Introduction

Congratulations on your purchase of the Universal Disk Controller for your Apple II Plus, //e, or Laser 128 computer! **(The Universal Disk Controller will also work well in a IIGS. However, since it does not completely emulate the IIGS's disk controller, some copy protections won't work.)** The Universal Disk Controller (we'll just call it the UDC from here on out) combines the power of the Apple's Unidisk 3.5 and standard floppy disk controllers into one slot. In addition, it allows you to connect our Chinon 800K drives for the Macintosh and use them just as if they were an Apple Unidisk. Since these Mac-style drives are often less expensive than Apple's Unidisk 3.5, this can result in considerable savings.

Your UDC can connect two 5-1/4" or 3-1/2" drives to your Apple II Plus, Apple //e, or Laser 128 computer. Here are the drives we have tested it with:

Drive Type:	Drive Size:
Apple //c external	5-1/4
Laser FD-100	5-1/4
Chinon 800K	3-1/2
Mac 800K external	3-1/2
Mac 400K external	3-1/2
IIGS Platinum drives	3-1/2

Picking a Slot

The UDC will work in slots 1 through 7 (although 4, 5, 6, and 7 are most commonly used) in an Apple II Plus, Apple //e, or Apple IIGS. It can plug into the side slot (which is slot 7) on a Laser 128 or can plug into either slot (5 or 7) in the Laser 128 Expansion Box. In any case, there are certain advantages to using certain slots:

The Apple II Plus and non-enhanced Apple //e will not recognize a 3-1/2 inch controller card (like the UDC) as a disk device. This only means that it will not automatically boot from it on a power-up. Therefore, you can plug it into any slot that is free on your computer. You can access it, however, just like a standard disk controller from either DOS 3.3 or ProDOS. (For example, to boot a disk from basic type: PR # slot return.)

The Laser 128, enhanced Apple //e, and Apple IIGS will automatically find and try to boot from a diskette in a drive plugged into the UDC if the UDC is plugged into a higher numbered slot than the standard floppy disk controller. Therefore, if you would like to boot from the drives plugged into the UDC, we recommend plugging the UDC into slot 7. Plugging the UDC into a higher slot than your standard floppy disk controller will not prevent you from booting from drives plugged into your standard floppy disk controller. Your computer will first try to boot from disks plugged into the UDC. If there are no diskettes in the drives, it will move to the next lower slot (slot 6) which will do a normal boot. Therefore, all you have to do to boot from your standard floppy disk controller is remove all diskettes from drives plugged into the UDC.

If you are replacing your existing floppy disk controller, you will want to plug the UDC into slot 6. If you are installing the UDC into an Apple IIGS, it will probably replace the internal disk port in slot 6. See the section titled "Installing the UDC into the IIGS" for more details.

Connecting the Drives

You can connect either a 3-1/2 inch drive or a 5-1/4 inch drive to either connector. All drives plug into the 19 pin (DB-19) connectors on the UDC drive 1 and drive 2 cables. (You cannot use a "daisy chain" connector even if the drive you are connecting has one.)

If you are connecting one 5-1/4 inch drive and one 3-1/2 inch drive and you are using DOS 3.3, you should plug the 5-1/4 inch drive into the "drive 1" connector. DOS 3.3 disks will not always boot correctly from drive 2, so this arrangement gives you maximum flexibility.

Once you have decided upon a slot for your UDC and what drives to connect, you can plug the UDC into the computer. **Make sure the computer power is off before plugging in the UDC! Otherwise damage to your UDC, drives and computer can occur that is not covered by your UDC warranty!**

Now go ahead and connect the drive cables to the UDC connectors. On an Apple //e, IIGS and Laser 128 Expansion Box, there are cut-outs on the back panel designed for DB-19 connectors. Once the drives are installed, you are ready to go!

One of the best ways to get started using your 800K drives is to boot the enclosed Copy II Plus disk and begin using the Utilities. With them, you can transfer non-protected programs and data files that used to require several disks to a single 800K disk. The Copy II Plus utilities support both ProDOS and DOS 3.3 and 3-1/2 and 5-1/4 inch drives.

Installing the UDC into the IIGS

You can install the UDC into the Apple IIGS into slots 5, 6,or 7. If you connect it to slot 7, you won't need to do anything additional. However, since slot 6 is the normal disk slot, we recommend that you use it instead. Once the card is installed and the disk drives are connected, you need to tell the IIGS to use the UDC instead of its built-in disk port. To do this, make sure all your connections to the UDC are correct and the UDC is plugged firmly into slot 6. Next, turn on the computer. The IIGS should now be telling you to check the boot device (unless you still have a disk drive connected to the built-in controller). In any case, press "Control-Option-Reset" to enter the IIGS Control Panel. Use the down arrow key to select the entry titled "Slots". Now use the down arrow key to move the highlighted bar over the entry called "Slot 6". You will notice it now says "Disk Port". Press the right arrow key and it will change to "your card". Press the Return key to make this selection permanent. Now select "Quit" option and your UDC is correctly installed. If you ever want to use the internal controller again, simply use the control panel to select "Disk Port" for slot 6 and the UDC will be disabled.

Note: You can connect Apple IIGS platinum 3.5" drives into the UDC. However, you will not be able to use the "daisy chain" connector on the back of the Apple drives - use the two UDC connectors instead.