

WarpExpress

EPP/ECP Parallel Port for the PC

Installation Manual

Release 1.3



Federal Communications Commission
R.F. Interference Statement

Warning: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Notice to user: Use of a shielded cable is required for FCC compliance.
Please contact Warp Nine Engineering if you experience any problems.

SOFTWARE LICENSE AGREEMENT

WarpExpress software (FASTLPT.SYS, LISTIO.EXE, XIR_EPP.COM, SETCNF.EXE and SETMODE.EXE) is owned by Warp Nine Engineering, which reserves all rights. The purchaser of WarpExpress has been granted a single user license to use the WarpExpress software (if any) in conjunction with the WarpExpress PC card that it was originally sold, or with any subsequent authorized replacement card. No warranty, expressed or implied, pertaining to the software's fitness for any purpose is contained in this agreement.

WARRANTY INFORMATION

The WarpExpress card is warranted by Warp Nine Engineering, to the original purchaser, to be free of defects in materials and workmanship for three (3) years from the date of original purchase. Warp Nine Engineering makes no other warranties, expressed or implied, including implied warranties of merchantability and fitness for purpose.

During the warranty period, if a component is proven to be defective, Warp Nine Engineering will repair or replace it, at our option, with no charge for parts or labor, when returned to Warp Nine Engineering with dated proof of purchase. This warranty does not apply to any component which has been misused, defaced, or modified, or which has been serviced or repaired by other than Warp Nine Engineering.

This warranty gives you specific legal rights. You may have other rights which vary from state to state.

Important: Terms of warranty require that the proof of purchase date be presented by the owner to obtain warranty service. Please retain your dated sales receipt.

P/N 020-0010

WarpExpress

EPP/ECP Parallel Port for the PC

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INTRODUCTION TO WARPEXPRESS

Thank you for your purchase of the Warp Nine Engineering WarpExpress 1284 I/O card. The WarpExpress interface card provides the user with a high-performance, IEEE 1284-compliant parallel port. We purposely designed the WarpExpress card so that it can be installed as either a “standard” ECP printer port with a I/O base address of 278 or 378, or it can be installed as “non-standard” port, with a base address of 288 or 388.

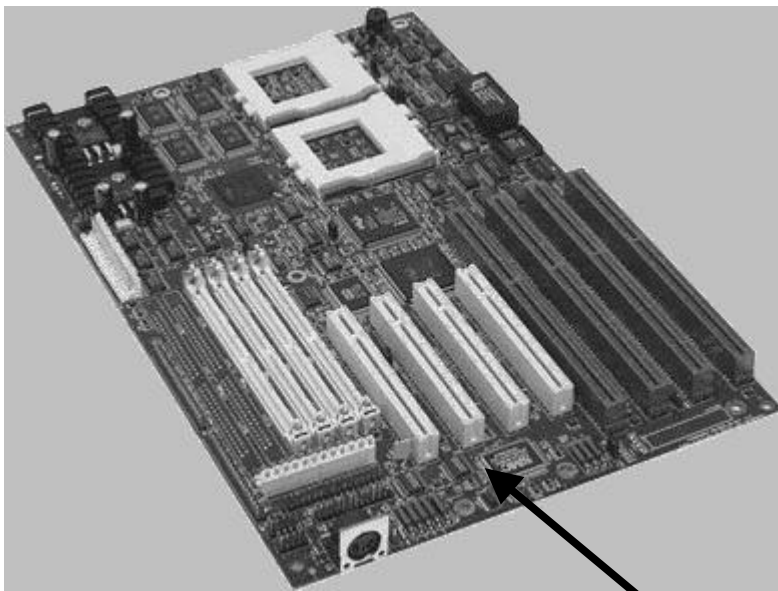
This feature allows OEM software to detect the card without the worry of any conflicts arising with other device drivers. Other features are described in the following.

Parallel Port Features:

- EPP - Enhanced Parallel Port protocol
- ECP - Extended Capabilities Port protocol
- Fast Centronics
- DMA capable- Channel 1 or 3
- Able to drive over 30' using IEEE 1284 compliant cables
- 1284 Type A connector (DB25)
- I/O base address- 278, 288, 378, 388
- IRQ selection - 5, 7, 10, 11, 12, 15

SYSTEM REQUIREMENTS

The WarpExpress card will operate with any 386, 486 or Pentium-based personal computer with an ISA bus. The card will fit into any open ISA connector. The card will not fit into a PCI connector. See figure below.



PCI Bus Connector

ISA Bus Connector

INSTALLATION

These instructions will guide you through the installation of the WarpExpress I/O card. The steps include:

- Determine your system configuration
- Configure the WarpExpress card
- Install the WarpExpress card in the PC
- Initializing the software

Determining Your System Configuration

In order to perform the setup and install of your WarpExpress card, you will need to know what settings to use for the parallel port base address, IRQ, and serial port settings.

The first task is to determine what parallel ports you have installed in your system now, and what resources they use. Starting at the Win95 desktop, use the following procedure to determine your system setting.

1. Right click with the mouse on “My Computer”
2. Select “Properties”
3. Select the “Device Manager” tab
4. Scroll down the device list and double click on “Ports (COM and LPT)”
5. Scroll down this list to see what parallel ports you have. They will be listed as:
 - Printer Port or
 - ECP Printer Port (LPTx)

Now we need to determine what I/O resources each parallel port uses. Do the following for each.

6. Click on the printer port (ECP or Printer, etc.)
7. Click on the “Resources” tab

This will display a window that shows the information about the parallel port. For example:

```
“Direct Memory Access” 03
“Input/Output Range” 03BC (I/O Base Address)
.....
“Interrupt Request” 07
```

IT IS IMPORTANT THAT YOU WRITE THIS INFORMATION DOWN.

8. Click on “OK” and repeat these steps for each parallel port listed.
9. When done, click on “Cancel”. This will get you back to the desktop.

Configuring the WarpExpress card

I/O Base Address

Refer again to the table you just created to determine the I/O Base Addresses used for the installed LPT ports on your PC.

On the WarpExpress board, locate the JP1, JP2 jumper blocks. Using the following table, identify an available I/O address that is not used on your system.

A 'T' refers to placing the jumper on the TOP two pins. A 'B' refers to placing the jumper on the BOTTOM two pins. Use the following table to set the jumpers of the **JP1**, **JP2** Jumper Blocks to the desired (and unused) I/O Base Address:

JP1	JP2	I/O Address
T	T	378
T	B	278
B	B	288
B	T	388

I/O ADDR. 378 - PC default LPT1 I/O address

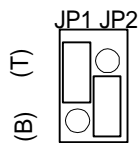
I/O ADDR. 278 - PC default LPT2 I/O address

(See example below)

I/O ADDR. 288 - General Purpose I/O address

I/O ADDR. 388 - General Purpose I/O address

(NOTE: May be used by some Sound Cards)



Choose an open I/O Address by picking the one highest in the table. For example, if you already have a parallel port installed at address 378, then choose 278 for this card.

Addresses 378 and 278 should be automatically detected by Win95 and your system

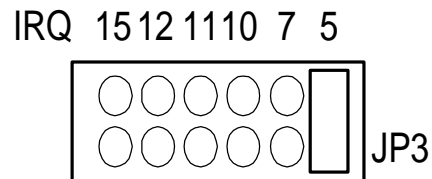
BIOS. Addresses 288 and 388 will need to be added manually into the Win95 device list.

Interrupt Request (IRQ)

Next, locate the **IRQ Jumper Block JP3** on the card. Set the **IRQ** jumper to the desired setting for the LPT port. The following identifies the general usage for IRQ settings:

IRQ	Description
5	Standard LPT2 setting, network adapters
7	Standard LPT1 setting
10	Open
11	Open
12	Open
15	Open,

Please note that if there is not an open IRQ then you can share an IRQ with an installed parallel port. It is not critical that an IRQ be used with this port. Don't lose any sleep because you can't find an open IRQ.

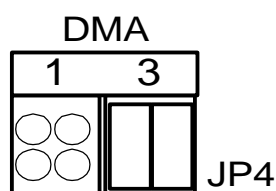


DMA Channel Selection

Some software drivers may use Direct Memory Access (DMA) to transfer data to the WarpExpress card. The card may be set to use DMA channel 1 or 3 by setting both **DMA CHAN.** jumpers to the appropriate setting. If you install two WarpExpress cards, be sure they are configured to different DMA channels. Win95 printing is optimal when a DMA channel and IRQ is available for an ECP device on the parallel port.

Locate the **DMA Jumper Block JP4** on the card. Set the **DMA** jumper to the desired setting for the LPT port. The following identifies the general usage for IRQ settings:

NOTE: IT IS RECOMMENDED THAT YOU SET THE DMA JUMPERS ON DMA 3.



Installing the WarpExpress I/O card in the PC

CAUTION : ALWAYS POWER-OFF YOUR PC BEFORE INSTALLING OR REMOVING YOUR WARPEXPRESS

After the Base Address, IRQ, and DMA jumpers have been setup properly, you may now install the WarpExpress card in to your PC. The card may be installed in either an 8 bit or 16 bit I/O slot if you are using IRQ 5 or 7. If you are using IRQ 10, 11, 12 or 15, then the card must be installed in a 16 bit I/O slot.

Be sure to seat the card firmly into the slot and to reinstall the screw to hold the card to the frame of the PC.

SOFTWARE INITIALIZATION

Unlike previous operating systems, Windows 95 automatically recognizes the WarpExpress card as "ECP Printer Ports" and installs the correct driver to utilize the card features for printing. This is true if the card was installed at I/O base 378 or 278. If the card was installed at I/O base 288 or 388 then the card will have to be added to the device list manually.

Installation:

1. Install the card into the PC according to the manual. Please make a note of the I/O Base Address, the DMA Channel and the interrupt IRQ jumpers that selected.
2. Power ON your PC and boot into Windows 95.
Win95 may automatically recognize the new parallel port. If so, then a "Discovered New Hardware" window will be displayed and you are ready to use the port. If this window was not displayed then proceed with step #3.
3. Double-click on "My Computer", then "**Control Panel**".
If the card was installed at address 378 or 278 then proceed with #4 and continue through the installation wizard to allow Win 95 to automatically identify new hardware. However, if the card was installed at address 288 or 388, then go to step #5.
4. Double-click on "**Add New Hardware**".

Choose "**Next**" and allow Win95 to automatically check for new devices.

When this process is complete, the new parallel port should be recognized as an "ECP Printer Port". You can verify this by selecting "Settings", then "Control Panel", then "System", then "Device Manager".

When the Device Manager window is displayed, scroll down until you see "Ports (COM and LPT)". Double click this and you should see your new port displayed as "ECP Printer Port (LPTx)" where x is either 1, 2 or 3. At this point, your new card is installed and ready to use.

Go to step #6.

5. This is for a card installed at address 288 or 388.
 - a. Double-click on "Add New Hardware". Click on "Next".
 - b. Choose "No" to allowing Win95 to automatically detect your hardware.
 - c. Click on "Next"
 - d. Scroll down the list until you get to "Ports (COM and LPT)". Double click this.
 - e. On the right side of the window, highlight "ECP Printer Port" and click next.
 - f. At this point Win95 will display an I/O base address for the card. You can ignore this number and we will change it later.
 - g. Select "Next". At this point the system may ask for your Win95 setup CD or location.

After the system updates your driver Win95 will recommend that you reboot your PC. **DO NOT DO THIS.** We will need to modify the I/O base for the port.

- h. Now proceed to step #6 and select this parallel port to modify. You will change the I/O base address in the window to either 288-28F, or 388-38F.

- 6. You may increase the capabilities of the card by enabling the IRQ and DMA features.

This is done by the following process:

- a. Return to the "Device Manager" until you see the ECP Printer Port you installed.
- b. Double-click on the ECP Printer Port that you installed. This will bring up the Port Properties window.
- c. Click on "Resources". This will bring up the port configuration.
- d. Click on the box "Use automatic settings". This will clear the box.
- e. Click on the box "Setting based on:" and choose "basic configuration 2". This will display a new resource list that will include the following (for example):

Input/Output Range	0278-027A
Interrupt Request	03
Direct Memory Access	01

If the values displayed next to each item do not match the choices you made when you installed the card then double-click on the resource and modify its setting to match the jumper settings of the installed card. When all of the resource settings match the installed card, select "OK". This will cause your PC to restart. At that time the card should be set and the port ready to use.

When you are done with item 6, reboot your machine. You are now ready to use the port.

Iomega zip drive and Visioneer Strobe Scanner

Warp Nine's WarpExpress is the easiest way to get the best I/O performance required by today's peripherals. Products such as the Iomega zip drive and the Visioneer Strobe color scanner are designed to take full advantage of this card. This is the card most recommended by peripheral manufactures as the premium parallel port to get the most out of your PC and your peripheral.

This section provides answers and solutions to common questions and problems. If this section does not provide the answer or solution you need, please contact Iomega Customer Support.

The following are the most common questions we get from customers and technical support types.

Q. How fast will the zip drive go using the WarpExpress card?

- A. Actual performance is dependent upon the setup of the PC, it's memory, the applications that are running, and how the performance is being measured.

Some sources quote 20 to 30MBytes per minute with the zip drive. In reality, it is almost impossible to quote specific performance for a peripheral. These performance specs are given for a system running under DOS, with no other applications running.

Similar to the claims of color ink jet printer manufacturers. They may claim "4 pages per minute" on the box, but sometimes it's more like "4 minutes per page". You can get the former if you are printing blank pages, but that's not very useful.

What we guarantee is that with this card you will get the best performance possible with your particular system.

Q. My Hewlett-Packard or Canon printer won't work with the zip drive or scanner. What's wrong with the zip or scanner?

- A. Absolutely nothing! The problem is with the software that drives the printers. Many printers don't like to share the parallel port, so the software drivers refuse to give it up for another device to use.

In this case, the best solution is to add another parallel port to your system. Connect the printer to the old port, and use the new port for your zip drive, scanner and other sharable peripherals.

The zip drive and Strobe scanner are designed to work together and may be daisy chained without any problem. Just plug the scanner into the pass-through port of the zip drive and you're ready.

Q. I installed the WarpExpress and attached my zip drive to it, but the system can't find the zip drive. What's wrong?

- A. If you have previously installed the zip drive to your old parallel port, let's say LPT1, and you then installed the WarpExpress as LPT2. You must reinstall the zip_drive so that it will be set up properly.

After you get the WarpExpress installed, uninstall or delete the Iomega zip drive from your system. Then connect the zip drive to the new parallel port and rerun the zip drive install program. The zip should then work fine.

Q. If I still have problems, is there an alternative method for installing the zip drive?

- A. There is a "brute force" method that should always work. This will work for Win95 only.

Try the following:

- a. Click on "Start"
- b. Go to "Settings"
- c. Click on "Control Panel"
- d. Click on "Add New Hardware"
- e. Click on Next
- f. Select 'No' to "Search for new hardware"
- g. Scroll down the components list and double click on "SCSI Controllers"
- h. Click on "Have Disk". Insert the Iomega install diskette in Drive "A:"
- i. Browse the A: drive and select "Iomega Parallel Port zip Interface"
- j. Select "Finish"
- k. Verify the zip drive is installed on the correct port and has power applied.
- l. Restart Windows 95

Q. How do I know I'm getting the very best performance possible with my new parallel port and zip drive?

- A. After you've installed the zip drive, run the Iomega utility program "Parallel Port Accelerator". This should set you up with the fastest transfer rate possible for your configuration. If you're still not satisfied, or you don't think it worked properly, do the following (againWin95 only):

- a. Go to "Control Panel"
- b. Double-click on "System"
- c. Click on "Device Manager"
- d. Scroll down the list until you see "SCSI controllers"
- e. Double-click on "SCSI controllers"
- f. Double-click on "Iomega Parallel Port zip Interface"
- g. Click on "Settings"

- h. If the settings box is empty ,then type the following into the box:
/mode:smceppecp /port:278 /speed:6 (the /port:278 should be whatever you set WarpExpress set to, 278 or 378.)
- i. Select "OK" and restart your computer.

This should get you the best performance with your machine.

Thank you.

Warp Nine Engineering Technical Support

