



# Odyssey7Q User Manual

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# Read This First!

Before you begin using the Odyssey7Q, we strongly suggest you review the included Quick Start Guide, as well as:

1. Always record to the INTERNAL MEDIA OF THE CAMERA; this is critical for proper timecode and ideal for dual media / backup.
2. DO NOT REMOVE THE FOUR SCREWS FROM REAR OF CASE. This may result in damage to the OLED panel. Such damage is not covered by warranty.
3. Power and Cabling: Make sure you have PROPER POWER (6.5-34vdc), plugged in to the proper power port (left side of recorder), and that 3G-rated SDI cables are used.
4. Power source must be able to provide up to 24 watts at all times to the Odyssey7Q.
5. When powering the Odyssey7Q from an ARRI ALEXA camera, we recommend using the 24V R/S Fischer-3 output from the ALEXA using the optional Convergent Design cable.
6. Familiarize yourself with the equipment and test prior to shooting.
7. Before using the SSD's it is IMPERATIVE TO FORMAT them in the Odyssey7Q. Formatting SSD media is a DESTRUCTIVE PROCESS; any existing data will be lost during format.
8. Ensure that the camera's viewfinder data is not being recorded; IF YOU SEE VIEW-FINDER DATA ON THE ODYSSEY7Q monitor, then it will be recorded! In a future update, if your camera can provide both clean and data-overlaid video feeds, it will be possible to monitor one while recording the other.
9. NEVER DELETE ANY FILES OFF AN SSD FROM A COMPUTER, except when going through a firmware update procedure.
10. While we recommend that you always maintain the latest firmware on your Odyssey7Q, we DO NOT RECOMMEND UPDATING IF YOU ARE IN THE MIDDLE OF A SHOOT (unless instructed by Technical Support).
11. When offloading media, ALWAYS MAKE A BACKUP COPY, ideally to a RAID1 drive.
12. Be sure to allow the Odyssey7Q to finish closing a Record file before taking any further action.

# Product Overview

## Odyssey7Q Features

### Monitoring

- Professional Monitor. 7.7" 1280x800 OLED panel featuring full range color gamut for REC709 and DCI P3 viewing.
- Image analysis tools. Waveform, Vectorscope (in future update), Histogram, False Color exposure view, Zebra, three-mode Focus Assist, Pixel Zoom (1:1 & 2:1), and Frame Guides.
- Multi-Stream Monitoring. Up to four HD video signals can be input and viewed simultaneously (quad-split) or sequentially (choose between inputs for full screen display). A future paid update will allow Multi-Stream Recording and a greater control live switching.
- Flexible I/O. Two dedicated 3G-SDI inputs, two dedicated 3G-SDI outputs, two switchable 3G-SDI input/outputs, one HDMI input, one HDMI output.

### Recording

- High-Capacity Recording. Two high-speed Solid State Drives (SSD), available in 256GB or 512GB, allow for extended recording.
- Uncompressed 4:4:4 RGB HD video recording. Record HD video in 10-bit DPX files. Popular compressed codecs will be available at a later date via free firmware update.
- RAW Record Options. Optional recording features available at any time for purchase or time-based rental\*. RAW Record options include ARRIRAW (ALEXA), Canon RAW (C500), Sony RAW (FS700) and 2K RAW\* (various specialty & industrial manufacturers).  
*\* Available in a future free firmware update.*

### Other Features

- Versatile Power. Wide voltage range (6.5-34v) and low draw (8-15w, depending on mode) for great flexibility of battery and other power options.
- Light Weight. A magnesium case and efficient board design means only 1.25lbs for the basic unit.
- Small Size. Even with a 7.7" screen, the Odyssey7Q is approximately 8"x6"x1", making it easy to use on cameras, mounted in tight spots or held in one's hand.

- Dual SSD Architecture. Long record time, will automatically span from one SSD to the other.

## Package Contents

Odyssey7Q box contains one (1) Odyssey7Q monitor/recorder and one (1) universal power supply.



**MEDIA AND ACCESSORIES SOLD SEPARATELY!**

## Accessories – Convergent Design Products

All Convergent Design products are available through our worldwide dealer network.

### Power

The Odyssey7Q can accept DC power ranging from 6.5-34v. This means that small camcorder batteries, large camera bricks and even large block batteries or belts can be used to power the device.

Depending on monitor and record modes, the power draw from the Odyssey7Q can range from 8-15w. Even small camcorder batteries can power the Odyssey7Q for several hours.

The Odyssey7Q is supplied with a Convergent Design AC power supply (replacement part CD-OD-AC-PS). This is a universal switching power supply that can be used throughout the world, and comes complete with several interchangeable plug connectors. Only use a Convergent Design AC power supply on the Odyssey7Q.

The Odyssey7Q uses a Neutrik 3-pin connector for power input. Convergent Design has modified this connector for reliability, strength, and protection from shorting. Convergent Design supplies cables to 3<sup>rd</sup> party manufacturers of battery plates and other Odyssey7Q accessories. Only use a Convergent Design power cable on the Odyssey7Q.

Convergent Design offers four optional power cables for the Odyssey7Q.

<b>CD-OD-DTAP</b>	D-Tap (Anton Bauer 12v) power cable to Odyssey7Q (18")
<b>CD-OD-XLR</b>	XLR-4 (generic 12v) power cable to Odyssey7Q (18")
<b>CD-OD-Fischer</b>	Fischer-3 (ARRI 24v) power cable to Odyssey7Q (18")
<b>CD-OD-Flying</b>	Flying lead (bare wire pigtail) power cable to Odyssey7Q (36")

## Battery

Convergent Design offers a basic rechargeable battery and charger solution. Our small four-cell Lithium Ion battery can be velcroed to the back of the Odyssey7Q and will power it for 3-4 hours. Our universal switching charger will recharge a battery in about three hours. Also available is a basic rear plate for the Odyssey7Q that accepts Sony L-series camcorder batteries.

<b>CD-OD-BATT</b>	Odyssey 4-cell Li-Ion battery, 14.8v, 45WH
<b>CD-OD-CHRG</b>	Odyssey Battery Charger, input 110-240VAC, 50/60hz, output 1.5A
<b>CD-OD-LPlate</b>	Odyssey battery plate for Sony L-series batteries

## 2.5" Premium SSD Media

To enable recording on the Odyssey7Q, you must use specific SSD media: Only Convergent Design Premium SSD's will work in the Odyssey7Q. These SSD's, available in 256GB and 512GB, must be purchased separately.

<b>CD-SSD-256GB</b>	256GB SSD for Odyssey7 and 7Q
<b>CD-SSD-512GB</b>	512GB SSD for Odyssey7 and 7Q

## Accessories – Third Party Manufacturers

Convergent Design works with numerous manufacturers for additional support products for the Odyssey7Q. While we have provided information and support, Convergent Design makes no claim and accepts no responsibility in the use of these products. These products are available through these manufacturers' own dealers. This list also does not cover the ever-expanding number of products and manufacturers supporting the Odyssey7Q.

### Mounting and Battery Plates

Ocean Video manufactures the EnduroPower mounting plate with Anton Bauer Gold Mount or IDX V-Lock battery mounts. The EnduroPower plate includes numerous threaded mounting points for accessories.

Nebtek manufactures the Odyssey7 Power Cage with Anton Bauer Gold Mount or IDX V-Lock battery mounts, or dual camcorder battery mounts for Sony, JVC Canon or Panasonic compatible batteries. The Odyssey7 Power Cage includes numerous threaded mounting points for accessories.



## **Soft Case**

PortaBrace manufactures the Flat Screen Monitor Case – Convergent Design, which is made of waterproof Nylon Taslan. Velcro flaps allow access to all sides and an integrated hood folds down as a screen protector.

## **OLED Screen Protector**

Pro K Solutions manufactures the OCP optically Clear Protection stick-on / peel-off screen protector for the Odyssey7Q. The OCP is scratch-resistant, washable and will not interfere with the OLED's touchscreen functionality.

# Odyssey7Q Anatomy

## Top of Odyssey7Q

There are two Solid State Drive (SSD) slots, SSD1 and SSD2.

Only Convergent Design 256GB and 512GB SSDs can be used on the Odyssey7Q. To mount SSD, insert connector-end first with the label facing forward and the handle near flush with the back of the Odyssey7Q. Push gently but firmly until the handle flange is flush with the top of the Odyssey7Q. It is a snug fit, but the SSD should insert smoothly.

Note: There is a plastic cover plate on the top center of the Odyssey7Q. This protects a Bluetooth antenna, which will be used in a future free firmware update to allow remote control of the Odyssey7Q from smartphones, tablets and other Bluetooth-enabled devices via free Convergent Design Apps. When using a Bluetooth device with the Odyssey7Q, take care not to block this area as it may interfere with the Bluetooth signal.

## Left Side of Odyssey7Q

There are two Function buttons, F1 LOCK and F2 SHUT DOWN.

**F1 LOCK** Lockout control for the Odyssey7Q touchscreen. Push to engage and SCREEN LOCK will appear in the center of the touchscreen's Upper Tool Bar. Push F1 again to disengage.

**F2 SHUT DOWN** Preferred method to power down the Odyssey7Q. Properly closes files on the SSDs and performs other maintenance functions (see Getting Started -- Powering Down). Push to activate prompt asking SAFELY POWER DOWN UNIT?

In a future free firmware update it will be possible to program these buttons for additional functions.

## Right Side of Odyssey7Q

There are three connector ports, (top to bottom) USB, HDMI OUT and RMT.

**USB** An access point for servicing by Convergent Design. A future free firmware update will allow firmware updates via this port.

**HDMI OUT** Output to an HDMI compatible device

**RMT** A remote control connection to the Odyssey7Q. In a future free firmware update the RMT port will allow full control interface with the functions of the Odyssey7Q.

A rectangular hole above the RMT port is for accepting a Kensington Security Lock.

## Bottom of Odyssey7Q

There are eleven connector ports (left to right) PWR ON, SDI A IN, SDI B IN, LTC IO, SDI A IO, HDMI IN, SDI B IO, SDI A OUT, SDI B OUT, AUD IN, AUD OUT.

**PWR ON** Power input socket to Odyssey7Q (see Getting Started – Power). Just in front of the PWR ON port is a button, which is a Force Power On/Off control. Hold button five seconds to force power off. This is only to be used if standard power on or off procedures fail (see Getting Started – Initializing).

**SDI A IN** BNC connector for 3G-SDI input A

**SDI B IN** BNC connector for 3G-SDI input B

**LTC IO** BNC connector for Linear Timecode input/output

**SDI A IO** BNC connector for 3G-SDI input/output A. In Multi-Stream monitoring mode, the Odyssey7Q can accept up to four HD video inputs. These IO ports allow additional inputs or additional outputs for the Odyssey7Q.

**HDMI IN** HDMI 1.4 input from HDMI video source.

**SDI B IO** BNC connector for 3G-SDI input/output B. In Multi-Stream monitoring mode, the Odyssey7Q can accept up to four HD video inputs. These IO ports allow additional inputs or additional outputs for the Odyssey7Q.

**SDI A OUT** BNC connector for 3G-SDI output A

**SDI B OUT** BNC connector for 3G-SDI output B

**AUD IN** 3.5mm mini-phone stereo socket for analog audio in. This input will be enabled in a free future firmware update.

**AUD OUT** 3.5mm mini-phone stereo headphone socket.

# Getting Started

## Odyssey7Q Activation

Convergent Design requires each Odyssey7Q be registered via our website. This is so that we can provide notices of free firmware updates, issue alerts for critical issues, and track rentals or purchases of record options. Upon first initializing of the Odyssey7Q (see below), a prompt will appear asking if the device is to be Activated at this time or if it is to be used in DEMO mode. In DEMO mode the Odyssey7Q is fully functional, however a blue bar “watermark” will appear in any recorded video. The Activation prompt will appear upon every initialization of the Odyssey7Q until the device is Activated. When Activate is selected, follow the prompts to Activate the Odyssey7Q. In order to Activate the Odyssey7Q after initial purchase, go to <http://www.convergent-design.com> to register the unit.

Also, make sure your Odyssey7Q has the latest firmware, posted here:

<http://www.convergent-design.com/FirmwareUpdates/Odyssey7Q.aspx>. See Firmware Updates under the Appendix below for more information on how to put new firmware on your Odyssey7Q.

## Mounting

The Odyssey7Q features three ¼”x20 threaded sockets, one on the lower rear of the case and one each on the left and right sides of the case. Do not exceed 11mm of depth when inserting a bolt, otherwise damage may occur to the Odyssey7Q. Additionally, there are six M3 threaded sockets, four on the rear of the case and two each on the left and right sides of the case.

## Initializing

Plug in power to the Odyssey7Q. It should take about 5-10 seconds to initialize, depending on the mode it is set to. If the Odyssey7Q does not self-initialize, push the PWR ON button next to the power socket on the lower left corner of the Odyssey7Q.

As part of the initializing process, SMPTE color bars may appear briefly on the screen. If there is a signal input into SDI A IN that matches the record format the Odyssey7Q is set to, then the image should appear on the screen. If there are SSDs mounted in the Odyssey7Q then a DETECTING SSD message will appear on the lower left of the screen. If the SSD needs to be re-initialized or formatted, a second message may appear. If the Trigger Button in the Upper Tool Bar appears as a red box surrounding a white circle, then the Odyssey7Q is ready to record.

## Powering Down

While it may seem an odd time to note this, it is important to know that there is a preferred method to shutting down the Odyssey7Q. On the left side of the case, the F2 SHUT DOWN button should be pressed. This prompts a confirmation to “SAFELY POWER DOWN UNIT?”

Powering down in this fashion properly closes the files and directory system on the SSDs, preventing corruption. If the Odyssey7Q should ever suffer a failure and the F2 SHUT DOWN sequence does not function properly, the unit can be Force Power Off by holding the PWR ON button by the power socket on the lower left corner of the Odyssey7Q, or simply by pulling the power connector out of the power socket. If the Odyssey7Q is ever powered down in this fashion, it is important to run a recovery on the SSDs in the Odyssey7Q menu at

[MENU] [ODYSSEY] [SSD'S] [RECOVER SSD1] or [RECOVER SSD2]

# Menus

## Setting Up & Using the Odyssey7Q

The touch screen of the Odyssey7Q features all of the device’s controls in a straightforward, easy to navigate structure. Each box is a “virtual button.” Tap it briefly to activate/deactivate it, or hold it for a few seconds to open up the menu defining its function. The controls at the top of the display (Upper Tool Bar) are the recording, playback and formatting administration. The controls at the bottom of the display (Lower Tool Bar) are the image analysis adjustments.

### Upper Tool Bar – Record Mode



## Menu

Starting on the left, tapping the [\*] button brings up the initial setup menus for the Odyssey7Q. Don’t be intimidated by the number of selections in the [\*] section. This is by far the most in-depth section of the Odyssey7Q touchscreen menus: [ODYSSEY] [SETUP] [RECORD] [INPUTS] [OUTPUTS]

# ODYSSEY

Sub-Menu 1	Sub-Menu 2	Sub-Menu 3	Option	Description	Additional Information	
SET	Activation	Unit	Enter Key or 'OK'	For registering Odyssey7Q (required)	Tap to reveal a key code prompt.	
		FS700 Raw	Enter Key or 'ACTIVE'	Raw output of Sony FS700	To Activate the Odyssey7Q after initial purchase, go to <a href="http://www.Odyssey7Q.info">www.Odyssey7Q.info</a> to register the unit. Once this is completed, anytime one wishes to purchase a recording option, return to the Convergent Design website and follow the prompts. The website will present a code which can then be entered into the Odyssey7Q on the [ACTIVATION] menu page. To see if a selection has already been enabled, tap on that option's button to see if [ACTIVE] appears.	
		Canon Raw	On	Raw output of Canon C500		
		ARRIRAW	→	Raw output of ARRI ALEXA		
		HD/2K Raw		Raw output of various industrial cameras		
		Multi-Stream		Record up to four HD signals simultaneously		
	<p><b>DEMO MODE: ALL AVAILABLE RECORD OPTIONS ARE FUNCTIONAL IN A DEMO MODE, BUT IF THE OPTION HAS NOT BEEN ACTIVATED THE IMAGE FOR THAT OPTION WILL APPEAR WITH A LARGE BLUE BAR "WATERMARK" ON SCREEN WHEN RECORDING. THIS BAR IS RECORDED IN THE IMAGE FILE.</b></p>					
	Time	→	→	Set the appropriate time.		
	Date	→	→	Set the appropriate date.		
	Reset	Menu	→	Restore all default settings.		
		Metadata		Resets metadata fields		
SSD's	Format SSD 1	→	→	Permanently erases everything on SSD1.	<b>FORMATTING IS A DESTRUCTIVE PROCESS AND WILL ERASE ANY FILES CURRENTLY ON THE SSD. BE SURE TO DOWNLOAD ALL FILES BEFORE FORMATTING.</b>	
	Format SSD 2	→	→	Permanently erases everything on SSD2.		
	Format Both	→	→	Permanently erases everything from both cards.		
	Recover SSD1	→	→	Non-destructively recovers /rebuilds file system of SSD1	<b>Use only in extreme cases (such as if a computer corrupts the SSD's file system).</b>	
	Recover SSD2	→	→	Non-destructively recovers /rebuilds file system of SSD2		
<p>Formatting should be performed at the start of use of any new SSDs and the start of any new project. Recovery is for when the SSD was not properly dismounted from the Odyssey7Q. This includes physically removing the SSD without running the eject sequence, sudden loss of power to the Odyssey7Q or improper powering down of the Odyssey7Q. The Recover process accesses any incomplete files on the SSD and, when possible, properly closes them.</p> <p><b>NOTE: FORMATTING OF SSDS SHOULD ALWAYS BE PERFORMED ON THE ODYSSEY7Q.</b></p>						
ABOUT	→	→	→	Displays the firmware version, serial number, warranty status, and which Options are activated.	<b>Check the website regularly to ensure you are running the current firmware.</b>	

## SETUP

Sub-Menu 1	Sub-Menu 2	Sub-Menu 3	Option	Description	Additional Information
MONITOR → RECORD	4:2:2/4:4:4 → 4:4:4 (.DPX)	→	→	Standard HD video in 4:2:2 or 4:4:4, recorded as 4:4:4 .DPX stacks (note .DPX stacks are always saved as 4:4:4)	This determines the type of signal coming into the Odyssey7Q and notes how it is to be recorded. Note that some of these selections are paid optional record functions and if not licensed in the unit will output with a “watermark” over the image.
	FS700 RAW → RAW (.DNG)	→	→	FS700 RAW data saved as .DNG stacks	
	CANON RAW → RAW (.RMF)	→	→	Canon C500 RAW data saved as .RMF files	
	ARRIRAW → RAW (.ARI)	→	→	ARRI ALEXA RAW data saved in .ARI files	
	MULTI-STREAM 4:2:2	→	→	Up to four HD video signals viewed at once (note Multi-Stream Recording will be an option at a later time; Multi-Stream Monitoring is included with the Odyssey7Q)	
4:2:2 / 4:4:4 SOURCE	ARRI	→	→		Noting the brand of camera allows the Odyssey7Q to interact properly with the signal.
	CANON	→	→		
	PANASONIC	→	→		
	RED	→	→		
	SONY FS700	→	→		
	SONY OTHER	→	→		
	OTHER	→	→		
	This tells the Odyssey7Q the type of camera sending a standard HD video signal. Manufacturers use different protocols for sending record triggers, metadata and timecode. They also define their image LOG curves differently, which effects how the Odyssey7Q can correctly LUT the signal. Additionally there are some specific signal variants for certain frame rates that are particular to individual camera designs.				

## RECORD

Dropdown	Sub-Item	Sub-Menu 3	Option	Description	Additional Information
TRIGGER	Rec Button	→	→	Record button on Odyssey7Q Upper Tool Bar	
	Camera	→	→	Record triggers on camera cues the Odyssey7Q	Compatible cameras include Canon C300, XF305, Sony F3, FS700, ARRI ALEXA (via SDI Remote camera setting).
	Timecode			<b>Future Free Firmware Update</b>	
	Remote	→	→	<b>Future Free Firmware Update</b>	
CLIP	(Clip Name) (Clip#) (AAAAAAA)(000)	→	→	Enter in clip naming convention. Will increase sequentially with each clip.	With ARRIRAW and Canon Raw, the Clip Name is set by the camera.
PROJECT	Frame Rate	Follows Input	→	Default setting; aligns to the incoming frame rate for all frames rates 60p and below.	Determines playback frame rate onto SSDs. It can follow the source frame rate or be set to a specific record frame rate. The [FOLLOWS INPUT] default setting aligns to the incoming frame rate for all frames rates 60p and below. Above this rate, the default project rate for 100/200fps is 25fps and for 120/240fps the default project rate is 24fps. This is to allow an even division of frames so that the timeline file will play back smoothly.
		23.98 FPS	→		
		24.00 FPS	→		
		25.00 FPS	→		
		29.97 FPS	→		
		30.00 FPS	→		
		48.00 FPS	→		
		50.00 FPS	→		
		59.94 FPS	→		
		60.00 FPS	→		



## INPUTS

Sub-Menu 1	Sub-Menu 2	Sub-Menu 3	Option	Description	Additional Information
AUDIO	Channels	2	SDI	Currently limited to two channels of SDI or HDMI embedded audio. This menu will be expanded in a future free firmware update.	
			LTC	LTC to 6 pin via remote port and adaptor cable.	ARRI: Not supported in ARRIRAW
TIMECODE	Source	SDI	2		At high frame rates, some cameras will not generate timecode. In these cases the Odyssey7Q will generate a Record Run timecode from its internal clock.
		LTC	→		
		SEED / REC RUN	→		

## OUTPUTS

Sub-Menu	Sub-Menu 2	Sub-Menu 3	Option	Description	Additional Information
REC TALLY	On	→	→	Green Tally = Ready	Activates Tally signal over SDI when Odyssey7Q is recording.
	Off	→	→	Red Tally = Recording	
LEGALIZED	ON	→	→		Only displayed in Raw Modes (ARRI, Canon, Sony), not DPX or 4:22/4:4:4
	OFF	→	→		

Congratulations! You are through the MENU. Everything is easier from here.

## System Status Button

11.9V  
7.0W  
+45C

```

SYSTEM STATUS
VOLTS:    11.9V  (6.5~34V)
POWER:    7.0W
TEMP:     +45C  (<60C)

2011 OCT 31  12:53:32
    
```

```

ODYSSEY 7Q: ABOUT
FIRMWARE: 1.1.100 NOV 2013
SERIAL:   20-00000
WARRANTY: VOID
KEYS ACTIVATED:
BASIC FS700RAW CANONRAW
4STRM ARRIRAW 2K/HDRAW
POWERED ON: 13 HOURS
RECORD TIME: 1 HOURS
    
```

Displays critical specs of Odyssey7Q. Input voltage, Current wattage draw of Odyssey7Q (varies with mode), current temperature of main processor. Tapping button brings up more detailed information including the ABOUT menu of the Odyssey7Q.

The Odyssey7Q has a wide internal operating temperature window, up to 65° Celsius (149° Fahrenheit). The Odyssey7Q uses its magnesium case to passively shed excess heat. There are no vents or fans. Even under most harsh conditions, the Odyssey7Q should not suffer any operational issues due to heat. However, if the internal temperature of the Odyssey7Q rises high enough there are a series of warnings and safeguards in place to protect the device and the recorded files.

### Temperature Warnings & Safeguards

Temperature	System Status Text & Warning	Operational Protection
59° C	Yellow text	No change to operation
61° C	Red text & flashing warning	New recordings prevented
65° C	Red text & flashing warning	Current recording stopped

The Odyssey7Q has a wide range of acceptable voltage for incoming power, from 6.5 volts to 34 volts. The total wattage draw from the Odyssey7Q varies depending on the operational mode it is set to, but is always within a very modest range from less than 8 watts to no more than 15 watts. This allows a variety of battery options to be used with the device. While there are file recovery parameters in place, it is never a good idea to lose power while in the midst of recording. If the incoming voltage to the Odyssey7Q drops low enough there are a series of warnings and safeguards in place to protect the device and the recorded files.

### Low Power Warnings & Safeguards

Voltage Level	System Status Text & Warning	Operational Protection
6.7v	Yellow text	No change to operation
6.5v	Red text & flashing warning	New recordings prevented
6.0v	Red text & flashing warning	Current recording stopped

## Input Status Button

1080PSF29 444

Displays current video input signal type. Tapping button brings up detailed information on Input and Output signals, record mode and

frame rates.

## Record Status Button



Displays current recording format. Tapping button brings up detailed information on recording type and frame rates.

## Trigger Button



Displays status of recording mode. When button is Red with a white circle it is ready to record. When Gray there is no signal available to record. While recording, the button is Blue with a white square and the background of the entire top menu is Red. If REC Button is selected as the trigger then tapping button triggers record start/stop ([\*] [RECORD] [TRIGGER] [REC BUTTON]). In PLAY mode the button becomes the Playback Trigger.

## SSD1 Status Button



Displays record time available given current settings (HH:MM). Tapping button brings up detailed information on SSD1 status.

## SSD Eject Button



Prompts a confirmation to Safely Eject SSD? This is the proper method for dismounting and ejecting SSDs so that the files and directories can be closed properly.

## SSD2 Status Button



Displays record time available given current settings (HH:MM). Tapping button brings up detailed information on SSD2 status.

## REC/PLAY Button



Displays current status as to whether Odyssey7Q is in record or playback mode. Tapping button toggles between modes.

NOTE: PLAYBACK MODE CHANGES THE UPPER TOOL BAR. SEE UPPER TOOL BAR – PLAYBACK MODE, BELOW.

## Clip Metadata Button



Displays detailed information on clip metadata. Clip name, Reel name/number, Scene name/number, Take #, Day #, Camera designation and Project name are indicated. Tapping on button opens menu to adjust clip metadata.

## Last Take Button



Displays timecode start and elapsed time of last recorded take. Tapping button brings up detailed information of the last take recorded.

## Upper Tool Bar – Play Mode

Tapping the REC/PLAY Button toggles the Upper Tool Bar to Playback mode. Upper Tool Bar selections different from Record mode are highlighted in Blue.



## Play List Button



Tapping button displays a list of recorded files. Files can be selected for playback and can be continuously played back in a Loop.

			SCENE	TAKE	TIMECODE	TIME OF DAY	DAY
02	<input type="checkbox"/>	CLIP0000001_SSD1 00:08	SCENE1	002	00:00:03:04	10-OCT-10 10:10	001
03	<input checked="" type="checkbox"/>	CLIP0000001_SSD1 00:08	SCENE1	003	00:00:03:04	10-OCT-10 10:10	001
04	<input type="checkbox"/>	CLIP0000001_SSD2 00:08	SCENE1	001	00:00:03:04	10-OCT-10 10:10	001
05	<input type="checkbox"/>	CLIP0000001_SSD2 00:08	SCENE1	002	00:00:03:04	10-OCT-10 10:10	001
06	<input checked="" type="checkbox"/>	CLIP0000001_SSD2 00:08	SCENE1	003	00:00:03:04	10-OCT-10 10:10	001
<input type="checkbox"/> ALL <input type="checkbox"/> LOOP							

## Play Last Button



Displays last recorded clip name. Tapping button brings up detailed information on the last recorded clip.

## Trigger Button



Tapping the Blue button surrounding the white triangle triggers playback of the play list. If no play list has been selected the last recorded clip will play.

## Output Status / Project Rate Button



Displays current SDI output setting. Tapping button brings up detailed information on the Output Status. To change these settings, go to [\*] [OUTPUTS] [MODE].

## Lower Tool Bar

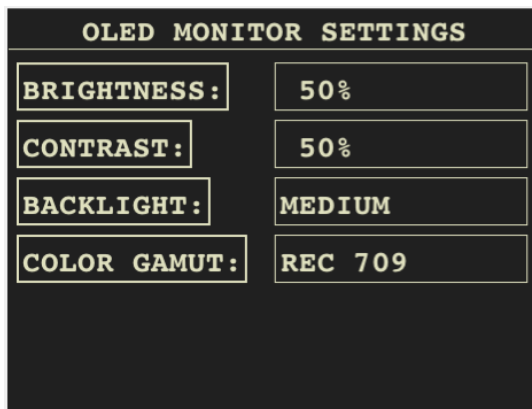
In addition to being a high quality recorder of multiple formats, the Odyssey7Q is also a full-featured production monitor. The Lower Tool Bar activates and controls the monitoring and image analysis functions.



## OLED



Tapping button brings up OLED monitor settings. Controls are for Brightness, Contrast, Backlight and Color Gamut (REC709 or DCI P3). These controls are for the Odyssey7Q OLED panel only, and will not affect the recorded signal or the signal from any of the device's outputs. The Odyssey7Q display is capable of presenting the full contrast and color gamut of both the REC709 and DCI P3 standards.



Assuming a standard, properly attenuated video signal from the camera, the Odyssey7Q defaults are 50% for brightness and contrast, medium for backlight and REC709 for Color Gamut. Unless otherwise noted, any standard HD video source should be a REC709-compliant signal, not DCI P3, which is for digital cinema displays. Additional controls will be available in a future free firmware update.

## Guide



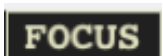
Tapping button activates Frame Guides. Holding button brings up the Frame Guides settings. Current choices are 1.85:1 and 2.39:1. Additional options including user-adjustable settings will be available in a future free firmware update. The [GUIDE] button will highlight in green when active and indicate current selected frame guide (1.85, 2.39). The native aspect ratio of the HD video image is 16:9, or 1.78:1.

## LUT

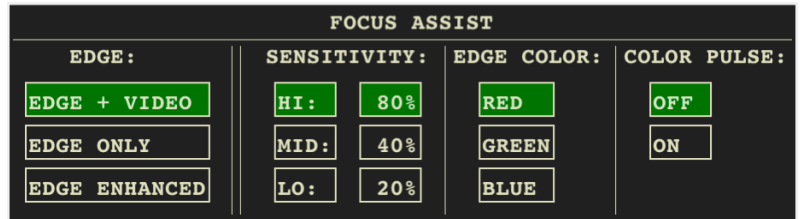


When using a RAW record option ARRIRAW, Canon RAW and Sony FS700 RAW display as debayered Log images. Odyssey7Q uses manufacturers' LUT (image Look Up Table) to properly adjust signal to REC709 standard. A future free firmware update will allow various viewing LUTs to be applied to the image on the OLED panel, to the HD video outputs, and/or to the recorded files.

## FOCUS



Tapping button activates Focus Assist. Holding button brings up the Focus Assist settings. There are three styles of Focus Assist available.



[EDGE + VIDEO] Shows video image with sharp edges highlighted in color. Also know as Peaking.

[EDGE ONLY] Shows only the sharp edges, clearly highlighting only aspects of the frame that are in focus.

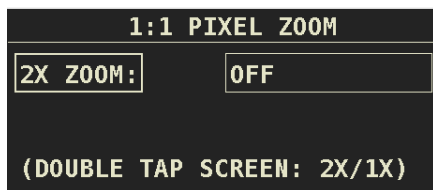
[EDGE ENHANCED] Shows some picture information for framing, with sharp edges highlighted in color.

To tune the Focus Assist to your personal preference, adjust Sensitivity of the high, midrange and low frequencies. Then select a preference for Edge Color (red, green, blue). The highlighted color edges can also be set to pulse. The [FOCUS] button will highlight in green when active.

## ZOOM



Tapping button activates Pixel Zoom. Holding button brings up Pixel Zoom settings. Select if you wish to have 2x (2:1) pixel zoom available. The native resolution of the Odyssey7Q panel in the HD video image area is 1280x720. In the Odyssey7Q, all formats are converted to 1920x1080 before being fed to the OLED panel.



Tapping [ZOOM] activates whichever magnification was previously selected (1:1 or 2:1). Double-tap anywhere on the image to toggle between 1:1 and 2:1 magnification. The [ZOOM] button will highlight in green when active and indicate current magnification (1:1, 2:1).

## TIMECODE

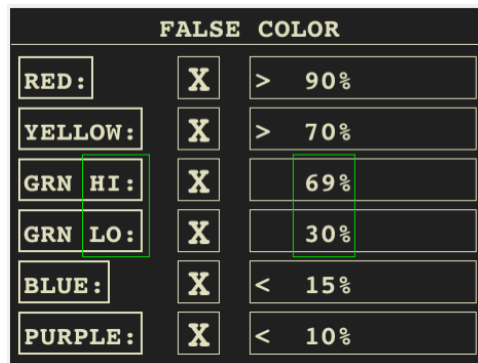
**09:16:04:07**

At the center of the Lower Tool Bar is a counter displaying timecode. This counter displays hours, minutes, seconds and frames in the format 00:00:00:00.

## FALSE

**FALSE**

Tapping button activates False Color. Holding button brings up False Color settings. False Color is an exposure reference tool, attributing different colors to various brightness portions of the image. Available colors are Red, Yellow, Green, Blue and Purple. An HD video signal is measured in a scale from 0 to 109, often marked as a % or with the suffix IRE.



In the chart below, note that while the different colors are designed to indicate certain ranges, these ranges are user-adjustable for personal exposure preferences. Red, being the “white clipping” indicator will appear for any part of the image at the user-set exposure value and above, up to the highest brightness of the image (109%). Yellow will appear from the user-set exposure value up to the bottom of the Red exposure range. Purple is the bottom of the exposure range, so it will appear for any part of the image at the user-set exposure value or below. Blue will appear from the user-set exposure value to the top of the Purple exposure range. As Green is in a middle range of exposure, the top and bottom of its range can be set. It is possible to overlap some of the exposure ranges, at which point some of the colors will not appear. Other parts of the image are rendered in varying densities of gray. There is a reference bar at the bottom of the image indicating the exposure range each color represents.

COLOR	PRESET	ADJUSTMENT RANGE	INTENDED INDICATION
RED	90% & UP	70-109%	White clipping
YELLOW	70% & UP	70-109%	Near overexposure
GREEN	38-45%	30-70%	Middle grey or skin tone
BLUE	10% & BELOW	0%-30%	Black underexposure
PURPLE	5% & BELOW	0%-15%	Black clipping



## ZEBRA

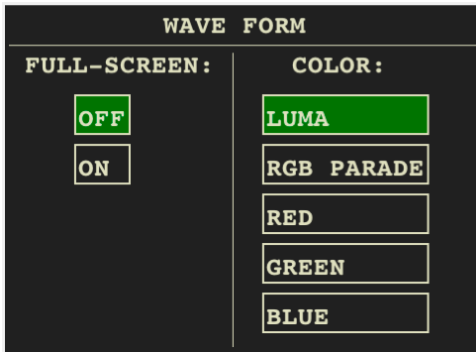


Tapping button activates Zebra. Holding button opens Zebra settings. A Zebra stripe (/////) is an exposure tool to indicate any part of the image that is at or above a particular brightness. Adjustment range for the Zebra setting is 70-109%. A future free firmware update will add a second Zebra stripe option.

## WFM

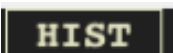


Tapping button activates Waveform. The Waveform is based on the signal shown on the Odyssey7Q OLED. When in Multi-Stream mode, if two signals are selected then the Waveform can be used to compare two side-by-side images.



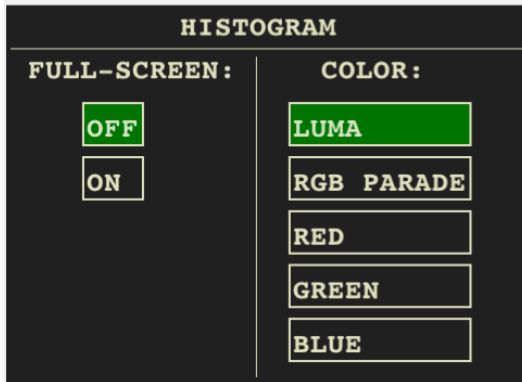
Holding button brings up Waveform settings. A Waveform is an exposure tool used for measuring the brightness of the image throughout the frame. It can be set for overall brightness [LUMA], with the three primary colors separated and displayed individually [RGB PARADE], or as the individual primary colors only [RED] [GREEN] [BLUE]. The Waveform can be displayed across the full width of the image display or in the lower right corner. With the large display, the RGB PARADE shows three individual Waveforms side by side in the appropriate colors, while in the small display mode they are overlapped. The HD video image is visible behind the Waveform at all times for image reference. A graticule overlay indicates exposure value references in 20% increments from 0%-100%, with an additional reference at 109%.

## HIST



Tapping button activates Histogram. Holding button brings up Histogram settings. A Histogram is an exposure tool indicating brightness by volume of image across a horizontal plane. The brighter the image the farther it is to the right. The more of an image registering at a particular brightness the taller the line graph at that brightness. It can be set for overall brightness [LUMA], with the three

primary colors separated and displayed individually [RGB PARADE], or as the individual primary colors only [RED] [GREEN] [BLUE].



The Histogram can be displayed across the full width of the image display or in the lower right corner. With the large display, the RGB PARADE shows three individual Histograms one above another in the appropriate colors, while in the small display mode they are overlapped. The HD video image is visible behind the Histogram at all times for image reference.

## HIDE



Tapping button hides the Upper and Lower Tool Bars. The Timecode display remains below the image. Tap anywhere on the display to bring back the Tool Bars.

## AUDIO

Not Displayed in Current Firmware

The initial release firmware of the Odyssey7Q supports basic two-channel audio recording, embedded in the SDI or HDMI streams, as well as stereo audio out via the headphone port. Future free updates will enable an [AUDIO] menu button that will display audio meters, add more channels, activate analog audio input, activate headphone output volume control and other functions.

# Recording Capabilities & Options

The Odyssey7Q can record a variety of HD video signals and, with optional recording keys, several RAW data video formats. With another optional recording key the Odyssey7Q will also be able to record up to four HD video signals simultaneously.

All recording options are available for demo on the Odyssey7Q, but will appear with a blue line “watermark” across the recorded image. Recording options are available to purchase or (in the near future) rent on a time-active basis from the Convergent Design website at: <http://www.convergent-design.com/Products/Odyssey7Q.aspx#Overview-42>.

## **Included Free with Odyssey7Q**

### **HD Video**

The Odyssey7Q records HD video as uncompressed 10-bit .DPX stacks.

All .DPX files are recorded 4:4:4. 4:2:2 video signals are upconverted to 4:4:4.

3G-SDI: Accepted 1080p/psf frame rates: 23.98, 24, 25, 29.97, 30, 50, 59.97, 60

HDMI: Accepted 1080p/psf frame rates: 23.98, 24, 25, 29.97, 30, 50i, 60i

*Future free firmware updates will include compressed video codecs with expanded frame rate, resolution selections, interlaced support, and pull down support.*

### **Multi-Stream HD Video Monitoring**

*NOTE: This is a monitoring mode only. A future option will allow recording of up to four HD video signals.*

3G-SDI accepted 1080p/psf frame rates: 23.98, 24, 25, 29.97, 30, 50i, 60i

Up to four HD video signals viewable simultaneously.

OLED display divided into quadrants or a single input may be selected for full screen display.

Inputs are SDI A, SDI B, SDI A IO, SDI B IO (signals autodetected; SDI A must always be present).

HD video signals do not need to be Genlocked.

HD video signals do not need to match frame rates.

HDMI input available in future free firmware update.

## **Optional Record Keys (available to purchase or rent)**

### **ARRI ALEXA ARRIRAW**

The Odyssey7Q supports all ARRIRAW formats and frame rates output by ALEXA Classic cameras.

ARRIRAW data is recorded as .ARI files.

ARRIRAW 16:9 frame rates: 23.98, 24, 25, 29.97, 30, 48\*, 50\*, 59.97\*, 60\*

ARRIRAW 4:3 frame rates: 23.98, 24, 25, 29.97, 30, 48\*

*\* NOTE: ARRIRAW above 30fps requires two SSDs to simultaneously record. In a future firmware update only one SSD will be required for all frame rates.*

### **Canon C500 Cinema RAW**

The Odyssey7Q supports Canon C500 4K RAW. Future firmware updates will support 4K “Half RAW”, 2K, “Slow & Fast” mode, and other C500 formats.

Canon Cinema RAW data is recorded as .RMF files.

Supported 4K RAW frame rates: 23.98, 24, 25, 29.97, 50\*, 59.94\*

*\* Note: Canon RAW 50-60p requires two SSDs to simultaneously record.*

### **Sony FS700 RAW**

The Odyssey7Q supports Sony FS700 2K RAW. Future firmware updates will support 4K solutions, high bit-depth HD derived from 4K, other recording options.

FS700 2K RAW data is recorded as .DNG files.

FS700 2K RAW frame rates: 23.98, 25, 29.97, 50, 59.94, 100, 120, 200\*, 240\*

*\* NOTE: 2K RAW 200fps and 240fps require two SSDs to simultaneously record.  
(The FS700 Option is available for purchase only.)*

### **HD/2K RAW**

Future firmware updates will include a recording option for several industrial and special-use cameras.

## Record Time Capacities

The Odyssey7Q can record numerous video and data formats. Record time varies based on format. The chart below indicates maximum record time in minutes based on the use of two 512GB SSDs (1TB). For 512GB (one 512GB SSD or two 256GB SSDs), divide in half. For 256GB, divide by four.

### **Maximum Record Time In Minutes to Two 512GB SSDs (1TB)**

Format	24fps	25fps	30fps	50fps	60fps
1080p HD Video (Uncompressed 10-bit DPX)	87	84	70	42	35
ARRIRAW 16:9	100	97	80	46	40
ARRIRAW 4:3 (48fps top speed = 38 minutes)	76	73	60		
Canon C500 Cinema RAW 4K	62	60	50	30	25
Sony FS700 2K RAW	200	192	160	96	80
FS700 2K RAW @ 120fps = 40 minutes					
FS700 2K RAW @ 240fps = 20 minutes					

The SSDs will automatically Span from SSD1 to SSD2. This means that if a file is recording to SSD1 and fills the available memory, the recording will continue uninterrupted on SSD2. The exception to this is when recording in a high data rate mode that requires both SSDs to be recorded to simultaneously, such as FS700 Record Option, 2K RAW @ 240fps. For more information on record times and SSD capacity, see Record Time Capacities. A future free firmware update will also allow the option of simultaneous dual recording, in which both SSDs record identical files for backup purposes.

## Loss of Power During a Record

You should never power off the camera while recording, many camera's including the ALEXA, disable the user from doing so while recording. Built into the Odyssey 7Q's recovery mechanism, is in case of power loss, you will lose the last couple frames of the record, but not the last take. You will receive several error messages due to the loss of source. If the unit fails to close the last clip and return to normal operation once the source has returned. You will need to remove the power from the unit, then re-power the unit.

Note that when doing so, or after any failure of this type, the Odyssey will automatically mark the SSD's as full, once power is restored to the unit, this being said. You will need to offload the footage, before you will be able to continue recording, in order to help ensure proper recovery of the previous recordings.

# SSDs: Downloading Media

Always make sure to properly Safe Eject to dismount SSDs before removing from Odyssey7Q.

While the Odyssey7Q drives are exclusive Convergent Design products, they utilize a standard 2.5" eSata interface. No expensive proprietary download stations are required. Consumer card adapters such as Seagate GoFlex adapters (examples below) are available with Thunderbolt or USB 3.0 interface. Thunderbolt is fastest and USB 3.0 is most common and self-powering. Firewire 800 is not recommended as it will take a very long time to download files.

## NOT INCLUDED, PLEASE PURCHASE SEPARATELY

### Thunderbolt:

Seagate GoFlex Model STAE128 or STAE129 We have measured 325-375MB/sec transfer rates to a fast RAID drive, depending on your configuration.



### USB 2.0 / 3.0:

Seagate GoFlex Model STAE104 or Calvary USB 3.0 Adapter, Model CAUSM2001. An ExpressCard 34 to USB 3.0 adapter may be required for full USB 3.0 compatibility. However, USB 2.0 works fine to copy firm-ware updates to the SSD.



## File Management Software

Convergent Design has two free file utility programs, CD Transfer and CD Clip Merger, available for download for both Mac & PC on our website:

<http://www.convergent-design.com/Downloads.aspx#tptab44>

## CD Data Unpacker

Higher frame rate DPX files are recorded in "Packed" files. CD Data Unpacker Utility copies and converts 1080p/59.94 and 1080p/60 DPX files and clips. The DPX files are converted from a "Packed" to "Unpacked" data format. Other DPX frame rates and other files formats do not need unpacking.

## **CD Clip Merger**

Some high data rate formats need to be striped (aka RAIDed) across two SSDs when recording in the Odyssey7Q. After offloading these file folders onto a local drive on a computer, CD Clip Merger combines matching RAIDed folders into single file folders.

Odyssey7Q RAIDed recording formats include ARRIRAW 4:3 @ 48fps and Sony FS700 2K RAW @ 200fps and 240fps.

### **Basic Instructions for Using CD Clip Merger Software**

1. Create a folder to hold your footage on our Hard Disk Drive or Raid System, giving it a name meaningful to you, such as “Project Name - Camera A - 2013-09-12”
2. Open the }CLIPS{ \_Odyssey7Q folder on your first SSD and copy all of the folders to the folder created in Step 1. **Do not copy the folder itself, copy the contents of the folder.**
3. Open the }CLIPS{ \_Odyssey7Q folder on your second SSD and copy all of the folders to the folder created in Step 1. **Do not copy the folder itself, copy the contents of the folder.**
4. Run the CD Clip Merger Program.

Additional instructions are available in the “Readme” file included in the download.

## **File Storage**

The Odyssey SSD's support read rates of 500 Mbytes/sec. Keep in mind you will be limited by the slowest median in the transfer process. For example: eSATA 3Gbps interface cards have a max performance of ~270MBps, and eSATA 1.5Gbps have a max performance of ~130MBps.

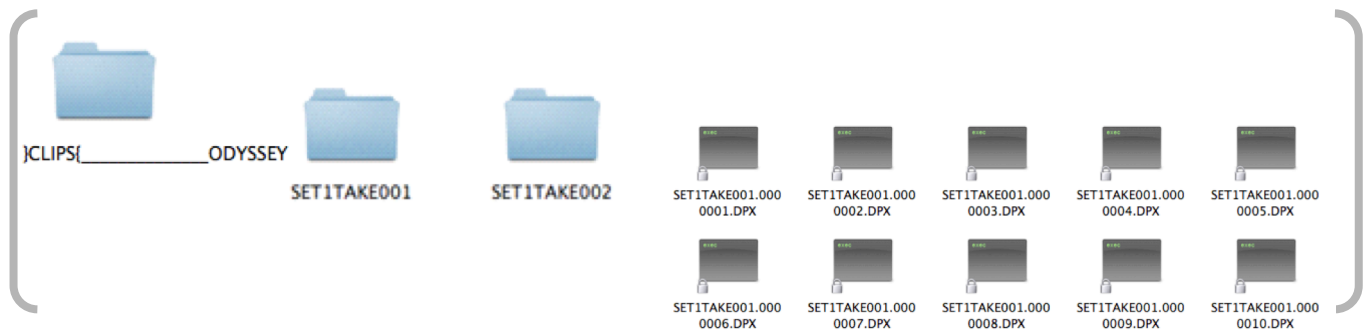
Typical Hard Drives (Non-RAID) generally perform anywhere in the range of 80-130MBps. For maximum performance, make sure you are using eSATA 6 Gbps, USB 3.0 or Thunderbolt to a Raid configuration.

Video Format	Video Data Rate Mbytes/Sec	Suggested for Real Time Playback/Edit
ARRI/2K/1080p24 4:4:4 10-Bit DPX	186.6	300
1080p25 4:4:4 10-Bit	194.4	300
1080p30 4:4:4 10-Bit	233.3	400
1080p50 10-Bit	400	600
1080p60 10-Bit	500	600

# Post: Working with Files Recorded by the Odyssey7Q

There are numerous post systems and NLEs that can read natively the various file formats recorded by the Odyssey7Q. Some NLEs may require plug-ins in order to read certain file formats. Blackmagic Design Resolve software is available for free and can read all formats recorded by the Odyssey7Q.

## File Structure



}CLIPS\_\_\_\_\_ODYSSEY{

CLIP0001001 (Assuming that the **RECORD|CLIP** is set to (CLIP001) (001))

CLIP0001001.0000000.DPX

CLIP0001001.0000001.DPX

Etc.

CLIP0001002 (Assuming that the **RECORD|CLIP** is set to (CLIP001) (002))

CLIP0001002.0000000.DPX

CLIP0001002.0000001.DPX

Etc.



## Uncompressed Support (DPX sequence)

All Uncompressed recording on the Odyssey 7Q is recorded as 10-bit RGB 4:4:4 DPX, this is for all sources regardless if the source is 8-bit, 10-bit, 4:2:2, or 4:4:4. With 12-bit camera's, the files are recorded as a 16-bit DPX, for more universal compatibility. With DPX files, timecode and clip metadata is stored in every frame, as well as in the XML file within each clip. All audio is recorded 48Hz 16-bit Uncompressed WAV audio.

1080p59.94/60p, 1080p119/120 and 12-bit files are recorded as 'Packed', so our [CD Data Unpacker Utility](#) will need to be used before the files can be used in any editor (See below for more information).

### Native 10-Bit / 16-Bit DPX support

Adobe CS6 / Adobe CSCC	Black Magic DaVinci Resolve	Grass Valley Edeus (Does not support 16-Bit)
Apple Color	Cineform Studio	The Foundry Nuke
AutoDesk Smoke	ColorFront OnSet Dailies	Xnview(Does not support 16-Bit)
Assimilate Scratch Lab	DJViewer	
Avid DS	Eyeon Fusion	

### Plugin's for DPX support

Glue Tools	Apple FCP Pro	
	Apple FCP Pro X	
Meta Fuse	Avid Media Composer	

## Sony FS700 Raw Support (DNG Sequences)

All FS700 Raw recording on the Odyssey7Q is recorded as a 12-bit linear Cinema DNG file. With DNG files, timecode and clip metadata is stored in every frame, as well as in the XML file within each clip. All audio is recorded 48Hz 16 bit Uncompressed WAV audio.

It is important to correctly set the white balance of the camera, as this is baked into the Raw file.

### Native Cinema DNG support

Adobe CC (Future Update)	Assimilate Scratch Lab	
Apple FCP X, Aperture	Black Magic DaVinci Resolve	

## **FS700 Raw: Dealing with Raw Files**

Note that FS700 RAW files are Linear, thus the files need a Gamma 2.2 correction in order to look correct. You may notice when you first import your files that they appear very dark before correction.

### **FS700 Davinci Resolve Import Settings**

Once you have imported files into the media pool be sure to check the following Settings:

1. Right click on the file and select “**Edit Cinema DNG Codec Settings**”.
2. Then under the **CAMERA RAW** be sure **CinemaDNG** is selected from the drop down menu.
3. Set the **Decode** using method to **Project** (also be sure your project is setup correctly) .
4. Set the **Color Space** to **BMD FILM**.
5. Set the **White Balance** to **As Shot**.
6. Select **Highlight Recovery**.
7. Click **Apply**.

For your convenience, Convergent Design has generated several example LUTs that can be applied to your RAW footage. Keep in mind these LUTs are general approximations, and may need adjusting depending on your application.

### **To Load 3D LUTs into Davinci Resolve**

1. Select the **Project Settings Wheel**, navigate to **Look Up Tables**.
2. Select **Open LUT Folder**, copy the included example **LUTS** into this folder.
3. Select **Update Lists**.
4. In the Media Browser you can **right click** on your RAW file and select **3D LUT**. Select the LUT you wish to apply from the list.

Note the following about each CD example LUT:

[http://207.109.162.222/downloads/Marketing/SoftwareDownloads/FS700\\_Resolve\\_LUTS.zip](http://207.109.162.222/downloads/Marketing/SoftwareDownloads/FS700_Resolve_LUTS.zip)

#### **FS700\_Linear\_SLOG\_2**

This LUT can be applied to view a simulated SLOG2 look. Based on the RAW recording with the SLOG2 Picture Profile.

#### **FS700\_Linear\_709**

This LUT can be applied to view a simulated Rec709 look. Based on the RAW recording with the SLOG2 Picture Profile.

### **FS700 FCP X Import Settings**

Once you have created a new project be sure to check the following Settings:

1. Under Final Cut Pro select Preferences
  2. Be sure the Still Images editing duration is set to 0.0.1 Seconds
  3. Select navigate to File and select Import Media
  4. Navigate to the Clips directory, and select the Clip Folder contain your FS700 Raw files.
  5. At this point you can start correcting the files to a 2.2 Gamma. using the Color Board.
- \* Note if you are recording to the internal media, you can import the matching Slog2 file, and select Match Color for a close approximation of Slog2, but will most likely need additional tweaking.

## Canon C500 4K Raw Support

All Canon C500 4K Raw recording on the Odyssey7Q is recorded as 10-bit Cinema Raw file (.rmf). With RMF files, timecode and clip metadata is stored in every frame, as well as in the XML file within each clip. All audio is recorded 48Hz 32 bit Uncompressed WAV audio.

It is important to correctly set the white balance of the camera, as this is baked into the Raw file.

### Native Cinema Raw Support

Assimilate Scratch Lab	Black Magic DaVinci Resolve	Canon Cinema Raw Development
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## ARRI Alexa ARRIRAW Support

All ARRI Alexa 16:9 and 4:3 ARRIRAW recordings on the Odyssey7Q are recorded as 12-bit ARRIRAW (.ari) files. With ARI files, timecode and clip metadata is stored in every frame, as well as in the XML file within each clip. All audio is recorded 48Hz 16 bit Uncompressed WAV audio.

### Native ARRIRAW Support

Adobe CS6 / Adobe CSCC	Black Magic DaVinci Resolve	The Foundry Nuke
AutoDesk Smoke	Cineform Studio	
Assimilate Scratch Lab	Eyeon Fusion	

**For a more extensive list on ARRIRAW and workflow please visit:**

[http://www.ari.com/camera/digital\\_cameras/workflow/working\\_with\\_arriraw/recording/arriraw\\_t\\_link/](http://www.ari.com/camera/digital_cameras/workflow/working_with_arriraw/recording/arriraw_t_link/)

# Appendix

## Release Notes – Initial Release v1.0.214

The following are NOT supported in the Initial Release:

		<b>RECORD OPTIONS UNAVAILABILITIES:</b>
Analog Audio In	Compressed Recording Codecs	Rentals (purchase only)
8 Channel Audio Recording	Interlaced Video Monitoring/Recording	Multi-Stream HD recording
Headphone / Analog Audio Out	720p Video Monitoring/Recording	
Headphone Adjustment	Interval Recording (Timelapse)	
Audio Level Meters	3:2 Pulldown Monitoring/Recording	Sony FS700 4K recording
Recording audio above 30p in FS700 2K RAW	Quad HD Monitoring/Recording	Sony FS700 HD from 4K recording
Remote Tally Functionality	Vectorscope	Canon Quad HD
User Selectable I/O Designation	Custom User LUTs	Canon 4K “Half Raw” 100/120fps
iPhone / iPad app		Canon 2K RAW
Bluetooth		Canon 12 Bit HD
USB Connectivity		Canon Fast and Slow

### Known bugs, issues and other notes:

#### Formats

- 4K over HDMI in or out will never be supported due to hardware constraints.
- For recording: Progressive and PSF formats are supported, not Interlaced Formats.

#### Monitoring

- Individual Red, Green and Blue Histograms and Waveforms are only available in the full screen mode.
- When switching frame rates the screen may go black, not displaying an image. To remedy, unplug and then reconnect the SDI input or cycle the power.
- When panning the camera, you may notice vertical banding in the image, not this is only a display artifact, or does not effect the recorded footage.
- In certain modes, there maybe a visual break in the image, with the first quarter of the image, this is a live image artifact, and does not effect the recorded image.

#### Signal Interaction

- Different camera designs interact in various ways with the SDI record trigger, with some as much as 10 frames off the trigger point of the camera’s internal recording. We recommend a Pre and Post Roll of 1-2 seconds to assure that important material is recorded.
- Occasionally when recording, audio may be off on an individual clip up to 3000 samples. This is still less than one frame.

#### Initialization

- On rare occasion when powering on an Odyssey7Q, an SSD may countdown to 0 without proper initialization. If this occurs remove the SSD and reinsert. If this does not remedy the initialization after

30 seconds or occurs more than once, connect the SSD to a PC or Mac to ensure the SSD is mounting. If it mounts correctly, then reinsert into the Odyssey7Q.

#### SONY FS700 RAW Recording Option

- No FS700 4K recording options are currently supported.
- In 2K RAW S&Q (Slow and Quick) mode, only 100, 120, 200 and 240fps currently supported
  
- When switching the camera between 50i/60i to access different frame rates, the camera can send a false record trigger pulse that can cause the Odyssey7Q to incorrectly initiate recording. Formatting the FS700 internal media while connected to the Odyssey7Q can also send a false trigger. To prevent the improper recording on the Odyssey7Q, disconnect the SDI input or power off the Odyssey7Q while making the change.
  
- In RAW mode at high frame rates the camera does not send clip name metadata to the Odyssey7Q. If using the camera's internal media as a proxy you will need to manually rename the internal media to match the metadata generated on the RAW files by the Odyssey7Q. Software such as XNview and Adobe Bridge can be used for this purpose.

## Firmware Updates

We recommend that you print out these instructions, if possible.

1. Your computer must have an Internet connection so you may access our website; Navigate to: <http://www.convergent-design.com/FirmwareUpdates/Odyssey7Q.aspx>  
On the Right Side of the page, you will find “Current Firmware”. Make a note of the firmware version that you will be downloading.
2. Format a SSD in the Odyssey7Q (ensuring that no important clips are on the SSD first).
3. Insert the formatted SSD card into your chosen 2.5” Adapter; connect to your computer.
4. We recommend creating a folder on your computer named something like the following: Odyssey7Q Firmware 06-Nov-2013 (1.0.214). This example uses today’s date and firmware number as listed on our webpage, but you may create a folder using a folder name of your choice.
5. Click on the firmware version that you wish to download.  
Note: You may reinstall an earlier version of the firmware, if desired.

### **For Windows 7: (Other Windows Computers will be similar)**

#### ***See below for Mac instructions***

6. Click on ‘Save As’, navigate to the folder you just created, and click on ‘Save’. The file you saved will be Odyssey7Q xxx.zip (the current firmware version number)
7. Navigate to this folder (you may just click on “Open Folder”), and double click on this file. It will be something like “Odyssey7Q1.0.105.zip” but with the current firmware number.
8. Click on ‘Extract All Files’, then click on ‘Extract’, and double click on ‘Odyssey7Q 1.0.105’ (or current firmware version number).
9. Drag and Drop the }ODYSSEY\_UPDATE{ folder to your SSD Drive (listed under computer) on the left hand side of your screen. Note: The SSD may be “No Name” or “ODYSSEY7Q”,and it can be any Drive Letter, but it will have a }CLIPS{ folder on the drive.

***Do not copy the firmware update into the }CLIPS{ folder.***

Answer Yes to: “Do you want to copy this folder without Encryption?”  
And Answer Yes to: “Do you want to copy this file without Encryption?”

**Skip over “For Mac” instructions to finish the update.**

**For Mac - Start with Steps 1 through 5 above.**

6. Double click on the }ODYSSEY\_UPDATE{.zip
7. Copy or Drag }ODYSSEY\_UPDATE{ folder to SSD.

**For Both Mac and Windows (PC continued)**

1. If done successfully, you will have:

}CLIPS{	(An Empty Folder)
}ODYSSEY_UPDATE{	(The Update Folder)
}ODYSSEY7Q{.UPD	(The Actual Firmware Update File)

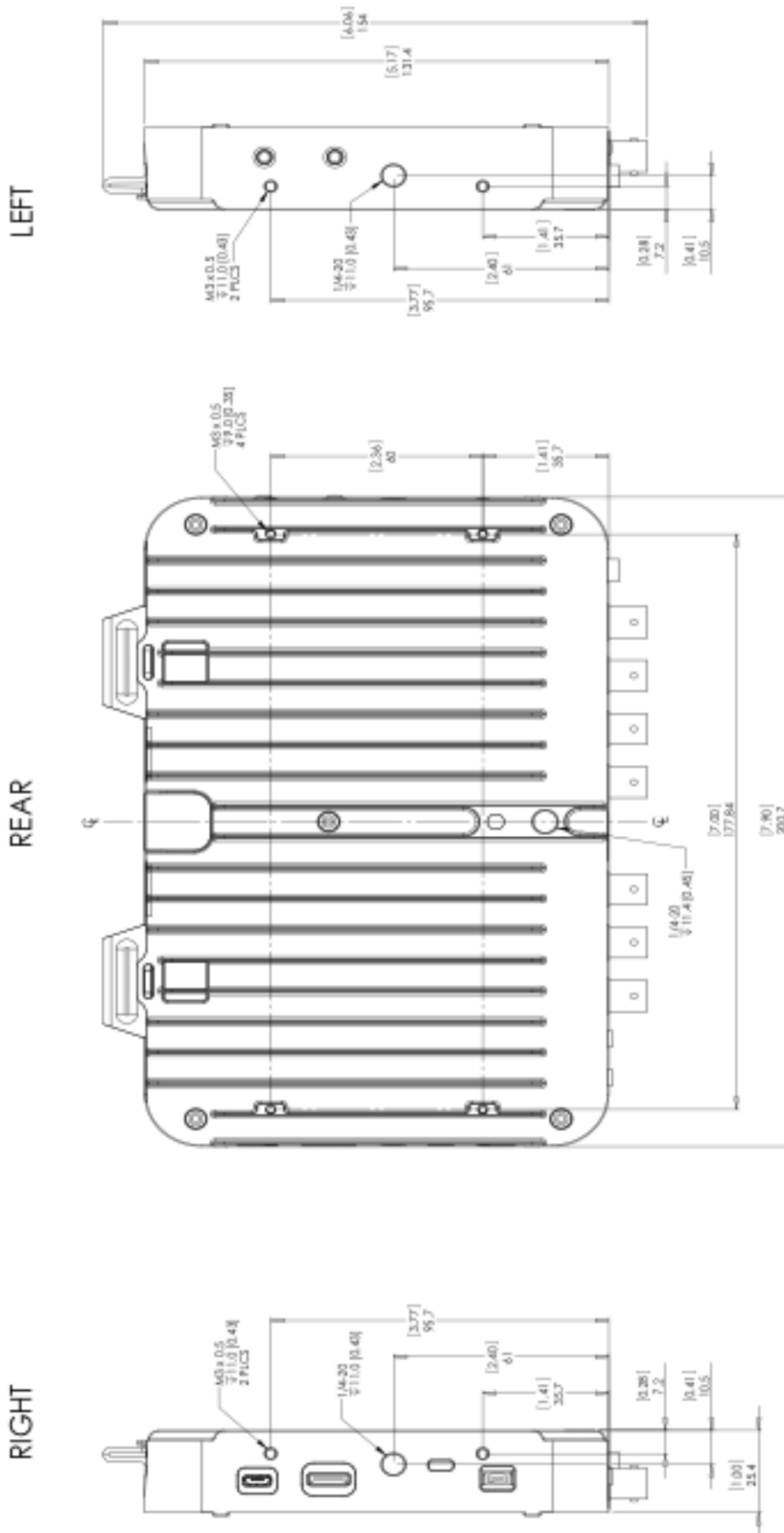
2. Use the “Safely Remove Hardware” option or shutdown/restart your computer gracefully, to ensure that the firmware has been completely transferred to the SSD. Otherwise, the firmware update may not be successfully copied to the SSD, and then the Odyssey7Q will not find the firmware update.
3. Ensure that you have adequate power to power the Odyssey7Q, either battery or AC Power. The firmware update takes approximately 5 minutes, but please ensure that you have at least 30 minutes of battery time remaining to ensure safety.
4. Remove any video input cables and SSD's from the Odyssey7Q.
5. Insert the SSD with the firmware update.
6. Power on the unit. You will see a Firmware Update screen if the file is on the SSD properly.
7. Follow the On-Screen Prompts to complete the firmware update.
8. When complete it will say: “UPDATE COMPLETE – PLEASE REMOVE UPDATE DRIVE” (Please remove the SSD; The unit will then power off and back on automatically).
9. If you wish to then reuse this SSD (normally the case, unless you have additional Odyssey7Q's to update):
  - a. Insert the SSD back into the Odyssey7Q, and
  - b. Click on Cancel (to avoid performing the Firmware Update again).
  - c. Reformat the SSD (Click on Menu, then Gemini, then SSD's, then Format SSD1 or Format SSD2).

# Specifications

Feature	Odyssey7Q Technical Specs
Display	7.7" OLED, 1280x800, RGB 8-Bit Panel, ~ 16 million colors, wide gamut, 3400:1 Contrast, 176° Viewing, True Blacks
SDI Video I/O	SD*/HD/3G Support: Single/Dual Link, 2-Inputs, 2-Outputs, 2 Bi-Directional (Can be inputs or outputs), Full-size BNCs
HDMI Video I/O	HDMI I/O Version 1.4a support, Up to 1080p30 422 8-bit
LUT Support	ARRI, Canon, Sony, or Custom User-Loadable LUTs*
Focus Assist	Video + Edges, Edges Only, Enhanced Edges, user choice of color: Red, Green, or Blue + Pulsing
Zebras	Two Levels, one allows for a user specified range, the other is active on a specified IRE level and above
False Color	False color with 4 programmable levels
Waveform Monitor	Luma only, RGB, Red only, Blue only, Green only, and RGB Parade
Histogram	Luma only, RGB, or Red, Blue or Green individually
Vectorscope	Color vectorscope with 2X zoom
1:1 Pixel Mode	Image Zoom, Vertical Flip and Horizontal Flop, Aspect Ratio Guides, Horizon Indicator
Quad Stream Display	Display four independent HD streams simultaneously (Quad-Split) with live-switch capability
Digital Audio I/O	8-Channel Embedded Audio (48KHz, 24-bit) (2 Channel initially, 8-Channel via future firmware update)
Analog Audio I/O	3.5mm stereo unbalanced input up to -10dB, 3.5mm stereo headphone output
Remote and Timecode	RS-232 I/O*, programmable GPIO. Timecode: LTC I/O (BNC) or embedded SDI / HDMI
Wireless Control	Bluetooth LE with iPhone/Android App*
User Interface	Capacitive Touchscreen, Two user-programmable context-sensitive mechanical keys
DC Power Input	6.5 to 34 VDC with built-in reverse polarity protection; locking Neutrik connector, built-in power switch
Power Draw	8 Watts (monitor only), 9-15 Watts (simultaneous monitor/record mode)
Weight and Size	560 grams / 1.3 lbs., 7.9" x 6.1" x 1.0" (200 x 155 x 25 mm), -10 to +40°C (Operating), -20 to +70°C (Storage)
Onion Skinning	Overlay pre-recorded still frame on live video with opacity slider*
View Monitor Out, Record Clean Video	Display the monitor-out (viewfinder data) on the OLED while recording a clean video signal. Available when using the Sony F3, Sony FS700, Canon C500 and ARRI Alexa cameras.
Record Triggers	Touchscreen, SDI record trigger (ARRI, Canon, Panasonic, Red, Sony), Optional Remote Control Cable
Recording SSD Media	Convergent Design SSDs with power-loss protection, in 256 and 512 GB sizes, 420MB/sec write, 500MB/sec read speed, compatible with USB 3.0 and Thunderbolt adapters. SSDs and adapters sold separately.
Recording Formats (Base Odyssey7Q)	Compressed formats: 1080p 10-bit YCC 422 up to 120fps, 1080p RGB 12-bit 444 up to 60fps* Uncompressed formats: 1080p RGB 10/12-bit 444 up to 60fps
	All Specifications subject to change and update without notice. * = Available in future firmware update. See separate sheet for RAW / Multi-Stream Options.



# Mechanical Drawings












## Power / Pin Out

**PLEASE NOTE: IT IS HIGHLY RECOMMENDED THAT YOU PURCHASE POWER SUPPLY CONNECTORS AS FLYING LEAD CABLES FROM CONVERGENT DESIGN. WE DO NOT USE OFF THE SHELF CONNECTORS; THEY ARE MODIFIED AND TESTED DURING MANUFACTURING. THE ODYSSEY FLYING LEAD CABLE PART NUMBER IS CD-OD-FLYING AND IS AVAILABLE THROUGH OUR WORLDWIDE DEALER NETWORK.**

To request a pin out diagram, please email [amber@convergent-design.com](mailto:amber@convergent-design.com).

### Available Power Options – [Download Images](#)

 <p><b>CD-OD-DTAP</b></p>	<p><b>D-Tap Power Cable</b>  <b>MSRP \$75</b>          D-Tap to Neutrik Power Cable          (18", 0.45m)</p>	 <p><b>CD-OD-FLYING</b></p>	<p><b>Flying Lead (pigtail) to Neutrik Cable</b>  <b>MSRP \$40</b>          (36", 0.9m)</p>
 <p><b>CD-OD-XLR</b></p>	<p><b>XLR Power Cable</b>  <b>MSRP \$50</b>          4-Pin Male XLR to Neutrik Power Cable (18", 0.45")</p>	 <p><b>CD-OD-LPLATE</b></p>	<p><b>Battery Plate for Sony L-Series Batteries</b>  <b>MSRP \$75</b>          (7.4V) NP F770 and NP F970.  <b>AVAILABLE EARLY DEC 2013</b></p>
 <p><b>CD-OD-FISCHER</b></p>	<p><b>Fisher Power Cable</b>  <b>MSRP \$100</b>          3-Pin Fischer to Neutrik cable – ALEXA (18", 0.45m)</p>	 <p><b>CD-OD-BATT</b>  <b>WHILE SUPPLIES LAST!</b></p>	<p><b>4-Cell Li-Ion Battery</b>  <b>MSRP \$35</b>          14.8V, 45wH, 0.44lb/200g          Lasts between 3-4 hours.          Also, <b>Battery Charger</b>  <b>CD-OD-CHRG</b>  <b>MSRP \$65</b></p>
 <p><b>CD-OD-AC-PS</b></p>	<p><b>AC Power Supply</b>  <b>MSRP \$60</b>          (Included with Odyssey7Q)          Input = 110-240 VAC 50/60Hz          Output = 12V @ 2A, Includes International adapters</p>	 <p><a href="#">Enduro Power</a></p>	<p><b>Ocean Video</b>          Anton Bauer Gold Mount or IDX V-Lock</p>
		 <p><a href="#">Power Cage</a></p>	<p><b>Nebtek</b>          Sony, JVC, Canon, or Panasonic camcorder style lithium-ion batteries OR attach Anton Bauer or IDX Style V-Mount batteries</p>

## Limited Warranty

Convergent Design warrants Odyssey7Q, and all included accessories, against defects in material and workmanship for a period of one year for registered units, and 3 months (for units used as rentals) from the original date of purchase.

Convergent Design disclaims all other warranties.

Convergent Design will not be liable for damages of any kind, including, but not limited to, compensation or reimbursement on account of failure of the unit, or any of its accessories, or its recording media, external storage systems, or any other media or storage systems to record or playback content of any type. Also Convergent Design will not be liable for a failure of the unit to properly record or play back for any reason. Convergent Design's total liability, in all cases, is limited to the actual purchase price.

If you discover a defect, please refer to our Return Merchandise Policy below.

During the warranty period, Convergent Design, at its option, will repair or replace product or product components, which in its opinion prove defective, provided the unit is returned, freight charges prepaid, to Convergent Design. Parts and components used in the repair process may be recycled or repaired, at Convergent Design's sole discretion. This warranty service will be performed at no charge to the registered owner, provided the product is shipped prepaid to Convergent Design.

Convergent Design reserves the right to determine whether a needed repair is subject to the warranty as per its provisions stated herein. Transit damage caused by inadequate packing violates the warranty. The warranty will be void if, in the opinion of Convergent Design, the product has been damaged through accident, misuse, misapplication, or as a result of service or modification not authorized in writing by Convergent Design.

Opening the unit and breaking the warranty seals, voids the warranty, unless specifically authorized in advance by Convergent Design.

### **THE FOLLOWING ARE NOT COVERED UNDER WARRANTY, AND ARE ITEMS FOR WHICH CONVERGENT DESIGN DOES NOT ACCEPT ANY RESPONSIBILITY:**

- Damage due to the use of an AC power supply, other than the one supplied, or use of any inappropriate power source.
- Damage due to overheating conditions. The unit will attempt to shut down, if powered on, in the event of overheating, before damage can occur.
- Damage due to exposure to water, or other liquids, or excessive dust or sand.
- Damage caused by dropping or other rough handling.
- Damage caused by any overvoltage conditions or reverse voltage conditions.

- Any physical damage to the OLED and/or Touch Screen including scratches.
- Damage to any connector by using excessive force or rough handling.
- Any loss or corruption of video or audio data recorded on the unit, or any loss or corruption of data that is in any way associated with the Odyssey7Q.

## Obtaining an RMA

It is our policy that all material and repair returns, whether in warranty or not, are only accepted if an RMA (Return Merchandise Authorization) Number has been issued for the products being returned.

E-mail Convergent Design at rma (at) convergent-design .com to obtain an RMA number for a faulty unit, or call ++720-221-3861 (7:30 am to 5 pm Colorado, USA time).

Items must be returned within 15 days of receiving your RMA number.

Returned product must be securely packaged and must have the RMA number clearly marked on the outside of the package.

RMA numbers and return address may be obtained from Technical Support.

Convergent Design RMA # \_\_\_\_\_

4465 Northpark Drive, #400

Colorado Springs, CO 80907

EMAIL: rma@convergent-design.com

WEBSITE: www.convergent-design.com

Phone ++(720) 221-3861 (Preferred, Mountain Time) or

++(866) 654-0080 or

++(803) 278-0941 (For After Hours Support 24/7)

++(719) 930-1376 (For After Hours Support 24/7)

Transit damage caused by inadequate packaging also invalidates the warranty agreement.

Please ship the unit in its original packaging, if possible.

Within the United States, the unit may be shipped directly to Convergent Design once an RMA is obtained.

Outside the United States, please coordinate with your dealer, which will then coordinate with our distributor for your part of the world. Our goal is to ensure that the units are shipped properly and that

the units will clear customs without incurring extra charges. In some cases your local dealer or distributor may be able to provide you with a loaner unit.

All products must be shipped prepaid to Convergent Design, or preferably through the dealer from which the unit was purchased (if outside the US). If you purchased the unit from a dealer outside of your normal trading zone, then you may be charged for return shipping to your location.

For insurance reasons, Convergent Design cannot accept any product that is returned via U.S. Postal Service. Returns will be accepted from Federal Express, UPS, DHL, or other comparable freight carrier.

Products repaired out-of-warranty are shipped at customer's expense.