

ARS-2050

Native SATA Copy Controller

User's Manual

— Version: 1.1 —
(for PCB Rev:4.x)

Attention:

Wait over 5 seconds to power on after shutdown to prevent the abnormal operation of the system.



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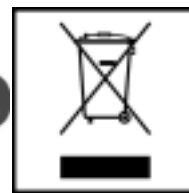
ACARD's ARS-2050 Copy Controller is used for copying and editing personal audio and video data. Violating Copy Right is a criminal act. ACARD's Copy Controller only supports legal backup operation.

ACARD Technology Corp. is not responsible for illegal recording.

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WEEE Statement

English

In order to cope with the increasing waste electrical and electronic equipment, reduce the use of landfill and incinerator, and prevent the harmful matter of waste equipment from entering the environment, the European Union (EU) has set the Directive on Waste Electrical and Electronic Equipment (WEEE) asking manufacturers to collect, recycle and treat waste electrical and electronic equipment properly. Member nations already established their free of charge recycle systems of WEEE before August 13, 2005. Accordingly, ACARD has to be responsible for recycling all products exported to Germany. You can return your ACARD product that needs recycling to a local collector.

WEEE Erklärung

German

Mit dem Ziel die steigende Menge elektrischer und elektronischer Altgeräte zu bewältigen ohne hierzu unnötig Mülldeponien und Verbrennungsanlagen zu belasten und um die Verschmutzung der Umwelt durch freiwerdende Stoffe aus den Altgeräten zu vermeiden, hat die Europäische Union (EU) die Richtlinie über Elektro- und Elektronik-Altgeräte erlassen. Die Richtlinie verpflichtet Hersteller, elektrische und elektronische Altgeräte umweltgerecht einzusammeln, zu recyceln und zu entsorgen. Die Mitgliedsstaaten der EU haben bereits ihre kostenfreien Recyclesysteme konform der WEEE vor dem 13. August 2005 eingerichtet. Entsprechend der Richtlinie ist ACARD verantwortlich für die umweltgerechte Entsorgung aller nach Deutschland exportierten ACARD Produkte. Sie können Ihr zu entsorgendes ACARD Produkt zu Ihrer örtlichen Sammelstelle bringen.

AEEA verklaring

Dutch

Met het doel de stijgende hoeveelheid afgedankte elektrische en elektronische apparatuur te beheersen zonder hiervoor onnodig stortplaatsen en verbrandingsovens te belasten en om de vervuiling van het milieu door vrijkomende stoffen uit de afgedankte apparatuur te voorkomen, heeft de Europese Unie (EU) de richtlijn betreffende afgedankte elektrische en elektronische apparatuur besloten. Deze richtlijn verplicht fabrikanten afgedankte elektrische en elektronische apparatuur in te zamelen, te recycelen en te verwijderen. De lidstaten van de EU hebben reeds de kosteloze recyclesystemen volgens de AEEA vóór de 13 augustus 2005 ingericht. Conform de richtlijn is ACARD verantwoordelijk voor de verwijdering van alle naar Nederland geëxporteerde ACARD producten. U kunt uw afgedankt ACARD product naar uw locale inzamelplaats brengen.

Elektrik ve Elektronik Madde Atıkları Demeci

Turkish

Elektrik ve elektronik madde atıklarının yükselmesiyle basedebilmek ,arazi doldurma ve çöp yakma fırını kullanımını azaltmak,atık madde zararlarının çevreye yayılmasını önlemek için Avrupa Birliği (AB),ureticilerden elektrik ve elektronik madde atıklarını gerektiği gibi toplamalarını,geri donusturmelerini ve kimyasal isleme tabi tutmalarını talep etmek için Elektrik ve Elektronik Madde Atıkları üzerine bir direktif hazırladı.Topluluk uyeleri,13 Agustos 2005' ten önce elektrik ve elektronik madde atıklarının ücretsiz geri donusum sistemlerini coktan olusturmuslardı.Bundan dolayı, ACARD, Almanya'ya ihrac ettigi butun urunlerin geri donusumunden sorumludur.ACARD urunleri geri donusum gerektirirse yerel toplayıcılara geri verebilirsiniz.

WEEE бюлетьень

Russian

Чтобы справиться с увеличивающимся ненужным электрическим и электронным оборудованием, уменьшите использование закапывания мусора и использования установки для сжигания отходов, препятствуйте вредному выбросам загрязнять окружающую среду, Европейский союз (ЕС) установил Директиву по Ненужному Электрическому и Электронному Оборудованию (WEEE) для того, чтобы изготовителей собрали, перерабатывали и вообще проявили внимание к ненужному электрическому и электронному оборудованию должным образом. Члены нации установили бесплатную систему и электронному оборудованию должным образом. Члены нации установили бесплатную систему переработки WEEE до 13 августа 2005. Соответственно, ACARD обязан быть ответственным за то, что переработал все продукты, экспортируемые в Германию. Вы можете вернуть ваш продукт ACARD, который нуждается в рециркуляции местному сборщику.

WEEE Statement

French

Afin de gérer la quantité croissante de déchets électriques et électroniques, de réduire l'utilisation des décharges et des incinérateurs et d'éviter que des déchets nocifs ne polluent l'environnement, l'Union Européenne a publié la directive WEEE sur les déchets électriques et électroniques. Celle-ci spécifie que les fabricants doivent collecter, recycler et traiter l'équipement électronique et électrique usagé. Depuis le 13 août 2005, les pays membres ont mis en place un système de recyclage gratuit selon le WEEE,.

De ce fait, Acard est responsable du recyclage de tous les produits exportés vers l'Allemagne. Vous pouvez mettre au rebut votre équipement ACARD usagé dans votre centre local de recyclage.

Pour plus d'informations sur les lieux de mise au rebut des équipements usagés destinés au recyclage, veuillez contacter votre mairie, votre service de traitement des déchets ménagers ou le magasin où vous avez acheté le produit.

RAEE

Spanish

Con la finalidad de reducir el incremento de residuos eléctricos y de material electrónico, reduciendo el uso de los vertederos e incineradoras y prevenir el preocupante aumento del contacto de estos residuos con el medio ambiente. Por este motivo la Unión Europea ha fijado la Directiva de Residuos de Aparatos Eléctricos y Electrónicos (RAEE) solicitando a los fabricantes la recolección, reciclaje y tratamiento de estos residuos correctamente. Los países miembros ya han establecido su sistema de reciclaje gratuito de RAEE antes del 13 de Agosto del 2005. Por este motivo ACARD es el responsable del reciclaje de todos los productos exportados a Alemania. Usted puede devolver su producto Acard a un punto de recogida local cuando desee reciclarlo.

Dichiarazione WEEE

Italian

Per far fronte all'aumento dei residui delle apparecchiature elettriche ed elettroniche, ridurre l'uso di materiale di riporto e degli inceneritori, ed impedire che il materiale nocivo delle apparecchiature residue entri a contatto con l'ambiente, l'Unione Europea (UE) ha stabilito le Direttive sui Residui delle apparecchiature Elettriche ed Elettroniche (WEEE) chiedendo ai fornitori di raccogliere correttamente, riciclare e trattare le apparecchiature elettriche ed elettroniche residue. Le nazioni facenti parte dell'Unione Europea hanno già stabilito il loro sistema gratuito di riciclaggio di questo materiale (WEEE) prima del 13 agosto 2005. Di conseguenza, ACARD è responsabile del riciclaggio di tutti i prodotti esportati in Germania. Potete restituire il vostro prodotto acquistato da ACARD che deve essere riciclato da un'azienda specifica locale.

Chapter 1 Introduction

1.1 Overview

ARS-2050 is a standalone duplicate controller supporting high speed SATA DVD/CD writers. With ACARD RISC CPU Engine, it doesn't need connecting to a computer or require much learning. Simply through the LCD and the button on the panel you can use the copy controller to back up data, audio or video DVD/CD quickly. It support SATA DVD drives for recording DVD/CD quickly. It is fit for companies desire to do a small amount of production without efforts.

1.2 Features

- A standalone SATA-to-SATA DVD/CD duplicate controller
- Independent fully native SATA channel data acceleration
- Totally independent without installing hardware or software
- Supports a built-in 3.5" or 2.5" SATA hard disk drive
- Supports 12X SATA DVD recording
- Has a user-friendly interface and shows messages with LCD
- Firmware update by DVD-ROM

1.3 Specifications

- ACARD SATA Controller
- ACARD 32-bit RISC CPU
- 16Kbyte data cache inside the RISC CPU
- High reliability of SDRAM for embedded system
- 12 SATA interface channel
- 2 x 16 LCD screen
- A membrane 4-buttons operation panel
- 512KB flash memory for copy code
- Dimension: D: 215mm W: 150mm H: 42mm
- Power Source: DC 5V

1.4 System Requirement

- Upright external case 12/13 x 5.25"
- Power supply of 300W
- SATA cable
- Digital DVD-ROM x 1
- Digital DVD writer x 10 for each tower
- SATA hard disk drive (optional)
- Tray (optional)

Chapter 2 Hardware Installation

Before installing ARS-2050, notice that there are three kinds of packages: the copy controller only, a whole copying system and a system without DVD drives.

2.1 Copy Controller Only

- Unpack the package, and examine if there is any defect or malfunction.
- Prepare a DVD-ROM.
- Prepare DVD writers.
- Prepare a 3.5" hard drive (optional).

2.2 A Whole System

- Unpack the package, and examine if there is any defect or malfunction.
- Prepare a 3.5" hard drive (optional).
- Be sure that the watt of power supply is sufficient.

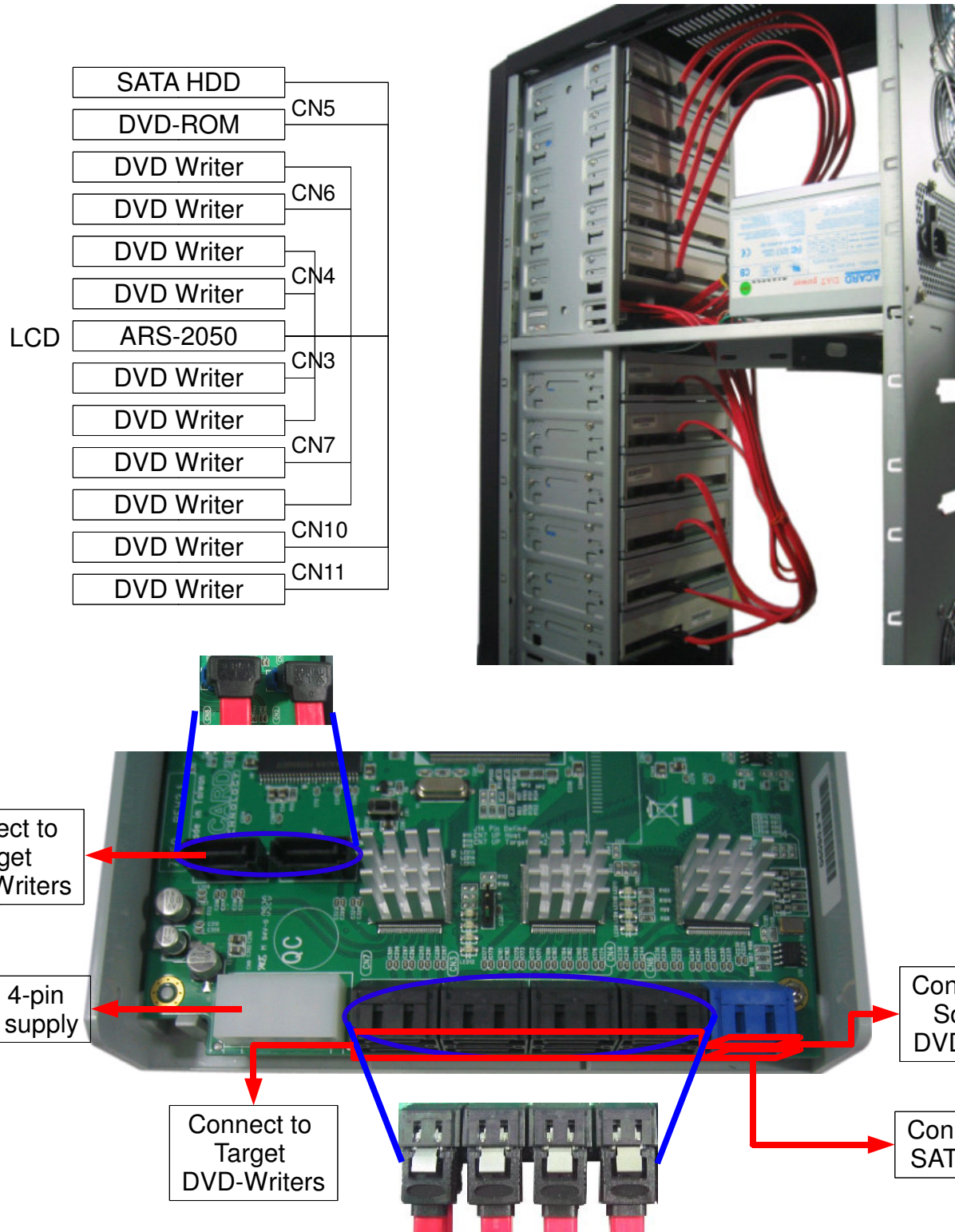
2.3 A System without DVD Drives

- Unpack the package, and examine if there is any defect or malfunction.
- Prepare a DVD-ROM.
- Prepare DVD writers.
- Prepare a 3.5" hard drive (optional).
- Be sure that the watt of power supply is sufficient.

2.4 Installation Instructions

2.4.1 Installing the ARS-2050

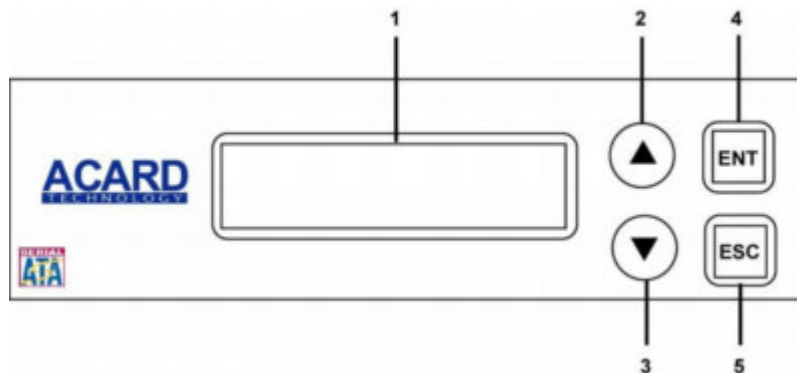
The following diagram shows how the ARS-2050 is connected to 1 DVD-ROM, 1 SATA HDD and 10 DVD writers in Stand-Alone mode.



Chapter 3 Basic Instructions

3.1 Buttons and LCD

There are four buttons and an LCD on the panel of ARS-2050.



1. It shows a function or a message.
2. It's used to scroll up function menus.
3. It's used to scroll down function menus.
4. It's used to execute a function.
5. It's used to cancel a function.

3.2 About HDD Installation

HDD installation is not necessary, but with a hard disk you can use the function of Image. In other words, you have one more choice to reproduce a DVD from an image file stored in the hard drive. The following two subsections are about installing a 3.5" SATA hard drive and not installing respectively.

3.2.1 With a HDD

If you have installed a 3.5" SATA hard drive to your copy controller, you need to operate according to the following procedures.

- Once your copy controller detects the hard disk, it will ask you to choose a type to partition to format. See function 12.4 Format HDD for more detail.
- Use function 8 Select Source to set the hard drive as the source.
- In function 9 Image, select a partition to store the data.
- If there is no data in a selected partition, place a source DVD into DVDROM, and use function 9-01 Load to transmit data from DVD into the selected partition by pressing **ENT**. Different data can be stored in different partitions.
- Switch to function 1 Copy by pressing **▲**. Place blank DVDs into DVD writers, and press **ENT** to start copying.
- When copying comes to an end, the passed DVDs will eject automatically. The default is ejecting automatically, but you can change it.
- The failed DVDs will remain in the writers. The default is keeping failed DVDs in the writers, but you can change it. To take the failed DVDs you need to press the "eject" buttons on the writers.
- During operation do not press any button on your copy controller, because interruption will harm the device, and DVDs will be damaged, too.

3.2.2 Without a HDD

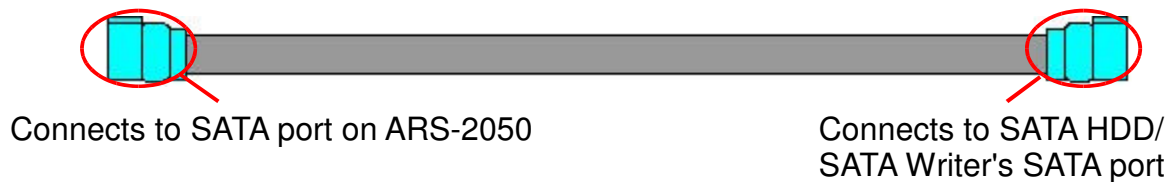
If you haven't installed a 3.5" SATA hard drive to your copy controller, you need to operate according to the following procedures.

- Place a source DVD into DVD-ROM.
- Switch to function 1 Copy by pressing ▲. Place blank DVDs into DVD writers, and press **ENT** to start copying.
- When copying comes to an end, the passed DVDs will eject automatically. The default is ejecting automatically, but you can change it.
- The failed DVDs will remain in the writers. The default is keeping failed DVDs in the writers, but you can change it. To take the failed DVDs you need to press the "eject" buttons on the writers.

Before installing the hardware, please check that the data cables are correct.

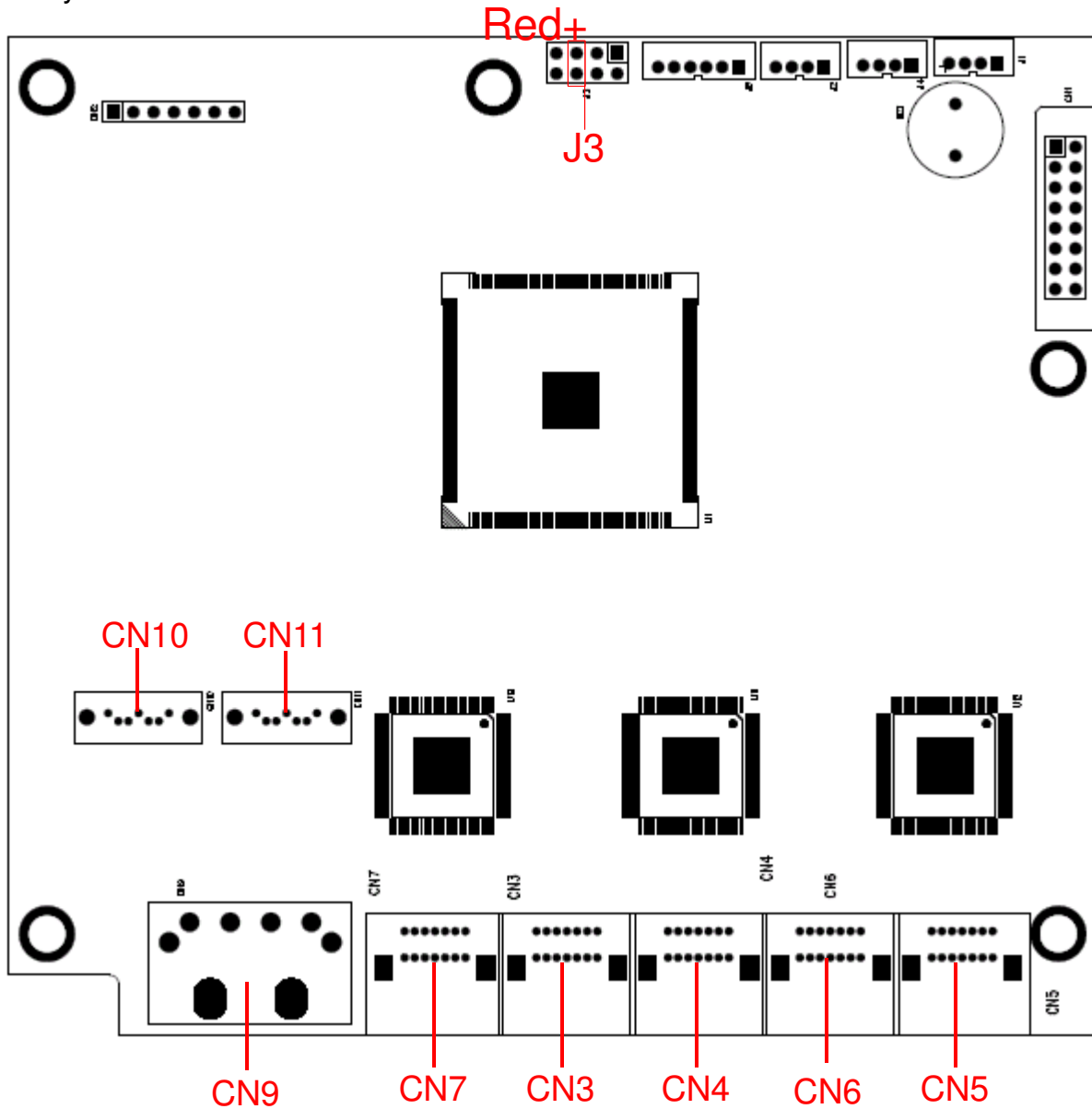
SATA Cable:

Connects the SATA HDD/SATA writer directly with the SATA port on the ARS-2050 board via a direct SATA connection.



Chapter 4 PCB Layout

The board layout of ARS-2050 is shown as follows.



J3: USB signal control

CN5 (upper level): Connects to source DVD-ROM

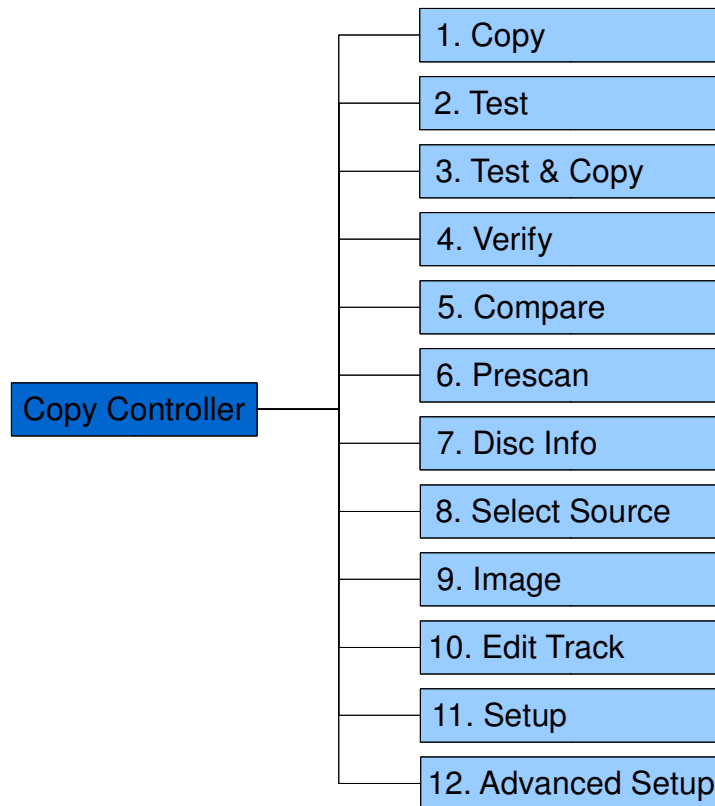
CN5 (bottom level): Connects to SATA HDD

CN3 & CN4 & CN6 & CN7 & CN10 & CN11 : Connects to target DVD writers

CN9: Power socket

Chapter 5 Functions

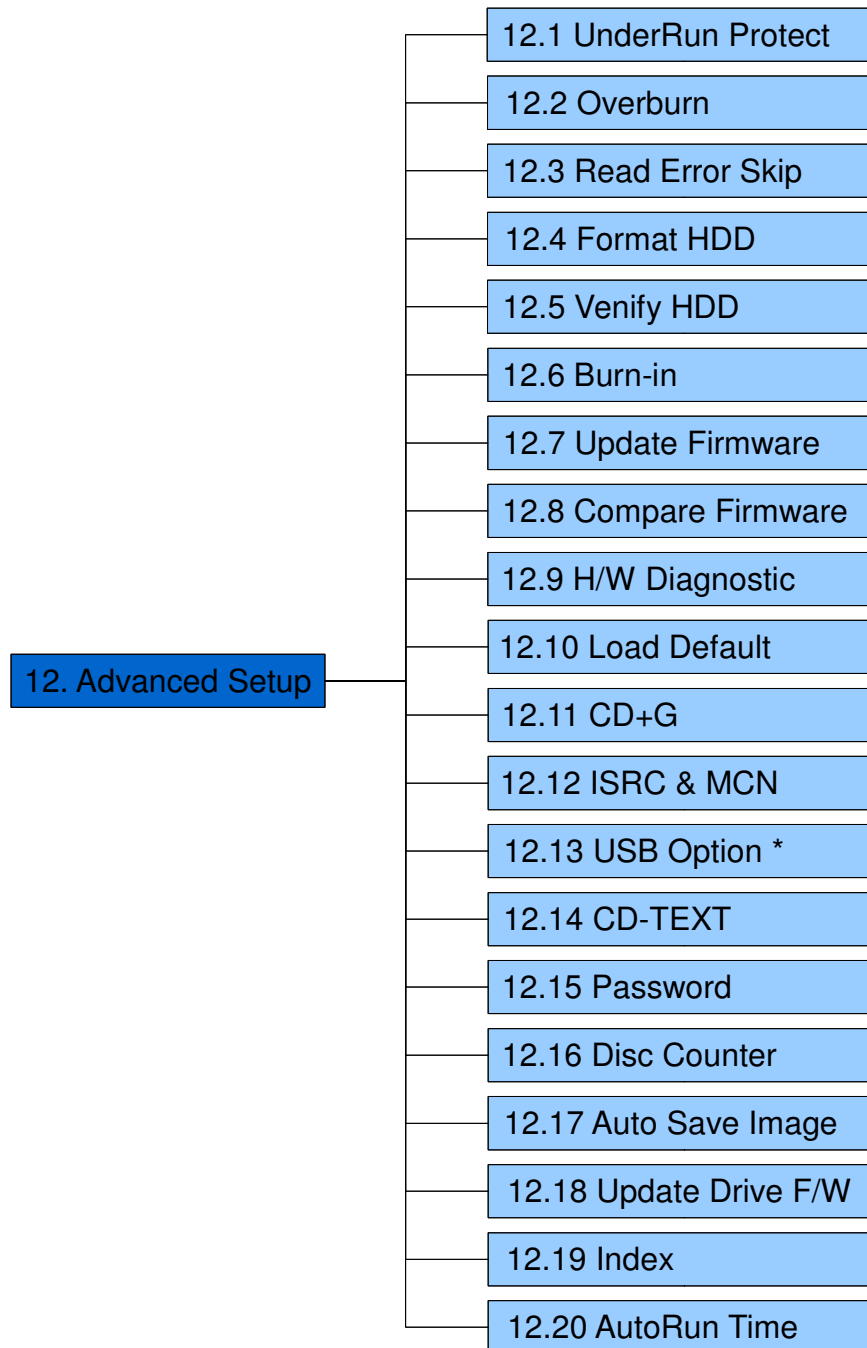
There are 12 major functions in the copy controller as the following figure shows, and there are subfunctions in Function 9, 10, 11, and 12.



* “12. Advanced Setup” is a hidden menu. Press ESC for 2 seconds to enter this function.

* There is another hidden function “USB Mode”, which will only show up when you enable “USB Option” under “Advanced Setup”.

In Function 12 there are 20 subfunctions.



* This is a special function. See P. 18 for details.

During operation if you don't understand an LCD message, see Appendix A . Now let's take ARS-2050 to demonstrate.

5.1 Adv Setup

Function 12 Adv Setup lets you change the system configuration. This function includes 20 subfunctions: UnderRun Protect, Overburn, Read Error Skip, Format HDD, Verify HDD, Burn-in, Update Firmware, Compare Firmware, H/W Diagnostic, Load Default, CD+G, ISRC & MCN, USB Option, CD-TEXT, Password, Disc Counter, Auto Save Image, Update Drive F/W, Index and AutoRun Time. Refer to page 17 for the menu.

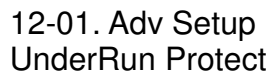
Under the first layer on function menu, press **ESC** for 2 seconds to enter Function 12-01 as the following figure shows.



12. Adv Setup

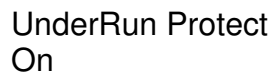
5.1.1 UnderRun Protect

UnderRun Protect lets you control On and Off of Buffer Under Run Protection.



12-01. Adv Setup
UnderRun Protect

Press **ENT** to enter the following figure. UnderRun Protect lets you control On and Off of Buffer Under Run Protection. The default is On. Press ▼ to select Off.



UnderRun Protect
On


5.1.2 Overburn

Now press **ESC** and ▼ to enter the following figure. Overburn lets you decide whether to copy beyond the limit of the media or not.



12-02. Adv Setup
Overburn

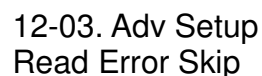
Press **ENT** to enter the following figure. The default is Off. Press ▼ to select On. Overburn may cause a DVD writer to be damaged and data incomplete.



Overburn
Off

5.1.3 Read Error Skip

Now press **ESC** and ▼ to enter the following figure. Read Error Skip is to ignore any error that occurs during copying. Under normal circumstances, when an error occurs during copying, a message will appear on LCD. Yet, you can use Read Error Skip to copy some defective medias.



12-03. Adv Setup
Read Error Skip

Press **ENT** to enter the following figure. The default is Off. Press ▼ to select On.

Read Error Skip
Off

5.1.4 Format HDD

Now press **ESC** and ▼ to enter the following figure. Format HDD is to partition the hard disk. But after formatting, all data on the hard disk will be deleted.

12-04. Adv Setup
Format HDD

If your copy controller doesn't connect with a hard disk, LCD will show the message as follows.

No Valid HDD!
Select HDD First!

If your copy controller is connect with a hard disk, LCD will ask you to choose partition type. There are 5 types of partition size for you to choose, which are F_S, DVD, CD, DL and Auto.

HD Partition
Size Select? DVD

Press **ENT** to enter the following figure. All data on the hard drive will be lost after the format and you are asked to confirm again. The default is No. Press ▼ to select Yes.

All data will be
Lost format? No

After the hard drive is formatted correctly, LCD will show the message as follow. Press **ENT** to verify HDD or press ▼ and choose No to finish Format HDD.

Format HDD ok!
verify HDD? Yes

How do I choose HD partition type?

In DVD a partition occupies 5GB, in CD 1GB, in DL 10GB and in Auto 1GB. When hard drive is partitioned as F_S, DVD, CD or DL, you are not allowed to load images larger than the partition size. (Ex: If you choose to partition as DVD, you are only allowed to load DVD and CD images but not DL.) When hard drive is partitioned as Auto, controller will automatically occupy partitions for your image type. (Ex: If you choose to partition as Auto, controller will occupy 1 partition and 5 partitions when CD and DVD images are loaded respectively.) Therefore, Auto is the most efficient way to load images of different type.

Partition Type	Partition Size	Images to load

5.1.5 Verify HDD

Now press **ESC** to return to Function 12, and then select part 5 Verify HDD as the following figure shows. Verify HDD is to verify if the hard disk or any of its partitions can work well.

12-05. Adv Setup
Verify HDD

Press **ENT** to enter the next figure. Use **▲ ▼** to confirm Disk or Parti.

Verify Disk or
Paration? Disk

Press **ENT** to verify. After verification LCD will show the results as follows.

Verify HDD
OK

5.1.6 Burn-in

Now press **ESC** and **▼** to enter the following figure. Burn-in is to simulate the copying progress many times. The time can be from 1 to 1000. After each cycle of simulation, the medias on the DVD writers will eject automatically and recede for the next bout of simulation.

12-06. Adv Setup
Burn-in

Press **ENT** to enter the next figure. Test is simply a simulation.

Burn-in
Test

Press **ENT** and use **▲ ▼** to select the time of simulation such as 1, 2, 3...1000 or Run Continuous. The figure below shows Run Continuous.

Sel burn-in num:
Run Continuous

Press **ESC**, **ENT**, **▼** to select Erase & Copy as the following figure shows. Erase & Copy is to erase and write repeatedly. It is only for media rewriteable discs.

Burn-in
Erase & Copy

Press **ENT** and use **▲ ▼** to select the time of simulation such as 1, 2, 3...1000 or Run Continuous. The figure below shows Run Continuous.

Sel burn-in num:
Run Continuous

5.1.7 Update Firmware

Now press **ESC** and ▼ to enter the following figure. Update Firmware is to update firmware to the latest version. But you should get the firmware first.

12-07. Adv Setup
Update Firmware

You can get the latest firmware version from ACARD by e-mail, or download it directly from the web site: <http://www.acard.com> Then, unzip the file of .zip and copy it into a CD-RW. If the file is .bin, you don't need to unzip.

After placing the media into the DVD-ROM , press **ENT**. The system will begin searching the new firmware and show the message on LCD as follows after it finds the new firmware. Then press **ENT** to update.

Searching F/W ---
XXX/XXXX

5.1.8 Compare Firmware

Now press **ESC** and ▼ to enter the following figure. Compare Firmware is to compare the current firmware version and the newly downloaded version. It can prove if the downloaded version is the newest one.

12-08. Adv Setup
Compare Firmware

5.1.9 H/W Diagnostic

Now press **ESC** and ▼ to enter the following figure. H/W Diagnostic is to test the system

12-09. Adv Setup
H/W Diagnostic

Press **ENT** to enter the next figure, and begin the LCD test. After that, the system will do the button test, self-test of SDRAM, the hardware connection test and flash test. All test results will be shown on LCD. It is the easiest way to know if the system can work well.

LCD Test Start

When all tests finishes, LCD will show the message as follows

Test finished

5.1.10 Load Default

Now press **ESC** and ▼ to enter the following figure. Load Default is to make all changed settings return to defaults.

12-10. Adv Setup
Load Default

Press **ENT** to enter the next figure. Use **▲ ▼** to confirm Yes or No.

Load Default
Config?Yes

When default loading finishes, LCD will show the results as follows.

Load Default
OK

5.1.11 CD+G

Now press **ESC** and **▼** to enter the following figure. CD+G is a kind of special copying format. This function supports this special format.

12-11. Adv Setup
CD+G

Press **ENT** to enter the next figure. The default is Off. Press **▼** to select On.

CD+G
Off

5.1.12 ISRC & MCN

Now press **ESC** and **▼** to enter the following figure. ISRC and MCN are special copying formats. This function supports them.

12-12. Adv Setup
ISRC & MCN

Press **ENT** to enter the next figure. The default is Off. Press **▼** to select On.

ISRC & MCN
Off

5.1.13 USB Option

Now press **ESC** and **▼** to enter the following figure. USB Option lets you switch to the USB mode if your copy controller has connected with a PC.

12-13. Adv Setup
USB Option

Press **ENT** to enter the next figure. The default is Off. Press **▼** to select On.

USB Option
Off

When USB option is On, the original “12. Adv Setup” will change to “13. Adv Setup”, and the hidden “12. USB Mode” will appear in the first layer of function menu.

USB L.H Mode

5.1.14 CD-TEXT

Now press **ESC** and ▼ to enter the following figure. CD-TEXT is a kind of special copying format. This function supports this special format.

12-14. Adv Setup
CD-TEXT

Press **ENT** to enter the next figure. The default is Off. Press ▼ to select On.

CD-TEXT
Off

5.1.15 Password

Now press **ESC** and ▼ to enter the following figure. Password is set to protect your copy controller.

12-15. Adv Setup
Password

Press **ENT** to see the following figure. The default is Off.

Password
Off

Press ▼ to see the following figure. Change means to change a default or an old password into a new one.

Password
Change

Press ▼ to see the following figure.

Old Password
?

Use ▲ ▼ to key in the default, 85122290. A password should be composed of 1 to 13 characters. The character can be A, B, C, etc. or 1, 2, 3, etc. or the combination of both. After selecting a desired number or alphabet, remember to press **ENT**.

Old Password
8?

After keying in the old password, remember to press **ENT** to confirm. Then the following figure will appear.

New Password
?

Follow the rule mentioned above to key in a new password. After keying in, the system will ask you to enter the new password again.

Re-Ent Password
?

When it is correct, you will see the following figure. You have 3 chances to enter your password. If you forget your password, return the copy controller to ACARD for help.

Change
OK!

5.1.16 Disc Counter

Now press **ESC** and ▼ to enter the following figure. Disc Counter records how many discs you have copied.

12-16. Adv Setup
Disc Counter

Press **ENT** to see the following figure. View means to see the records.

Disc Counter
View

Press **ENT**. JC in the following figure means Job Counter; that is, every copying task. It records the number of discs you have copied, and can be deleted.

JC OK: 000000001
Fail :000000000

Attention

There is another record of LC (Life Counter). It also records the number of discs you have copied so far, but cannot be deleted. You can view the record of LC by holding down **ESC** when LCD shows the finding of writers. Press ▲ to leave.

Press ▼. The following figure shows the record in DVD writer 2. You can press ▼ to see the records in other writers. This kind of record can be deleted, too.

02 OK: 000000001
Fail :000000000

Press ▲ to return to the record of job. Then press **ENT** to return to the next figure.

Disc Counter
View

Press ▼ to see the following figure. It is to delete the record in job. Use ▲ ▼ to confirm Yes or No.

Disc Counter
Del Job Counter

Press ▼ again to enter the following figure. Dev means the device of DVD writer.

Disc Counter
Del Dev Counter

Press **ENT** to see the following figure. If you want to delete the record in DVD writer 2, you can press **ENT**, otherwise press **ESC** to exit.

Del 02 Counter
Ent: Del Esc: Exit

5.1.17 Auto Save Image

Now press **ESC** and ▼ to enter the following figure. Auto Save Image can save an image file automatically into your designated partition of HDD.

12-17. Adv Setup
Auto Save Image

Press **ENT** to enter the next figure. The default is Off. Press ▼ to select On.

Auto Save Image
Off

5.1.18 Update Drive F/W

Now press **ESC** and ▼ to enter the following figure. **Only when you have installed some types of CD\DVD drives produced by ASUS or Plextor can this figure appear.** This function lets you update the firmware of some ASUS or Plextor CD\DVD drives. For the detailed types, visit the Web site: www.acard.com.

12-18. Adv Setup
Update Drive F/W

Press **ENT** to enter the next figure. No F/W File means that there is no file of firmware on the source reader. So, in the beginning you have to download the firmware of a certain type of CD\DVD drive from the Web site of ASUS or Plextor. Then record the firmware into a CD-RW.

No F/W File

5.1.19 Index (Optional Function)

Now press **ESC** and ▼ to enter the following figure. Index is a kind of special copying format. This function supports this special format.

12-19. Adv Setup
Index

Press **ENT** to see the following figure. The default is Off.

Index
Off

5.1.20 AutoRun Time (Optional Function)

Now press **ESC** and ▼ to enter the following figure. AutoRun Time can a copy automatically within few seconds.

12-20. Adv Setup
AutoRun Time

Press **ENT**. The default is 5 second.

AutoRun Time
5

Press ▼ could select as off or 1~99 second.

Press **ENT** to confirm the selection.

Chapter 6 Troubleshooting

6.1 About LCD

After you power up, if there is no display on the LCD, check if the connection of power cord is firm and the environment of power outlet is normal.

6.2 About Error Messages

During Copy, Test, Compare and Verify, etc. if you press **ESC** to abort, an error message will appear on LCD. Abortion may cause the copy controller to hang up, therefore you have to power on again.

If reading fails, an error message will appear on LCD. Get a new source DVD to try again.

If the copy controller hasn't detected any device after powering on, an error message will appear on LCD.

6.3 About DVD-ROM/DVD Writers

If a DVD-ROM or a DVD writer cannot read, confirm the format of the source DVD and check if it is damaged.

Use any DVD writer to read the source DVD. If it works, the DVD-ROM is probably defective or not compatible with the source DVD.

6.4 About Buttons

If you press any one of the four buttons on the panel, but there is no response, it is perhaps that the button cannot function well. Inspect the jumper setting.

6.5 About DVD Writer Not Readable

After copying if the DVD writer is not readable, use Compare to examine, or get another DVD-ROM to test.

6.6 About High Failure Rate

If the failure rate of copying is high, do the following things to improve.

- Lower the speed of DVD writer.
- Inspect if the blank disc's quality is good.
- Update the firmware.
- Inspect the DVD writer's maximum writing speed. If the speed is over 8X, copy the data to a hard disk first, and then transmit to DVD.

6.7 About Firmware Update

If you cannot update the firmware, please inspect the firmware. Perhaps you have downloaded a wrong file.

Failure in firmware update may cause the copy controller to fail in booting. Under the circumstances, return the control board to distributor for repair.

6.8 About Function 12 and Cancellation

If you want to execute function 12 Advanced Setup, you can press ESC for 2 seconds.

And during operation if you want to cancel a function like Copy, Test, Verify and so on, you can press ESC for 2 seconds, too.

Appendix A LCD Messages

1. Normal Conditions:

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

2. Connecting with a HDD:

All data will be lost, format?	All data on the hard disk will be lost. Confirm the formatting of hard disk.
Delete Image in Partition xx?	Confirm the deleting of data image in partition xx.
Format HDD?	Ask if you want to format the hard disk.
Format HDD OK!	The Formatting of hard disk has been completed.
HDD not Format!	The hard disk hasn't been formatted yet.
HDD too small	The capacity of hard disk is too small.
HDD too small to handle image!	The hard disk hasn't enough capacity to store the data image (at least 5Gbytes).
Image Exists Overwrite?	There is a data image in the current partition. Confirm the overwriting of data.

Image load Fail.....The image isn't successfully loaded from DVD to the hard disk.
Image load OK..... The image is successfully loaded from DVD to the hard disk.
No Image in Partition xx.....There is no data image in partition xx.
No Valid HDD!..... The system cannot find a hard disk.
Partition Damage.....The partition is damaged.
Select HD First!..... Select a formatted hard disk at first.
Verify Disk or Partition?..... Do you want to verify the hard disk or just a partition?
Verify Hard Disk Fail!..... The hard disk is not verified successfully.

3. Audio Editing:

Burn or Move to partition?.....
Do you want to directly copy the data into disc or move them to the partition.
Can't edit HDD..... The hard disk cannot be edited as a source audio disc.
Close all disc's session?..... Confirm the closing of disc sessions.
Continue edit next Disc?..... Ask if you want to continue the music disc editing.
End edit disc and burn?..... Finish the music disc editing and start to copy.
Erase selected Tracks?..... Abort the selected tracks and delete them.
Ins empty disc Continue?..... Do you want to insert a blank disc and continue copying?
Insert next disc..... Insert the next audio disc.
NO AUDIO track in this disc..... The source disc has no audio track.
Sessions were closed already! The disc sessions have already been closed.
Target Overflow Re-Select.....
The disc capacity is not enough to store the selected tracks. Please select again.
Tgt overflow, del last trk?..... The disc capacity is not enough to store the selected tracks. So, do you want to delete the last track?

4. Firmware Update:

Check Sum Error!..... The updated firmware has errors.
Flash ROM fail!..... Data cannot be written into Flash ROM.
Invalid firmware The disc doesn't contain a valid firmware.
Last update F/W Fail!..... The firmware is not updated successfully.
Last update F/W OK!..... The firmware is updated successfully.
Searching F/W The system is searching for a valid firmware.
Source can't be Hard Disk!.....During comparison the source cannot be hard disk.

Technical Support Form

Email address: support@acard.com

Website: <http://www.acard.com>

Model Name*	ARS-2050	Firmware version*	
System Configuration			
Motherboard/System model*			
SCSI host adapter/chip brand & model*			
SCSI host BIOS version			
Other I/O card*			
Operating System*			
SATA HDD brand & model*			
SATA HDD capacity			
SATA HDD firmware			
Problem description*			