Avalanche 800/1200 IQ amplifier

Intelligent Powerhouse

We introduced the 550 IQ which already has set market-leading standards. The Avalanche 800 IQ & 1200 IQ build on the 550, but have been optimised, equipped with additional features and highly refined for our hi-end 1723 subwoofers. Impeccable performance, conservatively rated at 800/1200W, with capabilities that make the difference. Subwoofers are not the same anymore.

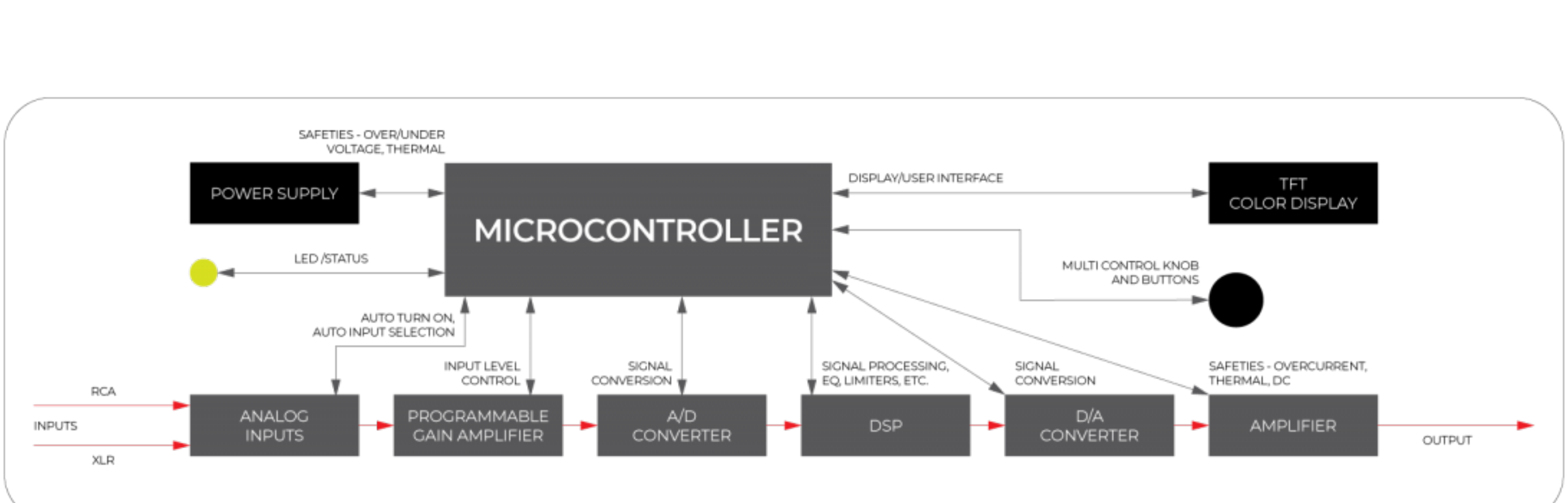
Avalanche 800 IQ & 1200 IQ Amplifiers

Highlights

- High-resolution 2.6" colour LCD display
- App ready*
- Smart amplifier technology
- Full 800W RMS down to 10Hz for Avalanche 800 IQ
- Full 1200W RMS down to 10Hz for Avalanche 1200 IQ
- Advanced adjustability for perfect room response and ease of use
- Extensive multi-sensors to protect and maintain signal quality
- Flip Screen Feature lets you use the screen menu upside down while bending over for adjustments
- Dual source assignable RCA & XLR inputs with assignable memory presets for each input
- Selectable 12V trigger and auto-on functions for each input
- RCA & XLR passthrough outputs
- User adjustable on-time and auto-on wake-up settings
- Variable phase & signal inversion
- 3 EQ modes for sealed speakers, 3 EQ modes for vented speakers
- 7-band parametric EQ
- Low pass filter & slopes
- Subsonic filter & slopes
- Safety controls

Thanks to the new Avalanche IQ technology subwoofer amplifiers will never be the same again.

***App Ready!** The amplifier has a built-in Bluetooth module for future App upgrades.



RED ARROWS INDICATE SIGNAL FLOW
GREY ARROWS INDICATE COMMUNICATION

Intelligent Technology

The term "intelligent" is rarely used in the audio industry, especially for speakers and subwoofers. The new Avalanche 800 IQ & 1200 IQ subwoofer amplifiers are two more exceptions from Arendal Sound, when it comes to performance and technology. State-of-the-art amplifier, designed and developed from scratch to deliver performance and features you could not get before.

The Avalanche 800 IQ & 1200 IQ boast killer performance and offer features under their hoods that have never been seen in the industry before. Multiple sensors in the digital and analogue domain, from inputs to outputs, to preserve dynamics and clean bass. It has a powerful microcontroller (MCU) which, as the brain, controls and reads all data passing through the signal flow. This ensures that the signal is as unaffected as possible from its original source to the subwoofer output.

Research and development over two years, fully customized by Arendal Sound. The Avalanche 800 IQ & 1200 IQ are smart and intelligent beasts in the world of amplifiers.

FLIP SCREEN

Normally you will be bending over the subwoofer to make adjustments as the amplifier and user interface is on the back of it. You can now easily flip the screen in the menu settings, so it makes it much easier for you to make your last adjustments for the perfect sound experience without neck bending around the subwoofer.

DUAL SOURCE INUT

This is a true gift for complex setups!

Do you combine stereo and multi-channel equipment in one system and want to use one subwoofer system for both? Yes, we got you covered! This is a unique feature only available from Arendal Sound through the intelligent amplifiers Avalanche 800 IQ & 1200 IQ. With your new subwoofer you can control which input is used by your stereo system and your AVR, so that it is connected to this one input only. You can lock the signal, whether mono or stereo, to the preferred input. There are up to 8 dual input configurations to choose from. This means you can control the inputs depending on what you are playing, and Avalanche 800 IQ & 1200 IQ manage the signal flow in both your systems.

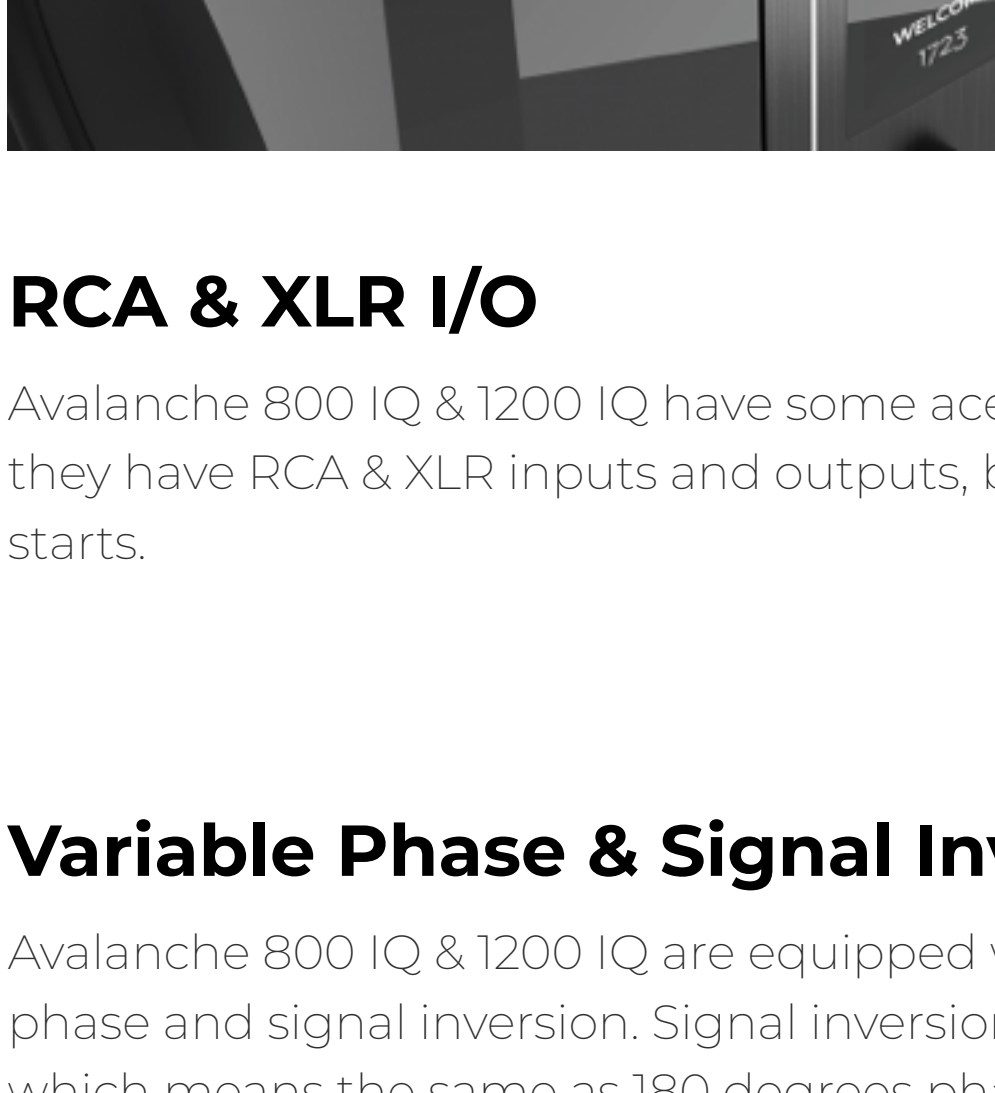
Once you have set up your dual input settings, you also have the option of assigning a memory preset to each input, giving you a unique set of settings for your stereo system and another for your home theater system – if this is the path you want to take.

The old-school fiddling around with adapters and connecting back and forth with multiple subwoofer settings from stereo to AV and vice versa is a thing of the past. Thanks to Avalanche 800 IQ & 1200 IQ.

HI-RES LCD DISPLAY INTERFACE

The Avalanche 800 IQ & 1200 IQ amplifiers offer out-of-scale features in any price range where physical knobs wouldn't fit on the amplifier panel, even if we wanted them to. The 2.6" high-resolution colour display provides a clear overview of all settings of your subwoofer. With the multi-control knob and buttons with great tactile feedback, you will make any setup and adjustment a breeze.

The Avalanche 800 IQ & 1200 IQ offer market leading feature sets in the subwoofer industry.



APP READY

Future app ready where all settings can be applied from your fingertips on your mobile phone.

RCA & XLR I/O

Avalanche 800 IQ & 1200 IQ have some aces on their hands. First, they have RCA & XLR inputs and outputs, but that's just where it starts.

Right on Time

To save energy, it's important that your equipment shuts down when not in use. Avalanche 800 IQ & 1200 IQ let you decide when to enter sleep mode after use, for a period of 5 to 60 minutes in 5-minute increments.

Variable Phase & Signal Inversion

Avalanche 800 IQ & 1200 IQ are equipped with both adjustable phase and signal inversion. Signal inversion inverts the signal, which means the same as 180 degrees phase, but these are "true" 180 degrees at all frequencies.

However, as with all variable phase shifts, the variable phase shifts slightly depending on the frequency. These two settings are very handy for achieving perfect alignment in a stereo system where there is no processor to delay the signal in time.

Low Pass Filter and Slope

The low-pass filter (LPF) is selectively switched on or off and can be adjusted in steps of 1 Hz to 30–160 Hz. For the feinschmecker, the LPF slope can also be adjusted with 6/12/18/24dB filter curves to perfectly match the subwoofer to your system. Of course, you can adjust the phase in 10 degree steps and with full signal inversion (on/off).

Auto on/off

Auto on is a feature that wakes up the subwoofer when you start playing material from the connected source. Most subwoofers on the market have different wake-up sensitivities, which can cause problems with some systems because you cannot change the sensitivity at the inputs.

With the Avalanche 800 IQ & 1200 IQ, we are offering you more than just one option. With the new automatic power-on function, you have the choice of several levels so that you can wake up your subwoofer at the right time for sound reproduction. Choose between low, medium and high wake-up sensitivity and you are set for seamless use of your subwoofer.

The days when you had to crank up the master volume to turn on the subwoofer are over with the new auto on feature!

EQ Modes & Parametric Equalizer

We offer up to 6 EQ modes to choose from. 3 EQ modes for sealed and 3 EQ modes for vented cabinets. Our 1723 vented subwoofers offer all 6 EQ modes as the ports can be plugged to operate the 1723 as sealed subwoofers. You get a flat frequency response in half space down to under 20Hz in EQ1 mode, EQ2 mode will start tapering off half an octave above the +-3dB frequency point of EQ1 and EQ 3 mode will start tapering off one octave above the +-3dB frequency point of EQ1. This is the same for vented and sealed.

Avalanche 800 IQ & 1200 IQ also has a built-in 7-band PEQ that can be tailored to suit your room. It is extremely accurate to enable a perfect integration in your room. The frequency is set at 1Hz-increments and the Q is adjustable all the way from 0.3 up to 10, so you can target sharp irregularities in your room response.

Levels & Input Gain

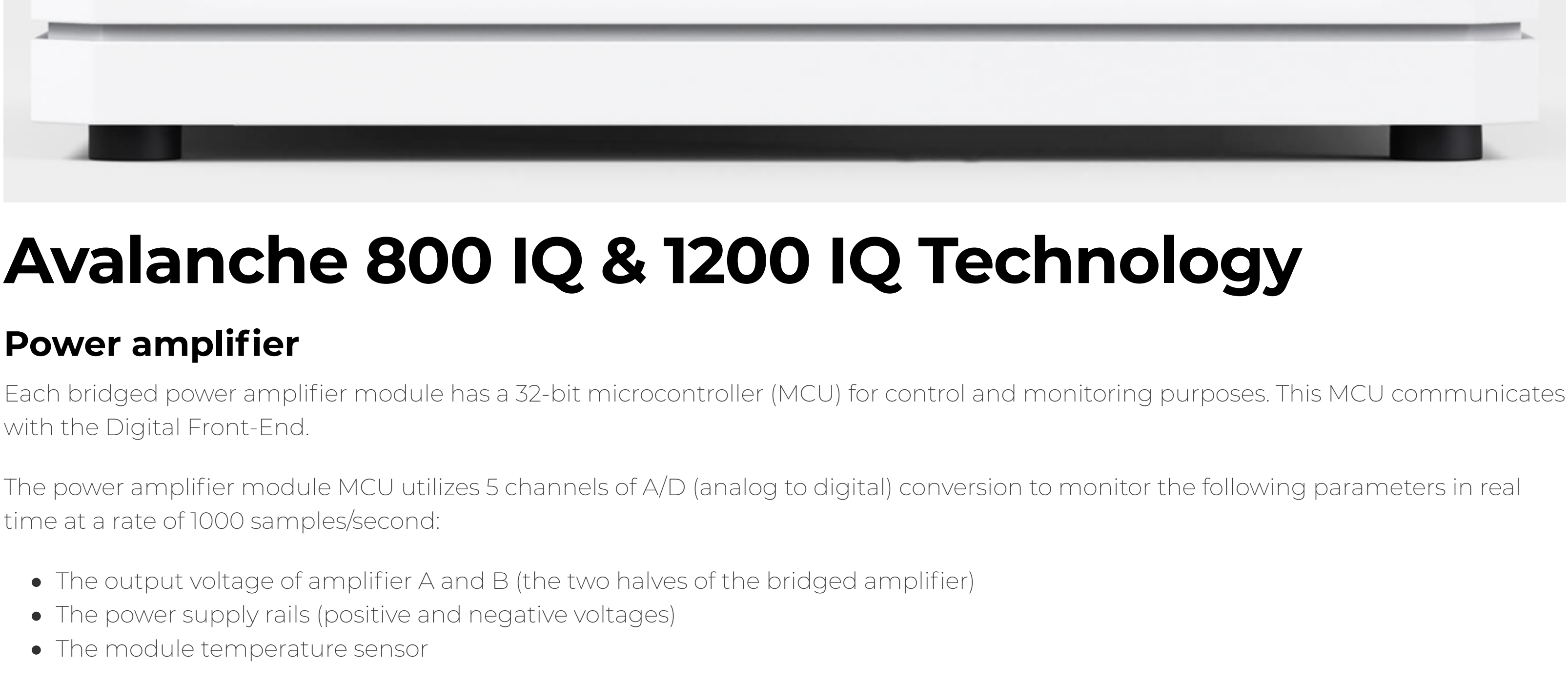
The Avalanche 800 IQ & 1200 IQ amplifiers are equipped with an adjustable input gain to match your source output level, as well as an adjustable master level for perfect integration in your setup. You also have the option of setting the level to reference position, which is recommended for most users with an AVR. For ease of use we have also implemented a feature that allows you to select a reference level for multiple subwoofers used together in the same setup.

Subsonic Filter and Slope

The subsonic filter is user selectable and adjustable from 12 to 31 Hz, or you can turn it off completely. The slope is also adjustable from 6 to 12 dB per octave. This feature can come in handy for adjusting the low bass level to suit your room or preferences. The amplifier has a built-in subsonic filter that is activated at 10 Hz, to protect the amplifier's power supply.

3-12V Trigger

If you have hidden your subwoofer behind a sofa or inside a baffle wall and still want to have control over whether it is on or off (without using the auto on function) we offer a 3-12V trigger connection with 3.5mm jack. Avalanche 800 IQ & 1200 IQ listen to your source control and power up when your system is turned on, then power down when you turn your system off.



Avalanche 800 IQ & 1200 IQ Technology

Power amplifier

Each bridged power amplifier module has a 32-bit microcontroller (MCU) for control and monitoring purposes. This MCU communicates with the Digital Front-End.

The power amplifier module MCU utilizes 5 channels of A/D (analog to digital) conversion to monitor the following parameters in real time at a rate of 1000 samples/second:

- The output voltage of amplifier A and B (the two halves of the bridged amplifier)
- The power supply rails (positive and negative voltages)
- The module temperature sensor

By monitoring these parameters and the over-current detector, fault conditions can be detected immediately and lead to immediate shutdown of the amplifiers.

Safety and Reliability

Certain strategies are employed to increase the safety margin and reliability: For example, the power supply rail voltages are measured before the power amplifiers are activated. If either rail voltage is outside the normal limits, the amplifiers are not activated and the power supply will be shut down. Since this is a bridged amplifier, the output voltages of both amplifiers should always be equal and opposite (A+B=0).

If a fault condition occurs in either amplifier, the MCU can detect it within 1 millisecond (1/1000 of a second, ms) and shut down the amplifiers. A typical single-ended power amplifier with an analog offset detection circuit must have a long time constant (> 100ms) in order to distinguish between DC and a low frequency signal.

Startup Logics

All of the parameter margins (limits) are part of the digital front-end firmware. They are downloaded to the amplifier module(s) at power on. In the case of any fault condition, the power amplifier MCU informs the digital front-end MCU and adds the specific fault information.

The strategy for each error type is determined by the digital front-end MCU firmware. For example, in the event of an overcurrent condition, the amplifier can be restarted with a limit on the number of restarts.

Troubleshooting

To simplify troubleshooting, the digital front-end MCU displays the error information on the LCD in case of a fault condition.

The power amplifier MCU also stores statistical information that can be used in various ways: Number of clipping events, maximum and minimum values for all monitored parameters (such as max/min rail voltages). This is crucial for the Arendal Sound engineers to understand if there are any problems or strange behaviour of the amplifier.

Self-Testing

The digital front-end can run a complete self-test of the entire system. This includes generating a test tone and measuring the amplifier output voltages and all other parameters. Any failure is displayed on the LCD screen.

ROHS, FCC and CE certified.

June 12th, 2020