

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Public Address and General Alarm System**with type designation(s)
MPA-9000 Series

Issued to

Marine Radio Co., Ltd.
Busan, Republic of Korea

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**LSA Code VII 7.2****IMO MSC Circ 808****IMO A.1021(26) Code on alerts and indicators (2009)****IMO Res. A.694(17) General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Busan** on **2018-07-04**This Certificate is valid until **2023-07-03**.for **DNV GL**DNV GL local station: **Gimhae Station**Approval Engineer: **Geun Young Park**

Michael Jost Auf der Stroth
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

PA/GA system, MPA-9000 Series, is consisting of the following components:

Part Number	Description	Software Version	Location	Remark
AG-901D	Alarm Generator Unit	91011F.xx	Protected	Duplicated PCB
AC-901	Alarm Control Unit	-	Protected	-
MC-901D	Main Control Unit	91043.xx	Protected	Duplicated PCB
PA-901	Power Amplifier Unit	-	Protected	Minimum two units
PS-901	Power Supply Unit	-	Protected	Minimum two units
-	Monitor Speaker Unit	-	Protected	-
MPC-9051	Remote controller	91015A2.xx	Protected	-
BHS-10	Speaker	-	Protected	-
LW-5	Speaker	-	Protected	-
RP-5	Speaker	-	Protected	-
M-7	Microphone	-	Protected	-
MC-2	Microphone receptacle	-	Exposed	-
PB-1	General alarm switch box	-	Protected	-
SC-901	Speaker Line Checker	-	Protected	Option

Application/Limitation

- The MPA-9000 Series is to be installed according to operation and installation manual for compliance with the following codes/rules/regulations:
 - SOLAS
 - HSC Code
 - MODU Code
 - DNV GL Statutory Interpretations and Rules, as amended
- The MPA-9000 Series Double Rack type Dual PA/GA system can be used for passenger vessel. When used for passenger vessels, the duplicated parts of the system are to be installed in separate main vertical fire zones. Final approval of the PAGA system for compliance with SOLAS requirements of «Safe Return to Port» shall be carried out based on individual assessment of the design for each passenger vessel.

Type Approval documentation

Tests carried out

- Environmental testing: IEC60945 (2002)

Marking of product

The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location. In addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.

Periodical assessment

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate. The scope of the periodical/renewal assessment is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society.