Virtual COM (VCOM) Setup Guide for BF430 Rev. 1.1

Please carefully follow this guide to successfully install the virtual COM software for Windows 8 32/64-bit, Windows 7 32/64-bit, Vista 32/64-bit and XP.

This installation guide is based on Windows XP 32-bit but same installation procedure applies for other versions of Windows.



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Assigning a static IP address

In order to be able to communicate with the BF430 you need to assign a static IP address to the network connection to which you connect the BF430.

Connect the BF430 via a standard cross-over Ethernet cable. Turn on the power supply to the BF430. In Windows go to Start -> Control Panel -> Network Connections and click on the network at which you connected the BF430, often this is called Local Area Connection, but can very depending on if you have multiple networks connected. Right-click on the icon, scroll down and highlight Internet Protocol (TCP/IP), right-click and click Properties.

上 Local Area Connection Properties 🛛 📪 🔀
General Advanced
Connect using:
Intel(R) PRO/1000 PL Network Conn
This connection uses the following items:
🗹 📮 QoS Packet Scheduler 📃
🗹 🐨 Network Monitor Driver
🗹 🐨 Internet Protocol (TCP/IP)
I <u>n</u> stall Uninstall Properties
Description
Transmission Control Protocol/Internet Protocol. The default
wide area network protocol that provides communication
across diverse interconnected networks.
 Show icon in notification area when connected Notify me when this connection has limited or no connectivity
Close Cancel

The default IP of the BF430 is 192.168.168.125 so you need to assign a static IP to your connection in the 192.168.168.1 to 192.168.254 range except the IP 192.168.168.125 which is the BF430.

Internet P	Protocol (TCP/IP) Propertie	5	? ×
General]		
this cap	n get IP settings assigned autom pability. Otherwise, you need to a ropriate IP settings.		
0 <u>o</u>	btain an IP address automaticall	,	
© U;	se the following IP address:		
<u>I</u> P ac	ddress:	192 . 168 . 168 . 100	
S <u>u</u> br	net mask:	255 . 255 . 255 . 0	
<u>D</u> efa	ult gateway:		
O 0,	<u>b</u> tain DNS server address autom	atically	
© U:	s <u>e</u> the following DNS server add	resses:	
<u>P</u> refe	erred DNS server:		
Alten	nate DNS server:		
		Advanced	
		OK Car	ncel

Assign a static IP as following example and click OK:

To check if you have successfully created a connection to the BF430 you can open a web browser and enter 192.168.168.125 in the address bar. This should bring up a password window:

Connect to 192.168	.168.125	×
	E S	
and password. Warning: This server	168.125 at CHIYU requires a username is requesting that your username and	
user name:	an insecure manner (basic authentication inection).	1
Password:		
	<u>Remember my password</u>	
	OK Cancel	

The user name and password are both: admin

After entering the user name and password you should now be able to see the main configuration window of the BF430 as shown below. If you are getting a 'Not found' error page it means that the BF430 has not been connected correctly to your computer or that the static IP address has not been correctly assigned. In that case check your cable and IP setup.

CHIYU Serial To Ethernet Converter - V	Vindows Internet Explorer					
	💌 🗠 😔 💈	K DLive Search				
<u> </u>	lp .					
🔶 Favorites 🛛 🏉 CHIYU Serial To Ethernet	Converter	👌 🔹 🚐 👻 Bage 🕶 🎽				
R.	One Page Quick Setup (Fixed IP)					
BF-430	IP Address	192 168 168 125				
Main Menu	Subnet mask	255 .255 .0				
One Page Setup	Gateway	192 .168 .168 .254				
Advanced Setu	Primary DNS	168 .95 .1 .1				
 Operation Mode 	Serial Port M	ode				
 <u>Serial Type</u> 	Serial Type	R5232 💌				
<u>Dynamic DNS</u>	Baud Rate	19200 0 (User Defined)				
Management <u>Device Admin</u>	Operation Mo	ode				
System Status	Connection Mode	TCP SERVER				
Done	Connection Dort Number	ISONON ▼ Internet ✓ ♥ 100% ▼				

Creating a virtual COM port

In order to create a COM port you need to install the virtual COM software.

Double-click the file:

VCOM Setup.exe

which can be downloaded from <u>www.Nordfield.com</u>. The file is located in the software folder. Reboot your computer after the installation has finished.

Making sure that your BF430 is powered up and correctly connected to your computer, start the VCOM software by double-clicking VCOM.EXE.

VSPDControl

You should now see the VCOM main screen:

IPSearch Config A	bout Exit				
Comm	Always	OnTheFly	Created	SpeedControl	Create Com Comm: ☑ Always ON ☑ Speed Control ☑ On the fly ☐ Create Comm
IP Manager CommName	Log IP Address	s Status	Port	TCP/UDP	Delete
					Comm:

To search for the BF430 you can click the IPsearch link at the top menu bar which brings up the search screen:

Device Name	Location	Model Name	IP Address	Subnet mask	Gateway	MAC Address
Sierra Wireless Al Adapter - Packet	C595 1xEV-DO No Scheduler Minipo	etwork rt	IP Address : 0 Subnet Mask : 0		0	Refresh Exit

Click the Refresh button and the BF430 should be found if it has been connected correctly:

<u> </u>	IP Locator						
Ad	ministrators <u>H</u> elp						
	Device Name	Location	Model Name	IP Address	Subnet mask	Gateway	MAC Address
1	Chiyu		BF430 232/485 TC	192.168.168.125	255.255.255.0	192.168.168.254	00 0E E3 01 6D 4F
	Sierra Wireless AC5		rk 📕 II	P Address :		. 0	Refresh
		cheduler Miniport	s	ubnet Mask : 0	.0.0		Exit
		s : 0.0.0.0 ask : 0.0.0.0 :		iateway : 0 lac Address :	0.0	0	
	*****	*****	· ·		Alt	er	

If the IP Search tool cannot find the BF430 please see Known Issues.

Go back to VCOM and chose COM1 (or a different COM port according to your needs) in the upper window:

VSPDControl					
IPSearch Config Ab	out Exit				
Comm	Always Or	nTheFly Cr	reated	SpeedControl	Create Com
					Comm: COM1
					M Always UN COM2
					On the fly COM3 COM4
					COM5
					COM6 COM7
					Delete
P Manager	Log				
CommName	IP Address	Status	Port	TCP/UDP	Add IP Address
					Comm:
					IP Address:
					Port: TCP
					Port: TCP
					Add IP
					Delete IP

PSearch Config	About Exit				
Comm	Always	OnTheFly	Created	SpeedControl	Create Com
COM1	У	У	On	У	Comm: COM1 ✓ Always ON ✓ Speed Control ✓ On the fly Create Comm
IP Manager CommName	Log IP Address	s Status	Port	TCP/UDP	CAdd IP Address
					Comm:

Click the Create COM button. The BF430 should now appear at the first line in the upper window:

In the lower window you can now chose COM1 and enter the IP address of the BF430:

COM1 IP: 192.168.168.125 Port: 50000 TCP

VSPDControl						×
IPSearch Config Ab	oout Exit					
Comm	Always	OnTheFly	Crea	ted S	peedControl	Create Com
COM1	У	У	C)n	У	Comm: COM1
IP Manager	Log					Delete
CommName	IP Address	Statu		Port	TCP/UDP	
COM1	192.168.168			50000	TCP	Add IP Address
		5.123 ON				Comm: COM1 IP Address: 192.168.168.125 Port: 50000 TCP Add IP

Virtual Serial 🗙	
Illegal Converter	
OK	
If you are getting an 'Illegal Converter' error you might have entered the wrong port number.	

To delete a COM port you must first highlight the COM port and click Delete IP:

VSPDControl										
IPSearch Config Ab	out Exit									
Comm	Always	OnTheFly	Created	SpeedControl	Create Com					
	у	У	On	У	Comm: COM1					
P Manager	Log				Delete					
CommName	IP Address	Status	Port	TCP/UDP	Add IP Address					
COM1	192.168.168.1	125 ON	5000		Comm: COM1 COM1 PAddress 192.168.168.125 Port: 50000 TCP Address Address Address Address Comparison					

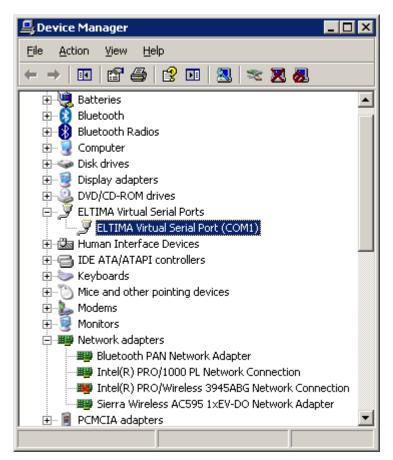
Explanation of checkbox options:

<u>Always ON</u>: This function is used to keep the connection with the BF-430. If the connection is disconnected VCOM will try to re-connect immediately.

<u>Speed Control</u>: This function is used to simulate transmission speed of the virtual created COM port.

On the fly: This function is used to synchronize the RS-232 parameters of the BF-430 with the virtual created COM port when connection is established.

To check if the COM port has been successfully created go to Windows Device Manager where the COM port should be listed:



Making a loop-back test

To test if the BF430 is working correctly and the drivers and cabling has been successfully setup you can make a loop-back test. This will verify if you can send and receive data both ways, from LAN to serial and serial to LAN.

Download and start AccessPort from <u>www.Nordfield.com</u>. When you start AccessPort the first time you will be welcomed with the window shown below. The upper window is the 'receive' window where you receive data, and the lower window is the 'send' window where you can enter a text string to send.

栏 AccessPort - COM1(9600,N,8,1) Closed 📃 🗖	×
<u>File Edit View Monitor Tools Operation H</u> elp	
See 19 19 19 19 19 19 19 19 19 19 19 19 19	
Terminal Monitor	
Hex ab 🖾 🏤	
Upper window Send-> Hex Char Plain Text Real Time Send Clear AutoSend DI Lower window	E A
Ready Tx 2188 Rx 401 COM1(9600,N,8,1) Clos	- //

Click Tools -> Configuration in the menu bar, this will open the configuration window. Enter the correct information. In this case we have created COM port 1 so we select COM 1:

🍓 Options	×
General Event Control Flow Control Timeout Control Monitor Control	General Custom Baud Rate Enable 19200
	Serial Port Settings Port: COM1 Baud Rate: 19200 Parity Bit: NONE Data Bit: 8 Stop Bit: 1 Buffer Size: 8192
	Send display Receive display • Char Format • Char Format • Hex Format • Hex Format AutoSend • Cycle ✓ Enable auto send Cycle Advanced • Auto open port when application start
<u> </u>	 Auto open port when application start Prompt for saving when application exit Remind me when update is available

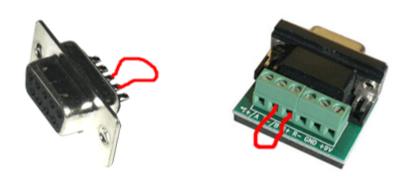
Click OK, this will automatically open the selected COM port if it has been correctly created by the Virtual COM software, and if the BF430 is properly connected to your computer.

	斗 AccessPort - COM1(9600,N,8,1) Opened
	<u>File Edit View M</u> onitor <u>T</u> ools <u>O</u> peration <u>H</u> elp
	🍓 🕘 🛃 🍃 🥝
	Terminal Monitor
	🖬 🔟 Hex ab 💟 🤮
	Send Send Hex Char Plain Text Real Time Send Clear (AutoSend) DTF
C	
	Comm Status CTS CTS RING RING RLSD (CD) CTS Hold CDSR Hold RLSD Hold
	Ready Tx 2188 Rx 401 COM1(9600,N,8,1) Ope //

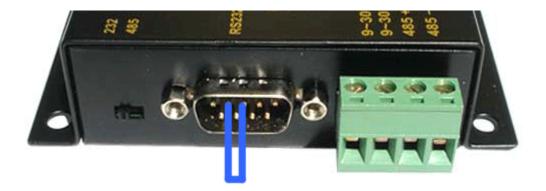
Enter a text string in the lower window and click the AutoSend button:

AccessPort will now start sending the text string to the COM port, the 'Link' and 'Trans' LED lights on the BF430 should now start flashing.

To confirm that the BF430 can send and receive data you now need to connect the TX pin to the RX pin (pin 3 to pin 2) at the DB9 connector on the BF430. The easiest and safest way to do this is by making a loop-back plug from a female DB9 connector or terminal header such as pictured below:



If you do not have any of these available you can manually make a connection from pin 2 to pin 3 at the BF430's DB9 connector by carefully using a piece of wire or even a paper clip to short the pins. Be careful not to short any other pins since this might damage the adapter.



di Acces	sPort - (COM1(9	600.N.	8.1) Or	pened										_ 🗆 ×
File Edit					ation <u>F</u>	telp									
	0	•		-)									
Termi	nal	Mor	nitor												
🔚 🔛 H	tex ab	🖾 🕄	<u>}</u>												
test tes	st test	t test	test	test	test	test	test	test	test	test	test	test	test	test	test
test tes						test	test		test		test	test			
test tes						test			test		test	test	test	test	test
test tes	sc cesi	c cesc	cesc	cesc	cesc	cesc	cesc	cesc	cesc	cesc					
Send-> (О Нех) Char		Plain T	evt	V		eal Time	e Send		Clear	Sto	nSend	DTF
	- 119/		onar		Ji iani i	UNI			eser mins			Gigal	0.0	poona	
test															Ĩ
Comm State	us	🗖 CTS	D	SR 🖡	BING	ìΓ	RLSD (CD) I	CTS	Hold	ΓD	SR Hol	d 🗖	RLSD	Hold [
Ready								Tx	3808	R>	715	C	DM1(960	00,N,8,	1) Ope 🏼 //

With the TX and RX pins looped you will now receive the text string in the receive window:

You have now successfully performed a loop-back test and verified that the converter can transmit and send data and that it is correctly connected and setup.

Known Issues

Problem: VCOM version 4.0.0.0 IP Search tool cannot find the BF430 server.

Observed: Windows 7 32-bit

Solution: Use VCOM version 2.5.8