

Loudspeaker Suspension in Houses of Worship

Enclosures Intended for Overhead Suspension-Classification, Manufacture and Structural Testing). In the meantime, you can get an idea if a loudspeaker is really suitable for overhead use by looking at the documentation provided by the manufacturer. It should point out the rigging points on the enclosure, and tell you in what positions the speaker may be hung safely, whether the speaker can be used as a structural part of an array, and who to call if you need help. This information is all an indication that the manufacturer has tended to the details of designing a product for overhead suspension.

A loudspeaker designed for suspension may provide the suspension points in many forms, but the most common is the threaded hole, which you are supposed to use as an attachment point for a forged shoulder eyebolt or high-grade bolt. A forged shoulder eyebolt is manufactured for overhead suspension and comes with a stamped working load limit right on the eyebolt. You can tell the difference between one of these and the common formed-wire eyebolt by the load-rating marked on it and by the eye that makes a complete, closed ring. This type of hardware is manufactured under careful quality controls and is identified with product traceability systems to insure compliance with many structural and safety standards. When installed and maintained properly, it will last for the lifetime of the loudspeaker installation. Hardware intended for overhead installation can be purchased from rigging suppliers and sometimes the loudspeaker manufacturers or dealerships where the loudspeakers were purchased.

The loudspeaker enclosure and the hardware on the loudspeaker are only part of the rig. The next link in the connection between the loudspeaker and the building is the suspension sling. Good suspension slings are usually fabricated from chain or wire rope. When chain is used, only grade-8 or grade-80 alloy chain are generally recognized as being suitable for overhead lifting. Wire rope is more often used, and is often times simpler to install than chain.

There are thousands of varieties of wire rope, however the entertainment industry has adopted a specific type for almost every

overhead suspension application: 7x19 galvanized aircraft cable (7x19GAC). Because this type of wire rope is manufactured to a standardized specification it will always maintain a minimum strength and can be rated for overhead suspension applications when installed with the proper terminations. Reliable terminations can be

made with either rated compression sleeves or forged wire rope clips. Be careful! Most wire rope clips that can be purchased at hardware stores are malleable iron, not forged, and are not acceptable for overhead suspension. The compression sleeves and

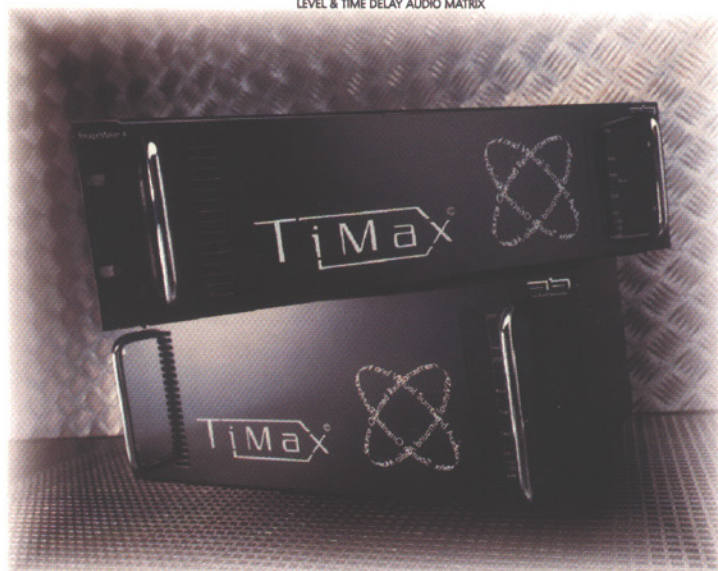
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