

MagicCD / MagicCD Series

CD/DVD Duplication Controller Card

CD-129, CD-398

DVD-299, DVD-388, DVD-3000

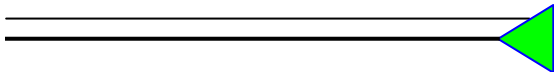
Operation Manual

Wytron Technology Co., Ltd.

Oct., 2003

<http://www.wytron.com.tw>

e-mail: wytron@wytron.com.tw



CONTENT

1.	Introduction	5
2.	Caution	7
3.	Installation	8
4.	Operation	15
5.	Function	19
5.1	Copy	19
5.2	Copy + Compare	19
5.3	Emulate	20
5.4	Emu + Copy	20
5.5	Compare	21
5.6	Verify	21
5.7	Load (if HDD installed)	21
5.8	External	22
5.9	Quick Erase	22
6.	Sub-function	23
6.1	Setup	23
6.1.1	Start Writers	23
6.1.2	Write Method	24
6.1.3	CD Write Speed	24

6.1.4 DVD Write Speed	24
6.1.5 show drives	25
6.1.6 CD-ROM Drive	26
6.1.7 Autoloader (if autoloader installed)	26
6.1.8 Eject Disc	26
6.1.9 Buzzer	27
6.1.10 CD+G	27
6.1.11 CopyComp Eject	27
6.1.12 Read CDDA index0	28
6.1.13 Skip Read Error	28
6.1.14 MODE 2 Compare	28
6.1.15 Power On Wait	28
6.1.16 Startup Command	29
6.1.17 led offset	29
6.1.18 lcd mile 2 digits	29
6.1.19 CD to CD (if HDD installed)	29
6.1.20 hdd partition group (if HDD installed)	30
6.1.21 HD to CD Write Speed (if HDD installed)	31
6.1.22 Load Nonblank Disc (if HDD installed)	31
6.1.23 CDDA load speed (if HDD installed)	32

6.2	Edit	33
6.3	Delete	38
6.4	Clear	38
6.5	Copy x1	38
6.6	Emulate x1	38
6.7	Copy x2	39
6.8	Emulate x2	39
6.9	Copy x4	39
6.10	Emulate x4	39
6.11	Copy x8	39
6.12	Emulate x8	40
6.13	Burn in	40
6.14	Update	40
6.15	Reset	41
7.	Circuit drawing	42
8.	Trouble shooting	45
9.	Device support	47
10.	Appendix	49

1. Introduction

Thank you for choosing **MagicDVD** series CD/DVD duplication controller card. Believe this equipment will bring you satisfactory and great pleasure in CD/DVD duplication.

Features:

1. Stand-alone design, no PC or software required.
2. Easy operation, no training required.
3. Load, Copy, Compare, Verify, Emulate, Editing, etc.
4. Compatible formats depend on the writers installed.
5. On-the-fly direct copy or through hard drive loading.
6. Track selection available for copying music tracks.
7. Compatible with many brands of CD/DVD writers such as Plextor, Sanyo, Yamaha, TDK, Nichimen, Teac, Lite-On, Ricoh, Panasonic, Sony, etc.

IMPORTANT NOTE:

1. Make sure voltage setting (AC115/230V) is correct.
2. Stable input of power is required for normal operation.
3. Duplicator should be placed in a clean & cool working environment.
4. Check, clean the master and CD/DVD discs before duplication starts.
5. Do not touch recording surface of the discs.
6. Do not move the duplicator during operation.
7. **DO NOT remove the serial number labels attached on controller card. Warranty will be VOID if any label is torn off or damaged.**

8. **Warranty will be VOID if the controller card has been tampered with. Wytron will not accept to repair these controller cards even within warranty.**
9. **Warning:**

DVD-388 uses non-backlight LCD display as its default, replacing it with backlight LCD by yourself will cause severe damage to the controller card and might cause fire due to higher heat generated on the card's voltage transformer. Please take care of proper usage and always put safety of operation in first priority.

2. Caution

In no circumstance will Wytron be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use of this product or documentation even if is advised of the possibility of such damages. Wytron shall not be liable for any hardware used with the product, including the costs of repairing, replacing, or recovering such hardware.

Wytron reserves the right to offer RMA service for non-warranty items due to availability of service parts and production changes.

3. Installation

You may get **MagicCD** or **MagicDVD** series duplicator in three possibilities:

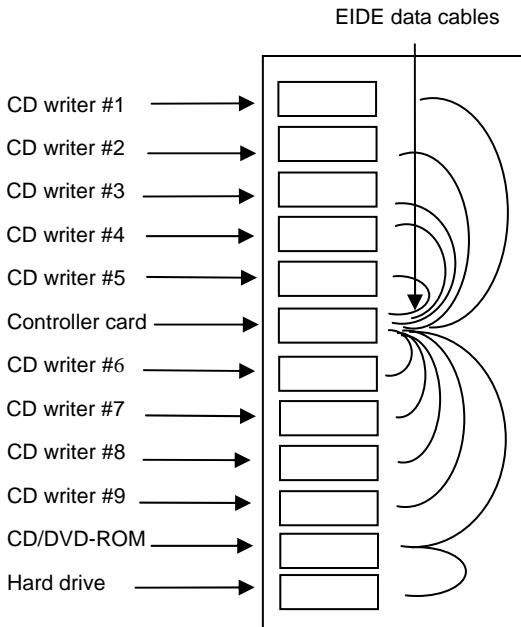
A. Controller only

1. Prepare necessary devices including:
 - a. IDE bus CD/DVD-ROM drive
 - b. IDE bus CD/DVD writer (such as Plextor, Teac, Sony, BenQ, BTC, etc.).
 - c. Suitable tower case.
 - d. Hard drive.
 - e. Switching power supply (250W or above suggested. Bad quality of power supply might damage the controller board and cause unstable operation.

2. Assemble all required devices mentioned above and make sure all IDE writers are in master mode. The CD/DVD-ROM and hard drive (optional) have to be connected together at specific slot (besides the power connector) on the controller card with hard drive in master mode and CD/DVD-ROM in slave. The CD/DVD-ROM should be connected to the middle connector of an EIDE cable and the hard drive to the last connector. If there is only a CD/DVD-ROM or hard drive installed, the device should be in master mode and be always connected at the end of the EIDE cable.

Installation profiles are suggested below from left side of cross-section view. The number of writers installed may vary due to different controller card and requirements.

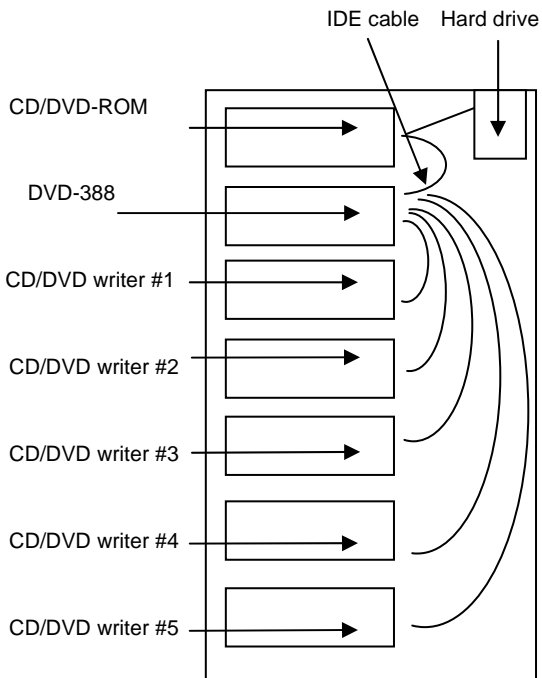
Model: **CD-398/DVD-3000**



Note:

1. Since the CD-398/DVD-3000 is nine-target (10 EIDE ports on-board) controller board, the power consumption will be higher than usual power supply. We strongly recommend using 400W power supply to avoid lack of power. Lack of power supplying to system might cause unstable of operation and produce the un-usable products.
2. Please use a tower case with up to 12 slots 5.25" bay to setup the CD-398/DVD-3000 to hold 9 pcs of writer, 1 pc of CD-ROM/DVD-ROM and 1 pc of hard drive, and 1 position for controller board itself.
3. Please refer to the sketch shown above to install your CD-398/DVD-3000 duplicator. Five writers above the controller board and four writers below.
4. The channels from IDE#3 to IDE#11 are used to connect the writers for up to nine targets and IDE#12 is for CD /DVD-ROM and hard drive. If both CD-ROM and hard drive are connected, please set the hard drive as master mode and ROM as slave mode. *If only one device is installed, either ROM or hard drive, please set it to master mode and be noted to connect it at the end of an EIDE data cable. The connector located in the middle of an EIDE cable is only available for a slave mode device.*
5. The BIOS for CD-398/DVD-3000 is fixed and welded on the controller board and cannot be replaced directly. The BIOS upgrade can be completed in two ways, one is to run the upgrade function on the machine and the other is to use the upgrade kit to upgrade the BIOS chipset directly though BIOS-UP port built on controller board.

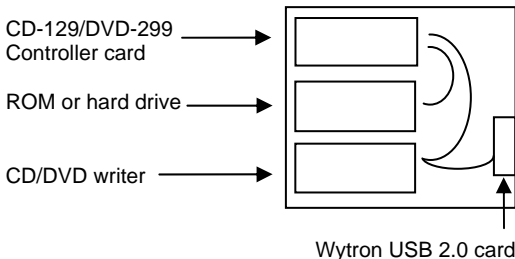
Model: **DVD-388**



Note:

1. The DVD-388 is a five-target (6 IDE ports on-board) CD/DVD controller board. You may connect the writers from 1 target only or up to 5 targets according to your need.
2. Please use a tower case with up to 7 slots 5.25" bay for 5 sets of writer, 1 pc of CD-ROM/DVD-ROM and 1 pc of hard drive (better hidden internal slot), and 1 position for controller board itself.
3. Please refer to the sketch shown above to install your DVD-388 duplicator. Five writers below the controller board of DVD-388 will be suggested.
4. The channels from JP6 to JP10 are used to connect the writers and JP12 is for CD/DVD-ROM and hard drive.
5. The BIOS for DVD-388 is welded on the controller board and cannot be replaced directly. The BIOS upgrade can be completed in two ways either to run the upgrade function on the controller board or to return the board directly to Wytron for updating.

Model: **CD-129/DVD-299**



Note:

1. Please be noted that all the devices in the case, including the CD-129/DVD-299 controller cards, CD/DVD-ROM and CD/DVD writer, must be connected with 4-pin power cable which holds 12V (in yellow color), 5V (in red color) and two black ground wires. Power cable only with 5V (red wire) is not enough for the duplicating controller card.
2. Please set all devices in master mode for each channel. If the ROM and hard drive are both required in special status, please replace the original cable with a new one which can chain both ROM and hard drive on same channel. In this case, please set hard drive to master and slave to ROM.
3. Be noted the USB 2.0 card is not a standard device when you purchase only the CD-129/DVD-299 controller card.
4. When the DVD-299 controller card is purchased alone, it might connect up to max. 3 sets of 4X DVD writer for specific brand and with specific ROM installed.

B. Bare bone unit without writer installed

1. Unpack the package of duplicator.
2. Prepare the CD/DVD-ROM and CD/DVD writers according to the device recommendation in this manual and refer to the Part A above for installation. Please check for list compatible writers if needed.
3. Check the entire unit. Return it if there is any mal-function or damage found.
4. Assemble the duplicator according to your need.
5. Make sure that the voltage setting is correct.
6. Customers can purchase the optional Wytron USB 2.0 module that enables you to link one of the writers in the duplicator to PC for external usage.

C. Completed duplication system

1. Unpack the package of duplicator.
2. Check the entire unit. Return it if there is any mal-function or damage found.
3. Make sure that the voltage setting is correct.
4. Customers can purchase the optional Wytron USB 2.0 module that enables you to link one of the writers in the duplicator to PC for external usage.

4. Operation

1. Power on the system and you will see a self-testing procedure running. The following display will appear:

CD398	V2.97	2003
WYTRON TECHNOLOGY		

detect drives

Copy	AG234M14:23
<mode	

G234M23:45 → Length of Master contained in Hard drive. It varies from masters or may not exist if there is no data stored. No messages will be displayed on top-right corner if hard drive is not installed.

AG → Partition G in A group of hard drive

234M → Capacity at AG partition in MB

14:23 → Capacity at AG partition in Minute

2. Different devices installed in duplicator will require different operation procedures including two main categories:

AA. With hard drive installed

- a. Duplicator will automatically detect the hard drive and create partitions for it (each partition will have 900MB capacity for CD duplicator, e.g. 40 GB Hard Disk will probably have 38 partitions. For DVD duplicator, 5GB for each partition.)
- b. You can select partition in the “hdd partition group” function in Setup Menu.
- c. If there is no data stored in present / selected partition of hard drive, press the MODE switch to select “Load” function and place the master disc into the CD/DVD-ROM drive which will automatically detect the master, analyze and load data into the present / selected partition. The master disc will be ejected when loading is completed. In case of error, the LCD will show “error” and the master disc will also be ejected automatically. Change another master disc for loading. Master data can be stored in different partition, switch to that particular partition (Please refer to hdd partition group) for loading.
- d. Switch to Copy by pressing MODE switch. Place blank CD/DVD discs into all the writers. Duplicator will start copying when all writers detect the discs. If you do not need to use all writers for copying, the LCD display will display the number of CD disc detected as “Xstart” (X represents the number of writers with detected discs that are ready to copy). Press the GO switch and operation will start instantly. There is no limitation on number of discs to be copied in one round (Vary on different model, CD-398/DVD-3000 will be 9 pcs. in maximum targets. For DVD-299 controller card, there will be three targets in maximum.) or there is any limitation on sequence of writer to start with. In other words, you may copy one disc only using any one of the writers randomly.

- e. When Copy is completed on all writers, those discs passed will be ejected automatically (default setting: Passed discs will be ejected but this can be changed according to your need). For continuous duplication, place additional blank discs into the writers and repeat the above procedures.
- f. Failed disc(s) will remain in respective writer(s) (Default setting: Failed discs will NOT be ejected but this can be changed according to your need). Press MODE switch will eject those failed discs from writers or press each eject button on the writer to eject disc manually.
- g. The duplicator will prompt you an error message when you try to copy a partition that contains no data. In this case, switch to "Load" function to load data first.
- h. Do not press any switch during operation as interruption / termination of operation will cause error and might cause the duplicator to hang up (depend on writers installed). The write-once discs during operation will be ruined and might not be used again.

BB. Without hard drive

- a. Switch to Copy by pressing MODE switch. Put blank discs into all writers and duplicator will start copying when all writers detect the discs. If you do not need to use all writers for copying, the LCD display will display the number of disc detected as "Xstart" (X represents the number of writer with detected discs that are ready to copy). Press the GO switch and operation will start instantly. There is no limitation on number of disc to be copied in one round (Vary on different model, CD-398 / DVD-3000 will be 9 pcs. in maximum targets. For DVD-299 controller card, there will be three targets in maximum. For CD-129 and DVD-299 one to one

duplicator, there is only one target.) or neither there is any limitation on sequence of writer to start with. In other words, you may copy one disc only by using any one of the writers randomly.

- b. When Copy is completed, the passed discs will be ejected automatically (Default setting: discs passed will be ejected. This can be changed according to your need). For continuous duplication, place additional blank discs into the writers and repeat the above procedures.
- c. Failed disc(s) will remain in respective writer(s) (Default setting: Failed discs will NOT be ejected. This can be changed according to your need). Press MODE switch will eject those failed discs from writers or press each eject button on the writer to eject disc manually.

5. Function

The functions explained below are based on factory's default setting. Different settings will cause duplicator to react differently. Please press and hold down the MODE switch while turning on the power till the "clear setup" message is shown on the LCD; the duplicator will return to factory's default setting as a reset.

5.1 Copy

Make sure the present partition in hard drive is correct and contains data (with hard drive installed) or the master disc is loaded in the CD/DVD-ROM drive (without hard drive installed) before copying. Place blank CD/DVD discs into the writers, when all writers detect the CDs/DVDs, duplicator will start copying automatically. When fewer copies are required, place the required number of blank CD/DVD discs into writers. Till you see a number "X" of "X" start which matches the number of disc placed in the writer(s), press the GO switch manually to start the duplication.

When Copy is finished, those discs passed will be ejected automatically and failed ones will be remained in writers. Press MODE switch to eject failed discs. Put new CDs/DVDs in the writers for additional copy. Duplicator can also copy rewritable discs containing data if the writers are capable of writing the rewritable discs. Data stored in rewritable discs will be quickly erased automatically before copying new data, no special setting or procedure required to erase the old data.

5.2 Copy + Compare

This function will do copying and also comparing the passed discs with the master. Under this function, the discs

that passed in copying will be ejected and re-inserted again automatically for compare purpose. The passed discs will be ejected automatically after comparison. The failed discs will remain in the writers. Press MODE switch will eject those failed discs.

Only data CD/DVD will be compared with the master, VCD, Video DVD or music CD/DVD will not be compared.

5.3 Emulate

This function performs emulation similar to Copy function except that data is not really written onto the disc. The CD/DVD discs will be remained blank when emulation is completed. For rewritable discs that contain data, emulate will do quick erase of all old data before emulation. Thus, never do Emulate function on rewritable discs that contain important data. (Be aware that DVD+R disc cannot be emulated since the real copy will be used instead of emulation.)

Termination halfway of Emulate will not affect the write-once discs and they will be remained as blank. But please note that rewritable disc containing data will be destroyed and cannot be retrieved again.

Some writers may not support sudden termination during operation. Duplicator may hang up and you can only reset those writers by rebooting the duplicator.

5.4 Emu + Copy

This function combines the emulation and copy function within one selection. First the machine will do the emulation and then continually copy the disc if there is no error during emulation. The passed discs will be ejected and the failed

ones will be remained in the writers. Those failed discs must be removed manually. (Be noted the DVD+R disc will not be suitable for Emulate function)

5.5 Compare

This function does data comparison between master and target discs. But only data CD/DVD disc will be compared fully. VCD, movie DVD and music CD/DVD will not be compared.

5.6 Verify

This function does verification of target discs. Different discs in the writer and CD-ROM/DVD-ROM drive can be verified together simultaneously.

5.7 Load (if HDD installed)

Function only exists when there is a hard drive installed. Please use "Load" function to load master data before doing duplication or other function. If the master is preloaded, please switch to correct partition to copy or do others.

Place the master disc into the CD/DVD-ROM drive, the duplicator will automatically detect and analyze the master and load it into the current partition of hard drive.

Hard drive installed on duplicator will be automatically partitioned by 900MB (CD writer installed) or 5GB (DVD writer installed) in each partition. Number of partitions available depends on the hard drive's capacity. No pre-formatting or software setup is required to install the hard drive with Wytron's controller card. Each partition in hard drive will be labeled in alphabetical order starting from AA, AB, AC...etc. Current partition number can be selected

under “hdd partition group” in the Setup menu.

Duplicator will prompt you an error message when you try to copy from a partition that contains no data. Switch to proper partition to copy or use “Load” function to load the master data to current partition.

5.8 External

When choosing External function and press GO button to activate, the duplicator will release the control of devices installed on duplicator and then the drive internally connected to Wytron’s USB 2.0 interface card will be available for external usage. At this moment, users can link an external USB cable from remote PC to duplicator, thus the PC will auto-detect the USB device in duplicator for remote usage. (PC with Microsoft Windows 98[®] OS system will need the software driver to recognize the external USB device in duplicator. Contact or download the software driver from Wytron if needed.)

Duplicator will not be usable again after External function activated except for rebooting. Please be noted to remove the external USB cable from duplicator first and then reboot duplicator when the standalone operation on duplicator is required.

5.9 Quick Erase

This function is only used for a rewritable disc with data existed. It would quickly erase the rewritable disc and then the data on it will be disappeared after performing this function.

6. Sub-function

In main menu, press and hold down the MODE switch for five seconds till the da-da-da sound heard from the controller, the menu will be switched to sub-function menu and vice versa.

6.1 Setup

As there are different settings under the setup function to control the duplicator's operation, we suggest using the original default settings for optimal operation. Changes should be made only when you are fully familiar with the function. Also please be noted that the function settings listed below are summary for all possibility of devices installed and might not exist in your duplicator.

6.1.1 Start Writers

This setting controls the number of writer that will work in duplicator and normally it should be equal to the number of writers installed in duplicator. Number of writers set is less than that actually installed will limit the working writers. If 5 sets of writer are installed, for example, number setting of 2 will allow using only two writers at one time. Duplicator will start the operation instantly when any 2 of the 5 installed writers are ready (disc detected). The rest 3 writers will be idle.

Press MODE will change the setting and press GO to bring you to next setting.

6.1.2 Write Method

This setting controls the writing methods of CD/DVD disc including “Disc at once” or “Track at once”. “Disc at once” will be the default setting. Some writers may support different writing methods. If the method selected is not supported, duplicator will automatically switch to the other one.

Press MODE will change the option of setting and GO to bring you the next setting.

6.1.3 CD Write Speed

This setting controls the maximum CD writing speed of writers. Default setting is “32” which will use 32X write speed to write the CD disc. The reason why it isn't set to max is that the CD-ROM readers in the market cannot access the master disc as fast as the write speed if the write speed reaches 40X or above. Sometimes maximum write speed will cause high failure rate that may be due to poor CD quality or unstable CD writing in high speed. If installed CD-ROM's reading speed can reach higher or even lower, please increase or lower the CD writing speed manually to get higher successful rate in writing. Press MODE to change the option and GO to exit.

6.1.4 DVD Write Speed

This setting controls the maximum writing speed of DVD writers. Default setting is “MAX” which will use the fastest writing speed of writers. Sometimes maximum writing speed may have higher failure rate that may be attributable

to poor quality of DVD disc or unstable writing under high speed. Under this circumstance, please lower the write speed under this setting. Please note that this is not the problem of the controller itself.

There is also situation that un-authorized blank DVD disc will be locked and restricted in some DVD writers to write at higher speed. This situation is not under Wytron's control. Press MODE to change the setting and GO to exit.

6.1.5 show drives

This setting shows the devices connected to the duplicator such as CD/ DVD-ROM, CD/DVD writers and hard drive, etc. It also displays the devices' firmware version that sometimes provides a useful hint for trouble shooting or for future upgrade. It is suggested to use writers with SAME firmware version to avoid inconsistency. The display is as below:

DVD-ROM
[*] ATA1.0 1.22 [Q]

It means the first slot (IDE#1) on controller board is connected with DVD-ROM that is set to master mode (0) and its firmware version is 1.22.

ATAPI DVD+RW 4X4X
[*] ATA7.1 B1HY [Q]

It means the 7th slot (IDE#7) on the controller board is connected with ATAPI device DVD+RW writer that is set to slave mode (1) and its firmware version is B1HY. The first digit after ATA is slot number and the digit behinds the dot is master and slave mode, 0 for master and 1 for slave.

6.1.6 CD-ROM Drive

CD-ROM drive can be selected manually. Default setting is “auto” and the duplicator will select the CD/DVD-ROM drive automatically. The option will be in series like ATA1.0, ATA2.0, ATA3.0, ATA4.1, etc., The number shown depends on the devices being detected by duplicator itself when booting. The ATA1.0 means ATA device connected at IDE#1 with master mode setting (0) on device. The ATA4.1 means ATA device connected at IDE#4 and with slave mode setting (1).

Press MODE to change the setting and Go to exit.

6.1.7 Autoloader (if autoloader installed)

This duplicator can be used as an independent controller card for external auto-loading mechanism. If autoloader is installed, this setting must be set to “Yes”. Default setting is “No”. The external auto-loading mechanism must be qualified and approved by Wytron. Any non-approved equipment may damage the controller card and affect operations. To connect the autoloader, you will also need an extra COM port module from Wytron to communicate between controller card and autoloader.

Press MODE to change the setting and GO to exit.

6.1.8 Eject Disc

This setting controls the ejection of discs by writer. Three options are available: “Always” means the writers will always eject the discs no matter whether operation is successful or failed. “No” means all discs will remain in

writers when job is done and you will have to eject discs from the writers manually. “Pass” setting will only eject the passed discs automatically and leave the failed ones in the writers. Press MODE switch will eject those failed discs.

Press MODE to change the setting and GO to exit.

6.1.9 Buzzer

This setting controls ON and OFF of buzzer. Default setting is “On”. Press MODE switch to change and GO to exit.

6.1.10 CD+G

This setting activates the copy capability of CD+G format. It cannot be copied if the writers don't support this format. Default setting is “No”.

Press MODE switch to change and GO to exit.

6.1.11 CopyComp Eject

This setting controls the ejection of writers' trays under “copy + compare” function. If the setting is “Yes”, the trays will eject the passed discs after copying and it will re-insert the same discs again for subsequent comparison. If setting is “No”, the trays will not be ejected between copy and compare. The default setting is “Auto” which means ejection of trays will depend on the writers. If it supports auto-ejection, the tray will be ejected after copying. If not, the tray will not be ejected even when setting is “Yes”.

Press MODE switch to change and GO to exit.

6.1.12 Read CDDA index0

The setting controls the copying of data existed in index0. Set to "Yes" will copy the data and set to "No" will make it empty. Press MODE switch to change and GO to exit.

6.1.13 Skip Read Error

This setting controls error skipping during source reading. The default setting is "No". When an error is detected during loading, the duplicator will stop to load and display read error message. If the setting is "Yes", there will be no message shown even there is an error in reading. You can use this function to copy some discs with errors.

Press MODE switch to change and GO to exit.

6.1.14 MODE 2 Compare

This setting can be activated to compare some data format stored in "MODE 2" disc. Default setting is "No".

Press MODE switch to change and GO to exit.

6.1.15 Power On Wait

The setting controls the detecting time (in second) for devices that connected to the duplicating controller card. Default is 15.

Press MODE switch to change and GO to exit.

6.1.16 Startup Command

This setting specifies the first function appeared when duplicator is turned on so as to avoid repeated selection all the time.

Press MODE switch to change and GO to exit.

6.1.17 led offset

This setting controls the offset of position for LED display on different kinds of SCSI case.

Press MODE switch to change and GO to exit.

6.1.18 lcd mile 2 digits

This setting controls the way of display for processing meter during operation on LCD display, e.g. L12 C12 C12 C12 C12. The "L" represents the "Load" and C represents the "Copy" before the 2-digit number. If you set this option to "Yes", the L and C for the example above will disappear. Set "No" will keep the display as above.

Press MODE switch to change and GO to exit.

6.1.19 CD to CD (if HDD installed)

This setting controls the source location of master data. Select "Yes" to bypass the existing hard drive and you can copy directly from CD/DVD to CD/DVD or select "No" to copy CD/DVD from data stored in current partition of hard drive. This option setting will not be saved and will be

restored to “NO” during rebooting of duplicator. You will have to change the setting again after rebooting if you wish to use on-the-fly direct copy while there is a hard drive installed. This setting will appear only if there is a hard drive installed. Press MODE switch to change setting and GO to bring you to next setting.

6.1.20 hdd partition group (if HDD installed)

This setting assigns the current working partition group on hard drive if installed. Press MODE switch to change the setting and press GO to exit. After selecting the partition group, press exit button will bring you to the next sub function as “hdd partition of A” for more selection of the partition number in that group. After choosing the partition number, press the exit button will bring you back to Copy function located in the main menu.

The modern hard drives normally contain large capacity. In order to organize and utilize the capacity well, controller card will manage the capacity in an idea for two-level management: partition group and partition number. The partition group is somewhat like the category and the partition number is the sub-item in that category. By using this idea, controller can have up to 26 categories; each category has up to 26 partition numbers, total 676 (26x26) partition numbers. To be a CD duplicator, each partition normally holds 900MB and for DVD duplicator, it holds 5GB. Under this management, the capacity on hard drive would not be wasted and under the control of our duplicating controller card.

After selection, each partition will have two letters to represent such as AC, BD, etc. The AC means A group C partition and BD means B group D partition. If you get a

40GB hard drive installed with the controller card, you might have 42 partitions from AA to AZ and BA to BP. There will be two groups in your hard drive: A group contains 26 partitions and B group contains 16. The entire configuration will be done automatically and you don't have to run special software utility to make these partitioning. Be noted that this setting will disappear if there is no hard drive installed.

6.1.21 HD to CD Write Speed (if HDD installed)

This setting controls the maximum CD/DVD writing speed of writers when the hard drive is installed in the system. Default setting is "MAX" which will use the highest CD writing speed. Sometimes maximum writing speed will cause higher failure rate that may be due to poor CD/DVD quality or unstable CD/DVD writing in high speed. Under this circumstance, please lower the writing speed under this setting to get higher successful rate. On the contrary, lower value setting will make the writing speed slower and confuse you as a problematic duplicator. Press MODE to change the setting and GO to exit.

6.1.22 Load Nonblank Disc (if HDD installed)

This setting is mainly for Autoloader and controls the loading of non-blank disc in any writer. If setting is "Yes", whenever there is a non-blank disc detected by the writer, the duplicator will go to "Load" function automatically and start loading the data from that non-blank disc into current partition of hard drive. Through this function, you can control the Autoloader to copy multi-master discs fully automated. Press MODE to change setting and GO to exit.

6.1.23 CDDA load speed (if HDD installed)

Normally, when reading music track, the CD/DVD-ROM drive will automatically lower the reading speed significantly. Unstable reading situation may happen if we use the maximum default speed of CD/DVD-ROM drive to read music track. This will affect the quality of music CD/DVD duplicated. This setting change the speed of music track loading to enhance stability of music track reading. Default setting is "AUTO".

Press MODE to change the setting and GO to exit.

6.2 Edit

Edit function, in sub-function, is a track-selecting function that can combine tracks on different master discs into one single disc. For example, you can make a collection of favorite songs from different master music discs and store them into one disc.

Switch to “Clear” function to erase the existed data, if any, in the hard drive’s current partition to store the new music tracks. Switch to EDIT by pressing the MODE switch in sub-function, load your master disc into CD/DVD-ROM (if there is no hard drive installed, the blank CD/DVD discs must be inserted to writers for “track at once” on-the-fly instant copy). Duplicator will analyze the master disc and show total xx tracks on LCD display and finally stop at:

Begin track
[+] 0 [Quit]

Press MODE switch to change the number of track (song) that you wish to start with and then press GO switch to quit. After quitting, the LCD display will stop at:

End track
[+] 0 [Quit]

The number selected must be same or larger than that selected in “Begin track”. Same number means you want to select a single track and larger number means you want to select a sequence of tracks in that particular master disc. After selecting the “End track”, duplicator will bring you back to “Begin track” selection. Repeat the same procedures to collect other tracks in different sequence that you want to copy. If no more track is selected, press GO switch directly

at “Begin track” and press once again GO at “End track” to exit. Duplicator will start loading those music tracks selected into the current partition of hard drive. After finishing loading, the master disc will be ejected automatically and LCD will display the message of “Pass”. You may change the master disc and run the Edit function again to gather more music tracks from different master discs. When finishing the collection, switch the function to Copy and place blank CD/DVD discs into writers for copying.

If there is no hard drive installed and when selection of music tracks from the master disc in CD/DVD-ROM drive is completed, the duplicator will prompt you the message:

Finalize [+] No [Quit]

If there are still other tracks need to be collected, the setting of Finalize must be “No”. Press GO switch to quit and the duplicator will start to copy directly the selected tracks onto blank discs. After finishing the copy, the master disc will be ejected automatically and prompt you “Pass” in the LCD display. You will note that the target discs in writers will not be ejected at this moment. You can change another master disc in the CD/DVD-ROM drive. Duplicator will analyze the master disc and bring you to the “Begin track” message on LCD again. You can repeat the procedures described above to collect more tracks from another master disc. If this master disc is the last one that you collect, change the setting of Finalize to “Yes” and press GO switch, duplicator will start to copy and close the target discs in the writers. If all of discs pass copying, they will be ejected from the writers automatically.

Please study the following examples carefully and follow the

instructions step by step. You will find it is very easy to collect tracks by the duplicator.

Example 1: To make collection from two masters with hard drive installed.

No.1 master disc: 2, 4, 6-8 songs.

No.2 master disc: 3-6, 9, 13-16 songs.

- a. Switch to Clear Master function and press GO switch to clear data in the existing partition of hard drive.
- b. Switch to Edit function.
- c. Place No.1 master disc into CD/DVD-ROM drive under the EDIT function and wait for duplicator to analyze it.
- d. Press MODE switch to number 2 at “Begin track” and press GO switch to quit.
- e. When “End track” is displayed on the LCD, press GO switch to quit directly since the first song number is 2.
- f. Press MODE switch to number 4 at “Begin track” and press GO to quit.
- g. When “End track” is displayed on the LCD, press GO switch to quit directly since the first song number is already 4.
- h. Press MODE to number 6 at “Begin track” and quit.
- i. Press MODE to number 8 at “End track” and quit.
- j. Press GO switch directly to following “Begin track” and End track” selection to finish the track selection on No. 1 master disc.
- k. Duplicator will start to collect the tracks that you selected just now into current partition of hard drive.
- l. After loading is finished, duplicator will eject your master disc and show “Pass” on LCD.
- m. Place No.2 master disc into CD/DVD-ROM drive and continue the selection from second master disc.

- n. Repeat procedures (d) to (j) above.
- o. Once the accumulated length of tracks selected has exceeded the maximum capacity in partition. The duplicator will stop to accept additional tracks.
- p. Switch to "Delete" function to delete the last track stored in current partition in hard drive if necessary.
- q. Switch to Copy to start copying the new collection.

Example 2: To make collection from two master with HDD.

No.1 master disc: All tracks

No.2 master disc: 4-6 tracks

- a. Load the No.1 master disc normally by using Load function. Data, if any, in the current partition will be erased and replaced automatically tracks of this master disc.
- b. Load No.2 master disc by using EDIT function but keep the data stored in hard drive. There is no need to do Clear function as described in Example 1 or you will lose the data of No.1 master disc.
- c. Repeat the other steps described in Example 1.

Example 3: To make collection from two masters without hard drive installed.

No.1 master disc: 2, 5, 7-13 songs.

No.2 master disc: 5-7, 9, 12-15 songs.

- a. Switch to Edit function.
- b. Place No.1 master disc into CD/DVD-ROM drive and certain blank discs into the writers under the EDIT function and wait for duplicator to analyze it.
- c. Press GO button to start the operation if number X in "Xstart" shown on LCD display meets your required copy number.

- d. Press MODE switch to number 2 at “Begin track” and press GO switch to quit.
- e. When “End track” is displayed on the LCD, press GO switch to quit directly since the number shown is already 2.
- f. Press MODE switch to number 5 at “Begin track” and press GO to quit.
- g. When “End track” is displayed on the LCD, press GO switch to quit directly since the track number shown is already 5.
- h. Press MODE to number 7 at “Begin track” and quit.
- i. Press MODE switch to number 13 at “End track” and quit.
- j. Press GO switch directly to following “Begin track” and End track” selection to finish the track selection on No. 1 master disc.
- k. The next function will be Finalize setting. Since there is still another master to be selected from, leave the option as No and press Go to quit.
- l. Duplicator will start to copy those tracks you selected just now onto blank target discs in writers.
- m. After copy is finished, duplicator will eject master and show “Pass” on LCD but those un-finalized discs will still be remained in writers for further operation.
- n. Load No.2 master in ROM drive and continue to select from second master.
- o. Repeat steps (d) to (k) above but change the Finalize setting to Yes in (k) and the duplication for tracks selected will then begin.
- p. When copy is finished, the passed discs will be ejected from writers directly.
- q. If total capacity of selected tracks exceed the max. capacity on the detected blank discs, the duplicator will refuse to accept additional track selection.

6.3 Delete

When the last music track stored in hard drive is not the one you wish to keep, switch to “delete” function and press GO switch to delete it. You may always use this function to delete the last track stored in the current partition of hard drive.

6.4 Clear

This function clears the master data stored in the current partition of hard drive. When you want to EDIT a new collection of songs, you must run this function first to clear the current partition of hard drive. Perform this function by pressing GO switch at “Clear” function and LCD will show: “Master cleared”.

6.5 Copy x1

Under some conditions, you will have to reduce the writing speed of writer to single speed. Switch to “Copy x 1”, all operation will be the same as the COPY except that the writing speed will be single-time only. Writing on disc under lower speed will offer you a better and more stable quality than under maximum speed. You can use the disc copied under lower speed as a master for repeated duplication or use.

6.6 Emulate x1

Under some conditions, you will have to reduce the emulating speed of writer to single speed. Switch to “Emulate x 1”, all operation will be the same as the “Emulate write” except that the emulating speed will be single-time only. (DVD+R disc is not available under this function)

6.7 Copy x2

Occasionally you will have to reduce the writing speed of writer to double speed. Switch to “Copy x 2”, all operation are same as COPY except that writing speed will be double only.

6.8 Emulate x2

Under some conditions, you will have to reduce the emulating speed of writer to double speed. Switch to “Emulate x2”, all operation will be same as the “Emulate write” except that the emulating speed will be double. (DVD+R disc is not available under this function)

6.9 Copy x4

Occasionally you will have to reduce the writing speed to quadruple. Switch to “Copy x 4”, all operation will be the same as the COPY except that the writing speed will be quadruple speed.

6.10 Emulate x4

Under some conditions, you will have to reduce the emulating speed of writer to quadruple speed. Switch to “Emulate x4”, all operation will be same as the “Emulate write” except that the speed will be quadruple. (DVD+R disc is not available under this function)

6.11 Copy x8

Occasionally you will have to reduce the writing speed of writer to eight-speed. Switch to “Copy x 8”, all operation are the same as COPY except that writing speed will be 8X.

6.12 Emulate x8

Under some conditions, you will have to reduce the emulating speed of writer to eight-speed. Switch to “Emulate x8”, all operation will be same as the “Emulate write” except that the emulating speed will be 8x speed. (DVD+R disc is not available under this function)

6.13 Burn in

This function is a burn-in test function. It will run the emulate write function continuously. Between each cycle of emulate write, the blank discs in writers will be ejected automatically and re-insert again for continuous testing. There is no real writing on the blank discs and the discs will remain blank as original after test. (DVD+R disc is not available under this function)

6.14 Update

Functions on duplicator will be improved for better performance or for other reasons. This function will update your firmware to the latest one. Load the data disc containing the latest firmware data (BIOS disc) into CD/DVD-ROM drive and the duplicator will find the data and update its firmware automatically. During updating, don't turn off the power of machine since the update will not be finished till machine tells you to restart the machine. (Turning off the machine during updating might cause severe result such as no booting, etc.)

Procedures to make the BIOS data disc by yourself:

1. Get the BIOS firmware from Wytron through e-mail (wytron@wytron.com.tw). Be careful not to use the wrong firmware, as it will cause duplicator to hang up and not to function correctly.

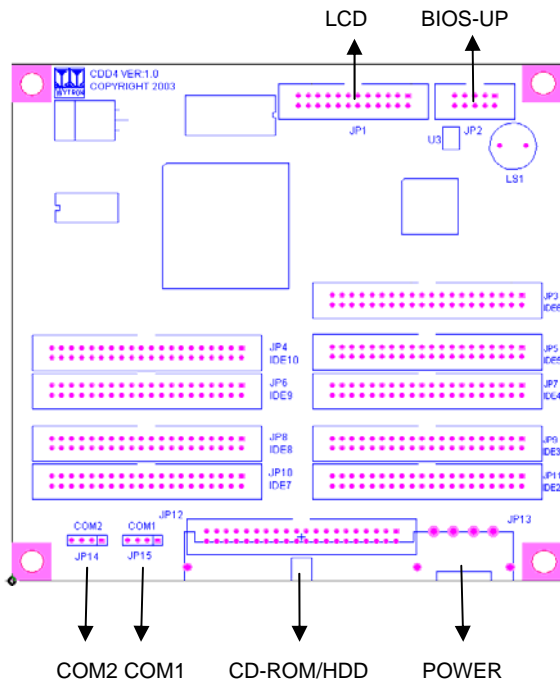
2. Unzip the BIOS firmware and write the file “**cdxxxx.bin**” or “**dvdxxxx.bin**” into the root directory on a blank CD/DVD disc. Session of the CD/DVD has to be closed. If the same disc still has capacity to add data, it can be used to store newer version of BIOS program. When updating BIOS program from the data disc, only the one in last session will be used. Other versions in previous sessions will be ignored.

6.15 Reset

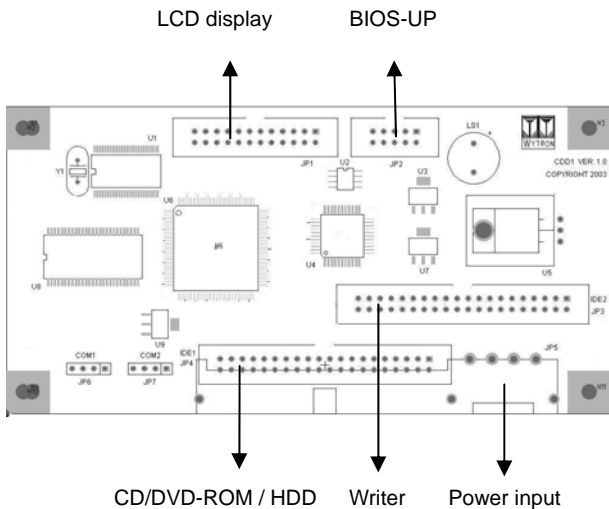
The reset procedure is required for several reasons such as: First assembling of duplicator, changing new brand of writers in old duplicator, reset with wrong way or bring back the factory default setting according to different usages. Our design provides an easy way for customer to reset their controller cards as below:

1. Turn off the power of duplicator and wait for 10 seconds. If the duplicator is not used at this moment, ignore this step and go to procedure 2 directly.
2. Press and hold down the MODE switch and turn on the power of duplicator simultaneously (the MODE switch must be held down at least 3 seconds while turning on the power of duplicator).
3. Release the MODE switch after the message of “clear setup” is shown on the top line of LCD display.
4. If the “clear setup” message is not shown, please repeat the whole procedure above but remain the finger on MODE switch all the time during power on till you see the message of “clear setup” on LCD display.
5. All setting on duplicator will be restored to its factory default setting after the “clear setup” message shown on the LCD display, which is a correct reset procedure.

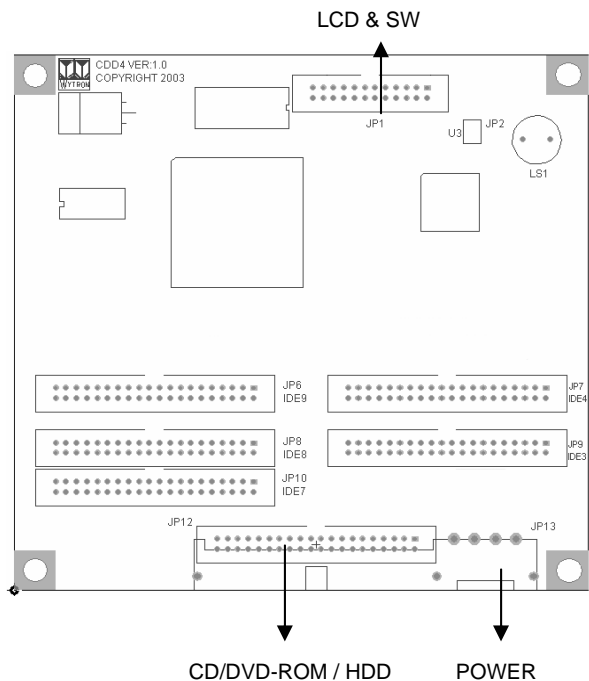
7. Circuit drawing



For CD-398/DVD-3000 Controller card



For CD-129 / DVD-299 controller card



For DVD-388 controller card

8. *Trouble shooting*

1Q: No display or only black squares on LCD display and the unit does not boot when power on.

- A: Please check the connection of power cable and the power environment is normal.
- B: Please check the fan of power supply. It should rotate if power-on. If not, the power supply might have problem.
- C: Turn off the power of duplicator, open the case to check whether the power cable is fixed.

2Q: Error message shown on LED:

- A: During operation like Copy, Emulate Write, compare and verify, you may press MODE switch to abort the operation. An Error message will be shown on the LCD. Some writers, abort will cause the duplicator to hang up and you have to re-start the power to return to normal operation.
- B: Failed reading may cause the error message shown on the LCD display. Change the master disc to try again.
- C: During operation, if read error, buffer under run or writing error occurs, the LCD will show error message like: Pass xx, failed xx.
- D: If there is no device connected and detected by duplicator during power-on, the duplicator will show error message on LCD before entering the main menu.

3Q: CD/DVD-ROM doesn't read disc and shows Error message.

- A: Check the master disc for damage.
- B: Try to use writer to read the master to see if the master is defective or simply not compatible with CD/DVD-ROM.

4Q: Switches do not function.

- A: May be still busy on task.
- B: Switch blocked.
- C: Button malfunction.
- D: Faulty board.

5Q: COPY completed but CD/DVD disc is not readable / executable?

- A: Use compare to check.
- B: Change another CD/DVD-ROM drive to test.

6Q: The failed rate is high.

- A: Lower the speed of writers and try again.
- B: Quality of blank disc is poor.
- C: Check for latest BIOS version.

7Q: Can't boot-up or fail to upgrade BIOS.

- A: Contact your dealer to solve the problem. Please note you may be charged for this.
- B: Check the BIOS program is correct since normally customer will download wrong program or simply write the zipped file to CD that should be first unzipped before writing.
- C: Failed upgrade might cause boot failure, returning the control cards to agent or factory directly to solve the problem.

9. *Device support*

For IDE CD-ROM:

1. TEAC CD-540E (V3.0A, CD-DA reading set to 17X-40X)
2. Yamaha 52X F563E
3. BTC BCD F563E
4. Other compatible CD-ROM if hard drive is installed.

Note: To install the 48X or above writer, the accessing speed of CD/DVD-ROM will be definitely not enough to support the high speed 48X or 52X CD writing for direct copy from CD/DVD-ROM to CD-R. The only way to improve it is to add a hard drive to be the buffer. Load first from CD/DVD-ROM to hard drive and then copy from HDD to CD-R.

For IDE DVD-ROM:

1. Pioneer 117/119/120/121 DVD-ROM (Reading DVD+R disc might have bugs)
2. LiteON 165/166 DVD-ROM
3. AOpen 1648 DVD-ROM
4. Asus E616 DVD-ROM (Reading DVD+R disc might have bugs)
5. Sony 1621 DVD-ROM
6. Teac 516E (Reading DVD+R disc might have bugs)

For IDE CD-R/RW writer

- 1 Plextor W4012TA/W4824TA/W5232TA
- 2 Sanyo or Nichimen 1300 / 1400 / 1500 / 1600 / 1700
- 3 Panasonic 7586A
- 4 AOpen 48X, 52X
- 5 Acer 8432IA
- 6 Lite-On LTR-40125/48125/52246
- 7 Yamaha 8824E / 2100E / 2200E / 3200E / CRW-F1
- 8 Teac W524E / W540E / W552E
- 9 Traxdata or BTC 40X, 48X, 52X.
- 10 LG / Hitachi / CDRPro GCE-8240B
- 11 Smart 5224 (52X)
- 12 IOMega 48X, 52X
- 13 CyQ've 5252Pro (52X)
- 14 BenQ 48X, 52X
- 15 Asus 52X

For IDE DVD writer

1. Pioneer: 103/A03, 104/A04, 105/A05, 106/A06
2. Ricoh: 5125A
3. Teac: W501
4. Sony: 500A, 510A
5. Plextor PX-504A, PX-708A
6. Sanyo/Nichimen/OptoRite: DD0202, DD0203
7. NEC: 1100A, 1300A
8. ASUS: DRW-0402P/D
9. Hitachi: GSA-4040B
10. IOMega: 1100A, GSA-4040B
11. BenQ: 400A, 800A

The brands or models of CD/DVD-ROM reader or CD/DVD writer that supported on our duplication controller card or duplication system may not be listed above.

10. Appendix

CONTACT THE DISTRIBUTOR IF TROUBLE OR PROBLEM ARISES. FOR PROMPT FEEDBACK & IMMEDIATE SERVICE, PLEASE ADVISE FULL DETAILS OF THE SYMPTOMS.