

# Technical Note



## Uploading HMI files from AN-X2-ABDHRIO and transferring files into AN-X4-AB-DHRIO.

**Document Code:** TN-ANX4ABDHRIO\_ANX2HMIFilesintoANX4HMI\_01-2305

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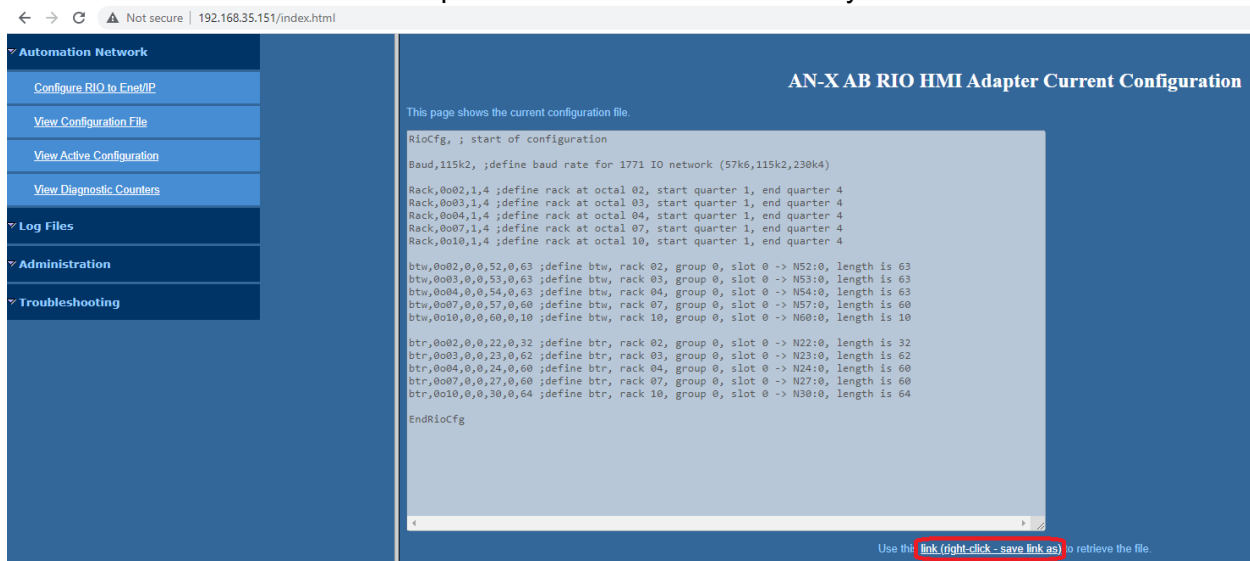
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The first part of this technote will go over extracting the files from the AN-X2-AB-DHRIO through the webpage and downloading the configuration file into the AN-X4-AB-DHRIO. There is more than one to extract the HMI configuration file from the AN-X2-AB-DHRIO. This document will also go over extracting the files from the AN-X2-AB-DHRIO micro-SD (uSD) card and reloading the files onto the AN-X4-AB-DHRIO uSD card.

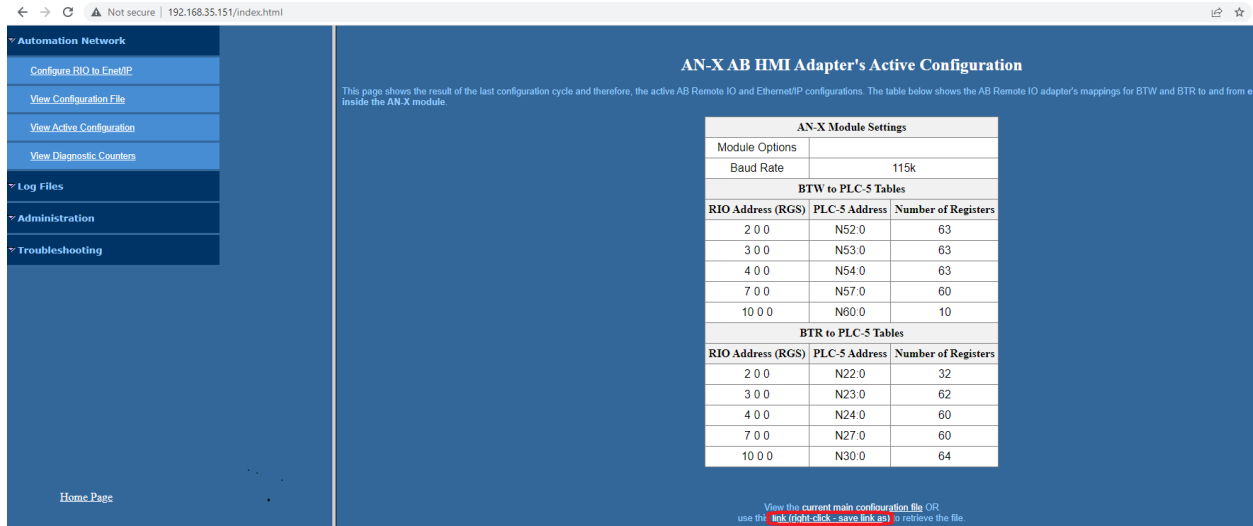
### [From the AN-X2-AB-DHRIO webpage](#)

Expand the Automation Network menu in the left frame and select View Configuration File. Locate the link at the bottom of the config file. The link is shown as “Link - Right-click – save as”. Right click on this link and select the option in your browser that allows you to save the contents of this link to disk. You can see the link in the image below outlined in red. You will have a .csv file called AbRioEnetIpHmi.csv saved in the location you chose.



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You can also expand the Automation network in the left frame and select View Active Configuration and click on the link (right-click – save link as) as shown in the image below. Again, you will receive a .csv file called AbRioEnetIpHmi.csv.



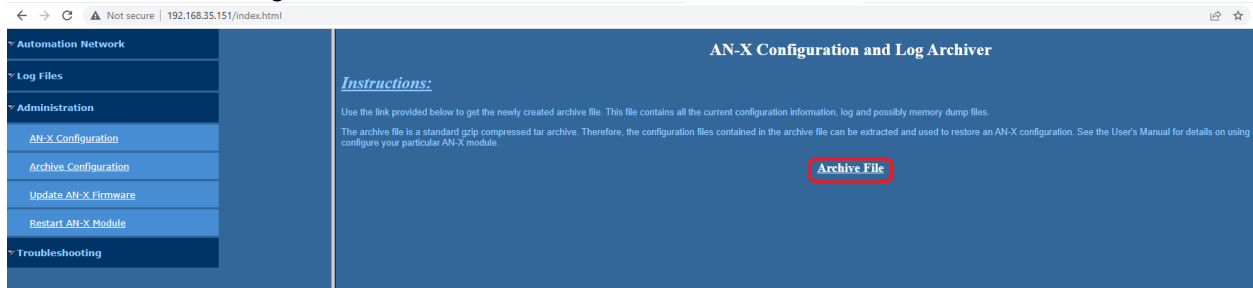
**AN-X AB HMI Adapter's Active Configuration**

This page shows the result of the last configuration cycle and therefore, the active AB Remote IO and Ethernet/IP configurations. The table below shows the AB Remote IO adapter's mappings for BTW and BTR to and from inside the AN-X module.

| AN-X Module Settings |               |                     |
|----------------------|---------------|---------------------|
| Module Options       |               |                     |
| Baud Rate            | 115k          |                     |
| BTW to PLC-5 Tables  |               |                     |
| RIO Address (RGS)    | PLC-5 Address | Number of Registers |
| 2 0 0                | N52.0         | 63                  |
| 3 0 0                | N53.0         | 63                  |
| 4 0 0                | N54.0         | 63                  |
| 7 0 0                | N57.0         | 60                  |
| 10 0 0               | N60.0         | 10                  |
| BTR to PLC-5 Tables  |               |                     |
| RIO Address (RGS)    | PLC-5 Address | Number of Registers |
| 2 0 0                | N22.0         | 32                  |
| 3 0 0                | N23.0         | 62                  |
| 4 0 0                | N24.0         | 60                  |
| 7 0 0                | N27.0         | 60                  |
| 10 0 0               | N30.0         | 64                  |

View this current main configuration file OR use the [link \(right-click – save link as\)](#) to retrieve the file.

Another way to get the config file is by extracting it from an AN-X2-AB-DHRIO Config Archive file. On the AN-X2-AB-DHRIO webpage, expand the Administration menu in the left frame. Select Archive Configuration and click on the Archive File link, as shown below.



**AN-X Configuration and Log Archiver**

Instructions:

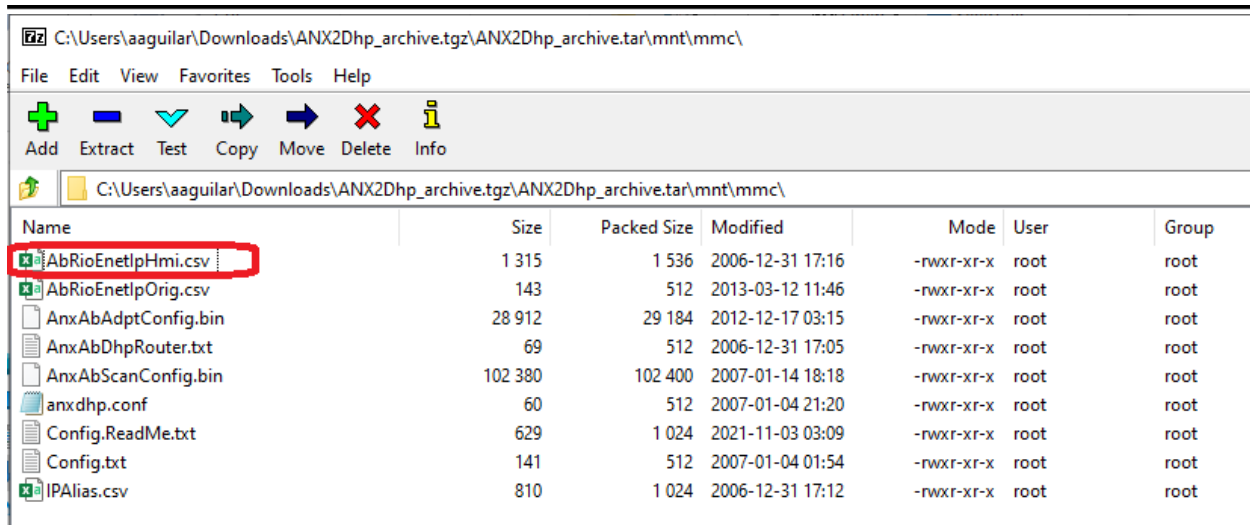
Use the link provided below to get the newly created archive file. This file contains all the current configuration information, log and possibly memory dump files. The archive file is a standard gzip compressed tar archive. Therefore, the configuration files contained in the archive file can be extracted and used to restore an AN-X configuration. See the User's Manual for details on using configure your particular AN-X module.

[Archive File](#)

This will download a file named archive.tgz. This is your configuration and diagnostics archive file. It contains everything you need from your AN-X2.

To locate and retrieve the HMI file, follow these steps.

- Open the saved archive.tgz file using an archive utility such as 7-Zip
- Extract all the files
- Locate the mnt folder in the extracted files
- The file you need is named AbRioEnetIPHmi.csv



Be aware if you are using BtByLen, it is set up differently between the AN-X2 and AN-X4. You will need to modify your config file before downloading the HMI configuration file to the AN-X4. Below is an example of how the BtByLen is configured using the AN-X4.

### Sample Block Transfer by Length Configuration

```
Baud 57k ;define baud rate for remote I/O network

Rack 0o01 1 1

btrbylen 0o01 0 0 N31:0 1 ; each BTR definition must have a different length

btrbylen 0o01 0 0 N32:0 2

btwbylen 0o01 0 0 N33:0 1 ; each BTW must have a different length

btwbylen 0o01 0 0 N33:3 32
```

Once you have the old config file, you can move on to sending it to the AN-X4-AB-DHRIO. You will need to first access the webpage on the AN-X4-AB-DHRIO. First thing you want to do is assign an IP address to the AN-X4. This AN-X4 can be configured:

- to use a static (unchanging) IP address
- to obtain its IP address from a DHCP server
- to use the factory default setting, where AN-X4 waits for 10 seconds for a DHCP server to assign it an IP address. If it does not obtain an IP address within 10 seconds, it reverts to a static address of 192.168.0.246. AN-X4 modules are shipped with the factory default setting. Unless you have control of the DHCP server, in most applications you will assign the AN-X4 a static IP address. Otherwise, the DHCP server may assign a different IP address each time AN-X4 powers up, and any software that accesses the AN-X module would have to be reconfigured.

In the AN-X4-AB-DHRIO webpage ensure that the AN-X4-ABRIO-HMI firmware is selected. Expand the Automation Network menu in the left frame and select Configure RIO-HMI. Click on the Choose File button (Browse on some browsers) and browse to the AbRioEnetIpHmi.csv that you saved and/or edited from the AN-X2-AB-DHRIO. Once selected, click on the Send File to AN-X button.

← → ↻ ⚠ Not secure | 192.168.35.150/index.html

**Home Page**

▼ **Automation Network**

- Configure RIO-HMI
- Configuration View
- RIO Discrete Data
- RIO Block Transfers
- RIO Diagnostics

▼ **Log Files**

▼ **Administration**

▼ **Support**

**AN-X-ABRIO-HMI Adapter Configuration**

**AN-X-ABRIO-HMI Adapter Configuration Instructions:**

All configuration operations result in a disruption in the Ethernet/IP connections. **These should not be performed while the process is in production mode.**

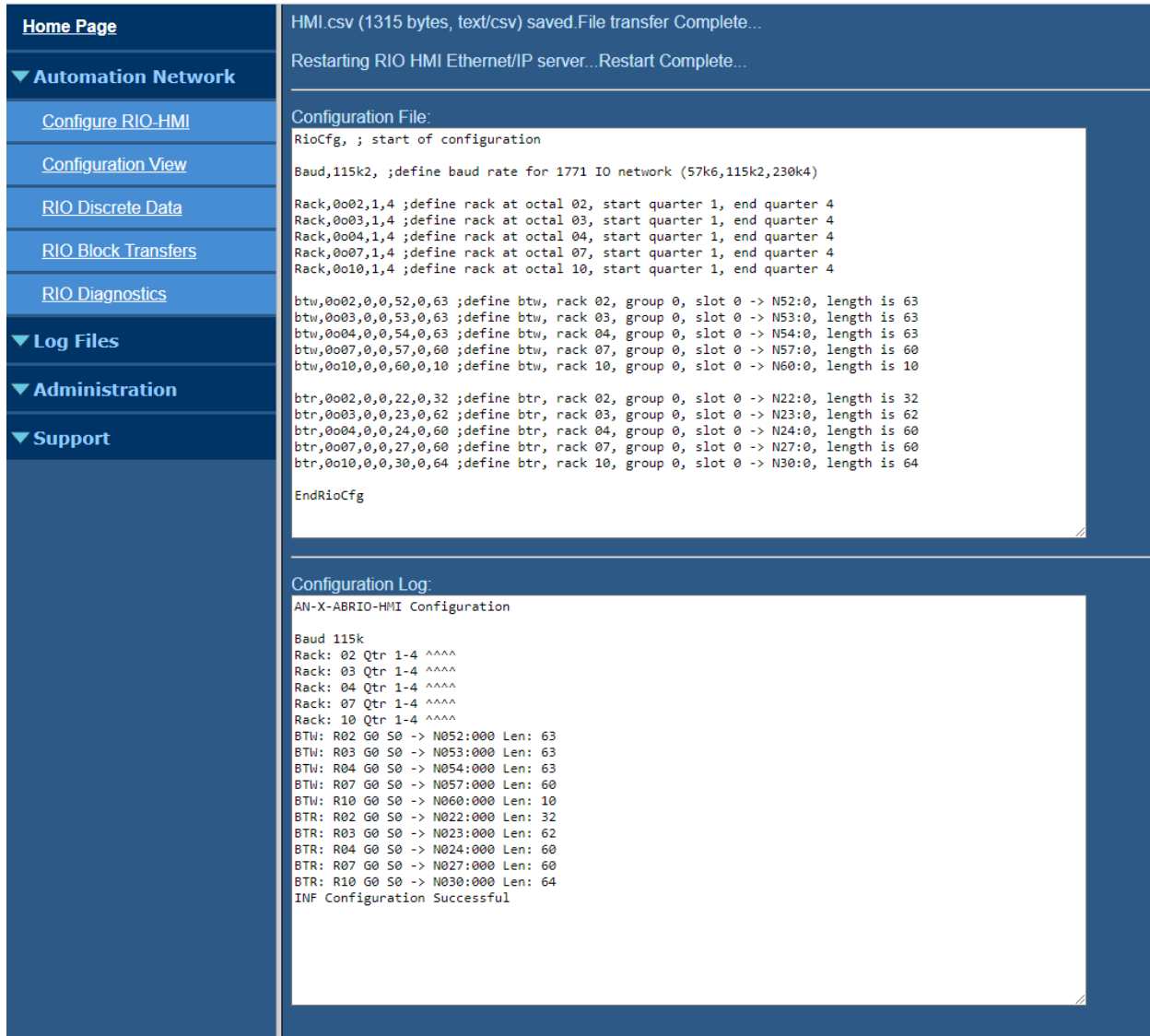
The AN-X-ABRIO-HMI Adapter is configured using a text file.

Create a configuration file and send that file to the AN-X-ABRIO-HMI Adapter device:

**Manually create** a text 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....

Select file:  No file chosen

You should see a screen like the following screen, if everything has worked properly. Your AN-X4-AB-DHRIO is now configured and ready for use.



The screenshot displays the ProSoft HMI configuration interface. On the left is a navigation menu with the following items: Home Page, Automation Network (expanded), Configure RIO-HMI, Configuration View, RIO Discrete Data, RIO Block Transfers, RIO Diagnostics, Log Files, Administration, and Support. The main content area shows the following information:

- Home Page:** HMI.csv (1315 bytes, text/csv) saved. File transfer Complete...
- Automation Network:** Restarting RIO HMI Ethernet/IP server... Restart Complete...
- Configuration File:**

```
RioCfg, ; start of configuration
Baud,115k2, ;define baud rate for 1771 IO network (57k6,115k2,230k4)
Rack,0002,1,4 ;define rack at octal 02, start quarter 1, end quarter 4
Rack,0003,1,4 ;define rack at octal 03, start quarter 1, end quarter 4
Rack,0004,1,4 ;define rack at octal 04, start quarter 1, end quarter 4
Rack,0007,1,4 ;define rack at octal 07, start quarter 1, end quarter 4
Rack,0010,1,4 ;define rack at octal 10, start quarter 1, end quarter 4

btw,0002,0,0,52,0,63 ;define btw, rack 02, group 0, slot 0 -> N52:0, length is 63
btw,0003,0,0,53,0,63 ;define btw, rack 03, group 0, slot 0 -> N53:0, length is 63
btw,0004,0,0,54,0,63 ;define btw, rack 04, group 0, slot 0 -> N54:0, length is 63
btw,0007,0,0,57,0,60 ;define btw, rack 07, group 0, slot 0 -> N57:0, length is 60
btw,0010,0,0,60,0,10 ;define btw, rack 10, group 0, slot 0 -> N60:0, length is 10

btr,0002,0,0,22,0,32 ;define btr, rack 02, group 0, slot 0 -> N22:0, length is 32
btr,0003,0,0,23,0,62 ;define btr, rack 03, group 0, slot 0 -> N23:0, length is 62
btr,0004,0,0,24,0,60 ;define btr, rack 04, group 0, slot 0 -> N24:0, length is 60
btr,0007,0,0,27,0,60 ;define btr, rack 07, group 0, slot 0 -> N27:0, length is 60
btr,0010,0,0,30,0,64 ;define btr, rack 10, group 0, slot 0 -> N30:0, length is 64

EndRioCfg
```
- Configuration Log:**

```
AN-X-ABRIO-HMI Configuration
Baud 115k
Rack: 02 Qtr 1-4 ^^^^
Rack: 03 Qtr 1-4 ^^^^
Rack: 04 Qtr 1-4 ^^^^
Rack: 07 Qtr 1-4 ^^^^
Rack: 10 Qtr 1-4 ^^^^
BTW: R02 G0 S0 -> N052:000 Len: 63
BTW: R03 G0 S0 -> N053:000 Len: 63
BTW: R04 G0 S0 -> N054:000 Len: 63
BTW: R07 G0 S0 -> N057:000 Len: 60
BTW: R10 G0 S0 -> N060:000 Len: 10
BTR: R02 G0 S0 -> N022:000 Len: 32
BTR: R03 G0 S0 -> N023:000 Len: 62
BTR: R04 G0 S0 -> N024:000 Len: 60
BTR: R07 G0 S0 -> N027:000 Len: 60
BTR: R10 G0 S0 -> N030:000 Len: 64
INF Configuration Successful
```

#### [Reading Files Directly from the AN-X2-AB-DHRIO uSD Card](#)

This section will go over how to retrieve the files from the AN-X2-AB-DHRIO uSD card and move them over the AN-X4-AB-DHRIO uSD card. First, install uSD card in a suitable card reader, and bring up the files in Windows Explorer.



Locate the AbRioEnetIpHmi.csv file on your AN-X2 uSD card and save it to your Desktop. Once there, rename it to AnxAbRioHmiCfg.txt as shown below.

| Name                           | Date modified       | Type                 | Size     |
|--------------------------------|---------------------|----------------------|----------|
| DrvTemplates                   | 6/7/2022 11:49 AM   | File folder          |          |
| RioEipScn                      | 6/7/2022 11:49 AM   | File folder          |          |
| <b>AbRioEnetIpHmi.csv</b>      | 8/13/2013 11:57 AM  | Microsoft Excel C... | 2 KB     |
| AbRioEnetIpOrig.csv            | 3/12/2013 6:46 PM   | Microsoft Excel C... | 1 KB     |
| AN-X2-AB-ADPT.v4.2.2.qtf       | 5/8/2018 12:49 AM   | QTF File             | 2,812 KB |
| AN-X2-AB-DHP.v4.11.2.qtf       | 1/19/2007 3:20 PM   | QTF File             | 3,132 KB |
| AN-X2-AB-DRV-04.v4.8.2.qtf     | 10/2/2018 8:10 AM   | QTF File             | 3,367 KB |
| AN-X2-AB-HMI.v4.9.3.qtf        | 2/19/2019 8:00 PM   | QTF File             | 2,877 KB |
| AN-X2-AB-RIO-EIPSCN.v4.4.1.qtf | 3/14/2018 4:12 PM   | QTF File             | 3,294 KB |
| AN-X2-AB-SCAN.v4.2.2.qtf       | 11/18/2019 11:16 AM | QTF File             | 2,750 KB |
| AN-X2-Maint.v1.1.14.qtf        | 6/7/2012 3:46 PM    | QTF File             | 2,735 KB |
| AnxAbAdptConfig.bin            | 12/17/2012 9:15 AM  | BIN File             | 29 KB    |
| AnxAbDhpRouter.txt             | 1/5/2007 10:23 PM   | Text Document        | 1 KB     |
| AnxAbScanConfig.bin            | 1/15/2007 12:18 AM  | BIN File             | 100 KB   |
| anxdhp.conf                    | 12/31/2006 11:03 PM | CONF File            | 1 KB     |
| Config.ReadMe.txt              | 11/3/2021 10:09 AM  | Text Document        | 1 KB     |
| Config.txt                     | 1/9/2007 6:09 PM    | Text Document        | 1 KB     |
| IPAlias.csv                    | 6/7/2022 11:48 AM   | Microsoft Excel C... | 1 KB     |

Make sure you change the filename **and** the extension. You will need to change the name from AbRioEnetIpHmi.csv to AnxAbRioHmiCfg.txt.



**NOTE:** It is very important that you change the file name and extension as show below.

 AbRioEnetIpHmi.csv to  AnxAbRioHmiCfg.txt

NOTE: BtByLen config is configured differently now, as illustrated below. If you are using BtByLen for your configuration on the AN-X2, then you will need to edit your file to look more like the config shown below.

### Sample Block Transfer by Length Configuration

```
Baud 57k ;define baud rate for remote I/O network

Rack 0o01 1 1

btrbylen 0o01 0 0 N31:0 1 ; each BTR definition must have a different length

btrbylen 0o01 0 0 N32:0 2

btwbylen 0o01 0 0 N33:0 1 ; each BTW must have a different length

btwbylen 0o01 0 0 N33:3 32
```

Once any changes to the new .TXT file have been made, you can eject the AN-X2 uSD card and mount your AN-X4 uSD card. The file structure will look a little different, as reflected below.

| Name       | Date modified       | Type            | Size      |
|------------|---------------------|-----------------|-----------|
| Dhp        | 12/31/1999 11:00 PM | File folder     |           |
| Firmware   | 12/31/1999 11:16 PM | File folder     |           |
| Init       | 12/31/1999 11:14 PM | File folder     |           |
| IPCfg      | 12/31/1999 11:00 PM | File folder     |           |
| RioDrv     | 12/31/1999 11:13 PM | File folder     |           |
| RioHmi     | 12/31/1999 11:00 PM | File folder     |           |
| ssh        | 12/31/1999 11:00 PM | File folder     |           |
| MLO        | 10/13/2022 2:10 PM  | File            | 106 KB    |
| qtsnet.dtb | 10/13/2022 2:10 PM  | DTB File        | 87 KB     |
| u-boot.img | 10/13/2022 2:10 PM  | Disc Image File | 1,105 KB  |
| uEnv.txt   | 10/13/2022 2:10 PM  | Text Document   | 1 KB      |
| zImage     | 1/31/2023 5:26 AM   | File            | 42,634 KB |

Double click on the RioHmi folder, which will have a default AnxAbRioHmiCfg.txt file. You will want to remove this file or rename it as “AnxAbRioHmiCfg.orig” if you want to keep a copy of the original file. Then you will want to copy the renamed and/or edited file into this folder.

← → ↕ ⬆ > This PC > USB Drive (D:) > RioHmi

| Name               | Date modified       | Type          | Size |
|--------------------|---------------------|---------------|------|
| AnxAbRioHmiCfg.txt | 12/31/1999 11:18 PM | Text Document | 2 KB |



Next, eject the uSD card from Windows, and when Windows says it is safe to remove the device, remove the uSD card from your card reader. Install the uSD card into the AN-X4-AB-DHRIO and power it on. Once it is initialized, open a browser and browse to the AN-X4-AB-DHRIO webpage. Verify your configuration by expanding the Automation network in the left frame and select View Active Configuration. The configuration displayed should match the config that was in your AN-X2-AB-DHRIO.