



MICROBOARDS[®]
Technology



G3 Disc Publisher

For Microsoft Windows[®] 7, Vista, and XP

Users Manual

TABLE OF CONTENTS

Introduction	5
What's Included	5
System Requirements	6
Assembly and Installation	6
Assembly Instructions.....	6
Installing Ink Cartridges	7
Supported Ink Cartridges	7
Loading / Replacing Ink Cartridges	7
Loading Discs	8
Front Control Panel.....	8
Output Bin Sensor	8
G3 Disc Publisher Installation.....	9
Windows Component Prerequisites.....	9
Connecting to a PC.....	9
Windows 7 and Vista Hardware Installation	10
Windows XP Hardware Installation.....	10
Setting Printer Alignment	13
Alignment.....	13
Printing Preferences	14
Color Tab.....	14
Advanced Tab.....	15
Diameter Settings Tab.....	15
Ink Tab.....	16
Alignment Tab.....	16
Print Quality Tab.....	17
Printing Recommendations	17
About Tab	17
The G3 Disc Publisher Software.....	18
Microboards PrintWrite Configuration.....	18
The Microboards Printer Toolbox.....	18
Print Test Disc	18
Exercise Belt.....	18
Cleaning.....	18
Using SureThing Disc Labeler	19
Creating New Labels	19
Printing Labels.....	19
Manual Software Re-Installation	19
PrintWrite Software Re-Installation.....	19
SureThing Labeler Software Re-Installation	20
Troubleshooting	21
Printer not printing:	21
Disc Loading error:	21
Low Ink indication:	21
Printing Specifications.....	22
Technical Support.....	22

Introduction

The Microboards G3 Disc Publisher is a single drive, 50 disc, print and record system. The G3 combines professional quality 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. 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, wma or wave files
- Full support for CD Text, Pre-Gap, UPC and ISRC
- Batch mode, allowing multiple masters to be used at a time
- Integrated print function with prn or SureThing print files, including merge data

What's Included

When unpacking your G3 Disc Publisher system, the following items should be included:

- G3 Disc Publisher print and record system
- G3 Disc Publisher Quick Start Guide
- G3 Unpack Guide
- Power Cord
- Blank Printable CDs
- Users Manual (This document)
- Microboards Disc Publisher Install CD (Includes Windows XP/Vista/7 drivers, Disc Publishing software, and SureThing Label software)
- Microboards GX-300HC Color Ink cartridge (14ml)
- USB Printer Cable
- Input Bin rods (already installed)
- 50 disc output assembly

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

The G3 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 G3 Disc Publisher has the following minimum requirements and compatibilities:

Operating System

Windows XP with SP2, Windows Vista, or Windows 7. 32-bit or 64-bit Operating Systems
Pentium 4 (or equivalent) CPU, running at 3.0 GHz or faster.

System Memory

Minimum 1 GB of system memory. More memory is suggested for DVD recording operation.

Hard Drive Space

Approximately 110MB of free space is required on the system hard drive for the applications and drivers. For storing disc images, temporary space is needed for the full disc dimension. That could be up to about 800MB for CD or about 5 GB for DVD.

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

G3 Disc Publisher Assembly

Remove the G3 Disc Publisher system from the shipping box and confirm you received all of the items.

Place the G3 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.

The Input Bin posts are pre-installed, with the wide post to the right.

The 50-disc Output Bin is shipped in place under the front cover. Lift the cover to remove the packaging tape from the Output Bin.



Installing Ink Cartridges

Supported Ink Cartridges

The G3 Disc Publisher uses a single color ink cartridge. The part number for this cartridge is GX-300HC. If other cartridges are installed, the G3 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 G3 Disc Publisher system. Use of these types of cartridges will cause the printer to fail and will void the warranty.

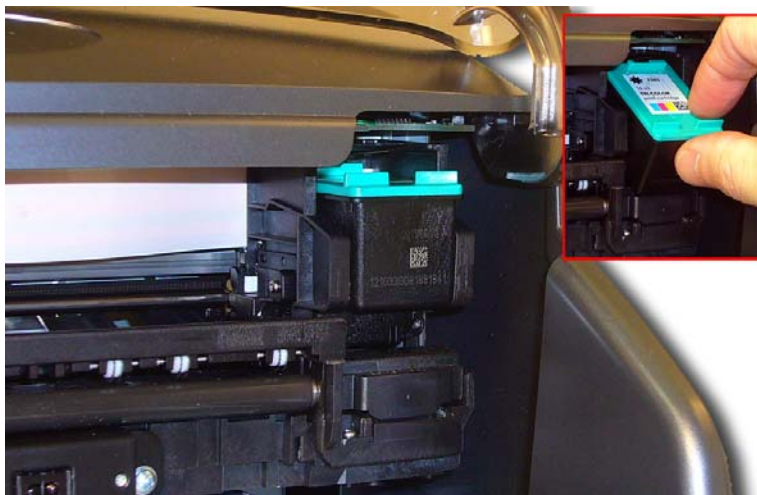
Loading / Replacing Ink Cartridges

Cartridges should be changed while the G3 Disc Publisher is on. The cartridge can be replaced during printing.

The G3 Disc Publisher system ships with one **Microboards GX-300HC** color ink cartridge.

- Lift the front cover with the power on. The print cartridge cradle will move to the right side of the G3 Disc Publisher, as shown below.
- Tilt the old cartridge forward to release the cartridge from the cradle, as shown in the inset below.
- Lift the old cartridge out of the cradle.
- Remove the new **GX-300HC** ink cartridge from its packaging and carefully remove the plastic tape. Hold the ink cartridge so that the copper strip is at the bottom.
- With the front of the new **GX-300HC** ink cartridge tilted down, slide the cartridge into the cradle.
- Tilt the front of the **GX-300HC** ink cartridge back up to lock the ink cartridge in place.
- Lower the front cover.
- The new **GX-300HC** ink cartridge will be initialized by the printer.

The Microboards GX-300HC Ink Cartridge must be used or the printer will not function.



Loading Discs

The next step is to load your G3 Disc Publisher with 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 G3 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 G3 Disc Publisher will hold a maximum of 50 discs. DO NOT load more than 50 discs in the system, as this may cause the discs to feed incorrectly.

Front Control Panel

The AC power switch located on the back of the G3 Disc Publisher must be turned on first in order to supply power to the Front Control Panel.

The **Power Button** on the front panel of the G3 Disc Publisher turns the Printer on and off. It may take a few seconds for the Printer to turn on after you press the Power Button. This does not affect power to the drive within the Publisher.

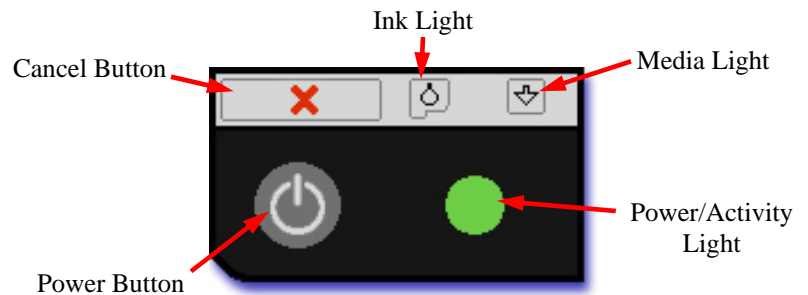
To turn off the power to the printer using the Control Panel, press and hold the Power Button for 3 seconds. Once the Ink Light, Media Light, and Power Light begin flashing, release the Power Button.

The green Power/Activity light flashes when the printer is active, either while printing or initializing.

The **Cancel Button** can be used to discontinue printing. When using PrintWrite, this will only affect the current disc being printed. When printing through SureThing, this will either cancel the entire print job or just the current disc, depending on the label being printed.

If a disc is not detected during printing, the **Media Light** will flash. Verify that you have discs in the input hopper and press the Media Light to load and print the next disc unless you are printing using PrintWrite.

The **Ink Light** will come on if the ink cartridge is low or empty.



Output Bin Sensor

The G3 Disc Publisher is equipped with an output bin sensor to warn you when the output bin is full. If the bin is full, the Media Light will stay on and you will not be able to print another disc until the bin is emptied.

G3 Disc Publisher Installation

The G3 Disc Publisher installation disk includes an Installer that will walk you through the process step by step. Please use the Installer and follow the installation steps in order.

The following installation sections are intended only as a reference for the installation process, not as a guide to installing the G3 Disc Publisher. Performing the installation out of order could result in an unsuccessful installation.



Installation should always be done when logged in as a user with full Administrator rights.

Windows Component Prerequisites

During the installation process, your PC will be checked to determine if 2 required Microsoft Windows components are present. If not, these components will be installed. You cannot continue the installation without installing these necessary Microsoft Windows components.

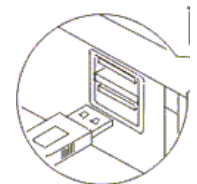
Connecting to a PC

DO NOT CONNECT YOUR G3 DISC PUBLISHER TO A COMPUTER BEFORE RUNNING THE INSTALLER LOCATED ON THE INSTALLATION DISK!!

The connection between the PC and the Microboards G3 Disc Publisher is done with one USB cable.

1. Plug in the AC power cord to the back of the G3 Auto Printer.
2. Confirm that the power is turned ON to both the G3 Auto Printer and on your PC.
3. Connect the square shaped end of the USB cable to the back of the G3 Auto Printer.
4. Connect the flat, rectangular end of the USB cable into a USB 2.0 port in your PC.
5. Turn on the G3 Auto Printer.

USB Cable length exceeding 6 feet between the G3 Disc Publisher and the PC is not supported!



Windows 7 and Vista Hardware Installation

The Microboards G3 Installer should always be run when logged in as user with full Administrator rights. This is required for the driver pre-installation to be successful. Once the G3 is plugged into the PC via the USB connection, the hardware will automatically be found and installed on your PC.

During the driver pre-installation, you may need to verify that you would like to install the drivers.

If the Installer is run by a user without full Administrator rights, or you do not verify that the drivers should be installed, the hardware will need to be installed using the Hardware Wizard. Please follow the directions below.

Windows XP Hardware Installation

If you are installing the hardware while running the G3 Disc Publisher installer, this process will occur automatically. The Windows Found New Hardware Wizard will appear during any hardware installation when not using the Installer. Please follow all directions in the order in which they appear.

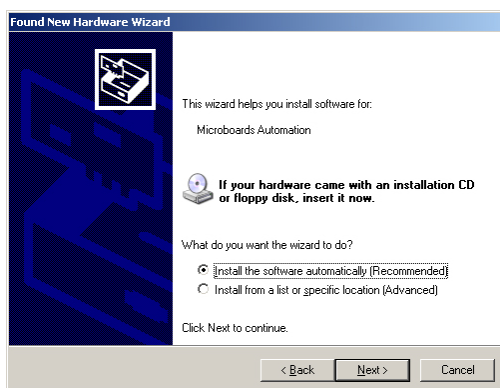
Turn on power to the G3 Disc Publisher and PC.

Once the G3 is connected, the operating system will next display the following windows if you are not running the Installer:



1. Select **No**, not this time and click **Next**.

The following screen will appear:



2. Click the **Next** button and the files will be copied from the CD.



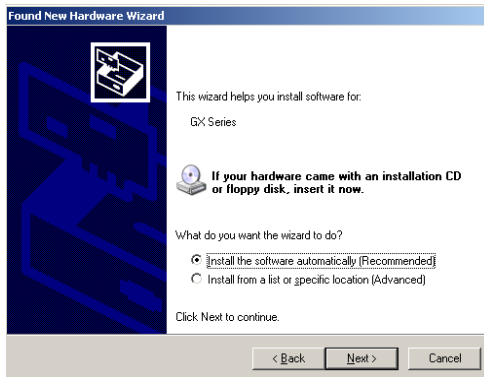
3. Click **Continue Anyway** if this message should appear.



4. Click **Finish** for the next step to appear.



5. Select No, not this time and click **Next**.



6. Click **Next**.



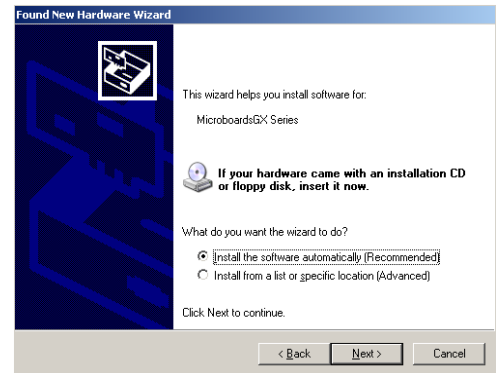
7. Click **Continue Anyway**.



8. Click **Finish** for the next screen.



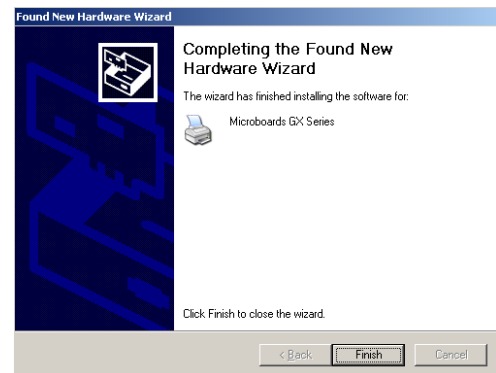
9. Select No, not this time and click **Next**.



10. Click **Next**.



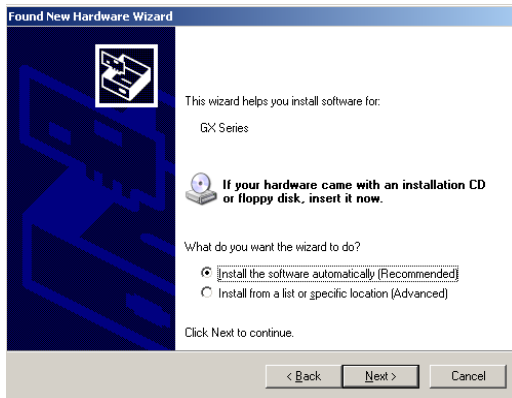
11. Click **Continue Anyway**.



12. Click **Finish** for the next screen.



13. Select No, not this time and click **Next**.



14. Click **Next**.



15. Click **Continue Anyway**.



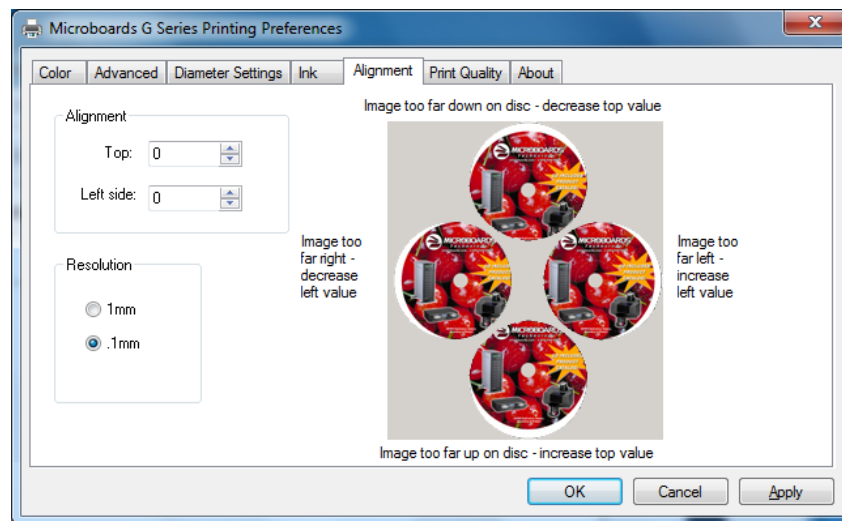
16. Click **Finish**.

Setting Printer Alignment

Alignment

The G3 Disc Publisher system has been aligned to 0.1mm precision at the factory. You may need to fine tune the alignment settings for full surface coverage depending on the media brand and print surface type. Follow these steps if alignment modification is needed:

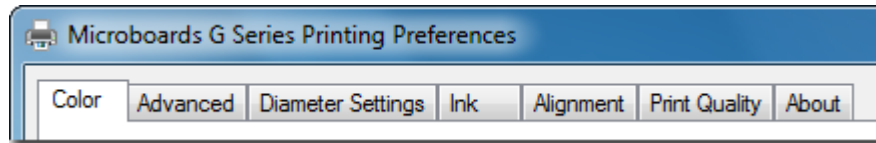
1. Launch PrintWrite and configure the Disc Publisher if this has not already been done. (see page 17).
2. Place inkjet printable media into the input hopper.
3. Click on the **Start** Button on your Windows computer.
4. Select **Settings** and then **Printers**.
5. Right click on the **Microboards G Series** icon.



6. Select **Printing Preferences**.
7. Select the **Alignment** Tab.
8. Select the **Resolution** of **.1mm** when aligning the printer.
9. Enter the alignment changes into the **Top** and **Left Side** boxes, using the graphic instructions on the right side as a guide to moving the print image on the disc.
10. Click the **Apply** button. Do not close the Printing Preferences at this time.
11. Print a full image disc using PrintWrite or SureThing. Please refer to the user manuals for details on doing so.
12. A disc will be dropped onto the belts and then printed. Once printing is complete, the disc will be ejected into the output hopper.
13. Examine the printed disc to determine if the alignment is correct. If not, adjust the **Top** and **Left Side** alignment values in the Printing Preferences according to the graphic on the Alignment tab and repeat steps 11 through 13 with a new disc.
14. Click the **OK** button on the Printing Preferences once the alignment is complete to close the window.

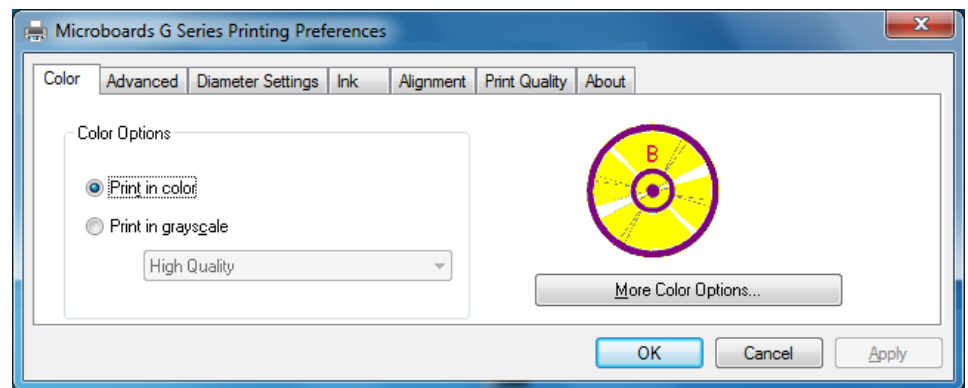
Printing Preferences

Access the Printing Preferences by clicking the **Start** Button on your Windows computer. Select **Settings** and then select **Printers**. Right click on the **Microboards G Series** icon, then select **Printing Preferences**. There are 7 tabs across the top of the window. Click each tab to see the available settings.



Color Tab

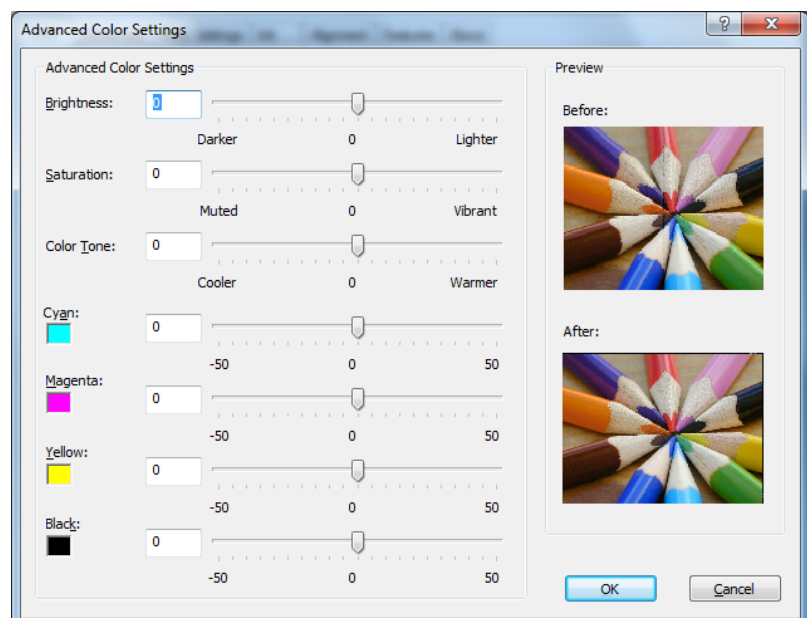
The Color Tab allows you to specify that the entire image should be printed in grayscale, or printed in sepia. You also have access to **More Color Options** from this tab.



More Color Options

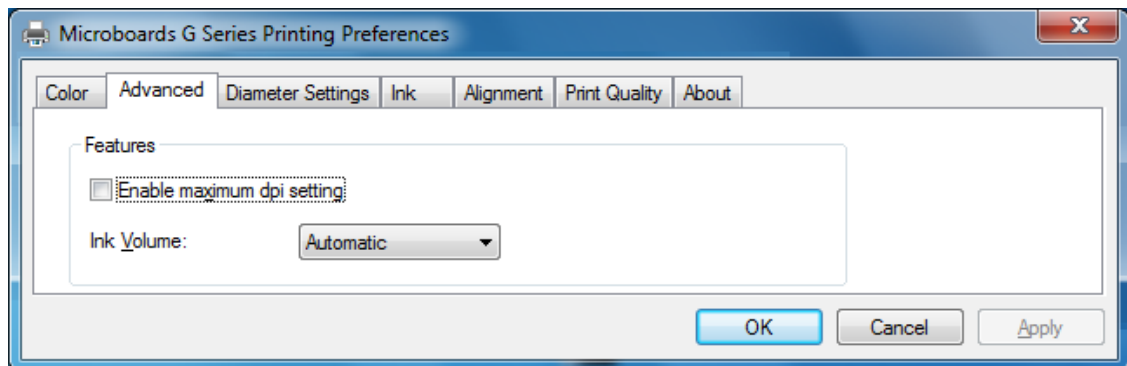
Saturation, **Brightness** and **Color Tone** allow you to fine tune your print image.

The four ink settings allow you to change the volumes used of each specific ink cartridge.



Advanced Tab

The Advanced Tab allows you to **Enable Maximum dpi setting** and adjust the amount of ink placed on the disc using the **Ink Volume** setting.

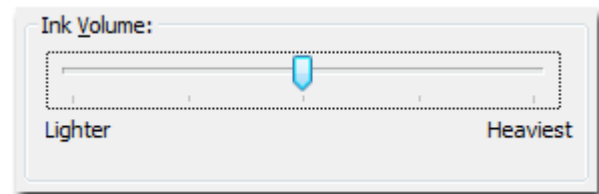


Enabling the maximum dpi will result in longer times to process your print image, reducing throughput.

To change the Ink Volume, click the drop-down box and select Change. A window will open with a setting bar for the option selected.

Changing the Ink Volume will affect how quickly you need to replace your ink cartridges, but also affects the quality of the printed output.

The default settings are the recommended settings and should be used unless absolutely necessary.



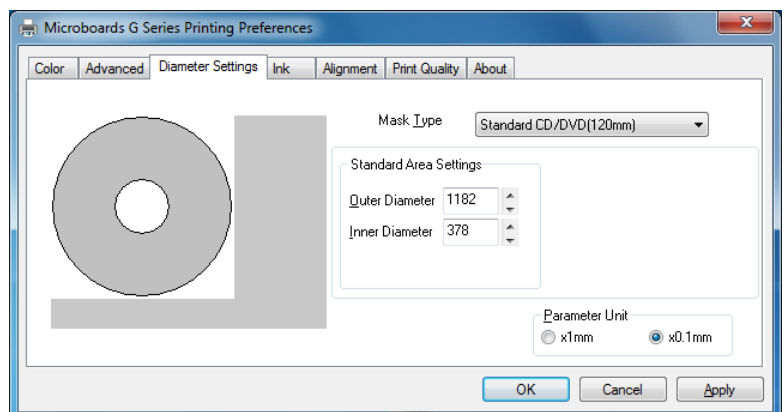
Diameter Settings Tab

The Diameter Settings tab allows you to change the size of the print image to accommodate the variety of printable surface area available on media.

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 G3 Disc Publisher is printing off the media.

The Parameter Unit should remain on the **0.1mm** setting for maximum precision.

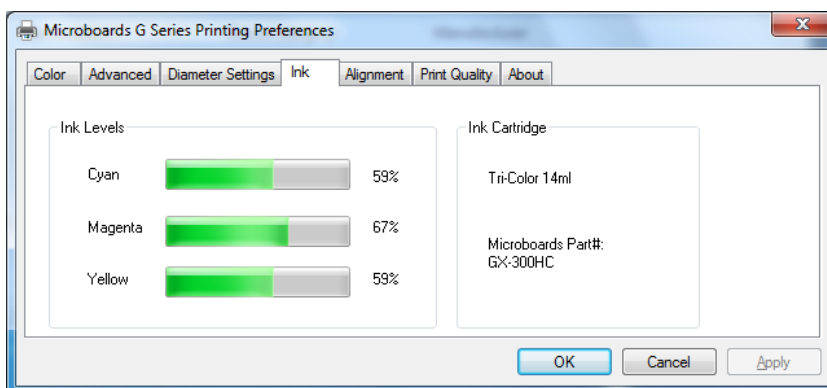
You can also select one of the preset **Mask Types** to change the diameter settings.



Ink Tab

The **Ink Levels** show how much remains of all 3 colors, Cyan, Magenta and Yellow.

NOTE: If you place a used cartridge in the G3, the ink level may not be reported correctly. If the G3 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 has reached 10%, a warning message will be displayed on your PC and printing will be temporarily suspended. You can either change the cartridge at this point and click OK, or click OK to 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.

The **Ink Cartridge** information includes the re-order part number for the cartridge.

Alignment Tab

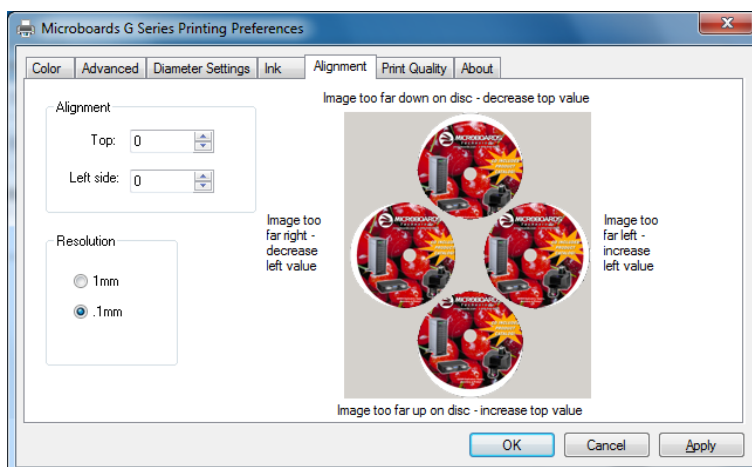
Alignment values will move the print image on the disc. Use the graphic on the right side of the tab as a guideline in how alignment values should be adjusted.

The **Resolution** setting should always be set at **.1mm** for best results.

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 G3 Disc Publisher is printing off the media.

The default diameter settings are **1180** for the Outer and **360** for the Inner when the Resolution is at .1mm. For hub-printable media, the Inner diameter should be reduced.

You may need to adjust the alignment depending on the media you are using (see page 13).



Print Quality Tab

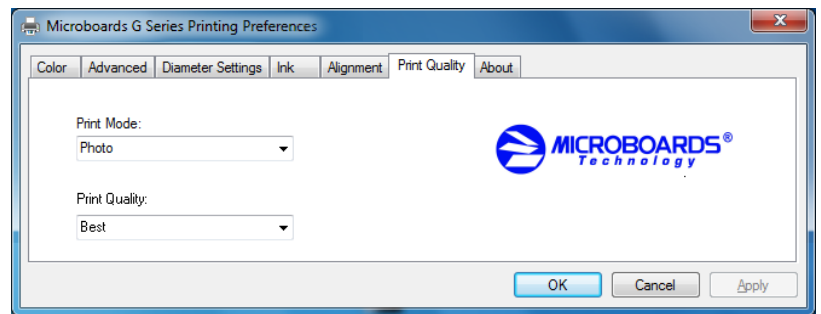
The Print Quality tab controls the print resolution.

Print Quality

- Best
- Normal

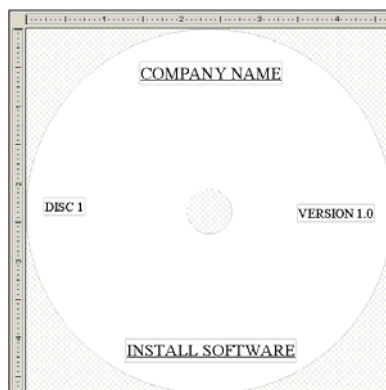
Print Modes

- Text and Graphics
- Photo



Printing Recommendations

Text and Graphics mode is used for printing mainly text information and small, simple graphics. Below are some examples for images in Fast, Normal and Best Modes:



Text and Graphics – Fast



Text and Graphics – Normal



Text and Graphics – Best

Photo Mode should be used when printing on the entire disc or when using detailed graphics. Here is an example:

*Photo – Normal, Best,
and 4800x1200 Modes*



About Tab

The About tab provides you with contact information for the worldwide Microboards offices.

The G3 Disc Publisher Software

Your G3 uses Microboards PrintWrite as the Disc Publishing software.

You can print directly from SureThing or other applications if you are only printing, but any burning must be done using PrintWrite.

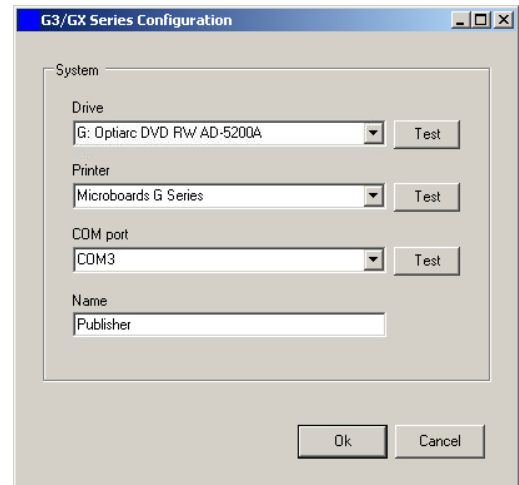
Microboards PrintWrite Configuration

The first time you launch PrintWrite, you will be asked to confirm the configuration of the G3 Disc Publisher system. This only needs to be done the first time the software is used, or if there is a change to your hardware.

The **Drive**, **Printer**, and **COM port** will auto-detect your hardware and enter the information. If the auto-detected hardware is not correct, use the down arrows in each listbox to select other available hardware. Use the Test buttons beside each hardware entry to verify the correct hardware has been selected.

The **Name** of the G3 will appear as **Publisher** by default. This can be changed to any name you wish.

Please refer to the Microboards PrintWrite User's Manual for more information on configuring and operating PrintWrite.



The Microboards Printer Toolbox

To access the Microboards Toolbox, double-click the toolbox icon located in the tool tray.



Select the **Microboards G Series** and click the buttons to access each maintenance function of the Toolbox for the selected printer.

Print Test Disc

Load an unprinted disc in the input hopper prior to clicking this button to print a Test Disc image.

Exercise Belt

This utility should be run if the printer has been idle for an extended period of time, and can be run multiple times if necessary. The belts will run at high speed for a period of time to recondition the belts. It is not necessary to load any media for this utility.

Cleaning

The printheads may require cleaning if the printed images show streaks of color. This may occur if the Disc Publisher has been idle for an extended period of time.

You will need to place a disc on the belts below the input hopper prior to running the Cleaning.

Running this process more than once may be required if the quality does not improve after cleaning one time.

Using SureThing Disc Labeler

SureThing Disc Labeler is included with the G3 Disc Publisher and will be installed during the G3 Installation. For more information on using SureThing, please refer to the SureThing Help menu.

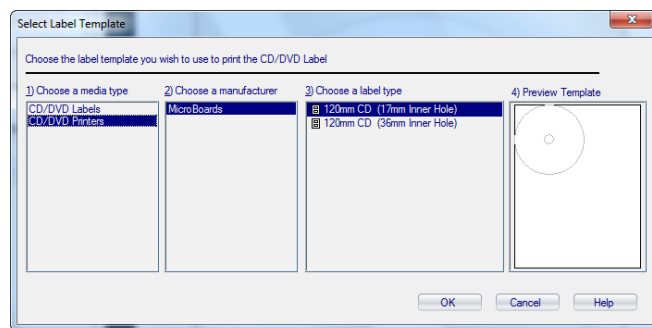
Creating New Labels

Any label you create in SureThing must use the Microboards template to print correctly.

1. To create a new label, either click **New Project** in the Action window on the left, or select **New** from the **File** menu.
2. Click the **Select Label** button on the lower left corner of the dialog that opens to view the available label templates if the dialog that opens does not appear as shown below.
3. Highlight **CD/DVD Printers** in the Media Type column.
4. Highlight **Microboards** in the Manufacturer column.
5. Select from the options listed in the Label Type column.

We recommend that you use the 17mm inner hole template to ensure that your image will fully cover the printable surface on both hub printable and non-hub printable media, adjusting the Diameter Settings when changing between media types (see page 13).

6. Click **OK** to begin designing the label.



Printing Labels

Select **Print** from the File menu while the label you want to print is open. Be sure that you have selected the **Microboards G Series** and that **CD/DVD Printer** is selected in the Print Using field before clicking the **Print** button.

If you are printing more than one copy of a label, enter in the number you wish to print before clicking the **Print** button.



Manual Software Re-Installation

The information in this section will only apply to a manual re-installation of the individual software packages. If you have not yet installed the G3 Disc Publisher using the Installer, it is recommended that you do so. Installing the G3 Disc Publisher in an incorrect order could result in an unsuccessful installation.

PrintWrite Software Re-Installation

There are 3 methods of reinstalling the PrintWrite software should the need arise:


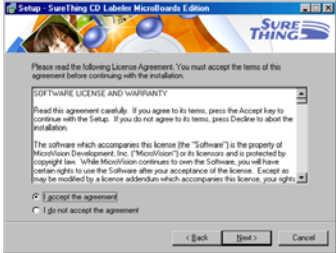
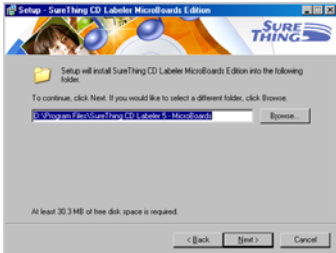
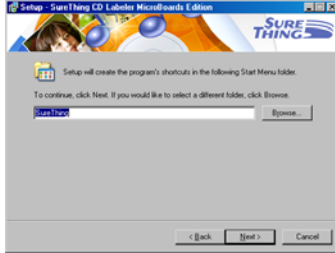
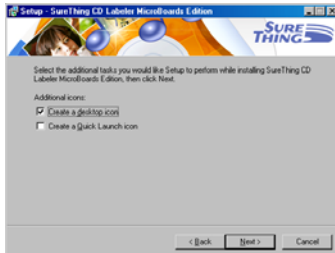

- (Recommended)** Insert the Microboards G3 Disc Publisher Installation CD into the CD/DVD ROM drive on your computer and select the **Repair** option when the installer starts. Click the **Disc Publishing Software** button to reinstall. Clicking the **Install All Applications** button will reinstall the PrintWrite software, SureThing, and the Toolbox.
- The Disc Publisher installers are also located on the Installation CD. To manually reinstall PrintWrite, browse to the **Applications\PrintWrite** directory on the Installation CD and run **setup.exe** to reinstall PrintWrite manually.
- The PrintWrite Disc Publisher software installer was also added to your hard drive in the event that you need to reinstall but do not have access to the Installation CD. Browse to the **C:\Program Files\Microboards\G3 Installer\ Applications** directory on your hard drive and double-click **setup.exe** to reinstall PrintWrite.

SureThing Labeler Software Re-Installation

There are 3 methods of reinstalling SureThing should the need arise:

- A. **(Recommended)** Insert the Microboards G3 Disc Publisher Installation CD into the CD/DVD ROM drive on your computer and select the **Repair** option when the installer starts. Click the **SureThing Disc Labeler** button to reinstall SureThing. Clicking the **Install All Applications** button will reinstall the Disc Publishing software, SureThing, and the Toolbox.

Follow these steps once the SureThing installer launches:

1. Click **Next** to continue.
 2. Once the User License screen appears, select **I Accept** and click the **Next** button.
 3. If you wish to change the default Install directory, it can be done here. Click **Next** when completed.
 4. Click **Next** to add a shortcut in the Start Menu.
 5. Choose to add an icon to your desktop and/or a folder in the Start Menu. Once selected, click **Next**.
 6. Click **Install** to begin copying the files.
 7. Remove the check to launch SureThing at this time, then click **Finish**.
- B. Alternately, you can open the **Applications** directory on the Installation CD and run **SureThing.exe** to install SureThing manually. Follow the on-screen instructions as shown in steps 1-7 above.
- C. The SureThing installer was also added to your hard drive in the event that you need to reinstall but do not have access to the Installation CD. Run **SureThing.exe** in the **C:\Program Files\Microboards\G3 Installer\Applications** directory on your hard drive. Follow the on-screen instructions as shown in the steps above.

Troubleshooting

Printer not printing:

1. Confirm the G3 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. If the Media Light on the Control Panel is on (not flashing), the Output Bin is full. Empty the Output Bin to continue.
4. Confirm the G3 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. If the icon is not active, make sure the Use Printer Offline is not selected. Also check to make sure the correct printer port is selected.
5. Confirm that the **Microboards GX-300HC Ink Cartridge** is being used. The G3 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 PC. 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 G3 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 has reached 10%, a warning message will be displayed on your PC and printing will be temporarily suspended. You can either change the cartridge at this point and click OK, or click OK to 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.

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 Normal Mode: Approx. 45 seconds for 100% full-color coverage

Text & Graphics Best Mode: Approx. 20 seconds for 100% full-color coverage

Text & Graphics Normal Mode: Approx. 12 seconds for 20% coverage

Ink Cartridge Types:

Microboards GX-300HC

Media Types:

Printable-surface 120mm CD-R or DVD-R

Label Editing Software:

SureThing™ Disc Labeler Software for Windows included

Maximum Print Width:

4.72" (120mm)

Power Supply:

Auto Detect AC Power:

90VAC – 240VAC, 47Hz – 63Hz

Warranty:

One Year Limited Warranty

Print Technology:

HP Thermal Inkjet

Print Quality, Black: 600 x 600 dpi, with HP PhotoREt

Print Quality, Color: up to 4800 x 1200 optimized dpi, with HP PhotoREt

Color Technology: HP PhotoREt

Memory:

64MB

Connectivity:

USB 2.0 required

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.



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 à la norme NMB-003 du Canada.