

**Opera plus Family      A07E0201 - A07E0251**



*Fully digital controlled - High efficiency for a low consumption - Reliable and Money Saving*

I trasmettitori OPERA plus FM 87,5÷108MHz 200W-250W utilizzano amplificatori LDMOS di 6<sup>a</sup> generazione a larga banda con protezione ROS 65:1.

L'ingegnerizzazione adottata garantisce un elevato risparmio in termini di consumo energetico (tra i più bassi della categoria) e di trasporto grazie alle ridotte dimensioni ed al peso contenuto. L'installazione è facile e veloce.

La semplicità d'utilizzo unita ad una manutenzione veramente molto ridotta (pulizia filtro aria) rende questi trasmettitori ideali per stazioni non sorvegliate.

**Caratteristiche:**

- Amplificatori RF larga banda con tecnologia LD-Mos
- AAQ Advanced Audio Quality, per la migliore qualità audio
- Elenco eventi consultabile da display o interfaccia WEB
- Modulatore con sintetizzatore di frequenza digitale.
- Automatic Audio change-over / Dual L+R, Dual MPX or Mixed
- Protezione contro aumento del ROS di antenna con riduzione automatica della potenza di uscita (fold-back)
- Protezione di temperatura con riduzione di potenza (fold-back)
- Display LCD per controllo dei principali parametri
- Ampl. 200-250W per la massima affidabilità su unico radiatore
- Alimentatore a commutazione per la massima affidabilità ed efficienza (SMPS)
- Aria di raffreddamento canalizzata
- Ventilatori facilmente sostituibili
- Filtro delle armoniche e accoppiatore direzionale incorporati
- Rack da 19" da 1 Unità
- Telemetria GSM, TCP/IP, SNMP & SMTP - Presa Cuffie
- Moduli Plug&Play facilmente sostituibili

OPERA plus 200W-250W FM 87,5÷108MHz transmitters use amplifiers with 6<sup>a</sup> generation LDMOS technology, 65:1 VSWR.

The technical solutions adopted by our engineers are focused to assure energy saving (among the lowest) and high reliability. Settings, protections, telemetry are totally microprocessor controlled. The installation and the maintenance of the equipment are respectively very fast and easy. These fully protected transmitters are indicated for use in unmanned stations.

**Features:**

- Wideband circuits amplifiers with LD-Mos technology
- AAQ: Advanced Audio Quality
- Storage of events
- Built-in Fully digital controlled Modulator.
- Automatic Audio change-over / Dual L+R, Dual MPX or Mixed
- Automatic fold-back ROS & Temperature protection
- Ambient & RF Module temperature measurement
- 4 lines LCD alphanumeric display
- Amplifiers in only one heat-sink for the highest reliability
- AC-DC Step-Down Power Supply with PFC
- Sealed duct cooling air with blowers
- Easy removable blowers
- Harmonics filter & directional coupler built-in
- 1 unit 19" standard rack
- GSM Telemetry, TCP/IP Webserver, SNMP & SMTP server.
- Front panel Headphone jack for audio monitor
- Plug&Play Modules - easily replaceable
- Metals treated with galvanic process



[www.tem-italy.it](http://www.tem-italy.it)

### Options built-in:

- Digital Stereo Encoder Module
- RDS encoder
- AES-EBU digital audio input / Audio from IP
- Input & Output special dry contacts
- Bidirectional remote control by GSM/SMS
- Remote control by TCP-IP/WebServer/SNMP-SMTP
- Remote control by RS-232



Specifications are subject to change without notice.

### General specification

Operating voltage	100V ÷ 260V AC
Typical Efficiency	> 60%
Cooling	Forced air
Operating altitude	up to 4000m (13123 ft) over sl
Typical Consumption	< 300W - 390W
Operational temperature range	-5° to 50°C
Storage temperature range	-20° to 60°C
Output RF connector	N
Monitor RF connector	BNC
Dimensions	485x44x480mm / 8Kg

### Radio frequency

Frequency range	87.5 to 108MHz
Frequency setting	in 10KHz or 100 KHz steps
Setting mode	By keys on the front panel/Remote
Frequency stability	< ±300Hz Typ - 0.5 ppm*
Frequency generation	PLL synthesizer
Modulation type	direct VCO frequency modul. F3
Nominal frequency deviation	±75KHz
Deviation linearity in all freq. range	±5KHz
RF output power	200-250 W ± 0.3dB - Adjustable
Harmonics emission	<-70dBc*

### Stereo characteristics

Signal inputs	Left or Right - AES-EBU
Input impedance	600ohm (bal.) or 10k ohm
Input connectors	Canon XLR
Unbalanced rejection	>40dB
Input level	Adjustable (Front/Remote)
Pre- emphasis	75 or 50uS
Audio frequency response (30Hz to 15KHz)	<0.25dB
Audio frequency response (19KHz to 100KHz)	>50dB
Cross-talk between left and right channel	>50dB
Distortion at frequency deviation of 75KHz	<0.1%
Signal to noise referred at deviation of 75KHz	>77dB
Suppression of 38KHz	>50dB

### Modulation capability

MONO (left and right)  
 L-R & AES-EBU  
 SCA + RDS  
 Composite  
 IP Audio

### MPX characteristics

Signal input	MPX
Composite Input impedance	10Kohm unbalanced
Input connector	BNC
Input level	Adjustable 0/+6/V/variable
Audio freq. response (30Hz to 60KHz)	< 0,5 dB
Modulation distortion	<0.1%
Signal to noise ratio	>75dB



\*In accordance with standards: EN60215:1989/A1:1992/A2:1994; EN301 489-1 V 1.9.2; EN301 489-11 V 1.3.1; EN302 018-2 RED V2.1.1

