



AQUABROADCAST

Arctic

FM Audio Processor



DATASHEET AND SPECIFICATIONS



ARCTIC

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FM Digital 4 Band Audio Processor

The Arctic FM Audio Processor has a clean and modern look, and packs a punch with its performance, and standard features. The Multi-band AGC corrects and equalises Audio input levels, and Peak Limiters maintain control of your peak levels.

The Ultra high-performance digital Stereo Encoder provides a smooth, clean and polished sound. Included in the Arctic is a UECP Compliant RDS encoder.

At its heart, the Arctic runs on LINUX OS. With its high resolution RGB screen and easy to use analogue joystick plus 3 silicone soft keys that work dynamically with the display lets you easily configure the Arctic, or make changes to your sound. The rear panel features both Analog and Digital AES/EBU inputs and outputs. Two MPX in and out are standard on the rear panel. Dual LAN and GPIO interfaces give you complete future proofed confidence.

With a comprehensive set of presets right out of the box to get you started, get creative and customize and save your own sound signature to one of the many assignable user presets. Of course full setup

~ Events and Alarms and Triggers based Telemetry:

The enhanced alarms and triggers monitoring system allows you to reconfigure your system automatically on any event you choose. Get notified by email.

~ Comprehensive communications:

With SNMP, Telnet, USB and RS232 connectivity you will have plenty of options to monitor and control your system remotely.

~ Install and sound amazing within minutes:

A total of 20 modern and , expertly designed presets are built-in. Using the very latest trends in FM processing, we have a whole host of great presets to

~ Web Remote Control:

Configure your processor from any place in the world from any device with a web browser. No additional software is required to control the Arctic.



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Processor Features

Advanced processing gives the Arctic a consistent audio sound, ready to perform in the toughest markets

- ~ **Multiband AGC:**
Wide ranging RMS levelling pulls up low level and tames hot signals ensuring a consistent sound signature.
- ~ **Multiband limiters:**
Ensures that your broadcast has tightly controlled peak levels.
- ~ **Bass processing:**
The bass equalisation and bass clipper will bring bass integrity even with small speaker receivers.
- ~ **Mixer:**
Fine tune the mix output bands of the multiband processor. In addition to these, other specialised processing blocks will optimise your audio to sound great always.
- ~ **Pre-emphasis:**
Selectable based on your country standard.
- ~ **Advanced clippers:**
The distortion cancelling and overshoot compensating clippers offer low distortion and perfect peak control.
- ~ **Stereo generator:**
The oversampled stereo generator provides an MPX with excellent stereo separation and compliant bandwidth through advanced anti-alias technology.
- ~ **Composite clippers with pilot protection:**
Get that extra loudness without compromising the pilot signal.
- ~ **RDS encoder:**
Broadcast your station ID, song and title and much more with the built-in UECP compliant RDS Encoder.
- ~ **Audio always on:**
The passive signal path means analog and digital signals will keep routing and ensures audio will always pass through even with power outages.
- ~ **BS.412 MPX Power limiting:**
If you are in Europe, the MPX Power limiter will ensure that your transmission is compliant with the regulations in your country.



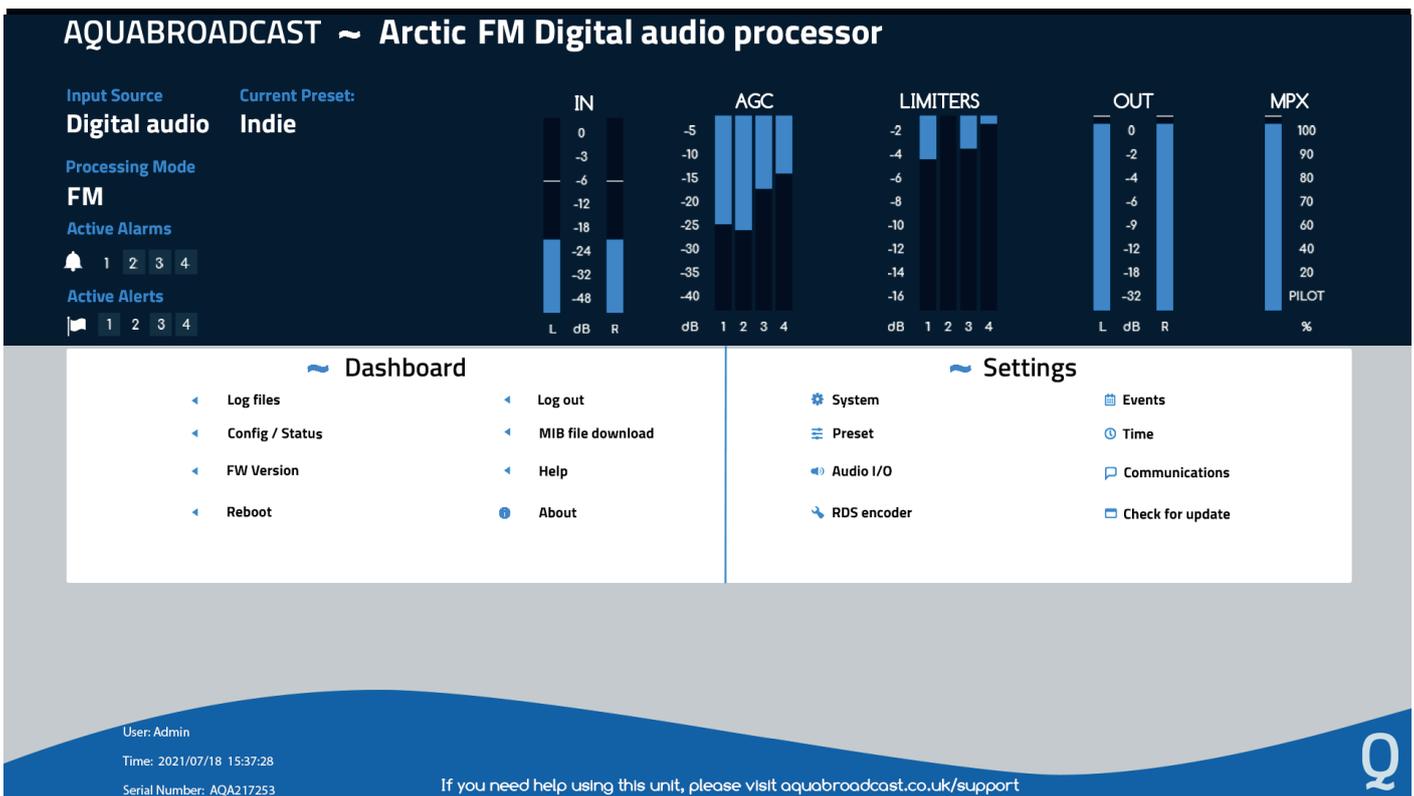
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Remote control is easy...

Users can manage the Arctic via LAN by web-based control. HTML, FTP, Telnet, SNMP and RS232 connectivity interfaces with monitoring equipment or just acts standalone, allowing you to monitor and control your processor remotely, from anywhere in the world.

The GUI on the web page is clear, easy to use and responsive, suitable to be managed from any device: Personal Computers, tablets, smartphones, and SNMP programming protocol allows users to manage the whole command set. Arctic firmware implements also HTTP, FTP, SNMP, SMTP, UDP, TCP and is PV4 – IPV6 addressing compliant.

The Arctic features an RDS (RBDS in the US) encoder which allows the station name to be displayed on listeners' receivers, and carries various data to enhance the listening experience, such as Alternative Frequencies (which in a network allows the receiver to change frequency to receive the best signal), Radio Text (64-characters which can be used to display a station's slogan, or other messages)



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Specifications

PROCESSING

AGC	4 band
Limiters	4 band
Clippers	2
Composite processor	Yes
Presets	Factory and User presets with Bypass option
Pre emphasis	50µs and 75µs, selectable

ANALOG INPUT

Nom. input level	+4 dBu
Max input level	+24 dBu
Analog input impedance	10kOhm
CMRR:	better than 65 dB between 20 and 15kHz
Connectors	XLR balanced EMI suppressed
A/D conversion	24 bit
THD	< 0.01%, measured between 20 and 10 KHz, de emphasis at 100% modulation
Dynamic range	better than 90 dB
Noise level	->90 dB, at 100% modulation measured 20 and 10 KHz
Crosstalk	Better than 70 dB between 20Hz and 15 KHz

ANALOG OUTPUT

Analog output level	0-24 dBu software adjustable
Analog Output Impedance	< 150 ohm
Connectors	2 x XLR balanced adjustable and EMI suppressed
D/A conversion	24 bit
CMRR	better than 65 dB between 20 and 15KHz
Dynamic range	better than 90 dB
Crosstalk	better than 70 dB between 20Hz and 15 kHz channel
Noise level	>90 dB, at 100% modulation measured 20 and 10 kHz

DIGITAL INPUT (AES/EBU)

Sampling rate:	32 to 192 kHz (ASRC)
Connector:	XLR balanced, EMI suppressed
Reference Level:	-30 to 0 dBFS software adjustable

DIGITAL OUTPUT (AES/EBU)

Sampling rate:	48/96/192 kHz, software adjustable
Connector:	XLR balanced, EMI suppressed
Reference Level:	-30 to 0 dBFS software adjustable

BS.412 MPX Power limiting

Power limiter threshold:	-6dBr to +12dBr (OFF)
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MPX / RDS

Output level
 MPX outputs
 D/A conversion
 Stereo separation
 MPX inputs
 A/D conversion
 Pilot output
 Pilot Carrier Level adjust range
 Channel Separation

0 to 12 dBu
 2 x BNC EMI suppressed
 192kHz, internally oversampled
 >60 dB 20Hz-15 kHz
 2 x BNC EMI suppressed
 192kHz, internally oversampled
 Selectable on any MPX output
 0% to 12%,
 Better than <65dB

REMOTE CONTROL

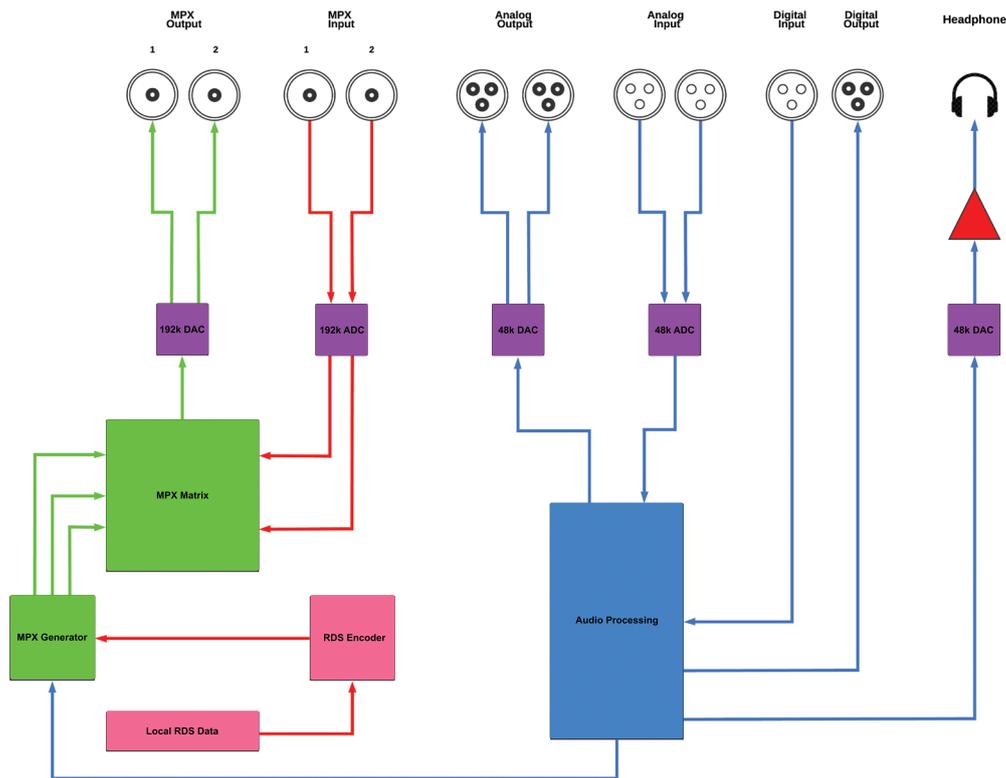
Connectors
 Protocols

Serial, USB A, USB B, RJ45
 HTTP (browse, mobile, API), SNMP, TELNET, FTP, SMTP, RS232

OTHER

Power
 Environmental
 Size (inch)
 Size (mm)
 Weight
 Warranty

90 - 260 VAC, 50/60Hz, 25W IEC connector
 20°C - 50°C / 0-90% RH, non-condensing
 19" W x 1.73" H x 9.84" D
 44mm x 482mm x 200mm
 1.6kg
 2 year limited warranty



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