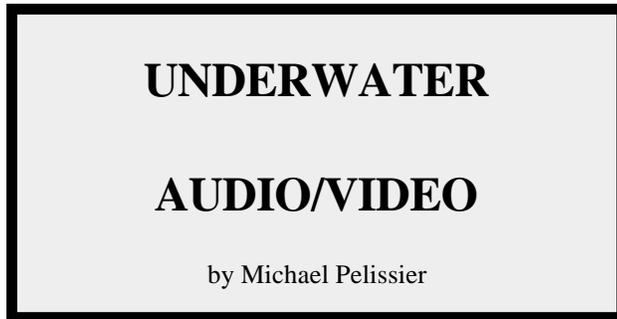


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SECTION 1

UNDERWATER VIDEO/COMMUNICATION SYSTEM

Refer to Figure 1.

Item	Order number	Model number	Description
1	900272-000 900272-012	SSB-2010 or SSB-1001B1*	Single sideband transceiver
2	910037-002	VSB-2 cable	Video adapter with male E/O connector
3	910369-000 (or other)	EM-OTS2 (or other)	Earphone-microphone assembly set up for a Guardian full-face mask or other mask
4	J052	N/A	Female bulkhead E/O connector
5	N/A	N/A	Your audio plug to connect to the camera
6	N/A	N/A	Your underwater video housing
7	161022-000	Kalex Tuff Stuff™	Very flexible, general-purpose urethane adhesive

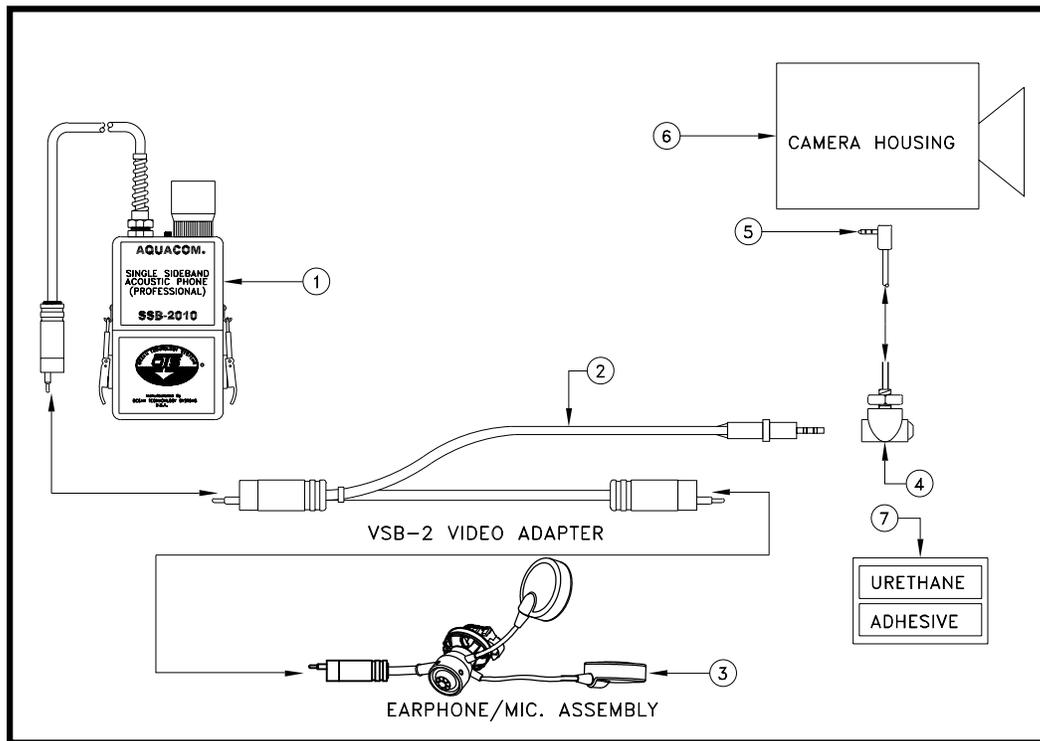


Figure 1

* This is the transceiver alone, but the SSB-1001B can also be purchased as a kit with a Guardian earphone-microphone assembly, rechargeable battery, and charger. Contact Ocean Technology Systems or your local OTS dealer for more information.

SECTION 2

INSTALLATION

INSTALLATION OF THE AUDIO INPUT CONNECTORS

You will need to obtain the appropriate plug (Figure 1, Item 5) for audio input into your camcorder's mic-in or line-in jack. Often this is a mini (3.5mm) phone plug but may vary. Be sure to acquire a plug that—along with an installed cable—will fit easily between the camera and the wall of the underwater housing (a 90°-angle plug may be required), so that the camera with the connected audio plug can be inserted into or removed from the housing without damage. Standard audio plugs are available at any Radio Shack® or other electronic component supplier.

To install the audio connectors, follow these instructions:

1. **Make the electrical connections:** The correct wire connections between the female bulkhead E/O connector (Figure 1, Item 4) and the audio input connector (Item 5) depend on whether your audio cable will connect into an external mic-in or line-in jack on your camcorder. (Mic-in requires higher impedance than line-in.) Connect the wires according to the appropriate diagram in Figure 2. You may want to extend the existing cable to ensure enough cable length exists to be able to make the connection to your camcorder outside the underwater housing.
2. **Verify the system functions** by recording video and audio to tape. Play back the recording, verifying the audio and video are clean (without distortion). If the audio does not sound clean after your system is tested, check all connections. If they are correct and tight, contact OTS for more suggestions.
3. **Choose a location for the bulkhead connector:** Locate a flat spot on the underwater camera housing (Figure 1, Item 6). When choosing the location, ensure no parts or controls on the camera or camera housing will interfere with the bulkhead connector. The newly installed connector will have wires and an audio plug attached that will protrude into the underwater housing wall.

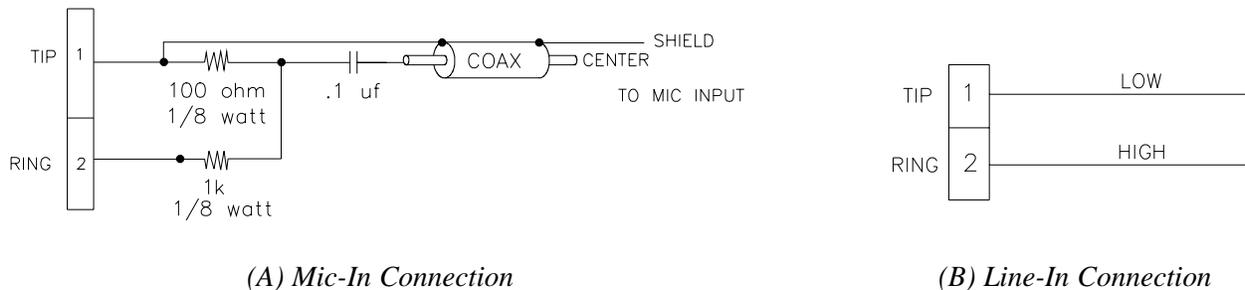


Figure 2

4. **Install the bulkhead connector into the camera housing:** Carefully drill the underwater housing (at the spot selected in Step 3) to fit the bulkhead E/O connector. Drill the hole as close as possible to the size of the threads on the bulkhead connector shaft.

Use the included urethane sealant (Figure 1, Item 7) to ensure the installation is watertight. Prepare the outside surface of the hole you just drilled with 400-grit sandpaper (just enough to remove the shine). Mix together both parts of the urethane thoroughly. Your working time will be about six minutes from when you mix the two parts together. With the connector upside down, liberally apply the urethane to the shoulder seal and partially up the threads. Then quickly insert, position, and tighten the connector. Do not remove excess urethane.

Allow the urethane to cure in a flat position. As it begins to cure, make sure the position of the connector is such that the wires are exactly how you want them to dress on the camcorder. Once the glue has hardened, it will be hard to reposition the bulkhead connector without breaking the waterproof seal.

5. **Water-test the housing:** Wait for the urethane sealant to cure completely. Before installing your camera into the underwater housing, thoroughly water-test the bulkhead connector's watertight integrity. This will help prevent accidental flooding due to improper bulkhead connector installation, failure to seal, or any other failure.
6. **Insert the camera into the housing:** When you install the camcorder into the underwater housing, ensure the audio plug is inserted completely into the audio-in jack of your camcorder. Also, dress the wires so they do not interfere with other functions or protrude in front of the camera lens.

INSTALLATION OF THE VSB-2

Remove the earphone-microphone assembly from the SSB-2010 or SSB-1001B transceiver (Figure 1, Item 1) (see its user's manual). Install the unmarked connector (the other connector is marked *Diver* in white ink) of the VSB-2 (Item 2) connector to the mating connector located on the SSB-2010/1001B. Plug the other connector, marked *Diver*, into the ear-mic assembly (Item 3) installed on the diving mask.

The last two-pin connector found on Item 2 is a male E/O connector that should be plugged into the female bulkhead E/O connector (Item 4) on the camcorder housing (Item 6). This connection can be done after the diver enters the water and someone hands him the underwater housing. However, be sure to make this connection before recording begins, or else the underwater communication will not be recorded.

SECTION 3

USE OF THE UNDERWATER VIDEO/COMMUNICATION SYSTEM

SETUP

Dress out all wires from the SSB-2010/1001B and VSB-2 so they are safe and will not snag during diving. Verify the VSB-2 is connected to the camera housing. Verify that the Hi-Use[®] connectors (on the SSB-2010/1001B, the ear-mic assembly, and the VSB-2) are lubricated with silicone grease and connected properly. If the underwater housing is used without the VSB-2, we recommend installation of a protective cap onto the bulkhead connector.

If you are not familiar with the transceiver operations, refer to the SSB-2010/1001B user's manual.

RECORDING SOUND

After entering the water, the diver can begin communications with other divers and/or the surface. However, the camcorder only records the diver's communications and those of anyone else in range and on the same frequency when the diver is *recording*. When in the *pause* or *standby* mode, underwater communications can be achieved but nothing will be recorded. This is useful when directing or conversing about things that one does not want recorded. As soon as the camera is activated and *record* is initiated, all received sound will be recorded: the transmissions of the divers and topside, those of other divers with transceivers on the same frequency, biological or man-made noise, etc. (what you hear in your earphone is what will be recorded).

When marine biological or man-made sound is present, it will be recorded along with the normal speech. Noise will sound like static. Most of the time, this noise can be removed by editing. Adjusting the squelch can help suppress some of the noise (follow the procedures outlined in the transceiver's user's manual).

It is extremely important the diver understands how the transceiver operates and how to dress himself out so the transducer is not covered. The transducer must also be free of oils or debris. Refer to the transceiver's user's manual.

SECTION 4

HELPFUL HINTS

- Thoroughly check all water-tight connections and seals before installing the camcorder.
- Verify that the audio input plug located inside the underwater housing is connected to the camcorder.
- When getting out of the water, it is best to disconnect the VSB-2 connector from the underwater housing before the diver hands up the underwater housing.
- All external parts should be freshwater-rinsed as soon as possible after completion of the dive. The connectors should be lightly lubricated with silicone grease.
- Read the SSB-2010/1001B user's manual completely before attempting to use the transceiver units.
- Verify that the microphone connector of the VSB-2 is connected to the underwater housing and that the connector marked *Diver* is connected to the ear-mic assembly's connector.
- The diver should talk in a moderate voice and in continuous sentences (he does not have to talk loudly).
- The diver should perform any necessary adjustments to the voice activation (VOX), push-to-talk (PTT), and squelch controls before he enters the water (see the SSB-2010/1001B user's manual).
- The divers and topside should stay as close to each other's transducers as possible. They should also try to stay in the same thermocline.
- The diver should adjust the microphone in the diving mask so it is as close to his lips as possible.