



We Really Get IT!

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## Bluetooth Module for IP Phones

*Announcing the Mitel Bluetooth Module and Bluetooth Handset for Mitel IP Phones!*

### Positioning

#### Bluetooth Value Proposition

Mitel extends its awarding-winning desktop portfolio with a range of add-on peripherals and accessories designed to provide greater interoperability and ease-of-use, along with more choice, flexibility, and convergence for the user.

The ability to add accessories to our 5330, 5340 and 5360 IP Phones via the module interface is a key competitive differentiator for Mitel. The Bluetooth accessories are aimed at strengthening this competitive differentiation by enabling customers to **use commercially available Bluetooth headsets on our 5330, 5340 and 5360 IP Phones**. With these accessories, the goal is to drive the adoption of cordless phone technology, which is ubiquitous in the consumer market, into the enterprise market. The Bluetooth accessories allow the user limited roaming capability similar to the roaming capability offered by the Mitel DECT Cordless accessories (i.e. within their own office and adjacent offices) while communicating over the phone. These accessories are targeted at the typical knowledge worker but are now available to mobile workers who want to communicate on their cell phones while roaming throughout the enterprise.

The Bluetooth Handset is intended to free the user from being tethered to their desk while on the phone. The intent is to eliminate the cord on the handset, allowing the user limited mobility – i.e. within their office or adjacent offices. The key value delivered with this level of mobility is convenience, which leads to increased productivity and effectiveness in business communications. The Bluetooth handset is aimed at any phone user who would benefit from being able to wander away from their desk while on the phone. Another key value is availability in that it allows users, such as secretaries of administrative assistants to answer their phone while away from their desk, making them more available to callers.

Bluetooth headsets have become very popular for use with cell phones. Being able to make and answer phone calls without being stuck in one place was a great start but being able to do so without having the distraction of using your hands has made it easier by far to conduct business. Third-party Bluetooth Headsets deliver the convenience of mobility, and provide the added benefits of handsfree operation and integrated features. Bluetooth Headsets are the perfect accessory for the mobile user or knowledge worker who needs to be handsfree so they can work at their computer while on the phone. The ability to answer incoming calls without being right next to the desk phone frees the user from being tied to their desk. For those who need the use of both hands for their job, such as secretaries, knowledge workers, or computer technicians, Bluetooth is invaluable. They are able to make and answer calls without having to put their work on hold while they talk.

## Product Overview / Features & Benefits / Description

### Bluetooth Means Mobility

One area where wireless technology in the consumer space has grown at exponential rates over the past several years is in the adoption of Bluetooth headsets for use with cell phones. Because there is growing demand to adopt support for Bluetooth headsets, Mitel introduces the new Bluetooth Module for 5300 series IP Phones. The Bluetooth Module allows a Mitel IP Phone user to integrate their commercially available Bluetooth headset with their desk phone, allowing them to enjoy the handsfree freedom with their desk phone that they've become accustomed to with their cell phone. The ability to use a single headset with both a desk phone and cell phone augments Mitel's mobility solution for users who want to leverage the Dynamic Extension capability. A user can be on a call on their cell phone, which is part of their Personal Ring Group, using their Bluetooth headset. As they walk into their office they can "handoff" the cell phone call to their desk phone. The user could then connect their Bluetooth headset to their desk phone and continue the call on their headset providing a seamless handover experience from an audio perspective.

Mitel Bluetooth Module and Bluetooth Handset are unique accessories that offer convenience and mobility for Mitel 5330, 5340 and 5360 IP Phone users. The Bluetooth Handset and or 3rd party Bluetooth headset allow the user to have personal area mobility with a potential range of up to 10 meters (100 feet) from their desk within their office or adjacent offices while still communicating on their desk phone. No more missed calls when you step away from your desk for a few minutes to go to the filing cabinet or fax machine or talk to a colleague a few desks away! And with Dynamic Extension and a multipoint Bluetooth headset, mobility users can easily handoff a call from their cell phone to their IP Phone using the same Bluetooth headset to maintain their handsfree call! A Bluetooth headset with multipoint technology can connect to two devices simultaneously. With such a headset, you can easily switch calls from one device to another without having to manually disconnect and reconnect. Multipoint means you can pair your compatible Bluetooth Headset to your mobile phone as well as your desk phone, and no matter which phone rings, the call will come through to your headset. Both GN Jabra and Plantronics have multipoint Bluetooth headsets

In addition to supporting Bluetooth headsets, the Bluetooth Module also supports a new Bluetooth Handset that is available for 5330, 5340 and 5360 IP Phone users. The Bluetooth Handset employs the same form factor as our IP Phone handsets, but without the curly cord tethering users to their desks. With the Bluetooth Handset users are free to move around when on a call.

## Product Features

### Bluetooth Module

The Bluetooth Module fits discretely into the back of the 5330, 5340 and 5360 IP Phones in the existing module compartment. The Bluetooth Module supports a Bluetooth Handset from Mitel as well as a vast number of third-party Bluetooth headsets from many headset manufacturers.

Features of the Bluetooth Module include:

- Support for up to 6 Bluetooth devices per Bluetooth Module
- Supports pairing with third party Bluetooth headsets that comply with Bluetooth version 1.2, 2.0+EDR and 2.1+EDR standard.
- Supports Bluetooth headsets with Dynamic Extension Handoff feature.
- Provide discoverable function such that other Bluetooth devices can discover it.
- Supports pairing of standard 3<sup>rd</sup> party Bluetooth headsets (version 1.2, 2.0 and 2.1), including those that support multipoint or multiuse capability
- Complies with Bluetooth Version 2.1+EDR power class 2 specifications.
- Supported on the Mitel Communications Director and the Mitel 5000 Communications Platform (CP)

## Bluetooth Handset

The Bluetooth Handset is designed to fit into the current handset cradle of the 5330, 5340 and 5360 IP Phones. The Bluetooth Handset is intended to be an accessory that is purchased separately from the phone and installed in the field. The charging plate for the Bluetooth Handset is field retro-fittable. The Bluetooth Handset will charge as long as it is sitting in the handset cradle of the 5330, 5340 or 5360 IP Phone. The 5330, 5340 and 5360 IP Phones inherently provide a mechanism that allows for the addition of a charging plate for charging the Bluetooth Handset. Elements of the Bluetooth Handset are listed below.

Features of the Bluetooth Handset include:

- Initiate Call / End Call Key
- Volume Control Keys
- Mute Key
- Built-in ringer in the Bluetooth Handset
- Place outbound calls while mobile with programmable "Auto Speed Dial" upon off-hook
- Speak@Ease or "0" or Secretary speed call
- LED Indicators on the Bluetooth Module and Bluetooth Handset indicate both connectivity and charging status
- 6 hours talk time
- 44 Hours standby time
- Battery recharge time of 3 hours or less
- Operating range of up to 30 feet (10 Meters) from the 5330/5340/5360 IP Phones
- Out of communications range warning tone
- Bluetooth Handset is Wideband "ready"



### Make Call / Answer Call / End Call Key

Allows users to remotely initiate a call, answer a call, or end a call with the touch of a button.

### Volume Up / Volume Down

The volume keys function the same as the volume keys on the phone.

### Mute

The mute key functions exactly the same as the mute button on the phone. By pressing the mute key, users are able to mute the call, until the mute key is pressed again to enable the microphone on the handset.

### **Handset Rings Independently of the Phone**

Another key feature of the Bluetooth Handset is the ability to have the handset ring on incoming calls, even when it is out of the phone's handset cradle. If you are out of hearing distance of the phone, you will still not miss any calls if you have the Bluetooth Handset with you. It is also a great feature for locating your Bluetooth Handset if you have inadvertently put it down somewhere other than in the cradle or on your desk. Simply call your own phone number, and the handset will also ring.

### **Visual Indicators for On Hook, Off Hook, Mute, Connectivity, Charging, and Low Battery**

Visual indicators are provided on the Bluetooth Module and Bluetooth Handset for a variety of functions:

- Online (handset is synched with the Module)
- Muted
- Battery low
- Off – battery dead or handset not synched with Module

### **LED Indicators**

LED indicators on the Bluetooth Module antenna provide visual indication that the Bluetooth Module is paired successfully with the Bluetooth Handset and / or a 3<sup>rd</sup> party Bluetooth Headset. Flash rates on the indicator are used to provide feedback to the user during the pairing process. LED indicators on the Bluetooth accessories provide both connectivity status and charging state.

### **Programmable Auto Speed Dial Feature**

A unique feature of the Bluetooth Handset is the ability to “auto dial” a preprogrammed number, even if you are not near your phone or have access to the phone keypad. The auto speed dial feature allows the user to program a single speed dial number, e.g., Speak@Ease or company attendant, which is dialed automatically when the user goes off hook on the Bluetooth Handset.

Administrators have the ability to turn this feature on or off. This gives the user flexibility in placing calls when using the Bluetooth Handset away from the proximity of the phone's keypad. The auto speed dial will not apply to calls initiated using the speakerphone. The auto speed dial feature provides a convenient means to place an outgoing phone call for the visually impaired – i.e., no need to see and use a dial pad. When auto speed call is enabled, users simply go off hook using the Bluetooth Handset, wait for the speed dial (e.g., Speak@Ease) and then speak the name of the person they want to reach, or they are simply connected to the Attendant or a secretary. The Bluetooth Handset also provides volume controls to aid the hearing impaired.

### **Power**

The Bluetooth Accessories Module and charging plates have been designed such that they do not need any additional power to operate. The Bluetooth Module and Bluetooth Handset can be charged through the existing phone power (i.e., Power over Ethernet (PoE) or local power adapter).

### **Cordless Devices Application**

The Cordless Devices Application controls the pairing of Bluetooth devices to the phone. It also monitors the battery level of the paired Bluetooth Handset and allows users to inspect the Hardware and Software version numbers for the Bluetooth module and the paired Bluetooth handset. As the Bluetooth headsets are 3<sup>rd</sup> party devices, the hardware, protocol and software versions are not available. As well, the 3<sup>rd</sup> party headsets battery level cannot be determined by the application. Most headset manufacturers give an audible warning in the headset ear piece when the battery is low, and some have a key sequence the user can enter on the headset to determine the battery level.

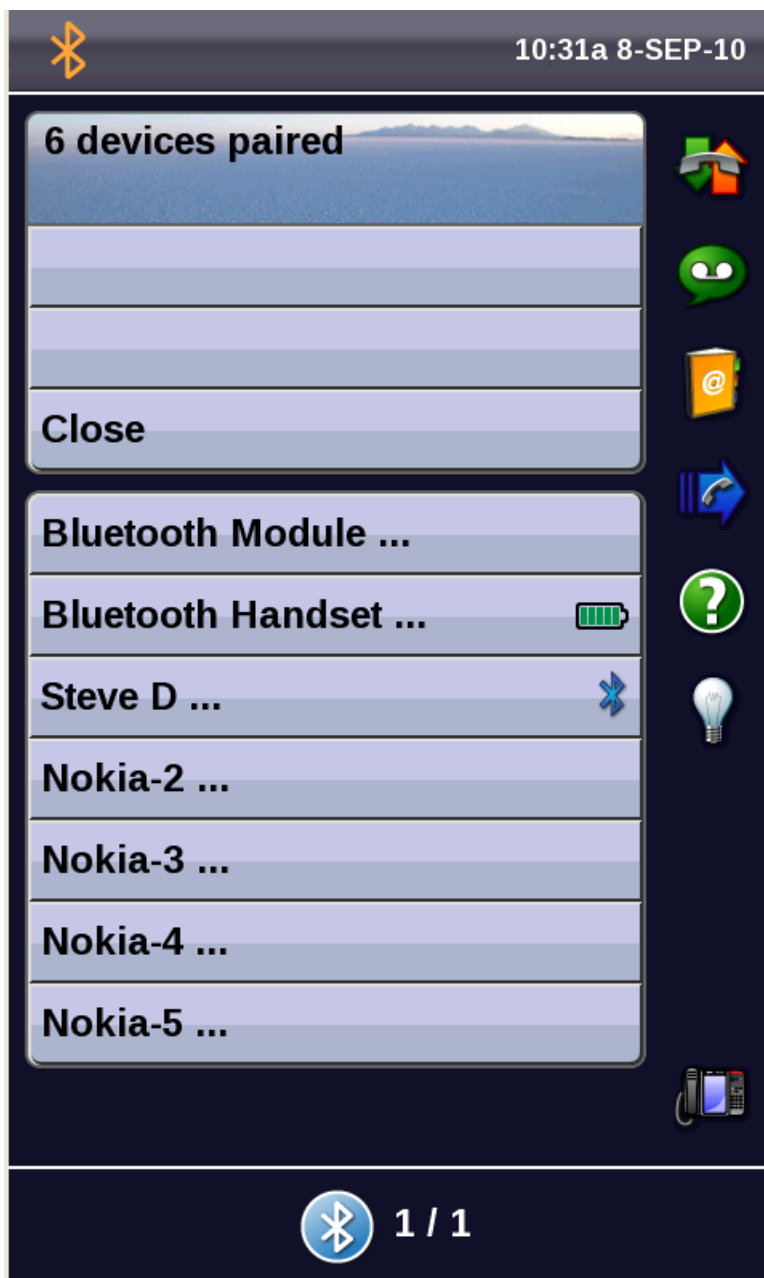
The following features are supported:

- Ability to pair and unpair a Bluetooth device to/from the phone
- Ability to see the battery level for any paired Mitel Bluetooth handset
- Ability to view the list of paired devices on the phone's display

### Administration Capabilities

Administration of the Bluetooth Module and Bluetooth Handset/Headset is accomplished locally at the 5330, 5340 or 5360 IP Phone using the phone's display and soft keys. Administration activities include:

- Pairing / un-pairing – adding / deleting a device for use
- Programming the auto speed dial number
- Enabling / disabling auto speed dial feature



## Bluetooth / DECT Technology Comparison

Below is a table that allows users to compare Bluetooth versus DECT technologies at a glance.

	DECT	Bluetooth	Notes
Range	100 Meters / 300 Feet	10 Meters / 30 Feet	DECT has a much greater range than Bluetooth
Density: Area in Square Meters (Square Feet) Area in Square Meters (Square Feet)	(Standard DECT): up to 120 Devices in 250 M <sup>2</sup> (DECT 6.0): up to 60 Devices in 250 M <sup>2</sup>	Up to 24 devices in 300 M <sup>2</sup>	DECT typically supports almost 5 times the density of Bluetooth
Number of Devices Supported per Module	2 Devices (1 Handset + 1 Headset)	6 Devices (1 Handset + 5 Headsets, or 0 Handsets + 6 Headsets)	Bluetooth supports the pairing of more devices per module. Up to 5 headsets can be paired, and 2 devices (Headset & Handset) can be connected at once.
Power Consumption	3 Watts	1. 20 W talk mode, 0.17 W sleep mode	Bluetooth consumes much less power than DECT. Battery Power / Battery life is much lower on Bluetooth devices than on DECT Cordless devices. Consequently, the range of Bluetooth devices is much lower than DECT.

If users need compatibility with cell phones, then Bluetooth is probably the best technology for you. Bluetooth headsets with multipoint capability can be paired with both a cell phone and a Mitel IP Phone at the same time. This is very convenient in that it allows users to easily switch between the 2 devices without changing headsets. When paired with Mitel's Dynamic Extension capability, users can easily transfer a cell phone based headset call to their desk phone and continue the conversation using the same headset but with the call now anchored on their desk phone, reducing the cellular minutes used. But if users do not need to use their headset with two devices or they are in a high density area, such as a call center, then DECT technology is the better choice. DECT was originally designed for voice communications so it performs better than Bluetooth in high density situations. DECT offers users better voice quality, range, and user density.

## Business Challenges / Benefits

The Bluetooth Handset and Bluetooth Module address a number of challenges in the Enterprise and SMB markets today.

<i>How do I help people be more flexible when they are working at their desk?</i>	Give them the option to use wireless telephony devices, such as Bluetooth, at their desks
<i>I don't want to place a call on hold just to walk over to the fax machine</i>	Use a Bluetooth handset or headset to give people flexibility
<i>I don't want to replace all of the phones I have already purchased</i>	All existing Mitel hardware is supported. Leverage your existing investment
<i>I want to be able to continue on a call that I started on my desk phone, but need to finish on my cell phone.</i>	Using Mitel's Dynamic Extension and a multipoint Bluetooth headset, users can easily transfer a desk phone based headset call to their cell phone and continue the conversation.
<i>I want all of the features I had with my regular handset</i>	Feature rich, 100 percent transparency but with the added benefit of mobility.

### Bluetooth Module Auto Pairing or Proximity Pairing disabled

“Auto Pairing” or proximity pairing has not been enabled on the Bluetooth Module. This was done for security reasons. In an office environment, if auto pairing was enabled, then any Bluetooth device which came in range of an IP Phone with a Bluetooth Module would automatically be paired to that phone. In this scenario, other users could theoretically answer your phone calls on their Bluetooth headset. So Mitel has disabled proximity pairing in the Bluetooth Module in order to prevent this from happening.

### Minimum System Software Requirements

- Mitel Communications Director (MCD), Release 5.0.
- Mitel 5000 Communications Platform (CP), Release 5.0 SP2
- Mitel Border Gateway (MBG) Release 7.0

### Limitations:

- The Bluetooth Module / Bluetooth Handset is NOT supported on the 5324 IP Phone.
- Bluetooth Module and Bluetooth Handset are NOT supported on 5300 IP Phones behind the SX-200 IP Communications Platform (ICP).
- The Bluetooth Module cannot be used in conjunction with other IP Peripherals that also use the module slot as an interface. These include: 5310 IP Conference Module, Line Interface Module, Cordless (DECT) Accessories Module, and Programmable Key Module.
- The Bluetooth Module / Bluetooth Handset are NOT supported on 5330/5340 SIP Phones.

### Bluetooth voice quality compared with DECT

Bluetooth headsets deliver similar voice quality to that of cell phones as both are readily susceptible to local interference. Their quality is never as good as a regular landline. Typically DECT provides reliable voice quality similar to the quality of a landline.

## Technical Specifications

Feature	Specification
Wireless Technology	Bluetooth 2.1 (EDR class 2)
Transmission Power	Power Class 2 - 2.5mW max., 1mW norm., 0.25mW min.
Power Consumption	120mW talk mode, 17mW sleep mode
Power Compliant	IEEE 802.3af Power over Ethernet Compliant
Operating Environment: Temperature Humidity	+10 to +40C / 50°F to 104°F 15% at +40C, 95% at 29C
Storage Environment: Temperature Humidity	0 to +40C / 32°F to 140°F 34% at +40C, 95% at 29C
Range	Up to 10 meters (30 feet) in a typical office environment
Talk time on a single charge (Handset):	6 hours
Standby time (Handset):	44 hours
Handset Battery re-charge time	3 hours
Battery Type	Lithium polymer
Security	Elliptic Curve Diffie Hellman (ECDH) public key cryptography + Linear Feedback Shift Register (LFSR) encryption
MTBF Rates: Bluetooth Module Bluetooth Handset	83 Years 107 Years
Safety	<b>Canada</b> CAN/CSA C22.2 No. 60950-1-03 <b>United States</b> UL 60950-1, 1 <sup>st</sup> Edition <b>European Community</b> EN 60950-1:2001 <b>Australia/New Zealand</b> AS/NZS 60950.1:2003 <b>Other Countries</b> IEC 60950-1:2001, 1 <sup>st</sup> Edition

EMC	<b>Canada</b> IECS-003 <b>United States</b> FCC Part 15 <b>Europe</b> EN 301 489-01 V1.4.1, Part 1 EN 301 489-06 V1.2.1, Part 6
Radio	<b>Canada</b> RSS-210 <b>United States</b> FCC Part 15 Subpart D <b>Europe</b> EN 301 406 V1.5.1
EMF	<b>Canada</b> RSS-102:2005 <b>United States</b> FCC OET Bulletin No. 65, Supplement C <b>Europe</b> Handset EMF: EN 50360:2001 Base station EMF: EN 50385:2002

### Supported Phones

The Bluetooth Module and Bluetooth Handset are supported on the following IP Phones (MiNET mode):

- 5330 IP Phone
- 5340 IP Phone
- 5360 IP Phone.

Power Consumption	5330 IP Phone	5340 IP Phone	5360 IP Phone (10/100 Mb)	5360 IP Phone (Gb)
Typical (Active):	4.8 W	4.8 W	7.4 W	8.6 W
With Bluetooth Module	6.0 W	6.0 W	8.6 W	9.8 W

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