DNV·GL

Certificate No:
TAA00000AW

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Hands Free Voice Talk Back System and Public Address System

with type designation(s)
CTB-100V

Issued to
Zenitel Norway AS
HORTEN, Norway

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application :

See page 2

This Certificate is valid until **2021-02-08**.

Issued at **Høvik** on **2016-02-09**

for **DNV GL**

DNV GL local station: **Sandefjord**

Approval Engineer: **Rolf Heger**

Jan Tore Grimsrud
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.

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Product description

Hands Free Voice Talk Back System and Public Address System consisting of the following components[1)]:

Module	Article no	Location
Centrals	CU-100	Protected
	CU-200	Protected
Operator Panels	CTB10	Protected
	CTB-10W/V01	Protected
	CTB-20	Protected
	CTB-20W/V01	Protected
Talk Back Substations	STB-1	Protected
	STB-2	Protected
	STB-3	Protected
	STB-5	Protected
	STB-6	Protected
	STB-6GN	Protected
	H-112M	Protected
PA power Amplifiers	AW8121- 120W	Protected
	AW8241 - 240W	Protected
	P8501-500W	Protected
Emergency PA Call station	VMT-603	Protected
	VMP-603	Protected
Talk Back and General PA microphones	MB-30G	Protected
	P66	Protected
	P66/10	Protected
Power Supply unit	SPS-4	Protected

[1]) Actual installation may vary based on requirements for individual installations. Only modules listed in certificate are approved for installation.

Application/Limitation

Application:

The product approval is limited to any of the following functions:

1- Two-way voice communication onboard small vessels not requiring more than 3 extensions and not requiring simultaneous calls between substations.
2- Hands-free two way voice communication system as required by DNV Pt.6 Ch.8 Sec. 6 J108, provided that approved substations with hands-free All Call are fitted at all required locations and that the system is not connected to the vessel's PA system.
3- Emergency PA.

Limitations:

1- The unit VML-1520 was only tested with regards to functionality, and the environmental requirements for the unit have not been documented. The unit is subjected to approval for environmental requirements for each installation.
2- The units MB-30G, ETC-1-TB and P-MT7 have not been tested based on the vibration requirements. The units are subject to approval regarding vibration for each installation.
3- The system cannot be used as both Emergency PA system and Hands-free two way voice communication system.
4- The system cannot be used as PA system for passenger vessels.
5- The system cannot be used as Integrated PA and GA system.

Type Approval documentation

DNV GL No.	Doc. ref.	Rev.	Description
1	DANAK-197395	2004-05-12	Report: Delta, Type Approval testing of Talk Back and PA/GA Systems performed for Zenitel Norway ASA (Marine), Environmental Test report according to IEC60945
2	Tb_CTB-DNV Type Approval Performance Test Rev 10_2_06	10_2_06	Report: DNV, Performance test for CTB for DNV Type Approval"
3	A100K10864		Manual: Vingtor, Installation & User Manual, Command Talk Back System CTB-100V

Tests carried out

- IEC 60945 Fourth Edition (2002)
- Performance tests: 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

A retention survey is to be performed at least once every second year, and again upon renewal of this certificate.
The scope of the retention/renewal survey 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.