GUIDE

Who is this guide for

This guide is intended for the user who as physical access to the equipment and as basic knowledge of imaging technics and Linux command line.

What is this guide for

This document will guide you with a step by step procedure to update the firmware of your kaleidoX series (Kx) by imaging the Flash Card.

What will I need to perform the UPDATE

- Physical access to the Kaleido Frame
- Access to a microsotf Windows Computer
- A flash card reader
- The distributed firmware from Grassvalley support.
- An image software (Use the free "USBTool" image software)
- Ssh communication software (like putty)

What is the image software program doing?

The program will overwrite the content of the Kaleido Output card Flash Card (*Think of the flash card as a hard disk*) with the latest firmware upgrade.

The procedure implies the use of 1 file and 1 program.

- Firmware file (img file type, unzip it if compress)
- Program to overwrite the Flashcard content with latest Firmware update.

What else is needed before I proceed with the upgrade?

With the newest firmware all the Kx board inside the frame will need a minimum of 2 gigs of ram to be able to update. Use an ssh communication software to connect to all the card and verify how much memory they have. Use the "cat /proc/meminfo" linux command to get the memory info.

How much down time should I expect?

- 15 minutes for each images process on the flashcard.
- 25 minutes for each Input card.
- 5 minutes shutdown window when you decide to use the reboot button that will show on the kaleido screen at the end of the firmware update.

The reboot button will show up after the firmware is completely integrated in the memory of all the cards in the Kaleido.
All important information is also displayed in the main screen of the Kaleido in a dashboard on the lower left corner.

Why do I need to upgrade?

If you have to replace a broken board with a newer one.
If you want to follow up with newest technologies brake through.
If you want to overpass certain limitation or bug firmware version related problem.

Step by step procedure:

The DISASTER Upgrade procedure is for system that is unstable, having unexplained issue and that as no solution to resolve the issue.
We have notice from time to time that in certain condition the Kaleido Frame will need a complete database and firmware clean up from all the update and upgrades it as gone along for a number of years.

The Disaster Upgrade does not update the system but rather start from new with the latest available firmware. You have to **backup** the database before starting the next step.

The upgrade is done not only to the "master" card but also to the other card as well. Don't let the Upgrade propagate it the other cards automatically.

In the worst unstable cases you will have to redo the room, layouts and scripts from default database or starting over with blanks.

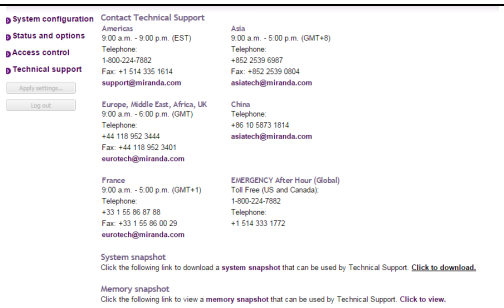
Table : Backup procudure with XADMIN

BACKUP USING XADMIN
Getting a snapshot of the Kaleido and a database backup at the same time using the XADMIN interface of the Kaleido .
Use the Frame IP of your Kaleido in order to open the XADMIN web page with any brand of Internet Navigator.

Once XADMIN is open on the left part of the page in the menu go to "**Technical support**"

SYSTEM SNAPHOT = BACKUP
Look for the "***Click here to download***" under the "***System snapshot***"

Here what the text looks like in the XADMIN Technical support Web Page:

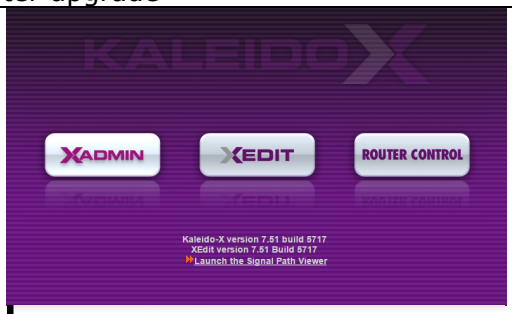
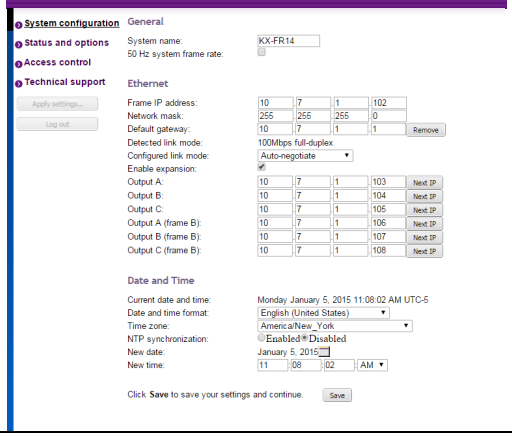
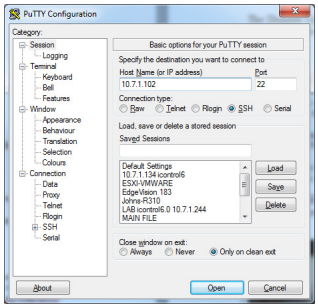
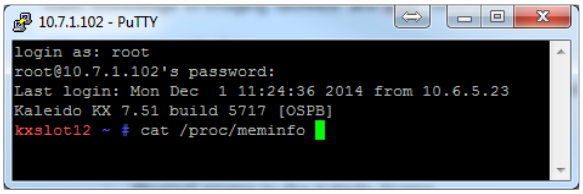


System snapshot

Click the following link to download a **system snapshot** that can be used by Technical Support. **Click to download.**

It's done this will save a ZIP file inside your "***download***" folder unless you decided otherwise

Step by step procedure (next):

Table : step by step procedure for Disaster upgrade	
Step1 - GETTING IP INFORMATION To get to next step you will need the XADMIN. This will give you all the IP address you're system has been configured with. You will need the IP of the output card.	 
Step2 - ONBOARD MEMORY VERIFICATION Check for the onboard memory "RAM" (If you have a Firmware that is more than 6.0 it is usually a sign that you have 2 gig of RAM.) Use a **ssh** (putty) communication software to access a shell inside one of the Kaleido output card. Use the Linux command line : "***cat /proc/meminfo***" to produce a list of all the memory available in the system, the first line gives you the total amount of RAM installed on the card	 

Ready to start the process of imaging the flash drive

Step3 - FIRST UNSEAT CARDS

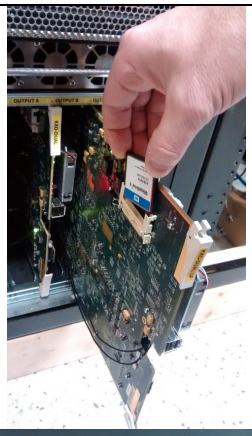
Go to the Frame and unseat all cards except ***one input card*** also unseat any GPI card.
Any input card will do.
Keep Extension card seated.

From this point it is very important to ***never power off the Frame***. If you do you will lose the IP ADDRESS.

Leaving one input card in the Frame assure that the MASTER Output card will be rewritten with the right IP ADDRESS.

Find the Master output card and take the Flash CARD from it.

Put the Flash Card in a Flash CARD reader that is connected in a windows station.

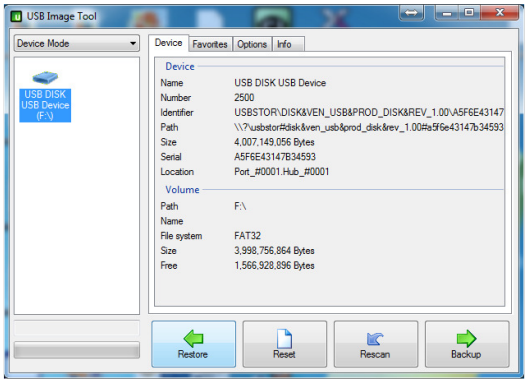


Step4 - IMAGING THE FLASH CARD

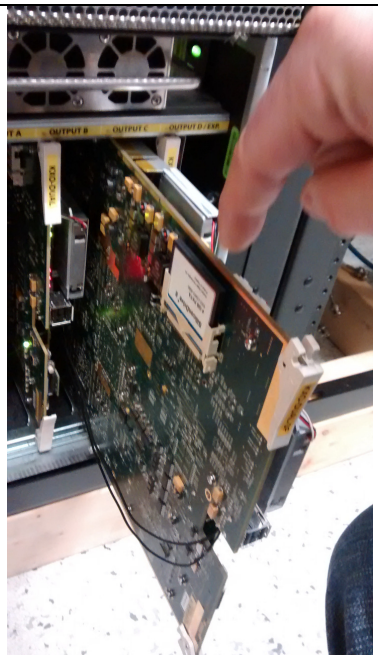
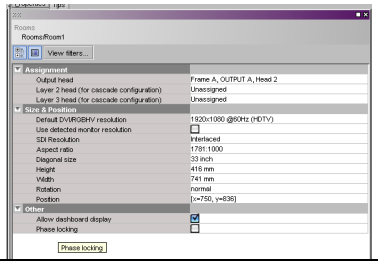
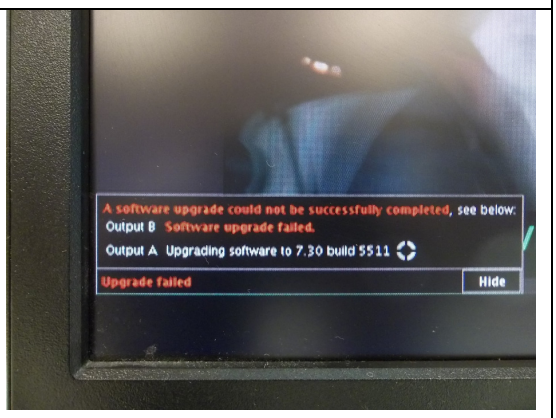
Use the USBTOOL software to image the flash card with the latest firmware.
The Firmware is only available from the Grassvalley support that will have an ftp ready for you to download the needed file.

USBTOOL software is free, fast and easy to use
It is software that will "image" the Flash card with an "image file" .img file type.
You can also use any other software you prefer.

If you need more information on how to use the USBTOOL read the document "COMPACT FLASH GHOSTING PROCEDURE.pdf"



Use the Restore button then choose the "img" file that you downloaded from grassvalley ftp.
You may need to uncompress the file if it is in "***ZIP***" format.
Note:
Everything on the flash card will be overwritten.

Reseating the card in the frame	
Step5 – Reseating the first output card in the frame Make sure the first output card you reseat in the frame is in the higher ranking slot. If you have Output slot A-B-C-D, then it should be in “D”. If Slot “D” is taken by an extension card reseat the card in the “C” Slot. Put back the Flash Card now and reseat the card in the frame. Go to the Monitor Wall and look DASHBOARD DISPLAY on the lower left corner of the screen.	
Step6 – Following progress Go to the Monitor Wall and look DASHBOARD DISPLAY on the lower left corner of the screen. From the DASHBOARD you can follow on the update status for the entire card connected to the frame. **Please note that a power failure during this procedure or stopping the procedure in the middle of an upgrade may cause permanent issue on the whole system like data loss or unable to bring the system back up.** If there is no “Dashboard Display” it might be because it is not allowed on the monitor setup in the “room”. Open XEDIT and make sure that the dashboard display is enabled. 	

TO FINISH THE PROCEDURE:

Step 4 – 5 – 6 will need to be repeated for all the output card.

INPUT CARDS

After all the output card has been reseated in the frame reseat the input card one by one…

In the "DISASTER UPGRADE PROCEDURE" don't reseat all the input card at once

Why?
We did see in the past that pushing all the ***input card*** will give a message of success even dough one of them did not successfully updated.

This will produce the issue of having an INPUT CARD updating randomly later on causing the frame to be temporary unavailable.

Also it is a good thing to see if an input card is stable. You will see that by looking at the ***DASHBOARD*** the update process should run smoothly without any error message.

Step7 -GPI CARDS

Keep the GPI card for the end, when all cards are reseated you can push in the frame the GPI cards.

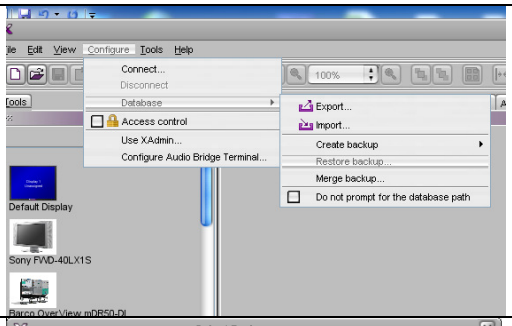
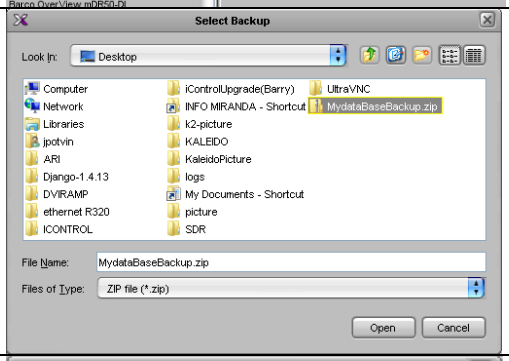
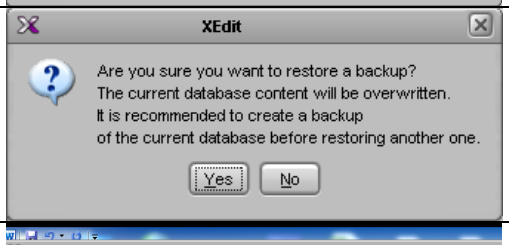
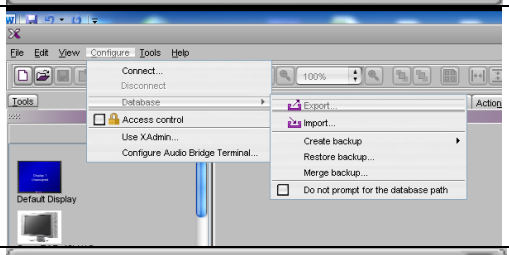
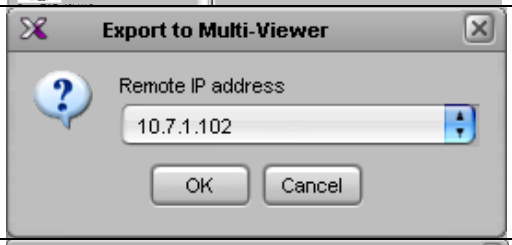
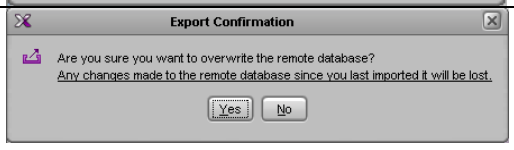
Step8 -DATABASE

Now comes the time where you need to ask yourself how much work it is to start from new.
If you think your database could contain corruption try first creating a layout from scratch and test it in the new environment, test the scripts also and cross point changes.

If you are satisfied then make a backup of the database before restoring the old one in for testing.

Create a new folder into witch you will restore the old database.
Open XEdit, Restoring the database is done in 2 steps :

1- Restore the database to the local computer, choose a newly created folder
2- Export the database in the IP ADRESSE

Restoring database step by step by image	
Step1 - Restoring to local computer After you open Xedit stay OFFLINE. Go to pull down menu and choose “configure” “Database” “Restore Backup”. This will restore the Backup you have made to the local directory overwriting everything in the folder.	
Step1 - Restoring to local computer The file you need to open as a ZIP extension. And as all the database layouts information in one XML file inside the compress file.	
Step1 - Restoring to local computer The program wants to make sure you want to overwrite the local folder on the computer.	
Step2 – Exporting to the Kaleido Go to pull down menu and choose “configure” “Database” “Export”.	
Step2 – Exporting to the Kaleido Export to multiviewer by using its Remote IP Adress. EG 10.7.1.102	
Step2 – Exporting to the Kaleido Again the program wants to make sure you want to overwrite this time the Kaleido database.	

Worst case scenario?

Very rarely but these things happens…

- YOU DON'T HAVE A DATABASE BACKUP!

- THE FIRMWARE UPDATE STOP IN THE MIDDLE OF THE PROCESS BECAUSE OF POWER FAILURE OR BECAUSE OFF MANIPULATION ERROR (USB DEFECT, OR UNPLUGING BEFORE END OF PROCESS

Worst case scenario can have your system offline for long hours… 24-48 maybe more if very complicated layouts have been lost.

What to do in a worst case scenario?

Call Grass Valey Support Line, they will send you an image file to reimage the memory Card on the board.
GrassValley can also produce a new image file directly on a flash card and have it send to you.

Than follow this guide in order to get back online as quickly as possible.

What is the image file

This image is an image type file using "img" format from GNU Project compatible with : RaWrite & RaWrite2, RawWrite for Windows, and WinRawrite. The img format is used in many type of virtualization and reimaging software like :

- Microsoft Virtual Machine
- Microsoft Virtual Server
- QEMU
- VirtualBox
- WinImage
- Nero Burning ROM.
- Usb Toolls

  And others

Other important information

Nothing can be done for database loss

You will be left having to use the default one.

DATABASE contains layout and all the hard work information put in by the Kaleido user to personalise your input to output environment.

If you want information about the latest release you should consult the document that Grassvalley support will have attached with the upgrade or image file that they will provide.

Enjoy your new kaleido features with a stable environment!