

Technical Information Sheet

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TIS#: 266, Issue 1

Date: 1/19/2005

Issued by: Chris Coogan

Subject
This document describes how to utilize an ftp Server to upgrade a Eurotherm Chessell 5000B Data Acquisition (DAQ).

Software and Hardware Used

Eurotherm Chessell 5000B DAQ

Eurotherm Chessell 5000 Series Product Firmware

5000B Configuration cable (2500A/CABLE/CONFIG)

24V Power Supply

One 10BaseT cross-over cable or two patch cables and a network hub or switch

A PC or laptop with a serial port running a Windows Operating System

HyperTerminal application or other terminal application

An ftp Server

Suggested Reference Manuals

Eurotherm Chessell 5000B Users Guide, HA027566

Introduction

When upgrading 5000 Series recorder product firmware, the internal floppy or PC Card disk drive is normally utilized. The product firmware files are copied to several floppies or to a PC Card and the product firmware upgrade process is completed utilizing the internal disk drive and the files on the floppy or PC Card. The Eurotherm Chessell 5000B DAQ does not have a floppy or PC Card disk drive. When upgrading the 5000B DAQ, the product firmware upgrade is completed 'across the wire' or over the network. Normally, another 5000 Series recorder (a 5000e, 5100V, or 5180V) with a floppy or PC Card disk drive is utilized. The product firmware files are copied to several floppies or to a PC Card and the disk is inserted in the recorder with the disk drive, as before; however, the product firmware upgrade process is not started on the recorder with the disk drive. The product firmware upgrade process is started on the 5000B DAQ, but the upgrade process is designed to go 'across the wire' or over the network to the disk drive of the other 5000 Series recorder to get the necessary upgrade files. For applications which have only one 5000B DAQ or only 5000B DAQs, the product firmware upgrade process can be difficult to complete without a 5000 Series recorder with a disk drive. This TIS provides an alternate

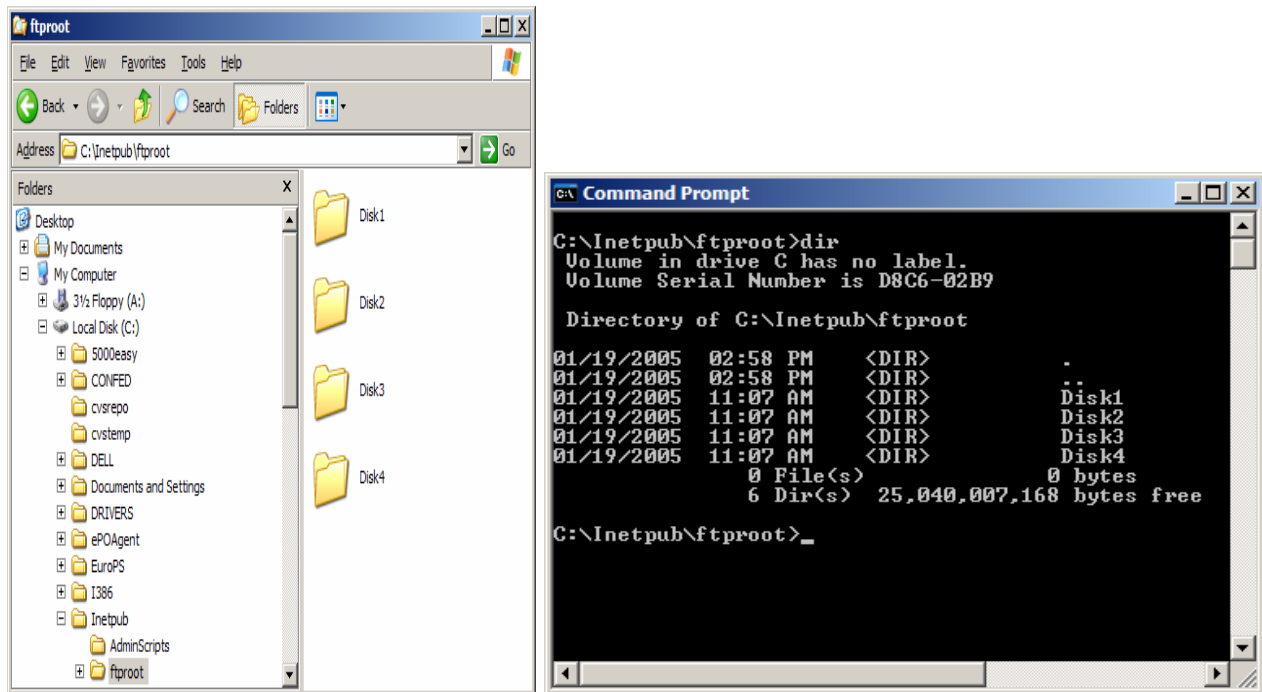
procedure that allows the 5000B DAQ product firmware upgrade process to be completed utilizing an ftp Server instead of a 5000 Series recorder with a disk drive.

Prerequisites

- The 5000B DAQ TCP/IP address must be properly configured to allow access to the ftp Server. Since the 5000B DAQ is a displayless DAQ, it probably already has a properly configured TCP/IP address so that it is accessible via the Bridge 5000 application. This TIS does not provide information on proper TCP/IP addressing techniques. Consult an Information Technology (IT) individual for additional help or information on TCP/IP addressing if required.
- An ftp Server. Many ftp Server implementations exist, i.e. UNIX, Linux, Windows, Macintosh, etc. Setup and configuration of an ftp Server is beyond the scope of this TIS. Consult an Information Technology (IT) individual for additional help or information on ftp Server setup and configuration if required.
- An ftp Server user name and password. A valid ftp Server user name and password that the 5000B DAQ can utilize must exist. This TIS does not provide information on authorizing user access to an ftp Server. Consult an Information Technology (IT) individual for additional help or information on ftp user authorization access if required.
- The 5000 Series product firmware folders and files (Disk1 through Disk4) must be copied to the ftp Server root location, i.e. on a Windows ftp Server this defaults to the %SystemRoot%\inetpub\ftproot directory where %SystemRoot% is typically the C: drive. While other ftp Server locations are possible, this TIS assumes these files are copied to the ftp Server root location as shown below.

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Procedure

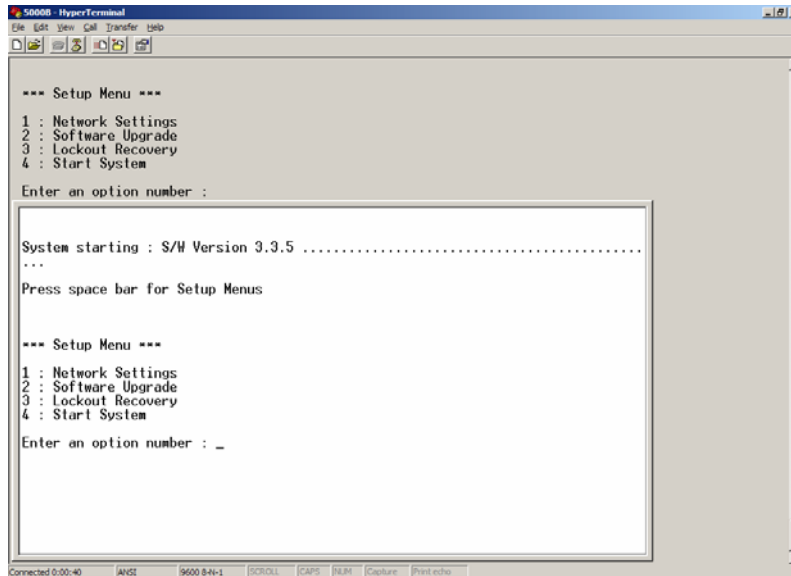
1. Connect the 5000B Configuration cable between a serial port on the PC and the RJ11 port on the 5000B DAQ
2. Connect the 10BaseT cross-over cable between the ftp Server and the 5000B DAQ or connect one 10BaseT patch cable between a network hub or switch and the RJ45 port of the 5000B DAQ and connect the other 10BaseT patch cable between the network hub or switch and the ftp Server
3. On the PC, start the HyperTerminal application
4. If the HyperTerminal application is not configured for the correct communication port settings, 9600 Baud, 8 data, 1 stop, no parity, no flow control, then make the appropriate modifications
5. Connect 24Vdc power to the 5000B DAQ and apply power
6. Monitor the HyperTerminal application window

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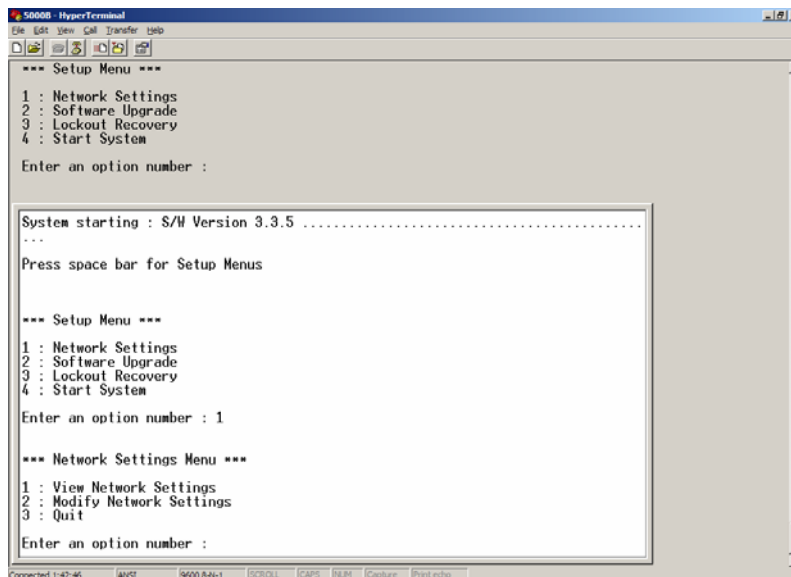
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7. Press the space bar when prompted



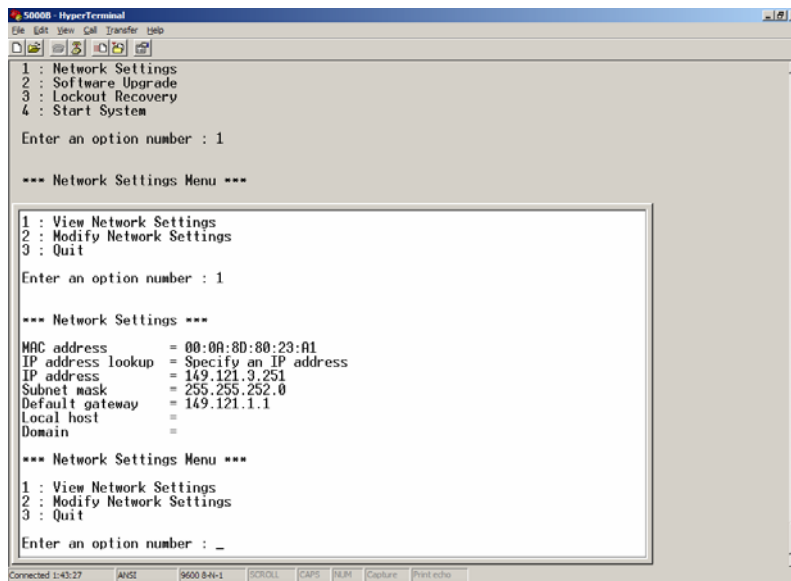
8. Verify the Network Settings are correct for communications to the ftp Server by selecting option 1 from the Setup Menu



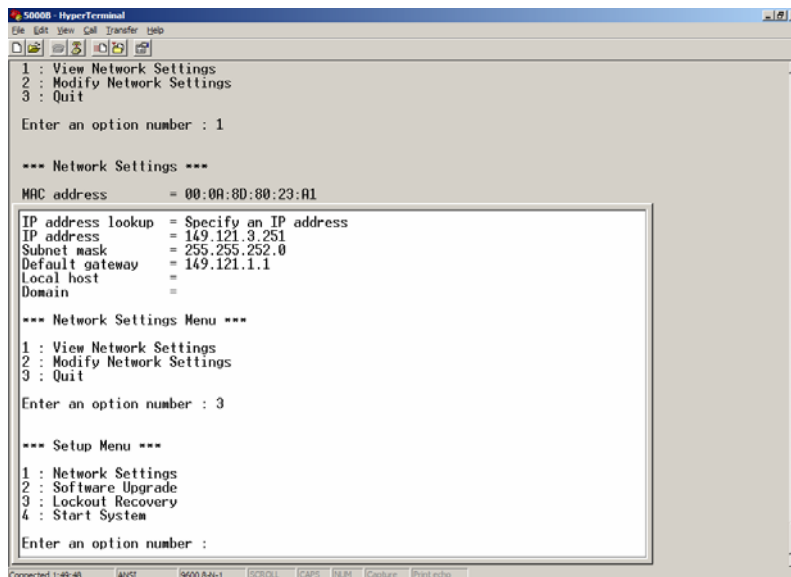
9. Select option 1 from the Network Settings Menu

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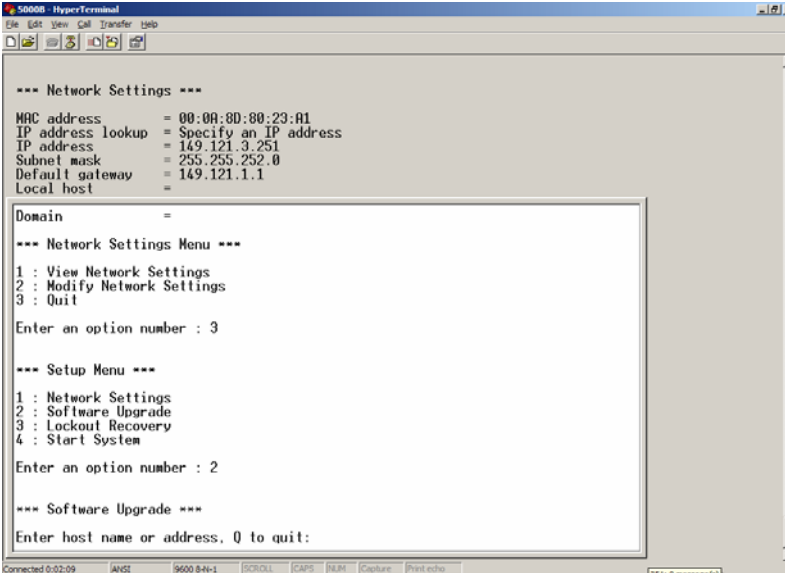
10. If the network settings are not correct for proper communications with the ftp Server, select option 2 from the Network Settings Menu and modify the network settings as required. If the network settings are correct, select option 3 from the Network Settings Menu to return Setup Menu



11. Select option 2, Software Upgrade, from the Setup Menu

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```
50000 - HyperTerminal
File Edit View Call Transfer Help
[Icons]

*** Network Settings ***
MAC address      = 00:0A:8D:80:23:A1
IP address lookup = Specify an IP address
IP address       = 149.121.3.251
Subnet mask      = 255.255.252.0
Default gateway  = 149.121.1.1
Local host       =
Domain           =

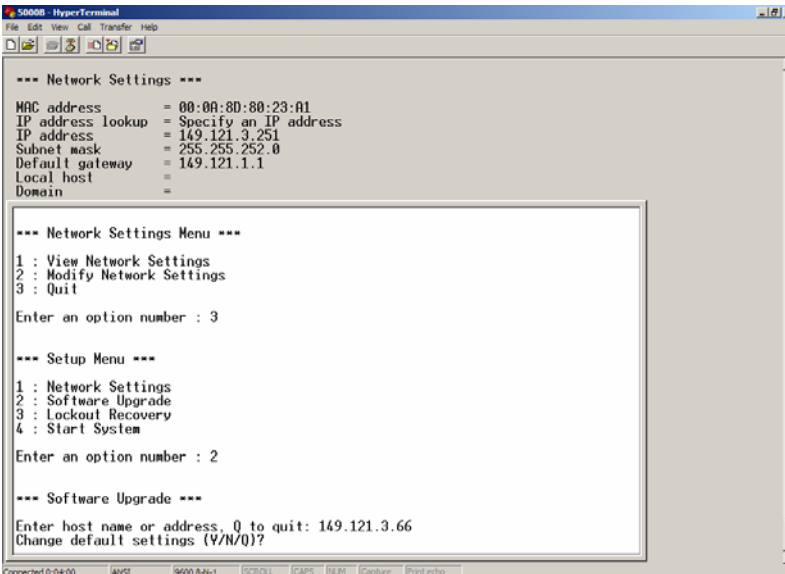
*** Network Settings Menu ***
1 : View Network Settings
2 : Modify Network Settings
3 : Quit
Enter an option number : 3

*** Setup Menu ***
1 : Network Settings
2 : Software Upgrade
3 : Lockout Recovery
4 : Start System
Enter an option number : 2

*** Software Upgrade ***
Enter host name or address, 0 to quit:
```

Connected 0:02:09 AN52 9600 8-N-1 [SCROLL] [CAPS] [NUM] [Capture] [Print echo] [35] 0 message(s)

12. Enter either the host name or the TCP/IP address of the ftp Server and press the Enter key, i.e. 149.121.3.66



```
50000 - HyperTerminal
File Edit View Call Transfer Help
[Icons]

*** Network Settings ***
MAC address      = 00:0A:8D:80:23:A1
IP address lookup = Specify an IP address
IP address       = 149.121.3.251
Subnet mask      = 255.255.252.0
Default gateway  = 149.121.1.1
Local host       =
Domain           =

*** Network Settings Menu ***
1 : View Network Settings
2 : Modify Network Settings
3 : Quit
Enter an option number : 3

*** Setup Menu ***
1 : Network Settings
2 : Software Upgrade
3 : Lockout Recovery
4 : Start System
Enter an option number : 2

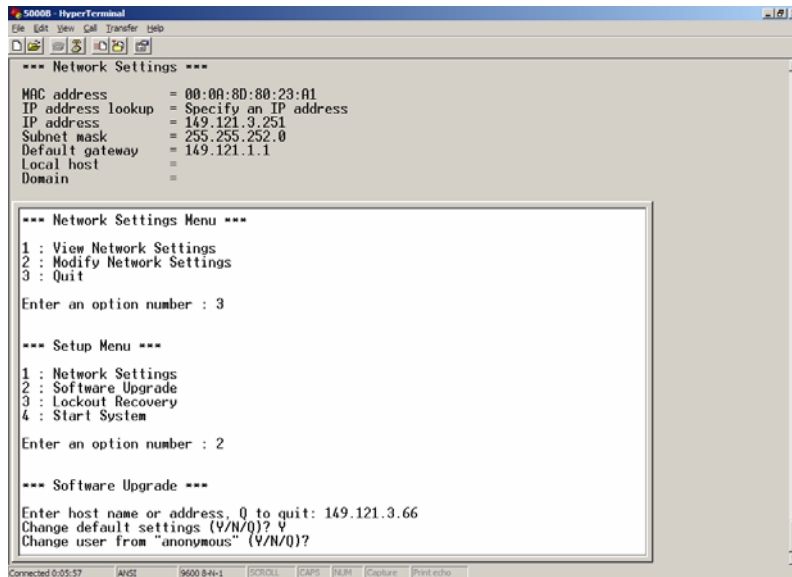
*** Software Upgrade ***
Enter host name or address, 0 to quit: 149.121.3.66
Change default settings (Y/N/Q)?
```

Connected 0:04:00 AN52 9600 8-N-1 [SCROLL] [CAPS] [NUM] [Capture] [Print echo]

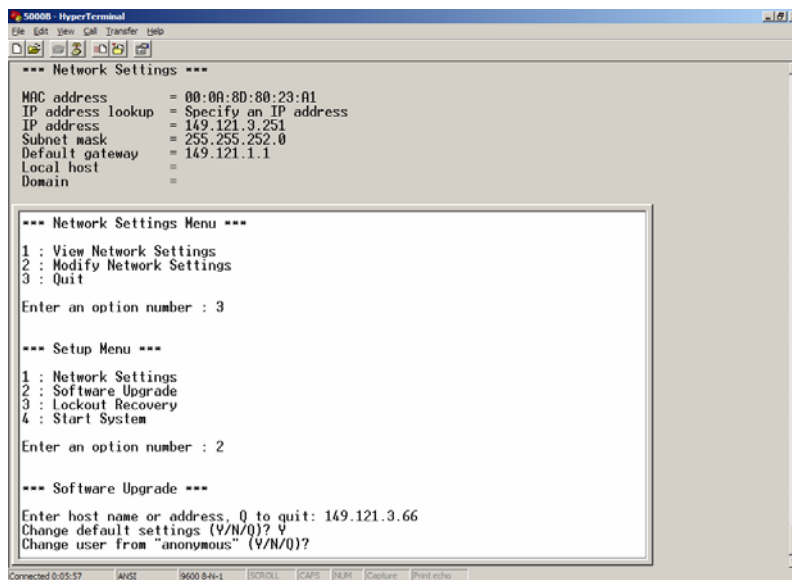
13. Enter Y, to change the default settings, and press the Enter key

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14. Enter Y, to change user from anonymous, and press the Enter key. If the ftp Server is capable of anonymous ftp access, enter N



15. Enter a valid user name that has an account on the ftp Server, i.e. ccoogan, and press the Enter key. If anonymous ftp access was previously selected, this option is not displayed

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```
50000 - HyperTerminal
File Edit View Call Transfer Help
[Icons]
MAC address = 00:0A:8D:80:23:A1
IP address lookup = Specify an IP address
IP address = 149.121.3.251
Subnet mask = 255.255.252.0
Default gateway = 149.121.1.1
Local host =
Domain =

*** Network Settings Menu ***

1 : View Network Settings
2 : Modify Network Settings
3 : Quit

Enter an option number : 3

*** Setup Menu ***

1 : Network Settings
2 : Software Upgrade
3 : Lockout Recovery
4 : Start System

Enter an option number : 2

*** Software Upgrade ***

Enter host name or address, 0 to quit: 149.121.3.66
Change default settings (Y/N/Q)? Y
Change user from "anonymous" (Y/N/Q)? Y
Enter user name, 0 to quit: ccoogan
Enter user password, 0 to quit: _
```

16. Enter the ftp Server user name password and press the Enter key. NOTE: The password is not hidden when typed. It is echoed to the screen as typed. The typed password in the figures below has been removed

```
50000 - HyperTerminal
File Edit View Call Transfer Help
[Icons]
IP address lookup = Specify an IP address
IP address = 149.121.3.251
Subnet mask = 255.255.252.0
Default gateway = 149.121.1.1
Local host =
Domain =

*** Network Settings Menu ***

1 : View Network Settings
2 : Modify Network Settings
3 : Quit

Enter an option number : 3

*** Setup Menu ***

1 : Network Settings
2 : Software Upgrade
3 : Lockout Recovery
4 : Start System

Enter an option number : 2

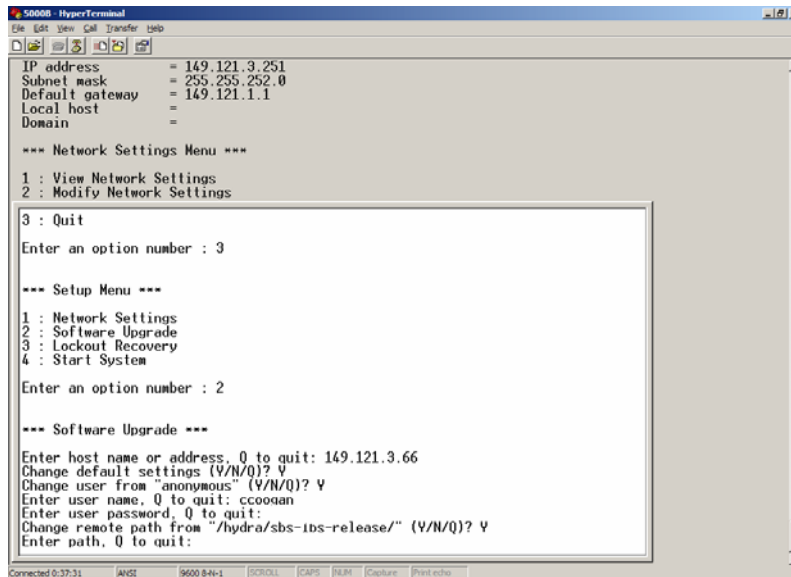
*** Software Upgrade ***

Enter host name or address, 0 to quit: 149.121.3.66
Change default settings (Y/N/Q)? Y
Change user from "anonymous" (Y/N/Q)? Y
Enter user name, 0 to quit: ccoogan
Enter user password, 0 to quit:
Change remote path from "/hydra/sbs-lbs-release/" (Y/N/Q)? _
```

17. Enter Y, to change the remote path, and press the Enter key

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18. Enter the remote path as /disk1/ and press the Enter key. This step assumes that the product firmware files (Disk1 – Disk4) have been copied the ftp root directory. NOTE: Be sure to enter the remote path as /disk1/. Leading and trailing '/' slashes must be present, and the folder name must be entered as disk1 with a lower case 'd'. If an alternate remote path is utilized, modify the remote path accordingly, i.e. /SomeOtherDirectoryName/disk1/. The ftp application is a case sensitive application. Be sure to enter the correct letter case for the remote path if the ftp root is not utilized; however, always enter the disk1 folder name as lower case even though the folder name may appear as Disk1 in other applications (Windows Explorer, Command Prompt, etc.).

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```
5000B - HyperTerminal
File Edit View Call Transfer Help
1 : View Network Settings
2 : Modify Network Settings
3 : Quit
Enter an option number : 3

*** Setup Menu ***
1 : Network Settings
2 : Software Upgrade
3 : Lockout Recovery
4 : Start System
Enter an option number : 2

*** Software Upgrade ***
Enter host name or address, 0 to quit: 149.121.3.66
Change default settings (Y/N/Q)? Y
Change user from "anonymous" (Y/N/Q)? Y
Enter user name, 0 to quit: ccoogan
Enter user password, 0 to quit:
Change remote path from "/hydra/sbs-lbs-release/" (Y/N/Q)? Y
Enter path, 0 to quit: /disk1/

Loading Full Symbols
Activating setup.uhx

SETUP of Version 3.3.6 Stage 1
..Copy OK: 187592 bytes copied
Press Return to continue
or 0 to quit

Connected 0:50:17  [ANSI]  [9600 8-N-1]  [SCROLL]  [CAPS]  [NUM]  [Capture]  [Print echo]  Thursday, January 13, 2005
```

19. If the ftp Server TCP/IP address, the user name, the user name password, and the remote path are correct, the 5000B DAQ should locate the setup.uhx file in the Disk1 folder and begin the product firmware upgrade process. Press the Enter (Return) key to confirm continuation of the product firmware upgrade process when prompted.
20. Several files should unzip with notification of the unzip process being written to the HyperTerminal window. When the unzip processes are complete, a notification will be written to the HyperTerminal window that the 5000B DAQ is restarting (rebooting) and to not remove power to the 5000B DAQ. Do not remove power to the 5000B DAQ.

```
5000B - HyperTerminal
File Edit View Call Transfer Help
*** Software Upgrade ***
Enter host name or address, 0 to quit: 149.121.3.66
Change default settings (Y/N/Q)? Y
Change user from "anonymous" (Y/N/Q)? Y
Enter user name, 0 to quit: ccoogan
Enter user password, 0 to quit:
Change remote path from "/hydra/sbs-lbs-release/" (Y/N/Q)? Y
Enter path, 0 to quit: /disk1/

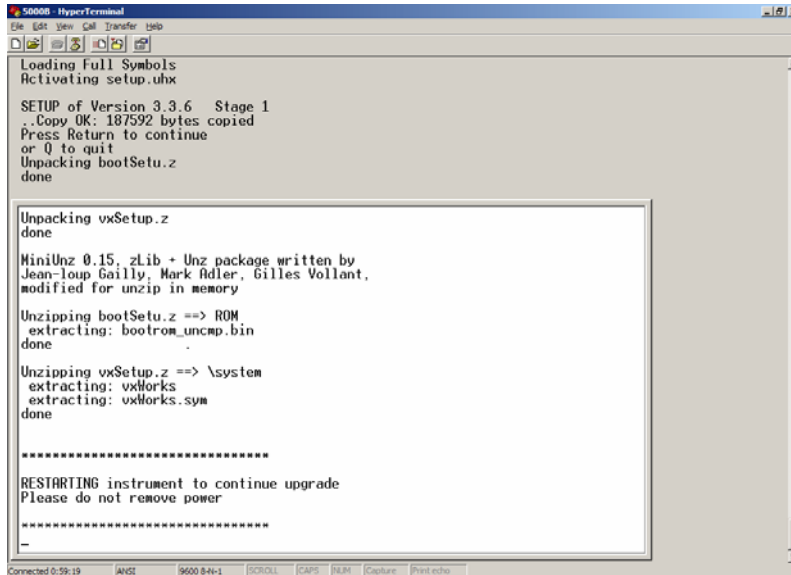
Loading Full Symbols
Activating setup.uhx

SETUP of Version 3.3.6 Stage 1
..Copy OK: 187592 bytes copied
Press Return to continue
or 0 to quit
Unpacking bootSetu.z
done
Unpacking vxSetup.z
done
MiniUnz 0.15, zlib - Unz package written by
Jean-loup Gailly, Mark Adler, Gilles Vollant,
modified for unzip in memory
Unzipping bootSetu.z ==> ROM
extracting: bootrom_uncmp.bin
done
Unzipping vxSetup.z ==> \system

Connected 0:58:53  [ANSI]  [9600 8-N-1]  [SCROLL]  [CAPS]  [NUM]  [Capture]  [Print echo]
```

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```
5000B - HyperTerminal
File Edit View Call Transfer Help
Loading Full Symbols
Activating setup.uhx

SETUP of Version 3.3.6 Stage 1
..Copy OK: 187592 bytes copied
Press Return to continue
or 0 to quit
Unpacking bootSetu.z
done

Unpacking vxSetup.z
done

MiniUnz 0.15, zlib + Unz package written by
Jean-loup Gailly, Mark Adler, Gilles Vollant,
modified for unzip in memory

Unzipping bootSetu.z ==> ROM
extracting: bootrom_uncmp.bin
done

Unzipping vxSetup.z ==> \system
extracting: vxWorks
extracting: vxWorks.sym
done

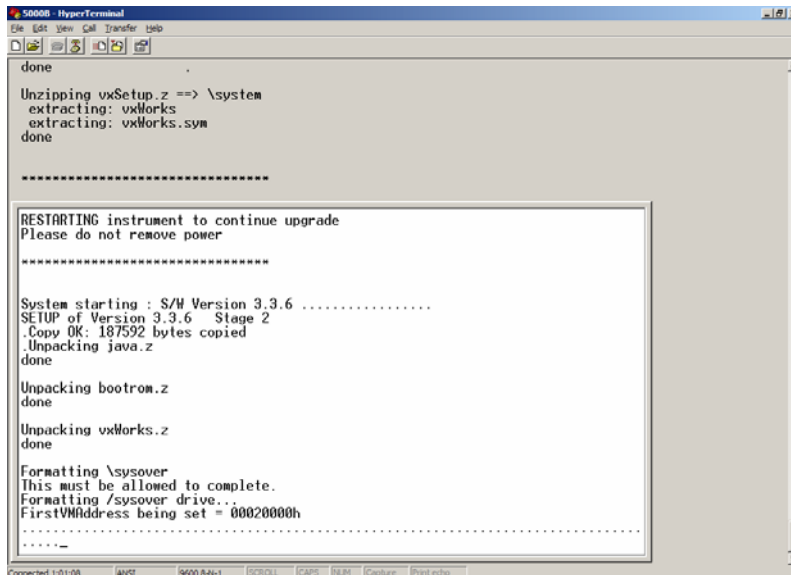
*****

RESTARTING instrument to continue upgrade
Please do not remove power

*****

Connected 0:59:19 [ANSI] 9600 8-N-1 [SCROLL] [CAPS] [NUM] [Capture] [Print echo]
```

21. After restarting (rebooting), additional unpacking, formatting, extracting, and unzipping processes will execute with notifications being written to the HyperTerminal window. When all these processes have completed, a notification will be written to the HyperTerminal window indicating that power to the 5000B DAQ should be remove and then reapplied. Remove and then apply power to the 5000B DAQ.



```
5000B - HyperTerminal
File Edit View Call Transfer Help
done

Unzipping vxSetup.z ==> \system
extracting: vxWorks
extracting: vxWorks.sym
done

*****

RESTARTING instrument to continue upgrade
Please do not remove power

*****

System starting : S/W Version 3.3.6 .....
SETUP of Version 3.3.6 Stage 2
..Copy OK: 187592 bytes copied
..Unpacking java.z
done

Unpacking bootrom.z
done

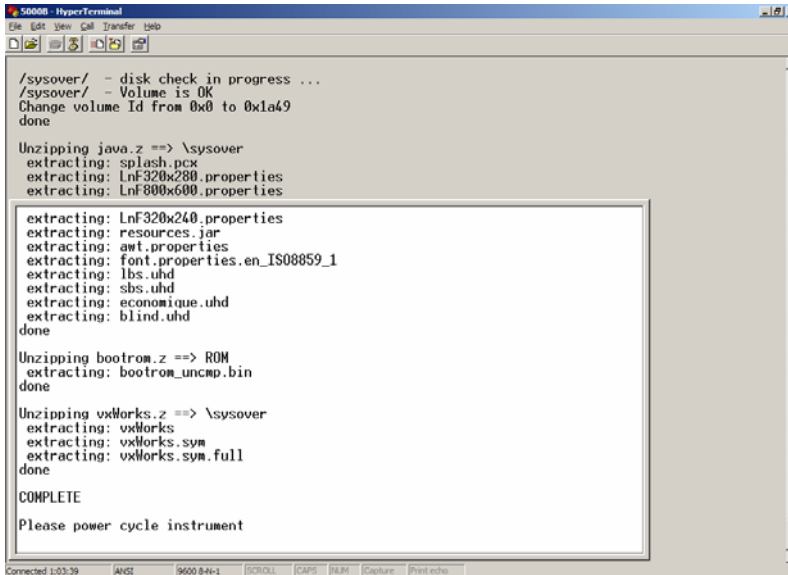
Unpacking vxWorks.z
done

Formatting \sysover
This must be allowed to complete.
Formatting /sysover drive...
FirstVMAddress being set = 00020000h
.....

Connected 1:01:08 [ANSI] 9600 8-N-1 [SCROLL] [CAPS] [NUM] [Capture] [Print echo]
```

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```
/sysover/ - disk check in progress ...
/sysover/ - Volume is OK
Change volume Id from 0x0 to 0x1a49
done

Unzipping java.z ==> \sysover
extracting: splash.pcx
extracting: LnF320x280.properties
extracting: LnF800x600.properties
extracting: LnF320x240.properties
extracting: resources.jar
extracting: awt.properties
extracting: font.properties.en_IS08859_1
extracting: lbs.uhd
extracting: sbs.uhd
extracting: economique.uhd
extracting: blind.uhd
done

Unzipping bootrom.z ==> ROM
extracting: bootrom_uncmp.bin
done

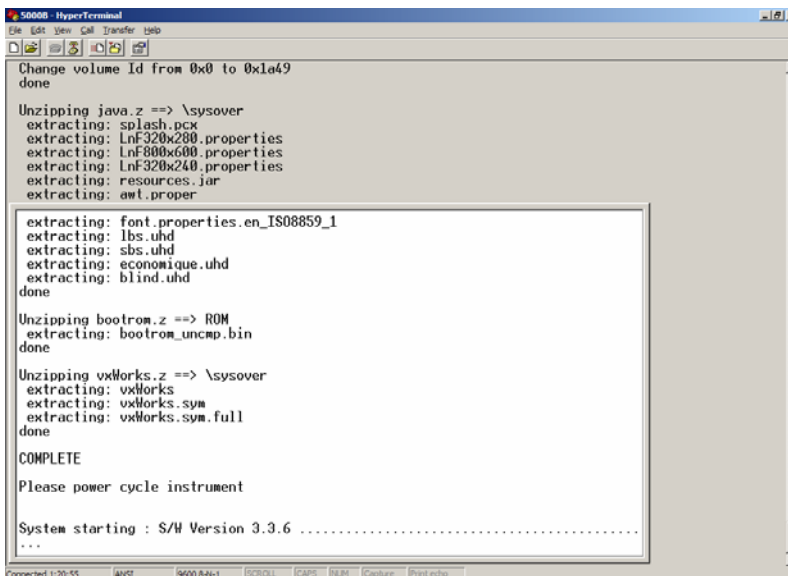
Unzipping vxWorks.z ==> \sysover
extracting: vxWorks
extracting: vxWorks.sym
extracting: vxWorks.sym.full
done

COMPLETE

Please power cycle instrument

Connected 1:03:39 9600 8-N-1 SCROLL CAPS NUM Capture Print echo
```

22. After cycling power on the 5000B DAQ, continue to monitor the HyperTerminal window. If the product firmware upgrade process was successful, the 5000B DAQ startup message will indicate the 5000B DAQ is starting the new product firmware, i.e. 3.3.6. NOTE: If the correct product firmware version is displayed, do not press the space bar to interrupt the normal 5000B DAQ startup routine unless there is a need to do so, i.e. changing the TCP/IP address.



```
Change volume Id from 0x0 to 0x1a49
done

Unzipping java.z ==> \sysover
extracting: splash.pcx
extracting: LnF320x280.properties
extracting: LnF800x600.properties
extracting: LnF320x240.properties
extracting: resources.jar
extracting: awt.proper
extracting: font.properties.en_IS08859_1
extracting: lbs.uhd
extracting: sbs.uhd
extracting: economique.uhd
extracting: blind.uhd
done

Unzipping bootrom.z ==> ROM
extracting: bootrom_uncmp.bin
done

Unzipping vxWorks.z ==> \sysover
extracting: vxWorks
extracting: vxWorks.sym
extracting: vxWorks.sym.full
done

COMPLETE

Please power cycle instrument

System starting : S/W Version 3.3.6 .....

Connected 1:20:55 9600 8-N-1 SCROLL CAPS NUM Capture Print echo
```

23. After the 5000B DAQ startup routine is complete, the HyperTerminal application may be exited. The 5000B Configuration cable may be removed from the PC serial port and the

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5000B DAQ RJ11 port. The 10BaseT cross-over cable may be removed from the ftp Server and the 5000B DAQ RJ45 port or the 10BaseT patch cables may be removed from the network hub or switch and the 5000B DAQ RJ45 port. Power may be removed from the 5000B DAQ, and the DAQ may be returned to production.