



# INVELCO, S.A.

INVESTIGACIONES ELECTRONICAS Y COMUNICACIONES

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## 10Kw MF/HF TRANSMITTER MODEL EM-660-R



*Completely solid state. As it is made with modular technique, it is easier to repair.*

*Broadband technology in the coverage from 2 to 30 MHz with instantaneous change of the working frequency and a resolution of 1 Hz.*

*Appropriate for military, civil, aeronautical and maritime communication use, either on boat or coast station.*

*The transmitter can continue to operate even with one module (1250 W) out of service.*

**Frequency range  
2 to 30 MHz**

**Output power  
10000W**

**Telephony and  
data communication**

**Memorizes up to  
255 channels**

**Remote control via  
Ethernet or RS-232-C**

**Voice over Ip (VoIP)  
or input line 600  $\Omega$**

**SDR**  
*Technology*  
**VoIP**



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## 10KW MF/HF TRANSMITTER MODEL EM-660-R

### TECHNICAL CHARACTERISTICS

#### GENERAL SPECIFICATIONS

Rated power	10000W ±1dB
Completely designed in solid state (8 * 1250 W)	
Possibility of operating in reduced powers	
Remote control through Ethernet or bus RS-232-C	
Number of channels to memorize	255
Supported standards VoIP, 10/100BaseT, SIP/IP, TCP/IP, HTTP	
Operates in all modes:	Telegraphy Voice Data NAVTEX
SWR tolerance	Full power ≤ 2:1 Reduced power ≤ 3:1
Made of aluminium able to work in seacoast areas with extreme temperatures and humidity	
Voice over Ip (VoIP) or input line 600 Ω	

#### ELECTRICAL SPECIFICATIONS

Working frequency	2 - 30 MHz.
Frequency resolution	1 Hz.
Frequency stability	±0.5ppm
Optional	±0.01ppm
Optional	±0.001ppm
Output power	10000W ±1dB
Power regulation:	-3dB -6dB -10dB
Wattmeter (incident/reflected)	Incorporated
Power amplifiers	Solid state
Radiated harmonics	-60dB
Spurious according to	MIL-STD-188-141B
Intermodulation (2 tones)	-36dB at pep

Output impedance	50 Ω
Output connector RF:	1-5/8" (female)
Broadband designed without frequency tuning	
Working regime	Continuous
Transmission modes	J3E, J2A, J2B, H3E, A1A, F1B, ISB
Frequency response	300 - 3050 Hz
Ripple band	±0.2dB
Carrier attenuation:	
J3E	-60dB
H3E	-6dB
TUNE	-10dB
Not desired side band attenuation	-60dB
ON/OFF relation (A1A, J2A)	-60dB
Microphone inputs	Asymmetric
Micro PTT input	Connected to ground
Line input	Symmetric/Asymmetric
Line input impedance	600 Ω
Adjustable input level	0dBm (nominal)
Audio response	250/4000 Hz
Line compression	20dBm
PTT input line	Connected to ground
Data PTT through line	Connected to ground
Line compressor in data	0dBm. to +6dBm
Keyer input	Connected to ground
Keying modes	J2A, A1A
Bite	Individual by modules General by software
MTBF	10000 hours (estimated)
MTTR	60 minutes
Protection	To elevated SWR

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### TECHNICAL CHARACTERISTICS

#### POWER SUPPLY SPECIFICATIONS

Three phased	Delta	195 - 305 Ac 50/60Hz
	Wye	340 - 530 Ac 50/60Hz
Consumed power in transmission		<35 Kva

#### ENVIRONMENTAL SPECIFICATIONS

Operation temperature	0 to 50°C
Storage temperature	-30 to 80°C
Humidity	95%

#### MECHANICAL SPECIFICATIONS

External dimensions:	
Width	1200mm
Height	2000mm (42u)
Depth	800mm
Fabrication	Anticorrosive aluminium
Total weight	650Kg

**NOTE:** Invelco, s.a. is the manufacturer of this equipment and may modify some technical specifications at the request of the buyer.

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