

MJ-4000 MICRJet Check Scanner

USB Driver Installation Guide

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1 Introduction

The MJ-4000 is a small computer peripheral designed primarily to capture information from a financial document - both collecting an image of each side of the document while decoding the MICR line. The MICRJET also includes an integrated Ink-jet validation print station, which can be used to validate both documents related to or independent from the scanner or reader.

This document provides instructions describing how to add USB print driver support for the MJ-4000 to a Windows XP based computer.

Addmaster provides two different types of drivers:

<i>Type</i>	<i>Usage</i>	<i>Operating Systems</i>
USB	Interfaces MJ-4000 USB models to PC. Implements bi-directional communications channel to device.	Windows XP
DLL 'API'	Interface Library, callable by other programs. Implements higher level functional control of the MJ-4000. Provides an API to software writers.	Windows XP

The API routines can be called by other applications written in C or C++. Only Windows XP support is given. The drivers should work fine in most Windows 2000 applications.

A demo test application program is provided to demonstrate the features of the MJ-4000. The source code for this application is available as a example to software programmers on how the API is used.



Figure 1.1 Addmaster MJ-4000 MICRJet

1.1 Documentation

Other available documentation concerning the Addmaster MJ-4000 series printers is:

- *MJ-4000 MICRJet Specification*
Low Level specification.
- *MJ-4000 MICRJet Driver API Specification*
Describes the API and its available function calls.
- *Decoding the MICR Line*
Describes how MICR lines are typically parsed into their constituent fields
(Account Number, Amount, On-US, etc.)

Contact the factory for these documents.

1.2 Emulations and Scanner Models

No emulations of competitive scanners are offered at this time.

1.3 Supplies and Ordering Information

Documentation and supplies may be ordered directly from the factory. Contact Addmaster at:

Addmaster Corporation
225 E. Huntington Drive
Monrovia, CA 91016
USA

Phone: (626) 358-2395
FAX: (626) 358-2784
Web: www.addmaster.com

2 Installation For Windows XP

2.1 Overview

Follow the step-by-step instructions in this Section when installing the software driver for Windows XP machines. Installation consists of these steps:

1. Preparing the MJ-4000 and the computer for installation.
2. Removing any older MJ-4000 series drivers and any older Addmaster USB drivers.
3. Installing USB communications support.
4. Installing API driver support.

2.2 Step 1 - Preparation

Prepare for installation by collecting software and documentation:

1. Have a copy of these instructions handy for reference.
2. Have the installation diskette containing the USB drivers handy. Copy the files to a new directory on your PC. We suggest something you can remember. Perhaps:
 - c:\Addmaster
 - c:\MJ4000
3. Turn-off the MJ-4000 scanner.
4. Connect USB cable to computer.
5. Connect USB cable to MJ-4000 printer. Leave power off.

2.3 Step 2 – Removing Old USB & Print Drivers

If you have older MJ-4000drivers or USB drivers, remove them at this time. This probably does not apply to you.

2.4 Step 3 – Installing USB Communications Drivers

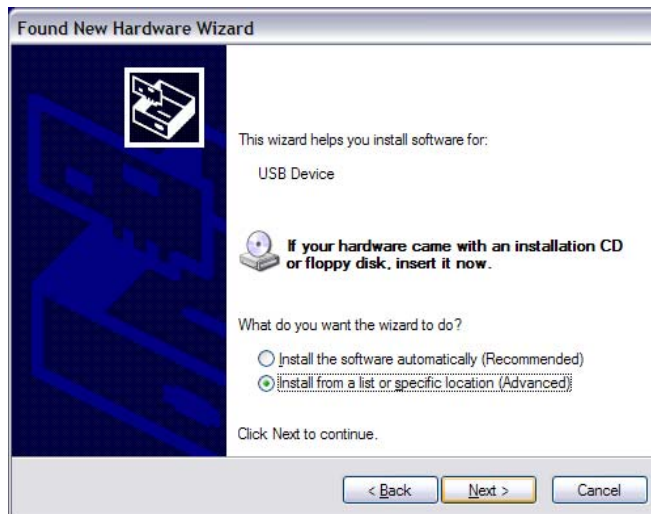
The next step involves loading the device driver responsible for communications on the USB port with the MJ-4000 scanner. This can be accomplished only with an MJ-4000 scanner on hand and cannot be done by proxy. Each step must be followed carefully.

You should have an *un-powered* MJ-4000 scanner cabled to you PC at this point (see Preparation).

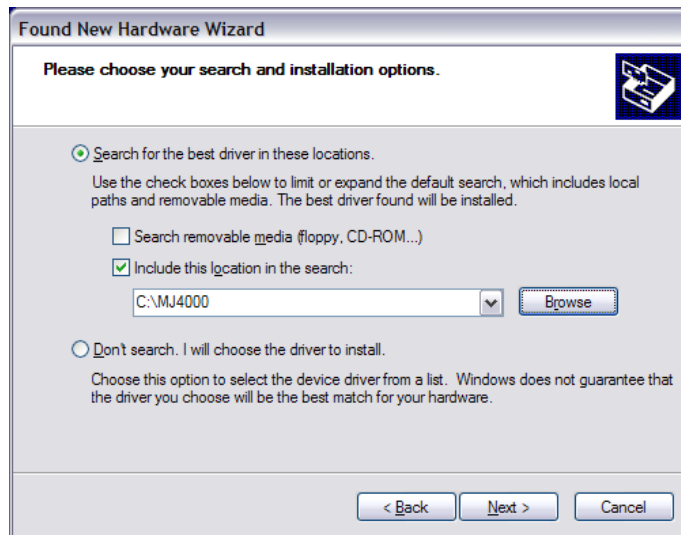
1. Power-on the MJ-4000 scanner. Windows XP will detect the printer and display “Found New Hardware” message for “Unknown Device.” Select “Not at this time” and hit “Next”.



2. At the next screen, select “Install from a list or specific location” and click “Next.” You have previously saved the drivers to your hard-drive. You will use these.



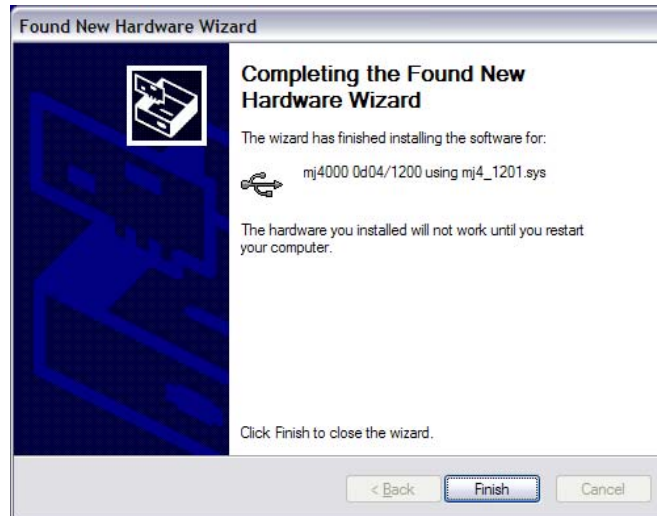
3. At the next screen, select the box "Include this location" and then "Browse" to the directory where you have stored the drivers. In the example below, the drivers are stored in the directory "c:\MJ4000". Click "Next."



4. Windows will begin installing the driver and display a copying files message. A screen will appear informing you that the driver is not signed. Click "Continue Anyway".



6. A number of files will be copied and as this is occurring Windows will inform you of the progress.
7. When done with the USB communications drivers. A final prompt will tell you when this process is complete.



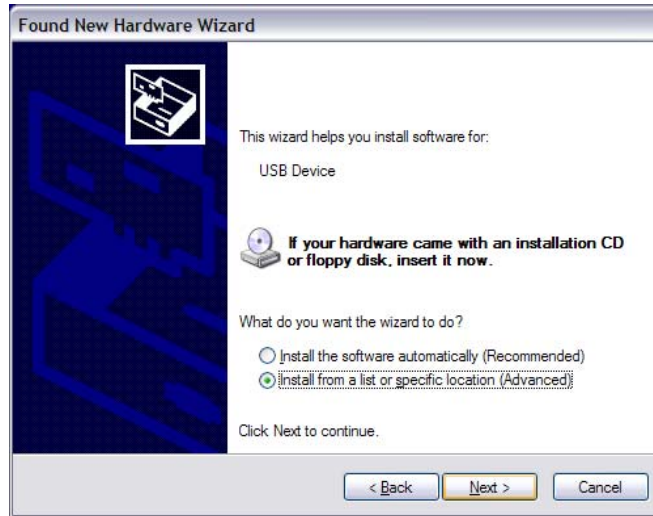
After the first USB driver is loaded, the MJ-4000 will momentarily disconnect from the USB bus and then reconnect itself.

NOTE: A second driver will now be loaded. USB communications drivers are composed of two separate drivers. Each needs to be loaded.

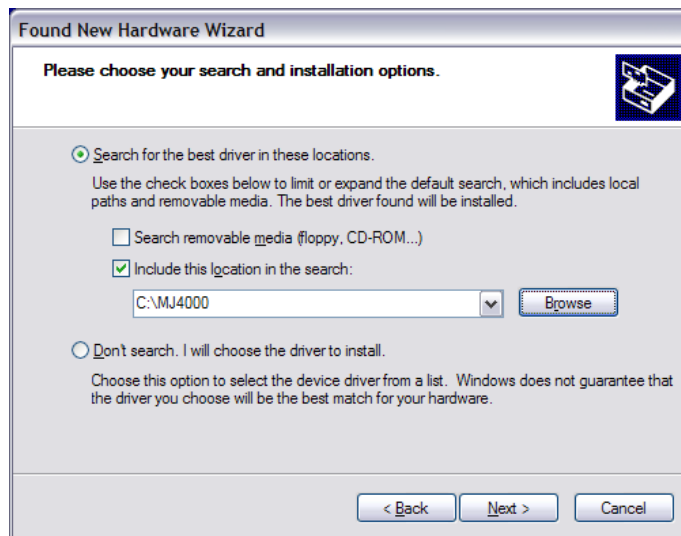
1. Power-on the MJ-4000 scanner. Windows XP will detect the printer and display "Found New Hardware" message for "Unknown Device." Select "Not at this time" and hit "Next".



2. At the next screen, select "Install from a list or specific location" and click "Next." You have previously saved the drivers to your hard-drive. You will use these.



3. At the next screen, select the box "Include this location" and then "Browse" to the directory where you have stored the drivers. In the example below, the drivers are stored in the directory "c:\MJ4000". Click "Next."



4. Windows will begin installing the driver and display a copying files message. A screen will appear informing you that the driver is not signed. Click "Continue Anyway".



8. A number of files will be copied and as this is occurring Windows will inform you of the progress.
9. When done with the USB communications drivers. A final prompt will tell you when this process is complete.



After both USB drivers are loaded, the MJ-4000 will momentarily disconnect from the USB bus and then reconnect itself.

2.5 Step 4 – Installing MJ-4000 API DLL

This step involves loading the drivers responsible for higher level API to software applications.

In this installation, nothing needs to be done. All the DLL's are in the directory created to hold the drivers. The DLL's will be accessed from this directory when the test application is run.

2.6 Driver Installation Verification

Not available at this time.

2.7 Check Out & Test

You can now test the setup by running the test application provided with the drivers. This application was copied (along with the drivers) to the directory chosen earlier. Navigate to this directory using My Computer. The test application is called

mj4000_dll_test_app.exe

It may be simplest to send a short-cut to your desktop for easy access later.

2.8 Test with Sample Documents

Gather up some representative documents. Checks and other financial documents are the intended target of this product.

Execute the test application by double-clicking on the icon. The test application will determine whether the MJ-4000 is connected and on-line. If off-line, please check the cables and power supply and press OK.

A screen similar to the following should appear:

The screenshot shows the 'mj4000_dll_test_app' window. At the top left is the ADDMASTER logo. To its right is a 'DLL Version' field showing '1.10'. On the top right are 'OK' and 'Cancel' buttons. Below these are buttons for 'PRINT', 'SCAN/MICR/PRINT', 'SCAN', 'MICR', 'SCAN/MICR', and 'RESET'. The main area is divided into three sections: 'micr results', 'scanner info', and 'scanner statistics'. The 'micr results' section contains fields for MICR, BANK, ROUTING #, ACCT, AMOUNT, CHECK #, and AUX ONUS. The 'scanner info' section contains fields for MODEL, MODEL NAME, FIRMWARE VERSION, FONT VERSION, MANUFACTURER, TEMP STRING, USER STRING #1, USER STRING #2, and FACTORY STRING. The 'scanner statistics' section contains fields for # POR, # INK-DOTS, # FORMS, # MICR DOCS, # SCAN DOCS, and MECH STATUS, along with a 'GET STATUS' button. At the bottom, there are two image preview areas labeled 'FRONT' and 'BACK', each with a 'Click on image to enlarge' instruction. The 'FRONT' preview shows a scanned check with handwritten text and a grey outline indicating the scanning area.

Various functions are available by clicking on the buttons provided:

SCAN	Will scan a document only.
SCAN / MICR	Will scan a document and also read the MICR line with the magnetic head.
SCAN / MICR / PRINT	Will scan a document and also read the MICR line with the magnetic head. A time-stamp endorsement will be printed on the rear of the document before scanning.
Other	Similar functions.

After a document is scanned, a preview image is displayed in the lower portion of the screen. The grey outline shows the maximum size available for scanning and the displayed check gives an indication of the proportionate size of the document. Both Front and Back are always scanned.

Click on the either side of the document, and an enlarged version will appear in a pop-up window. Click on the upper-right 'X' to close the window.

2.9 Windows XP Diskette Contents

The following files are distributed for Windows XP applications.

<i>File Name</i>	<i>Use</i>
Mj4_usbdriver_installation.pdf	Installation instructions. This file.
CyUSB_mj4.inf CyUSB_mj4.sys	Installation INF and driver file for: MJ-4000 usb communications.
Mj4_1201.inf Mj4_1201.sys	Installation INF and driver file for: MJ-4000 usb communications.
Mj4000_dll.dll	Software API. Implemented as a DLL library.
Iffax14N.dll IfRaw14N.dll IfTFX14n.dll Iftif14N.dll LTCLR14N.dll Itfil14N.DLL Itkrm14N.dll	Support DLL's for the API. Should be located in the same directory as MJ4000_dll.dll and mj4000_dll_test_app.exe
mj4000_dll_test_app.exe	Test application and Demonstration program. Uses the provided DLL's.

3 Document Revision Information

<i>Revision</i>	<i>Date</i>	<i>Changes / Modifications</i>
1	05-10-2006	Initial release in PDF format.