

1. Purpose and Overview

This document is provided with each line powered RTU 12P unit as an installation aid. Installation instructions are included on the inside of the lid of the RTU. This supplement provides timely updated and/or additional information that may not yet be incorporated into the lid instructions.

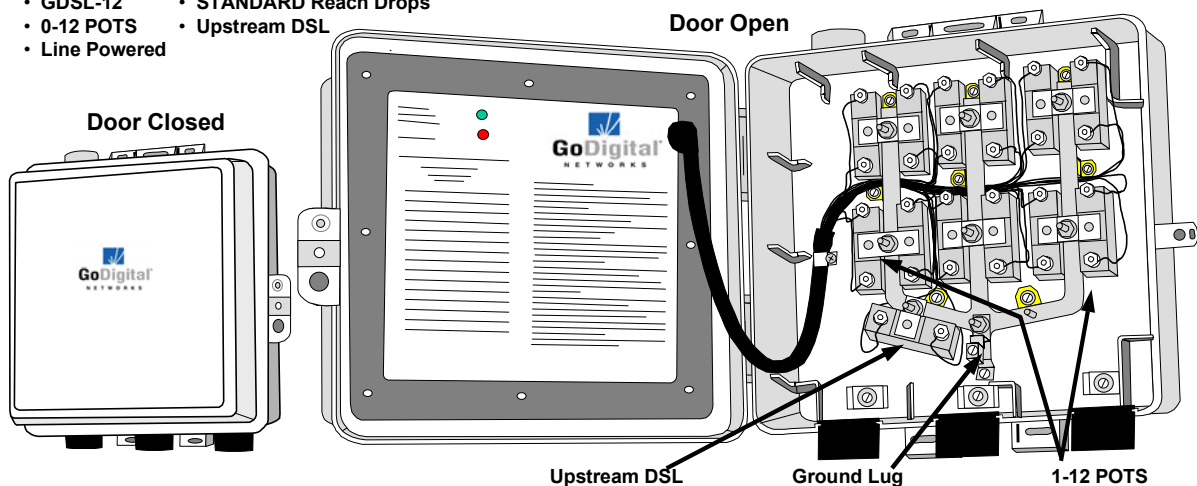
2. Products

This Installation Note is relevant for the following GoDigital products:

System / Product Name	Part #	Description
XCel-12 Systems with STANDARD Loop Test		
RTU 12P 784	990115	XCel-12 RTU, 0 - 12 POTS Lines
XCel-12 Systems with Mechanized Drop Test (MDT)		
RTU 8P 784 M9	990145	XCel-12 RTU, 0 - 12 POTS Lines, w/ MDT

RTU 12P

- GDSL-12
- 0-12 POTS
- Line Powered
- STANDARD Reach Drops
- Upstream DSL



3. Overview

RTU units are packaged in standard GoDigital gray plastic housing with flanges for pole or wall mounting. The RTU units have an upstream DSL and service line drops. All pairs have separate protectors in the base and are labeled. The installation instructions on the lid specify the TIP and RING pair and GROUND connections. An RTU 12P has twelve standard POTS drops. There are no provisioning switches in the RTU. All twelve lines are available at the unit. However, if an ADR is upstream, the previously selected lines (at the ADR) will not be available at the RTU.

4. Summary of Engineering and Installation Steps

1. Verify that the loop has been designed in accordance with the GoDigital Configur8r™ System Design tool, with the proper loop span reach.
2. Mount the RTU housing to a pole, or other designated mounting location.
3. Ground the RTU unit properly to an adequate local ground.
4. Connect the upstream DSL pair to the RTU unit.
5. Connect the drops to the drop protector terminals. Zero to twelve (0 to 12) drops as appropriate.
6. If ADRs are upstream in the loop, reconfirm that no conflict exists in the ADR channel selection for the specifically desired drops at the RTU.
7. After the loop is completely built, apply power by seating the CTU in the Central Office.
8. The RTU will automatically link in the standard XCel linking process.

Installation Note

RTU 12P 784: XCel-12 Remote Terminal Unit



5. Installation Highlights

- 5.1 The installation instructions are on the inside lid of the enclosure
- 5.2 Verify that the ground established is in accordance with standard industry and local practices with respect to the OSP element, the ground wire clamp and the earth ground rod.

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

CAUTION: XCel Outside Plant (OSP) elements require proper grounding in accordance with standard telco and local practices for reliable extended operation and lightning protection. Units not properly grounded will be subject to damage from lightning and power surges and are not covered by warranty.

6. XCel-12 System Reach & Planning

- 6.1 **Span Reach.** Make certain the Configur8r Software tool used for planning loops that include use of RTU 12P units is current.

NOTE The Configur8r software tool is the ONLY planning tool that can properly support the power and performance engineering of a XCel-12 System. Do NOT engineer a XCel-12 loop without the proper Configur8r. XCel-12 System loops should not be installed without using the Configur8r software tool.

- 6.2 **Drop Reach.** See Table 1 for STANDARD Drop Reach with the RTU 12P.

The XCel Configur8r System Design software tool automatically makes adjustments based on the number of drops assigned and will assume that all drops are at maximum range.

RTU 12P STANDARD Drop Reach

Table 1 provides the standard reach drops. This Standard supports drops with resistance of 560 ohms. This includes 430 ohms for the CPE leaving 130 ohms for the drop pair.

STANDARD Reach Drops (130 Ohms)		
26 Ga.	Drop Reach	1,400 ft
	Calculated Res.	130 Ohms
24 Ga.	Drop Reach	2,230 ft
	Calculated Res.	130 Ohms
22 Ga.	Drop Reach	3,550 ft
	Calculated Res.	130 Ohms
19 Ga.	Drop Reach	7,110 ft
	Calculated Res.	130 Ohms
* Standard Reach is always limited by drop power available and resistance (560 ohms total = 430 ohms for CPT + 130 Ohms for drop).		

Table 1

7. Turn-up and Link-up

Once the Upstream DSL pair is properly connected and the loop is powered by the XCel-12 line card or CTU, 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 three minutes. Please allow five minutes for completion before beginning troubleshooting.

7.1 An Upstream or a Downstream element (STR or ADR) exists and is connected in the loop. **LED Indication:** The LED will blink on and off (1 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.

8. LED indications

8.1 Green LED - blinking several times per second, constant rate

The unit is receiving power 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 – fast blink, 4 times per second

A customer served from this location is off-hook.

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