VCube
HD VIDEO SYSTEM

Installation Guide

10

MERGING
AUDIO FOR THE NETWORKING AGE

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Installation Guide v10.x

Installation Guide VCube 10 : Contents

Installation Guide V10.x

Document : VCube™ v10 Installation Guide Rev 3
Date :6 July 2022

1 Introduction

Thank you!

Congratulations on your purchase of the **VCube** High definition Video System

You have joined a worldwide community of users who have already discovered the Merging Technologies advantage.

Note: IMPORTANT!
The first thing you need to do is register your software to acquire your VCube key(s) and to be included in our user support list.
https://my.merging.com/auth/register

Please also subscribe to the User Forum at:
https://forum.merging.com

Scope

This document is intended to get you up and running with VCube and as quickly as possible. For more detailed information about Ovation, Pyramix and VCube please see the PDF User Guides which are installed with the software.
If you have purchased VCube as an integrated (Turnkey) system, the installation information in this guide will be redundant, since these systems come with all hardware and software pre-installed. If you are configuring your own system, please refer to the following instructions.
Important! If you are installing an upgrade to VCube please read: For Users Performing Upgrades on page 8 first.

Windows 10 - IMPORTANT!

Note: Merging strongly recommends you defer feature updates in Windows 10. Windows 10 users should never update to Beta Windows versions or install major new updates before making sure they are supported by Merging.
Please refer to our Windows 10 Configuration Guide:
https://merging.atlassian.net/wiki/display/PUBLICDOC/Windows+10+Configuration
Details about the recommended Windows 10 Defer Update setting
https://merging.atlassian.net/wiki/display/PUBLICDOC/Windows+10+Defer+Updates

<u>Windows 10 Recommended Version for VCube v10.x</u>

- May 2021 update (21H1) is supported since VCube 9 HotFix 3
- October 2020 update (20H2) is supported since VCube 9 HotFix 3
- May 2020 Update (2004) is supported since VCube 9 HotFix 3
- November 2019 Update (1909) supported since VCube 9.0.4
- May 2019 Update (1903) is supported since VCube 9.0.4
- October Update (1809) is supported since VCube 9.0.4

If you run a previous Windows 10 version, Merging recommends you update it.

Windows Updates

Users wishing to apply Windows updates may refer to the Merging list of validated compatible Windows updates:
https://merging.atlassian.net/wiki/spaces/PUBLICDOC/pages/4818089/Windows+Updates+Validation+Status.

Updating from Windows 7 to Windows 10

Users performing an update from Windows 7 to Windows 10 should follow this guide
https://merging.atlassian.net/wiki/display/PUBLICDOC/Updating+Windows+7+to+Windows+10+for+MassCore

Windows 7 is no longer officially supported as of VCube 10.

Windows 11 - IMPORTANT!

Windows 11 is supported since VCube 10.0.3 Hotfix 3.
MassCore is currently not compatible with Windows 11.

Note: Merging strongly recommends you defer feature updates in Windows 11. Windows 11 users should never update to Beta Windows versions or install major new updates before making sure they are supported by Merging.
Please refer to our Windows 11 Configuration Guide:
https://merging.atlassian.net/wiki/spaces/PUBLICDOC/pages/4820313/Windows+11+Configuration.
Details about the recommended Windows 11 Defer Update setting
https://merging.atlassian.net/wiki/spaces/PUBLICDOC/pages/4818467/Windows+11+Defer+Updates.

Windows 11 Recommended Version for VCube v10.x

- 21H2 is supported since VCube 10 HotFix 3

2 VCube Overview

VCube is a hard-disk based video player / recorder solution designed specifically for use in audio post production and anywhere where high quality playout is required. VCube can operate as a standalone unit, or as part of a multi-system network, fully integrated with Pyramix or Ovation, through standard Ethernet. Like Pyramix it offers sync to PAL, NTSC, 24fps Film and all the HDTV frame rates. VCube can also be controlled via the 9-pin Sony P2 protocol by any third-party DAW system, as well as controlling any 9-pin controllable VTR for capturing.
VCube fully supports the Merging Technologies Virtual Transport technology.

The integrated video editor with multi-track, multi-layer features enables the VCube user to remove, add or trim Media Files imported from a Composition (VCube native or OMF AAF, MXF and Apple XML are optional). VCube is able to mix different formats in the same Timeline. It is only necessary to specify the output format. All video Clips will be resized to this format in real time. Therefore it is possible to play out an HD file on a standard SD output...
VCube is an open solution that can import OMF, AAF, MXF and Apple XML Compositions. VCube XE and SE are also able to convert, and render Media. A password protected watermark feature allows the administrator to tag both video and graphic outputs. The administrator can also protect VCube settings with a second password.
VCube will be your Swiss Army Knife in the video jungle.

3 For Users Performing Upgrades

Note: VCube v10 keys are required to run VCube v10.

VCube

Please first uninstall any previous version of VCube before installing VCube v10.
From the Windows Control Panel select Programs and features, remove the installed version of VCube and reboot the computer.
If you are planning to update your Windows 10 version, it is now a good time to do so, by following the update procedure in the documents linked to below.
https://merging.atlassian.net/wiki/display/PUBLICDOC/Windows+Configuration+Guide

4 System Requirements

Wintel platforms tend to increase in number of cores, speed and performance at a tremendous rate. New and faster processors are released almost on a monthly basis. Therefore, we have not included suggested Motherboard or Processor specifications here.
We maintain a list of up-to-date PC configurations in the Support Section of our website at
https://www.merging.com/pages/pcconfig

Other Components

- Graphics Card: As of Pyramix 12, Ovation 8 and VCube 8, Merging strongly recommends using a dedicated graphic card rather than onboard graphics. Most particularly when requiring multiple display outputs, OpenGL UI plugins (Flux, Izotope, ...), working with video, or when your workflow places high demands on graphics.
  Please refer to the Pyramix PC Specifications for all details:
  https://merging.atlassian.net/wiki/display/PUBLICDOC/Graphic+cards+recommendations
- Sufficient HD space and speed for your audio media files. The speed and amount of disk space required depends on sample rate, word length, number of tracks and length of program material.
  A typical 7200 RPM SATA drive is sufficient for 48 tracks at 48 kHz. Higher track-counts and/or higher sampling rates will require an SSD drive and/or multiple drives configured in Raid 0, 1, 10 or 5.
  We recommend disks should be formatted as NTFS volumes with the Windows default block sectors size. For more details, please see
  https://merging.atlassian.net/wiki/spaces/PUBLICDOC/pages/487212/Media+drives+track+count.
- BD/DVD/CD-ROM combo drive or better.
- Display with a minimum resolution of 1280x1024.
- 3 button mouse

VCube Native
Certified Operating System: Windows 10 Professional 64-bit - Windows 11 Professional 64-bit.

5 PC Setup

Motherboard Drivers and Utilities

Motherboard drivers should be updated to current versions, from its manufacturer website.
Motherboard Utilities should NOT be installed.
Please refer to our Windows configuration guides for more details:
https://merging.atlassian.net/wiki/display/PUBLICDOC/Windows+Configuration+Guide

BIOS Settings

Recommended BIOS Settings
Boot Device Control
We recommend that the UEFI boot should be disabled and set to Legacy only
Hyperthreading
Intel® Hyperthreading Technology is supported on 64-bit systems.
This setting is commonly found in Main Bios page, or under CPU configuration.
(See the motherboard manual for further details).
Other Settings
The following features can create instabilities in the system, due to power management.
Intel® SpeedStep Technology (also known as *Enhanced Intel® SpeedStep*), *Intel® TurboBoost Technology* as well as *CPU C States* (or *Intel® C-State*) features must be disabled in the BIOS.
These settings are commonly found in BIOS Power options or CPU Configuration.
Overclocking is not supported.

Configuration Guides

Windows 10 users should refer to the Merging Windows 10 Configuration Guide:
https://merging.atlassian.net/wiki/display/PUBLICDOC/Windows+10+Configuration

Windows 11 users should refer to the Merging Windows 11 Configuration Guide:
https://merging.atlassian.net/wiki/spaces/PUBLICDOC/pages/4820313/Windows+11+Configuration.

Merging has a number of specific configuration guides based on the validated hardware platforms available at
https://merging.atlassian.net/wiki/display/PUBLICDOC/Validated+hardware+installation+guides

Display Settings

VCube requires a minimum display resolution of 1280x1024 in 256 colors which MUST be set to small fonts mode.
A Merging Windows configuration guide is available with recommendations here:
https://merging.atlassian.net/wiki/display/PUBLICDOC/Windows+Configuration+Guide

Please type *advanced system settings* in Windows search field (next to Windows Start button), and select the *Advanced* tab > *Performance Settings* to open the Performance Options window.

Choose the *Visual Effects* Tab.
Disable the following settings by unticking the boxes to prevent instabilities:

- Animate Windows when minimizing and maximizing – disable
- Animations in the taskbar and Start Menu – disable
- Enable Peek – disable
- Fade or slide menus into view – disable
- Fade or slide ToolTips into view – disable
- Save taskbar thumbnail previews – disable
- Show thumbnails instead of icons
- Show translucent selection rectangle – disable
- Show window content while dragging – disable
- Slide open Combo boxes – disable

Power Management

As with other Digital Audio Workstations and Non-Linear Editors, we recommend setting the PC to the High-Performance Power management scheme.
VCube is NOT designed to support Standby modes.

Drive Indexing

In the interests of better performance, we recommend turning Indexing OFF for all Data drives (System drive indexing should be left ON)

Other Applications

Like all real-time applications, VCube works best when there are no other unnecessary applications or services running.

Video in Timeline / PyraCube

As of Pyramix 12, Ovation 8 and VCube 8, Merging strongly recommends using a dedicated graphic card rather than onboard graphics.
In a VCube system, video performance depends principally on the system configuration.

Video Hardware

Merging supports Blackmagic design Video Cards thru the DeckLink SDK.
This covers the Decklink product lines.
Note:
The DeckLink 8K cards are not supported above 4K DCI / 25 fps.
The DeckLink Studio monitor is known to be working but has no Video reference to ensure genlock.
Merging has certified its applications under Blackmagic Design versions 10.x, 11.4, 11.5 and 12.x.
Please download and install from https://www.blackmagicdesign.com/support

AJA video cards are no longer supported.

6 Sync Board and Video Card Installation
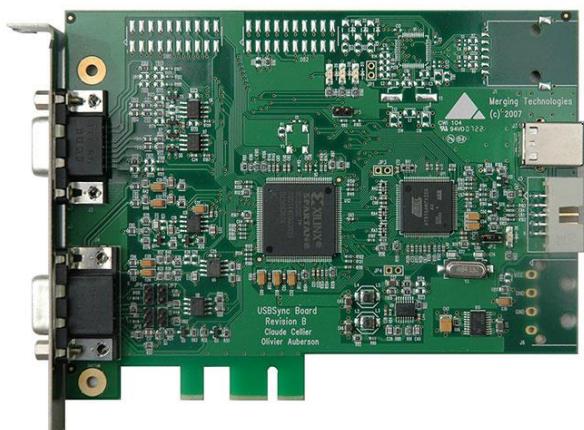
IMPORTANT NOTICE:
Please read the following information very carefully before attempting installation. Failure to comply with the precise instructions may result in damage to your hardware. Please read the entire chapter carefully before installation.

STATIC DANGER NOTICE:
Please note that the sync and video cards contain delicate electronic components that can be damaged or even destroyed when exposed to static electricity. Please take all of the necessary precautions when handling the video card and all other PC computer cards.

If you are in any doubt about your competence to install PC hardware please consult your Merging technologies Sales Partner.

Sync Board

The Sync Board hardware option enables RS-422, LTC, MIDI (MTC) input and optional Bi-Phase input to control or to be controlled by VCube.
Note: Please see also the documentation accompanying the Sync Board before attempting installation.
The PCI(e) slot is only used to support the board mechanically. The connection to the mother board is via a USB link. USB 1.1 is sufficient but a USB 2 socket can be used if available.

Inserting the Sync Board:

Make sure the computer is turned off (and unplugged) before installing the Sync Board.

- To avoid the possibility of static electricity damage to the PC or the Sync Board please use an anti-static strap to connect yourself to a known good earth.
- Remove the computer covers required to gain access to the peripheral slots.
- Identify a vacant PCI(e) slot. Remove the slot / bracket for the chosen PCI(e) slot.
- Insert the Sync Board into the PCI(e) slot.
- Fasten the mounting screw to secure the Sync Board back-plate to the PC frame.

- Identify a vacant USB socket and insert the 5-pin plug of the USB cable (supplied), the red wire being pin 1.
  (This leaves one half of the dual USB port free for another connection if required.)
- Insert the other end of the cable (10-pin) into connector on the Sync Card.

Video Card

Make sure the computer is turned off (and unplugged) before installing the video card.

- To avoid the possibility of static electricity damage to the PC or the video card please use an anti-static strap to connect yourself to a known good earth.
- Remove the computer covers required to gain access to the peripheral slots.
- Locate a free PCIe x4, x8 or x16 slot. Remove a slot / bracket for the chosen PCIe slot.
- Insert the video card into the chosen PCIe slot.
- Fasten the card in place with the screw removed earlier.
- Replace the computer covers.

7 VCube Software Installation

Important! If you have not already done so, before installing the Merging Technologies software for the first time OR as an update please run Windows Update and accept any updates marked as Important. Note that this can take a considerable time. (Over an hour in some cases.) This is a Microsoft problem.

Note: You must have full Administrator Access to install VCube.

Installation Overview

Note: If you have purchased hardware options such as the Sync Board, or a video card, please install these first following the instructions in the accompanying documentation.

Installer

The VCube software uses an automated installer wizard which will install all necessary prerequisites.
Note: The security dongle must be in place and the security keys entered before attempting to launch the software, but not required during the installation process.
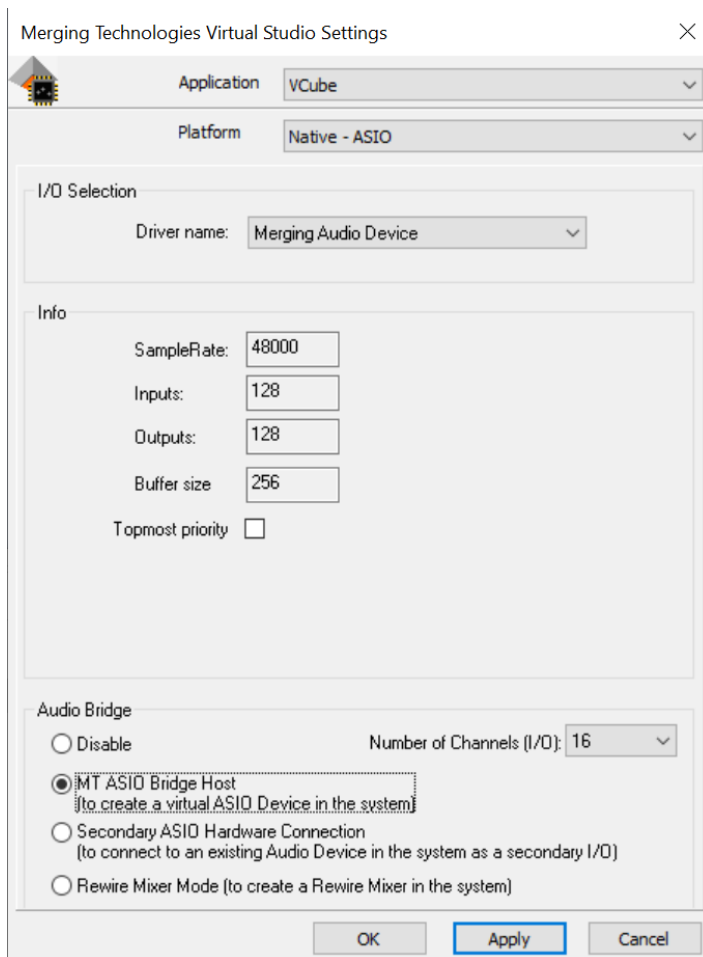To install the VCube software, please download from
https://www.merging.com/support/downloads (registration required), or insert the USB memory stick if have an installation pack. The installation program will auto-start on a PC where auto-start is configured on. Otherwise, double-click on the USB memory stick icon.
Please follow the automatic installation procedure accepting the option to install drivers and re-boot your PC once setup is complete.
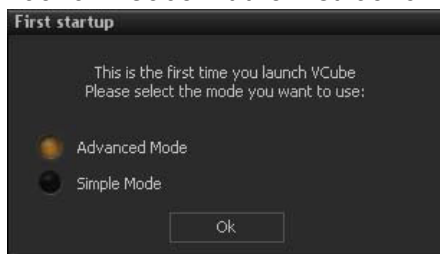

Running the Installer

- If you have a SafeNet dongle please remove this before installing VCube and replace it after installation is complete.
- The BlackMagic video card drivers have to be downloaded from the BlackMagic website and installed separately. https://www.blackmagicdesign.com/support
1. Start the VCube installer.
2. Follow the installer instructions.
3. Once the installation process is finished, please reboot the computer as requested.
   WARNING: Certain computers do not properly shut down despite the reboot command issued by the installer but only perform a log off. In this case, please activate a full shut down manually.
4. Plug in the security USB dongle.
5. Enter the authorization keys in MT Security Settings, see VCube Software Registration on page 17.
6. Launch the VS3 Control Panel.
   The VS3 Control Panel is a separate application. It can be found in Windows Start > Merging Technologies > VS3 Runtime. It must be used to select and set up the Audio Engine before launching VCube for the first time.

7. Select **Application**: **VCube**
8. Select **Platform: Native – ASIO** or **No VS3/ASIO Audio.**
    Note: The Blackmagic ASIO driver is NOT recommended. (ASIO buffer size issue.)
9. **I/O Selection - Driver name**: Select your ASIO device from the drop-down list (Native-ASIO Platform only).
10. When the VS3 panel *Do you want to save configuration?* dialog box appears, click on OK. The VS3 control panel will close.
11. Launch VCube. At the first launch a dialog will be displayed:

The Simple Mode has been designed to avoid inexperienced users destroying a correctly configured setup. But several settings are not accessible.

8 VCube Software Authorization

The VCube software and its various software options are protected by an authorization key mechanism which uses a unique registration key number generated by Merging Technologies. Based on purchased software components, this key is unique to your security dongle, your Company Name and your User name.

If you did not receive this key, have lost it or would like to change the user and/or company name, please contact your Merging Sales Partner with your SafeNet dongle serial #, your User Name, your Company Name and the list of purchased software components.

Usually, a key can be issued within one business day, after the verification of your personal data has been completed.

Safenet Dongle - Entering your Key(s)

After the VCube installation process you will have to enter your keys by choosing one of the following procedures:

1. Double-click the file *YourPersonalKeyXXXXX.mtk*. This is attached to the email containing your Key(s).
2. Open the **MT Security Settings Control Panel** (Windows Start > Control Panel > MT Security Settings), click the Import Key button and browse for your key file named *YourPersonalKeyXXXXX.mtk*
3. Open the **MT Security Settings Control Panel** (as above), click the *Enter Key* button and type your User Name, Company Name and Key then click OK. Repeat this step for each Keys listed in the email.

Changing or re-entering a Key

Should you need to subsequently change or re-enter a Key, follow the appropriate option above.

QLM Cloud based security- Entering your Key(s)

For users needing to run Pyramix, Ovation or VCube without a Merging SafeNet dongle, Cloud based security is available.

Note: SafeNet keys cannot be transferred to QLM security for a chosen release. This process can only be undertaken at the upgrade stage.

For further information about cloud security please see the following online documentation:
Cloud Licenses activation/deactivation
https://merging.atlassian.net/wiki/spaces/PUBLICDOC/pages/4818872/Cloud+Licensing+Security.
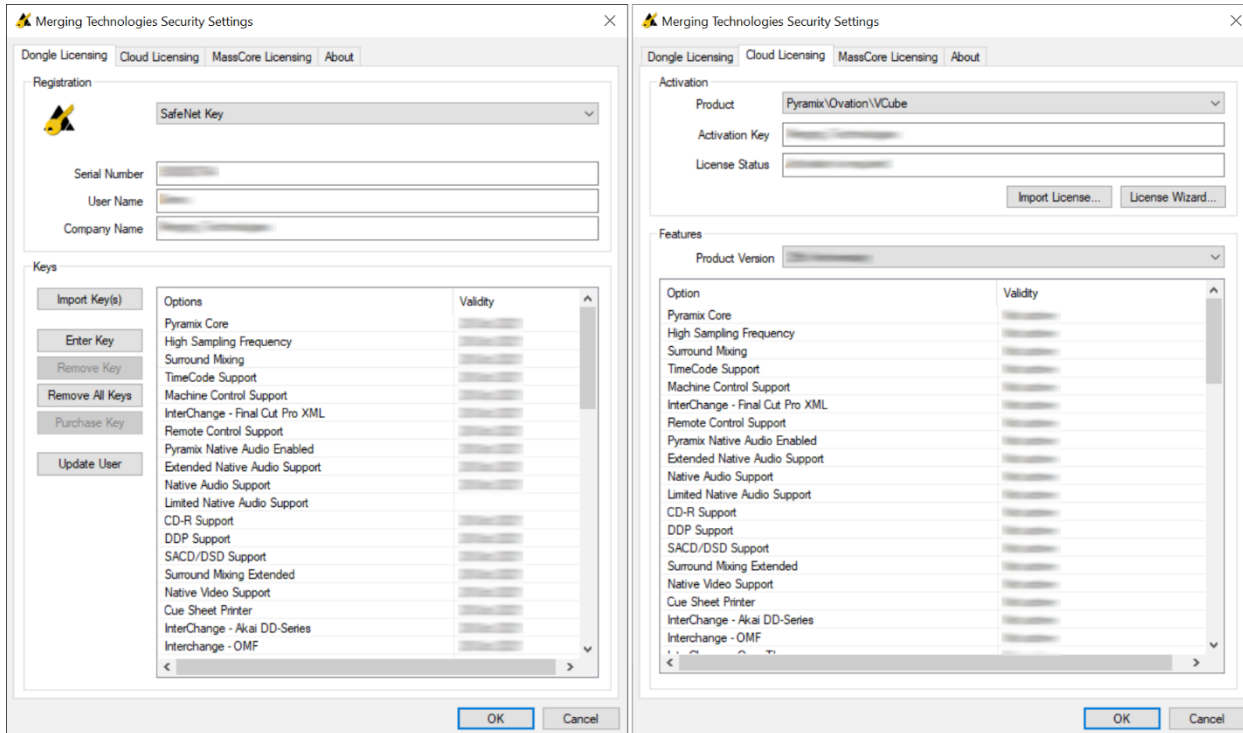QLM SelfHelp Tool
https://merging.atlassian.net/wiki/spaces/PUBLICDOC/pages/4819704/Cloud+licensing+Self+Help+Tool.
MT Security troubleshooting
https://merging.atlassian.net/wiki/spaces/PUBLICDOC/pages/4821299/MT+Security+and+authorization+keys

Keys

At any time, you can check the serial number of your Security dongle and check the software options enabled in your system in the MT Security application.

Documentation

The VCube User Manual is available from within the application and may be accessed via the Help menu or by pressing F1, or online at
https://www.merging.com/support/downloads#vcube

9 Troubleshooting

Windows Firewall and UAC

If not configured correctly, Windows Firewall can block communication between VCube and other devices (including the Virtual Transport feature).

Firewall

By default, the Windows Firewall should be automatically configured by the installer, but in some special cases, it might need to be turned off.

- Open the *Windows Control Panel > Windows Defender Firewall.*
- Click on *Change notification settings*, and set the *Public network settings* to **Turn off Windows Defender Firewall**.

User Account Control

- Open the *Windows Control Panel > User Accounts* section and click on **Change User Account Control Settings**.
- Move the slider down to **Never Notify**.

Antivirus

- Merging also recommends that any Antivirus software is properly configured so as to not interfere with the DAW. See this page for further details:
  https://merging.atlassian.net/wiki/display/PUBLICDOC/Antivirus+and+Merging+Technologies+Softwares

Please visit regularly www.merging.com
And for the latest Troubleshooting Guide and FAQ sections
https://merging.atlassian.net/wiki/spaces/PUBLICDOC/overview

10 Lost or Stolen Merging Technologies Security Keys

(SafeNet USB Dongles)

The Merging USB Key carries all the value of your Merging software and the software license authorization to use it. Please ensure you do not lose the USB key as Merging Technologies cannot be held responsible if this is lost or stolen.

If your USB key is lost or stolen then please make a claim on your insurance in the usual way just as you would for any other item you own. Merging will be happy to confirm the details and value of the software license and USB key to your insurance company. If your USB key is lost or stolen and a different user should attempt to register for this key, Merging will notify you and the authorities in your country that an attempt has been made to register this stolen item.

If your USB key should become defective or is broken, please ensure this key is returned to Merging after requesting and RMA (Return Merchandise Authorization.) Only after the receipt of this key in the Merging Offices will it be determined if it may be exchanged under warranty free-of-charge, or if the damage is outside the warranty scope, in which case only a modest fee to replace it with a new key will be charged (and not the entire value of the software.)

11 Contacting Merging Technologies

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For all documentation inquiries or suggestions for improvement:

https://www.merging.com