

Data sheet

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## Business Development Opportunity

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- enhance business efficiency
- guide the company safely into the future
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- be easy to work with and absolutely reliable
- work 24 hours non stop

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# *Meridian Norstar Plus*

*The phone system that works harder*

# Meridian Norstar

Meridian Norstar Compact Plus and Modular Plus are digital phone systems manufactured by Nortel Networks and supplied exclusively in the UK by BT. They can operate using digital or analogue lines – or a combination of the two – and come with a range of features designed to help your business, your users and, of course, your customers.

With Meridian Norstar Plus you can also opt for value added features and applications such as Computer Telephony Integration (CTI), Voicemail, Call Centre Solutions, Desktop Messaging, Fax and Hospitality.

Both systems support ISDN2 and ISDN2e and are capable of providing ISDN2 connection through to the desktop. Norstar Modular Plus also supports ISDN30/DASS2, ISDN30e and can derive ISDN2 from this to the desktop, avoiding the requirement for additional, dedicated ISDN2 lines. All ISDN bearer services are supported, as are private networking services via AC15A and DPNSS.

## Key Norstar Plus benefits

### Business benefits

<i>Feature</i>	<i>Benefit</i>
Alternate Route Selection	Most effective route can be used for outgoing calls through the day using programmable time of day schedules.
Call Barring	Restricts outgoing calls.
Call Barring Override	Allows bars to be lifted for specific destinations and users via password.
Call Duration Timer	The duration of any call can be clocked via the phone's display.
Direct Inward System Access (DISA)	DISA provides password protected remote access to key system features such as system extensions, private network, public network via line pools and system page.
Emergency Phones	In the event of a mains power failure, at least 25% of the analogue lines on a Norstar Plus system can fall back to the approved standard phones. Calls can then be received and made, but not switched.
Extension-to-Extension Calling Over Private Networks	Calls can be made direct between extensions at different sites.
Hotline	One or more phones can be programmed to automatically dial a pre-set number as soon as the handset is picked up.
Hunt Groups	Allows calls to be presented to a group of extensions. Broadcast – all phones ring in a group simultaneously; Sequential – call is presented to the first extension and hunts until it reaches a free extension; Cyclical – call is presented to the next extension after the one which has completed the last call.
Line Pools	Exchange lines or private circuits can be pooled and users given access to specific pools only. (Up to 3 pools on Compact Plus and 15 pools on Modular Plus systems).
Multiple Line Access	Each phone can have several outgoing lines associated with it.
Night Service Line	Capability to switch the system to night service automatically at pre-programmed times.
Operator Controlled Mode	This allows Norstar to work behind a phone system that requires other signals besides dialled digits.
Privacy	When a user is on a phone, no other user can accidentally break-in. However, they can receive or make priority calls if allowed.
Private Lines	An outgoing line can be allocated exclusively to one phone. The only other phone able to use this line is the prime extension.
Public Telephone Network (PSTN) Breakout	Norstar systems on private networks, calls can be directed to breakout onto the PSTN via remote phone systems.
Release Override Password	Allows a user to override.
Simultaneous DDI	Allows more than one call to appear on the same Direct Inward Access Line (DDI) line on the same extension.
Uniform Numbering	One consistent set of numbers can be created for all network extensions.
7-Digit numbering on Private Networks	Allows extensions to be numbered with up to seven digits.

## Call handling benefits

<i>Feature</i>	<i>Benefit</i>
Call Queuing	Incoming trunk calls can be answered by the central answering point in the order in which they were received.
Delay Ring Transfer	Transfers an unanswered call to another extension.
Music/Tone On Hold	The three options for calls on hold are; music, tone or silence.
Prime Extension	Used to receive all unanswered calls – could be operator/receptionist or Voice Mail box.
Second Call Busy	Users can choose how they want to deal with a second internal or external network call; either by switching off the ring tone and give the caller a busy tone, or by retaining the ring tone and answering the second call. Incoming external calls can divert to a pre-programmed extension if a busy extension is encountered.
Transfer (with Callback)	With announcement (allows people to be introduced before leaving them connected), Immediate (allows a transfer to be made without speaking to the third party), Using-Hold (designed for people working close to each other, a call can be picked up by a co-worker by pressing a key).

## Individual user benefits

<i>Feature</i>	<i>Benefit</i>
Autodial Keys (Internal/External)	One button provides access to features or frequently dialed numbers.
Automatic Line Select	Automatically selects a free line for outgoing calls.
Automatic Phone Relocation	Any phone moved from jack to jack will retain its pre-programmed information.
Discriminating Ring Cadences	Internal and external calls sound different.
External Call Diversion	Calls to an extension on a system with digital lines only can be diverted to an external number.
Last Number Redial	Allows the last outgoing number dialed to be automatically redialed.
Manual Line Selection	Allows a user to choose which line they want to make their calls on.
Ring Again	Automatically offers to ring back an extension or line pool when encountering busy or no reply.

## Group user benefits

<i>Feature</i>	<i>Benefit</i>
Answer Groups	A single key can be used to answer up to four extensions.
Call Forward	Ability to forward calls to an alternative extension; either all calls, on busy or no reply.
Call Forward Override	Allows the person taking forwarded calls to bypass call forward and contact the forwarding extension.
Call Forward Retry	In a circular call forward loop where all extensions are busy, the new call will be reactivated every 12 seconds for 2 minutes, waiting to be received.
Call Identification/Call Status Display	Internal calls activate the display on an extension to show who's calling or the status of a call (for example, a forwarded call).
Call Park	Holds a call on the system until it is picked up from a different extension.
Call Pick-Up Group/Trunk Answer	A member of a group can answer another group member's call from their own phone. Exchange calls can be picked up from any phone when a service mode is activated (trunk answer).
Camp on Busy	External calls can be put through to an engaged extension. The extension user hears a warning tone and the call is connected when the extension becomes free.
Conference Calling	Between three internal parties, two internal parties and one external party or one internal party and two external parties.
Dial 0 Extension	Provides single button access to a specific phone (usually the operator/receptionist).

## Group users benefits cont.

<i>Feature</i>	<i>Benefit</i>
Group Listening	The handset and speaker can be connected at the same time. This means that others can hear a conversation without having to use the handsfree option, so there's no background noise.
Messaging on Display	Send (a user can send a message to the display of a busy or unattended phone), Waiting (the unattended or busy set displays the message), Reply (at the touch of a button, the phone can automatically place a call to the party that sent a message).
Paging Internal/External	An internal paging system operates through phone speakers. This can page up to three zones on Compact Plus, and up to six zones on Modular Plus. A public address system can also be connected.
Priority Calls	Allows a phone to interrupt another busy phone. This feature can only be assigned by your system co-ordinator. The interrupted party hears an intrusion tone and can block the interruption within eight seconds.
Proxy Programming	User data from one extension can be programmed easily to another extension.
Tone on Conference	A warning tone indicates when another party joins a conference.
Voice Call/Deny	Allows a user to make an announcement to another extension without waiting for a ring tone or the phone to be answered. This feature can be prevented when interruptions are inappropriate.

## Norstar system phones

<i>Phone</i>	<i>Benefit</i>
M7000	Suitable for an environment where a display is not a requirement. The M7000 has 4 programmable memory keys as well as a message waiting lamp and a ringing indicator.
M7100N	Delivers dependable functionality to users (or areas) with low calling requirements: in other words, where a phone is only going to be needed occasionally or where it is only going to be needed for basic functionality. The M7100N has one programmable memory button and feature button, along with a one-line display.
M7208N	This phone has an 8 number memory and line keys for one touch dialling, feature operation or line access. It also has a menu-driven display for ease of use.
M7310N	This fully featured phone is designed for users with extensive calling and call handling requirements. It is the phone most people choose and it works happily with add-on applications like Voicemail. The M7310N has 10 memory keys for storing frequently used features such as last number redial, transfer and call forward. There are also 12 dual-memory keys, each of which can store two numbers or feature codes, thus presenting users with an additional 24 autodial buttons.
M7324N	This phone is designed to handle heavy call volumes and feature requirements and is ideal for secretaries and receptionists. It has a two-line display and gives one touch access to 24 features, lines or extensions. With the addition of the optional Central Answering Position (CAPN) module, the M7324N can become the focal point of an operator-based system.
Central Answering Position (CAPN) Module	Add the CAPN module to a M7324N phone and it's transformed into an operators position with 48 additional programmable keys and 48 associated LCD indicators. Customers can add up to two CAPN modules to each M7324N, giving users up to 96 extra one key options.

**Norstar system phone features** \*All features marked with an asterisk are not available on the M7000 phone

<b>Feature</b>	<b>Benefit</b>
Contrast Control*	Controls the display contrast on the phone.
Day/Time Display*	When a phone is not being used, the display shows the date and time.
Dialpad Feedback	Each key press is accompanied by an audible tone and the keypad number is shown on the display.
Display Indicators*	Shows the status of each line associated with the extension.
Distinctive Ringing	Phones can be programmed to ring in one of four different ways, making it easy to distinguish incoming calls when they are close together.
Do Not Disturb	Once set by a user, callers hear a busy tone and see a "Do Not Disturb" on their display.
Extension Lock	Allows a user to prevent others from programming their phone.
Handsfree (except M7100N)*	Answerback (the user can answer calls without picking up the handset), Automatic (handsfree is automatically set up when a number is dialled), With Mute (cuts off outgoing speech to allow a user to confer privately while the caller is still on the line).
Headset Connection Capability*	Headset can be connected to phones for privacy when not using handset.
Hearing Aid Compatible	Users wearing hearing aids do not have to put up with feedback.
Held Line Reminder	Reminds the user when a call is on hold.
Hold	Automatic (when a second line, intercom or conference buttons are pressed), I-Hold/U-Hold (the indicator on the phone that puts a call on hold flashes faster than the indicators on other phones sharing the same line).
Liquid Crystal Display*	Displays the line and call details in real time and prompts users through call handling features.
Listen On Hold	If a caller is on hold, the user can monitor the call on handsfree and pick it up as soon as the party returns.
On-hook Dialling	The user can make a call without lifting the handset or using the handsfree key. This works for all dialled calls, system speed-dial, personal speed-dial and features.
Pre-Selection/Call Screening	By pressing the line key, a user can select which ringing line to answer.
Release Key	Disconnects a call.
Speed Dial	Fast access to 70 system numbers and 24 personal numbers on each phone.
User Programmable Keys	Allows users to program their phones to suit their individual requirements.
Volume Control	Controls the volume received by the handset/headset for ringing, background music and paging.

## **Norstar Plus Options**

Norstar Plus phone systems are flexible, reliable, feature-rich and above all easy to use. In addition to all the standard features that come as standard, a number of additional features are available – enabling you to maximise the benefit of your Norstar Plus Phone System.

### **Desktop CTI**

CTI (Computer Telephony Integration) relates to the convergence of IT and telecommunications. In this case, CTI enables a Norstar phone and a PC to work together as one. Desktop CTI uses Calling Line Identity (optional service on ISDN) to 'pop' an incoming caller's

information on the PC screen. Desktop CTI uses an industry standard software interface developed by Microsoft known as TAPI (Telephony Application Program Interface).

Norstar Desktop CTI is designed to work with TAPI 1.1 or 2.0 applications such as:

- Those developed specifically to work with Norstar, such as Personal Call Manager (PCM). PCM is provided with the Desktop CTI package and provides screen pops and basic call control from the PC.
- Those supplied by software vendors for example ACT! by Symantec, or the Address Book Dialler within Microsoft Outlook and Exchange.

PC requirements:

The PC must be IBM compatible and meet the following minimum system requirements:

- Windows 95, 98 or NT4 Operating system
- CD-ROM
- 8Mb RAM
- 8Mb free disk space
- 486 or higher processor

*Note: This specification does not include the requirements of any TAPI application that may be used (excluding Personal Call Manager which is provided in the package). You should contact your software supplier for advice.*

## Desktop ISDN

### Dedicated Lines

Norstar Plus supports desktop ISDN enabling high-speed data transfer and Internet access, as well as the connection of ISDN equipment such as video-conferencing terminals. With ISDN customers maximise the use of digital lines for voice and data and can take advantage of a range of Supplementary Network Services such as Calling Line Identification. Desktop ISDN derives ISDN2e from the ISDN30e or ISDN2e lines connected, giving up to 128kbps bandwidth.

## Small/medium hotel package

The Hospitality package comprises three main features; alarm/reminder calls, status of room occupancy and room condition.

### • Alarm/Reminder calls

This allows the hotel guest to programme the phone to ring at a requested time by using a feature code. Alternatively, reception can assign an alarm call for the room using the 'desk admin' terminal. There are three variable parameters that can be chosen. These are the duration of the wake up call and if a reminder ring is required, after how many seconds it will commence. Secondly, the number of attempts to alert the guest and finally the time interval in minutes between the attempts.

This feature can also be used in a meeting room or at an office desk as a reminder.

The above functionality is to be used with Norstar terminals or with an analogue terminal in combination with an Analogue Terminal Adapter (ATA) or an Analogue Extension Module (AEM).

### • Status of room occupancy

Each room can be assigned a particular level of call access by reception. In other words, there may be a time when it is appropriate to administer certain dialling restrictions to certain rooms.

There are four levels of room status:

**Vacant** – this signals that the room is not occupied and no external calls are permitted.

**Basic** – this status is when the room is occupied but only internal and emergency calls are possible.

**Mid** – again this is when the room is occupied but allows local calls as well as internal and emergency calls.

**Full** – this signifies the room is occupied and no restrictions apply. The occupant can make local, long distance, internal and emergency calls.

### • Room condition

Reception can query and/or set the room condition via the 'desk admin' terminal.

The room condition changes automatically at a pre-set time when the room is occupied. Service personnel can change the room condition to 'service done' by entering a feature code on the terminal. The room will show as vacant when the occupancy status is set to vacant and the room condition is 'service done'.

*The above hospitality features are available with Norstar Plus Release 3 and are accessed via a software key code.*

## Norstar Doorphone

The Norstar Doorphone has been designed to provide two facilities:

### • Intercom

The doorphone provides an intercom at the door so that visitors can press a button to call a nominated Norstar extension for example the receptionist or alternatively a paging zone. Once answered this sets up a two way conversation between the door and the Norstar user.

### • Door Opening

The Norstar door opening controller provides a termination so that, you can link your door locking mechanism to the Norstar system. This means that the receptionist could then unlock the door by pressing a key on the Norstar system phone.

*Note: A qualified electrician is required to wire up and connect the controller to the locking mechanism.*

## Norstar Compact Plus specific options

### Auto Attendant

Norstar Compact Plus Auto Attendant provides three facilities:

### • System Answer

When calls go unanswered at the attendant set, Auto Attendant plays a greeting and then puts the call on hold at that set until it can be answered. This means that incoming callers can be reassured that their call is being dealt with instead of listening to ring tone no reply.

### • Custom Call Routing (CCR)

Once set up, callers follow the recorded instructions to direct themselves to the correct department (callers need a TouchTone phone). This is a fast and efficient way for callers to reach the correct department without having to be transferred by an operator. However, if the options provided are not applicable, they can also reach an attendant by pressing a single digit.

### • Direct Extension Dialling

CCR can also be used to give the caller the opportunity to dial the extension number to get straight through to the person they want to speak to. This can again speed up access for regular callers and free the operator for other calls. CCR also provides a Business Closed State. When in this state a different greeting sequence is played to incoming callers.

This optional feature is activated via a software keycode so no additional hardware is required.

## Norstar Modular Plus specific options

### On-Site Mobility

The Norstar Modular Plus presents customers with an invaluable built-in option: On-Site Mobility. Research indicates that people spend approximately 2.5 hours away from their desks and their phones. With a Companion cordless phone, people can make and take calls anywhere within the coverage area.

## Norstar Plus applications

For more detailed information about Norstar applications such as Voice Mail, Fax Mail, Desktop Messaging and Call Centre solutions, please see our Norstar Applications brochure and Norstar Applications Module Data Sheet.

## Norstar Compact Plus technical specifications

<i>Feature</i>	<i>Specification</i>
Maximum Capacity	Analogue lines only – 8 analogue exchange lines (tone or pulse) and 24 extensions Digital only – 8 ISDN2 channels (i.e. 4 x ISDN2) and 24 extensions Mix – 8 ISDN2 channels, 4 analogue exchange lines and 24 extensions
Switching	Fully Digital
Control	Stored program on upgradeable cassette
Private Circuit Support Capacity	2
Recall	Earth or time break
Power Requirements	240V
Power Consumption	47W
Operating Temperature Range	0 deg to 50 deg C
Humidity Range	5% to 95%
Central Control Unit Dimensions	460x250x165mm
Box Connection Dimensions	356x274x87mm
Central Control Unit Weight	4.00kg
Loop Length	790m

## Norstar Modular Plus technical specifications

<i>Feature</i>	<i>Specification</i>
Maximum Capacity	Total of 188 port ISDN30 - 60 ISDN30 (DASS) channels and 128 extensions Analogue – from 8 analogue exchange lines (tone or pulse) and 128 extensions to 80 analogue exchange lines (tone or pulse) and 32 extensions
Switching	Fully Digital
Control	Stored program on upgradeable cassette
Private Circuit Support Capacity	14
Recall	Earth or time break (variable by line)
Power Requirements	240v AC/50Hz
Power Consumption	48w (basic system), max 144w (fully loaded)
Operating Temperature Range	0 deg to 50 deg C
Humidity Range	5% to 95% non-condensing
Central Control Unit Dimensions	300x630x170mm
Box Connection Dimensions	210x790x95mm
Global Line Module Dimensions	200x630x170mm
Extension Module Dimensions	100x630x170mm
Central Control Unit Weight	4.00kg
Global Line Module Weight	3.6kg
Extension Module Weight	2.0kg
Loop Length	790m

## Norstar Plus peripheral equipment

<i>Peripheral</i>	<i>Functionality/benefit</i>
Analogue Terminal Adapter (ATA)	Enables analogue equipment, such as fax machines and modems to be connected. Can also be used to connect external extensions.
Analogue Extension Module (Modular)	A module that enables up to eight analogue devices to be connected (internal extensions only).
Call Logging Interface (CLI)	Optional add-on unit that links an external call logging device – from a simple serial printer, to an advanced call management system – and uses one extension port.
AC15A Interface	Each AC15A Interface uses one extension port and provides one AC15A circuit. This enables Modular Plus to support up to 14 AC15A private circuits and Compact Plus 2 AC15A circuits.
External Remote Access Device (ERAD)	Unit enabling BT's remote configuration and programming (Modular).
System Auxiliary Power Unit	Connects extensions and Call Logging Interfaces located between 300 and 790 metres from the CCU.

## Norstar Plus system phones \* Compatible with software from Release 3 onwards

<i>Features</i>	<i>M7000*</i>	<i>M7100N</i>	<i>M7208N</i>	<i>M7310N</i>	<i>M7324N</i>	<i>CAPN Module</i>
Programmable Line/ Feature Keys	4	1	8	10	24	48
LCD Indicators		•	•	•	•	
Distinctive Ringers	•	•	•	•	•	
Dial-up Feature Access	•	•	•	•	•	
Dual Memory Function Buttons				12		
16-Character Display (no of lines)		1	1	2	2	
Display Soft Keys			3	3		
On Hook Dialling	•	•	•	•	•	
Volume Control	•	•	•	•	•	
Full Hands-Free			•	•	•	
Wall Mountable	•	•	•	•	•	
Headset Compatible			•	•	•	
Weight (kg) approx.	0.54	1.1	1.5	1.25	1.5	0.9
Dimensions (mm) approx.	195x135x115	255x186x145	255x186x145	296x186x145	367x186x145	231x167x114



For more information about Norstar Compact Plus and Modular Plus, talk to your BT Account Manager.

Ring: **Freephone 0800 800 800.**

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### Offices worldwide

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