



MICROBOARDS[®]
Technology



QD-DVD

User's Manual

www.microboards.com

Version 4.2

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Introduction

The QD-DVD is a high speed, low cost one to one DVD Recordable duplication system from Microboards Technology, LLC.

The QD-DVD is perfect for any user requiring easy copying of audio, video, or Data discs. Superior technology allows the QD-DVD to ship without a hard drive. LED indicators provide the user with status of the duplication process, minimizing the number of faulty discs.

Applications suited for the QD-DVD 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:

- QD-DVD 1 to 1 duplicator
- Power cable
- Manual
- DVD-R disc
- USB cable
- Zulu2 CD/DVD recording software Installation Disc

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

IMPORTANT: Please keep all the packing for your QD-DVD 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 power cable to the QD-DVD duplicator and plug in to a protected power outlet strip or UPS power supply.

Note for Installation:

- 1) The socket outlet shall be installed near the equipment and be easily accessible.
 - 2) Do not block cooling fans.
- Turn on power to the duplicator.
 - The system will go through initialization and then display: 1. Copy.
 - The system is now ready to use.
 - For USB Mode, connect to a PC via an unoccupied USB port. This mode must be selected in the Advanced Setup Menu (See pages 16-17).

Basic Instructions

Buttons and LCD

There are four buttons and an LCD on the front panel of the QD-DVD duplicator.

LED display: Shows the menu items and any status messages that may come up during operation



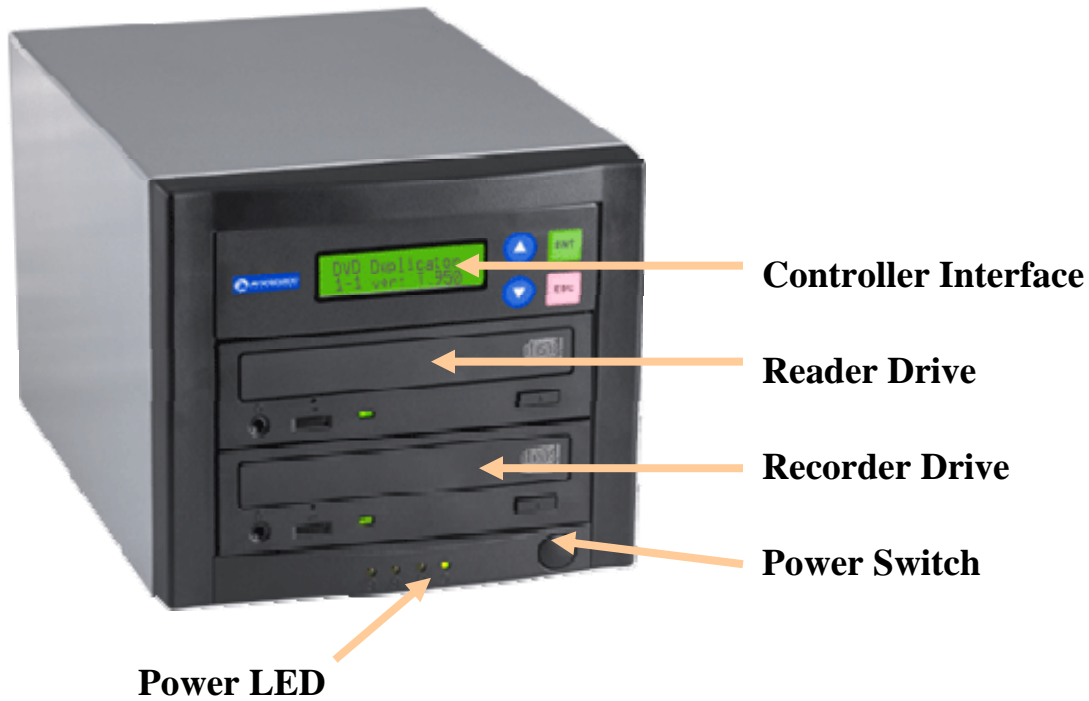
ENT button: The ENT button, used to start a duplication process or enter into an area in the menu structure.

ESC button: The ESC button, used to stop an operation or move up the menu structure.

▲ button, used to scroll up in the different menus.

▼ button, used to scroll down in the different menus.

Hardware Description



The QD-DVD system consists of a DVD reader, DVD Writer, USB Connection, and Controller module.

The master discs always go into the TOP DVD Reader drive.

The blank media will always go into the BOTTOM DVD Recorder drive.

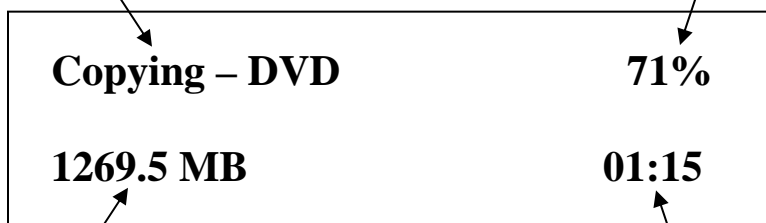
The power switch and power LED are also located on the front of the QD-DVD duplicator.

The USB Connection is located on the back of the QD-DVD.

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, and shows the record speed during duplication.

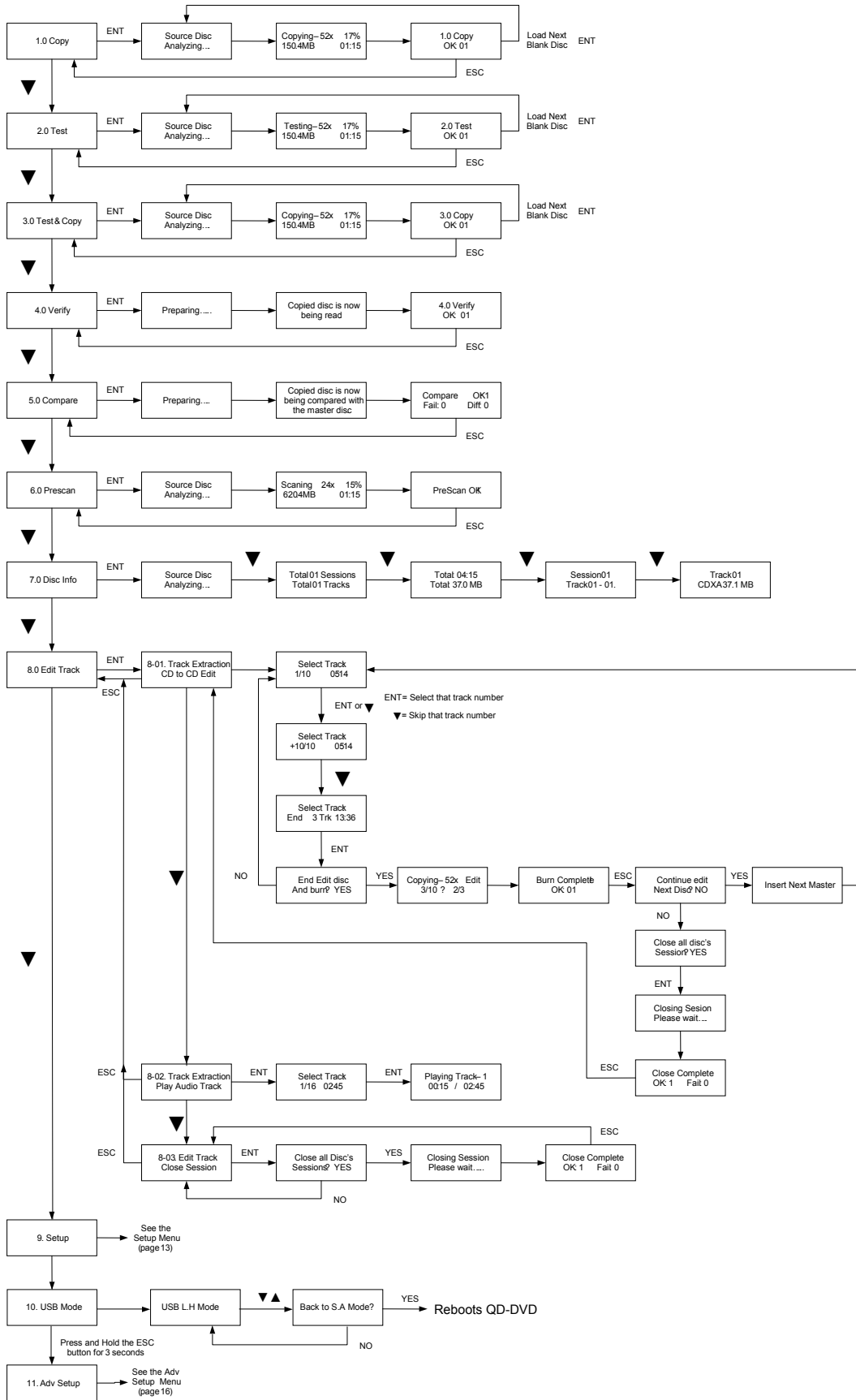
Shows the percentage completed for this action.



Displays the amount of data left to be recorded. This number starts at the capacity of the master and counts down.

Shows the time remaining to complete this action. This number also counts down.

Main Menu



Functions

There are 10 different functions for the QD-DVD duplicator: Copy, Test, Test & Copy, Verify, Compare, Prescan, Disc Info, Edit Track, Setup, and USB Mode. For the Setup options, please refer to pages 13-15.

Copy

The Copy function is used to copy your master disc to the blank media. The QD-DVD duplicator will be in Copy mode when it is turned on. The display will read:

1. Copy

Place your master disc into the TOP DVD reader drive.

Place your blank media into the BOTTOM DVD writer drive.

Press the ENT button on the controller interface.

The data will now be copied to the blank disc.

Copying – 52x	18%
150.4MB	01:15

When the job is completed, the recorded disc will be ejected from the BOTTOM drive. The display will read:

1.0 Copy
OK: 01

NOTE: CD masters must be copied to CD media, and DVD masters must be copied to DVD media.

Test

The Test function is used to simulate copying your master disc to the blank media. To use the Test function, press the ▼ button on the controller until Test is displayed:

2. Test

In Test mode, the blank media will remain blank and can be used again.

Place your master disc into the TOP DVD reader drive.

Place your blank media into the BOTTOM DVD writer drive.

Press the ENT button on the controller interface.

The duplicator will now simulate writing to the blank disc.

Testing – 52x	18%
150.4MB	01:15

When the job is completed, the recordable disc will be ejected from the BOTTOM drive. The display will read:

2.0 Test
OK: 01

Test & Copy

The Test and Copy function will perform both operations, one after the other. If the Test portion passes without errors, the system will automatically start the Copy process.

To run the Test and Copy function, press the ▼▲ buttons until the display reads:

3. Test & Copy

Place your master disc into the TOP DVD reader drive.

Place your blank media into the BOTTOM DVD writer drive.

Press the ENT button on the controller interface.

The duplicator will now simulate writing to the blank disc.

Testing – 52x	18%
150.4MB	01:15

When this operation completes, the unit will start the Copy process:

Copying – 52x	18%
150.4MB	01:15

When the job is completed, the recorded disc will be ejected from the BOTTOM drive.
The display will read:

3.0 Copy
OK: 01

Verify

The Verify function will check to see if the recorded disc can be read. This is different from the Compare function. The Verify function will not compare itself with the master disc. It is only checking to see if the disc that was recorded can be read back.

To run the Verify function, press the ▼▲ buttons until the display reads:

4. Verify

Place the copied disc into the BOTTOM DVD recorder drive.

Press the ENT button on the controller interface.

The copied disc will now be read. Once completed, the display will show:

4. Verify
OK: 01

Compare

The Compare function is used to compare the master disc with the copied disc. The Compare function will only work with Data masters. If your master disc has audio or video (VCD) on it, the Compare function will not work.

To use the Compare function, press the ▼▲ buttons until the display reads:

5. Compare

Place your master disc into the TOP DVD reader drive.

Place your copied disc into the BOTTOM DVD writer drive.

Press the ENT button on the controller interface.

The duplicator will now compare the two discs. When completed, the display will read:

Compare	OK: 1
Fail: 0	Diff: 0

Press the ▼ button and the following screen will appear:

Src:01	CD-RW
Total:	15.2MB

Press the ▼ button again and the following screen will appear:

Tgt: 00	CD-RW
Identical	

Prescan

The Prescan function is used to verify the master disc can be read correctly.

To use the Prescan function, press the ▼▲ buttons until the display reads:

6. Prescan

Place the master disc into the TOP reader drive and press ENT.

The Prescan starts and the following screen appears:

Scanning – 24x	15%
620.4MB	02:15

Once the scanning is complete, the following screen will appear:

PreScan OK!

Disc Info

The Disc Info function displays information on the type of master disc placed in the TOP reader drive.

To use the Disc Info function, press the ▼▲ buttons until the display reads:

7. Disc Info

Place the master disc into the TOP reader drive. Press the ENT button. The source is analyzed. The following screen appears:

Source Disc
(Analyzing)

The following 4 screens display a variety of information about the master disc. The screens are reached by pressing the ▼▲ buttons.

Total 01 Sessions
Total 01 Tracks

Total: 04:15
Total: 37.0MB

Session 01
Track 01 - 01

Track 01
CDXA 37.0MB

Edit Track

The Edit Track function allows you to select multiple tracks from different master discs and place them on one Audio CD. The maximum number of tracks that can be written to the CD is 99. In the Edit Track function, there are three options: CD to CD Edit, Play Audio Track and Close Session.

The Edit Track functions are not applicable to DVD media.

CD to CD Edit

To use the CD to CD function, press the ▼▲ buttons until the display reads:

8. Edit Track

1. Press the ENT button. The following screen appears:

8-01. Edit Track
CD to CD Edit

2. Place the first master audio CD into the TOP reader drive. Place the blank CD into the BOTTOM writer drive. Press the ENT button and the following screen appears:

Select Track:
1/16 04:53

3. To select a track that you want to burn to the blank disc, press the ENT button. This will put a + symbol in front of that track:

Select Track:
+ 1/16 04:53

4. Press the ▼▲ buttons to scroll through the tracks on that CD, selecting the tracks you wish to record.

5. Once all of your tracks are selected for that master, press the ▼ button until the display reads:

Select Track:
End 1Track 04:53

This screen shows the total number of tracks selected from the master disc and the total time of those tracks.

6. Press the ENT button. The following screen appears:

End Edit Disc
And burn? YES

Note: Pressing the ▼ button and selecting NO takes you back to Editing tracks.

7. Press the ENT button to begin recording the selected tracks to the blank disc. The following screen appears:

Copying – 52x Edit
1/16 → 1/1

8. Once the tracks are copied to the blank disc, the following screen appears:

Burn Complete!
OK: 01

9. Press the ESC button to take you to this screen:

Continue Edit
Next disc? NO

If you wish to continue to add more audio tracks to the disc in the recorder drive, press the ▼ button to change the NO to YES. Then press Enter.

The TOP reader drive will open and ask you to put in the next master disc. Place the new disc into the drive and close the tray. Go to step 3 and repeat the process.

Once you have completed copying the audio tracks to the BOTTOM disc, you will need to close the disc.

10. At this screen, leave the selection as NO and press ENT:

Continue Edit
Next disc? NO

Once ENT is pressed, the following screen appears:

Close all disc's
Sessions? Yes

11. Press the ENT button. The following screen appears:

Closing Session
Please wait...

Once the disc is closed, the following screen appears:

Close Complete
OK: 01 Fail: 00

Play Audio Track

The QD-DVD cannot use this function, as the reader drive does not include a headphone jack.

Close Session

The Close Session function is used only if you did not close an audio CD, as described in the Edit Track / CD to CD Edit section. You can use this function to manually close the disc.

To use the Close Session function, press the ▼▲ buttons until the display reads:

8. Edit Track

Press the ENT button. The following screen appears:

8-01. Edit Track
CD to CD Edit

Press the ▼ button until the display reads:

8-03. Edit Track
Close Session

Make sure your recorded audio CD is in the BOTTOM recorder drive.

Press the ENT button. The following screen appears:

Close all disc's
Sessions? Yes

Press the ENT button. The display will indicate that the disc is being closed.

Once the disc is closed, the following screen appears:

Close Complete
OK: 01 Fail: 00

The disc is now complete.

USB Mode

The USB Mode function is used to enter and exit USB mode, using the recorder drive as an external burner for a PC. The other functions of the QD-DVD will not be available until you return the unit to Stand-Alone mode. Connect the QD-DVD to a PC with a USB 2.0 connection for optimal performance.

NOTE: If this menu option is not available, please refer to pages 16-17 for instructions on how to access the Advanced Setup menu and enable USB Mode.

To use the USB Mode function, press the ▼▲ buttons until the display reads:

10. USB Mode

Press the ENT button. The following screen appears:

USB L.H Mode

The QD-DVD is now ready for using as an external burner connected to a PC.

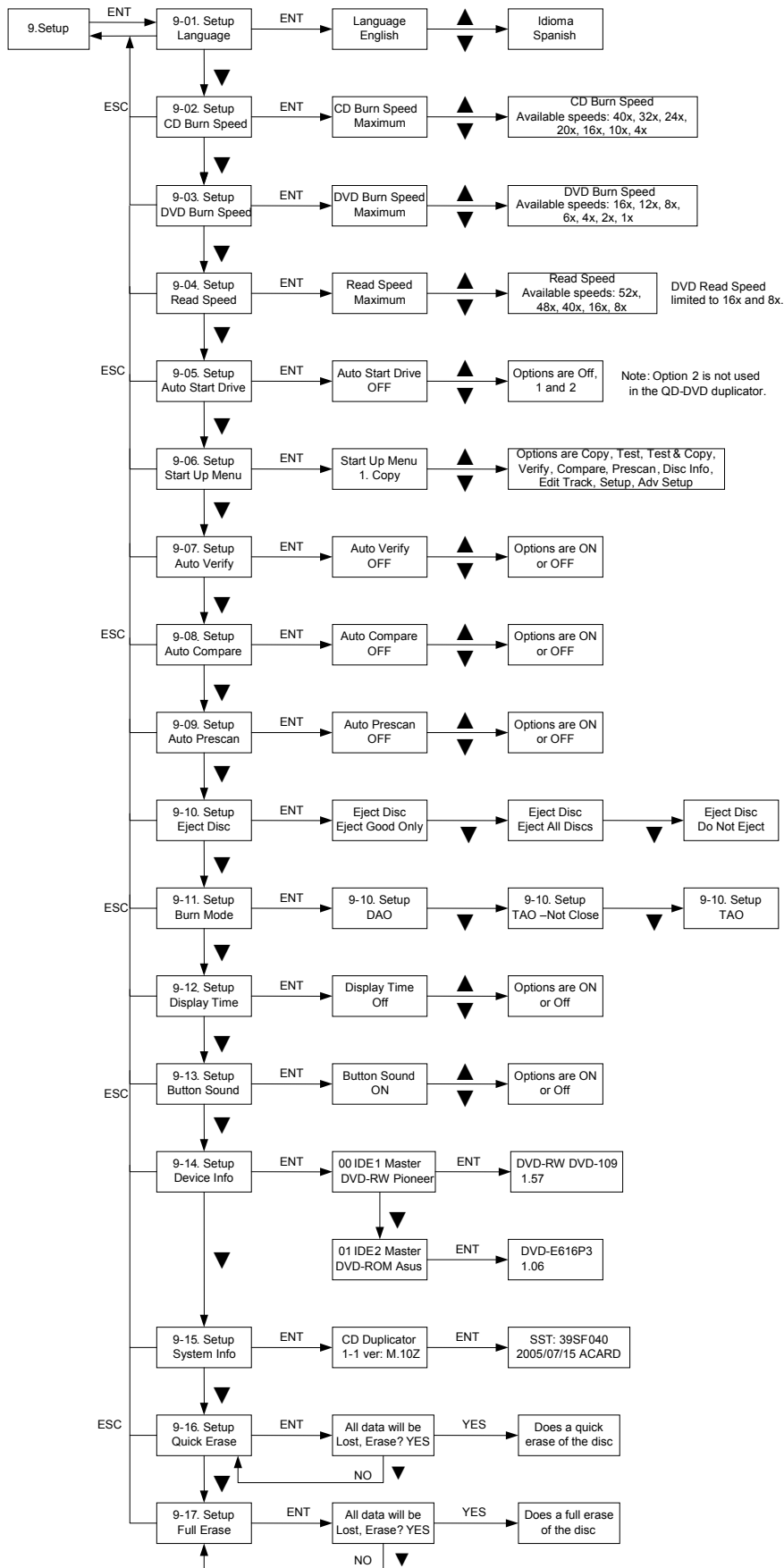
Exiting USB Mode:

With the display reading USB L.H MODE, press the ▼▲ buttons to exit USB L.H Mode. The display will change to:

Back to SA-Mode?
Yes

The ▼▲ buttons allow you to change from Yes to No. YES will reboot the QD-DVD and return you to Stand Alone Mode, NO will allow you to remain in USB Mode. Press ENT to make your selection.

Setup



The Setup menu includes many settings the user can select to customize the use of the QD-DVD duplicator. Please refer to the chart above for the location and options of these settings. A description of the options in the setup menu follows.

Language

The QD-DVD duplicator has two language options, English and Spanish. English is the default setting.

CD Burn Speed

The default CD record speed for the QD-DVD is Maximum (40x). The other available record speed options are: 32x, 24x, 20x, 16x, 10x, and, 4x.

DVD Burn Speed

The default DVD record speed for the QD-DVD is Maximum (16x). The other record speed options are: 12x, 8x, 6x, 4x, 2x, and 1x.

Read Speed

The default CD read speed for the QD-DVD is Maximum (52x). The other read speed options are: 48x, 40x, 16x, and 8x.

Auto Start Drive

The Auto Start Drive is used to automatically start recording, once the master disc and blank disc are inserted into the drives.

There are 3 options for this setting, Off, 1 and 2. To use this feature, change the value from OFF to 1. The 2 setting is not used. Once the value is set to 1, the system will automatically start recording once a master and blank disc are detected.

Startup Menu

The Startup Menu selection allows you to select the main menu item that appears when the QD-DVD duplicator starts up. The default setting is 1. Copy. Any of the 9 menu items can be selected.

Auto Verify

The Auto Verify function can be turned On if you wish to verify every copy you make with the QD-DVD duplicator. The verify function checks the copied disc, to see if it can be read. It does not compare the copy with the master disc. The default setting is Off.

Auto Compare

The Auto Compare function can be turned On if you wish to Compare every copy with the master disc. The Compare function only works with Data master discs. If there is audio or video on the master disc, the Compare function will not work. The default setting is Off.

Auto Prescan

The Auto Prescan function can be turned On if you wish to Prescan every master disc before recording. The default setting is Off.

Eject Disc

There are 3 options for the Eject Disc setting:

1. Eject good discs only
2. Eject all discs
3. Do not eject discs

The default setting is to eject the good discs only.

Burn Mode

There are 3 options for the Burn Mode setting:

1. DAO (Disc At Once)
2. TAO – Not Close (Track At Once, not closed)
3. TAO (Track At Once, closed)

The default setting is DAO. It is recommended that this setting be used.

Display Time

The display time function is used to display the total record time, after the recording is completed. The default setting is Off.

Button Sound

The Button Sound function is used to turn on or off the beep sound a button makes when pressed. The default setting is On.

Device Info

The Device Info function displays a variety of information about the CD reader and writer, including model number and firmware revision. Please review the Setup Menu on page 13 for more details.

System Info

The System Info function displays a variety of information about the controller module, including model number and firmware revision. Please review the Setup Menu on page 13 for more details.

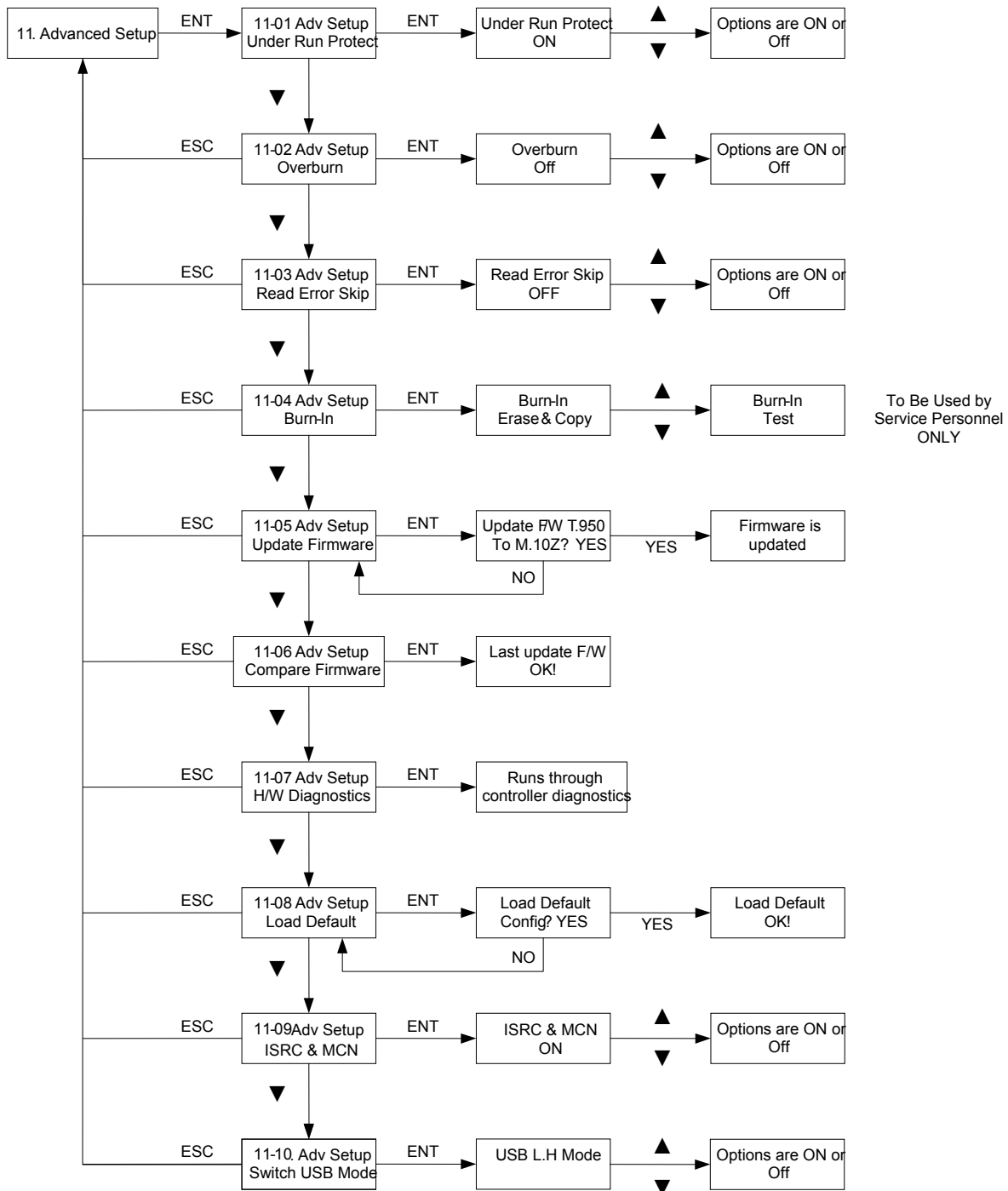
Quick Erase

The Quick Erase function is used to Erase CD-RW and DVD-RW media. This option performs the Quick erase of the disc.

Full Erase

The Full Erase function is used to Erase CD-RW DVD-RW media. This option performs the Full erase of the disc.

Advanced Setup Menu



Accessing the Advanced Setup Menu

The Advanced Setup menu includes options for the more advanced user. Normally these functions are not used in the daily operation of the QD-DVD duplicator. If you have any questions about using these functions, please contact the Microboards technical support department.

To access the Advanced Setup Menu, press and hold the ESC button for three seconds.

UnderRun Protect

The UnderRun Protect feature allows the recorder to use Burn Proof during recording. This setting defaults to ON and should remain on. This feature protects against making “coasters” or bad discs. Again, this setting should always remain ON.

Overburn

The default setting for this feature is OFF. Overburn can be used with certain CD recorders, to allow more data to be writing to the disc. This feature is not supported by the QD-DVD duplicator.

Read Error Skip

The Read Error Skip feature is used if you wish to ignore read errors during duplication. The default setting is OFF and it is highly recommended that this setting is not changed. If it is turned ON, there is the possibility of copying a disc that is not the same as the master.

Burn-in

The Burn-in function is used to test the operation of the QD-DVD duplicator and is for service purposes only. This function should only be used if directly by Microboards Technical Support.

Update Firmware

The Update Firmware feature is used to update the controller firmware.

1. To update the firmware: Place the firmware CD into the TOP reader drive.
2. Press the ENT button
3. The display will show:

Update F/W	A.ABC
To A.XYZ	YES?

4. Press the ENT button to complete the firmware update.
5. The duplicator will reboot automatically after installing the new firmware.

Compare Firmware

The Compare Firmware function is used to compare the firmware installed on the controller with the firmware on the CD.

H/W Diagnostic

Hardware Diagnostics runs a number of tests on the controller. Normally this function is used by service personnel.

Load Default

The Load Default feature will set all the values back to the factory default settings.

ISRC & MCN

The ISRC (International Standard Recording Code) & MCN (Media Catalog Number) feature allows you to copy this information from a CD audio master to the blank disc. The default setting is OFF.

Switch USB Mode

The Switch USB Mode allows you to enable or disable the ability to use the QD-DVD recorder drive as an external burner for your PC. Selecting ON will allow access to the USB Mode menu, which will appear as menu item 10. Selecting OFF will hide the option in the main menu.

The QD-DVD cannot use any function while operating in USB Mode.

Specifications

- Product Name Quic Disc QD-DVD
 - Product Interface ATAPI/ IDE
 - System Display LED
 - Write Method Auto Detect (DAO, TAO)
 - Operation Mode COPY, TEST, PRESCAN
 - Data Buffer 1 MB
 - Firmware Upgrade Via CD-ROM
 - Max Read Speeds: CD 52X, DVD 16X
 - Max Write Speeds: CD 40X, DVD 16X
 - Dimension 6.8 x 7.5 x 11.25 (H x W x D)
 - Weight 4.8 kg (10.7 lbs)
 - Power Supply: 100-240V~; 2A MAX; 50/60Hz
 - Certification CE, FCC
 - Recommended Media: Taiyo Yuden
- Supported Formats: CD-ROM Mode 1 & 2 CD-DA, CD-ROM/XA Video CD, Game CD, Mix Mode, Multisession, HFS CD Bridge, Photo CD, CD Extra; DVD-ROM, DVD-+R, DVD-+RW, DVD-+R DL, DVD-VIDEO

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 QD-DVD 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 A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.



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

Appendix 1 List of Functions

- 1 Copy
- 2 Test
- 3 Test & Copy
- 4 Verify
- 5 Compare
- 6 Prescan
- 7 Disc Info
- 8 Edit Track (for CD only)
 - 8-1 CD to CD Edit
 - 8-3 Play Audio Track
 - 8-4 Close Session
- 9 Setup
 - 9-1 Language (Default is English)
 - 9-2 CD Burn Speed (Default is Maximum)
 - 9-3 DVD Burn Speed (Default is Maximum)
 - 9-4 Master Read Speed (Default is Maximum)
 - 9-5 Auto Start Drive (Default is Off)
 - 9-6 Startup Menu (Default is Copy)
 - 9-7 Auto Verify (Default is Off)
 - 9-8 Auto Compare (Default is Off)
 - 9-9 Auto Prescan (Default is Off)
 - 9-10 Eject Disc (Default is Eject Good Only)
 - 9-11 Burn Mode (Default is DAO)
 - 9-12 Display Time (Default is Off)
 - 9-13 Button Sound (Default is On)
 - 9-14 Device Info
 - 9-15 System Info
 - 9-16 Quick Erase
 - 9-17 Full Erase
- 10. Adv Setup
 - 10-1 UnderRun Protect (Default is On)
 - 10-2 Overburn (Default is Off)
 - 10-3 Read Error Skip (Default is Off)
 - 10-4 Burn-in
 - 10-5 Update Firmware
 - 10-6 Compare Firmware
 - 10-7 H/W Diagnostic
 - 10-8 Load Default
 - 10-9 ISRC & MCN (Default is Off)
 - 10-10 Switch USB Mode

Appendix 2 LCD Messages

Normal Conditions:

Initialize SDRAM.....	Initialize the memory of the system.
Detect Drives.....	Detect what drives are connected with the system.
User Abort!.....	Cancel the job during operation.
Analyzing.....	Analyze the source disc.
Source Drive Not Ready.....	Source drive is not ready to read.
Target Drive Not Ready.....	Target drive is not ready to write.
Source Disc Not Ready.....	Source disc is not ready to be read.
Target Disc Not Ready.....	Target disc is not ready to be written into.
Erasing disc.....	The system is erasing the data on the disc.
Fail to get Drive Info!.....	The drive information cannot be obtained.
Fail to get Src Disc Info!.....	The information of source disc cannot be obtained.
Save new config Fail!.....	The new setting of configuration cannot be saved.
Load Default Config?.....	Do you want to load the default settings?
Preparing.....	The system is preparing to record.
Check Target Please Wait.....	The system is checking the target device.
Audio Disc!!! Can't compare! Identical.....	The system cannot compare the audio discs. The comparison results are the same.
Read disc error.....	During comparison the disc cannot be read.
Cannot read TOC.....	The system cannot read the contents of disc.
TOC not match.....	The comparison results are not the same.
Target overflow.....	The target disc hasn't enough capacity to store new data.
Target Disc Not Empty!!!.....	The target disc still has data.
Press a Key to Eject Good Disc.....	Press any key to eject the good disc after copying.
Press a Key to Eject Fail Disc.....	Press any key to eject the failed disc after copying.
CD-RW does not Support the Func.....	CD-RW doesn't support this function.
Hold ESC to exit.....	Press ESC for a second to terminate the test.
All data will be lost, erase?.....	All data on the disc will be lost. Confirm the erasing of data.
Erase Finished.....	The erasing of data comes to an end.
No Erasable Disc in CD-RW!!.....	The disc on the CD-RW device is not rewritable.

Audio Editing:

Lost selected Tracks?.....	Abort the selected tracks and delete them.
End edit disc and burn?.....	Finish the music disc editing and start to copy.
Continue edit next Disc?.....	Ask if you want to continue the music disc editing.
Target Overflow Re-Select.....	The disc capacity is not enough to store the selected tracks.
Close all disc's session?.....	Confirm the closing of disc sessions.
NO AUDIO track in this disc.....	The source disc has no audio track.
Insert next disc.....	Insert the next audio disc.
Sessions were closed already!.....	The disc sessions have already been closed.
Tgt overflow, del last trk?.....	The disc capacity is not enough to store the selected tracks.
Ins empty disc Continue?.....	Do you want to insert a blank disc and continue copying?

Firmware Update:

Invalid firmware Disc.....	The disc doesn't contain a valid firmware.
Updating F/W.....	The system is updating the firmware.
Update F/W xxx to yyy?.....	Do you want to update the firmware version from xxx to yyy?
Searching F/W.....	The system is searching for a valid firmware.
Check Sum Error!.....	The updated firmware has errors.
Last update F/W OK!.....	The firmware is updated successfully.
Last update F/W Fail!.....	The firmware is not updated successfully.
Flash ROM fail!.....	Data cannot be written into Flash ROM.

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