



Multiprocess controller 56 bit DSP engine

ARK7148



### General description & specifications

- • • Double Dynamics (RMS and Peak) are standard in all ARK-71 models. These double dynamics lower levels of distortion and provide protection for all the speaker components and internal electronics.

- • • All ARK units deliver a wide dynamic range of 120dB, high performance Cirrus Logic AD & DA 24bit converters running at 96kHz. The internal DSP processing works with double precision in floating point, achieving an internal resolution of 56 bits, one of the largest resolutions available on the market today.

- • • Each input has up to 29 filters of Parametric EQ which can be switched to Graphic EQ. Each output also has Parametric EQ which can be chosen between adaptable or constant Q, All Pass, Band Pass, Notch, HP Q, LP Q or High and low Shelvs providing flexibility.

Moreover, crossover filters with high and low cuts of Linkwitz Riley, Bessel, Butterworth upto 48 dB/oct slopes in 6 dB steps are available. A 6 dB/octave slope, for instance, corresponding to a first order filter, allows for frequency shading.

- • • With 0.6ms fixed latency the ARK-71 is one of the lowest latency processors available.

- • • ARK software has been designed for fast user access to make each processing zone simpler for the user. The Compare function option enables the user to listen to the difference between 2 complete set ups in real time with no fade-ins or fade-outs.

As well as being able to import measurement curves from the principal systems (SMAART LIVE, CLIO, SAT Live etc), they can also be seen directly in the final frequency response window showing the effects of the process applied. All ARK processors can be configured and monitored in real time by USB or Ethernet.

- • • The ARK-71 offer atmospheric compensation – essential when working outdoors where temperature and humidity varies considerably between night and day causing noticeable loss in high frequency, especially at long distances. Each output can be configured separately depending on the throw required from each cabinet.

- • • Other features include advanced security features, polarity, gain and delay on ins and outs, routing of any input to any output and a signal generator with sine and noise (pink or white).

### Technical Data

<b>Input</b>	<p>4 Impedance: 20 K Ohm Balanced (10 K Ohm unbalanced). Connector: Balanced XLR (pin 2 +). AD converter: 24 bit-192KHz, 512x Oversampling. Dynamic Range: 120 dB. Max. level: +19 dBu (balanced). Digital AES/EBU: Optional.</p>	<b>General</b>	<p>Power supply 85-240 V ~ 40-400 Hz. IEC connector. (Switching power supply, wide range). Consumption 30W. Operating temperature: -5° to 60° C (23° to 140° F). Storage temperature: -60° to 75° C (-76° to 167° F). Humidity: Max. 90% non-condensing. Dimensions 482 x 45 x 226 mm. Weight 3 Kg Warranty 3 years</p>
<b>Output</b>	<p>8 Impedance: 50 Ohm Balanced (25 Ohm unbalanced). Connector: Balanced XLR (pin 2 +). DA converter: 24 bit-192KHz, 512x Oversampling. Dynamic Range: 120 dB. Max. level: +18 dBu (balanced). Digital AES/EBU: Optional.</p>	<b>Front Panel</b>	<p>Display: LCD with 24 x 2 characters. Encoders: 3. Buttons: Navigator with 5 backlight buttons. 12 buttons for Edition and Mute with light indications. Level Meter: 7 leds per input/output, -40db, -6db, 0db, +6db, +12db, Limit, Over Limit.</p>
<b>Ethersound</b>	<p>Optional</p>	<b>Latency</b>	<p>0.6 ms</p>
<b>Audio</b>	<p>Frequency Range 10 Hz – 24 KHz. THD (%) &lt; 0,0018%. DSP Process Internal resolution with 56 bit double precision in floating point. Converters 24 bit resolution. Propagation Delay: 0.6 milliseconds.</p>	<b>Level control</b>	<p>Gain +6dBu to -40 dBu per input / output. Mute per input / output. Phase inversion per input / output. Possibility to Link Controls.</p>
<b>Equalisation</b>	<p>Input GEQ / PEQ: 29 GEQ Bands or 29 parametric filters per input. PEQ Output: PEQ Type filters Parametric, Shelving High, Shelving Low, Low-Pass, High-Pass, Low-Pass Q variable, High-Pass Q variable, BandPass, Reject Band, AllPass order 1, AllPass order 2. Possibility to Link filters between Input and Outputs.</p>	<b>Security options</b>	<p>Password global. Level 0: No restrictions. Level 1: Only allows preset to changes. Level 2: Only allows mute modification. Level 3: Only allows preset to changes and mute modification. Level 4: Blocks all the front panel controls. Restricted Zones: For each Preset it is possible to disable the access to any processor function (EQ, crossover, Limiter, etc) writing a reset password.</p>
<b>Crossover</b>	<p>Linkwitz Riley with 12, 24, 48 dB/oct. Butterworth and Bessel with 6, 12, 18, 24, 30, 36, 42 and 48 dB/oct.</p>	<b>Communication</b>	<p>USB. Ethernet.</p>
<b>Delay</b>	<p>Input: 190 milisec. (channels A &amp; B) / 54 milisec. (C &amp; D) Output: 20.8 milisec for Speaker alignment. Possibility to Link Delays.</p>	<b>Noise Gate</b>	<p>1 per Output. Noise Threshold: -79dBu to -37dBu.</p>
<b>RMS Limiter-Compressor</b>	<p>1 per output. Threshold: +18dBu to -50dBu. Compression Ratio: 1:1 to 1:10 (1:infinite with limiter). Power indication: Shows the maximum power applied to the speaker for the selected threshold.</p>	<b>Peak Limiter</b>	<p>1 per output. Threshold: +18dBu to -50dBu. Peak Indication: Shows the maximum peak Voltage applied to the speaker for the selected threshold.</p>
<b>Signal Generator</b>	<p>Level 0dBu to -40dBu. Type: sine tone from 10Hz to 22KHz, Pink noise, White noise.</p>	<b>Other functions</b>	<p>Atmospheric compensation by Air absorption. Process Integration with RAINBOW – The acoustical prediction software. Speaker data import from main audio measurement systems. Export &amp; Import EQ files. Etc.</p>