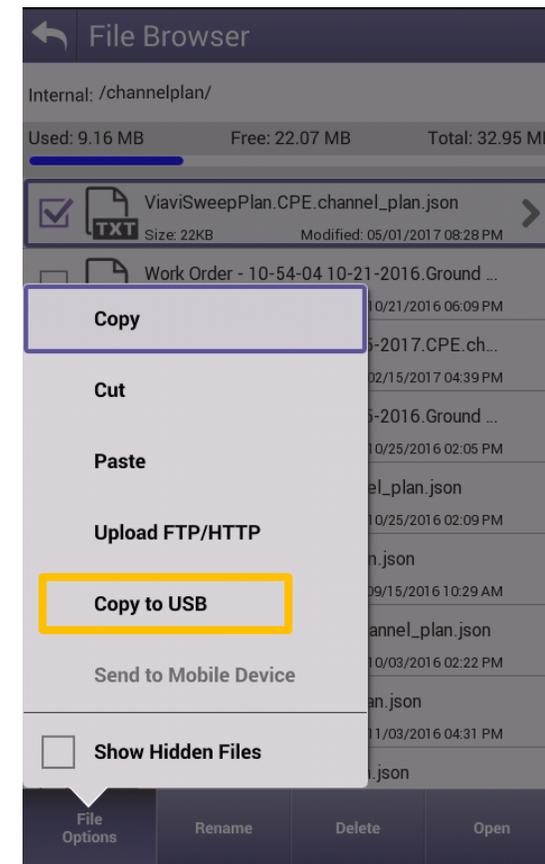
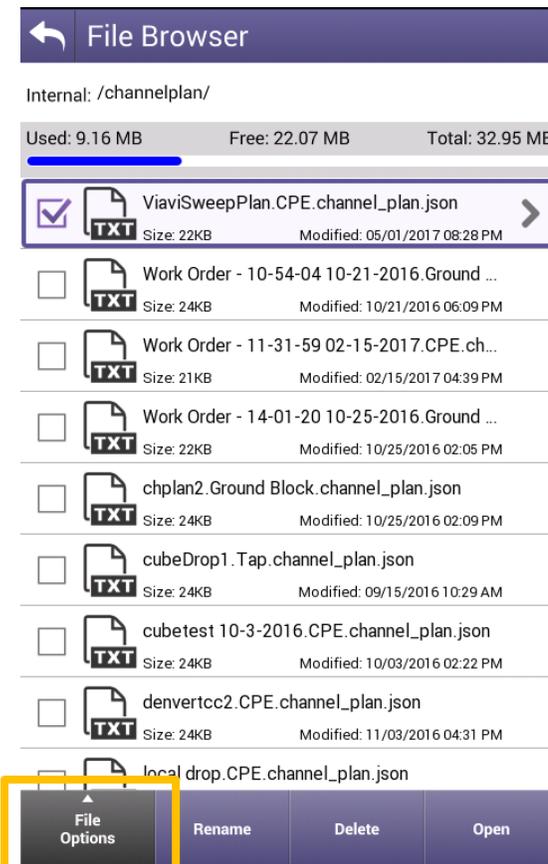
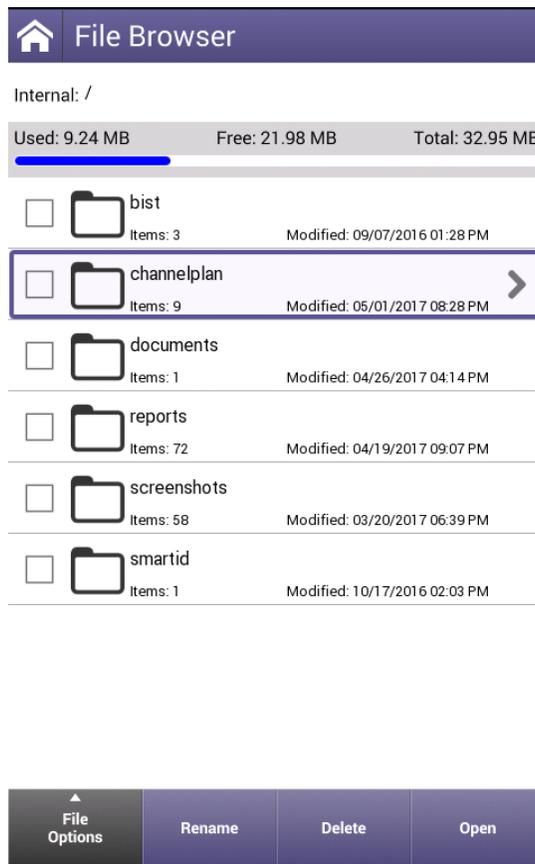
Insert USB Thumb Drive and Enter File Browser



- Now insert a USB thumb drive into either of the ONX-CATV's USB ports
- Find and Enter the “File Browser” mode

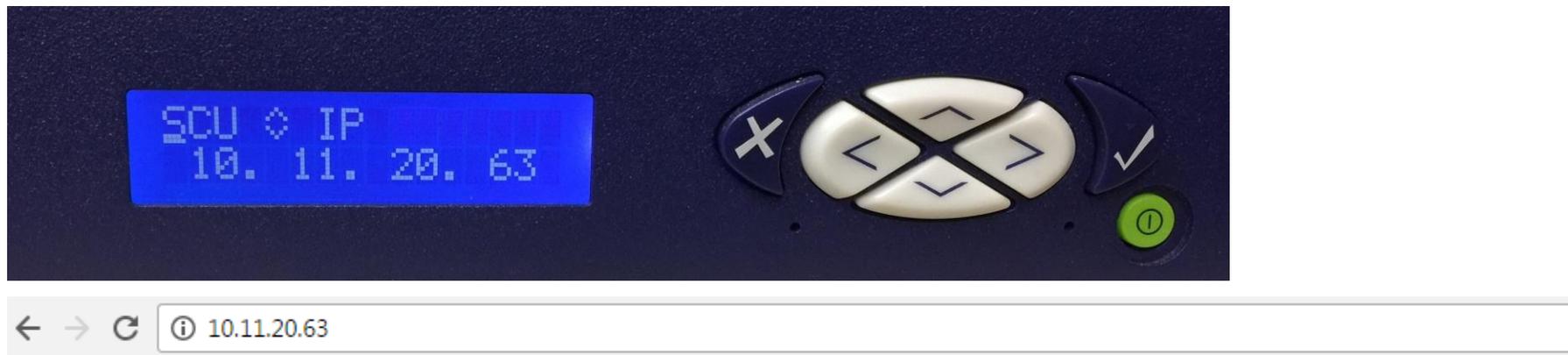
Navigate and Export Channel Plan to USB

- Once in the File Browser enter the “channelplan” folder
- Find the Channel Plan, labeled the same as the prior Work Order ID
- Open the File Options and Copy the file to USB
- The channel plan is now successfully exported onto the USB drive

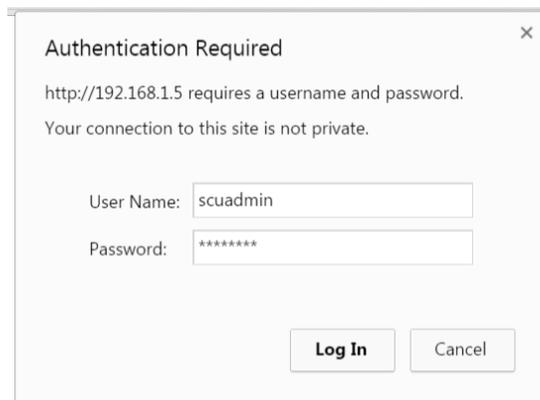


Logging into the SCU-1800

- On a computer with a USB drive, using a web browser navigate to the IP address on the front of the SCU-1800 that will be configured

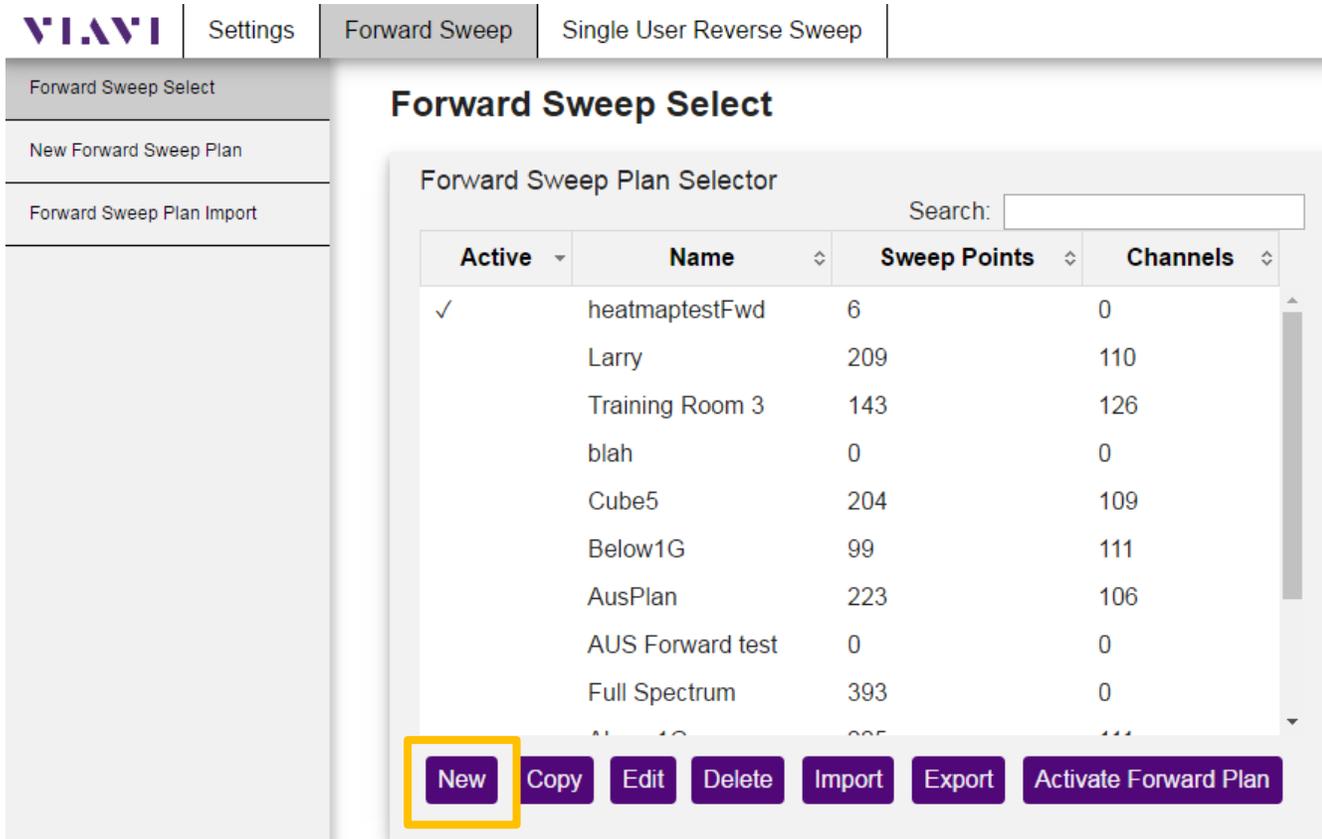


- When prompted, enter the SCU-1800 user name and password
 - Default Username is “scuadmin” and the default password is “scuadmin”

A screenshot of a web browser's authentication dialog box. The title bar reads "Authentication Required". The main text says "http://192.168.1.5 requires a username and password. Your connection to this site is not private." Below this, there are two input fields: "User Name:" with the text "scuadmin" entered, and "Password:" with "*****" entered. At the bottom, there are two buttons: "Log In" and "Cancel".

Creating a Downstream Sweep Plan

- Once in the SCU-1800 press the “Forward Sweep” button at the top 
 - This will show all the previously configured forward sweep plans and allow the user to create or edit forward sweep plans
- To create a new sweep plan, press the New Button



VIavi Settings Forward Sweep Single User Reverse Sweep

Forward Sweep Select

New Forward Sweep Plan

Forward Sweep Plan Import

Forward Sweep Select

Forward Sweep Plan Selector

Search:

Active	Name	Sweep Points	Channels
✓	heatmptestFwd	6	0
	Larry	209	110
	Training Room 3	143	126
	blah	0	0
	Cube5	204	109
	Below1G	99	111
	AusPlan	223	106
	AUS Forward test	0	0
	Full Spectrum	393	0
	Al... 1G	225	111

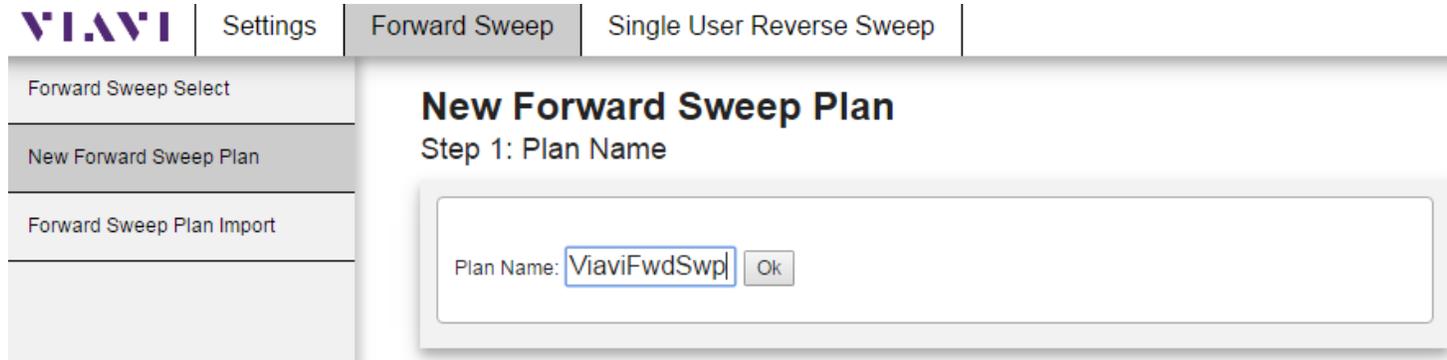
New Copy Edit Delete Import Export Activate Forward Plan

Note: Forward Sweep Plans can not exceed 500 total sweep points

- Combination of all Sweep Points and Channels configured

Label Sweep Plan and Import Active Channel Plan

- Now label the new forward sweep plan and press OK



VIavi | Settings | Forward Sweep | Single User Reverse Sweep

Forward Sweep Select

New Forward Sweep Plan

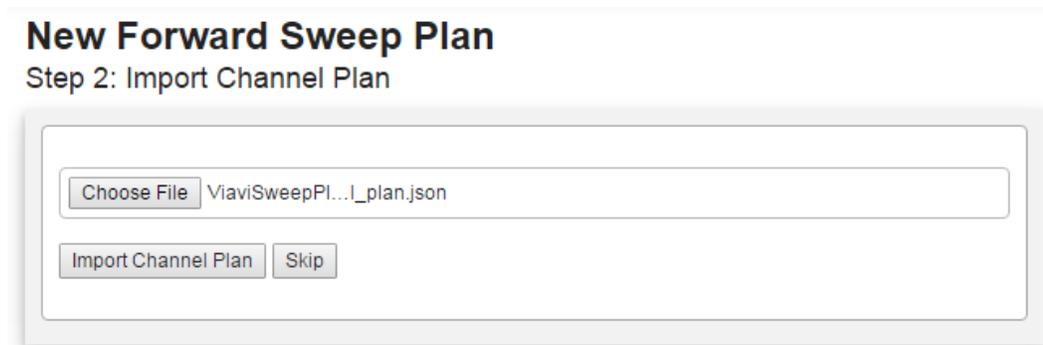
Forward Sweep Plan Import

New Forward Sweep Plan

Step 1: Plan Name

Plan Name:

- Take the USB drive out of the ONX and put it into the computer
- Press the “Choose File” button
- Navigate to the location of the ONX created Channel Plan and select the file
- Press the “Import Channel Plan” button



New Forward Sweep Plan

Step 2: Import Channel Plan

Adding or Deleting channels from the sweep plan

Plan Name: Back

Sweep Points List

Search:

Type	Frequency (MHz)	Span (MHz)	Level (dBmV)	Info
Channel	57.000	6	19.31	DIGITAL
Channel	63.000	6	20.12	DIGITAL
Channel	69.000	6	19.81	DIGITAL
Channel	79.000	6	19.45	DIGITAL
Channel	85.000	6	18.79	DIGITAL
Channel	99.000	6	19.46	DIGITAL
Channel	104.250	1.536	11.86	DIGITAL
Channel	111.000	6	19.99	DIGITAL
Channel	117.000	6	19.69	DIGITAL
Channel	123.000	6	19.70	DIGITAL

Point Count: 116 Delete Selection

Use level from channel plan build

Define Active Carriers in system which will be used as sweep points

Note: These carriers are not generated by the SCU but will be measured by the field instrument

Add Individual Active Channels to be used as sweep points

Note: These are active carriers that are to be used as measured sweep points by the field instrument but were not included in the channel plan import.

Channel Type: Center Frequency (MHz): Channel Bandwidth: Level (dBmV):

Add Channel

- The ONX saved channel plan will now be visible to the user and all identified channels will be listed in the “Sweep Points List” section
 - Currently existing channels can be deleted but can not be modified
- Enabling the “Use level from channel plan build” will send the “Level” per each channel to the field device so it can determine an approximate signal loss calculation between the headend and current field location
 - If not enabled, an unreferenced test will appear to have very large loss / attenuation when viewed in the Referenced tab on the ONX
- Additional active carriers can be added to the channel plan if needed

Adding standalone Sweep Points to the Sweep Plan

- Additional sweep points can be added to the sweep plan when vacant spectrum is desired to be used while performing sweep tests
 - Either as a contiguous range of sweep points
 - OR as individual sweep points
- Press the Back button when complete to save the plan

Define carriers to be injected by the SCU-1800

Note: These are pulsed sweep points generated by the SCU-1800 in unoccupied spectrum

Add Multiple Sweep Injection Points

Note: This function inserts a sweep point at the start frequency given and will inject a sweep point every XX MHz defined by the Sweep Carrier Spacing up to and including the Stop Frequency if the Stop Frequency lands on the spacing boundary. This function utilizes a 500kHz guard band spacing and will only insert sweep points where there is at least 500kHz available from any previously defined carrier or sweep point.

Valid Frequency Range: 42 - 1218 MHz Valid Carrier Spacing Range: 1 - 8 MHz

Start Frequency (MHz) Stop Frequency (MHz) Sweep Carrier Spacing (MHz)

Add Individual Sweep Injection Points

Note: These are pulsed sweep points injected by the SCU-1800. Recommended to have 500kHz available spacing for each point.

Center Frequency (MHz)

Activate Newly Created Plan

1. To activate the newly created Forward Sweep plan, find and select the name used during the plan setup then press the “Activate Forward Plan” button – currently active plan will have a check under “Active”
2. The active sweep plan and current status is also shown at the bottom of the display under “Forward Plan”

Forward Sweep Select

Forward Sweep Plan Selector

Search:

Active	Name	Sweep Points	Channels
✓	ViaviFwdSwp	49	115
	No Sweep Point Plan	0	126
	NoOFDMImport	0	98
	Full Dwn	185	0
	NoOFDMLessChs	0	73
	SWPCHPWR1	0	112
	SWPCHPWR	64	110
	500to1000	500	0
	NoSwpPoints	0	76

New Copy Edit Delete Import Export **Activate Forward Plan**

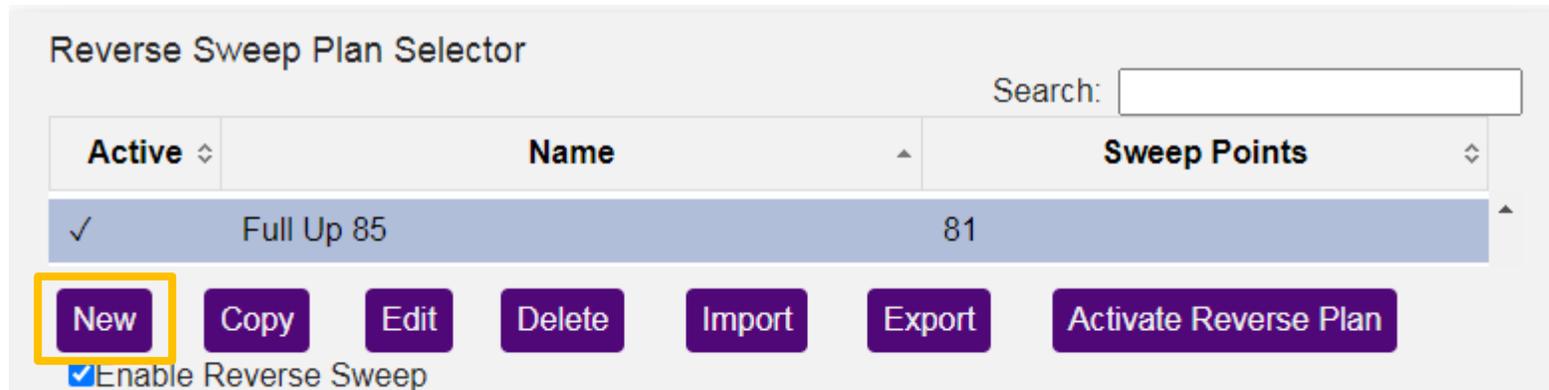
Forward Plan

ViaviFwdSwp
Not Running

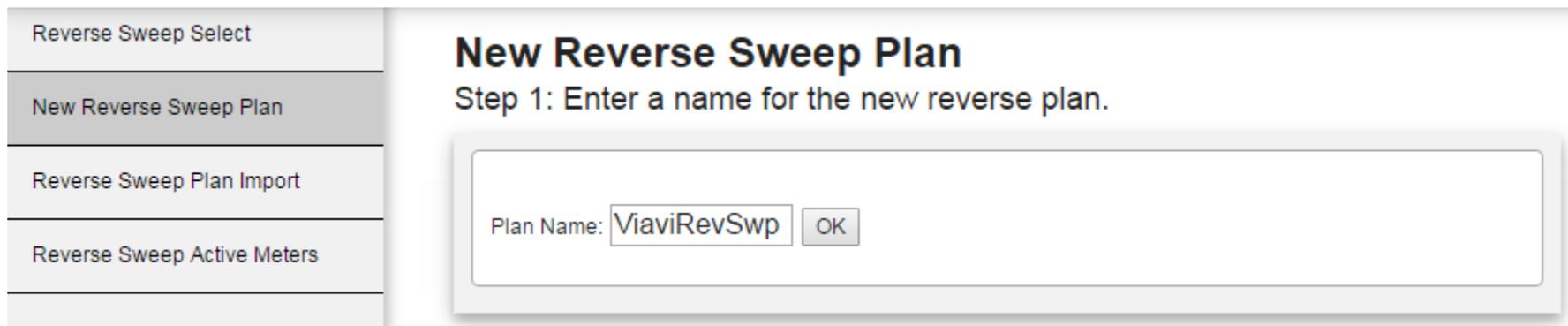
Creating a Reverse Sweep Plan

New Reverse Sweep Plan

- Press the New button from the Reverse Sweep Plan menu



- A “New Reverse Sweep Plan” will appear
- Create a new name for the reverse sweep plan and press OK



Adding Reverse Sweep Points

New Reverse Sweep Plan

Step 2: Add any additional reverse sweep points.

Plan Name: 3

Sweep Points List

Search:

Type	Frequency (MHz)
No data available in table	

Point Count: 0

Define carriers to be injected by the field meter

Note: These are pulsed sweep points generated by the field meter in unoccupied spectrum

Add Multiple Sweep Injection Points

Note: This function inserts a sweep point at the start frequency given and will inject sweep points at the interval given.

Valid Frequency Range:
4 - 204 MHz

Start(MHz): Stop(MHz): Step Size(MHz): 1

Add Individual Sweep Injection Points

Note: These are pulsed sweep points injected by the field meter. Recommended to have 500kHz available spacing for each point.

Center(MHz): 2

1. To create contiguous reverse sweep points, enter the Start and Stop frequencies (in MHz) along with the desired step size (in MHz) into the section labeled “Add Multiple Sweep Injection Points”
2. Individual sweep points can be added using the “Add Individual Sweep Injection Points” section
 - NOTE: The number of sweep points can not exceed 300 points so the start and stop frequencies and the step size must be a combination that is less than 300 total reverse sweep points
3. Press the Back button when done and the SCU will save the plan

Activating a Sweep Plan

Selecting a Forward Sweep Plan

Under the “Forward Sweep” menu:

- Find the desired sweep plan, highlight it by selecting it, then press the “Activate Forward Plan”
- When successful the forward sweep plan will have a Check Mark next to it

Forward Sweep

Forward Sweep Select

Forward Sweep Plan Selector

Search:

Active	Name	Sweep Points	Channels
✓	ViaviFwdSwp	70	112
	Larry	209	110
	Training Room 3	143	126
	blah	0	0
	Cube5	204	109
	heatmaptestFwd	6	0
	Below1G	99	111
	AusPlan	223	106
	AUS Forward test	0	0

New Copy Edit Delete Import Export **Activate Forward Plan**

Selecting a Reverse Sweep Plan

Under the “Single User Reverse Sweep” or “Multi-User Reverse Sweep” menu:

- Find the desired sweep plan, select it, then press the “Activate Reverse Plan”
- When successful the desired reverse sweep plan will have a Check Mark next to it

Single User Reverse Sweep

OR

Multi User Reverse Sweep



Reverse Sweep Select

Reverse Sweep Plan Selector

Search:

Active ▾	Name	Sweep Points
✓	ViaviRevSwp	294
	PeriodicFreq	10
	AusPlanRev	51
	LarrysRev3	207
	Larry Rev	37
	heatmaptest	24
	AlTest2	19
	heatmaptest2	11
	carl	82

Enable Reverse Sweep

New Copy Edit Delete Import Export **Activate Reverse Plan**

Activating and Deactivating Sweep

- Once both desired sweep plans are selected, they will be shown at the bottom of the display
- Press the **GREEN** “Start Sweep” button to activate the sweep functionality of the SCU-1800



SCU Name	Forward Plan	Reverse Plan	Active Meters	Start Sweep
AR-SCU-1800	ViaviFwdSwp <i>Not Running</i>	ViaviRevSwp <i>Not Running</i>	0	<i>Click to start Forward Sweep with Single User Reverse Sweep.</i>

- To stop the SCU-1800 from Sweeping press the **RED** “Stop Sweep” and the SCU will halt transmitting and receiving sweep pulses



SCU Name	Forward Plan	Reverse Plan	Active Meters	Stop Sweep
AR-SCU-1800	ViaviFwdSwp <i>Running</i>	ViaviRevSwp <i>Running: Single User</i>	0	<i>Sweep is currently running. Click to stop.</i>



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