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BRYSTON
A Lifetime of Music


## This Issue



## Bryston Conquers British Isles

We are very pleased to report that the Bryston 14B ST stereo amplifier received the very prestigious Product of The Year Award from Hi-Fi Plus Magazine in England.

Here's what they had to say about the 14B:

*"Long time valve devotee CB fell heavy and hard for this Canadian solid-state beefcake. It's a no- nonsense presentation and input options betray its professional background, while its subtlety and graceful power delivery establish its hi-fi credentials. Treat it with respect, genuine power and slap dash habits are a speaker bursting combination – but boy it is musically compelling. Look no further."*

To add icing to the cake CB bought one.

## Bryston Suffers Mid Life Crisis

Bryston turned 40 on February 21st 2002. Can you believe it! I can remember building our first amplifier (called a Pro 3 in 1973) and taking it to a recording studio in Toronto for a 'shoot- out' with the latest and greatest amps of the day. Boy were we nervous, amplifiers like the Marantz 500, Dunlap Clark, BGW and Crown were the rulers of the day.

To make a long story short Bryston won the battle and two recording studios (Eastern Sound & Enactron) ordered 10 whole units. Now what do we do? I guess we better build some. So that's how it all got started.

The obvious question is if the first amp was built in 1973 how do we get to our 40th anniversary – that's only 29 years using the new math. Well for the first 11 years Bryston Ltd. designed and manufactured medical electronics not amplifiers. Being audio crazies we decided to take all those wonderful military spec parts and apply them to some design ideas Chris Russell had about how a real amplifier should be built.

Concepts such as: dual mono power supplies, high slew rates, 1% tolerance parts, totally symmetrical circuitry, hand crafted manufacturing techniques etc., all lead to today's result where Bryston has become a recognized world leader in quality amplifier design and manufacturing.

I know I speak for everyone at Bryston when I say it has been absolutely incredible to be a part of something that has grown and matured from a passion and a dream into one of the worlds most well respected audio companies. In some ways it seems so very long ago, in other ways it was only yesterday.

## Firewire or Firewater

As you may be aware, one of the major discussions going on at this point in the audio industry is whether high-bit-rate (SACD and DVD Audio) players will ultimately allow a high resolution digital output instead of the current two or six channel analogue outputs.

The issue is one of copyright protection and most manufactures have had to limit the digital output on their players to a down-sampled 'CD quality' 44.1 sampling signal rather than the 132K sampling available with DVD-Audio or the 2.8M bit-stream of SACD. Also the 44.1K down-sampled digital out signal is restricted by the quality of a given players D to A converters rather than the more accurate D to A converters available in the more upscale Preamp/Processors. On the analogue side, the analogue output circuit quality on most of the multi-channel players can also be a point of concern. Another issue is that the analogue outputs for multi-channel SACD and DVD-Audio players require 6 independent cables with their added cost and complexity. In addition, because the output is analogue the 'bass management' problem rears its' ugly head. 'Bass management' is usually implemented in the Surround Processor in the digital domain and then converted to analogue on the output of the processor which in turn feeds the power amp(s). With SACD and DVD-Audio players, the output is in analogue. In order to do 'bass management' the surround processor has to convert the analogue into digital at the input using A to D converters, do whatever bass management is required, then convert the digital back to analogue

again using D to A converters to be sent to the power amp(s). As you can see this is a little ridiculous to be continuously converting digital and analogue back and forth.

There are two possible solutions: allow all 'bass management' to be performed in the DVD Audio and SACD players while all the signals are still in the digital mode (this appears to be happening as we speak) or give the consumer a high resolution digital output. The system being proposed to allow for a high quality digital out is called IEEE 1394 (alternatively known as "FireWire" or "iLink"). This connector is capable of delivering both high quality audio and video in a single connector. In a paper published last September entitled "Guideline of Transmission and Control for DVD-Video/Audio through IEEE1394 Bus", the DVD Forum has unveiled the protocols that will make possible a new generation of high-resolution digital converters and other digital signal processors. An interesting side-point about this standard is that it gives the DVD-Audio standard an edge over the competing SACD format, because no plans have been announced to permit digital interfacing with SACD. The word on the street is that SONY will never allow the SACD format to have a high-bit-rate (DSD) output.

The DVD Audio guidelines make use of existing standards (as well as providing for future upgrades) for video and audio transmission, notably the "MPEG2 Transport Stream" for video and associated audio content, and the "Audio and Music Data Transmission Protocol" (A&M Protocol), designed to carry up to six channels of 24-bit digital audio content sampled at up to 192 kHz over FireWire. The DVD-Audio specification allows for six channels of 24-bit audio at up to 96 kHz sampling, or two channels at 192 kHz. Using Firewire also allows the 'bass management', among other things, to pass in the digital domain and could then be processed by the receiving device instead of the player. On the subject of copy protection, not much is mentioned but I am sure there will be restrictions to number of copies allowed etc.

So there you have it so far. Questions still abound – will the software producers allow high- bit- rate digital outputs on the rear of our DVD- Audio and SACD players? Will Sony/Phillips allow a high resolution digital out on their players? Is Dolby Digital and DTS good enough? Will the high- bit- rate systems fail with consumers in surround applications and succeed in good old stereo? Will bass management, speaker levels, etc. become more sophisticated within the DVD players themselves instead of the surround processors? Or will we, as I suspect, be left with two and six channel analogue outputs and lower sampling rates from the digital outputs?

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