20/20 MK2

SUTHERLAND

*The **20/20** was introduced in 2010. Because of it's firmly established reputation for performance and value, it continues to be our best seller.*

— RON SUTHERLAND

It performs beautifully and brings pleasure to music lovers all over the world. The design has proven to be rock solid with long term stability and reliability.

*Even after 10 years of production, there was very little that could be done to 'improve' the **20/20**.*

Also, over those many years, there have been just a few things that caused some customer questions. Since it has been the same short list of concerns, it was worth taking a look at. Might be a chance for improvement.

What the **20/20** is and continues to be:

In one compact chassis, there are two identical circuit boards. One for the RIGHT channel and one for the LEFT channel. Each has it's own shielded compartment and each has it's own power supply. Thus it is truly a DUAL MONO implementation of a stereo phono preamp.

Over the years, there has been a steady stream of compliments on the beautifully designed circuit board. It is obviously an expression of disciplined engineering along with an artisanal passion for the smallest detail. Even without a technical background, the care and craftsmanship is clearly evident.

The 20/20 has long been the 'high value' in phono preamps. It performs way beyond it's purchase price. That aspect is even more evident in the ***Mk2***.

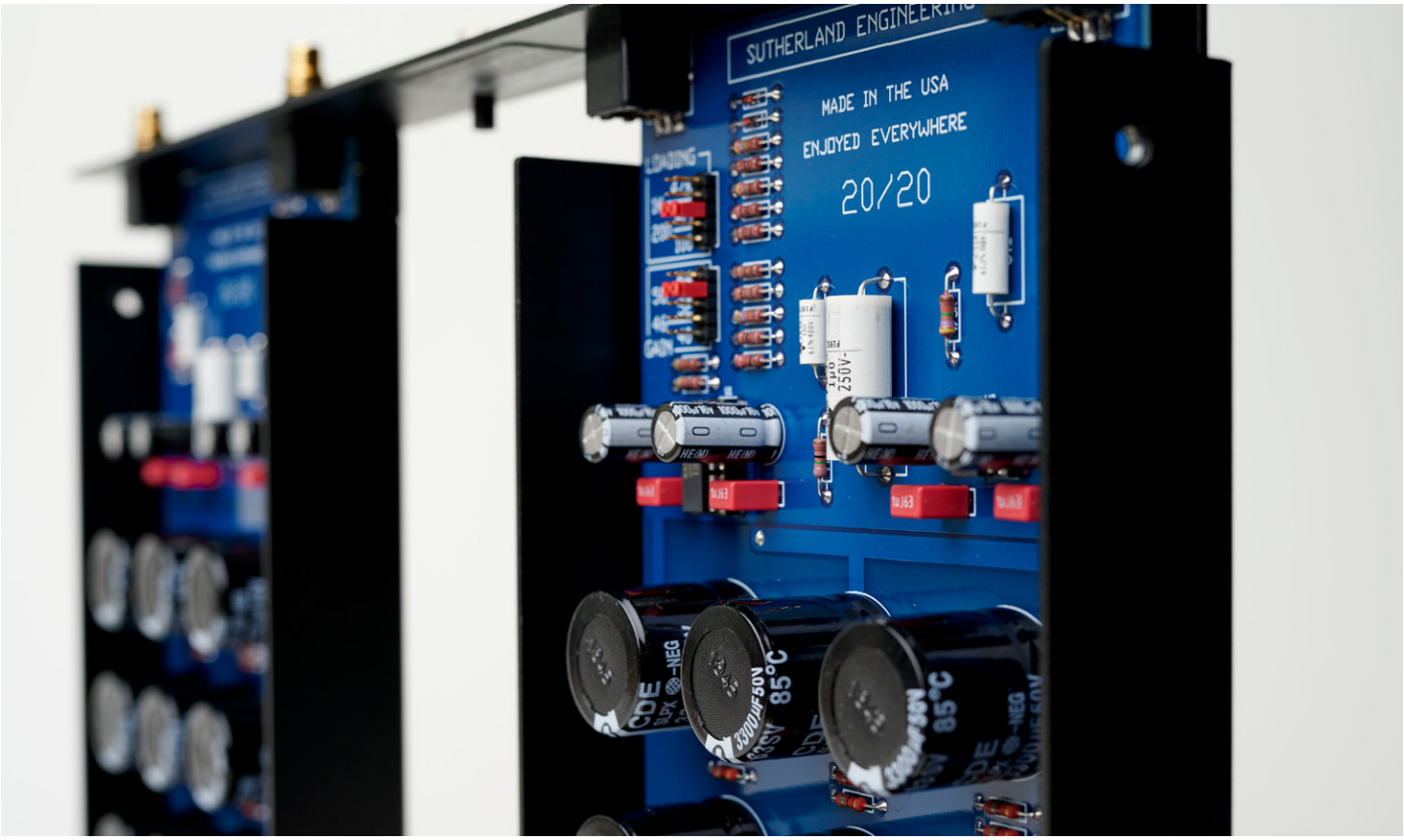
We have been able to steadily grow our market without advertising expense. It's been magazine reviews, dealer support and, most importantly, word-of-mouth reputation. Our customers eagerly share their enjoyment with friends.

We offer excellent and personalized customer support. 20/20s don't break. We have no expenses with repair of product — not in warranty or out. Our production is both efficient and without stress. We are glad to share those efficiencies with our customers.

— THE REFINEMENT —

The MOST IMPORTANT thing — don't change the essence of the 20/20. It is a design people have come to love.

Here's the short list of concerns and changes:



1A

Because of the identical original audio boards used for the Left and Right channels, the span between input jacks was sometimes excessively wide for some TT interconnects. Using a different circuit board layout for each channel was not an acceptable compromise.

1B

About 10% of new 20/20 purchasers would call greatly distressed. After hooking up their brand new 20/20, the left channel was dead. They had tried everything. We got used to this and asked them to check the jack locations for the TT cables. They had a firm expectation that the two inner most jacks were input locations. But that is not correct for the original 20/20 design.

The fix

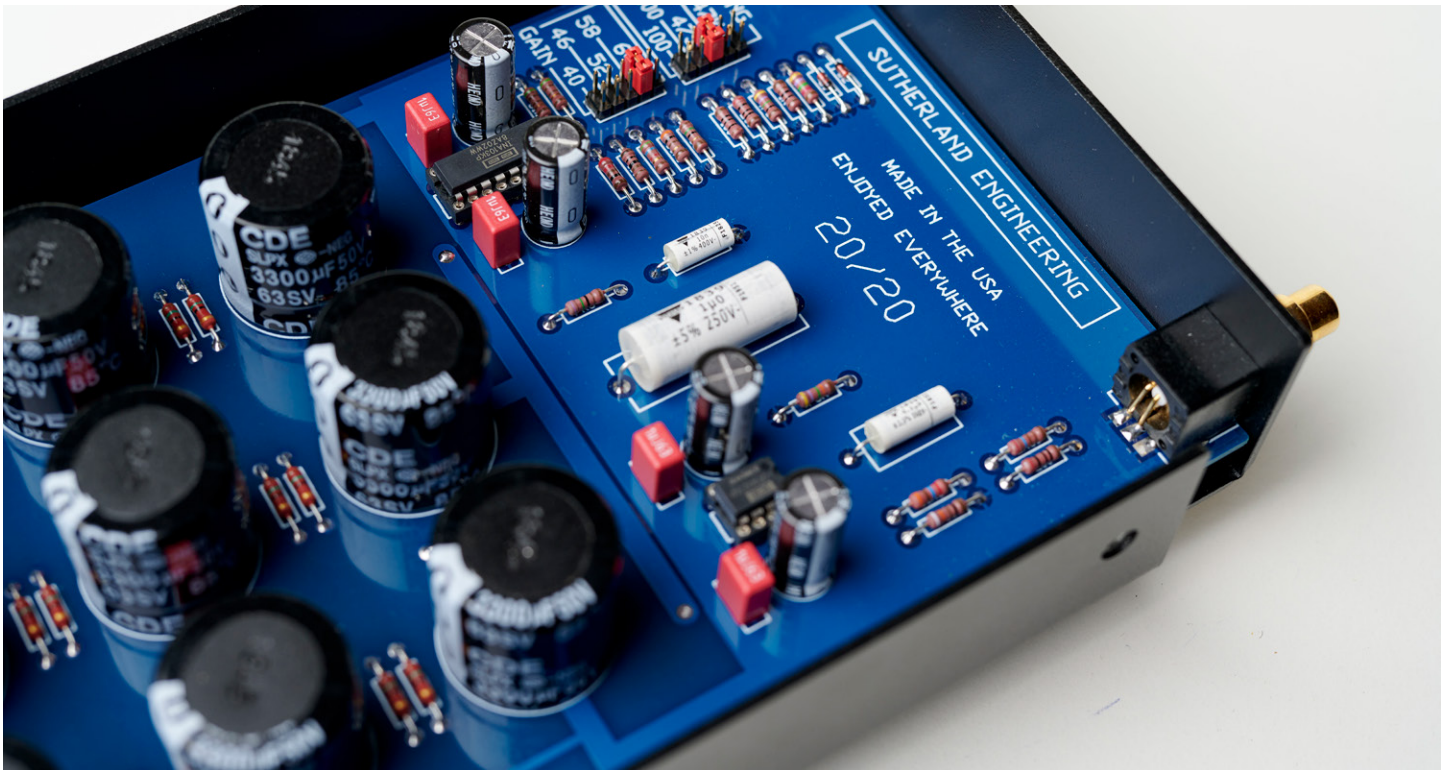
The new ***Mk2*** version of the 20/20 started with the original 20/20 circuit board. With editing of that file, there were just a few component and circuit updates. ***Mk2*** is authentic to the original.

The biggest design advantage came from simply changing the printed graphics on the circuit board.

The updated circuit board is used as the left channel. Graphics on the top of that board label it LEFT. For the left channel audio, components are mounted on the LEFT side of the board.

Graphics were added to the bottom of that same board file. On the bottom, graphics indicate RIGHT. When used as a right channel audio board, components are mounted on that side.

Thus, using the exactly same circuit board design, it was possible to move both input jacks to the center of the back panel.



2

The ground screw on the back panel (#10-32) was too big to accommodate some of the spade lugs on ground wires from TT

The fix

A change to #6-32 grounding screw

3

Questions about where to plug in the DC power connector from the power supply

The fix

Bold graphics on the circuit board make that very clear

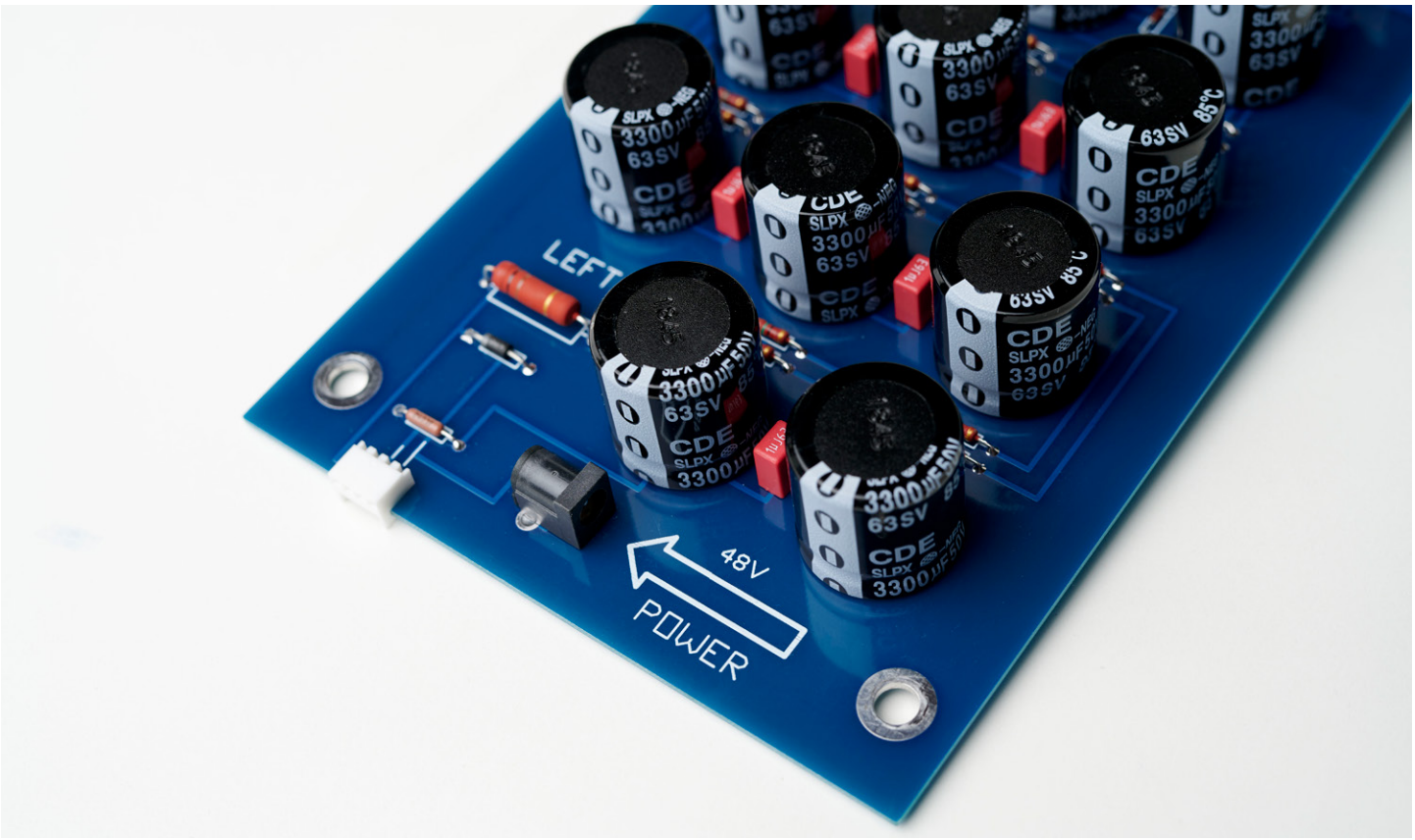
4

For many, many years there has been a dwindling supply of polystyene film for capacitor manufacturing. The European manufactures have been long gone. Inventories are scarce. Polystyrene that can be sourced now is terribly lacking in consistent thickness and quality.

The fix

While developing our flagship BIG LOCO phono preamp we found a source for very effective polypropylene film capacitors. They are from the well established and respected Vishay brand. Using those capacitors, along with a slight circuit change (also from BIG LOCO), we have a secure, reliable path forward.

— LINKING INTO YOUR SYSTEM —



Break-In Time

After just an hour or so, the musicality of the 20/20 will open up. Often users stress about break in time. Don't worry about it!!!! Performance is very good early on. Just enjoy the music and let the subtle break in changes happen on its own schedule.

Power

Each of the two audio circuit boards connects to an external DC power supply. The DC power cords plug into a circuit board mounted socket. One on the front of each circuit board. It is clearly marked with an arrow.

The 20/20 is designed to be powered ON 24/7. That way it is always warmed up and ready to perform at it's best.

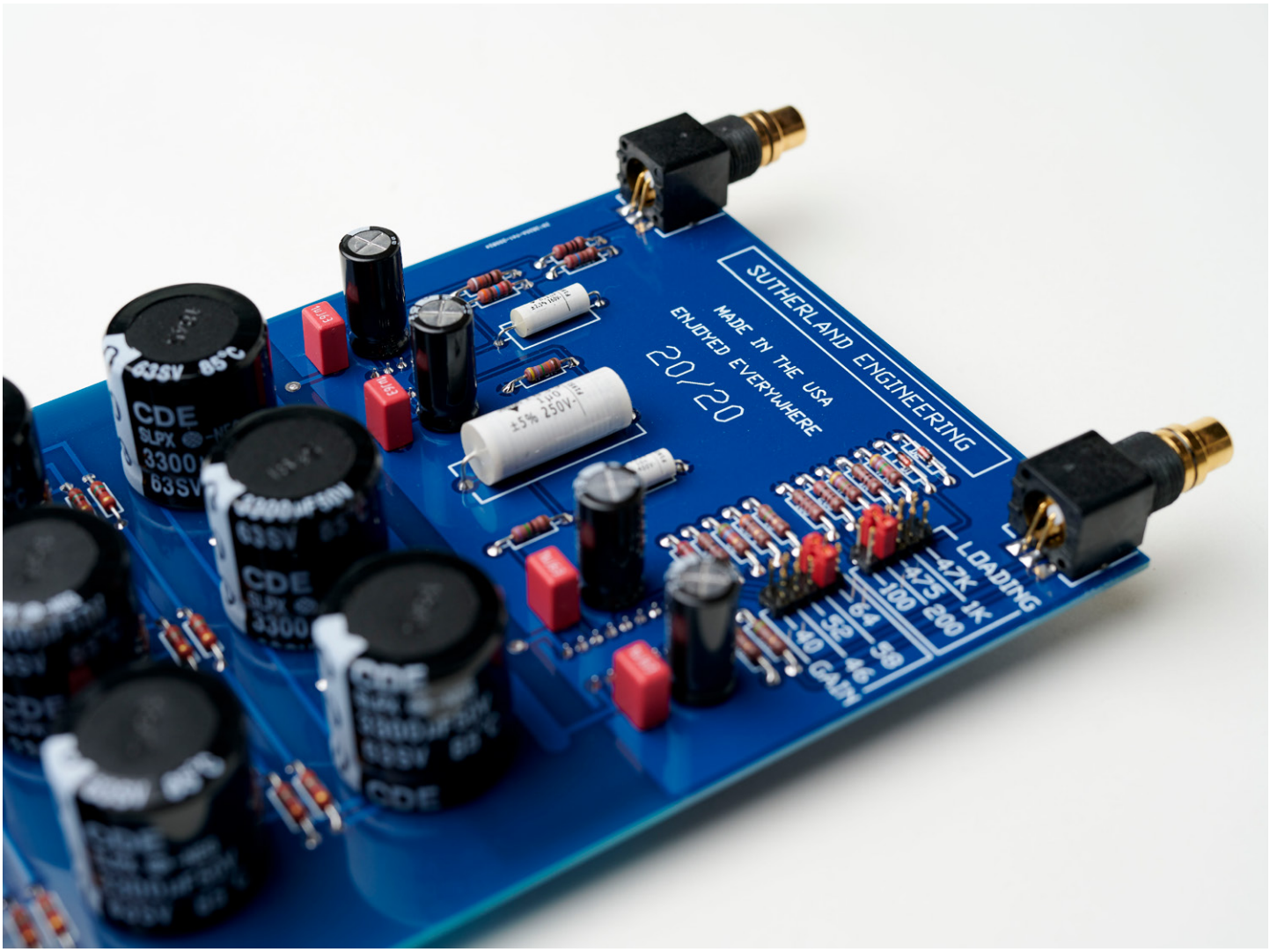
There are two power supply options. Standard is bench top switching power supplies. There are two. One for each board. The upgrade option is the Linear Power Supply. The one box contains two isolated power supplies.

Ground

There is a ground screw in the middle of the 20/20 back panel. Ground wires from the turntable (and possibly interconnecting cables) are connected there

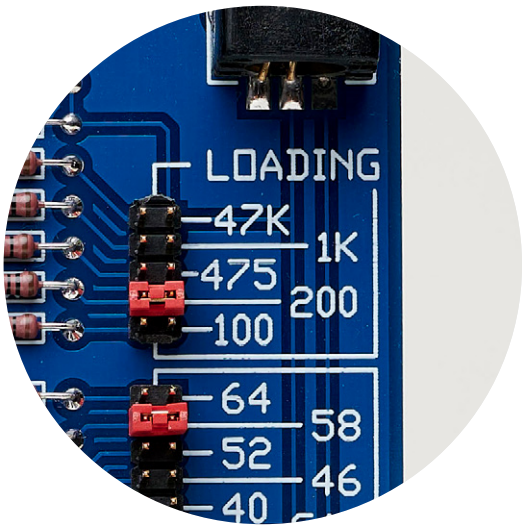
Gain/Load Settings

On each audio board there are options for selecting CARTRIDGE LOADING and GAIN. The many values offered will accommodate a wide range of MC or MM cartridges. The 20/20 is shipped with a GAIN setting of 58 dB and a LOAD setting of 200 Ohms. That is a good starting point for most MC cartridges. Feel free to experiment. The best values are the ones that you personally prefer.



Load Settings

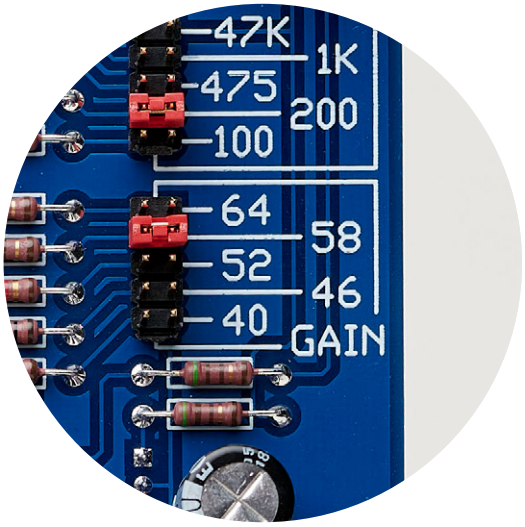
Cartridge loading is determined by the position of the movable shunt. Be sure to have identical settings on both the RIGHT and LEFT board.



47.5k Ohms
1000 Ohms
475 Ohms
200 Ohms
100 Ohms

Gain Settings

Gain is determined by the position of the movable shunt. Be sure to have identical settings on both the RIGHT and LEFT board



64 dB
58 dB
52 dB
46 dB
40 dB

Beautiful on the Inside

- FR-4 fiberglass circuit boards
- Double-sided with plated thru holes
- Dale/Vishay 1% metal film resistors
- Wima polypropylene capacitors for power supply bypassing
- Vishay precision wound polypropylene capacitors in signal path
- 14 gauge cold rolled steel chassis
- Baked epoxy powder coat finish
- 1/2” thick anodized aluminum panel
- Front panel artwork anodized into the surface
- Gold-plated, Teflon-insulated RCA connectors
- Gold-plated configuration headers and shunts

Size

17” wide
12” deep
2.5” high

Weight

11 lbs Net
19 lbs Shipping

Shipping Box

22” wide
17” deep
9” high

Power Requirements

110–120 VAC, 15 Watts
or
220–240 VAC, 15 Watts

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

— *OPTIONAL ACCESSORY* —

Size

6.5” wide
11” deep
2.5” high

Shipping Box

12” wide
14” deep
7” high

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

Weight

Unit Weight: 7 lbs
Shipping Weight: 11 lbs

Operating Voltage Requirements

105 — 125 VAC, 12 watts
210 — 250 VAC units are available on special order
Note: operating voltage is NOT universal and cannot be field modified.

Included Cables

One IEC, 6-foot-long power cable
Two DC output cables, each 6 feet long

Warranty

5 years parts and labor. Transferable. Only valid for units that have not been modified or abused.

20/20
L P S

SUTHERLAND

The 20/20 phono preamp has been around a good long time. I'm not sure when it came out. One of the early reviews was in the Feb 2011 issue of Stereophile. It's musicality and good value have kept it a top seller all these years. A quick search will show a long history of favor. Today it is seen as an enduring classic. A very good choice.

There is one point of contention. In that Stereophile review and in many discussions (including page 5 of it's owner's manual) I have had to defend the choice of using a couple of bench top (wall-wart) power supplies. The engineering choice was to spend the parts budget on the very best components in the signal path. That left a smaller budget for the power supplies.

There have been many requests, over the years, for a 20/20 power supply upgrade. Finally there is such. This new Linear Power supply is specific to the 20/20. The one box contains two isolated 48 volt linear power supplies. The truly dual mono nature of the 20/20 is preserved. Simply plug the LPS's DC cables into your 20/20 and enjoy your upgrade.

The power transformer is toroidal for minimal radiated magnetic field. The already low magnetic field is further reduced by connecting the primary windings in series rather than parallel. The transformer flux density is reduced to half of normal.

The transformer's AC output is full-wave rectified, current-limited and applied to a first stage shunt regulator. That not only gives the first stage of voltage regulation, but it also smooths the current waveform drawn thru the transformer. The usual current spikes become much more sinusoidal in shape. Thus current spikes are not injected back into the power line or project a radiated noise field.

The LPS is incredibly effective. It is also straight forward in it's simplicity. Rock solid in performance, stability and reliability. Nothing fussy about it. No active voltage series regulators to add their colorations. No switching regulator noise to deal with. Just a lower noise floor and a more relaxed and effortless presentation.