

Note: This technical note was created by Rock Interface Systems, SIXNET's distributor in Michigan.

SIXNET Modem with DataLink's DL2000-KFX

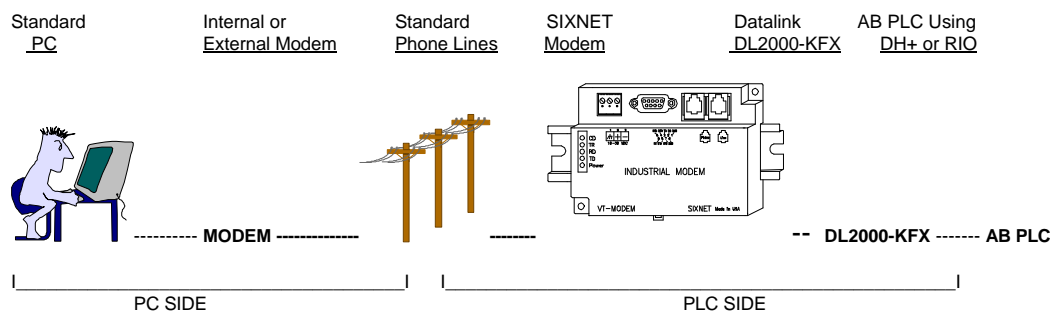
Background...

The SIXNET Industrial Telephone Modem (VT-MODEM-1) and DataLink's DL2000-KFX box are used together when a customer would like to do a remote dial-in to Allen-Bradley's DH+ or Remote I/O network. The SIXNET modem is 33.6K, external, Din Rail mounted modem that offers a standard maintainable AT command set. The DL2000-KFX allows a serial connect using DF1 protocol, then converts that protocol to DH+ or Remote I/O. The combination of these products offers a cost-effective solution for customers to remotely monitor their applications for maintenance, diagnostics or even development on AB PLC's.

Overview...

This diagram illustrates a typical example.

Figure 1-1:



Settings for all devices

NOTE: AT commands and S Registers can be changed in any modem using Hyper Terminal in Windows '95.

Using Hyper Terminal (in Windows '95)

1. Select Start button
2. Go to Accessories
3. Go to Hyper Terminal
4. Double-click on Hypertrm.exe
5. Enter name for new connection (i.e. SIXNET)
6. When phone number box pops up, select pull down arrow under connect using
Choose the com port you have the modem connect to (i.e. COM1)
7. Select OK
8. COM x properties box may appear, if so, select "OK".
9. Type AT &V and your current profiles should appear.

You are now ready to configure your modem.

Settings for Standard PC's Modem PC SIDE

Leave at factory default.

Settings for SIXNET Modem & DataLink DL2000-KFX PLC SIDE

NOTE: The standard 9-pin to 9-pin cable that came with the SIXNET modem was used to change these AT command settings using Hyper Terminal.

The only changes to the SIXNET modem's AT Commands are the following:

ATE(x)	E1 to E0	This disables the Echo command on the SIXNET modem. When you do this, you will not be able to see anything that you type. The modem still accepts what you type. You are disabling the echo from the keyboard. The DL2000-KFX doesn't like echos of any kind to its serial port.
ATQ(x)	Q0 to Q1	This disables the result codes in the SIXNET modem. When you do this change, you will not see an "OK" after you type in an AT Command then ENTER. The modem if typed correctly will still accept the command. The DL2000-KFX doesn't like result codes of any kind to its serial port.
AT&K(x)	K3 to K0	This defines the flow control of the SIXNET modem. When you do this change, you disable Flow Control to the DL2000-KFX. *Remember to choose "Ignore Handshaking" in the DL2000 to match the &K0 AT Command. (Only this setting has been tested.

These are the only changes needed in the SIXNET modem. If you type the following when you're in Hyper Terminal, your changes will be set:

Type: AT&F, ENTER This sets the modem to factory default.
Type: AT&S0=1, ENTER This sets the modem to Auto Answer with 1 ring.
Type: AT&E0, ENTER This disables the echo from the modem.
Remember your keystrokes won't show up in Hyper Terminal anymore.

Type: AT&Q1, ENTER This disables the result codes from the modem.
Remember after you type this, you won't get an "OK" from the modem anymore.

Type: AT&K0, ENTER This disables flow control from the modem.
Type: AT&W0&Y0, ENTER This saves the changes in profile 0 and makes profile 0 the default upon power up.

Type: AT&V, ENTER This views the active profile also profile 0 and 1.

NOTE: Also, power down the SIXNET modem and re-power/re-connect Hyper Terminal to make sure all profiles are saved and are correct.

Settings for the DL2000-KFX

Station Number X (octal) This should be the station number (in octal) you want the DL2000-KFX to be (make sure there are no conflicts with existing DH+ or Remote I/O network stations.)

Network Speed 57.6
Channel Speed 9600 Baud

Serial Parameters: Parity - None
Data Bits - 8
Stop Bits - 1
Handshaking - Ignore
*This should match the &K0 in the SIXNET Modem. No flow control.

DF1 Advanced Parameters: (I used these settings all defaults).
Message Check - BCC
Duplicate Message - Ignore
Embedded Responses - None
Diagnostics - Execute
DF1 Channel Config - Point to Point / Full Duplex

Then download these parameters to DL2000-KFX. (Refer to DataLink App Note for download instructions.)

Settings for Rockwell Software WINtelligent LINX

Any software supporting DF1 protocol with modem dial up capabilities will work. This Application Note was tested with the above software.

STEPS:

1. Select comms from LINX program.
2. Select communication hardware
3. Choose 1770-KF2/KE to DH1DH+ & PLC-5 ch 0
4. Select add new
5. Configure 1770-KF2/KE to DH/DH+ & PLC-5 CH0 box should appear
6. Choose the following:

Driver name KF2-2

Sta # (0-77): X *This should match the station number of the DL2000-KFX .

Comm port-com X This should be the comm port of your modem.

Baud Note - 9600 This should match the DL2000-KFX setting.

Parity - none: This should match the DL2000-KFX setting.

Error checking mode - BCC: This should match the DL2000-KFX setting.

Serial protocol, full duplex: This should match the DL2000-KFX setting.

Data Highway Mode - Data Highway Plus
Initialization Options:

- Select "don't verify settings"
- Select "Modem Dialer"
Configure Dialer Box should appear.
- Type a name in to dial
- Type the phone # you will dial the SIXNET modem on the PLC side.
- Select add entry
- Select OK - make sure your entry is hi-lighted.
- NOTE: I used default settings for Backup, Port
- Config, Modem Config...
- Select OK

No matter whose DF1 software you use, make sure all settings available in the DL2000-KFX match the settings in the DF1 software you use.

CABLE PINOUTS:

Cable pinout for the SIXNET modem to DL2000-KFX (see Figure 1-4).

Figure 1-4:

DL2000-KFX
25 Pin

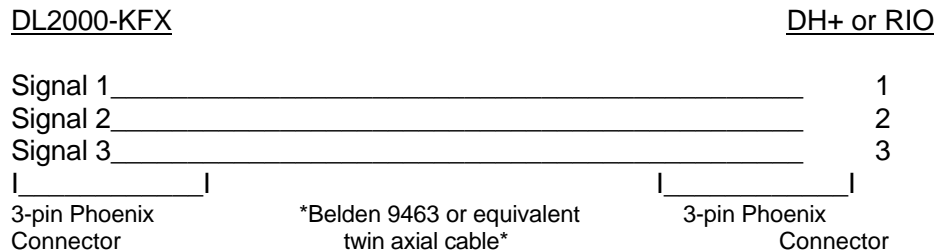
SIXNET MODEM
9 Pin

1	Shield _____	
2	TXD _____	TD 3
3	RXD _____	RD 2
4	RTS _____	RTS 7
5	CTS _____	CTS 8
6	DSR _____	DSR 6
7	GND _____	GND 5
8	DCD _____	DCD 1
20	DTR _____	DTR 4

NOTE: You can use the 9-pin to 9-pin cable supplied with the SIXNET modem and put a 9 to 25 gender changer on the DL2000-KFX side.

Cable pinout for the DL2000-KFX to A-B network DH+ or RIO. See figure 1-5 below.

Figure 1-5:



Any questions or comments on this Application Note, please contact:

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