

## **Application Note**

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## **DL-V3 Ethernet Connectivity**



## 1 Overview

To communicate with the DL-V3 receiver by sending commands and obtaining logs, a connection to some form of data communications equipment is required. Your PC/laptop can also communicate with the receiver using the *Ethernet* interface. This application note gives the step-by-step process for connecting the DL-V3 to the Ethernet using NovAtel's CDU or Telnet. PC/laptop Ethernet port connections are also described.

For more information, please refer to the *DL-V3 User* available from our website at http://www.novatel.com/support/docupdates.htm.

# 2 Required Hardware

The following hardware is required to setup an XPORT AV within a DL-V3 unit:

- user supplied PC/laptop with an available Straight Ethernet, serial and/or USB port
- DL-V3 receiver, power cable and serial communication cables
- one (1) RS-232 null modem cable
- two (2) CAT5 Straight Ethernet cables or one (1) CAT5 cross-over Straight Ethernet cable
- optional USB-to-serial adaptor
- user supplied network Ethernet hub or wired router

# 3 DL-V3 Initial Ethernet Setup

When initially powering up your DL-V3 receiver, you must configure the device into Ethernet mode. To do this, connect the DL-V3 by using a serial or USB cable into your PC/laptop and use either NovAtel's CDU or a Telnet program, like HyperTerminal. Steps for both of these tools are described in the following two sections.

## 3.1 How to connect with NovAtel's CDU

1. Ensure you have the CDU software installed. Download the most recent version available from our Web site at <a href="http://www.novatel.com/support/fwswupdates.htm#pc">http://www.novatel.com/support/fwswupdates.htm#pc</a>.

NovAtel Inc. ■ 1120 – 68th Avenue N.E. Calgary, AB, Canada T2E 8S5 Tel: (403) 295-4500 ■ Fax: (403) 295-4501 ■ Internet: http://www.novatel.com ■ Email: gps@novatel.com 2. In the console command window, enter the following: **APPCONTROL BLUETOOTH 1** SAVECONFIG (optional)

,	
DL-V3 - Console Window	×
<0K	^
[COM1]	
[COM1] appcontrol bluetooth 1	
<ok< td=""><td>-</td></ok<>	-
[COM1]	×
	>
appcontrol bluetooth 1	<u>E</u> nter

Figure 1: CDU Console Window

The Ethernet status LED, labeled **[11]**, at the front of the DL-V3 will emit an amber light when Ethernet is successfully enabled.

### 3.2 How to Connect with Telnet using the HyperTerminal Program

1. Click on the following to access Windows HyperTerminal in Windows XP: START  $\rightarrow$  PROGRAMS  $\rightarrow$  ACCESSORIES  $\rightarrow$  COMMUNICAITONS  $\rightarrow$  HYPERTERMINAL

If HyperTerminal has not been initialized previously, the following window appears:



Figure 2 - Windows HyperTerminal Default Telnet

Select YES to make HyperTerminal your default Telnet program (optional).

2. Select your current country and area code (or city code) you are currently in and then select OK.



Figure 3: HyperTerminal Location

3. Select *OK* in the *Phone and Modem Options* window.

Phone and Modem Options	? 🔰
Dialing Rules	
The list below displays location from which yo Locations:	the locations you have specified. Select the u are dialing.
Location	Area Code
O My Location	403
	lew Delete
$\subset$	OK Cancel Apply

Figure 4 - Phone and Modem Option

The initial setup of HyperTerminal is complete. When HyperTerminal is reinitialized, you are directed to the following screen:

	Connection Description	
--	------------------------	--

Figure 5 - HyperTerminal Default Window (Reinitialized)

4. Enter a desired name in the *Connection Description* window and then select *OK*.

Connection Description	? 🗙
New Connection	
Enter a name and choose an icon for the connection:	
Name:	
ANYTHING	
lcon:	
	>
	ncel

**Figure 6 - Connection Description** 

5. Select the computer's assigned comport which is currently connected to your receiver in the *Connect using:* field and then select *OK*.

Connect To	? 🔀
	NG
Enter details for t	the phone number that you want to dial:
Country/region:	Canada (1) 💌
Area code:	403
Phone number:	
Connect using	СОМ5
	OK Cancel

Figure 7 - Connection to com port setting

- 6. Set the *Bits per second*: field to an optimal rate of 9600 bps.
- 7. Select the *Flow Control* field to *None*.

COM5 Properties					
Port Settings					
Bits per second:	9600				
Data bitu					
Data bits:	8				
Parity:	None				
Stop bits:	1				
Flow control:	None				
	Restore Defaulto				
	Trestore Deraults				
	K Cancel Apply				

**Figure 8 - Com Port Properties** 

The following screen appears:

🌯 ANYTHING - HyperTerminal 📃 🗆 🔀					
File Edit View Call Tr	ansfer Help				
🗅 ൙ 💿 🌋 📭 i	98				
					=
					<u> </u>
Connected 0:09:00	Auto detect	Auto detect	SCROLL	CAPS NU	M Capture

Figure 9 - HyperTerminal Main Window

8. Select to input commands into HyperTerminal.

🧞 ANYTHING - HyperTerminal 📃 🗖 🔀						
File Edit View Call Ti	ansfer Help					
D 🗳 🍙 🍒 🗈	ð (ð)					
						■
<						>
Connected 0:09:00 Auto detect Auto detect				CAPS	NUM	Capture 🦼

Figure 10 - HyperTerminal Main Window

9. Click on the Settings tab and then ASCII Setup....

ANYTHING Properties	? 🗙
Connect To Settings	
Function, arrow, and ctrl keys act as	
Terminal keys	
Backspace key sends	
Otrl+H ○ Del ○ Ctrl+H, Space, Ctrl+H	
Emulation:	
Auto detect Terminal Setup	
Telnet terminal ID: ANSI	
Backscroll buffer lines: 500	
Play sound when connecting or disconnecting	
Input Translation ASCII Setup	
ОК Са	ncel

Figure 11 - HyperTerminal Properties

10. Select the top two options under ASCII Sending, and then select OK.

ASCII Setup 🔹 💽
ASCII Sending
Send line ends with line feeds
Echo typed characters locally
Line delay: 0 milliseconds.
Character delay: 0 milliseconds.
ASCII Receiving <ul> <li>Append line feeds to incoming line ends</li> <li>Force incoming data to 7-bit ASCII</li> <li>Wrap lines that exceed terminal width</li> </ul>
OK Cancel

Figure 12 - ASCII Setup

You can now input commands into HyperTerminal.

11. Enter the following command into HyperTerminal to enable Ethernet mode:

#### APPCONTROL BLUETOOTH 1 SAVECONFIG (optional)

The Ethernet status LED, labeled **E** , emits an orange light when Ethernet mode is successfully enabled.

🧠 ANYTHING - Hyper	Terminal				_ [	
File Edit View Call Tr	ansfer Help					
D 🛩 💿 🕉 🗈 i	<mark>-</mark> 1					
						_^
appcontrol b	luetooth	1				
						=
LCOMT 1						
						<b>~</b>
<			Lectrout	Leane	_	>
Connected 0:02:08	Auto detect	57600 8-N-1	SCROLL	CAPS	NUM	Captu

Figure 13 - Ethernet Enabled

# 4 PC/laptop to DL-V3 Ethernet Port connection

This section contains the configuration methods and the hardware you require to set them up.

## 4.1 Configuration with a CAT5 RJ45 Straight Ethernet Cable

- 1. Connect the first Straight Ethernet cable on a laptop into a free Ethernet port.
- 2. Connect the other free end of the Straight Ethernet cable into a free port on an Ethernet hub or wired router.
- 3. Connect the second Straight Ethernet cable from the back of the DL-V3's Ethernet port to another free port on an Ethernet hub or wired router.
- 4. Connect the power cable to the DL-V3 and power the unit ON.



Figure 14: CAT5 RJ45 Straight Ethernet Cable Connection

Table II erite is en algin easie een galanen =quipinen					
Reference	Description				
1	user supplied PC/ laptop computer				
2	DL-V3 receiver (powered)				
3	user supplied CAT5 Straight Ethernet network cable				
4	user supplied 5 port Ethernet hub/wired router				

#### Table 1: CAT5 RJ45 Straight Cable Configuration Equipment

## 4.2 Configuration via CAT5 Cross-over Ethernet cable

- 1. Connect the CAT5 Cross-over Ethernet cable to a laptop with a free Ethernet port.
- 2. Connect the other free end of the CAT5 Cross-over cable to the DL-V3's Ethernet port at the back.
- 3. Connect the power cable to the DL-V3 and power the unit up.



Figure 15: CAT5 Cross-over Ethernet Cable Connection

Table 2: CAT5 Cross-over Configuration Equipment			
Reference	Description		
1	user supplied PC/laptop computer		
2	DL-V3 receiver (powered)		
3	user supplied CAT5 Cross-over Ethernet cable		

Table 2: CAT5 Cross-over C	Configuration Equipment
----------------------------	-------------------------

### 4.3 Windows XP Network Settings

\*Full administrative access is required to proceed in the following steps.

You are required to setup an alternate TCP/IP configuration (static IP address) when connecting your laptop to the DL-V3 via Ethernet.

1. Click on the following:

Start -> Control Panel -> Network Connections

2. Right click on the Local Area Connections and then select Properties.



Figure 16: Network Connections

3. Select *Internet Protocol (TCP/IP)* and then click *Properties*.

eneral Authentication	Advanced		
Connect using:			
Intel(R) PR0/100	0 GT Desktop A	ıda	Configure
This connection uses the	e following items	c	
Client for Micro:	soft Networks		
File and Printer	Sharing for Mici	osoft Ne	tworks
	DI(ICPAR)		
Install	Uninstall		Properties
Description			
Transmission Control I	Protocol/Interne	t Protoco	ol. The default
across diverse interco	nnected netwo	des comr rks.	nunication
Notifu me when this c	tion area when i connection has l	connecte	:d na connectivitu
<ul> <li>Rouly no monor and a</li> </ul>	onnooton nao	inited of	no connecting

Figure 17: - Local Area Connection Properties

The following window appears:

Internet Protocol (TCP/IP) Properties	?	$\mathbf{X}$
General Alternate Configuration		
You can get IP settings assigned automatically if you this capability. Otherwise, you need to ask your netw the appropriate IP settings.	r network supports ork administrator for	
<ul> <li>Obtain an IP address automatically</li> </ul>		
Use the following IP address:		
IP address:		
Subnet mask:		
Default gateway:		
Obtain DNS server address automatically		
O Use the following DNS server addresses:		
Preferred DNS server: .		
Alternate DNS server:		
	Advanced	וו
	OK Cancel	

Figure 18: Internet Protocol Properties

4. Click *Use the following IP address* option.

nternet Protocol (TCP/IP) Properties			
General			
You can get IP settings assigned auto this capability. Otherwise, you need to the appropriate IP settings.	omatically if your network support ask your network administrator i	s	
<ul> <li>Obtain an IP address automatica</li> </ul>	ally		
OUse the following IP address			
IP address:	and a second		
Subnet mask:			
Default gateway:			
Obtain DNS server address auto	omatically		
─● Use the following DNS server ac	dresses:		
Preferred DNS server:			
Alternate DNS server:			
	Advance	i	
	OK Ca	incel	

Figure 19: Select Static IP Address Configuration

- 5. Enter the following information:
  IP address: 192.168.1.XXX
  where XXX is a number between 1 255, excluding 223
  Subnet mask: 255.255.255.0
- 6. Select OK. You are now back at the Local Area Properties dialog box.
- 7. Select OK.

Local Area Connection Properties	? ×
General Advanced	
Connect using:	
Intel(R) 82566MM Gigabit Network C	<u>C</u> onfigure
This connection uses the following items:	·
File and Printer Sharing for Microsoft N     Fass Protocol (IEEE 802.1x) v3.5.3.0     Thtemet Protocol (ICP/IP)	letworks
	<b>&gt;</b>
Install []pipetal]	Properties
Install Uninstall Description Transmission Control Protocol/Internet Proto wide area network protocol that provides co across diverse interconnected networks.	Properties col. The default mmunication
Install Uninstall Description Transmission Control Protocol/Internet Proto wide area network protocol that provides co across diverse interconnected networks. Show icon in notification area when conne ✓ Notify me when this connection has limited	Properties col. The default mmunication cted or no connectivity
Install Uninstall Description Transmission Control Protocol/Internet Proto wide area network protocol that provides co across diverse interconnected networks. Show icon in notification area when conne ✓ Notify me when this connection has limited D	Properties col. The default mmunication cted or no connectivity Cancel

Figure 20: Local Area Connection Properties

8. Click *Close* to ensure that the IP address has been successfully updated.

🕹 Local Area Connection Properties 🛛 🔹 🔀
General Authentication Advanced
Connect using:
Intel(R) PRO/1000 GT Desktop Ada     Configure
This connection uses the following items:
<ul> <li>☑ Client for Microsoft Networks</li> <li>☑ 是 File and Printer Sharing for Microsoft Networks</li> <li>☑ S™ Internet Protocol (TCP/IP)</li> </ul>
Install Uninstall Properties Description Allows your computer to access resources on a Microsoft network.
Show icon in notification area when connected Notify me when this connection has limited or no connectivity
Close Cancel

Figure 21: Local Area Connection Properties

At this point, your PC or laptop may request a reboot.

## 4.4 Lantronix Setup using Lantronix web Manager

1. Open any web browser and enter the following IP Address: *http://192.168.1.223* in the status bar on the PC/laptop connected via Ethernet to your DL-V3.

Connecting	🚰 🔹 🗟 🔹 🖶 Page 🕶 🕄
Internet Explore	er cannot display the webpage
Most likely causes:	
<ul> <li>You are not co</li> </ul>	onnected to the Internet.
• The website is	encountering problems.
<ul> <li>There might be</li> </ul>	e a typing error in the address.
What you can try:	Connect to 192.168.1.223
<ul> <li>Diagnose Conne</li> </ul>	
More information	
	The server 192.168.1.223 at config requires a username and password.
	licer name:
	Eassmord:
	Remember my password
	OK Cancel

Figure 22: Receiver Configuration

You are prompted to enter a username and password.



Figure 23: Secure Login

 Enter the following: User name: admin Password: PASS (case sensitive) Once authenticated, you are redirected to the Lantronix Web Manager Webpage as shown below.

🏉 Lantronix Web A	lanager - Windows Internet Explo	rer		_ 0 🛛
🚱 🖓 👻 🙋 http	p://192.168.1.223/	~	4 K Google	ρ-
	iv Mah Mananar		🗛 - 🛐 - 📾 - 🕞 Page - 1	Tools * "
Canon	or more manager			
LAN	TRONI <mark>X</mark> °		Web Mana	ager
Status 🗠 Network Line 1	XPort Status			
Line 2	Product Information	1 IIII		
Line 3	Product Type:	Lantronix XPort AR		
Tunnel 1	Firmware Version:	2.0.0.0		
Tunnel 2	Serial Number:	063807004629		
CPM	Uptime:	0 days 00:20:03		
SSH	Permanent Config:	Saved		
SSL	Network Settings			
CU	Ethernet:	Auto (10Mbps Half)		
NTTP	MAC Address:	00:20:4a:88:0f:11		
New York	Host:	<notset></notset>		
Ame	IP Address:	192.168.1.223 / 255.255.255.0		
Email 1	Default Gateway:	0.0.0.0		
Email 2	Domain:	<notset></notset>		
Email 3	Primary DNS:	<notset></notset>		
Email 4	Secondary DNS:	<notset></notset>		
Filesystem	Line Settings			17
Diagnostics	Line 1:	9600, N, 8, 1, None		
System	Line 2:	9600, N, 8, 1, None		
8	Line 3:	Disabled (shutdown)		
	Tunneling	Tunnel 1 Tunnel 2		
		las ir las ir i		

Figure 24: Lantronix Web Manager

You will need to consult with your IT or IS department, or network administrator to find out if your network requires that the DL-V3 Lantronix Ethernet module be set to as a Static IP address or Dynamic Host Configuration Protocol (DHCP) device.

#### 4.5 DHCP Setup

- 1. Click the *Network* link on the left navigation bar to display the Network menu. The sub-menus displayed allow for the configuration of the general network settings, protocol stack, DNS, SNMP, FTP, TFTP, IP address filter, and the query port.
- Click on the following from the navigation menu: Network -> Configuration.

The Network Configuration dialog box opens.

	ITRONI <mark>X</mark> °	Web Manager
Status Network Line 1 Line 2 Line 3 Tunnel 1 Tunnel 2 CPM SSH SSH SSH SSL CLI HITP XML Email 1	Network Configuration	This page is used to configure the Network interface on the device. There are two configuration tables displayed. The first table shows the current running configuration. The second state hows the interface affect and the the device is rebooted. This following terms require a reboot to take effect: BOOTP on/Off DHCP On/Off DHCP On/Off P Address DHCP Client D If there is an P Address, Network Mack, Gateway, Hostmann, Official Statemann, Domain configured for the device end BOOTP on Host is turned on DHCP On/Official Statemann, Official Statemann, DHCP Client D If there is an P Address, Network Mask, Gateway, Hostmann, Official Statemann, Official Statemann, DHCP Client D BOOTP on HOST is turned on DHCP Client D BOOTP on HO
Email 2 Email 3 Email 4	Ethernet: C 10Mbs/Half C 10Mbs/Full C 100Mbs C 100Mbs/Half C 100Mbs/Full	the origination configuration items are ignored. BOOTP/DHCP will auto- discover and eclipse those configuration items.
Filesystem Diagnostics System	Submit DHCP Client turned on ( <i>requires reboot</i> ). The Ethernet Link speed has been changed.	If both BOOTP and DHCP is turned on, DHCP has higher precedence and BOOTP will not get executed. When BOOTP or DHCP fails to discover an IP Address a new address will admandfally.

Figure 25: Lantronix Network Configuration DHCP

- 3. Select DHCP Client and Ethernet Auto.
- 4. Click *Submit*. This may take a minute but returns a screen with the statement telling you that the Lantronix system requires a reboot for the configuration to be changed to DHCP.
- 5. Reboot. After the reboot (or power cycle of the DL-V3), the Ethernet settings are DHCP.
- 6. Connect the DL-V3 to an available Ethernet port using a CAT5 Straight Ethernet cable.
- 7. Your network administrator can tell you what the DHCP assigned TCP/IP address is.

You can then telnet (via HyperTerminal or equivalent Telnet program) to the TCP/IP address (see Section 0 for instructions).

#### 4.6 Static IP Setup

 Click on the following from the navigation menu: Network -> Configuration.

The Network Configuration dialog box opens.

		Web Manager
Status 샵		This page is used to configure the
Network	Network Configuration	Network interface on the device.
Line 1		There are two configuration tables
Line 2	BOOTP Client: C On O Off	displayed. The first table shows the current running configuration. The
Line 3	DHCP Client: C On © Off	second table shows the
Tunnel 1	IP Address: 198.161.80.221	after the device is rebooted.
Tunnel 2	Network Mask: 255.255.255.0	This following items require a
СРМ	Gateway: 198.161.69.2	reboot to take effect:
SSH	MAC Address:	BOOTP On/Off DHCP On/Off
SSL	Heathoma	IP Address
CLI		MAC Address
нттр	Domain:	DHCP Client ID
XML	DHCP Client ID:	If there is an IP Address, Network Mask, Cateway, Hostparte, or
Email 1	C Auto C 10Mbs	Domain configured for the device
Email 2	C 10Mbs/Half ⊂ 10Mbs/Full	and BOOTP or DHCP is turned on, the original configuration items are
Email 3	C 100Mbs C 100Mbs/Half	ignored. BOOTP/DHCP will auto-
Email 4	C 100Mbs/Full	configuration items.
Filesystem	Submit	If both BOOTP and DHCP is turned
Diagnostics		on, DHCP has higher precedence and BOOTP will not get executed
		and booth marrier ger excedited.

Figure 26: Lantronix Network Configuration STATIC IP

- 2. Set both the BOOTP and DHCP to *OFF*.
- 3. Enter the XPort AR's static IP address that is assigned your DL-V3 by your network administrator.
- 4. Click on *Submit*. This make take a minute but returns a screen with the statement telling you that the Lantronix system requires a reboot for the configuration to be changed to the STATIC IP address.
- 5. Reboot. After the reboot (or power cycle of the DL-V3), the Ethernet settings are set to the STATIC IP address.
- 6. Connect the DL-V3 to an available Ethernet port using a CAT5 Straight Ethernet cable.

You can then Telnet (via HyperTerminal or equivalent Telnet program) to the TCP/IP address (see Section 0 for instructions).

## 4.7 Line 1 Setup

The steps to configure Line 1 are the following:

 Click on the following from the navigation menu: Line 1-> Configuration

The Line 1 Configuration window displays.

LAN	IDSTI	<b>NIX</b> °				Web Manage
Status 1 Network Line 1 Line 2 Line 3 Tunnel 1 Tunnel 2 CPM	Line 1	uration nameTwode				This page displays the current status and various statistics for th Serial Line.
SSH				-	1	
SSL			Received	Iransmitted		
CLI		Bytes:	0	6		
нттр		Breaks:	0	U		
XMI		Parity Errors:	0			
Time il 4		Framing Errors:	0			
Email 1		Overrun Errors:	0			
Email 2		No Receive Buffers:	0			
Email 3		Allocated Bytes:	12288			
Email 4		Queued Bytes:	0			
Filesystem		CTS:	n/a			
Diagnostics		RTS:	n/a			
System		DSR:	n/a			
		DTR:	n/a			

Figure 27: Line 1 Properties

- 2. Set the following configuration: Baud rate: 115200 bps Flow Control: Hardware
- 3. Click Submit.

LAN	TRONI	8		Web Manager
Network Line 1 Line 2 Line 3 Tunnel 1 Tunnel 2 CPM SSH SSL CLI	Line 1 Configu Status: Baud Rate: C Parity: Data Bits: Stop Bits: Flow Control:	Uration Current Enabled 115200 None 8 1 Hardware	Change Enabled W 115200 V Ostom None V 8 W 1 W	This page displays the current configuration of the Serial Line. Changing any of the fields takes effect immediately. When specifying a Custom baud rate, elect Cussoa the from the drop down list and then enter the desired rate in the text box.
HTTP XML Email 1 Email 2 Email 3 Email 4 Filesystem Diagnostics System		<		

Figure 28: Baud Rate Set to 115200 bps

4. Reboot the system. On the left hand orange panel, select *Systems* and click *Reboot*.

LAN	TRONIX°	Web Manager
Status 🏠 Network Line 1	System	When the device is rebooted, your browser should be refreshed and redirected to the main status page after 30 seconds. Note that the redirected will not weak on executed if
Line 2 Line 3	Reboot Device	the IP Address of the device changes after reboot.
Tunnel 1 Tunnel 2	Reboot	After setting the configuration back to the factory defaults, the device will automatically be reported
CPM SSH	Restore Factory Defaults	Be careful not to power off or reset
SSL	Factory Defaults         Upload New Firmware	firmware. Once the upload has completed and the new firmware has been verified and flashed, the device will automatically be rebooted.
нттр		
XML Email 1	Upload	
Email 2 Email 3	Name	-
Email 4 Eilesystem	Short Name:	
Diagnostics	Long Name:	
System		

Figure 29: Lantronix Web Manager

5. Select *OK* when prompted to do so.



Figure 30: Reboot Confirmation

You will see the following statement:

#### Rebooting device...

This page should automatically redirect your browser to the Main Status page in 30 seconds.

If you are not redirected to the Main Status page, click *Main Status* to go back to the home page. Upon successful completion, your Line 1 properties are changed and confirmed in the main status page.

LAN	RON	IX <sup>®</sup>				Web Manage
itatus 🔐						
letwork	XPort Status					
ine 1						
ine 2	F	Product Information				
ine 3	F	Product Type:	Lantroni× XPor	t AR		
inco	F	Firmware Version:	2.0.0.0			
	\$	Serial Number:	063807004629	1		
unnel 2	L	Jptime:	0 days 00:00:20	2		
PM	F	Permanent Config:	Saved			
SH	1	Network Settings				
SL	E	Ethernet:	Auto (100Mbps	Full)		
LI	1	MAC Address:	00:20:4a:88:0f:	:11		
TTP	ł	Host:	<notset></notset>			
ML	1	P Address:	192.168.1.223	/ 255.255.255.0		
mail 1	ſ	Default Gateway:	0.0.0.0		1	
mail 2	ſ	Domain:	<notset></notset>			
mail 3	F	Primary DNS:	<notset></notset>		1	
imail 4	5	Secondary DNS:	<notset></notset>		1	
locystem	L	ine Settings				
ingoogling		line 1:	115200, N, 8, 1	, Hardware		
ragnostics	1	line 2:	9600, N, 8, 1, N	lone		
ystem	ı	Line 3:	Disabled (shutd	lown)		
		funneling	Tunnel 1	Tunnel 2		
	0	Connect Mode:	Disabled	Disabled		
		Accept Mode:	Waiting	Waiting	1	

Figure 31: Lantronix Main Web Manager

## 5 Communicating via HyperTerminal

 Click on the following to access HyperTerminal in Windows XP: Start -> Programs -> Accessories -> Communications -> HyperTerminal

If you have not previously initialized HyperTerminal, see Section 3.2.

2 6 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2		
	Connection Description	
	New Connection Enter a name and choose an icon for the connection: Name Name	
	OK Cancel	

Figure 32: - HyperTerminal Defauly Window (Reinitialized)

2. Enter a desired name in the *Connection Description* window and then select *OK*.

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Connection Description
New Connection
Enter a name and choose an icon for the connection:
Name:
ANYTHING
lcon:
N
OK Cancel

Figure 33: Connection Description

- 3. Select *TCP/IP* (*Winsock*) in the *Connect using:* field and then select *OK*.
- 4. Enter the information displayed in Figure 34, below, to communicate with the DL-V3 via HyperTerminal and then click *OK*.

Connect To 🔹 💽			
ANYTHING			
Enter details for	the host that you want to call:		
<u>H</u> ost address:	192.168.1.223		
Port nu <u>m</u> ber:	10001		
Co <u>n</u> nect using	TCP/IP (Winsock)		
	OK Cancel		

Figure 34: IP Address Setup

5. Select **to enable input commands into HyperTerminal.** See Section 3.2 for further information.

You will now be able to send commands to the DL-V3 using HyperTerminal. An example command is shown in the figure below.

🗞 ANYTHING - HyperTerminal 📃 🗆 🔀
File Edit View Call Transfer Help
log version <ok ICOM3J<version 0="" 00000020="" 1436="" 2770<br="" 3681="" 404178.446="" 78.5="" com3="" finesteering="">&lt; 3 &lt; GPSCARD "L12LRVA" "DAB06490183" "OEMV36-3.02-2T2" "3.200" "3.000" 07/Apr/27" "11:58:48" &lt; DB USERAPPAUTO "DL-V3" "0" "" "1.100S2" "" "2007/Jul/09" "19:46:3 USERINFO "LMX9820A" "0623" "" "1.100S2" "" "2007/Jul/09" "19:46:3 &lt; USERINFO "LMX9820A" "0623" "" "1.100S2" "" "2007/Jul/09" "19:46:3 &lt; Comparing to the second second</version></ok 
<u>د</u>
Connected 0:00:39 Auto detect TCP/IP SCROLL CAPS NUM Capture Print echo

Figure 35: - HyperTerminal Successfully Connected with Receiver

## 6 Appendix A:

### 6.1 T568A Wiring Schematic



### 6.2 CAT5 Cross-over Ethernet Cable Wiring Schematic



Figure 37: CAT5 Cross-over Ethernet Cable Pin Out Diagram

# 7 Final Points

## 7.1 Customer Service Contact Information

If you require any further information regarding the topics covered within this application, please contact:

NovAtel Customer Service 1120 – 68 Ave. N.E. Calgary, Alberta, Canada, T2E 8S5 Phone: 1-800-NOVATEL (in Canada or the U.S.) or +1-403-295-4500 Fax: 403-295-4501 E-mail: support@novatel.ca Website: www.novatel.com

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