

AQUABROADCAST

Prima

FM Transmitter Range



Datasheet and Specifications

Prima

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The Aqua Broadcast PRIMA FM transmitter range is a cost-effective family which benefits from high efficiency and excellent standard features.

The compact design transmitters are available in various power outputs and are designed to fulfill the requests of those remote stations in need of a heavy-duty, cost-effective transmitter design.

All models feature a built-in high-performance digital Stereo Encoder that provides a smooth, clean and polished sound.

IP connectivity and SNMP are included in all models.

~ **Compact design:**

Housed in compact 1U and 2U chassis, the PRIMA uses less valuable rack space.

~ **IP Connectivity:**

Full WEB control with SNMP and Alarms gives you the control and alerts you need.

~ **Large and clear display:**

The LCD screen is easy to read.

~ **Wide range of Audio Inputs:**

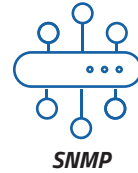
With Left and Right Analog audio, AES/EBU Digital Audio and MPX as standard, easily connect to any Prima product.



Prima 100



100W FM Transmitter



The Aqua Broadcast PRIMA 100 FM Transmitter is a state-of-the-art heavy-duty, low power transmitter featuring high efficiency technology.

Being broadband and tuneable between 87.5-108 MHz, installation is easy and fast. The clear, easy to read LCD Display shows all Transmitter information. Along with the front mounted user control buttons quickly setup or make changes when needed.

The 1RU compact design with an output power of 100W also features a Stereo Encoder on board. Left and Right Analog Audio inputs, AES/EBU Digital Audio input and MPX allow for use in any situation.

Its easy to manage or control the PRIMA 100 from anywhere with its comprehensive remote control and Alarm's facility. Control the PRIMA 100 via the WEB with TLC/TLS secure connection, as well as SNMP from anywhere with an Internet connection. Of course, parameter changes are also available, including 6 useful user presets, giving you the option to remotely change the unit if you have multiple broadcasting formats (please note the use of this is governed by your local regulator)

Whether the PRIMA 100 is used as a main low power Transmitter, back-up or remote site unit, you can be confident of 365/7 broadcast.

- ~ 100W Power output
- ~ Broadband tuning 87.5-108MHz
- ~ Modular and compact design
- ~ Overall efficiency of more than 70%
- ~ MPX Input
- ~ Stereo Encoder with Analog L/R input
- ~ AES/EBU input
- ~ Ultra-high signal to noise ratio, extremely low distortion
- ~ User-friendly GUI
- ~ Remote Control via SNMP, WEB, and TLC/TLS



Prima 300

300W FM Transmitter



The Aqua Broadcast PRIMA 300 FM Transmitter is a state-of-the-art heavy-duty, low power transmitter featuring high efficiency technology.

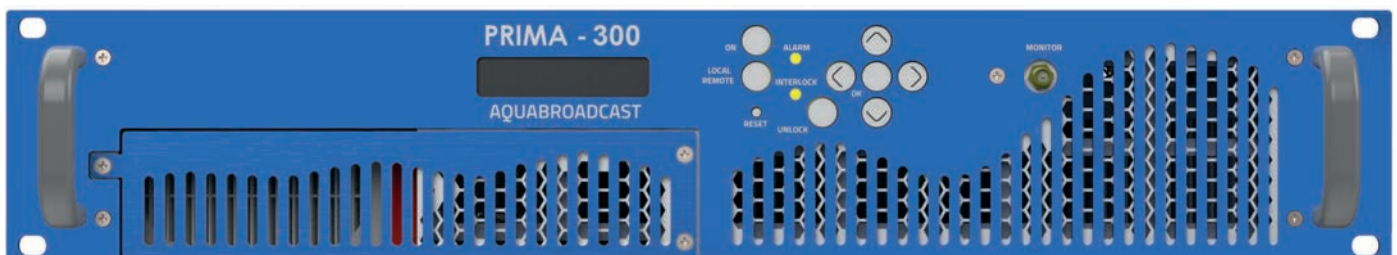
Being broadband and tuneable between 87.5-108 MHz, installation is easy and fast. The clear, easy to read LCD Display shows all Transmitter information. Along with the front mounted user control buttons quickly setup or make changes when needed.

The 2RU compact design with an output power of 300W also features a Stereo Encoder on board. Left and Right Analog Audio inputs, AES/EBU Digital Audio input and MPX allow for use in any situation.

Its easy to manage or control the PRIMA 300 from anywhere with its comprehensive remote control and Alarm's facility. Control the PRIMA 300 via the WEB with TLC/TLS secure connection, as well as SNMP from anywhere with an Internet connection. Of course, parameter changes are also available, including 6 useful user presets, giving you the option to remotely change the unit if you have multiple broadcasting formats (please note the use of this is governed by your local regulator)

Whether the PRIMA 300 is used as a main low power Transmitter, back-up or remote site unit, you can be confident of 365/7 broadcast.

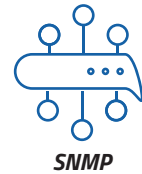
- ~ 300W Power output
- ~ Broadband tuning 87.5-108MHz
- ~ Modular and compact design
- ~ Overall efficiency of more than 70%
- ~ MPX Input
- ~ Stereo Encoder with Analog L/R input
- ~ AES/EBU input
- ~ Ultra-high signal to noise ratio, extremely low distortion
- ~ User-friendly GUI
- ~ Remote Control via SNMP, WEB, and TLC/TLS



Prima 600



600W FM Transmitter



The Aqua Broadcast PRIMA 600 FM Transmitter is a state-of-the-art heavy-duty, low power transmitter featuring high efficiency technology.

Being broadband and tuneable between 87.5-108 MHz, installation is easy and fast. The clear, easy to read LCD Display shows all Transmitter information. Along with the front mounted user control buttons quickly setup or make changes when needed.

The 1RU compact design with an output power of 600W also features a Stereo Encoder on board. Left and Right Analog Audio inputs, AES/EBU Digital Audio input and MPX allow for use in any situation.

Its easy to manage or control the PRIMA 600 from anywhere with its comprehensive remote control and Alarm's facility. Control the PRIMA 600 via the WEB with TLC/TLS secure connection, as well as SNMP from anywhere with an Internet connection. Of course, parameter changes are also available, including 6 useful user presets, giving you the option to remotely change the unit if you have multiple broadcasting formats (please note the use of this is governed by your local regulator)

Whether the PRIMA 600 is used as a main low power Transmitter, back-up or remote site unit, you can be confident of 365/7 broadcast.

- ~ 600W Power output
- ~ Broadband tuning 87.5-108MHz
- ~ Modular and compact design
- ~ Overall efficiency of more than 70%
- ~ MPX Input
- ~ Stereo Encoder with Analog L/R input
- ~ AES/EBU input
- ~ Ultra-high signal to noise ratio, extremely low distortion
- ~ User-friendly GUI
- ~ Remote Control via SNMP, WEB, and TLC/TLS



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Prima 1000

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1000W FM Transmitter



The Aqua Broadcast PRIMA 1000 FM Transmitter is a state-of-the-art heavy-duty, low power transmitter featuring high efficiency technology.

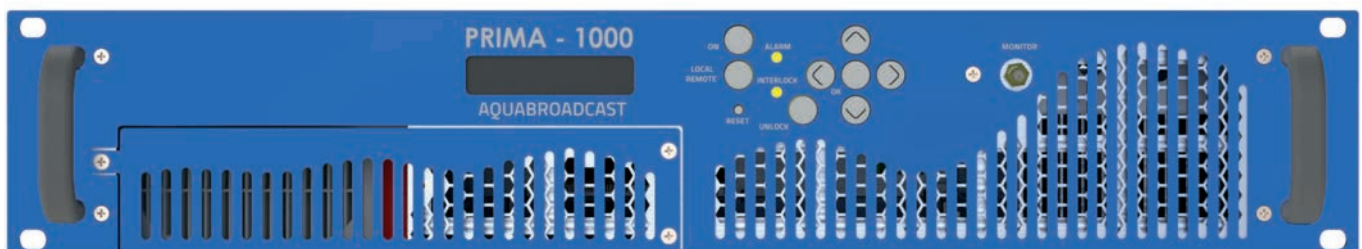
Being broadband and tuneable between 87.5-108 MHz, installation is easy and fast. The clear, easy to read LCD Display shows all Transmitter information. Along with the front mounted user control buttons quickly setup or make changes when needed.

The 1RU compact design with an output power of 1000W also features a Stereo Encoder on board. Left and Right Analog Audio inputs, AES/EBU Digital Audio input and MPX allow for use in any situation.

Its easy to manage or control the PRIMA 1000 from anywhere with its comprehensive remote control and Alarm's facility. Control the PRIMA 1000 via the WEB with TLC/TLS secure connection, as well as SNMP from anywhere with an Internet connection. Of course, parameter changes are also available, including 6 useful user presets, giving you the option to remotely change the unit if you have multiple broadcasting formats (please note the use of this is governed by your local regulator)

Whether the PRIMA 1000 is used as a main low power Transmitter, back-up or remote site unit, you can be confident of 365/7 broadcast.

- ~ 1000W Power output
- ~ Broadband tuning 87.5-108MHz
- ~ Modular
- ~ Overall efficiency of more than 70%
- ~ MPX Input
- ~ Stereo Encoder with Analog L/R input
- ~ AES/EBU input
- ~ Ultra-high signal to noise ratio, extremely low distortion
- ~ User-friendly GUI
- ~ Remote Control via SNMP, WEB, and TLC/TLS



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Technical Specifications

		PRIMA 100	PRIMA 300	PRIMA 600	PRIMA 1000
		100W	300W	600W	1000W
General					
Output power		87,5 to 108 MHz			
Working frequency		FM			
Standard		N (F)	N (F)	7/16	7/16
Output connector		In band ≤1 μW - Out of band ≤10 μW			
Intermodulation products		≥ 80 dB			
Harmonics /spurious emission		< ± 1 Hz without external reference (10 MHz) and modulation			
Frequency stability		< ± 0,1 Hz with external reference (10 MHz) and without modulation			
		In case of absence of external 10 MHz the modulator turns to the internal one automatically			
RF Technology		LDMOS			
Cooling		Forced air			
Max relative humidity		95% @ 35°C without condensing			
Working temperature range		0°... +45°C			
Max. altitude		4000 m s.l.m.			
Mains		230 V a.c. ± 15 %, 47...63 Hz, 3 wires (L+N+PE)			
Power consumption		150 VA			
Dimensions		(1U)483x45x350mm (WxHxD), (2U)483x45x500mm (WxHxD)			
Weight		(1U) 6 kg, (2U) 9Kg			
Power factor		>0.98			
Standard and directives					
Directives		2014/53/UE & 1995/5/EC			
Safety standard		EN 60215			
EMC standard		EN 301 849-11			
Spectrum usage standard		EN 302018 V2.1			
Monitoring and control					
RF Monitoring		SMA fem. 50 Ω			
Connectors		Front panel Display and keyboard			
FWD		Web browser / SNMP agent			
Local Control		IEC 60864-1			
Remote Control					
Netw. Mgmt.					
Direct signalling					
Input features					
Input		Connector		Impedance	
Audio Left and Right		XLR female		600 Ω o 2kΩ selectable	
MPX		BNC female		600 Ω o 2kΩ selectable	
AUX		BNC female		110 Ω	
MPX IN		Band 40 Hz ... 100 kHz			
		Input level adjustable from -12dBu up to +12dBu @ 0,1 dB steps			
		Sensitivity tenable by web pages).			
MONO IN		40 Hz ... 15 kHz impedance > 2kΩ o 600Ω pre-emphasis 0/50/75μs,			
(L input is the default input, set by the web on L or R input)		input adjustable on the L or R input (locally or remotely).			
		Level from -12dBu ... up to +12dBu @ 0,1 dB steps (Sensitivity tuneable by web pages).			
L and R Audio IN		Built-in stereo encoder. Impedance > 2kΩ or 600Ω pre- emphasis 0/50/75 μs (locally or remotely). Input level from -12dBu up to +12dBu @ 0,1 dB steps for Δf ±75 kHz.			
		Clipper Δf: Clipper profile: OFF – normal – hard -ideal (remotely by the web pages).			
AUX IN		GBE input / SFP connector on rear panel			
AES/EBU IN		Impedance 110 ohm			
		Sensitivity from 0dBFs up to – 24dBFs @ 0.1 dB steps			
MONO/RDS		Available			
RF IN (repeater / transposer)		75 Ohm BNC female			

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ASI IN (Decoding)	75 Ohm BNC female
DVB IN (T/T2-S/S2)	50 Ohm F female Dynamic range -80 ÷ -20 dBm
Max. Deviation	From 50 up to 100 kHz @ 1 kHz steps
Frequency deviation	$\Delta f \pm 75 \text{ kHz} \dots \pm 100 \text{ kHz (max.)}$
Deviation Limiter (ΔF)	OFF-Normal-Hard-Ideal settings available (through web pages)
Modulation signal missing alarm	On all input signal
Delay time	Alarm activation in case of modulation signal missing
	From 10 up to 120 s @ 1 s steps
Threshold	Alarm activation in case of modulation signal missing
	From -20 up to -50 dBr @ 1 dB steps
Static Delay	Between input and output signals
	From 0 to 900 μs @ 0.1 μs steps

Stereo output features MPX or L/R input

Amplitude / frequency (With $\Delta f \pm 75 \text{ kHz}$)	40 Hz... 43 kHz < $\pm 0.2 \text{ dB}$ 43 kHz... 53 kHz < $\pm 0.3 \text{ dB}$ 53 kHz... 100 kHz < $\pm 0.5 \text{ dB}$
Non-linear distortion (MPX Input) (With $\Delta f \pm 100 \text{ kHz}$ < 0.6 dB)	> 0.3 %
Non-linear distortion (L and R Input)	> 0.3 %
AM Noise (MPX input) (With 100% of the carrier.)	$\leq -60 \text{ dB}$
AM Sync (MPX Input) (With $f = 400 \text{ Hz}$ and $\Delta f \pm 75 \text{ kHz}$, with 100% modulation)	$\leq -50 \text{ dB}$
Signal to noise ratio (un-weighted) (Referred to $f=400 \text{ Hz}$ with $\Delta f \pm 75 \text{ kHz}$)	> 70 dB
Linear diaphone (L and R input) (With $\Delta f \pm 75 \text{ kHz}$)	40 Hz... 120 Hz < -47 dB 120 Hz... 10kHz < -60 dB 10 kHz... 15 kHz < -60 dB
Non-linear diaphone (L and R input) (With $\Delta f \pm 75 \text{ kHz}$)	40 Hz... 10 kHz < -65 dB 10 kHz... 15 kHz < -70 dB

Audio mono output

Non-linear distortion	> 0.3 %
Signal to noise ratio (un-weighted) (Referred to $f=400 \text{ Hz}$ with $\Delta f \pm 75 \text{ kHz}$)	> 70 dB

All Specifications are subject to change without notice

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