

VERY ADVANCED FM RADIO TRANSMITTERS



Mod. MICRO-ST 30-50-100

new

- Frequency **87.5 ÷ 108MHz**
- Excellent stereo and mono operation
- Extremely low distortion THD – IMD
- Very low noise
- High stereo performances
- μ P controlled – RDS facility – digital input audio facility
- Seven memory programs, step frequency 10kHz
- Easy frequency programming and set-up
- Full broadband BW > 20MHz
- Remote control and programming RS485
- Full control and protection of: Output Power, Deviation
- Very reliable, compact, strong and long service
- Compliance to C.C.I.R. & F.C.C. standards



Mod. MICRO-ST 300

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RF CHARACTERISTICS	
Power Output	30W (ST30) – 50W (ST50) – 100W (ST100) – 300W (ST300) adjustable from front panel
RF output impedance	50Ω unbalanced, VSWR less than 1.5:1
Frequency range	87.5 to 108MHz, 7 channels (10kHz / step up selected) storable and recalled from panel,
Frequency control	Synthesizer μ -processor controlled
Off lock attenuation	> 80dBc (typical -85 dB)
Type of modulation	F3E / F8E direct FM at the carrier frequency
Modulation mode	Mono, Stereo, Multiplex, SCA, RDS, AUX (input selected by front panel)
Frequency deviation	± 75 kHz = 100%, ± 150 kHz capability
Short term stability	± 1 ppm from -5 to +45°C, can be synchronized by 1-2-2.5-5-10MHz self select external clock (OPT 01)
Instantaneous BW	>20MHz
RF harmonics	Exceeds EBU/CCIR/FCC requirements < -70dBc
RF spurious	Exceeds EBU/CCIR/FCC requirements < -100dBc @ ± 1 MHz min. (typical -110dB)
Preemphasis	Flat/50/75 μ s selectable via front panel – precision typical 0,4%
Stereo operation	CCIR 450/S2 "pilot tone system"

STEREO OPERATIONS	
Stereo Separation	>53dB (typ. 56dB) 30+80Hz , >60dB (typ.70dB) 80Hz \pm 15kHz
Crosstalk attenuation (M / S)	> 40dB 30Hz \pm 15kHz (typ. 55dB 100Hz \pm 8kHz)
THD+N on encoded channels	< 0.03% 30Hz \pm 15kHz (typ. -74dB)
IMD – Distortion	< 0.03% Typ. IMD D2 < -83dB D3 < -88dB
Audio filter attenuation	> 55dB @ 19kHz ; > 45dB 19kHz \div 100kHz
Common mode rejection	> 45dB 20Hz \pm 15kHz
Spurious products	> 53kHz > 50dB
38Hz suppression	> 70dB (typ. -85dB)
Sub carrier frequency	38kHz \pm 2Hz
Pilot frequency	19kHz \pm 1Hz
Phase difference	19/38kHz 0° \pm 2° adjustable
TIM (DIM30)	< 0.03 % (square/sinus) Typ. < -77 dB
Nominal pilot deviation	± 7 kHz

MONO OPERATION	
Audio response	± 0.15 dB 20Hz \pm 15kHz (+0 / -2%)
THD+N on encoded channels	30Hz to 15kHz < 0.02% (typ. 0.03%) typ. -74dB
IMD	D2 < -75dB , D3 < -80dB (Typ. D2<-80dB, D3< -85dB) (measured with a 1kHz and 1.3kHz tones, 1:1ratio, @ FM 75kHz)
TIM (DIM30)	< -70dB (Typ. < -77dB) (measured with square wave 2.96kHz - sine wave 14kHz @ 75kHz FM)

AUDIO INPUTS						
Function	Input level / Adjustment range	BW	Impedance	Type	Conn.	N°
Composite	-3 to +6dBm	0.15dB (30Hz \pm 100kHz)	~ 1.2 k Ω	Unbal.	BNC	1
Sca/RDS	-3 to +6dBm	0.15dB (40Hz \pm 100kHz)	~ 3 k Ω	Unbal.	BNC	2
Aux	-3 to +6dBm	0.15dB (40Hz \pm 100kHz)	~ 3 k Ω	Unbal.	BNC	3
L	(3dB step adjustable by software) -3 to +9dBm/ ± 0.5 dBm	0.1dB (30Hz \pm 15kHz)	10k Ω 600 Ω	Unbal. Bal.	XLR	4
R	(3dB step adjustable by software) -3 to +9dBm/ ± 0.5 dBm	0.1dB (30 Hz \pm 15kHz)	10 k Ω 600 Ω	Unbal. Bal.	XLR	5

PHISICAL & ELECTRICAL	
Dimensions	Standard 19" chassis rack
Cabinet	D 385mm - W 485mm - H 1 unit (MICRO-ST 30-50-100) / 3 units (MICRO-ST 300)
Weight	4.5kg approx. (MICRO-ST 30-50-100) - 8kg approx (for MICRO-ST 300)
Power supply	230V single phase AC (+10 / -15%) 50-60Hz $\pm 5\%$
Human interface input device	Rotary encoder with pushbutton or USB
Acoustic Noise	< 56dBA Leq 3min @ 1m
Cooling	Forced air, with internal long life brush-less ball bearing fan.

ENVIRONMENTAL			
Storage temperature	- 20°C + 60°C	Operating temperature	- 5°C + 45°C
Guaranteed performances temp.	0°C + 40 °C	Relative humidity (no condensing)	90% MAX
Max operating altitude	2000mt	Max extraneous field strength	≤ 10 V/m ; ≤ 4 A/m

OPTIONS	
OP 01	24V Buck-up input (only for MICRO-ST 30-50-100)
OP 02	Telemetry interface from DB25 to terminal block , opto insulated I/O
OP 03	Digital audio input AES-EBU facilities, XLR balanced
OP 04	RDS simple coder programmable via PC



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