

LISTEN.
THINK.
SOLVE.SM

VS-Utilities



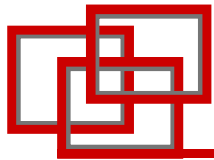
VS Utilities.Ink

**Rockwell
Automation**

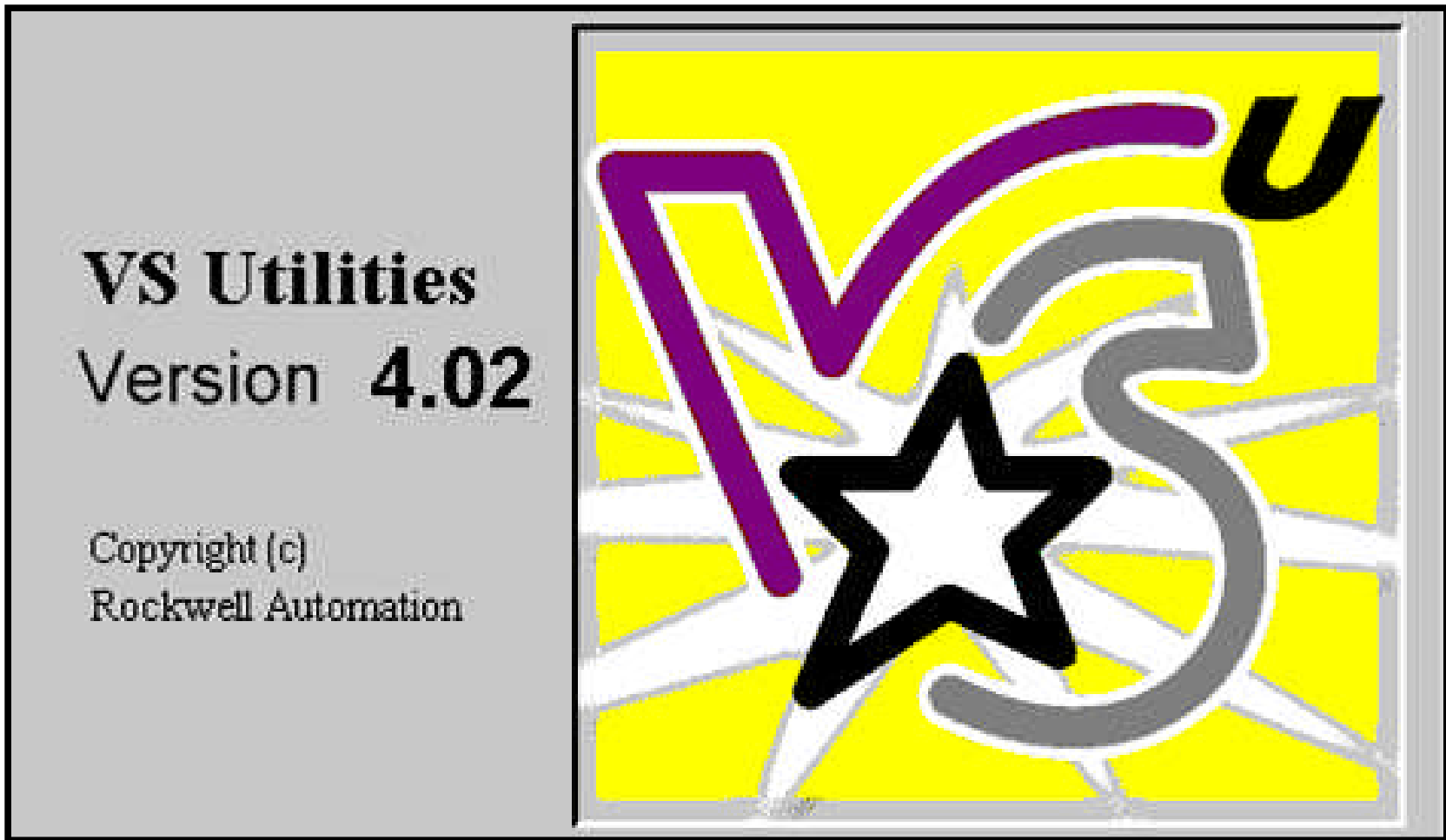


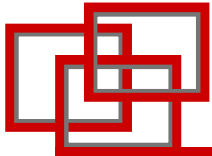
VS UTILITIES

- Install VS Utilities onto your laptop
- Connect your laptop to the VFD using RECOMM-VSU232
 - Communication Kit Includes:
 - Cable – From PC nine pin serial to flat serial to the 232 to DPI converter
 - Anaconda (RECOMM-VSU232) – Converter for 232 to DPI.
 - Cable - From Anaconda to VFD DPI port.
- Checking the baud rate – Your laptop and VS-Utilities baud rate must be the same.
- Change the baud rate from the factory default of 9600 to 38.4 bps. Once you set the baud rate, it will remain at that setting.
- **Refer to Rockwell / Carrier Manual “D2-3513” for additional information.**

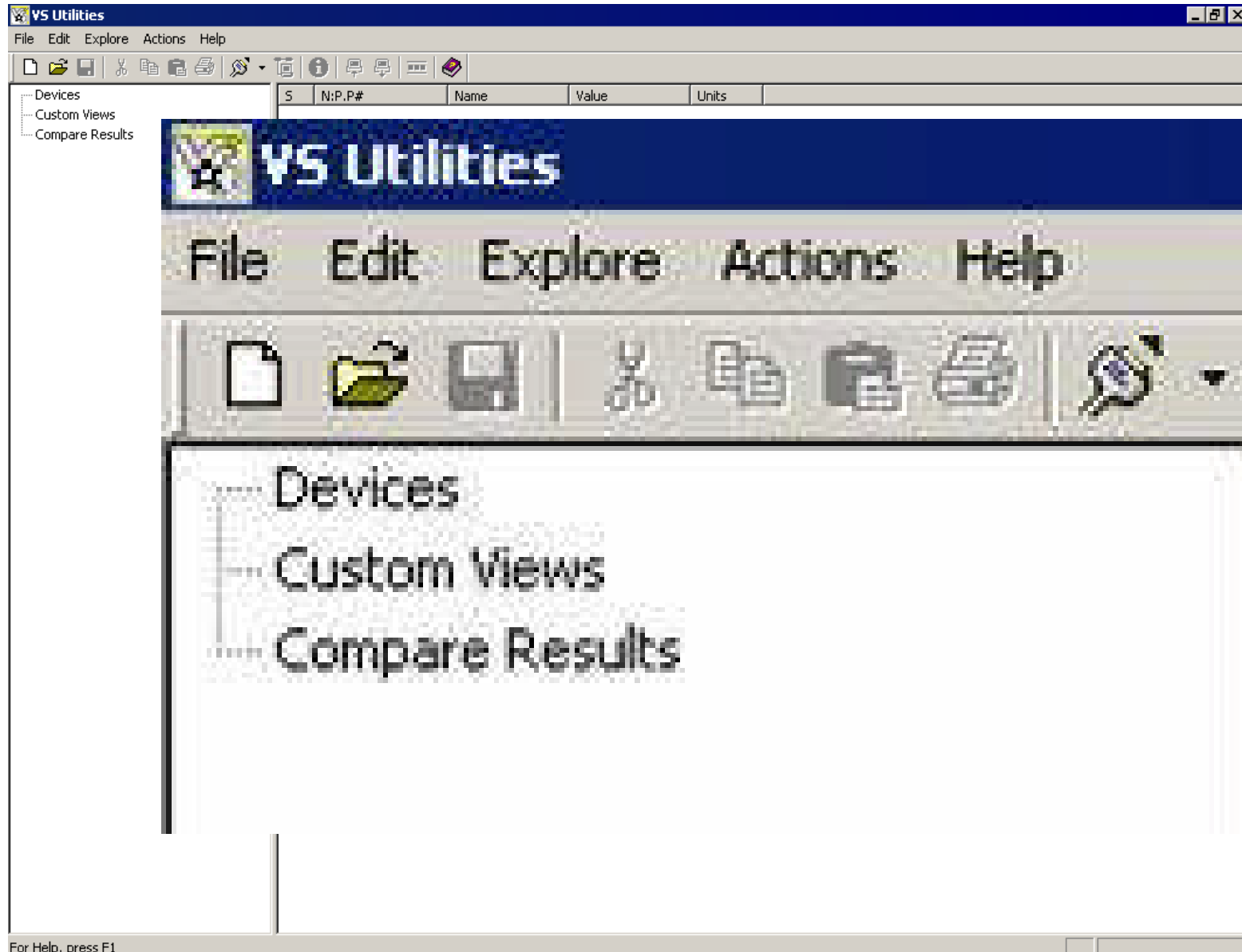


Double Click on VS Utilities Icon

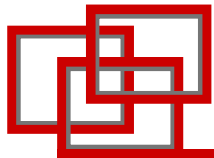




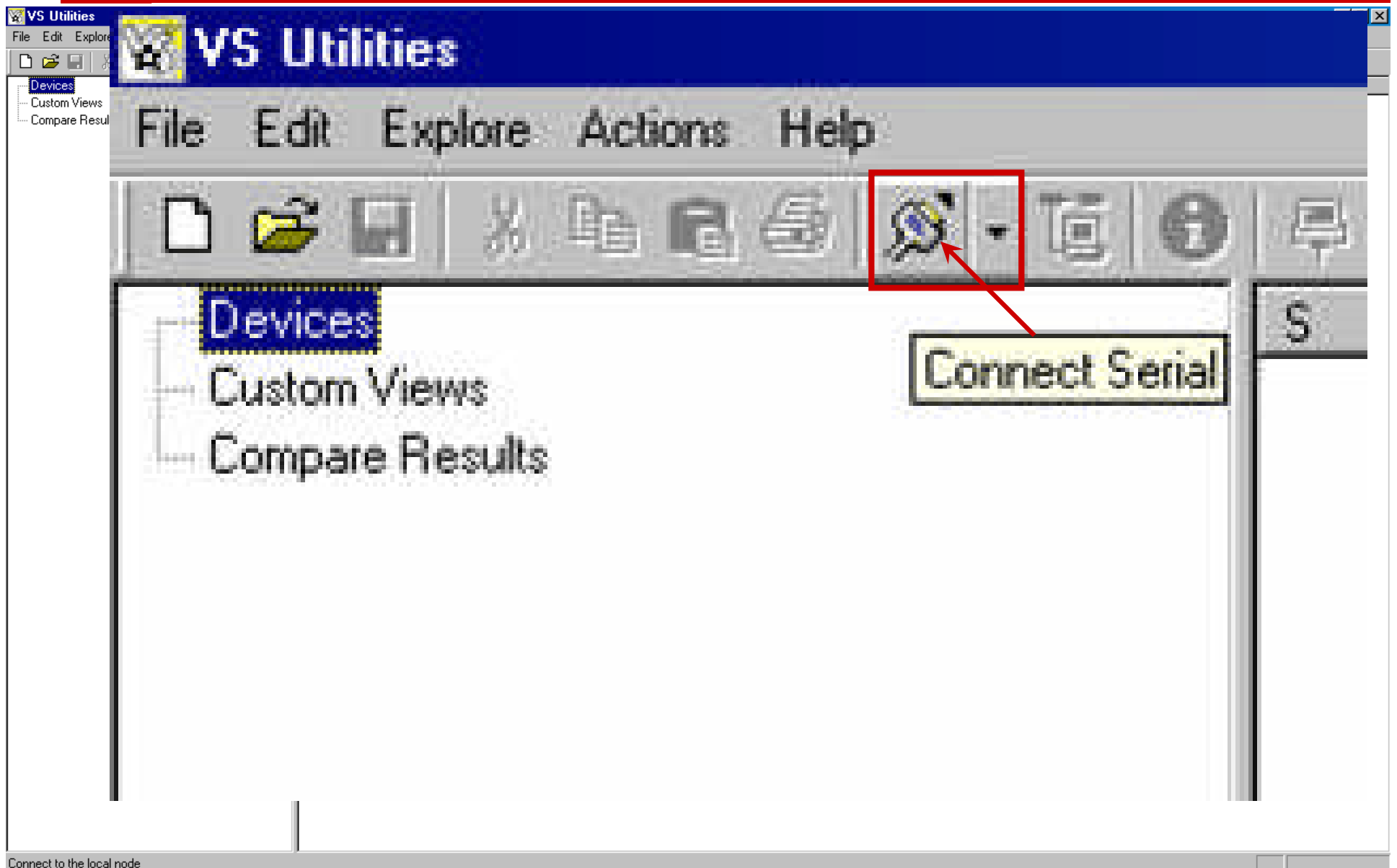
VS Utilities running but not Connected

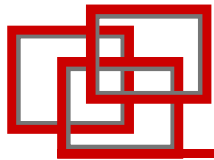


For Help, press F1

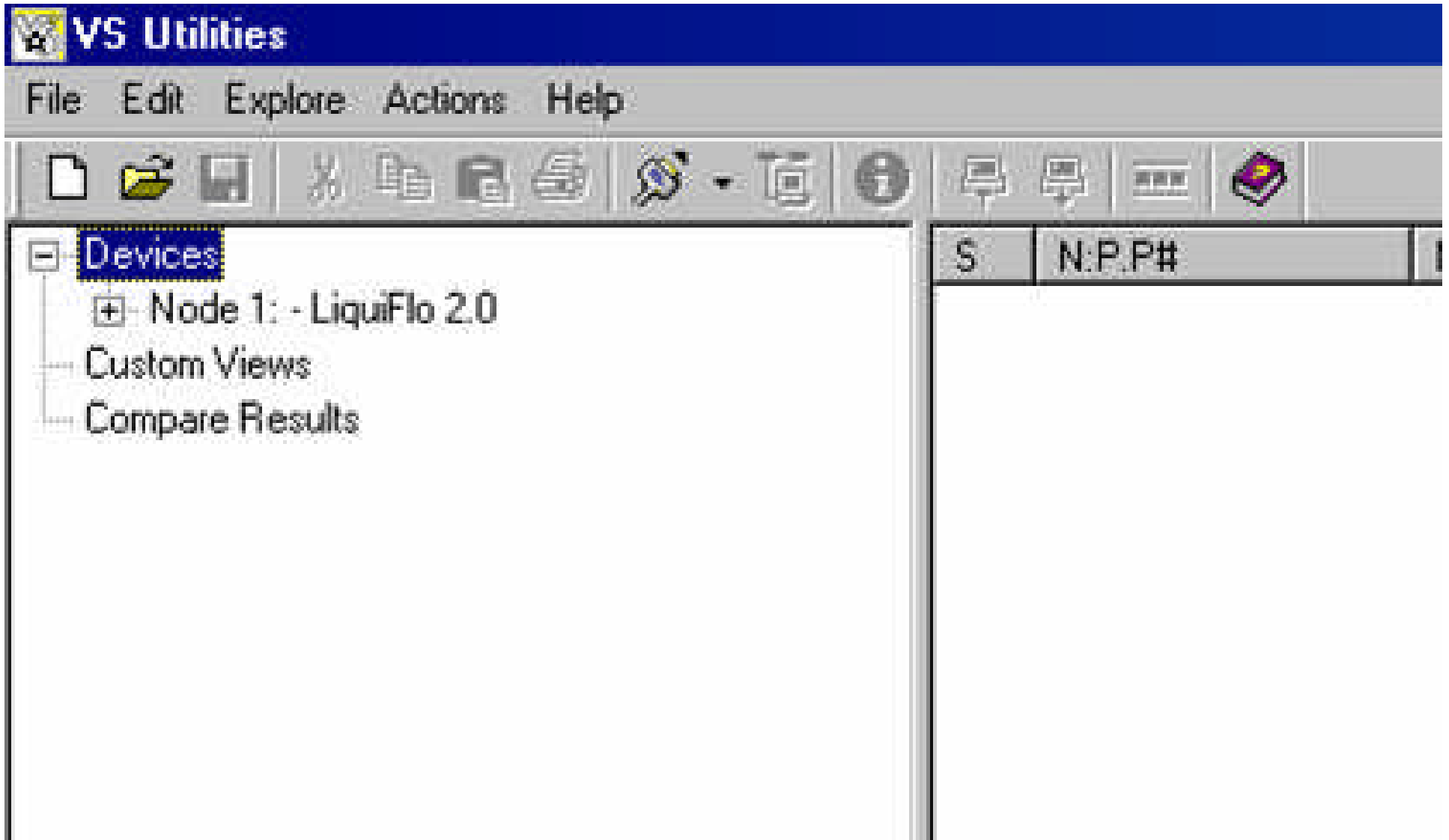


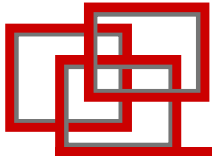
Connect to the VFD using the Connect Icon





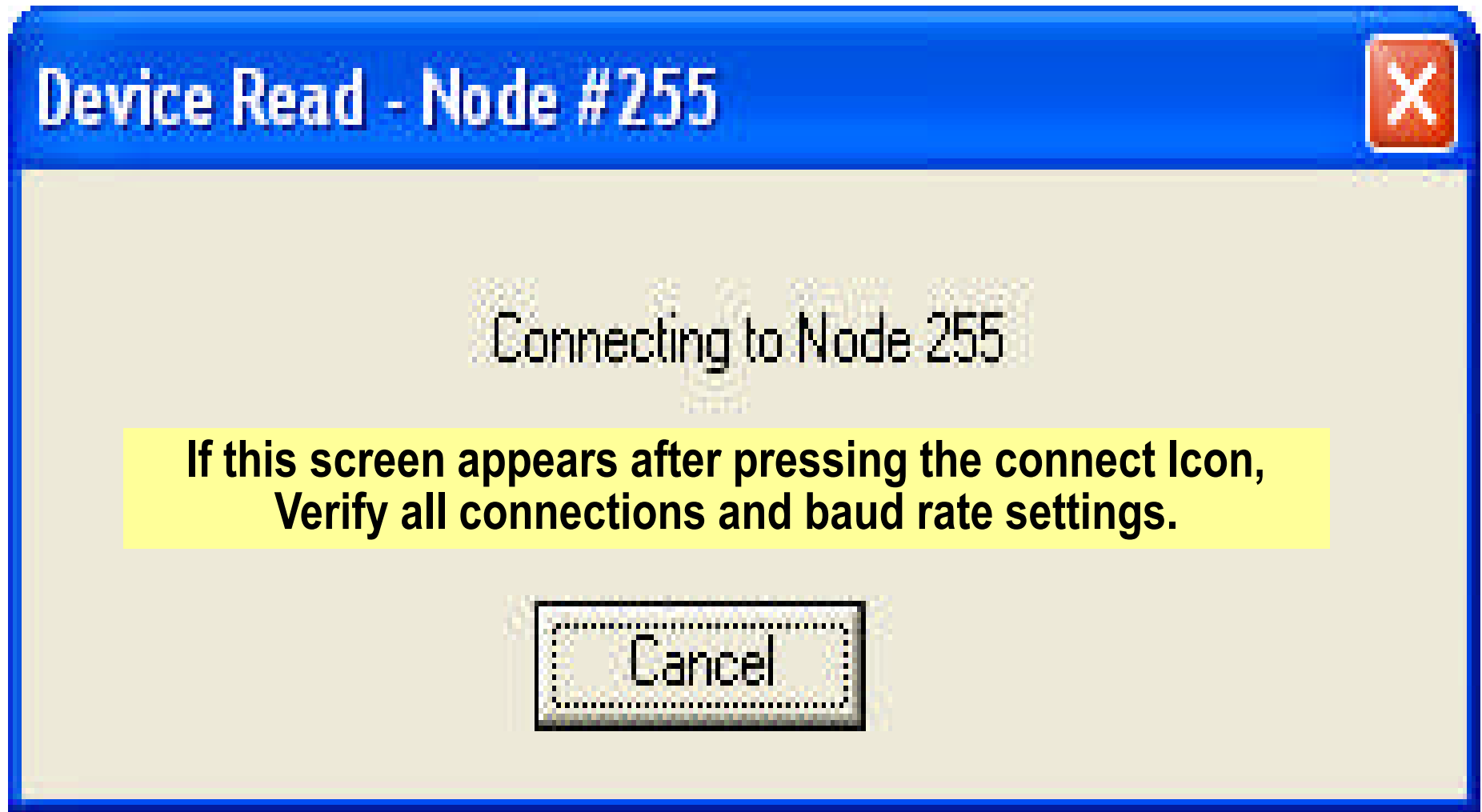
VS Utilities running Connected to the VFD (Node 1)

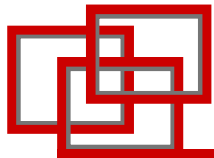




Indicator of Non-Connection

No connection has been made between your computer and the VFD

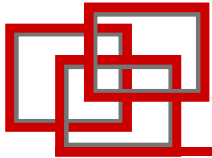




Expand Node 1 to view all devices connected

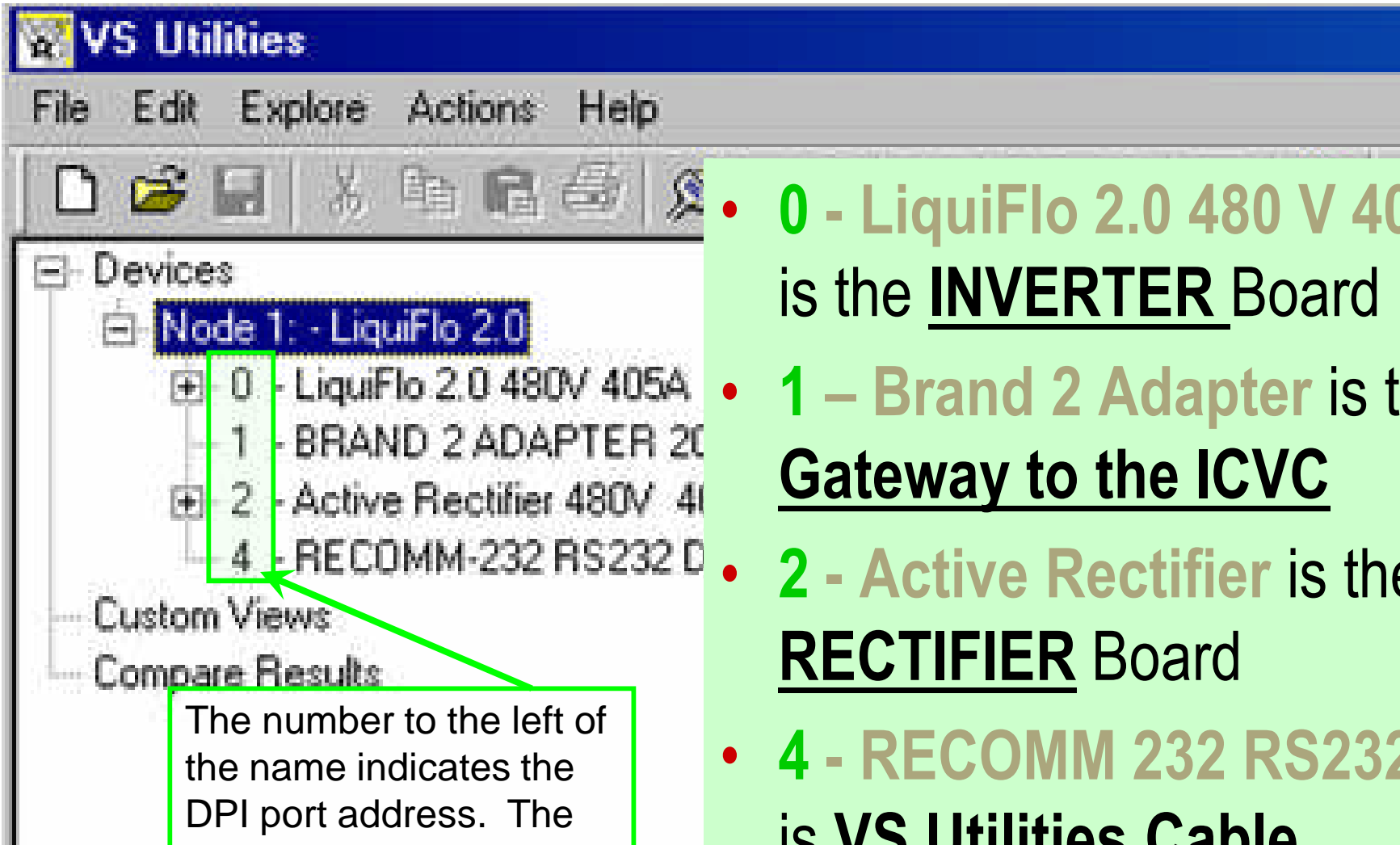
The screenshot shows the VS Utilities application window. The title bar reads "VS Utilities". The menu bar includes "File", "Edit", "Explore", "Actions", and "Help". The toolbar contains various icons for file operations and system functions. The main window is divided into two panes. The left pane shows a tree view under "Devices" with "Node 1: - LiquiFlo 2.0" selected and expanded. Below it are four sub-nodes: "0 - LiquiFlo 2.0 480V 405A", "1 - BRAND 2 ADAPTER 20-COMM-X Sample", "2 - Active Rectifier 480V 405A", and "4 - RECOMM-232 RS232 DF1". Below the tree are "Custom Views" and "Compare Results" options. The right pane is a table with two columns: "S" and "N:P.P#".

S	N:P.P#
---	--------



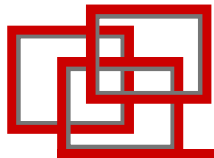
Node 1

Expanded



The number to the left of the name indicates the DPI port address. The Vs-Utilities cable could be connected to port 3, 4 or 5.

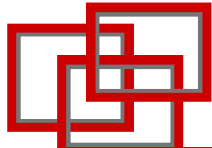
- **0** - LiquiFlo 2.0 480 V 405A is the **INVERTER** Board
- **1** – Brand 2 Adapter is the **Gateway to the ICVC**
- **2** - Active Rectifier is the **RECTIFIER** Board
- **4** - RECOMM 232 RS232 DFI is **VS Utilities Cable**



View the Anaconda Parameters - Note the 9600 baud rate

The screenshot shows the VS Utilities application window. The left pane displays a tree view of devices under 'Node 1: - LiquiFlo 2.0'. The right pane shows a table of parameters for the selected device, '4 - RECOMM-232 RS232 DF1'. The 'DF1 Rate Cfg' parameter is highlighted, showing a value of 9600bps.

S	N:P:P#	Name	Value
R	1: 4.1	DPI Port	4
*	1: 4.2	DF1 Addr Cfg	1
*	1: 4.3	DF1 Rate Cfg	9600bps
*	1: 4.4	Comm Flt Action	Fault
*	1: 4.5	Reset Module	Ready
*	1: 4.6	Clear DF1 Counts	Ready
R	1: 4.7	DF1 Packets Sent	73
R	1: 4.8	DF1 Packets Rcvd	75
	1: 4.9	Undelivered Msgs	0
	1: 4.10	ENQs Sent	0
	1: 4.11	ENQs Received	0
	1: 4.12	NAKs Received	0
	1: 4.13	NAK Bad Packet	0
	1: 4.14	NAK No Memory	0
	1: 4.15	Duplicate Msgs	0
	1: 4.16	Reserved	0
	1: 4.17	DPI Data Rate	500kbps
	1: 4.18	DF1 Addr Act	1
	1: 4.19	DF1 Rate Act	9600bps
	1: 4.20	Ref / Fdbk Size	16-bit
	1: 4.21	Datalink Size	16-bit



Double Click parameter 3 to change the baud rate.

The screenshot shows the VS Utilities application window. On the left is a tree view of devices. The main area displays a table of parameters. A dialog box titled '3 - DF1 Rate Cfg' is open, showing configuration options for parameter 3.

S	N:P:P#	Name	Value
R	1: 4.1	DPI Port	4
*	1: 4.2	DF1 Addr Cfg	1
*	1: 4.3	DF1 Rate Cfg	9600bps
*	1: 4.4	Comm Flt Action	Fault
*	1: 4.5	Reset Module	Ready
*	1: 4.6	Clear DF1 Counts	Ready

3 - DF1 Rate Cfg

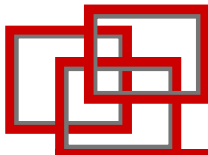
List Selection | Advanced

Value: 9600bps (dropdown menu)

Internal Value: 0

Min: 0, Max: 2, Default: 0

Buttons: Read, Select Default, OK, Cancel, Apply

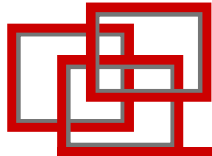


Select 38.4 bps

The screenshot shows the VS Utilities application window. On the left is a tree view of devices, with '4 - RECOMM-232 RS232 DF1' selected. The main area displays a table of parameters:

S	N:P:P#	Name	Value
R	1: 4.1	DPI Port	4
*	1: 4.2	DF1 Addr Cfg	1
*	1: 4.3	DF1 Rate Cfg	9600bps
	1: 4.4	Comm Flt Action	Fault
	1: 4.5	Reset Module	Ready
	1: 4.6	Clear DF1 Counts	Ready

Overlaid on this is the '3 - DF1 Rate Cfg' dialog box. It has two tabs: 'List Selection' and 'Advanced'. The 'Value' dropdown is set to '38.4kbps'. The 'Internal Value' list shows '9600bps', '19.2kbps', and '38.4kbps' (which is highlighted). There are 'Read' and 'Select Default' buttons. At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

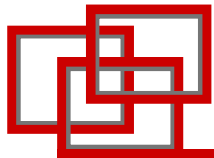


Double Click Parameter 5 to reset Anaconda Baud

The screenshot shows the VS Utilities application window. On the left, a tree view shows the device hierarchy: Node 1: - LiquiFlo 2.0, with sub-items 0 - LiquiFlo 2.0 480V 405A, 1 - BRAND 2 ADAPTER 20-COMM-X Sample, 2 - Active Rectifier 480V 405A, and 4 - RECOMM-232 RS232 DF1. The main area displays a table of parameters:

S	N:P:P#	Name	Value
R	1: 4.1	DPI Port	4
*	1: 4.2	DF1 Addr Cfg	1
*	1: 4.3	DF1 Rate Cfg	38.4kbps
*	1: 4.4	Comm Flt Action	Fault
*	1: 4.5	Reset Module	Ready
*	1: 4.6	Clear DF1 Counts	Ready

A dialog box titled "5 - Reset Module" is open in the foreground. It has two tabs: "List Selection" and "Advanced". The "Advanced" tab is active. It contains a "Value" dropdown menu set to "Ready", an "Internal Value" dropdown menu with "Reset Module" selected, and a "Read" button. Below this, there are fields for "Min" (0), "Max" (2), and "Default" (0), with a "Select Default" button. At the bottom of the dialog are "OK", "Cancel", and "Apply" buttons.



Parameter 5 - Reset Anaconda

Communications to the VFD and Laptop are now lost.

VS Utilities

File Edit Explore Actions Help

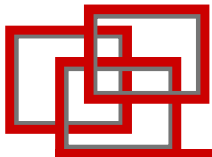
Devices

- Node 1: - LiquiFlo 2.0
 - 0 - LiquiFlo 2.0 480V 405A
 - 1 - BRAND 2 ADAPTER 20-COMM-X Sample
 - 2 - Active Rectifier 480V 405A
 - 4 - RECOMM-232 RS232 DF1

Custom Views

Compare Results

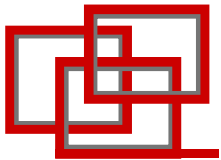
S	N:P:P#	Name	Value
R	1: 4.1	DPI Port	4
*	1: 4.2	DF1 Addr Cfg	1
*	1: 4.3	DF1 Rate Cfg	38.4kbps
*	1: 4.4	Comm Flt Action	Fault
*	1: 4.5	Reset Module	Ready
*	1: 4.6	Clear DF1 Counts	Ready
R	1: 4.7	DF1 Packets Sent	4730
R	1: 4.8	DF1 Packets Rcvd	4732
R	1: 4.9	Undelivered Msgs	0
R	1: 4.10	ENQs Sent	0
R	1: 4.11	ENQs Received	0
R	1: 4.12	NAKs Received	0
R	1: 4.13	NAK Bad Packet	0
R	1: 4.14	NAK No Memory	0
R	1: 4.15	Duplicate Msgs	0
R	1: 4.16	Reserved	0
R	1: 4.17	DPI Data Rate	500kbps
R	1: 4.18	DF1 Addr Act	1
R	1: 4.19	DF1 Rate Act	9600bps
R	1: 4.20	Ref / Fdbk Size	16-bit
R	1: 4.21	Datalink Size	16-bit



Reset the VS Utilities Select Explore / Configure Communications

The screenshot shows the VS Utilities application window. The 'Explore' menu is open, and 'Configure Communication ...' is selected. The main window displays a table of device parameters for a 'RECOMM-232 RS232 DF1' device. The 'Reset Module' parameter is highlighted in blue.

S	N:P#	Name	Value
R	1: 4.1	DPI Port	4
*	1: 4.2	DF1 Addr Cfg	1
*	1: 4.3	DF1 Rate Cfg	38.4kbps
*	1: 4.4	Comm Flt Action	Fault
*	1: 4.5	Reset Module	Ready
*	1: 4.6	Clear DF1 Counts	Ready
R	1: 4.7	DF1 Packets Sent	4730
R	1: 4.8	DF1 Packets Rcvd	4732
R	1: 4.9	Undelivered Msgs	0
R	1: 4.10	ENQs Sent	0
R	1: 4.11	ENQs Received	0
R	1: 4.12	NAKs Received	0
R	1: 4.13	NAK Bad Packet	0
R	1: 4.14	NAK No Memory	0
R	1: 4.15	Duplicate Msgs	0
R	1: 4.16	Reserved	0
R	1: 4.17	DPI Data Rate	500kbps
R	1: 4.18	DF1 Addr Act	1
R	1: 4.19	DF1 Rate Act	9600bps
R	1: 4.20	Ref / Fdbk Size	16-bit
R	1: 4.21	Datalink Size	16-bit

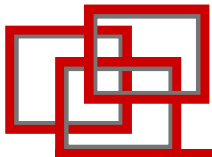


Set the VS Utilities to 38400 - the same as the Anaconda.

The screenshot shows the VS Utilities application window. On the left, a tree view shows the device hierarchy: Node 1: - LiquiFlo 2.0, with sub-items 0 - LiquiFlo 2.0 480V 405A, 1 - BRAND 2 ADAPTER 20-COMM-X Sample, 2 - Active Rectifier 480V 405A, and 4 - RECOMM-232 RS232 DF1. The right pane displays a table of parameters for the selected device.

S	N:P:P#	Name	Value	Unit
R	1: 4.1	DPI Port	4	
*	1: 4.2	DF1 Addr Cfg	1	
*	1: 4.3	DF1 Rate Cfg	38.4kbps	
*	1: 4.4	Comm Flt Action	Fault	
*	1: 4.5	Reset Module	Ready	
*	1: 4.6	Clear DF1 Counts	Ready	
R	1: 4.7	DF1 Packets Sent	4730	
R	1: 4.8	DF1 Packets Rcvd	4732	
R	1: 4.9	Undelivered Msgs	0	
R	1: 4.10	ENQs Sent	0	
R	1: 4.11	ENQs Received	0	
R	1: 4.12	NAKs Received	0	

The 'Configure Communication' dialog box is open, showing the 'Serial' configuration. The 'Port' is set to 'COM 1', 'Checksum Type' is 'CRC-16', 'Comm. Timeout' is '4', and 'Control Timeout' is '5'. The 'Baud' rate is set to '9600', but the dropdown menu is open, showing '9600', '19200', and '38400' (which is highlighted). The 'Show Hidden Parameters' checkbox is checked. Buttons for 'Defaults', 'OK', and 'Cancel' are visible.



Communications is now OK - Note the 38.4 baud rate

VS Utilities

File Edit Explore Actions Help

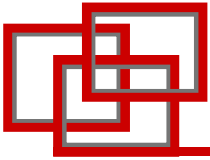
Devices

- Node 1: - LiquiFlo 2.0
 - 0 - LiquiFlo 2.0 480V 405A
 - 1 - BRAND 2 ADAPTER 20-COMM-X Sample
 - 2 - Active Rectifier 480V 405A
 - 4 - RECOMM-232 RS232 DF1**

Custom Views

Compare Results

S	N:P:P#	Name	Value
	1: 4.1	DPI Port	4
	1: 4.2	DF1 Addr Cfg	1
	1: 4.3	DF1 Rate Cfg	38.4kbps
	1: 4.4	Comm Flt Action	Fault
	1: 4.5	Reset Module	Ready
	1: 4.6	Clear DF1 Counts	Ready
	1: 4.7	DF1 Packets Sent	390
	1: 4.8	DF1 Packets Rcvd	392
	1: 4.9	Undelivered Msgs	0
	1: 4.10	ENQs Sent	0
	1: 4.11	ENQs Received	0
R	1: 4.12	NAKs Received	0
R	1: 4.13	NAK Bad Packet	0
R	1: 4.14	NAK No Memory	0
R	1: 4.15	Duplicate Msgs	0
R	1: 4.16	Reserved	0
R	1: 4.17	DPI Data Rate	500kbps
R	1: 4.18	DF1 Addr Act	1
R	1: 4.19	DF1 Rate Act	38.4kbps
R	1: 4.20	Ref / Fdbk Size	16-bit
R	1: 4.21	Datalink Size	16-bit



Questions

?

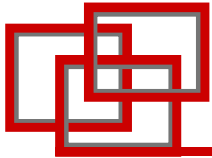
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VS-Utilities



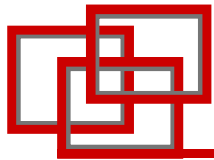
VS Utilities.Ink

**Rockwell
Automation**



Important Warnings before any Flash Upgrade.

1. Your PC must be connected to a AC power source.
2. All cable connections from your laptop to the VFD must be secured and clear from obstruction.
3. Do Not disconnect any cable connections once the “Flash Upgrade” has started.
4. Baud rate for the Anaconda must be set to 38.4 bps.
5. If communications or the cables are disconnected during a “Flash Upgrade”, the device being upgrade may be **Damaged!**
6. When Flashing the Rectifier Control board, the ribbon cable from the DPI to the RECOMM must be disconnected.



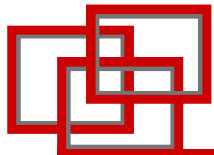
Files required before attempting any Flash Downloads

1. What files will I need? 1. The files will be listed later. Included in CD.

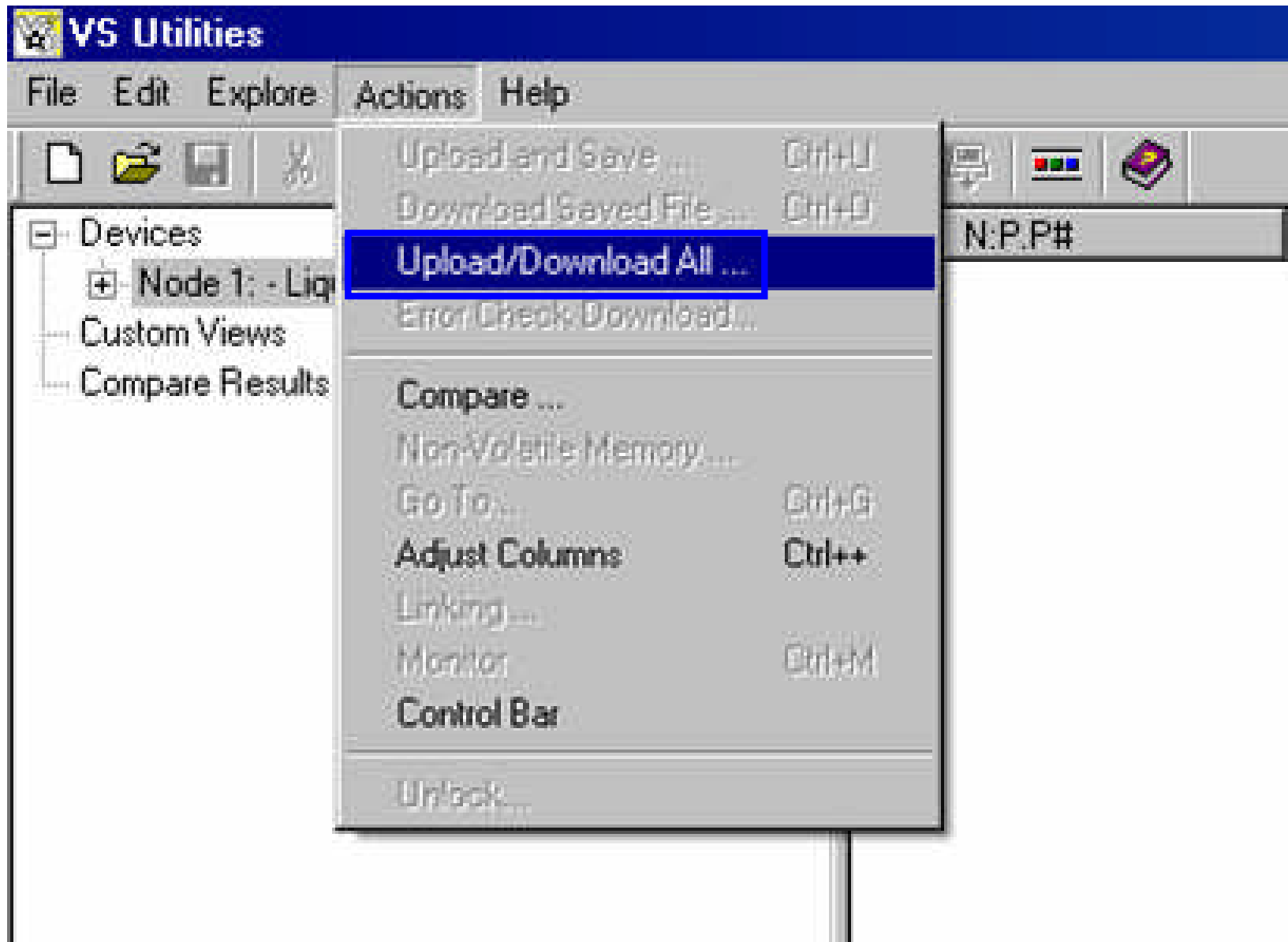
2. Where should I put them? 2. I suggest creating a file for each device

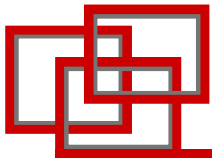
The screenshot shows a Windows Explorer window titled "C:\A LF2 Rockwell Firmware". The address bar shows the path "C:\A LF2 Rockwell Firmware". The left pane shows the folder tree with "A LF2 Rockwell Firmware" selected. The right pane shows a list of files and folders:

Name	Size	Type	Date Modified
Firmware for Anaconda		File Folder	5/22/2007 8:57 AM
Firmware for RECOMM CARRIER		File Folder	5/22/2007 8:58 AM
Frame 3		File Folder	4/20/2007 11:25 AM
Frame 4		File Folder	4/20/2007 11:24 AM
LF2.ht	21 KB	HyperTerminal File	4/20/2007 11:42 AM



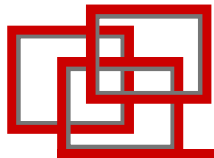
Before Flashing - Save existing File as “*.csf”





Select Upload to save *.csf file

The screenshot shows the VS Utilities application window. The title bar reads "VS Utilities". The menu bar includes "File", "Edit", "Explore", "Actions", and "Help". The toolbar contains various icons for file operations. On the left, a tree view shows "Devices" expanded, with "Node 1: - LiquiFlo 2.0" selected. Below the tree view are "Custom Views" and "Compare Results". On the right, a table with columns "S", "N:P.P#", "Name", and "Value" is visible. Overlaid on the right side is a dialog box titled "Upload/Download All". The dialog box contains the text "Node 1: - LiquiFlo 2.0" and a circular refresh icon. Below this are three buttons: "Upload" (highlighted with a blue border), "Download", and "Close".

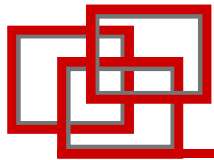


Select Upload to save all parameters

The screenshot shows the VS Utilities application window. On the left, a tree view shows 'Devices' expanded to 'Node 1: - LiquiFlo 2.0'. The main area contains a table with columns 'S', 'N:P.P#', 'Name', and 'Value'. A 'Select Sets to Upload' dialog box is open in the foreground, listing the following items with checkboxes:

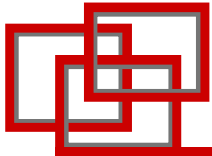
- 0 - LiquiFlo 2.0 480V 405A
 - 1) Parameters
- 1 - BRAND 2 ADAPTER 20-COMM-X Sample
 - 1) Parameters
- 2 - Active Rectifier 480V 405A
 - 1) Parameters
- 4 - RECOMM-232 RS232 DF1
 - 1) RECOMM-232 Cnfig

At the bottom of the dialog, there are three buttons: '< Back', 'Upload' (highlighted with a red box), and 'Cancel'.



Upload in progress - Saving Inverter Parameters

The screenshot shows the VS Utilities application window. The left sidebar contains a tree view with 'Devices' expanded, showing 'Node 1: - LiquiFlo 2.0', 'Custom Views', and 'Compare Results'. The main area is a table with columns: S, N:P,P#, Name, Value, and Units. An 'Uploading...' dialog box is overlaid on the main area. The dialog box has a title bar 'Uploading...' and a close button. It displays 'LiquiFlo 2.0 - Parameters' and a progress bar from 0% to 100%. Below this, it shows 'Node Progress:' with another progress bar from 0% to 100%. At the bottom of the dialog are three buttons: '< Back', 'Close', and 'Cancel'.



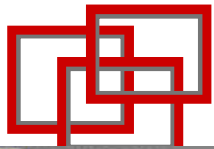
Upload in progress - Saving Rectifier Parameters

The screenshot shows the VS Utilities application window. The left sidebar displays a tree view with 'Node 1: - LiquiFlo 2.0' selected. The main area contains a table with the following structure:

S	N:P:P#	Name	Value	Units
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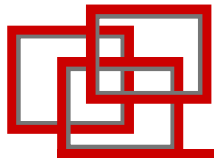
An 'Uploading...' dialog box is overlaid on the main window. It displays the following information:

- Title: Uploading...
- Content: Active Rectifier - Parameters
- Progress bar 1: 0% to 100% (approximately 25% filled)
- Label: Node Progress:
- Progress bar 2: 0% to 100% (approximately 75% filled)
- Buttons: < Back, Done, Cancel

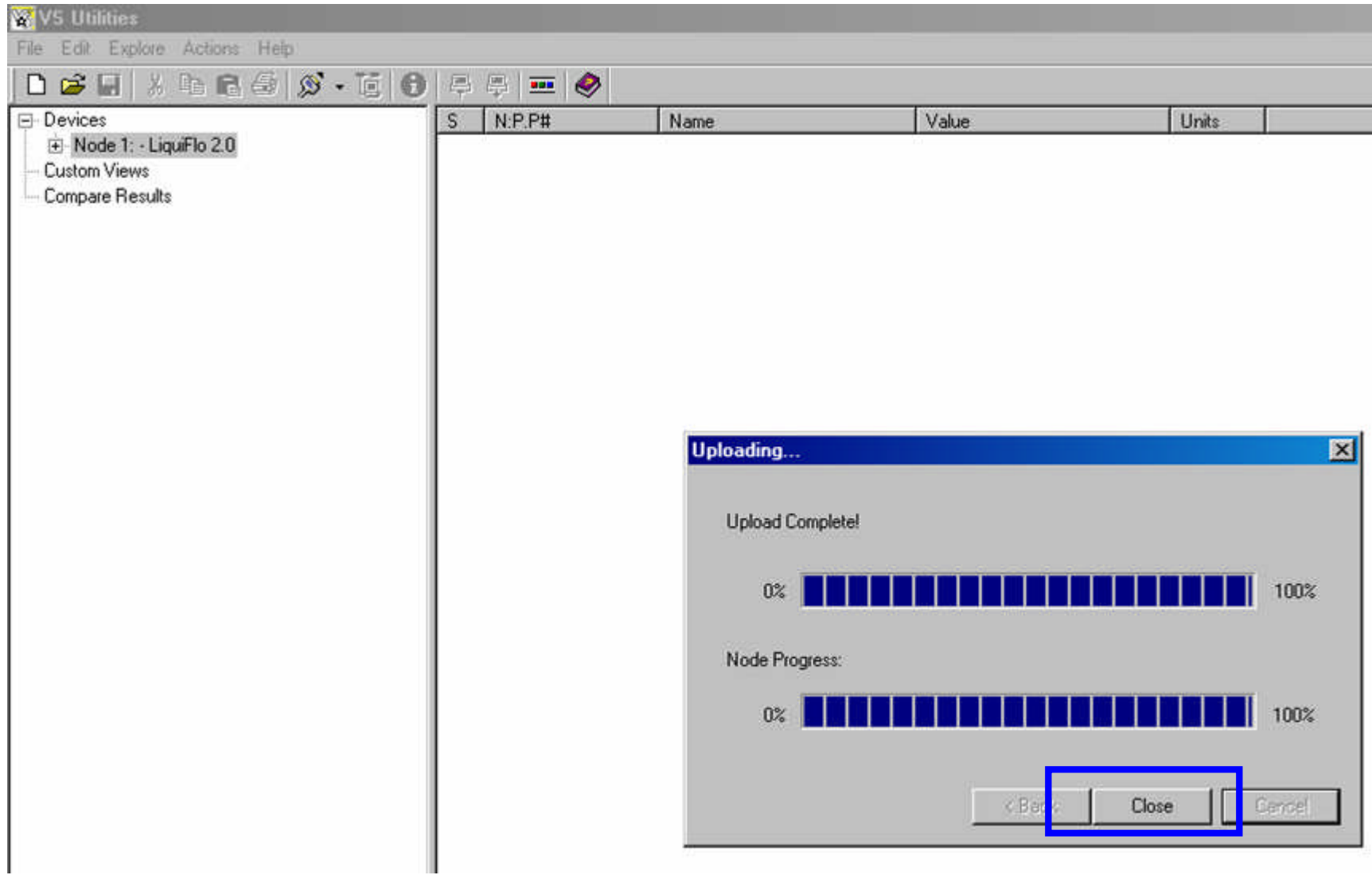


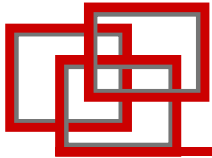
Select the directory and file name when saving.

The screenshot shows the 'VS Utilities' application window. On the left, a tree view shows 'Devices' expanded to 'Node 1: - LiquiFlo 2.0'. The main area contains a table with columns: S, N:P.P#, Name, Value, and Units. A 'Save As' dialog box is open, highlighted with a yellow border. The dialog shows the save location as 'A LF2 Job Site Files' and the file name as 'Node 1 - LiquiFlo 2.0.csf'. The 'Save as type' is set to 'Config Storage files (*.csf)'. Buttons for 'Save' and 'Cancel' are visible.



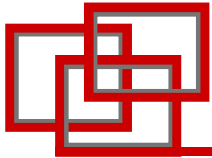
Saving of *.csf file is complete - select Close





Before Flashing - Verify

1. Your PC must be connected to a AC power source.
2. All cable connections from your laptop to the VFD must be secured and clear from obstruction.
3. Do Not disconnect any cable connections once the “Flash Upgrade” has started.
4. Baud rate for the Anaconda must be set to 38.4 bps.
5. If communications or the cables are disconnected during a “Flash Upgrade”, the device being upgrade may be **Damaged!**
6. Devices to be “Flashed”:
 1. Node 0 - LF2.0 400V - Inverter
 2. Node 1 - RECOMM Carrier - Gateway Interface
 3. Node 2 – Active Rectifier - Rectifier
7. Location of files to be used during the Flash process



Frame 3 Files to be Flashed

List of Frame 3 files to be Flashed:

0. LiquiFlo 2.0 – Inverter Files:

L2i-1-009-040.bin

L2i-1-009-040.nvs

1. RECOMM CARRIER Files:

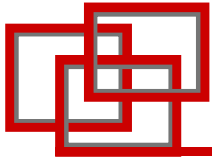
vfg-004.bin

vfg-004.nvs

2. Active Rectifier

L2R-1-012-025.bin

L2R-1-012-025.nvs



Frame 4 Files to be Flashed

List of Frame 4 files to be Flashed:

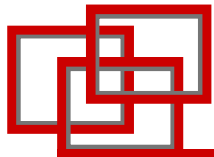
Application Files

0. **LiquiFlo 2.0 – Inverter Files:**
lf2_ccb_inv_app_2_009_013.nvs
lf2_ccb_inv_app_2_009_013.bin
1. **RECOMM CARRIER Files:**
vfg-004.nvs
vfg-004.bin
2. **Active Rectifier**
lf2_ccb_rct_app_2_009_017.nvs
lf2_ccb_rct_app_2_009_017.bin

Boot Files

0. **LiquiFlo 2.0 – Inverter Files:**
lf2_ccb_inv_boot_2_006_007.bin
2. **Active Rectifier**
lf2_ccb_rct_boot-2-006-006.bin

Note: It is necessary to use Hyper Terminal when flashing any Boot Code.

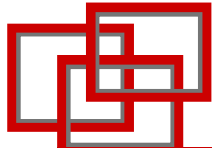


Select the device to be “Flashed”

In this example the Inverter - LiquiFlo 2.0 has been selected.

The screenshot shows the VS Utilities application window. On the left, a tree view under 'Devices' shows 'Node 1: - LiquiFlo 2.0' expanded, with '0 - LiquiFlo 2.0 480V 405A' selected. The main area displays a table of parameters for this device.

S	N:P#	Name	Value	Uni
R	1: 0.1	Output Freq	0.0	Hz
R	1: 0.2	Commanded Freq	0.0	Hz
R	1: 0.3	Output Current	0.0	Am
R	1: 0.4	Torque Current	0.0	Am
R	1: 0.5	Flux Current	0.0	Am
R	1: 0.6	Output Voltage	0.0	VA
R	1: 0.7	Output Power	0.0	kW
R	1: 0.8	Output Powr Fctr	0.00	
R	1: 0.9	Elapsed MWh	0.0	MWh
R	1: 0.10	Elapsed Run Time	0.0	Hrs
R	1: 0.11	MOP Frequency	0.0	Hz
R	1: 0.12	DC Bus Voltage	539.0	VDI
R	1: 0.13	DC Bus Memory	538.8	VDI
R	1: 0.14	Reserved	0	
R	1: 0.15	Reserved	0	
	1: 0.16	Analog In1 Value	0.000	Volt
	1: 0.17	Analog In2 Value	0.004	Volt
	1: 0.18	Analog In3 Value	0.000	Volt
	1: 0.19	Reserved	0	
	1: 0.20	Reserved	0	
	1: 0.21	Ground Current	0.0	Am
	1: 0.22	Phase U Current	0.0	Am
	1: 0.23	Phase V Current	0.0	Am
	1: 0.24	Phase W Current	0.0	Am
	1: 0.25	Est Input Power	0.0	kW
	1: 0.26	Rated kW	250.00	kW
	1: 0.27	Rated Volts	480.0	VA
	1: 0.28	Rated Amps	405.0	Am
	1: 0.29	Control SW Ver	1.009	
	1: 0.30	Appl Digital Out	xxxx xx00 0010 0000	
	1: 0.31	Appl Analog Out	4.000	mA
	1: 0.32	Rctfr Config	Run At Start	
	1: 0.33	Rctfr Control	0100 1000 0010 0000	
	1: 0.34	Rctfr Status	0100 0100 0000 0100	
	1: 0.35	Rctfr Fault	217	



Press the blue **i** for Information then select "Details"

The screenshot shows the VS Utilities application window. The main window displays a table of device parameters. A blue arrow points to the information icon (i) in the toolbar. Another blue arrow points to the 'Details' tab in the 'LiquiFlo 2.0 480V 405A' dialog box.

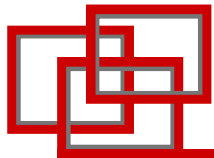
S	N:P:P#	Name	Value	Uni
R	1: 0.1	Output Freq	0.0	Hz
R	1: 0.2	Commanded Freq	0.0	Hz
R	1: 0.3	Output Current	0.0	Am
R	1: 0.4	Torque Current	0.0	Am
R	1: 0.5	Flux Current	0.0	Am
R	1: 0.6	Output Voltage	0.0	VA
R	1: 0.7	Output Power	0.0	kW
R	1: 0.8	Rated kW	250.00	kW
R	1: 0.27	Rated Volts	480.0	VA
R	1: 0.28	Rated Amps	405.0	Am
R	1: 0.29	Control SW Ver	1.009	
R	1: 0.30	Appl Digital Out	xxxx xx00 0010 0000	
R	1: 0.31	Appl Analog Out	4.000	mA
R	1: 0.32	Rctfr Config	Run At Start	
R	1: 0.33	Rctfr Control	0100 1000 0010 0000	

LiquiFlo 2.0 480V 405A

General | **Details** | Status / Feedback | Alarms | Faults | Diagnostics | Language

Port: 0
Series: A
Revision: 1.009
Status: Faulted
Serial Number: 4000D440

User Text:



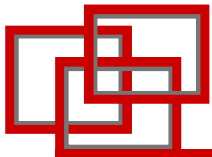
Verify the Main Control Board Application Code Revision Number.

The screenshot shows the VS Utilities interface with a tree view on the left and a data table on the right. A dialog box titled "LiquiFlo 2.0 480V 405A" is open, displaying the following information:

- Product Revision 1.009
- Hardware Change Number 01
- Main Control Bd Boot Code
 - Firmware Revision 1.005.12
 - Checksum 0xFA58
- Main Control Bd Application Code
 - Firmware Revision 1.009.40
 - Checksum 0x76AE

The dialog box also features "Save to File", "Flash Update", and "Close" buttons.

S	N:P.#	Name	Value	Uni
	1: 0.1	Output Freq	0.0	Hz
	1: 0.2	Commanded Freq	0.0	Hz
	1: 0.3	Output Current	0.0	Am
	1: 0.4	Torque Current	0.0	Am
	1: 0.5	Flux Current	0.0	Am
	1: 0.6	Output Voltage	0.0	VA
	1: 0.7	Output Power	0.0	kW
				MVA
				Hrs
				Hz
				VDI
				VDI
				Volt
				Volt
				Volt
				Am
				Am
				Am
				Am
				kW
				kW
R	1: 0.26	Rated kW	250.00	
R	1: 0.27	Rated Volts	480.0	VA
R	1: 0.28	Rated Amps	405.0	Am
R	1: 0.29	Control SW Ver	1.009	
*	1: 0.30	Appl Digital Out	xxxx xx00 0010 0000	
*	1: 0.31	Appl Analog Out	4.000	mA
*	1: 0.32	Rctfr Config	Run At Start	
*	1: 0.33	Rctfr Control	0100 1000 0010 0000	
*	1: 0.34	Rctfr Status	0100 0100 0000 0100	
*	1: 0.35	Rctfr Fault	217	

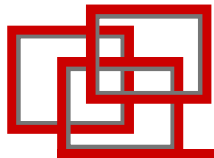


Browse to find correct *.bin file

The screenshot shows the VS Utilities application window. On the left, a tree view shows the device hierarchy: Node 1: - LiquiFlo 2.0, with sub-items 0 - LiquiFlo 2.0 480V 405A, 1 - BRAND 2 ADAPTER 20-COMM-X Sample, 2 - Active Rectifier 480V 405A, and 4 - RECOMM-232 RS232 DF1. The main area displays a table of parameters for the selected device.

S	N:P:P#	Name	Value	Uni
	1: 0.1	Output Freq	0.0	Hz
	1: 0.2	Commanded Freq	0.0	Hz
	1: 0.3	Output Current	0.0	Am
	1: 0.4	Torque Current	0.0	Am
	1: 0.5	Flux Current	0.0	Am
	1: 0.6	Output Voltage	0.0	VA
				kW
				MW
				Hrs
				Hz
				VDI
				VDI
				Volt
				Volt
				Volt
				Am
				Am
				Am
				Am
				kW
				kW
				VA
				Am
R	1: 0.28	Rated Amps	405.0	
R	1: 0.29	Control SW Ver	1.009	
*	1: 0.30	Appl Digital Out	xxxx xx00 0010 0000	
*	1: 0.31	Appl Analog Out	4.000	mA
*	1: 0.32	Rctfr Config	Run At Start	
*	1: 0.33	Rctfr Control	0100 1000 0010 0000	
*	1: 0.34	Rctfr Status	0100 0100 0000 0100	
*	1: 0.35	Rctfr Fault	217	

The 'Select Flash Update - LiquiFlo 2.0' dialog box is open, showing a 'Flash Update File Location' field with a 'Browse...' button. Below it is an empty 'Available Flash Updates' list. At the bottom of the dialog are '<Back', 'Next>', and 'Cancel' buttons.

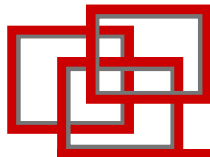


Browse starts at the Root C:\

The screenshot shows the VS Utilities application window. On the left, a tree view shows the device hierarchy: Node 1: - LiquiFlo 2.0, with sub-items 0 - LiquiFlo 2.0 480V 405A, 1 - BRAND 2 ADAPTER 20-COMM-X Sample, 2 - Active Rectifier 480V 405A, and 4 - RECOMM-232 RS232 DF1. The main area displays a table of parameters:

S	N:P:P#	Name	Value	Uni
R	1: 0.1	Output Freq	0.0	Hz
R	1: 0.2	Commanded Freq	0.0	Hz
R	1: 0.3	Output Current	0.0	Am
R	1: 0.4	Torque Current	0.0	Am
R	1: 0.5	Flux Current	0.0	Am
P	1: 0.6	Output Voltage	0.0	VAl
				kW
				MV
				Hrs
				Hz
				VDI
				VDI
				Volt
				Volt
				Volt
				Am
				Am
				Am
				Am
				kW
				kW
				VAl
				Am
			405.0	
			1.009	
			xxxx xx00 0010 0000	
			4.000	
			Run At Start	
			0100 1000 0010 0000	
			0100 0100 0000 0100	
			217	
				mA
	1: 0.34	Rctfr Status		
	1: 0.35	Rctfr Fault		

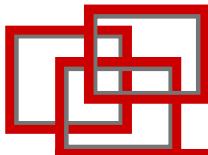
Overlaid on this is a 'Select Flash Update - LiquiFlo 2.0' dialog box. It contains a 'Flash Update File Location' field and a 'Browse for Folder' window. The 'Browse for Folder' window shows a tree view of the file system with 'My Computer' selected, and the 'C:\' drive is visible under it. The dialog box has 'OK' and 'Cancel' buttons at the bottom.



Select the Directory where the *.bin file is located.

The screenshot shows the 'VS Utilities' application window. In the foreground, a 'Select Flash Update - LiquiFlo 2.0' dialog box is open. The dialog has a 'Flash Update File Location' field with a 'Browse...' button. Below this, it says 'Available Files' and 'Select the path to find script files for LiquiFlo 2.0 :'. A file explorer window is overlaid on the dialog, showing the 'C:' drive structure. The 'F3 Inverter Application Code' folder is selected. The background window shows a table of device parameters for a 'Node 1: - LiquiFlo 2.0'.

S	N:P:P#	Name	Value	Uni
	1: 0.1	Output Freq	0.0	Hz
	1: 0.2	Commanded Freq	0.0	Hz
R	1: 0.3	Output Current	0.0	Am
R	1: 0.4	Torque Current	0.0	Am
R	1: 0.5	Flux Current	0.0	Am
	1: 0.6	Output Voltage	0.0	VA
				kW
				MW
				Hrs
				Hz
				VDI
				VDI
				Volt
				Volt
				Volt
				Am
				Am
				Am
				Am
				kW
				kW
				VA
				Am
			405.0	
			1.009	
			xxxx xx00 0010 0000	
			4.000	mA
			Run At Start	
			0100 1000 0010 0000	
			0100 0100 0000 0100	
			217	

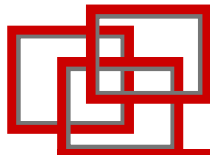


Select the file name and press “Next”

The screenshot shows the VS Utilities software interface. On the left, a tree view shows the device configuration for 'Node 1: - LiquiFlo 2.0', with sub-items '0 - LiquiFlo 2.0 480V 405A', '1 - BRAND 2 ADAPTER 20-COMM-X Sample', '2 - Active Rectifier 480V 405A', and '4 - RECOMM-232 RS232 DF1'. The main area displays a table of parameters:

S	N:P.P#	Name	Value	Uni
	1: 0.1	Output Freq	0.0	Hz
	1: 0.2	Commanded Freq	0.0	Hz
	1: 0.3	Output Current	0.0	Amq
	1: 0.4	Torque Current	0.0	Amq
	1: 0.5	Flux Current	0.0	Amq
	1: 0.6	Output Voltage	0.0	VA(
				kW
				MW
				Hrs
				Hz
				VDi
				VDi
				Volt
				Volt
				Volt
				Amq
				Amq
				Amq
				Amq
				kW
				kW
				VA(
				Amq
	1: 0.28	Rated Amps	405.0	
	1: 0.29	Control SW Ver	1.009	
	1: 0.30	Appl Digital Out	xxxx xx00 0010 0000	
	1: 0.31	Appl Analog Out	4.000	mA
	1: 0.32	Rctfr Config	Run At Start	
	1: 0.33	Rctfr Control	0100 1000 0010 0000	

A dialog box titled 'Select Flash Update - LiquiFlo 2.0' is overlaid on the table. It contains a text field for 'Flash Update File Location' with the path 'C:\A LF2 Rockwell Firmware\Fram 3\F3 Inverter Application Code' and a 'Browse...' button. Below this is a list of 'Available Flash Updates' with '1.009.040 L2i App Update' selected. At the bottom of the dialog are buttons for '<Back', 'Next>', and 'Cancel'.



Status window showing the download progress

The screenshot shows the VS Utilities application window. The main window has a menu bar (File, Edit, Explore, Actions, Help) and a toolbar. On the left is a tree view under 'Devices' showing a hierarchy for 'Node 1: - LiquiFlo 2.0'. The main area displays a table of parameters:

S	N:P:Pt	Name	Value	Uni
1:	0.1	Output Freq	0.0	Hz
1:	0.2	Commanded Freq	0.0	Hz
1:	0.3	Output Current	0.0	Amj
1:	0.4	Torque Current	0.0	Amj
1:	0.5	Flux Current	0.0	Amj
1:	0.6	Output Voltage	0.0	VA(
				kW
				MV
				Hrs
				Hz
				VDI
				VDI
				Volt
				Volt
				Volt
				Amj
				Amj
				Amj
				Amj
				kW
				kW
				VA(
				Amj
1:	0.28	Rated Amps	405.0	
1:	0.29	Control SW Ver	1.009	
1:	0.30	Appl Digital Out	xxxx xx00 0010 0000	
1:	0.31	Appl Analog Out	4.000	mA
1:	0.32	Rctfr Config	Run At Start	
1:	0.33	Rctfr Control	0100 1000 0010 0000	
1:	0.34	Rctfr Status	0100 0100 0000 0100	
1:	0.35	Rctfr Fault	217	

An 'Executing Flash Update - LiquiFlo 2.0' dialog box is overlaid on the table. It contains the following text:

Now flashing file 1 of 1 ...
C:\A LF2 Rockwell Firmware\Fram 3\F3 Inverter Application Code\L2i_1_009_040.bin
Status: Transferring block 74 of 2624

At the bottom of the dialog are three buttons: <Back, FLASH, and Cancel. A progress bar is visible at the bottom of the dialog, showing a small blue segment.



Download status - Nearly complete

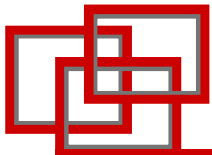
The screenshot shows the VS Utilities application window. A dialog box titled "Executing Flash Update - LiquiFlo 2.0" is open in the foreground. The dialog contains the following text:

Now flashing file 1 of 1 ...
C:\A LF2 Rockwell Firmware\Firmware\Inverter Application Code\L2i_1_009_040.bin
Status: Transferring block 2136 of 2624

Below the text is a progress bar that is approximately 80% full. At the bottom of the dialog are three buttons: "<Back", "FLASH", and "Cancel".

In the background, the VS Utilities window displays a table with the following data:

S	N:P#	Name	Value	Uni
1: 0.1		Output Freq	0.0	Hz
1: 0.2		Commanded Freq	0.0	Hz
1: 0.3		Output Current	0.0	Am
1: 0.4		Torque Current	0.0	Am
1: 0.5		Flux Current	0.0	Am
1: 0.6		Output Voltage	0.0	VA
				kW
				MVA
				Hrs
				Hz
				VDI
				VDI
				Volt
				Volt
				Volt
				Am
				Am
				Am
				Am
				kW
				kW
				VA
				Am
1: 0.28		Rated Amps	405.0	
1: 0.29		Control SW Ver	1.009	
1: 0.30		Appl Digital Out	xxxx xx00 0010 0000	
1: 0.31		Appl Analog Out	4.000	mA
1: 0.32		Rctfr Config	Run At Start	
1: 0.33		Rctfr Control	0100 1000 0010 0000	
1: 0.34		Rctfr Status	0100 0100 0000 0100	
1: 0.35		Rctfr Fault	217	



Wait as file is being verified.

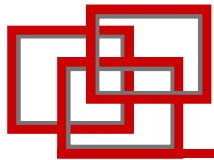
The screenshot shows the VS Utilities application window. A dialog box titled "Executing Flash Update - LiquiFlo 2.0" is open in the foreground. The dialog contains the following text:

Now flashing file 1 of 1 ...
C:\A LF2 Rockwell Firmware\Fram 3\F3 Inverter Application Code\L2i_1_009_040.bin
Status: Device reset completing. Please wait...

At the bottom of the dialog are three buttons: "<Back", "FLASH", and "Cancel".

In the background, a table of parameters is visible. The table has columns for S, N.P.P#, Name, Value, and Uni. The visible rows are:

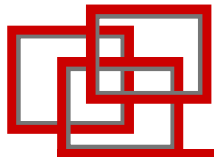
S	N.P.P#	Name	Value	Uni
1:	0.1	Output Freq	0.0	Hz
1:	0.2	Commanded Freq	0.0	Hz
1:	0.3	Output Current	0.0	Am
1:	0.4	Torque Current	0.0	Am
1:	0.5	Flux Current	0.0	Am
1:	0.6	Output Voltage	0.0	VAl
				kW
				MVA
				Hrs
				Hz
				VDI
				VDI
				Volt
				Volt
				Volt
				Am
				Am
				Am
				Am
				kW
				kW
				VAl
				Am
1:	0.28	Rated Amps	405.0	
1:	0.29	Control SW Ver	1.009	
1:	0.30	Appl Digital Out	xxxx xx00 0010 0000	
1:	0.31	Appl Analog Out	4.000	mA
1:	0.32	Rctfr Config	Run At Start	
1:	0.33	Rctfr Control	0100 1000 0010 0000	
1:	0.34	Rctfr Status	0100 0100 0000 0100	
1:	0.35	Rctfr Fault	217	



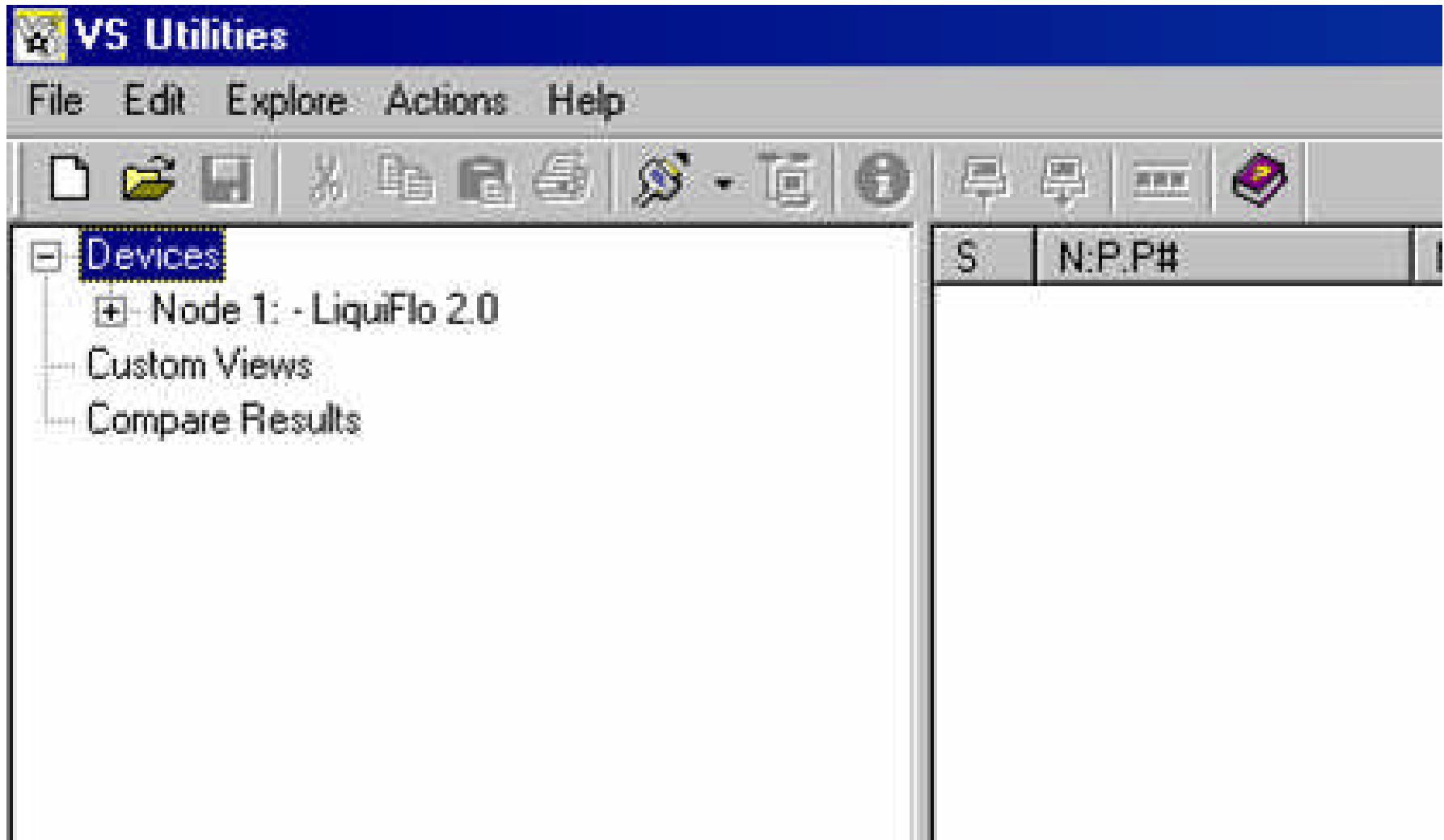
Download complete - press "Close"

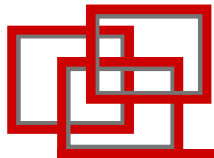
The screenshot shows the VS Utilities application window. On the left, a tree view shows the device hierarchy: Node 1: - LiquiFlo 2.0, with sub-items 0 - LiquiFlo 2.0 480V 405A, 1 - BRAND 2 ADAPTER 20-COMM-X Sample, 2 - Active Rectifier 480V 405A, and 4 - RECOMM-232 RS232 DF1. The main area displays a table of device parameters. A modal dialog box titled "Executing Flash Update - LiquiFlo 2.0" is centered on the screen, showing a status of "COMPLETED" and a message: "The flash update finished. Please examine the device using the appropriate tool to ensure that the firmware now present in the device is the desired firmware." The dialog has "Back", "Close", and "Cancel" buttons. The table in the background shows parameters like Output Freq, Commanded Freq, Output Current, Torque Current, Flux Current, Output Voltage, Rated Amps, Control SW Ver, Appl Digital Out, Appl Analog Out, Rctfr Config, Rctfr Control, Rctfr Status, and Rctfr Fault.

S	N:P:P#	Name	Value	Uni
	1: 0.1	Output Freq	0.0	Hz
	1: 0.2	Commanded Freq	0.0	Hz
	1: 0.3	Output Current	0.0	Am
	1: 0.4	Torque Current	0.0	Am
	1: 0.5	Flux Current	0.0	Am
	1: 0.6	Output Voltage	0.0	VA
				kW
				MW
				Hrs
				Hz
				VDI
				VDI
				Volt
				Volt
				Volt
				Am
				Am
				Am
				Am
				kW
				kW
				VA
				Am
	1: 0.28	Rated Amps	405.0	
	1: 0.29	Control SW Ver	1.009	
	1: 0.30	Appl Digital Out	xxxx xx00 0010 0000	
	1: 0.31	Appl Analog Out	4.000	mA
	1: 0.32	Rctfr Config	Run At Start	
	1: 0.33	Rctfr Control	0100 1000 0010 0000	
	1: 0.34	Rctfr Status	0100 0100 0000 0100	
	1: 0.35	Rctfr Fault	217	



Firmware Flash is complete and reconnected





Repeat the above process for Node 1 and 2

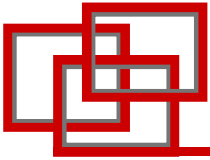
The screenshot shows the VS Utilities application window. The title bar reads "VS Utilities". The menu bar includes "File", "Edit", "Explore", "Actions", and "Help". The toolbar contains various icons for file operations and device management. The main window is divided into two panes. The left pane shows a tree view under "Devices" with the following structure:

- Devices
 - Node 1: - LiquiFlo 2.0
 - + 0 - LiquiFlo 2.0 480V 405A
 - 1 - BRAND 2 ADAPTER 20-COMM-X Sample
 - + 2 - Active Rectifier 480V 405A
 - ... 4 - RECOMM-232 RS232 DF1
 - Custom Views
 - Compare Results

The right pane is partially visible, showing a table with columns "S" and "N:P.P#".

Callouts on the right side of the image identify the highlighted nodes:

- Node 1: RECOMM CARRIER** (yellow background)
- Node 2: Active Rectifier** (blue background)



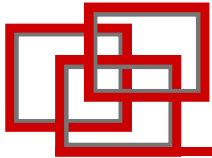
Questions

?

LISTEN.
THINK.
SOLVE.SM

Hyper Terminal

**Rockwell
Automation**

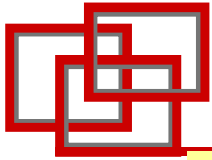


Important Warnings before any Flash Upgrade.

1. Your PC must be connected to a AC power source.
2. All cable connections from your laptop to the VFD must be secured and clear from obstruction.
3. Do Not disconnect any cable connections once the “Flash Upgrade” has started.
4. Baud rate for the Anaconda must be set to 38.4 bps.
5. If communications or the cables are disconnected during a “Flash Upgrade”, the device being upgrade may be **Damaged!**
6. When Flashing the Rectifier Control board, the ribbon cable from the DPI to the RECOMM must be disconnected.

When using Hyper Terminal to flash upgrade firmware, it is extremely important that you select the correct file for the hardware being flash upgraded.

Hyper Terminal does not verify that the hardware and firmware is compatible. It will allow you to flash the incorrect file into the hardware making the hardware UNUSABLE.



Create Icon for file "LF2.ht"

This file contains the default communication settings.

Baud Rate for the Anaconda MUST be set to 38.4K before using Hyper Terminal.



LF2.ht Properties

General | Shortcut | Security

LF2.ht

Target type: HyperTerminal File

Target location: A LF2 Rockwell Firmware

Target: "C:\A LF2 Rockwell Firmware\LF2.ht"

Start in: "C:\A LF2 Rockwell Firmware"

Shortcut key: None

Run: Normal window

Comment:

Find Target... Change Icon... Advanced...

OK Cancel Apply

VS Utilities

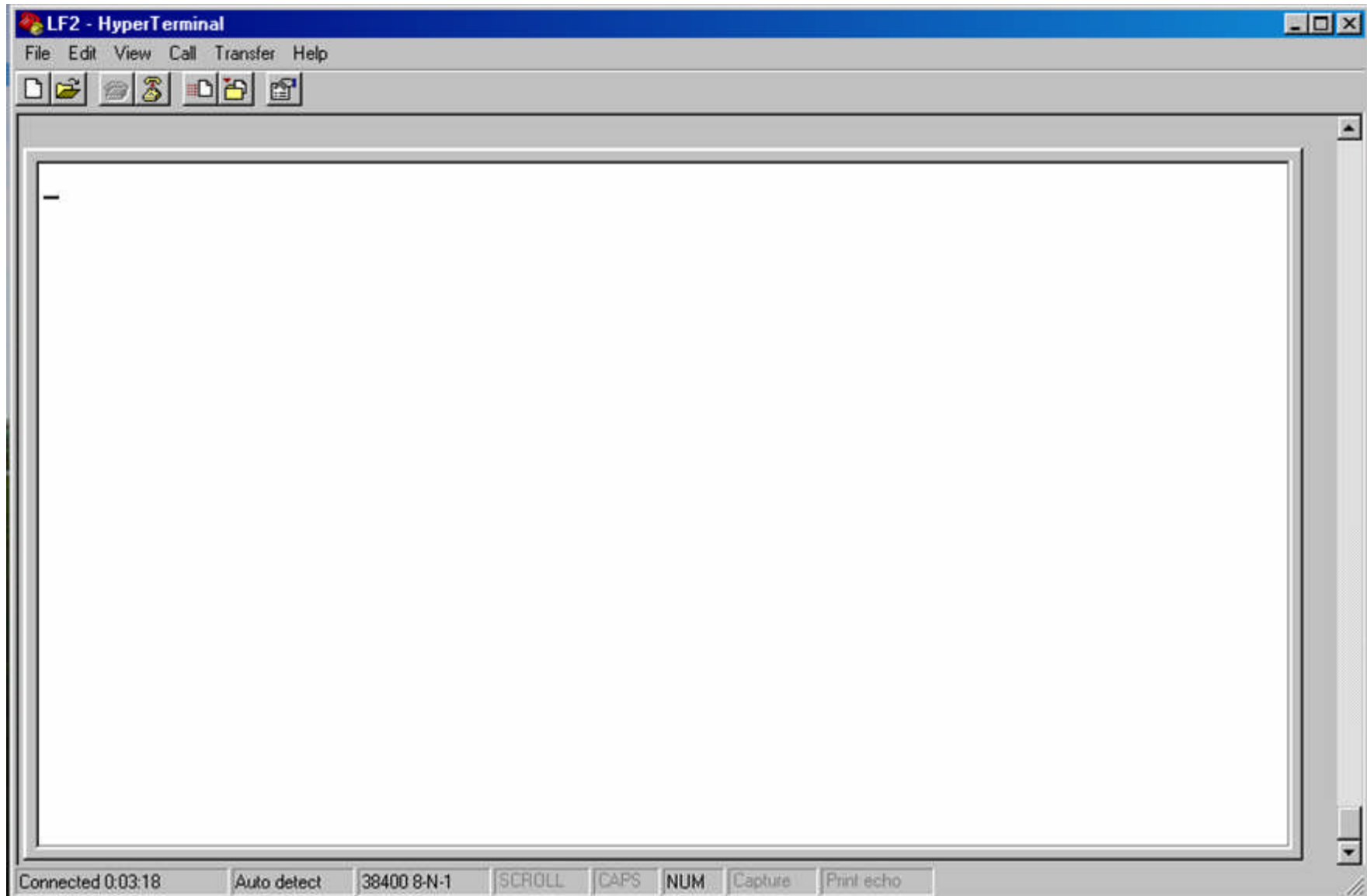
File Edit Explore Actions Help

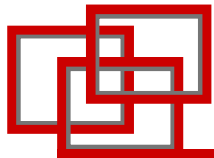
Devices

- Node 1: - LiquiFlo 2.0
- Node 2: - LiquiFlo 2.0 480V 405A
 - 1 - BRAND 2 ADAPTER 20-COMM-X Sample
 - 2 - Active Recorder 400V 403A
 - 4 - RECOMM-232 RS232 DF1**

S	N.P.P#	Name	Value
R	1: 4.1	DPI Port	4
*	1: 4.2	DF1 Addr Cfg	1
*	1: 4.3	DF1 Rate Cfg	38.4kbps
*	1: 4.4	Comm Flt Action	Fault
*	1: 4.5	Reset Module	Ready
*	1: 4.6	Clear DF1 Counts	Ready
*	1: 4.7	DF1 Packets Sent	4348
*	1: 4.8	DF1 Packets Rcvd	4350
*	1: 4.9	Undelivered Msgs	0
*	1: 4.10	ENQs Sent	0
*	1: 4.11	ENQs Received	0
*	1: 4.12	NAKs Received	0
*	1: 4.13	NAK Bad Packet	0
*	1: 4.14	NAK No Memory	0
*	1: 4.15	Duplicate Msgs	0
*	1: 4.16	Reserved	0
*	1: 4.17	DPI Data Rate	500kbps
*	1: 4.18	DF1 Addr Act	1
*	1: 4.19	DF1 Rate Act	38.4kbps
*	1: 4.20	Par / Pdbk Size	16-bit
*	1: 4.21	Datalink Size	16-bit

HyperTerminal Running but not connected





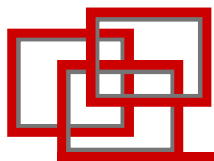
Press “Esc” on your keyboard to connect -

If below screen does not appear after pressing Esc from your keyboard, check the baud rate for the Anaconda - it must be 38.4 bps.

The screenshot shows a HyperTerminal window titled "LF2 - HyperTerminal". The window has a menu bar with "File", "Edit", "View", "Call", "Transfer", and "Help". Below the menu bar is a toolbar with icons for file operations. The main text area displays the following menu:

```
RECOMM-232 Smart Self-powered Serial Converter - DPI, Revision 3.006, Build 2
Main Menu - Enter Number for Selection
1> Display Setup Parameters
2> Display Event Queue
3> Flash Upgrade
-
```

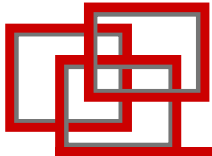
At the bottom of the window, there is a status bar with the following information: "Connected 0:00:19", "Auto detect", "38400 8-N-1", "SCROLL", "CAPS", "NUM", "Capture", and "Print echo".



Select 3 > “Flash Upgrade” - then
Select the device to be Flash Upgraded.

```
LF2 - HyperTerminal
File Edit View Call Transfer Help
[Icons]
RECOMM-232 Smart Self-powered Serial Converter - DPI, Revision 3.006, Build 2
Main Menu - Enter Number for Selection
1> Display Setup Parameters
2> Display Event Queue
3> Flash Upgrade
Flash Upgrade - Enter Number for Selection
0> LiquiFlo 2.0
1> BRAND 2 ADAPTER
2> Active Rectifier
4> This RECOMM-232 _
Connected 0:00:12 Auto detect 38400 8-N-1 [SCROLL] [CAPS] [NUM] [Capture] [Print echo]
```

In this and the following slides,
“Select” means to press the numeric number
From your keyboard!



Press Y to continue

```
LF2 - HyperTerminal
File Edit View Call Transfer Help
[Icons]

RECOMM-232 Smart Self-powered Serial Converter - DPI, Revision 3.006, Build 2
Main Menu - Enter Number for Selection
1> Display Setup Parameters
2> Display Event Queue
3> Flash Upgrade

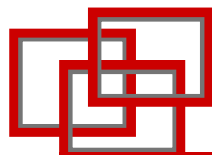
Flash Upgrade - Enter Number for Selection
0> LiquiFlo 2.0
1> BRAND 2 ADAPTER
2> Active Rectifier
4> This RECOMM-232

You have chosen to update -- 0> LiquiFlo 2.0

To update the FLASH memory, you need a terminal program capable of
downloading a binary file using the XMODEM protocol and a FLASH update
file from Rockwell Automation. When you press 'Y' to signal that you
are ready to proceed, the terminal program will start displaying the
letter 'C'. This signals the XMODEM protocol that the download may
proceed. You then have one minute to start the transfer. Press CTRL-X
to cancel an update started by mistake. Are you ready to proceed? (Y/N)
```

Note: This example has selected "0" the Inverter

You have chosen to update -- 0> LiquiFlo 2.0



Once “Y” is selected, you have one minute to start the Flash Upgrade. “Cs” display time.

```
LF2 - HyperTerminal
File Edit View Call Transfer Help
[Icons]

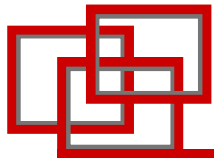
RECOMM-232 Smart Self-powered Serial Converter - DPI, Revision 3.006, Build 2
Main Menu - Enter Number for Selection
1> Display Setup Parameters
2> Display Event Queue
3> Flash Upgrade

Flash Upgrade - Enter Number for Selection
0> LiquiFlo 2.0
1> BRAND 2 ADAPTER
2> Active Rectifier
4> This RECOMM-232

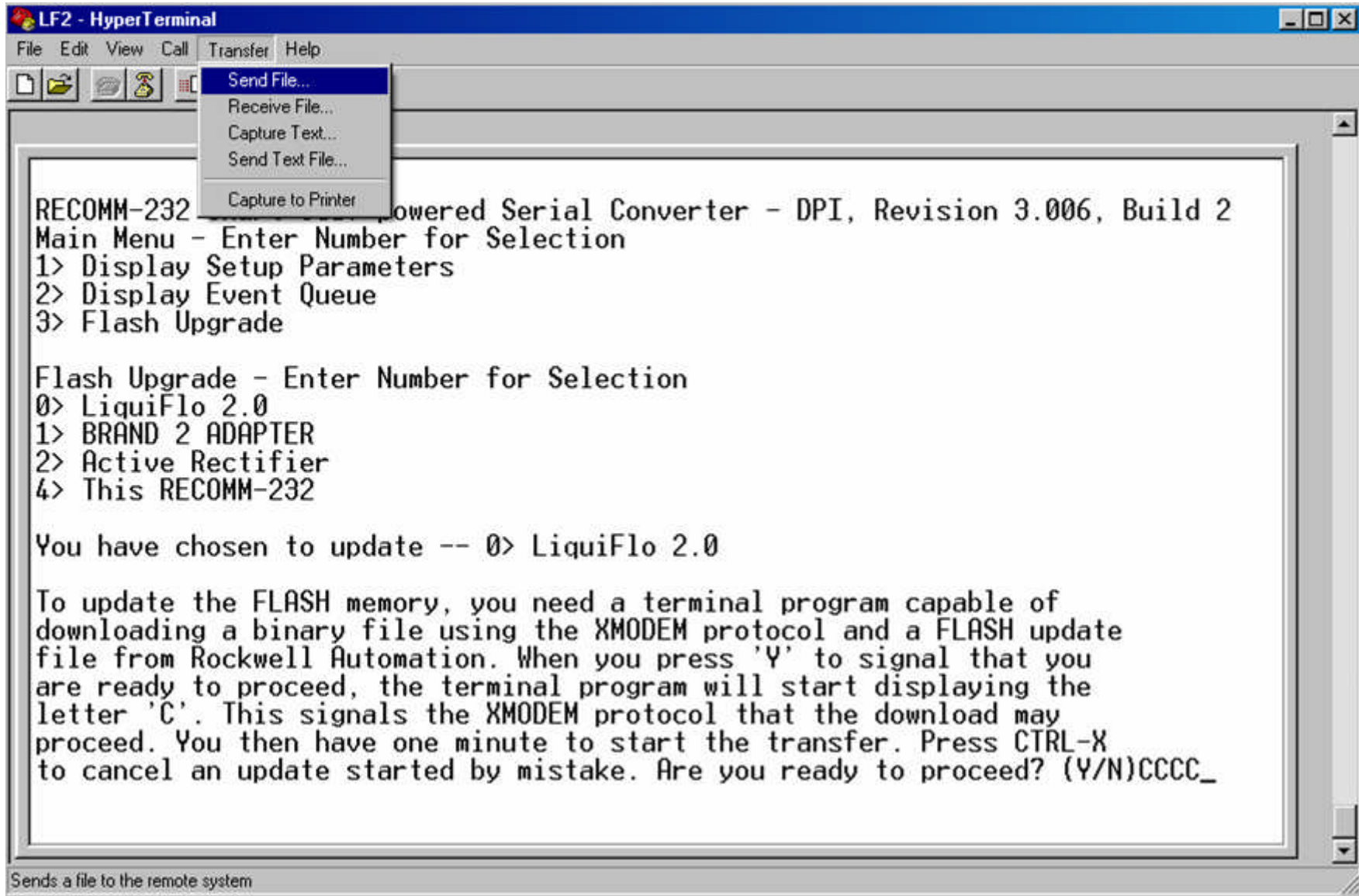
You have chosen to update -- 0> LiquiFlo 2.0

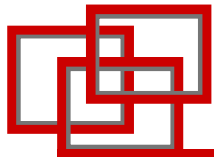
To update the FLASH memory, you need a terminal program capable of
downloading a binary file using the XMODEM protocol and a FLASH update
file from Rockwell Automation. When you press 'Y' to signal that you
are ready to proceed, the terminal program will start displaying the
letter 'C'. This signals the XMODEM protocol that the download may
proceed. You then have one minute to start the transfer. Press CTRL-X
to cancel an update started by mistake. Are you ready to proceed? (Y/N)CCCCCCC

Connected 0:01:42  Auto detect  38400 8-N-1  SCROLL  CAPS  NUM  Capture  Print echo
```



Left Click on Transfer then Send File





Press the Browse button

The screenshot shows a HyperTerminal window titled "LF2 - HyperTerminal". The terminal displays the following text:

```
RECOMM-232 Smart Self-powered Serial Converter - DPI, Revision 3.006, Build 2
Main Menu - Enter Number for Selection
1> Display Setup Parameters
2> Display Event Queue
3> Flash Upgrade

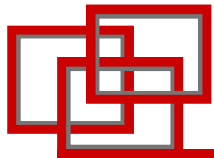
Flash Upgrade - Enter Number
0> LiquiFlo 2.0
1> BRAND 2 ADAPTER
2> Active Rectifier
4> This RECOMM-232

You have chosen to update.

To update the FLASH memory, you need a terminal program capable of
downloading a binary file using the XMODEM protocol and a FLASH update
file from Rockwell Automation. When you press 'Y' to signal that you
are ready to proceed, the terminal program will start displaying the
letter 'C'. This signals the XMODEM protocol that the download may
proceed. You then have one minute to start the transfer. Press CTRL-X
to cancel an update started by mistake. Are you ready to proceed? (Y/N)CCCCCCCC
CCCCCC_
```

A "Send File" dialog box is overlaid on the terminal. It has a title bar "Send File" and a close button. The "Folder" field contains "C:\A LF2 Rockwell Firmware\Fram 3\F3 Inverter". The "Filename" field is empty, and a "Browse..." button is to its right. The "Protocol" dropdown menu is set to "Xmodem". At the bottom of the dialog are "Send", "Close", and "Cancel" buttons.

At the bottom of the HyperTerminal window, there is a status bar with the following information: "Connected 0:00:38", "Auto detect", "38400 8-N-1", "SCROLL", "CAPS", "NUM", "Capture", and "Print echo".



Find the directory containing the Flash files.

The screenshot shows a HyperTerminal window titled "LF2 - HyperTerminal" with a menu for a "RECOMM-232 Smart Self-powered Serial Converter - DPI, Revision 3.006, Build 2". The menu options are:

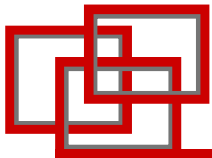
- 1> Display Setup Parameters
- 2> Display Event Queue
- 3> Flash Upgrade

The "Flash Upgrade" option is selected, leading to a sub-menu:

- 0> LiquiFlo 2.0
- 1> BRAND 2 ADAPTER
- 2> Active Rectifier
- 4> This RECOMM-232

The user has chosen to update the flash. The terminal displays instructions: "To update the FLASH memory, you must first download a binary file from Rockwell Automation. When the files are ready to proceed, the terminal will display the letter 'C'. This signals that you should press the letter 'C' to proceed. You then have the option to cancel an update start by pressing the letter 'N'. Pressing any other key will start the update process." The terminal shows a series of "C" characters.

A "Send File" dialog box is open, showing the "F3 Inverter Application Code" directory. The files listed are "L2i_1_009_040.bin" and "L2i_1_009_040.nvs". The "File name" field contains "L2i_1_009_040.bin" and the "Files of type" is set to "All Files (*.*)".



Select the “*.bin” file to be loaded.

The screenshot shows a HyperTerminal window titled "LF2 - HyperTerminal" with a menu bar (File, Edit, View, Call, Transfer, Help) and a toolbar. The main text area displays the following menu options:

```
RECOMM-232 Smart Self-powered Serial Converter - DPI, Revision 3.006, Build 2
Main Menu - Enter Number for Selection
1> Display Setup Parameters
2> Display Event Queue
3> Flash Upgrade

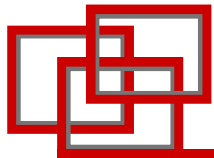
Flash Upgrade - Enter Number for Selection
0> LiquiFlo 2.0
1> BRAND 2 ADAPTER
2> Active Rectifier
4> This RECOMM-232

You have chosen to update the firmware.
To update the FLASH memory, you must be
downloading a binary file from Rockwell Automation.
When the files are ready to proceed, the
letter 'C'. This signals the system to
proceed. You then have the option to
to cancel an update start with the letter 'N'.
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC_
```

Overlaid on this is a "Send File" dialog box with the title "Select File to Send". The "Look in:" field shows "F3 Inverter Application Code". Two files are listed: "L2i_1_009_040.bin" and "L2i_1_009_040.nvs". An arrow points to the ".bin" file. The "File name:" field contains "L2i_1_009_040.bin" and the "Files of type:" dropdown is set to "All Files (*.*)".

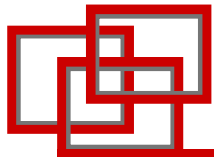
Use the file ending with a *.bin extension.

The file with the .nvs extension is used by VS-Utilities, and is not required when using hyper-terminal.



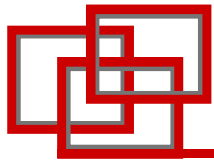
Press “Send” to start the download.

The screenshot shows a HyperTerminal window titled "LF2 - HyperTerminal". The terminal text includes a confirmation prompt: "to cancel an update started by mistake. Are you ready to proceed? (Y/N)CCCCCCCC". Below this, the terminal displays the menu for "RECOMM-232 Smart Self-powered Serial Converter - DPI, Revision 3.006, Build 2". The "Flash Upgrade" menu is selected, showing options: "0> LiquiFlo 2.0", "1> BRAND 2 ADAPTER", "2> Active Rectifier", and "4> This RECOMM-232". A "Send File" dialog box is open, showing the folder "C:\A LF2 Rockwell Firmware\Fram 3\F3 Inverter", the filename "C:\A LF2 Rockwell Firmware\Fram 3\F3 Inverter", and the protocol "Xmodem". The "Send" button is highlighted. The terminal text at the bottom of the dialog reads: "You have chosen to update... To update the FLASH memory, you need a terminal program capable of downloading a binary file using the XMODEM protocol and a FLASH update file from Rockwell Automation. When you press 'Y' to signal that you are ready to proceed, the terminal program will start displaying the letter 'C'. This signals the XMODEM protocol that the download may proceed. You then have one minute to start the transfer. Press CTRL-X to cancel an update started by mistake. Are you ready to proceed? (Y/N)CCCCCCC_". The status bar at the bottom shows "Connected 0:02:15", "Auto detect", "38400 8-N-1", and buttons for "SCROLL", "CAPS", "NUM", "Capture", and "Print echo".

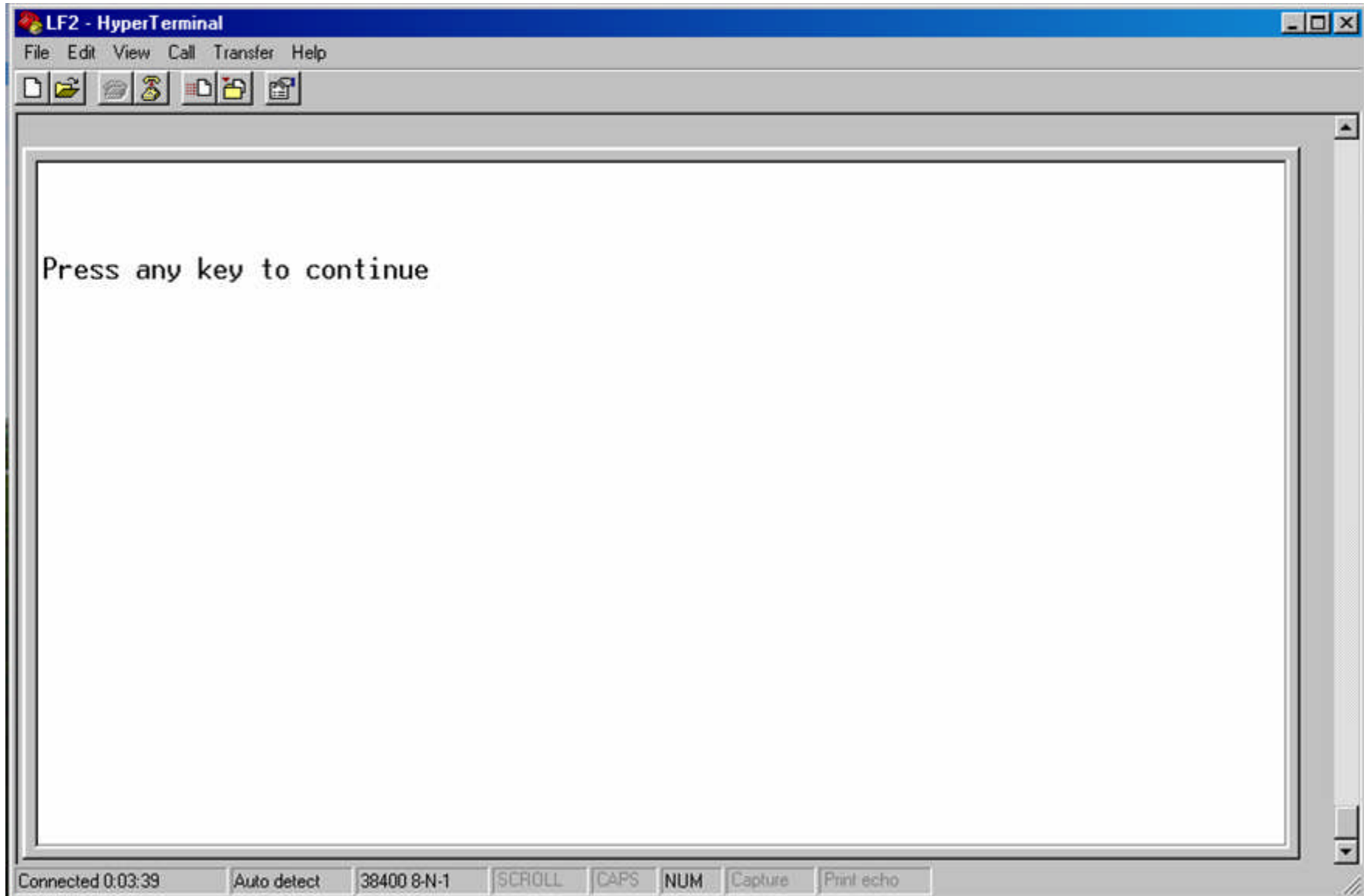


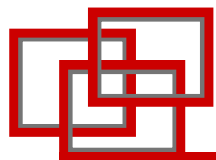
Window is displayed showing download status.

The screenshot shows a HyperTerminal window titled "LF2 - HyperTerminal" with a menu bar (File, Edit, View, Call, Transfer, Help) and a toolbar. The terminal text displays a menu for "RECOMM-232 Smart Self-powered Serial Converter - DPT Revision 3.006, Build 2" with options: "1> Display Setup Parameters", "2> Display Event Queue", and "3> Flash Upgrade". The "Flash Upgrade" option is selected, leading to a "Flash Upgrade - Enter" menu with options: "0> LiquiFlo 2.0", "1> BRAND 2 ADAPTER", "2> Active Rectifier", and "4> This RECOMM-232". The user has chosen to update the flash. A dialog box titled "Xmodem file send for LF2" is open, showing the following fields: "Sending:" with the path "C:\A LF2 Rockwell Firmware\Firmware 3\F3 Inverter Application Code\L2i_1", "Packet:" set to "255", "Error checking:" set to "CRC", "Retries:" set to "0", and "Total retries:" set to "0". The "File:" field shows "30K of 328K". The "Elapsed:" field shows "00:00:15", "Remaining:" shows "00:02:29", and "Throughput:" shows "2039 cps". There are "Cancel" and "cps/bps" buttons at the bottom of the dialog. The terminal text at the bottom of the dialog reads: "To update the FLASH downloading a binary file from Rockwell are ready to proceed, the terminal program will start displaying the letter 'C'. This signals the XMODEM protocol that the download may proceed. You then have one minute to start the transfer. Press CTRL-X to cancel an update started by mistake. Are you ready to proceed? (Y/N)CCCCCCCC_". The status bar at the bottom of the HyperTerminal window shows "Connected 0:02:33", "Auto detect", "38400 8-N-1", "SCROLL", "CAPS", "NUM", "Capture", and "Print echo".



Download is now complete. Press any key.



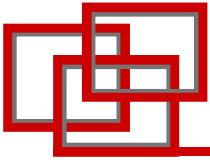


Repeat the above process for each device to be “Flash Upgraded”

The screenshot shows a HyperTerminal window titled "LF2 - HyperTerminal". The window contains a menu for a "RECOMM-232 Smart Self-powered Serial Converter - DPI, Revision 3.006, Build 2". The menu options are:

```
RECOMM-232 Smart Self-powered Serial Converter - DPI, Revision 3.006, Build 2
Main Menu - Enter Number for Selection
1> Display Setup Parameters
2> Display Event Queue
3> Flash Upgrade
-
```

The status bar at the bottom of the window shows "Connected 0:04:00", "Auto detect", "38400 8-N-1", "SCROLL", "CAPS", "NUM", "Capture", and "Print echo".



Questions

?