



Main Receiver B450



MPP

The receiver B450 is a high quality communication receiver covering the frequency-range 10 kHz-30 MHz. It is designed to receive all modes of telephony, telegraphy and telex operations used on modern ships, with optimal performance for every mode.

The frequency range is divided in 30 bands of 1 MHz each, and the receiver has continuous tuning within each band.

A phase lock button locks the frequency to the highly stable internal TCXO (temperature compensated crystal oscillator) in steps of 10 Hz, to obtain absolute crystal stability on each frequency.

The frequency readout is a digital display showing the tuned frequency with a resolution of 10 Hz. The displayed frequency is accurate on all bands, and all modes of operation without recalibration.

The electrical circuits are fully solid state and make use of modern highly linear semiconductor components and new design principles, to obtain a very good sensitivity, and at the same time an excellent performance in the presence of strong, unwanted signals.

The duplex telephony performance is excellent due to the tuned front end filters, which are included on all frequencies above 1 MHz. The filters are switched and tuned automatically without extra knobs to operate.

The selectivity is ensured by a number of computer designed crystal filters, ensuring the optimal bandwidth and shape factor for each mode of reception.

The mechanical construction is modularized for easy service. The overall shape is a low profile 19" standard rack unit for easy console mounting.

The receiver complies with the relevant regulations of SOLAS 74, the CEPT international recommendation and a number of national specifications.

Specifications:

Frequency range	:	10 KHz-30 MHz
Frequency stability	:	± 10 Hz/15 min
Frequency accuracy without recalibration	:	± 100 Hz/4 years
Frequency selection MHz	:	30 Bands of 1 MHz each
Frequency selection KHz	:	Continuous tuning
Frequency phase locking	:	10 Hz steps
Frequency indicator	:	7 digit. Display with 10 Hz resolution
Clarifier	:	± 300 Hz
Modes of reception	:	A1, A2, A2H, A3, A3A, A3H, A3J, F1.
Antenna impedance	:	100 KHz-4 MHz 10 ohm/250 pf 4 MHz-30 MHz 50 ohm
Image rejection	:	better than 60 dB
If rejection	:	better than 60 dB
Cross modulation	:	Unwanted signal level 90 dB/ μV spaced ± 20 KHz less than -33 dB
Automatic gain control	:	
Output level increase for a Signal increase of +100 dB	:	less than 10 dB
Attack time	:	10 m.sec.
Release time SLOW	:	2 sec.
Release time Fast	:	0.1 sec.
Audio output	:	Loudspeaker : 3 Watt/5 Earphone : 10 mW/600 Line 1 : 0 dBm/600 μ bal. Line 2 : 0 dBm/600 μ bal.
Ambient temp.	:	full specs 0° C to 40° C operation -15° to +55° C
Power supply	:	110/220 V AC, 50-60 Hz, 50 VA
Dimensions	:	
Rack	:	Height 133 mm Depth 350 mm Width 482 mm Weight 12 kgs
In cabinet	:	Height 175 mm Depth 420 mm Width 525 mm Weight 21 kgs

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Selectivity:

Mode switch position	Pass Bandwidth kHz at -6 dB*)	Stop Bandwidth kHz at -60 dB
AM	± 4 kHz	± 10 kHz
AM-N	± 1.2 kHz	± 2 kHz
LSB	-2.7 to -0.35 kHz	-3.4 +0.5 kHz
USB	+2.7 to +0.35 kHz	+3.4 to -0.5 kHz
FSK	± 0.6 kHz/ -2 dB	± 1.75 kHz
FSK-N	± 0.1 kHz/ -2 dB	± 1.2 kHz
CW	± 0.6 kHz/ -2 dB	± 1.75 kHz
CW-N	± 0.1 kHz/ -2 dB	± 1.2 kHz

*) except as noted.

Sensitivity:

Frequency range	Mode switch position	Sensitivity dB over 1 μ V for 20 dB SINAD
100 kHz-4 MHz	AM	+26 dB μ V
	AM-N	+23 dB μ V
	LSB/vsb	+12 dB μ V
	FSK/CW	+6 dB μ V
4 MHz-30 MHz	FSK-N/CW-N	0 dB μ V
	AM	+20 dB μ V
	AM-N	+17 dB μ V
	LSB/USB	+6 dB μ V
	FSK/CW	0 dB μ V
	FSK-N/CW-N	-6 dB μ V