



DL4500-MEDH+/DH-485 Hardware Setup

The DL4500-MEDH+/MEDH-485 (now referred to as DL4500) hardware platform was designed to be a gateway, which interfaces your Modbus TCP/IP to A-B's Data Highway Plus (DH+) or DH-485 network. It comes in a DC powered Din-Rail Mountable compact cabinet for ease of portability and installation. The DL4500 combines the Lantronix Ethernet Microprocessor with our proven A-B DH+ or DH-485 interface.

This quick start is to help you get started with your DL4500, for more in-depth configuration please refer to the DL4500 User Manual.

Install the Lantronix software (DeviceInstaller)

1. Insert the Equustek Installation product CD into your CD-ROM drive.
 - Select DL4500 Software from the menu
 - Select Install Lantronix DeviceInstaller from the menu
2. If Menu fails to Load
 - Click the Start button on the Task Bar and select Run.
 - Enter your CD drive letter, colon, backslash, cd-start.exe
 - (E.g., E:\cd-start.exe)
3. To Download from the web
 - DeviceInstaller - (<ftp://ftp.lantronix.com/pub/DeviceInstaller/>)

Note: A reboot of your PC may or may not be required at this time Follow Prompts.

Install the DL32 V3.X Configuration Software (DL32V3)

1. Select DL Product Configuration Software from the menu
 - Select Install DL32 V3.X from the menu
 - Follow Prompts.
2. If Menu fails to Load
 - Click the Start button on the Task Bar and select Run.
 - Enter your CD drive letter, colon, backslash, DL32V3, backslash, setup.exe
 - (E.g., E:\DL32V3\setup.exe)
3. To Download from the Equustek website
 - DL32V3 - (<http://www.equustek.com/downloads.html>)

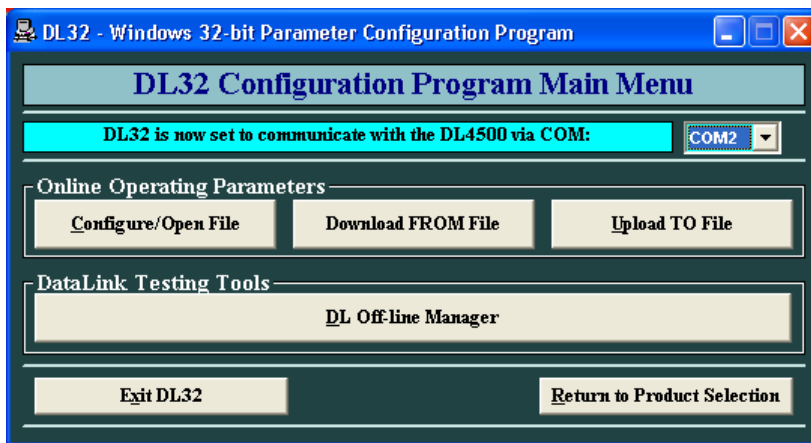
Run the DL32 V3.X Configuration Software (DL32V3)



DL32 Welcome Screen

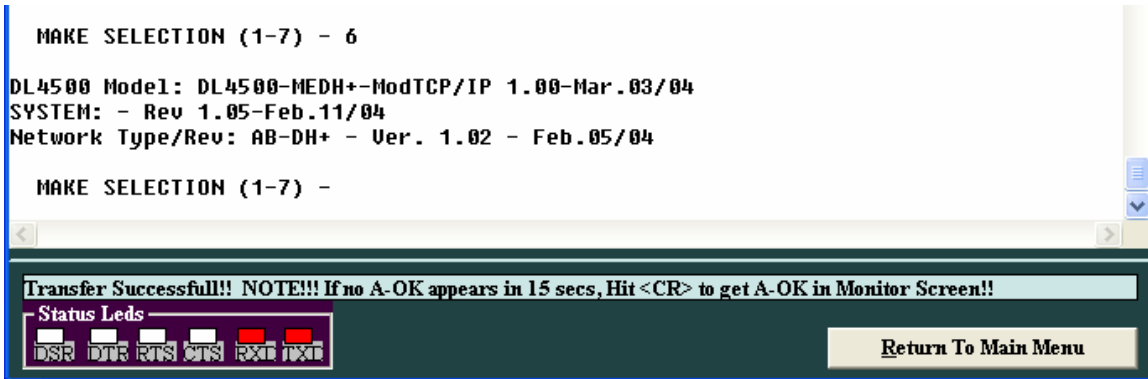
Select DL4500 Models and the Main Menu appears with only the Exit and Return buttons enabled

Select the COM Port on your PC/Laptop connected to the DL4500 and the Operating Parameter and Testing Tools buttons become enabled.



DL32 Main Menu

Select DL Off-line Manager to bring up a “HyperTerminal” type console
Choose ‘6’ to display the firmware version. You should see the following

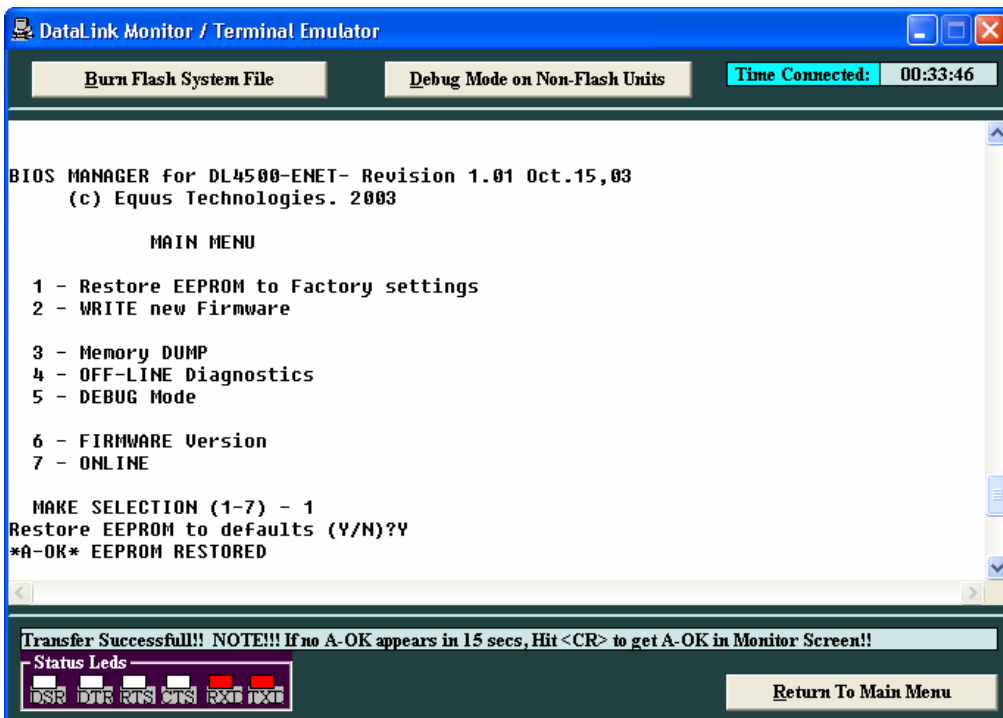


DL Monitor/Terminal Emulator window display firmware version

If you see something different then the firmware has to be updated. Goto the Section on Updating Firmware of the DL4500.

Updating DL4500-MEDH+ operating Parameters

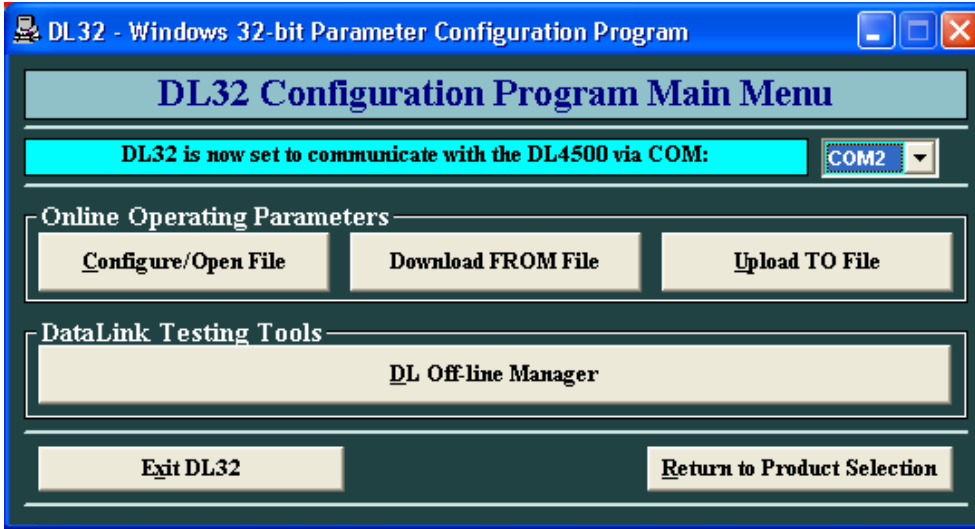
First choose Option ‘1’ to Restore the EEPROM to Factory Settings



DL Monitor/Terminal Emulator window Restore EEPROM to Factory settings

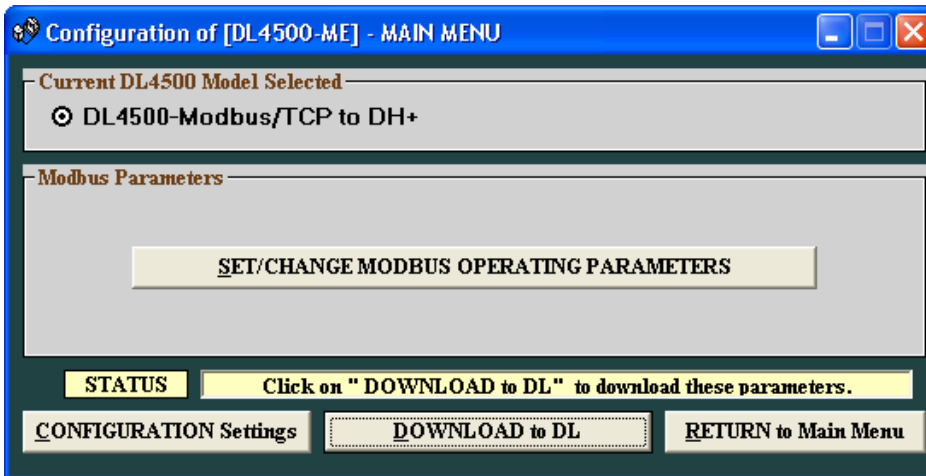
Click on Return to Main Menu Button

Click Configure/Open File button to setup online operating parameters



DL32 Main Menu

The DL4500-MEDH+ window appears. Click on the SET/CHANGE Modbus Operating Parameters button to configure the parameters



Configuration of the DL4500-MEDH+ Parameter Main Menu

The DL4500-MEDH+ Modbus Protocol Parameter Configuration screen

Enter the type of A-B PLC you are communicating to.

Enter from 1 to 8 different slots of the translation table.

The table maps Modicon Registers of any range (0x, 1x, 3x and 4x) to an A-B file and offset inside your PLC. Please note that N files are used for the 4x registers (as shown below) , B files for the 0x and 1x registers and F files are used for Floating Point numbers.

In the example below Registers 40001 to 40100 are mapped to file N7:0, and 40100 to 40200 to file N13:0.

Click on the Accept Current Parameters button to return to the Main Menu

MODBUS PROTOCOL PARAMETER CONFIGURATION

MODBUS DEVICE TYPE

MODBUS PROTOCOL

RTU ASCII

MODBUS SLAVE PARAMETERS

A-B PLC TYPE

PLC 5 PLC 3 SLC or MicroLogix

BROADCAST MESSAGE

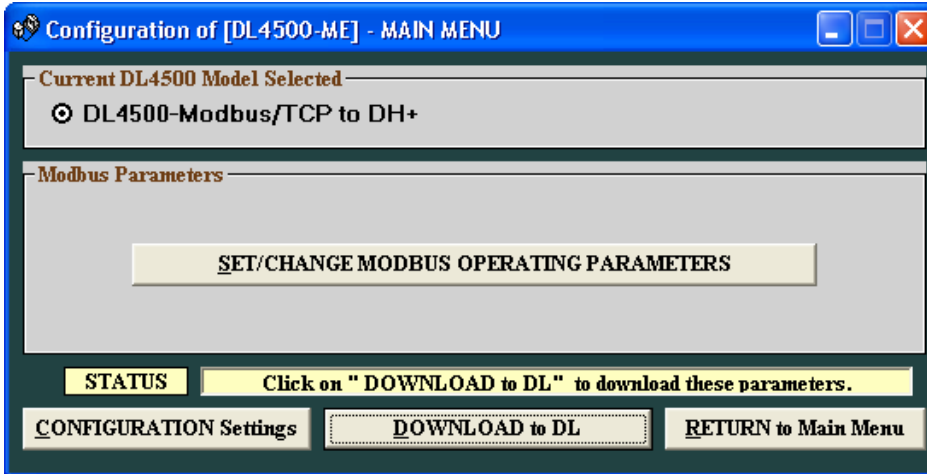
NO YES

MODBUS TO A-B ADDRESS TRANSLATION TABLE

MODICON START Register	MODICON END Register	A-B START File		Floating Point
		FILE	WORD	
XXXXX	XXXXX			<input type="checkbox"/>
40001	40100	7	0	<input type="checkbox"/>
40101	40200	13	0	<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>

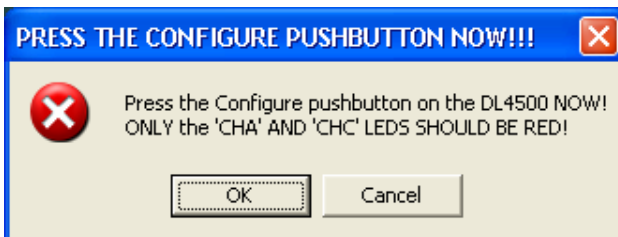
Configuration of the Modbus Protocol Parameters Menu

Click on the Download to DL button to transfer parameters to the DL4500



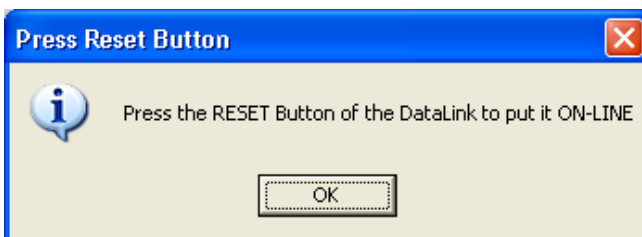
Configuration of the DL4500-MEDH+ Parameter Main Menu

Click on the OK after pressing the Configure button on the DL4500



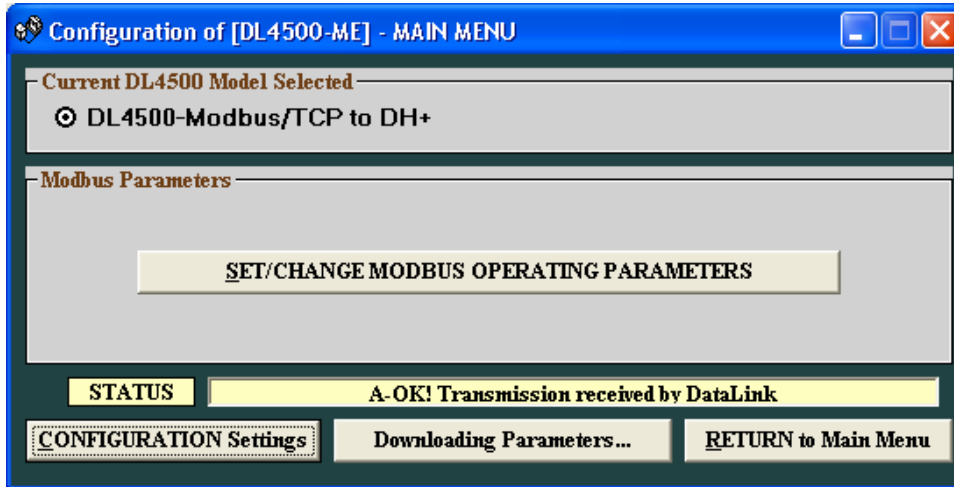
Press Configure button window

Click on the OK after pressing the RESET button on the DL4500 to put the unit back online.



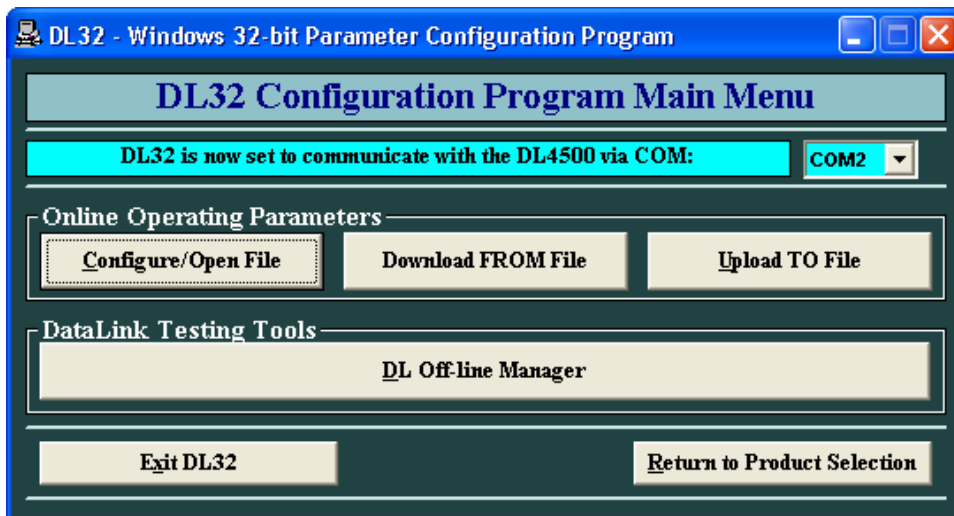
After Download Complete - Press Reset button window

Notice the A-OK! in the status bar, the DL4500 is configured
Click on the Return to Main Menu button to return to the Main Menu



Configuration of the DL4500-MEDH+ Parameter Main Menu

You are done! Click on the EXIT DL32 button to exit the program



DL32 Main Menu

Setting up Modbus/TCP to RTU Bridge parameters.

The Lantronix Ethernet settings have also to be set up with the following.

Use telnet **xx.xx.xx.xx 9999** to access the Modbus TCP/IP settings where **xx.xx.xx.xx** is the IP address of the DL4500.

Modbus/TCP to RTU Bridge
Serial Number 6315888 MAC address 00:20:4A:63:3E:10
Software version 01.4b4 (011013)

Press Enter to go into Setup Mode

After Pressing <ENTER> the following is displayed showing a summary of the parameters

Model: Device Server Plus+! (Firmware Code:AM)

Modbus/TCP to RTU Bridge Setup

1) Network/IP Settings:

IP Address 192.168.1.2
Default Gateway --- not set ---
Netmask --- not set ---

2) Serial & Mode Settings:

Protocol Modbus/RTU,Slave(s) attached
Serial Interface 9600,8,N,1,RS232

3) Modem Control Settings:

DTR Output Fixed High/Active
RTS Output Fixed High/Active

4) Advanced Modbus Protocol settings:

Slave Addr/Unit Id Source .. Modbus/TCP header
Modbus Serial Broadcasts ... Disabled (Id=0 auto-mapped to 1)
Modbus/TCP pipeline Enabled (new MB/TCP requests queued in FIFO)
MB/TCP Exception Codes Yes (return 0x0A and 0x0B)
Char, Message Timeout 00050msec, 05000msec

D)efault settings, S)ave, Q)uit without save
Select Command or parameter set (1..4) to change:

After Pressing <D> for setting the unit to Default settings the following is displayed

Modbus/TCP to RTU Bridge Setup

>>> Resetting to factory defaults <<<<

D)efault settings, S)ave, Q)uit without save
Select Command or parameter set (1..4) to change:

After Pressing <2> for setting the units Serial and Mode settings. Make sure they are set as follows. Hitting <ENTER> keeps them at their Defaults (shown in brackets)

Attached Device (1=Slave 2=Master) (001)
Serial Protocol (1=Modbus/RTU 2=Modbus/ASCII) (001)
Interface Type (1=RS232 2=RS422/RS485+4-wire 3=RS485+2-wire) (001)
Enter serial parameters (9600,8,N,1) 115200,8,n,1

Modbus/TCP to RTU Bridge Setup

1) Network/IP Settings:

IP Address 192.168.1.2
Default Gateway --- not set ---
Netmask --- not set ---

2) Serial & Mode Settings:

Protocol Modbus/RTU,Slave(s) attached
Serial Interface 115200,8,N,1,RS232

3) Modem Control Settings:

DTR Output Fixed High/Active
RTS Output Fixed High/Active

4) Advanced Modbus Protocol settings:

Slave Addr/Unit Id Source .. Modbus/TCP header
Modbus Serial Broadcasts ... Disabled (Id=0 auto-mapped to 1)
Modbus/TCP pipeline Enabled (new MB/TCP requests queued in FIFO)
MB/TCP Exception Codes Yes (return 0x0A and 0x0B)
Char, Message Timeout 00050msec, 05000msec

D)efault settings, S)ave, Q)uit without save
Select Command or parameter set (1..4) to change:

After Pressing <Q> for Quit the unit is configured and the following is displayed

Parameters saved, Restarting ...
Connection to host lost.

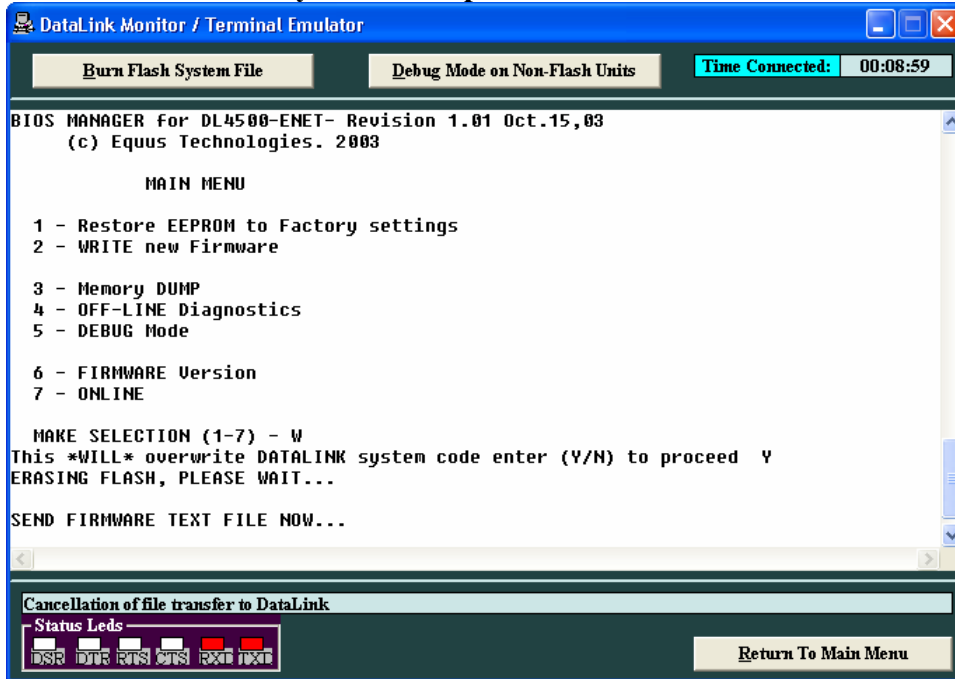
Press the RESET Button on the DL4500 and you are ONLINE.



Updating Firmware of the DL4500 to Modbus TCP/IP.

Press option '2' off the Main Menu

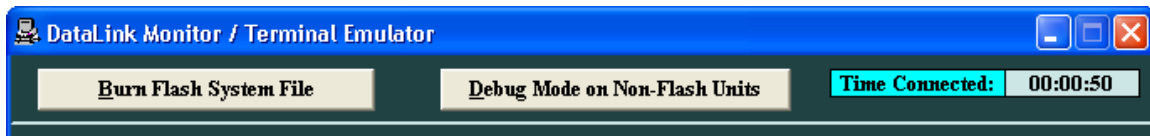
Enter 'Y' to confirm you want to proceed



DL Monitor/Terminal Emulator window

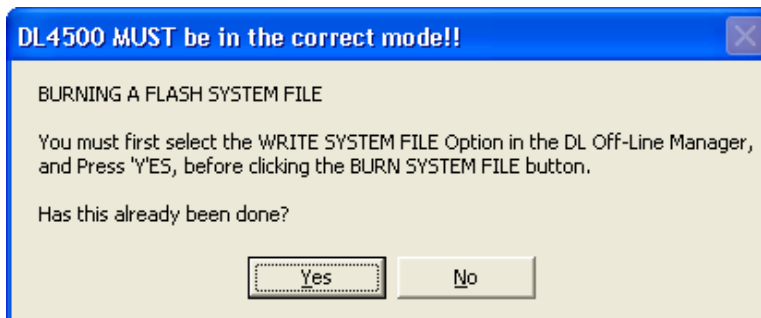
When the Send Firmware Text File Now.... Message appears..

Click on Burn Flash System File button



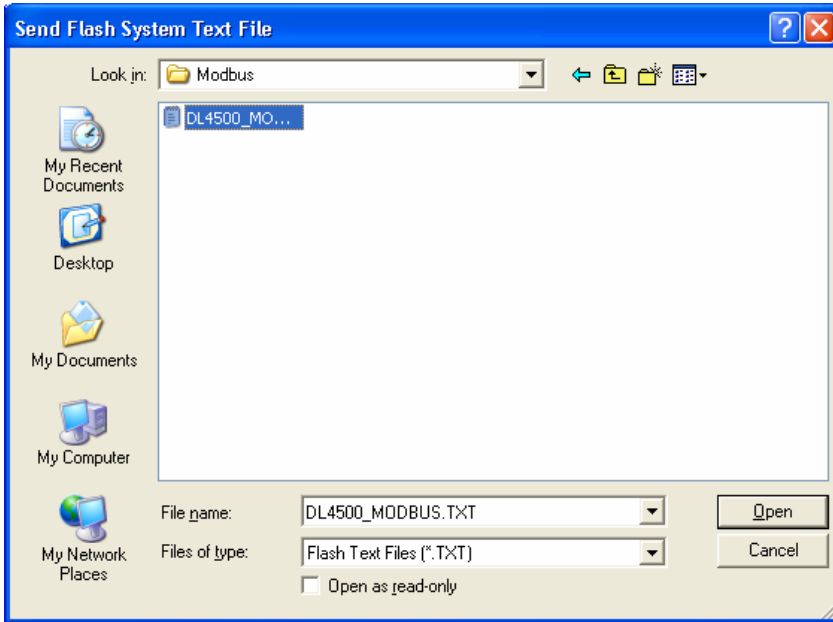
DL Monitor/Terminal Emulator window showing Burn Flash System File button

This warning message will appear.. Click Yes..



Warning message window

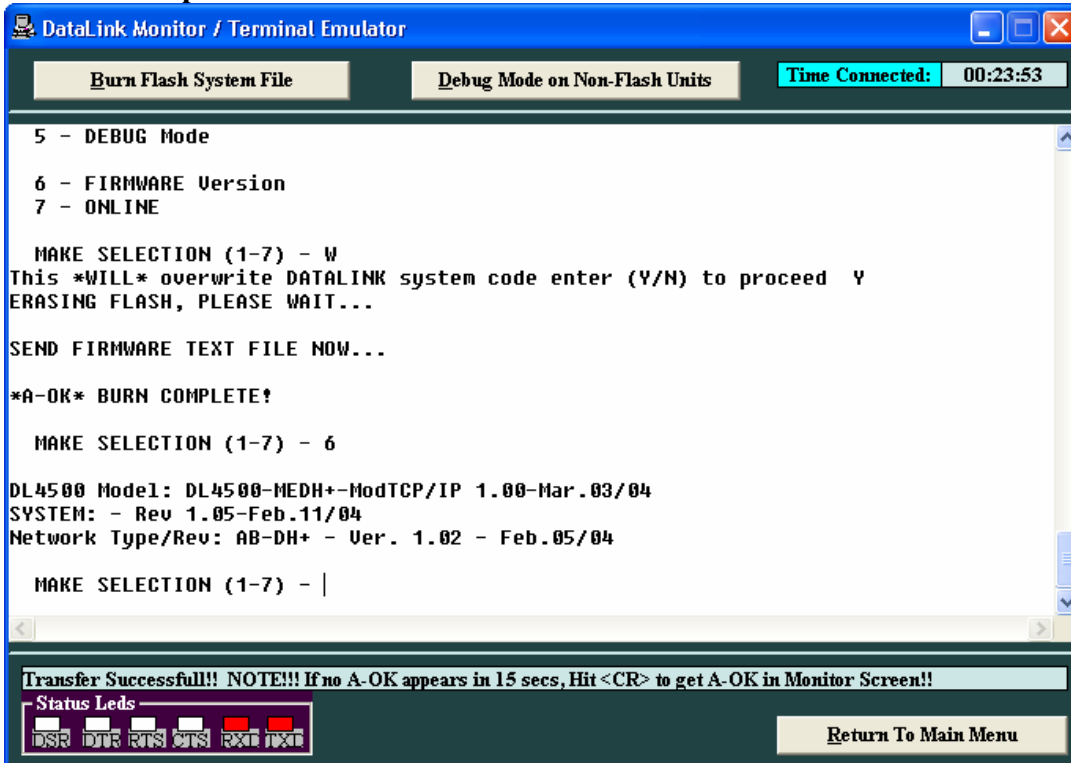
This Dialog Box will open so you can find the appropriate .txt file and then select it, and click open



Open File selection Dialog window

Once the firmware is updated and the progress meter gets to 100 % the A-OK message should appear in the window.

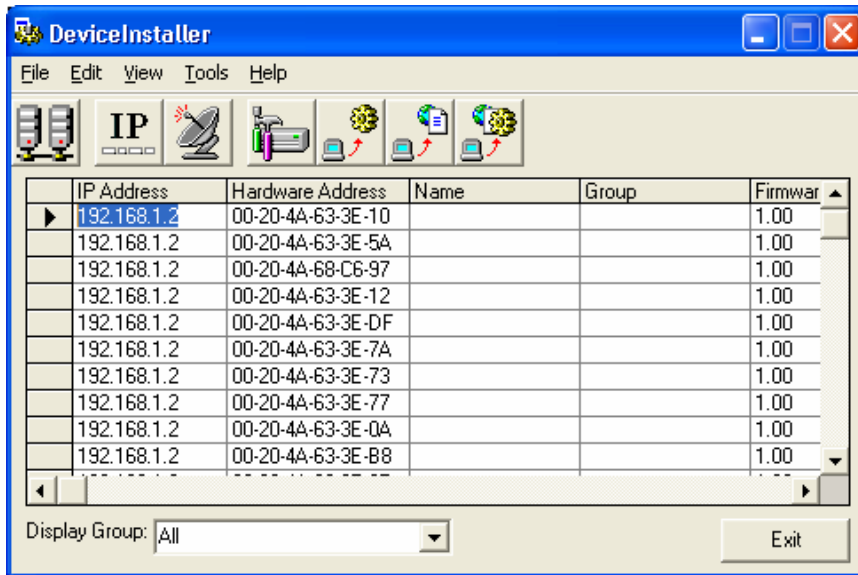
Then select option '6' to ensure the ModTCP/IP version has been loaded.



DL Monitor/Terminal Emulator window

Updating Firmware of the Lantronix Ethernet interface in the DL4500 to Modbus TCP/IP.

Click the Start button on the Task Bar and select **Programs \Device Installer\DeviceInstaller**. The Device Installer window displays.

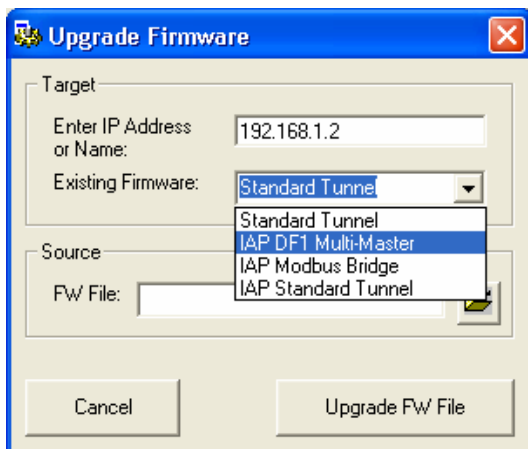


DeviceInstaller window

Click the Upgrade Firmware icon.




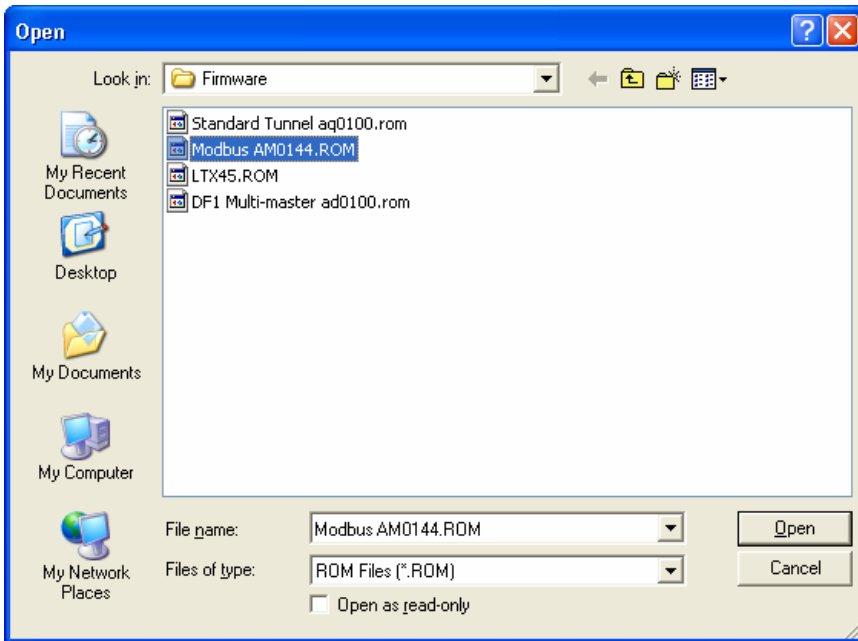
The **Upgrade Firmware** window displays.



Upgrade Firmware window

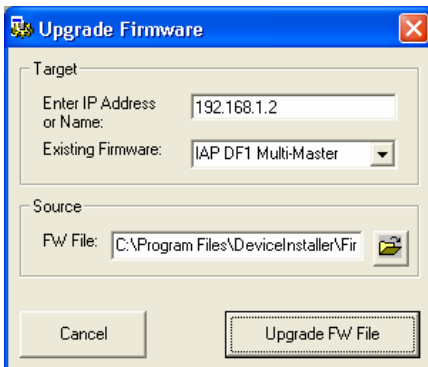
Enter the IP address of the DL4500 (192.168.1.2 for example). Choose IAP DF1 Multi-Master as the existing firmware type.

Click on the Folder Icon by the FW (Firmware) File  to select the source file. The **Open file** window displays.



Open file window

Choose the Modbus AM0144.ROM file from its location on the CD or hard drive. The **Upgrade Firmware** window reappears.



Upgrade Firmware window

Click on the Upgrade FW file button and wait till the **Information** window appears.



Information window

Click on the OK. Exit out of the device Installer. Update the parameters as shown above, and Reset the DL4500 to put it online.