

ETG Series

FM exciters

Main characteristics of all ETG exciters are their high performances: robustness, economy, an advanced and intuitive display. All operational parameters can be easily viewed via the large LCD graphic display and programmed using the keyboard located on the front panel, no need to access to the rear panel. A password will allow read-only access to prevent unauthorised operation. On request, displays can be customized by incorporating broadcaster's logo.

A three bars graph displays the frequency deviation (a bar for the composite signal and two for left and right channels), with peak memory. A histogram on the frequency and time axis allows accurate monitoring of the of audio chain performance.



A very wide and flat audio pass band, without phase rotation, ensures transmission of a high quality MPX signal, without stereo degradation. In order to correct slow fluctuations of the audio input signal the user can program an ALC (Automatic Level Control) circuit provided on the exciter.

The RF amplifier is protected against excessive VSWR by a limiting circuit that progressively reduces output power down to a safe level for the equipment, at which the ETG exciters can operate indefinitely, even disconnected from the antenna. The output power is maintained at a constant value across the entire operating frequency band by an ALC circuit. High precision measurement of

direct and reflected RF output power is another characteristic of the unit.

ETG 1000 model features PFC (Power Factor Corrector) circuit on power supplies input in order to reduce below limit values first 40 current harmonics emission, as requested by technical european directives (EN61000-3-2). Thanks to this device electronic equipment are better protected from disturbs when connected to the mains. ETG exciters can be setted according to user's requirements.

ETG 1000 PFC	1000 W	FM exciter
ETG 500 DR	500 W	FM exciter
ETG 300 DR	300 W	FM exciter
ETG 151	150 W	FM exciter
ETG 101	100 W	FM exciter



The following optional boards can be easily installed:

- 1- Stereo Generator
- 2- Stereo filter, clipper and pre-emphasis circuit
- 3- RDS encoder

The ETG exciters feature a telemetry interface enabling

management of forward and output power (read, adjust) and reflected power and modulation values (read only). This can be made both via GSM modem and any DOS or Windows communication programme (Telix, Procomm, HyperTerminal).

PRELIMINARY DATA

Operating band:	87.5-108.0 MHz
Frequency step:	10 KHz
Type of modulation:	F3, FM direct modulation on RF oscillator in fundamental frequency
Power amplifier technology:	MOSFET
Nominal output power:	30+500 W (depending on the model)
Output power stability:	+/- 0.1dB
Output impedance:	50 Ohm
Output connector:	"N" female
Harmonic and spurious attenuation:	> 80 dBc
Frequency drift:	< 1 ppm (0 ÷ 40 °C) within the first year
Residual AM:	Asynchronous: 0.1% - Synchronous: 0.2% (standard values)
Intermodulation distortion:	0.05% measurement with composite tones 1KHz e 1.3KHz, ratio 1:1 at 100% modulation
THD+N:	< 0.03 % @ 1KHz
S/N Ratio with CCIR filter:	-72dB RMS ref. to +/- 75 KHz dev.
Pre-emphasis:	50/75 µs ± 0.1dB

AUDIO L/R INPUT

Frequency response:	±0.15dB (16Hz÷15KHz) -45dB a 19KHz
Stereo separation:	better than 65dB @1KHz, typical 72dB @ 1KHz
Pilot tone Frequency:	19 KHz ± 1 Hz
Input Impedance:	10KOhm - 600 Ohm (switchable) Balanced
Gain control:	-12 ÷ +12 dB in steps of 0.1dB
Connector:	XLR female
Attenuation at 19KHz:	>45 dB

MPX Input

Impedance:	10 KOhm unbalanced input
Frequency response:	±0.1dB (16Hz÷100KHz) -45dB a 19KHz
Gain control:	-12 ÷ +12 dB in steps of 0.1dB
Connectors:	BNC female

SCA

Input Impedance:	10KOhm unbalanced input
Connectors:	BNC female

GENERAL FEATURES

Temperature:	(working) 0 ÷ + 45 °C (storage) -20 ÷ + 50 °C
Humidity:	(working) 95% @ 40°C (storage) 90% @ 65°C
Altitude:	(working) < 4600 m a.s.l. (storage) < 15000 m a.s.l.
Weight:	19 ÷ 22 Kg (depending on the model)
Dimensions:	L 48.5 x D 45.5 x H 13.5 cm
Supply voltage:	110-240 V single phase
Power consumption:	50 ÷ 900 W (depending on the model)
Cooling:	forced air-cooling



RDS encoder



Stereo filter, clipper and pre-emphasis circuit



Stereo Generator