

# SEA 245-A3

## 150 Watt MF/HF/SSB Digital Radiotelephone



- The SEA245-A3 is a highly integrated and compact solid state MF/HF SSB Radiotelephone transceiver with internal DSC Controller. The SEA245 is to be Type Certified for Sea Area A3 GMDSS stations and is also suitable in any general purpose MF/HF radiotelephone application.
- Internal DSC Controller, A3 Watch Receiver and SEATOR modem
- Requires the 2450 Control Head unit and the 2451A3M remote Transceiver unit
- RF transmit power in SEA 245 SSB radios can be programmed
- The SEA245 SSB radiotelephone utilizes Digital Signal Processing (DSP) technology as its fundamental architecture.
- DSP end-user benefits include:
  - Digital transmitter provides more talk power than radiotelephones with equal power ratings
  - Superior gain control (AGC) provides virtually error free transition between voice and data
  - Clean clear audio with enhanced clarity and reception
  - Installed SEA 245s will receive future enhancements and improvements through software upgrades
  - Uniquely flexible with special application filters (sitor, telex, modems) software configurable
  - Increased reliability over pure analog radios
- Amateur bands with comprehensive HAM band operating system built-in
- RS-232 Serial PC interface supports radio control applications and E-mail service providers
- Most frequently used channels are pre-programmed from factory using alpha-numeric names for easy recall
- True AM receiver for clear undistorted reception of AM frequencies
- Large easy to read Graphic Display
- Backlighted silicone keypad
- GMDSS compatible
- NMEA 0183 position input
- Optional Remote Display/Control Terminal available

The SEA245 SSB/DSC radiotelephone is designed and constructed on a fully digital platform. This revolutionary radio is unequalled in performance, price, reliability, and flexibility for use in numerous special applications.

SEA Inc. is the company that provided the marine marketplace with an economically-priced synthesized SSB radiotelephone over 20 years ago.

SEA SSB radiotelephones have consistently won National Marine Electronics Association's (NMEA) awards for excellence in SSB radiotelephone design.

## 245 A3 Specifications: Pending FCC GMDSS ID

## Dimensions in. (mm)

### GENERAL:

#### **Compliance:**

FCC Parts 80, 87, 90  
CEPT pending application,  
ITU R M.493, ITU R M.541,  
IMO A.804, IMO A.806

#### **FCC ID:**

BZ6SEA245

#### **Frequency Range:**

Tx: 1.6 to 29.999 MHz  
Rx: .49 to 29.999 MHz

#### **Frequency Stability:**

±10 Hz (-30°C to +60°C)

#### **Operating Modes:**

J3E (USB), H3E, R3E,  
J2B (AFSK), A1A (CW)  
F1B (TELEX)

#### **Supply Voltages:**

24 Vdc -10% +25%  
(21.6 to 30 V)

#### **Current Drain:**

Tx: 8 Amps (two-tone)  
Tx: 6 Amps (voice)  
Rx: 1 Amp (stand-by)  
Rx: 1.5 Amps (full-audio)

#### **Operating Temperature**

#### **Range:**

-30°C to 60°C

#### **Antenna Impedance:**

50 ohms

#### **Channels:**

1176 Total  
200 Programmable  
242 ITU SSB Duplex  
72 IUT SSB Simplex  
662 ITU FSK Duplex

#### **Scan Channels:**

200

#### **Display:**

Graphic Display  
3.2" x 1.85" (W x H)  
(81.2mm x 46.9mm)

#### **Metering:**

S-Meter

#### **Computer I/O:**

RS-232

### RECEIVER:

#### **Frequency Range:**

490 KHz to 29.999 MHz

#### **Frequency Resolution:**

10 Hz

#### **Intermediate**

#### **Frequencies:**

1<sup>st</sup> 45 MHz, 2<sup>nd</sup> 40 KHz  
(nominal) DSP

#### **Sensitivity:**

≤ 1.0 uV for 12 dB SINAD

#### **Adjacent Channel**

#### **Selectivity:**

>55 dB at -1 KHz

#### **Blocking:**

At max. sensitivity: Better  
than 70dB. At +60dB/uV:  
Better than 100 dB

#### **Cross Modulation:**

Better than 80 dB

#### **Spurious Response:**

Better than 70 dB

#### **Spurious Emissions:**

Less than 1 nW

#### **Intermodulation:**

-80 dB

#### **AGC:**

J3E, fast attack, slow  
release, ≤ 10 dB audio level  
change from 10 uV to  
100 mV input

#### **Clarifier:**

+/-200 Hz in 10 Hz steps

#### **Squelch:**

Voice controlled, opens at  
SINAD >5dB

#### **Audio Output:**

4 Watt into 4 ohms at less  
than 10% distortion

### TRANSMITTER:

#### **Output Power:**

R3E, J3E 150 Watts PEP  
F1B 100 Watts

#### **Power Reduction:**

-3dB/-6dB from PEP

#### **Intermodulation:**

Better than -34 dB  
below PEP

#### **Spurious Emissions:**

Better than -65 dB  
below PEP

#### **Carrier Suppression:**

Better than 46 dB below  
PEP

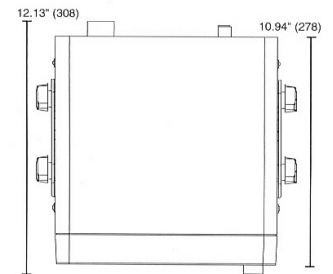
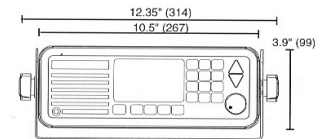
#### **Undesired Sideband**

#### **Suppression:**

Better than 41 dB below  
PEP

#### **AF Bandwidth:**

400 to 2500 Hz at -6 dB



**Radio**  
9.1 lbs (4 kg.)



American technology that talks to the world.

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