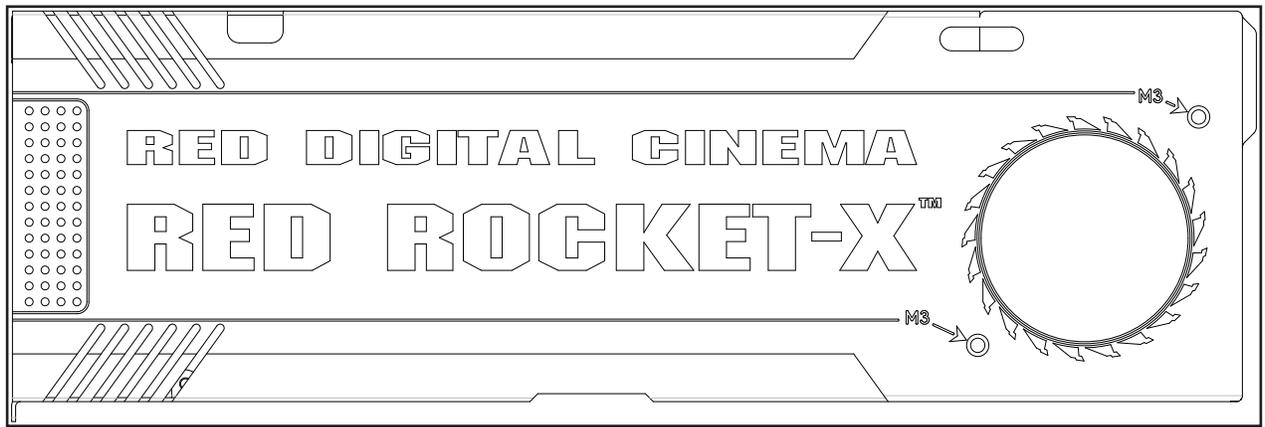




# RED ROCKET-X

## INSTALLATION INSTRUCTIONS

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RED ROCKET-X  
[RED.COM](http://RED.COM)

# RED ROCKET-X INSTALLATION INSTRUCTIONS

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# RED ROCKET-X INSTALLATION INSTRUCTIONS

## DISCLAIMER

RED has made every effort to provide clear and accurate information in these installation instructions, which are provided solely for the user's information. While thought to be accurate, the information in this document is provided strictly "as is" and RED will not be held responsible for issues arising from typographical errors or user's interpretation of the language used herein that is different from that intended by RED. All safety and general information is subject to change as a result of changes in local, federal or other applicable laws.

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For comments or questions about content in this Operation Guide, please send a detailed e-mail to [OpsGuides@red.com](mailto:OpsGuides@red.com).

## COMPLIANCE STATEMENTS

### FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENTS



This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency

energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**NOTE:** Connecting this device to peripheral devices that do not comply with Class A requirements or using an unshielded peripheral data cable could also result in harmful interference to radio or television reception. The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. To ensure that the use of this product does not contribute to interference, it is necessary to use shielded I/O cables.



**CAUTION:** If the device is changed or modified without permission from RED, the user may void his or her authority to operate the equipment.

### EUROPEAN UNION COMPLIANCE STATEMENTS



RED herewith declares that the following product(s)

- ▶ RED ROCKET-X

according to the provisions of the mentioned EC Directives—including their relevant revisions at the time of

this declaration—is (are) in conformity with the detailed standards or other normative documents.

- ▶ EMC Directive 2004/108/EC
- ▶ Low-Voltage Directive 2006/95/EC

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## INFORMATION

Products with the CE marking comply with the EMC Directive (2004/108/EC) and the Low Voltage Directive (2006/95/EC) issued by the Commission of the European Community. Compliance with these directives implies conformity to the following European Product Family Standards.

- ▶ EN 55022 (CISPR 22) – Electromagnetic Interference
- ▶ EN 55024
- ▶ EN 61000-4-2
- ▶ EN 61000-4-3

## ROHS COMPLIANCE

The EU directive 2002/95/EC 'Restriction of Hazardous Substances (RoHS)' prohibits the use of certain substances in electrical and electronic equipment.

## RESPONSIBLE PARTY:

RED Digital Cinema  
34 Parker  
Irvine, CA 92618  
USA

# RED ROCKET-X INSTALLATION INSTRUCTIONS

## SAFETY INSTRUCTIONS

Please read the following safety instructions very carefully before attempting any installation and/or performing any work on the RED ROCKET-X.

If the RED ROCKET-X is not used in compliance with the safety instructions, the warranty and all resulting liability claims will be void.

- ▶ DO NOT use the RED ROCKET-X near water. Avoid exposing your RED ROCKET-X to moisture. The unit is not waterproof, so contact with water could cause permanent damage to the unit as well as electric shock and serious injury to the user. DO NOT use the RED ROCKET-X in the rain or under other conditions with high moisture, and immediately remove power source if the RED ROCKET-X is exposed to moisture.



**WARNING:** To reduce the risk of fire or electric shock, DO NOT expose the RED ROCKET-X to rain or moisture.

- ▶ DO NOT expose your RED ROCKET-X to excessive vibration or impact (shock). Be careful not to drop your RED ROCKET-X. Internal mechanisms may be damaged by severe shock.
- ▶ DO NOT operate or store near any heat sources such as radiators, heat registers, stoves, or any other apparatus that produce heat. Store in a protected, level and ventilated place. Avoid exposure to temperature extremes, damp, severe vibration, strong magnetic fields, direct sunlight or local heat sources during storage. Recommended storage and usage temperatures for your RED ROCKET-X are:
  - Operating range: 5°C to 40°C (41°F to 104°F)
  - Storage range: -17°C to 70°C (0°F to 158°F)

If there are any performance issues with your RED ROCKET-X when operating within this temperature range, please file a support ticket on <https://support.red.com>.

- ▶ Only use the RED ROCKET-X when it is in good working order.
- ▶ The system in which you are trying to install the RED ROCKET-X usually works with voltages that can be hazardous to your health. Never work on the system or access its interior with any power cable attached and plugged into a power source. Make sure the power supply is disconnected from the components you intend to work on.
- ▶ Computer hardware contains components that are sensitive to electrostatic discharge. If you touch them without precautionary measures, they can be destroyed. Use a wrist strap connected to ground when accessing electronic parts and take care of grounding the video system. Avoid touching the components of the computer system and the RED ROCKET-X whenever possible.
- ▶ Computer hardware contains components that are sensitive to changing voltages. Connecting or disconnecting the RED ROCKET-X to or from peripheral hardware while any system component is powered on may damage the hardware. Power off all peripheral hardware before connecting or disconnecting any component, including the RED ROCKET-X.
- ▶ The RED ROCKET-X may not be misused, abused, physically damaged, neglected, exposed to fire, water or excessive changes in the climate or temperature, or operated outside maximum rating.

- ▶ DO NOT perform any changes or extensions to the RED ROCKET-X whatsoever.



**CAUTION:** Refer all service and repair to qualified RED service personnel. To reduce the risk of electric shock, and damage to the RED ROCKET-X, DO NOT attempt to perform any servicing other than any procedures that are recommended in the operating instructions.

## 01

## RED ROCKET-X OVERVIEW

### INTRODUCTION

Optimized for the 6K RED DRAGON® sensor, the RED ROCKET-X® is designed to accelerate your R3D workflow. The RED ROCKET-X processes and transcodes files up to 5 times faster than the RED ROCKET®. A redesigned chassis works to protect the card, which uses a full-length x16 PCIe port for installation in your Mac® Pro (models Early 2009, Mid 2010, and Mid 2012), Thunderbolt™ expansion chassis, PCIe expansion chassis, or PC.

The RED ROCKET-X supports all EPIC, SCARLET, and RED ONE formats.

**NOTE:** You can install and use a RED ROCKET and a RED ROCKET-X in the same system. However, you will only be able to use one (1) of these cards at a time. For example, DaVinci Resolve can access a RED ROCKET while REDCINE-X PRO accesses a RED ROCKET-X.

**NOTE:** The RED ROCKET-X neither requires nor supports the RED ROCKET Breakout Box. The RED ROCKET Breakout Box is only compatible with the RED ROCKET.

**NOTE:** RED ROCKET-X currently does not provide video output. Video output will be enabled in a future firmware upgrade.

### SCOPE OF THESE INSTRUCTIONS

In order to install the RED ROCKET-X system, you should have experience with installing hardware components in a computer system and be familiar with the hardware structure and interior of such a system. Additionally, you should have general knowledge in the field of digital video and be comfortable working with computer software.

### SYSTEM REQUIREMENTS

#### REQUIRED HARDWARE

The computer system must meet the following hardware requirements in order to use the RED ROCKET-X:

- ▶ PCIe slot that accepts a x16 card, and has 16 lanes of data for maximum performance
- ▶ Physical space to accommodate the 12" RED ROCKET-X card
- ▶ One (1) 6-pin PCIe power cable (for Thunderbolt expansion chassis and PC installations)
- ▶ 2048 MB RAM

#### SUPPORTED HARDWARE

The RED ROCKET-X can be installed in any of the following:

- ▶ Mac Pro
- ▶ Thunderbolt expansion chassis
- ▶ PCIe expansion chassis
- ▶ PC

# RED ROCKET-X INSTALLATION INSTRUCTIONS

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## ADDITIONAL MAC PRO REQUIRED HARDWARE

The RED ROCKET-X can be installed directly in the following Mac Pro models:

- ▶ Early 2009 (machine model 4,1)
- ▶ Mid 2010 (machine model 5,1)
- ▶ Mid 2012 (machine model 5,1)

**NOTE:** The Mac Pro Late 2013 (machine model 6,1) does not support expansion cards. However, you can connect a RED ROCKET-X to a Mac Pro Late 2013 via a Thunderbolt expansion chassis.

## SUPPORTED OPERATING SYSTEMS

The RED ROCKET-X can be used with the following operating systems:

- ▶ Mac OS X® 10.7 or later
- ▶ Windows Vista® or later
- ▶ Linux (Red Hat)

**NOTE:** Be sure that you have installed the latest system updates and service packs for your system; otherwise you may encounter software or hardware problems.

**NOTE:** If you are using a Linux application with RED ROCKET, you'll need to obtain the appropriate driver from the company providing the application. If you're interested in developing your own tools for Linux you may want to sign up for the R3D SDK. RED DOES NOT provide drivers for Linux.

## REQUIRED SOFTWARE

- ▶ **RED ROCKET-X driver:** Part of the RED ROCKET-X Installer, which is available for download at [www.red.com/downloads](http://www.red.com/downloads).
- ▶ **RED ROCKET-X firmware:** Part of the RED ROCKET-X Installer, which is available for download at [www.red.com/downloads](http://www.red.com/downloads).
- ▶ **REDCINE-X PRO®:** Available for download at [www.red.com/downloads](http://www.red.com/downloads).

Please contact third-party software vendors about the availability of other RED ROCKET-X enabled software.

## RED ROCKET-X COMPONENTS

Each RED ROCKET-X package contains the following:

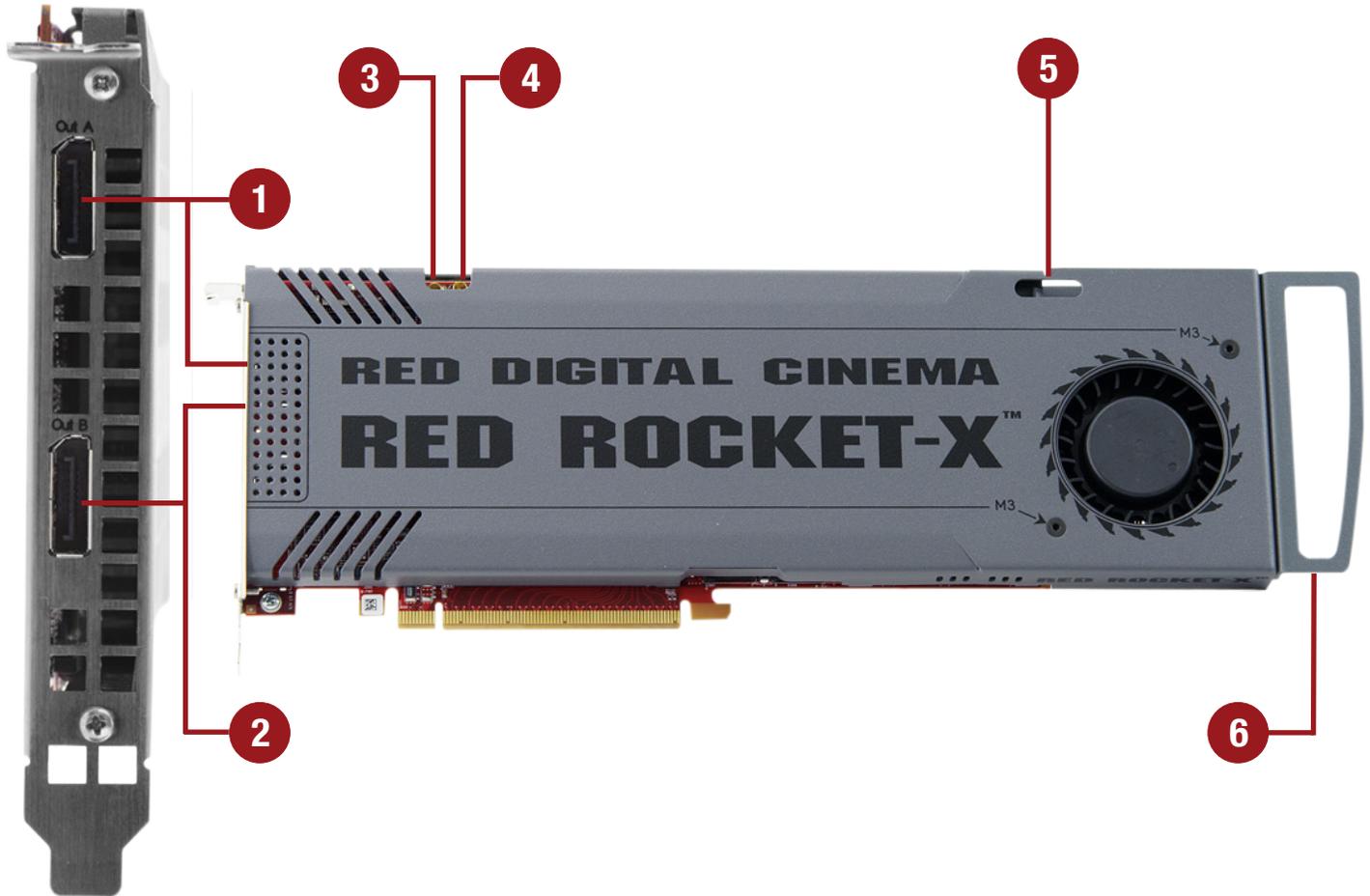
- ▶ RED ROCKET-X
- ▶ HD-SDI slot filler
- ▶ PCIe 6-pin to 6-pin Dual Y Power Splitter (for Mac Pro installations)
- ▶ PC extender (for PC installations)
- ▶ Two (2) M3x0.7 x 6 mm pan head screws (for PC extender installation)

## HOW TO HANDLE THE RED ROCKET-X

When handling the RED ROCKET-X, hold the card by the gray card chassis and the metal bracket. Avoid touching the board and connectors.

# RED ROCKET-X INSTALLATION INSTRUCTIONS

## OVERVIEW OF THE RED ROCKET-X



#	ITEM	DESCRIPTION
1	SDI Out A	MCX connector for an output of digital video signals (serial digital interface, port A); either output of YUV in single-link or first stream of RGB in dual-link mode
2	SDI Out B	MCX connector for an output of digital video signals (serial digital interface, port B); output of the second stream of RGB in dual-link mode
3	Out A	Dual Mode DisplayPort (DP++) output connector
4	Out B	Dual Mode DisplayPort (DP++) output connector
5	Power	6-pin PCIe female connector
6	PC extender	PCIe slots in PCs are too long for the RED ROCKET-X; attach the PC extender to ensure that the RED ROCKET-X fits securely in the PCIe slot and PCIe card holder

# RED ROCKET-X INSTALLATION INSTRUCTIONS

## OVERVIEW OF THE HD-SDI SLOT FILLER

The HD-SDI slot filler provides optional high-definition serial digital interface (HD-SDI) connectors for the RED ROCKET-X. Installing the HD-SDI slot filler is optional. Review your system and project requirements before you decide whether or not to install the HD-SDI slot filler.



*HD-SDI Slot Filler*

#	CONNECTOR	DESCRIPTION
1	SDI Out A	BNC connector for an output of digital video signals (serial digital interface, port A); either output of YUV in single-link or first stream of RGB in dual-link mode
2	SDI Out B	BNC connector for an output of digital video signals (serial digital interface, port B); output of the second stream of RGB in dual-link mode

## ADDITIONAL RESOURCES

The following resources offer additional information about RED, RED ROCKET-X, and the RED community:

- ▶ **RED.com:** Check the [official RED website](#) for the latest information about RED products.
- ▶ **RED Learn Articles:** RED offers [in-depth technical articles](#) about RED cameras, post-production, and digital cinematography.
- ▶ **RED.com/downloads:** Go to the [RED Downloads page](#) to download the latest firmware, operation guides, and post-production software.
- ▶ **DSMC Toolkit:** Go to the [RED Downloads page](#) to find the DSMC Toolkit, which offers many helpful tools and resources to customize and improve your DSMC workflow.
- ▶ **Support.red.com:** Check the [RED SUPPORT site](#) for FAQs, or to file a support ticket.
- ▶ **Bomb Squad Support:** For more information, contact your Bomb Squad representative.
- ▶ **Reduser.net:** Discuss all things RED on the [REDUSER](#) third-party forum.

## 02

## INSTALL IN A MAC PRO

The RED ROCKET-X can be installed directly in the following Mac Pro models:

- ▶ Early 2009 (machine model 4,1)
- ▶ Mid 2010 (machine model 5,1)
- ▶ Mid 2012 (machine model 5,1)

The Mac Pro Late 2013 (machine model 6,1) does not support expansion cards. However, you can connect a RED ROCKET-X to a Mac Pro Late 2013 via a Thunderbolt expansion chassis. For more information about installing a RED ROCKET-X in a Thunderbolt expansion chassis, go to [“Install in a Thunderbolt Expansion Chassis” on page 15](#).

**NOTE:** DO NOT install more than one (1) RED ROCKET-X in a Mac Pro.

### POWER SUPPLY

The RED ROCKET-X must be connected to your Mac Pro power supply via a PCIe 6-pin to 6-pin power cable. The RED ROCKET-X ships with a PCIe 6-pin to 6-pin Dual Y Power Splitter in case both of the power connectors in your Mac Pro are in use, or in case you don't have an extra PCIe 6-pin to 6-pin power cable.

**WARNING:** If you use the PCIe 6-pin to 6-pin Dual Y Power Splitter (included) to connect only the RED ROCKET-X or graphics card, ensure that the unused connector does not come in contact with a fan or any moving parts.

**WARNING:** Regardless of how you connect the RED ROCKET-X, DO NOT overload the Mac Pro power supply.

**WARNING:** DO NOT connect both connectors of the PCIe 6-pin to 6-pin Dual Y Power Splitter to your graphics card.

### INSTALL RED ROCKET-X AND HD-SDI SLOT FILLER

**WARNING:** The computer system you are installing the RED ROCKET-X in works with voltages that can be hazardous to your health.

Follow the instructions below to install the RED ROCKET-X and HD-SDI slot filler (optional) in a Mac Pro system:

1. Ensure that the computer is turned off.
2. Wait 5–10 minutes to ensure that the system components cool down.
3. Touch the metal on the outside of the computer to discharge any static electricity from your body.

**NOTE:** To avoid generating static electricity while installing the RED ROCKET-X, DO NOT walk around the room until you have completed the installation and closed the computer.

4. Unplug the power cable and all external cables from the computer.

**WARNING:** Never work on the system or access its interior while any power cables are plugged in.

5. Hold the side access panel and lift the latch on the back of the computer.

# RED ROCKET-X INSTALLATION INSTRUCTIONS

6. Remove the side access panel.



---

*Remove Panel*

---

7. Remove all hard drives except the one in the first bay (the one farthest to the left).
8. Loosen the two (2) thumbscrews that secure the PCI bracket to the enclosure and remove the PCI bracket.
9. Remove any cards that are not in slot 1 from the system.
10. Press the button on the PCI slider and move the PCIe fan to the side to create more room for installing the RED ROCKET-X (you will slide the PCIe fan back into place after you install the RED ROCKET-X).



---

*Slide PCIe Fan Away*

---

11. Connect your power cable(s) to the Mac Pro based on your configuration needs:
  - If the graphics card is connected to one Mac Pro power connector and the other power connector is unused, connect a 6-pin PCIe power cable (either a PCIe 6-pin to 6-pin power cable *or* the included PCIe 6-pin to 6-pin Dual Y Power Splitter) to power connector B on the backplane board (this is the upper power connector that is closer to the optical drive). You will connect the 6-pin PCIe power cable to the RED ROCKET-X in [Step 17](#).
  - If both Mac Pro power connectors are in use, disconnect the graphics card from the power connector and connect the PCIe 6-pin to 6-pin Dual Y Power Splitter (included) to power connector B on the backplane board (this is the upper power connector that is closer to the optical drive). You will connect the PCIe 6-pin to 6-pin Dual Y Power Splitter to the graphics card and the RED ROCKET-X in [Steps 17-18](#).

**NOTE:** For more information on different ways to connect power, go to [“Power Supply”](#) on [page 9](#).

# RED ROCKET-X INSTALLATION INSTRUCTIONS

12. Feed the 6-pin PCIe power cable outside of the computer so that it's not in your way when you install the RED ROCKET-X.



---

*Connect Power*

---

13. Angle the RED ROCKET-X so that the end with the DisplayPort connections is angled toward the upper right corner.
14. Insert the RED ROCKET-X into the system so that the metal bracket at the end with the DisplayPort connections clears the top.



---

*Angle RED ROCKET-X*

---

15. Straighten the RED ROCKET-X.

# RED ROCKET-X INSTALLATION INSTRUCTIONS

16. Line up the RED ROCKET-X connectors with slot 2, and then gently but firmly press the card into the slot, ensuring that the lip at the end slides between slot 2 and slot 3.



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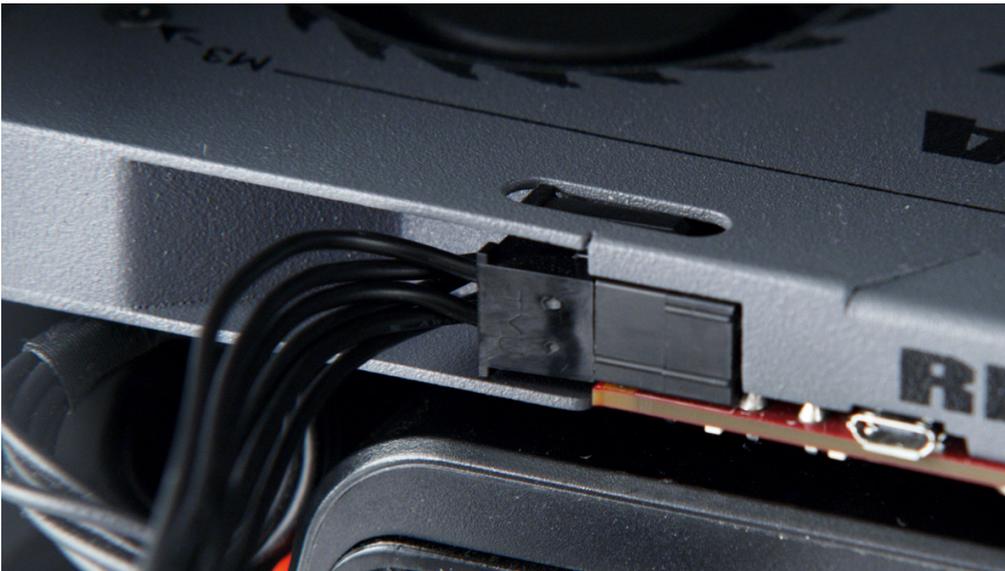
*Insert RED ROCKET-X*

---

**NOTE:** To prevent damage to your system and the RED ROCKET-X, DO NOT rock the card or use excessive force when installing the RED ROCKET-X.

17. Plug your 6-pin PCIe power cable (either a PCIe 6-pin to 6-pin power cable *or* the included PCIe 6-pin to 6-pin Dual Y Power Splitter) into the RED ROCKET-X. Make sure that the latch of the power cable aligns with the corresponding slot on the RED ROCKET-X.

**WARNING:** If you use the PCIe 6-pin to 6-pin Dual Y Power Splitter (included) to connect only the RED ROCKET-X or graphics card, ensure that the unused connector does not come in contact with a fan or any moving parts.



---

*Connect Power to  
RED ROCKET-X*

---

18. If you're using the PCIe 6-pin to 6-pin Dual Y Power Splitter (included) to connect both the graphics card and the RED ROCKET-X to a single power connector in the Mac Pro, plug the second connector on the PCIe 6-pin to 6-pin Dual Y Power Splitter (included) into the graphics card. For more information on different ways to connect power, go to ["Power Supply" on page 9](#).
19. If you're using the HD-SDI slot filler, follow the instructions below to install and connect the HD-SDI slot filler:
  - A. Remove one (1) free slot bracket from the system.

# RED ROCKET-X INSTALLATION INSTRUCTIONS

- B. Slide the HD-SDI slot filler into the empty slot so that the SDI Out B connector is toward the back.



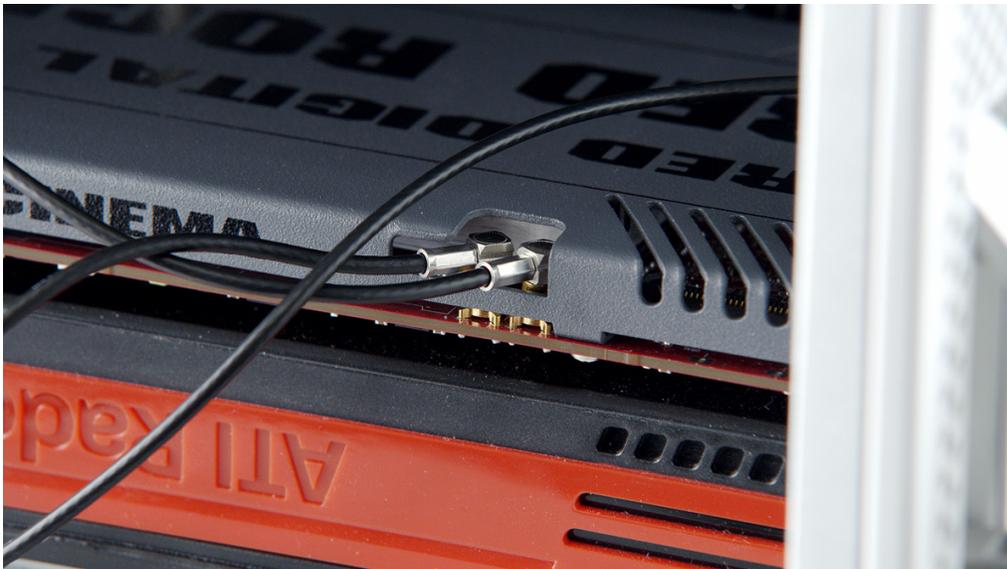
---

*Install HD-SDI  
Slot Filler*

---

**CAUTION:** Ensure that the HD-SDI slot filler or connectors DO NOT contact other components inside the computer.

- C. Connect the SDI Out A cable on the HD-SDI slot filler to the SDI Out A connector on the RED ROCKET-X. The SDI Out A connector is the right connector when the RED ROCKET-X is installed.
- D. Connect the SDI Out B cable on the HD-SDI slot filler to the SDI Out B connector on the RED ROCKET-X. The SDI Out B connector is the left connector when the RED ROCKET-X is installed.



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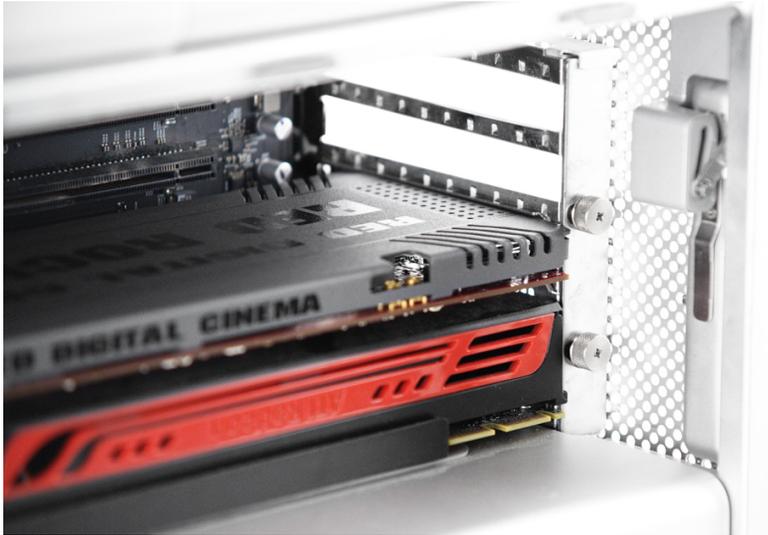
*Connect HD-  
SDI Slot Filler to  
RED ROCKET-X*

---

# RED ROCKET-X INSTALLATION INSTRUCTIONS

20. Place the PCI bracket under the brace and tighten the two (2) thumbscrews to secure the RED ROCKET-X.

**NOTE:** The photo below shows the system without the HD-SDI slot filler installed.



---

*Install PCI Bracket*

---

21. Reinstall any cards you removed from the system.
22. Reinstall any hard drives you removed from the system.
23. Slide the PCIe fan toward the RED ROCKET-X until it locks back into place.



---

*Slide PCIe Fan to Original Position*

---

24. Reinstall the side access panel.
25. Reconnect all cables to the computer system.
26. To install or upgrade the RED ROCKET-X driver and firmware, go to [“Install Driver and Firmware”](#) on page [24](#).

## 03

## INSTALL IN A THUNDERBOLT EXPANSION CHASSIS

### POWER SUPPLY

Before installing the RED ROCKET-X, ensure that you have the appropriate power connector or power cable adaptor to plug into the RED ROCKET-X 6-pin power connector. The 6-pin PCIe power cable that is included with the RED ROCKET-X is for Mac Pro installations only, and is not compatible with a Thunderbolt expansion chassis.

### PCIE SLOT CONSIDERATIONS

#### SELECT A PCIe SLOT

Since the majority of Thunderbolt expansion chassis do not have x16 slots, install the RED ROCKET-X in the slot that has the highest number of electrical PCIe lanes. Refer to the Thunderbolt expansion chassis' manual to determine which slot has the most number of electrical PCIe lanes and can accommodate a full-length x16 card.

If you plan on installing the RED ROCKET-X in a physical PCIe slot that is smaller than the connector at the bottom of the RED ROCKET-X, ensure that there is an opening at the end of the PCIe slot.

#### PCIE LANE SPEEDS

Due to Thunderbolt 1.0 specifications, each slot is limited to x4 lane speeds. Full-resolution, real-time playback of 4K footage with a recording time base of 23.98 FPS should be unaffected.

### INSTALL RED ROCKET-X

Since each Thunderbolt expansion chassis is different, the instructions in this section are general and cover the essential steps for installing a RED ROCKET-X in a Thunderbolt expansion chassis.

Depending on how your system is set up, you may need to rearrange components in your chassis or perform actions not described in these instructions in order to successfully install the RED ROCKET-X. For more information about installing components in your chassis, refer to the chassis manufacturer's instructions.

**NOTE:** Some Thunderbolt expansion chassis may not have a slot for the HD-SDI slot filler.

**WARNING:** The computer system you are installing the RED ROCKET-X in works with voltages that can be hazardous to your health.

Follow the instructions below to install the RED ROCKET-X in a Thunderbolt expansion chassis:

1. Ensure that the Thunderbolt expansion chassis is turned off.
2. Wait 5–10 minutes to ensure that the system components cool down.
3. Unplug the power cable and all external cables from the chassis.

**WARNING:** Never work on the system or access its interior while any power cables are plugged in.

4. Discharge any static electricity from your body.

**NOTE:** To avoid generating static electricity while installing the RED ROCKET-X, DO NOT walk around the room until you have completed the installation and closed the chassis.

# RED ROCKET-X INSTALLATION INSTRUCTIONS

---

5. Open the chassis casing so that you can access the PCIe slots.



---

*Open Casing*

---

6. If the chassis has any screws installed that are intended to secure the card to the chassis, remove those screws.
7. Line up the RED ROCKET-X connectors with the slot that has the highest number of electrical PCIe lanes, and then gently but firmly press the card into the slot. For more information about choosing a slot, go to [“Select a PCIe Slot” on page 15](#).

**NOTE:** To prevent damage to your system and the RED ROCKET-X, DO NOT rock the card or use excessive force when installing the RED ROCKET-X.



---

*Insert RED ROCKET-X*

---

# RED ROCKET-X INSTALLATION INSTRUCTIONS

8. Plug your system's 6-pin PCIe power cable into the RED ROCKET-X. Make sure that the latch of the power cable aligns with the corresponding slot on the RED ROCKET-X. For more information, go to "[Power Supply](#)" on page 15.

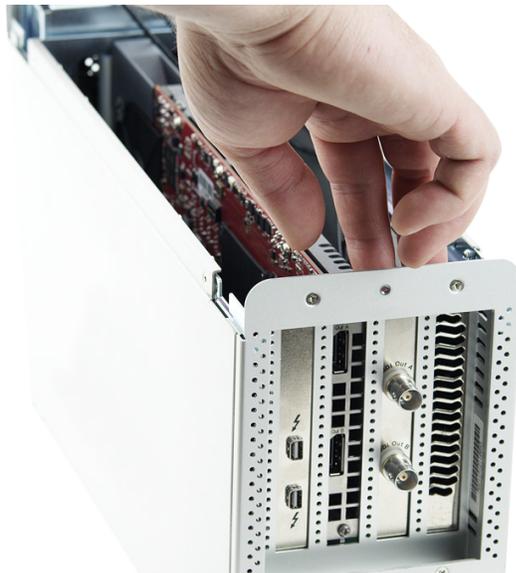


---

*Connect Power to  
RED ROCKET-X*

---

9. If the chassis has any screws that are intended to secure the card to the chassis, install those screws.
10. If you're using the HD-SDI slot filler, follow the instructions below to install and connect the HD-SDI slot filler:
  - A. Remove one (1) free slot bracket from the system.
  - B. Slide the HD-SDI slot filler into the empty slot so that the SDI Out B connector is toward the back.



---

*Install HD-SDI  
Slot Filler*

---

**CAUTION:** Ensure that the HD-SDI slot filler or connectors DO NOT contact other components inside the chassis.

- C. Hand-tighten the screw that attaches the HD-SDI slot filler to the chassis. If it is difficult to hand-tighten the screw, use a Phillips #1 screwdriver.
- D. Connect the SDI Out A cable on the HD-SDI slot filler to the SDI Out A connector on the RED ROCKET-X. The SDI Out A connector is the right connector when the RED ROCKET-X is installed.

# RED ROCKET-X INSTALLATION INSTRUCTIONS

- E. Connect the SDI Out B cable on the HD-SDI slot filler to the SDI Out B connector on the RED ROCKET-X. The SDI Out B connector is the left connector when the RED ROCKET-X is installed.



---

*Connect HD-SDI Slot Filler to RED ROCKET-X*

---

11. Reinstall the chassis casing.
12. Reconnect all cables to the chassis.
13. To install or upgrade the RED ROCKET-X driver and firmware, go to [“Install Driver and Firmware”](#) on page [24](#).

## 04

## INSTALL IN A PC

### REQUIRED TOOL

- ▶ Phillips #1 screwdriver

### POWER SUPPLY

Before installing the RED ROCKET-X, ensure that you have the appropriate power connector or power cable adaptor to plug into the RED ROCKET-X 6-pin power connector. The 6-pin PCIe power cable that is included with the RED ROCKET-X is for Mac Pro installations only, and is not compatible with a PC system.

### ATTACH THE PC EXTENDER TO THE RED ROCKET-X

If your PC system has a PCIe card holder, attach the PC extender (included) to the RED ROCKET-X. When you install the RED ROCKET-X in the PC system, the PC extender will slide into the PCIe card holder, securing the RED ROCKET-X.

1. Use a Phillips #1 screwdriver to install the two (2) M3x0.7 x 6 mm pan head screws (included) that attach the PC extender (included) to the end of the RED ROCKET-X.
  - The PC extender should be flush with the front of the RED ROCKET-X.
  - The wider end of the PC extender should be at the top of the RED ROCKET-X.



---

*Attach PC Extender*

---

# RED ROCKET-X INSTALLATION INSTRUCTIONS

## INSTALL RED ROCKET-X AND HD-SDI SLOT FILLER

Since each PC system is different and highly customizable, the instructions in this section are general and cover the essential steps for installing a RED ROCKET-X and HD-SDI slot filler (optional) in a PC system.

Depending on how your system is set up, you may need to rearrange components in your system or perform actions not described in these instructions in order to successfully install the RED ROCKET-X and HD-SDI slot filler. For more information about installing components in your system, refer to the computer manufacturer's instructions.

**WARNING:** The computer system you are installing the RED ROCKET-X in works with voltages that can be hazardous to your health.

1. Ensure that the computer is turned off.
2. Wait 5–10 minutes to ensure that the system components cool down.
3. Unplug the power cable and all external cables from the computer.

**WARNING:** Never work on the system or access its interior while any power cables are plugged in.

4. Discharge any static electricity from your body.

**NOTE:** To avoid generating static electricity while installing the RED ROCKET-X, DO NOT walk around the room until you have completed the installation and closed the computer.

5. Lay the PC on its side.
6. Open the computer casing so that you can access the PCIe slots. For more information, refer to the computer manufacturer's instructions.



---

*Remove Panel*

---

# RED ROCKET-X INSTALLATION INSTRUCTIONS

7. Remove one (1) free slot bracket from the system. Depending on your PC system, you may need to use a Phillips #1 screwdriver to remove the slot bracket.



---

*Remove Slot Bracket*

---

8. Line up the RED ROCKET-X connectors with a PCIe x16 physical slot that provides at least 16 lanes (x16), and then gently but firmly press the card into the slot. If you installed the PC extender, ensure that the PC extender slides into the PCIe card holder.

**NOTE:** To prevent damage to your system and the RED ROCKET-X, DO NOT rock the card or use excessive force when installing the RED ROCKET-X.



---

*Insert RED ROCKET-X*

---

# RED ROCKET-X INSTALLATION INSTRUCTIONS

9. Plug your system's 6-pin PCIe power cable into the RED ROCKET-X. Make sure that the latch of the power cable aligns with the corresponding slot on the RED ROCKET-X.



---

*Connect Power to  
RED ROCKET-X*

---

10. If you're using the HD-SDI slot filler, follow the instructions below to install and connect the HD-SDI slot filler:
  - A. Remove one (1) free slot bracket from the system. Depending on your PC system, you may need to use a Phillips #1 screwdriver to remove the slot bracket.
  - B. Slide the HD-SDI slot filler into the empty slot so that the SDI Out B connector is toward the back.



---

*Install HD-SDI  
Slot Filler*

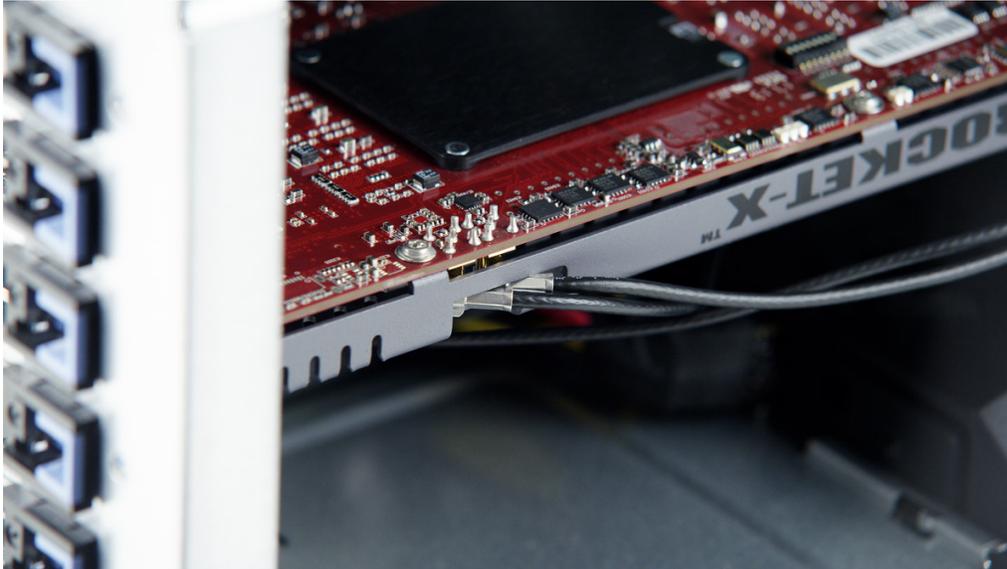
---

**CAUTION:** Ensure that the HD-SDI slot filler or connectors DO NOT contact other components inside the computer.

- C. Secure the HD-SDI slot filler. Depending on your PC system, you may need to use a Phillips #1 screwdriver to install a screw that attaches the HD-SDI slot filler to the computer.
- D. Connect the SDI Out A cable on the HD-SDI slot filler to the SDI Out A connector on the RED ROCKET-X. The SDI Out A connector is the right connector when the RED ROCKET-X is installed.

# RED ROCKET-X INSTALLATION INSTRUCTIONS

- E. Connect the SDI Out B cable on the HD-SDI slot filler to the SDI Out B connector on the RED ROCKET-X. The SDI Out B connector is the left connector when the RED ROCKET-X is installed.



---

*Connect HD-SDI Slot Filler to RED ROCKET-X*

---

11. Reinstall the computer casing.
12. Return the computer to the upright position.
13. Reconnect all cables to the computer system.
14. To install or upgrade the RED ROCKET-X driver and firmware, go to [“Install Driver and Firmware”](#) on page 24.

## 05

## INSTALL DRIVER AND FIRMWARE

### DOWNLOAD DRIVER AND FIRMWARE

To download the RED ROCKET-X driver and firmware, follow the instructions below:

1. Go to [www.red.com/downloads](http://www.red.com/downloads).
2. Download the **RED ROCKET-X Installer** to your computer. The drivers, firmware, and installation instructions for the RED ROCKET-X are located inside the installation package.
3. After downloading, you will see the new compressed (zipped) folder in the location to which you downloaded the Installer (your system may unzip the folder automatically).  
The folder name uses this format: RED\_Rocket-x\_Installer\_vx.x.x.
4. Open the zipped folder (your system may unzipped the folder automatically).
5. Extract the folder specific to your operating system (Mac or Windows) to your desktop.

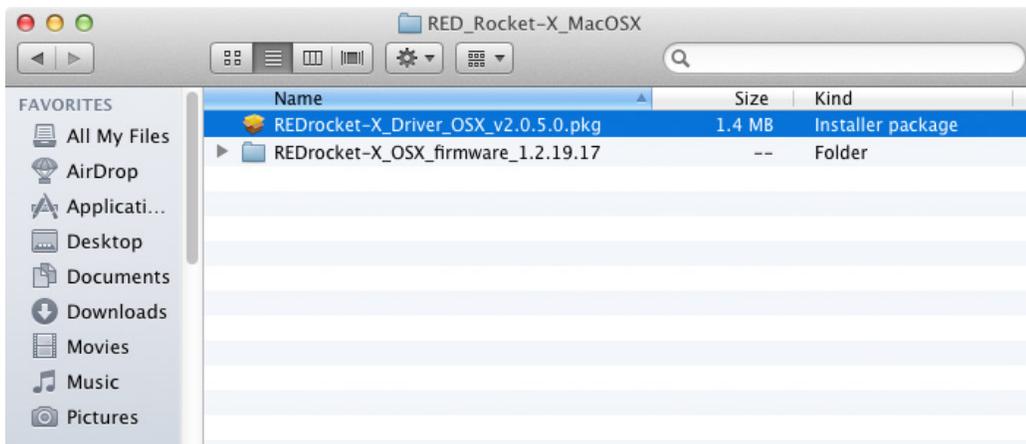
### INSTALL RED ROCKET-X DRIVER

#### INSTALL RED ROCKET-X DRIVER (MAC OS X)

On Mac OS X, the driver must be installed before upgrading the firmware; otherwise the firmware upgrade will fail.

To install the RED ROCKET-X driver on Mac OS X, follow the instructions below:

1. Ensure that you have already downloaded the RED ROCKET-X Installer. For more information about how to download the RED ROCKET-X Installer, go to “[Download Driver and Firmware](#)” on page 24.
2. Locate and open the **RED\_Rocket-x\_Installer\_vx.x.x > RED\_Rocket-X\_MacOSX** folder.
3. Open the **REDrocket-X\_Driver\_OSX\_vx.x.x.x.pkg** file.



The Install RED Rocket-X window opens.

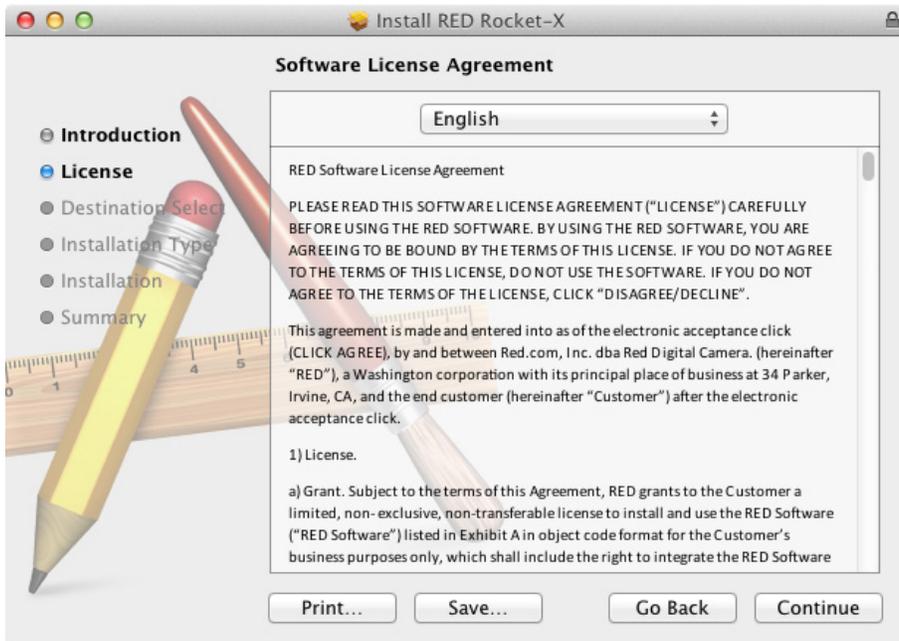
# RED ROCKET-X INSTALLATION INSTRUCTIONS

- Click **Continue** on the Install RED Rocket-X window.



The license agreement displays.

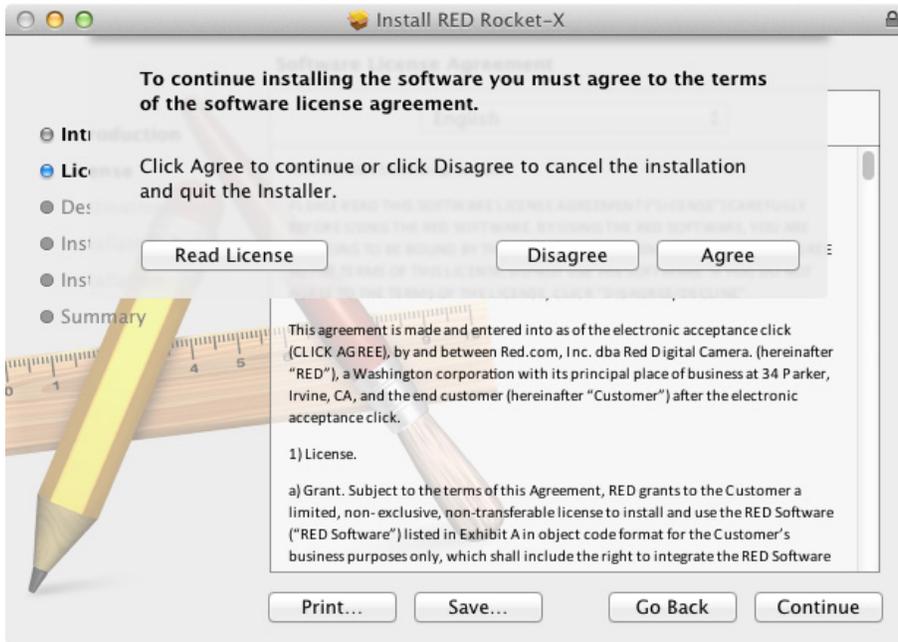
- Read the license agreement and click **Continue**.



An additional confirmation window opens.

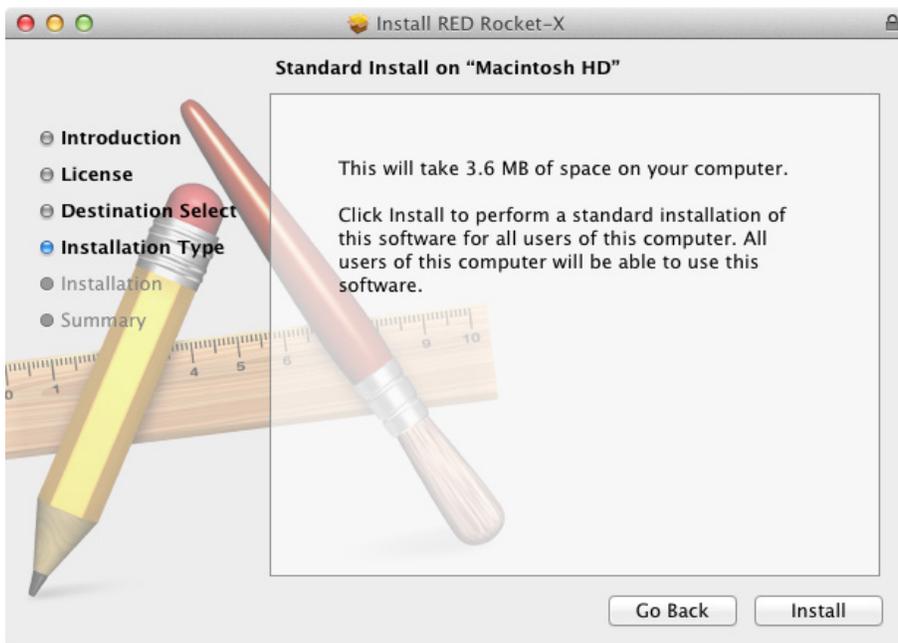
# RED ROCKET-X INSTALLATION INSTRUCTIONS

6. Click **Agree**.



7. Click **Install**.

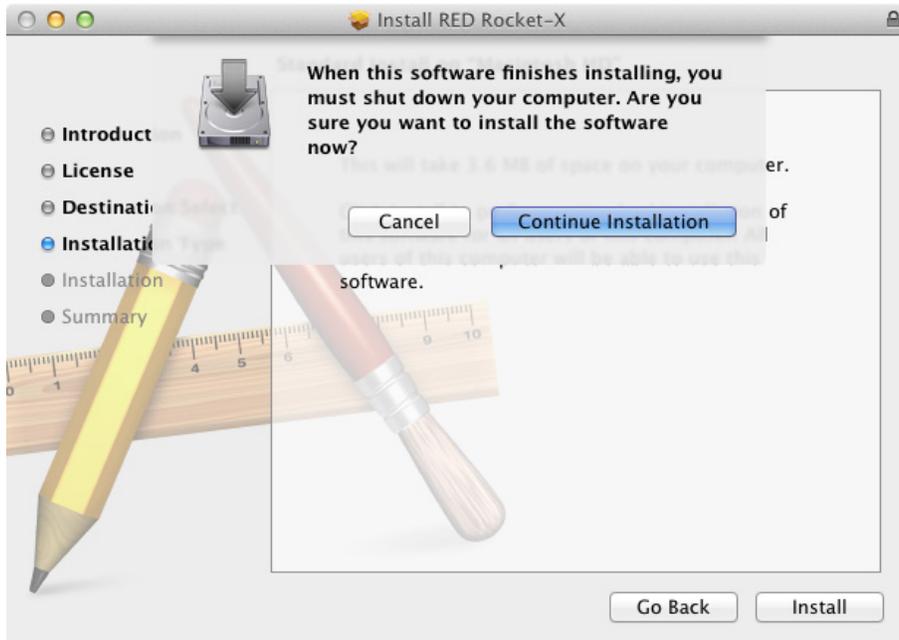
**NOTE:** Depending on your system, you may be required to enter your user name and password to begin installation.



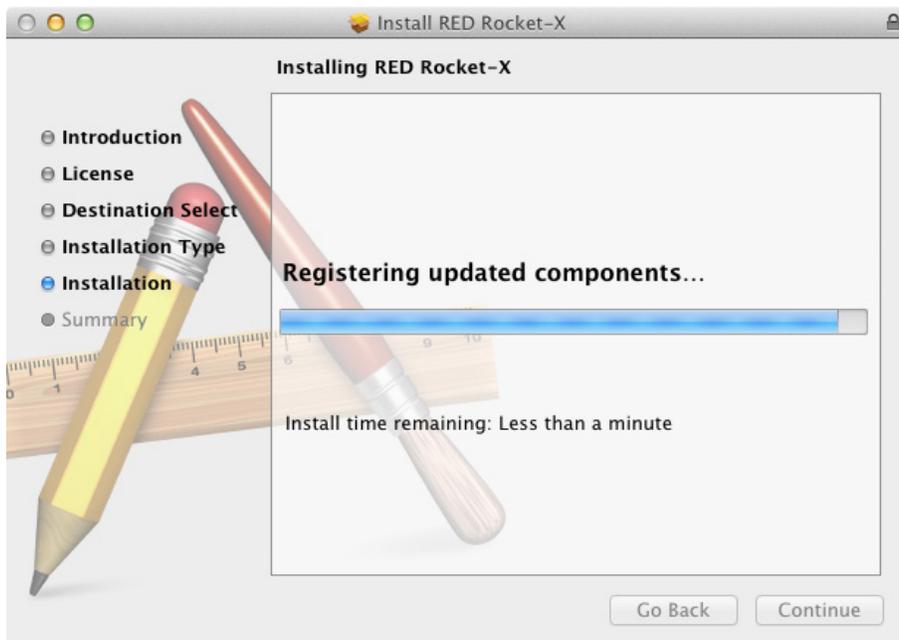
A window opens, notifying you that you must shut down your computer after the software finishes installing.

# RED ROCKET-X INSTALLATION INSTRUCTIONS

8. Click **Continue Installation**.



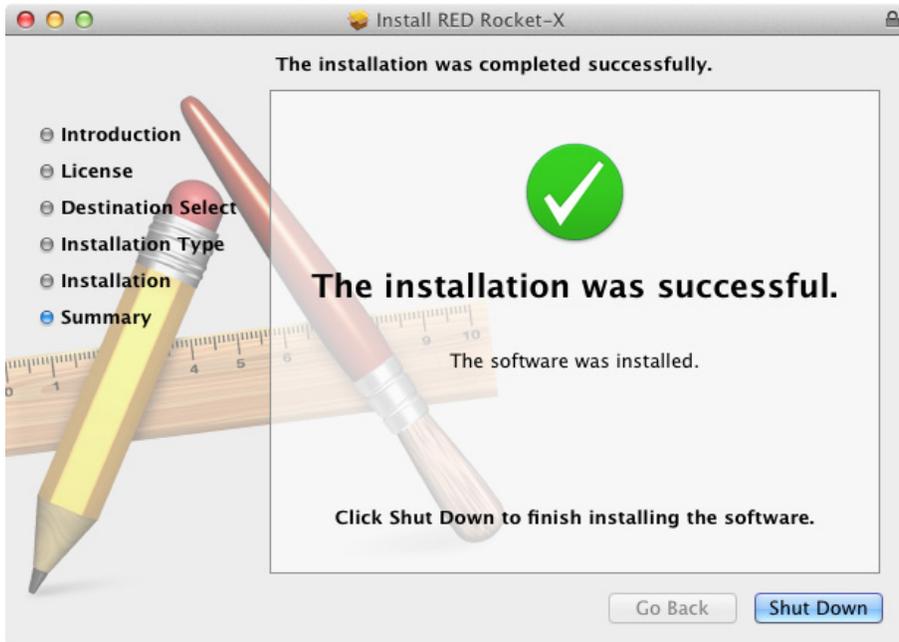
A progress bar displays during the installation.



The message "Install Succeeded" displays when installation is complete.

# RED ROCKET-X INSTALLATION INSTRUCTIONS

- Click **Shut Down** to finish installing the software.



Your computer shuts down.

- Reboot the computer.
- To upgrade RED ROCKET-X firmware, go to [“Install and Upgrade RED ROCKET-X Firmware”](#) on page 33.

## INSTALL RED ROCKET-X DRIVER (WINDOWS)

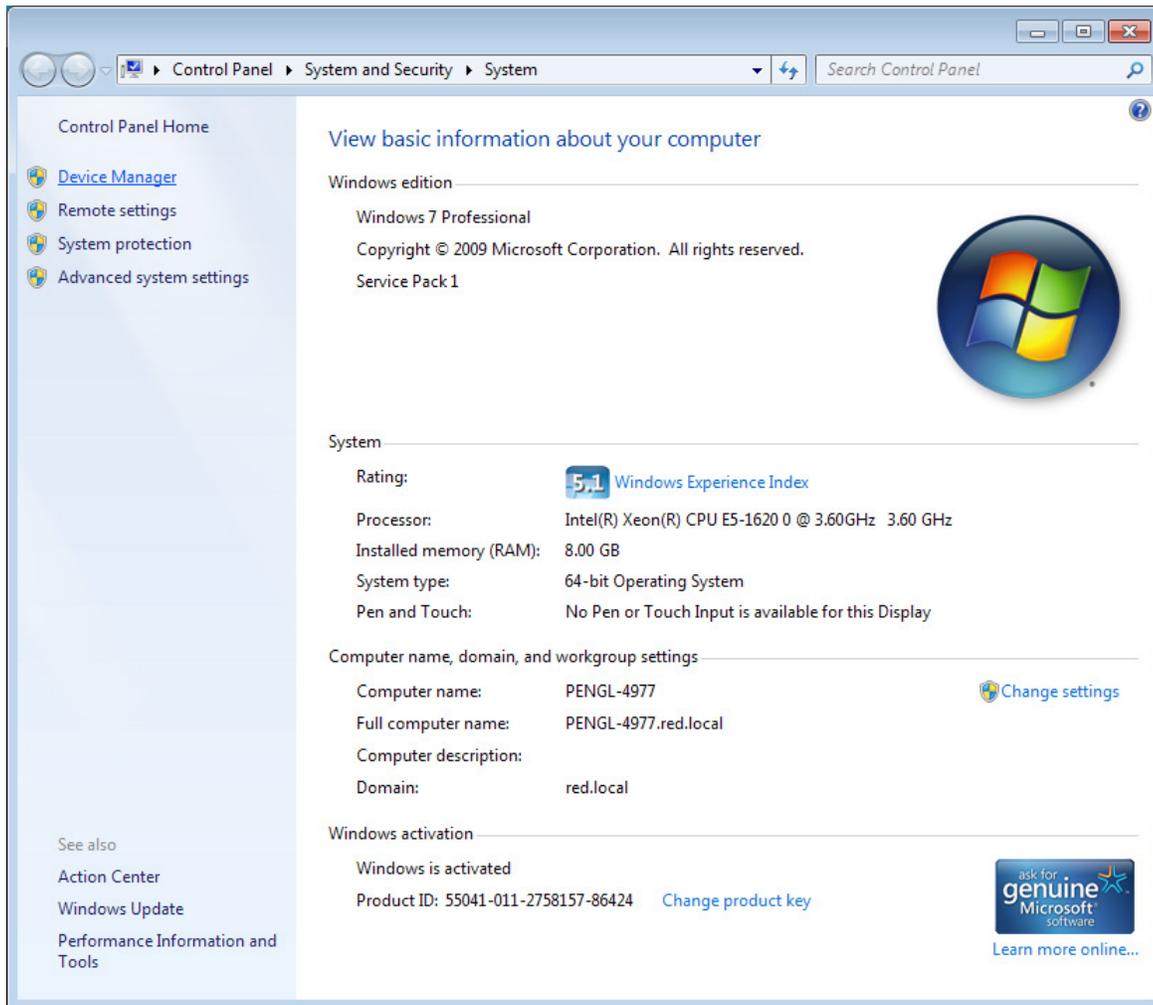
To install the RED ROCKET-X driver for Windows operating systems, follow the instructions below:

- Ensure that you have already downloaded the RED ROCKET-X Installer. For more information about how to download the RED ROCKET-X Installer, go to [“Download Driver and Firmware”](#) on page 24.
- Ensure that you have already installed the RED ROCKET-X.
- Click **Start**, right-click **Computer**, and select **Properties**.

The System window opens.

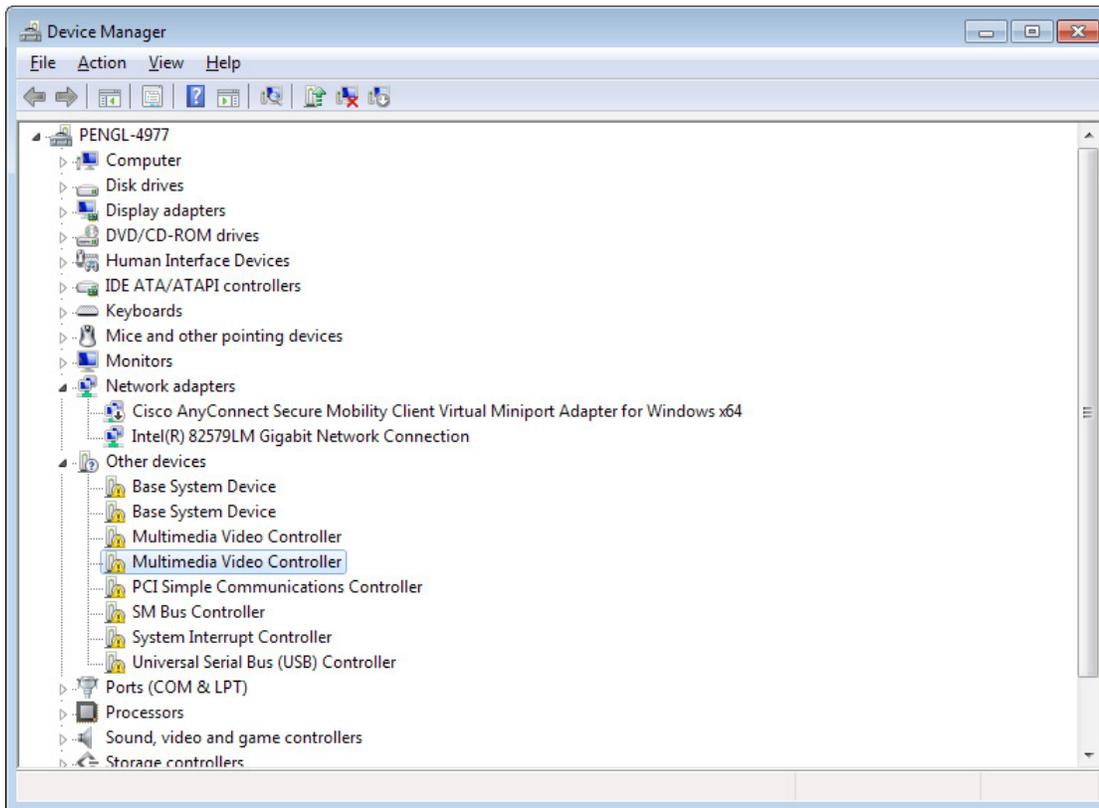
# RED ROCKET-X INSTALLATION INSTRUCTIONS

4. Click **Device Manager**.



# RED ROCKET-X INSTALLATION INSTRUCTIONS

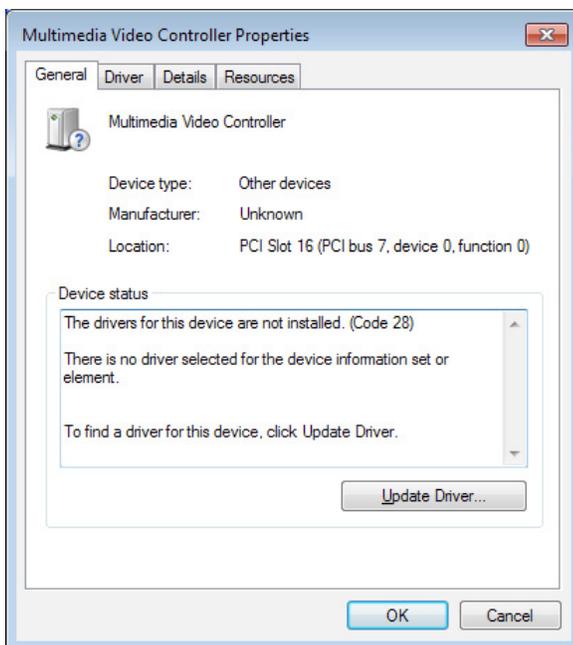
- Expand **Other devices**, right-click **Multimedia Video Controller**, and select **Properties**.



**NOTE:** Your Device Manager may display multiple instances of Multimedia Video Controller; you can select any of these instances.

The Multimedia Video Controller Properties window opens.

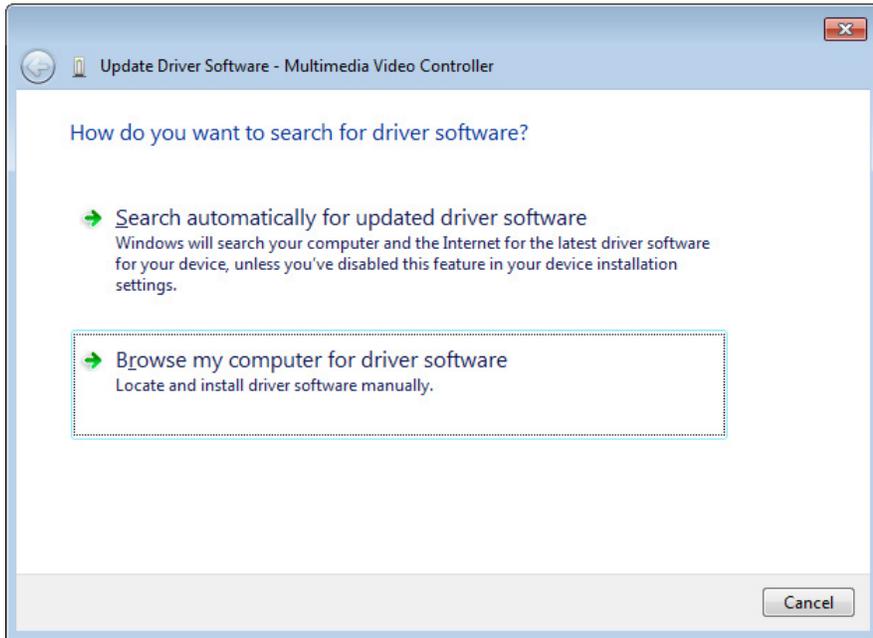
- Click **Update Driver**.



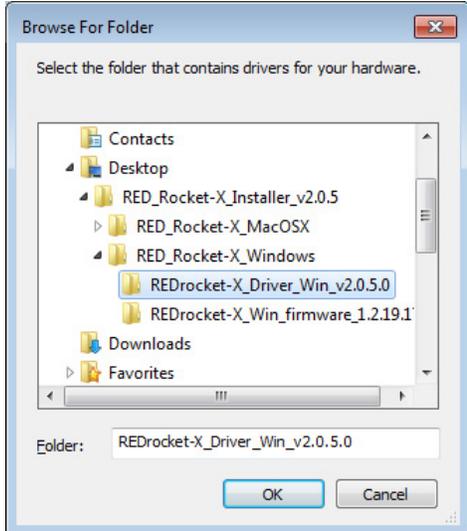
The Update Driver Software - Multimedia Video Controller window opens.

# RED ROCKET-X INSTALLATION INSTRUCTIONS

- Click **Browse my computer for driver software**.

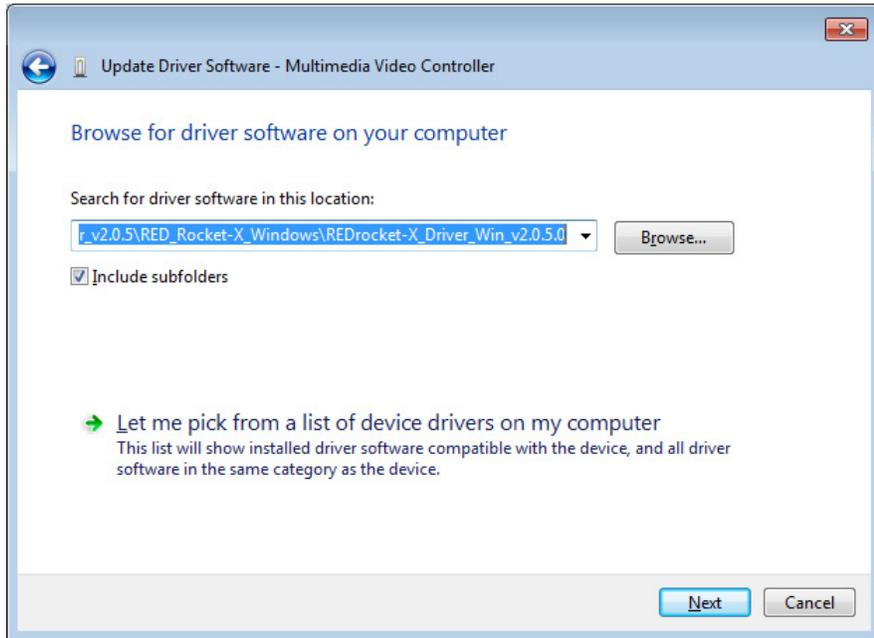


- Click **Browse** on the Update Driver Software - Multimedia Video Controller window.
- Navigate to and select the **RED\_Rocket-x\_Installer\_vx.x.x > RED\_Rocket-X\_Windows > REDrocket-X\_Driver\_Win\_vx.x.x.x** folder.



# RED ROCKET-X INSTALLATION INSTRUCTIONS

10. Click **Next** on the Update Driver Software - Multimedia Video Controller window.

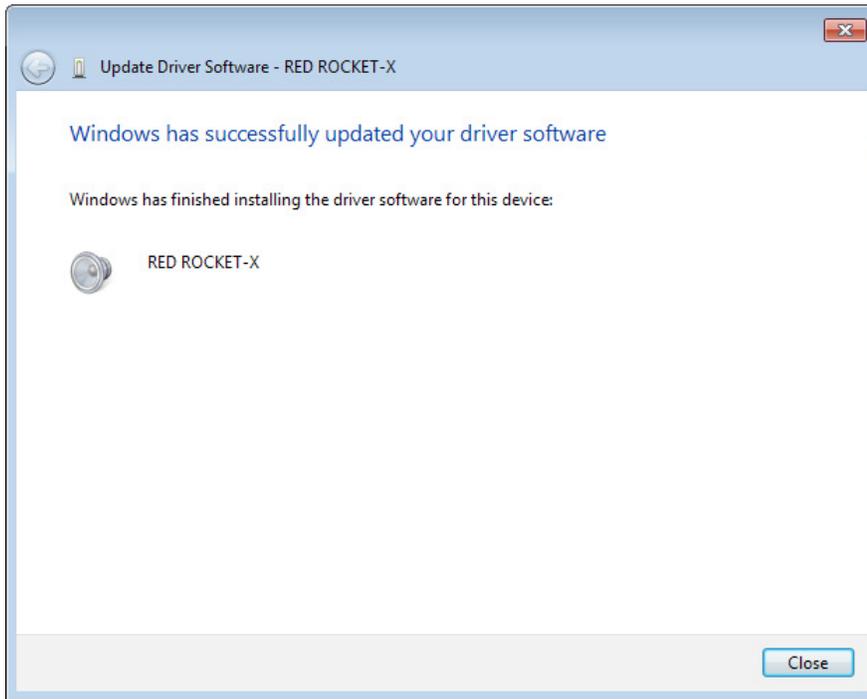


11. If the Windows Security window opens, select the **Always trust software from "RED.COM, Inc."** check box and click **Install**.



# RED ROCKET-X INSTALLATION INSTRUCTIONS

A progress bar shows the progress of the driver installation. The message “Windows has successfully updated your driver software” displays when installation is complete.



12. Restart the computer.

13. To upgrade RED ROCKET-X firmware, go to [“Install and Upgrade RED ROCKET-X Firmware”](#) on page 33.

## INSTALL AND UPGRADE RED ROCKET-X FIRMWARE

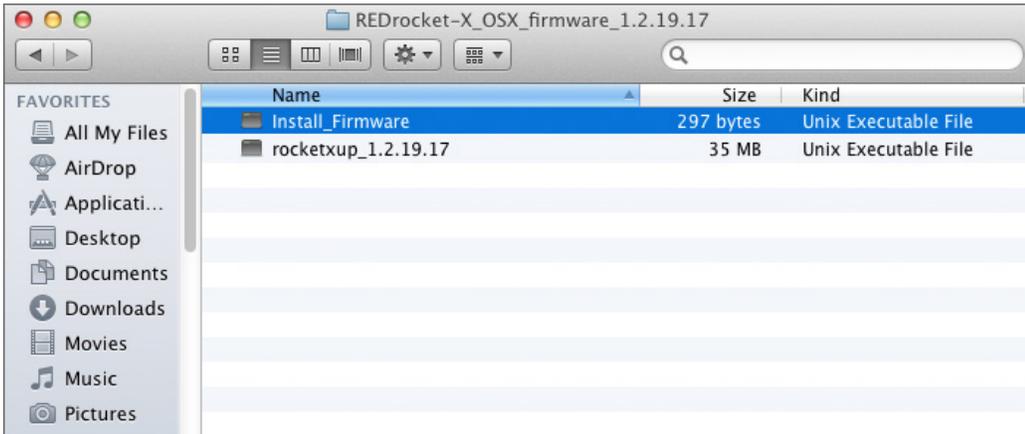
On Mac OS X, the driver must be installed before upgrading the firmware; otherwise the firmware upgrade will fail.

To install the RED ROCKET-X driver, follow the instructions below:

1. Ensure that you have already installed the RED ROCKET-X hardware.
2. Ensure that you have already downloaded the RED ROCKET-X Installer. For more information about how to download the RED ROCKET-X Installer, go to [“Download Driver and Firmware”](#) on page 24.
3. Ensure that you have already installed the RED ROCKET-X driver. For more information about installing the RED ROCKET-X driver, go to [“Install RED ROCKET-X Driver”](#) on page 24.
4. Locate and open the **RED\_Rocket-x\_Installer\_vx.x.x** folder.
5. Open the folder for your operating system:
  - **RED\_Rocket-X\_MacOSX**
  - **RED\_Rocket-X\_Windows**
6. Open the firmware folder for your operating system:
  - **REDrocket-X\_OSX\_firmware\_x.x.x.x**
  - **REDrocket-X\_Win\_firmware\_x.x.x.x**

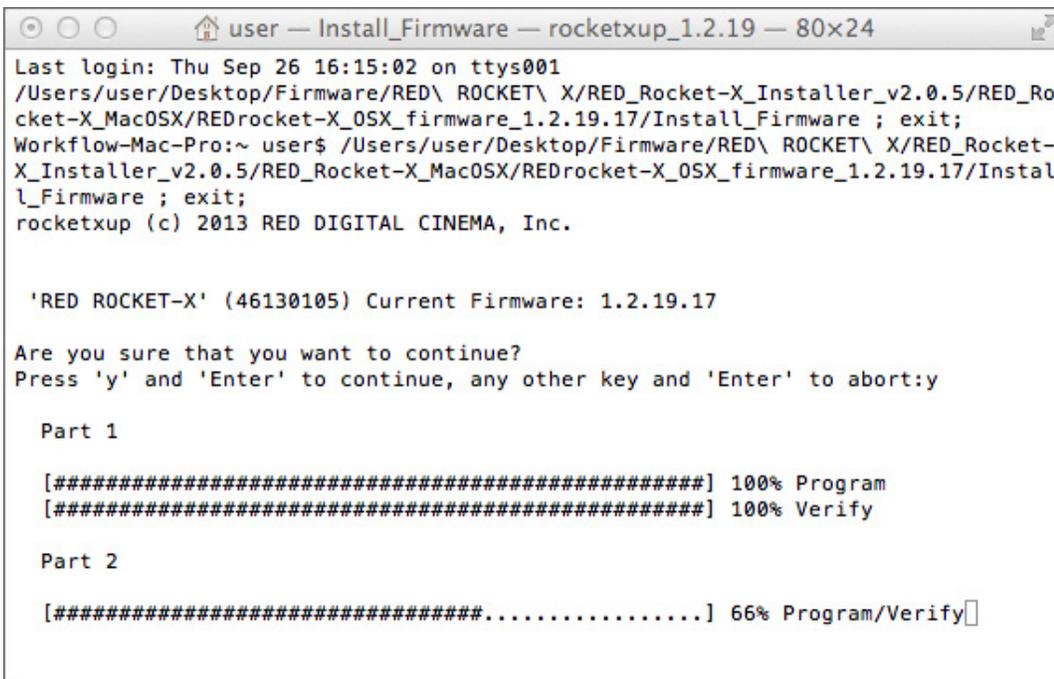
# RED ROCKET-X INSTALLATION INSTRUCTIONS

- Open the **Install\_Firmware** file.



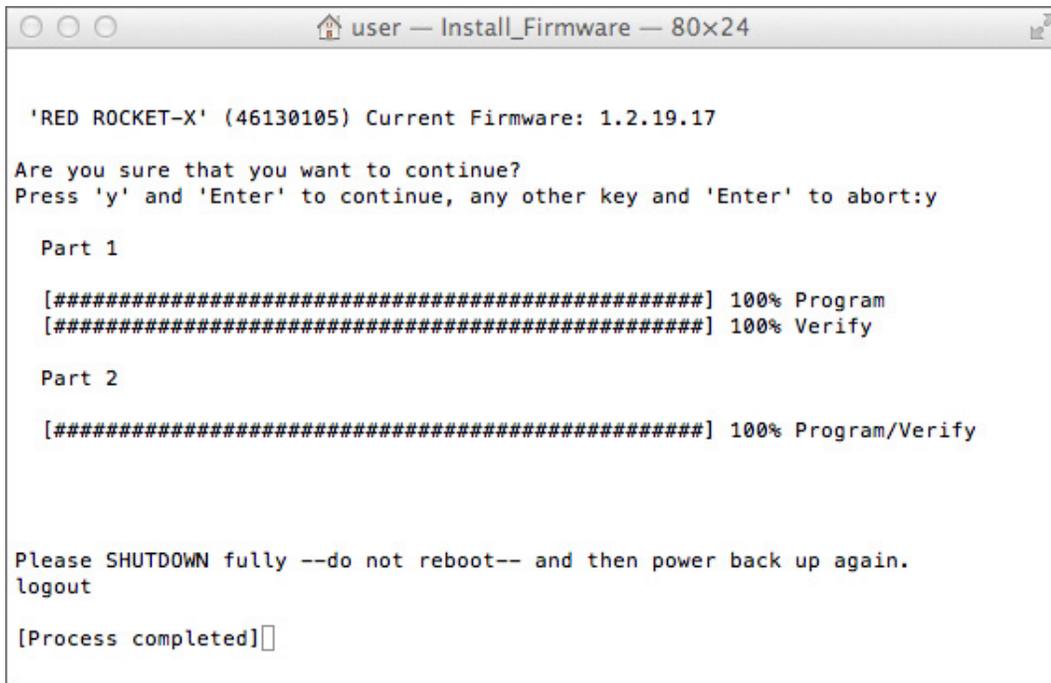
A terminal window (Mac) or command window (Windows) opens with “ROCKETXUP” in the title. The following information displays:

- Your RED ROCKET-X serial number
  - The firmware version currently installed on your RED ROCKET-X
- Respond to the prompt to confirm which RED ROCKET-X cards to install:
    - To upgrade one (1) RED ROCKET-X: Type **Y** and press **Enter**.
    - To upgrade all RED ROCKET-X: Type **A** and press **Enter**.
    - To cancel the upgrade: Press any other key and press **Enter**.



# RED ROCKET-X INSTALLATION INSTRUCTIONS

The upgrade process begins, and may take several minutes. A progress bar displays in the terminal window. After the firmware is upgraded, you will be prompted to fully shut down the computer and power back up again.

A terminal window titled "user — Install\_Firmware — 80x24" showing the installation progress. The output includes: 'RED ROCKET-X' (46130105) Current Firmware: 1.2.19.17; a confirmation prompt "Are you sure that you want to continue? Press 'y' and 'Enter' to continue, any other key and 'Enter' to abort:y"; "Part 1" with progress bars for "100% Program" and "100% Verify"; "Part 2" with a progress bar for "100% Program/Verify"; a shutdown instruction "Please SHUTDOWN fully --do not reboot-- and then power back up again. logout"; and finally "[Process completed]".

```
user — Install_Firmware — 80x24

'RED ROCKET-X' (46130105) Current Firmware: 1.2.19.17

Are you sure that you want to continue?
Press 'y' and 'Enter' to continue, any other key and 'Enter' to abort:y

Part 1

[#####] 100% Program
[#####] 100% Verify

Part 2

[#####] 100% Program/Verify

Please SHUTDOWN fully --do not reboot-- and then power back up again.
logout

[Process completed]
```

9. Close the terminal/command window.
10. Shut down the computer. DO NOT simply restart the computer.
11. Wait a minimum of 60 seconds.
12. Start the computer.
13. To verify that the system recognizes the RED ROCKET-X, go to [“Validate RED ROCKET-X Installation”](#) on [page 36](#).

# RED ROCKET-X INSTALLATION INSTRUCTIONS

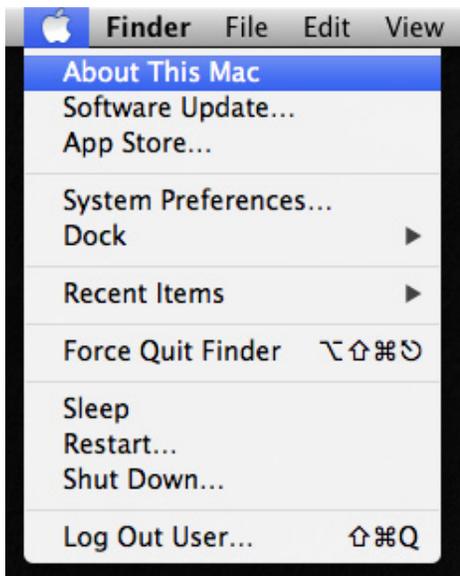
## VALIDATE RED ROCKET-X INSTALLATION

After installation, verify that the computer recognizes the RED ROCKET-X.

## VALIDATE RED ROCKET-X INSTALLATION (MAC OS X)

Follow the instructions below to ensure that your system recognizes the RED ROCKET-X:

1. Click the **Apple** icon and select **About This Mac**.

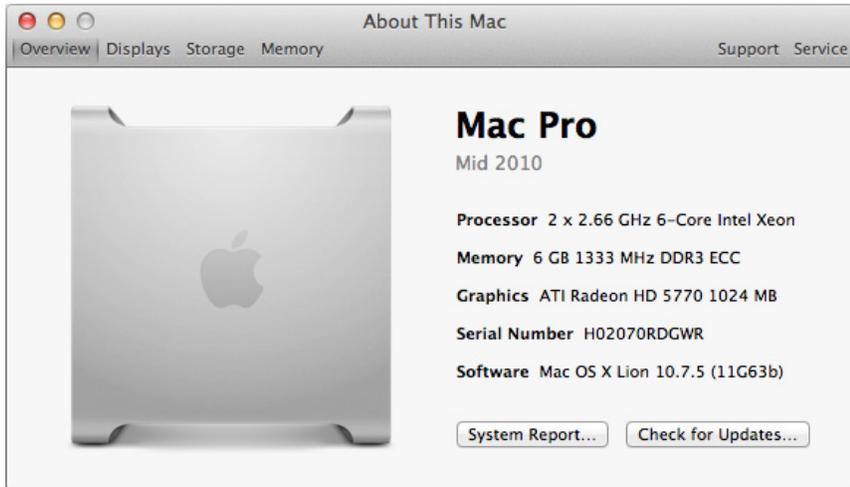


2. Click **More Info...**



# RED ROCKET-X INSTALLATION INSTRUCTIONS

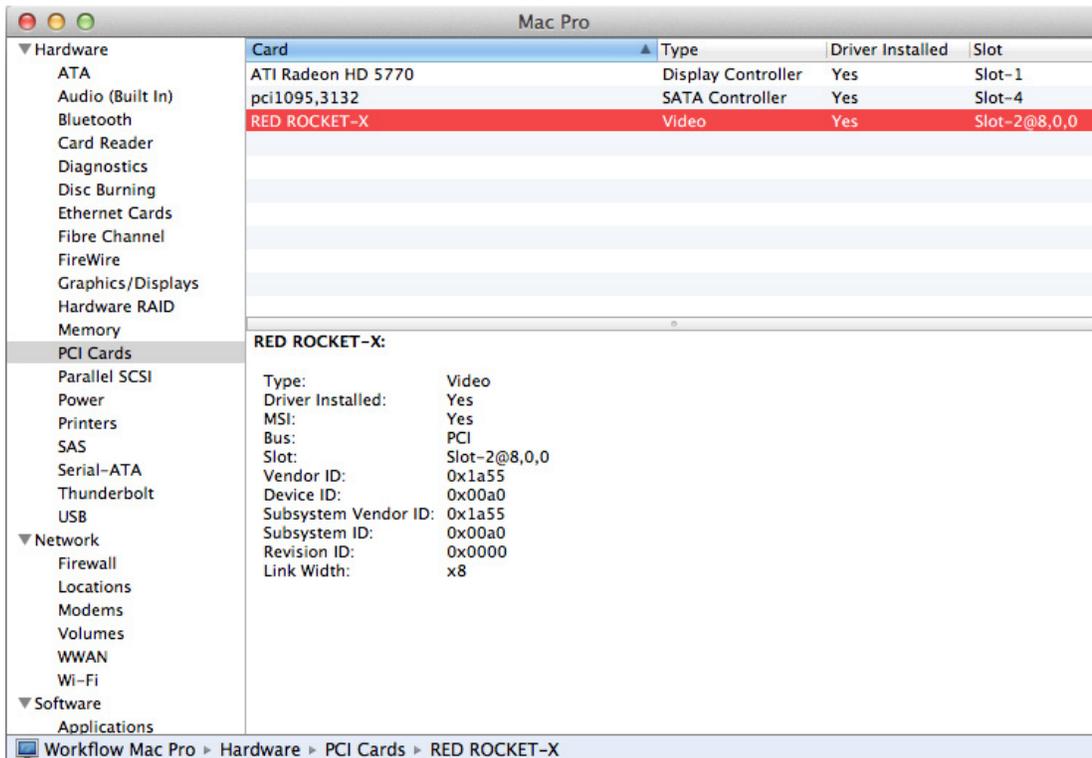
3. Click **System Report**.



4. Go to **Hardware > PCI Cards**.

The RED ROCKET-X is listed as one of the video cards.

If you installed the RED ROCKET-X in a Thunderbolt expansion chassis, make sure that the Thunderbolt expansion chassis displays. Otherwise, ensure that the Thunderbolt expansion chassis is powered up and connected to your computer system.



# RED ROCKET-X INSTALLATION INSTRUCTIONS

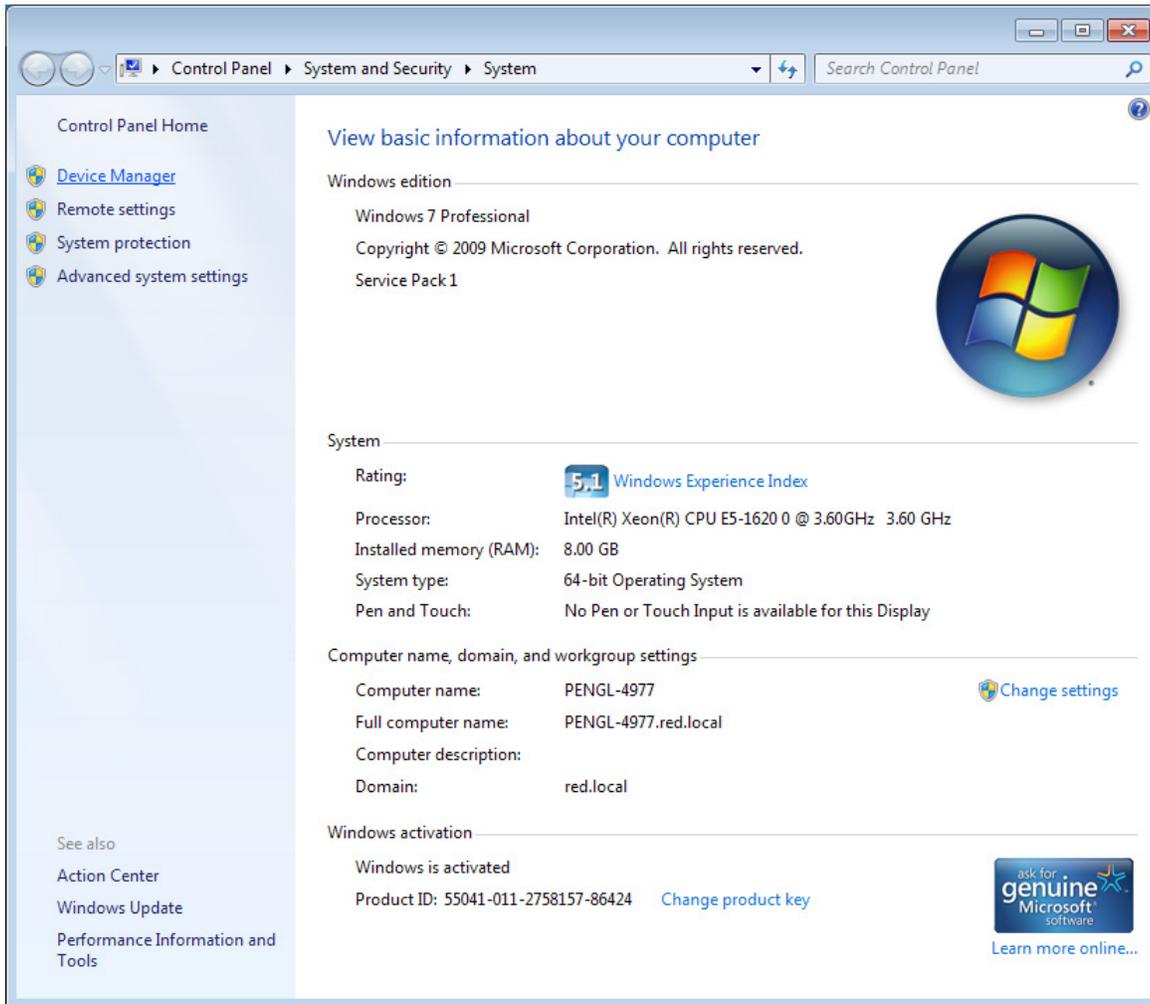
## VALIDATE RED ROCKET-X INSTALLATION (WINDOWS)

Follow the instructions below to ensure that your system's Device Manager recognizes the RED ROCKET-X:

1. Click **Start**, right-click **Computer**, and select **Properties**.

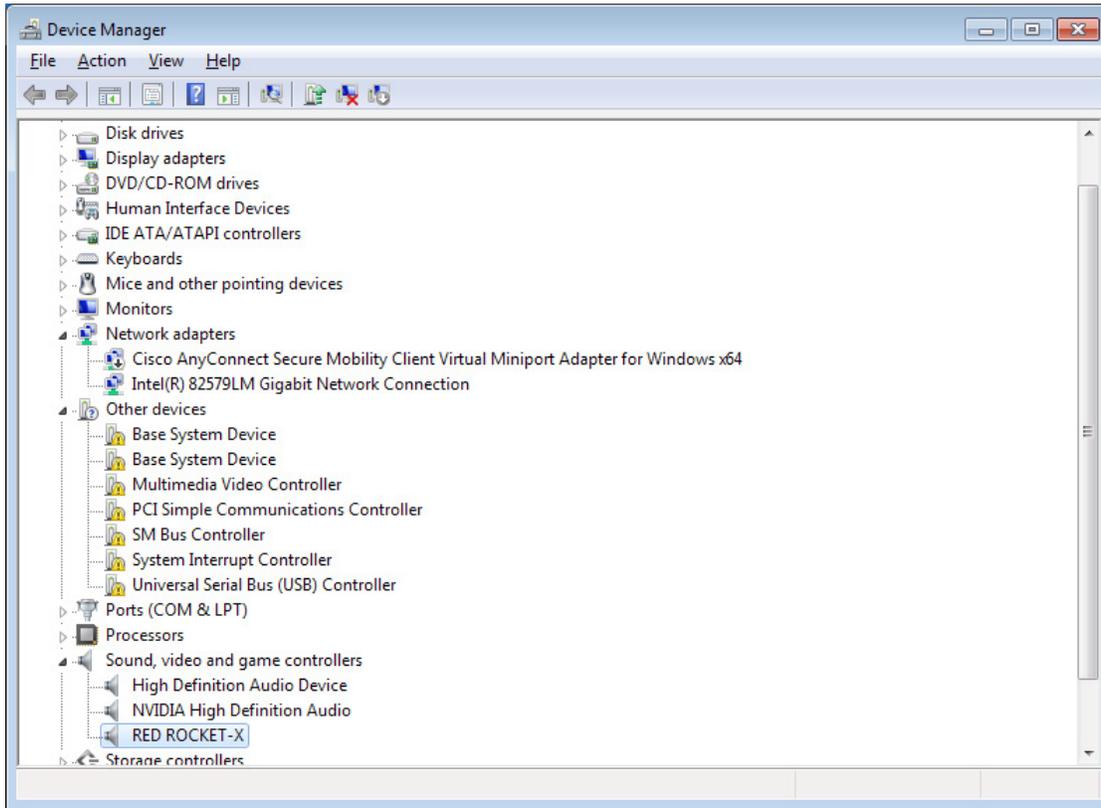
The System window opens.

2. Click **Device Manager**.



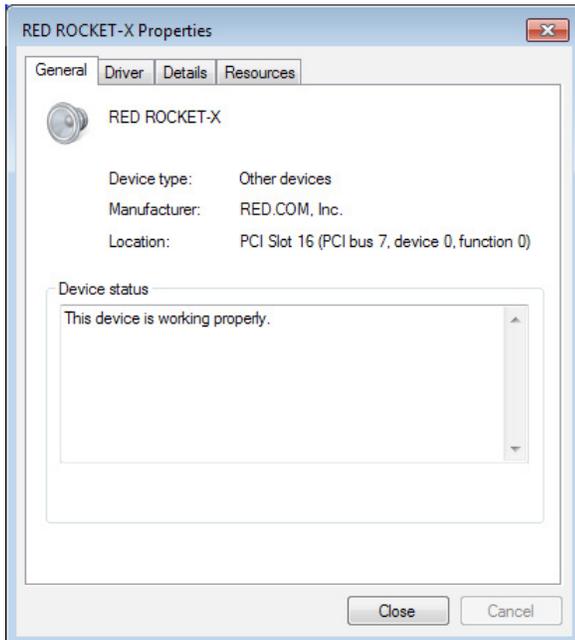
# RED ROCKET-X INSTALLATION INSTRUCTIONS

- Expand **Sound, video and game controllers**, right-click **RED ROCKET-X**, and select **Properties**.



The RED ROCKET-X Properties window opens.

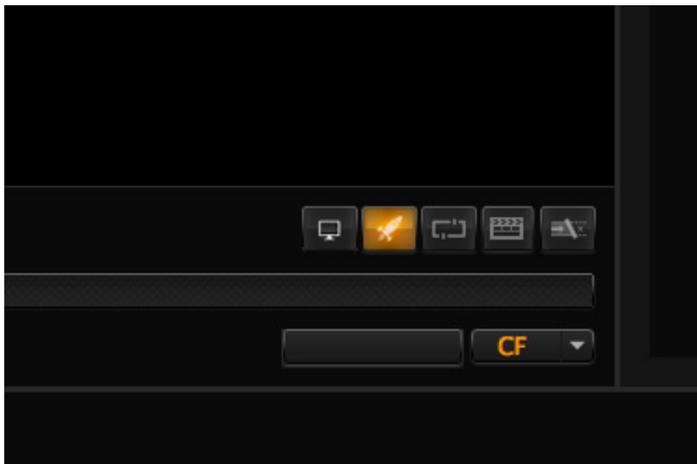
- View the properties of the RED ROCKET-X.



## 06

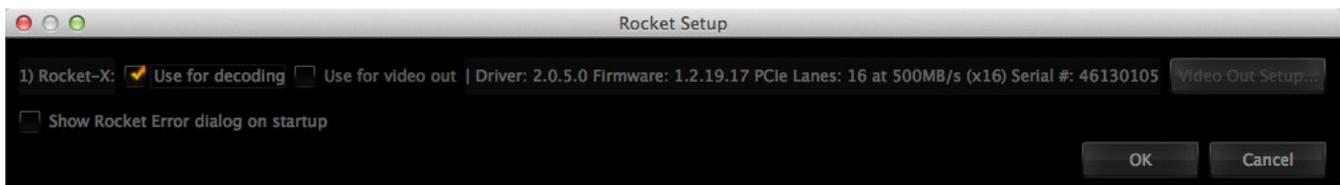
## SET UP RED ROCKET-X IN REDCINE-X PRO

1. Open REDCINE-X PRO.
2. Click the **RED ROCKET** icon.



The Rocket Setup window opens. If the window does not open, then the RED ROCKET-X, firmware, and/or driver are not installed.

3. Select the check boxes that apply to how you want to use the RED ROCKET-X:
  - **Use for decoding**
  - **Use for video out:** Video out is currently disabled, and will be enabled in a future release.  
**NOTE:** The RED ROCKET icon is orange when either of the check boxes above are selected.
  - **Show Rocket Error dialog on startup:** Select this to display an error in the Status panel when the RED ROCKET-X is installed in a lane slower than a x16 slot. For example, if your RED ROCKET-X is installed in a Thunderbolt expansion chassis, you will most likely see this error because the majority of Thunderbolt expansion chassis do not have x16 slots.



## 07

## TROUBLESHOOT YOUR RED ROCKET-X

### TRANSCODE SPEEDS

#### SYMPTOM

Transcoding footage takes longer than expected.

#### POTENTIAL RESOLUTIONS

Many factors affect transcode speeds. In general, the following factors decrease the transcode speed: long clip length; high resolution; high frame rate; and low compression. Here are a few options that may increase transcode speeds:

- ▶ Ensure that REDCINE-X PRO is up-to-date.
- ▶ Ensure that the RED ROCKET-X firmware and driver are up-to-date.
- ▶ If the RED ROCKET-X is in a Thunderbolt expansion chassis, install the RED ROCKET-X in a Mac Pro tower instead of the Thunderbolt expansion chassis.
- ▶ Use a different Non-Linear Editing (NLE) tool.

### WARNING ABOUT X8 LANE REQUIREMENT

#### SYMPTOM

REDCINE-X PRO displays the following warning: "RedRocket # is in a 4x PCI-Ex Lane. The RedRocket requires an 8x lane to perform properly."

#### EXPLANATION

This warning indicates that the RED ROCKET-X is installed in a lane slower than a x8 slot. For example, if your RED ROCKET-X is installed in a Thunderbolt expansion chassis, you will see this error because Thunderbolt is limited to x4 open lane speeds.

#### POTENTIAL RESOLUTION

- ▶ If the computer has a x8 slot, install the RED ROCKET-X in the x8 slot.
- ▶ If your RED ROCKET-X is installed in a Thunderbolt expansion chassis, you will see this error because Thunderbolt is limited to x4 open lane speeds.
- ▶ To disable this warning, go to **REDCINE-X PRO** > **RED ROCKET** icon, and deselect the **Show Rocket Error dialog on startup** check box.

## RED ROCKET-X OUT OF DATE

### SYMPTOM

REDCINE-X PRO displays the following warning: “RedRocket # Driver or firmware is out of date.”

### POTENTIAL RESOLUTION

Re-download and re-install REDCINE-X PRO and the RED ROCKET-X Installer.

## THUNDERBOLT EXPANSION CHASSIS INSTALLATIONS

### MAC PRO DOES NOT RECOGNIZE RED ROCKET-X IN THUNDERBOLT EXPANSION CHASSIS

#### SYMPTOM

You install the RED ROCKET-X driver and firmware, but the Mac Pro does not recognize the RED ROCKET-X.

#### EXPLANATION

During both the driver install procedure and the firmware install procedure, the installer prompts you to restart the computer. You must disconnect power from the Thunderbolt expansion chassis during the restart process.

#### POTENTIAL RESOLUTION

When the installer prompts you to restart your computer during both the driver install procedure and the firmware install procedure, disconnect and then reconnect power to the Thunderbolt expansion chassis during the restart process.

### REDCINE-X PRO DOES NOT RECOGNIZE RED ROCKET-X IN THUNDERBOLT EXPANSION CHASSIS

#### SYMPTOM

A RED ROCKET-X is installed in a Thunderbolt expansion chassis that is connected to your Mac Pro. The Mac Pro recognizes the RED ROCKET-X but REDCINE-X PRO does not.

#### EXPLANATION

A Thunderbolt expansion chassis is hot-swappable, but the RED ROCKET-X is not. If you have a RED ROCKET-X installed in a powered Thunderbolt expansion chassis and you disconnect and then reconnect the chassis from the Mac Pro, REDCINE-X PRO will not recognize the RED ROCKET-X

#### POTENTIAL RESOLUTIONS

- ▶ Connect a powered Thunderbolt expansion chassis to the computer, and then restart the computer.
- ▶ Install the RED ROCKET-X in a Mac Pro tower instead of the Thunderbolt expansion chassis.

# RED ROCKET-X INSTALLATION INSTRUCTIONS

## A

## TECHNICAL SPECIFICATIONS

### TECHNICAL DATA

**CAUTION:** The chassis of the computer system where the RED ROCKET-X is installed must be equipped with sufficient ventilation to ensure proper cooling.

SPECIFICATION	DESCRIPTION
PCI Bus Requirements	<ul style="list-style-type: none"><li>▶ PCIe slot that accepts a x16 card, and has 16 lanes of data for maximum performance</li><li>▶ One (1) 6-pin PCIe power cable</li></ul>
Board Size	Full-length PCIe (approx. 12" length), single-slot
Operating Temperature Range	5°C to 40°C (41°F to 104°F)
Storage Temperature Range	-17°C to 70°C (0°F to 158°F)
Operating Humidity Range	20% to 80%, non-condensing
Storage Humidity Range	10% to 80% relative humidity, non-condensing

### HARDWARE SPECIFICATIONS

VIDEO	OUTPUT
HDMI Dual Mode Display	2 DisplayPort
Serial Digital 4:2:2 8/10 bit (Single Link)	1 BNC
Serial Digital 4:4:4 8/10/12 bit (Dual Link)	2 BNC
AUDIO	OUTPUT
Embedded Audio	1 BNC (Via Video Out)
TIMECODE	OUTPUT
Vertical (VITC)	1 BNC (Via Video Out)
DATA FORMATS	DESCRIPTION
Color Modes	YCbCr 4:2:2 RGB 4:4:4
Internal Processing	Real-time REDCODE decoding, debayering, and scaling
Audio Formats	48 kHz, 24 bit

# RED ROCKET-X INSTALLATION INSTRUCTIONS

## SUPPORTED INPUT FORMATS

The RED ROCKET-X supports all EPIC, SCARLET, and RED ONE formats.

### RED ROCKET AND RED ROCKET-X COMPATIBILITY

	RED ROCKET	RED ROCKET-X
<b>DSMC</b>		
RED DRAGON	—	√
MYSTERIUM-X	√	√
MYSTERIUM	√	√
MONOCHROME	—	√
RED DRAGON MONOCHROME	—	√
<b>RED ONE</b>		
MYSTERIUM	√	√
MYSTERIUM-X	√	√



RED DIGITAL CINEMA

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