



MICROBOARDS®
Technology



BD Pro Series

User's Manual

Table of Contents

Introduction	5
Unpacking your system.....	5
Installation.....	5
The LCD Control Panel	6
Hardware Description	7
Main Menu	8
Setting Counters	10
Using the BD Pro Series Duplicator	10
Copy	10
Test	11
Compare	11
Test + Copy.....	12
Copy + Compare	12
Select Burn Speed	12
Select Source	12
Erase.....	12
Hard Drive Setup.....	12
Mix Audio Tracks.....	14
Setup.....	15
Utilities.....	15
Manage Accounts.....	15
AutoCopy	16
Shutdown	16
The Setup Menu	17
The Utilities Menu	22
Using CopyLock Video Protection.....	23
Specifications – BD Pro Series	25
Supported Formats	25
Technical Support.....	25
Appendix 1: Menu List	26
Appendix 2: Error Messages.....	27



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.

Introduction

The BD Pro Series includes models containing 4, 7, and 10 recorders. The BD Pro Series models include an internal hard drive for convenient master storage and a USB 3.0 connection to the duplicator's internal hard drive.

Each is a high speed CD, DVD, and BD Recordable duplication system from Microboards Technology, LLC.

Regardless of the number of drives, the BD Pro is perfect for any user requiring easy copying of audio, video, or Data DVD/CD/BDs. The 2-line 20 character LCD display panel provides the user with status of the duplication process, the type of process being run, master size, and other useful information.

Applications suited for the BD Pro include Pro Audio, Multimedia, Government / Education, Software Development, Medical Imaging, and Data Interchange.

Unpacking your system

When unpacking your duplicator, confirm the following items are included:

- BD Pro duplicator
- Power cable
- USB cable
- NetConnect Installation Disc (PC) and CopyConnect Installation Disc (Mac)

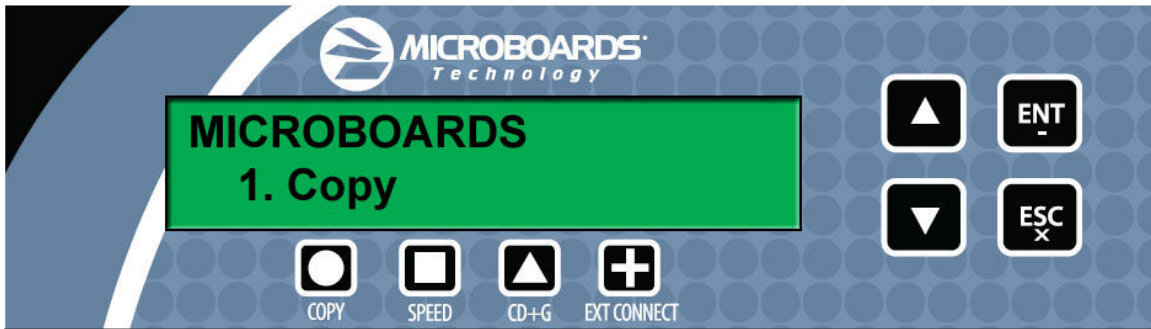
If any of these items are missing, please contact Microboards Technology Technical Support.

IMPORTANT: Please keep all the packing for your BD Pro duplicator. If your unit ever needs to be sent in for service, it must be returned in the original packing or the warranty will be voided.

Installation

- Connect the supplied power cable to the BD Pro duplicator and plug in to a protected power outlet strip or UPS power supply.
 - Note for Installation:**
 - 1) Please verify that the voltage switch above the power connection is set correctly for your local power specifications.
 - 2) The socket outlet should be installed near the equipment and be easily accessible.
 - 3) Do not block cooling fans.
- Turn on power to the duplicator.
- The system will go through initialization and then display: *1. Copy.*
- For the Premium Pro Series, install the NetConnect application and drivers on any PC or CopyConnect application and drivers on any Mac that may be accessing the hard drive in the duplicator. These are necessary for your PC or Mac to recognize the duplicator hard drive's format.
- For USB Mode, connect to a PC or Mac via an unoccupied USB port. To access the drive, the External Connection mode must be turned **ON** in the Setup Menu (See page 17).
- The system is now ready to use.

The LCD Control Panel

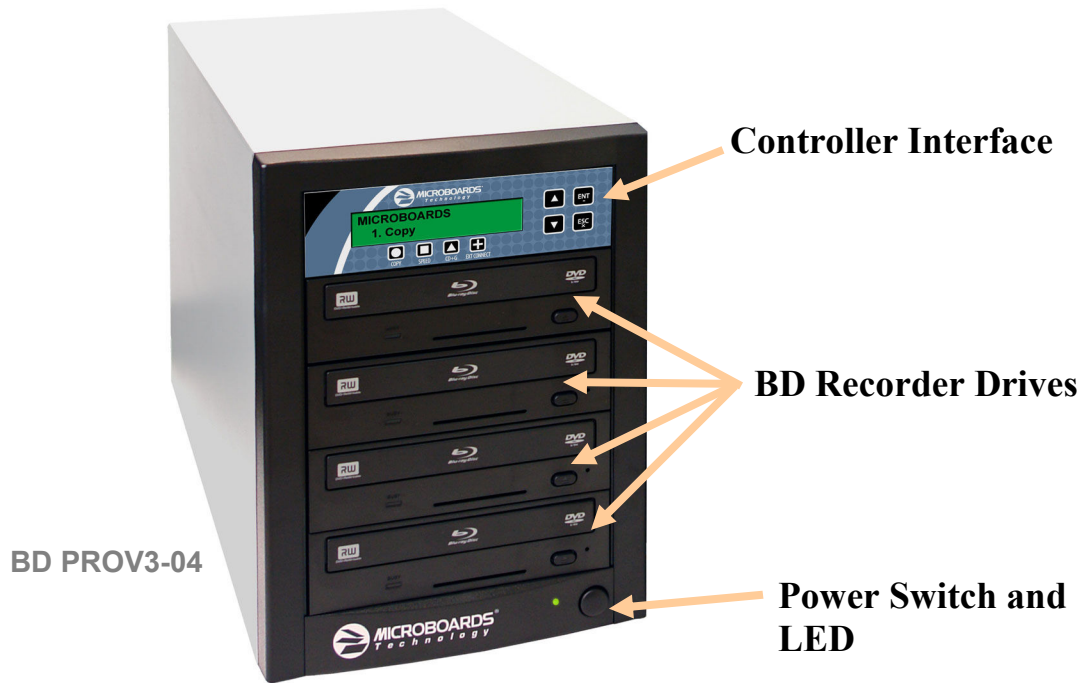


The LCD Control Panel shown above has a two-line, 20 character LCD display to provide user feedback. Eight push buttons control the operation of the Microboards BD Pro Series duplicators. The functions for these buttons are shown in Table 1-1.

Control	Name	Function
▲	Up	Scroll up through the menu or list.
▼	Down	Scroll down through the menu or list.
ENT	ENT or OK	Execute the function. Also called OK in the Menus.
ESC	ESC	Go back to the previous function.
⊙	Copy	Quick key to make a copy. Pressing this key takes you directly to the <i>Copy</i> menu.
⊠	Speed	Quick key to access the Burn Speed selections. Pressing this key takes you directly to the <i>Select Burn Speed</i> menu.
⊠	CD+G	Quick key to change the CD+G Support setting. As BluRay Recorders do not support duplication of the CD+G format, this setting is not used on the BD Pro Series.
⊕	Ext Connect	Quick key to change the External Connection setting. Pressing this key takes you directly to the <i>External Connection</i> menu item within the <i>Setup</i> menu.

Table 1-1: Front Panel Controls

Hardware Description



The BD Pro system consists of 4 to 10 BD Recorders (based on model), USB 3.0 Connection, and Controller module. The BD Pro Series also includes an internal Hard Drive for Master Image Storage.

The USB Connection is located on the back of the BD Pro.

The master discs always go into the top recorder drive.

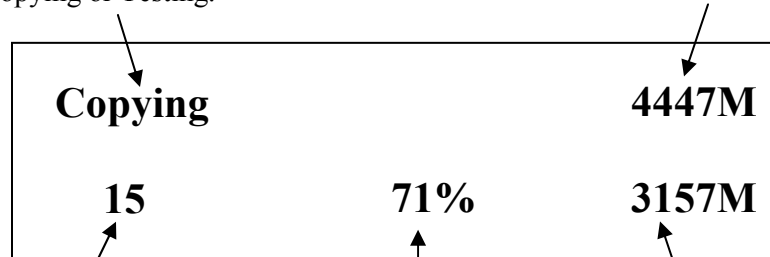
The blank media will always go into the remaining recorder drives.

The power switch and power LED are also located on the front of the BD Pro duplicator.

The LCD display will show the different menu selections and also information pertaining to the recording process. Here is a typical example of what is displayed during the COPY process:

Displays the function being performed, such as Copying or Testing.

Shows the total size of the master being copied.



Displays the number of discs successfully burned with the current master.

Shows the percentage completed for this action.

Shows the amount of data burned to the discs currently in the recorders.

Main Menu

This section provides an overview of the menu options. These menu options are explained in detail in the *Using the BD Pro Series Duplicator* section starting on page 10.

Copy

Use the *Copy* menu to make CD, DVD, and BD copies. Before you start a copy, make sure you have selected the correct Master Source.

Test

Use the *Test* menu to simulate the copy process. With simulation, write once recordable discs such as DVD-R, or CDR will be reusable.

Note: *DVD+R and BD recordable media are not compatible with simulation mode. If you try to simulate with these media types, you will encounter failure messages. If you are using Rewritable discs as your blank media during the simulation, the content on those discs will be permanently erased.*

Compare

Use the Compare function to perform a bit-by-bit comparison between the content of your master disc and the contents of all discs it copied. This ensures that all of your copies are identical to original master disc.

Note: *The bit-by-bit comparison will only apply on all DVDs and Data CDs. The readability check will be applied for other formats like Audio CDs, CD+G, and Video CDs discs due to their lack of error correction mechanisms.*

Test + Copy

Use the *Test + Copy* menu option to simulate the copying process initially. Then, the duplicator performs the copy process on the blank disc(s) that passed the simulation.

Copy + Compare

Use the *Copy + Compare* menu option to make 100% reliable copies. After the copy process is done, the duplicator automatically compares the copies from the content of your original master disc.

Select Burn Speed

Use the *Select Burn Speed* menu option to adjust the duplication speed for the various blank disc formats. For additional information, see **Select Burn Speed** on page 12.

Select Source

Use the *Select Source* menu option to specify which drive is being used as the master drive. You should always select the DVD-ROM drive or the hard drive (if available) as the source unless there is a specific need to use one of the recorders as the master drive.

Erase

Use the *Erase* menu to erase your Rewritable discs.

Hard Drive Setup

This menu item will not appear if the External Connection setting is ON.

Use the *Hard Drive Setup* menu to access the Hard Drive functions. You can scroll between the various options using the ▲ **Up** or ▼ **Down** button. For information on the Hard Drive Setup functions, please see page 12.

1. **Select Partition**
2. **Load Partition**
3. **Rename Partition**
4. **Delete Partition**
5. **Partition Info**
6. **Display Order**
7. **Select Loading Drive**
8. **Format Hard Drive**

Mix Audio Tracks

Use the *Mix Audio Tracks* menu option to select and burn specific tracks from Audio CDs onto your blank CDs. This function will not operate if CD+G Support is **ON** (page 21).

Setup

Use the Setup menu options to control how the Duplicator operates. You can scroll between the various options using the **▲ Up** or **▼ Down** button.

1. **Language**
2. **Auto Start**
3. **Read Error Skip**
4. **CD Writing Mode**
5. **Max Audio, VCD & CDG Speed**
6. **Buzzer**
7. **Startup Menu**
8. **Screen Saver**
9. **Duplication Mode**
10. **Counter**
11. **DVD+R High Compatibility Mode**
12. **ISRC**
13. **Disable Drives**
14. **External Connection**
15. **CD+G Support (Note: BluRay Recorders do not support the CD+G format)**
16. **Overburn**

Utilities

The Utilities menu includes a number of functions that are not related to the actual duplication process.

1. **Disc Info**
2. **Prescan**
3. **System Info**
4. **Device Info**
5. **Load Default**
6. **Update Firmware**
7. **Save**

Manage Accounts

The Manage Accounts menu includes optional User functions that allow you to limit access to the duplicator.

1. **View User**
2. **Create User**
3. **Edit User Info**
4. **Delete User**
5. **Password on Bootup**

AutoCopy

The AutoCopy function simplifies the copy process. After the initial round of blanks is burned, you only need to load the drives again and close them. Once the drives detect the new blank media in the drives, duplication begins without you having to touch the control panel.

Shutdown

Use this menu option to save any setting changes you may have made and turn off your system. Once you see the "Ready to Power Off" message, you can safely turn off the machine using the power switch.

Turning off your duplicator without performing this function increases the risk of damaging it. Additionally, if you made any setting changes, those changes may not be saved if you simply turn off the power to the duplicator.

Setting Counters

The BD Pro Series give you the option to set a counter so that the machine can keep track of the number of copies made. Follow these steps when you see a Counter Selection Menu:

```
Counter:
No Counter
```

The Counter Selection Menu lets you set how many copies you want to make for your project. The Counter Selection feature tells the duplicator to count the number of successful copies you have made and stop the job when the desired number of copies has been reached.

You can select "No Counter" if you prefer to copy continuously with no interruption. (It will still count the number of copies, but it will not notify you when to stop.) To select the "No Counter", simply press the **ENT** button when you see the screen above.

Or, you can select "Specify Counter" between 1 to 9999 by pressing the **▲ Up** or **▼ Down** button to go to the Specify Counter menu:

```
Counter:
Specify Counter
```

Press the **ENT** button to select this option. You will see the next *Specify Counter* menu.

```
Specify Counter:
[0  ] OK?
```

To specify the number of copies for your project, you need to input a four-digit number. If you need to specify a number that is less than four digits, fill the leading spaces with zeros. Examples are "0234" (two hundred and thirty four), or "0010" (ten).

To enter the number, you need to use the **▲ Up** or **▼ Down** button to select the number for each digit and use the **ENT** button or the **ESC** button to move the cursor position right or left. Once you've finished, move the cursor to "OK" and press the **ENT** button.

To input the desired quantity, do the following:

- Make sure the cursor is located at the first position (First blinking position):
- Press the **▼ Down** button repeatedly until "0" is displayed.
- Press the **ENT** button once to move the cursor to the next position.
- Press the **▼ Down** button repeatedly until "0" is displayed.
- Press the **ENT** button once to move the cursor to the next position.
- Press the **▼ Down** button repeatedly until "2" is displayed.
- Press the **ENT** button once to move the cursor to the next position.
- Press the **▼ Down** button repeatedly until "1" is displayed.
- With "0021" displayed, press the **ENT** button once and the cursor moves to "OK".
- Press the **ENT** button once more to submit your counter value and start duplication.

Using the BD Pro Series Duplicator

Copy

This process will copy your master disc on to several blank discs simultaneously.

```
Microboards B.30
1. Copy
```

Use the **▼▲** buttons to navigate to the *1. Copy* Menu.

Insert your blank discs in the recorder drives. If your Counter setting is **ON**, you will see the *Counter Selection* menu:

```
Counter:
No Counter
```

Follow the instructions shown in **Setting Counters** (above) to continue. Once the counters have been set, press the **ENT** button to confirm.

As the blank discs are recognized, the number detected will increase. Press the **ENT** button to start the duplication. If you have Autostart set, duplication will begin either once all recorders have been found to contain blank media or until the Autostart time interval passes.

```
Preparing... 4063MB
3 Discs Detected, Go?
```


Test + Copy

The Test + Copy function first simulates the burn to the media and then burns to the media if the Test simulation is successful.

Microboards B.30
4. Test+Copy

DVD +R media does not support test mode.

Copy + Compare

The Copy + Compare function first burns to the media and then runs a comparison of the burned discs to the master disc.

Microboards B.30
5. Copy+Compare

Select Burn Speed

This menu option allows you to change the duplication speed for each of the duplication job types. Available burn speeds will vary, depending on the model of the recorder drives installed in your duplicator. Press the **ENT** button to change burn speeds.

Microboards B.30
6. Select Burn Speed

Since speeds can be set based on media type being used or whether the hard drive is being used as the source, press the **▼▲** buttons to navigate to the duplication type whose burn speed you wish to change, then press the **ENT** button. Use the **▼▲** buttons again to display the burn speed you would like to choose and press **ENT**.

When you have changed the burn speed, press **ESC** to return to the main menu.

Select Source

Use this menu to select which drive will be used as the master drive, in which you would load your master disc. By default, the top drive is set as the source.

Microboards B.30
7. Select Source

Press the **ENT** button to change the source drive. Use the **▼▲** buttons to navigate through the drives, pressing **ENT** when the drive you want to use is shown.

It is not recommended that you change the source to anything other than the top drive or the hard drive unless it is necessary to do so.

If the External Connection is active, the hard drive will not be available and the source drive will be reassigned to one of the other drives in the duplicator.

Erase

This menu option is used to erase rewritable media placed in the recorder drives. The Erase function has 2 options:

Microboards B.30
8. Erase

- **Full Erase:** This option erases the entire disc, destroying all previously written data in the process.
- **Quick Erase:** This option erases the index (TOC) of the Rewritable disc, not the data section. It is much faster than Full Erase. However, the data section is still recoverable. If you prefer the old content not to be recovered for security purpose, please perform Full Erase.

Hard Drive Setup

This menu is used to access the Hard Drive functions.

This menu option will not be available if the External Connection setting is On.

If it is not already set so, you will be asked if you want to set the hard drive as the source. Press the **ENT** button to set the hard drive as the source and enter the Hard Drive Setup menu.

1. Select Partition

This function is used to select the default partition on the hard drive for duplication. Use the **▼▲** buttons to move between the available partitions, pressing the **ENT** button when the partition you want is displayed. The partition selected will become the first that is displayed after you press the **ENT** button when the display reads *1. Copy*.

2. Load Partition

Use this function when you want to add a new master disc partition to your hard drive.

Load Partition[231GB] Load- New Partition
--

After pressing **ENT** when the display reads *2. Load Partition*, you will be asked which partition naming method you would like to use.

- **Auto Generate:** This option will add the master as a new partition with the name of the partition created automatically. If using this option, press **ENT** to load the master to the new partition.

The partition name will start with "NEW-" followed by a 4-digit number, which will auto-increment with each new master added using this naming method.

- **New Partition:** This option allows you to manually specify the name of the partition. Press **ENT** when this option is displayed.

Enter in the partition name of up to 14 characters, using the **▼▲** buttons to change the first character. Press **ENT** when the character you want is in the cursor position. To leave a position blank, press **ENT** when the space is empty.

After entering in all 14 characters, press **ENT** to highlight OK on the display. If the name is correct, press **ENT**. If you need to make changes, press the **ESC** button until the cursor is on the character that needs to be changed.

- **Overwrite:** This option allows you to replace a previous partition with the current master. Use the **▼▲** buttons to scroll through the existing partitions. Press **ENT** when the partition you want to replace is displayed.

You will be asked to verify the name one last time before the master inserted in the reader drive is copied to the hard drive. The copy progress and partition name will be shown on the display.

Once the master disc is copied to the hard drive, the reader drive will be ejected and the partition will be available for duplication from the hard drive.

3. Rename Partition

The Rename Partition function allows you to change the name of an existing partition on the hard drive.

Use the **▼▲** buttons to move through the list of partitions until you get to the partition you want to rename. Press **ENT**, then use the **▼**, **▲**, and **ENT** buttons as in the Load Partition function to change the name. Press the **ENT** button when the cursor is on OK to save the new partition name.

4. Delete Partition

Use the Delete Partition function to remove a master partition that is no longer in use or if you need to clear hard drive space for new partitions to be added. Use the **▼▲** buttons to select the partition to delete, then press **ENT**. You will be asked to confirm deletion of the selected partition; press **ENT** if you are sure you want to remove the partition from the hard drive.

The Delete Partition function cannot be undone.

5. Partition Info

Use the **▼▲** buttons to scroll through the loaded partitions. The type of master used, size of the data in the partition, and the name will be displayed.

6. Display Order

Use the Display Order function to change the order in which the saved partitions are shown when using any function in which you select a partition.

There are three Display Order options available: **Default**, which shows the partitions in the order in which they were copied to the hard drive; **Alpha – (Asc)**, which sets the order to normal ascending alphabetical; and **Alpha – (Dec)**, which displays the partitions in descending alphabetical order.

Use the **▼▲** buttons to scroll through the three options, pressing **ENT** when the option you want is showing.

Note that numbers in the partition names are sorted as characters, not numbers. For example, a partition named **10.iso** will appear in the list before **2.iso** if the Display Order is set to Alpha – (Asc); a way to avoid this would be to rename **2.iso** to **02.iso**.

7. Select Loading Drive

By default, the drive selected as the source will be used for transferring a master from disc to hard drive, but you can use this function to select a different source drive. Use the ▼▲ buttons to scroll through the available drives to find the drive you want to use. Press **ENT** to select the displayed drive.

This will not change the Source Drive in the Main Menu; it will only be used as the source for loading discs to the hard drive.

8. Format Hard Drive

The Format Hard Drive function will clear all contents from the hard drive. If you want to delete all partitions from the hard drive, this function is a quicker method than using the Delete Partition function on each individual partition.

The Format Hard Drive function cannot be undone.

Mix Audio Tracks

If you have the External connection is On, the display will show this menu item as 9, not 10.

You can use the Mix Audio Tracks feature to combine specific tracks from multiple audio CD masters onto a single disc. Insert your first master disc and **one blank CD**, then press **ENT** when the display shows **Mix Audio Tracks**.

```
Microboards B.30
10. Mix Audio Tracks
```

The BD Pro Series Duplicator will give you the option of sending the tracks to the hard drive (if available) or burning directly from CD. Regardless of the method, the track selection process will be the same.

```
Total: 0 Trk 0m:00s
Track 1: 4m:24s
```

After the master audio disc is analyzed and any blank discs recognized, you will be able to select tracks from the master by using the ▼▲ buttons to navigate through the tracks and pressing **ENT** to select the tracks you want to burn.

```
Total: 4 Trk 12m:43s
*Track 6: 3m:56s
```

The top line of the display will show the number of tracks currently selected and the total time of selected tracks. The bottom line of the display will show the track number and time for the current track.

If a track is selected for the audio mix, the bottom line will begin with an asterisk (*). In the example to the right, 4 tracks have been selected, totaling 12 minutes 43 seconds; track 6 is 3 minutes and 56 seconds in length and has been selected for burning, as indicated by the asterisk.

When you use the ▼▲ buttons to go past the last track, you will be asked if you are done. Press **ENT** to burn the selected tracks from the current master to the blank media, or **ESC** to add more tracks from the same master. If you want to add tracks from another audio CD and are not sending the tracks to the hard drive, you will have to burn the selected tracks from the current master before doing so.

After pressing **ENT** to burn the tracks, or if you are using the hard drive to store the tracks, you will be asked if you are finished mixing. If you are, press **ENT** and the burned discs will be finalized. If you want to add tracks from another audio CD, press the ▼ button for the option to insert the next master. Follow the same procedure to select and burn tracks for each master disc.

If you are using the hard drive to store the selected tracks, the discs will not be burned until you have specified that you are done mixing.

The disc must be finalized before it will be playable. If you are burning the tracks from the hard drive, this will occur automatically. If you are mixing tracks directly from CD, you will have to finalize the disc as the last step.

Please note that the Mix Audio Tracks function cannot be performed if you have **CD+G Support ON** and the **External Connection ON** when using the BD Pro Series.

Setup

If you have the External connection is On, the display will show this menu item as 10, not 11.

Microboards B.30 11. Setup

The Setup menu includes many functions that affect the operation of the BD Pro Duplicator. Please see page 17 for more information on the Setup menu options.

Utilities

If you have the External connection is On, the display will show this menu item as 11, not 12.

Microboards B.30 12. Utilities

The Utilities menu provides you with hardware information and a few maintenance functions. Please see page 22 for more information on the Utilities menu.

Manage Accounts

If you have the External connection is On, the display will show this menu item as 12, not 13.

Microboards B.30 13. Manage Accounts

The Manage Accounts menu includes optional User functions that allow you to limit access to the duplicator.

You must either log in as the Admin user or have the Password on Bootup setting as NO if you want to access the Manage Accounts menu.
--

You will be asked for the password when you enter the Manage Accounts menu. The default password is 0000, which should be changed if you plan on using the user account security features. Keep a record of the Admin account password.

1. View User

This function allows to you see the list of available user accounts. Use the ▼▲ buttons to scroll through the user list.

2. Create User

Use the Create User function to add a new user account.

You will first be asked to enter in the new user name. Use the ▼▲ buttons to select the first character, then press **ENT** to move to the next, or **ESC** to move to the prior character. You can enter in up to 14 characters. After the 14th character is entered, press **ENT** when the cursor is on **OK**.

Next, enter the user's password. The password is limited to numerals, and will be 4 digits long. Again, use the ▼▲ buttons to change the number of the current digit, pressing **ENT** when the number is correct. After the 4th digit is entered, press **ENT** when the cursor is on **OK**. The display will briefly show that the user has been added.

3. Edit User Info

Use the Edit User Info menu to change an existing user's name or password.

You will first be able to change the user's name. Use the **ENT** or **ESC** buttons to move right or left in the user's name and the ▼▲ buttons to change the highlighted character and press **ENT** to accept the character. When all changes are complete, move the cursor to **OK** and press **ENT**.

The password can be modified next using the same method. When the new password is entered, press **ENT** to move the cursor to **OK** and press **ENT** one more time to save the changes you have made. The display will briefly show that the user information has been changed before returning to the menu.

4. Delete User

The Delete User is used to remove users account from the list. The Admin user account cannot be deleted.

Use the ▼▲ buttons to scroll through the list of existing users. When the display is showing the user you want to remove, press the ENT button. You will be asked to verify that you want to remove the user; press ENT if you do, or ESC if it is not the correct user to delete. The display will briefly show that the selected user has been deleted.

5. Password on Bootup

To use the Managed Accounts Users to limit access to the duplicator, you must turn the Password on Bootup setting to **YES**. This will take effect the next time the duplicator is turned on.

You must use either the Save function in the Utilities menu or the Shutdown function prior to turning the duplicator off, or changes you have made to the accounts may not be saved!

AutoCopy

If you have the External connection is On, the display will show this menu item as 13, not 14.

Microboards B.30 14. AutoCopy

The AutoCopy function simplifies the copy process. After the initial round of blanks is burned, you only need to load the drives again and close them. Once the drives detect the new blank media in the drives, duplication begins without you having to touch the control panel (Auto Start must be set to **Auto** or **Full**).

Shutdown

If you have the External connection is On, the display will show this menu item as 14, not 15.

Microboards B.30 15. Shutdown

When turning off your BD Pro Duplicator, it is highly recommended that you do so using the Shutdown menu option. Not only does this function save any system settings that you may have changed in the Setup menu, it also shuts down the duplicator components in a safe way.

When the display reads **Ready to Power OFF** after selecting the Shutdown function, you can use the power switch on the front.

The Setup Menu

The Setup menu includes many settings the user can select to customize the use of the BD Pro duplicator. A description of the options in the setup menu follows.

Note: You must use either the Shutdown menu or manually run the Save function from the Utilities menu, or any changes you make to the Setup Menu settings will be lost when you turn off your duplicator.

Language

The BD Pro duplicator has multiple language options, with English being the default setting.

Auto Start

The Auto Start feature is used to automatically start recording, once the master disc and blank discs are inserted into the drives. The Auto Start feature applies to Copy, Test, Test + Copy, Copy + Compare, and Erase.

There are 3 options for this setting, **Auto**, **Full**, and **Off**.

- **Auto:** Starts the duplication process when all detect recordable media or the specified time period has passed after the last-detected blank disc is recognized, allowing you to leave some recorders empty while still using the Auto Start feature. You can specify 30, 20, 10, or 5 seconds for the time period.
- **Full:** Only starts the duplication when all drives report media as being present.
- **Off:** You must press the ENT button to begin the duplication process, regardless of the number of discs loaded.

Read Error Skip

With Read Error Skip **OFF**, the duplicator will halt any job when the reader encounters an error on your master disc. By changing this setting to **ON**, duplication will continue after finding a read error on the master. **Please note that this does not fix the error, and may result in unusable discs.**

It is strongly recommended that you do not change this setting from the default value of **OFF**.

CD Writing Mode

This setting allows you to change the CD writing mode between the 2 options, **Disc at Once** and **Track at Once**. The default setting is **Disc at Once**, which should be used unless you have a specific need to change the mode.

Max Audio, VCD, CDG Speed

Audio CD, Video CD and CD+G disc formats do not have internal error checking capabilities, so duplicating at high speeds may cause more instances of errors on the copies. This setting allows you to reduce the burn speed of these specific types of discs without lowering the burn speed of Data CD discs.

Buzzer

The Buzzer function will turn the beeper on the controller **ON** or **OFF**. Using the default of **ON**, a beep is heard when a button is pressed or when any job completes.

Startup Menu

Allows you to specify what the default menu item will be when the BD Pro is turned on.

Screen Saver

Use this setting to enable or disable the *Screen Saver* feature. When this is enabled, a screen saver is displayed whenever your duplicator has been idle for a set period of time.

Duplication Mode

This menu option cannot be changed if the External Connection setting is On.

There are 3 options available in the Duplication Mode menu: **Load and Copy**, **Prompt**, and **On the Fly**. These options do not apply if the hard drive is selected as the source.

The **Load and Copy** setting will load the master to the hard drive during the first burn cycle; subsequent burns without leaving Copy mode or changing the master disc will use the hard drive image as the source for added stability.

If you need to change masters when the Duplication Mode is set to Load and Copy, you **must** return to the main *1. Copy* menu.

The **Prompt** setting will ask you to specify Load and Copy or On the Fly when the Copy button is pressed.

The **On the Fly** setting will use the loaded master disc in the reader drive as the source at all times.

Counter

Use the Counter menu to enable or disable the *Counter* feature. The counter tells you how many discs have copied and how many discs are left to go during the duplication process stopping the job once the desired number of copies has been made.

DVD+R High Compatibility Mode

This feature allows you to turn the *DVD+R High Compatibility Mode* feature **ON** or **OFF**. The purpose of this feature is to increase the compatibility of DVD+R media with a broader range of DVD Video players.

ISRC

This option will allow you to enable/disable copying the ISRC code of an Audio CD. ISRC is the serial number of the audio track that uniquely identifies the song in that audio track. This ISRC code is commonly found in commercial Audio CDs and rarely seen on home made Audio CDs. By enabling this feature, the duplication performance will be lowered.

Disable Drives

Use this utility to allow the system to disable certain drives/trays when certain drives/trays are producing high failure rates.

External Connection

The BD Pro Series Duplicators include a USB 3.0 connection that allows you to use the hard drive as an external drive connected to your PC or Mac. The BD Pro Series also includes an optional Ethernet connection (PC Only).

Use this setting to enable the hard drive in the duplicator to be used as an external drive connected to your PC through a USB 3.0 connection or with the optional Ethernet connection.

The external connection to the hard drive in the duplicator allows you to create or copy ISO and NRG disc images directly from your PC into the **Duplicator\dup** directory on the BD Pro hard drive. ISO, VCP, and NRG images copied to that location will be available as hard drive partitions that can be selected as the duplication source once the External Connection setting is **OFF**. No other image format is supported.

In addition to being able to add ISO, VCP, or NRG images to the hard drive, the duplicator also has a feature that allows you to copy an entire directory from your PC into the **\dup** directory on the duplicator hard drive. The directory name will appear as a selectable partition; the contents of the directory will burn to the discs.

Select the Setup menu and use the **▼▲** buttons and press the **ENT** button the display reads *External Connection*. If the display indicates that the connection is **OFF**, use either arrow key to change the setting to **ON**, then press **ENT** to save the setting. The duplicator will be briefly unresponsive as the hard drive is released from duplication mode. Press **ESC** to leave the Setup menu.

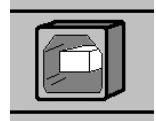
Please note that while the External Connection setting is **ON**, the hard drive will be unavailable to the duplicator.

Mac USB Connection

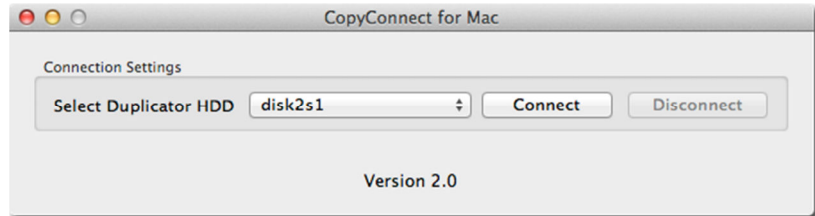
To connect the **Microboards BD Pro** to your Mac, you need to install and run CopyConnect for Mac, which is included with your Pro Series Duplicator. Disc images or directories can be transferred directly from your Mac to the **Duplicator\dup** directory on the Pro Series Duplicator hard drive. Files copied will be available as hard drive partitions that can be selected as the duplication source once the External Connection setting is **OFF**.

To connect the drive directly to your Mac using the USB connection, follow the steps below:

1. Plug the flat end of the USB cable to your Mac and the square end to the connection on the back of the duplicator, shown to the right.
2. Change the External Connection setting in the Setup menu from **OFF** to **ON**.
3. Launch CopyConnect for Mac.



4. Select the correct hard drive and click the **Connect** button.



5. The Duplicator drive mount will appear on your desktop and the **Disconnect** button will become active. Open the mounted drive in Finder.
6. Once connected, you can copy your .iso files, .vcp files, .nrg files, or folders into the **\dup** directory directly through finder or using drag-and-drop. You can also delete or rename the files and folders in the dup directory.
7. When you are done, simply click the **Disconnect** button in CopyConnect for Mac to disconnect from the Duplicator hard drive.
8. Files placed in the correct location on the hard drive will be available from the hard drive after the External Connection is turned **OFF**.

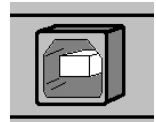


PC USB Connection

The **Microboards Pro Series** allows you to create or copy ISO, VCP, or NRG disc images or directly from your PC into the **Duplicator\dup** directory on the BD Pro Series Duplicator hard drive. Files copied to either location will be available as hard drive partitions that can be selected as the duplication source once the External Connection setting is **OFF**.

To connect the drive directly to your PC using the USB connection, follow the steps below:

1. Plug the flat end of the USB cable to your PC and the square end to the connection on the back of the duplicator, shown to the right.
2. Change the External Connection setting in the Setup menu from **OFF** to **ON**.
3. The drive will appear shortly after the setting is changed.
4. Once the **Duplication** drive is available, you can copy your .iso files into the **\dup** directory. Only .ISO, VCP, and .NRG format images are supported. You can also copy directories over, with the contents of that directory available on the hard drive for duplication.
5. Files placed in the **\dup** directory will be available from the hard drive after the drive is disconnected from the PC and the External Connection is turned **OFF**.

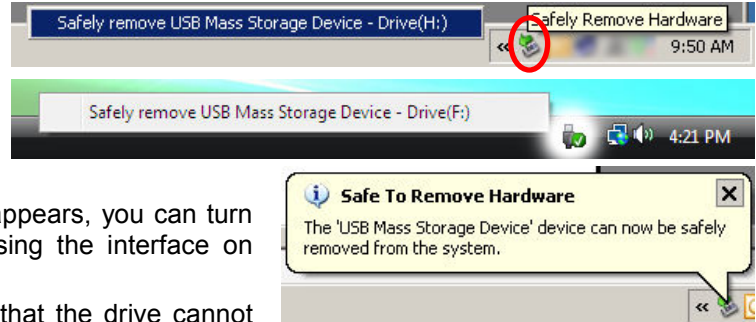


Disconnecting the Hard Drive, USB Connection (PC)

If you do not perform the Remove Hardware steps listed below, you may lose the data that was just transferred over to the Duplicator's hard drive.

For the **Microboards BD Pro**, with the external USB connection allowing you direct access to the hard drive through Windows, you will need to perform the following process:

1. Left-click the **Remove Hardware** icon in the tool tray in the right corner of your desktop. The icon will appear either as a green arrow pointing left or a USB plug with a green check mark on the right, depending on your Operating System.
2. All hardware that can be disconnected will be listed. Left-click the USB Mass Storage Device with the same Drive letter as the Duplicator drive in Windows Explorer.
3. When the message to the right appears, you can turn the External Connection **OFF** using the interface on the BD Pro Duplicator.
If you receive a warning stating that the drive cannot be disconnected, check that you do not have the drive open in Windows Explorer. This will keep the drive from being disconnected. Simply close Windows Explorer and attempt the hardware removal again.
4. The files you copied to the correct hard drive directory will be available on the hard drive as stored images. Select the Hard Drive as the source and select the correct file name from the *1. Copy* menu.

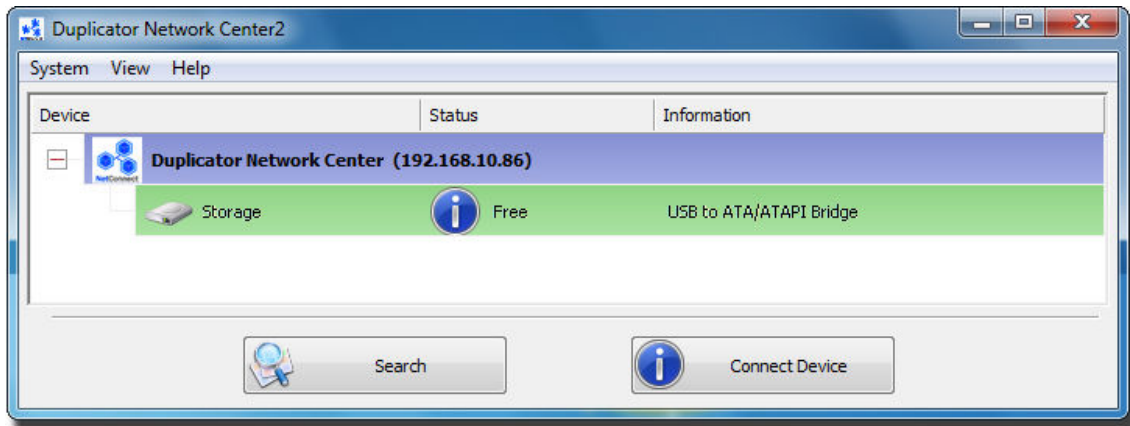




Ethernet Connection (PC only)

The optional Ethernet Connection allows you to connect the internal hard drive of your Microboards BD Pro Duplicator to your network. Using the supplied NetConnect software, you can connect to the drive from any PC running the NetConnect application, allowing you to place .iso image files directly onto the hard drive for use as a master image on the BD Pro Duplicator.

For the Ethernet Connection to function through the Network, it must be assigned an IP address. If your network uses DHCP to assign IP addresses, this will occur automatically when the Network Duplicator software is launched.

1. With the External Connection turned **ON** and the IP settings in place, the application will show your available network device. If you have more than one BD Pro Duplicator available using the Ethernet connection, each available device will be shown.



2. Highlight the line with the hard drive showing as **Free** and click the **Connect Device** button. You can also double-click the hard drive to connect.
 - If the Status reads **Remote Occupied**, the hard drive is in use by another PC. The **Connect Device** button will also be disabled. **The Ethernet connection will only allow one PC to connect to the hard drive at a time.**

 - If the hard drive is in use by another PC, you can request that the user disconnect by selecting **Request Disconnect Device** from the **System** menu. This will send a message to the PC that is currently connected to the hard drive requesting that they either disconnect or decline the disconnect request.
3. The status will change to **Locally Connected** and the Connect button to **Disconnect Device** to indicate that the connection has been made. The hard drive will now be accessible on your PC through Windows Explorer as a new hard drive named **Duplicator**.
 
4. Your image files and directories can be placed into the **Duplicator\dup** directory using a simple copy and paste in Windows Explorer. The files can also be created in the correct directory location.

Disconnecting the Hard Drive, Ethernet Connection

When you are ready to return control of the hard drive to the BD Pro Duplicator, or if you need to allow another PC to access the hard drive, use the same process as disconnecting from a USB connection, then click the **Disconnect** button in the NetConnect application before turning **OFF** the external connection on the BD Pro Duplicator. The Network Duplication Control software can be shut down at that time and the files will be accessible on the duplicator.

CD+G Support

This feature is not used in the BD Pro Series, as BluRay Recorders do not support duplication of the CD+G format.

Overburn

This feature allows you to turn the ability to use the overburn area ON or OFF. Only CD-RW and BD-RE burning will be affected by this setting.

Overburning is the process of recording data past the normal capacity limit. Many disc manufacturers extend a recordable disc to leave a small margin of extra data surface at the outer edge.

Turning this feature ON allows rewritable media to be burned out to the full capacity, using the otherwise reserved areas of the media for data storage. This setting also should be ON if you are creating bootable discs on rewritable media.

It is recommended that this setting be left OFF unless it is absolutely necessary for your masters to copy to your blank media, as only the reported normal capacity of the media can be guaranteed. There may be variations in the total available capacity between individual discs that can result in inconsistent burn success.

Remember, you must use the Shutdown menu or manually Save the settings under the Utilities menu if you want any changes you have made to remain after the Duplicator is shut down!

The Utilities Menu

A description of the options in the Utilities menu follows. Use the ▼▲ buttons to scroll through the menu, pressing the **ENT** button when the display shows the function you want to perform.

Disc Info

The Disc Info function will display the information regarding the blank recordable media you have loaded in the recorders. The media format, capacity, manufacture ID, and certified writing speed of the media will be displayed.

Information regarding any master disc loaded into the reader drive will also be displayed.

Load your media into the drives before pressing **ENT** when the display shows **Disc Info**. Each drive will be checked to see if media is present. If all drives are not filled, you will be shown the number of discs detected and be prompted to press the **ENT** again.

Use the ▼▲ buttons to scroll through the drives in which media has been detected.

Prescan

The Prescan function is used to verify the readability of the master disc by scanning for bad sectors on the master. Performing the Prescan on your masters before duplicating will help reduce the number of duplication failures caused by a master that contains uncorrectable errors.

You should load your master into the source drive prior to pressing the **ENT** button when the display shows **Prescan**. Your master will be scanned, with the results being displayed when the analysis is complete.

If the results show that the master disc **Failed**, you should not attempt to use that master as a source disc.

System Info

The System Info menu selection displays the model and firmware versions of the installed controller. Use the ▼▲ buttons to scroll through the system information.

Device Info

The Device Info menu selection displays the model and firmware versions of the drives installed in your BD Pro Duplicator. Use the ▼▲ buttons to scroll through the device information.

Load Default

This option restores all Setup and Advanced Setup options to the default settings, as well as the default Burn Speed and the selected Source drive settings.

Update Firmware

Use the Update Firmware menu option to update the programming on your Duplicator. To update the firmware, you will need to have the correct firmware file burned to a CD.

Please note that “drag-and-drop” burn methods such as the Windows XP burn utility generally will not be recognized as valid as the disc format they create is not recognizable by the duplicator. Use a disc burning application such as the Zulu2 Disc Burning application provided with your BD Pro to burn the Update files to a CD.

Firmware Updates should only be performed after contacting Technical Support to ensure that you are attempting to install the correct firmware for your duplicator.

Save

This function will save any system settings that you have changed since the last time the duplicator was booted. This function is part of the process that occurs when you run the Shutdown process from the Shutdown menu.

Using CopyLock Video Protection

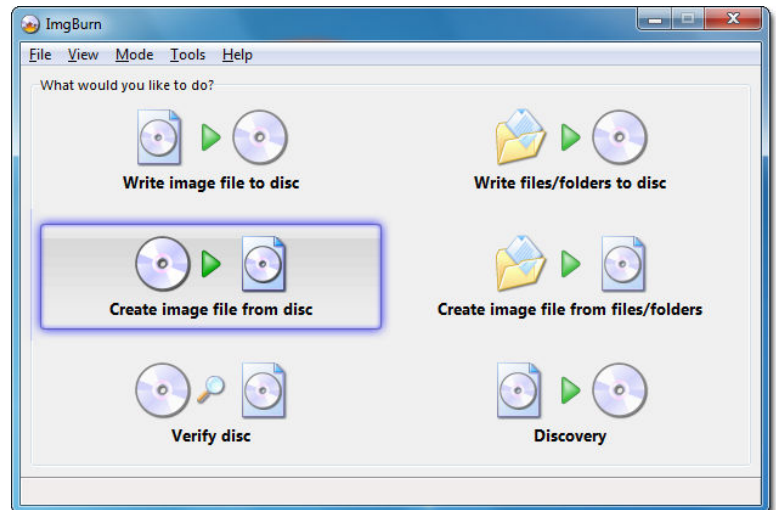
CopyLock Video Protection allows you to create a protected image of your master Video DVD that you can only burn on a duplicator that supports the CopyLock format, such as the Microboards Premium Pro Series Duplicators. The discs you burn from the protected image on your duplicator are themselves highly resistant to being copied, meaning that you are still in control of the content of the Video DVDs you have distributed even after they have left your hands.

To keep your Video DVD content from being duplicated by others, follow these simple steps:

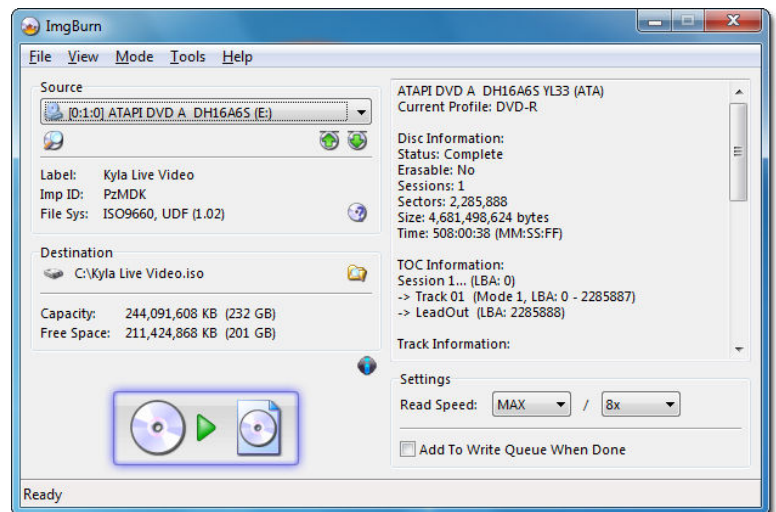
1. If your DVD Video master content has not been used to create an ISO disc image, use a software package to do so.

ImgBurn is provided free with CopyLock and can be used to generate your ISO disc image. You may use another software package that can create ISO disc images if you prefer.

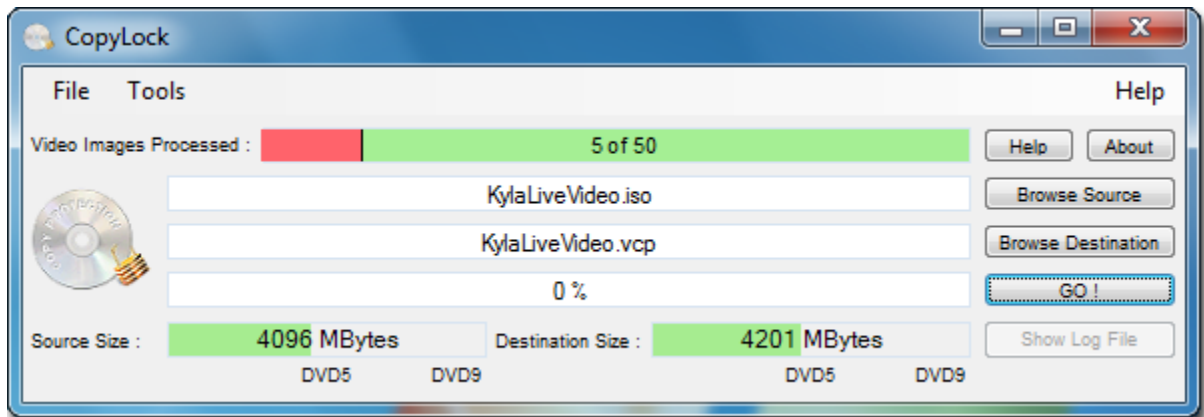
- a. To create an ISO disc image in ImgBurn, launch ImgBurn and select the option to **Create Image file from disc**, highlighted to the right.



- b. Next, select the **Source** drive in which your Video DVD master has been loaded.
- c. Select the **Destination** of your ISO disc image file by clicking the folder icon and browsing to the correct location.
- d. Click the **Create Image** button, highlighted to the right, when you are ready to create the file.



- Next, launch CopyLock to create a protected copy of the ISO disc image you just made. You will see the number of video images processed in the status bar at the top; in the example below, 5 protected images have already been made of the 50 licenses purchased.



If you haven't purchased a valid CopyLock License Dongle, you will only have access to the 5 free trial licenses provided with your CopyLock software. If you have purchased a CopyLock License Dongle, insert it into one of your PC's USB ports before creating a protected DVD Video image.

The Dongle is required to use the Copy Protection feature. If you misplace the dongle, you will need to purchase a new dongle with a new license set.

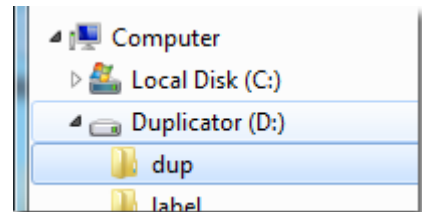
- Click the **Browse Source** button to select the ISO disc image you just made.
- Click the **Browse Destination** to select the name and location of the copy-protected disc image. *Do not change the default file extension*; it must remain **.vcp** for the duplicator to use the protected image correctly.

If you are already connected to your duplicator hard drive, you can select the **Duplicator\dup** directory as the destination, but it is recommended that you store a copy of the protected file on your PC in the event that the protected image is deleted from the duplicator hard drive.

Note that the Destination Size will be larger than the original image file. If your original image file fills most of a DVD, your protected image may become large enough that it will not fit on the same capacity media.

- Once the ISO image source and the destination of the protected image have been selected, click the **Go!** button. The copy-protected VCP image file will be created.
- Copy your protected image file to your duplicator using the External Connection feature to connect your PC to your duplicator's hard drive. Please refer to the Duplicator Manual for more information on turning on the External Connection.

For your file to be seen on your duplicator hard drive, you must copy the file into the hard drive named **Duplicator** and into the **\dup** directory on that drive, as shown to the right. If it is copied to any other location, the protected Video image file will not be recognized by the duplicator.



- Once the file is copied to the duplicator hard drive, follow the External Connection disconnect process described on pages 19-21.
- With the External Connection turned off, the copy-protected DVD Video image will be available for copy from the Duplicator hard drive. Select the hard drive as the source, then select the name of the protected DVD Video image file.

Please note that you will only be able to make copies of the protected content using the image file from the hard drive. You will not be able to use a protected copy as a master for duplication, or be able to use a protected copy to create another protected image file.

Specifications – BD Pro Series

Model	Recorders	Dimensions, inches (H x W x D)	Weight (lbs)	Buffer (MB)	Power Rating
BD ProV3-04	4	11 x 7.5 x 17.5	21 lbs / 23 lbs	64	Rated: 115/230V~, 8/5A, 60/50Hz Output: 5Vdc, 18A; 12Vdc, 20A 320W Max
BD ProV3-07	7	17.75 x 7.5 x 17.5	31 lbs / 33 lbs	128	
BD ProV3-10	10	24.5 x 7.5 x 16.5	43 lbs / 45 lbs	128	

Supported Formats

Recording format	BD	BD-ROM, BD-R, BD-RE
	DVD	DVD-ROM, DVD-+R/RW/DL, DVD-VIDEO
	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
Recording capacity (nominal)	BD, BD-DL	25GB for BD-R, 24.2GB for BD-RE 46.6GB for BD-R DL, 45.1GB for BD-RE DL
	DVD	4.7GB for General DVD 8.3GB for Dual Layer
	CD	700MB
Applicable media	BD	BD-R, BD-RE, BD DL, BD-RE DL
	DVD	DVD-+R, DVD-+RW, DVD-+R DL
	CD	CD-R, CD-RW

CAUTION: Disconnect AC Power Cord Before Servicing. High Voltages Present with Unit Powered Off and Line Cord Connected.

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 BD Pro available when contacting Technical Support.

Your master discs should always be clean and free of scratches. If you notice your master disc has a dirty or scuffed data surface, you should replace the master as soon as possible!

Remember – the quality of duplication depends on the quality of master and blank discs used!

Appendix 1: Menu List

With Hard Drive Available	Without Hard Drive Available
<ol style="list-style-type: none"> 1. Copy 2. Test 3. Compare 4. Test + Copy 5. Copy + Compare 6. Select Burn Speed 7. Select Source 8. Erase 9. Hard Drive Setup <ol style="list-style-type: none"> 1. Select Partition 2. Load Partition 3. Rename Partition 4. Delete Partition 5. Partition Info 6. Display Order 7. Select Loading Drive 8. Format Hard Drive 10. Mix Audio Tracks 11. Setup <ol style="list-style-type: none"> 1. Language 2. Auto Start 3. Read Error Skip 4. CD Writing Mode 5. Max Audio, VCD & CDG Speed 6. Buzzer 7. Startup Menu 8. Screen Saver 9. Duplication Mode 10. Counter 11. DVD+R High Compatibility Mode 12. ISRC 13. Disable Drives 14. External Connection 15. CD+G Support (N/A) 16. Overburn 12. Utilities <ol style="list-style-type: none"> 1. Disc Info 2. Prescan 3. System Info 4. Device Info 5. Load Default 6. Update Firmware 7. Save 13. Manage Accounts <ol style="list-style-type: none"> 1. View User 2. Create User 3. Edit User Info 4. Delete User 5. Password on Bootup 14. AutoCopy 15. Shutdown 	<ol style="list-style-type: none"> 1. Copy 2. Test 3. Compare 4. Test + Copy 5. Copy + Compare 6. Select Burn Speed 7. Select Source 8. Erase 9. Mix Audio Tracks 10. Setup <ol style="list-style-type: none"> 1. Language 2. Auto Start 3. Read Error Skip 4. CD Writing Mode 5. Max Audio, VCD & CDG Speed 6. Buzzer 7. Startup Menu 8. Screen Saver 9. Duplication Mode 10. Counter 11. DVD+R High Compatibility Mode 12. ISRC 13. Disable Drives 14. External Connection 15. CD+G Support (N/A) 16. Overburn 11. Utilities <ol style="list-style-type: none"> 1. Disc Info 2. Prescan 3. System Info 4. Device Info 5. Load Default 6. Update Firmware 7. Save 8. Manage Accounts 12. Manage Accounts <ol style="list-style-type: none"> 1. View User 2. Create User 3. Edit User Info 4. Delete User 5. Password on Bootup 13. AutoCopy 14. Shutdown

Appendix 2: Error Messages

Master Discs should always be clean and free from scratches to reduce the number of duplication failures.

If an error situation occurs during duplication, the display will show both an error code and an error message.

Error Code	Error Message	Description and Recommended Solutions
200	Source Disc Empty	The master disc was detected and identified successfully, but is blank. Check the master to ensure it contains data.
201	Bad Master	The master disc is detected but can't be identified. Check the master disc for defects or errors.
202	No Targets!	All blank discs are missing once the job has already started. Verify that blank discs are loaded into the recorders.
203	Burner Mixed or Firmware Version Mixed	The model or firmware versions of all installed recorders are not the same. Drive may have been replaced. Contact Tech Support.
204	Targets & Master Not Compatible!	The master disc and target discs do not have the same format. Verify that the master and target discs are the same format (CD master and CD blanks, for instance). You can use Disc Info in the Utilities menu to verify the disc formats.
205	Targets Not Blank!	Existing data has been detected on the target discs. Verify the discs are blank, replace if not.
206	Targets & Master Size Mismatch!	<i>During Compare:</i> The sizes of the master disc and successful copies are different. <i>During Copy:</i> The capacity of the blank discs is less than the data size of the master. During Compare: Contact Tech Support During Copy: Use Disc Info in the Utilities menu to verify that the blanks capacity is large enough for the data on the master disc.
208	Targets are not RW Discs!	The target discs are not Rewritable during an Erase attempt. Verify that each loaded disc is rewritable.
209	Master Disc is CSS Protected!	The master disc is copy protected. Copy protected masters cannot be duplicated.
210	Bad Discs!	The target discs are detected but cannot be identified. Replace discs that cannot be identified.
211	This format can not be tested!	Target discs during a Test attempt are DVD+R, DVD+RW, DVD+R DL, BD-R, or BD-RE. Disc formats listed above are not supported by the test function.
230	Not enough HDD space	There is not enough empty space on the hard drive to store the current master. Free up hard drive space by deleting unnecessary images or folders.
231	Redundant Name!	The name entered already exists on the hard drive. Either enter a different name or rename the previous file of the same name.

Error Code	Error Message	Description and Recommended Solutions
232	Format Failed!	The hard drive was not able to be formatted. An additional error code will be displayed as XX-YY , with XX being the index of the drive with the error and YY being the error code. Possible hard drive failure; contact Technical Support.
233	Hard Drive Corrupted	The hard drive is corrupted and the information on the drive cannot be accessed. Reformat the hard drive.
235	Hard Drive Access Error	The duplicator encountered an error when attempting to access the hard drive. Possible hard drive failure; contact Technical Support.
240	Wrong Password	The password that was entered is not correct. Confirm the correct password is being used or use a different password.
241	Login Failed	An incorrect password was entered 3 times consecutively. Wait 5 minutes, then re-enter the correct password. Contact Technical Support if the problem persists.
251	Copy Audio Error	<i>Applies to Mix Audio Tracks.</i> An error occurred during the Mix Audio process. Could be caused by either a master error or a recording error. Try a different master or blank disc.
252	Not Audio CD	<i>Applies to Mix Audio Tracks.</i> The master disc is not an Audio CD. Verify the master disc is an Audio CD.
253	Over Blank Disc Capacity	<i>Applies to Mix Audio Tracks.</i> The total size of the selected tracks is larger than the remaining capacity of the target discs. Select alternate track of smaller size, or remove selected track.
260	No Update File	A valid firmware file was not detected on the disc during a Firmware Update attempt. 1. Confirm the file on the disc is not a “zip” file. If so, extract the file and burn to another disc. 2. Confirm that the update disc was burned as a “Mode 1” Data CD. Drag-and-drop burn methods such as the Windows XP burn utility generally do not use this format and will not be recognized. 3. Verify that there are no other discs loaded in the duplicator. Insert the update disc in another drive tray and repeat.
261	Wrong Update File	The Firmware Update File is either not compatible with your duplicator or is corrupted. Download and burn Update File again. Contact Tech Support if this error persists.
262	Unknown Flash Model	The Firmware Update File is not for your duplicator. Contact Tech Support for the correct file. Have Duplicator Model and Serial Number available.
263	User Abort	A duplication job has been deliberately cancelled by the user by pressing the ESC button for more than 5 seconds during a duplication attempt. Once the reason for cancellation has been corrected, restart the job after replacing any partially burned media.

