Highly UV, chip and weather resistant materials allow for use in the most demanding outdoor environments
Enclosure materials are designed and textured for a natural look
Grill design allows for optimum performance yet maintains a natural appearance
Stainless steel and aluminum hardware ensure protection of enclosed speaker system
Durable construction that weighs average of 50 lbs.

PVC pipe used as conduit

NOTES:

1. Please read the instructions before installing your OWI speakers.
2. We recommended the use of OWI speaker installation accessories for your convenience and satisfaction.
3. Should you have any questions, please call our technical service department at 310.515.1900 your local retailer or sound contractor for advice.

All of our rock speaker models are heavy because they are made of concrete (GFRC), so we recommend the proper way of lifting heavy objects. Lift with your legs, not your back or better yet use a mechanical lifter or a dolly.

SPEAKER POSITIONING

All OWI speakers can generate a high “SPL” (sound pressure level), so be considerate of your neighbors.

OPTIMIZING SPEAKER PLACEMENT FOR BEST SOUND

Maximum acoustic performance should be an important factor in determining speaker placement. Here’s how to achieve it:

- Establish where the most likely or average listening area will be.
- The speakers should be placed at the same (or as close as possible) distance from that point.
- The actual distance between the listening position and the location of the speakers is not critical, but keep in mind that as their distance is increased, the perceived loudness of the speakers will decrease.

- For a stereo pair of speakers, try to keep the distance between the speakers somewhat less than the distance to the listeners. The distance between speakers should extend roughly 45 degrees as seen from the average listening position.

OTHER PLACEMENT CONSIDERATIONS

Remember while considering the best placement for your speakers from an acoustic standpoint, you must be able to run wires to your stereo.
Walkways and some patios can be difficult to get around.
All OWI speakers are fully waterproof (WEATHERIZED), however **DO NOT** place the speakers here the drivers will come in direct contact with a sprinkler. Sprinklers in general have a high water pressure level that can damage the speaker cones if direct contact occurs.

SPEAKER WIRING

A two conductor direct burial wire should be used to connect your speakers to your stereo. This wire is available in most stereo stores, electric supply houses, better hardware stores.

For runs up to 50 feet, 16-gauge wire is adequate. Runs from 50 to 100 feet use *14*-gauge wire and runs from 100 to 200 feet use 12-gauge wire. Over 200 feet will require the use of 10 gauge wire.

All OWI speakers are available in 70- or 100-volt transformers.

OWI advises using an in-line fuse on the positive wire to each speaker. These can be purchased at any electrical supply house.

SPEAKER PHASING

The speakers come with a two-conductor lead cord. The white wire is the positive; the black wire is negative. Remember to connect these colors together or your speakers will be out of phase and not perform properly.

WIRE SPLICING

High quality splices are a must. Here’s how to achieve a good splice:

- Crimp connect the appropriate wires together, or even better, solder the appropriate wires to each other. In either case make sure that the wires can't short together. To ensure this, shrink sleeve or use quality electrical tape to wrap the individual splices. Watch polarity.
- Fuse a generous length of heat shrink tubing or tape wrap to seal the entire region of the splice.
- Bury the wire(s).

An alternative to the above is to make the splices inside a watertight direct burial box which will give you the benefit of easy access at any time. If you want to use "audiophile" cable or any other kind of wire not suitable for direct burial, you must run it in PVC conduit. It should not be directly buried.

SECURITY RINGS

If you have ordered or are planning to order speakers with the optional security ring, here is one method for securing your speaker. After determining the desired placement for your speakers, mark the location on the ground. With a post hole digger make a two-foot deep hole. With a three-foot long cable or chain, slip it through the ring and place both ends in the hole. Now fill the hole with concrete.

Your speakers are secure.

CAUTIONS

These are high quality loudspeakers. DO NOT place soil or wood chips over the speaker grills. If the grill accumulates soil, it can damage the speaker. Soil in the grill degrades the acoustic performance of your speaker as well as providing a haven for insects. Some insects will eat the surround on the driver. If the grill has accumulated soil, simply rinse with a garden hose at low pressure (nozzle removed).

Chemical sprays such as bug spray, deck sealant, oil-based products and some fertilizers can damage the rubber part of the speakers. Speakers **MUST BE** COVERED when applying these substances in your yard.

INSTALLATION INSTRUCTIONS FOR THE THUNDER SUB

- Pick a location closest to the listening area
- Don’t pick a low spot where water can accumulate.
- Dig a hole about 19 inches wide and 30 inches deep.
- Fill three inches of the bottom of the hole with pea gravel.
- Place the tube in the hole, note port shield will be in front of the collar (this is the highest part of the top cover and should be towards the listening area).
- Natural rain and sprinkler system run-off should flow away from the Thunder Sub.
- Test your area with a hose to be sure water will not fall through the port shield.
- Place the top rock cover over the collar with the widest part covering the driver.

WIRING THE THUNDER SUB

- If you ordered or plan to order the Thunder Sub without crossovers, you must supply the Thunder Sub with the correct frequency. We recommend 125 Hz.
- If you ordered or plan to order the Thunder Sub with crossovers, the low frequency is set as the high pass for satellite speakers.
- If the Thunder Sub has two wires, it is not equipped with a crossover network. The left wire feeds the left voice coil and the right feeds the right voice coil of the woofer.
- If the Thunder Sub has four wires, it is equipped with the crossover network. The wires in the center are the amplifier feeds and the end wires are the satellite feeds.

If you have any questions, please call our technical services department at 310.515.1900.