ORCHESTRA
FM BII EXCITER & LOW POWER TRANSMITTER

FM BII EXCITERS & LOW POWER TRANSMITTERS LINE

ORCHESTRA Exciter belongs to Electrolink low power FM product family that covers a power range from 0W to 500W, with modern conceiving and technology, which by a simple design produces an output radio signal with high characteristics of quality, reliability and security. The simple manufacturing obtained with a high integration of functions, has allowed to create an equipment with few controls and connections. Most of the printed circuits are multilayer adopting surface mounting technology component assembling. The eventual repairing can be done by simply changing the fault board, without searching the defective component.

"ORCHESTRA 250" - 250W FM EXCITER
"ORCHESTRA 500" - 500W FM EXCITER

"ORCHESTRA 50" - 50W FM EXCITER
"ORCHESTRA 100" - 100W FM EXCITER

One of the most important characteristics is the high quality of the frequency modulation and the high signal-to-noise ratio. Moreover, the modulation is typically constant within 0.1dB throughout the whole FM band (87.5 – 108MHz). A special audio circuit can control the input audio level with a ±6dB dynamics referred to the nominal value (extremely useful when the audio signal level is not fixed or when this one can be subject to fluctuations due to thermal driftsbad systems maintenance, possible damages along radio link paths etc). No amplitude distortion is introduced in the modulation when the automatic gain control circuit is enabled. In addition the power is switched off in case of modulation absence. All parameters (frequency, levels, mono/ stereo, pre-emphasis, power) can be set by the keyboard and stored in E^2PROM in order to be kept even without electric supply. A great number of events can be stored: each alarm is distinguished by a starting and an ending alarm date. The controlled parameters are: modulation absence, heatsink temperature, mains supply voltage, RF power final stage voltage and current, main oscillator fault. Besides the keyboard, the transmitter can be remotely controlled in different ways. A personal computer can be connected as monitor to the DB9 socket placed on the front panel and all the transmitting parameters can be set and displayed. Furthermore it's possible to perform all the modulation analysis provided by the CEPT 54-01 regulations and create the related graphics which can be stored.

SPECIFICATIONS	ORCHESTRA 50	ORCHESTRA 100	ORCHESTRA 250/500
RF Ouput Power	50W	100W	250W / 500W
Output Connector	N Type	N Type	N Type
Dimensions	485 x 530 x 88 (mm)	485 x 530 x 88 (mm)	485 x 530 x 132 (mm)
Weight	11KG	11KG	14KG
Power Consumption	< 120VA (Max)	< 240VA (Max)	< 600VA / <1.000VA

KEY FEATURES & OPTIONS AVAILABLE

- "State of the Art" solid state technology
- 19" standard rack clearly arranged and easily accessible
- STEREO ENCODER: for the internal encoding of the stereo signal
- AGC: additional board allowing a frequency modulation control
- Automatic Change-Over Unit integreted into the exciter
- REMOTE CONTROL: software for the PC or GSM connection
- Software to get: N+1 system or 1+1 system
- Line Voltage: 115 Vac
- Frequency Step: 100Khz (optionally 10Khz)
- Remote/local control
- Fully Compliant with ETS 300-384 (Electrical)
- Fully Compliant with EN 61000-3-3 EN 61000-3-2 ETS 300-447 (EMC)
- Fully Compliant with EN-60950–EN-60215 (safety)

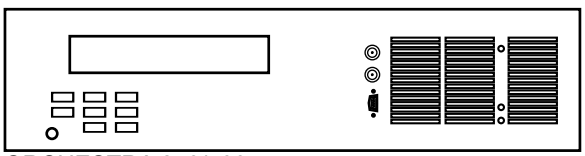
TECHNICAL CHARACTERISTICS

FREQUENCY - POWER	
Frequency range	87.6 to 107.9MHz
Frequency Setting Steps	100KHz or 10KHz (optional)
Internal Setting Mode	by keys
External Setting mode by remote control	RS232-RS485-GSM
Frequency Stability	300Hz/year
Frequency Generation	PLL synthesizer
Modulation typ	direct VCO frequency modulation
Nominal frequency deviation	±75KHz
Deviation linearity in all frequency range	±0.2dB
Peak detector error	<0.1dB
RF output power	0 to 250W
Power resolution setting	1W
Power control limit setting	1 to 250W
Power control stability	< 0.1dB
Reverse output power control limit	1 to 39W
Reverse output power steps control	1W
Harmonics emission	<-70dBc
Spurious emission	<-95dBc
Carrier reduction pwr (carrier enable off)	>70dBc

MODULATION CAPABILITY	
MONO (left and right)	30Hz to 15KHz
STEREO (by int. stereo generator)	30Hz to 53KHz
SCA (two channels)	30Hz to 100KHz
COMPOSITE	MONO or STEREO + SCA

CHARACTERISTICS IN MONO	
Signal input	Left + Right
Input impedance	600Ω (balanced) or 10kΩ
Unbalance rejection	>40dB
Input level	–6 to +12dBm
Pre-emphasis	75 or 50µs
Audio freq. resp. (30Hz to 15KHz)	<0.15dB
Audio freq. resp. (19KHz to 100KHz)	<-40dB
Modulation distortion	<0.03%
Signal to noise ratio	>90dB

POWER SUPPLY AND TEMPERATURE RANGE	
Operating voltage	230Vac ±15 %
Operating voltage (optional)	110Vac ±10 %
Power Factor	>0.9
Line harmonic and flicker	according to EN 61000
Line power	<600VA
Nominal temperature range	-5° to 45°C
Operative temperature range	-10° to 50°C
Storage temperature range	-40° to 50°C



ORCHESTRA 250/500

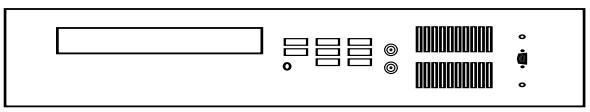
CHARACTERISTICS IN STEREO	
Signal input	Left or right
Input impedance	600Ω (balanced) or 10kΩ
Unbalance rejection	>40dB
Input level	–6 to +12dBm
Pre-emphasis	75 or 50µs
Audio freq. resp. (30Hz to 15KHz)	<0.15dB
Audio freq. resp. (19KHz to 100KHz)	<40dB
Cross-talk between left and right channel	>50dB
St. separation between left & right ch.	>50dB
Distortion at freq. deviation of 75KHz	<0.03%
Distortion at freq. deviation of 100KHz	<0.03%
Signal to noise referred to dev. of 75KHz	>80dB
Suppression of 38KHz	>70dB
Spurious suppression outside band	in according to ETS 300-384
Pilot ref. for RDS encoder (19 Khz out)	1Vpp

SCA CHARACTERISTICS	
Input (SCA1, SCA2)	BNC unbalanced
Input Impedance	10KΩ
Frequency response (50KHz to 100KHz)	<0.1dB
Distortion	<0.1%
Modulation capability	0 to 10%

READOUT ON LCD DISPLAY (40x4 characters)	
Forward power resolution	1W
Reverse power resolution	0.1W
Modulation resolution	1KHz
Pwr amplifier voltage resolution	1V
Pwr amplifier current resolution	0.1A
Heatsink temperature resolution	1°C

REMOTE CONTROL	
COM1 directly to PC or by GSM	RS232
COM2 to power amplifier	RS232
COM3 for N+1 system	RS485
Personal computer software	National Instruments LABVIEW®
Transmission protocol (COM1& COM2)	AES-EBU SP 490

MECHANICAL SPECIFICATION	
19” rackmount	485x 530 x 132(H) or 88(H) mm
Weight	14KG



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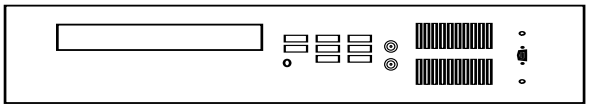

ORCHESTRA 100

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