

NT1B-300 Installation & Mounting Instructions

Restrictions and warnings

- Use caution when installing or modifying telephone wires.
- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch un-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Do not install the NT1-B300 within 12 inches of a heat source. The NT1B-300 is designed to operate in an indoor environment from 32F to 122F (0C to 50C) and relative humidity within 5% to 95% (noncondensing).
- For power, use a Telecommunication Level Power Source.
- When connecting to terminal equipment between buildings, you must provide lightning protection (locally engineered). See the ISDN Customer Premises Planning Guide (533-700-100) for more information.

Features and Applications

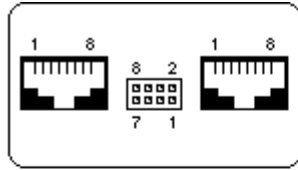
The NT1B-300 (4.5" x 2.1" x 1.1", 5 oz.) is a 2B1Q device that converts the 2-wire U interface to the 4-wire S/T interface. The unit conforms to ANSI standards T1.601-1992 and T1.605-1991, and ITU-TS recommendation I.430. The NT1B-300 can operate as a stand-alone unit or be mounted in a NT1 rack (model NT1B-310). For either application, the unit connects one ISDN terminal device in a point-to-point configuration or up to eight ISDN terminal devices in a multipoint arrangement.

A single NT1 rack holds up to 12 NT1s (a double rack holds up to 24) and provides connections through 50-pin miniature ribbon cables. For more information about the NT1 rack, see the ISDN Customer Premises Planning Guide (533-700-100).

The NT1B-300 has a switch that controls the termination impedance for 50 ohms, 100 ohms, or an infinite (open) unterminated mode. There are two LEDs that indicate power and line status. The status indicators may be viewed from the front of the unit or from the end when installed in the NT1 rack.

Connectors

The NT1B-300 uses 8-pin modular jacks for stand-alone applications. These connectors are marked T1 and T2 for the connections to the ISDN devices and LINE for the connection to the U interface line. On the terminal end of the NT1, there is an 8-pin jack used for electrical connections to the NT1 rack.

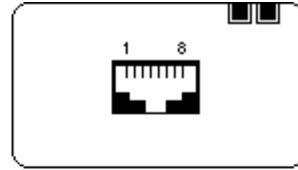


T1 & T2 Connectors

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

Rack Connector

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



Line Connector

1 = Not Used
 2 = Not Used
 3 = Not Used
 4 = tip
 5 = ring
 6 = Not Used
 7 = -48VRTN
 8 = -48V

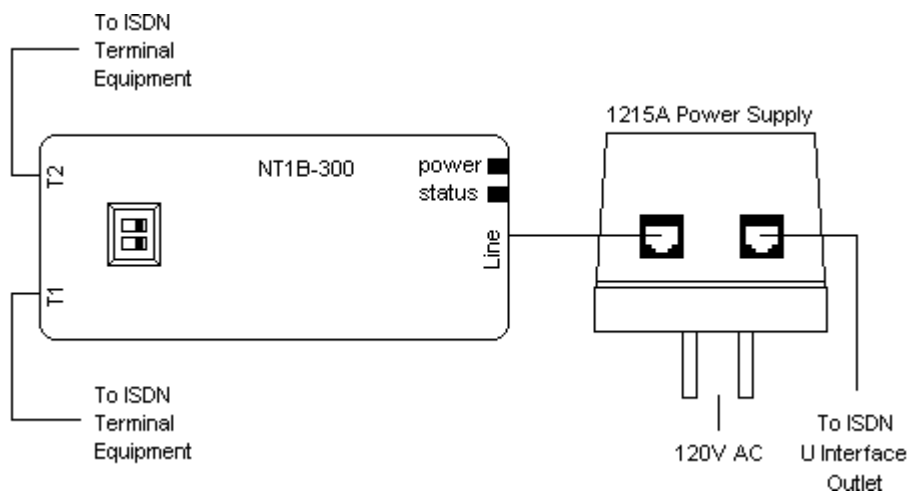
Power

The NT1B-300 is powered by a -48 volt DC power supply (-34 to -56.5 volts) connected to pins 7 and 8 on the LINE jack. The NT1B-300 nominal power consumption is 0.65 watts. See the ISDN Customer Premises Planning Guide (533-700-100) for information about the different power supplies that operate with the NT1B-300. When using the NT1 rack, power is provided with the rack.

ISDN terminals connected to the T1 or T2 jacks are powered from the power supply by:

- Power fed from the LINE jack to the T1/T2 jacks on pin 7 (-) and pin 8 (+), at a maximum of 20 watts.
- Phantom power fed over the transmission wires on pins 3/6 (+) and pins 4/5 (-), at a maximum of 4 watts.

The following diagram shows the NT1B-300 and the model 1215A power supply in a typical configuration. All connections use modular telephone cords.



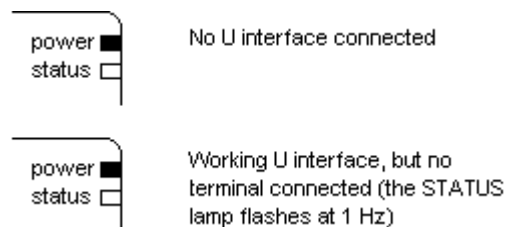
Wiring

The NT1B-300 supports one ISDN device in a point-to-point configuration or up to eight ISDN devices in a multipoint configuration. The unit provides 50- or 100-ohm termination, and an infinite unterminated option. The 50-ohm termination is used for distances up to 250 feet (76 meters) and the 100-ohm termination is used for distances from 250 feet to 1800 feet (548 meters). These distances are measured between the NT1B-300 and its attached ISDN device(s) based on 24-gauge inside wiring cable. The distances vary for different gauge cable.

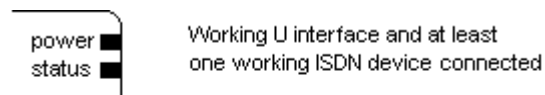
Power-Up and Installation Check

After you have connected the NT1B-300, plug in the power supply. The power-up sequence goes as follows:

- The POWER lamp must go ON.
- After an activation period of 15 seconds, a properly-functioning unit will provide one of these displays:



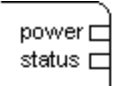
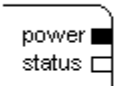
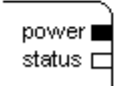
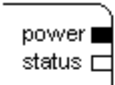
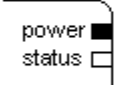
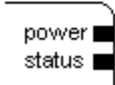
- If the NT1 is connected to an active U interface line and a working ISDN device, you should see this status:



■ = steady on □ = off ◻ = flashing

Status Lamps

The POWER and STATUS lamps on the NT1B-300 provide the following information:

	No input power, power too low or reversed polarity
	No U interface connected
	Failed activation after power-up (Status indicator flashes quickly, 8 Hz for 0.5 seconds)
	S/T interface error (Status indicator flashes slowly, 1 Hz)
	Pending activation/U interface error/test mode. For proper diagnosis, disconnect terminal (Status indicator flashes quickly, 8 Hz)
	Working U interface and at least one working ISDN device connected

Any status display other than those shown indicates improper NT1 operation, Contact your equipment vendor or Lucent Technologies for further information.