

## General Product Description

The UW30 represents a departure in the design of underwater sound sources. Its unique design, U.S. Patent #3,670,299, utilizes the case's structural enclosure as the sound transducer. This development makes possible a speaker that has no metal parts exposed to the outside, thus eliminating rust, corrosion or other causes of short-life expectancy. The transducer principle and its strong construction allow the UW30 to operate at much greater depths than any prior type of underwater loudspeaker design. The 12.7-ounce ceramic magnet and state-of-the-art voice-coil construction ensure full-fidelity response with the lowest possible distortion throughout its power range.

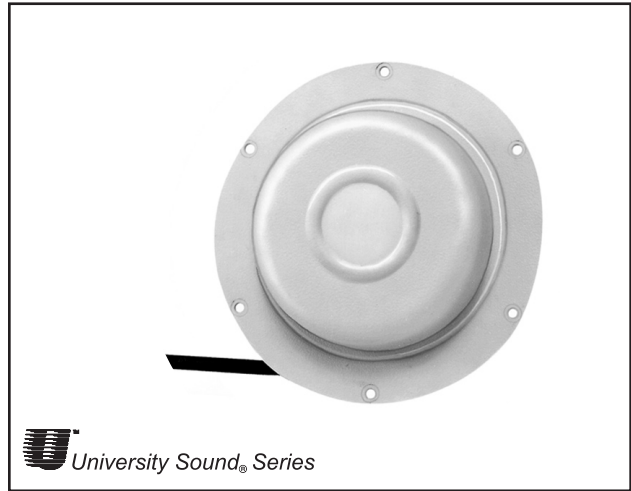
The UW30 is equipped with a waterproof, 3 conductor 15.24 m (50-ft.) cable.

The UW30 underwater loudspeaker is designed for permanent installation and completely submerged operation. All internal components are encapsulated with a "hot-melt" (Polyamide Copolymer) process. The outer case is constructed of high impact ABS (Acrylonitrile butadiene styrene) plastic. Ideal for installation in both fresh and saltwater pools, the UW30 can even be installed in ocean environments without adverse effect. Problems such as corrosion and electrolysis damage inherent in all or partial metal underwater speakers are completely eliminated by the plastic construction of the UW30.

A single model UW30 will deliver uniform sound throughout moderate pools, up to 30 by 30 feet. For larger pools, up to 30 by 60 feet, two speakers should be used. If a high level of turbulence is to be overcome, such as swimming and diving instruction classes, several speakers should be used. The noise level in the water will not only be more effectively overcome, but it will also allow each speaker to be operated at a lower power level thus avoiding excessive sound intensities in the immediate vicinity of the speakers.

Underwater speakers are required equipment for many activities in commercial and luxury resort pools. As specified by the American Athletic Union, underwater speakers are required for synchronized swimming events and instructions in Olympic pools. They are used for water ballets and similar water shows. When underwater speakers are installed in resort and private pools, the effect of music played underwater is truly an enchanting experience.

**UW30**  
Underwater  
Loudspeaker



## Architects' and Engineers' Specifications

The underwater loudspeaker shall be the UW30. The case shall be composed of color impregnated, shatterproof ABS plastic. Speakers shall not be subject to damage or corrosion from concentrations of chlorine, acid conditions, electrolysis, saltwater or ocean environments and such minerals that may be in solution or suspension in such waters. Frequency response shall be 100 - 10,000 Hz, and impedance shall be at 8 ohms. Power-handling capacity shall be 30 watts continuous pink noise and dispersion shall be omnidirectional underwater. Operating depth shall be not more than 10 feet below the surface of the water. Recommended operating depth for optimum efficiency shall be not more than 1.2 m (4.0 ft.). The UW30 loudspeaker shall be equipped with a 15.24 m (50 ft.), 3 conductor waterproof cable terminated within the internal encapsulation material. Case diameter shall be 182.6 mm (7.19 in.), and depth shall be 6.63 mm (2.61 in.). Six 5.54 mm (0.218 in.) holes on a 169.7 mm (6.68 in.) circle shall be provided for mounting. Speaker may be mounted in a wet-niche. Finish shall be pool blue. Shipping weight shall be 1.8 kg (4.0 lb).

## Specifications:

### Versions Available:

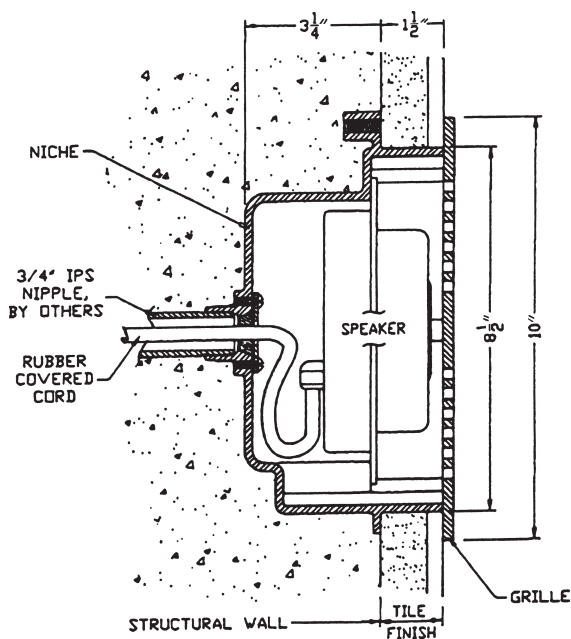
**UW30** ..... 50 feet of cable (15.24 m)  
**System Type:** ..... Underwater loudspeaker system  
**Frequency Response:** ..... 100-10,000 Hz  
**Power Handling, (500-5,000 Hz pink noise):** ..... 30 watts  
**Impedance:** ..... Nominal: 8 ohms  
**Dispersion:** ..... Omnidirectional underwater

**Operating Depth:** .... Up to 3.0 m (10.0 ft) below surface of water  
**Recommended Installation Depth:** ..... 1.2 m (4.0 ft)  
**Finish:** ..... Pool blue  
**Dimensions,**  
**Overall Diameter:** ..... 182.6 mm (7.19 in.)  
**Depth:** ..... 66.3 mm (2.61 in.)  
**Shipping Weight:** ..... 1.8 kg (4.0 lb)

## Installation

### Flush Mounting

For new pool construction and modification of older pools, installing the UW30 flush with the sides of the pool makes a very neat and unobtrusive installation. The speaker is mounted in a wet-niche (Paragon Part #68102 or equivalent) in the same manner as an underwater light. Figure 1 shows a typical installation. The speaker is mounted up to 1.2 m (4 ft.) below the surface of the water and flush with the side of the pool. (For installation in water depths lower than recommended, please contact factory.) A marine plywood or stainless steel mounting ring or face plate is recommended. (Paragon Part # 68103SS stainless steel or #68103 bronze polished chrome or equivalent). Several pool equipment manufacturers have wet-niches available into which the UW30 may be installed. See your local pool supplier for further information. You may contact Paragon at: KDI Paragon, Inc., 341 Route 55 Westwing, LaGrangeville, NY 12540, Phone: (845) 452-5500



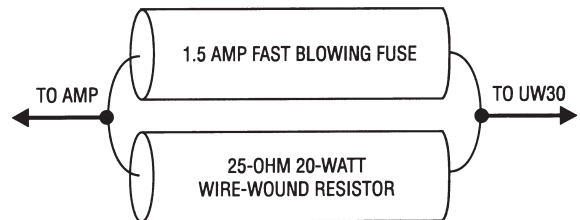
**Figure 1**  
**Typical Installation of a KDI Paragon Wet-Niche #68102**

### Fusing

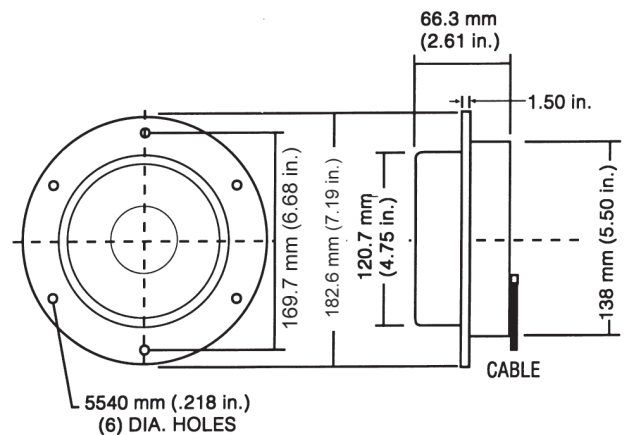
For maximum protection against speaker overload, fusing the line from the amplifier is recommended. In the event of accidental overload, it is much easier to replace a fuse (which is above the water) than to replace or have the speaker repaired. Installing a 25 ohm, 20 watt resistor in parallel with a 1.5 ampere, fastblowing fuse in series with the speaker is recommended. See Figure 2.

### Layout of Speaker in Pool

When underwater speakers are installed, particularly in smaller pools where only one or two speakers are needed, they should be located in the deep end of the pool. The above recommendation will effectively equalize the intensity of sound throughout the pool. For installations in large pools, such as at country clubs, municipal facilities, etc., the speakers should be located around the periphery of the pool. A good rule to follow for large pools is one speaker for every 900 square feet (83.61 square meters) of pool surface at the deep end and one speaker for every 1,200 square feet (111.48 square meters) of pool surface for the shallow end. Of course, for high-noise conditions in the pool, the number of speakers should be doubled for best results.



**Figure 2**  
**Fuse Recommendation**



**Figure 3**  
**UW30 Dimensions**

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 Repair department at 800/685-2606

For technical assistance, contact Technical Support at 866/78 AUDIO  
 Please refer to the Engineering Data Sheet for warranty information.

Specifications subject to change without notice.