



COMPACT FM TRANSMITTERS/EXCITERS

PM 300/500/1000



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- **The PM 300/500/1000 transmitters/excitors** are designed to operate in the whole FM frequency range (87.5 - 108 MHz) as stand-alone transmitters or versatile excitors for high power amplifiers. The RF output power is continuously adjustable from 0 to 300W (PM 300), 500W (PM 500) or 1000 W (PM 1000).
- **Low dimensions and weight.** Designed to fit into space limited facilities, PM 300/500/1000 units feature one of smallest dimensions and weight in the industry, simplifying transport, installation and maintenance.
- **COLD-FET™ technology.** This technology is used in the PM series transmitters to optimize the MOSFET's output matching in order to obtain broadband amplification stages without any RF component.
 - This means:
 - higher RF efficiency > 83%
 - lower heating
 - higher devices safety
 - higher total reliability
 - low AC power consumption
- **MOSFETs Safety.** The COLD-FET™ technology permits to obtain from the PA the full power rating reducing of almost 15% the MOSFETs recommended operating DC voltage and current.
- **Uninterrupted service.** A true proportional foldback protection circuit keep the transmitters always on the air reducing the output power in case of:
 - antenna VSWR
 - environmental over-temperature
 - failure in one or more amplification modules
 - failure in one or more power supply modules
- **Frequency-agile PM transmitters are fully broadband.** All RF stages, including the output filters, can operate on any FM channel, selectable via a integrated digital selector.
- **Automatic power control** circuit maintains constant RF output with precision ($\pm 1\%$).
- **Advanced controller** provides full front panel transmitter control capabilities and extensive metering of individual modules. Standard or special remote control interface is also available.
- **Power supply.** A rugged, high-efficiency (> 93%) power supply, protected from incoming AC line overvoltage, overcurrent, transient and lightning and equipped with PFC circuit assures to the PM transmitters/excitors very high reliability and very low consumption.
- **Cooling:** an oversized low noise air cooling system with internal fans extends transistors life
- **Low overheating.** Thanks to the high RF efficiency, due to COLD-FET technology, the heatsink overheating respect to the environmental temperature is limited at + 10°C only. This permits to operate also in hard climatic conditions.
- **Low AC power consumption.** The high overall efficiency means a reduction of AC power consumption and operating costs.
- **Meets or exceeds** international standards for safety and electrical specifications.

TECHNICAL CHARACTERISTICS

RF DATA	Output frequency range	87.5 ÷ 108 MHz
	Output frequency setting	Synthesized with PLL, 10 kHz step (front panel digitswitches microprocessor controlled with /C option)
	Output impedance	50 Ω
	Output connector	N (PM 300 & PM 500) DIN 7/16* (PM 1000)
	Continuous output power	from 0 to 300 W adj. (PM 300) from 0 to 500 W adj. (PM 500) from 0 to 1000 W adj. (PM 1000)
	Thermal drift	(0 ÷ 50° C) ± 1 kHz (better on request)
	Aging drift	± 300 Hz year
	Harmonics	< - 72 dBc
	Spurious	< - 80 dBc
	AF DATA	Mono operations:
Input level		-10÷+12 dBm adj.
Input connectors		XLR female/bal.
Input impedance		600 Ω
Bandwidth (± 0.25 dB)		20 Hz÷15 KHz
Pre-emphasis		50/75 μs selectable and bypassable
Deviation from pre-emph. curve		± 0.5 dB
FM S/N ratio (±75 kHz deviation at 1 kHz, 50 μs de-emph.)		≥ 80 dB (typ. 82 dB)
THD		< 0.1 % (typ. 0.08 %)
19 kHz attenuation		≥ 55 dB
AM syncro residual (ref. 100% mod.)		< -64 dB
AM asynco residual (ref. 100% mod.)		< -68 dB
Stereo operations (MPX input):		
Input level		-10÷+12 dBm
Input connector		BNC, unbal.
Input impedance		10 Ω
Bandwidth (± 0.1 dB)		20 Hz÷100 KHz
FM S/N ratio (±75 kHz deviation at 1 kHz, demodul., 50 μs de-emphasis)		≥ 74 dB (typ. 76 dB)
Stereo separation (20 Hz÷15 kHz)	≥ 62 dB (typ. 65 dB)	
THD	< 0.2% (typ. 0.1 %)	
STEREO CODER CHARACTERISTICS (OPTION /S):	Input connectors (L&R)	XLR, bal.
	Input impedance	600 Ω
	Input levels	-10÷+12 dBm
	19 kHz attenuation	≥ 55 dB
	Bandwidth (± 0.25 dB)	20 Hz÷15 KHz
	S/N ratio (±75 kHz dev. at 1 kHz, demodul., 50 μs de-emphasis)	≥ 80 dB (typ. 82 dB)
	Stereo separation (20 Hz÷15 kHz)	> 65 dB (typ. 68 dB)
THD	< 0.1% (typ. 0.08%)	
SCA 1, SCA 2, SCA 3	Input level	2.2 Vpp per 7.5 kHz dev.
	Bandwidth (± 0.25 dB)	40 ÷ 100 kHz
METERING	± 12 V, + 48 V, forward and reflected power, MPX level, 19 kHz, L & R, deviation	
ALARMS	VSWR, Overtemperature	
POWER SUPPLY	Operating voltage	110/220/240 Vac ± 10 %, 50/60 Hz single phase
	Power consumption (at maximum output power)	550 VA (PM 300) 990 VA (PM 500) 1670 VA (PM 1000)
	Battery operation (opt.)	48 Vdc
OPERATING CONDITIONS	Cooling	forced air, 24Vcc axial fan
	Temperature range	- 10° ÷ + 45° C
	Humidity	95% max.

TECHNICAL CHARACTERISTICS

WEIGHT AND SIZE	PM 300	17 kg	19" x 3U	W x D x H 483 x 520 x 132 mm
	PM 500	18 kg	19" x 3U	W x D x H 483 x 566 x 132 mm
	PM 1000	32 kg	19" x 4U	W x D x H 483 x 527 x 176 mm

OPTIONS	Stereo coder	/S
	Audio processor	/P
	Remote control interface	/R
	High frequency stability < 300 Hz	/HS
	Additional 2 x SCA/RDS inputs	/SCA3
	48 VDC power supply	/VDC-48