



## General Information:

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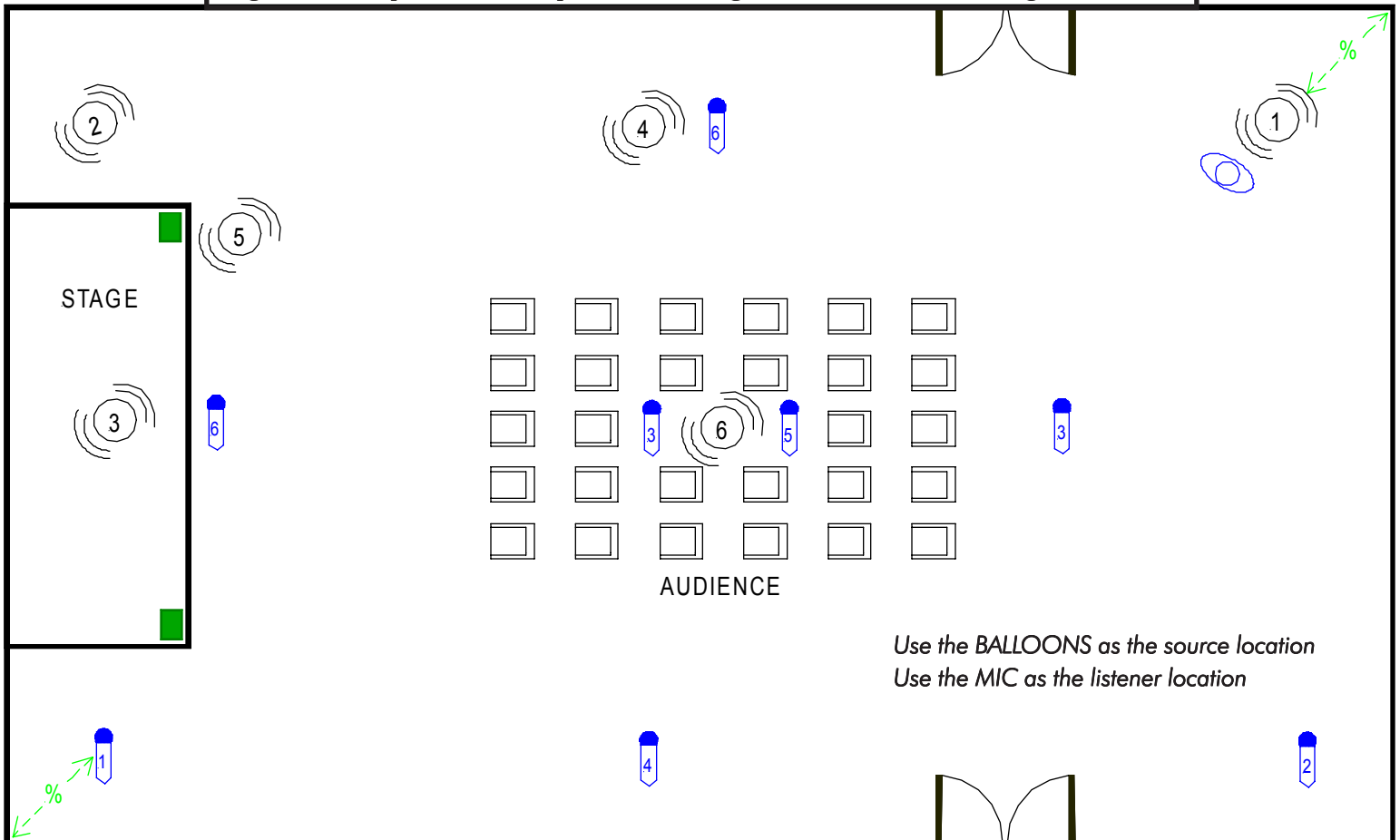
### WHAT is an RT-60 test and WHY do I need one?

The RT-60 test will indicate the amount of time it takes for sound to decay 60dB (decibels). This information can be very useful in making determinations of proper acoustical treatment for the specific size and use of the room.

ASC sound-absorbing materials can be used to control reverberation so speech will not be garbled. The larger the room volume, the longer the reverberation time because sound waves will encounter room surfaces less often than in small rooms. Proper sound absorption can make the sound seem to come directly from the actual source rather than from everywhere in the room.

*Note: Long reverberation times degrade speech perception of hearing-impaired persons far more than normal-hearing persons.*

**Fig. 1: Sample room layout showing burst and recording locations**



RECORDING LOCATION



BALLOON BURST LOCATION



PERSON



SPEAKER



25% OF ROOM WIDTH





## Required for Testing:

- 9-10" Diameter Balloons (not helium)
- Sharp Pointed Object (for balloon bursting)
- Tape Measure
- Microphone (good quality)
- Microphone Stand (extends to 6')
- Recording Device (good quality)
  - With Recording Level Meter
  - Turn Off All Auto Settings

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## Criteria:

- Testing should be performed using a recording device of adequate design. Hi-Fi or Pro quality is not necessary.
- Recorders utilizing electret microphones (the type used for voice notation) should not be used. If your recording device utilizes an automatic gain control, the feature must be disabled before recording. Set the recording level of the device to maximum peak at +6dB on the meter. Do not allow the meter to peg as this may cause damage to the recording device and will render the particular burst useless. The meter should maintain as close to '0' threshold as possible. Once the optimum recording level is determined, leave this setting until the entire test is complete.
- The balloons used should be uniform in size and material and filled with air only. The pressure should be as extreme as possible.
- A graphic record of which burst was made from a certain location in the room should be maintained.  
**See Fig. 1 on page 1.**  
(Example- Balloon burst 1 was taken 15 feet from the NW corner with the recording device in the SE corner.)
- A recorded notation should start and end each test burst.  
(Example- "Start test burst 1".....(10 sec pause).....POP.....(10 sec pause)....."End test burst 1".)

## Procedures:

- This testing is easiest with 2 people.  
(The human body absorbs sound energy. The fewer people in the room, the more accurate the test.)
- Set the recording device in the desired location, with the microphone in the mic stand. Position the microphone and stand so the microphone is approximately 6' from the floor and at a 45° angle pointed upward toward the ceiling and recording position.
- The person bursting the balloons should hold the balloon at arms length away from the body, keeping the body between the microphone and the balloon.
- Let the recording device record for about 10 seconds then pop the balloon and wait another 10 seconds before stopping the recording. Remember to maintain a perfectly quiet room during testing.
- Testing should be done at several locations in the room. Testing locations are determined by the use of the room, whether a sound system is being used to amplify speech, and the architectural layout of the room. More than 1 test burst may be required at each location to get efficient results.
- General purpose rooms such as a cafeteria or gymnasium should have test bursts from each corner and midpoint on each wall, with the recording device at the opposite point (corner or wall).



## Room Specifications:

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**Use this specification sheet to list required information pertinent to the ASC RT-60 Acoustical Report Findings:**

*Use the provided sketch sheets to layout your room and show burst locations.*

Size of the room

- length \_\_\_\_\_
- width \_\_\_\_\_
- height \_\_\_\_\_
- peak height if vaulted \_\_\_\_\_

\_\_\_\_\_  
Show the location and dimensions of doors, windows, etc.

\_\_\_\_\_  
What are the primary building materials?

\_\_\_\_\_  
What is the age of the building?

\_\_\_\_\_  
Is the room symmetrical?

\_\_\_\_\_  
Is there a stage or podium?

\_\_\_\_\_  
How is the room being used?

\_\_\_\_\_  
Where is the listener position?

\_\_\_\_\_  
Where is the sound source location?

\_\_\_\_\_  
What is the average and maximum number of occupants?

\_\_\_\_\_  
Other Notes



*We understand the need for practical solutions to acoustic problems.*

ASC - Defining the way you listen.

RT-60 BALLOON BURST  
ROOM SKETCH SHEET