AQUABROADCAST

COBALT

C-100 FM Transmitter

DATASHEET AND SPECIFICATIONS

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100W FM Transmitter

DDS EXCITER   LINUX OS   R·D·S RADIO DATA SYSTEM   MPX DIGITAL   RGB DISPLAY   HIGH EFFICIENCY   COMPACT AIR COOLED   SNMP   AUDIO PROCESSOR

Perfect for low-power applications like smaller Transmitter sites, use as an Exciter or as a Gap-filler, Sporting where low power, and High quality audio are needed.

The COBALT C-100 Transmitter has a superior audio quality and sound clarity thanks to it's Direct to Channel Digital technology. Running on a fully customised LINUX OS system, this low distortion modulator is available on all models within the COBALT family of FM Transmitters. Inputs and outputs include Analog, AES/EBU, Digital MPX (AES192), Ethernet, USB, GPIO, GPS Sync with built in SFN capabilities.

Radio market beating sound will let you stand out to your listeners, with it's built-in 4 band Audio rocessor with Bass enhancement, Pilot protection, Wide AGC and a whole bunch of expertly designed modern presets, so you sound great right from the start.

The modern design lets you easily read the Ultra-clear RGB display, and the intuitive Joystick controls with Haptic feedback and additional silicon buttons allows fast setup, getting you on the air even faster.

The advanced communication package with Intuitive web interface and remote control via Ethernet (https) lets you make changes or monitor the COBALT Transmitter. Full SNMP Version 3 managment and the ability to send emails, alerts and monitor audio remotely gives you added confidence knowing you have full control from anywhere in the world on any device with a Web browser.

Easy access to all components and software controlled variable fan speed, will guarantee you low cost of maintenance .
The highest AC efficiency, a compact design and reduced weight mean low cost of transportation and far the lowest total cost of ownership in it's class.

～ **4 Band Audio Processing**
～ **Dynamic, UECP Compliant RDS Encoder**
～ **Direct to Digital Synthesized modulation**
～ **Digital MPX Encoder**
～ **MPX Power Limiter**

～ **Linux OS**
～ **RGB Screen**
～ **Ethernet Control and SNMP**
～ **GPS Sync**
～ **Optional Auxiliary DC power input**

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Technical Specifications

General

Output Power (W)	100
Range (W)	0.1-100
RF Output connector	N-Type (Female)
Input ACV @ 50/60Hz	100-240 (277 North America only)
Power Connector	IEC 13A filtered
Power consumption	~177W @ max power
AC-RF efficiency typ	~56%
Temperature controlled fan	1
Power supplies	1
Dimensions WxDxH (inch)	19x15x1RU (1.75")
Dimensions WxDxH (cm)	48.3x38x4.45
Weight	3.7kg / 8.14lb

Modulator

Transmitter type	Solid-state FM Stereo transmitter
Modulator	Direct-to-channel (DDS)
RF Output Frequency Range	VHF Band II, 87-108MHz
RF Frequency Steps	50/100kHz
Frequency Stability	±1 ppm with internal 10MHz clock reference
FM Modulation Range Capability	75kHz default, 100% modulation adjustable up to 250kHz

RF

Power Stability	≤ ± 0.25dB
Asynchronous/AM noise	≤ -60dB
Synchronous AM s/n ratio	≤ -60dB
RF Harmonic and Spurious Suppression	Meets ETSI requirements
VSWR operation	Fully protected against gradual or sudden VSWR conditions. Proportional power reduction from VSWR 1.5:1

Stereo Encoder

Modes	Stereo, Mono L+R, Mono L, Mono R
Frequency response	20Hz - 15kHz
Pre-emphasis	0, 50 or 75µs
Pilot tone	19kHz, adjustable level
Subcarriers suppression	≤ -70dB
Stereo separation	>80dB digital, >70dB analogue
SNR	>85dB
THD+N	<0.03%

Audio Inputs

Analogue	2 x XLR female, 10kΩ impedance, level from 0dBu up to 24dBu
Digital	AES/EBU via RJ45 per StudioHUB+, level from -24dBFS up to 0dBFS, sampling rates 32-192kHz

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RDS Generator

Type	Fully Dynamic RDS/RDS2/RBDS Generator
Protocols	ASCII commands, UECP protocol and X-Command
Ports	Multi-port architecture: UART over USB-B & Ethernet

Communication and Control

10MHz input	BNC, 50Ω terminated
1PPS input	BNC, 50Ω terminated
RF sample output	SMA, 50Ω, -30dBc
UART over USB	USB-B, system control
USB	2 x USB-A, storage & FW upgrade
Ethernet	1 x RJ45
RS232	DB25 shared connector, system control
GPIO	DB25 shared connector, 8 x output & 8 x input, all optically isolated.
Interlock/RF Mute	DB25 shared connector

Specifications are subject to change without prior notice

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