MX Disc Publisher

For Mac OS X

Users Manual

Microboards Technology LLC

Version 1.03

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Introduction

The MX Disc Publisher is a robust automated inkjet CD and DVD disc publishing solution. The MX Disc Publisher Series includes the MX-1 and the MX-2. The MX-1 has a single recording drive, while the MX-2 has 2 recording drives for added throughput.

Both MX Disc Publisher models have a 100-disc capacity, making the task of burning and printing large numbers of discs fast, easy and hands-free.

Fully Integrated Automation

Microboards combined their patented auto-loading system with HP's new inkjet printer engine to give users the highest output possible, both in image resolution and print speed. Since the MX Disc Publisher is an autoloading system, no calibration of robotics or manual feeding of discs is required. The MX Disc Publisher connects by a single USB 2.0 interface to your computer, and comes with burning software and label design software.

Flexibility and Speed for Any Application

While the MX Disc Publisher was designed to fill a need in the high-volume arena, it also has the ability to print at 4800 x 1200 dpi on both DVD and CD media. With the included design software, users can enjoy its benefits whether making a few discs or a few hundred.

What’s Included

When unpacking your MX Disc Publisher system, the following items should be included:

- MX Disc Publisher print system
- MX Disc Publisher Quick Start Guide
- MX Unpack Guide
- Users Manual (This document)
- Power Cord
- USB 2.0 Printer Cable
- Blank Printable CD’s
- Input Bin rods
- 100 disc output assembly
- Microboards MX Disc Publisher Install CD (Includes drivers and CharisMac Discribe version 6.0 software)
- 1 each: Microboards PFP-HC-CYAN, PFP-HC-MAGENTA, PFP-HC-YELLOW, and PFP-HC-BLACK Ink cartridges
- 1 each: CG316A (Yellow and Black) and C9382A (Cyan and Magenta) printheads

If any of these items are missing, please contact your distributor or Microboards Technology Technical Support department at 952-556-1639.

System Requirements

The Microboards MX Disc Publisher has the following minimum requirements and compatibilities:

Operating System

Mac OS 10.4 or above.

Processors

G 4 Power PC Processor, running at 1.2 GHz or faster; *-or-* Intel Processor

System Memory

Minimum 512 MB of system memory; 1GB minimum recommend for DVD Duplication

Hard Drive Space

Less than 50MB of free space is required on the system hard drive for the applications and drivers.

A separate internal 7200 RPM hard drive is recommended for storing your data. Using the same hard drive as the operating system can cause the system to perform slowly.

USB Connection

USB 2.0 is required.

Assembly and Installation

Assembly Instructions

MX Disc Publisher Assembly

Remove the MX Disc Publisher system from the shipping box and confirm you received all of the items.

Place the MX Disc Publisher on a stable, flat surface. You will need room both in front and behind the system, as discs will be accessed from both locations.

Install the 2 long input bin posts above the input hopper, with the wide post to the right (shipped installed).

Install the output bin:

- Align the two holes in the output bin with the holes on the Front of the printer (numbers 1 and 2).
- Secure the output bin with the two thumb screws.
- The output bin should now be securely in place.
- Next, slide in the 100 disc output spindle into place.

The Output Bin is designed to hang over the front edge of your work surface.

Installing Ink Cartridges and Print Heads

Supported Ink Cartridges

The MX Disc Publisher uses 3 color and 1 black ink cartridges. The part numbers for these cartridges are PFP-HC-CYAN, PFP-HC-MAGENTA, PFP-HC-YELLOW, and PFP-HC-BLACK. If other cartridges are installed, the MX Disc Publisher will not function. These cartridges are available from any Microboards reseller.

Refill kits or non-Microboards ink cartridges are not recommended for use in the MX Disc Publisher system. Use of non-Microboards cartridges will cause the printer to fail. Use of refilled cartridges may cause the MX Disc Publisher to fail.

Loading / Replacing Ink Cartridges

Cartridges can be changed while the MX Disc Publisher is on, but it should never be turned on without an ink cartridge in place. An LED will light above any cartridge that needs to be replaced.

- Lower the ink door.
- If replacing an empty ink cartridge, remove the color that needs changing by pulling straight out.
- Remove each new print cartridge to be installed from its packaging.
- Slide the correct ink cartridge into the correct slot with the arrows pointing down, as shown to the right.
- Raise the ink door and latch it back into place. The printer will be ready after the ink cartridges pressurize and the Media Feed button LED goes out.

Installing / Replacing Printheads

The 2 Printheads are not installed when you receive the MX Disc Publisher, and must be installed prior to using the printer. The printhead models are CG316A (yellow and black) and C9382A (cyan and magenta).

1. Raise the top Printhead Access Door.
2. If you are setting up the MX Disc Publisher for the first time, remove any packaging materials from around the printhead carriage.
3. If you are replacing printheads and the printhead carriage is not parked all the way to the left, turn on the MX Disc Publisher. With the Printhead Access Door opened, press and hold the Media Feed button until the carriage moves to the left and locks into position.
4. Lift the cradle latch. If you are replacing the currently installed printheads, remove the printheads by lifting the blue handle of each and gently pulling up on each handle.
5. Remove the printheads from the packaging.
6. Gently shake each printhead 6 times prior to removing the orange protective caps. Save the caps! If you remove the printheads from the MX Disc Publisher, they should be recapped to avoid clogging the printheads and ink valves.
7. Gently press the printheads into the cradle, installing the correct printhead in the correct slot. ***DO NOT FORCE THE PRINTHEADS INTO PLACE.***
8. Lower the cradle latch carefully.
9. Lower the top Printhead door. The printhead carriage will return to the right and will be primed by the printer if the power is on.

Step 4

Step 7

Loading Discs

The next step is to load your MX Disc Publisher with output discs. The system will accept CD or DVD 120 mm (12 cm) inkjet printable discs. If the disc does not have an inkjet printable surface, the ink will not adhere to the surface of the disc. The MX Disc Publisher will only accept 12 cm discs. Business card or 8 cm discs are not supported by this system.

Figure 1

Figure 2

Load the first 5 or 6 discs flat, as seen in figure 1.

Load the rest of the discs at an angle, against the wide input rod, as seen in figure 2.

The MX Disc Publisher will hold a maximum of 100 discs. DO NOT load more than 100 discs in the system, as this may cause the discs to feed incorrectly.

Front Panel Indicators and Buttons

1. Power Button and LED – The Power button turns the MX Disc Publisher on and off. It may take a few seconds for the MX Disc Publisher to turn on after you press the Power button. The green LED on the Power button flashes when the printer is processing.

   NOTE: The AC power switch located on the back of the MX Disc Publisher must be turned on first in order to supply power to the Front Panel.

2. Network Button - This button is unused.
3. Cancel Button – Pressing the Cancel button cancels the current print job.
4. Media Feed Button – Pressing this button will clear any media feed issues. This button has an LED that will flash amber when a media feed issue is occurring. It will also show a steady amber if either the ink or the upper doors are opened.
5. Print Head LEDs – These LEDs will be on if there is an issue with either of the print heads.

Installation of Drivers and Software

Driver Installation

Drivers must be installed on a hard disc. Once you have installed the software, store the original installer disc in a safe place.

1. Insert the Installation CD in your system's disc drive. Open the disc icon when it appears on the desktop.
2. Open either the **Microboards PowerPC** or **Microboards Intel** directory, depending on which processor your Mac has. If you are not sure, do not guess! Click the Apple icon in the menu bar and select **About This Mac**; the **Processor** will be listed.
3. Double-click on the **Microboards Installer.mpkg** icon in the correct directory. Follow the on-screen instructions, read and agree to the end user license agreement.
4. When prompted, enter your administrator password.
5. When prompted, click **Install**. Once the Microboards Installer has completed, a restart is required.
6. Open the installation disc icon on your desktop again. Double-click the **Driver Installer** icon.
7. Once the Driver Installer has completed, a second restart will be required.

Connecting to a Mac

DO NOT CONNECT YOUR MX DISC PUBLISHER BEFORE RUNNING THE INSTALLER LOCATED ON THE INSTALLATION DISC!!

The connection between the Mac and the Microboards MX Disc Publisher is done with one USB 2.0 cable.

1. Install all 4 Ink Cartridges (see page 7).
2. Install both Printheads (see page 7).
3. Plug in the AC power cord to the back of the MX Disc Publisher. ***Do not turn on power to the MX Disc Publisher until an ink cartridge has been installed.***
4. Connect the square shaped end of the USB cable to the back of the MX Disc Publisher.
5. Connect the flat, rectangular end of the USB cable into a USB 2.0 port in your Mac.
6. Turn on the MX Disc Publisher.

Adding the MX Disc Publisher

Once the drivers and software have been installed and the MX Disc Publisher connected, the PF-Pro Series Printer needs to be added.

1. Click **System Preferences** in the Dock.
2. Select **Print & Fax**, then click the **Add** or **+** button to add a printer.
3. Select **PF-Pro** from the list and click the **Add** button.
4. Once the MX Disc Publisher Series Printer has been added, it will appear in the available printers list, as shown below.

Setting Printer Alignment

Alignment

The MX Disc Publisher system has been aligned at the factory, but may need to be adjusted depending on the type of media and media print surface on which you are printing. Follow these steps to adjust the alignment:

- Click **System Preferences** in the Dock.
- Select **Print & Fax**.
- Click the **Set Up Printers…** button.
- Highlight the Microboards PF-Pro icon.

- Click the **Utility** button to open the Microboards Printer Utility.
- Select **Disc Printing** from the list.
- Enter the values listed with the MX Disc Publisher into the **Top Side** and **Left Side** boxes.
- Click the **Apply Now** button.

- Test the alignment by printing a full-coverage image (120 mm by 120 mm) onto an unprinted disc. The image should print centered on the disc. If not, adjust the **Top Side** and **Left Side** as necessary, verifying the alignment by printing the same image.

Microboards Printer Utility

Access the Microboards Printer Utility by selecting the **System Preferences** from the Dock. Select **Print & Fax**. Highlight the Microboards PF-Pro icon and click the **Utility** icon. The Microboards Printer Utility pages will appear in the following order.

Supplies Status

The **Supplies Status** show how much remains of all 4 colors, Cyan, Magenta, Yellow, and Black. The values shown will be refreshed when you go to another setting page and then back to the **Supplies Status** page.

In addition to the displayed levels in the Printer Utility, an LED indicator on the front of the PF-Pro above each cartridge will light when the ink level is at 25% in that cartridge. The LED will blink when the ink level is at 0%.

It is strongly recommended that you replace any cartridge that shows 0%.

Device Information

This page shows the Firmware version and Serial Number of the MX Disc Publisher.

Clicking the Print Configuration Page button will print out a test disc.

Clean

The Clean page allows you to run a cleaning cycle on the ink cartridge.

Click the **Clean** button once a disc has been loaded into the input hopper. If the resulting disc shows streaks similar to those shown in the image on this page, you may need to run the Clean utility again.

Printhead Maintenance

If, after several cleaning attempts, the printed images continue to show streaks of color, you may need to manually clean the printheads. Follow the procedure below exactly to clean the printheads. Not following these steps could result in damaged printheads.

1. Remove the printheads from the carriage (please see **Installing/Replacing Printheads**, page 7).
2. Use ionized water to lightly dampen a lint-free cloth
3. Place the cloth on a level surface
4. Holding the printhead with the bottom of the printhead resting lightly on the cloth, gently pull the printhead towards you along the direction of the long axis of the printhead, as shown to the right.

   DO NOT MOVE THE PRINTHEAD FROM SIDE-TO-SIDE, AS THIS COULD MIX THE INK COLORS IN THE PRINTHEAD!

5. If the printhead does not leave two solid lines of color, one for each color in the printhead, move the printhead to a clean area on the cloth and repeat step 4.
6. Carefully replace the printhead in the MX Disc Publisher once the heads have been cleaned.

If you do not follow the above procedure exactly, you could damage your printheads!

Manual Pen Alignment

Pen Alignment should be performed when a new printhead is installed. If you experience a decrease in print quality with an installed printhead, you may need to perform this service.

- Load 4 pieces of blank, unprinted media into the input hopper.
- Click the **Align** button, and 2 discs will load to the belts and be printed.
- Select the Alignment Speed. **20ips** is the recommended setting.
- Use these discs to select the patterns that are best aligned in the next window, as shown to the right. All 8 entries must be made. In the example shown, the first 3 selections have been made.

- After selecting the patterns with the best alignment, click **Align**.
- The pen alignment discs will print again. The best aligned patterns should have moved closer to the center (they do not need to be in the center, only closer to the center than the original set of discs). If so, click **Cancel**. If not, enter the values from the second set of discs and click **OK**; you will need to load 2 more blank discs.

Support

Clicking the **Support** button will open the Microboards Technology Support website in your default internet browser. This function requires an internet connection.

Disc Printing

The MX Disc Publisher system has been aligned at the factory, but may need to be adjusted depending on the type of media and media print surface on which you are printing. Follow these steps to adjust the alignment:

- Click **System Preferences** in the Dock.
- Select **Print & Fax**.
- Click the **Set Up Printers…** button.
- Highlight the Microboards PF-Pro icon.

- Click the **Utility** button to open the Microboards Printer Utility.
- Select **Disc Printing** from the list.
- Enter the necessary values into the **Top Side** and **Left Side** boxes.

- Click the **Apply Now** button.
- Test the alignment by printing a full-coverage image (120 mm by 120 mm) onto an unprinted disc. The image should print centered on the disc. If not, adjust the **Top Side** and **Left Side** as necessary, verifying the alignment by printing the same image.

The MX Disc Publisher and Discribe

Discribe Version 6.0 is required to control the Burn and Print functionality of the Microboards MX Disc Publisher. It is able to set up publishing jobs, load the MX , burn to the loaded disc, unload the disc, and then print the image you have selected.

Discribe should automatically find your MX Disc Publisher the robotics and printer when the application is opened. If you have more than one robotic system connected to the Mac, the correct robotics may not be selected.

To check the robotics, select the **Microboards MX Series** in the robot selection field, as shown above.

Next, click the **Pick Burners** button and select the correct drives. The **Open** and **Close** buttons can be used to verify that the correct drive has been selected. If a drive other than that in the Microboards MX responds to these buttons, the correct drive has not been selected.

The MX-1 model will only have a drive selected for Burner 1. Burner 2 should show **No Drive Selected**.

Once the drives are verified close that window and press the **Test Robotics** button. Click the **Start** button to test the robotics. Close this window when the test is complete.

Please see the Discribe for Microboards Disc Publishers manual for more information on using Discribe.

Print Only without Discribe

While Discribe can perform a Print Only, you can also print from any application to the MX Disc Publisher. The locations of the settings listed below may change depending on the version of OS X you have installed.

Page Setup

When printing using the MX Disc Publisher from any application, you should always choose **PF-Pro** printer and **120mm disc** in the **Format For** and **Paper Size** Page Setup selections, respectively.

It is highly recommended that the image you are printing is 120mm by 120mm. Having a different size image may result in the improper placement of the image on the disc.

Printing prior to burning any media is not recommended!!

Changing Print Quality

To change the Print Quality, click the **Advanced** button on the **Print** screen. Select the **Media type/Quality** option from the list circled to the right. The settings to the right will appear.

You can select either **Photo** or **Graphics and Text** as the **Media Type**. **Photo** will take longer to print and will use more ink, but the quality will be higher. **Graphics and Text**, on the other hand, has a lower quality but will print in less time with less ink used.

You can also choose between **Draft** (Graphics and Text only), **Normal**, **Best**, and **Maximum dpi** (Photo only) from the **Quality** list. The choices are listed in order of lowest to highest quality and ink usage.

Color can be selected as **ColorSmart/sRGB**, **ColorSync**, or **Grayscale**.

Changing Print Diameters

Different media types and brands may vary in the size of the printable surface. When the print surface changes, you will need to set the printer to the correct sizes.

Always make sure the images are printing centered on the disc before changing the diameter settings. If the image is not centered, please refer to page 10 for infomration on the alignment process.

To change the diameter of the printed area, click the **Advanced** button on the **Print** screen. Select the **Disc Printing** option from the list circled to the right. The settings to the right will appear.

The **Outer** setting will change how closely to the edge of the disc the image will print. Increase the Outer setting to leave less unprinted area at the outer edge. Decrease the Outer setting to leave more unprinted area at the outer edge..

The **Inner** setting will change how closely to the center of the disc the image will print. Decrease the Inner setting to leave less unprinted area at the center. Increase the Inner setting to leave more unprinted area at the center.

You should never have the printer attempting to print off the printable surface. This will leave unabsorbed ink on the disc.

Troubleshooting

Printer not printing

1. Confirm the MX Disc Publisher is plugged into a power source and is turned on. The ON/OFF switch is located at the back of the unit, above the power cable connector.
2. Confirm the green LED on the power button is lit on the front panel, as shown below. If AC power is on and the green LED is off, press the power button and wait for several seconds. If the LED still does not come on, contact Microboards Technical Support.

3. Confirm the MX Disc Publisher is connected to the computer, with a USB cable. Confirm the printer is listed and is not stopped.
4. Check to make sure the correct printer was selected.

Disc Loading error

1. If a disc is not loaded correctly, an error message will be displayed. Check to see if there are any discs on the belt. Remove any discs that are left on the belt.
2. Lift the cover and check for any discs on the front deck of the MX Disc Publisher. Remove any discs found on the belts. Close the cover.
3. Next, reload the input bin and click the OK button on the error message to continue. The system will load the next disc and continue printing the remaining discs for that job.

Gaps or Overlap in Ink Coverage

There are 2 possible causes:

1. If the gaps or overlaps are widely spaced, you may have set the quality setting too low. Change the Quality setting to the next higher setting. See page 14 for details.
2. The printheads may need to be realigned. Please refer to page 12 for details.

Technical Support

For technical questions or support issues, contact Microboards Technology technical support:

United States	Europe	Japan
PH: 952-556-1639	PH: +44 (0) 845 230 7800	PH: 03-3561-2266
FAX: 952-556-1628	www.microboards.co.uk	www.microboards.co.jp
support@microboards.com		
www.microboards.com		

Please have the Model and Serial Number of your PF-3 Print Factory available when contacting Technical Support.

Specifications

DVD Recorder Drive: DVD-+R/RW/DL CD-R/RW Recorder
Power Supply: Auto Detect AC Power: 90VAC – 240VAC, 47Hz – 63Hz
Weight: MX-1: 58 lbs; MX-2: 63 lbs.
Connectivity: USB 2.0 required
Warranty: One Year Limited Warranty
Media Types: Printable-surface 120mm CD-R/RW or DVD+-R/RW/DL

Printer:

Print Technology: HP Inkjet
Print Quality, Black: 600 x 600 dpi
Print Quality, Color: up to 4800 x 1200 optimized dpi

Print Speed: Depends upon percentage of coverage and print mode selected

- Approx. 45 seconds for 100% full-color coverage, Photo Normal Mode
- Approx. 20 seconds for 100% full-color coverage, Text & Graphics Best Mode
- Approx. 12 seconds for 20% coverage Text & Graphics Normal Mode
- Approx. 6 seconds for 100% full coverage Draft Normal Mode

Maximum Print Width: 4.72” (120mm)

Ink Cartridges: Microboards PFP-HC-CYAN, PFP-HC-MAGENTA, PFP-HC-YELLOW, and PFP-HC-BLACK

Label Editing Software: SureThing™ First Edition Software for Windows included

Supported Formats

Recording format	CD	CD-ROM Mode 1, CD-ROM XA Mode 2 (form 1, form 2), Photo CD, CD-DA (Audio CD), CD-Extra, CD-R, CD-RW
	DVD	DVD-ROM, DVD-+R/RW/DL, DVD-VIDEO
Recording capacity (nominal)	CD	700MB
	DVD	4.7GB for General DVD 8.3GB for Dual Layer
Applicable media	CD	CD-R, CD-RW
	DVD	DVD-+R, DVD-+RW, DVD-+R DL

Any unauthorized modification to this equipment may result in the revocation by the FCC of the user’s authority to operate this equipment.

NOTE: 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 antenna
- Connect the equipment into an outlet on a circuit different than that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

This product is in conformity with the EMC Directive (89/336/EEC) through compliance with the following European standards: EN 55022, EN 55024. The CE mark has been affixed in accordance with the CE Marking Directive 93/68/EEC.

Canadian Department of Communications (DOC) Statement

This Class B digital apparatus complies with the Canadian ICES-003 Issue 4:2004. Cet appareil numerique de la classe B est conforme a la norme NMB-003 du Canade.