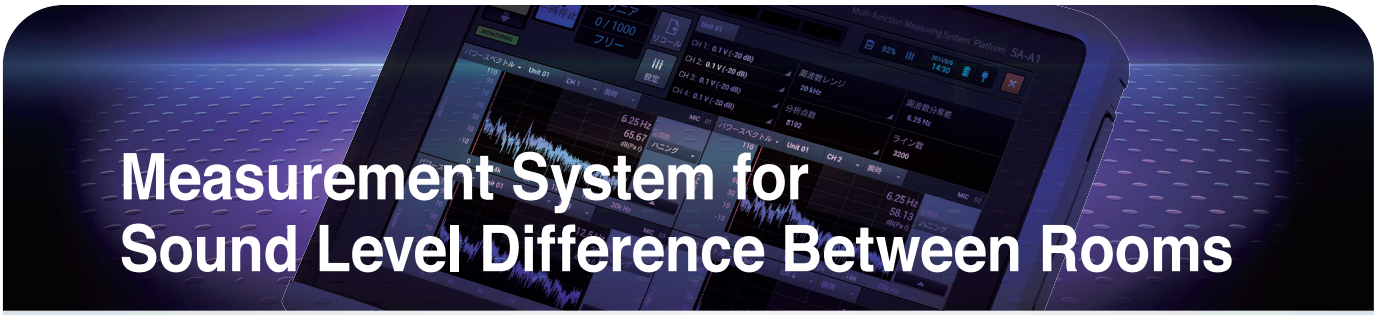
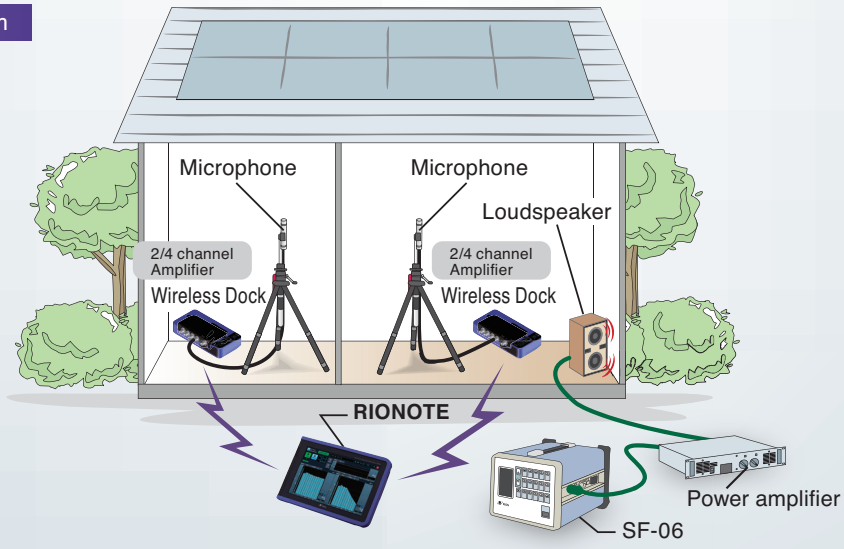


Measurement System for Sound Level Difference Between Rooms

The RIONOTE Multifunction Measurement System can be used for measuring the sound insulation between rooms, using a sound generator (with speaker).
In order to facilitate system setup and eliminate the need for cabling between rooms, the microphone signal can be transmitted wirelessly by the Wireless Dock SA-A1WD to the RIONOTE unit for processing. The illustration below shows a system where the microphone in the source room and receiving room respectively is connected to a wireless dock with amplifier unit, to perform 1/3 octave band analysis of the sound in each room. Because the RIONOTE has wireless capability, it can be taken outside of the rooms under measurement.
While being transmitted wirelessly, the measurement data are also saved on an SD card in the amplifier unit of the wireless dock, to prevent data loss in case of an interruption of the radio connection during measurement. When the measurement is completed, the measurement data in the amplifier unit are downloaded to the RIONOTE unit.
Up to four RIONOTE units can be connected wirelessly to the SA-A1WD, making it possible to perform sound measurement and analysis in up to 16 channels (4 channels x 4 units).
(For 1/3 octave band analysis, the maximum is 3 channels x 4 units = 12 channels.)

System Diagram



Equipment configuration

Product	Model
Multi-function Measuring System (2 channel/4 channel octave package)	SA-A1RTB2/SA-A1RTB4
Wireless Dock	SA-A1WD
2 channel/4 channel Amplifier	SA-A1B2/B4
SD card (512 MB/2 GB/32 GB)	MC-51SD1/20SD2/32SP3
1/2 inch electret condenser microphone	UC-59
Preamplifier	NH-22A

Product	Model
BNC-BNC coaxial cable	EC-90 series
1/2 inch microphone holder	UA-90
Random Noise Generator	SF-06
Power amplifier	
Loudspeaker	
Sound level meter tripod	ST-80

Measurement result examples

Example for measurement screen of sound pressure level difference between rooms

Application examples

- **Measurement of sound pressure level difference between rooms (measurement of sound insulation between two rooms in a building)**
- **Measurement of sound pressure level difference between outside and inside (outside and inside of external walls or windows of a building)**

Related standards (reverberation time measurements and sound insulation rating calculation etc. not supported)

- **Field measurement of airborne sound insulation of buildings (JIS A 1417)**
- **Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation (JIS A 1419-1)**
- **Field measurement of sound pressure level difference (measurement standard recommended by Architectural Institute of Japan)**
- **Field measurement of inside/outside sound pressure level difference (measurement standard recommended by Architectural Institute of Japan)**
- **Field measurement of airborne sound insulation of buildings (JIS A 1417)**
- **Field measurement of outer wall material and airborne sound insulation of buildings (JIS A 1430)**

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