# codex™

## CAPTURE DRIVE DOCK [SAS]

CDX-75002



# GETTING STARTED GUIDE

# Safety Warnings

Please observe any warnings and follow all instructions.

- Do not use this equipment near water and clean only with a dry cloth.
- Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other equipment (including amplifiers) that produce heat.
- Do not expose to excessive vibration, or drop this product.
- Do not defeat the safety purpose of the polarised or grounding-type plug. A polarised plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade, or the third prong, is provided for your safety.
- If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched, particularly at plug ends, convenience receptacles, and the point where they exit from the equipment.
- Only use accessories specified by the manufacturer.
- Unplug this equipment during lightning storms or when not in operation for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the equipment has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the equipment, has been exposed to rain or moisture, does not operate normally, or has been dropped.
- To reduce the risk of fire or electric shock, do not expose equipment to rain or moisture.
- To avoid electrical shock, do not attempt to open this equipment. Refer servicing to qualified personnel only.

**Caution! The surfaces of docked Capture Drive media can get hot during standard use.**

# Disclaimer

Codex products are continually developed to remain at the forefront of the industry, and as such the information in this guide is subject to change without notice. Whilst Codex endeavour to ensure that all documentation provided is correct at the time of writing, this document is not guaranteed to be error-free.

Codex does not assume responsibility for issues or losses due to misinterpretation of the information in this document, errors in this document, or incorrect configuration or installation of the equipment described herein.

Please report any errors found in this document to **support@codexdigital.com**

# Support and Servicing

For assistance with your Capture Drive Dock (SAS) please contact **support@codexdigital.com**

User Guides are available from **https://www.codexdigital.com/support/user-guides**

# Contents

# Capture Drive Dock [SAS] - Getting Started

## Introduction

The Capture Drive Dock (SAS) is the hub of your file-based workflow. It can easily be configured to produce a full set of deliverables – everything you need for your production and post, from viewing copies to archives. It can provide them all in less time than traditional systems take to make a single copy.

## Installation

### Specification

**Operating System:** Apple Mac OS X 10.9 or higher.

**Hardware:**

Workstation - Mac Pro 2008 or newer
CPU - 8 Core or higher
CPU Type - Intel Xeon 5000 or higher
RAM - 8GB
HDD - 500MB free space
SAS HBA (Host Bus Adaptor) - ATTO H680 (2 port) or H6F0 (4 port)
Monitor - Support for 1920x1080 or 2560x1600

Laptop - Retina MacBook Pro 15"
CPU – 2.7GHz Quad Core Intel Core i7
RAM – 16GB, 1600MHz DDR3L
HDD – 500MB free space
SAS HBA - ATTO H680 or H6F0
Display – 2880x1800
Expansion Chassis for SAS HBA - Sonnet Echo Express/SE, Magma 1T/3T, ATTO Thunderlink (no HBA needed)

### Software

Go to **codexdigital.com/software** to register and download software. There are installation instructions available from this webpage.

Under the section 'Capture Drive Dock (SAS)' download the latest Software Pack and install all software that this contains.

### Hardware

The Dock comes supplied with an ATTO ExpressSAS H680* card that needs to be fitted into your Mac Pro (or expansion chassis for MacBook Pro). The card should be fitted into an x8 or x16 PCI-E slot – fitting into another slot may result in restricted performance.

Refer to the guide 'Mac Pro Digital Lab Config' available from the Media Stations section of **https://www.codexdigital.com/support/user-guides** for details on installing the card.

**Note:** the H6F0 card is also compatible. Other SAS HBA cards are not supported.

With the ATTO card installed connect the Dock using the supplied SAS and USB cables (both must be connected). The SAS cable should connect from the HOST port on the Dock to the SAS HBA. Then connect the Dock to the included power supply unit. Only the included power supply should be used. A reliable power source should be used because losing power to a Capture Drive whilst it is reading/writing may compromise data integrity.



LOOP
For connecting a 2nd Dock

USB
For connection to a computer

HOST
For connection to SAS HBA

The ID LED on the rear of the Dock indicates the number assigned to it by the Codex software, as multiple Docks can be connected to one Mac.

## Licensing

The standard licence for the software allows you copy Digital Camera Negative files (ARRIRAW, CanonRAW, DPX or ProRes, depending on what format was recorded).

Enhanced functionality that can be enabled by installing a licence allows metadata management, transcoding with the Codex Virtual File System (VFS), and verified backups using the Codex Disk and Tape Offloader.

To apply for a licence for your Dock go to: **https://www.codexdigital.com/licence-request**

If you have a licence for enhanced functionality it is recommended to go to **https://www.codexdigital.com/support/user-guides** for full documentation. Here you can download guides that describe using the Codex software for common workflows.

## Finder Preferences

For ease of use it is recommended to set up the Finder Preferences so that External disks are shown on the Desktop:

## Loading and Unloading a Capture Drive

Insert a Capture Drive into one of the ports and it will begin loading automatically. During this time the LED will flash blue. When it is loaded the LED will flash green, and this typically takes approximately 5-10 seconds. The LED will continue to flash green periodically when the Dock is idle.

The LED on a Capture Drive flashes green quickly when it is reading/writing data. Do not unload a Capture Drive when it is reading/writing as this can compromise data integrity.

To unload press the eject button on the end of the Capture Drive or go to the STORAGE tab of the Codex UI and click the EJECT button. The LED will flash blue while it unloads. When the LED is solid blue it is safe to remove the Capture Drive.

Always eject the Capture Drive before removing it from the Dock.

## Copying ARRIRAW/CanonRAW/DPX files from the Capture Drive

This section assumes the software is licensed for Standard features, and not Enhanced features.

When the Codex software is installed there will be a Codex VFS drive on the Desktop:

This drive is always there, but will be empty until a Capture Drive containing ARRIRAW/CanonRAW/HD recordings is loaded. After loading the Capture Drive, the files are available to be copied from the Codex VFS drive.

ARRIRAW files are in the following folder structure in the Codex VFS drive:
<Reel>/<Clip>/<Width>x<Height>/<Clip>.<FrameCount>.ari

For example:
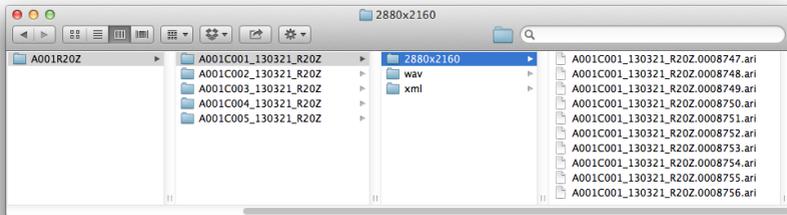


Copy the top level Reel folder (A001R20Z in the above example) to another storage device to back-up the image data.

Any copy tool can be used to back-up files from the Codex VFS drive to another storage device. In each <Clip> folder there will also be an xml folder containing a CodexShot XML metadata file for the clip, and if the clip has audio there will be a wav folder containing a Broadcast WAV file.

**Note:** if you have two Capture Drives loaded there will be a folder for each Reel within the Codex VFS drive.

## Copying ProRes files from the Capture Drive

When a Capture Drive containing ProRes files from the Alexa XT is loaded in the Dock it will appear like any other external drive on the Desktop:



Open the drive to access the ProRes files, which will be in a Reel folder along with an ALE file (metadata for Avid) and an XML file (for Final Cut Pro):
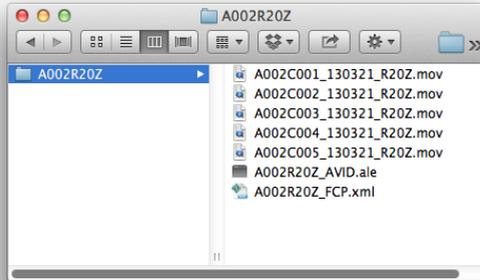
Copy the top level Reel folder (A002R20Z in the above example) to another storage device to back-up the image data. Any copy tool can be used to back-up files from the Capture Drive to another storage device.

## Using the Codex User Interface software

This section assumes the software is licensed for Enhanced features.

When the Codex UI is opened the 'Connect To Server' dialog will specify **localhost**. This is correct – simply click the checkbox icon.

The Codex UI is divided into the **MAIN, STORAGE,** and **SETUP** tabs:

## MAIN tab - Editing metadata and creating reports

The **MAIN** tab is used for viewing clip thumbnails, editing metadata and creating reports. The following functions are available:



**Thumbnail/List View** - to toggle between a thumbnail or list view of clips.



**Filter** - to limit the clips that are displayed based on location (if more than one Dock is connected), and/or metadata.

**Filecard** - to view and edit clip metadata. Click the first clip then click this button. Use the Up and Down arrows on your keyboard to move between clips. Make changes and then click the checkbox to save. The **Log Note** field contains details of any issues detected during recording.

## STORAGE tab - Deleting an ARRIRAW/CanonRAW/HD Capture Drive

The **STORAGE** tab is mainly used for deleting the Reel. It also shows the number of clips and total duration of the Reel. Once your data is securely backed-up, click the Reel name and then click **DELETE**, followed by OK.

**WARNING: There is no undo function after a Reel has been deleted!**

## SETUP tab - Adding licences, setting the VFS, and OFFLOAD

The **SETUP** tab is used for adding feature licences to the software and configuring the software for transcodes with the VFS and making verified backups from the OFFLOAD screen.

Click the *i* button to get details of the System Key which is needed by Codex to generate a licence.

Licences can be requested from: **https://www.codexdigital.com/licence-request**

The SETUP->VFS screen is where you configure the software to create files from shots on your Capture Drive. These files are available in the 'Codex VFS' drive on the Desktop of your Mac, and can be copied from here to any attached storage.

Setting up the Codex VFS – including use of preset configurations – is covered in the "VFS Guide".

Using the OFFLOAD screen is covered in guides such as "Processing ARRIRAW with Codex Transfer Station".

## Deleting a ProRes Capture Drive

There are two SSDs inside a Capture Drive. When the Capture Drive is formatted on the Alexa XT for recording ProRes only one drive is used, and this is formatted with a UDF filesystem.

After securely backing up the ProRes files it is recommended to use the Disk Utility application in Mac OS X to reformat the UDF drive with a FAT partition.

When this is re-inserted into the Alexa XT the user will then be asked to reformat the Capture Drive in the camera with the appropriate filesystem.

# Appendix

## Firmware Upgrade Process

Follow these steps to upgrade to the latest software and firmware:

1. Download the Capture Drive Dock (SAS) Software Pack including new software and firmware upgrade files from **www.codexdigital.com/software**.

2. Install the Codex Server software.

3. Open **System Preferences**->**Codex**.

4. Click the padlock symbol to unlock the Preference Pane.

5. Click **Stop Server**.

6. Click the **Refresh** button so the Firmware Info of the Dock is shown, for example Xfer Dock 1.3.

7. Click **Upgrade...** and select the new firmware file, for example **xferdual_v104.fw**, then click **Open**. (This file is located in /Library/Application Support/Codex)

8. Click **Continue** to proceed with the firmware upgrade.

9. Wait for the **Firmware Upgrade Complete** message to be displayed.

10. Click **OK** and then click the **Start Server** button to restart the Codex Server software.

## Support Software

There are some third party software packages that may be of use:

**ARRIRAW Converter** (http://www.arri.com/camera/digital_cameras/tools.html)
**GlueTools** (http://www.gluetools.com/)
**Da Vinci Resolve** (http://www.blackmagicdesign.com/uk/products/davinciresolve)
These applications provide different options, but all provide a means of viewing and playing ARRIRAW (.ari) files natively.

Calibrated MXF allows playback of MXF files using Quicktime.

# Supported Hardware

The ATTO H680 card supplied with the Dock has two ports. The second port can be used to connect another Dock, an external RAID, or Quantum LTO tape drive. The supported desktop LTO drive model is the Quantum TCL52-BN-AR.

# Example Workflow

Here is an example outline of a workflow that could be employed using the Dock:

1. Load a Capture Drive
2. Check global metadata of material, e.g. Roll, Shoot Day, Shoot Date
3. Verify metadata for material shot-by-shot, including contents of Log Note field
4. Review material to confirm recorded metadata matches photographed slates
5. Optionally Clone to Mac Internal Storage
6. Choose VFS Configuration for deliverable files
7. Copy deliverable files to external storage (disk or LTFS tape)
8. Confirm successful copy
9. Clear magazine and return unformatted (with no Roll) to set

See the guide 'Processing ARRIRAW with Codex Transfer Station' for more details.

# Troubleshooting

Capture Drives have an LED that shows the status and can help with troubleshooting.
The table below describes the meaning of the LED modes:

| LED colour | LED state | Description | Course of action |
|---|---|---|---|
| Blue | Flashing | Capture Drive is loading or unloading | Wait for loading/unloading to complete |
| Blue | Constant | Capture Drive is not loaded, and is safe to remove | Remove or reload Capture Drive |
| Green | Flashing | Capture Drive is loaded and idle | No action required |
| Green | Constant | Capture Drive is being read or written | Do not eject drive until reading/writing is finished |
| Red | Constant | Capture Drive has failed to load | Restart computer and try again |

If the Codex Software won't start check you have installed a version of OSX FUSE that is compatible with your operating system.

If the Dock ports are not appearing on the SETUP tab (Xfer 1 and Xfer 2) the problem could be the USB connection or lack of FTDI USB drivers. If you experience 'Load Failure' it could be the SAS connection or lack of ATTO SAS drivers.

If you are asked to provide an issue report go to System Preferences->Codex and select 'Generate issue report…' and email this to **support@codexdigital.com**
For further assistance with your Dock please contact **support@codexdigital.com**