



MICROBOARDS[®]
Technology

CX-1 Disc Publisher

For Mac OS-X



Users Manual



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 numérique de la classe B est conforme a la norme NMB-003 du Canada.

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Introduction

The Microboards CX-1 Disc Publisher is a single drive, 100 disc capacity print and record system. The CX-1 combines industrial strength printing and recording into a single, easy to use duplicator. The system includes one high-speed DVD recorder. Microboards and HP co-developed the printer technology, allowing up to 4800 x 1200 dpi printing. The Microboards PrintWrite software is a dynamic interface for both beginners and power users to easily record DVD Video, DVD data, Audio CD's, Data CD's, Video CD's and much more.

Other features include:

- Asynchronous print and record function
- Creation of audio CD's from MP3 or wave files
- Batch mode, allowing multiple different masters to be used at a time.
- Integrated print function.
- A cover flow of your recently-used images used for printing.
- Multi-job queueing.

Fully Integrated Automation

Microboards combined our patented auto-loading system with HP's proven inkjet printer technology to give users the highest output possible, both in image resolution and print speed. Since the CX-1 Disc Publisher is an auto-loading printer, no calibration of robotics or manual feeding of discs is required. The CX-1 Disc Publisher connects by a single USB 2.0 interface to your computer.

Flexibility and Speed for Any Application

While the CX-1 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 CX-1 Disc Publisher system, the following items should be included:

- CX-1 Disc Publisher
- CX-1 Disc Publisher Quick Start Guide
- Users Manual (This document)
- Power Cord
- USB 2.0 Printer Cable
- Blank Printable CD's
- 3 Input Bin rods
- 100 disc output assembly
- Microboards Disc Publisher Install CD (Includes hardware drivers and Microboards PrintWrite Disc Publishing Software)
- 1 V102C Tri-color ink cartridge
- 1 V101B Black ink cartridge
- Print Sample

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

The CX-1 Disc Publisher installation disc includes an Installer that will walk you through the process step by step. Please perform the installation in order as specified in the Installer before connecting to a computer.

System Requirements

The Microboards CX-1 Disc Publisher has the following minimum requirements and compatibilities:

Operating System

Mac OS 10.5 or 10.6

Processors

Intel Processor is required

System Memory

Minimum 1 GB of system memory

Hard Drive

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. USB 1.1 is not supported, as using USB 1.1 will result in significantly longer recording times and the potential for recording failures.

Assembly and Installation

Assembly Instructions

CX-1 Disc Publisher Assembly

Remove the CX-1 Disc Publisher system from the shipping box and confirm you received all of the items.

Place the CX-1 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.

Open the front door and remove the blue packaging foam from under the ink carriage.

Install the 2 long input bin posts into the input hopper by screwing them down onto the screw mounts on the left side of the input hopper. Install the wide post on the right side of the input hopper.

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.

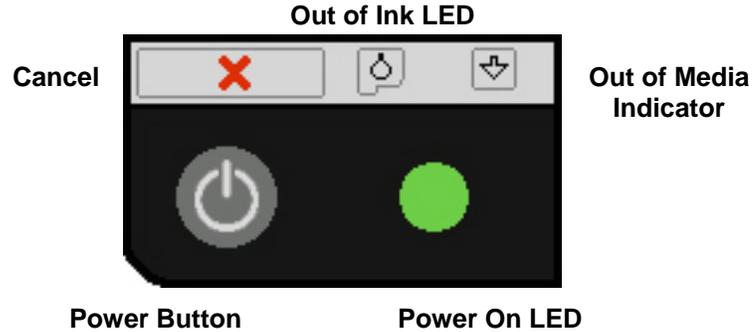
The Output Bin is designed to hang over the front edge of your work surface.

Plug in the CX-1 Disc Publisher with the AC power cord provided.

Turn on the CX-1 using the switch on the back of the unit.



Front Panel Indicators and Buttons



- Power Button – The Power button turns the CX-1 Disc Publisher on and off. It may take a few seconds for the CX-1 Disc Publisher to turn on after you press the Power button
 - NOTE: The AC power switch located on the back of the CX-1 Disc Publisher must be turned on first in order to supply power to the Front Panel.**
- Power On LED – This LED will show green when the power to the printer is on.
- Cancel Button – Pressing the Cancel button cancels the current print job.
- Out of Media Indicator 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.
- Out of Ink LED – This LED will be on if the cartridges are missing or if there is an issue with either of the cartridges.

Loading 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 CX-1 Disc Publisher will only accept 12 cm discs. **Business card or 8 cm discs are not supported by this system.**



Figure 1

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



Figure 2

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

The CX-1 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 load incorrectly.

Installing Ink Cartridges

Supported Ink Cartridges

The CX-1 Disc Publisher uses 1 tri-color ink cartridge and 1 black ink cartridge. The part numbers for these cartridges are V102C (color) and V101B (black). If other cartridges are installed, the CX-1 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 CX-1 Disc Publisher system. Use of non-Microboards cartridges will cause the printer to fail. Use of refilled cartridges may cause the CX-1 Disc Publisher to fail and may affect your warranty.

Loading / Replacing Ink Cartridges

Cartridges can be changed while the CX-1 Disc Publisher is on. The Out of Ink LED will light if any cartridge is beginning to run low on ink.

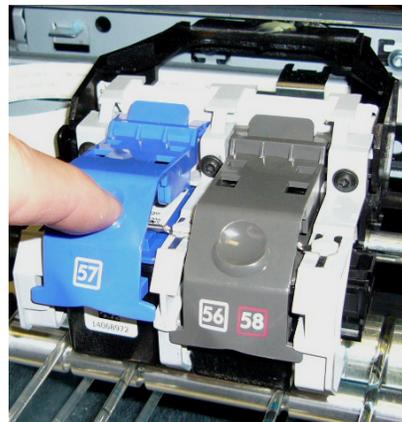
- With the printer on, open the front cover and wait for the print carriage to move to the center of the printer.
- Lift the cartridge latch by lifting the center of the front of the latch.
- If replacing an empty ink cartridge, remove the cartridge that needs changing by sliding the cartridge towards the front of the Publisher.
- Remove each new print cartridge to be installed from its packaging.
- Remove the protective covering from the printheads before installing the cartridges.
- Slide the correct ink cartridge into the correct slot – color on the left, black on the right.
- Lower each cartridge latch until it locks into place by applying gentle pressure to the finger depression. **Do not try to force the latch down.**
- Close the front cover.
- Wait for the cartridge priming cycle to complete before sending any print jobs to the printer. The priming cycle will take approximately 70-80 seconds.

Any time you change ink cartridges, you should always wait until the printer has primed the cartridges before sending it a print job. The priming cycle will take 70-80 seconds to complete after the door is closed.



Inserting or Removing a Cartridge

After lifting the cartridge latch, slide the cartridge back to insert, or forward to remove.



Lowering the Cartridge Latch

The latch on the right in is the correct position. The left latch is being closed.

Replacing Empty Ink Cartridges

The CX-1 Disc Publisher will notify you when either cartridge is completely empty. Since the current print job will be cancelled at that point, it is strongly recommended that you replace the cartridges when you are notified that they are low rather than waiting until they are empty.

Since the CX-1 Disc Publisher is designed for unattended operation, however, this may not always be possible. If you see the Out of Ink message on your PC, please perform these steps:

1. Open the front door of the CX-1 Disc Publisher.
2. When the carriage moves to center, remove the ink cartridge specified in the message.
3. Replace the cartridge and close the front door.
4. Press the Cancel button on the front printer control panel.
5. Wait for the printer to prime the cartridge. The priming cycle will take approximately 70-80 seconds to complete. Do not perform the next step until the priming cycle completes.
6. After the disc ejects, click the **OK** button on the Out of Ink message.
7. If this occurs during a Zulu2 action and the cartridge is not replaced immediately, follow the on-screen instructions that will appear.



Any time you change ink cartridges, you should always wait until the printer has primed the cartridges before sending it a print job. The priming cycle will take 70-80 seconds to complete after the door is closed.

Installation of Drivers and Software

Driver and Microboards PrintWrite Installation

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

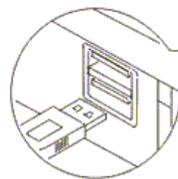
1. Insert the Installation CD in your system's disc drive. Open the disc icon when it appears on the desktop.
2. Double-click on the **Microboards Publisher.mpkg** icon. Follow the on-screen instructions, read and agree to the end user license agreement.
3. When prompted, enter your administrator password.
4. When prompted, click **Install**. Once the Microboards Installer has completed, a restart is required.

Connecting to a Mac

DO NOT CONNECT YOUR CX-1 DISC PUBLISHER BEFORE RUNNING THE INSTALLER LOCATED ON THE INSTALLATION DISK!!

The connection between the Mac and the Microboards CX-1 Disc Publisher is done with one USB 2.0 cable.

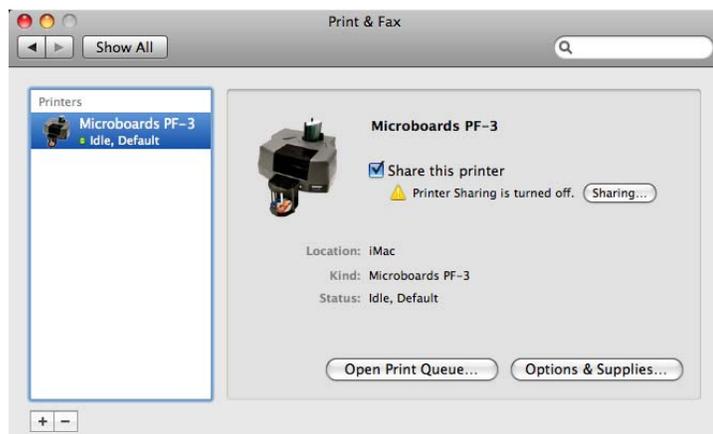
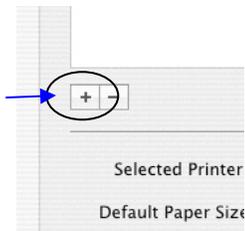
1. Plug in the AC power cord to the back of the CX-1 Disc Publisher.
2. Confirm that the power is turned ON to both the CX-1 Disc Publisher and on your Mac.
3. Connect the square shaped end of the USB cable to the back of the CX-1 Disc Publisher.
4. Connect the flat, rectangular end of the USB cable into a USB 2.0 port in your Mac.



Adding the Microboards PF-3 Printer

Once the drivers and software have been installed and the CX-1 connected, the Microboards PF-3 Printer needs to be added.

1. Click **System Preferences** in the Dock.
2. Select **Print & Fax**. If the **Microboards PF-3** printer has not been added automatically, then click the **Add** or **+** button to add a printer.
3. Select **Microboards PF-3** from the list and click the **Add** button.
4. Once the Microboards PF-3 Printer has been added, it will appear in the available printers list, as shown below.



Printer Alignment

Verify the printer alignment the first time you use the Publisher. You may need to align your printer before the printed images will be centered on your media. Changing the brand or type of media you are using may also require small alignment adjustments.

Alignment



- Click **System Preferences** in the Dock.
- Select **Print & Fax**.
- Double-click the **Microboards PF-3** icon.
- Click the **Printer Setup** button.
- Click the **Utility** button to open the Microboards Toolbox.
- Click the **Open Printer Utility** button.
- Click the **Disc Printing** icon.
- Enter the alignment changes into the **Top** and **Left Side** boxes. These settings will change the size of the top and left margins, respectively. Decreasing the values will move the image up or to the left, increasing will adjust down or to the right.
- Click the **Apply Now** button.
- Verify the alignment by printing a full coverage image. The image should print centered on the disc. If not, adjust the **Top** and **Left Side** alignment values according to the graphic on the Alignment tab and repeat.

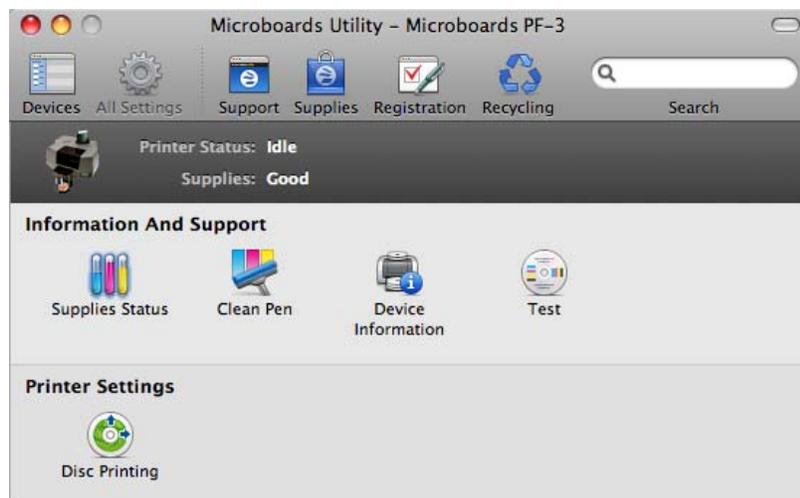


Microboards Utility

Access the Microboards Utility by selecting the **System Preferences** from the Dock. Select **Print & Fax**. Highlight the Microboards PF-3 icon and click the **Utility** icon. You can also select **Open Printer Utility** from the **Utilities** menu in PrintWrite. The Utility will allow you to access the Printer information as shown below.



Docked Utility Icon



Supply Status

The **Supply Status** page shows how much remains of all 3 colors, Cyan, Magenta and Yellow.

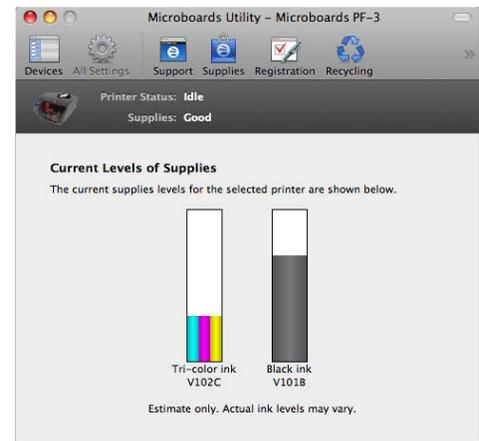
NOTE: If you place a used cartridge in the CX-1, the ink level may not be reported correctly. If the CX-1 can identify the cartridge, it may report the correct ink levels; if not, it will assume that the ink cartridge is new and will show ink levels of 100%.

Before each disc is printed, the ink levels are checked. If the level of any one color is has reached 10%, a warning message will be displayed on your Mac and printing will be temporarily suspended. You can either change the cartridge at this point, or continue printing using the same cartridge.

If you continue with the same cartridge, printing will continue uninterrupted until the ink level reaches 5%. The low ink level warning will be displayed once more. Again, either change the cartridge or continue.

Once the ink level reaches 3% or less, the warning will be displayed before each print.

It is strongly recommended that you replace the cartridge at this point.



Clean Pen

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

At least one disc must be in the input hopper for the utility to function.

Click the **Clean** button once a disc has been loaded to the belts. 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.



Device Information

Click the **Device Information** icon to view the Model of your PF-3 printer.

Test

To confirm the computer is communicating with the CX-1 Disc Publisher, print a Test Disc. This can be done with one of the inkjet printable CD's included with your CX-1 Disc Publisher, or an inkjet compatible disc you may already have. To print the Test Disc:

- Load at least one piece of printable media in the Input hopper.
- From the Microboards Toolbox, select **Test**.
- Click the **Test** button.
- Once printing is complete, the disc will be ejected into the output hopper.

Disc Printing

The Outer and Inner **Diameters** will change the size of the area to be printed. To avoid excessive ink buildup, these values should never be set so that the CX-1 Disc Publisher is printing off the media.

The **Alignment** values will move the print image on the disc in 0.1 mm increments.

The **Restore to Factory Settings** button will restore the values to the default values. The Top and Left Side values will be changed to 0.



Support

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

Supplies

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

Registration

Clicking the **Registration** button will open your default internet browser to the Microboards Product Registration webpage. When registering your CX-1 Disc Publisher, please be sure you are including the correct serial number, which will be on the back of the CX-1 and on the box product label. This function requires an internet connection.

Recycling

Clicking the **Recycling** button will open the Microboards Technology website in your default internet browser to provide you with information on recycling used ink cartridges. This function requires an internet connection.

The CX-1 Disc Publisher and PrintWrite

Microboards PrintWrite is required to control the Burn and Print functionality of the Microboards CX-1 Disc Publisher. It is able to set up publishing jobs, load the CX-1 , burn to the loaded disc, unload the disc, and then print the image you have selected.

PrintWrite will automatically find your CX-1 Disc Publisher the robotics and printer when the application is opened. Having more than one robotic system connected to the Mac is not supported.

Please see the Microboards PrintWrite manual for more information on using PrintWrite.

Print Only without PrintWrite

While PrintWrite does include a Print Only project type, you can print from any application to the CX-1 Disc Publisher. When printing using the CX-1 Disc Publisher from any application, you should always choose **Microboards PF-3** 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!!

Troubleshooting

Printer not printing:

1. Confirm the CX-1 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 light on the power button is lit on the Control Panel. If AC power is on and the green light is off, press the power button on the Control Panel and wait for several seconds. If the light still does not come on, contact Microboards Technical Support.
3. Confirm the CX-1 Disc Publisher is connected to the computer. This can be checked by clicking on Start, going to Settings and selecting Printers. Confirm the printer is listed and is active.
4. Confirm that the **Microboards V102C and V101B Ink Cartridges** are being used. The CX-1 Disc Publisher will not function with any other cartridge!



Disc Loading error

1. If a disc is not loaded correctly, an error message will be displayed on your Mac. 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 CX-1 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.

Low Ink indication

Before each disc is printed, the ink levels are checked. If the level of any one color is has reached 10%, a warning message will be displayed on your Mac and printing will be temporarily suspended. You can either change the cartridge at this point or continue printing using the same cartridge.

If you continue with the same cartridge, printing will continue uninterrupted until the ink level reaches 5%. The low ink level warning will be displayed once more. Again, either change the cartridge or continue.

Once the ink level reaches 0%, the warning will be displayed before each print.

It is strongly recommended that you replace the cartridge at this point.

Please note that the percentage indicates the lowest of the three ink color levels, not the overall ink level. Because of this, cartridges containing multiple ink colors may not feel empty when the ink level is reporting 0% as one color may be empty while the others are not.

If you notice poor ink quality or a missing color in your prints at any time, replace the ink cartridge.

Printing Specifications

Print Speed:

Depends upon percentage of coverage and print mode selected

Photo:

- Approx. 115 seconds for 100% full-color coverage, Photo Best Mode
- Approx. 80 seconds for 100% full-color coverage, Photo Normal Mode

Text & Graphics:

- Approx. 65 seconds for 100% full-color coverage, Text & Graphics Best Mode
- Approx. 25 seconds for 100% full-color coverage, Text & Graphics Normal Mode
- Approx. 30 seconds for 20% coverage Text & Graphics Best Mode
- Approx. 20 seconds for 20% coverage Text & Graphics Normal Mode

Print Technology:

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

Warranty:

One Year Limited Warranty

Ink Cartridge Types:

Microboards V102C (Color) and V101B
(Black)

Maximum Print Width:

4.72" (120mm)

Media Types:

Inkjet Printable-surface 120mm CD, DVD,
and BD optical media (BD publishing
support requires a BluRay Publisher)

Connectivity:

USB 2.0 required

Power Supply:

Auto Detect AC Power:
90VAC – 240VAC, 47Hz – 63Hz

Memory:

8 MB

Technical Support

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

United States

PH: 952-556-1639

FAX: 952-556-1628

support@microboards.com

www.microboards.com

Europe

PH: +44 (0) 845 230 7800

www.microboards.co.uk

Japan

PH: 03-3561-2266

www.microboards.co.jp

Please have the Model and Serial Number of your G3 Disc Publisher available when contacting Technical Support.

Date of Purchase:

Place Purchased:

Serial Number: _____

Replacement Ink Cartridges: V102C (color) and V101B (black)