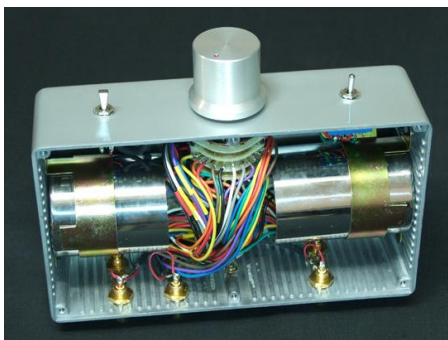


# SAC Passive TVC Pre-amplifier

with Silk Transformer Volume Attenuator STA-522A



*The transformer is still the ideal signal transfer device since it offers much lower signal loss and much lower output impedance (10 times lower than a regular stepped attenuator) thus it will process very wide frequency response at any attenuation setting. The listener will hear this evidence at first time when comparing the SAC SILK Supermalloy Transformer Attenuator to any other types- guaranteed.*

Not only can the SAC SILK Supermalloy Transformer Attenuator be used in replacement of any existing volume control device in pre-amp or integrated amp, it can also be great used as stand alone Passive Pre-amplifier. Since it has very low output impedance, it can drive long cable better than any regular Passive Pre-amplifier. Moreover, its ability to provide a +6dB boost to the signals makes it very versatile in working where the source level or load input sensitivity is low.

Although several manufacturers are now introducing transformer volume control but non match (or even come close) to the accuracy of winding, number of attenuations, highest inductance with lowest insertion loss of the SAC SILK new 2009 model SILK STA-522A. The transformer used is built to better than 0.5% precision using the highest quality components and craftsmanship available anywhere.

This passive unit is designed to achieve the clearest and purest sounding line stage of all.

This is special limited edition of passive pre-amp featuring SILK Transformer Volume Attenuator STA-522A and SEIDEN 23 step switch The enclosure is made out of solid die cast aluminium with 10mm thickness to completely eliminate the effect of vibration, noise and other interferences.

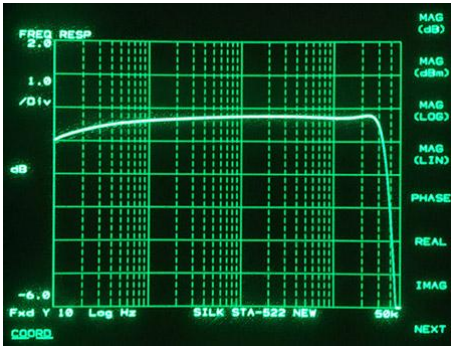
The unit contains 2 RCA inputs (selectable), 1 RCA output, 0dB/+6dB switch. Internal parts are point to point hand wiring with silver solder and silver plated stranded copper lead. The switches are highest quality from Miyama (Japan) and 23 steps 2 decks gain selector is from SEIDEN (Japan) that has gold plated contacts that offer very smooth rotation with very accurate tracking and very pure signal connection.

The heart of this passive preamplifier is the World Class SILK **Supermalloy Transformer Attenuators (STA-522A)**. This new attenuator extends the sound performance of its very successful predecessor by adopting the newest development of Supermalloy core (PCC-02) for even higher permeability and lower loss. The winding technique and implementation are also improved to increase linearity of frequency response and boost the output level up to +8Vrms.

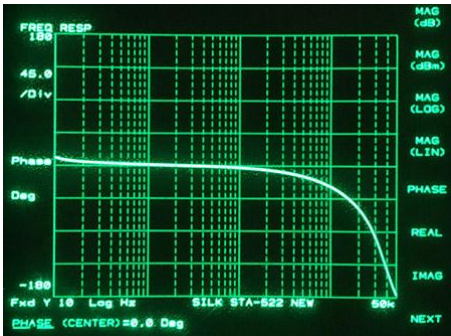
The former STA-522 has already established the highest quality Supermalloy transformer with 22 carefully selected steps in secondary winding to function as stepped attenuator with very high inductance (in excess of 450 Henry or equivalent to 50Kohm) with very low loss winding technique (called Nano winding technology). The primary coils are made such that it can be connected to generate +0dB or +6dB which acts like a step up transformer in a system where load input sensitivity is low. The new STA-522A retains all features and further boost the total primary inductance up to +1,100 henry!!! Without a doubt, new SILK STA-522A continues to offer highest value, sound and joy for the most serious audiophiles

The Silk Audio TVC Supermalloy SQ annealed core, This premium core will offer immediate +40% increase in permeability with even lower hysteresis and coercive force. The new core has almost double the permeability! The new SILK Supermalloy products will have highest inductance, highest Q factor, lowest hysteresis & coercive force. Transfer of signal energy (even tiny details) will improve to a new level. At 20Hz, the new TVC will have around 1,100 to 1,200h! the quality difference between this and typical Permalloy is huge!

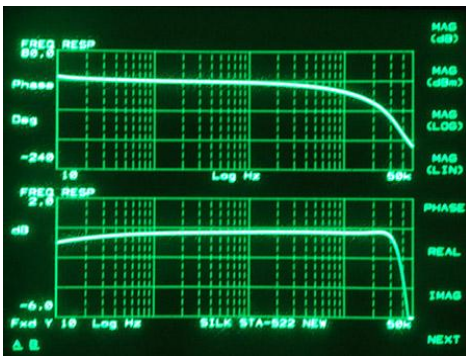
The benefit of replacing plastic type volume control to stepped attenuator is obvious! However, the accuracy of tracking and the quality of selector switch plus low noise resistors can reduce the signal loss to some degrees. Moreover the regular stepped attenuator featuring resistor type fails to offer impedance matching over plastic volume control. That's why at high attenuation level (low signal out, low listening level) the bandwidth of such volume control is very poor and the bandwidth is not constant over any switch position



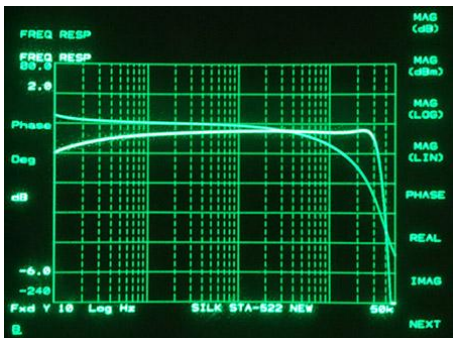
It can be clearly seen in this actual plot of the Frequency Response Characteristic of the new 2009 STA-522A. We have eliminated the nasty peak/dip usually associated with regular transformer based attenuator. From 10Hz to 35,000Hz the frequency response is only -1dB deviation from 1KHz reference point. Source impedance is 12K ohm, load impedance is 10K ohm. Series primary connection.



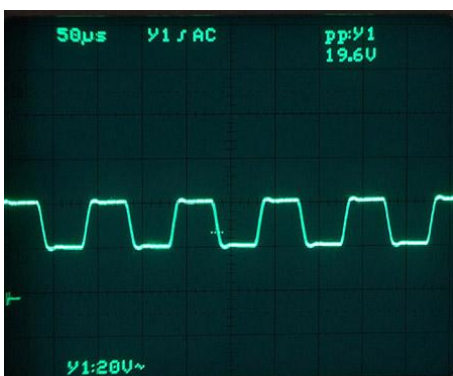
The improved winding scheme of the new 2009 STA-522A brings very smooth phase response plot thus superior phase behavior is ensured throughout audio spectrum. Out of phase signals will not occur near or close to audio spectrum.



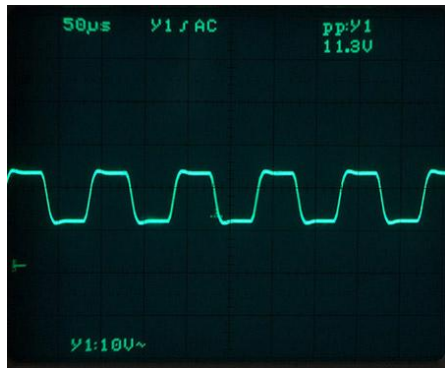
This figure shows both frequency response and phase response of the new 2009 model SILK STA-522A.



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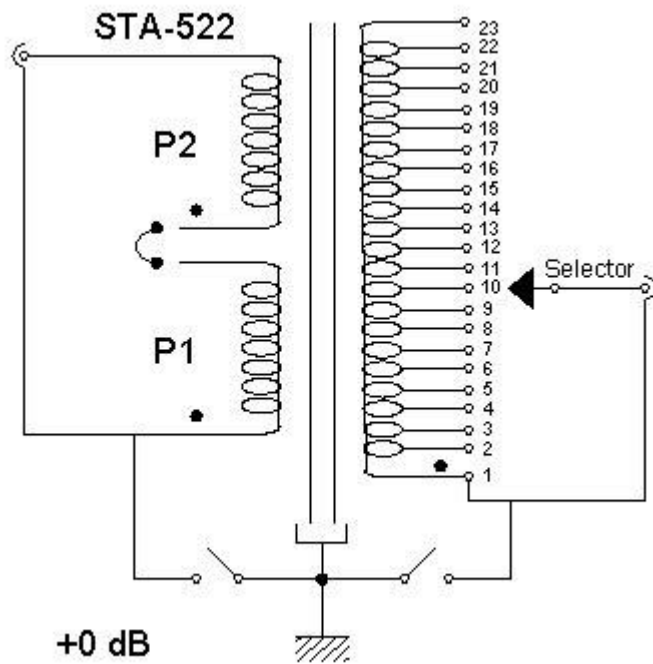
After extensive experimentation, we finally found new ways to create super inductor (in excess of 1,100 Henry) with perfect waveform. The actual screen shot of 10KHz square wave response at high voltage level (11.3V peak to peak) Series primary connection (1:1), 12K ohm source impedance, 10K load is shown.

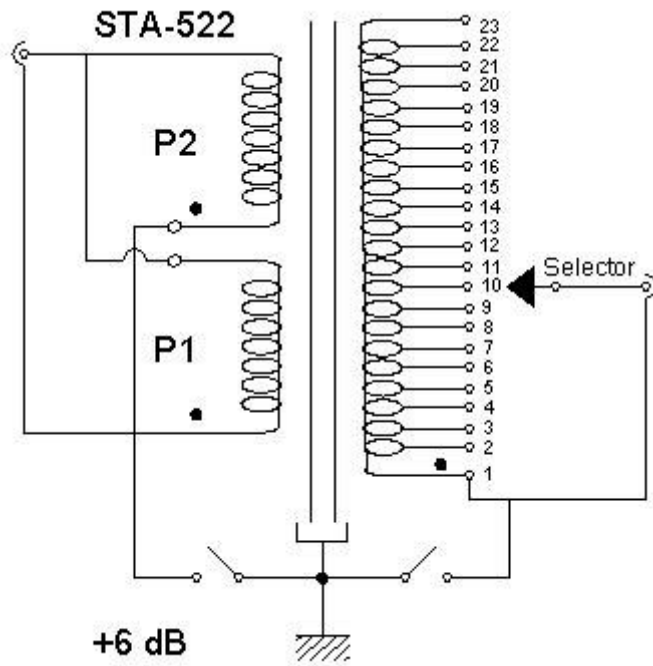


10KHz square wave response at high voltage level (19.6V peak to peak) Paralleled primary connection (1:2) 3K ohm source impedance, 10K ohm load impedance.

STA-522A has normal attenuation level as follow:

Step	dB attenuation	Step	dB attenuation
1	-48	12	-22
2	-44	13	-20
3	-40	14	-18
4	-38	15	-16
5	-36	16	-14
6	-34	17	-12
7	-32	18	-10
8	-30	19	-8
9	-28	20	-6
10	-26	21	-3
11	-24	22	0





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