

This Guide provides introduction and installations of the NT-300.

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- Installation
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- Specifications

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

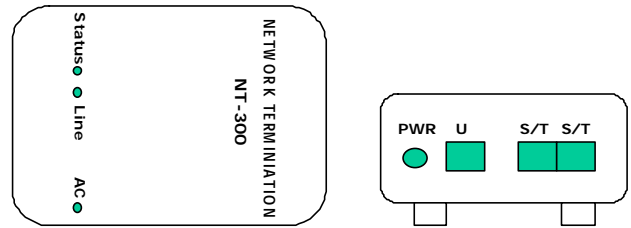
- Do not try to install telephone wiring during storm and lightning occurrences.
- Do not install jacks in wet or moist locations.
- Do not touch non-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Do not install the NT-300 unit near high temperature areas.

Introduction

NT-300 is an ISDN network termination unit (NT-1) that provides the 2B+D basic rate interface (BRI) needed between the ISDN network line (U interface) and the subscriber terminal equipment (S/T interface). Terminal equipment can be an ISDN telephone, a G4 fax, or a terminal adapter.

Features of the NT-300

- Provides 2B+D ISDN basic rate interface
- Compatible with 2B1Q and standard ISDN terminals
- ETS TS 101080, ETS 300 012-1996 standards
- Support multiple switch vendors :AT&T 5ESS, Nortel DMS-100, Siemens , NEC, and Alcatel
- Provides point-to-point and point-to-multipoint connection.
- Compact unit with built-in power supply
- 1 x RJ-45 connector and 1 x 2-contact clip type terminal for network line (U Interface)
- 2 x RJ-45 connectors for terminal lines (S/T Interface)
- Provides U and S/T Interface Status LED
- Provides Line and AC Power Status LED



Two power LEDs and one status LED on the top of NT-300:

LED Indicator	Represents
POWER	AC ON: AC power on NT-1. Line ON: Line power on NT-1.
STATUS	Indicates following status on U and S/T interface: <ul style="list-style-type: none"> ● LED on: when NT-300 is active. ● LED flashes 8Hz:if in test mode or if U interface is in pending activation ● LED flashes 1Hz:if the S/T interface is in pending activation ● LED off: NT-300 link fail or in power down mode.

Jacks and Connectors

Connection	Function
Network (RJ-45)	For connecting an RJ-45 line cord from the ISDN line wall jack to the U Interface of the NT-300.
Network (Clip-type)	For connecting a Twisted Pair (Phone Line) from the ISDN line to the U Interface of the NT-300.
S/T (Interface-1&2)	For connecting an RJ-45 line cord to an ISDN Terminal Adapter or other ISDN equipment.

Switch Settings

There is one DIP switch found inside the NT-300 unit:



Four DIP switches for setting the termination impedance :

Options	1	2	3	4	5
No termination	OFF	OFF	OFF	OFF	-
100-ohm impedance	ON	ON	OFF	OFF	-
50-ohm impedance	ON	ON	ON	ON	-

- The default setting is 100-ohm impedance.
- “-”Means not relevant whether ON or OFF.

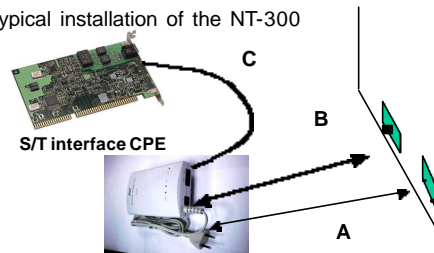
The fifth DIP switch for S bus timing mode:

Options	1	2	3	4	5
Adaptive Timing	-	-	-	-	OFF
Fixed Timing	-	-	-	-	ON

- The default setting is adaptive timing mode.

Installation

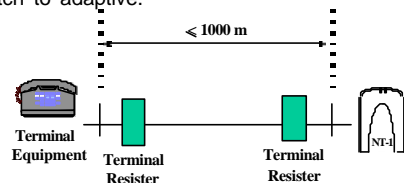
Typical installation of the NT-300



A: AC power cord. B: U interface cable. C: S/T interface cable
* Please follow the label instruction to choose/use the suitable local power (110VAC or 220 VAC) as well as the power outlet.

Point-to-Point Connection

This wiring configuration comprises of one transmitting ISDN network line and one receiving terminal equipment. The maximum allowable operational distance between the NT-300 and the terminal equipment is 1000 meters. Under this wiring configuration, it is always recommended to activate the terminator switch of the NT-300 (100 ohms) and set the timing DIP switch to adaptive.

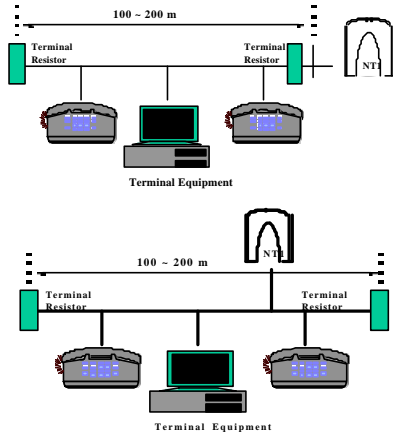


Point-to-Multipoint Connections

This wiring configuration comprises of one ISDN line connected to the U interface of the NT-300 and the S/T interface output connected to several (maximum 8) terminal equipments. Two types of bus are provided here: the **short passive bus** and the **extended passive bus**.

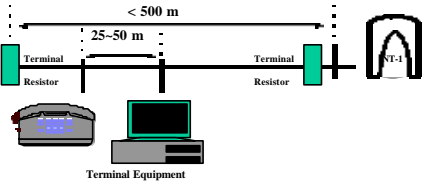
Short Passive Bus

The short passive bus, which implements fixed timing mode, is a configuration where the terminal equipment devices can be connected at random points along the full length of the ISDN terminal line.



Extended Passive Bus

The extended passive bus, which implements adaptive timing mode, is a configuration where the total length of the ISDN terminal line should not exceed 500 meters and the differential distance between terminal equipment (TE) connection points is 25 to 50 meters.



Specifications

A.1 Switches Compatibility:

Switches Compatibility	AT&T 5ESS / Nortel DMS-100 / Siemens EWSD/ Alcatel / Ericsson
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A.2 Network Interface (U Interface):

Line Code	2B1Q per ETS TS 101080
Transmission Method	2-wire duplex transmission with echo cancellation
Channel Structure	2B1D
Data Rate	160 Kbps (2B1Q)
Output Amplitude	±2.5V per peak nominal
Connectors	1 x RJ-45 1 x 2-contact clip type terminal

A.3 Terminal Interface (S/T Interface):

Line Code	AMI modified per ETS 300 012 /ITU I.430
Transmission Method	4-wire duplex transmission
Channel Structure	2B+D+synchronization+ service channel
Data Rate	144 Kbps (2B+D)
Output Amplitude	±0.75V per peak nominal
Connector	2 x RJ-45
Line Configuration	Point-to-point Point-to-multipoint

A.4 LED Indicators:

Status lamp	U and S/T interface error status
Power lamp	Line power status AC power status

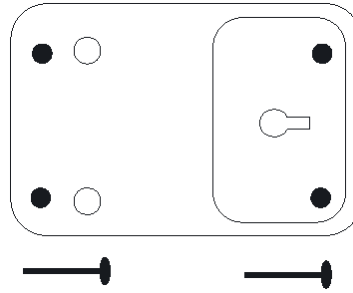
A.5 Power Supply Specification:

AC/DC Adapter	Built-in power supply module
Input Voltage	100 ~ 240VAC, 50/60Hz
Feeding to S/T interface	Max 4.5 W, 34VDC – 42VDC

A.6 DIP Switches:

Termination Resistors	No termination/100Ω / 50Ω
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Mounting the NT-300 Unit



FAQ

Q: When activity on the NT-300 unit becomes abnormal?

A: Ensure that the connections of U and S/T interfaces are correct. If the connections are correct, then follow the steps below:

- Connect the NT-300 U interface jack without connecting the ISDN terminal equipment and AC power. Check the "Line" power LED that should be ON if U interface provides line power. Check "Status" LED if it flashes quickly, then slowly.
- Connect AC power and verify the "AC" LED is turned on. If not, check the power cord if it is connected properly and if there is power from AC outlet. Otherwise, contact your dealer.
- Connect the ISDN terminal equipment on S/T interface, and dial-up from the ISDN terminal equipment to check if the LED will flash slowly and then turn ON. Also check if the termination impedance switch is set properly. Otherwise, contact your dealer.

A.7 Mechanical Specification:

Dimension (HxDxW)	60mm x 159mm x 104mm
Unit Weight	430g

A.8 Environmental Requirements:

Operating Temperature	-5°C to 45°C (23°F to 113°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Relative Humidity	Up to 90%, non-condensing

A.9 Regulatory:

ETS 300 047
EN 60950
EN 55022
EN 6100
K.21

If you need more information or any questions regarding our product, please contact our local distributors.