



**RPG DIFFUSOR SYSTEMS, INC.**

*RPG encourages the use of Acoustic Consultants that can provide a full scope of services including Room Acoustics, Sound Isolation, Noise Control, A/V System Design & Specifications, etc. To find an Acoustic Consultant in your area or one that specializes in a particular type of project, contact the National Council of Acoustic Consultants ([www.ncac.com](http://www.ncac.com)).*

## **MULTIPURPOSE ROOM**



A Multipurpose Room must typically be flexible so that it can serve a variety of purposes. It can be used for everything from music rehearsal/performance to team sports and group activities. It can also be used as a drama rehearsal/performance room, meeting room, lecture room, banquet room, etc. The primary acoustic goal is a moderate reverberation time with good overall sound quality and uniform distribution. This can be achieved by using a partially diffusive and partially absorptive ceiling and walls that have the right mixture of reflection, diffusion and absorption.

Diffusor systems to enhance the acoustics of critical listening and performing environments

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**Ceiling** The ceiling should be approximately 50% diffusive and 50% absorptive. Diffusion should be accomplished with RPG *Omniffusors*. Absorption should be accomplished with standard ACT having a noise reduction coefficient of NRC-0.65 or higher. The ceiling should be between 18' and 22' above the finish floor.

The Omniffusors should be grouped together in modules 3 units wide by 3 units long (6'x 6') with Omniffusor modules spaced apart by 2' wide bands of ACT tiles (both directions) for implementation of air diffusers, lights, etc.

In an open ceiling condition, Omniffusors clouds can be hung freely in space (using standard ceiling grid) and the remaining area can be left open to an absorptive deck (or acoustic treatment on the underside of the deck) above.

**Upper Walls** Approximately 50% of the upper walls (above 12'-0") should be treated with RPG *BAD Panels*. Use 2" thick RPG BAD Panels if the walls are gypsum board. Use 4" thick panels if the walls are concrete. The rest of the upper side and rear walls can be painted, split-face block.

**Lower Walls** The lower portions of walls (below 12'-0") should be primarily diffusive (50% of lower wall area). The most economical option is RPG *DiffusorBlox* (half non-slotted, half slotted, painted). The remaining wall area below should preferably be split-face block, but standard, painted CMU or painted GWB is minimally acceptable.

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