Quick Start

Figure 1. 621i ONT

DESCRIPTION

The 621i XGS-PON ONT is a Single Family Unit (SFU) Optical Network Terminal (ONT) that leverages XGS-PON technology for delivering premium 1 Gbps Ethernet services.

> **i** **NOTE**
> The "i" in 621i designates that the customer UNI is a 1 Gbps Ethernet interface, as opposed to a 10 Gbps Ethernet interface on the non-i version.

The 621i ONT is an indoor unit that supports up to 1 Gbps data rates.

This document supports the following versions of the 621i ONT.

Description	P/N
621i XGS-PON ONT with NA power adapter (included)	1287844F1
621i XGS-PON ONT with UK power adapter (included)	1287844F2
621i XGS-PON ONT with EU power adapter (included)	1287844F3
621i XGS-PON ONT with AUS/NZ power adapter (included)	1287844F4

Figure 1 illustrates the front LED display.

FEATURES

The basic features of the 621i ONT include the following:

- 10 Gbps XGS-PON SC/APC connector (WAN)
- 1 Gbps Ethernet (RJ-45) Customer Interface
- Remote activation and deactivation
- Remote firmware upgrades and downgrades
- Remote OMCI management as per ITU-T G.988

Refer to the following table for a description of each feature in Figure 2.

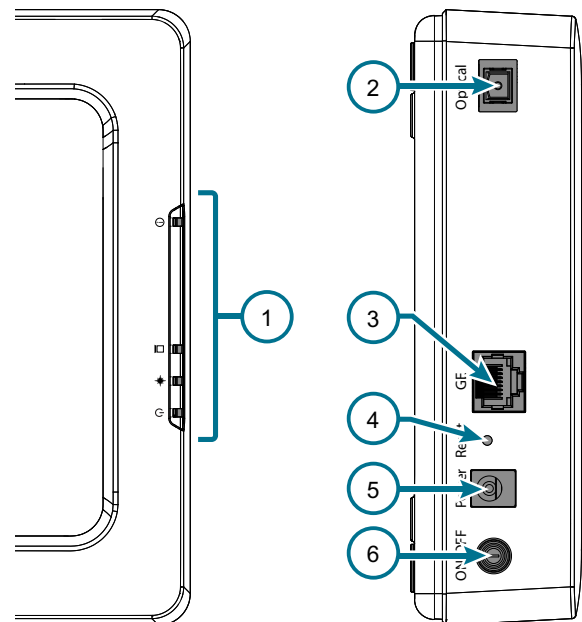| Callout	Description
1	LEDs
2	10 Gbps XGS-PON SC/APC connector (WAN)
3	1 Gbps Ethernet interface
4	Reset Button
5	Power Connection for the Supplied AC to DC Power Converter (12 V)
6	On/Off button

Figure 2. ONT Interfaces

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Power

Power is provided by a 12 V DC Power Adapter that is included with the 621i ONT. The power adapter operates from a power source of 100 - 240 V AC, 50 - 60 Hz. For the United States and Canadian applications, an NRTL Listed Limited Power Source (LPS) is needed. For deployment in international applications, an LPS specifically approved for that country, as indicated by a CE Mark, is needed.

Resetting the ONT

A reset button is available if the 621i ONT needs to be rebooted. To reset the 621i ONT, press the RESET button for 5 seconds or longer.

INSTALLATION

After unpacking the unit, inspect it for damage. If damage is noted, file a claim with the carrier and then contact ADTRAN. For more information, refer to the warranty.

Installation Guidelines

The following are guidelines for basic installation of the 621i ONT. Be sure to route and secure the fiber and cables in a manner that will prevent damage.

⚠ **WARNING!**

Read all warnings and cautions before installing or servicing the 621i ONT.

Installation Overview

To install the 621i ONT, you will need to complete the following steps:

- "Step 1: Install the 621i ONT"
- "Step 2: Connect Ethernet"
- "Step 3: Connect Fiber"
- "Step 4: Connect Power"

Required Tools:

Standard technician tools and those listed below are required for installing the 621i ONT.

- Optical power meter with wavelength filtering
- Fiberscope or videoscope
- #2 Phillips-head screw driver
- Drill
- 1/4-inch drill bit
- Hammer

For fiber optics connections, the following is required:

- ODC Fiber Cleaning Tool

Step 1: Install the 621i ONT

There are two options to install the 621i ONT: Desk Top and Wall Mount. Options are described below.

ℹ **NOTE**

Included with the 621i ONT is a 5-foot (1.5 m) power cord. All installation locations should be within 5 feet (1.5 m) of a wall outlet.

Desk Top Installation

The 621i ONT can be located on a desktop.

⚠ **WARNING!**

Ensure that the 621i ONT does not come in contact with water or other liquids.

⚠ **CAUTION!**

Ensure that the 621i ONT is not located in direct sunlight or next to any thermal obstructions.

Wall Mounting

Refer to Figure 3 when installing the 621i ONT on a wall.

1. Decide on a location for the 621i ONT. Mount below eye-level so the LEDs are visible.

ℹ **NOTE**

The equipment has been tested and approved according to applicable product safety standards that allow mounting heights up to 6.6 ft (2 m).

ℹ **NOTE**

Supplied hardware is intended for drywall mounting only. For mounting on surfaces other than drywall, obtain the appropriate mounting hardware and follow the provided instructions.
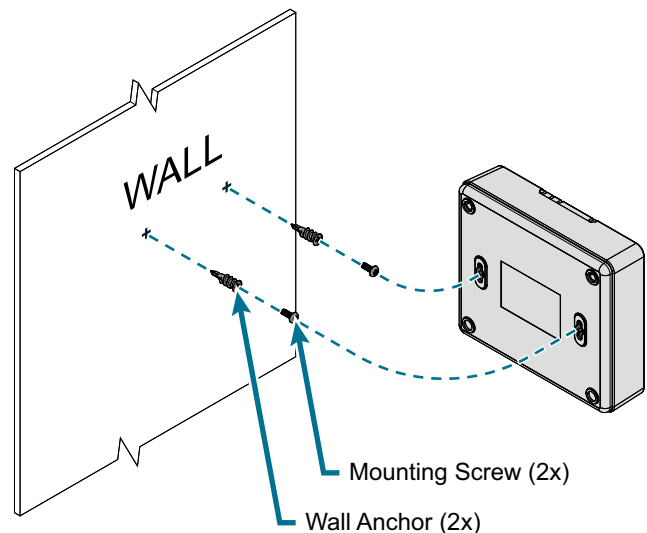

Figure 3. Wall Mount Installation

2. Use the keyholes on the rear of the 621i ONT as a template and mark the wall accordingly.

3. Drill holes using a 1/4" drill bit into the marks on the wall.

4. Use a hammer to lightly tap the included wall anchors into the drilled holes until anchor is flush with the wall.

5. Install two screws (included) into the anchor heads. Leave approximately 1/4 inch (6 mm) protruding from the mounting surface.

6. Slide the 621i ONT over the screws and exert a small amount of downward pressure to ensure that the top of the slots are resting on the shafts of the screws.

ⓘ NOTE
Alternately, wall anchors are not needed if mounting directly to wall studs.

Step 2: Connect Ethernet

⚠ CAUTION!
The product is intended for indoor use only. Ethernet and Voice cables, and attached equipment are intended for use within the same building with equipotential bonding, and not intended to be placed in separate buildings or structures. Failure to deploy as described could result in permanent damage from lightning or other electrical events and voids the warranty.

Refer to Figure 2 and insert a Category 5e (or better) Ethernet cable into the port labeled **GE** until there is an audible "click".

Step 3: Connect Fiber

⚠ CAUTION!
To prevent breaking the fiber, do not exceed the fiber bend radius of 3.5 in (8.9 cm).

☀ CAUTION!
LASER RADIATION - 1260 nm to 1580 nm

Do not view directly with optical instruments.

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Fiber is installed in an SC/APC connector (**OPTICAL**) located on the rear of the 621i ONT (see Figure 2). Complete the following steps to install fiber.

1. Remove the Dust Cover from the SC/APC Connector.

2. Clean the end of the Incoming Fiber Connector.

3. Before installing the fiber, use an optical power meter to measure the dB power. The level should not exceed –8 dB. Use an appropriate bi-directional optical attenuator if the power levels are at or above –9 dBm. A level between –12 and –27 dBm is acceptable.

4. Connect the Incoming Fiber Connector.

Step 4: Connect Power

To connect power to the 621i ONT, complete the following steps:

1. Plug the supplied 12 V AC/DC Power Adapter into the **12V** connection on the rear of the 621i ONT.

2. Connect the Power Adapter to a standard 100 - 240 V AC outlet.

3. Press the **POWER** button to turn the 621i ONT on.

4. Verify power is on by checking the power LED on the 621i ONT. The LED should be green, indicating local power is on.

ⓘ NOTE
ADTRAN recommends only using the DC power adapter that is provided with the unit.

⚠ CAUTION!
For United States and Canadian applications, the DC Power Adapter must be an NRTL Listed LPS power supply. For International applications, the DC Power Adapter must be an LPS power supply specifically approved for that country.

LEDs

When the 621i ONT first powers up it performs self-tests. Once the power up self-tests are complete, the status LEDs will reflect the state of the hardware. The table below details the status indicated by the LEDs.

LED	Status		Indication
Power ⏻	○	Off	Power is off
	●	Green	Power is on, self-test passed, normal operation
	✳	Green Flashing	Unit is powering up
Optical ✴	●	Green	ONU ranged, authenticated, and configured with services
	✳	Green Flashing (Fast)	ONU is ranging and synchronization process is in progress
	✳	Green Flashing (Slow)	ONU ranged and authenticated but not configured with services
	●	Red	PON is down due to LOF/LOS
LAN 💻	○	Off	No Ethernet connectivity
	●	Green	Ethernet connectivity present, no activity
	✳	Green Flashing	Ethernet connectivity present, activity detected. Interface operation state is up and packets Tx/Rx detected on the interface

LED	Status		Indication
Alarm/ Update ⓘ	○	Off	No alarm detected
	●	Green	ONU software download complete and software upgrade in progress. ONU LED will turn off once upgrade is successful
	✴	Green Flashing	ONU software download in progress
	●	Red	ONU is powered up and PON operational state is up and ONU software upgrade failed. New ONU software not operational due to any of the following reasons:

- Software image download failed
- Software image flash write failed
- Software image activation failed
- Software image commit failed

SPECIFICATIONS

Specifications for the 621i ONT are as follows:

- Electrical
  - ♦ Input: 12 V DC, 0.5 A
  - ♦ Maximum Power Consumption: 6 W
  - ♦ Power Supply Adapter: 12 V DC Power Adapter (LPS)
    - Input Voltage Rating: 100 - 240 V AC
    - Output Voltage Rating: 12 V DC
    - Output Current Rating: 0.5 A (minimum)
- Optical
  - ♦ TX Power: +4.0 dBm to +9.0 dBm
  - ♦ RSSI max sensitivity: –28.0 dBm
  - ♦ RX overload: –9.0 dBm
  - ♦ TX wavelength: 1270 nm typical
  - ♦ RX wavelength: 1577 nm typical
- Physical
  - ♦ Height: 1.7 in (4.3 cm)
  - ♦ Width: 6.1 in (15.5 cm)
  - ♦ Depth: 5.3 in (13.4 cm)
  - ♦ Weight: 0.75 lbs (338.6 g)

- Environmental
  - ♦ Operational Temperature Range: 0°C to +40°C
  - ♦ Storage Temperature Range: –40°C to +70°C
  - ♦ Relative Humidity: up to 95%, noncondensing

MAINTENANCE

The 621i ONT does not require routine hardware maintenance for normal operation. ADTRAN does not recommend that repairs be attempted in the field. Repair services may be obtained by returning the defective unit to ADTRAN. Refer to the warranty for further information. Field support for software is provided through upgrade facilities.

SAFETY AND REGULATORY

Refer to the Safety and Regulatory Notice for this product (P/N: 61287844F1-17) for detailed safety and regulatory information.

Consultez l'avis sur la sécurité et la conformité à la réglementation pour ce produit (61287844F1-17) pour obtenir des renseignements détaillés sur la sécurité et la réglementation.

Ausführliche Sicherheits- und regulatorische Informationen sind in der Konformitätserklärung zur Sicherheit und Einhaltung von Normen zu diesem Produkt (61287844F1-17) aufgeführt.

Documentation for ADTRAN Network Solutions products is available for viewing and download directly from the ADTRAN Support Community website.

Go to: https://supportforums.adtran.com/welcome

Registration is required.

ADTRAN offers training courses on our products, including customized training and courses taught at our facilities or at customer sites.

For inquiries, go to: https://www.adtran.com/index.php/training

The following online documents and resources provide additional information for this product:

CAUTION!
SUBJECT TO ELECTROSTATIC DAMAGE OR DECREASE IN RELIABILITY
HANDLING PRECAUTIONS REQUIRED

ADTRAN CUSTOMER CARE:
From within the U.S.   1.888.423.8726
From outside the U.S. +1 256.963.8716
PRICING AND AVAILABILITY 1.800.827.0807

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