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SEA&SEA

Sea & Sea Products Ltd.

3-2-20 Saiwaicho, Kawaguchi-shi, Saitama 332-0016, Japan

TEL. 048-256-2251

<http://www.seaandsea.co.jp>

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UNDERWATER HD VIDEO HOUSING for SONY HDR-FX1 / HVR-Z1J

VX-FX1 PRO

Instruction Manual



0470-Z-02-1

VX-FX1 **PRO**

Introduction

Thank you and congratulations on your purchase of Sea & Sea's VX-FX1PRO. This high-performance housing with professional specifications has been designed specifically for underwater use with SONY's HDR-FX1 and HVR-Z1J Digital Video Camcorders. This product is depth rated to 75m/250 feet. The combination of this product and Sea & Sea's BLX-55W halogen video light provides natural color, high-definition underwater imaging. Please read this manual before use and retain for future reference.

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Safety Precautions

*Misuses listed under the following precautions could lead to serious consequences. Please observe the precautions as they contain highly important information related to personal and product safety

Precautions marked "CAUTION!" refer to those situations or conditions that could result in personal injury or property damage. Please read carefully

General Precautions for the Housing

CAUTION!

- Read this instruction manual carefully before use.
- Always make sure that the underwater lighting equipment and accessories are securely mounted to prevent them from falling off getting lost, causing personal injury or equipment malfunction.
- Do not carry or swing the housing by the shoulder strap. Take care not to drop it. Violent impact can severely damage the housing.
- Do not open the housing in a wet or sandy environment. Protect the interior from moisture and debris in order to prevent malfunction.
- Do not alter or modify the housing. User modifications can result in flooding or malfunction. User modifications will void the warranty.
- If you detect smoke or an acid odor discontinue use immediately. Remove the camera from the housing and remove batteries. Bring the housing to an authorized Sea & Sea dealer for evaluation and repair
- In the event of flooding, turn the housing and video light off and discontinue use.
- If flooded, beware of increased pressure inside the light. When opening the cases, handle with extreme care. Cases will open with extreme force.
- Always rinse this product with fresh water after use. Rinse with housing cases securely closed so that water will not penetrate the interior
- Handle this product carefully so as not to scratch the lens or the finder window.
- Always dry the lens front and monitor windows with a soft cloth to prevent salt residue from marring the window surfaces.
- Never use petroleum solvents, such as alcohol or paint thinner to clean the housing. Such products might mar or otherwise damage the port, finder window, and the housing's finish.

- This product has been constructed with an airtight seal. When packing this product for airplane travel, open the housing or remove the O-ring to alleviate pressure build up due to atmospheric changes.
- This product incorporates plastic parts. Do not subject this housing to extreme heat, such as on a car dashboard, or in direct sunlight. Plastic parts are prone to warping. Especially take care not to keep this product with the front and rear cases closed in a heated condition. It may cause flooding or malfunction.
- SEA & SEA Products Ltd. will not be responsible for any damages, repairs or replacements of the camera, lenses or accessories used with this housing due to flooding caused by user mishandling.
- SEA & SEA Products Ltd. will not be responsible for unobtained pictures or costs related to the shooting of such pictures due to malfunction of the housing, camera, light or accessories.

■ Precautions for Storage of the Housing



CAUTION!

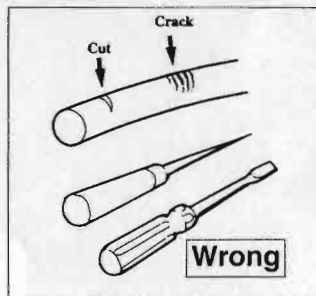
- To prevent mildew and malfunction, do not store in a damp or humid environment.
- Do not store in a chemically-laden environment. Naphthalene, camphor or other harmful chemicals can cause mildew, corrosion and other damage to the metal and rubber parts in this product.

Safety Precautions

The O-ring on the front case of your VX-FX1PRO Housing provides an airtight waterproof seal. Improper handling and maintenance of the O-ring can cause flooding. Please observe the following precautions carefully.

- **Always inspect the O-ring for scratches, cracks, or cuts.**

If the O-ring is damaged, it must be replaced. Never remove the O-ring with a sharp tool. To avoid damaging the O-ring, use the Sea & Sea O-Ring Remover a tool especially made for O-ring removal.



- **Inspect for debris.**

Make sure that there are no foreign particles, such as dust, sand or hair on the O-ring, O-ring groove, or O-ring contact surface. Such contamination will breach the seal and cause flooding. If necessary, wash the O-ring thoroughly in fresh water and dry with a lint-free cloth. Use a cotton swab to clean the O-ring groove and contact surface.

- **Lubricate with silicone grease.**

Silicone grease protects the O-ring from drying and abrasion. Dab a small amount of grease onto your finger and draw the O-ring through your fingers until evenly coated. Use the silicone grease sparingly. Too much grease attracts debris.

- **Do not crimp the O-ring**

Hold the O-ring straight and do not bend or twist it when fitting it into the O-ring groove.

- **O-ring storage.**

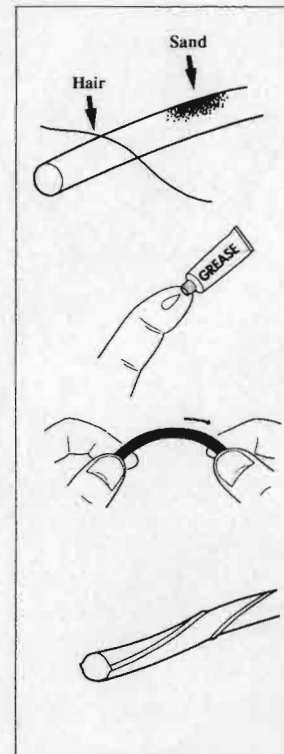
Always store your O-ring in an airtight container and in a cool environment. Keep out of direct sunlight. Take care that it is stored flat and not bent or twisted. Do not place any heavy objects on it; excessive weight will flatten it and impede its sealing capability.

- **The O-ring's life is one year**

The life of the O-ring depends on the diligence of your maintenance, frequency of use, and storing conditions, but on average, if you maintain your O-ring properly, it will retain its watertight integrity for one year.

- **Remove the O-ring for inspection.**

Before use, remove the O-ring from its groove and carefully check the O-ring, the O-ring groove and the O-ring contact surface. A thorough examination of the O-ring and O-ring groove is not possible unless the O-ring has been removed.



CAUTION!

Use only the Sea & Sea brand silicone grease in a BLUE cap tube to lubricate this O-ring. Never use the Sea & Sea grease in a WHITE cap tube or other brands of silicone grease since they may adversely affect O-ring quality.

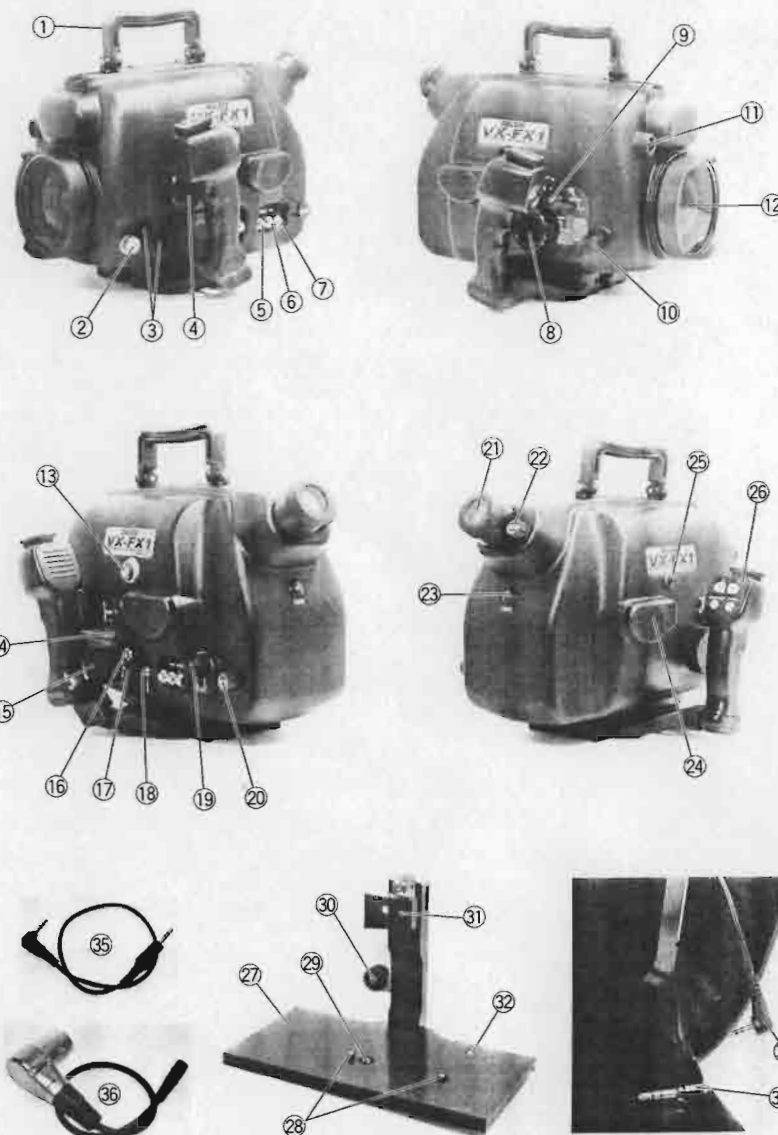
Identification of Parts

- | | |
|---|----------------------------------|
| 1 Carrying handle | 19 Auto-lock switch lever |
| 2 Video out connector | 20 Shutter speed adjustment dial |
| 3 Accessory bulkhead | 21 Finder |
| 4 Focus dial | 22 Eyepiece shutter knob |
| 5 Gain switch | 23 Leak sensor |
| 6 S/S setting | 24 Lock knob |
| 7 W/B setting button | 25 Air release valve |
| 8 Zoom dial | 26 Remote control grip |
| 9 Power switch | 27 Camera base |
| 10 Color filter lever | 28 Locating pin |
| 11 Underwater microphone | 29 Camera fixing screw |
| 12 x0.7 multi-coated wide conversion lens | 30 Zoom gear |
| 13 Auto focus button | 31 Zoom cam |
| 14 ND filter switch lever | 32 Base lock |
| 15 Iris adjustment dial | 33 LANC cable |
| 16 White balance setting button | 34 Outside video cable |
| 17 Gain adjustment lever | 35 Microphone cable |
| 18 Iris setting button | 36 Microphone cable PRO |

Accessories



- Hand grip L/R ● X0.7 multi-coated wide conversion lens ● Microphone cable
- Microphone cable PRO ● O-ring remover
- Instruction manual(VX-FX1/X0.7 multi-coated wide conversion lens)
- Spare O-ring(for body×1/for X0.7 multi-coated wide conversion lens×1)
- O-ring maintenance manual



Housing Preparation

Opening housing

- Turn left and right housing lock knobs in the direction shown in the right diagram. Turn left and right lock knobs simultaneously.



- Turning lock knobs will trigger rear case to rise.



- Move rear case to the back and remove it. Remove rear case parallel so as to avoid bumping it against the inside of the housing.



Removing camera base

- Loosen the base lock by turning it clockwise.



- Pull out camera base and remove it.



Attaching handgrips

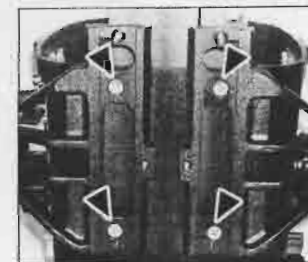
- Align the groove in the housing base with the protrusion in the handgrips. Slide the handgrips to the front of the housing. When attaching the handgrips, make sure the left and right sides are aligned properly.
- Slide the handgrips until the back tip of the protrusion in the handgrips and back tip of the groove in the housing base align.



- Using a Philip's screwdriver tighten the supplemental handgrip fixing screws.



- Tighten the 4 places shown on the left/right handgrip diagram to the right. After attaching the handgrips, check to make sure they are securely attached and do not wobble.



Attaching rubber sole

- Align the supplemental rubber sole to the groove in the handgrips and slide it in until it stops.



- Attach the rubber sole to the left and right handgrips and screw in the rubber sole tightening screw(s) to the attached rubber sole tightening spacer(s) in the location(s) designated in the housing diagram using a Philip's screwdriver



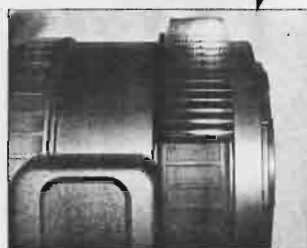
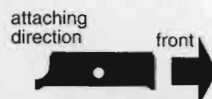
Camera Preparation

Remove the video camera lens cap hood, eye cap, and grip belt.



Attaching focus gear

Attach the included focus gear to the video camera as shown in the diagram to the right.

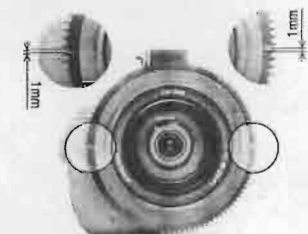


Tighten with an included screw and screwdriver



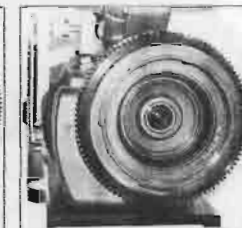
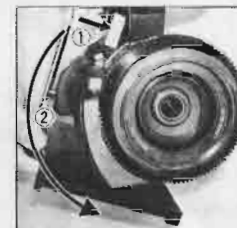
Attach the focus gear so that the gear protrusions are separated by the same distance as shown in the diagram to the right.

The focus gear opening should be about 1 mm.

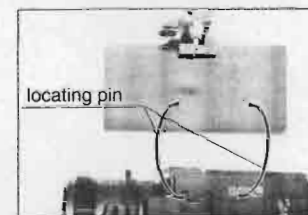


Attaching camera base to video camera

Attach the camera base to the video camera as shown in the diagram to the right.



Line up the two locating pins of the camera base with the video camera hole.

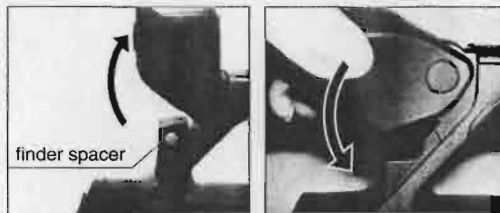


Tighten the camera fastening screw on the camera base bottom surface with a coin and affix it firmly to the camera.



Attaching finder spacer

Lift video camera finder set the included finder spacer to the position in the diagram to the right, and lock in and affix the finder



※Passing a string, etc. Through the hole in the finder spacer and affixing it to the camera will prevent losing the finder spacer

Inserting microphone cable

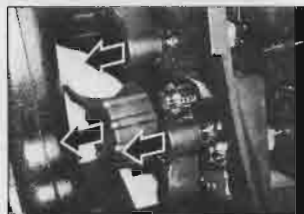
Insert the L shaped side of the attached microphone cable into the microphone terminal in the right side of the video camera as shown in the diagram to the right.

If using an HVR-Z1J, use the attached microphone cable PRO.



Setting Video Camera into the Housing

Pull out the iris adjustment dial on the left side of the housing, the ND filter switch lever, the gain adjustment lever and the zoom dial on the right side of the housing until they cannot move further



- Align the indentation on the backside of the camera base with the housing camera pedestal and slide the video camera forward into the housing.



- When sliding the video camera into place, pass the microphone cable through the upper side of the video camera as shown on the diagram to the left.



- When using a separately sold outside monitor screen, insert the housing outside video cable into the video camera video/audio terminal as shown in the diagram to the right before sliding the video camera into place.



- When sliding the camera into place, hold the video camera terminal cover stable with your hand. When sliding the camera into place, be careful that the housing switches, microphone cable, etc. don't bump against the video camera.



- To install the zoom knob, pull the video camera 1 cm after sliding it all the way in and insert the zoom knob. Then push the video camera in again.



- Push the camera base until the triangle mark on the attached camera platform back side and camera base back side align.



- After sliding the camera base all the way, turn the camera affixing screw counterclockwise and tighten it, stabilizing the camera base.



- Insert the LANC cable into the video camera LANC terminal.



- Insert the microphone cable into the housing microphone terminal.
For the HDR-FX1 model, insert it into the upper terminal. For the HVR-Z1J model, insert it into the lower terminal.
When using HVR-Z1J, use the included microphone cable PRO.



- When the focus gear engages with the video camera focus gear and turns the housing focus dial, make sure that the video camera focus gear turns smoothly.



- Push the ND filter switch lever in and adjust until the concave area inside the ND filter switch lever fits in the convex area of the video camera ND filter switch.
Make sure the video camera ND filter switch can be toggled when operating the housing ND filter switch lever



- Push the gain adjustment lever in and adjust until the concave area inside of the gain adjustment lever fits in the convex area of the video camera gain switch.
Make sure the gain switch can be toggled when operating the video camera ND filter lever



When Using HVR-Z1J

When using HVR-Z1J, remove the installed microphone area with a philip's screw driver

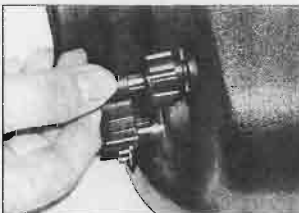


When using the HVR-Z1J, use microphone cable PRO as shown in the diagram to the right. Insert external image cable as shown in the diagram to the right.



Closing the Housing

- Make sure there are no foreign objects such as scratches, dust, or hair on O-ring and the part that is touching the O-ring. Also, make sure that grease is applied normally. Failure to confirm these things will lead to accidents such as the camera going under water so please double check.



- Before closing the rear housing, pull out the self-locking switch lever to stop as in the picture on the right.

- When attaching the housing rear case to the front case, please do so carefully so that the buttons inside the housing rear case will not touch the video camera.



- Push the auto-locking switch lever into the area where the locking can operate automatically.



Examples of closing correctly

To enable switch insert auto lock switch lever to the proper position.



Operation of Each Area

Power Switch

Turns the camera on and off.



Zoom Dial

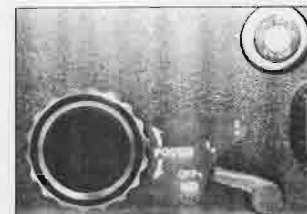
Operates manual zooming. Turning forward results in TELE and turning backward gives WIDE.

Color Filter Lever

Switches the color filter on/off with a lever

ND Filter Switch Lever

Switches the ND filter



Focus Dial

Used when using the manual focusing function. To use the manual focus, push the auto focus button to turn off the auto focus function. Pressing the auto focus button makes it go back to auto focus mode.

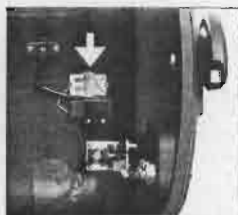
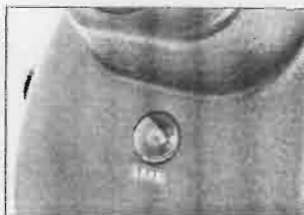
Leak Sensor

The leak sensor blinks red when sensing a water leak while the camera is submersed under water

When the leak sensor blinks, come to the surface soon as long as you know it's safe, and take out the camera.

Also when a lot of water leaks in the air pressure rises inside and it is very dangerous. (In such cases as the air is coming out from the exhaust valve when coming to the surface.) Be very careful when taking off the lock knob.

The battery(ies) included in the rear case are the batteries for the leak sensor To replace the batteries, use CR2032. To check the battery charge, have the tip of the sensor cable touch some kind of metal, and make sure if the leak sensor blinks. In order to take out the battery(ies), push the circular part in the center firmly and it (they) will come off.



Eye Shutter

Protects the camera's LCD from the sunlight. If it gets sunlight above water close the eyepiece shutter



Iris Adjustment Dial

When adjusting the iris manually push the iris button once and you can adjust brightness with the iris adjustment dial Press the iris adjustment dial towards the inside and turn.



Gain Adjustment Lever

When adjusting the gain manually, press the gain setting button once and you can adjust brightness of the picture for three steps with the gain operation lever

White Balance Setting Button

To adjust white balance, press the white balance setting button once. If you push the white balance confirmation button, you can readjust the white balance.



Shutter Speed Adjustment Dial

When adjusting the shutter speed, press the shutter speed setting button once, turn the shutter speed adjustment dial and adjust the shutter speed.

Auto Lock Switch Lever

When the auto lock switch lever is set to LOCK, the auto lock is on. The center position allows for manual adjustments, and the HOLD position locks the setting of each function.

*For details about video camera operation, read the video camera instruction manual.

Remote Control Grip

With the W button and T button, the electric zoom is operated. If you press the START/STOP button once, the recording starts and if you press it again it will stop.

*The PHOTO button cannot be used.

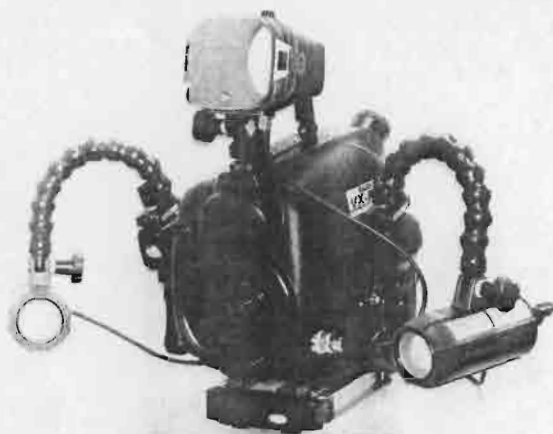


Remote control grip battery installation and removal

Remove the remote control grip by turning the front cover using a coin, etc., and insert the included CR-2 lithium batteries in the direction shown in the picture, and close the cover all the way. Apply grease to the O-ring in the same manner as the housing case so that it can be protected from water. Press the button and if the sending window lights red, it is ready to use.



Accessories



●0.48 times super wide conversion lens (#52111)

This is a wide conversion lens perfect for impressive wide area photography. Enjoy photographic expression filled with realism and originality (for use underwater).

●VMC-75 Monitor (#07111)

Outside liquid crystal monitor (2.5TFT). Automatic recognition of PAL/NTSC.

This monitor can be used within and without Japan.

When use VMC-75 with VX-FX1PRO, please set the TV type of the video camera at 4:3

●BLX-55W (#35300) is a specialized under water video light system boasting 4700K of high color temperature from 55W of light output.

A light warmth similar to sunlight enables digital moving photography of a quality never seen before.

A separated light and battery and reduced light head weight further enhances the excellent underwater balance and agility of the VX-FX1PRO.

●Light Control Grip (#35320)

The combination of the BLX-55W and BLX-55W light head allows for a left-right independent hand controlled light on-off option while holding the grip while enabling non step control of light output.

Light control necessary to capture wide shots, micro shots, and everything in between is possible.

*When combined with a LX-HID30 light head, light output adjustment is not available.

●LX-HID30 Light Head (#09102)

Employs a ultra-high luminance metal halide lamp.

The color temperature is 6000K and natural coloring by white light close to sunlight is possible.

●Flexible Light Arm (#29070)

This light arm brings to life the essence of the BLX-55W lightweight light head.

In addition to weight reduction, this arm offers a flexible construction that enables infinite angle adjustment capability, giving you light when you need it, where you need it.

●Function Extension Port

VX-FX1 PRO comes equipped with 2 extension ports. Using these allows for options such as outside photo image output, sound input, outside electrical input, etc.

Specifications

Controls:	Power switch, Remote control from remote control grip (REC/zoom/photo), Auto focus ON/OFF Manual focus, Manual zoom, IRIS, Gain, Shutter speed, White balance, ND filter
Material:	Non-corrosive aluminum alloy
Depth rating:	75m
Dimensions and	365mm X 279mm X 401mm (W X H X D)
Weight:	12.5kg / 27.5 lbs
Accessories:	X 0.7 multi-coated wide conversion lens, Hand grips L/R, Finder spacer Instruction manual, Spear O-ring (for body X 1/for X 0.7 multi-coated wide conversion lens X 1), Silicone grease, O-ring maintenance manual, Front lens cap, Focus gear Screw driver Microphone cable, Microphone cable PRO, Lithium battery CR-2, CR2032 battery, Hot shoe arm II Rubber sole X 2, Rubber sole tightening screw X 2, Rubber sole tightening spacer X 2, Hand grip fixing screw X 4, Focus gear tightening screw X 4 (spear X 2)

※Specifications and price are subject to change without notice.

SEA&SEA Underwater HD Video Housing Accessories System Chart for VX-FX1PRO

