

I-Stop Probe

What is the I-Stop probe?

The I-Stop probe is a device designed to fit into the KS port of hardline equipment allowing a CATV field technician to utilize the 20dB test point to test signal levels and isolate return ingress without impacting customer services. The I-Stop contains AC blocking circuitry that allows it to be connected to their signal level meter without introducing voltage to their test equipment (up to 100vac).

1. F type test point is used to measure RF levels from 5 MHz to 1.2 GHz with 20dB of attenuation.
2. Probe connects to hardline plant by utilizing a spring-loaded plunger type pin to access the seizure screws eliminating the need to remove hardline connectors.
3. Push button on body of probe is used to introduce a 4.5 – 8dB load on cable plant. Working only from 5 ~ 30MHz, the load introduced does not affect the forward path. The button is used to confirm that return ingress is downstream from the test location.

How to use the I-Stop probe

1. In some cases, it is necessary to measure signal levels or view the forward/return spectrum where there is no tap port or amplifier test points. The I-Stop probe allows a technician to connect to any KS port and test directly from the seizure screw. These locations will include; hard-line splitters, directional couplers, splice blocks and taps where all RF ports are in use. Connecting to a KS port gives the tech the ability to check levels/spectrum without disconnecting active customers and helps to avoid removing RF energy that could remove ingress built up at end of line terminators. To connect the I-stop probe for viewing levels/spectrum, follow the below steps.

I-Stop Specifications

| | | |
|-----------------|--|--|
| Insertion Loss* | from TAP input to output | < 1.5dB @ 5 ~ 50 MHz |
| | from TAP input to output with Button Depressed | < 3.5dB @ 50 MHz to 1.2 GHz < 1.5dB in any 150MHz span |
| Transmission* | from TAP input to I-Stop output | > = 4.5dB, < = 8dB @ 5 ~ 30 MHz <=1dB insertion loss increase @ 54 MHz to 1.2 GHz |
| | | 20 +/- 2.0 dB @ 5 MHz to 1.0 GHz; +/- 4.0 dB @ 1.0 to 1.2 GHz |

*Specs vary slightly on TAP manufactures



a. Connect I-Stop probe to KS port on equipment being tested (Figure 1)

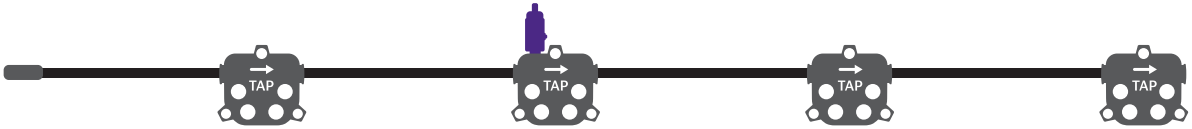


Figure 1 – I-Stop probe connected to KS port

b. Connect signal level meter to F type port on I-Stop probe (Figure 2)

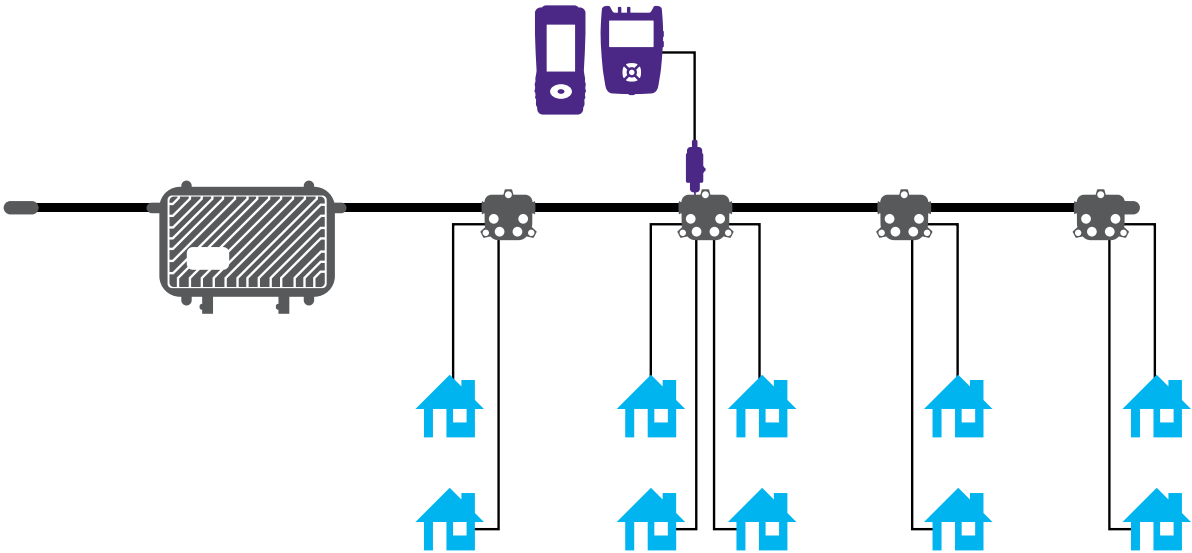


Figure 2 – Signal level meter connected to I-Stop probe

c. Set frequency range or channel plan for frequencies or channels to be tested

d. Set test point compensation on meter to 20dB

e. Conduct measurements

2. To isolate return ingress using remote monitoring system

a. Connect I-Stop probe to KS port on equipment being tested

b. Log into remote monitoring system using PC/laptop/tablet/Cell phone

c. Select correct node being monitored

d. Identify frequency and level of ingress (Figures 3 or 4)



Figure 3 – Ingress shown in VIAVI XPERTrak span 5-42MHz

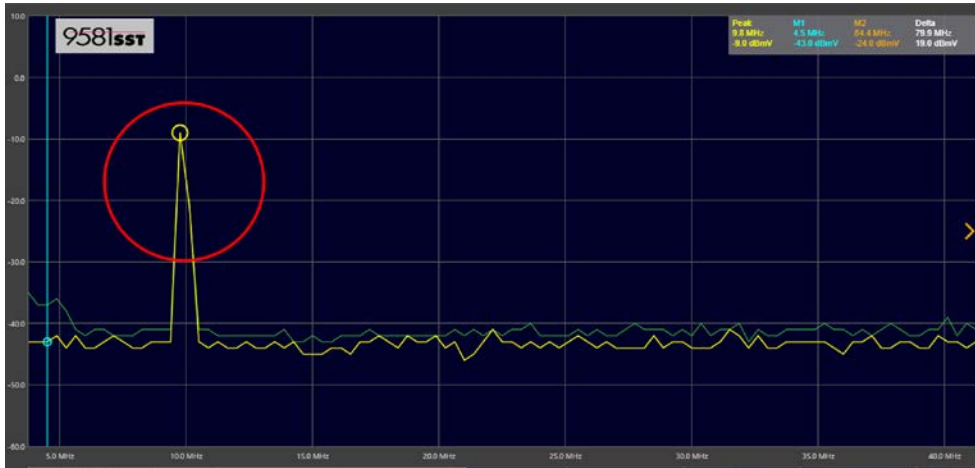


Figure 4 – Ingress shown on 9581 SST span 5-42MHz

e. Press and hold button on I-Stop probe

f. Check remote monitoring system to see if ingress lowers by 5dB (Figures 5 or 6)

g. If the ingress is downstream from the probe, the ingress will lower by 5db

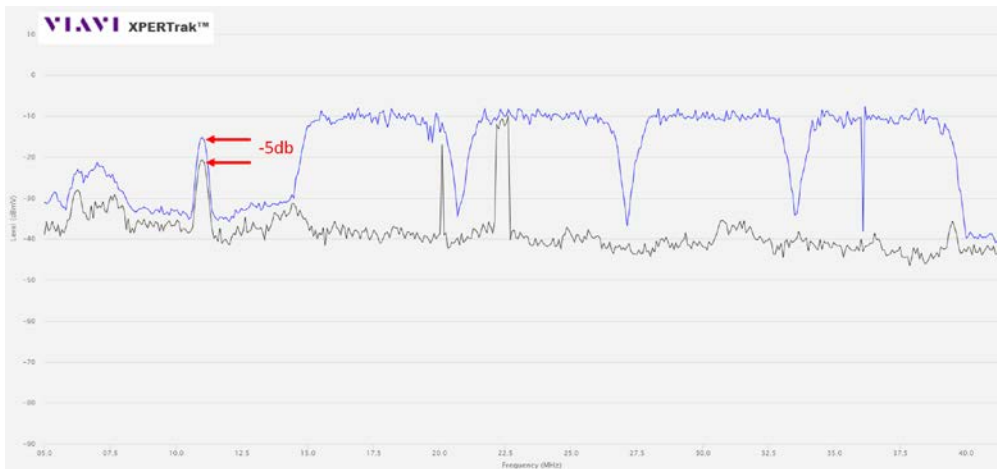


Figure 5 – XPERTrak ingress reduced with I-Stop button pressed

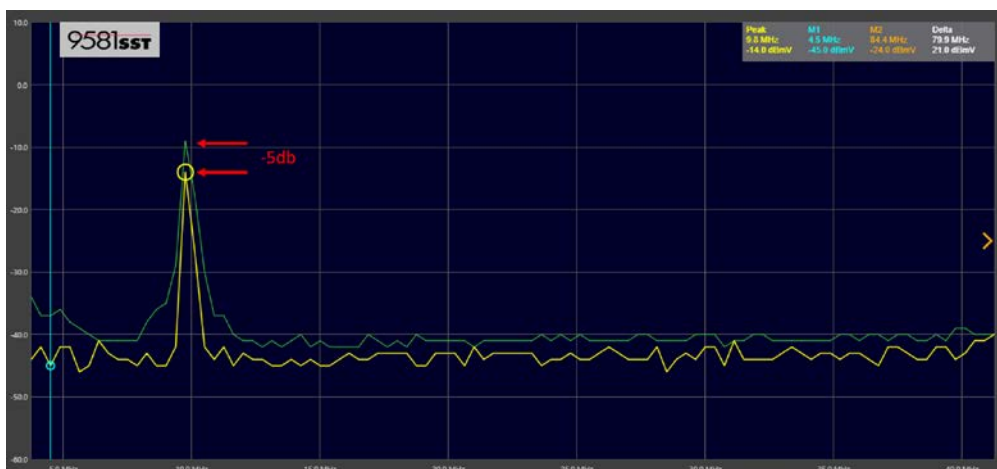


Figure 6 – 9581 SST ingress reduced with I-Stop button pressed

h. If the ingress is upstream from the probe, there will be no change

3. To isolate return ingress using SST compare on the 1G DSP
 - a. Connect the 1G to a forward signal test point or to the I-Stop probe
 - b. Select the SST compare icon from the Troubleshooting menu
 - c. Set link frequency to match the output frequency of the SST to be monitored
 - d. Select the node
 - e. The display will show both local spectrum and SST spectrum (Figure 7)

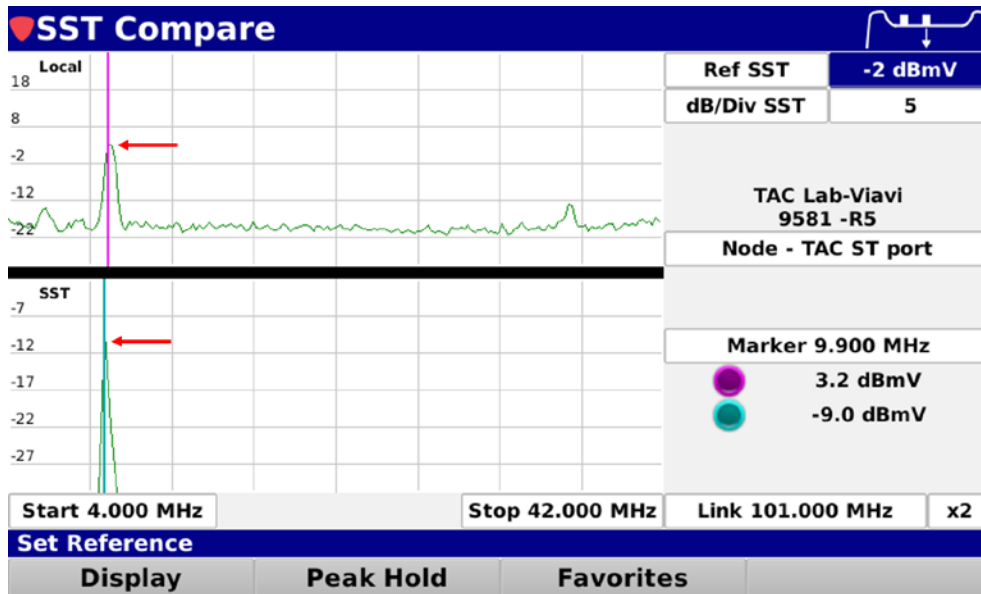


Figure 7 – 1G DSP displaying local and SST ingress from 4- 42MHz

- f. Press and hold the I-Stop button
- g. If the ingress is downstream from the testing location, the ingress will drop 5dB on the SST portion of the screen (Figure 8)

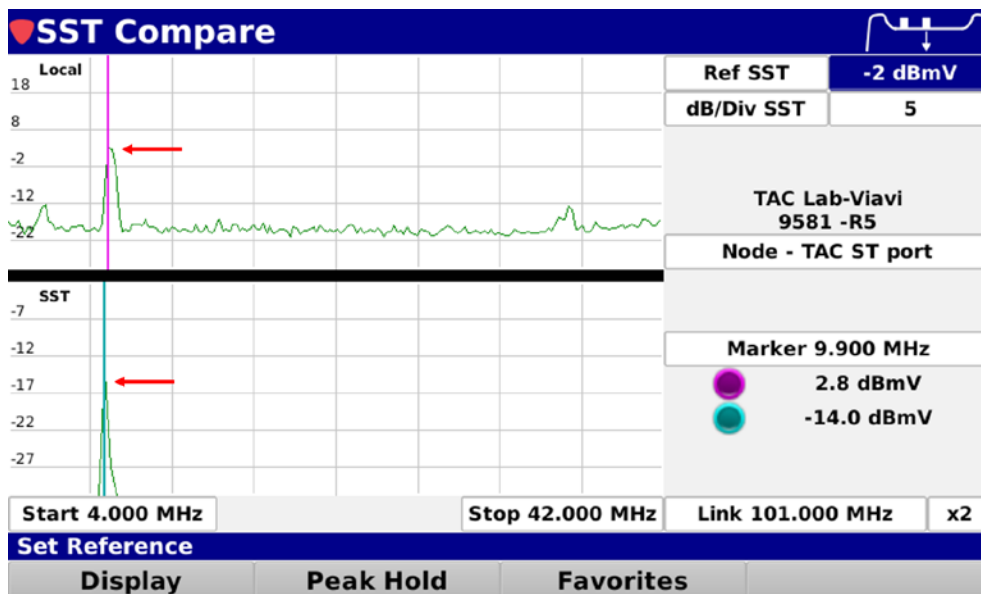


Figure 8 – 1G display shows 5dB drop in bottom half of screen

h. If the ingress is upstream from the probe, there will be no change

4. To isolate return ingress using Field View on an ONX-630

- a. Connect I-Stop probe to KS port on equipment being tested (Figure 1)
- b. Connect signal level meter to F type port on I-Stop probe (Figure 2)
- c. Select Field View from CATV Network menu
- d. Select Configure button from bottom left area of screen (Figure 9)

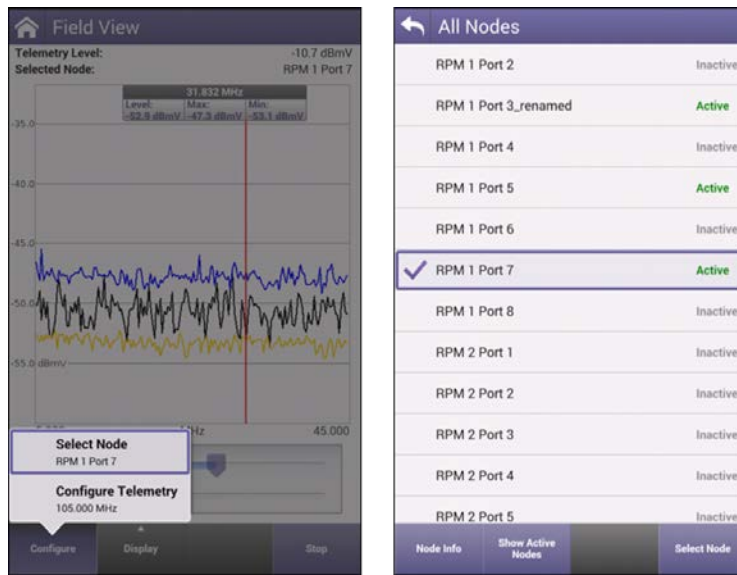


Figure 9 – ONX 630 Field View screen showing configure options

- e. Select Configure Telemetry from pop up list
- f. Set downstream frequency of HSM
- g. Select Configure button from bottom left area of screen (Figure 9)
- h. Choose select node option from pop up list
- i. Select node to be monitored (Note: Node must be set to broadcast in PathTrak prior to selecting from list in Field View)
- j. Identify frequency and level of return ingress (Figure 10)

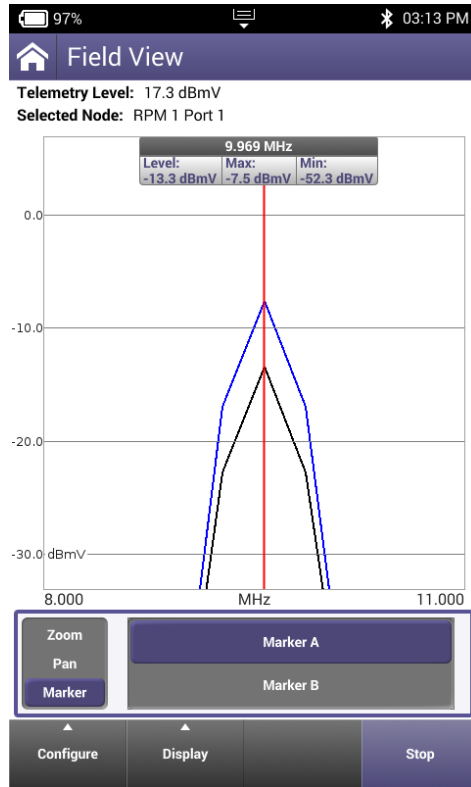
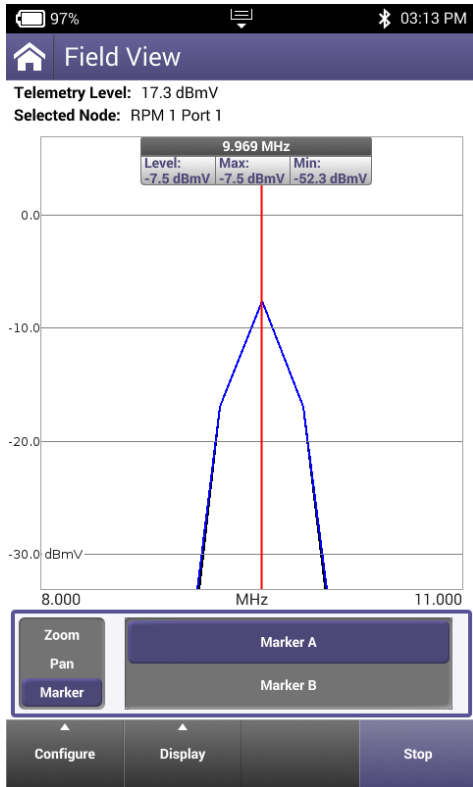


Figure 10 and 11 – ONX 630 showing return ingress with span set to 8-11MHz, and 6db drop with I-Stop button pressed

k. Press and hold the I-Stop button

l. If the ingress is downstream from the testing location, the ingress will drop 5dB (Figure 11)

m. If the ingress is upstream from the probe, there will be no change