



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. A-12291

This is to certify that the  
**Automatic Telephone System and Hands Free Voice Talk Back System**

with type designation(s)  
**SEACOM 1000, SEACOM 2100**

Manufactured by  
**Seacom ApS**  
Åbyhøj, Denmark

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.

Høvik, 2011-04-13  
for Det Norske Veritas AS



This Certificate is valid until  
**2015-06-30**

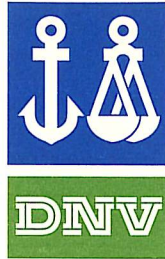
**Frode Brattum**  
Head of Section

DNV local office:  
**Aalborg**

**Michael Henry Dyer**  
Surveyor

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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Certificate No.: A-12291  
 File No.: 848.21  
 Job Id.: 262.1-011116-1

## Product description

For the purpose of this Type Approval, the SeaCom Maritime Communication System consists of the following elements:

- a. **SeaCom 1000 / Alphaconnect 48** - telephone exchange chosen for small ships with maximum 56 telephone and communication station positions.
- b. **SeaCom 2100 / Alphaconnect 128** - telephone exchange for ships with maximum 128 telephone and communication station positions.
- c. **SeaCom 211 / Alphanon P211** - Simple water tight telephone station with 3 buttons. Typically used for deck stations. Also called a talk-back station.
- d. **SeaCom 411 / Alphanon P411** - Full featured flush mount telephone station with display, backlight and hands-free. Typically, used on bridge and in ECR
- e. **SeaCom 421 / Alphanon P421** - Full featured water tight telephone station with display, backlight and hands-free. Connect handset and headset. Used in engine spaces, and on deck.
- f. **SeaCom 220 / Alphanon P220** - Water tight and salt mist resistant industrial telephone station with call relay build in. Used in engine spaces and on deck.

Matrix for assessment of performed tests in accordance with IEC60945 (Date 2011-02-16).

Unit	Seacom 1000/ Alpha-connect 48	Seacom 2100/ Alpha-connect 128	Alphaconnect P411 Seacom 411	Alphaconnect P220 Seacom 220	Alphaconnect P211/ Seacom 211	Alphaconnect P421 Seacom 421
Location	Protected	Protected	Protected	Exposed	Exposed	Exposed

## Variants

SeaCom and Alphanon automatic telephone exchanges and telephone stations come in two brands with the same hardware and software included, but in different colours. The tables shows cross reference lists for the equipment that differs. Exchanges.

Marking	Equipment	Stock number and revision
SeaCom 1000	SeaCom 1000 exchange	10-092-0000_06XX
SeaCom 2100	SeaCom 2100 exchange	10-092-0200_02XX

Circuit board in exchanges

Marking	Equipment	Software
10-110-1020_03XX	PSU	02XX
10-110-1011_05XX	CP2	OS 0301 + CP 08XX
10-110-1031_06XX	FIO2M	06XX
10-110-1041_06XX	AEXT8	05XX
20-110-0060_02XX	PIM	n.a.
10-110-1061_02XX	CTU	n.a.
10-110-1200_01XX	PDU	n.a.

Stations

Marking	Equipment	Stock number / revision	Software
SC211	SeaCom 211 station	10-102-0211_06XX	01XX
SC220	SeaCom 220 station	10-102-0220_04XX	01XX
SC411	SeaCom 411 station	10-102-0411_02XX	01XX
SC421	SeaCom 421 station	10-102-0421_03XX	01XX
10-400-1020	SeaCom handset / cradle	10-400-1020_06XX	n.a.
10-400-0205	SeaCom headset	10-400-0205_01XX	n.a.

*MND*



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SeaCom marking	Alphatron equivalent marking	Description
SeaCom 1000	Alphaconnect 48	Automatic Telephone Exchange
SeaCom 2100	Alphaconnect 128	Automatic Telephone Exchange
SC211	P211	Talk-back station
SC220	P220	Telephone station
SC411	P411	Telephone and intercom station
SC421	P421	Telephone and intercom station

### Application

the SeaCom / Alphatron Maritime Communication System equipment can be used in cargo ships, passenger vessels and mobile offshore units:

- as an automatic telephone system
- as a talk back / hands-free two-way voice communication system

For compliance with the following codes; rules; regulations:

- SOLAS
- MODU Code
- HSC Code
- DNV Statutory Interpretations [February 2011]
- DNV Rules Pt.3 Ch.3 Sec.10 [Jan. 2010]

### Limitation

None.

### Type Approval documentation

- EMC test report 2010-01-11-SeaCom/Alphaconnect P421 / SeaCom421 [3]
- EMC test report 2010-01-11-SeaCom1000/Alphaconnect 48 and SeaCom2100/ Alphaconnect 128 [4]
- EMC test report 2010-01-11-SeaCom/Alphaconnect P211 / SeaCom211 [5]
- EMC test report 2010-01-11-SeaCom/Alphaconnect P220 / SeaCom220 [6]
- EMC test report 2010-01-11-SeaCom/ Alphaconnect P411 / SeaCom411 [7]
- EMC test report 2010-01-11 Environmental test Report – EKTOS [10]
- Certificate ISO 9001 (2000) [11]
- Certificate ISO 9001 (2008) [12]
- Procedure Manual DOC050926CJ01\_09 [18]
- EMC test report 201110327-CNI – additional tests – EKTOS [22]
- EMC test report 2010-01-11 1000\_2100 additional tests – Jens EMC [23]
- SeaCom system manual\_04 (The Book) [24]
- DNV functional type-testing report [25]

### Tests carried out

- IEC 60945 Forth Edition [2002]
- Functional tests for compliance with Pt.3 Ch.3 Sec.10 [Jan. 2010]
- Functional tests for compliance with DNV Statutory Interpretations [February 2011]

### Marking of product

The Seacom / Alphatron Marine Communication equipment shall be marked with the following information:

- variant name. Seacom or Alphatron
- type designation: variant alphanumeric code as specified under variants
- serial number of the product(s).
- compass safe distance

### Certificate Retention Survey

A retention survey shall be carried out every second year, and one of the retention surveys shall be at 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.

END OF CERTIFICATE

