RADIO

/fm/tv/digital/broadcasting/

ELETTRONIKA GROUP

FM High Power
Complete Systems

The analogue Radio broadcasting systems in the **FM High Power Complete Systems** family are designed to simplify transport and installation and to ensure maximum operating reliability for directly broadcasting through standard antenna systems.

The optimal power amplifiers operating temperature is guaranteed by a highly reliable low-noise forced-air cooling system and the finest audio performance values are obtainable thanks to an accurate and extremely stable exciter model, thus producing great overall performance with competitive prices.

The use of latest-generation LDMOS 50V Power Devices allows maximum power efficiency, thus guaranteeing optimal signal coverage with the minimum possible operating costs.
A multi-processor control system for each station monitors and controls the RF devices currents and the power supply voltages, together with the real-time monitoring of RF powers and of the heat-sinks operating temperature.

A multifunction display & keyboard user interface allows to verify all the operating parameters of each unit with immediate access to eventual warning or alarm conditions.

All the equipment in the **FM High Power Complete Systems** family are completely controllable by remote sites by a single access point using the Elettronika RCU or by means of the optional SNMP/Web interfaces.

Basic redundant operation is easily obtainable by means of a smart Automatic Transmitter Switch for a simple 1+1 configuration and a more complex N+1 redundant architecture can be implemented by the renowned Elettronika “N+1 System”.

MAIN CHARACTERISTICS:

- Forced-air Cooling System
- High Efficiency
- Single Remote Control access point using Elettronika RCU
- All voltages and currents available on display

OPTIONS:

- Frequency Stability
- Digital Audio Input
- RDS Internal Coder
- Dual-exciter Configuration

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Technical characteristics

FM High Power Complete System

RF SECTION

Frequency Range	87.5 - 108MHz, 10/50/100kHz (64 - 74MHz available on request)
Reference Stability	± 2.5ppm (0°C - 50°C)
Lockable to External Reference	5/10MHz
Nominal Output Power	3kW to 40kW
Automatic Level Control	0-100%
Off Lock Attenuation	> 60dB
Asynchronous AM S/N Ratio	> 65dB
Synchronous AM S/N Ratio	> 60dB
Spurious and Harmonic Suppression	Meets or Exceeds all FCC and CCIR requirements
Modulation Capability	Meets or Exceeds all FCC and CCIR requirements

AUDIO SECTION

MPX

Audio Input Level	2Vpp Nominal (-6dB / +12dB adjustable from front panel)
Frequency Amplitude Response	± 0.05dB 20-53kHz ± 0.1dB 53-100kHz
Harmonic Distortion	< 0.1% 20-100kHz (0.05% 20-53kHz)
S/N Ratio with CCIR Unweighted	80dB (400Hz ref. for ± 75kHz deviation with 50 s de-emphasis)
S/N Ratio with CCIR Weighted	78dB (400Hz ref. for ± 75kHz deviation with 50 s de-emphasis)
S/N Ratio with RMS Detector	90dB (400Hz ref. for ± 75kHz deviation with 50 s de-emphasis)

MONO OPERATION

Audio Input Level	2Vpp Nominal (-6dB / +12dB adjustable from front panel)
Frequency Amplitude Response	± 0.2dB 30-15kHz
Harmonic Distortion	≤ 0.15% 30-15kHz
Pre-emphasis	Flat, 50 s, 75 s
S/N Ratio with CCIR Unweighted Filter	80dB
S/N Ratio with CCIR Weighted Filter	78dB

INTERNAL CODER OPERATION (Stereo Coder Option)

Audio Input Level	2Vpp Nominal (-6dB / +12dB adjustable from front panel)
Frequency Amplitude Response	± 0.2dB 30-15kHz
Harmonic Distortion	< 0.05% 30-15kHz
Pre-emphasis	Flat, 50 s, 75 s
Stereo Separation	> 50dB (typ. 60dB) 30-15kHz
S/N Ratio with CCIR Unweighted Filter	76dB (with 50 s de-emphasis)
S/N Ratio with CCIR Weighted Filter	72dB (with 50 s de-emphasis)

SCA OPERATION (2 Inputs)

Audio Input Level	2Vpp Nominal for ± 7.5kHz deviation
Frequency Amplitude Response	± 0.1dB 40-100kHz

AUXILIARY SOCKETS

Serial Interface	RS232, RS485 (with host computer/modem)

DIGITAL AUDIO INPUT (Option)

Digital Audio Formats	AES/EBU (XLR Female), S/PDIF (BNC), TosLink (Fiber Optic)
Sample Rate Range	16kHz to 96kHz with Automatic Sample Rate Converter
Audio Processing	Fully 24 bit digital audio accuracy
THD+N	-117dB @ 1kHz

Output Power	3kW	5,5kW	10kW	15kW	20kW	30kW	40kW
Input Power [W]	20	30	60	90	120	190	250
Composition	MIRA + 2xDAT2F	MIRA + 2xDAT4F	MIRA + 2xDAT8F	MIRA + 3xDAT8F	MIRA + 4xDAT8F	MIRA + 6xDAT8F	MIRA + 8xDAT8F
Rack	28U	28U	28U	42U	2x28U	2x42U	3x42U
Output Connector	EIA 7/8	EIA 1+5/8	EIA 1+5/8	EIA 1+5/8	EIA 3+1/8	EIA 3+1/8	EIA 3+1/8
Power Consum. [kVA]	4,8	8,8	15,5	24,2	32	50	65
Weight [kg]	200	220	300	350	550	700	1000
AC Power	3P+N 400V ±15%	3P+N 400V ±15%	3P+N 400V ±15%	3P+N 400V ±15%	3P+N 400V ±15%	3P+N 400V ±15%	3P+N 400V ±15%
Temperature	-5 to +45°C	-5 to +45°C	-5 to +45°C	-5 to +45°C	-5 to +45°C	-5 to +45°C	-5 to +45°C

Specifications and characteristics are subject to change without notice Rev.3/9.12

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