



SYNC/570i-56

*Synchronous
Communications Controller
EIA-232/V.35*

Hardware Installation and Configuration Guide

Introduction

The Digi SYNC/570i-56 is a high-performance expansion board for computers. This two port adapter includes an integrated CSU/DSU function for one port and a jumper configurable V.35/EIA-232 interface for the second port.

A complete list of SYNC/570i-56 features and specifications is provided on the Access Resource CD for the DataFire Family of Products shipped with the adapter.

Check the Package Contents

Verify that these items are included in your package:

- SYNC/570i-56 adapter
- One 6-foot Telco cable
- One Telco loopback connector
- DataFire Access Resource CD
- Diagnostic diskette

The following cables are also available from Digi International:

- EIA-232 DB-25 to DB-25, male-to-male interface cable
- V.35 DB-25 to V.35, male-to-male interface cable

Install the Adapter

Step 1. Configure the Motherboard I/O Address

Before installing the SYNC/570i-56 in an ISA system, you must set the Input/Output (I/O) address.

Set the multi-segment switch on the main board. This

switch sets the starting I/O address for the block of I/O addresses the adapter uses. The adapter is shipped with a default setting of 300H.

Note: All I/O addresses are in hexadecimal format.

SYNC/570i-56 I/O Addresses and Switch Settings

100H							110H						
ON	x	x	x	x		x	ON		x	x	x		x
OFF					x		OFF	x				x	
	1	2	3	4	5	6		1	2	3	4	5	6
120H							130H						
ON	x		x	x		x	ON			x	x		x
OFF		x			x		OFF	x	x			x	
	1	2	3	4	5	6		1	2	3	4	5	6
140H							150H						
ON	x	x		x		x	ON	x		x		x	
OFF			x		x		OFF	x		x		x	
	1	2	3	4	5	6		1	2	3	4	5	6
160H							170H						
ON	x			x		x	ON				x		x
OFF		x	x		x		OFF	x	x	x		x	
	1	2	3	4	5	6		1	2	3	4	5	6
180H							190H						
ON	x	x	x			x	ON		x	x			x
OFF				x	x		OFF	x			x	x	
	1	2	3	4	5	6		1	2	3	4	5	6
1A0H							1B0H						
ON	x		x			x	ON			x			x
OFF		x		x	x		OFF	x	x		x	x	
	1	2	3	4	5	6		1	2	3	4	5	6
1C0H							1D0H						
ON	x	x				x	ON		x				x
OFF			x	x	x		OFF	x		x	x	x	
	1	2	3	4	5	6		1	2	3	4	5	6
1E0H							1F0H						
ON	x					x	ON						x
OFF		x	x	x	x		OFF	x	x	x	x	x	
	1	2	3	4	5	6		1	2	3	4	5	6
200H							210H						
ON	x	x	x	x	x		ON		x	x	x	x	
OFF						x	OFF	x					x
	1	2	3	4	5	6		1	2	3	4	5	6
220H							230H						
ON	x		x	x	x		ON			x	x	x	
OFF		x				x	OFF	x	x				x
	1	2	3	4	5	6		1	2	3	4	5	6
240H							250H						
ON	x	x		x	x		ON		x		x	x	
OFF			x			x	OFF	x		x			x
	1	2	3	4	5	6		1	2	3	4	5	6

260H							270H						
ON	x			x	x		ON				x	x	
OFF		x	x			x	OFF	x	x	x			x
	1	2	3	4	5	6		1	2	3	4	5	6
280H							290H						
ON	x	x	x		x		ON		x	x		x	
OFF				x		x	OFF	x			x		x
	1	2	3	4	5	6		1	2	3	4	5	6
2A0H							2B0H						
ON	x		x		x		ON			x		x	
OFF		x		x		x	OFF	x	x		x		x
	1	2	3	4	5	6		1	2	3	4	5	6
2C0H							2D0H						
ON	x	x			x		ON		x			x	
OFF			x	x		x	OFF	x		x	x		x
	1	2	3	4	5	6		1	2	3	4	5	6
2E0H							2F0H						
ON	x				x		ON					x	
OFF		x	x	x		x	OFF	x	x	x	x		x
	1	2	3	4	5	6		1	2	3	4	5	6
300H							310H						
ON	x	x	x	x			ON		x	x	x		
OFF					x	x	OFF	x				x	x
	1	2	3	4	5	6		1	2	3	4	5	6
320H							330H						
ON	x		x	x			ON			x	x		
OFF		x			x	x	OFF	x	x			x	x
	1	2	3	4	5	6		1	2	3	4	5	6
340H							350H						
ON	x	x		x			ON		x		x		
OFF			x		x	x	OFF	x		x		x	x
	1	2	3	4	5	6		1	2	3	4	5	6
360H							370H						
ON	x			x			ON				x		
OFF		x	x		x	x	OFF	x	x	x		x	x
	1	2	3	4	5	6		1	2	3	4	5	6
380H							390H						
ON	x	x	x				ON		x	x			
OFF				x	x	x	OFF	x			x	x	x
	1	2	3	4	5	6		1	2	3	4	5	6
3A0H							3B0H						
ON	x		x				ON			x			
OFF		x		x	x	x	OFF	x	x		x	x	x
	1	2	3	4	5	6		1	2	3	4	5	6
3C0H							3D0H						
ON	x	x					ON		x				
OFF			x	x	x	x	OFF	x		x	x	x	x
	1	2	3	4	5	6		1	2	3	4	5	6
3E0H							3F0H						
ON	x						ON						
OFF		x	x	x	x	x	OFF	x	x	x	x	x	x
	1	2	3	4	5	6		1	2	3	4	5	6

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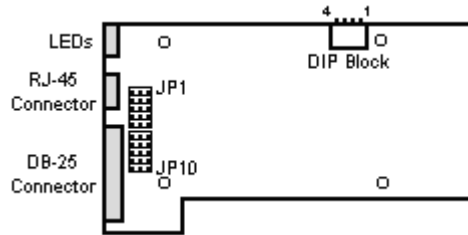
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Step 2: Configure the DaughterBoard

There are two configuration options that must be set on the daughterboard; the interface port and the CSU/DSU powerup configuration.

SYNC/570i-56 daughterboard



Configure the Interface Port

The selectable interface port is hardware-configurable using two jumper sets on the daughterboard.

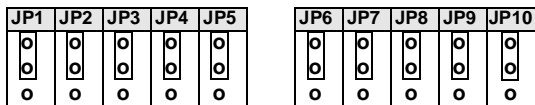
Note: When disconnecting the daughterboard use adequate precautions (such as a grounding wrist strap that is connected to earth ground) to prevent electrostatic damage.

- From the host side, remove the metal screws which secure the daughterboard to the motherboard.
- Separate the daughterboard from the motherboard.

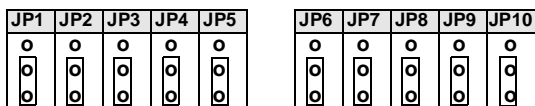
Note: There is one connector holding the daughterboard. **Do not** pull with a twisting motion.

- Install the jumpers for the correct interface. When the jumpers are on the top two rows, the interface port is set to V.35. When the jumpers are on the bottom two rows, the interface port is set to EIA-232.

Jumper Positions for V.35



Jumper Positions for EIA-232



- Reconnect the daughterboard to the motherboard by matching the connectors and screw wells. Push the daughterboard onto the motherboard and replace the screws.

CSU/DSU Powerup Configuration

The DIP switch that configures the initial powerup configuration of the CSU/DSU can be changed with the daughterboard connected to the motherboard.

The initial powerup configuration of the CSU/DSU is determined by the DIP switch settings. This configuration can be overwritten by AT commands.

This switch can be changed without separating the daughterboard from the motherboard. With the boards connected, the OFF label on the switch block is not visible. OFF is away from the base of the daughterboard, toward the motherboard.

DIP Switch settings for CSU/DSU Powerup

DIP Switch	OFF	ON
1	Leased Line	Switched Line*
2	56K Rate	64K Clear Channel Rate
3	Slave (DDS) Timing	Internal Timing
4	&D0 Mode DTR off: Command Mode DTR on: Data Mode	&D2 Mode Dropping DTR terminates a switched call

* Selecting a switched line will automatically choose a 56k rate with slave timing.

Step 3. Install the adapter in the Computer

Before you Begin

- Record the serial number of the adapter (located under the part number label). This will enable Digi to provide you with better service, should the need arise.
- Shutdown and unplug power from the computer.
- Put a ground strap on to ground yourself. If one is not available, ground yourself by touching an unpainted metal surface, such as the computer's chassis.

Installation Procedure

- Remove the computer cover.

- Locate an available 16-bit slot in your computer and remove the slot plate.
- Remove the hold-down screw at the top of the slot. Remove the slot bracket.
- Insert the adapter into the slot and screw the endplate to the computer chassis. The endplate must be screwed into the computer chassis to remain in compliance with Part 15 of FCC rules.
- Replace the computer cover.
- Reboot the computer. The LED indicator will display a steady red light indicating there are no lines connected.

Step 5. Verify the Installation

The *User Diagnostics* diskette and the loopback connector are designed to verify correct installation of the SYNC/570i-56 adapter. When running the diagnostic program, make sure no devices are connected to the adapter ports.

- Boot the system from a DOS-bootable diskette or partition. The **A:** prompt should display on your screen.
- Insert the *User Diagnostics* diskette.
- Install the Telco (RJ-45) and EIA-232 loopback connectors on the adapter.
- Type **A:\SYNC570** to start the diagnostic program.
- Follow the instructions on the screen.

The diagnostic program displays the current the IRQ, base memory address, and the base I/O address. You may modify the address and IRQ selections from the diagnostic program to test the adapter. The IRQ must be active and you must select a non-zero address.

Note: For ISA adapters, the following I/O addresses are not allowed when running the user diagnostic program; 0x000 through 0x100, 0x1F0, 0x230, 0x240, 0x250, 0x260, 0x270, 0x2e0, 0x2F0, 0x330, and 0x360 through 0x3FF.

The diagnostic tests will fail if there is a memory address (base I/O address or 16KB memory window)

or interrupt conflict. If the diagnostic program cannot determine your switch settings, there may be a conflict as well. Try changing the memory addresses and IRQ if the diagnostic program fails.

Other Settings

IRQ and Memory

The memory address and interrupt line (IRQ) are software-configurable via either your operating system or an installable driver. The memory address consists of a 16KB window.

Fast Select

Jumper JP1 on the ISA SYNC/570i-56 adapter controls the Fast Select circuitry on board. The adapter is shipped with a jumper connecting pin 2 and pin 3 of JP1. This option allows the adapter to function with any combination of 8, 16, or 32 bit video and/or network cards supporting Fast Select. When pins 1 and 2 are jumpered, the adapter must be installed in a 128KB paragraph which contains only 16 or 32 bit cards. The default setting (pins 2 and 3 jumpered) works in most computers and should not be changed without verification from Digi Technical Support.

What Next?

Install and configure the driver for your SYNC/570i-56 adapter. Consult the DataFire Access Resource CD for driver installation and configuration procedures. The DataFire Access Resource CD also contains cabling information, diagnostic and troubleshooting information, and product features and specifications.