

COBALT

Fully Featured FM Translators



Datasheet and Specifications

Specifications are subject to change without notice

COBALT Translators

Turn any COBALT Fully Featured FM Transmitter into a Translator with the optional Tuner.

With it's highly sensitive DSP Tuner built right into the unit and exceptional audio quality and clear sound from the Direct to Channel Digital technology these are perfect for your site.

The Tuner range is 65-108MHz and has the ability to pass through RDS data or you can also receive the station, and generate new local RDS data and Stereo generation right out of the box.

The inputs and outputs are versatile, encompassing Analog, AES/EBU, Digital MPX (AES192), ITU-R BS412.9 Limiter, Ethernet, USB, GPIO, GPS Sync with built-in SFN capabilities.

What truly sets this transmitter apart in the radio market is its exceptional audio quality. It boasts a built-in 4-band Audio Processor with Bass enhancement, Pilot protection, Wide AGC, and an array of expertly crafted modern presets, ensuring that your broadcasts sound exceptional from the very beginning.

User-friendly -the modern design includes an ultra-clear RGB display that's easy to read. The intuitive joystick controls with haptic feedback and supplementary silicon buttons streamline the setup process, getting you on the air swiftly.

COBALT Translators offer advanced communication and automation capabilities, featuring an intuitive web interface and remote control via Ethernet (https). This means you can make adjustments or monitor the COBALT Translator from anywhere. Additionally, it offers full SNMP Version 3 management, enabling you to send emails, receive alerts, and monitor audio remotely, providing you with the assurance of full control from any location worldwide, using any device with a web browser.

Audio monitoring is a new function that lets you stream confidence audio monitoring back to any web enabled device. Simply log in to your Cobalt Transmitter, and easily listen to audio from any source or the audio that's being processed prior to entering the PA going on-air. This is great so you can hear what your market is listening to. Change the source to the Analog, Digital or a test tone and listen to that too. Great for checking in on Audio coming in from an STL or direct out of your mixer. If you have the optional Tuner or MicroMPX in your Cobalt, those too can also be monitored

Audio failover and Silence detection come as standard, letting you use an different input, or even using a USB stick as a backup audio source.

Standard Features

- ~ Direct to Digital Synthesized modulation
- ~ Linux OS
- ~ Silence detect, Audio failover and USB audio
- ~ 4 Band Audio Processing
- ~ Audio monitoring by web browser
- ~ Dynamic, UECP Compliant RDS Encoder
- ~ Digital MPX Encoder
- ~ MPX Power Limiter
- ~ GPS Sync
- ~ Ethernet Control and SNMP
- ~ FCC Part 73 Certified for LPFM
- ~ Dual PSU Fitted as standard

Options Available

- ~ Dante® / AES67 Module
- ~ 6 Band Audio Processor
- ~ MicroMPX
- ~ 48V DC Power option

Turn any COBALT Fully Featured FM Transmitter into a Translator with the optional Tuner. by adding the Tuner option to your Cobalt product when you place your order for an additional

\$580.00

€530.00

£450.00

AQUABROADCAST

Please refer to individual Cobalt Datasheet relevant to the power you need for your Translator

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	100kHz
Frequency Stability	±1 ppm or ±150Hz range with internal 10MHz clock reference
FM Modulation Range Capability	75kHz default, 100% modulation user adjustable up to 105kHz 140%, maximum 300kHz

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 condition Proportional power reduction from VSWR 1.5:1

TUNER

Input	50 ohm BNC Female
Tuning Range	65-108MHz in 50kHz steps
Stereo Separation	>50dB
Adjacent Channel rejection	74dB (Δf = 200kHz)
S+N/N	Mono:>69dB Stereo:>60dB
AM suppression	1

STEREO ENCODER

Performance	400Hz/1kHz test tones at modulation level ≤75kHz
Modes	Stereo, Mono L+R, Mono L, Mono R
Frequency response	20Hz-15kHz ±0.02dB
Pre-emphasis	0, 50 or 75µs
Pilot tone	19kHz, adjustable level 0-12%
Subcarriers suppression	≤ -70dB
Stereo Suppression	≥75dB AES/EBU input
Stereo SNR	≥70dB Analogue input
Stereo THD+N	≥80dB with 75us de-emphasis
Crosstalk	≥75dB without de-emphasis on both inputs <0.03% ≥70dB, between L+R and L-R due to channel matching, both inputs

MONO PERFORMANCE

Frequency response	20Hz - 15kHz ±0.02dB
Pre-emphasis	0, 50 or 75 µs
Mono SNR	≥100dB, with 75us de-emphasis
Mono THD+N	≤0.002% analogue input, ≤0.001% AES input, with 75us de-emphasis

ANALOGUE AUDIO PERFORMANCE

Frequency response	10Hz-53kHz ±0.03dB 53kHz-70kHz ±0.3dB
FM SNR	≥90dB, with 75us de-emphasis
THD+N	≤0.003% with 75us de-emphasis

DIGITAL

Frequency response	0-90kHz ±0.005dB
FM SNR	≥100dB, with 75us de-emphasis
THD+N	≤0.001% with 75us de-emphasis

AUDIO INPUTS

Analogue	2 x XLR female, 10kΩ impedance, level adjustable 0-24dBu
Digital	AES/EBU via RJ45 per StudioHUB+ Level adjustable -20-0dBFS, sampling rates 32-192kHz

AUDIO OUTPUT

Headphones Out	14" (6.3mm) female stereo socket software adjustable volume minimum load impedance 16Ω
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WIDEBAND INPUTS

Analogue MPX	BNC, 10kΩ impedance, level adjustable 0-12dBu
Digital MPX	AES/EBU via RJ45 per StudioHUB+ level -20-0dBFS, sampling rate 192kHz left channel
Analogue RDS	BNC, 10kΩ impedance, level adjustable from 0.1-10Vpp

WIDEBAND OUTPUTS

Analogue MPX	BNC, 10Ω impedance, level adjustable 0-12dBu
Analogue Pilot	BNC, 10Ω impedance, level adjustable 0-12dBu

RDS GENERATOR

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

WIDEBAND INPUTS

10MHz input	BNC, 50Ω terminated
1PPS input	BNC, 50Ω terminated
RF sample output	SMA, 50Ω, -30dBc
UART over USB	USB-B, system control
USB	USB 2 x USB-A, storage & FW upgrade
Ethernet	1 x RJ45
RS232	DB25 shared connector, system control
Interlock/ External RF Off	GPIO DB25 shared connector, 8 x output & 8 x input, all optically isolated
Analogue voltage output	DB25 shared connector, programmable logic/polarity DB25 shared connector, 4-channel 0-5V range

ENVIRONMENTAL

Altitude	15,000 ft / 4,420m AMSL
Temperature range	0 to +45°C working, -10 to +50°C storage
Humidity	95% @ 35°C, non-condensing

AQUABROADCAST

Aqua Broadcast was formed by a diverse and experienced team of people with extensive Broadcast and electronics experience. We love Broadcast just as much as you do, and we saw the need to do things differently to all our competitors.

With an international presence and offering multi-lingual staff, Aqua Broadcast has positioned itself as a dynamic and innovative company, driven by its passion for Broadcast and Studio products.

At our core are our customers. We focus on designing and building products for engineers and station owners who demand reliability, ease of use, with cutting-edge design and features. Listening to customer's ideas, feedback and success stories allows us to build products that are feature rich, reliable as well as easy to use.

Our strategically located offices worldwide mean you are never out of touch due to time zones. Sales and support are available round the clock. Whether it's a phone call, or email we are always with you every step of the way.

For details of your local dealer or Distributor, please refer to our [website](#) or contact us.

The purchaser will be responsible for all import taxes, customs, duties, freight costs and insurance.

Warranty Information

At Aqua Broadcast Ltd, we are devoted to building the highest quality products and the never-ending pursuit of providing a better experience to our customers.

Our warranty statements are a continued commitment to providing reliable solutions with our technologies. All Aqua Broadcast Ltd benefit from a 2 year Manufacturer's Warranty. Further information on the Warranty can be seen in each products user manual, or by contacting us.

Aqua Broadcast Ltd



Unit 7, First Quarter
Blenheim Road
Epsom
KT19 9QN
United Kingdom



Tel: +44 203 411 0387



www.aquabroadcast.co.uk



info@aquabroadcast.co.uk



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