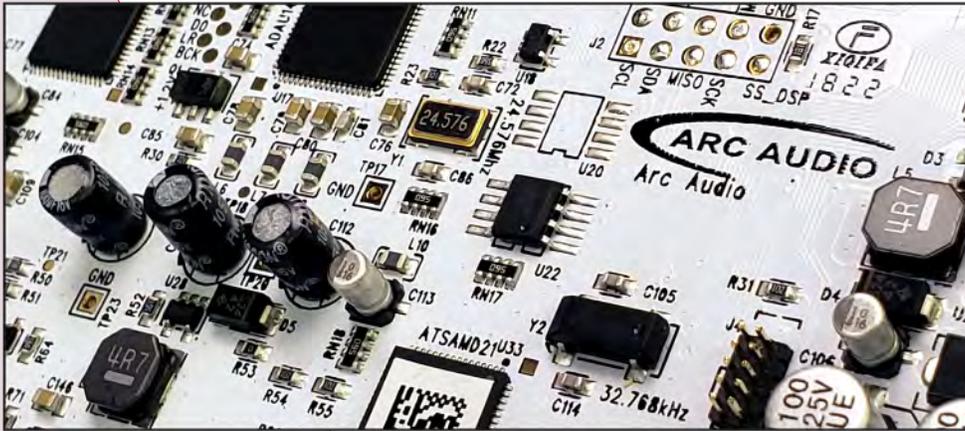# PRO SERIES
DSP PLATFORM

IPS8.8 DSP AMPLIFIER MODULE
PS8-PRO STANDALONE DSP
PS8-50 DSP AMPLIFIER

MSRP $599 - $1169

ARC Audio is proud to announce the next evolution in system tuning and OEM Integration flexibility with its new PRO platform DSP Technology. Designed and engineered by Robert Zeff, the all-new PRO Series DSP technology is a flexible and yet powerful platform that allows itself to be adapted to a wide variety of applications and products with zero compromise to sound quality. Capable of processing audio streams up to 96kHz/192kHz at 32-bits and equipped with AKM Velvet SOund Series native 32-bit A/D's and D's the ARC Audio Pro Series DSP platform raises the bar on high-end audiophile and OEM integration system tuning with three new products. Introducing the PS8-Pro stand-alone digital signal processor, the IPS8.8 amplifier DSP module and the PS8-50 DSP-equipped eight-channel amplifier. These three new models featuring the Pro Series DSP platform offer users and installers a complete series of DSP based solutions in addition to the award winning PS8 and PSM which have both set industry standards for multiple years.

IPS8.8
(Amplifier DSP Module)

PS8-PRO
(Srtand-Alone DSP)

The ARC Audio Pro Series DSP platform features an awe-inspiring hardware and software feature set that caters to the needs of most any level of OEM integration or custom high-end audio system while being designed for every level music enthusiast or audiophile. A digital signal processor with 10 inputs serves as the heart of the Pro Series platform. Each of the eight RCA inputs is capable of accepting up to 32V of signal and feeds into esoteric audiophile-grade analog to digital converters. The last two inputs are dedicated to the TOSLINK digital input.

Input Sensitivity

- .5V
- 2V
- 8V
- 32V

PS8-50
(DSP Amplifier)

Input Signal Processing

With today's audio systems becoming more and more complex, the need for enhanced system flexibility and control grows with every new vehicle released. These growing challenges have driven us to design the most advanced digital sound processor on the market - truly putting the power of tuning and integration back into the installer's hands.

Input Mixer Panel (Pro Platform Software)

The Pro Series DSP platform includes two separate signal routing mixers to simplify even the most complex of OEM integration projects. The first mixer (known as the "Input Mixer") will be familiar to users of the ARC Audio PSM and PS8 processors. This mixer allows any amount of signal from any of the eight analog inputs to route to any of the eight processing channels. The new DSP platform also allows the Input Mixer to manage the processor's digital inputs (did we mention the digital input is capable of accepting high-resolution input signals up to 96k/192kHz at 32 bits?). This feature gives installers the ability to isolate an input signal source or to mix digital and analog signals simultaneously at any desired level to make even the most complicated integration projects a breeze.

Along with its incredible signal routing flexibility, the Input Mixer also gives users the option to direct the signal (either exclusively or mixed) through the processors integrated upmixer. The upmixer creates left, center, right and rear signals so that you can upgrade audio systems that include a center channel location while still offering complete tuning capability on each output channel.
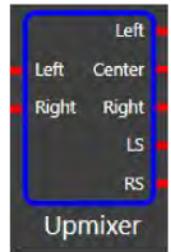
Input Signal EQ (8 Channels x 12-Bands)

Input Phase & Signal Delay (Up to 11.5ms per channel)

The Pro Series DSP platform offers dedicated input signal tuning controls to manually correct most any stock OEM audio signal without the direction of an engineered defined autotune getting in your way of optimization. Each of the eight analog input channels has a polarity inversion control, a 12-band parametric equalizer with all-pass filter capability and signal delay adjustment with up to 12ms of delay per input channel.

The second mixer, known as the Advanced Mixer (Output Mixer), manages the routed signal from the eight analog input channels, the digital channels, or the output of the integrated upmixer to any combination of summed or dedicated output channels. This routing flexibility works in combination with the processors "Nav-Ducking" process allows users to mix and assign OEM warning chimes, Bluetooth functionality and navigation prompts from today's factory systems accurately and effortlessly. In short, the Pro Series platform delivers the ultimate blend of audiophile quality with the day-to-day control and convenience you have grown to love in your vehicle.


Advanced Mixer (Output Mixer)

Helping to facilitate the ability to streamline OEM integration capabilities, The Pro Series platform offers complete compatibility with the optional Maestro AR interface module for seamless system control by the factory source unit (on supported vehicles). Signal routing flexibility includes the ability to combine analog chimes, warnings and navigation prompts with digital audio music sources for factory-like functionality, but with significantly improved sound quality. The dual mixers and compatibility with the ADS Maestro AR make integration with CANBUS controlled audio systems easy and reliable.

(Sold by Maestro)

If this sounds like a lot of signal routing flexibility, you are right. To make the configuration process easier to understand and execute, we have included a graphical Mixer Assistant that lets you see and manage how the signal passes through the processor. The Mixer Assistant works in conjunction with the traditional signal routing page layouts found in the PS8 and PSM processors to help even the most novice of users. Each mixer panel includes a variety of quick channel assignment shortcuts that provide preselected options for both mixers.
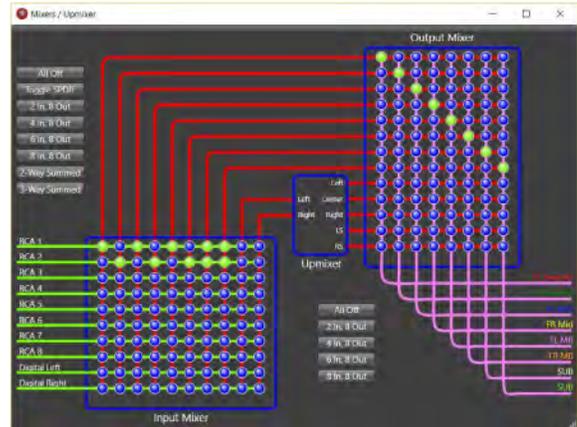
Mixer Assistant

Signal Processing Functions

Output Signal Delay-

With the signal routing complete, the audio signals are fed to the Signal Delay section of the processor. Up to 30.0 milliseconds of signal delay is available oneach channel and is adjustable in extremely fine 0.1 mSec steps for perfect alignment of each speaker in the system.

Output Signal Delay (Up to 30msPper Channel)

Crossovers-

Next, the crossover section provides access to Phase Correct and channel-linkable Butterworth, Linkwitz-Riley, Bessel, Variable-Q and four different choices of Chebyshev response filters. The crossover slopes are adjustable to 6, 12, 18, 24, 30, 26, 42 or 48 dB/Octave steps (depending on the filter type selected) and can be set at any frequency from 20 Hz to 22kHz in 0.1 Hz increments. Each channel includes high- and low-pass crossovers that can be mixed into any combination of damping or slopes without the limitations of memory restrictions found in other processing solutions.
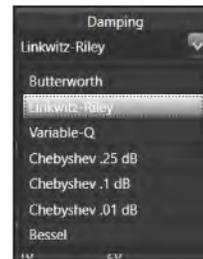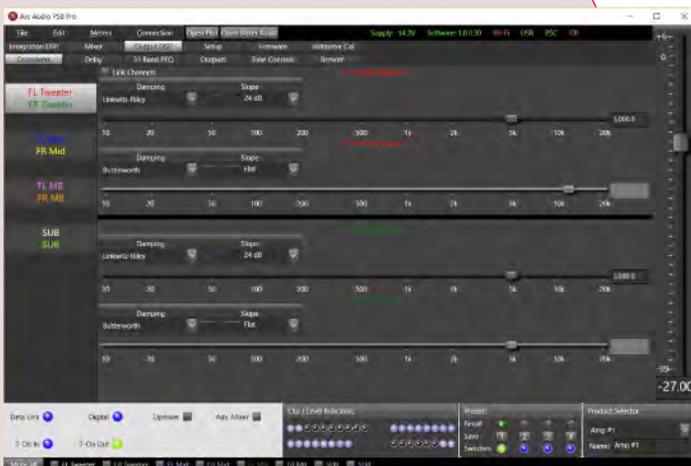
Filter Response Options
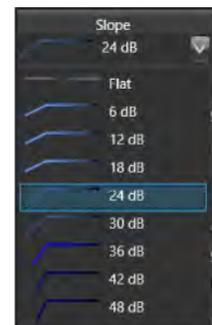
Filter Slope Options (Butterworth Options Displayed)

1/3rd Octave Equalizer Panel

1/3 Octave Equalization-

Each processor channel has a dedicated 31-band graphic equalizer that is set to standard 1/3-octave spacing. Each of the 31-bands allows for up to 20dB of boost and 24dB of cut in amazingly fine 0.1dB steps. For the ultimate tuning experience, the Pro platform allows for expedited tuning by allowing bands to be adjusted on multiple channels simultaneously using the linking function. This functionality dramatically increases the speed of global adjustments.

Parametric Equalization-

For those with the required experience, users may select the Parametric function on the PEQ panel and the software updates to 248 bands of fully customizable equalization. The Parametric function allows users to repurpose unused graphic EQ bands for extremely accurate parametric equalization duties. Here, the tuner has full access to level (Band gain), frequency adjustment options from 10.0 hz through 20.0kHz and Range "Q"adjustments from .01 - 20.0 allowing tuners to have nearly an unlimited selection and range of adjustments to refine their stereo for that ultimate tailorder musical experience. .

Parametric Equalizer Panel

Maestro Tone Control-

A Tone Control and Faders Tabs provide configuration for OEM audio adjustments when used with the Maestro AR or the PSC remote control. Finally, a high-precision 0.01 dB per step output level control for each channel rounds out the tuning functionality of the system.

Maestro Tone Control Panel

Common System Features-

The Pro Series platform includes external access to four configuration presets using a pair of analog terminals on the provided wire terminal block. The optional LR1 remote level control or full-featured PSC System Tuning Controller allows the listner to make level adjustments on the fly.

With the PSC, users can have nearly complete access to all of the Pro-Series platforms' tuning features including complete Crossovers, Extended Equalization control, output polarity, Signal delay and dedicated channel output trim adjustment. Installers can also use the PSC's invert control fuction to mirror the display and control functions to suit left- or right-handed placement of the rotary encoder. The PSC also allows installers to configure the colors of all content on the display as well as the RGB lighting to match the OEM lighting colors in their vehicle.

PSC Controller (Optional)

You can mute any channel from any adjustment screen to expedite

LR1 Controller (Optional)

Channel muting for simplified tuning-

system tuning, and a graph shows the equalization and crossover response of each output channel. Customized channel naming is available throught the processor and these names are carried throught the software based on yoyuur personalized assignments.

System / Channel Muting Controls

Four-Stage Signal Level Meters-

Enhanced operation Signal level meters have been added to allow the user to view signal levels at multiple points through the DSP and includes Input Signal, Post Mixer, Post EQ and final output amplitude. This enhanced level of signal level monitoring allows users to ensure that nothing is clipping at any point and that you have maximized the signal to noise ratio of the system. Real-time monitoring and signal strength indicators on the main software panel allow you to see the signal strength from all panels quickly and easily.
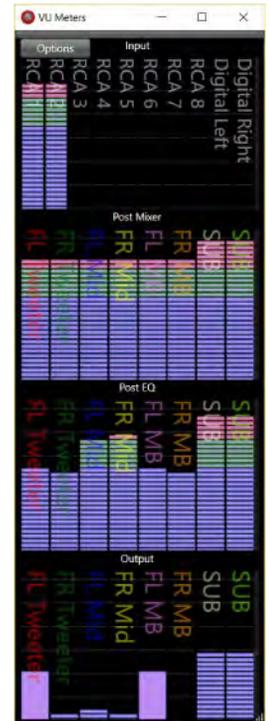
These features will alert users of possible signal level issues that could lead to unwanted noise problems. To improve compatibility to a wider range of computers (or tablets) the Pro-Series software gives users he option to select from Horozontal, vertical and simplified structure meters.

Simplified Meters

*Advanced Horozontal Meters*

Advanced Vertical Meters

Product identifier-

Uniquely, if you happen to be using multiple Pro Series signal processors in one system, each unit can be electronically named and connected simultaneously to your Windows PC to speed up the tuning process. A pull-down menu allows you to choose which processor you want to adjust. This multi-DSP capability gives any of the new pro platform processors the ability to be used in most any variety of channel configurations in groups of 8-channels per processor (i.e., 8-channel, 16-channel, 24-channel, etc.)

Signal Sensing-

For OEM systems that don't have a plug and play module compatibility or interface compatibility with the Maestro AR module, all Pro Series processors are equipped with microprocessor-controlled signal sensing turn-on capability. This microprocessor-controlled technology uses either traditional signal sense or DC signal detection to trigger the processor's turn-on circuit.


Turn on/off/Auto-hold controls
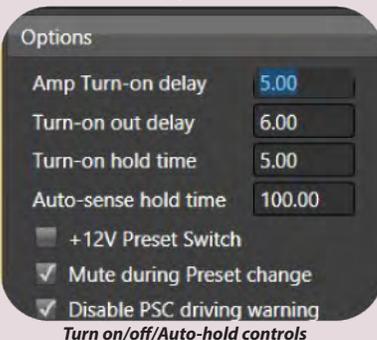
All Pro Series DSP's have complete user-definable options that allow the system integrator to set the timing of Remote lead turn-on, Turn-on Hold time, Amp Turn-on delay and Auto-sense hold time manually.

High-Resolution Bluetooth Streaming-

A single RJ-45 connection provides optional connectivity to the ARC BTM Bluetooth interface via the ARC BTD (both sold separately). When used on any ofthe Pro-Series processors the BTM's Bluetooth module is capable of recieving High-Resolution Bluetooth signal to the limts of most Bluetooth transmitting devices.

Signal Sense Switching / Remote in/out wiring
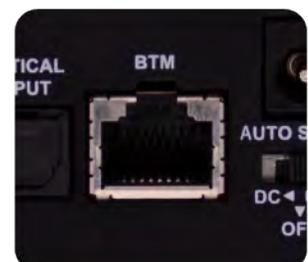
Bluetooth Module Connection

Wi-Fi Tuning Interface *(Optional Accessory)* –

Each of the Pro-Series platforms offers wireless configuration thanks to the optional AXP Wi-Fi module. With the Wi-Fi card installed, acts as a wireless communication hub between any windows PC and any AXP equipped ARC Audio Pro-Series DSP. This compact module gives you complete wireless control with great range allowing you the freedom to tune inside and outside of the vehicle without the frusterating tangle of using long USB cables.


AXP WiFi Control Module
(Optional Accessory)

Additional Setup Features –

Digital Autodetect –

Signal-Sense auto-detect is by no means a new technology in the 12V market. However, we have taken the next step in pushing the envelope on this technology. The Pro-Series platform features an advanced digital signal auto-detection function. This auto-detection funciton gives users the flexibility needed to work with a much broader range of OEM vehicle integration applications allowing them to specify multiple levels of timing controls and system power holds giving them a noise and problem free experience.
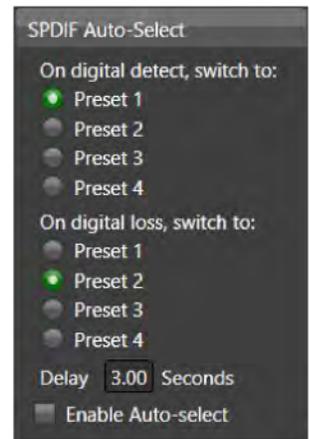
Users can define the parameters of this function by selecting which presets they want to default to when both the digital signal is detected as well as when digital signal is lost. This feature greatly improves flexibility between multiple source units and seamless signal transition between digital and analog states. Users can also define the time they want this process to take after the signal is detected or lost.

Navigation Ducking –

The challenges presented by complex OEM audio systems and the desire to combine multiple signal sources in aftermarket systems requires advanced signal mixing capabilities. Imagine being able to keep your factory source unit including all of the hands-free phone and navigation capabilities, while still being able to source your desired high-resolution signal from a third-party player. You can configured the system to mute channels by anywhere from 0 to 100dB when a signal is detected. Just like that, you factory-installed audio system can handle phone calls, navigation and warnings while you enjoy high-quality music from your choice of premium sources. This functionality allows for amazingly complex, but easy-to-configure real-time source mixing or switching.

Channel Naming and Logo Color Identification

Tech Support / Trouble Shooting -

The PS8-PRO PC interface allows Arc Audio to take technical support to a whole new level of simplicity. With a simple click of a button, the software compiles a complete operational history report that includes things like setting files, error reports, peak operation data, software/firmware version numbers and a plethora of detailed info that can be reviewed by technical staff if an unwanted experience happens. Additionally, web-based technical support services can be connected directly to your PRO-Series hardware from anywhere in the world, and allow us to fully control your processor from ARC Audio's head office. This remote-control capability allows the support staff to quickly and easily diagnose and correct problems without an endless barrage of questions.

Available Platforms

PS8-PRO

The PS8 Pro is a compact standalone unit that offers all of the advanced features of the Pro-Series platform. Following the cosmetic theme and feel of the PS8, the PS8-Pro is compatible with virtually any audio system or product and can deliver up to 8 volts of output on each of its channels. The PS8-Pro includes a full RGB color adjustable panel on the main display and installer friendly end-to-end connectivity.

PS8-PRO

DSP:	96k/192kHz Fixed 32-Bit
A/D and D/A converters:	32 Bit AKM Velvet Sound
Input Voltage:	Up to 32.0 Vrms
Output Voltage:	Up to 8Vrms
Operating Voltage:	6V to 17.0V
Start-Stop Compliant:	Yes (Down to 5.5V)
Autosense Turn-On:	Yes (DC and Signal Sense)
Maestro AR Compatible:	Yes (Sold Separately)
Inputs (Analog):	8-Channel RCA / Speaker
Inputs (Digital)	Yes (Optical)
Crossovers:	Type: Butterworth, Linkwitz-Riley, Bessel, Variable "Q" & Chebyshev
Available Slopes (Per Channel band):	6,12,24,30,36,42,48dB
Equalization 1/3rd Octave:	248 Bands 1/3rd Octave EQ (+20dB/-24dB per band)
Equalization Parametric:	248 Bands 1.3rd Octave EQ w/adjustable "Q", Freq and gain per band
EQ Adjustment Type:	Global / Individual / Mixed
Signal Delay (Output):	Up to 30ms per channel .01ms per step increments
Polatiry Control:	0/180 all channels
Input EQ:	12 Bands per channel PEQ (+20db/-24dB per band)
Input Delay:	Up to 11.04ms per channel in .01ms increments
Hardwire Presets Option:	4 user defined presets
PSC Compatiable:	Yes
LR1 Compatiable:	Yes
Operating Software:	Windows PC Required (WIndows 8 & Windows 10)
Bluetooth Streaming Audio:	Sold Separatley (Required BTM & BTD)
Dimensions	8.5"(L) x 5.1"(W) x 1.81"(H)

IPS8.8

The IPS 8.8 DSP module is designed as an upgrade to any of the new ARC Series amplifiers. The IPS 8.8 enhances the functionality of each amp and adds new technologies to make system tuning and vehicle integration easier and more accurate. The IPS 8.8 bolts into the bottom of the new ARC Series amplifiers, replacing the analog input board. Each IPS8.8 is sold as a standalone unit or pre-installed (as a separate option) in and of the new ARC Series amplifiers.

Specifications: IPS8.8

DSP:	96k / 192kHz 32-Bit
A/D and D/A converters:	32 Bit AKM Velvet Sound
Input Voltage:	Up to 32.0 Vrms
Output Voltage:	Up to 8Vrms
Operating Voltage:	N/A
Start-Stop Compliant:	Yes (Down to 5.5V)
Autosense Turn-On:	Yes (DC and Signal Sense)
Maestro AR Compatible:	Yes (Sold Separately)
Inputs (Analog):	8-Channel RCA / Speaker
Inputs (Digital)	Yes (Optical)
Crossovers:	Type: Butterworth, Linkwitz-Riley, Bessel, Variable "Q" & Chebyshev
Available Slopes (Per Channel band):	6,12,24,30,36,42,48dB
Equalization 1/3rd Octave:	248 Bands 1/3rd Octave EQ (+20dB/-24dB per band)
Equalization Parametric:	248 Bands 1.3rd Octave EQ w/adjustable "Q", Freq and gain per band
EQ Adjustment Type:	Global / Individual / Mixed
Signal Delay (Output):	Up to 30ms per channel .01ms per step increments
Polarity Control:	0/180 all channels
Input EQ:	12 Bands per channel PEQ (+20db/-24dB per band)
Input Delay:	Up to 11.04ms per channel in .01ms increments
Hardwire Presets Option:	4 user defined presets
PSC Compatiable:	Yes
LR1 Compatiable:	Yes
Operating Software:	Windows PC Required (WIndows 8 & Windows 10)
Bluetooth Streaming Audio:	Sold Separatley (Required BTM & BTD)
Applications:	ARC SERIES AMPLIFIERS (Module Requires Compatible Amplifier)

PS8-50

The PS8-50 is an incredibly compact 8-channel amplifier that boasts the full suite of Pro-Series signal process in a compact chassis that will fit under the seat in or a storage compartment in almost any vehicle. Each channel of the PS8-50 will deliver up to 100 Watts of power and pairs of channels can be bridged to deliver an impressive 200 watts into a 4-Ohm Load. Finally, as the heart of an elaborate 4-way system, the PS8-50 includes a pair of stereo outputs that can drive an external amp while channels 5 and 6 of the processor are used in a bridged configuration to power a mid-bass driver or similar application that requires large amounts of power.

Specifications: PS8-50

DSP:	96k / 192kHz 32-Bit
A/D and D/A converters:	32 Bit AKM Velvet Sound
Input Voltage:	Up to 32.0 Vrms
Power @ 4 Ohms:	65 x 8-channels
Power @ 2 Ohms:	100 x 8-channels
Power @ 4 Ohms (Bridged):	200 x 4-channels
Output Voltage:	Up to 8Vrms
Operating Voltage:	6V to 17.0V
Start-Stop Compliant:	Yes (Down to 5.5V)
Autosense Turn-On:	Yes (DC and Signal Sense)
Maestro AR Compatible:	Yes (Sold Separately)
Inputs (Analog):	8-Channel RCA / Speaker
Inputs (Digital)	Yes (Optical)
Crossovers:	Type: Butterworth, Linkwitz-Riley, Bessel, Variable "Q" & Chebyshev
Available Slopes (Per Channel band):	6,12,24,30,36,42,48dB
Equalization 1/3rd Octave:	248 Bands 1/3rd Octave EQ (+20dB/-24dB per band)
Equalization Parametric:	248 Bands 1.3rd Octave EQ w/adjustable "Q", Freq and gain per band
EQ Adjustment Type:	Global / Individual / Mixed
Signal Delay (Output):	Up to 30ms per channel .01ms per step increments
Polatiry Control:	0/180 all channels
Input EQ:	12 Bands per channel PEQ (+20db/-24dB per band)
Input Delay:	Up to 11.04ms per channel in .01ms increments
Hardwire Presets Option:	4 user defined presets
PSC Compatiable:	Yes
LR1 Compatiable:	Yes
Operating Software:	Windows PC Required (WIndows 8 & Windows 10)
Bluetooth Streaming Audio:	Sold Separatley (Required BTM & BTD)
Dimensions	10.35"(L) x 5.7"(W) x 3.8"(H)