MiCare™

Nurse Call and Emergency System

Table of Contents

List of Figures

1.0 Introduction

The Configuration Utility software allows the installer to configure the ZigBee devices for the network. The installer can set up the network, check for the heartbeats, monitor the traffic, and change the ultrasonic settings.

This software supports the coordinator, router, beacon, ZF3, pendant and pull station.

1.1   Contact Us

For General Inquiries, Customer Service and Technical Support you can contact us Monday to Friday 8:00 A.M. to 5:00 P.M. E.S.T.

1.1.1   General Inquiries

Toll Free	1-888-660-4655 (North America Only)
Local	905-660-4655
Email	mail@mircom.com

1.1.2   Customer Service

Toll Free	1-888-MIRCOM5 (North America Only)
Local	905-695-3535
Toll Free Fax	1-888-660-4113 (North America Only)
Local Fax	905-660-4113
Email	salessupport@mircom.com

1.1.3   Technical Support

Toll Free	1-888-MIRCOM5 (North America Only)
	888-647-2665
International	905-647-2665
Email	techsupport@mircom.com

1.1.4   Website

www.mircom.com

2.0 Installation

1. Double-click **ConfigurationUtilitySetup.exe**.

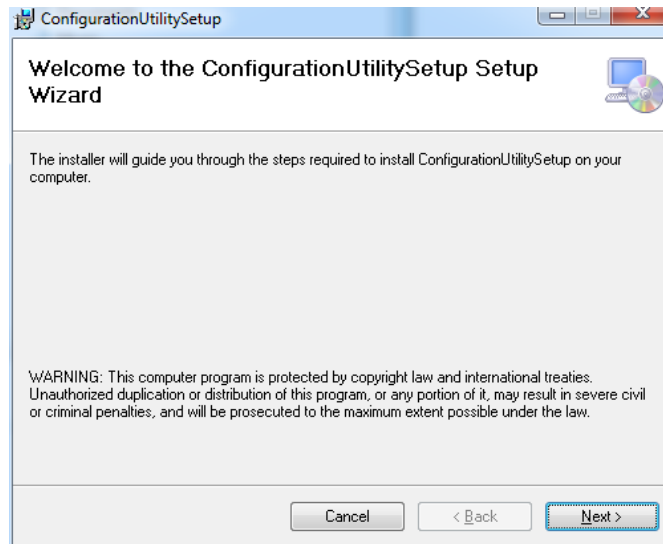   The **Welcome** window appears.

Figure 1   Welcome to the Setup Wizard

2. Click **Next**.

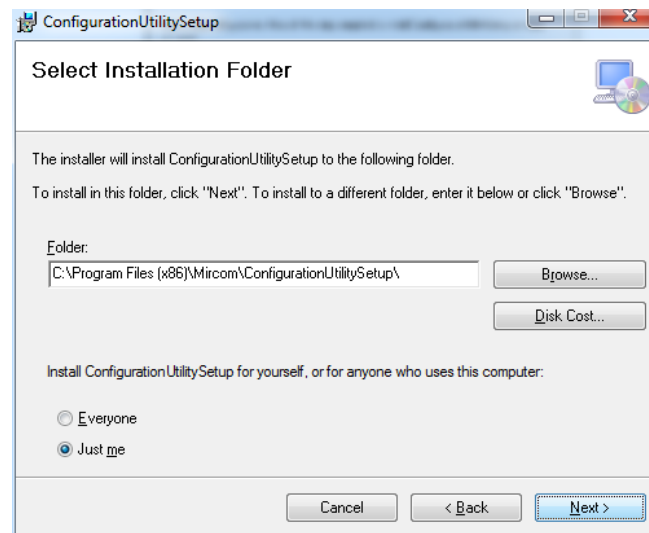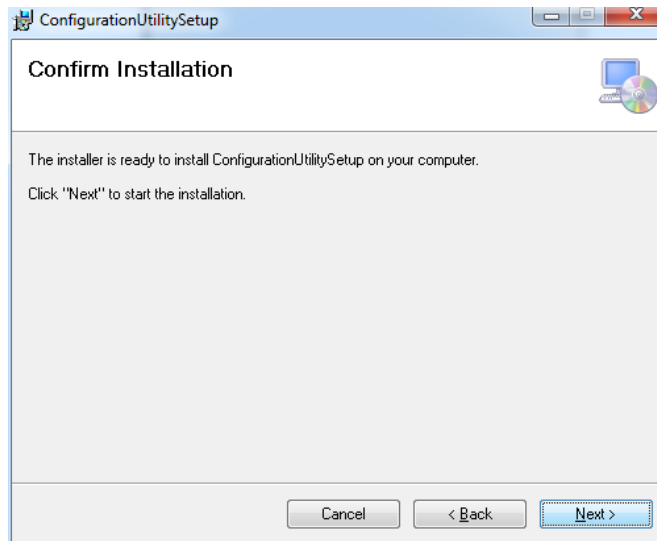   The **Select Installation Folder** window appears.

Figure 2   Select Installation Folder

3. Click **Browse** if you want to change the location where the Configuration Utility is installed.

4. Click **Next**.

The **Confirm Installation** window appears.

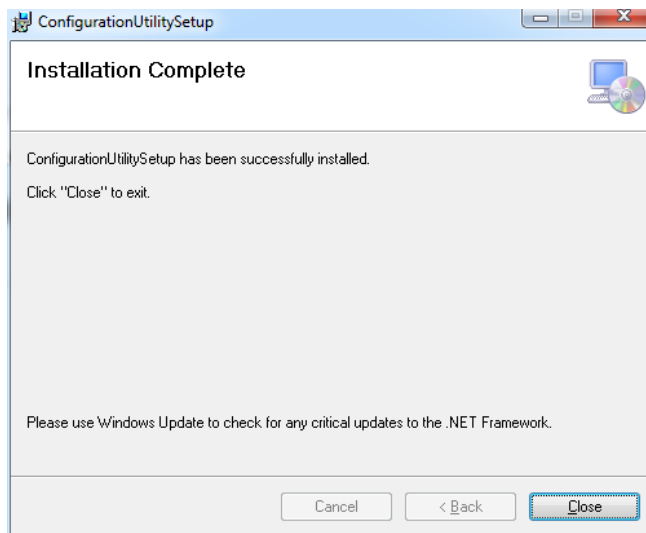5. Click **Next** to begin the installation.

Figure 3   Installation Complete

6. When the installation is complete, click **Close**.

3.0   The Configuration Utility

3.1   Opening the Software the First Time

Figure 4 shows the main Configuration Utility window. All buttons are grayed out except the **Common Call Point Handler** button.
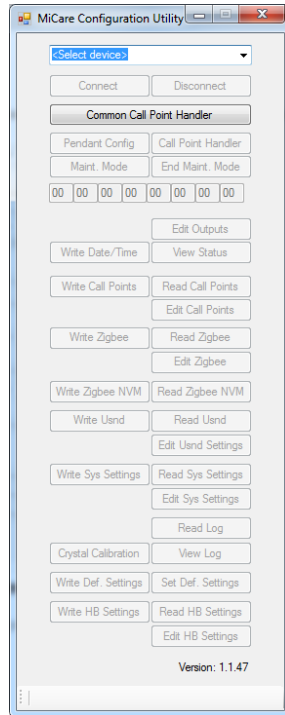
Figure 4   The Configuration Utility

Once the user select the device the **Common Call Point Handler** button is grayed out and the **Connect** button becomes active.

3.2   Connecting a Device to the Computer

1. Connect the device to the computer with a cable as described below.

Each device uses a different cable to connect to a computer. The list below describes the cables needed for the device.

- Coordinator or Router
  - Older hardware uses Type A male to Type B male USB cable
  - Newer hardware uses Type A male to mini Type B male USB cable
  - Needs to be powered up with power adapter
- Beacon
  - Older hardware uses 6-pin FTDI connector
  - Newer hardware uses Type A male to mini Type B male USB cable

- ZF3 or Pull Station
    - a 6-pin FTDI connector

> **!** **Attention: DO NOT CONNECT THE BATTERY WHILE THE DEVICE IS CONNECTED TO THE COMPUTER.**

- Pendant
    - MD-1116-PROTO test jig with its USB cable

> **!** **Attention: DO NOT CONNECT THE BATTERY WHILE THE DEVICE IS CONNECTED TO THE COMPUTER.**

3.3   Connecting the Configuration Utility

1. In the Configuration Utility software, select the device in the drop down menu, as shown in Figure 5.
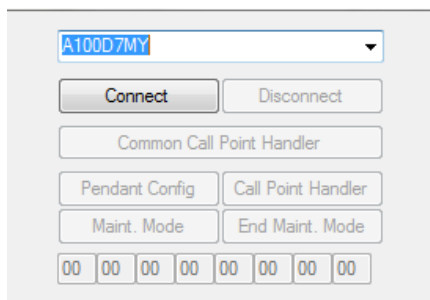
Figure 5   Connecting the device

2. Click **Connect**.

3.4   Setting up the Network

Set up the coordinator first, then the router and beacons. The ZF3, pull stations and pendants should be last. This ensures that the setup is done correctly.

3.4.1   Configuring the Coordinator

You can read, edit and change all the settings except Zigbee in normal mode. To change the Zigbee settings, you must go into maintenance mode.

To change Zigbee settings:

1. Click **Maint. Mode**.
2. Click **Read Zigbee**.
3. Click **Edit Zigbee**.
4. In the popup window, configure the MAC address, PAN ID and only one channel.

5. Click **Write Zigbee**.

6. Confirm that the message on the bottom says, **Write Zigbee Settings: Done! (xxx mS)**.

7. Click **Read Zigbee** and **Edit Zigbee** to confirm that the values were changed.

8. Click **End Maint.Mode**.

9. Click **Disconnect**.

To change heartbeat duration:

1. Click **Read HB**.

2. Click **Edit HB**.

3. In the popup window, select the heartbeat interval, and then click **OK**.

4. Click **Write HB Settings**.

5. Confirm that the message on the bottom says, **Write HB Settings: Done! (xxx mS)**.

6. Click **Read HB** and **Edit HB** to confirm that the values were changed.

3.4.2 Configuring the Router

You can read, edit and change all the settings except Zigbee in normal mode. To change the Zigbee settings, you must go into maintenance mode.

See section 3.4.1 for instructions on configuring the MAC address, PAN ID and the channels. You may choose more than one channel.

To add a sensor (for instance water leak detection) to the first input in the router:

1. Click **Read Call Point**.

2. Click **Edit Call Point**.

   A popup window appears.

3. Keep clicking **Next** until the title reads **Input0**.

4. Check **Cancel Required**.

5. Click **OK**.

6. If the sensor is connected to the second, third or fourth input, then make sure to choose the input in the Call Point accordingly.

7. Click **Write Call Point** when completed.

8. Confirm with the status message **Write CPs: ACK (xxx mS)**.

To configure the ultrasonic settings:

1. Click **Read Usnd**.

2. Click **Edit Usnd Settings** to your desired settings.

3. Click **OK**.

4. Click **Write Usnd**.

5. Click **Read Usnd**.

6. Verify that the settings are what you set in step 3.

Table 1 Sys Settings Options

Sys Settings Options	Description
Enable Ultrasound	To use the ultrasonic feature, check the box
Ultrasonic ID	Set the ID for the device
Power Level	Set the power level of the ultrasonic

To go to advanced settings:

1. Click **Read Sys Settings**.
2. Click **Edit Sys Settings** to your desired settings.
3. Click **OK**.
4. Click **Write Sys Settings**.
5. Click **Read Sys Settings**.
6. Verify that the settings are what you set in step 3.

Table 2 Sys Settings Options

Sys Settings Options	Description
Phone Line Enable	To use the phone, check the box
Zigbee Enabled	Select this option to have the device operate normally. If Zigbee is disabled, the device makes a phone call immediately after it sends the alert message through Zigbee. In this case, the phone line must be enabled and a phone number must be configured in the call point setting of each call point.
Remote Cancel Enable	To allow remote cancel, check the box
Supervised Inputs Enable	To supervise the inputs used for sensors, check the box accordingly
Dome Light Blink Period (seconds)	Set the blinking period of the dome light when active
Interpan Location LQI threshold	The LQI measures the strength of the wireless signal between the pendant and the router. The higher the LQI number, the closer the pendant is to the router, and therefore the more significant in determining the location of the pendant. However, if the LQI is below a certain threshold, the router does not send a location message about that pendant.
Phone: Max. Call Time (minutes)	Maximum number of minutes before the call is disconnected
Phone: Phone Escalation Time (seconds)	Set the escalation time when the phone does not respond

Table 2 Sys Settings Options (Continued)

Phone: Phone Dial Attempts	Set the number of times for the phone to dial before disconnecting the call
Phone: Phone Redial Delay Time (seconds)	Set the time delay after the phone failed to establish the call
Zigbee: Zigbee Escalation Time (seconds)	Set the escalation time when Zigbee does not respond
Zigbee: Zigbee Retry Attempts	Set the number of times for the Zigbee-enabled devices to attempt joining the network before giving up
Zigbee Retry Delay (seconds)	Set the time delay after the Zigbee-enabled devices failed to connect the network

To change the heartbeat duration:

1. Click **Read HB Settings**.
2. Click **Edit HB Settings** to your desired settings.
3. Click **OK**.
4. Click **Write HB Settings**.
5. Click **Read HB Settings**.
6. Verify that the settings are what you set in step 3.

3.4.3 Configuring the Beacon

The installer can read, edit and change all the settings except Zigbee in normal mode. To change the Zigbee settings, you must go into maintenance mode.

See section 3.4.1 for instructions on configuring the MAC address, PAN ID and the channels. You may choose more than one channel.

To configure the ultrasonic settings:

1. Click **Read Usnd**.
2. Click **Edit Usnd Settings** to your desired settings.
3. Click **OK**.
4. Click **Write Usnd**.
5. Click **Read Usnd**.
6. Verify that the settings are what you set in step 3.

The heartbeat is always 5 minutes, so this value cannot change (it will not write to the device).

To go to advanced settings:

1. Click **Read Sys Settings**.
2. Click **Edit Sys Settings** to your desired settings
3. Click **OK**.
4. Click **Write Sys Settings**.

5. Click **Read Sys Settings**.

6. Verify that the settings are what you set in step 3.

3.4.4 Configuring the ZF3

The Configuration Utility can change only the Zigbee settings when it is directly connected to the ZF3.

To change Zigbee settings:

1. Hold the button on the ZF3 until the LED starts blinking.

2. Click **Maint. Mode**.

3. Click **Read Zigbee**.

4. Click **Edit Zigbee**.

5. In the popup window, configure the MAC address, PAN ID and only one channel.

6. Click **Write Zigbee**.

7. Confirm that the message on the bottom says, **Write Zigbee Settings: Done! (xxx mS)**.

8. Click **Read Zigbee** and **Edit Zigbee** to confirm that the values were changed.

9. Click **End Maint. Mode**.

10. Click **Disconnect**.

11. When completed, unplug the USB cable, and plug in the battery.

3.4.5 Configuring the Pull Station

The Configuration Utility can change only the Zigbee settings when it is directly connected to the pull station.

To change Zigbee settings:

1. Hold the emergency button on the pull station for 5 seconds until the LED flashes red and green.

2. Click **Maint. Mode**.

3. Click **Read Zigbee**.

4. Click **Edit Zigbee**.

5. In the popup window, configure the MAC address, PAN ID and only one channel.

6. Click **Write Zigbee**.

7. Confirm that the message on the bottom says, **Write Zigbee Settings: Done! (xxx mS)**.

8. Click **Read Zigbee** and **Edit Zigbee** to confirm that the values were changed.

9. Click **End Maint. Mode**.

10. Click **Disconnect**.

11. When completed, unplug the USB cable, and plug in the battery.

3.4.6 Configuring the Pendant

The Configuration Utility can change only the Zigbee settings when it is directly connected to the Pendant.

To change Zigbee settings:

1. Hold the emergency button on the pendant until the LED flashes red and green.

2. Click **Maint. Mode**.

3. Click **Read Zigbee**.

4. Click **Edit Zigbee**.

5. In the popup window, configure the MAC address, PAN ID and only one channel.

6. Click **Write Zigbee**.

7. Confirm that the message on the bottom says, **Write Zigbee Settings: Done! (xxx mS)**.

8. Click **Read Zigbee** and **Edit Zigbee** to confirm that the values were changed.

9. Click **End Maint. Mode**.

10. Click **Disconnect**.

11. When completed, unplug the USB cable, and plug in the battery.

3.5 Configuring the End Devices through Coordinator

After the network is set up, you can configure the end devices through the coordinator, such as wake up interval, and you can enable ultrasonic on the pendant.

To enable ultrasonic on a pendant:

1. Connect the coordinator to the computer and start the Configuration Utility.

2. Click **Enddevice Config**.

3. Set the settings. For instance, if you want to use ultrasonic on the pendant, then select **Enable Ultrasonic**, then click **OK**.

4. Click **Maint. Mode**.

5. Click **Call Point Handler**.

6. Press and hold the button on the pendant until the red LED blinks.

7. Immediately release the button.

    The green LED starts blinking. You should not see a red LED blinking at the end of the process of getting the configuration.

In the **Call point Handler** window, under **Event Name**, the message should read **Enddevice config message received**, and the MAC address should match the MAC address of the device.

Enddevice config message received means that the coordinator successfully received the configuration request from the end device. However, it does not mean that the end device could successfully receive the reply back.

Table 3 End device Configuration Options

End device Configuration Options	Description
Pendant Ultrasound Enable	To use ultrasonic, check the box.
Join Attempts	Set the number of times for the Zigbee-enabled devices to attempt joining the network before giving up.

Table 3 End device Configuration Options (Continued)

Delay between Attempts (seconds)	Set the time delay after the Zigbee-enabled devices failed to connect the network.
Wake Up Interval (Minutes)	Set the period of waking up the end device to ensure connectivity.
Interpan Wake Up Interval (seconds)	Reserved for future use.
MAC	Reserved for future use.

3.6 Configuring the Router and Beacon through the Coordinator

This procedure will work only if the devices are part of the network.

1. Connect the coordinator to the computer.

2. If you are using a coordinator bundle, press the Reset button on the coordinator that is not connected to the computer to set it to standby mode.

3. Start the Configuration Utility.

4. Type the MAC ID of the beacon or router into the 8 fields.

5. Click **Maint. Mode**.

6. The status bar shows **Read Zigbee Settings: Done! (xxx mS)**.

7. If the status bar does not show this, then the device is not part of the network or active. Make sure that it is powered on, and check the settings again.

8. When you are finished configuring, click **End Maint. Mode**.

3.7 Monitoring the network

After the network has been set up, and the devices have been configured, one can monitor the network through the **Call Point Handler**.

1. Connect the coordinator to the computer and start the Configuration Utility.

2. Click **Call Point Handler**.

Table 4 Call Point Hander

Message	Description	Device
Active ZC	The coordinator is active and sending heartbeats.	Coordinator
Enddevice config message received	The coordinator successfully received the configuration request from the end device. However, this does not mean that the end device could successfully receive the reply back.	End devices (Pull Station, Pendant, ZF3)
Event Name: Input X *Event Status:* Activated *D0:* 00	The input was active and used.	Router ZF3
Event Name: Input X *Event Status:* Deactivated *D0:* 13	The input is back to original state.	Router ZF3

Table 4 Call Point Hander (Continued)

Interpan Message *Addr. Source: MAC address of end device* *Addr. Dest: MAC address of coordinator*	A button on a device is pressed, and the device is trying to broadcast the message to the coordinator.	End devices (Pull Station, Pendant, ZF3)
ZigbeePendant *If D0&D1 = FFFF, ultrasonic was not used*	A button on the end device has been pressed, and the end device has successfully communicated with the coordinator.	End devices (Pull Station, Pendant, ZF3)

You can also check the status of the device by clicking **View Status**.

3.8   Viewing the Log of the Device

To view the log:

1. Connect the device to the computer and start the Configuration Utility.

2. Click **Maint. Mode**.

3. Click **Read Log**.

4. Click **View Log**.

Refer to Table 4 for a description of the device.

3.9   Viewing the Log created by Configuration Utility

The log created by the Configuration utility application is stored in this location:

C:\MiCare\ConfigUtility_Version_{Version Number}\Logs

This directory contains two kinds of log files: one for General Messages and one for exceptions thrown during application runtime.

Table 5 Log files

Type	Destination
General Messages	C:\MiCare\ConfigUtility_Version_{Version Number}\Logs\{Date}_Messages.log
Exceptions	C:\MiCare\ConfigUtility_Version_{Version Number}\Logs\{Date}_Exceptions.log

Figure 6   Sample log file

Figure 6 shows a sample log file. Every line in log file shows the serial port name of the coordinator which the message is generated from. This is followed by the messages Received (RX) / Transmitted (TX).

In case of a failure to find a complete message, the application reports this into the log in red, so that it can be further examined by developers or technicians to diagnose any related problems.

3.10 Common Call Point Handler Window

This window shows messages coming from all ports connected to the Configuration Utility.

Figure 7   Common call point handler window

To open the common call point handler window:

1. Connect the coordinator to the computer and start the Configuration Utility.
2. Click **Common Call Point Handler**.
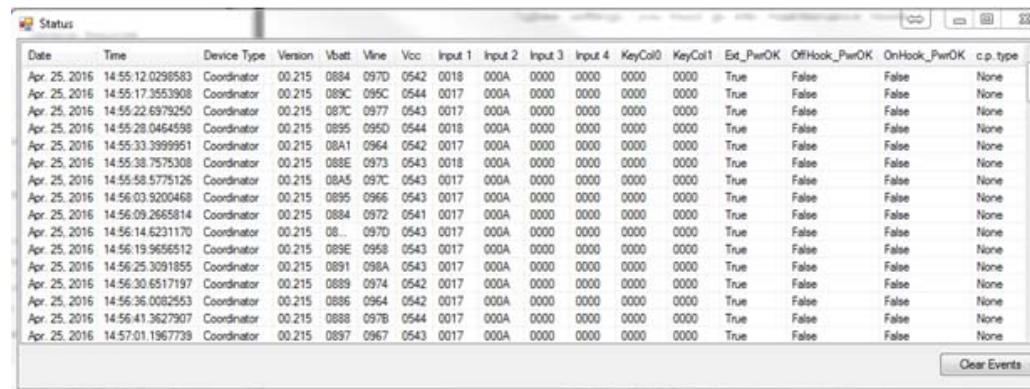
The information in this window is described below.

Table 6 Common Call Pointer Hander Window

Feature	Description
Auto Acknowledge	This allows the user to send acknowledgment to devices once a message is received from a device.
Follow Tail	This allows the message window to auto scroll to the end and always displays the latest message at the bottom.
Refresh	This allows the user to connect to the devices in case a new device is connected.
Device List	Shows the current list of devices connected to the Configuration Utility.

3.11 Status Window

The status window is useful in reading the status of patient units and beacons connected directly through a physical wire or through the coordinator. It shows important information like the version of the firmware, battery status, phone line status, and input statuses. 3.12 shows a example of the status window connected to a coordinator.

Figure 8   Status Window

To open the status window:

1. Connect the coordinator to the computer and start the Configuration Utility.

2. Connect to a device by clicking **Connect**.

3. Click **View Status**.

To clear the messages in the status window:

1. Click the **Clear Events** button.

To read the status of the devices through a coordinator, enter the MAC address of the device in the Configuration Utility window, and then click **View Status**.

3.12 Outputs Window

This window is used to set and unset the outputs on the device. This is useful for testing the outputs by turning them on and off.
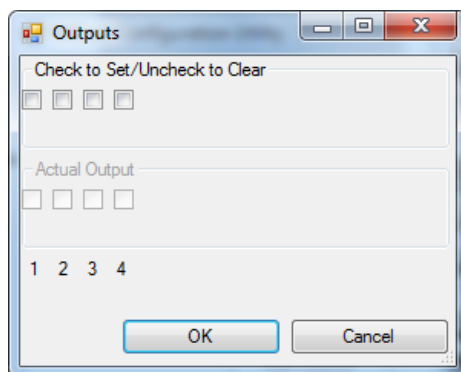

Figure 9   Outputs Window

To open the outputs window:

1. Connect the coordinator to the computer and start the Configuration Utility.

2. Connect to a device by clicking **Connect**.

3. Click **Edit Outputs**.

3.13 Setting the Default Configuration

To reset device settings:

1. Connect to a device by clicking **Connect**.

2. Click **Set Def. Settings** to reset the settings stored in the Configuration Utility.

3. Click **Write Def. Settings** to send the new default settings to the connected device.

i

> **Note:**   This resets call points, ultrasound, Zigbee, and system settings to the defaults.

Mircom™

TECHNICAL SUPPORT
North America
Tel: (888) Mircom5
     (888) 647-2665
International
Tel: (905) 647-2665

U.S.A
575 Witmer Industrial Estates
Niagara Falls, NY 14305
Tel: (888) 660-4655
(905) 660-4655
Fax: (905) 660-4113

CANADA - Main Office
25 Interchange Way
Vaughan, ON L4K 5W3
Tel: (888) 660-4655
(905) 660-4655
Fax: (905) 660-4113