



INVELCO, S.A.
INVESTIGACIONES ELECTRONICAS Y COMUNICACIONES

invelco@invelco.com



50W VHF TRANSCEIVER MODEL TR-650-A

SDR Technology



- SDR Technology (Software Defined Radio).
- Frequency range: 154.4 A 163.75MHz.
- All international maritime channel included.
- Operation modes: Local and Remote.
- Power supply: 110/220VAC
- Output nominal power: 50W.
- Voip
- Remote Control by Ethernet Network or RS232.
- DSC functionalities.



MARINE BAND VHF TRANSCEIVERS EQUIPMENT FOR COASTAL STATIONS

50W VHF TRANSCEIVER MODEL TR-650-A

TECHNICAL CHARACTERISTICS

GENERAL SPECIFICATIONS

SDR Technology (Software Defined Radio).	
Frequency range (Channelized)	154.4 to 163.75MHz.
All international maritime channels included.	
Channelling	25KHz (other optional).
Type of modulation	G3EJN, F3E, G3E.
Modes	Simplex, Semiduplex, Duplex.
Frequency stability	1 ppm.
Remote control	RS-232-C bus.
Audio	VoIP
Remote control and VoIP by RJ-45 connector	
RS-232 auxiliary connector (COM 2) for other uses.	
Completely digital design except for part of the power.	
Channels used in USA	Optional
Front connection, handset audio input.	
Complete protection against open antenna or in short-circuit.	

TRANSMITTER

Output power	50W \pm 1dB.
Reduced power	W/2; W/4; 1W.
Output impedance	50 Ω .
Harmonics suppression	Better than -60dBc.
Frequency deviation	\pm 5KHz.
Spurious radiation	Better than -70dBc.
Audio response	300 to 3000Hz.
Pre-emphasis	6dB/eight -75 μ s.
Distortion	Less than 5%.
Independent audio input	Microphone. Line 600 Ω . Data (line 600 Ω).
Audio compressor	Included.
Modulation input level	-20dBm -0dBm.
Smaller distortion	5%.
S/N relation	Better than 50dB.

RECEIVER

Input impedance	50 Ω .
Sensibility	-0.25 μ V for 12dB SINAD.
Speaker audio output power	5W.
Line output (adjustable)	600 Ω ; -40dBm to 0dBm.
Distortion	Less than 5%.
Audio broad band	300 to 3000Hz \pm 1dB.
600 Ω line output for data (adjustable).	
Adjacent channel reject	>70dB.
De-emphasis	6dB/eight -75 μ s.
Input dynamic range	-119dBm to 0dBm.
Audio silencer	Adjustable (7 levels).
RF level measurer with external output for selection of better received signal.	
F.I. digital filter special for data reception.	
CTS tones detector	Optional.
Pre-selector with selective filters to suppress signals out of band.	
FM signal suppression	Better than 120dB.
Silencer opening time	10ms.
Intermodulation	70dB.

POWER SUPPLY

Power	110/220VAC.
Other supplies	Optional.
Power supply	150W.

ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

Operation temperature	-20 $^{\circ}$ C to +60 $^{\circ}$ C.
Relative humidity	95%.
Width	Rack 19".
Height	3U (133,5 mm).
Depth	340 mm.
Weight	4Kg.