

#### Use HyperTerminal to access your Global Monitoring Units

- View and edit configuration settings
- View live data
- Download recorded data for use in Excel and other applications

HyperTerminal is one of many terminal emulation programs that enable a Windows-based computer to communicate with Global Monitoring Units (GMUs) via a dial-up phone line, serial connection or TCP/IP Network. This document takes you step-bystep through the process of setting up HyperTerminal connections so that access to your GMUs is just a double-click away.

#### **Hardware Requirements**

A desktop or laptop computer running Windows (98, NT, 2K, Vista or 7) with one or more of the following communication devices installed and *properly configured per their manufacturer's instructions*:

- A modem attached to a dial-up phone line (required to connect to dial-up GMUs)
- An internet connection (required to connect to wireless, internet or network based GMUs)
- An RS232 serial port or a USB port with an RS232 adapter (required for a direct cable connection to a GMU)

#### **Software Requirements**

HyperTerminal – You may already have HyperTerminal if you have a pre-Vista version of Windows. Look for it under **Programs**, **Accessories**, **Communications**. A Vista-compatible version is available from its publisher at a nominal cost. (http://www.hilgraeve.com).

#### **Check the Windows' Phone and Modem Settings**

Skip this section if you will not be using a dial-up modem to communicate with your GMUs.

#### Go to the Control Panel and click Phone and Modem Options.

The dialog box lists all of the locations from which you will be using your computer to connect to a GMU via a dial-up modem. In this context, location does not refer to the location of the GMU.

Location information enables HyperTerminal to adapt to the differences in phone systems at different locations; differences such as what number to dial (if any) to access an outside line, or how to temporarily disable *call waiting*.

If an appropriate location is already listed, select it and click **Edit**. If not, select **New**, **Location** and click **New**.

Phone and Modem Options	<u>? ×</u>	
Dialing Rules Modems Advanced		
The list below displays the locations you have specified. Select the location from which you are dialing.		
Location	Area Code	
O GM Office	610	
New Location		
<u>N</u> ew	Edit	
	Cancel Apply	

	New Location ? X
Leastin News deside to a meaningful description of the leastion	General Area Code Rules Calling Card
from which you will be using HyperTerminal.	Location name: Home Office
Specify the <b>Country</b> and <b>Area code</b> for the location from which you will be dialing.	Specify the location from which you will be dialing. Country/region: Area code:
<ul> <li>Dialing Rules specify the 'out of the ordinary' digits that you have to dial to make a phone call. Examples include: <ul> <li>'9' to access and outside line</li> <li>'*67' to disable caller ID</li> <li>a comma to insert a 2-second pause</li> </ul> </li> <li>Note that Windows defines a local call as one in which the number being called shares the same area code as the line being used to place the call, and that Windows assumes that the area code is not required for dialing such calls. If you are dialing from an area that requires an area code for local calls, then include it in the dialing rule for local calls.</li> </ul>	United States 610 Dialing rules When dialing from this location, use the following rules: To access an outside line for local calls, dial: "67,510 To access an outside line for long-gistance calls, dial: "67, Use this carrier code to make long-distance calls: Use this carrier code to make international calls: Use this carrier code to make international calls: To disable call waiting, dial: "70, " Dial using: © Tone © Pulse
<b>disable call-waiting</b> box and entering the code required by your phone company to temporarily disable the feature.	OK Cancel Apply
Click <b>OK</b>	
Click the <b>Modems</b> tab and select the modem you want to use to make the connection. If it doesn't appear on this list, STOP, and re-install the modem according to the manufacturer's instructions. Click <b>Properties</b>	Phone and Modern Options       ? X         Dialing Rules       Moderns       Advanced         Image: The following moderns are installed:       Image: Comparison of the following moderns are installed:         Image: Modern Optional SM56 Data Fax Modern       Not functional         Image: Modern Optional USB Modern       Not present         Image: USB Modern       COM4         Image: Add       Remove       Properties         Image: OK       Cancel       Apply
Check the <b>device status</b> window. If it indicates a problem, then click the troubleshoot button. Make sure that <b>device usage</b> is enabled.	USB Modem Properties       ? ×         General Modem Diagnostics Advanced Driver

#### Using HyperTerminal

	USB Modem Properties
<ul> <li>Click the Modem tab.</li> <li>To aid in troubleshooting, set the Speaker volume at a comfortable listening level so that you can hear the dialing process.</li> <li>Maximum Port Speed refers to the data transfer between your computer is. It does NOT refer to the data speed between your modem and the GMU. Keep this set at the setting determined by Windows when the modem was installed.</li> <li>Wait for dial tone before dialing should be selected. However, if your modem seems to "hang" before dialing, clear this box and try again.</li> </ul>	General Modem Diagnostics Advanced Driver         Port: CDM4         Speaker volume         Off         Image: Comparison of the system of the syst
Click the <b>Diagnostics</b> tab. Check the <b>Append to Log</b> box. This will create a log file of your modem's activity for troubleshooting purposes. It does not record data from the GMU. Click <b>Query Modem</b> . If your modem has indicator lights, you might see them flicker. In a few seconds, diagnostic result will appear in the modem information window. Scroll through the results. Some of the lines should indicate a successful response. A 'Command Not Supported' response is not usually a problem, but may indicate that the modem is not installed properly or that its drivers need to be updated.	USB Modern Properties General Modern Diagnostics Advanced Driver Modern Information Field Value Hardware ID USB\Vid_0803&Pid_3095&Rev_0100 Command Response AT00VIE0 Success AT46DM +GAMM: V90 AT+FCLASS=? 0.11.0.8 AT+FCLASS=? COMMAND NOT SUPPORTED ↓ Query Modern Logging ✓ Append to Log View log
Click <b>OK</b> , then click <b>OK</b> again and you remisted.	

#### **Adding a New Connection**

You need to define a connection for each of your Global Monitoring Units. The information required for a connection definition includes the GMUs name and phone number or IP address.



	New Connection Properties
Click File / Properties	Connect To Settings
Note:	
The <b>Connection Properties</b> window may not look like this until you choose your modem from the <b>Connect using</b> list.	Country/region: United States (1)
In the <b>Connect Using</b> field, choose the modem that you want to use.	Arga code: 610
Enter the <b>Country Code</b> , <b>Area Code</b> and <b>Phone Number</b> for the GMU that you want to connect to.	Phone number:  604-0760 Cognect using: USB Modem
Most phone systems require that you check the <b>Use country/region</b> code and area code box	Configure ☑ Use country/region code and area code
Check <b>Redial on busy</b> box if you want to	Eedial on busy
Click <b>Configure</b>	
	OK Cancel
Set <b>Cancel the call</b> time to 90 seconds or more	USB Modem Connection Preferences ? × General Advanced Call preferences Deperator assisted (manual) dial
Enter the <b>Data Connection Preferences</b> as indicated.	Disconnect a call if idle for more than mins
establish a connection, try different options for <b>Data Protocol</b> and <b>Compression</b> .	Qancel the call if not connected within       90       secs         Data Connection Preferences
	USB Modem Connection Preferences
Click the <b>Advanced</b> tab	General Advanced
Enter the hardware settings as shown. If your GMU consistently answers the call and tries unsuccessfully to establish a connection, try different options for <b>Modulation</b> . Click <b>OK</b>	Terminal Window Bring up terminal window before dialing Bring up terminal window after dialing Hardware Settings Data bits: Barity: None Stop bits: 1 Modulation: Standard OK Cancel

	New Connection Properties
Click the <b>Settings</b> tab	Connect To Settings Function, arrow, and ctrl keys act as
Set Emulation to VT100	Ierminal keys     Mindows keys      Backspace key sends     Del C Ctrl+ <u>H</u> , Space, Ctrl+H  Emulation:
Click Terminal Setup	VT100     Terminal Setup       Telnet terminal ID:     VT100       Backscroll buffer lines:     500
	Play sound when connecting or disconnecting     Input Translation     ASCII Setup
	OK Cancel
Select <b>132 column mode</b> .	Terminal Settings     ?
Click <b>OK</b> , then click <b>OK</b> again to close all of the setup windows	Terminal Modes └ Keypad application mode └ Cursor keypad mode └ [132 column mode] └ Use Windows drivers for emulator printing
	Character set: ASCII
Click <b>File</b> / <b>Save</b> Enter a meaningful name for the connection and choose an icon if you wish.	Connection Description       ?         New Connection         Enter a name and choose an icon for the connection:
Click <b>OK</b>	Name:
Optional, but recommended: In addition to saving the connection as described above, Click <b>File</b> , <b>Save As</b> and choose <b>Desktop</b> to create a shortcut on your computer's desktop for easy double-click access to the GMU.	Midland Pumping Station
Creating a Serial Port Connection	
Start HyperTerminal	Connection Description
If you see this <b>New Connection</b> dialog box, press <b>CANCEL</b>	Enter a name and choose an icon for the connection: Name: Icon: Section: Se
	OK Cancel

Click File / Properties	New Connection Properties     ? ×       Connect To     Settings       New Connection     Change Icon
Note	· ·
The <b>Connection Properties</b> window may not look like this until you select a serial port.	Country/region: United States (1)
In the <b>Connect Using</b> field, select the serial port that you want to use.	Phone number: COM4
Click <b>Configure</b>	Configure
	OK Cancel
Enter the <b>Port Settings</b> as shown	COM4 Properties
Note:	<u>B</u> its per second: <mark>38400 ▼</mark>
The data rate for the GMU is usually set to 38400 Bits per second at the factory. If it was changed from the default, then you must enter that changed value here. If unknown, try each of the six standard rates	Data bits: 8
between 300 and 38400.	Stop bits:
Click <b>OK</b>	Elow control: Hardware
	<u>R</u> estore Defaults
	OK Cancel Apply
	New Connection Properties
Click the <b>Settings</b> tab	Connect To Settings
	Function, arrow, and otri keys act as
Set <b>Emulation</b> to VT100	Backspace key sends
Set the <b>Backscroll buffer lines</b> to 500 lines	Emulation: VT100 Terminal Setup
Click Terminal Setup	Telget terminal ID: VT100 Backscroll buffer lines: 500
	Imput Translation       ASCII Setup
	OK Cancel

Select <b>132 column mode</b> .	Terminal Settings
Click <b>OK</b> , then click <b>OK</b> again to close all of the setup windows	C       Block       C       Inderline       ✓       Blipk         Terminal Modes
Click <b>File / Save</b> Enter a meaningful name for the connection and choose an icon if you wish. Click <b>OK</b>	Connection Oescription       ? ×         Image: New Connection       Prime: Connection         Direct Connection       Connection
<i>Optional, but recommended:</i> In addition to saving the connection as described above, Click <b>File</b> , <b>Save As</b> and choose <b>Desktop</b> to create a shortcut on your computer's desktop for easy double-click access to the GMU.	Loon: Second Second Se
Creating a TCP/IP Connection (for GMU's with Wireless or Ne	etwork Comm Kits)
Start <b>HyperTerminal</b> If you see this <b>New Connection</b> dialog box, press <b>CANCEL</b>	Connection Description       ? ×         Image: Sector of the connection:       Name:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sector of the connection:       Image: Sector of the connection:         Image: Sect
Click <b>File / Properties</b> Note: The <b>Connection Properties</b> window may not look like this until you select a TCP/IP device In the <b>Connect Using</b> field, select the TCP/IP device that you want to use. The window should change.	Connect To       Settings         Image Loon       Change Loon         Country/region:       United States (1)         Enter the area code without the long-distance prefix.         Arga code:       610         Phone number:

	New Connection Properties
Fill in Host Address and Port Number per the instructions that came	Connect To Settings
with the Comm Kit.	
	New Connection Change Icon
Click the <b>Settings</b> tab	Host address:  192.168.5.11
	Port number: 2000
	Connect using: TCP/IP (Winsock)
	OK Cancel
	New Connection Properties
Cat Francisco to VIII00	Connect To Settings
Set Emulation to VI 100	
	● <u>I</u> erminal keys ○ <u>W</u> indows keys
Set the <b>Backscroll Buffer</b> to 500 lines	
	<u>Ctrl+H</u> <u>Del</u> Ctrl+ <u>H</u> , Space, Ctrl+H
	Emulation
Click Terminal Setup	VT100 Terminal Setup
	Telest terminal ID: 1/T100
	Backscroll buffer lines: 500
	Play sound when connecting or disconnecting
	Input Translation ASCII Setup
	OK Cancel
	Terminal Settings
Select <b>132 column mode</b> .	O Block  ⊙ Underline  ☑ Blink
Click <b>OK</b> , then click <b>OK</b> again to close all of the setup windows	Terminal Modes
····	<u>K</u> eypad application mode     Cursor keypad mode
	☑ 132 column mode
	Use Windows drivers for emulator printing
	Character set:
	ASCI
	OK Cancel

#### Click File / Save

Enter a meaningful name for the connection and choose an icon if you wish.

Click **OK** 

Optional, but recommended:

In addition to saving the connection as described above, Click **File**, **Save As** and choose **Desktop** to create a shortcut on your computer's desktop for easy double-click access to the GMU.



#### Interacting with a GMU

	Open
If you previously saved the connection to your Desktop, double-click its shortcut. If you don't have a desktop shortcut, start <b>HyperTerminal</b> . Click <b>File</b> , <b>Open</b> and select a previously defined connection.	Look in:       Image: HyperTerminal         Image: HyperTerminal       Image: Comparison of the state of the sta
<i>If the connection uses a modem</i> ; you will be asked to verify the dialing information. Then click <b>OK</b> .	Connect To     ?       Image: State of the phone number that you want to dial:       Country/region:       United States (1)       Arga code:       610       Phone number:       1161       Cognect using:       USB Modem
Also, if the connection uses a modem; you will be asked to verify your location. The Phone number should be listed exactly as if you were to dial the site yourself, with all of the necessary access codes that may be required by your phone system and by your communications provider. Make any changes that may be required, then click <b>Dial</b> . You may hear dialing tones or pulses followed by a "ring" sound, followed by connect tones from the GMU. If HyperTerminal fails to connect, re-check your settings (especially Dialing Properties settings) and try again.	Connect       ?         See Midland Pumping Station         Phone number: 9,°67,610 471-0440         Your Jocation:         GM Office         Dialing Properties         Calling card:         None (Direct Dial)

Once a connection is established, <b>HyperTerminal</b> switches to its terminal screen and displays text messages streaming from the GMU. The GMU will first prompt you for a security code. You must enter a valid security code within 30 seconds or the GMU will terminate the connection. If you don't receive the prompt, try pressing enter or Control-A. If you don't know the security code, try the factory default security code, <b>11111111</b> (eight ones) followed by <b>Enter</b> . (Note that the GMU supports multiple security levels. A level 1 passcode can access every function, while level 2 and level 3 passcodes are restricted).	Image: Section - HyperTerminal         File Edit View Call Transfer Help         Image: Section - HyperTerminal         Image: Hyper
Once you have gained access, the GMU sends the COMMAND> prompt. Press <b>Enter</b> for a listing of available commands. Commands are structured as three letter abbreviations, followed by 'R' for reports, 'O' for other, and 'S' for setup. Three of the most common commands are <b>INP R</b> (input status report), <b>ALM R</b> (alarm report) and <b>SEC R</b> (security report).	<pre>Midland Pumping Station - HyperTerminal File Edit View Call Transfer Help COMMAND MENU ========= ALM = Alarms BYE = End Session COM = Serial Port CNT = Pulse Counter DIP = DIP Switches HLP = ** Help ** INP = Inputs LOG = Data Recorder OUT = Outputs PHO = Phone Data POW = AC Power RTU = Real-Time Update RUN = Input Runtimers SCH = Scheduled Dial Out SEC = Security TIM = Time and Date TST = Diagnostics XIN = External Input Modules XON = Extended On</pre>
To view a static snapshot of all monitored conditions, type <b>INP R</b> , then press <b>Enter</b> .	Commany Pump Station - HyperTerminal         Difference       Commany Pump         Commany Pump       OK       825.3 GPM         Backup Pump       OK       0.0 GPM         Tank Level       OK       13.43 FT         Overflow Tank       OK       0.00 FT         Time:       09/07/2009 11:14:54

To view all monitored conditions and watch them change in real-time, type RTU, then press <b>Enter</b> . You may have to scroll up in order to see the data. Remember, that the GMU will timeout after two minutes. To disable the automatic timeout feature, type XON, then press <b>Enter</b> .	Midland Pumping Station - HyperTerminal         File Edit View Call Transfer Help         Import Status REPORT         Import Status REPORT         Label       Status Value         Primary Pump       OK       825.3 GPM         Backup Pump       OK       0.0 GPM         Tank Level       OK       13.43 FT         Overflow Tank       OK       0.00 FT         OUTPUT STATUS REPORT
	: Midland Pumping Station - HyperTerminal Eile Edit View Call Iransfer Help
The GMU has the ability to continuously record information at regular intervals (even when it's off-line) and store that information to a log file. You can transfer this file to your PC and then load it into a program (such as Microsoft Excel) for graphing, analysis or report generation.	D≥ ∞ 3 DE E COMMAND>LOG 0
To capture to a file, type <b>LOG O</b> and press <b>1</b> to "Download uncompressed log".	DATA LOG OPERATIONS
On the HyperTerminal menu bar, click <b>Transfer</b> , <b>Capture Text</b> . Then enter a file name and the location on your PC where you want the file to be saved. Then click <b>Start</b> .	<ul> <li>1 = Download uncompressed log in HSLII.</li> <li>2 = Download uncompressed log using X-mod</li> <li>3 = Download compressed log using X-mode</li> <li>4 = Display data log configuration.</li> <li>0 = Previous Menu</li> </ul>
Click anywhere on the terminal window, then press any key to tell the GMU to begin to send its data.	Choose a Number>1
	Press any key to begin download.
	: Midland Pumping Station - HyperTerminal File Edit View Call Iransfer Help
you'll recognize a timestamp, followed by two system fields, followed by input data, output data and by more system fields.	<b>□</b>
The transfer can take from a few seconds to a few hours, depending on how much data is in the log file. To minimize the transfer time, use the <b>LOG S</b> command to clear the log file after you are sure that it was successfully downloaded to your PC. Doing so will eliminate the transmitting of duplicate information during your next session. You can also increase the logging interval.	UFF, U9/U//20U9 11:10:21.1,165,825.3,0. LOG,09/07/2009 11:10:22.0,165,825.3,0. ON ,09/07/2009 11:11:14.5,165,825.3,0. LOG,09/07/2009 11:11:22.0,165,825.3,0. LOG,09/07/2009 11:12:22.0,165,825.3,0. LOG,09/07/2009 11:13:22.0,165,825.3,0. LOG,09/07/2009 11:14:22.0,165,825.3,0. LOG,09/07/2009 11:15:22.0,165,825.3,0. LOG,09/07/2009 11:15:22.0,165,825.3,0. LOG,09/07/2009 11:16:22.0,165,825.3,0.
When the transfer is complete, go to the HyperTerminal menu bar and click <b>Transfer</b> , <b>Capture Stop</b> .	LOG,09/07/2009 11:17:22.0,165,825.3,0.
Then click anywhere on the terminal screen.	Connected 0:10:24 VT100 38400 8-N-1 SCROLL CAP:

You can continue to enter commands or you can terminate the connection by typing **BYE** followed by **Enter**. After the GMU disconnects, you can exit HyperTerminal by selecting File, Exit or you can call another GMU by selecting File, Open, and choosing another defined GMU connection. COMMAND>BYE Off Line Time: 09/07/2009 11:22:24

#### Having problems? Need information?

Visit out support site for Application Notes, Service Bulletins, Troubleshooting information and User Forums.

http://support.GlobalMonitoring.com

#### Global Monitoring + Support

Global Monitoring, LLC. 491 Baltimore Pike #421 Springfield PA 19064 + 1 610 604 0760 www.globalmonitoring.com

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