

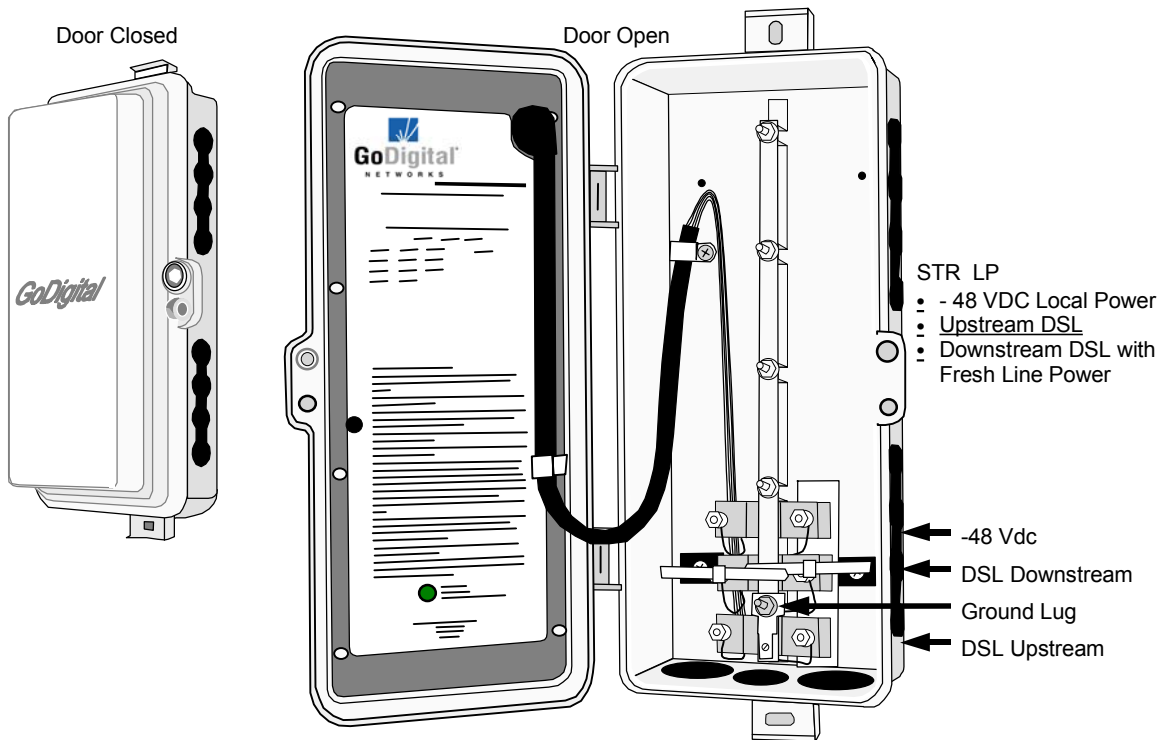
1. Purpose

This document provides installation instructions for each XCel/GDSL STR LP. Installation instructions are also included on the inside of the lid of the STR LP units. This document is provided with each STR LP shipped to customers and is also available separately. In addition, an up to date copy is included as an attachment to the **System Practice** with each XCel/GDSL COT Shelf shipped. GoDigital recommends that one copy of the complete **System Practice** be kept in each Central Office that is equipped with XCel/GDSL Systems.

2. Products

This Installation Note is relevant for the following GoDigital products:

System / Product Name	Part #	Description
XCel-8 , GDSL-8 and GDSL-3i Systems		
STR LP 190V 544	990110	STR w/ -48V Loc. Pwr. for XCel-8, ±190V DSL, STD Loop Test
STR LP 130V 544	990170	STR w/ -48V Loc. Pwr. for XCel-8, ±130V DSL, STD Loop Test
STR LP 130V 544 M9	990250	STR w/ -48V Loc. Pwr. for XCel-8, ±130V DSL, w/ MDT
XCel-12 Systems		
STR LP 190V 784	990242	STR w/ -48V Loc. Pwr. for XCel-12, ±190V DSL
STR LP 130V 784	990180	STR w/ -48V Loc. Pwr. for XCel-12, ±130V DSL



3. Overview

A Straight through Repeater Local Power (STR LP) is used to repeat a XCel/GDSL loop signal and to provide fresh line power for downstream elements. The STR LP is powered locally from a -48 VDC power source, and is packaged in a standard GoDigital gray plastic housing with flanges for pole or wall mounting. The installation instructions on the lid specify the TIP and RING pairs, the power pair and GROUND connections.

Installation Note

Straight Through Repeater Local Power (STR LP)



4. Summary of Engineering and Installation Steps

1. Verify that the loop has been designed in accordance with the GoDigital Configu8r™ System Design tool, with the proper loop span reach.
2. Mount the STR LP housing to a pole, or other designated mounting location.
3. Ground the STR LP unit properly to an adequate local ground.
4. Connect the upstream DSL pair to the unit.
5. Connect the downstream DSL pair to the unit.
6. Connect the –48 Volt DC power pair to the unit.
NOTE: The STR LP is polarity sensitive to the –48Vdc power supply and will not power-up if polarity is reversed.
7. Apply power by turning on the –48VDC power supply to the unit.
8. After the loop is completely built, initiate linking by seating the CTU in the Central Office.
9. The STR LP will automatically link in the standard XCel/GDSL linking process.

5. Grounding

- 5.1 Properly ground the unit using the ground connection inside the box. The ground connection lug will support up to a #6 AWG conductor.

CAUTION: XCel/GDSL Outside Plant (OSP) elements require that proper grounding techniques are used in accordance with standard telco and local practices for proper operation and lightning protection. The STR LP requires a 25 ohm resistance or less, equipment to earth ground. Units not properly grounded will be subject to damage from lightning and power surges and are not covered by warranty.

CAUTION: Do NOT use a cable sheath ground to ground OSP devices. The ground must be established to a properly installed ground rod.

- 5.2 Verify that the ground established is in accordance with standard and local practices with respect to the OSP element, the ground wire clamp and the earth ground rod.

6. Identification of Upstream and Downstream DSL Cable Pairs

The installation instructions on the lid of the unit specify the color-coded DSL and Ring/Tip wiring.

NOTE: The XCel/GDSL system is not sensitive to Tip and Ring polarity.

- 6.1 If you do not know which cable pair goes toward the central office (Upstream) you can:
- Request that the system be powered up in the office and look for the presence of the DSL powering voltage on the upstream pair, or
 - Request the upstream pair be shorted and use your Volt/Ohm meter to detect the correct pair.

7. Turn-up and Link-up

Once the Upstream and Downstream DSL pairs are properly connected and the STR LP is powered by the local power supply, the linking process will start. If the loop or span is within the specified distance limitations and is free of load coils the linkup will be completed typically within 3 minutes. Please allow 5 minutes for completion of the linkup before beginning troubleshooting procedures.

NOTE: OSP units downstream of from the STR LP will not begin to link until the STR LP and all upstream units have linked.

8. LED indications

The Green LED in the faceplate of the STR LP unit three standard states for installation and troubleshooting support.

8.1 Green LED – BLINKING two (2) times per second, constant rate

The unit detects a signal from an upstream element and is attempting to link.

8.2 Green LED – SOLID ON

The unit is linked with an upstream element.

8.3 Green LED - SOLID ON, but ‘BLINKS’ out once every five (5) seconds

Linked upstream but not linked downstream.

9. Trouble Conditions

If the DSL pair is NOT connected in accordance with the above (Identification of Upstream and Downstream cable pairs) such that the Upstream and Downstream connections are reversed, please note that the following LED indications will exist:

9.1 If no other Upstream elements (either STR, STRM, STR LP, or ADR) exists between the STR LP and the Central Office the following LED condition can be observed:

- **LED Indication:** The LED will blink on and off (2 per second) continuously, but
- The LED will power down every 3 - 4 minutes for approximately one (1) minute in duration.
- The linking process will begin again after the one minute power down period and continue to repeat until reversal is cleared.

9.2 If one or more Upstream or a Downstream elements (either STR, STRM, STR LP, or ADR) exist and is connected in the DSL loop:

- **LED Indication:** The LED will blink on and off (2 per second) continuously.
- There will be no power down cycle.

NOTE: This is the same LED indication that will be seen if the loop distance is too great or if a load coil exists in the DSL loop.

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