UIM-1000T
Gigabit Ethernet Uplink Interface Module

> **CAUTION** Net to Net Technologies strongly recommends the use of proper electrostatic discharge (ESD) precautions when handling this equipment.

1.0 INSTALLATION

1.1 Unpack and Inspect the Equipment

The following components should be included:

- 1 UIM-1000T
- 4 #6 Phillips Panhead Nylon Locking Screws
- 2 #6 Phillips Beige Flathead Screws

If there is visible damage, do not attempt to install the UIM-1000T; contact Customer Support at 1-877-638-2638 (001-603-427-0600 for international customers) or Support@NetToNet.com.

1.2 Install the UIM-1000T on a Multiplexer Uplink Module (MUM2000-2)

An uplink interface module (UIM) provides the upstream network connection, via a MUM, for Net to Net Technologies' IP DSLAMs; neither an IP DSLAM nor a MUM can function without a UIM.

> **NOTE** The MUM2000-2 is currently Net to Net's only multiplexer uplink module capable of supporting the UIM-1000T.

- Select a port on the MUM2000-2 for installation of the UIM-1000T: either port (1 or 2) may be used. Although not required for operational purposes, if redundancy is desired two UIMs may be installed on a MUM2000-2, one in each port.

- Remove the blanking plate from the selected port.

> **CAUTION** Blanking plates should be stored for possible future use: if a UIM-1000T is removed from the MUM2000-2, it must be replaced with either another UIM or a blanking plate. DO NOT OPERATE THE MUM2000-2 WITH AN OPEN UIM PORT.

- Carefully slide the faceplate of the UIM-1000T under the lip of the MUM2000-2 faceplate at the selected port opening such that the UIM-1000T circuit board is facedown and the label shows through the MUM2000-2 port opening with the UIM-1000T model name along the right-hand edge.

- Ensure that the mounting holes on the UIM-1000T are lined up with the corresponding pems on the MUM2000-2 circuit board and that the board-to-board connector key pins are properly aligned.

- Gently press down on the back end of the UIM-1000T, over the board-to-board connector. You will feel a slight click as it becomes fully seated.

- Secure the UIM-1000T circuit board to the MUM2000-2 circuit board, at the pems, with the (4) provided panhead screws.

- Secure the UIM-1000T faceplate to the MUM2000-2 faceplate using the (2) provided beige flathead screws.

1.3 Install the MUM2000-2 in an IP DSLAM Chassis.

The IPD12000 is a fourteen slot chassis; slots 1-12 are reserved for interface modules and slots 13-14 are reserved for multiplexer uplink modules (MUMs). The IPD4000 is a five slot chassis; slots 1-4 are reserved for interface modules and slot 5 is reserved for a MUM.

- Align the MUM2000-2 with the slot module guides of the chosen slot for installation (either slot 13 or 14 on the IPD12000 or slot 5 on the IPD4000).

- Slide the MUM2000-2 firmly into the chassis. DO NOT USE EXCESS FORCE.

- Verify that the PWR (Power) LED on the MUM2000-2 faceplate is illuminated.

- Tighten the fastening screws on the MUM2000-2 faceplate.

2.0 ESTABLISH THE ETHERNET UPLINK CONNECTION

The UIM-1000T Ethernet port is 1000Base-T, full duplex auto-negotiating. 1000Base-T indicates a 1000 Mbps (1 Gbps) Ethernet connection over an unsheilded twisted pair (UTP) copper cable and complies with the Institute of Electrical and Electronics Engineers (IEEE) network standard 802.3ab. Full duplex indicates the ability of the Ethernet port to receive and transmit data simultaneously. The UIM-1000T can either be hard set to 1 Gbps and full duplex, or it can be configured to auto-negotiate 1 Gbps and full duplex (see Net to Net Technologies' NMS Management User Guide). Default is auto-negotiation.

> **NOTE** The remote device to which you are connecting must be either hard set to 1 Gbps and full duplex or configured to auto-negotiate; if the remote device is configured to auto-negotiate, it must still have 1 Gbps and full duplex capabilities in order to link with the UIM-1000T.

Plug your Ethernet cable into the RJ45 Ethernet port on the UIM-1000T faceplate. The UIM-1000T connects with a straight-through Category 5 Enhanced (CAT5e) cable, usually to a switch or router on the remote end. Maximum distance is 328 feet (100 meters).

Verify the connection: solid illumination of the Lnk (link) LED on the UIM-1000T faceplate indicates a 1 Gbps Ethernet uplink connection has been established and solid illumination of the Dplx (duplex) LED indicates the connection is full duplex. The Lnk and Dplx LEDs will always illuminate in tandem, as the UIM-1000T will only connect at 1 Gbps and full duplex.

1000Base-T RJ45 Port Pinout
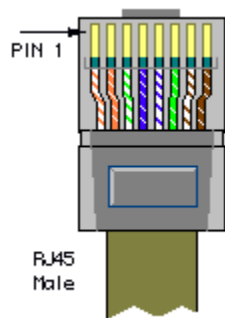
PIN	CONNECTION
1	TP0+
2	TP0-
3	TP1+
4	TP2+
5	TP2-
6	TP1-
7	TP3+
8	TP3-

3.0 ADDITIONAL INFORMATION

3.1 LED Indications

LED	State	Indication	Additional Information
Dplx (Duplex)	solid green	Full Duplex Ethernet connection is established	The UIM-1000T Ethernet connection only operates under full duplex data transmission. As such, whenever an Ethernet connection is present, the Dplx LED will be illuminated.
	no illumination	no Ethernet connection	If the Dplx LED is not illuminated then an Ethernet connection has not been established and the Lnk LED will remain unlit as well.
Act (Activity)	flashing amber	Ethernet activity	Traffic is flowing at 1 Gbps.
	solid amber	heavy Ethernet activity	Heavy traffic flow.
	no illumination	no Ethernet activity	No current traffic flow.
Lnk (Link)	solid green	1 Gbps Ethernet uplink connection is established	The UIM-1000T Ethernet connection only operates under full duplex data transmission. As such, if the Lnk LED is illuminated, the Dplx LED will also be illuminated.
	no illumination	no Ethernet connection	If the Lnk LED is not illuminated then an Ethernet connection has not been established and the Dplx LED will remain unlit as well.

3.2 Regulatory Compliance for Class A Equipment

The following regulatory compliance information applies to the UIM-1000T as mounted on a MUM2000-2 and installed in one of Net to Net Technologies' IP DSLAMs.

3.2.1 US Federal Communications Commission (FCC)

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable

protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

3.2.2 Industry Canada
This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.

3.2.3 Europe
This Class A product complies with European Norm EN55022.

Warning: In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures to correct the situation.

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