argentum

SUTHERLAND

*The new **Argentum Phono Preamp** delivers the advantages of a silver signal path.*

— RON SUTHERLAND

The best starting point was the ***Phono Blocks***.

For many years now, they have performed beautifully, setting a very high standard. They compare very favorably with cost-no-object phono preamps.

Just buying a roll of silver wire was not good enough. This was an opportunity to refine and optimize every aspect of signal flow.

There was no concern for cost or construction effort. That is not to say it was a 'blank sheet of paper' starting point — anything goes. Not at all.

Quite the opposite.

It was very disciplined and focused on ONE thing. Figure out the very best way to bring a silver signal path to the phono block.

This is certainly not the first project to explore the benefits of silver point–to–point wiring. That other designers had poured so much effort in this direction was encouraging. There was much history to build upon. Also, much opportunity to refine and push the art to a higher level.

The basic approach was to round up good ideas – both historic and trendy. Then amalgamate the best of them into ONE elegant, seamless and sensible form. In that merging process, something new and novel evolved. Thus, the ***Argentum*** is a genuine advancement in the art.

Technical Details

Simplicity of the signal path.

The circuit of the ***Phono Blocks*** is the embodiment of that principle. It is performance proven and is the same circuit used in the ***Argentum***.

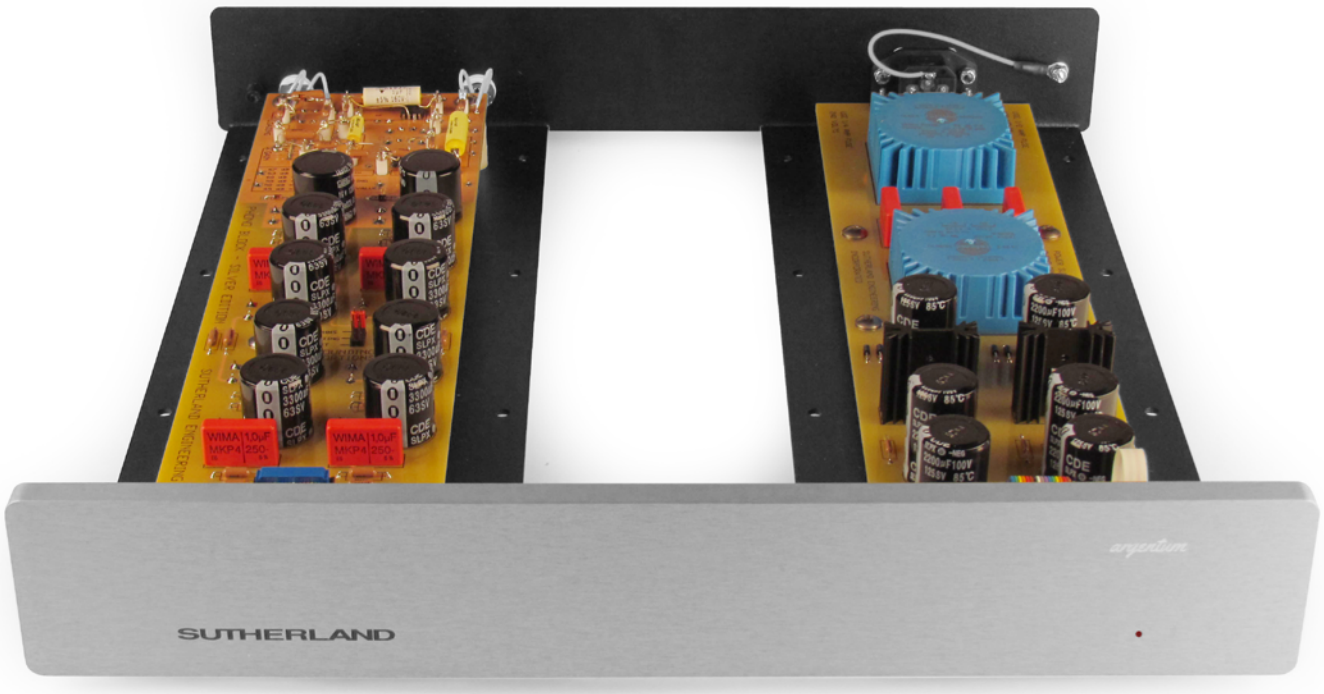
All silver signal path.

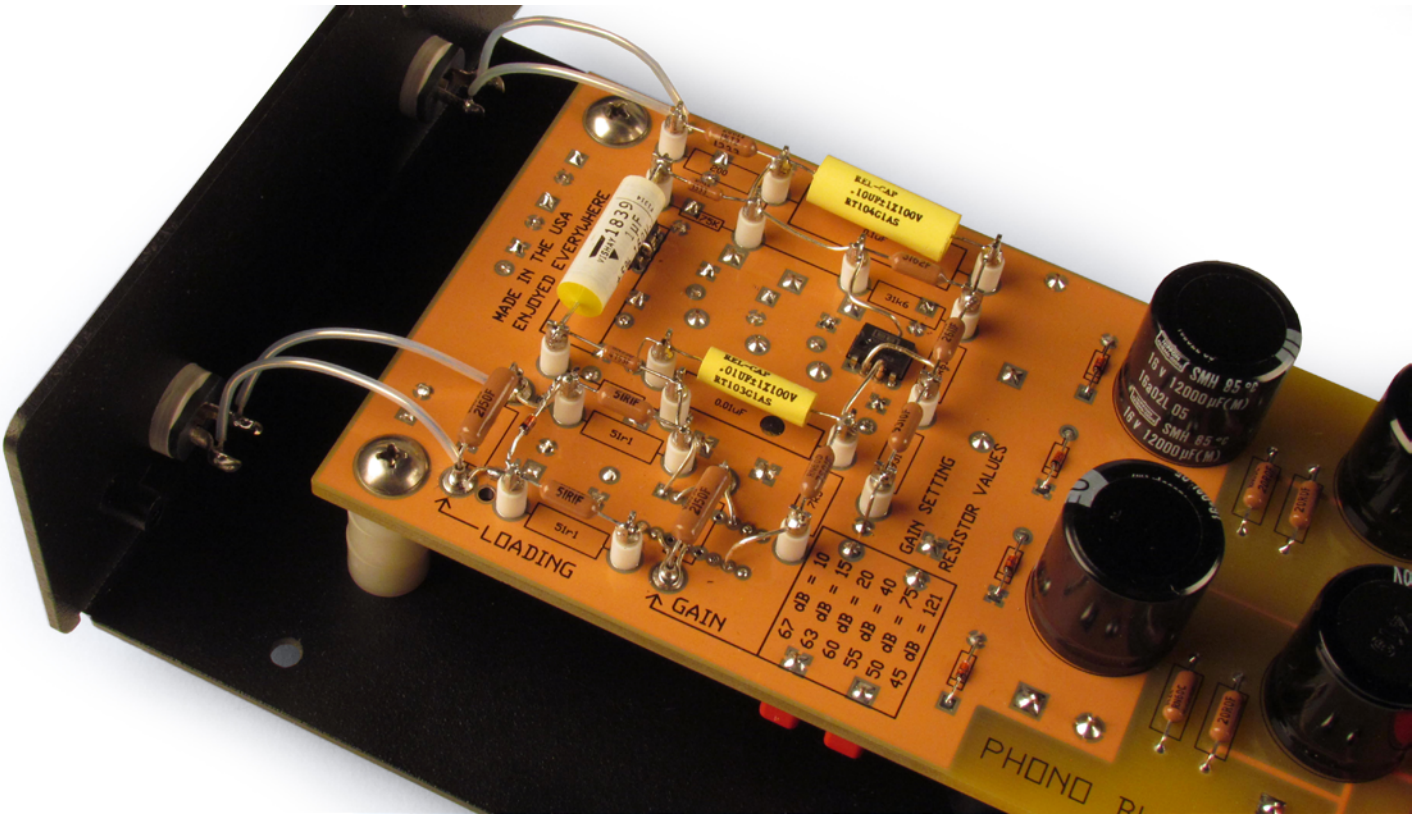
The signal path begins and ends with solid silver RCA connectors. The *WBT next-gen* were the choice.

Then came the critical choice of wire itself. All silver wire is not created equal. There are many levels of purity — along with uncertainty. The purity of silver used in wire extrusion is often quoted as an impressive number of 9s strung together. The more 9s the better.

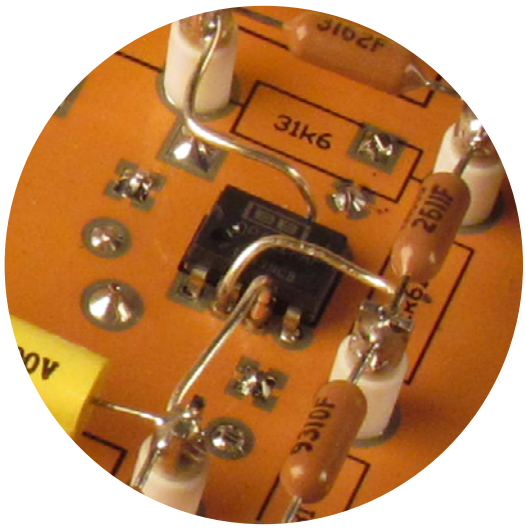
But more important is purity of the finished wire. That requires the most diligent attention in lab testing of both the silver ingots AND the finished wire. Testing is done on each and every spool. To keep the purity of the finished wire as high as possible, wire is extruded through a diamond orifice.

It doesn't get any better than that.



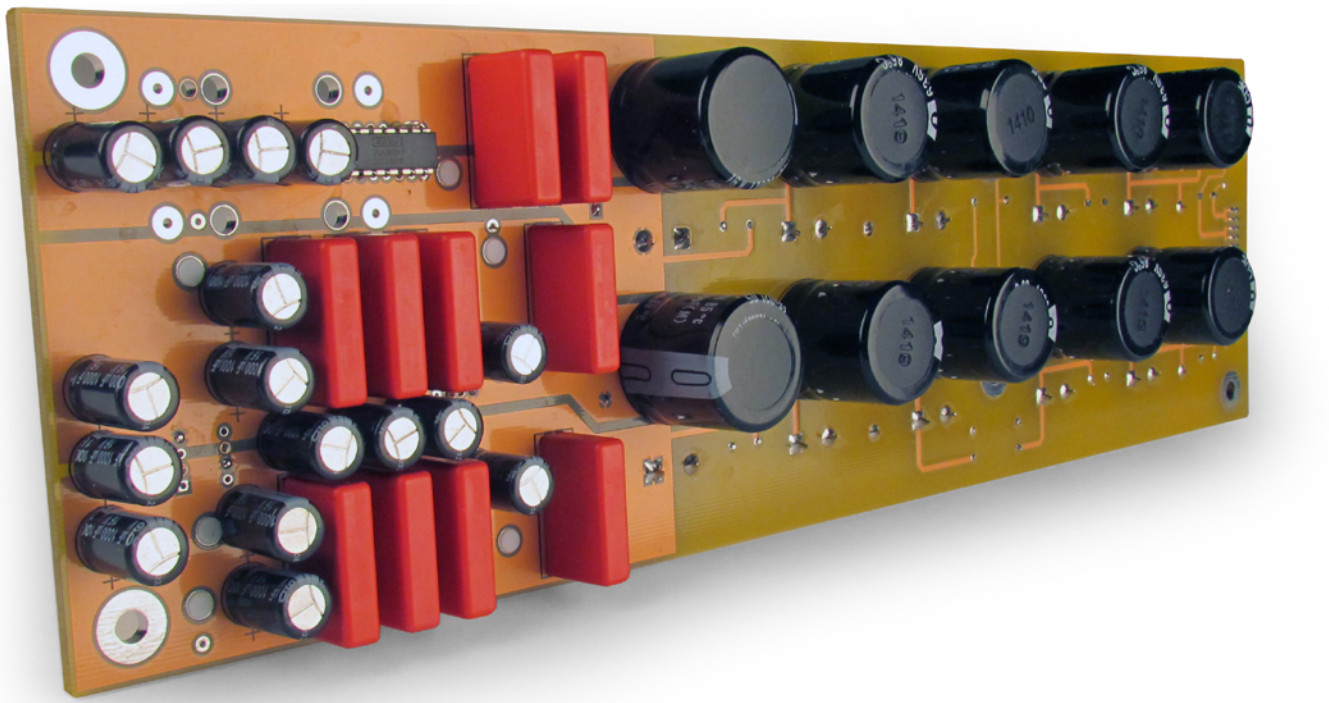


In the ***Argentum*** all the socket disruptions are eliminated. That is, the socket is eliminated and the silver wires are soldered DIRECTLY to the IC pin. There are no circuit board traces or anything else introduced in the signal path.



Even the best IC sockets add layers of disruption in the signal path. There is socket material, the plating on it, the connection to the spring contacts, the spring material, the plating on it and, finally, the contact to the IC pin itself. At each interface there is a change from one material to another.

A side note: all of these considerations are also at play in vacuum tube sockets.



There was an opportunity to further advance the point-to-point silver wire construction. Equally important is the foundation upon which it depends. Getting that fundamentally correct is crucial.

The foundation has many properties to optimize:

A strong, rigid and stable physical support for the components.

> *The **Argentum** audio board is a 1/8" thick, glass-reinforced, epoxy laminate sheet. An extra thick, premium grade circuit board material.*

Provide a low noise, low-impedance, high-capacity source of power for analog circuitry.

> *Each mono **Argentum** audio board has over 100,000 uF of low ESR, high-current electrolytic capacitors. They do the 'heavy lifting' job of filtering and power reserve. An additional 12 Wima MK4P metalized film polyester capacitors extend the low-impedance performance to the higher frequencies.*
>
> *To take full advantages of this extreme capacity requires strategic placement. The front 2/3 of the board is the filtering and isolation function. Power enters at the front. There is a progression of RC filtering that passively and effectively puts a great*

'distance' between the audio circuitry and the AC power source. The passive implementation avoids any sonic anomalies that can be attributed to conventional active regulators.

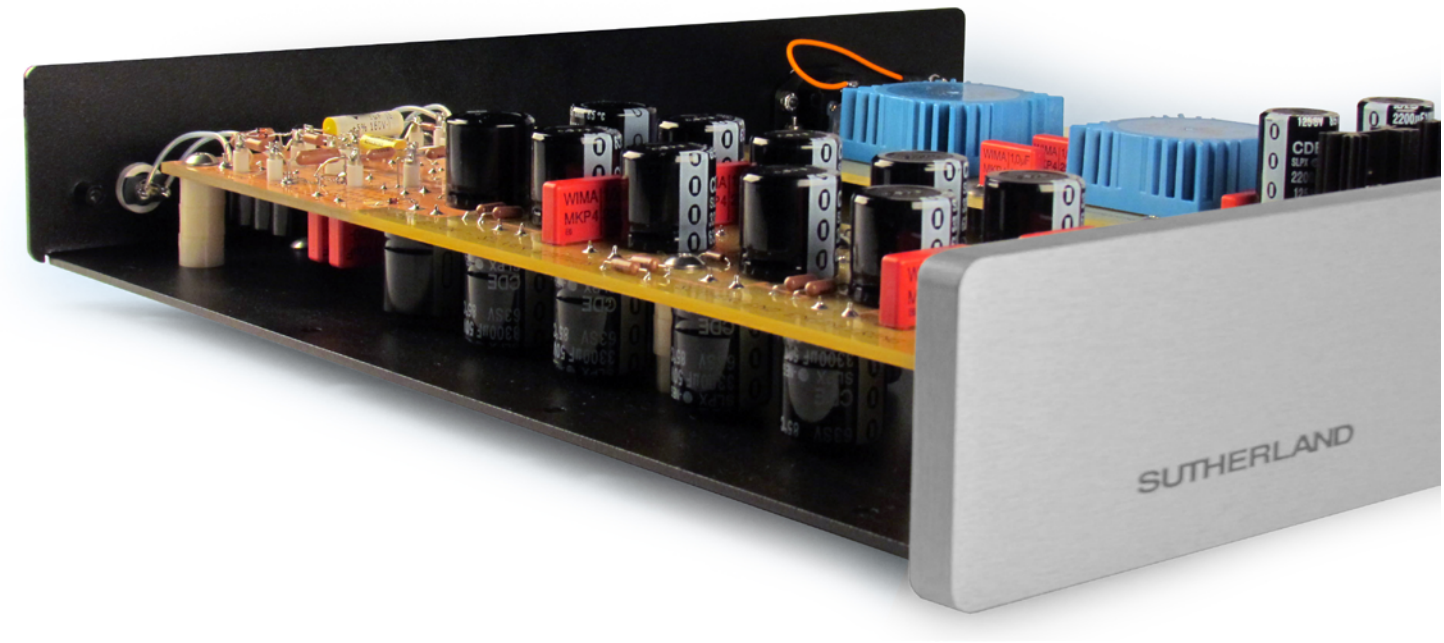
The final stages are located on the bottom of the circuit board, DIRECTLY under the analog circuitry. This short distance is essential to deliver unimpeded, unrestrained power where it will become transformed into music.

A low-impedance ground plane for a solid electrical foundation.

On top of the circuit board is a solid copper ground plane. It is not compromised by either signal traces or power traces. It is ONLY ground.

All signal wiring must be beyond any effects of the circuit board dielectric.

All the signal wiring is supported on Teflon terminal posts. Signal wiring is suspended in the air (best dielectric there is) above the solid copper ground plane. The ground plane effectually and completely isolates the signal wiring from any electrical properties of the board material.



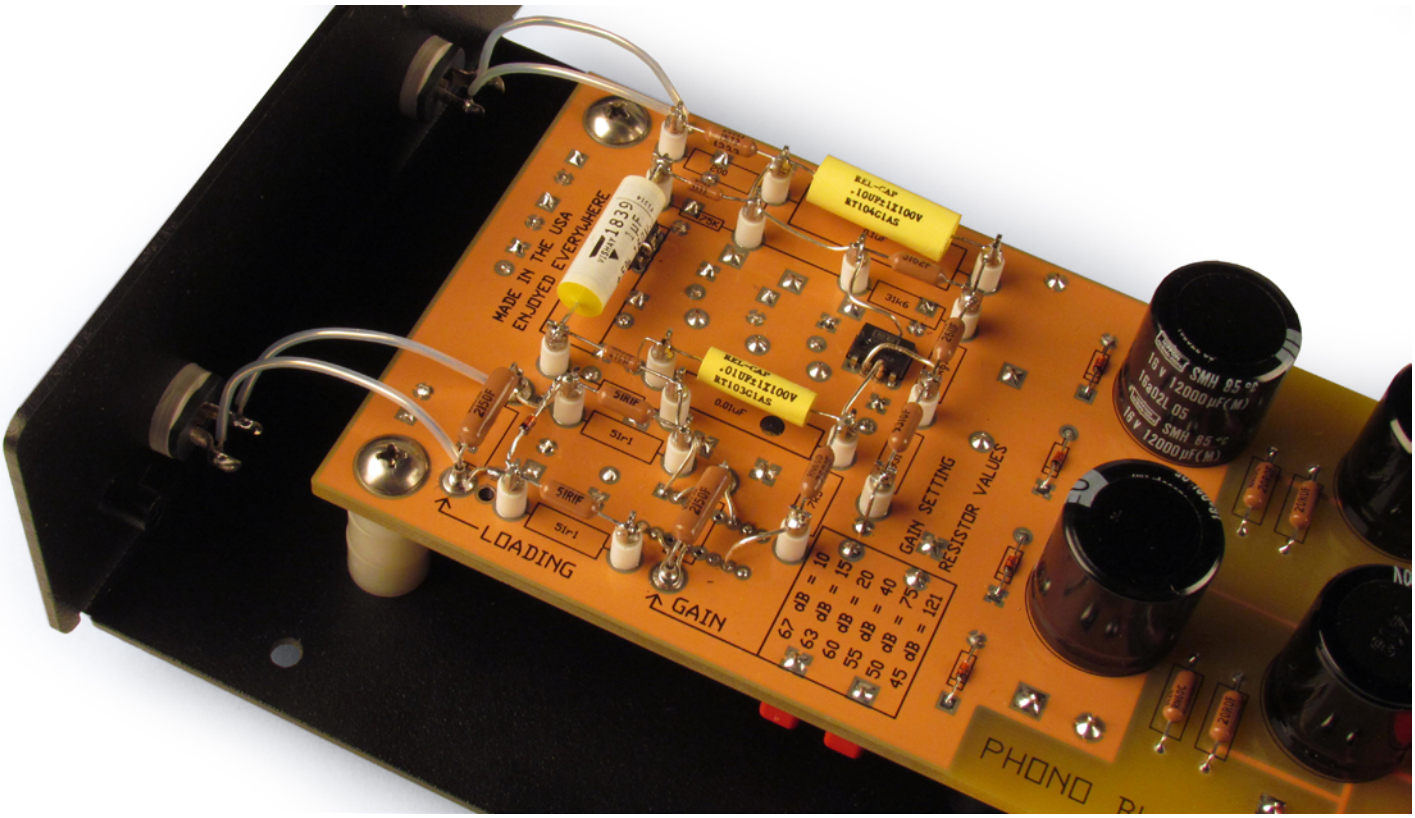
— LINKING INTO YOUR SYSTEM —

The ***Argentum*** is shipped configured for a gain of 60 dB and a loading of 200 Ohms. This will be a good starting point for most systems. If you have different preferences, please refer to the GAIN and LOADING pages.

The two ***Argentums*** are designed to be stacked on top of each other. Plug your turn-table into the IN jacks. The interconnecting cables to your preamp go into the OUT jacks. Ground wires go to the knurled screw.

The ***Argentum*** is designed to be powered on 24/7. The supplied AC power cords are just to get you started. Later you will probably want to experiment and invest in power cord upgrades.

BE ABSOLUTELY, 100% CERTAIN THAT YOUR ***ARGENTUM*** IS CONFIGURED TO YOUR COUNTRY'S PROPER VOLTAGE.



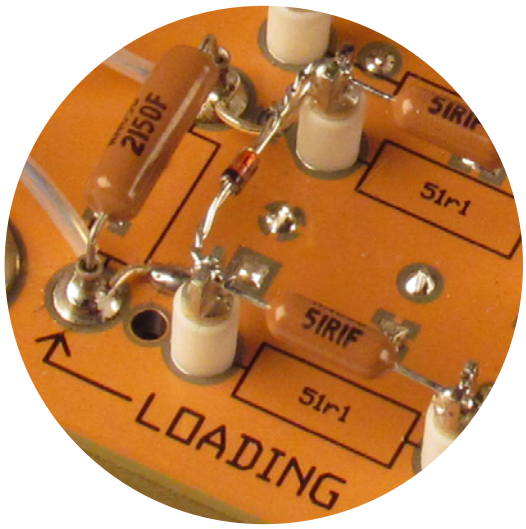
Load Settings

Cartridge loading is determined by the resistor value installed in the LOADING resistor socket.

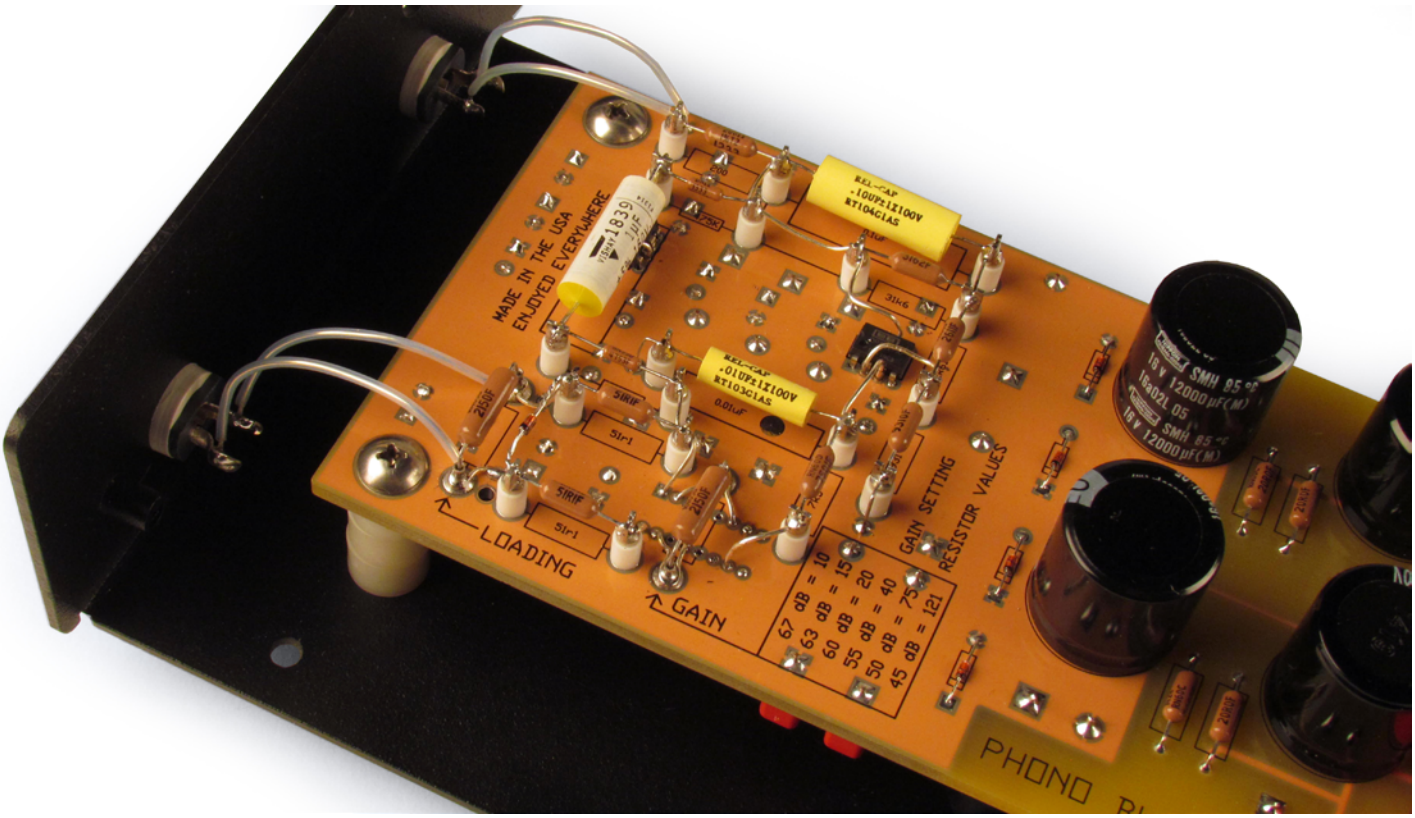
Dale/Vishay RN65-style resistors are included with the following values.

47.5k	**Ohms**	**(4752)**
1000	**Ohms**	**(1001)**
475	**Ohms**	**(4750)**
200	**Ohms**	**(2000)**
100	**Ohms**	**(1000)**
49.9	**Ohms**	**(49R9)**

Your ***Argentum*** is shipped with loading set to 200 Ohms.



NOTE: If you are using a moving coil, step-up transformer, check its owner's manual to determine correct loading resistor value.



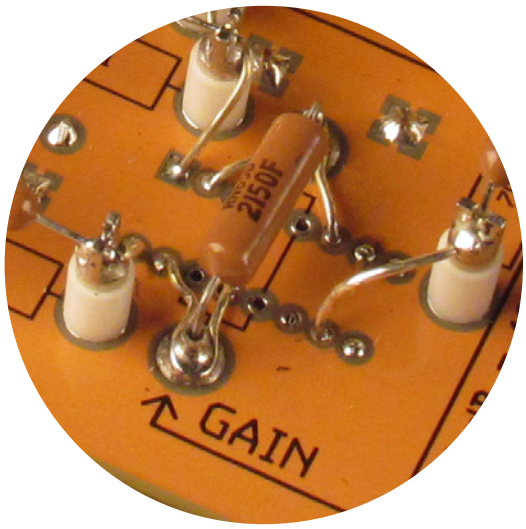
Gain Settings

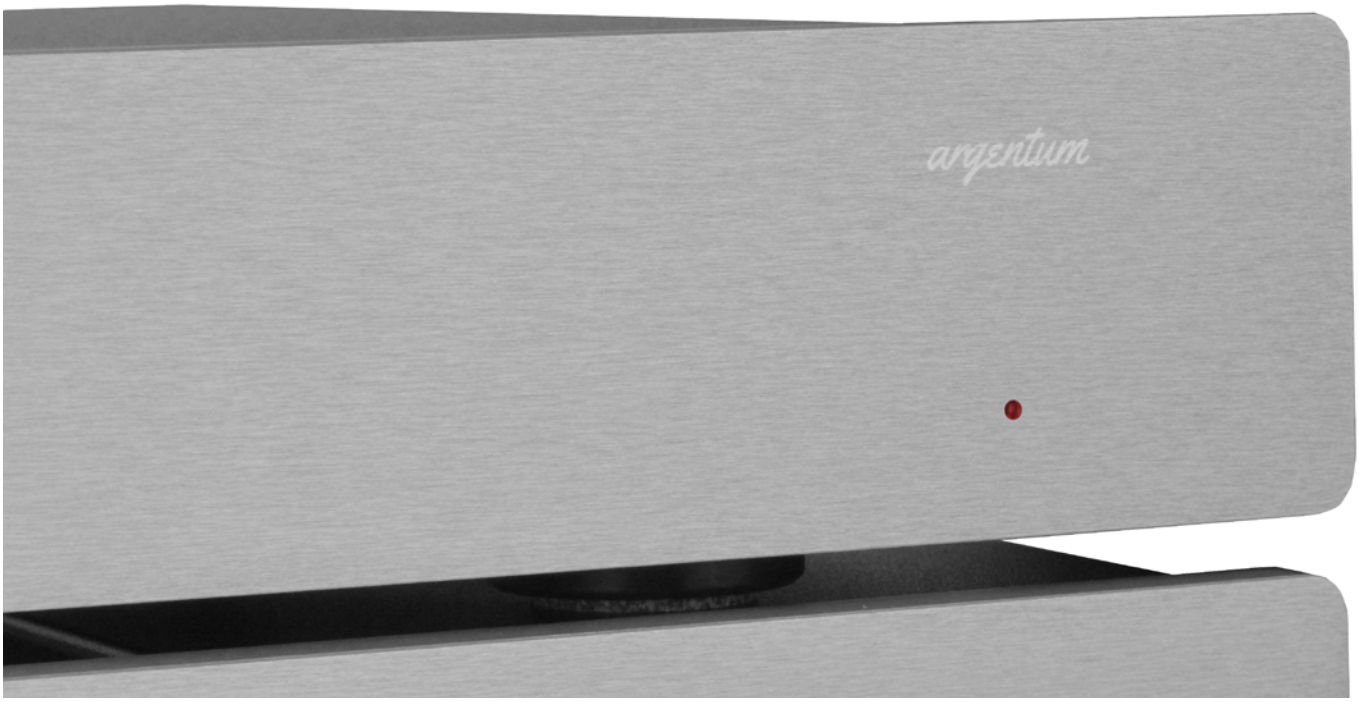
Gain is determined by the resistor value installed in the GAIN resistor socket.

Dale/Vishay RN65-style resistors are included with the following values.

121	**Ohms for 45 dB gain**	**(1210)**
75	**Ohms for 50 dB gain**	**(75R0)**
40.2	**Ohms for 55 dB gain**	**(40R2)**
20	**Ohms for 60 dB gain**	**(20R0)**
15	**Ohms for 63 dB gain**	**(15R0)**
10	**Ohms for 67 dB gain**	**(10R0)**

Your ***Argentum*** is shipped with gain set to 60 dB.





Size

17” wide
17” deep
3.25” high

Weight

Net 21lbs each
Shipping 26lbs each

Shipping Box

24” wide
24” deep
11” high

Power Requirements

110–120 VAC, 10 Watts — each
or
220–240 VAC, 10 Watts — each

Contact Info

Sutherland Engineering, Inc.
455 East 79th Terrace,
Kansas City, MO 64131

Phone: +1 (816) 718-7898
Email: ron@sutherlandengineering.com
Website: www.sutherlandengineering.com