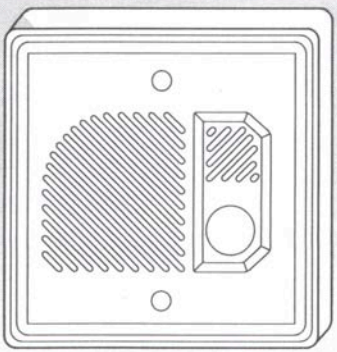
TelephoneMagic.com

NORTEL NETWORKS™

Business Series Terminal

Doorphone Installation Guide



Version française incluse.
Versión española incluída.

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Preface

This guide explains how to install and program a Business Series Terminal (BST) Doorphone on Norstar telephone systems.

To use this guide, you must:

- be a Nortel Networks installer
- know basic Norstar terminology

If you are installing a BST Doorphone on a Business Communications Manager system, refer to the *BST Doorphone Installation and Configuration Guide*. This guide can be found on the documentation CD that came with the system or accessed from the initial page in Unified Manager.

About the BST Doorphone

The BST Doorphone is used as an intercom device to control access to your building. It provides call notification and handsfree communication from a site entry location to assigned telephones on your system.

Door opening capabilities are available with the following optional equipment:

- Door Opening Controller (DOC)
- External Relay Module (ERM)

For more information on DOC and ERM, see "Optional equipment" on page 14.

Compatibility

The BST Doorphone is supported on the following Norstar systems.

System	Software version
Norstar Modular and Compact ICS	all
Norstar 3X8, Compact and Modular KSU	DR2 to DR5

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Both BST and Norstar Doorphones can be installed on Norstar systems with a maximum of four Norstar Doorphones on any system.

Up to 54 Doorphones can be installed on Norstar Modular systems. For example, 50 BST Doorphones and 4 Norstar Doorphones.

Up to 20 Doorphones can be installed on Norstar Compact systems. For example, 16 BST Doorphones and 4 Norstar Doorphones.

Up to 7 Doorphones can be installed on a Norstar 3x8 system.

Environment

Check the following environment requirements:

Temperature	-35° to 60°C (31° – 140°F)
Relative humidity	5% to 95% non-condensing
Background noise	up to 70 dBA

Opening the package

Along with this guide, make sure the package contains:

- BST Doorphone unit with a surface mount bracket
- two gaskets
- BST Doorphone User Card

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Preparing to install a BST Doorphone

Before installing a BST Doorphone, you must select and program a vacant station port on the Norstar system for BST Doorphone compatibility.

Note: Default settings can cause the BST Doorphone to automatically answer incoming calls that are not intended to be heard over the BST Doorphone.

To determine the DN for a vacant station port

- Refer to the wiring charts in the *Norstar Installer Guide* and the programming records for the system.
- Use the Port/DN status option in a Maintenance session. This option is only available on Modular ICS, Compact ICS and Modular DR5 systems.

Norstar configuration programming

Follow this procedure to enter a Norstar configuration session from a two-line display telephone (T7316E, T7316, M7324 or M7310):

1. Press [ ] ([Feature]) [*] [*] [C] [O] [N] [F] [I] [G].
2. Enter the configuration password.
   The default password is [C] [O] [N] [F] [I] [G] or [2] [6] [6] [3] [4] [4].
3. Use the table on pages 4 and 5 to determine which programming headings to review for BST Doorphone compatibility.
   Note: Programming headings on your system may not be exactly as shown in the table. The table is based on Modular and Compact ICS programming headings. For more information on programming headings, refer to the *Norstar Installer Guide* that came with your system.

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Terminals & Sets Line Access	Compatible settings for the BST Doorphone
☐ Line assignment	Remove all lines assigned to the DN. **Note**: If all lines are not removed, incoming calls will automatically be answered by the BST Doorphone.
☐ Line pool access	Remove all line pools assigned to the DN.
☐ Prime line	I/C (Intercom) or None **Note**: Depending on your system software version, I/C (intercom) may not be available.
☐ Intercom keys	1 or 2 **Note**: Depending on your system software version, 1 Intercom key may not be available.
☐ Answer DNs	Remove all Answer DNs assigned to the DN.
Capabilities	**Compatible settings for the BST Doorphone**
☐ Fwd no answer	None
☐ Fwd on busy	None
☐ DND on Busy	N (No)
☐ Handsfree	Std (Standard) **Note**: Depending on your system software version, setting choices will vary, ensure that the Handsfree setting is enabled and Auto Handsfree setting is disabled.
☐ Direct Dial	None

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Capabilities continued	Compatible settings for the BST Doorphone
☐ Paging	Y (Yes)
☐ Hotline	None
☐ Aux. ringer	N (No)
☐ Name	Assign a name for the BST Doorphone, such as BACKDR for Back Door.
Trunk/Line data	**Compatible settings for the BST Doorphone**
☐ Prime set	Ensure the BST Doorphone DN is not assigned as a prime set for any line on the system.
Services (Service Modes)	**Compatible settings for the BST Doorphone**
☐ Control set	Ensure that the BST Doorphone DN is not assigned as a control set for each scheduled service.
☐ Extra dial set	Ensure that the BST Doorphone DN is not assigned as an extra dial set for each scheduled service.
☐ Ringing set	Ensure that the BST Doorphone DN is not assigned as a ringing set.

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BST Doorphone installation

The BST Doorphone can be mounted in a standard recessed double-gang electrical box for flush mounting or surface mounted using the optional surface mount bracket.

Mount the BST Doorphone at shoulder height (approximately 5 ft.) in the absence of other specifications, such as compliance with local handicapped access regulations, if required.

Select a location for the BST Doorphone within 300 m (1000 ft.) of the Norstar system. This distance can be increased to 780 m (2600 ft.) with the connection of a Station Auxiliary Power Supply (SAPS) to a BST Doorphone.

The BST Doorphone is suitable for exposure to weather; however, care must be taken to ensure holes or recesses provided for the BST Doorphone are properly sealed to prevent water from entering the wall in exposed locations. Gaskets are supplied for both flush and wall mount installations. No gasket is required between the BST Doorphone and surface mount bracket.

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Caution: You must install protection devices when wiring between the BST Doorphone and the Norstar system is routed outside a building, such as aerial or buried cable.
Protection devices must be installed at each end of the exposed cable. Nortel Networks recommends the ITW LINX MP1A-90-27 secondary protector for this purpose.

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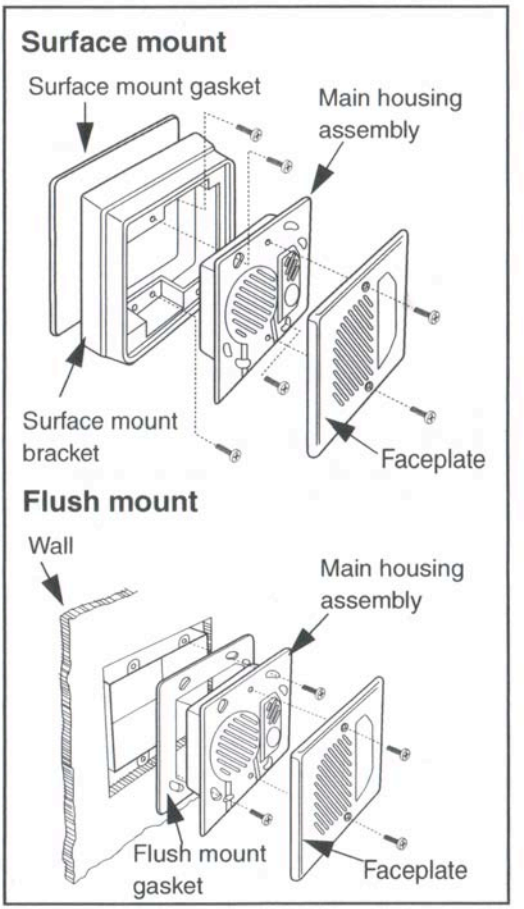
Wire and mount the BST Doorphone

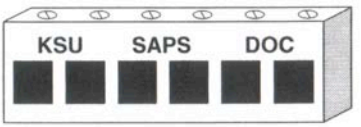
1. Remove the BST Doorphone's faceplate.
2. Determine if you want a surface or flush mount installation.
   For a surface mount:
   - Discard the flush mount gasket
   - Verify the correct orientation of the gasket.
   - Thread the wires through the center hole, then through the surface mount bracket.
   - Fasten the surface mount bracket at the desired location on the wall.
     OR

   For a flush mount (into an electrical box embedded in the wall):
   - Discard the surface mount bracket and gasket.
   - Slide the flush mount gasket onto the main housing assembly.



3. Run a standard 3-pair cable from the Norstar system to the BST Doorphone location.
Use one pair to connect the "KSU" terminals of the BST Doorphone to a reserved station port on the Norstar system.
Strip wires 6 mm (1/4 inch) before inserting them in the terminal block and tightening.

TCM connector screw block



All BST Doorphone connections are polarity insensitive.

Note: The second pair can be used to connect an optional DOC, leaving a spare pair for a SAPS installation. For information on DOC, see "Optional equipment" on page 14.

4. Fasten the BST Doorphone's faceplate to the main housing assembly.
Note: When the surface mount bracket is used, secure the wiring with a cable tie through the round holes in the rear of the surface mount bracket or electrical box (customer supplied).

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BST Doorphone initialization

Depending on your system, the BST Doorphone can take several minutes to initialize. It will not initialize, if a Norstar configuration session is in progress.

Once initialization is complete, the BST Doorphone will identify itself to the system as a M7324 telephone.

Note: The backlight for the Doorphone's Call button turns on when the BST Doorphone is connected to a station port on the system. The backlight is useful in low light conditions.

Doorphone programming

Doorphone programming allows you to customize feature settings for individual Doorphones on the Norstar system. Doorphone programming is done from a two-line display telephone (T7316E, T7316, M7324 or M7310).

Note: Doorphone programming is not allowed when a Norstar configuration session is in progress.

Follow these steps to program Doorphone settings:

1. Press [✆] [9] [*] [4] or [Feature] [9] [*] [4].
   A `Please wait` message appears on the display for several seconds.

Doorphone codes
SHOW QUIT

2. Press SHOW.

F9#XXX
NEXT ADMIN DONE

3. Press ADMIN to program the first Doorphone on the system
   or
   press NEXT to select another Doorphone on the system.

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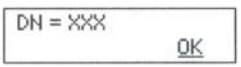
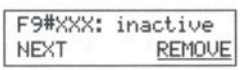
Note: Five or three digit feature codes are assigned to BST Doorphones depending on your system software version (for example, F9#000 or F900).
Three digit feature codes are assigned to Norstar Doorphones (for example, F900)
The NEXT display button only appears when more than one Doorphone is installed on the system.

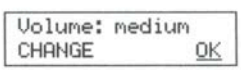


4. The display shows the Doorphone's DN.
The <XXX> represents the DN which may be up to seven digits in length.
Press OK.

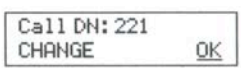
Note: When a Doorphone is removed from the station port or fails, the display shows:



Press REMOVE to clear the Doorphone feature code (F9#XXX or F9XX) from the system's memory when a Doorphone is permanently removed from the system.



5. Press OK to accept the volume level
or
press CHANGE to select low or high.



6. The display shows the DN of the Call telephone assigned to the Doorphone.
Press OK to select the default DN
or
press CHANGE to enter a new DN.

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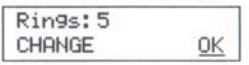
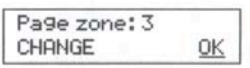
Note: The Call telephone automatically rings when the Doorphone's Call button is pressed.
See "Doorphone configuration tips" on page 13 for information on how to program the Doorphone to ring multiple telephones.



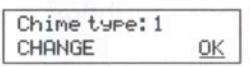
7. The display shows the number of rings that will occur at the Call telephone before page chimes are presented.
   Press OK to accept the number of rings.
   or
   press CHANGE to select rings 1, 2, 3, 7, 10, or none.

Note: When none is selected, the Doorphone will not ring any telephone when the Call button is pressed.



8. The display shows the page zone for chimes presentation.
   Press OK to accept the page zone
   or
   press CHANGE to select zone 1, 2 or none.

Note: When none is selected, no page chimes are presented after ringing the Call telephone.



9. The display shows the chime type.
   Press OK to accept the chime type
   or
   press CHANGE to select chime type 2, 3, 4 or none.

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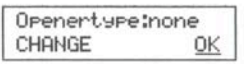
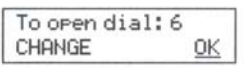
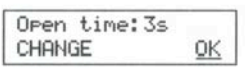


10. If no door opening device is connected to the Doorphone, press OK and go to step 12.
    or
    if a door opening device is connected to the Doorphone, press CHANGE to select DOC or ERM, then press OK.

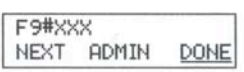
Note: For information on door opening devices, see "Optional equipment" on page 14.



11. The display shows the number to dial to open the door.
    Press OK to accept the number
    or
    press CHANGE to select 0-9,* or #.

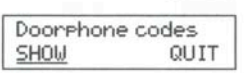


If the Opener type is ERM (see step 10), the display updates to show the number of seconds the Door will remain open.
Press OK to accept the number
or
press CHANGE to select 0.25, 6 or 15 seconds.



12. Press DONE to return to the main Doorphone programming menu.

Note: Press NEXT to select another Doorphone on system to program.



13. Press QUIT or [↶] ([Rls]) to exit the session.

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Doorphone testing

You can perform the following tasks to test the Doorphone settings:

- Press the Call button on the Doorphone and ensure the Call telephone rings.
- Let the Call telephone ring until the call is automatically disconnected. Ensure that a page tone followed by the Doorphone's distinctive chime is heard at specified telephones included in the Doorphone's page zone.
- To establish a voice path, dial the Doorphone's DN from any telephone on the system, or press the Call button on the Doorphone and answer the ringing call at the Call telephone.
- If installed, test the door release mechanism as shown below:
  - Press the Call button on the Doorphone and answer the call at the Call telephone.
  - To open the door, dial the single digit code (specified in Doorphone programming) or press the OPEN display button.
  - Press the release button or hang up to end the test.
    Note: If ERM is the selected opener type, the call will be automatically released. The Doorphone enters a 30 second waiting period after it originates page chimes. The Doorphone's Call button provides confirmation tones to the Doorphone user during the waiting period, but it will not initiate subsequent calling until the 30 seconds have expired.

Doorphone configuration tips

- The Doorphone's Call telephone should be assigned to the same page zone that is used by the Doorphone for paging (chime presentation).

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- The Doorphone can ring several telephones on the system using Answer DNs. Program one or more telephones to have a Ringing Answer button for the Call telephone.
  - For example, The Call telephone is DN 230. Assign DN 230 as an Answer DN for extensions 223, 224 and 225 in Norstar configuration programming. When the Doorphone Call button is pressed, four telephones on the system will ring (telephones: 230, 222, 223 and 225).

For more information on Answer DNs and assigning telephones to page zones, refer to the *Norstar Installer Guide* and *System Coordinator Guide* that came with your system.

Optional equipment

The Door Opening Controller (DOC) and External Relay Module (ERM) provides convenient control for a locked mechanism but is not intended for sole building entry security. In high security environments, backup systems should be used for added protection. Power failure, device failure, wiring faults and unauthorized equipment access can all contribute to a failed locked or unlocked situation.

The DOC receives data from the BST Doorphone, that is compared against a dip-switch set code for activation. For more information on the DOC, refer to documentation provided with the DOC unit.

The ERM connects to the telephone system's external page port contacts to provide high current switching capability. For more information on the ERM, refer to documentation provided with the ERM unit.

Note: Do not install an ERM on a Norstar system that uses the external paging feature. If an ERM is installed, invoking an external page ([ ] ([Feature]) [6] [2]) from a telephone will active the release mechanism.

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Troubleshooting

Doorphone is not working

- Check the wiring. Without a Station Auxiliary Power Supply (SAPS) installed, the wiring must be equivalent to 300 m (1000 ft.). With a SAPS installed, the distance can be increased to 780 m (2600 ft.).
- Check the station port. On Modular ICS, Compact ICS and Modular DR5 systems, use the Port/DN status option in a Maintenance session to ensure that the port is not disabled.

  or

  1. In Norstar Configuration programming, ensure that the `Set relocation` feature is disabled (No).
  2. Disconnect the Doorphone and connect a display telephone to the station port.
  3. Verify that the station port is functioning properly by making an intercom call to another telephone on the system.
- Check configuration settings for the station port. Refer to the table on pages 4 and 5 for more information.

The Call telephone does not ring when the Call button on the Doorphone is pressed.

In Doorphone programming:

- Ensure the `Call DN: XXX` is a valid DN.
- Ensure `Rings: None` is not selected.

In Norstar Configuration programming:

- Ensure `Primeline: I/C` is assigned to the Doorphone DN

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Doorphone does not present page chimes after the programmed ring time at the Call telephone

In Doorphone programming:

- Ensure Page zone 1, 2 or 3 is selected.
- Ensure at least one telephone is assigned to the selected page zone and not in use during this test.
- Ensure Chime type 1, 2, 3 or 4 is selected.

In Norstar Configuration programming:

- Ensure Primeline: I/C is assigned to the Doorphone DN.

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