**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 acoustical, 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.851(20)) 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 on the approximate direction of the received sound signal by these combinations. The value for detection of sound signal is 75BA.

The microphone active value of sound level for detecting direction is more than 0.67mV 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.

<table>
<thead>
<tr>
<th>No.</th>
<th>Model</th>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MSR-9200A</td>
<td>Main Unit</td>
<td>Inside Wheel House</td>
</tr>
<tr>
<td>2</td>
<td>MR-11A</td>
<td>Water Tight Mic.</td>
<td>Wing/Bow/Stern</td>
</tr>
<tr>
<td>3</td>
<td>MPS-030A</td>
<td>Power Supply</td>
<td>Inside Wheel House</td>
</tr>
</tbody>
</table>

**System Features**

1. Easy to install and operate
2. Support up to 4 microphones (5F 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
7. Mute circuit for the ships own hem and talk-back system
8. Mute delay function (2 sec)
9. Installed bypass filter (70Hz – 820Hz / 6dB)
10. The power unit (MPS-030A): Independent for private use
11. Main AC & emergency (DC) power using simultaneously
12. The electret condenser microphone provides the proper reception required for audio frequency band

**Specifications of Main Unit (MSR-9200A)**

1. Power & Consumption: DC12V / Max. 300mA
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
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: DC12V / Max. 0.1VA
2. Microphone Type: Electret Condenser
3. Input Sensitivity: -50dB/PA (1kHz)
4. Impedance & S/N Ratio: Less than 2.5kΩ, more 50dB
5. Operating Temperature Range: -25°C – 65°C
6. Operating Humidity: Less than 95%
7. IP Grade: 6-Weight: IP5 / 1kg
8. Housing & Color: ABS / N / Grey
9. Mount Type: Wall Mount
10. Compass Safety Distance: 0.25m
11. Relative Distance between Mic’s: Min. 8.5m
12. Compass Safety Distance: Min. 4m
13. Recommended Installation: Four Microphones