

TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00001D2
Revision No:
4

This is to certify:

That the Public Address and General Alarm System

with type designation(s)
SPA-V2

Issued to
ZENITEL NORWAY AS AVD HORTEN
HORTEN, Norway

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft
IMO A.1021(26) Code on alerts and indicators (2009)
LSA Code VII 7.2
IMO MSC Circ 808
General requirements for electromagnetic compatibility for all electrical and electronic ship's equipment (IMO Res. A.813(19))

Application :

See page 2

Issued at **Høvik** on **2022-09-20**

for **DNV**

This Certificate is valid until **2025-08-15**.

DNV local station: **Sandefjord**

Approval Engineer: **Steinar Kristensen**

Frederik Tore Elter
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

The SPA-V2 system can be set up in different configurations. The type approval covers the following variants of the system:

Only PA system: SPA2-xx-P

Notes:

- xx defines the height of the cabinet in HU (Height Units) which could be 12, 16, 20 and 24 for this variant.
- The system contains minimum one approved amplifier.

Integrated PA/GA system for standard vessels: SPA2-xx-GD

Notes:

- xx defines the height of the cabinet in HU (Height Units) which could be 16, 20 and 24 for this variant.
- The system contains minimum two approved amplifiers.

Integrated PA/GA system for passenger vessels: SPA2-xx-GP

Notes:

- xx defines the height of the cabinet in HU (Height Units) which could be 12, 16, 20 and 24 for this variant.
- The system contains minimum two approved amplifiers divided in two separate racks.

Approved Modules and subunits:

Module/Subunit	Type
Amplifiers	Zenitel: VPA-120 (120W), VPA-240 (240W), VPA-400 (400W), EA1400 (400W), EA1600 (600W) Paso: AW-8121 (120W), AW-8241 (240W), P-8501 (500W)
Microphone panels	SPA-M1-V2, SPA-M1-D, SPA-M6-V2, SPA-M6-D
Alarm panels	SPA-AC6, SPA-AC6-D
Combined alarm and microphone panels	SPA-W1-V2, SPA-W1-D, SPA-W1AR-V2, SPA-W1AR-D, SPA-W6A4 and SPA-W6A4-D
Microphones	ETB-1-TB, MB-30G, P-66
Volume Controls ¹⁾	VM5-R, VM15-R, VM50-R, VM15-RD, VM50-RD, VM15-RDF, VM50-RDF, VCOR-15, VCOR-15F, VCOR-60, VCOR-60F
Function boards	SPA-TERM-V2, SPA-CHIME-V2, SPA-EMS-V2, SPA-FAIL, SPA-MUL-V2, SPA-EE3-V2, SPA-EE3D-V2, SPA-AL-REL-V2, SPA-VDR-V2, SPA-REL-V2, SPA-DUALAL-V2
Power Supply Unit	AEH80US24 (XP plc)
Racks	Paso 58xx-D, in which the xx means the height in HU- units.

Application/Limitation

1. Equipment is to be installed in protected environment, i.e. indoor.
2. Drawings of the system, specifying the number and type of approved amplifiers installed in the system shall be available and attached to the delivered racks.
3. The maximum height of units shall be 24 HU.
4. When used as PA/GA, the input to the system for Talk Back shall not be used since this have the highest priority.
5. Any PA panel which is not used for emergency PA activation shall have a lower priority than GA.

¹⁾Volume controls are passive units only. The controls have not been subject to testing according to IEC 60945, but are included in the certificate as they are integral parts of the system design.

Type Approval documentation

DNV No	Document Id	Rev.	Description
42	A100K11939	1.1	Manual: Zenitel, EA1400/EA1600 Installation and User Manual
41	30048	3	Report: Applica, EMC and environmental testing of EA1600 PA Amplifier
37	DANAK-1911533	2011-08-19	Report: Delta, Environmental test report for SPA-V2 system
36	A100K10371	v.2.2	Manual: Zenitel, SPA-V2 User Manual
35	A100K10370	v.4.1	Manual: Zenitel, SPA-V2 Installation & Configuration Manual
34	A100K10369	v.4.0	Manual: Zenitel, SPA-V2 System Manual
30	2008-04-20	1.4	Report: Zenitel, Performance Test DNV PA/GA Type Approval of SPA-V2 system
22	2008-03-28	1.1	Report: Zenitel, SPA-V2 Type Approval-product testing explanation
4	198453	28 July 2006	Report: Delta, Type Approval testing of VPA-120, VPA-240 and VPA-400 PA/GA System power amplifiers
3	197395	12 may 2004	Report: Delta, Type Approval testing of Talk-Back and PA/GA Systems

Tests carried out

- Environmental testing: IEC 60945 (2002)
- Performance testing: Functional tests according to DNV Type Approval program 848.22

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.

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>