

PRODUCT DESCRIPTIONS

Sound Reception System(MSR-9200A)

An acoustical electronic navigational system(MSR-9200A)
For totally enclosed bridge space.

GENERAL DESCRIPTION

This sound reception system is an acoustic, electronic navigational aids to enable the officer on the watch to hear outside sound signals in a totally enclosed bridge, in order to perform the look-out function as required in the International Regulations for Preventing Collisions at Sea, 1972 and SOLAS 2002 (Resolution A. 694(17)) revisions. Thus, this system receives the sound signals in all directions within the audio frequency (70~820Hz) and reproduces these incoming signals electrically inside wheel house.

The four microphones operate in pairs depending of the approximate direction of the received sound signal by these combinations. The value for detection of sound signal is 75dBA.

The microphone active value of sound level for detecting direction is more than 0.07mV between forward and after or port and starboard. The system was tested at the IEC60945 standard and approved for CE. The type approval was done from RINA.

System Features

1. Easy to install and operate
2. Support up to 4 microphones (St'bd, port, bow and stern)
3. Loud speaker : Built-in wide band
4. Sound signal : Direction display of the sound source
5. Dimmer control function : Adapted
6. Sensitivity adjustment
(One potentiometer per microphone inside the unit)
7. Mute circuit for the ships own horn and talk-back system
8. Mute delay function (2 sec)
9. Installed bypass filter (70Hz ~ 820Hz / 6dB)
10. The power unit (MPS-030A) : Independently for private use
11. Main AC & emergency (DC) power using simultaneously
12. The electrets condenser microphone provides the proper reception required for audio frequency band

Specifications of Main Unit (MSR-9200A)

1. Power & Consumption : DC24V / Max. 30VA
2. Frequency Characteristics : 70Hz - 820Hz (6dB)
3. Distortion : Less than 3% (-30dBm)
4. Input Sensitivity : Less than -45dBm
5. S/N Ratio : More than 50dB
6. AF Output : Max. 5W
7. Temperature/ IP Grade : -25°C ~ +55°C / IP22
8. Humidity : Less than 95%
9. Weight & Material : 2.15kg / Aluminum-Steel
10. Color / Mount Type : Black / Flush Mount
11. Compass Safety Distance : 0.75m

Specifications of Microphone (MR-11A)

1. Power Source & Consumption : DC15V / Max. 0.1VA
2. Microphone Type : Electrets Condenser
3. Input Sensitivity : -36±2dB/Pa (1kHz)
4. Impedance & S/N Ratio : Less 2.2kΩ / more 50dB
5. Operating Temperature Range : -25°C ~ +55°C
6. Operating Humidity : Less than 95%
7. IP Grade & Weight : IP56 / 1.1kg
8. Housing & Color : ABS / N-7 (Grey)
9. Mount Type : Wall Mount
10. Compass Safety Distance : 0.25m
11. Relative Distance between Mic's : Min. 0.5m
12. Compass Safety Distance : Min. 4m
13. Recommended installation : Four Microphones



Microphone

SRS Main Unit



Power Supply

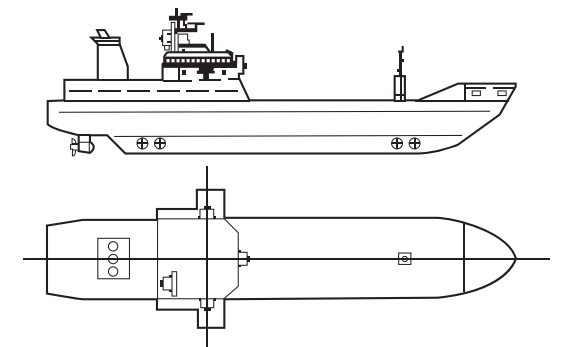


Name of Model (MSR-9200A)

No.	Model	Name	Position
1	MSR-9200A	Main Unit	Inside Wheel House
2	MR-11A	Water Tight Mic.	Wing/Bow/Stern
3	MPS-030A	Power Supply	Inside Wheel House

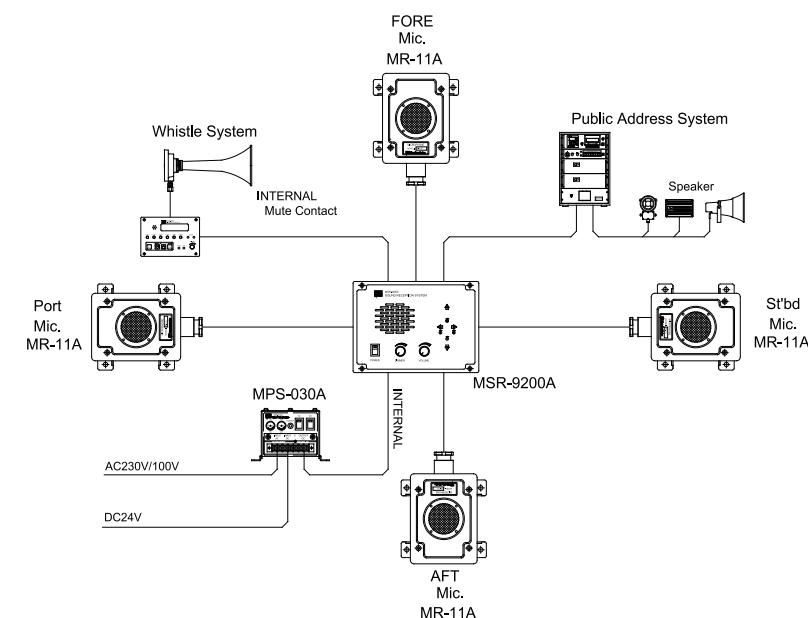
Installation of MRS-9200A System

1. The microphones should be installed in such a way that they are as far from noise sources, wind noise and mechanical vibrations.
2. The display should be installed so that it is visible at least from the conning position

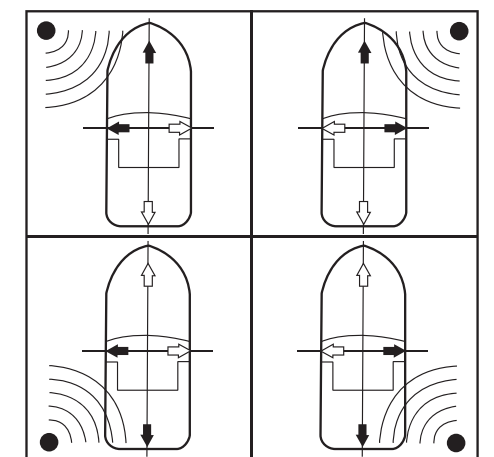


Functional Requirements

1. Audio band : 70Hz - 820Hz
2. Reproducing outside sound signals inside the bridge
3. Indicating the approximate direction of sound signals
4. Suppressing unwanted background noise
5. Allowing reception of meaningful sounds



[Wiring Diagram of Sound Reception System (MSR-9200A)]



[Direction Display of Sound Signal]