NT1U-220   Installation & Mounting Instructions

Introduction

This information is to be used in the installation of the circuit pack version of the AT&T 2B1Q NT1 (NT1U-220). Some typical installation examples are given. Details and other possible installation configurations can be found in the ISDN Customer Premises Planning Guide (AT&T Practice 533-700-100).
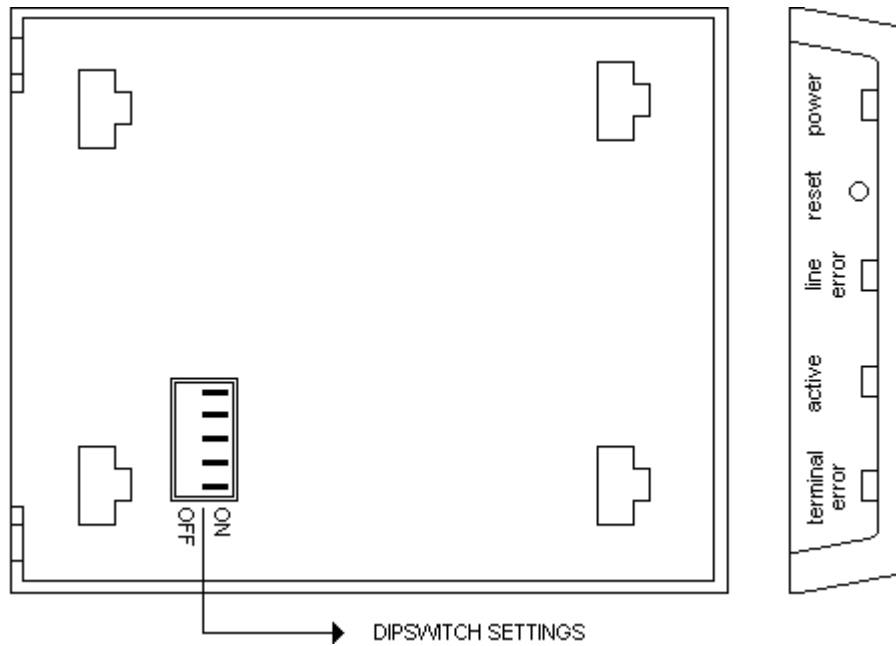
Installation Restrictions and warnings

- 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.
- Use caution when installing or modifying telephone wires.
- For powering use only a Telecommunication Level Power Source.
- Do not mount the NT1U-220 within 12" of a heat source.
- In case of magnetic mounting do not place the NT1U-220 greater than 4 feet above the floor.

General

- Before mounting the NT1U-220 check that the dipswitch settings are in accordance with the premises wiring configuration (see *Wiring Configurations* for examples).
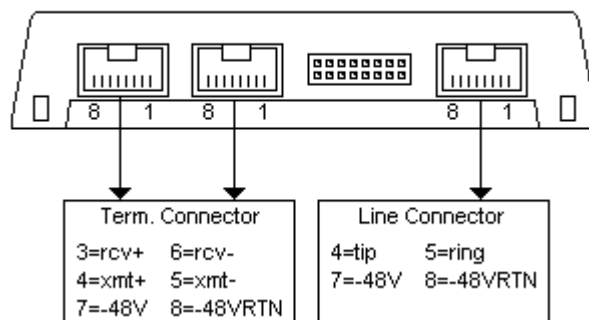
Connectors and Switches

DIPSWITCH SETTINGS

SWITCH	OFF FUNCTION	ON FUNCTION
1, 2	No termination	Termination present
3, 4	100 Ohm termination	50 Ohm termination
5	Point To Point (PTP)	Passive Bus (PB)

Default setting is for 50 Ohm and Passive Bus. This option is compatible with "Basic Multipoint" configurations (see *Wiring Configurations*).
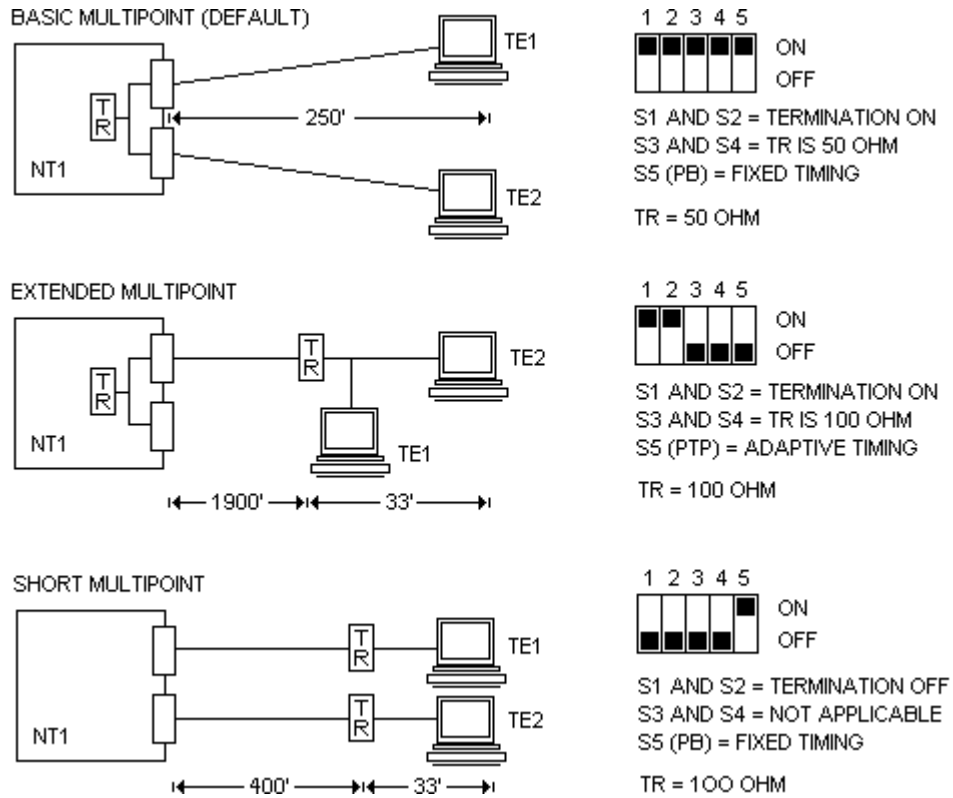
Connections

Term. Connector

3=rcv+   6=rcv-
4=xmt+   5=xmt-
7=-48V   8=-48VRTN

Line Connector

4=tip   5=ring
7=-48V   8=-48VRTN

Wiring Configurations

<u>Switch Settings</u>

The dipswitches on the NT1 must match the premises wiring between the NT1 and terminal(s). The following figures are examples of typical wiring configurations. Dipswitch settings are shown for these examples. For more details and alternative wiring configurations refer to AT&T Practice 533-700-100.
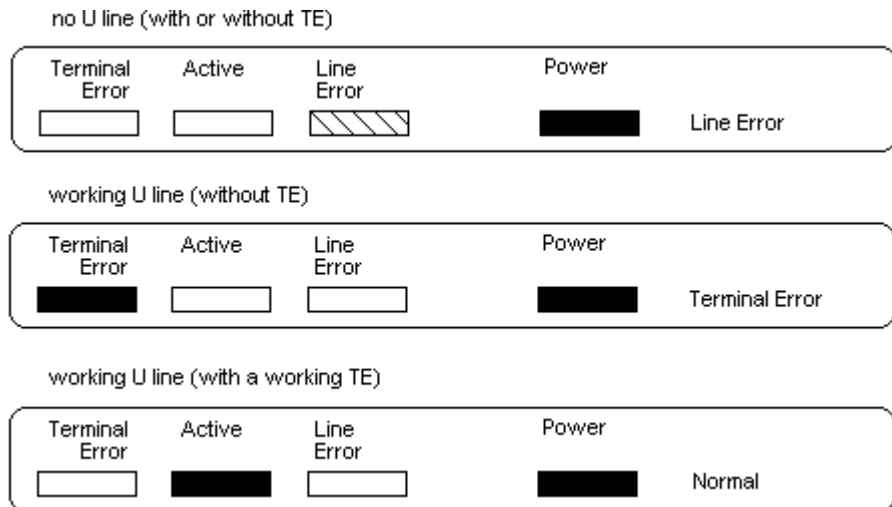
BASIC MULTIPOINT (DEFAULT)

```
1 2 3 4 5
■ ■ ■ ■        ON
               OFF
```

S1 AND S2 = TERMINATION ON
S3 AND S4 = TR IS 50 OHM
S5 (PB) = FIXED TIMING

TR = 50 OHM

250'

NT1, TE1, TE2

EXTENDED MULTIPOINT

```
1 2 3 4 5
■ ■           ON
    ■ ■ ■     OFF
```

S1 AND S2 = TERMINATION ON
S3 AND S4 = TR IS 100 OHM
S5 (PTP) = ADAPTIVE TIMING

TR = 100 OHM

1900'   33'

NT1, TE1, TE2

SHORT MULTIPOINT

```
1 2 3 4 5
        ■     ON
■ ■ ■ ■       OFF
```

S1 AND S2 = TERMINATION OFF
S3 AND S4 = NOT APPLICABLE
S5 (PB) = FIXED TIMING

TR = 100 OHM

400'   33'

NT1, TE1, TE2

Note: Distances specified above are for 24-guage inside wiring cable and two terminals. These distances may vary for other cable gauges and different number of terminals. For additional details refer to the AT&T Practice 533-700-100.

Installation Check

Install the NT1 including applicable wiring to terminal, power supply, and active 2-wire ISDN line. The normal power up procedure is as follows:

1. Switch on the external power supply or insert the NT1 into a powered NT1M-200 rack.

2. After powering up a self-test will be automatically initiated, causing all indicators to light up for about 1 second.

3. After an activation period of max. 15 seconds, a properly functioning NT1U-220 will provide one of the following status displays:
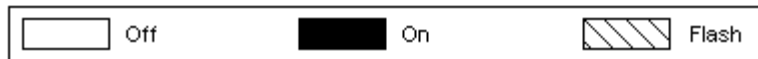

See the following diagram for status display other than those shown above for the stated condition.

Status Indicators and Diagnostics

NT1 Status Indication

The four NT1 indicators, when taken together, provide the following status information:

Terminal Error	Active	Line Error	Power	
Off	Off	Off	Off	No input power
On	On	On	On	Power-up self test (1 sec)
Flash	Flash	Flash	Flash	Self test error
Off	Off	Off	Flash	Input power reversed or too low
Off	Off	Flash	On	Line error w/o sealing current
Off	Off	On	On	Line error w/ sealing current
On	Off	Off	On	Terminal error / no TE
Off	On	Off	On	Normal
Off	Flash	Off	On	NT1 Maintenance Mode
Off	Off	Off	On	Loss of signal w/o TE present

Legend: Off = white, On = black (On), Flash = hatched (Flash)

Any status display other than those shown above indicates improper NT1 operation. Push the reset switch or, if no improvement is obtained, refer to AT&T Practice 533-700-100.

NT1 Reset Switch

The reset push button switch is located just behind the faceplate between the Power and Line Error indicator. Accessible through a small hole the switch can be activated with a pencil point or other similar sharp pointed tool. Activation or the reset switch has the same result as a power-down / power-up cycle or the NT1.

Attention: Activation of the reset switch during "normal operation" of the NT1 will temporarily disrupt communication services and may result in "Loss of Call".