

ASIC/2-8540 Ethernet Adapter

Affects: ASIC/2-8540 FW854a1.8 and later

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Note No. TN-035

ETH-8540 Ethernet Adapter

The ASIC/2-8540 FW854a1.8 and later has an optional Ethernet Adapter-8540, ETH-8540, that brings full Ethernet UDP/IP connectivity to the ASIC/2-8540. The ETH-8540 plugs into the 28 pin female header,J1, and is secured with two metric M3 screws to the 10 mm metric standoffs screwed into the 8540 PCB.

The Ethernet Adapter obtains its power and IP Address and other configuration information from the controller. It supports much of the functionality of the EtherLink/2. It is sold separately as a kit and comes with mounting hardware.



The Ethernet Adapter is connected to the Ethernet Switch with a standard CAT5 Ethernet cable which auto detects 10/100 Base-T Ethernet communications..



The ETH-8540 Ethernet Adapter communicates directly to the ASIC/2-8540, independent of the System or Local RS-485 busses.

Note: The ASIC/2-8540 does NOT support ASI message pass-through from Ethernet to the System or Local busses.

Configuring IP Addresses

The ASIC/2-8540 FW854a1.8, and later, supports the ETH-8540 Ethernet Adapter. The Ethernet Adapter gets its static IP Address, IP Port, IP Subnet Mask and IP Gateway Address information from the System Object in the controller. The ASIC/2-8540 also supports Ethernet Notify messages which are enabled in the Notify Object.

You must initially communicate with the controller through the System or Local Bus to setup the static Ethernet parameters and to enable the Ethernet Adapter on the "IP Config" view of the system object parameter view screen, A2-SYS.pvs. You will need the latest a2_SYS.pvs, a2_SYS.tcl, and ASIC2.mdb files.

Send Device Address: 32069 Description: ASIC/2-8540 dpm-te	Firmware: 854a v1.8 est
System System Bus Local Bus IP Config	Diagnostics
IP Address: 192.168.1.69	IP Port: 3001
IP Subnet Mask: 255.255.255.0	
IP Gateway: 192.168.1.1	
IP Monitor: 192.168.1.119	IP Monitor Port: 2001
ETH-8540 Enable: 🔽 Yes	Reset Ethernet Action
ETH-8540 Status: No	

Note: After configuring or changing the IP Addresses and ports you need to press "Reset Ethernet Action", or reset power so that the Ethernet Adapter is reinitialized.

If the Ethernet Adapter is active and is connected on the network, you can "ping" the device to verify that it is recognized on the network. Wait at least 30 seconds for the adapter to reset. Use the "ping" command from a DOS command window with the –t option to continuously try to find the device. Hit Ctrl-C to end the command once it is found.

C:\WINDOWS\system32\cmd.exe	- 🗆 🗙	
C:\>ping 192.168.1.69 -t	^	
Pinging 192.168.1.69 with 32 bytes of data:		
Reply from 192.168.1.69: bytes=32 time=1ms TTL=60 Reply from 192.168.1.69: bytes=32 time=1ms TTL=60		
Ping statistics for 192.168.1.69: Packets: Sent = 9, Received = 9, Lost = 0 (0% loss),		
Approximate round trip times in milli-seconds: Minimum = 1ms, Maximum = 1ms, Average = 1ms		
Control-C C	_	

Visual Expert Network Communication

ASI Visual Expert 3.2.2.4 and later can be used to communicate through the Ethernet Adapter. Once you have configured the IP Addresses and ports and enabled the Ethernet Adapter, you may make a UDP/IP connection to the controller

Open a project, right-click on the Project, and select Properties.



From the Project Connection Options check Network UDP/IP. For Network Host enter the IP Address followed by a colon ":" and the IP Port [Default 3001] assigned to the controller. Click OK to save the connection information.

Project Properties	
Project Name: 8540-UDP-69	
Comments: ETH-8540 Notify Testing	
Create Project Shortcut on Windows Desktop	
Project Connection Options	
Ioken Passing Network ICP/IP	
☐ Modem Dial Out ✓ Network UDP/IP	
Direct Comm: DEFAULT	
Phone Number:	
Network Host: 192.168.1.69:3001	
ASI OPC Server Connection	
OPC Link 🔲	
Changing direct comm port overrides setting for all project devices	
<u> </u>	

At this point you may choose whether to use a serial connection, or a Network Connection.

Connect To Project: 8540-UDP-69		
🖀 🗖 Modem Connection (Dialout)		
Phone Number:		
🗖 Local Call (Ignore Area Code)		
Save Modified Phone Number		
Local Connection (Serial)		
Local Connect: Default 💌 (Select comm port for all project devices)		
NET IN Network Connection (Ethernet)		
Network Host: 192.168.1.69 : 3001 UDP/IP		

Click OK which brings you to the Expert Home screen.

Select "FindIt" to attempt to establish communication over the Ethernet at the System Bus Address.

ASIC/2-8540 Device Profile	
	R PROFILE
Product:	ASIC/2-8540
Address:	32069
Firmware:	854a v1.8
Description:	ASIC/2-8540 dpm-test
COMMUNICATIONS PROFILE	
Baud Rate:	
Connection:	192.168.1.69:3001
Stop Bits:	
ASIC/2-8540 Online	
<u>OK</u> <u>C</u> ancel	

LinkOPC Network Connection

You may also connect through the Ethernet Adapter using ASI LinkOPC Server. You must set the network IP Protocol as "UDP" in the OPC Server.

Edit Connecti	on	
Name:	UDP-63	
IP Address:	192 . 168 . 1 . 63	
IP Protocol:	UDP -	
IP Port:	3001	
Timeout (ms):	500	
Retry Count:	2	
Gap (ms):	10	
EE Refresh:	5 (mins. of delay between EE updates)	
Token Passing Enabled		
OK Cancel		

You can then configure the device. The Ethernet connection uses the System Bus Address.

Edit Device Properties	
Name:	8540-UDP-63
Address:	32063 Specify Range
Product:	8540 💌
Port:	192.168.1.63
Disable Polling	
OK Cancel	

Notify from USB-Ethernet

The ASIC/2-8540 can send the UDP/IP packet with the Notify message over the Ethernet to the IP Monitor Address at the IP Monitor Port defined in the System object where ASI Monitor software is running.

IP Monitor: 192.168.1.105 IP Monitor Port: 2001

When IP Notify Enable is set for an instance of the Notify object, then a notify message is sent to the USB-Ethernet adapter instead of to the system bus. Notify Destination address should be set to 23264 [0x5AE0). If Notify Post Self Enable is yes, then it also gets posted to its own Notify log.

ETH-8540 Firmware Upgrade



To upgrade firmware in eASI-Link Ethernet Adapter at ip Address 192.168.1.58, use ftp. From Start | Run | cmd

Type "cd \ASI\ETH-8540", then it should be in the ETH-8540 folder with the latest image.bin file. Follow the procedures shown as below

C:\ASI\ETH-8540> ftp 192.168.1.58 Connected to 192.168.1.58. 220 NET+OS 6.3 FTP server ready.	{ Use the ASIC/2-8540 IP address }	
Name (192.168.1.58:mashuri): asi	{ Your login }	
331 User asi OK, send password.		
Password: asi	{ Your password }	
230 Password OK.		
Remote system type is NET+ARM.		
ftp> bin	{ You MUST put it in binary mode! }	
200 Type set to I		
ftp> put image.bin 200 PORT command Ok.	{ The latest binary file! }	
150 About to open data connection.		
226 Transfer complete		
301405 bytes sent in 3.31 seconds (90976 bytes/s)		
ftp> quit	{ You MUST quit to complete the process! }	
221 Goodbye.		

At the Dos prompt use ping to find the adapter and wait about 60 s until it reboots.

C:\ASI\ETH-8540>ping 192.168.1.58 -t	{ ping for about 60s }
Ctrl-C to cancel ping	{ Do not turn off until device reboots! }
Run Expert - Click on "Find it" and the 8540 sho	uld be found.

For Further Information

If you have any further questions please contact: ASI Controls Technical Support <u>support@asicontrols.com</u>, or call 925-866-8808