

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Batteryless Telephone System**with type designation(s)
LC-800S

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
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

The batteryless telephone system, LC-800S, consists of the following models:

Type	Model	Description	Location	
Desk type handset	LC-711*	Direct	Protected	
	LC-812A	12 selections		
	LC-822A	24 selections		
Wall type handset	LC-713C*	Direct		
	LC-713F*	Direct with sub receiver		
	LC-713G*	Direct with headset		
	LC-814A	12 selections		
	LC-814B	12 selections		
	LC-814C	12 selections		
	LC-814E	12 selections		
	LC-814F	12 selections with sub receiver		
	LC-814F1	12 selections with sub receiver		
	LC-814G	12 selections with headset		
	LC-814G1	12 selections with headset		
	LC-824A	24 selections		
	LC-824B	24 selections		
	LC-824C	24 selections		
	LC-824E	24 selections		
	LC-824F	24 selections with sub receiver		
	LC-824F1	24 selections with sub receiver		
	LC-824G	24 selections with headset		
	LC-824G1	24 selections with headset		
	Flush type handset	LC-715C*		Direct
LC-816A		12 selections with dimmer switch		
LC-816C		12 selections		
LC-826A		24 selections with dimmer switch		
LC-826C		24 selections		
Portable type handset	LC-717*	Direct		
	LC-818	12 selections		
	LC-828	24 selections		
Headset	MR-2000	Noise Cancel type		
Junction Box	JB-6A, JB-7B, JB-8A1, JB-8B1, JB-9A1, JB-9B1			

Application/Limitation

- The system shall be installed in accordance with manufacturer's manual.
- Models marked with "*" do not comply with the requirement of back-up telephone in DNVGL Rules for classification of ships (2018 July) Pt.6 Ch.3 Sec.3

Type Approval documentation

DNVGL No.	Document No.	Rev. No.	Title
7	R06NR-008R	1	Environmental Test Report AP 2009-10-11 MNBNA379

8	E06OR-071	0	Electromagnetic Compatibility Test Report
12	AT-S18207	1	MR-2000 Headset
19			Declaration of conformity, Corrosion prevention
21	A09149A		LC-812 Desk Type Sound Power Telephone
22	A27012B		LC-814A Wall Type Sound Power Telephone
23	A27013B		LC-814B Wall Type Sound Power Telephone
24	A27014B		LC-814C Wall Type Sound Power Telephone
25	BT-S27016B		LC-814E Wall Type Sound Power Tel
26	BT-S27017B		LC-814F Wall Test Sound Power Tel Sub Receiver Type
27			LC-814F1 Wall Type Sound Power Tel Sub Receiver Type
28	BT-S28029C		LC-814G Wall Type Sound Power Tel Headset Type
29	BT-S28030C		LC-814G1 Wall Type Sound Power Tel H.S & Sig
30	S27062C		LC-816A Flush Type Sound Power Tel (W/EI & Dimmer SW)
31	S27061C		LC-816B Flush Type Sound Power Tel
32	S27061D		LC-816C Flush Type Sound Power Telephone
35	Manual\Tel\SPT\PTP-SPT-DNV	2010-04-01	Performance test procedure for sound powered telephone system
36			Outline drawings for LC-800
38	LC-800 Series	02	Manual (LC-800 Series Sound Power Telephone)
40	MRC-2017TechLab-0222001		Declaration for the Salt Mist Test of IEC 60945, 8.12
42			Inter-unit connection for external bell/horn (IEC 60945 6.4)
43	MRC-2017LAB-170911		Performance test report for sound powered telephone system
45	ICRT-TR-E180244-0A		EMC Test Report (LC-812A, LC-828, JB-7B, JB-8A1)
46	ICRT-TR-R180100-0A		Test Report for IEC60945 8.2,8.3,8.4 (LC-812A, LC-828, JB-7B, JB-8A1)
47	ICRT-TR-R180099-0A		Test Report for IEC60945 8.7 (LC-812A, LC-828, JB-7B, JB-8A1)

Tests carried out

- Environmental Test : IEC 60945(2002)
- Performance test : DNV GL Type Approval Program no. 848.60

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.