

**DEESEA**  
POWER & LIGHT



# DVS-300

## Diver Video System



## Operator's Manual

### DVS-300 Diver Video System

Record product serial number below as it appears on the nameplate.

CCU-10 S/N:

Camera S/N:

Light 1 S/N:

Light 2 S/N:

T: (858) 576-1261  
F: (858) 576-0219

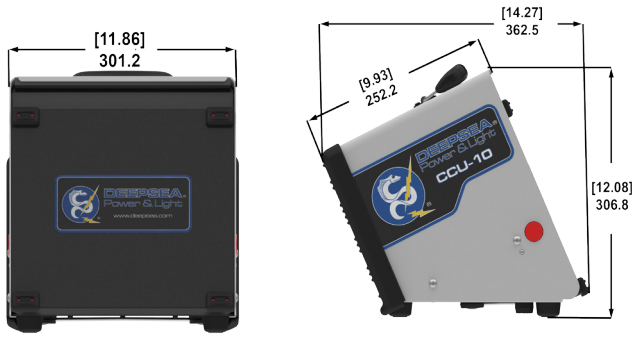
4033 Ruffin Road  
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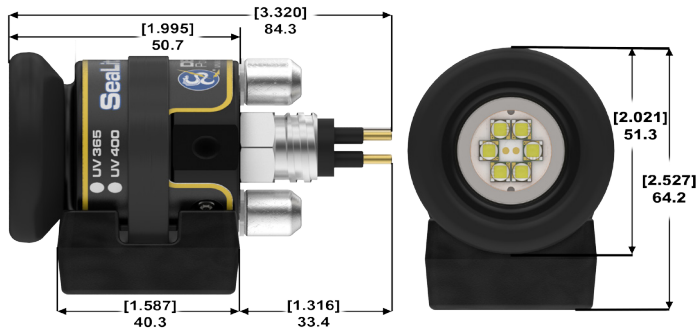


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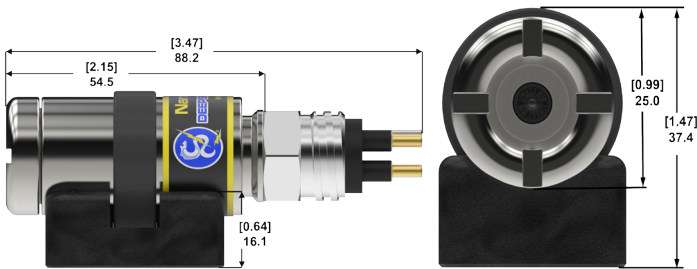
# Specification Overview



Camera Control Unit (CCU-10)	
<b>Weight w/o Batteries:</b> 5.4 kg (12 lbs.)	<b>Safety:</b> Low voltage DC to diver
<b>Size:</b> Length: 362.5 mm (14.27 in.) Width: 301.2 mm (11.86 in.) Height: 306.8 mm (12.08 in.)	<b>Connections:</b> Back panel connections for umbilical.
<b>Power:</b> 100–240V AC, 50/60Hz (60W)	<b>Recorder:</b> Thumb Drive
<b>Battery Type:</b> 18V Li-Poly Rechargeable	<b>Audio:</b> Internal mic & line audio in
<b>Monitor:</b> 12.1" Color VGA with audio	<b>Temperature:</b> 0° C to 40° C (32° F to 104° F)



Light (SeaLite Six-R)	
<b>Weight in Air:</b> 300.3 g (10.6 oz)	<b>UV LEDs (optional):</b> 365 & 405nm
<b>Weight in Water:</b> 232.2 g (8.2 oz)	<b>Beam Pattern:</b> 87° Flood
<b>Depth Rating:</b> 6000 m (19, 685 ft.)	<b>Housing:</b> 6013-T8 Anodized Aluminum
<b>White LEDs:</b> 1200 Lumens typical	
<b>Color Temp:</b> 6000° K	



Camera (Nano SeaCam)	
<b>Weight in Air:</b> 99.8g (3.52 oz)	<b>Power Consumption:</b> 1W max
<b>Weight in Water:</b> 81.6 g (2.88 oz)	<b>Scene Illumination:</b> 0.04 Lux
<b>Depth Rating:</b> 6000 m (19,685 ft.)	<b>Resolution:</b> 620 TVL
<b>Housing:</b> 6013-T8 Anodized Aluminum or 6Al-4V Titanium (optional)	<b>Video Output:</b> Composite 1.0Vp-p 75 ohm unbalanced
<b>Lens:</b> 2.54 mm Fixed Focus (Proprietary Optics)	<b>Image Sensor:</b> 1/3" SONY Color CCD II 410K
<b>Focus in water:</b> 10.16 cm (4.0 in.) to infinity	



Cable	
<b>Conductors:</b> 3x #16 AWG power conductor & 1x #22 AWG 75 ohm coax	<b>Materials:</b> Yellow polyurethane jacket
<b>Length:</b> 100 m (328 ft.) Standard 200 m (656 ft.) optional	<b>Breaking Strength:</b> 150 lbs. minimum
<b>Diameter:</b> 1.09 cm (0.430 in.)	

\*Specifications subject to change without notice.

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## Safety Symbol

In this operator's manual and on the product, safety symbols are used to communicate important safety information. This section is provided to improve understanding of these symbols.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



**DANGER** indicates a hazardous situation which, if not avoided, could result in death or serious injury.



**WARNING** indicates a hazardous situation which, if not avoided, could result in damage to the product or bodily harm.



**CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



**NOTICE** indicates information that relates to the protection of property.



This symbol means read the operator's manual carefully before using the equipment. The operator's manual contains important information on the safe and proper operation of the equipment.



This symbol means always wear safety glasses with side shields or goggles when handling or using this equipment to reduce the risk of eye injury.



This symbol indicates the risk of electrical shock.

## General Safety Rules



Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in electric shock, fire, and/or serious injury.

**SAVE THESE INSTRUCTIONS!**

### Work Area Safety

- Keep your work area clean and well lit. Cluttered or dark areas invite accidents.
- Do not operate equipment in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Equipment can create sparks which may ignite the dust or fumes.
- Keep children and bystanders away while operating equipment. Distractions can cause accidents.

### Electrical Safety

- Avoid body contact with earthed or grounded surfaces. There is an increased risk of electrical shock if your body is earthed or grounded.
- Do not expose CCU-10, its batteries, and its charger to rain or wet conditions. Water that enters the equipment will increase the risk of electrical shock.
- Do not abuse the cord. Never use the cord for carrying, pulling, or unplugging the power tool. Keep cord away from heat, oil, sharp edges, and moving parts. Damaged or entangled cords increase the risk of electric shock.
- If operating equipment in a damp location is unavoidable, use a ground fault circuit interrupter protected supply to reduce the risk of electric shock.
- Keep all electrical connections dry and off the ground. Do not touch equipment or plugs with wet hands to reduce the risk of electrical shock.

### Personal Safety

- Stay alert, watch what you are doing, and use common sense when operating equipment. Do not use equipment while you are tired or under the influence of drugs, alcohol, or medication. A

moment of inattention while operating equipment may result in serious personal injury.

## **Equipment Use and Care**

- Do not force equipment. Use the correct equipment for your application. The correct equipment will do the job better and safer at the rate for which it is designed.
- Do not use equipment if the power switch does not turn it ON and OFF. Any equipment that cannot be controlled with the power switch is dangerous and must be repaired.
- Disconnect the plug from the power source and/or the battery pack from the equipment before making adjustments, changing accessories, or storing. Preventive safety measures reduce the risk of injury.
- Store idle equipment out of the reach of children and do not allow persons unfamiliar with the equipment or these instructions to operate the equipment. Equipment can be dangerous in the hands of untrained users.
- Maintain equipment. Check for misalignment or binding of moving parts, missing parts, breakage of parts, and any other condition that may affect the equipment's operation. If damaged, have the equipment repaired before use. Many accidents are caused by poorly maintained equipment.
- Use the equipment and accessories in accordance with these instructions; taking into account the working conditions and the work to be performed. Use of the equipment for operations different from those intended could result in a hazardous situation.
- Use only accessories that are recommended by the manufacturer for your equipment. Accessories that may be suitable for one piece of equipment may become hazardous when used with other equipment.
- Keep handles dry, clean, and free from oil and grease. This allows for better control of the equipment.

## **Battery Use and Care**

- Recharge only with the charger specified by the manufacturer. A charger suitable for one type of battery pack may create a risk of fire when used with another battery pack.

- Use equipment only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
- Do not probe battery with conductive objects. Shorting of battery terminals may cause sparks, burns, or electrical shock. When the battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
- Under abusive conditions, liquid may eject from battery; avoid contact. If contact occurs, flush with water. If liquid contacts eyes, seek medical help. Liquid ejected from the battery may cause irritation or burns.
- Use and store batteries and chargers in dry, appropriate temperature areas. Extreme temperatures and moisture can damage batteries and result in leakage, electrical shock, fire or burns.
- Do not cover charger while in use. Proper ventilation is required for correct operation. Covering charger in use could result in fire.
- Properly dispose of batteries. Exposure to high temperatures can cause the batteries to explode; do not dispose of in a fire. Some countries have regulations concerning battery disposal. Follow all applicable regulations.

## **Service**

Ensure a qualified repair person services your equipment using only identical replacement parts to maintain the safety of the tool. Remove the batteries and refer servicing to qualified service personnel under any of the following conditions:

- If liquid has been spilled or objects have fallen into product.
- If the product does not operate normally when following the operating instructions.
- If the product has been dropped or damaged.
- When the product exhibits a distinct change in performance.

## Specific Safety Information

This section contains important safety information that is specific to the DVS-300. Read these precautions carefully before using the DVS-300 to reduce the risk of electrical shock, fire, or other serious personal injury.

**⚠ WARNING**

**SAVE ALL WARNING AND INSTRUCTIONS FOR FUTURE REFERENCE!**

.....

Keep this manual with the equipment for use by the operator.

.....

### DVS-300 Safety

- An improperly grounded electrical outlet can cause electrical shock and/or severely damage equipment. Always check the work area for a properly grounded electrical outlet. The presence of a three-prong or GFCI outlet does not ensure that the outlet is properly grounded. If in doubt, ensure a licensed electrician inspects the outlet.
- Only power the CCU-10 with the specified battery or a double insulated power supply.
- Do not operate this equipment if operator or machine is standing in water. Operating machine while in water increases the risk of electrical shock.
- The DVS-300 is not waterproof. Only its lights, camera, and cable are waterproof. To decrease the risk of electrical shock, do not expose the surface equipment to water or rain.
- Do not use where a danger of high voltage contact is present. The equipment is not designed to provide high voltage protection and isolation.
- Read and understand this operator's manual and the instructions for any other equipment in use, and all warnings before operating the DVS-300. Failure to follow instructions may result in property damage and/or serious personal injury.
- Practice diver safety. Ensure proper fit and function of all diving gear and equipment before diving.
- Ensure proper seal on diving helmet. If mounting the DVS-300 lights and camera onto a dive helmet faceplate, ensure proper torque values are achieved in accordance to the safety specifications. In accordance with Kirby Morgan specifications in March 2013, proper faceplate torque value should be 20psi for fiberglass model

helmets. This information is subject to change. Please check with helmet manufacturer for current information about your helmet specification.

- The CCU-10 is intended for indoor use when powered by the AC power supply. When powered by battery, protect the CCU-10 from exposure to weather. Do not bend or kink the cable. This can cause a break or tear in the cable and lead to shorting and malfunction.
- To prevent damage to the product and to decrease the risk of injury, do not expose equipment to mechanical shocks.

The warnings, cautions, and instructions discussed in this operator's manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

## Description, Specifications, and Standard Equipment

### Description

The Diver Video System 300 (DVS-300) is a portable monitor, camera and lighting system designed to be everything a diver needs to capture video, audio and still images. The DVS-300 allows the user to easily transmit the data collected into an HTML report onto a USB thumb drive. The DVS-300 features real time display and audio inputs while recording video in order to comment on the video being captured.

The DVS-300 features readily accessible controls to adjust light brightness, camera and display all from the surface unit. The DVS-300 is the all in one tool for diving research and maintenance needs.

### Standard Equipment

- One Camera/Light Control Unit (CCU-10)
- Two LED Lights
- One Camera
- 100m Cable
- One 16 GB Thumb drive

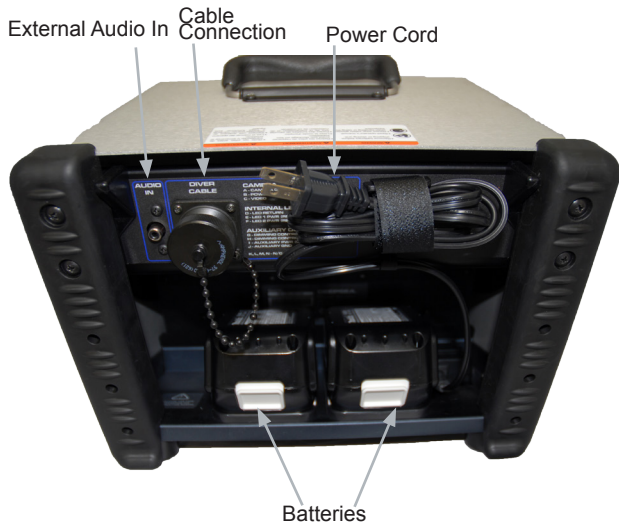
**Optional Equipment**

- 200m Cable (Other custom lengths are available upon request.)
- Brackets
- Hand-held Pistol Grip
- Li-Ion Batteries
- Battery Charger
- UV LED Light

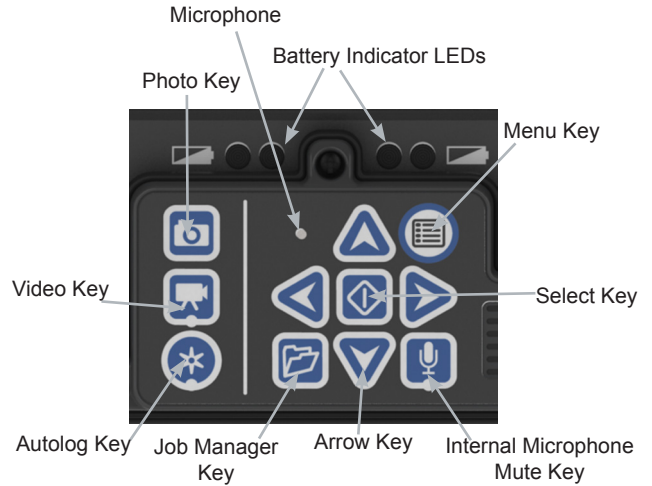
**CCU-10 Components**



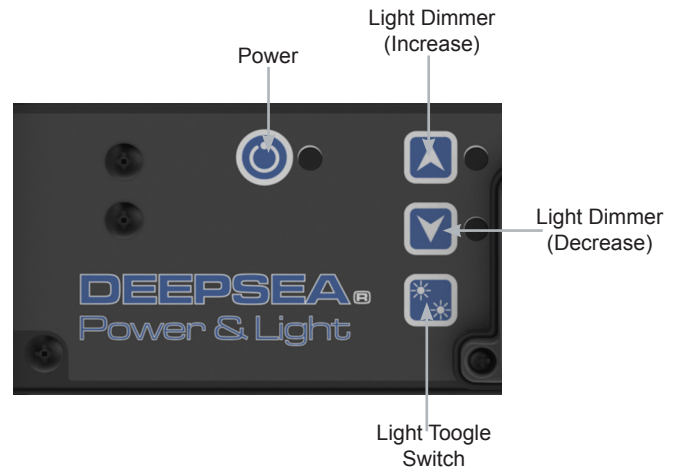
**Figure 1 - Front View (Open)**



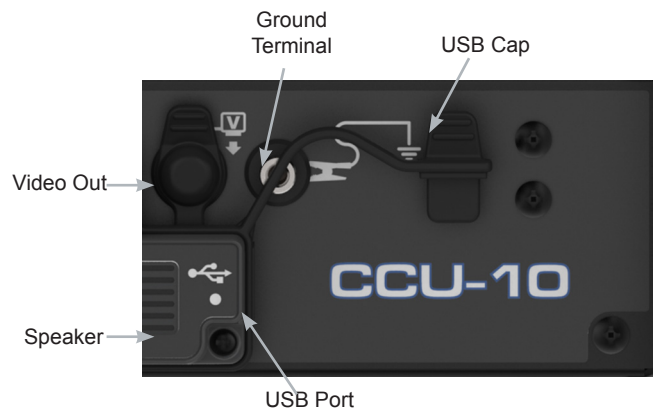
**Figure 2 - Rear View**



**Figure 3 - CCU-10 Main Keypad**



**Figure 4 - Mini Keypad**



**Figure 5 - Connections**



## Keypad and Icon Legends











Table 1	
CCU-10 Keypad Icons	
Main Keypad	
	Photo Key
	Video Key
	Menu Key
	Autolog Key
	Job Manager Key
	Arrow Keys
	Select Key
	Internal Microphone Mute Key
	Power
Mini Keypad	
	Light Dimmer (Increase)
	Light Dimmer (Decrease)
	Light Toggle Switch









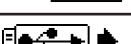













Table 2	
CCU-10 Connection Icons	
Icon	Definition
	Video Out
	Ground Connection

Table 3	
CCU-10 Screen Icons	
Icon	Name / Meaning
	Loading Icon
	Saved Icon
	USB Icon
	Corrupt Thumb Drive in USB Port Icon
	Job Saving Icon
	Saving to USB Icon
	Insert Thumb Drive
	Thumb Drive Ejected Icon
	Thumb Drive Error
	Thumb Drive Full Icon
	Autolog Icon
	Autolog Saving Icon
	Autolog Not Saved Icon
	Video Icon
	Video Saving Icon
	Video Not Saved Icon
	Photo Icon
	Photo Saving Icon
	Photo Not Saved Icon
	External Power Icon

## Camera Components



Figure 6 - Front View

## LED Light Components



Figure 7 - Front View

## Pre-Dive Inspection

**⚠ WARNING**



Before each use, inspect your DVS-300 and correct any problems to reduce the risk of serious injury from electrical shock or other causes and prevent machine damage.

1. Confirm that the power is OFF, that any external power and cords are disconnected, and that the batteries are removed. Inspect the cords, cables, and connectors for damage or modification.
2. Clean any dirt, oil, or other contamination from the CCU-10, LED lights and the camera to ensure proper functionality.
3. Inspect the DVS-300 for any broken, worn, missing, misaligned or binding parts, or any other condition which might prevent safe, normal operation.
4. Check to make sure all rear bulkhead connectors are secure before deployment.
5. Check the following areas on your LED Lights and camera for previous damage, wear or corrosion: rear bulkhead connector, power cable, and front window.
6. Inspect any other equipment being used per its instructions to make sure it is in good, usable condition.
7. If any problems are found, do not use the unit until the problems are corrected.

## Post-Dive inspection

**⚠ WARNING**



After each use, inspect your DVS-300 to ensure proper machine function.

1. Confirm that the power is OFF, that any external power and cords are disconnected, and that the batteries are removed. Inspect the cords, cables, and connectors for damage.
2. Ensure that the connectors are still in working order and cleaned of any dirt and residue from the dive.
3. Insert dummy plugs to protect the pins and cable during transit.
4. Rinse your LED lights and camera in freshwater after use in saltwater.
5. Wipe down the assembly with a microfiber cloth and a light cleaning solution to avoid salt buildup.
6. Install the dustcap on the CCU-10's rear 14 pin connector.

stand until it locks in place (See Item 2, Figure 8)

## Work Area and Equipment Set Up

### ⚠ WARNING



Set up the DVS-300 and work area in accordance with these procedures to reduce the risk of injury from electrical shock, fire, and other causes and to prevent damage to the DVS-300.

1. Check work area for the following:
  - a. Adequate lighting.
  - b. Flammable liquids, vapors, or dust that may ignite. If present, do not work in area until sources have been identified and corrected. The CCU-10 is not explosion proof. Electrical connections can cause sparks.
  - c. Clear, level, stable dry place for operator. Do not use the machine while standing in water.
  - d. If using external power, clear path to the electrical outlet that does not contain any potential sources of damage for the power cord.
2. Ensure the equipment has been inspected as specified by the operator's manual.
3. Evaluate the work area and erect barriers as necessary to keep bystanders away. Bystanders can distract the operator during use.

### CCU-10 Placement

Place the CCU-10 in an area and in a position that allows easy access during an inspection. To reduce the risk of electrical shock and equipment damage, ensure the placement location is dry. The CCU-10 is not waterproof and exposure to wet conditions can cause electrical shock or equipment damage.

### Tilt Stand

To set up the tilt stand, perform the following:

1. Use the handle on the top of the CCU-10 to place the unit in the desired location (See Item 1, Figure 8).
2. Tilt the unit back slightly and pull forward on the tilt



**Figure 8 - Setting Up the Tilt Stand**

To store the tilt stand, tilt the unit back slightly, and push the tilt stand toward the back of the unit until it lays flat against the base of the unit.

### Front Cover

The CCU-10 front cover serves two purposes: it protects the unit during transport and storage, and it acts as a sun hood to reduce glare during inspections.

### Opening the Front Cover

To open the front cover, perform the following:

1. Depress the orange Front Cover Release Buttons on each side of the unit (See Figure 9).
2. Raise the front cover to its uppermost position where it will lock securely into place.



**Figure 9 - Opening the Front**

### **Closing the Front Cover**

To close the front cover, perform the following: Disconnect all connections, including the USB devices. Keeping clear of the front cover, gently depress the orange buttons to drop the cover to the lowest position. Press the cover into place until it locks.


### **Connecting the DVS-300**

1. Unwrap the diver cable and pull out the 14 pin connector end.
2. Insert 14 pin male diver cable end in the appropriate position into the CCU-10. (Note: The connector is keyed for proper alignment.)
3. Connect the LED light and the camera to the appropriate connection on the diver's end.



**Figure 10 - CCU-10 Connector**

### **External Monitor**

The DVS-300 may be used with an external monitor by connecting an RCA cable from the video input port on the external monitor. Connect the other end of the cable to the yellow CCU-10 video output port on the front of the CCU-10 marked with the Video Out Icon .

### **USB Port**

Insert a thumb drive into the USB port to store images and video captured by the DVS-300 (See Item 1, Figure 11). When the thumb drive is being accessed, the USB LED will blink steadily. The USB LED will be ON steadily when ready for use.



**Figure 11 - USB Port with Thumb Drive**

### **Powering the DVS-300**

The DVS-300 can either be powered with Li-Polymer rechargeable batteries or with the external power cord. To reduce the risk of electrical shock, use battery power as the preferred powering method and only install batteries or plug in the power cord with dry hands. Never operate the unit from AC power while the CCU-10 is in a wet environment.

### **Battery Power**

To operate the DVS-300 using battery power, insert one or two fully charged batteries onto the battery dock located on the back of the CCU-10. Ensure the battery locks onto the dock.

When fully charged, one 18 V Li-Polymer battery rated

at 2.2 Ah will power the DVS-300 for approximately 1.75 hours; and two batteries will power the DVS-300 for approximately 4.5 hours during normal usage. Actual battery operation time will vary with battery rating and use.

If operating the DVS-300 on AC power and if at least one battery is also installed, the External Power Icon will appear in the Status Overlay for 3 seconds if the DVS-300 is disconnected from AC power to indicate the switch to battery power.

### Checking Battery Status: LEDs

The CCU-10 has four battery indicator LEDs, two for each battery, located just below the screen (See Figure 12).



**Figure 12 - Battery Indicator LEDs**

When the unit is turned ON and batteries are in the battery docks, the battery indicator LEDs on the DVS-300 will reflect the state of each battery as shown in Table 4 to put a box around the LED lights in this image.

Table 4	
Battery Status LED Indicators	
LED Behavior	Meaning
Left LED is green Right LED is OFF	Battery fully charged
Left LED is green Right LED is red	Battery partially charged

Table 4	
Battery Status LED Indicators	
Left LED is OFF Right LED is red	Battery low
Blinking red and beeps	Replace batteries immediately. Shutdown in 1 minute.
Solid red & continuous tone	Dead batteries. Shutdown in 5 seconds.
Slow blink	External power in use. Beeps when disconnected.

### Outlet Power

To operate the DVS-300 using AC power, locate the power cord on the back of the unit. Unhook the Velcro® strap and remove the plug from its holder (See Figure 13).



**Figure 13 - Power Cord and Power Cord Wrap**

Plug the power cord into a standard outlet. If using an extension cord no greater than 25 ft [7.6 m], ensure the cord has a gauge of at least 18 AWG. If using an extension cord greater than 25 ft [7.6 m], ensure the cord has a gauge of at least 16 AWG.

### Assembling the Quick Release Helmet Mounts

If you do not have a quick release mount and mechanism, mount the light and camera directly to the helmet mounts or to the DeepSea diver universal hand grip.

4. Attach the mounting brackets to a diver helmet. Ensure proper faceplate torque specifications are met (See Figure 14).

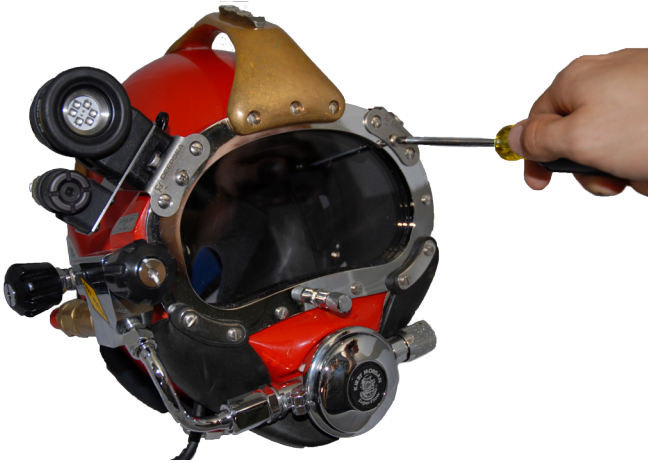


Figure 14 - Mounting Brackets

5. Attach quick release mounts to LED lights and the camera (See Figure 15).

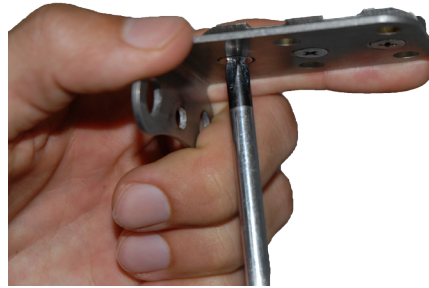


Figure 15 - Quick Release Mount

6. Mount the metal rail dovetail (See Item 1, Figure 16) on helmet brackets (See Item 2, Figure 16).



Item 1, Figure 16



Item 2, Figure 16 - Quick Release to Helmet Brackets



7. Pull up on the quick release mechanism to slide the light and camera assembly onto the mounted foot. (See Figure 17)













Figure 17 - Quick Release Mechanism

## Interface Overview



### Navigating

Use the arrow keys on the CCU-10 to navigate through menus and screens. Use the Select Key  to make selections and to apply changes. Use the Menu Key  to move backwards through menus and screens, and to cancel out of a menu.


**Table 5  
CCU-10 Keys and Functions**



Icon	Name	Function
	Power Key	Turns the CCU-10 ON or OFF
	Select Key	Used to select menu items.
	Arrow Keys	Used to navigate menus and screens.
	Menu Key	Allows access to the Settings, Display, Language, and Media Menus.
	Photo Key	Takes a photo.
	Autolog Key	Starts and stops Autolog video recording. Autolog videos are made up of continuous audio recording and still-image frames taken at regular intervals and saved in a compressed format. When an Autolog video is recording, the LED located on the bottom of the Autolog Key will be red
	Video Key	Starts and stops video recording. When a video is recording, the LED located on the bottom of the Video Key will be red.
	Job Manager Key	Opens a menu to allow the manual ejection of the thumb drive, the manual creation of a Report, and access to the list of files on the thumb drive for viewing
	Microphone Mute Key	Toggles the microphone ON or OFF. When ON, the LED on the Microphone Mute Key will be gold in color.
	LED Dimmer Key (Increase)	Press to step up brightness levels.

**Table 5  
CCU-10 Keys and Functions**



	LED Dimmer Key (Decrease)	Press to step down brightness levels.
	Light Toggle Switch	Toggles between the two LED lights.

## LED Toogle Switch Key

The LED Toggle Switch key allows you to toggle between two LED lights connected to the system, allowing adjustment and use of only one light or both simultaneously. At minimum brightness the blue LED next to the LED Toggle Switch Key  will be OFF and at maximum brightness the LED will be ON steadily. In between, the LED will blink faster the brighter the setting. In addition to the blinking LED, an indicator bar will appear in the Status Overlay to visually represent the increasing and decreasing LED brightness.

The Light Dimmer Increase button  is used to brighten the output of the lights when connected to the system. When maximum brightness is achieved the CCU-10 will give a tone. The light dimmer decrease button  can be used to dim the lights all the way to zero light output, where the CCU-10 will give a tone.

## Microphone Mute Key

When there is no external microphone input present, the Microphone Mute Key  is ON by default; meaning that, the microphone is unmuted and audio is being recorded. Press the Microphone Mute Key  to mute the audio when recording video or Autolog video. When the Microphone Mute Key is pressed muting the audio in, the LED on the main keypad will be off.

The internal Microphone is automatically switched off whenever an external audio source is plugged in to the "Audio In" jack in the rear of the CCU-10. In this case, the Microphone Mute Key has no effect.

## Screen

The on-screen interface has two regions: the Live View

and the Status Overlay.

Live View is the term for the largest area of the screen where the live video feed appears.

During video or Autolog video recording and after taking a photo, the Status Overlay will also include the percentage of space remaining on the USB thumb drive plugged into the USB port.

## Operating Instructions

### **WARNING**



**Always wear eye protection to protect your eyes against dirt and other foreign objects.**

**Do not operate this equipment if operator or machine is standing in water. Operating the DVS-300 while in water increases the risk of electrical shock. Rubber soled non-slip shoes can help prevent slipping and electric shock, especially on wet surfaces.**

**Follow operating instructions to reduce the risk of injury from electrical shock and other causes.**

### Starting Up the DVS-300

Start the DVS-300 in accordance with the following:

Check that the unit is properly set up.

Connect the CCU-10 to a power source in conjunction with the LED lights and the camera.

Mount the camera and lights as previously specified to a Diver helmet or to the universal hand grip.








Press the Power Key to turn the DVS-300 lights and camera ON.

After completing the start-up, the display will show a view from the camera head. While the diver is underwater, watch the screen to monitor the camera.

### Jobs



The CCU-10 automatically saves photos, videos, and Autolog videos to the latest folder on the thumb drive. The CCU-10 will open a new job if there is not already one on the thumb drive. The CCU-10 will save media files to a new session on the thumb drive when the thumb drive is ejected and when the CCU-10 shuts down.





Although the CCU-10 will turn ON and enable viewing with the camera, the CCU-10 cannot capture video, Autolog video, or a photo until a thumb drive is inserted into the USB port and the appropriate key has been pushed.

If a thumb drive is not in the USB port and if the Photo Key , Video Key , or Autolog Key  is pressed, the CCU-10 will display the Insert Thumb Drive Icon , the CCU-10 will beep, and the USB LED will blink rapidly. After inserting a thumb drive into the USB port, press the Photo Key , Video Key , or Autolog Key  again to capture media.


### Recording Autolog Video



Autolog video captures a highly compressed video of an inspection, but uses a smaller file size than standard video. An Autolog video recording saves screen images in a motion JPEG (MJPEG) video format at the rate of four frames per second. When the camera does not move, the CCU-10 will stop adding new frames until the camera moves again.

Press the Autolog Key  to start recording an Autolog video. The Autolog Icon  will briefly appear at the start of each Autolog video recording. The Autolog LED will also be lit during Autolog recording.



To stop the Autolog recording, press the Autolog Key  again. When the CCU-10 ends Autolog recording, the Loading Icon  appears. While saving the Autolog file to the thumb drive, the Autolog Saving Icon  appears. The Saved Icon  will appear when the CCU-10 has successfully saved the Autolog file to the thumb drive.








The CCU-10 records audio continuously during an Autolog video recording, regardless of camera movement. Press the Microphone Mute Key  to turn off the microphone and to record an Autolog video without audio. When muted, the LED on the Main Keypad will be OFF.

Press the Photo Key  or the Video Key  to capture additional photos or higher frame rate video clips while recording an Autolog video.

### Recording HTML Video

Press the Video Key  to start recording a video. The Video Icon  will appear briefly at the start of a video recording. The Video LED on the Main Keypad will also be lit during video recording.

To stop video recording, press the Video Key  again. When the CCU-10 ends video recording, the Loading Icon  will appear. While saving the Video file to the thumb drive, the Video Saving Icon  will appear. The Saved Icon  will appear when the CCU-10 has successfully saved the video file to the thumb drive.

The CCU-10 records audio continuously during a video recording, regardless of camera movement. Press the Microphone Mute Key  to turn OFF the microphone and to record a video without audio. When muted, the LED on the Main Keypad will be OFF.

Video and Autolog video can be recorded simultaneously and independent of each other. Both video recording types can be started and stopped without affecting the other.

### WARNING

**WARNING: The DVS-300 is only capable of recording in 4 Gigabyte increments so be sure to monitor the CCU-10 to ensure the device is still recording. If planning to record more, start recording again like previous as soon as the 4 Gigabyte maximum has been reached.**

### Taking Photos




Press the Photo Key  to take a photo. The Status Overlay will appear for 3 seconds after the photo has been taken. While saving the photo, the CCU-10 will display the









Photo Saving Icon . The Saved Icon  will appear to indicate that the photo has been saved to the thumb drive. Photos can be taken during video recording.

### Annotating an Inspection by Voice






When the microphone is ON (unmuted), the LED on the Main Keypad will be gold. Mute the microphone at any point during a video or Autolog video recording to turn the sound OFF during portions of the video and to eliminate unwanted sounds from becoming part of the Report.

If diver audio input is required, insert the communication system into the rear of the CCU-10 and connect via the Audio In jack. This will switch the internal microphone OFF until the audio device is unplugged.

### Reviewing Images and Video

To review the photo, video, and Autolog video files stored on the USB thumb drive press the Job Manager Key  and select "Media List." Alternatively, access the Job Manager screen from the Main Menu . From the Job Manager screen, use the Arrow Keys     and Select Key  to navigate between and select media files saved on the USB thumb drive. Video and Autolog video recordings can be fast forwarded and rewound by using the Right and Left Arrow Keys  .




### Completing a Dive

After completing a Dive, press the Job Manager Key  . Navigate to the "Eject USB" and press the Select Key  to close the Job before shutting down the CCU-10. By default, closing the current Job will make a Report so that images and video can be viewed in any web browser. After closing the Job, the Job Saving Icon  and the Saved Icon  will appear to indicate that the Jobs have been successfully saved. The USB LED will turn OFF when the thumb drive may be safely removed from the USB port. Press the Power Key  to power OFF the DVS-300.

### NOTICE


**NOTE: Do not remove the USB thumb drive until the USB LED has turned OFF.**

If media has been captured and if the thumb drive has been incorrectly removed, CCU-10 will beep, the message, "Unsafe USB Removal" will appear in the top left hand corner of the screen, and one of the following will occur:

- If the CCU-10 has been set to automatically create a Report upon ejection of the thumb drive, press the Select Key  to clear the message and insert the thumb drive back into the USB port when prompted by the message, "Insert USB " to create a Report.
- If the CCU-10 has been set to manually create a Report upon ejection of the thumb drive, only the beep will be heard. Press the Select Key  to clear the message and to return to the main screen.









See the section on Report creating preferences for more information.

### Adjusting Settings

Press the Menu Key  to access the Settings Menu, the Display Menu, the Language Menu, and the Media Menu to make changes to the following:






- Monitor color, contrast and brightness
- Time/date
- Video format
- Language preference
- Report creating preferences





### Adjusting Monitor Settings

From the Display Menu make changes to the monitor color, monitor contrast, and monitor brightness. Use the Up and Down Arrow Keys   to navigate to the setting you want to adjust and the Select Key  to choose it. Then use the Arrow Keys     to increase or decrease the selected settings preference levels. View the increasing and decreasing settings on the slider bar below the menu. To exit the menu after changing the settings, press the Menu Key .




### Adjusting Time and Date Format

From the Settings Menu change the format of the time/




date display. Use the up and down Arrow Keys   to navigate to "time/date" from the Main menu and the Select Key  to choose it. Use the left and right Arrow Keys   to scroll between the various fields. Fields that can be edited will have a blinking red outline.

To change the time and date format between 12 hour to 24 hour and between MM/DD/YYYY to DD/MM/YYYY, either use the up and down Arrow Keys   or push the Select Key  within the highlighted field. To exit the menu after changing the settings, press the Menu Key .


### Adjusting Video Format

From the Settings Menu, choose from either MJPEG or MPEG4 video formats. Use the left and right Arrow Keys   or press the Select Key  to toggle between the video format options.


### Adjusting Language Preference

From the Language Menu, use Up and Down Arrow Keys   to select a new language and press the Select Key  to choose it.



### Adjusting Report Creating Preferences

The CCU-10 offers two Report creating options: Auto and Manual. From the Settings Menu, press the Select Key  to toggle between "Auto" and "Manual."

When "Auto" is selected, the CCU-10 will automatically create a Report after media is captured and after the thumb drive is ejected from the USB port. By default, the CCU-10 will be set to "Auto."

When "Manual" is selected, the CCU-10 will not create a Report if the thumb drive is ejected. Press the Job Manager Key  and select "Make a Report" to manually create a Report.

### Delivering Reports by USB Thumb Drive

To deliver a Report, access the Media Menu by either pressing the Job Manager Key  or by pressing the Main Menu Key . From the Media Menu, select "Make Report".

Alternatively, if the CCU-10 has been set to automatically create a Report, a Report will be created if “Eject USB” is selected from the Media Menu.

Insert the thumb drive into a USB port on a computer to view the list of files (See Figure 18).

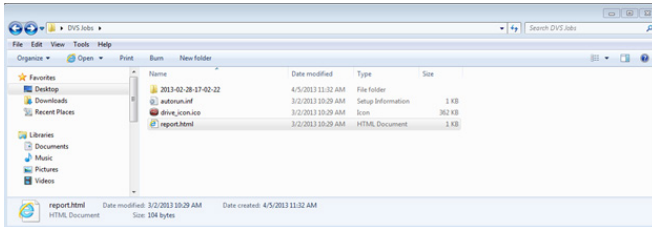


Figure 18 - Thumb Drive

Double-click the file named “report.html” to view the media in a web browser (See Figure 18). An internet connection is not necessary to view the “report.html” file. Click on the preview of each media item in the web browser to view full size photos and to playback video and Autolog video. Use the browser’s “back” button to return to the initial page.

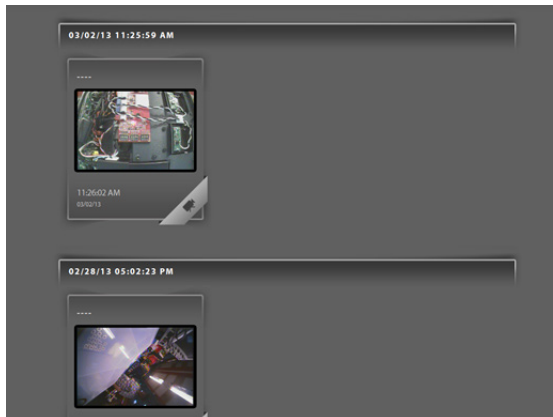


Figure 19 - View of Media

## Maintenance Instructions

### Cleaning

Disconnect all cords and cables and remove batteries prior to cleaning the CCU-10 to reduce the risk of electrical shock.

Do not use liquid or abrasive cleaners on the CCU-10. Clean the CCU-10 with damp cloth. Only clean screen with cleaners approved for use on LCD screens. Do not

allow any liquid to enter the CCU-10.

### Accessories

The following accessories have been designed for use with the DVS-300. Other accessories may become hazardous when used with the DVS-300. To reduce the risk of serious injury, only use accessories specifically designed and recommended for use with the DVS-300.

- DeepSea UV lighting solution
- DeepSea quick release brackets
- DeepSea quick release helmet mounts
- DeepSea Universal hand grip

### Transport and Storage

Keep the equipment indoors or well-covered in wet weather. Store the DVS-300 in a locked area, out of the reach of children and people unfamiliar with its operation. This equipment could cause serious injury in the hands of untrained users. Do not expose to heavy shocks or impacts during transport.

Remove batteries before shipping and before storing for extended periods.

Store electrical devices in a dry place to reduce risk of electrical shock. Store in temperatures from 14°F to 158°F [-10°C to 70°C]. Store the unit away from heat sources such as radiators, heat registers, stoves, and other products (including amplifiers) that produce heat.

### Service and Repair

Please have your product model number, serial number and any other pertinent information along with a description of the problem, at hand when you call, or include them in a fax or email. When shipping your item, be sure that the freight is pre-paid (CODs will not be accepted) and that the RMA number is clearly printed on the outside of the box.

**Phone:** 858-576-1261 ext. 324

**Fax:** 858-576-0219

**Email:** RMA@deepsea.com

**Warranty**

Seller warrants that the goods (except internal electronic components) sold under this contract will be free from defect in material and workmanship for a period of one year from the date of shipment from the factory, if they have been properly used. Internal electronic components are warranted for 90 days from the date of shipment from the factory, if they have been properly used. This warranty will be limited to the repair or replacement of parts and the necessary labor and services required to repair the goods. IT IS EXPRESSLY AGREED THAT THIS WARRANTY WILL BE IN LIEU OF ALL WARRANTIES OF FITNESS AND IN LIEU OF THE WARRANTY OF MERCHANTABILITY. This warranty is the exclusive and only warranty to pass with the goods under this contract. No agent, employee, or representative of the Seller has any authority to bind Seller to any information, representation, or warranty concerning the goods sold under this contract, and unless an affirmation, representation, or warranty made by an agent, employee, or representative is specifically included within this contract, it will not be enforceable by Buyer. If notice of defect is given to DeepSea Power & Light, Inc. within such 90 day or one year warranty period, the sole obligation of DeepSea Power & Light, Inc. shall be to furnish new or repaired parts free of charge in exchange for parts which have been proved defective and does not include any other costs such as the cost of removal of the defective part, installation, labor, or consequential damages of any kind, the exclusive remedy being to require DeepSea Power & Light, Inc. to furnish such new parts. Under no circumstances shall the Buyer be entitled to recover any incidental damages as that term is defined in Commercial Code §2715.

**Disposal**

Parts of the unit contain valuable materials that can be recycled. There are companies that specialize in recycling that may be found locally. Dispose of the components in compliance with all applicable regulations. Contact your local waste management authority for more information.

**For EC countries:** Do not dispose of electrical equipment with household waste!

According to the European Guideline 2002/96/EC for Waste Electrical and Electronic Equipment and its implementation into national legislation, electrical equipment that is no longer usable must be collected separately and disposed of in an environmentally-correct manner.

**Battery Disposal**

Return used batteries to a collection location for recycling. Call 800 822 8837 or visit [www.call2recycle.org](http://www.call2recycle.org) to find a collection location.

**For EC countries:** Defective or used battery packs/ batteries must be recycled according to the guideline 2006/66/EC.

Only these rows apply, still need to talk to engineering for additional troubleshooting

**Troubleshooting**

Troubleshooting Scenerios		
Problem	Problem Fault	Solution
Camera video image not seen.	No power to camera	Check power to correctly plugged in.
	Connections faulty	Check alignment and pinout from CCU-10 to the Diver Cable.
	18 V Li-Ion batteries low	Recharge batteries. Switch to AC power.
Flashing battery warning appears	18 V Li-Ion batteries low	Recharge batteries. Switch to AC power.
Low battery buzzer sounds or both battery LEDs turn red	18 V Li-Ion batteries low	Recharge batteries. Switch to AC power.
SOS blinking on Power Key LED	No Video signal	Reset driver cable connection.

# NOTES



# DEEPSEA

## POWER & LIGHT<sup>®</sup>

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