

Fairbanks Weighing Systems to RIO with AN-X2-AB-DHRIO

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Applicable products include:

- AN-X2-AB-DHRIO Using the Drive firmware
- AB PLC-5 with RIO Scanner
- SLC with 1747-SN RIO Scanner
- Fairbanks Weighing System Instrument FB2550

PLC-5®



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AN-X2-AB-DHRIO with drive firmware

This document describes the procedures to enable a PLC-5 or SLC to communicate with a Fairbanks FB2550 weighing instrument over Remote I/O. To utilize existing PLC-5 and SLC's Remote I/O systems, the AN-X2-AB-DHRIO will be used as a Remote I/O adapter that is controlled by the PLC-5 or SLC Remote I/O scanner.

The Fairbanks FB2550 is configured with an EtherNet/IP class 1 server that will be controlled by the AN-X2-AB-DHRIO EtherNet/IP class 1 scanner.

1. Configure the AN-X2-AB-DHRIO.

- a. Using your favorite Internet browser, Connect to the AN-X2 webpage. Consult the <u>DHRIO Drive</u> <u>user manual</u> for instructions on setting the IP address.
- b. Click on AN-X Configuration

▼ Automation Network	Î	AN-X2 Configuration								
✓ Log Files		Serial Number: 1a001ce7								
		MAC Address: 00:0C:1A:00:1c:e7								
▼ Administration		DHCP:								
AN-X Configuration		Link-Local:								
		Static : 💿								
Archive Configuration		AN-X Hostname: ANX_AB_DRV								
<u>Update AN-X Firmware</u>		AN-X IP Address: 10.12.1.66								
		NET Mask: 255.255.0								
Restart AN-X Module		Gateway Address: 10.12.1.1								
▼ Troubleshooting		Firmware Type: AN-X2-AB-DRV-04 🔻								
		SUBMIT								

- c. Assign the IP address settings for you're AN-X2.
- d. Select AN-X2-AB-DRV-04 for the Firmware Type.
- e. Click SUBMIT.
- f. Click the Continue button and wait 60 seconds for the firmware to update.





g. Once the AN-X2 is powered up, click on the Send Drive Templates link.

✓ Automation Network			
			AN-X AB RIO Drive Template File Upload
	Send Drive Templates		
	View Drive Templates		I Create a template file and send that file to the AN-X AB RIO Drive Adapter device: Manually create a csv file using your editor of choice and use the form below to select the local file. Use the 'Send' button to apply this configuration file
e.			Select file. Choose File No file chosen Send File to AN-X

Send the EthDef file:

**The supplied EthDef_Fairbanks_FB2550.csv file was constructed from information obtained from the supplied EDS file for the FB2550 (http://www.fairbanks.com/software/FB2550_090513.zip).

Consult the <u>TN171005-000 AN-X2-AB-DHRIO RIO</u> to EIP Drives.pdf technote file for information on how to construct or modify the templates.

- h. Click the Choose File button, and browse for and select the EthDef_Fairbanks_FB2550.csv file.
- i. Click the Send File to AN-X button. This will transfer the file to the AN-X2 internal storage.

Send the RioDef file:

- j. Click the Choose File button, and browse for and select the RioDef_Fairbanks_FB2550.csv file.
- k. Click the Send File to AN-X button. This will transfer the file to the AN-X2 internal storage.

Send the MainDef file:

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** Consult the TN171005-000 AN-X2-AB-DHRIO RIO to EIP Drives.pdf technote file for
information on how to construct or modify the templates. The supplied
Fairbanks_FB2550.csv file configures the AN-X2 as follows:
Baud: 115k
Rack#: 4, full-rack
RPI: 100
IP Address of FB2550 EtherNet/IP interface: 192.168.22.202
```

- I. Click on the Configure RIO to Enet/IP link
- m. Click the Choose File button, and browse for and select the AbRio_Main_Fairbanks_FB2550.csv file.
- n. Click the Send File to AN-X

Automation Network							
Configure RIO to Enet/IP	AN-X AB RIO Drive Adapter Configuration						
Send Drive Templates	AN-X AB RIO Drive Adapter Configuration Instructions:						
<u>View Drive Templates</u>	All configuration operations result in a disruption in the Ethernet/IP connections. These should not be performed while the process is in production mode.						
View Active Configuration	The AN-X AB RIO Drive Adapter is configured using a csv file (comma delimited file format exported by programs like Microsoft's Excel).						
Monitor Network Diagnostics	Create a <u>configuration</u> file and send that file to the AN-X AB RIO Drive Adapter device: Manually create a csv file using your editor of choice and use the form below to select the local file. Use the 'Send' button to apply this configuration file						
▼Log Files	Select file: Choose File No file chosen Send File to AN-X						



o. Consult the FB2550 user manual for setting the IP address for the EtherNet/IP server, and set the IP address

2. Configure the PLC-5 or SLC.

The configuration used for this technote is configured as: Baud: 115k Rack#: 4, full-rack RPI: 100 IP Address of FB2550 EtherNet/IP interface: 192.168.22.202

Verify the Main template file matches the configuration of the PLC-5.

;AN-X-ABRIO-DRV configuration for the Fairbanks FB2550 Instrument
Baud 115k ; 57k, 115k or 230k
Rack, 0004, 1, 4 ; Rack Number, Start Quarter, End Quarter
; btw, 3, 0; group 7, slot 0 ; btr, 3, 1 RPI 100 ; RIEdit Channel Properties
Template, EthDef Fairbanks FB2550 ;
Template, RioDef Fairbanks FB2550 ; Channel 0 Channel 1A Channel 1B Channel 2A Channel 2B
IpAddr 192.168.22.202 Unicast EndRack

Once everything is configured correctly, the scale data will be located in the configured Remote I/O I and O files. In the image above, the Range defines where within the I and O files.

Example:

I40:0 is the starting input register O40:0 is the starting output register



Explanation of data points and values.

Inputs		Value
Data		
File	Register Usage	
140:0 140:1 140:2 140:3 140:4 140:5 140:6	Status_w0 GrossWt_w0 GrossWt_w1 NetWt_w0 NetWt_w1 Setpoint_w0 Setpoint_w1	-32447 – consult bitmap table 25560 0 25560 0 1234 - Setpoint1 input value
Outputs		
O40:0	Command_w0	1 – addressing Scale 1
O41:1	Command_w1	32 – Bit 5 set to send Setpoint1
042:2	Out_Setpoint_w0	1234 - Setpoint1 output value
043:3	Out_Setpoint_w1	0



🔀 File O0	(dec)							• ×	Ĩ	🧱 File I1 ((dec)							
Offset	0	1	2	3	4	5	6	7	H	Offset	0	1	2	3	4	5	6	7
0:000	2048	2048	2252	704	64	4124	0	∧ 0		I:000	0	0	0	0	0	0	0	A 0
0:010	0	0	0	0	0	0	0	0		1:010	0	0	0	0	0	0	0	0
0:020	0	16	0	2560	1024	0	0	20		1:020	0	0	0	0	0	0	0	0
0:030	0	0	0	0	0	-32752	32	0 =		I:030	0	0	0	0	0	0	0	0 =
0:040	1	32	1234	0	0	0	40	0		1:040	-32447	25560	0	25560	0	1234	0	0
0:050	1	0	0	0	0	-32767	0	0		I:050	0	0	0	0	0	0	0	0
0:060	0	0	0	0	-32768	256	0	0		I:060	0	0	0	0	0	0	0	0
0:070	0	0	0	0	0	0	0	0		I:070	0	0	0	0	0	0	0	0
0:100	0	0	0	0	0	0	0	0		I:100	0	0	0	0	0	0	0	0
0:110	0	0	0	4	0	0	0	0		I:110	0	0	0	0	0	0	0	0
0:120	0	0	0	8	0	0	0	2 👻		I:120	0	0	0	0	0	0	0	0 👻
•) –		•								▶ -
0:	041					Rad	_{fix:} Decimal	-		1	041					Radi	x: Decimal	-
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