

**Introduction** This manual addendum addresses certain connection and programming issues with the Inovonics 701 RDS "Mini Encoder" that may be encountered when using the Model 701 with contemporary computer operating systems. One issue concerns proper configuration of the computer's parallel port, and an increasingly more important issue relates to DOS compatibility. Each of these is treated independently, though both may be a factor in resolving Model 701 programming difficulties.

**Configuring the PC's Parallel Port** The Model 701 requires two-way communications with the computer during the programming phase. This makes it essential that the computer's parallel port be set up as a *bidirectional* port. This is easily checked and changed, if necessary, and having the port configured as a bidirectional one does not compromise its use as a printer interface.

To check the parallel port status, click Start/Control Panel/System/Hardware/Device Manager. This command path may vary for different versions of Windows®; use the computer's Help function if the Device Manager pane proves evasive.

Open the Ports (COM & LPT) tree to verify that LPT 1, the parallel printer port, is indeed identified as an ECP Printer Port (LPT1) as shown here. If this is *not* the case, as may be encountered with older machines, it will be necessary to change the port to bidirectional. This is done with the computer's BIOS (CMOS) setup routine.



**DOS Compatibility** The Inovonics 701 was developed in the mid-1990s. In that timeframe of computer technology the DOS operating system for PCs was still in common use. Computers running '90s versions of Windows® contained a 'DOS window' utility that offered partial compatibility, but these computers could always be rebooted into a true DOS mode.

**Win 95/98 Operation** When programming the Model 701 with a computer running Windows 95® or Windows 98®, *always* restart the computer in the DOS mode. This is accomplished with: Start/Shut down/Restart in MS-DOS. When the computer reboots with a C:\> prompt on the screen, type A: to change to the floppy disk drive. At the A:\> prompt, type: install to add the 701 software to the hard drive as a Program File. The software may also be run directly from the floppy without creating a Program File on the hard drive. In North America, type: 701USA, and in the rest of the world, type: 701EUR.

**Later Operating Systems** With the introduction of Windows 2000® and, later, Windows XP®, much of the simple functionality of the DOS operating system was lost. These later operating systems cannot be 'rebooted to DOS,' and their DOS window, a token tribute to the original platform, does not present the same functionality as the 'real thing.' This is particularly true with respect to communications through the computer's serial and parallel ports.

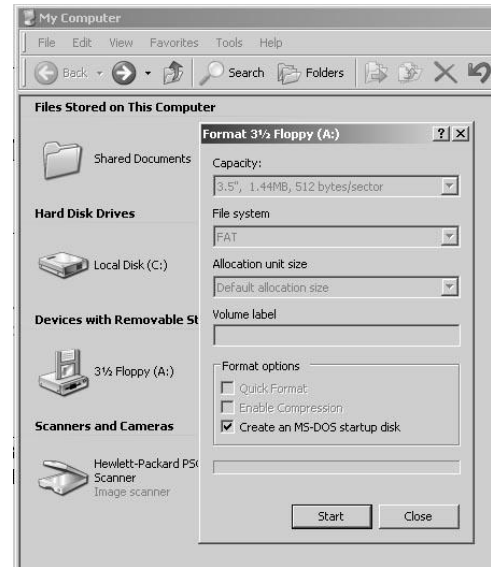
Windows 2000<sup>®</sup> presents some unique impediments to Model 701 programming that defy our best efforts to fathom. In simpler words, we aren't quite sure what to do! Follow the instructions given here that relate to Windows XP, and hope for the best.

**Working with Windows XP<sup>®</sup>**

Unlike previous versions of the Microsoft operating systems, Windows XP<sup>®</sup> cannot be rebooted into a true-DOS mode. In order to run the Model 701 under XP, it is necessary to do a simple work-around that fools the computer into thinking that it is running under DOS. This work-around requires that the computer be equipped with a floppy disk drive.

**Creating a Startup Disk**

Place a blank floppy disk into the A drive. Click on Start/My Computer, then *right-click* on the 3½ Floppy (A:) icon and select Format... This will bring up the Format 3½ Floppy (A:) box shown at the right. Check the box to Create an MS-DOS startup disk and then click the Start button. Once formatted as a startup disk, the floppy may be left in the A drive.



The computer BIOS must be configured to look at the A drive before it loads the normal Windows<sup>®</sup> startup sequence from the C (hard) drive. This is generally the default boot sequence, but should this *not* be the case, the BIOS should be set to check the A drive first.

The computer is then rebooted with a Start/Turn Off Computer/Restart command. This will eventually bring an A:\> prompt onto the screen. Note that the A:\> prompt cannot be redirected to the C drive, but that's okay. Simply remove the floppy boot disk and replace it with the original software floppy supplied with the Model 701. At the A:\> prompt run the software directly from the floppy by typing: 701USA in North America, or by typing: 701EUR anywhere else in the world.

**A Note about Cables**

To ensure reliable Encoder programming, it is advisable to use the 25-pin parallel cable that came with the Model 701. Data flying at high rates between the computer and the Encoder cannot tolerate the capacitance and inductance of a long run of this multiconductor cable. If the original cable has been lost, replace it with one 3 feet (1 meter) in length that has all 25 pins connected 'straight through.'