

AEC-4420S USB Link Host for SATA Duplicator Controller

User's Manual
— Version: 1.3 —

Attention:

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



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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 yukselmesiyle basedebilmek ,arazi doldurma ve cop yakma fırını kullanımını azaltmak,atık madde zararlarının cevreye yayılmasını onlemek 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 uzerine bir direktif hazırladı.Topluluk uyeleri,13 Agustos 2005' ten once elektrik ve elektronik madde atıklarının ucretsiz 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 бюлетень

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.

Installation guide for configuring the ACARD AEC-4420S USB Utility, and Image Manager to an ACARD Optical Disc Drive (ODD) copy controller:

*ARS-5105P *ARS-5105PX

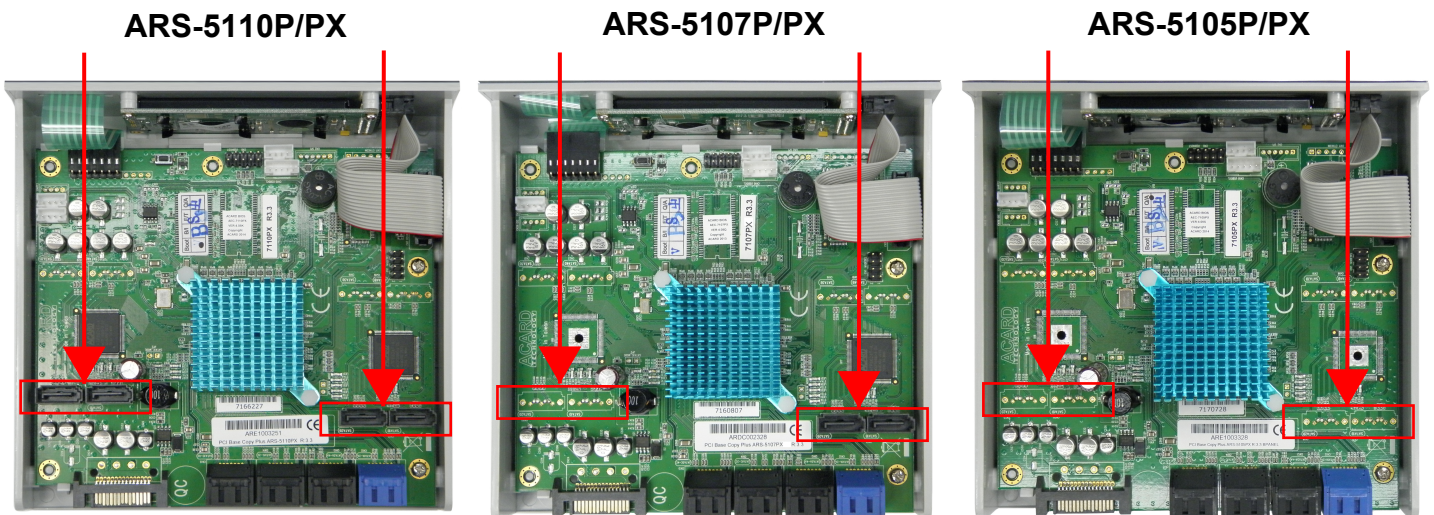
*ARS-5107P *ARS-5107PX

*ARS-5110P *ARS-5110PX

Please have the duplicator tower/ copy controller powered off and plug in all the necessary cables by using the following steps.

Note: The ARS-5110PX copy controller is used for reference in this demonstration.

The pictures below illustrate the various SATA ports implemented according to the copy controllers' model numbers:



Other models, please refer to Appendix.

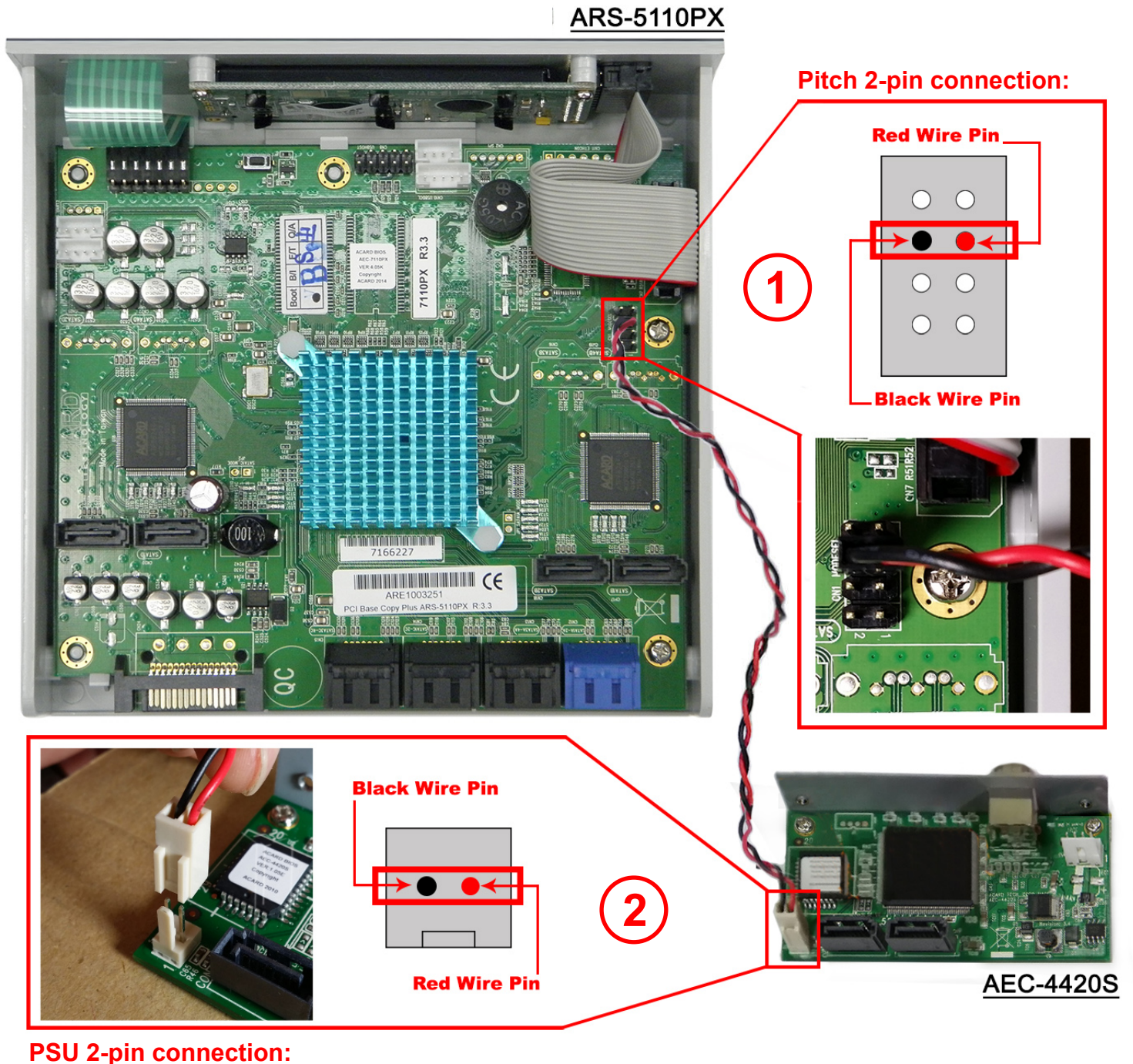
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Section 1: Connecting the Signal Wire

Please properly orient and connect the Pitch 2-pin connection signal wire (red and black) to the ACARD copy controller shown in box 1. On the opposite end of the signal wire, connect the PSU 2-pin connection to the AEC-4420S shown in box 2.

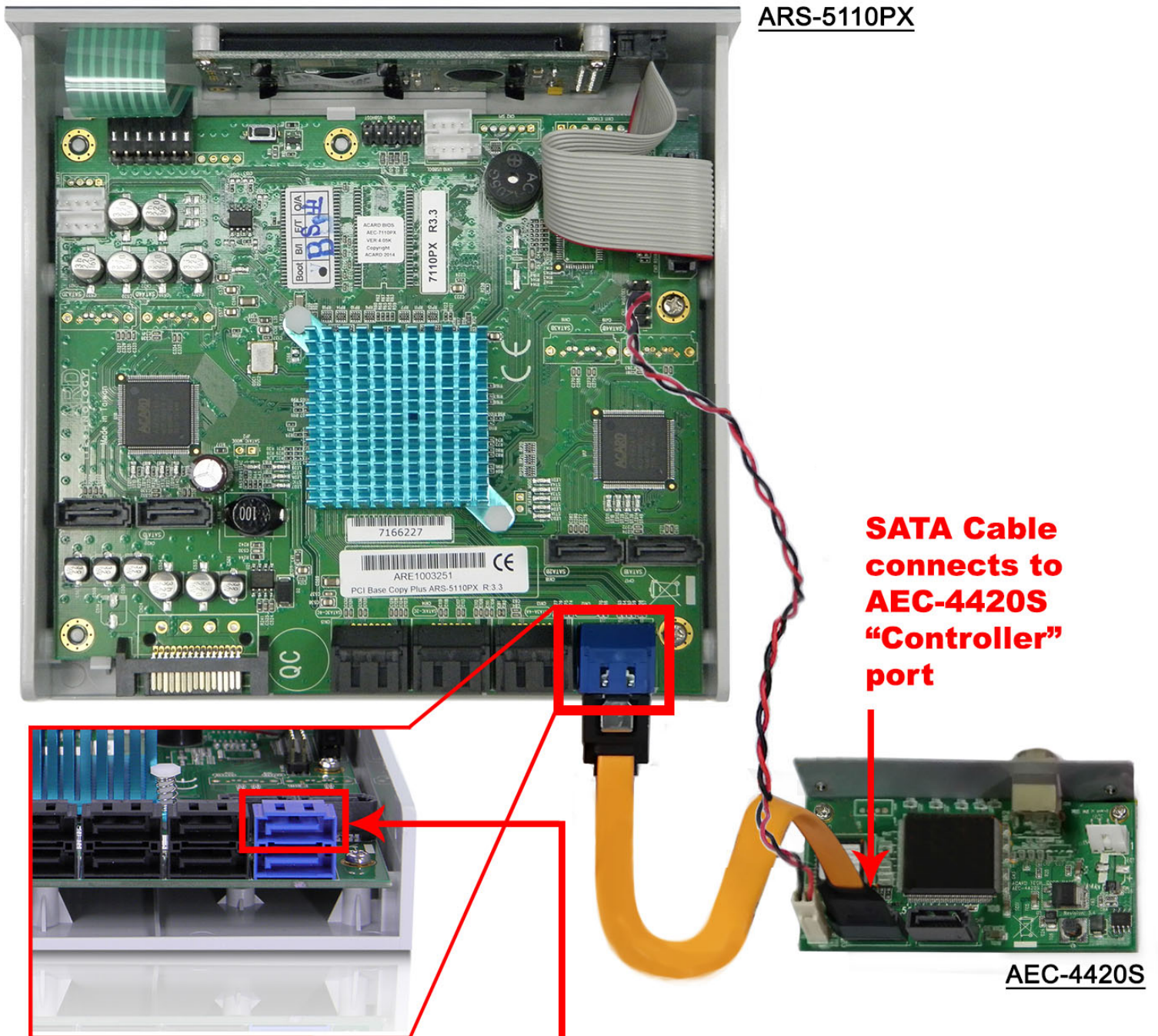
Note: For proper configuration of cables/wires, position the copy controller and the AEC-4420S according to each illustration shown. Failure to properly install the signal wire will cause the AEC-4420S to be inoperable.



Section 2: Configuring the Controller Cable

Please connect the provided SATA cable to the controller's top blue SATA port. The opposite end of the SATA cable needs to be mated with AEC-4420S "Controller" port as shown below:

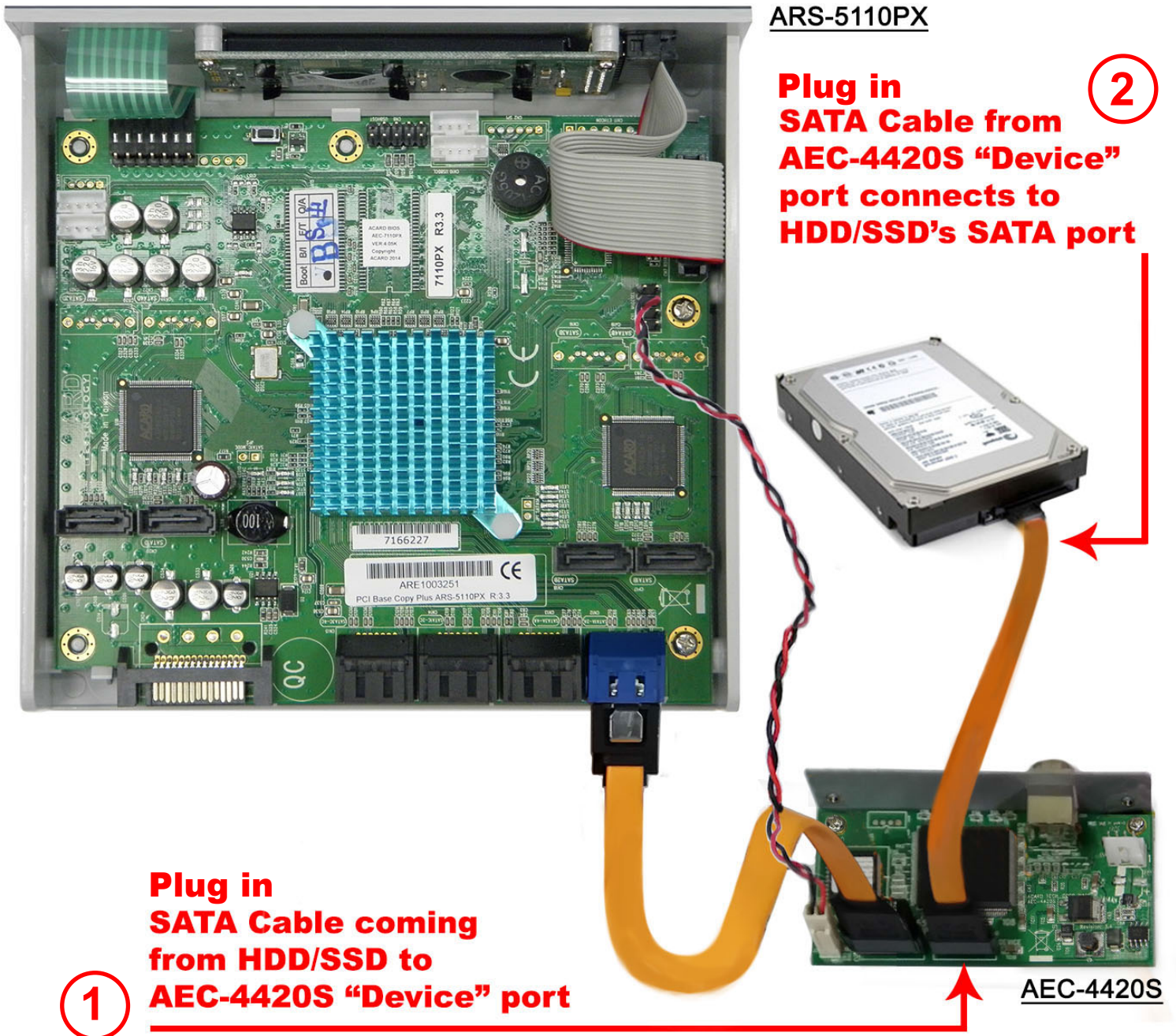
***Please be aware of the SATA cables' L-shaped male to female connector when mating together.**



*** Connect SATA cable to Top Blue SATA Port (L-Shape plug)**

Section 3: Configuring the Device Port on the AEC-4420S

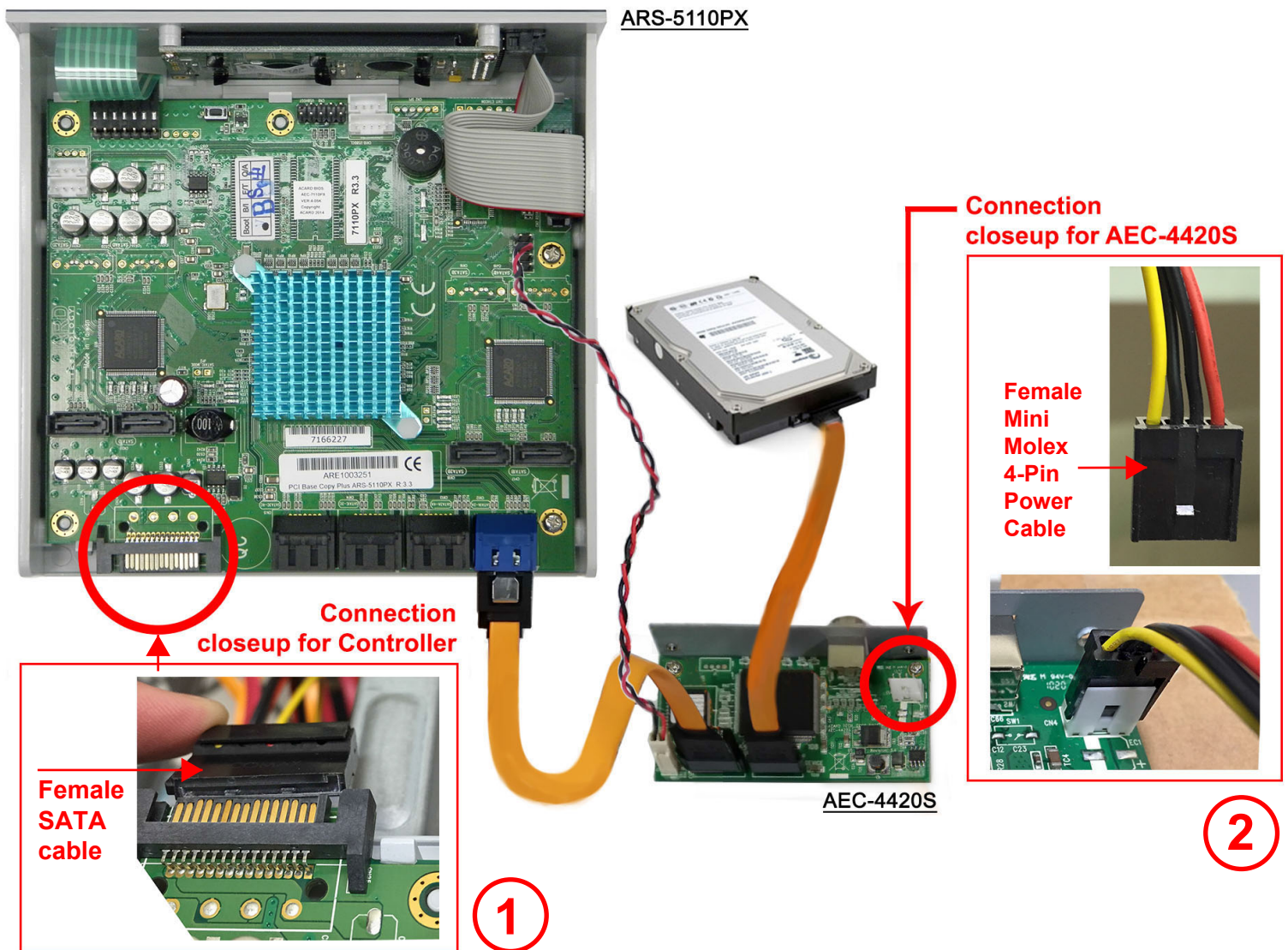
First, connect one end of the following SATA cable to the AEC-4420S "Device" port illustrated below. Second, connect the opposite end of the SATA cable to the Hard Disk Drive (HDD)/Solid State Drive (SSD) SATA port.



Section 4: Configuring the Power SATA Cables

Please orient and mate the copy controller L-shape female SATA power cable to its L-shape male SATA power connection, on the controller's PCBA shown in box 1.

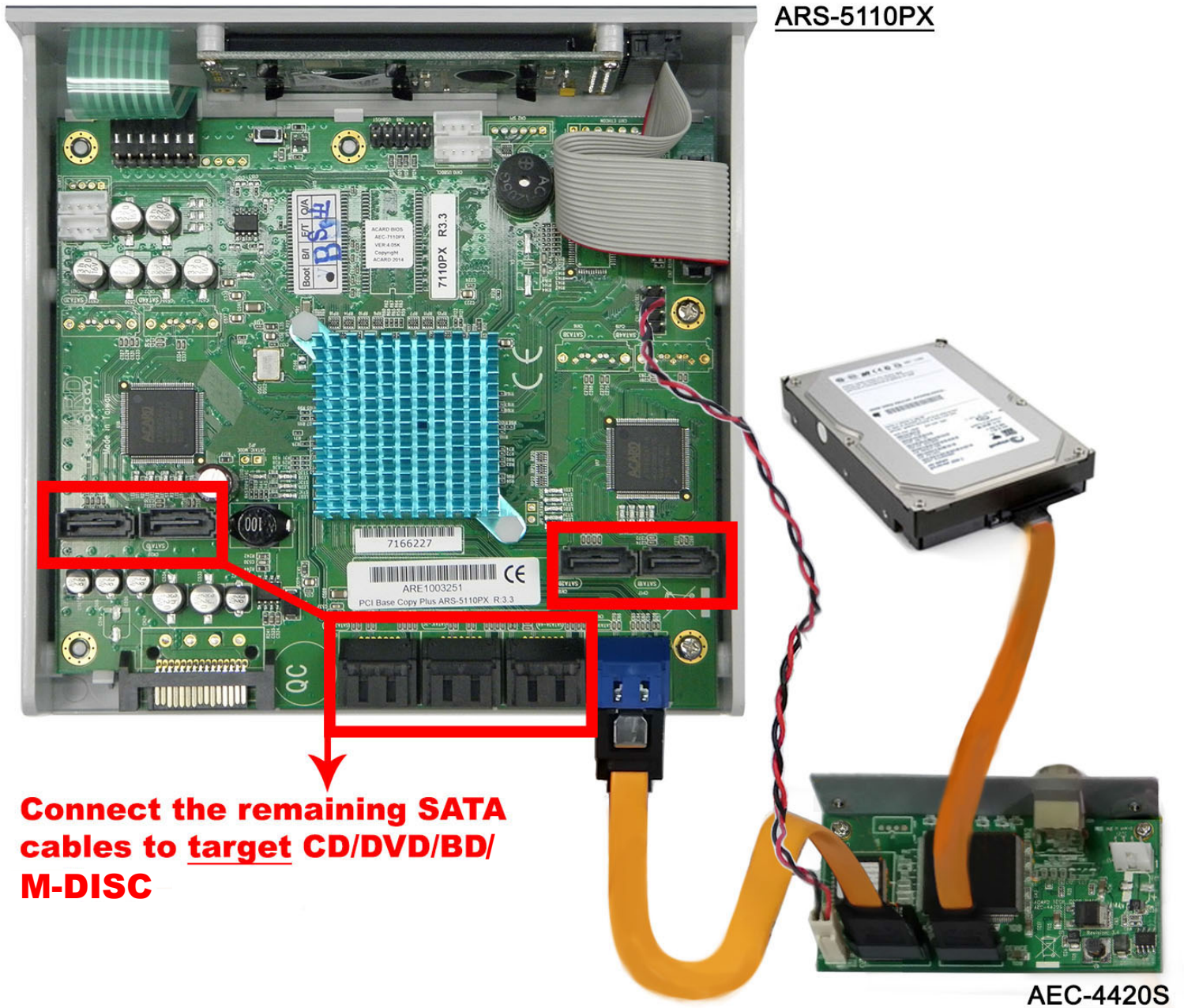
Next, position and connect the female mini molex 4-pin power cable into the AEC-4420S male port. Refer to box 2 to properly connect the mini molex connector.



Section 5: Connecting All Other SATA Cables

Moving along, connect the remaining SATA cables from the controller to the target CD/DVD/BD/M-DISC writers:

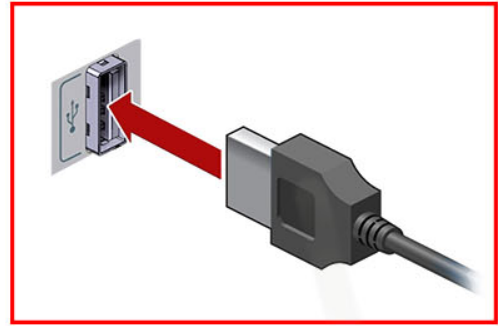
Note: The total amount of SATA cables connected can vary depending on the copy controller model number. Please refer to page 1 to help identify your corresponding model number.



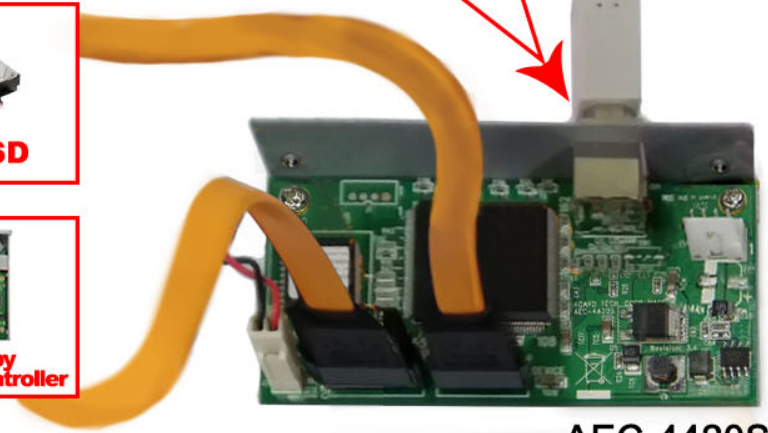
Section 6: Connecting the USB Cable to a PC

Next, connect the A to B USB cable's (not included) rectangular end into your PC's USB port, and the square USB end into the AEC-4420S square port as shown below:

A-to-B USB cable rectangular end connects to PC's USB port



A-to-B USB cable square end connects to AEC-4420S USB port



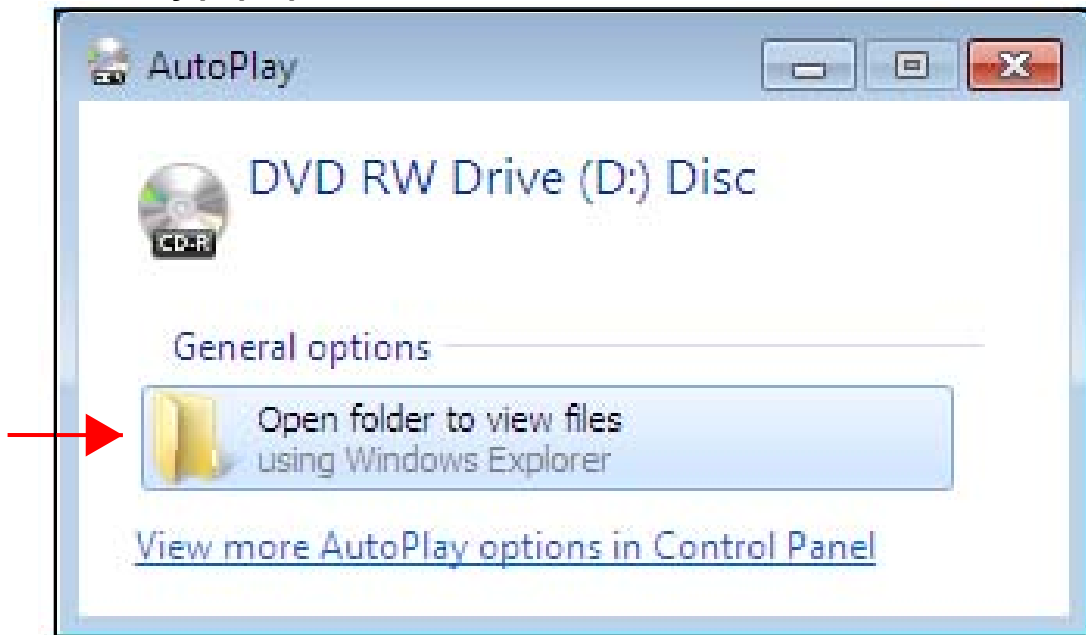
AEC-4420S

Section 7: Setup Image Manager Software on PC

Before powering on, please install the Image Manager software supplied with the ACARD Utility CD onto your PC.

- 7a** This AutoPlay screen should pop up after the USB CD has been inserted into the PC/ CD-ROM Drive. Please select "Open folder to view files":

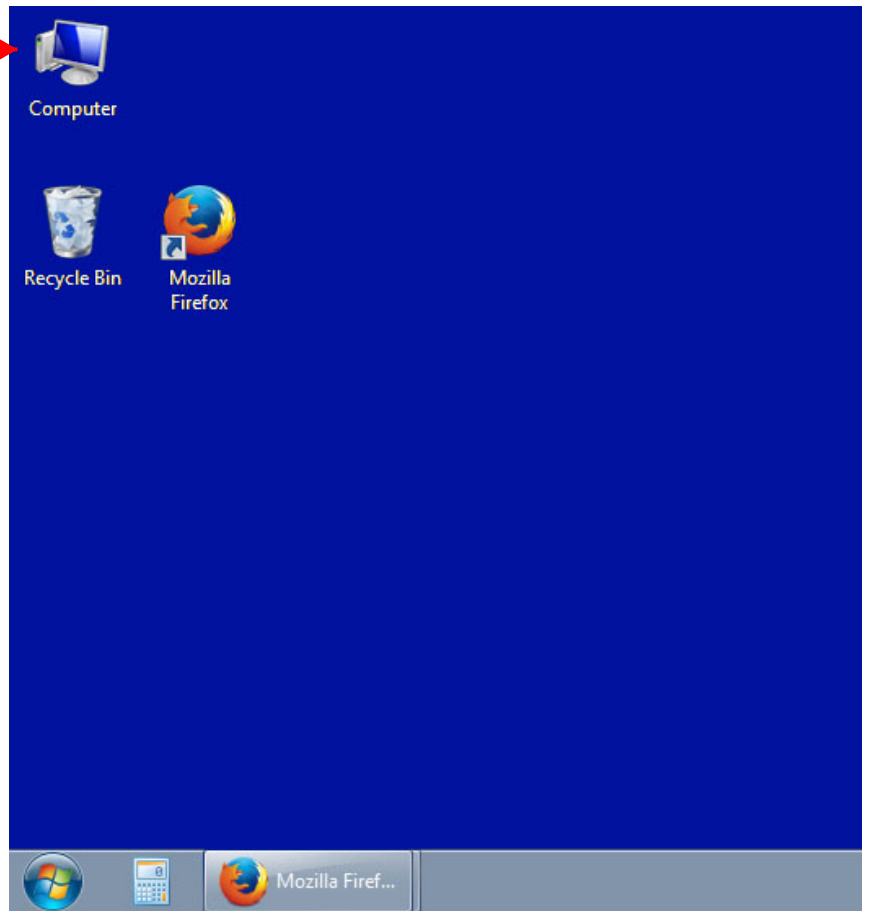
AutoPlay pop-up window:



If AutoPlay window does not appear, please follow the steps below to install Image Manager.

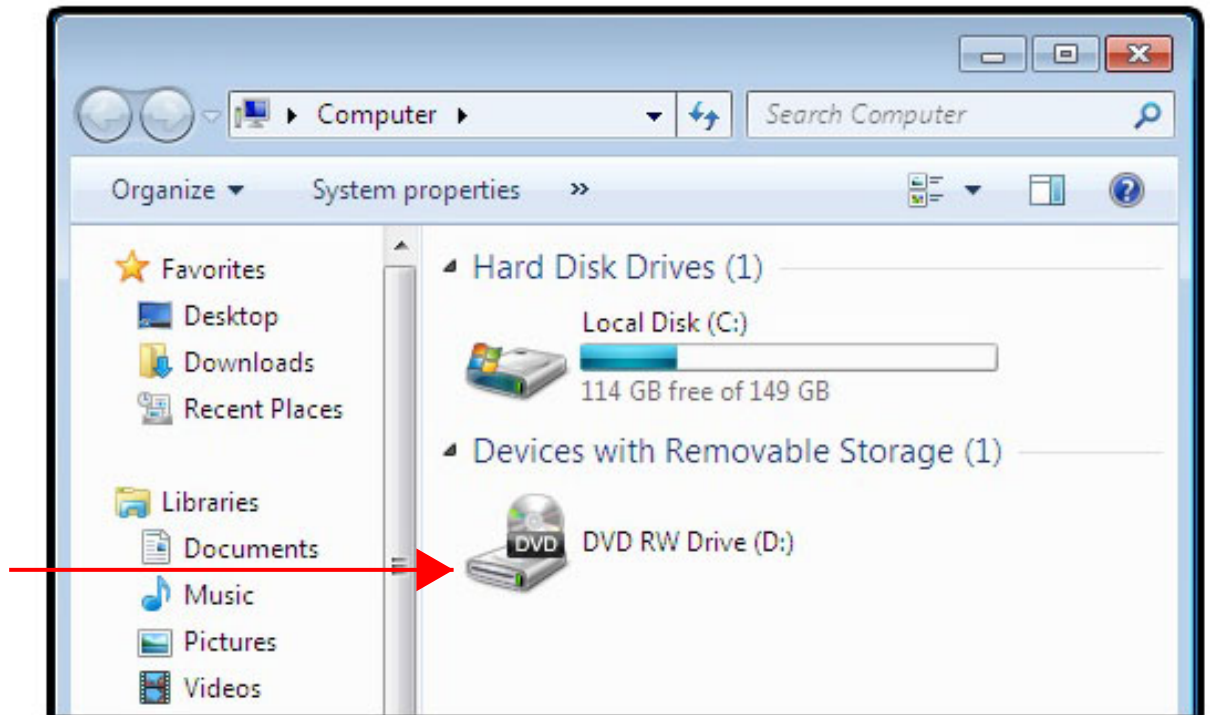
Desktop "Computer" icon:

Please navigate to the PC desktop and double-click the "Computer" folder:

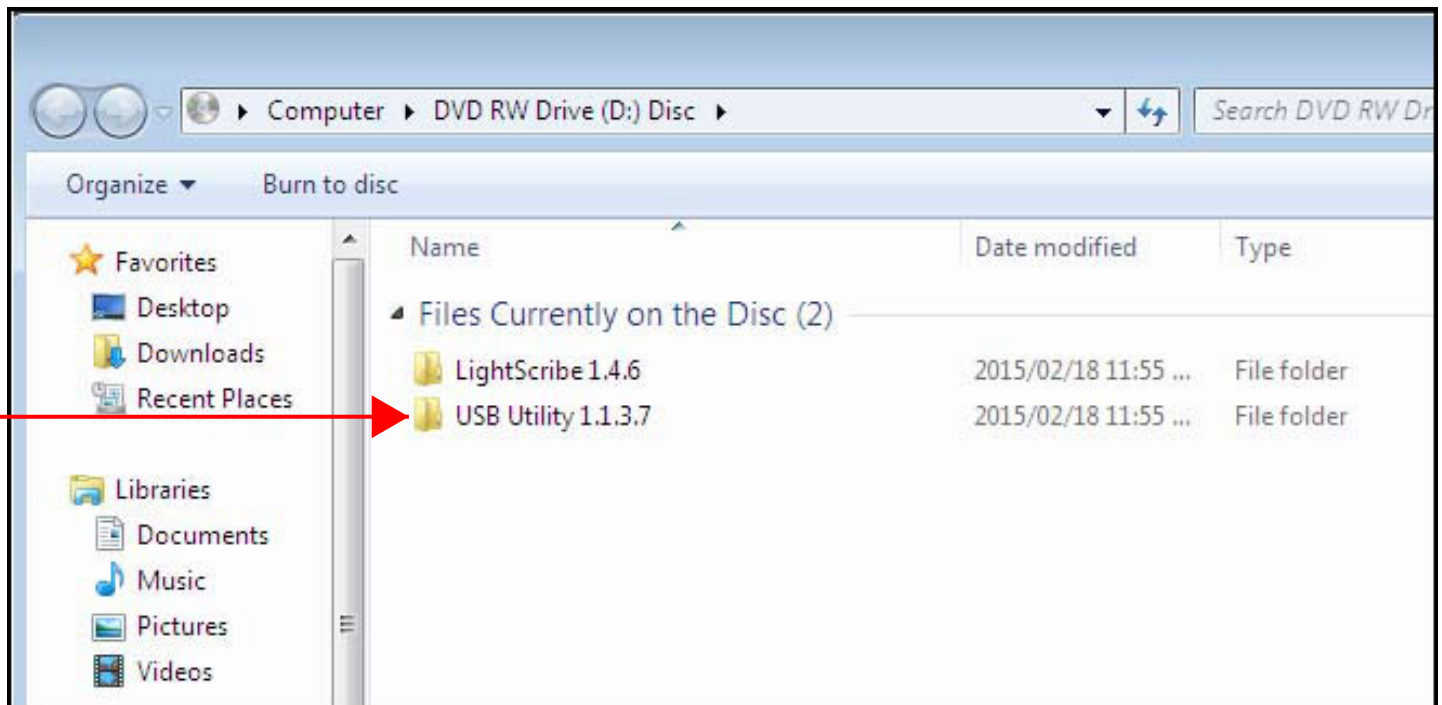


Then, find the CD/DVD folder to open and view files:

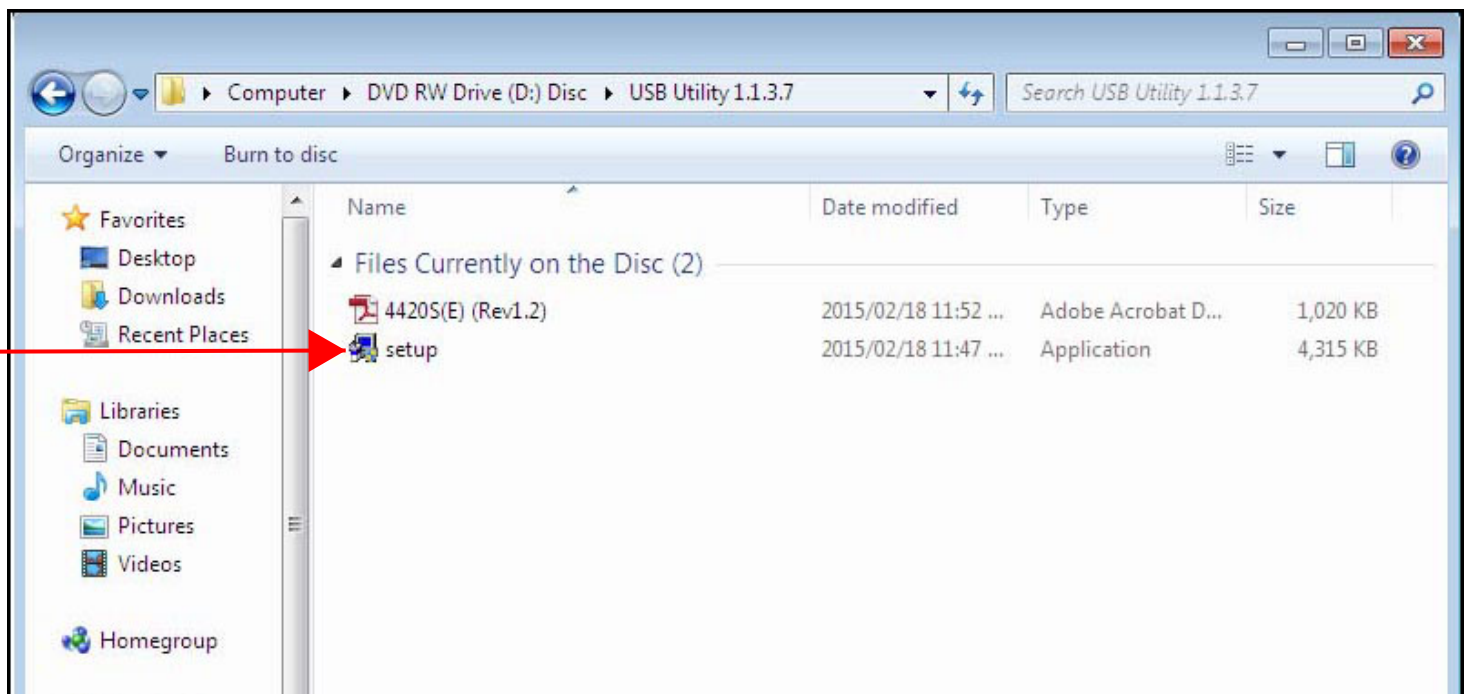
"Computer" folder:



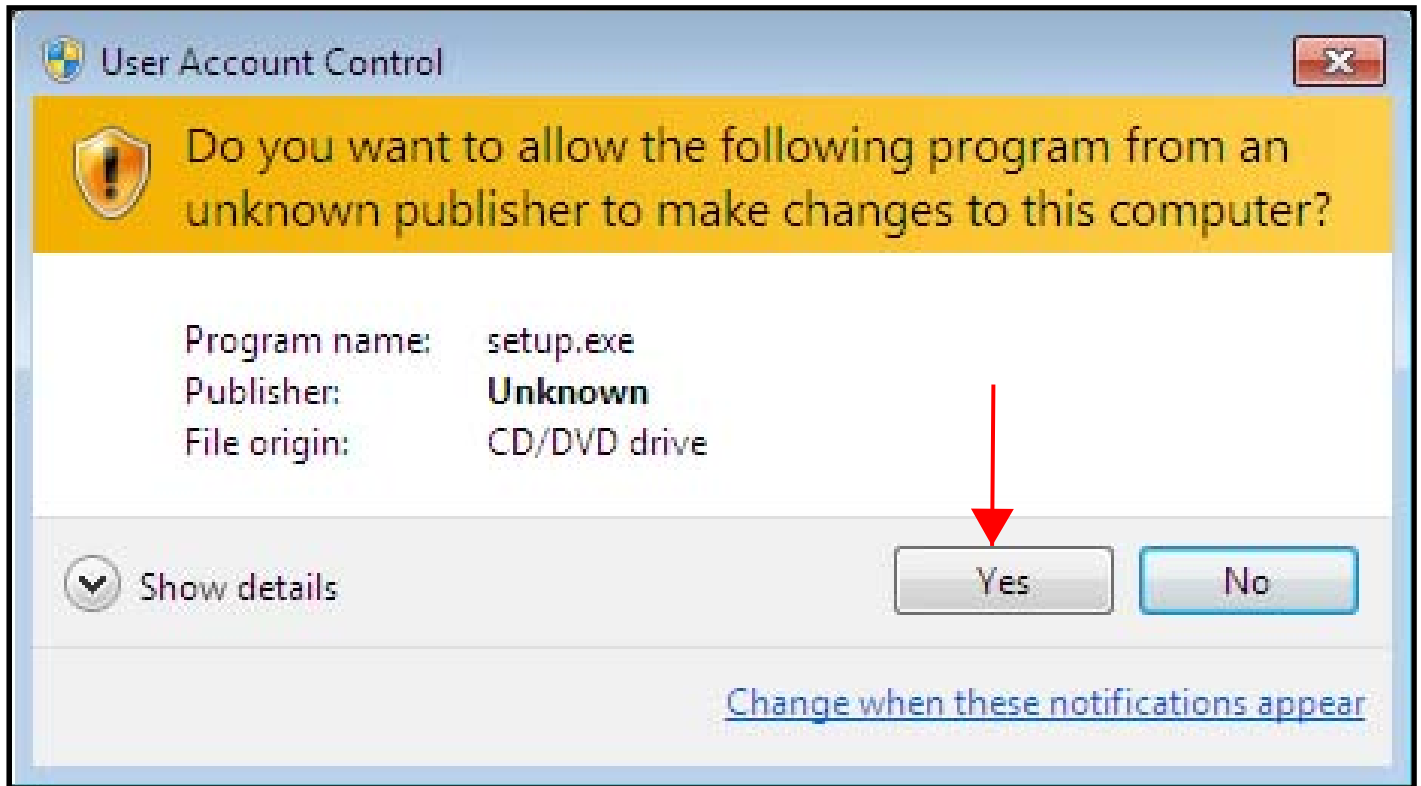
7b Double-click the "USB Utility 1.1.3.7." folder:



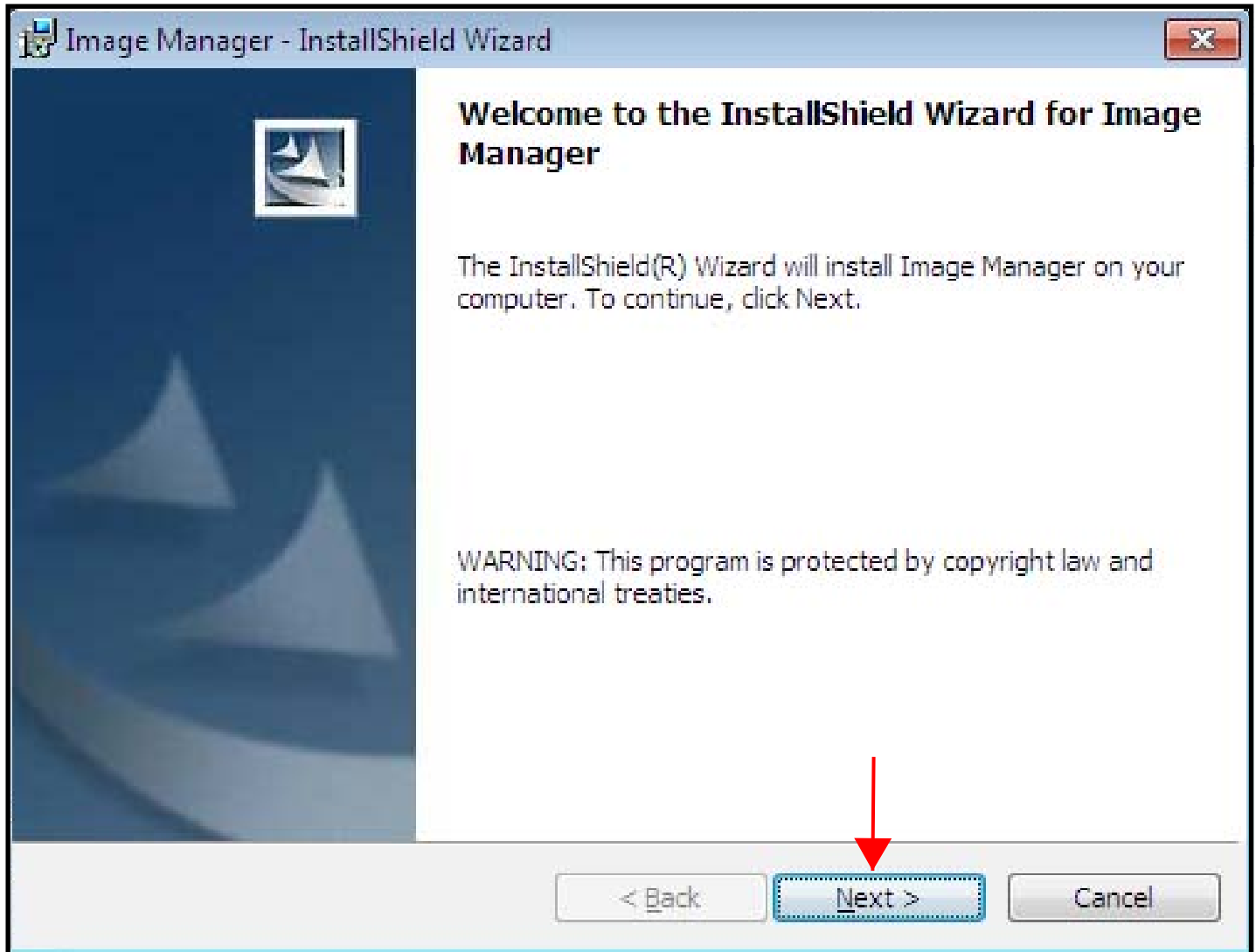
7c Proceed with double-clicking the "Setup" executable icon to begin installing Image Manager:



- 7d Once prompted by the "User Account Control" window, please select "Yes". This grants authorization for the setup to continue:



- 7e Continuing, "InstallShield Wizard for Image Manager" welcome window will appear. Please click the "Next" icon to proceed:

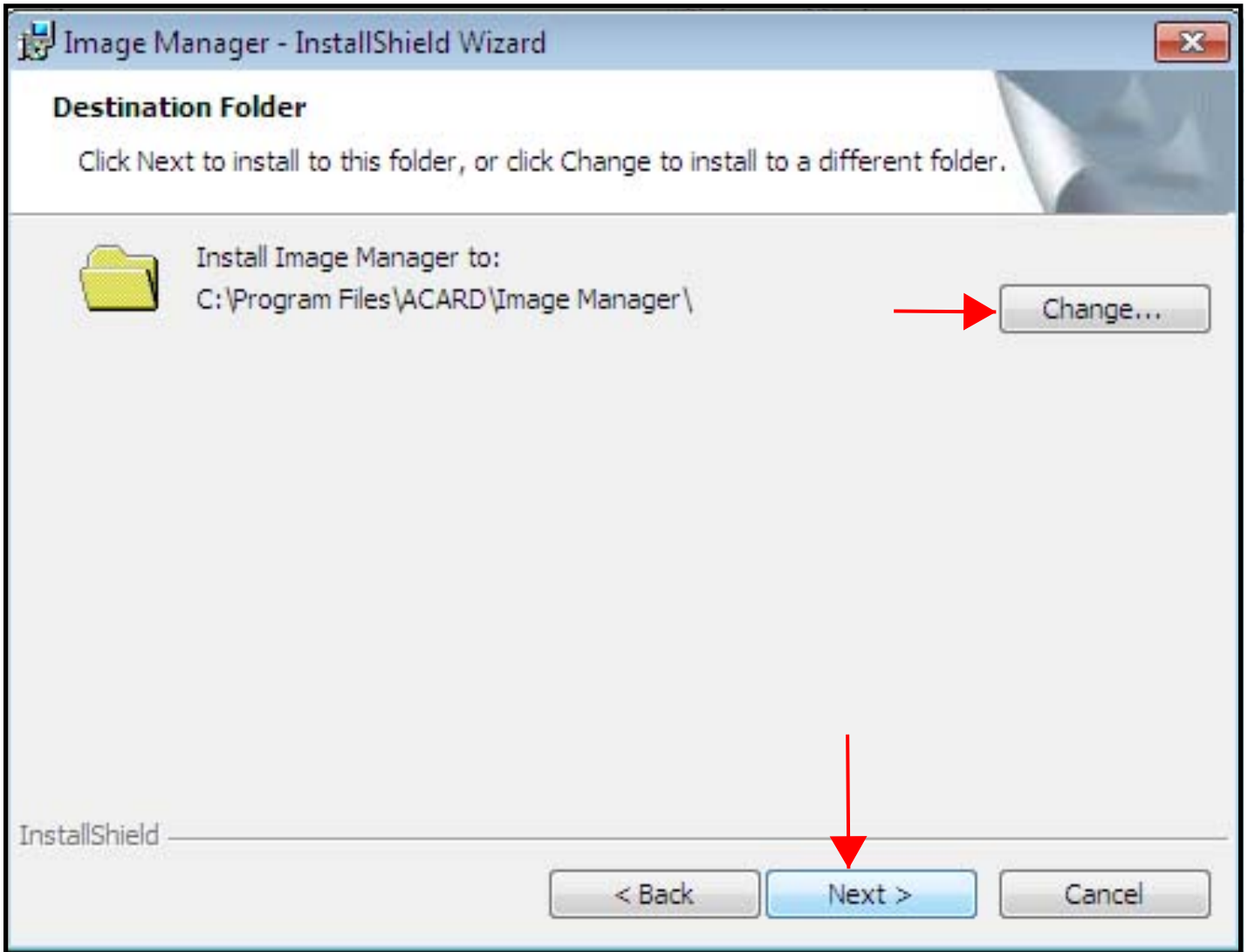


- 7f Please read carefully and select "I accept the terms in the license agreement". Click "Next" to continue:

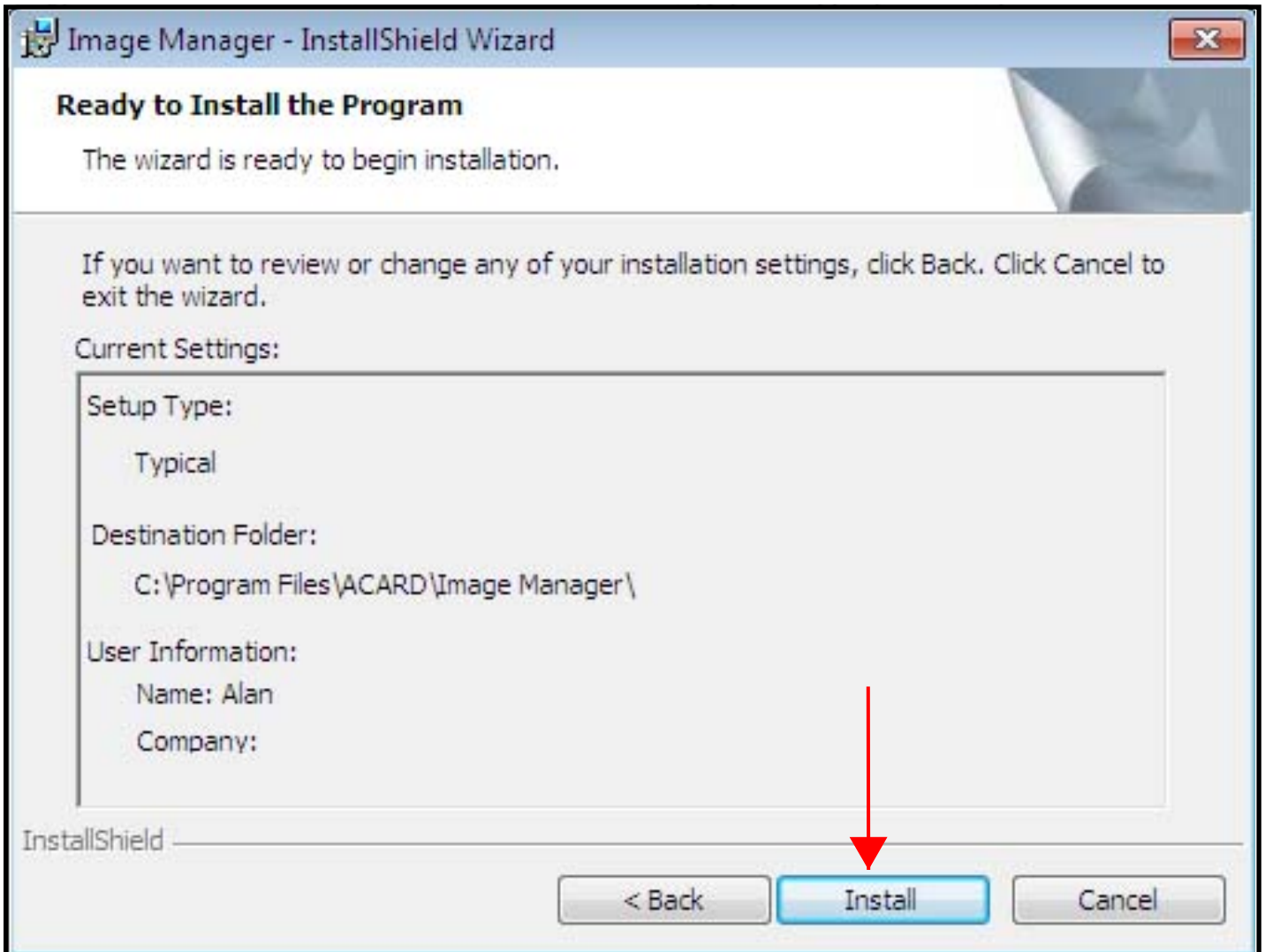


7g In this "Destination Folder" window, you will have an option to create a folder directory of where to install Image Manager.

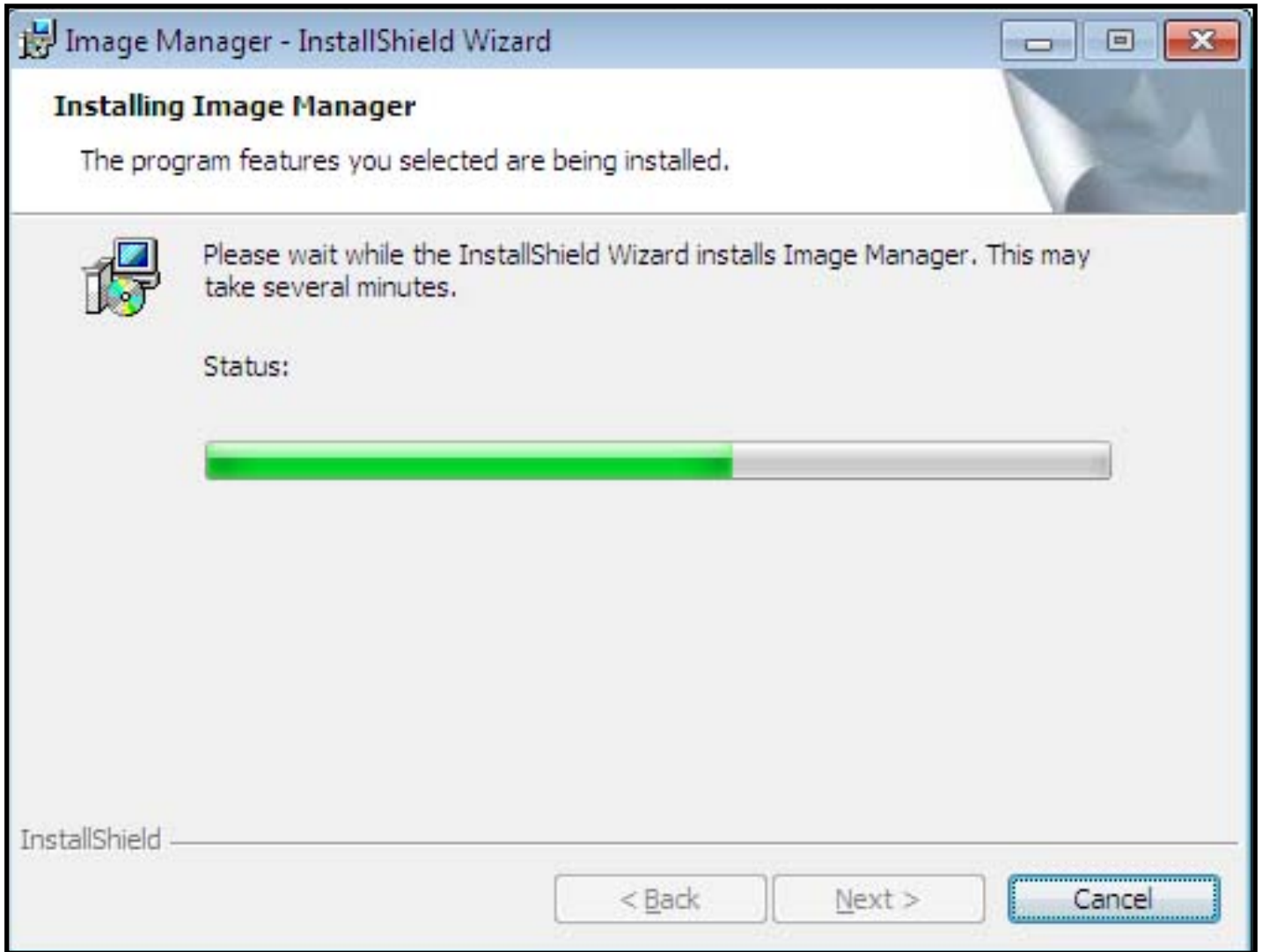
Click "Change" to do so. If not, please continue by clicking "Next":



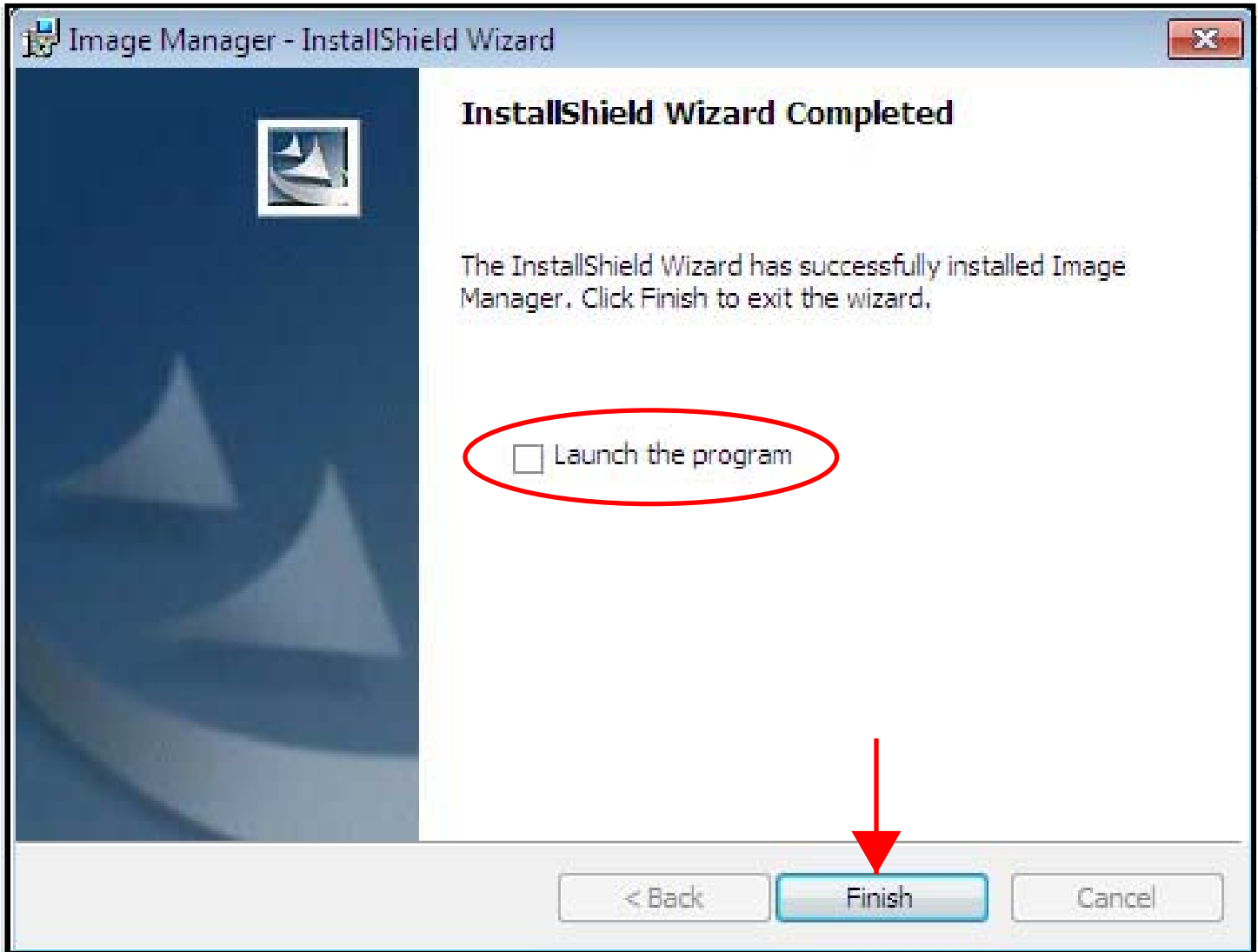
7h Now that all the previous options have been selected, please click “Install” to proceed:



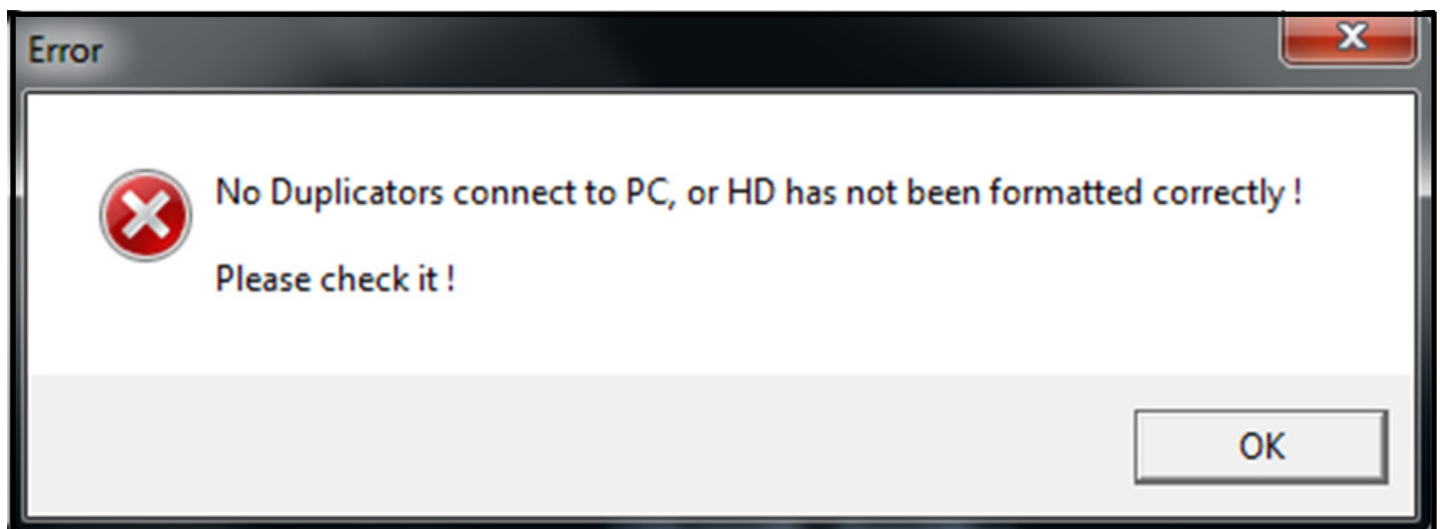
- 7i During this installation process, you have the option to "Cancel". However, if you wish to continue then please wait until the installation completes:



- 7j Please, DO NOT CHECK "Launch the program". Leave it unchecked and click "Finish" to complete the software installation:



If you checked "Launch the program" in Image Manager InstallShield Wizard, subsequently the error shown below will appear. Please see the directions on the following pages to complete the full configuration and installation:



Section 8: Formatting the HDD/SSD

The following steps will enable the USB Option:

WARNING: Before proceeding please back up any necessary files on the HDD/SSD, prior to formatting with the ACARD Copy Controller.

Please turn on the copy controller and/or duplicator tower.

If the HDD/SSD has never been formatted by the ACARD controller, the screen below will appear when powered on:



Display 1

If the HDD/SSD has been formatted by the controller, this screen will appear when powered on:



Display 2

If you are unsure, please continue to the next step to begin formatting the HDD/SSD with the copy controller.

- 8a Using the up/down arrow keys, please navigate to menu "9.Image" and press the green "ENT" key to access this menu:



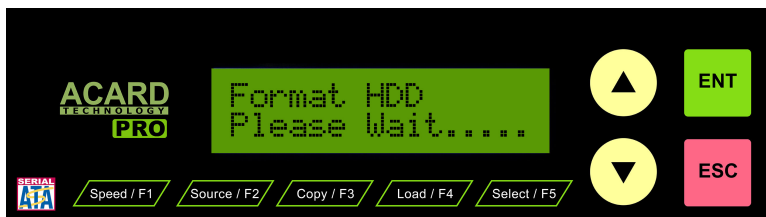
- 8b** Next, navigate to "9-09 Image Format HDD" and press the green "ENT" key to begin the formatting process:



- 8c** "HD Partition SizeSelect?F_S" will appear, agree to this by pressing the green "ENT" key:



- 8d** Please use the up/down arrow keys to select "Yes" and press the green "ENT" key to confirm "All data will be lost format? Yes":



- 8e** DO NOT VERIFY the HDD/SSD. Use the up/down arrow keys to select "No" and press the green "ENT" key to complete the formatting process:

Note: Only verify the HDD/SSD if needed (to find any bad sectors within the HDD/SSD). Otherwise, the verifying process will tremendously delay the installation.



Section 9: Enabling the USB Option

Next, **enable the USB Option** on the copy controller.

- 9a** Hold down the red "ESC" key until you hear a beep sound and then release the "ESC" key. Next, use the up/down arrow keys to navigate to the "13-13. Adv Setup USB Option" menu then press the green "ENT" key:



- 9b** In this "USB Option" menu, use the up/down arrow keys to select "On" and confirm by pressing the green "ENT" key:



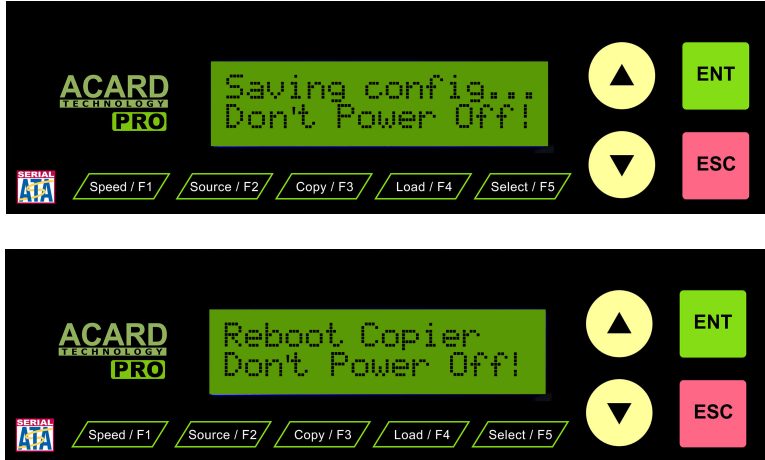
- 9c** Press the red "ESC" key twice to exit "Adv Setup" menu. Then, use the up/down arrow keys to select "12. USB Mode". Please press the green "ENT" key to continue:



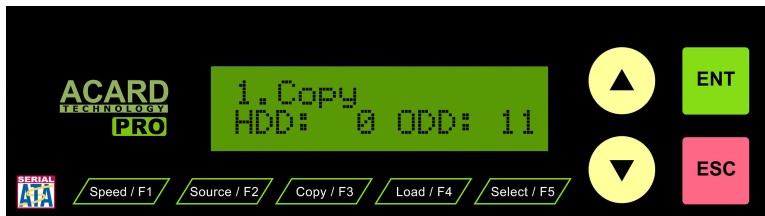
- 9d** To enable "USB Mode Switch to On", please use the up/down arrow keys to select "Yes" and press the green "ENT" key:



The controller will now save its changed configuration and "Reboot" itself. Please DO NOT TOUCH the copier controller until the next steps are completed:

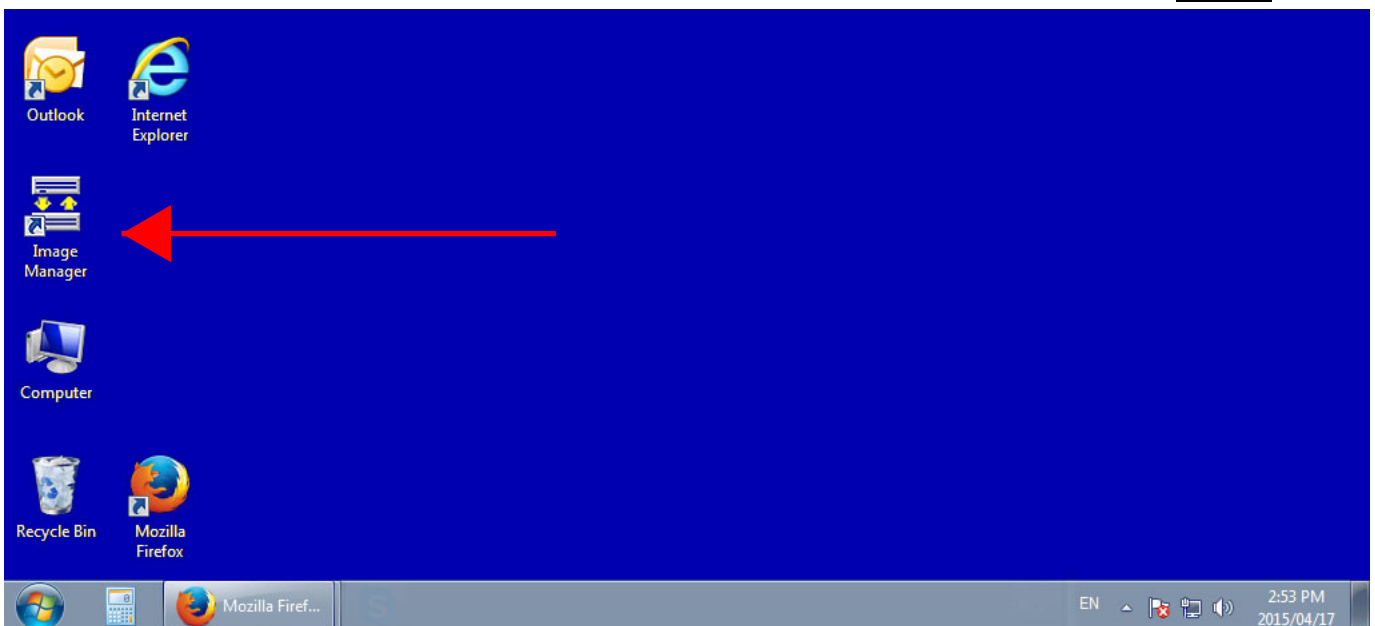


After rebooting the controller now has no access to the connected HDD/SSD, and should read "HDD: 0"; therefore, enabling "USB Mode Switch to On" allows the connected PC to access the HDD/SSD:



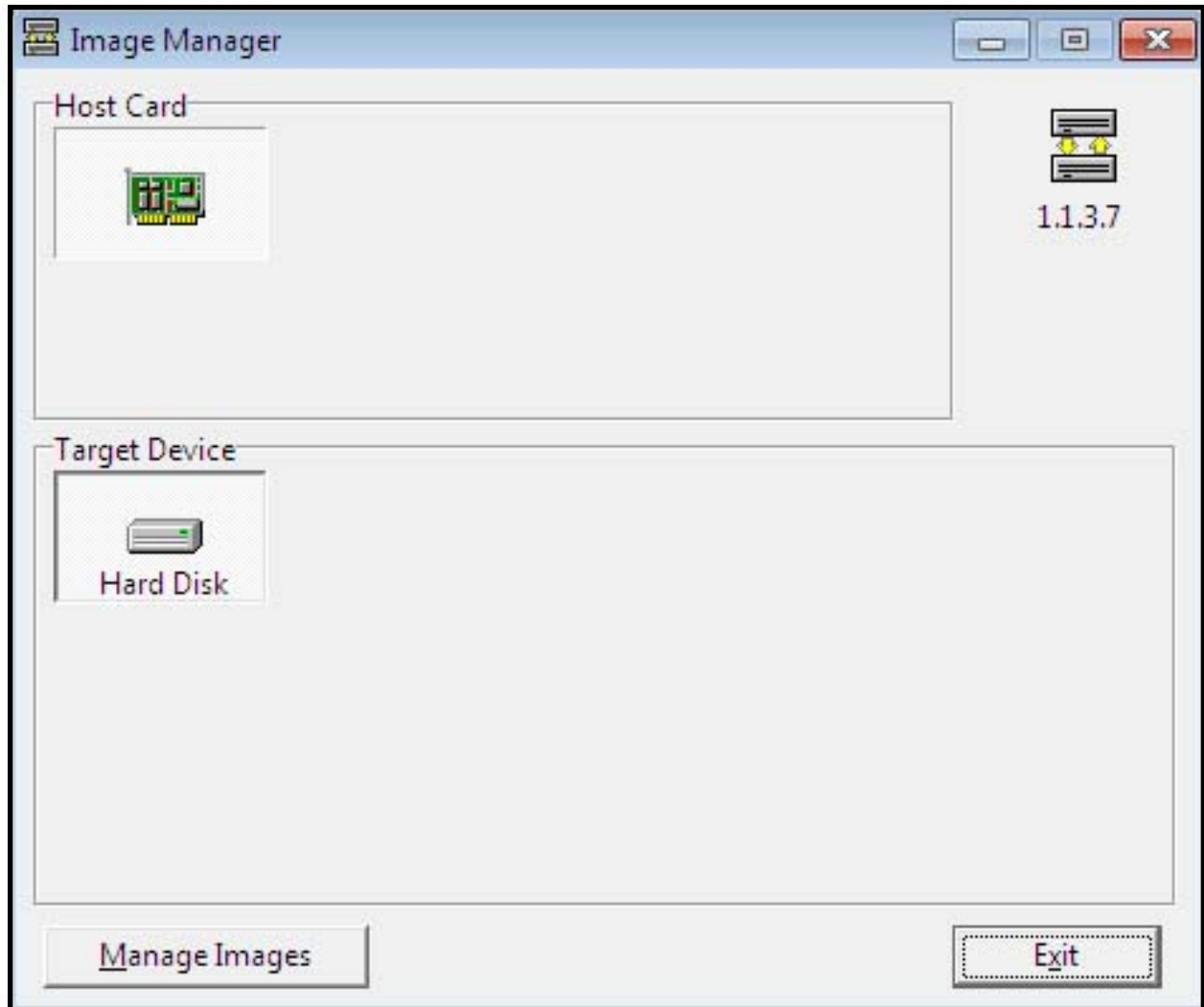
Now launch Image Manager since your controller is fully configured.

9e Please double-click the Image Manager icon on the PC desktop:



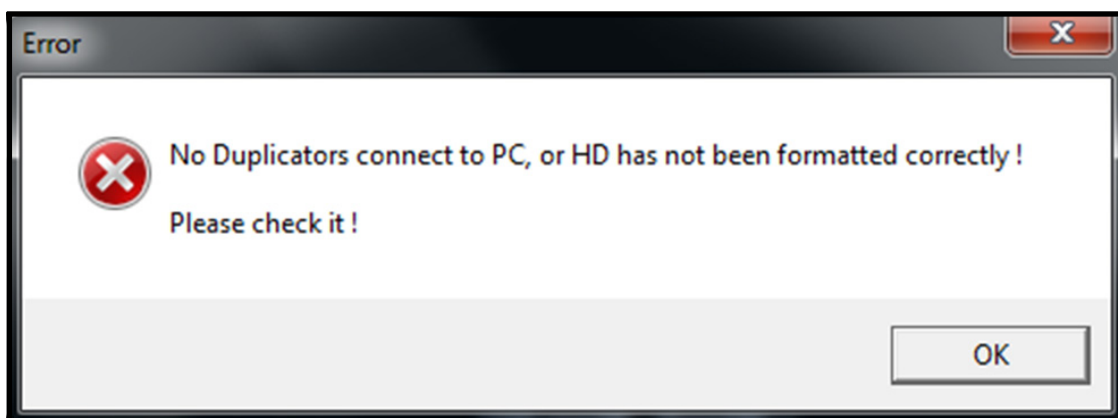
If Image Manager opens properly without an error, please continue on to Section 11, page 26.

Image Manager opened without an error:



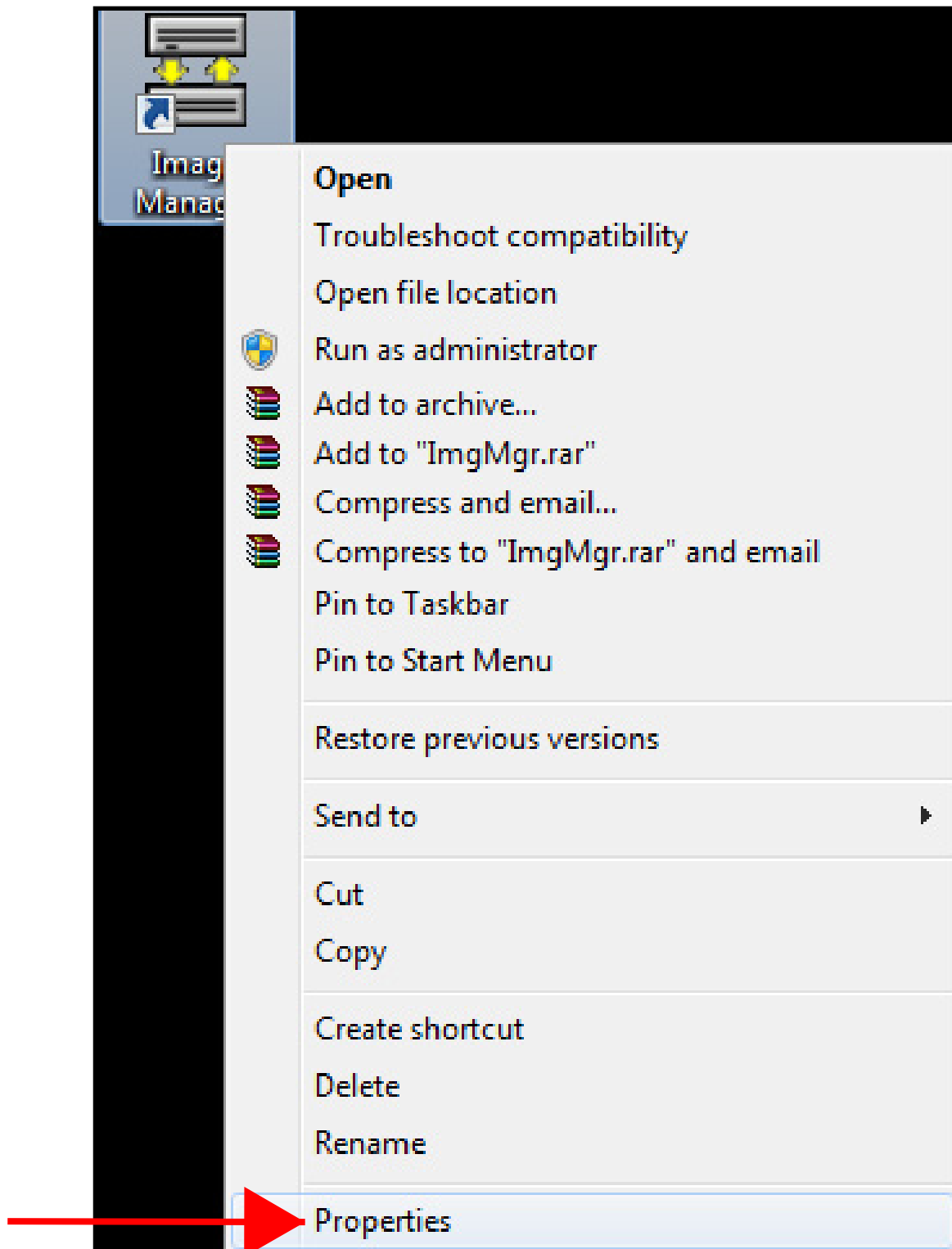
If Image Manager opens with an error, please continue to the next page Section 10, page 24.

Image Manager opened with error:



Section 10: Image Manager Compatibility Mode (For Windows 7 & 8 only)

- 10a** Please right-click the Image Manager Icon on the PC desktop and access the Properties menu by clicking on "Properties":

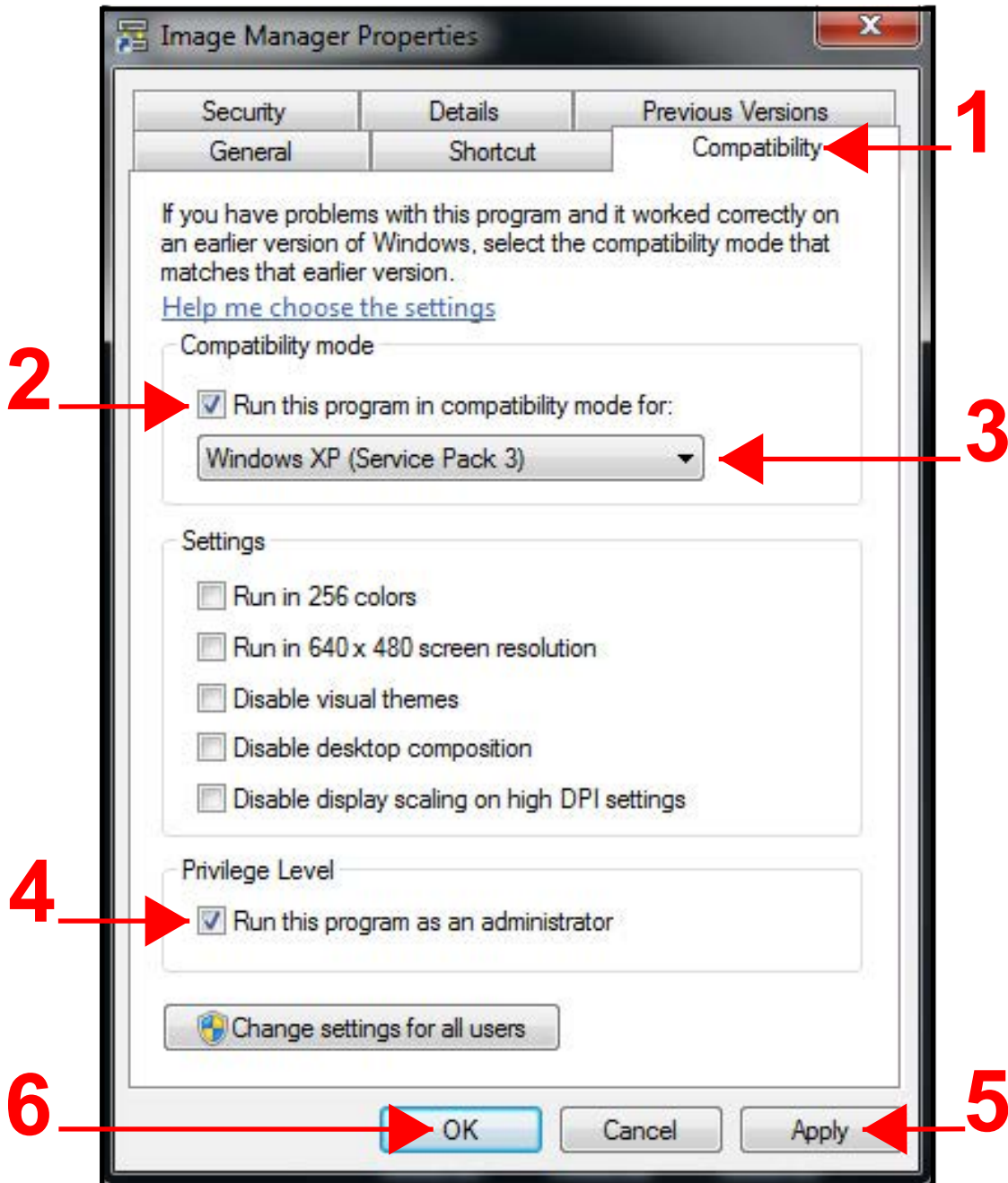


10b

Next, go to the "Compatibility" tab, please select "Run this program in compatibility mode for:", and select "Windows XP (Service Pack 3)" from the submenu.

Then enable the "Privilege Level" by enabling the "Run this program as an administrator" option.

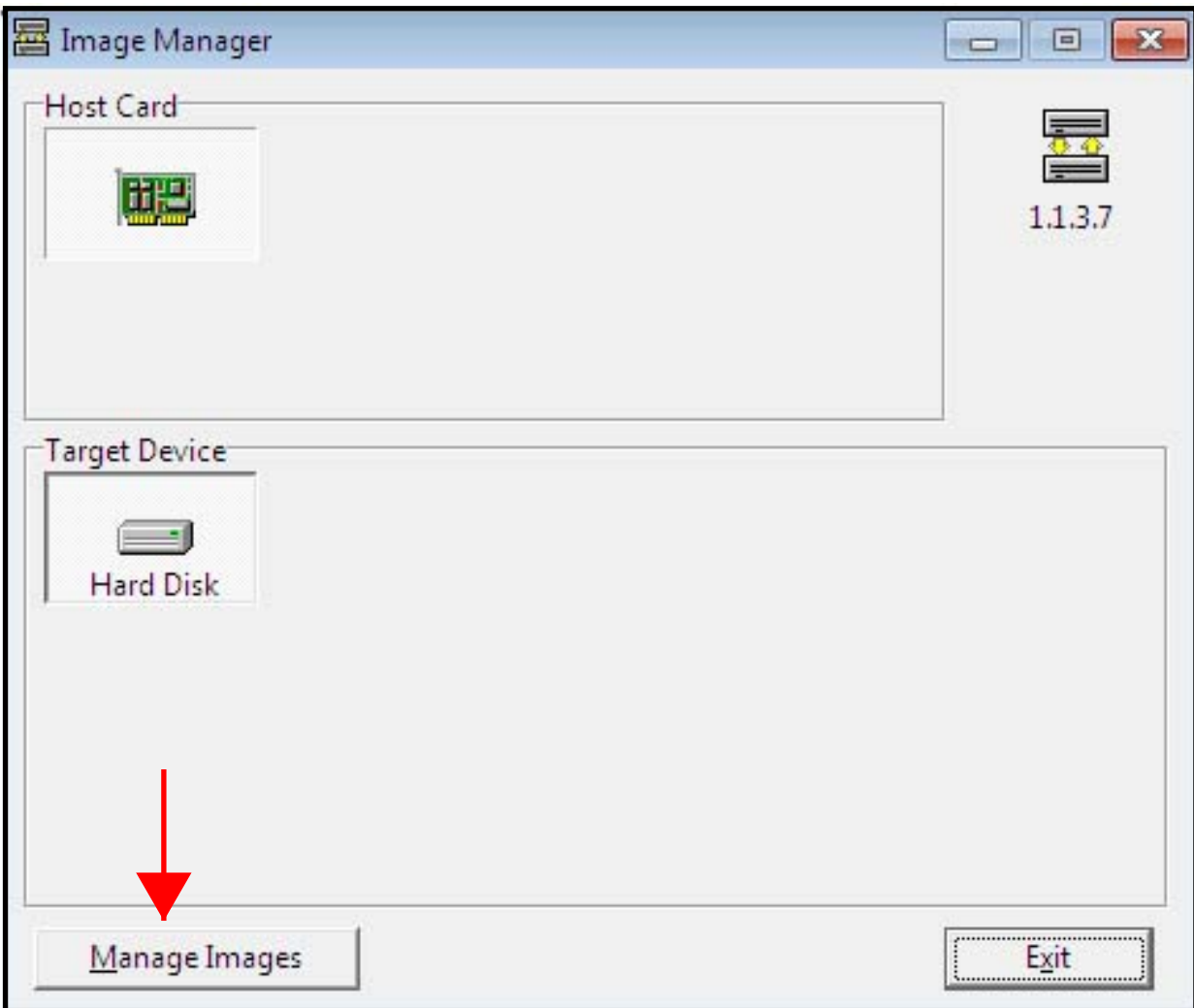
Now click Apply and OK:



Section 11: Importing/Exporting Files into Image Manager

Image Manager has the ability to import/export .ISO, .CRM, .DVM, & .LSI images. In this example, the .ISO image will be used in this installation guide.

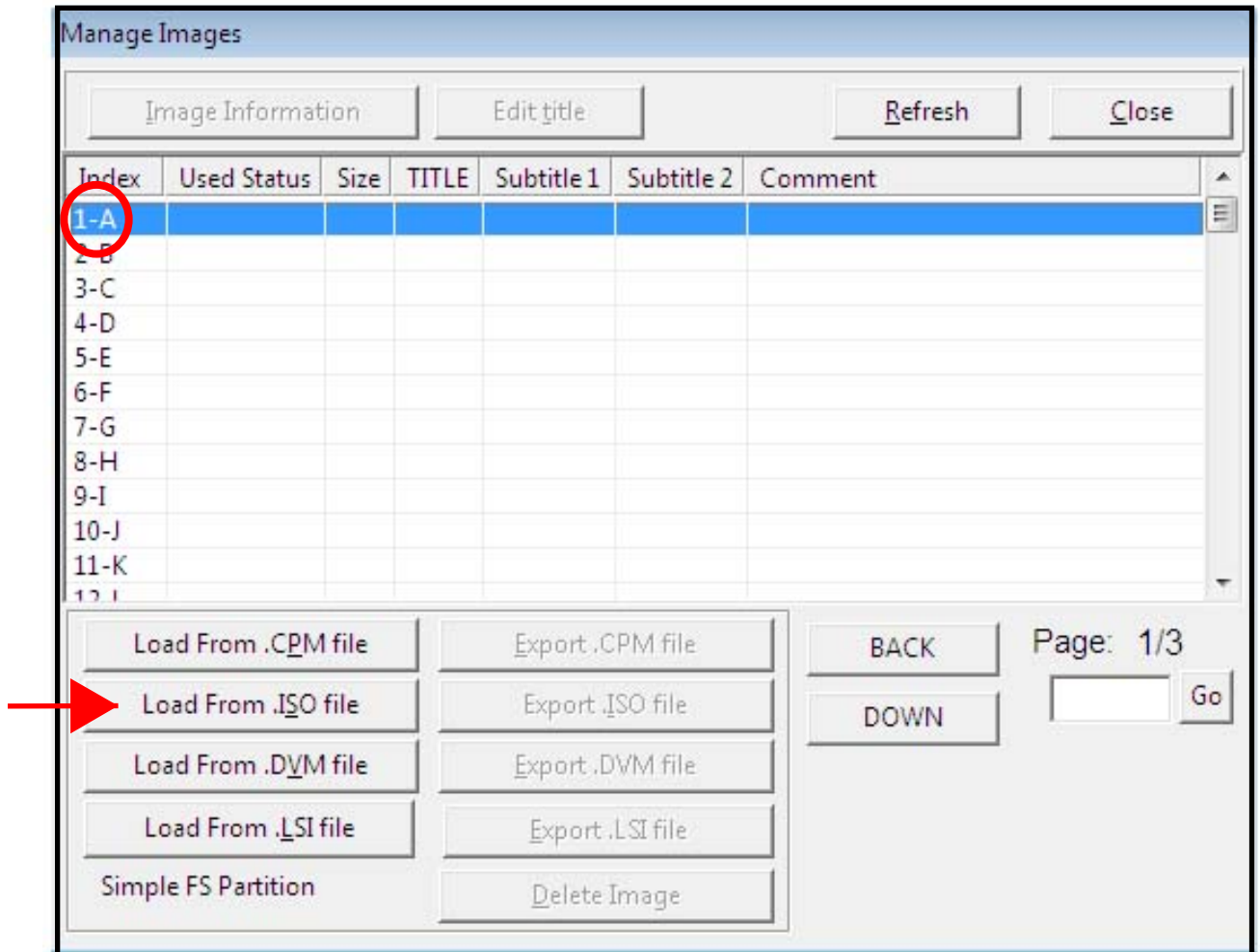
- 11a** Now that you have successfully set up the ACARD Copy Controller, AEC-4420S, Image Manager, and HDD/SDD, please select "Manage Images" icon from the bottom-left corner of "Image Manager" application window:



11b

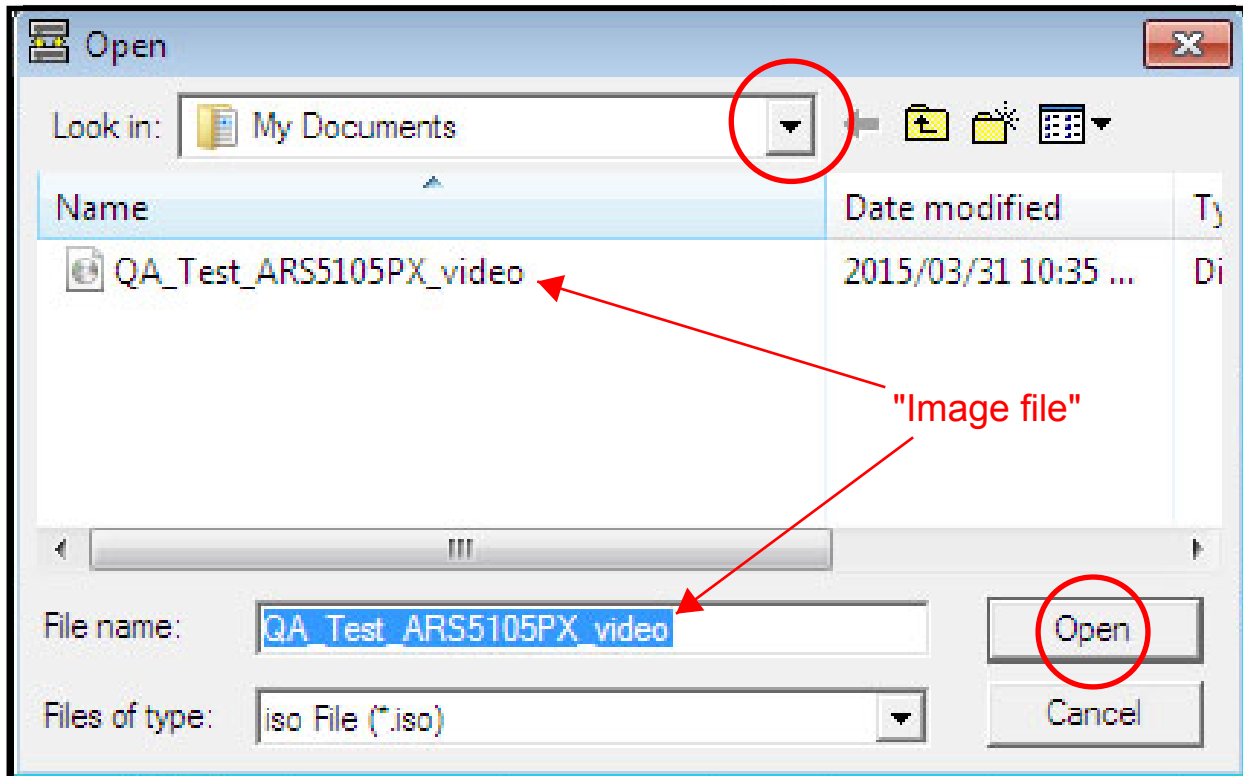
To load images, please select the first empty Index, which is labeled "1-A".

Please select "Load From .ISO file" to find the .ISO image:

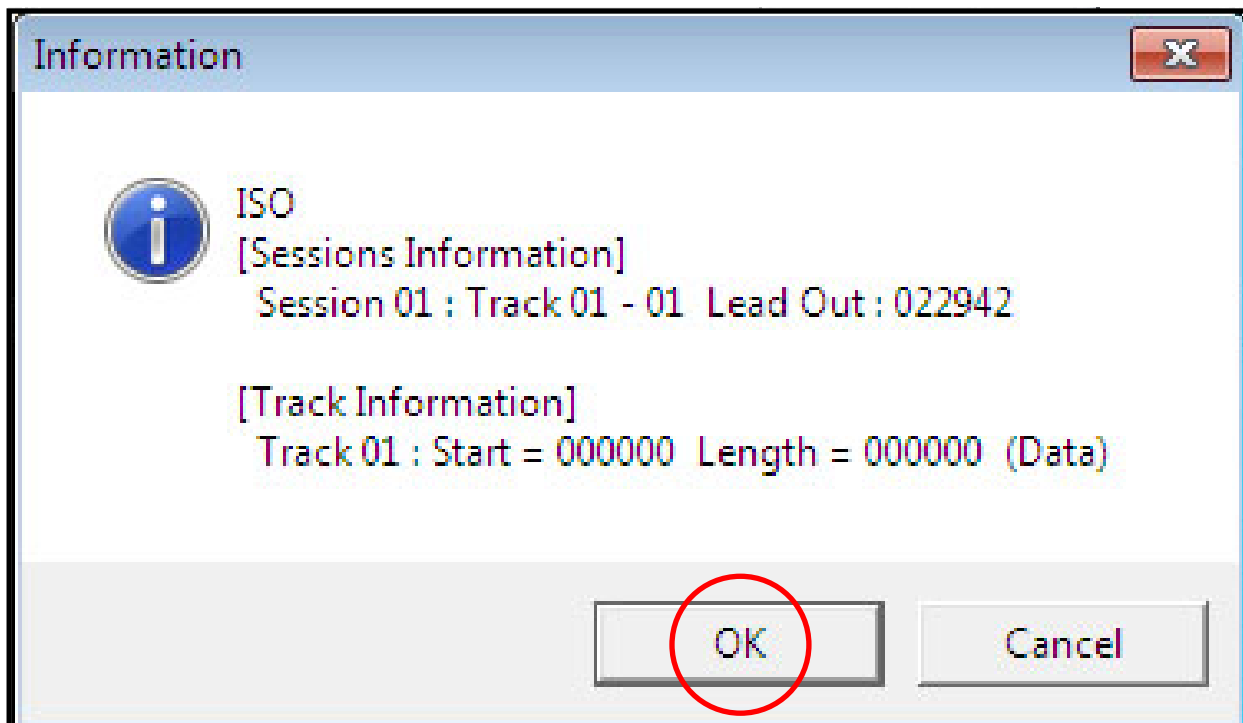


Note: To fully allow maximum storage on the connected HDD/SDD. Please load your images in this corresponding index order: 1A, 2B, 3C, & 4D etc. In other words, do not skip any Index slots if maximum storage use is a concern.

- 11c** Next, navigate to the image through the drop down menu. Once selected, please click "Open". In this example, the image is located in "My Documents" folder:



- 11d** After opening the file, "Session" and "Track Information" about the image appears. Click OK to continue:

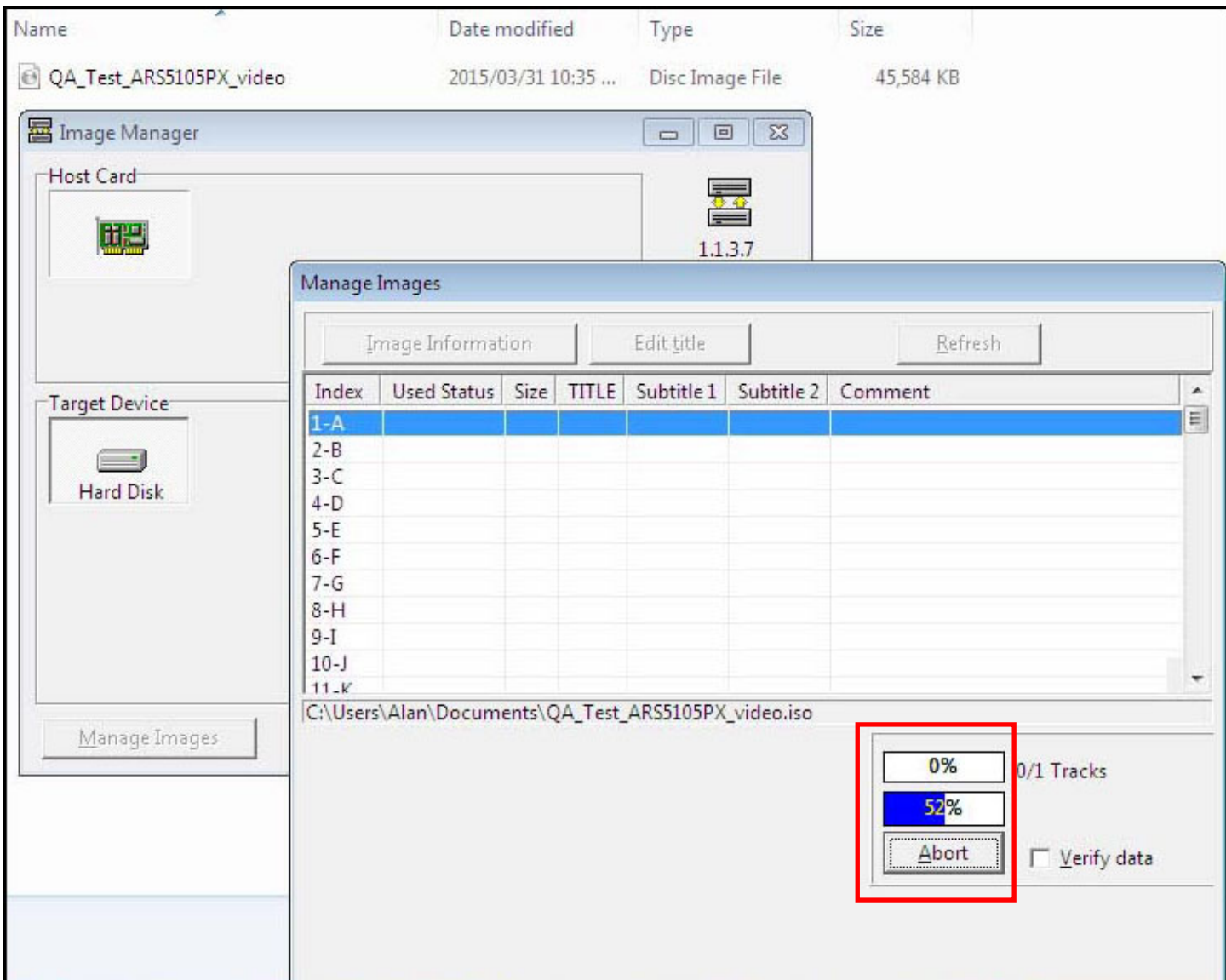


11e Image Manager will now import the .ISO file.

The time it takes to fully import the file is dependent on the file size; the larger the file the longer the transfer time.

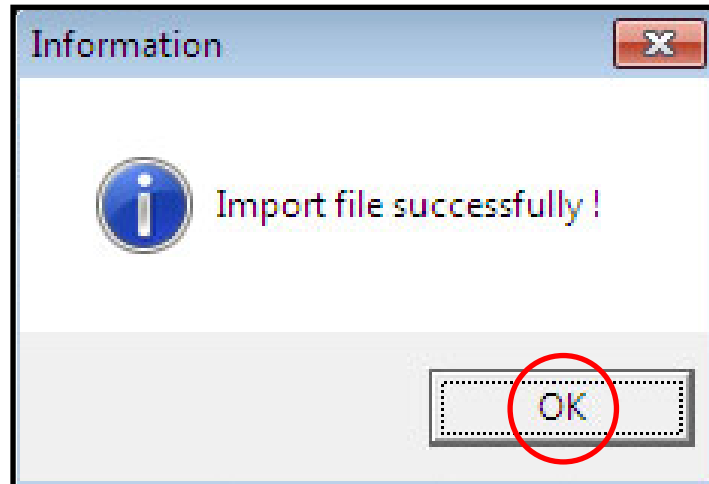
Note: An option to "Abort" during the loading process is available if necessary. To cancel, click "Abort", which is located below the loading progress bar shown in the image below:

Image Manager loading .ISO image onto connected HDD/SSD:

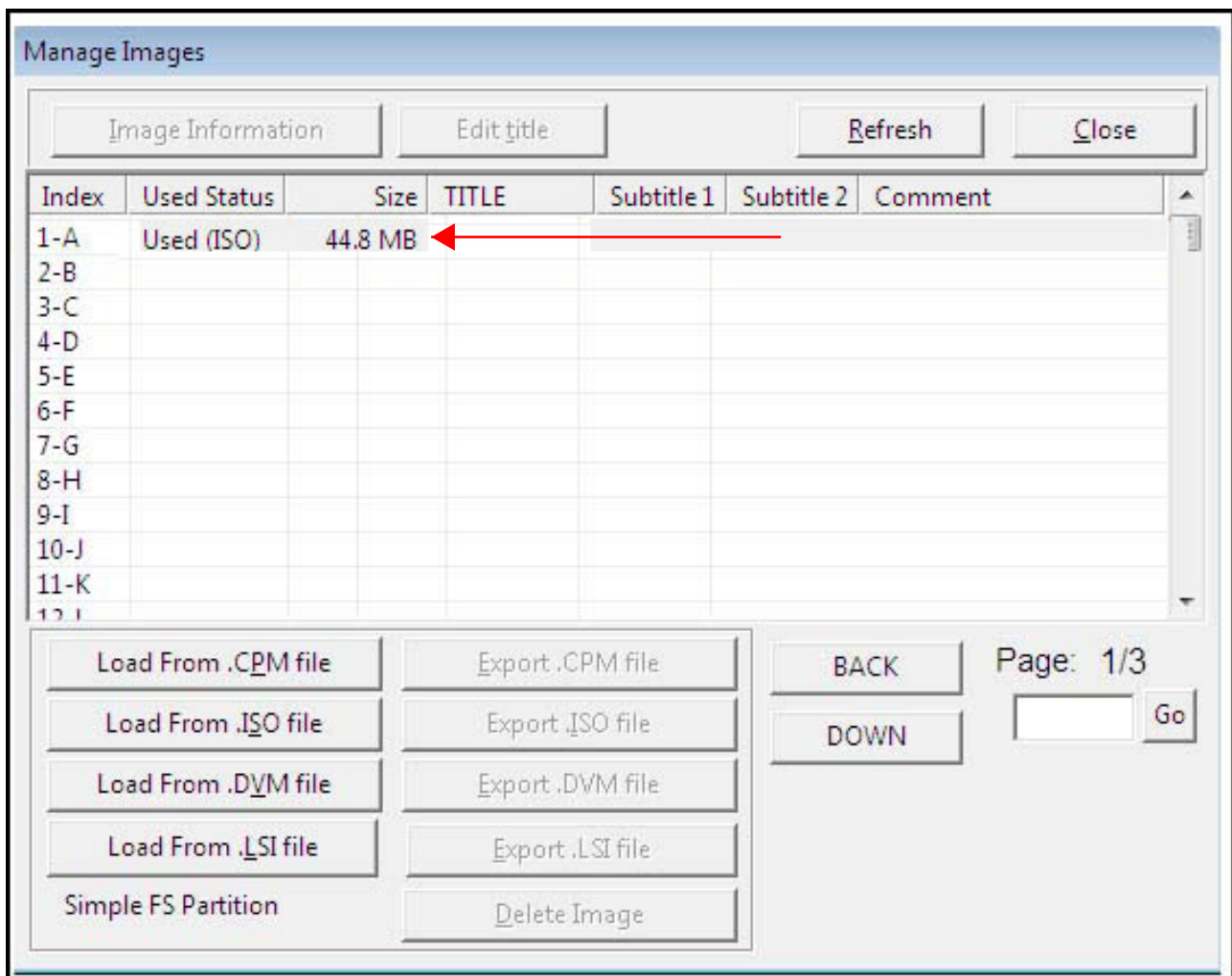


11f

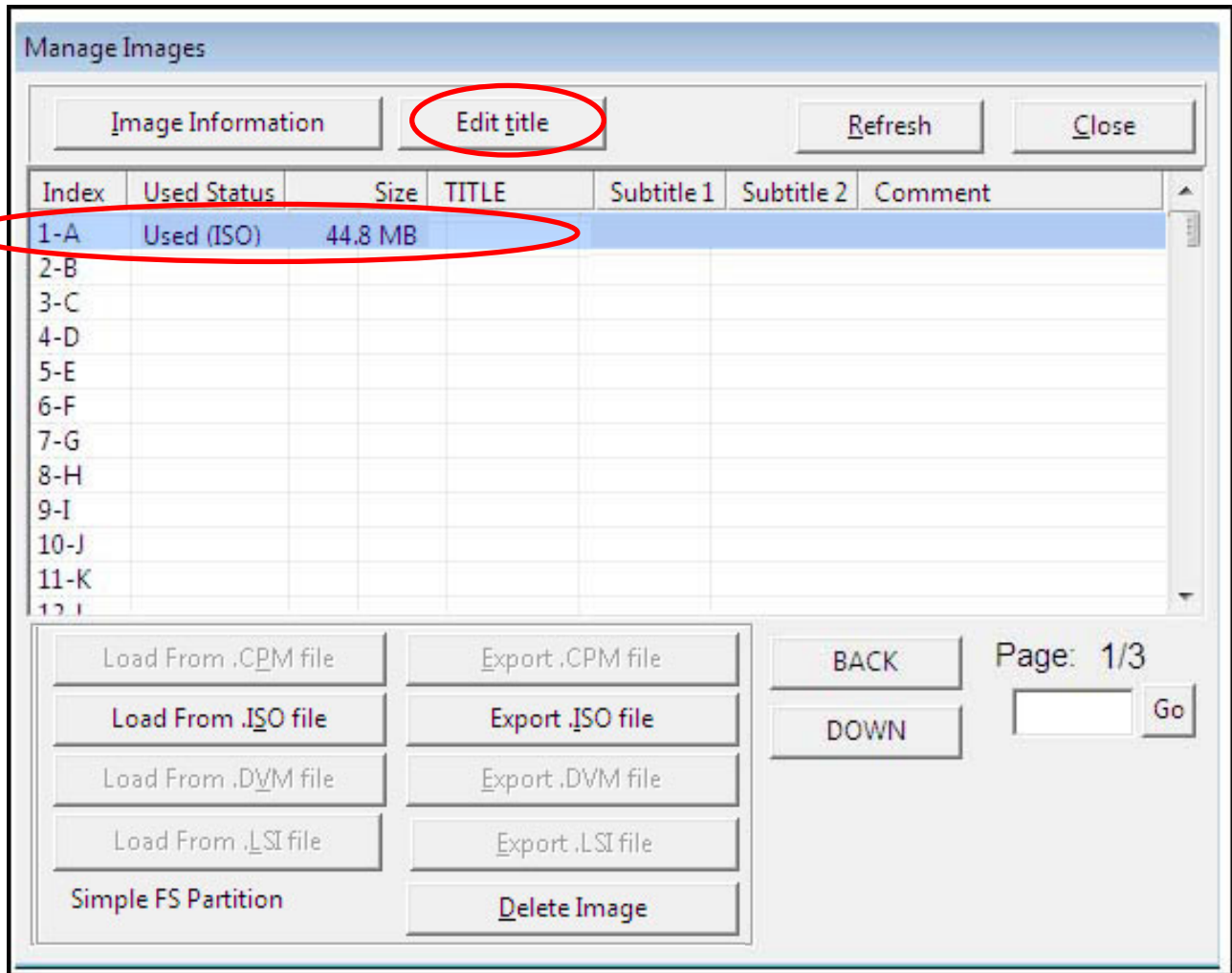
Now that the .ISO image has imported successfully, click "OK" to continue:



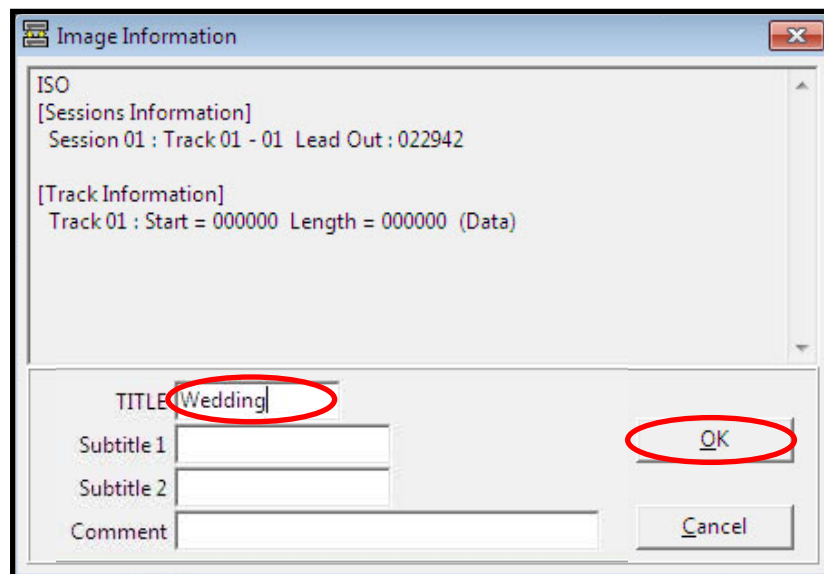
Below is "Manage Images" window with an .ISO image imported:



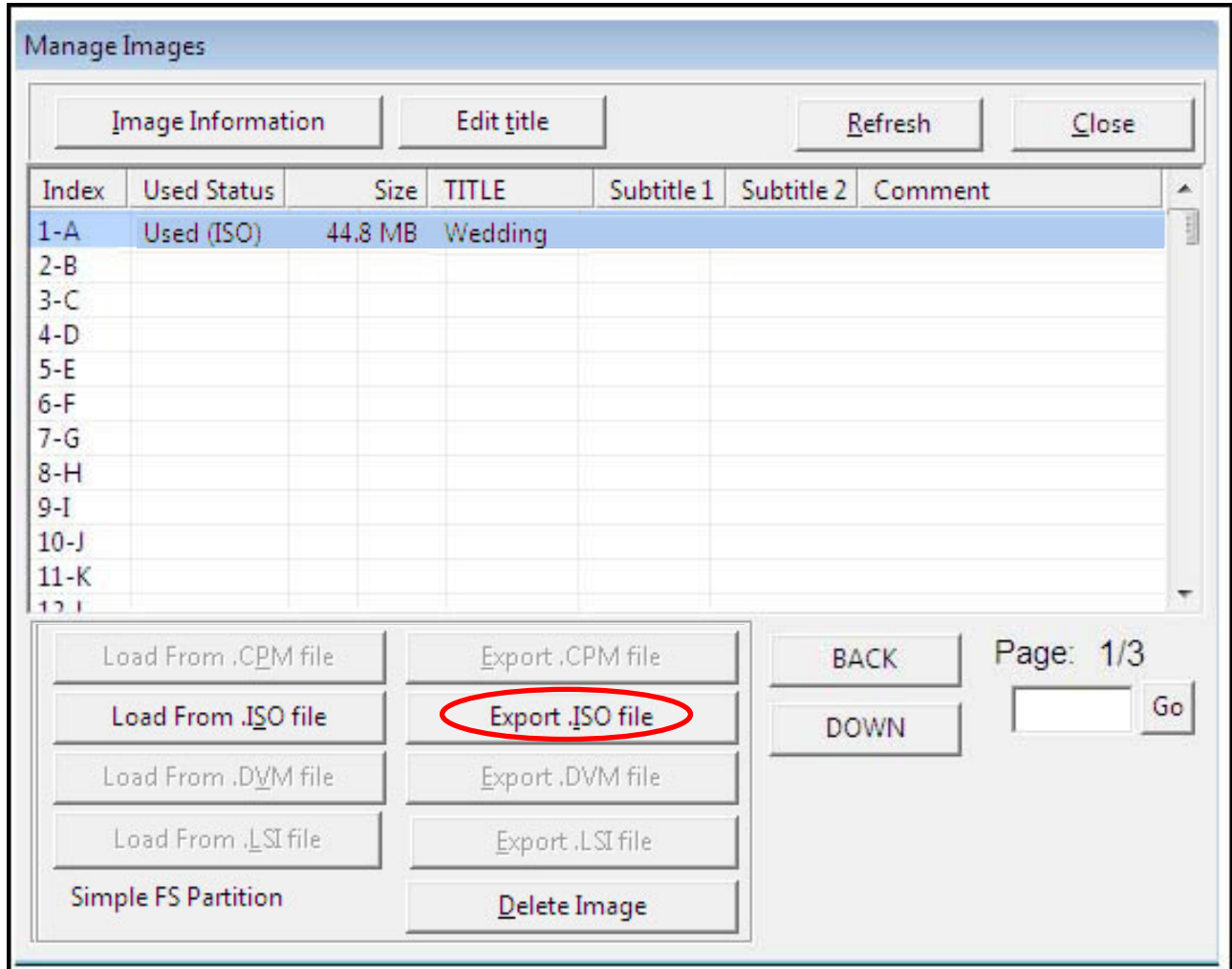
- 11g Please highlight the file for renaming. In this case, click on Index file "1-A". Then, click "Edit title" at the top-center of the "Manage Images" window:



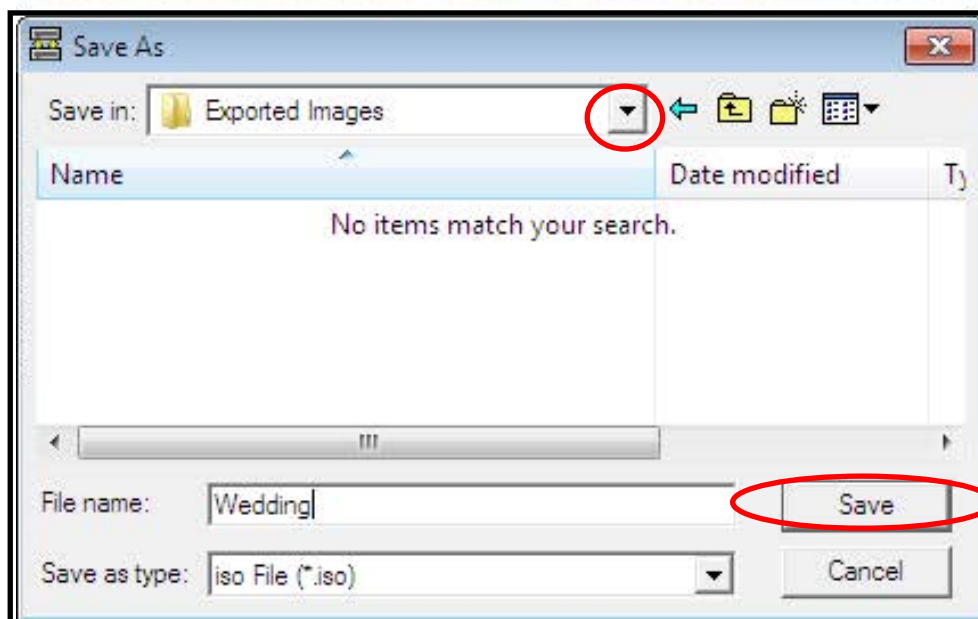
- 11h A title for each imported image helps with locating the images later on the copy controller. Please type in the preferred "TITLE" name in the input field. After, click "OK" to accept the change:



- 11i Exporting is just as simple as importing. With the image file selected from "Manage Images" window, please click "Export .ISO file" to export:



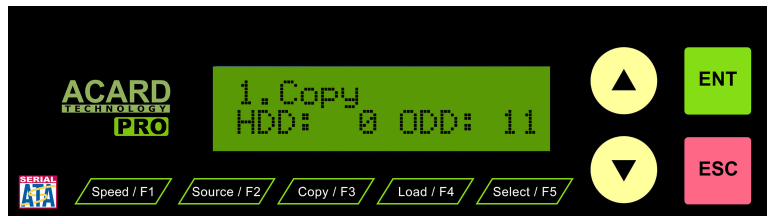
- 11j Please navigate through the drop-down menu to save the exported image in the desired location, and click "Save" to confirm:



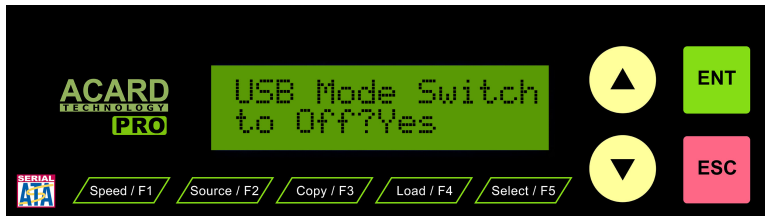
Section 12: Selecting the Source Image

Now that you are done importing/exporting images on the PC, please switch off USB Mode on the copy controller. This will disconnect the PC's access to the HDD/SDD while returning back to the copy controller.

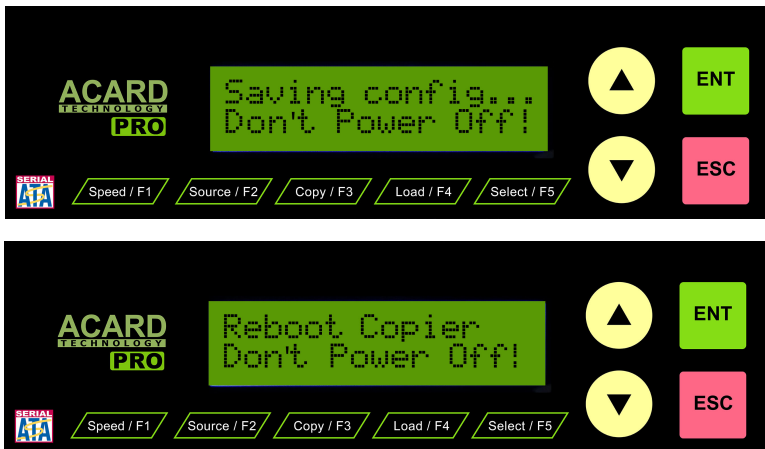
- 12a On the copy controller, press the red "ESC" key two times to return to the default menus and use the up/down arrow keys to select menu "12. USB Mode". Please enter this menu by pressing the "ENT" key:



12b Use the up/down arrow keys to select "Yes" and press the green "ENT" key to agree:



The ACARD copy controller will now save configuration changes and reboot itself:



As a result, the connected HDD/SSD is switching from the PC's control back to the ACARD copy controllers command. Subsequently, the controller will display "HDD: 1":



- 12c Use the up/down arrow keys to select menu "9. Image". Press the green "ENT" key to enter into the Image submenu:



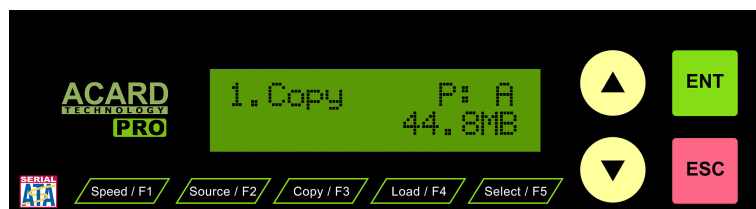
- 12d Please use the up/down arrow keys to find "9-05 Select Image". Press the green "ENT" key to enter into this submenu. Once in, please use the up/down arrow keys to select the imported image (imported in Section 11) with the preferred title name. In this example we used "Wedding" as the image name. Select "Wedding" with the green "ENT" key:



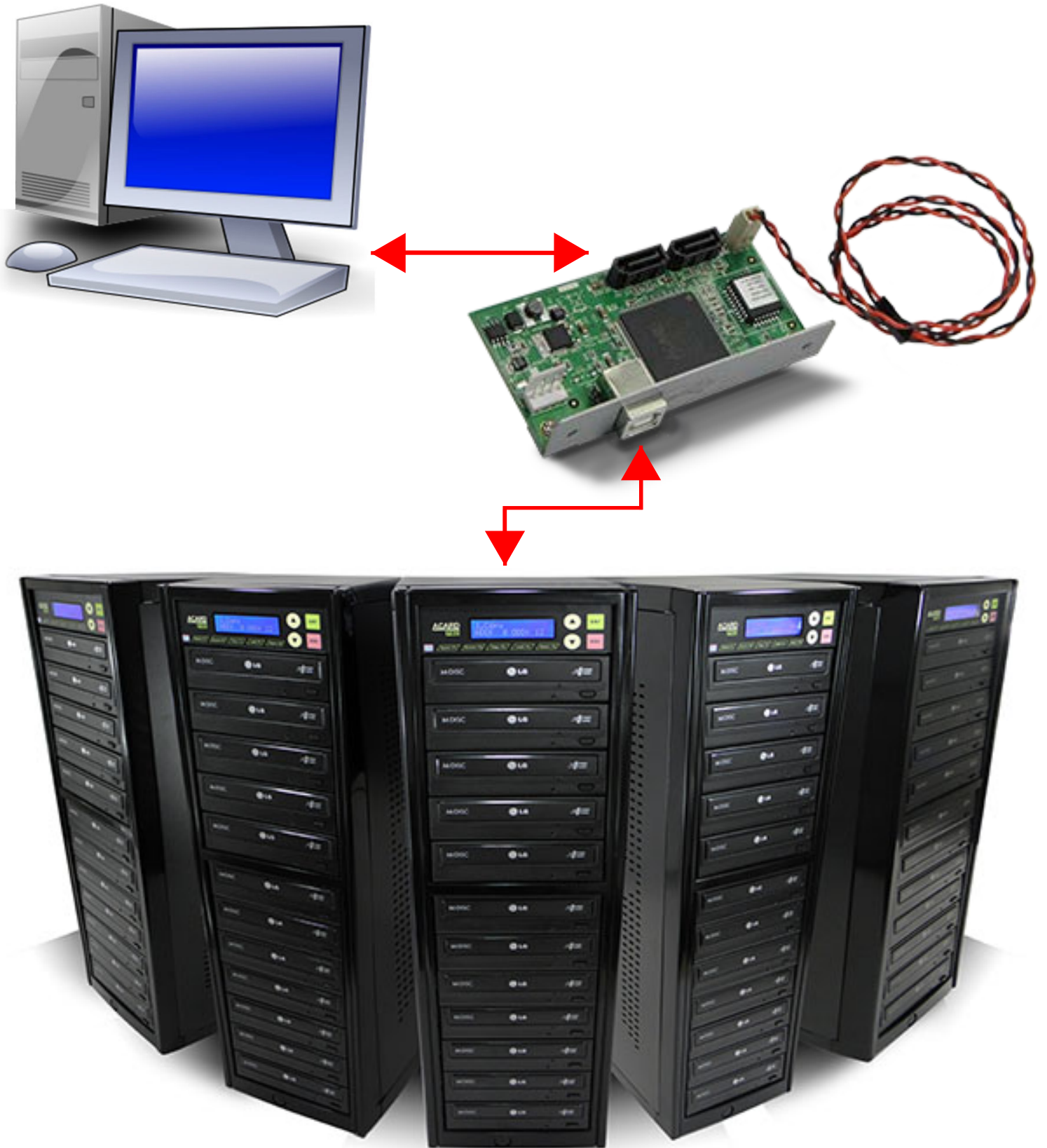
- 12e As a result, the HDD/SSD confirms where the image is located on the index, which is Partition A:



Please press the red "ESC" key twice and use the up/down arrow keys to return to default menus "1.Copy", where you should see the selected partition image displayed in the top right corner of the LCD screen:

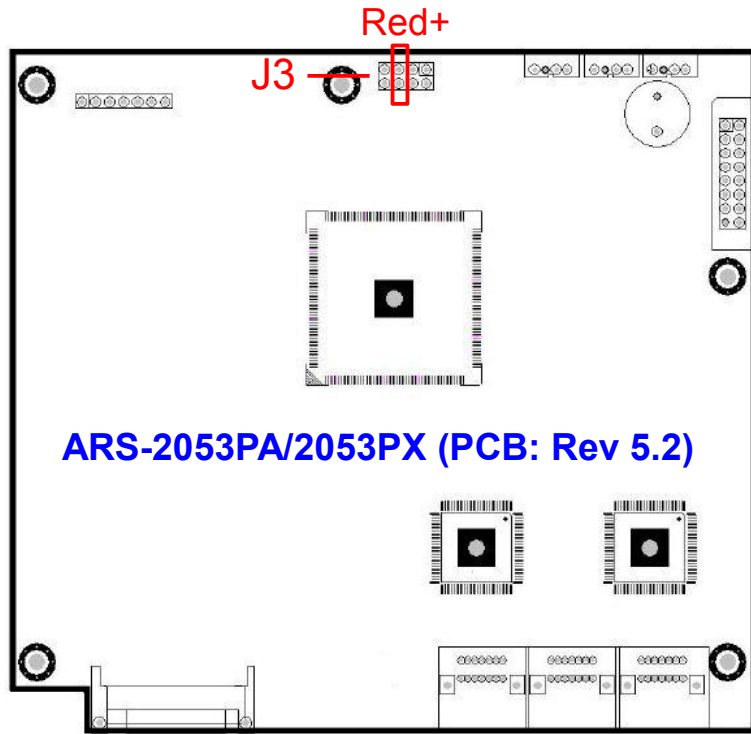


Congratulations, you have successfully installed the ACARD copy controller, AEC-4420S and setup the Image Manager for file transferring. Now that you have completed all the proper steps, please insert your blank CD/DVD/BD/M-DISC media in your ODD writers and begin your copying/writing job!

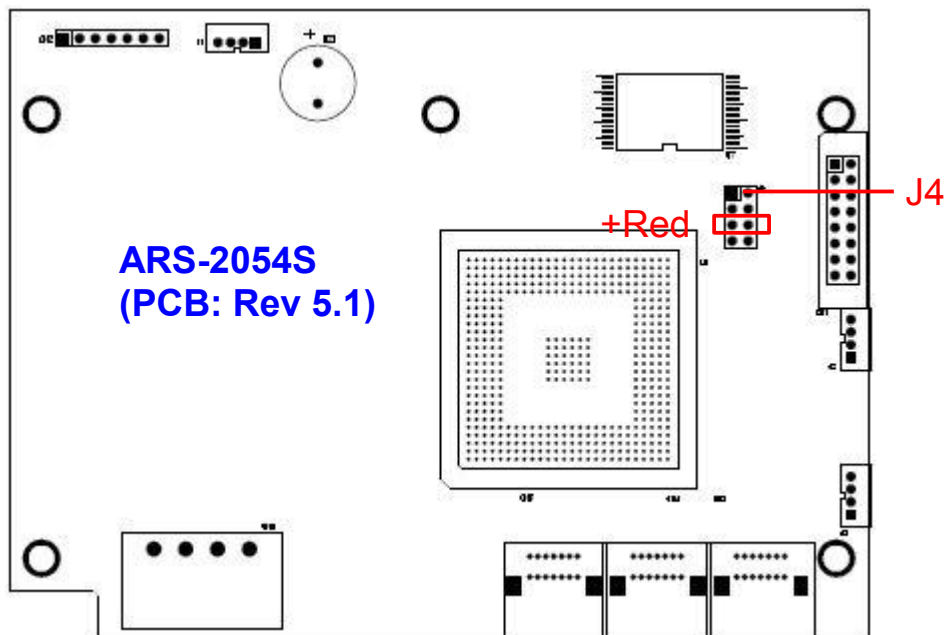


APPENDIX - Signal Wire Connection of AEC-4420S

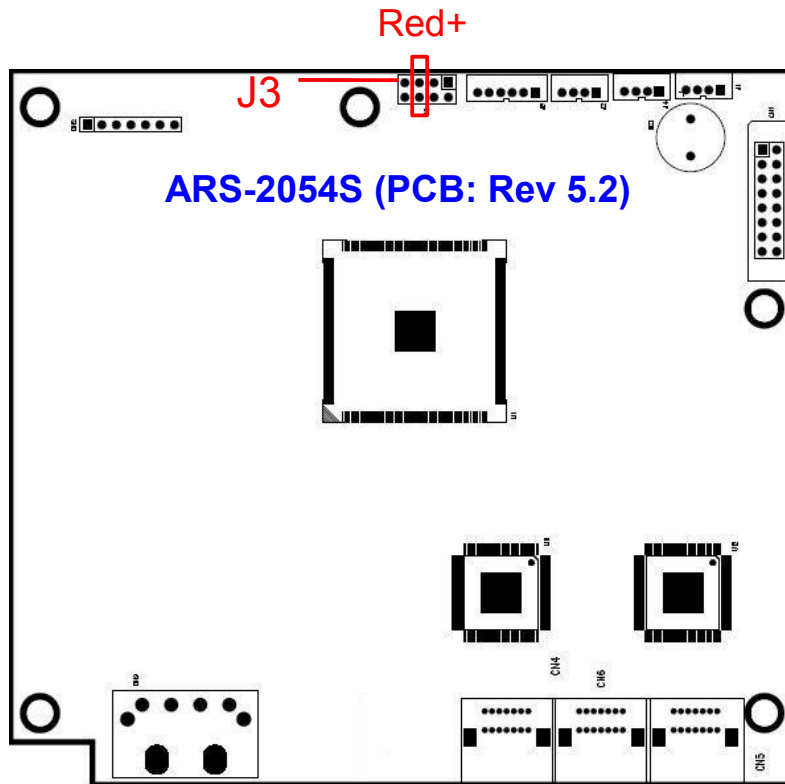
(1) Connecting the 2-pin signal to ARS-2053PA/2053PX (Rev 5.2)



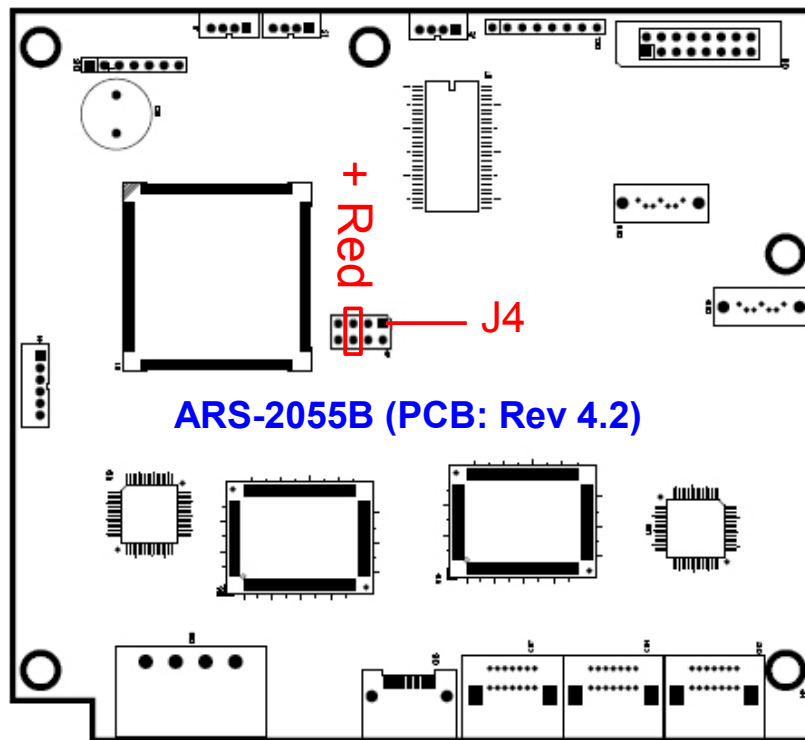
(2) Connecting the 2-pin signal to ARS-2054S (Rev 5.1)



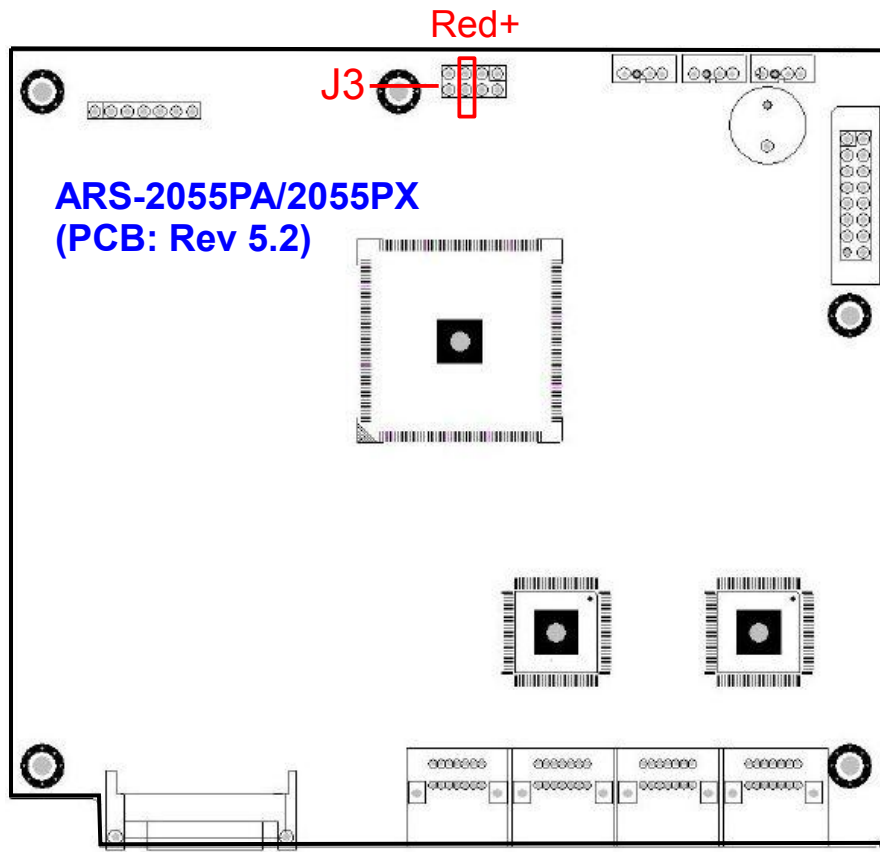
(3) Connecting the 2-pin signal to ARS-2054S (Rev 5.2)



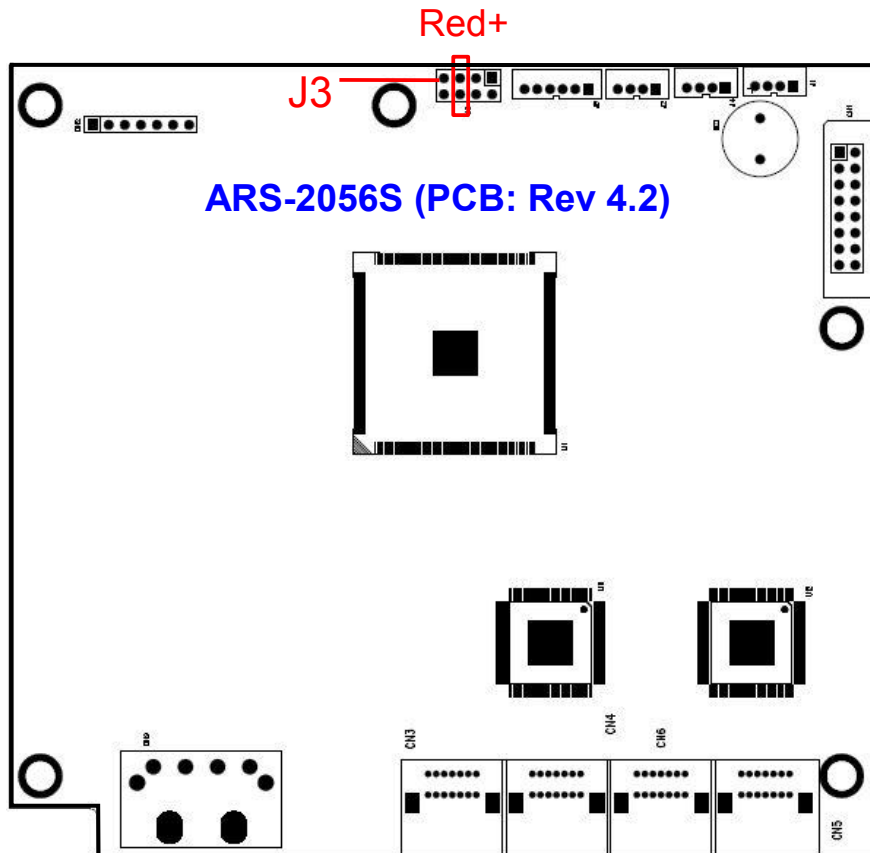
(4) Connecting the 2-pin signal to ARS-2055B (Rev 4.2)



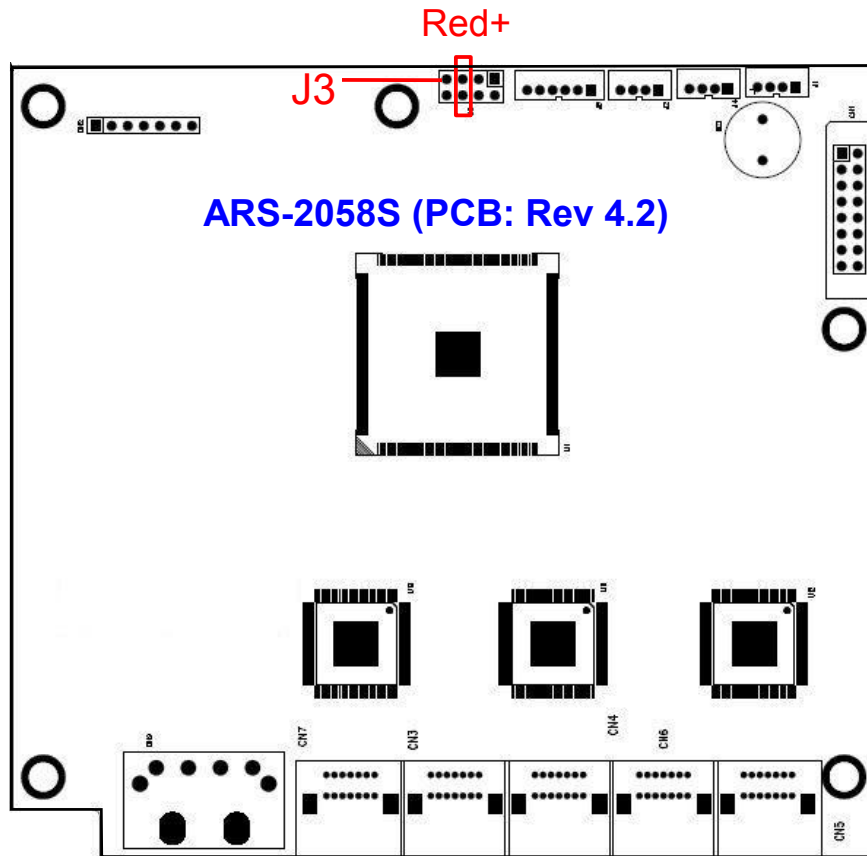
(5) Connecting the 2-pin signal to ARS-2055PA/2055PX (Rev 5.2)



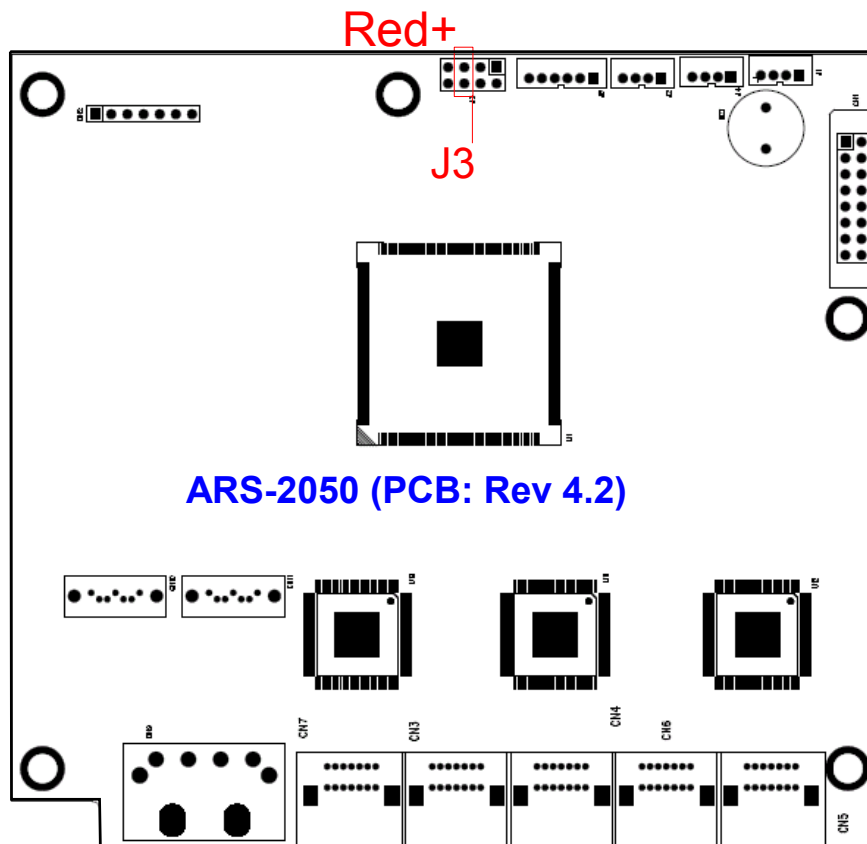
(6) Connecting the 2-pin signal to ARS-2056S (Rev 4.2)



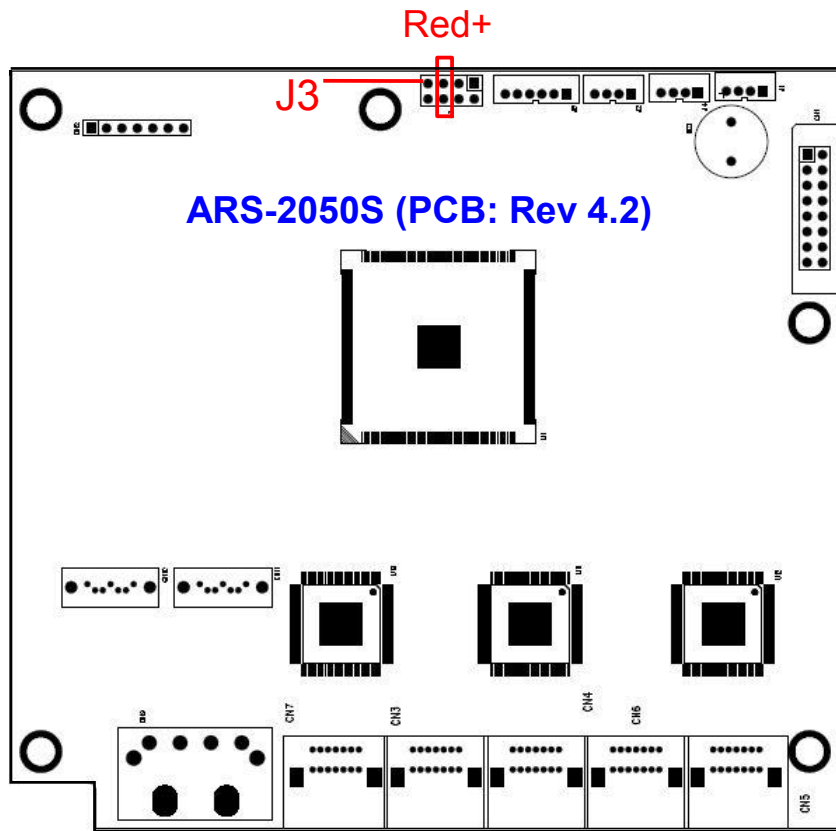
(9) Connecting the 2-pin signal to ARS-2058S (Rev 4.2)



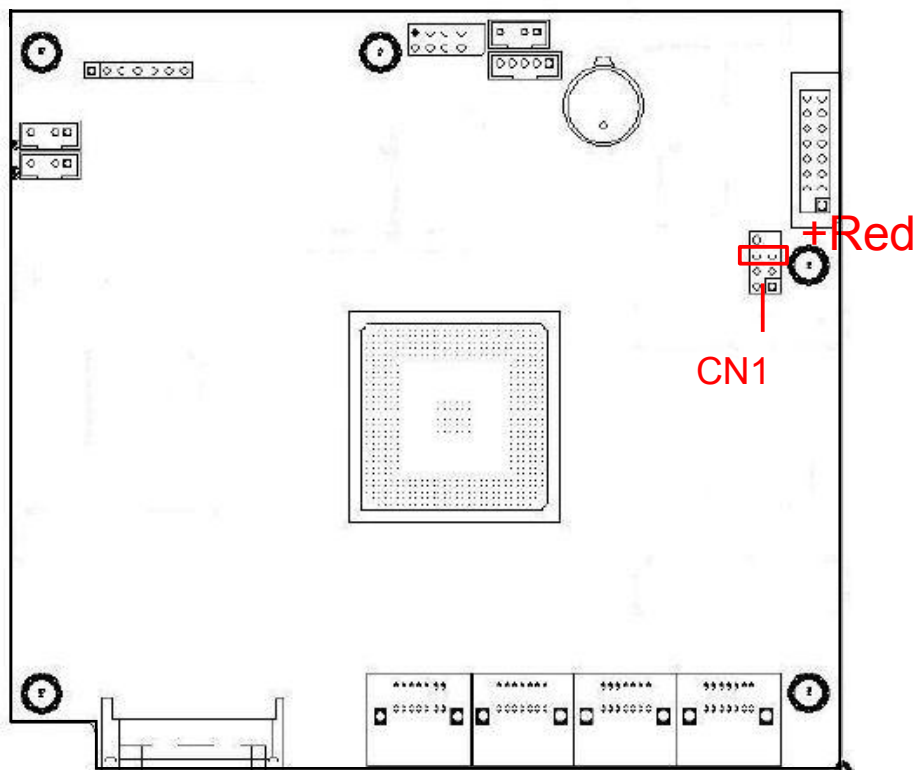
(10) Connecting the 2-pin signal to ARS-2050 (Rev 4.2)



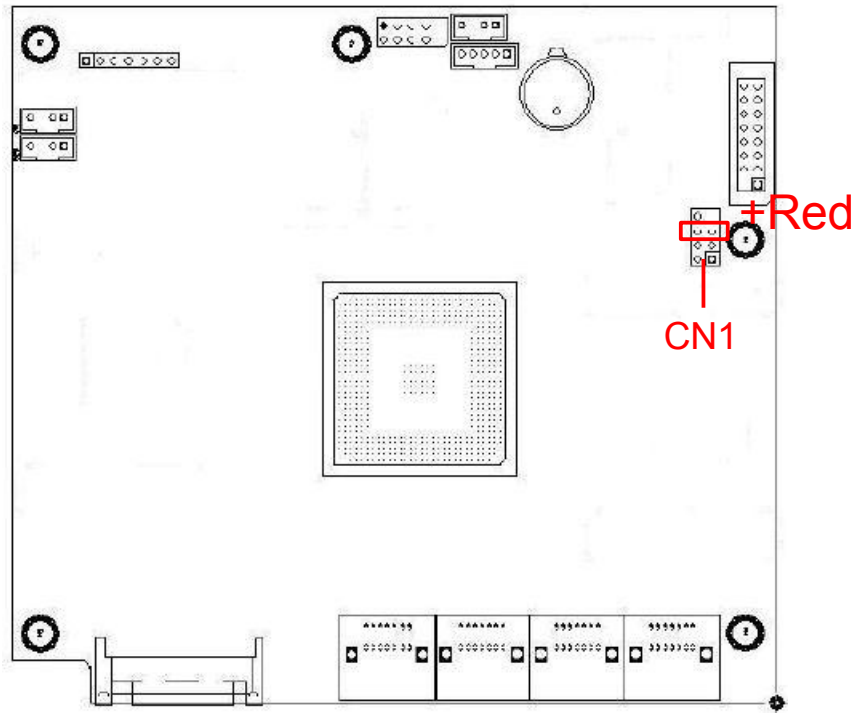
(11) Connecting the 2-pin signal to ARS-2050S (Rev 4.2)



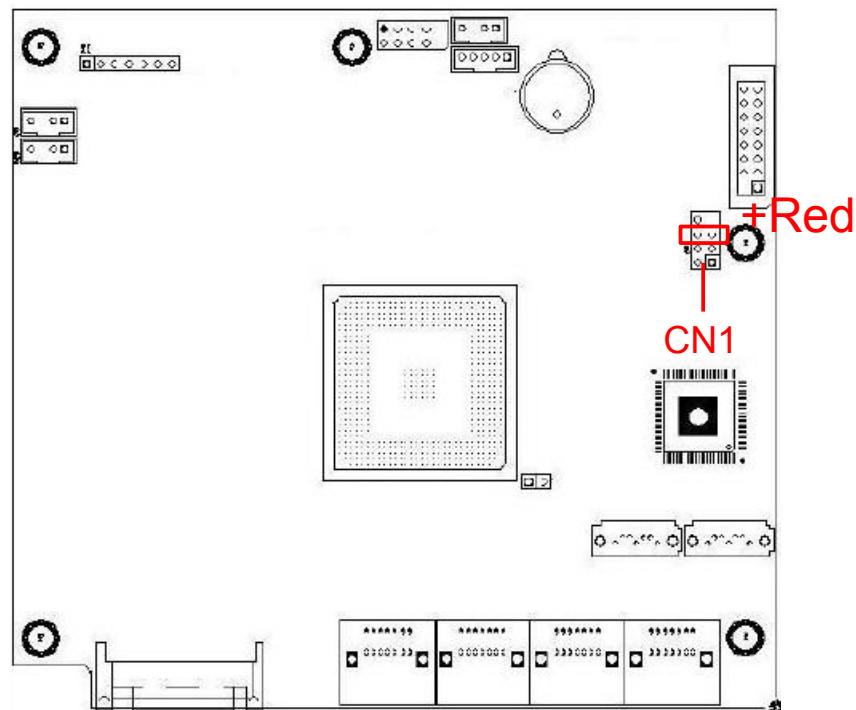
(12) Connecting the 2-pin signal to ARS-5105B



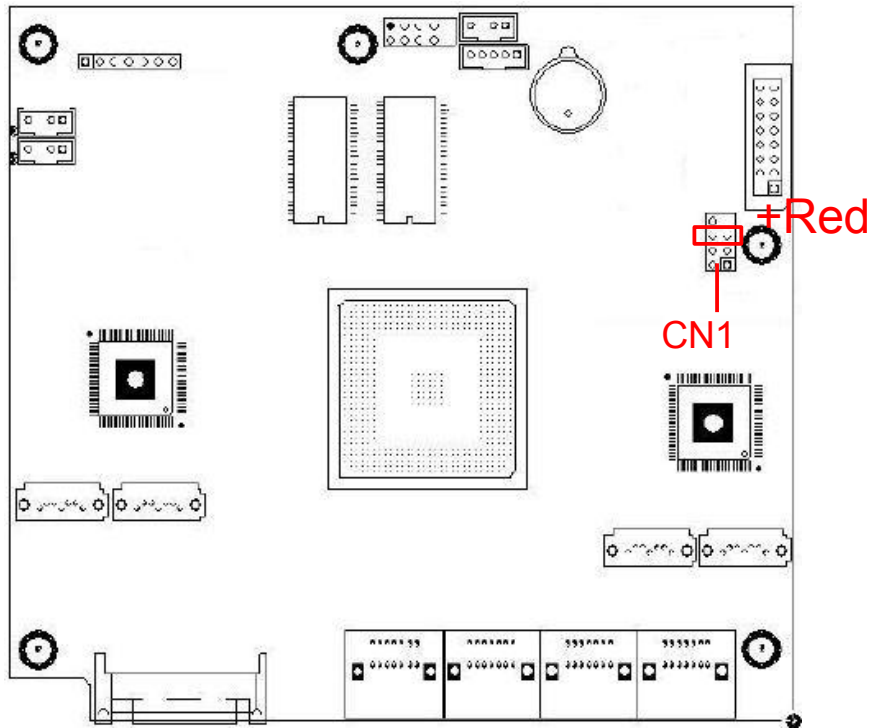
(13) Connecting the 2-pin signal to ARS-5105P/5105PX



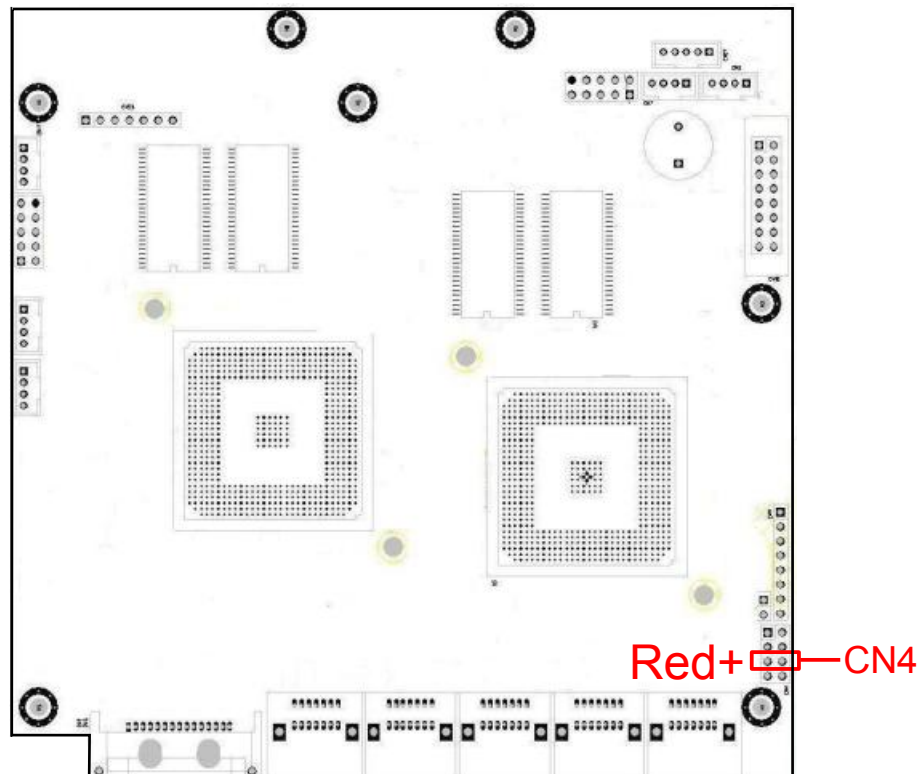
(14) Connecting the 2-pin signal to ARS-5107P/5107PX



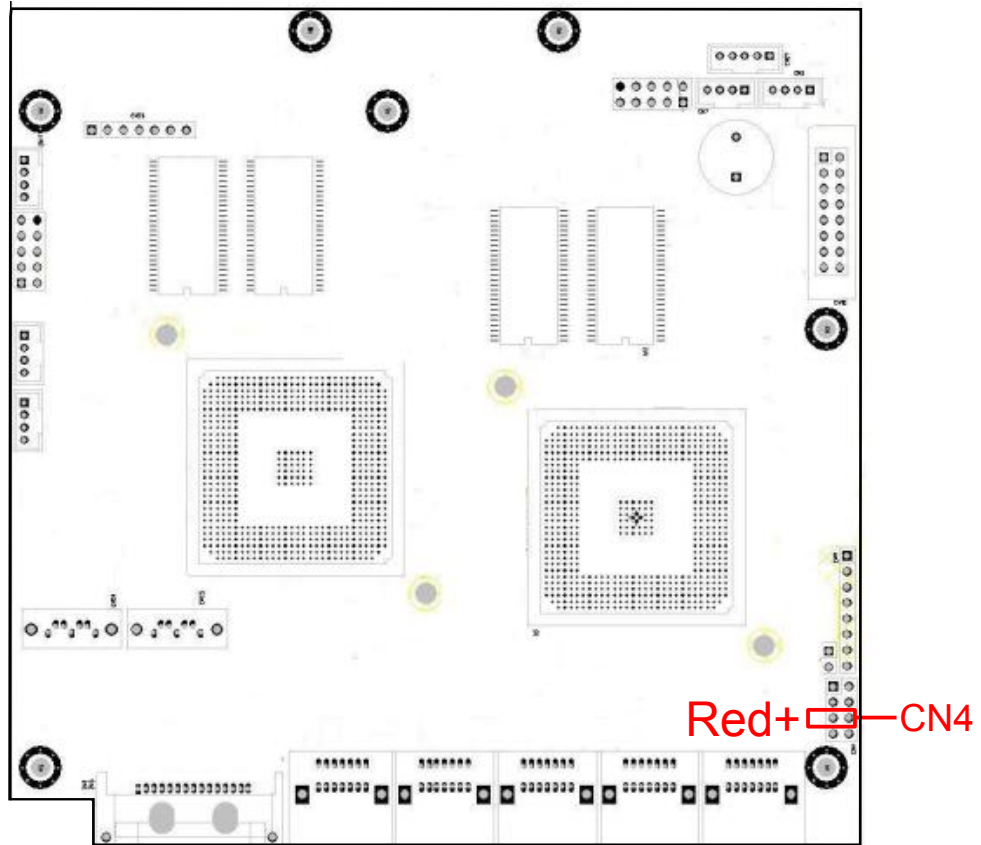
(15) Connecting the 2-pin signal to ARS-5110P/5110PX



(16) Connecting the 2-pin signal to ARS-5207B



(17) Connecting the 2-pin signal to ARS-5210B



(18) Connecting the 2-pin signal to ARS-2053B (Rev 4.2)

