

## NT1 TT-300 and TT-300M Specifications and Installation Instructions

Please read the following restrictions and warnings carefully before proceeding with the installation of the TT-300 or TT-300M unit:

- Do not install telephone wires during a lightning storm.
- Do not install jacks in wet or moist locations.
- Do not touch non-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Do not install the TT-300 or TT-300M unit near high temperature areas.
- Use 8-Pin modular cords only.
- Operate this unit on 48 Volts DC only.
- For rack mounting, remove the seal over the 2X4 connector, R1.

### **Switch Settings**

The DIPswitch provides five positions for setting the termination impedance and timing mode options:

Options	1	2	3	4	5
Open	-	OFF	OFF	OFF	OFF
100	-	OFF	OFF	ON	ON
50	-	ON	ON	ON	ON
Fixed	ON	-	-	-	-
Adaptive	OFF	-	-	-	-

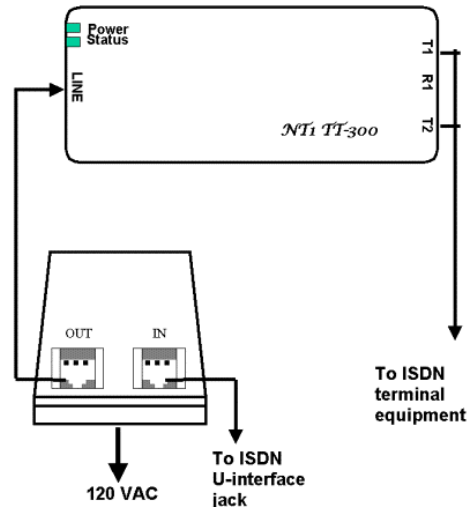
The default setting is 100 ohm termination & adaptive timing mode.

### **Features and Applications**

- For use with the 2B1Q basic rate services and standard ISDN terminals.
- Conforms to ANSI T1.601-1992, T1.605-1991 and ITU I.430 recommendation.
- Provides point-to-point or multi-point connections.
- Provides one 8 pin modular jack for the U Interface and two 8 pin modular jacks for the S/T Interface.
- Provides U and S/T Interface Status LED.
- Provides Power Status LED.
- The TT-300 and TT-300M can be operated as a stand-alone unit or rack mounted

## Power

The TT-300 or TT-300M NT1 is powered by a -48 VDC Power Adapter in the stand-alone configuration. In a rack mount configuration, power is supplied by the rack. The following diagram shows the typical standalone configuration:



## S/T Interface

- Point to Point: Exceeds I.430 recommendation of 3,280 feet (1kilometer).
- Maximum length of a passive bus if the two legs are equal: Exceeds I.430 recommendation of 1640 feet (500 meters).
- Maximum length of a passive bus if the two legs are not equal: Exceeds I.430 recommendation of 328 feet (100 meters) to 656 feet (200 meters).

## Specifications

### Network Interface (U Interface):

- 2B1Q per ANSI T1.601-1992
- 2-wire duplex transmission with echo cancellation
- 2B+D+synchronization+maintenance data
- $\pm 2.5V$  per peak nominal
- One 8 pin modular jack
- Surge Protection

### Terminal Interface (S/T Interface):

- AML modified, per ANSI T1.605-1991
- 4-wire duplex transmission

- $\pm 0.75\text{V}$  per peak nominal
- Two 8 pin modular jacks for ISDN CPE
- One 2x4 pin DIN for rack mount
- Line Configuration point-to-point/multi-point

LED Indicators:

- U and S/T interface status lamp
- Power status lamp

Power Adapter:

- AC/DC external adapter
- Input Voltage: 120 VAC, 60Hz  
Output Voltage (pins 7&8): -48VDC, 620mA, 30Watt

Power Feed:

- To S/T:  
PS1  $\geq 4\text{Watt}$ , 36– 56VDC  
PS2  $\geq 22\text{Watt}$ , 36– 56VDC
- Over Current Cut-off:  
PS1  $\geq 100\text{mA}$   
PS2  $\geq 460\text{mA}$

DIP Switches:

- 100ohms/50ohms/un-terminated Termination Resistors
- Fixed/Adaptive Timing Mode

Regulation:

- FCC Part 15 Class B
- FCC Part 68
- UL 1950
- CUL 1950
- CE Class B

Environment:

Operating Temperature (indoor):

- $0^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  ( $32^{\circ}\text{F}$  to  $122^{\circ}\text{F}$ )

Storage Temperature:

- $-40^{\circ}\text{C}$  to  $60^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $140^{\circ}\text{F}$ )

Operating Humidity:

- Up to 95%, non-condensing

Storage Humidity:

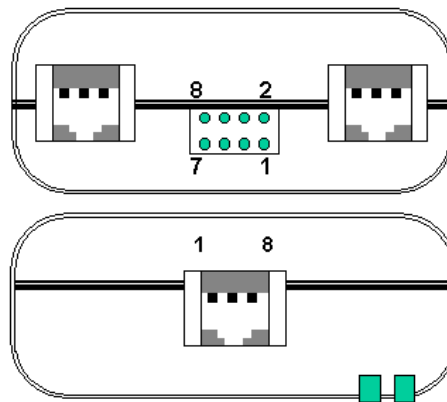
- Up to 95%, non-condensing

**Physical:**

- Dimension (HxDxW)  
4.5 x 2.1 x 1.1 inch

**Jacks and Connectors**

The TT-300 and TT-300M use 8pin modular jacks for the U and the S/T interfaces. T1 and T2 are used to connect the ISDN devices (S/T interface) and LINE is used to connect the U interface line. There is also an 8-pin (2x4) jack for rack mounting.



**Line Connector**

- 1 = not used
- 2 = not used
- 3 = not used
- 4 = tip
- 5 = ring
- 6 = not used
- 7 = -48V
- 8 = -48VRTN

**T1 & T2 Connectors**

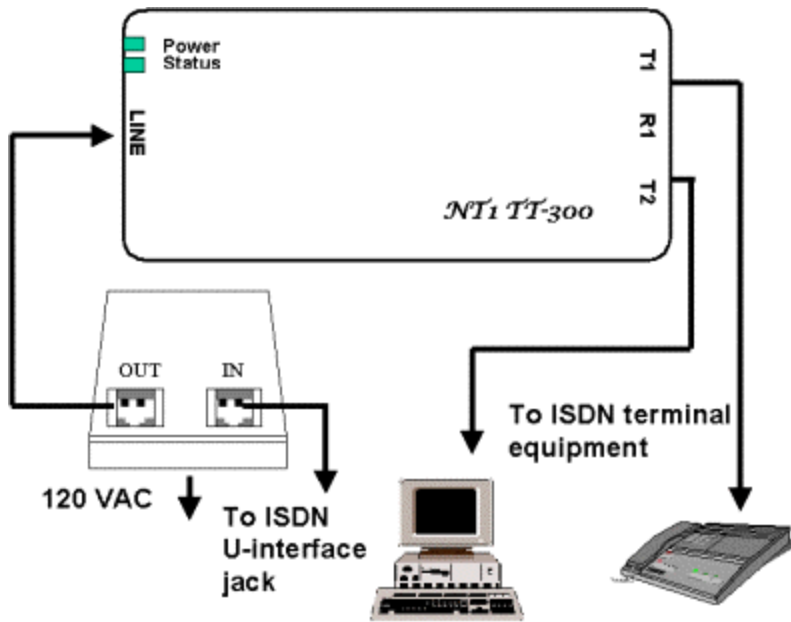
- 1 = not used
- 2 = not used
- 3=rcv+
- 4=xmt+
- 5=xmt-
- 6=rcv-
- 7=-48V
- 8=-48VRTN

**R1 Rack Connector**

- 1=xmt-
- 2=xmt+
- 3=rcv-
- 4=rcv+
- 5=ring
- 6=tip
- 7=-48VRTN
- 8=-48V

***Wiring***

The TT-300 and TT-300M Network Termination (NT1) unit converts the U interface from the dial tone provider to an S/T interface for connecting ISDN Terminal Equipment. See the diagram below:



### Status Lamps

There are two lamps located on the top edge of the TT-300:

	No input power
	No U interface connected
	Failed activation after power-up (See Note 1)
	S/T interface error (See Note 2)
	Pending activation/U interface error/test mode. For proper diagnosis, disconnect terminal (See Note 3)
	U interface working and at least one working ISDN device connected

Note 1: For .5 seconds the STATUS indicator flashes quickly (8Hz)

Note 2: The STATUS indicator flashes slowly (1Hz)

Note 3: The STATUS indicator flashes quickly (8Hz)

**Any status display not shown indicates improper NT1 operation. Contact your equipment vendor or Tango Telecom for further information.**