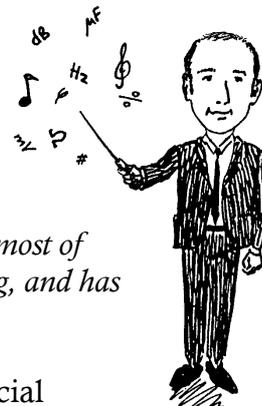


Bryston 14B SST – A milestone in power amp design?

When I bump into various costly products and start to analyze them, the conclusion I reach is often:



“–Yet another box where the manufacturer seems to have put most of the effort in design and marketing, and has the guts to charge extensively!”

When it comes to the very special manufacturer Bryston in Canada, I’ve never got that impression though – despite the fact that some of the products they make have remarkably high price tags. On the contrary, the feeling has rather been (when meeting Bryston people at trade shows, peeping inside the boxes, reading test results from Hi-Fi-magazines, not to forget listening to some systems at private users) that this is a manufacturer producing a range of exceptionally well-engineered products!

I have for almost 15 years now tried to get hold of some Bryston-amplifiers to make a full test and review in MoLT, but unwillingness (and a strange unfriendly attitude) from the distributor has stopped those plans up to recently. The Swedish distributor was replaced with a Norwegian one, responsible for Scandinavia.

I like Norway, but it felt complicated to have to contact a person in another country – Norway, to perform at test in MoLT.

On top of that, Norway is not a European Union member, and that complicates things even more. Frankly, I think the choice of a Scandinavian distributor (one that, according to their own saying, is not carrying any stock) in the only Scandinavian country *not* being inside the Union, is somewhat strange.

All of a sudden, a while ago, I was contacted by an owner of a large Bryston amplifier, who had heard that I wanted to do a comprehensive test of one of the bigger Bryston amps. *“–You may borrow my amp to do the test!”*, he said. So that’s just what I did! ☺

So now I know more about it – and here’s the report!

Round 1:

First round with the amplifier was something of an anti climax. My hope and expectation was that this amplifier is something really extra, and the first hook up to a pair of speakers was also promising, telling that the amp was something extra.

For a few days it was playing in my house, and it gave a very positive impression. Everything sounded comfortable and clean-clean-clean without sounding too clinical. More like a warm and pleasing sound, but *perhaps* the finest edge was missing.

Next connection was at my friend Gustaf Orest (this time also to a pair of speakers, not by using the Bypass Test listening equipment).

This second listening environment gave the same impression, – clean, clear, effortless/pleasant, but maybe somewhat warm and rolled off in the upper end. A brief look at the schematic (too brief as it turned out) showed that the bandwidth should be satisfactory, so we didn’t really know what to think about the impression of a rolled-off timbre.

Neither at my place nor at Gustaf’s any A/B-listening was performed between the amplifiers we are normally using and the Bryston amp (and definitely no Bypass Test) so we weren’t sure about the impressions.

I’d like to add that my main object of comparison for this first listening – an old Denon amplifier of 2 times 20 watts – does not pass the BypassTest without errors, even though it performs remarkably well. If my memory still serves me right (the Bypass Test was made many years ago) the sound of the Denon was towards the warm end, and that made me react on the impression that the Bryston was even more on the warm side.

At Gustaf’s we compared it to a large power amplifier he has designed, which, I believe would probably pass the Bypass Listening Test without detecting significant colorations. But his power amp had not yet been Bypass listened to at this time. So the only conclusion we could draw so far was that the Bryston amplifier was sounding extremely clean and unstrained, but we had to proceed with the Bypass-listening to determine if there were any timbral or other colorations to be found.

First Bypass Listening Test

And now the anti climax reaches its maximum – the Bryston amplifier was easily identified by the shift in timbre – just in the way we thought – it put some colorations to the music that made the music sound somewhat darker than with a neutral amp. Furthermore, we

identified it as slightly dynamically restrained, but from experience we know that this type of coloration can have its origin in the tonal character, even when it doesn't sound like it is about timbre.

The colorations related to tonal imperfections are probably the most complex, mystical and difficult to analyze of all colorations coming from an audio device playing music. Those who believe that all tonal colorations are perceived similarly as simple tone control knob shifts still have a lot to learn. ☺

Now it was time to take a second look at the schematics, this time a closer one, on the whole schematics – and now I discovered a rather peculiarly designed output filter, and also that the intrinsic bandwidth was maybe a little bit too good...

It is important that the bandwidth is not achieved at the expense of reduced slew rate margins, for example.

Given the output filter component values, it seemed like it was dimensioned for a single amplifier, but this was an internally bridged design! My thought was, is this maybe a remnant from an older single amplifier design?

To the lab!

Measurements confirmed the coloration we had heard. The range above 10 kHz not only dropped a few tenths of a dB in amplitude in the dummy load, but I could also establish that the amplifier wasn't stiff in the highest octave, i.e. the loss in amplitude was clearly load dependent.

So, what to do now?

My first step was to call the owner of the amplifier and explain the situation – including the ease in detecting the amp in the Bypass listening. When having listened to my message, he said without further hesitation:

"–Ok, please modify it for me to the best of standards!"

He also mentioned another thing. He suggested I could have a chat with Bryston about it. He gave me a contact name and phone number, and I thought: *"Sure... of course they will take action when someone from the far away country of Sweden has a bunch of ideas on what to do... NOT!"*

It turned out that I was all wrong. Bryston not only listened, they also, prestige less and in a very entertaining way, told me a lot of stories about various things, including how, when and why this output filter was designed. Furthermore, they immediately started redesigning it to solve the problems I had found. Very serious in other words.

They asked if they could call back after having done some investigations – seen from my Bypass-listening perspective, a perspective they seemed to like.

Altogether we probably spoke five or ten minutes over the phone, and I tried to explain as well as I could my view on the problems and what I believed would be suitable solutions. It all ended up with them redesigning parts of the amp according to my suggestions. Not only this sample, but all amps in running production from that date

(It is, from the date the discussions took place in November 2006, the printing of the magazine takes some time.)

According to information from Bryston, the new dimensioning is valid approximately from serial # 000 500, and definitely from serial # 000 507

Some uncertainty persists – possibly amplifiers from serial number 000 500 are modified to latest status, but the modification was first introduced as an experiment and later included in the running production. My sample (definitely modified! ☺) has serial number 000 506 and 000 507 is the earliest unit they could find being modified in running production, but the measures could have been implemented a few units earlier, i.e. some units might have been modified at the same time as my sample.

In practice it means this test on Bryston 14B SST is valid for most amplifiers supplied 2007, but not for older units. It definitely is valid for 000 506 (the sample I have) and forward.

If you feel the least uncertain on manufacturing date, check the serial number! This said for those reading this article sometime in the future.

But to start from the beginning, at this time I had no amplifier from present production in my hands, the one I had was the older Swedish one borrowed for the test in MoLT.

Rebuild or new sample?

The owner of the amplifier still wanted me to rebuild, or upgrade, his amplifier to the new "factory standard LTS-version" of the amplifier.

In order to modify the amplifier I asked Bryston to tell the exact component brands and values, in order to have this amp identical with a future factory produced amp – but Bryston preferred to send a completely new amplifier for this test (to make sure it would be correct).

Very ambitious and serious, but really not necessary I thought, so I continued to ask for information on how to upgrade instead.

However, they stuck to their opinion, and after a short while one new amplifier was on its way.

(Freight and customs duty was in the same range as buying a used NAD 208, and I was not prepared to pay for that, but what to do? Compared to all the other expenses I have had to pay for LTS over the years, this was still peanuts. So I took a bite of the sour apple... (Next time, I must make sure that the freight is on the manufacturer, if they insist on sending a test sample...))

Anyway, now it was time to start the testing again!

Round 2:

The thing I noted was that the cabinet was changed a little. In my eyes it was a change for the better, although the difference is not too obvious.

It is easier to carry it around now, due to more comfortable shapes of the handles, and the connections at the rear are now protected by two large hoops, that can be used as handles too when carrying the amp around.

This time the testing started out in the lab, because I wanted to verify the amplifier was behaving as I hoped.

It did!

(By "hoped" I mean, "does not alter the signal in any way that makes me anticipate detection in the Bypass listening", as was the case with the old amp. So I'm talking about MY hope for the amp. Other people might have different ideas and hopes regarding how an amplifier should behave, including different kinds of "pleasant colours"...)

Now the damping factor was very good and the frequency response was better than $\pm 0,05$ dB all the way up to 20 kHz, also when loaded with 4 ohms. Above 80 kHz the roll off was starting to get steeper, and a small ringing was seen. My guess was that this pole was there because of a little more feedback in combination with the altered output filter.

Even more impressive was the distortion analysis. This is actually the best measured results I have seen, ever.

With the standard instrument settings we normally use, (100 dB vertical), it is possible to see distortion products down to -100 dB relative to the signal, i.e. 0,001% distortion. When the Bryston was put on the lab bench, the screen was blank... completely blank!

Nothing but the fundamental (at 0 dB) was there.

THD+N (the sum of all distortion harmonics and noise) was a little above -100 dB added together, but each harmonic by itself was well below -100 dB. That, ladies and gentlemen, is a very impressive result!

At least seen from an engineer's point of view.

A peculiar side effect that I touched earlier in the text, was that a small transition jerk could be seen when feeding the amp with a square wave. This small artifact is well above the audible range, and furthermore it does not show up in the frequency response as a resonance peak. It's just an effect of the increasing slope a good bit into the ultrasonic range.

The artifact also did not change by level or by polarity (i.e. is a linear phenomena), nor did it significantly change by load variations, so there is no reason to anticipate any audible flaws from it whatsoever. I'll just file it under my list of "harmless oddities". ☺

How does it look, really?

The amplifier can be considered to be quite a large one in my opinion, but it is not giant. As a matter of fact, compared to some other High End amplifiers of 700 plus watts per channel (not cheating by running in class D or G) it is not big at all.

It is built in the classic 19" format (the front panel width), i.e. 48 cm wide, and the depth is just above 52 cm (including handles on both front and back). The height is 20.5 cm, feet included. If my memory serves me right a Rotel 1090 is much bigger, at least height-wise. The NAD 208 is smaller of course, but not that much. Quite a bit lighter, though.

The 14B SST has a heavy aluminum front plate with sturdy handles, sturdy enough to allow carrying the amp around quite easily, in spite of its weight.

I'm not sure if the handles are an option or not. This is how it looks on the Bryston website:



More information about the amplifier can be found at Bryston's website, at the following address:

http://www.bryston.ca/14bsst_m.html

Whether an amplifier is good looking or not is something that everyone has to determine by his/or herself, but it has definitely an unobtrusive, discrete look, especially compared to many rather ugly looking nasty over-designed amplifiers of today.

Looking at it, it is obvious that all parts are high quality and quite costly, but still in proportion to the well engineered entirety of the amp. By that I mean that my impression is that most of the effort has been put into the inner parts and behaviors, and not the looks.

And how does it measure?

As mentioned earlier the distortion figures are overwhelming. But besides that, this is an amplifier with plenty of power output. Clipping level is just 10 watts short of reaching 700 watts in 8 ohms. With a short signal (100 ms long, 1/10 repeated signal) it delivers close to 730 watts per channel, so no one can deny this is a potent piece of equipment.

As already mentioned the bandwidth was >80 kHz and with roughly a second order roll off. (I normally put the target low pass values to 2nd order @ 80 kHz, or a 1st order slope from 200 kHz). The damping factor was now more than satisfactory within the whole audio range (>100).

The bandwidth at the low end after the modification, was as good as you would like every amplifier to have, with a low cut of below 0.3 Hz (the limit I believe every serious Hi-Fi apparatus should be designed to accomplish, with the possible exception of RIAA amps and loudspeakers).

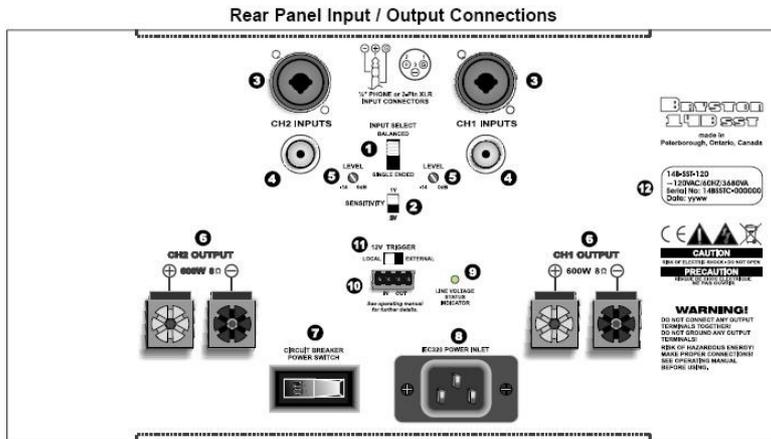
Looking at distortion levels alone, this is, as far as I can remember, by far the best power amplifier that has ever been hooked up to the test equipment of LTS! .

To make a long story short: For all normal levels (signal 20 – 20 000 Hz, output power from 1 nW and up to 700 W) all single distortion components are below -100 dB compared with the main signal. This is impressive in the perspective of how difficult it is for any manufacturer to achieve that level of performance.

How to connect?

The amplifier has quite some inputs and outputs, but as with all power amplifiers, it is easy to find the right ones to use. Normally there are only two input signals and two from the outputs to connect.

This is what it looks like at the rear side, with the reservation of the picture being non-photographic:



Maybe some more gadgets to handle than on most power amps, but still pretty straightforward.

The easiest way to go is to connect a pair of unbalanced interconnects from the preamp's output, and a pair of loudspeaker cables from the outputs to the speakers.

What can go wrong here is if any of the two input selectors is in the wrong position, one for selecting the input and the other one for altering input sensitivity. On the test sample they were already in position "single ended" and "1 volt" respectively, and I left them in that position for the first test round (of course I checked the 2 volt sensitivity position as well and didn't experience any problems or even any differences.)

1 volt means that 28.3 volts is produced at output for that level, and that is the THX standard for power amps. 28.3 volts RMS will result in 100 watts into 8 ohms, which of course is the reason for the standard being 28.3 times amplification. It could also be expressed as a gain of 29.0357... dB (or to be more precise, 29.0309... dB if one uses 100 watts rather than 28.3 volts).

Apart from the already mentioned switches, there is only one more thing that has to be regarded, and that's the trigger/control voltage switch. The trigger signal can be anything from 4 to 12 volts, AC or DC!

If you want to be able to start the amp by remote from another unit, put this switch in "external" position. I don't want to do that. (In the switch position "internal", the amp disregards any control signals coming in, but it can control other equipment, if you want it to.)

By the way, it's a pleasure reading the manual and its non-Voodoo attitude regarding recommendations of interconnect cables. It simply says: "Use quality 100% shielded cables with gold plated connectors".

A wonderfully no nonsense statement!

One more thing regarding the rear side of the amplifier: It is also possible to down adjust the input sensitivity by up to 14 dB by means of two adjustable pots, (the trimmers that are accessible from the back). I cannot see any practical use for this feature, except maybe to com-

pensate for a bad preamp volume pot with channel unbalance at low levels, or maybe to have the volume set higher to reduce effects of bad S/N after the pot in the preamp. Hopefully there is no need for any such tweaks.

So, how does it sound then?

To answer this question it is time to move on to listening test number 2!

Now when Bypass-listening to a Bryston 14B SST for the second time (the new "LTS-modified" sample of course) our expectations were not high, neither low, more like....fuzzy!

Would it show that everything we heard before is taken care of, or will we find new hidden characteristics (colorations) that would render the device detectable in the Bypass-listening? Maybe something not caught in the measurements we'd done?

The outcome of the second Bypass Test became different from ever before. To explain how, I have to start with explaining the normal procedure, and results: A "normal" Bypass-listening test typically involves 3 to 6 listeners, listening to the two alternative signals, B (Before = bypassed) and A (After = the test object is inserted into the signal path).

The Swedish name for the test is "F/E-lyssning" (F/E = före/efter), which translated to English would be B/A-listening (B/A = before/after).

Even though in this article, F/E-lyssning has been translated to "Bypass Test", it is not just a simple bypass comparison that is done, but it includes a complex reactive loading (corresponding to a real life semi-difficult loudspeaker, with both back-EMF and nonlinearity causing current distortion) over which the signal is taken differentially as E-signal (After the object), thus including internal cabling of the amplifier, both going from output stage and the earth return for non balanced designs.

Of course a divider that takes down the amplification so that amplification times dividing ends up being 1 is also included (also balanced) - thus enabling the input and output signals to be compared at equal levels*.

The B/A-listenings are also done at many different signal levels, ensuring that the result of the listening will be representative for use with a variety of loudspeakers with different sensitivity, typically ranging from 80 dB – 100 dB in a normal test.

*Level matching is always adjusted to be better than +/- 0,05 dB (50 - 8000 Hz).

This is first done openly, i.e. all listeners knows which is B (before object) and A (after object), and that open listening is often done for a longer period of time. During this listening, people are allowed to talk to each other about what they hear or think they hear. Thus, it's possible to "learn from each other", and vague characteristics that take a long time to identify for one listener, typically get identified very fast, due to the cross-communication of experiences.

When the blind "verifying listening" thereafter takes place, it is still an option to talk to the other listeners, but of course it is difficult to draw any conclusions since it is no longer known which one is B or A.

To sum it up, normally there are lots of views, ideas and opinions regarding the character of the tested amplifier after the open listening.

That was not the case this time.

We were sitting in open listening for well over one hour, and no one mentioned a single word about any differences they either imagined or heard. Actually, that's the first time ever something like that has happened.

In an effort to bring clarity to the "problem", (that it is difficult to find errors when no one has even an idea of what to listen for), we started looking for more difficult program materials for the amp to handle, but we did not manage to find anything that made anyone even imagine hearing differences when the signal had passed the amp during open listening. So - we had to throw in the towel and start the actual blind Bypass-listening without having any clues regarding what to listen for.

The situation was very strange for Bypass-listening since we normally have a lot of clues on what colorations to listen for from the open listening. After a long time during which none of us had presented even a guess on whether the amplifier was in the chain or not, someone suggested that probably something was wrong with the test setup? Maybe the amp had been omitted, and the switching was between B and B? Or maybe the switch didn't really work?

A thorough check was performed, and for sure it was correctly connected! Turning the amp off certainly killed the A (after) position of the B/A-switch. ☺

We kept on listening without any changes. We switched between B and A, sometimes rapidly, sometimes with longer intervals. We tried having the music running while switching, and to play shorter loops and switch so that identical sequence was heard on B and A. Nothing helped! The listeners looked at each other, and shook their heads. After half an hour without any guesses sane or wild, people were just laughing when prompted for an answer, saying "it's impossible!".

At that point we decided, in order to get any result, that the listeners had to guess - like it or not. Slightest indication of a difference - go with it!

Not to any greater success though, after ten minutes of listening we still got only five answers, and still only from two persons. One person made two of them, one wrong and one correct. The other left three answers, wrong-right-wrong.

So - after hours of listening we had not been able to reach any other conclusion than; we simply could not detect any coloration from the amplifier whatsoever.

It was time for a new strategy: **Bring out the heavy artillery - the transient test signal from Studio Blue!**

This signal is not a music signal, and for merciful reasons we do not normally use it when testing amplifiers, because almost no amplifier will pass it through without

altering it. It is more difficult than any other signal I have yet encountered.

The origin of the signal is something as simple as an old electronic metronome, and can be described as a "transient attack with tail and noise". The intrinsic dynamic in the test signal is enormous, and that can be used (to play extremely loud) because the spectral character of the signal is nice to the ears, but very difficult for most electronic equipment.

The extreme playback level made possible by the ear-friendly character of the signal, enables the listeners to hear artefacts very low down in level. It can't be used with any precision however, to uncover problems in the time domain. But when it comes to amplitude/amplitude and amplitude/frequency domain problems, it is phenomenal.

This does not only apply to THD-problems, but also many different modulations, bandwidth limitations, microscopic changes in timbre, mains power/rectification leakage (signal dependent hum and noise for example) and a lot of other potential problems. All this will be disrespectfully revealed.

So, what happened?

Same as before - no detection!

We B/A-listened for as long as we had energy. We tried using high levels and low through the test object, and very different *listening* levels as well (level through the test object and listening level can be chosen independently, as opposed to the case when an amplifier is driving the speakers directly).

When evening turned into night we gave in. This is not the first time we failed to detect an amplifier with a reasonable statistical significance in B/A-listening (Bypass Testing), it's the second. But it is the first time in the history of LTS, that we, despite hours of testing, did not even get past five guesses, that also proved to be random. This is the first time that none of the listeners even believed that there was any audible difference what so ever between input and output of the amplifier.

All of that does not yield an increased scientific weight, but each and everyone has to judge for him/or herself if this indicates lack of coloration from this amplifier. Obviously the above scenario does not happen, when a device with a lot of coloration is up for test.

Measurements as well as the listening tests show that this device is some very exceptional piece of equipment, at least after the modification. Valued by the measured performance only this is by far the best power amplifier that has ever visited the LTS-tech-lab, and the listening test does not contradict this.

Until the day I can afford to buy 20 of these power amps to connect all 40 channels in series and perform another Bypass Test on the whole chain, an estimation on how far below the threshold of hearing the artefacts are is nothing but a wild guess.

Doing it would cost me close to 1,5 million Swedish crowns, so anyone wanting to sponsor such an experiment is more than welcome - call me, and I'll give you my bank account number. ☺

The sound, part 2 - long term listening

As I had the amplifier available for many months this time I have spent many hours listening to it connected to my private equipment back home. The circle is in a

sense now closed, since this is how it started with the first sample.

It is difficult to judge a single device's contribution to the experience when it is connected to a chain of other equipment. It is inevitable that the characteristics from all parts of the chain will affect the summed result. So what you can learn from Bypass Testing is a much more general and exact picture of how the device in test performs, and how it will behave with various other equipment. Comparing input and output signals is the only true way to get an objective component into the subjectiveness of listening.

But one good thing can be said about listening to a test object in a complete system – it certainly makes the experience much more enjoyable than focusing on the difference between input and output signal as in a B/A-listening!

In a complete system you can enjoy the music, since it is no longer about detecting colorations from the test object, but about listening to the recording – to the music!

Even though B/A-listening is an effective way of learning about the true performance of a power amplifier, it is when you get home and are "listening as usual" to a variety of recordings, that you harvest the fruits of an amplifier, superbly transparent performing in the B/A-listening. In this case I can truly say – it sounds amazing, not to say remarkably fantastic!

If I compare with my memory of how the first sample sounded in my home, this new one sounds more fresh, open and clean, but I have my doubts about relying on memory when it comes to compare these small differences in sound. One impression that hits me though, imagination or not, is that it seems to be bigger differences among my phonograms than I have ever heard earlier. And what I hear sounds more like "real live music" than ever before!

The feeling I get, sitting with my eyes closed in my comfortable armchair listening to my chain, now with the Bryston at place, is that I at any time could stand up, step forward and shake hands with the musicians, or even bring my cello and play along with them! ☺

This is how fun Hi-Fi should be, always!

That's what I think anyway.

Value for money?

With all due respect to euphony, but is the amp really worth the value of a small car? Of course, that's a question to which the answer involves both taste, resources, priorities and maybe the size of the recording collection.

If you have a system + recording collection worth, say, 3.5 million SEK the device has to increase the listening yield by 2% to be worth its price tag.

If the system and collection together are worth 70,000 SEK however, a new device for 70,000 SEK has to double the listening value to be worth the money, and I can promise that that won't happen, unless the previous power amp was of appalling quality.

I think it is better to focus on the number of recordings in the collection, and ask yourself how much extra for each phonogram an amplifier is allowed to cost, i.e. how much extra value the amp is adding to each disc.

Whichever way you look at it, it is a subjective question. My opinion is that this amplifier will fit best in the best

systems on the planet and together with huge recording collections, but might be malplacé in systems that do not reach all the way, i.e. where it would be more sensible to invest the 70,000 SEK another way, where the investment would have a higher efficiency.

Warranty terms

One thing that makes Bryston different from most other hi-fi companies, is the warranty terms. In Sweden the typical warranty for stuff you buy is one year, even if the consumer laws say that units sold in Sweden and breaks within two years is the responsibility of the manufacturer, within limits.

Some companies offer three years of warranty. Some even put in another goodwill year (often an instruction for the repair shops to use their judgement, and allow an extra year for common problems). When it comes to paint and rust on cars the promise goes way longer. The paint, they promise will not fall off for years, maybe five, and warranty against rust is often more than ten years, even if it only protects against through holes... Anyway – we are not spoiled with generous warranty terms to the point that you get a solid feeling that the manufacturer really believes in their product.

Bryston offers twenty (two zero = 20) years of warranty on their amps!

I think this has to be a world record in the audio business. This is what they say in their information:

20 – YEAR AMPLIFIER WARRANTY

In a world where most things seem to need frequent upgrading, repair, or replacement, how can Bryston offer a comprehensive, unconditional, and fully transferable warranty on every audio product we make?

The answer would quickly become apparent if you were to tour Bryston's plant in Peterborough, Ontario, Canada. State-of-the-art design facilities, with the latest CAD and circuit simulation software, and an inventory of some of the best and most reliable parts on the planet, combine with a manufacturing philosophy that eschews the artifacts of mass production — robots, moving assembly lines, and, frankly, shortcuts. Every Bryston audio component is handcrafted by people who take great pride in building the very best. Starting with a bare circuit board, for example, each component is hand selected and installed, every wire is cut and bent by hand, every connection is hand soldered. On average, it takes thirty to thirty-five person-hours to assemble a single Bryston product. Is this just some romantic 19th-century notion of the artisan-craftsman, or is there a real benefit to you, the consumer? There is. Take the hand soldering, for example. We could do the job much faster by employing wave-soldering machines as many companies do. But that would mean exposing the entire circuit board to a molten-metal bath, a source of extreme heat shock that could result in long-term reliability problems. We don't skimp on testing or rush our products through

some last-minute go/no-go check; at every stage individual parts, completed circuit-boards, sub-assemblies, and final assemblies are all put through rigorous inspection and testing procedures. When completed, every Bryston amplifier receives a comprehensive and carefully documented test of all its functions, and the printed results of this computer-aided analysis are actually packed and shipped with each unit. During this intensive procedure, we not only reject any product that falls outside of our advertised specifications, but also any not meeting an even narrower band of specifications that we use for internal testing. As a result, you can expect each Bryston product to perform at least twice as well as the advertised specifications. Our 20-year amplifier warranty drives us in a different direction from the typical manufacturer. We consider a Bryston product to be a mutual investment: by you, in an amplifier of lasting quality, and by us, in that we invest in the quality of the product in order to be secure in offering our warranty. It simply makes good economic sense to produce the very best products we can. As a result, it can be said that we don't just make amplifiers — we also make friends — extremely satisfied customers who become life-long evangelists for Bryston's philosophy and tell their friends about our products. And, after all, who wouldn't want to give such nice friends a 20-year warranty?

How many manufacturers carry the responsibility for their products this far? Fewer than one in a thousand I'd say.

Pretty nice these warranty terms anyway, if you are worried about having problems. On the other hand you have to remember to be prepared to carry the freight costs should anything happen. Canada is quite far away from Sweden...

Conclusions

For anyone dreaming of a truly transparent amplifier, this is really a very, very nice amplifier. Actually the nicest one I have ever come across! It's not just nice, it is very powerful and expensive as well.

In my opinion however, it's an amplifier that just doesn't make sense in most systems performing less than superb, i.e. in most reasonable priced systems.

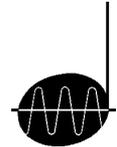
The reason is, that for most systems, a money input the size of a small car could be used more wisely than by investing in a ultra high performance Bryston amplifier like the SST 14B. Not that it is something wrong with it (on the contrary – I know of no amplifier with better performance!) but most systems fall short in so many other ways, often due to the speakers or to room acoustic problems. Problems that you *might* like to address first if they are the dominating shortcomings of your music reproduction chain, and you have the money to spend.

Or there might be new dimensions to expand the system in – maybe to a multi-channel capacity or with a video projector! ☺

But – in a system that is “almost there”, close to the limit in every thinkable way (every way but the power amplifier) – a system where everything is wonderful, and the money already spent is in parity with this kind of investment – well if that's the case, to my knowledge, there is just no other or better alternative than the Bryston 14B SST power amplifier – the best amplifier I have come across, ever, so far!

For use in the best of the best systems, It gets my highest recommendations, without reservations!

/Ing. Öhman



PS. Well, I forgot to mention – I bought the amplifier!!

–These darn mastering engineers... If they were in a heart clinic, their goal would be a flat line!

Robert Drake, NY

