

## SERIES MKRT-D

### marKoni: The New FM Frontier!

The philosophy of our transmitters provides high reliability and efficiency, delivering a fantastic pure sound sensation thanks to our brilliant integrated digital modulator, which implements an innovative direct-RF synthesis algorithm, with sub-Hz accuracy onto an FPGA-based digital processing core.

Thanks to the big full-colour touch screen display it is possible to check or change all the system parameters.

### Key Features

- Crystal Digital Sound purity
- Fully Digital Signal Processing
- Embedded RDS generator
- Auto-calibration at power-on
- Unbeatable value-for-money
- Lifetime upgradable firmware
- Absolutely no analogue trimming points
- Single-chip Digital Processing for the maximum compactness
- Minimum BOM, maximum long-term reliability
- Fully remotely controllable by Web/SNMP interface
- 1pps and 10MHz inputs for Synchro FM Operation
- 2 Redundant Inputs
- E-mail Alert

### Configurations

- Passive Reserve
- N+1 Reserve



▲ Front panel detail (100W - 1kW)



▲ Front panel detail (2kW)



▲ Rear panel

# Specifications



▲ Touch-screen display

TYPE	POWER	EFFICIENCY
<b>MKRT-D100</b>	100W	50%
<b>MKRT-D300</b>	300W	69%
<b>MKRT-D500</b>	500W	72%
<b>MKRT-D1000</b>	1kW	70%
<b>MKRT-D2000</b>	2kW	72%

## SIGNAL PROCESSING SECTION

FM Carrier Generation	NCO-based synthesis
FM Modulation	Fully digital
Stereo Coder	Fully digital, integrated
Input Audio Limiter	Proprietary integrated Soft Limiter
Digital Processing Resolution	Real-time internal 32-bit digital processing
RDS Generator	Fully integrated
Monitoring Output Signal	Fully digitally generated

## INPUT SECTION

### - Analog L/R Input

L/R Analogue Inputs	30Hz - 15kHz (integrated digital stereo coder)
L/R Analogue Inputs Impedance	0dBu nominal (adjustable from -12dBu to +12dBu) 600 Ohm/10 kOhm balanced/unbalanced

### - Analog MPX and SCA Input

Analogue MPX Input	30Hz - 100kHz 0dBu nominal
MPX Analogue Inputs Impedance	10 kOhm unbalanced
SCA1/SCA2 Inputs	40kHz - 100kHz 2Vpp nominal for $\pm 7.5$ kHz deviation
SCA1/SCA2 Analogue Inputs Impedance	10 kOhm unbalanced

### - Digital L/R Input

Digital Audio Input	AES/EBU (XLR Female), S/PDIF (BNC)
Balanced AES/EBU Input Impedance	110 Ohm
unbalanced S/PDIF Input Impedance	75 Ohm

### - RX-IP Audio Decoder (Option)

RTP Receiver Decoder	Unicast RTP/UDP compatible receiver HE-AAC (v.1 and v.2), MPEG-1 Layer 3 or raw PCM
Connector	RJ45

### - Audio Delay

Audio Input Delay (all audio inputs)	0 - 4ms, step 1ms
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## OUTPUT SECTION

RF Output Frequency (FM/OIRT bands)	87.5MHz - 108MHz step 1Hz, $\pm 1$ ppm frequency stability / OIRT on request
Output Interface/Impedance	Nf Type (100W-300W)/ 7/16" (500W-2kW)
Pilot Carrier Frequency	19kHz $\pm 0.001$ Hz
Pilot Carrier Level	0-12% modulation in 0.1% steps
Pilot Carrier Output	1Vpp digitally synthesized
MPX Analogue Output	0dBu from integrated digital stereo coder
19kHz and 38kHz Tone Suppression	< -63dB
THD (30Hz-15kHz)+N	< 0.1%
Synchronous AM	Better than -60dB
Asynchronous AM	Better than -70dB
Mono SNR RMS	Better than -85dB
Stereo SNR RMS	Better than -80dB
L/R and R/L Crosstalk	> 50dB (60dB typ.)
M/S and S/M Crosstalk	> 45dB full-band
Pilot Carrier Phase	User-adjustable (step $< 1^\circ$ )
Frequency Deviation Range	User-adjustable 0 to $\pm 200$ kHz
Pre-emphasis	Flat, 50us or 75us

## GENERAL

Physical	Case 19"-2U
Remote Control Port	RS232/RS485
Remote Control Options	PTSN, GSM (optional), Ethernet, SNMP
Front Panel User Interface	LCD full color touch screen display
Power Supply Voltage	Low/Medium power, 230V, $\pm 15\%$
Operating Temperature	0 - 45°C

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