SOUND AMPLIFICATION GUIDE

GIVE YOURSELF THE SOUND EXPERIENCE YOU DESERVER FROM BRYSTON, THE EXPERTS IN SOUND

I recently had an experience that really bought home to me the difference that a good amplifier can make. After installing several new in-ceiling speakers I found that the sound output was not as good as it should be despite there being a good distributed audio system in place.

But as soon as we attached a new amplifier to boost the sound signal the difference was remarkable.

If you want good sound you need a good amplifier and one of the leading brands in the amplifier market is Canadian company Bryston.

They have been designing and manufacturing audio equipment for over 35 Years. While there are many companies competing in their market, Bryston's gear is coveted by enthusiasts and professionals alike. They have earned the reputation of providing bullet-proof reliability, high performance and value. Byston's value is not due to a bargain basement price. You won't find them in JB HiFi or Harvey Norman, but you will find them at a specialised sound dealer. We have provided a list of dealers at end of this article.

Mechanically, the main electronics chassis of a and amplifier is designed to last for years. Take their 4B SST2 for example. This beast is constructed of anodized aluminium panels that are 20.20 centimetres thick. To put it in perspective, the panels are roughly 25% thicker than a 10 cent coin. You simply don't find this type of heavy duty construction in most, if not all, consumer electronic products typically found at a mass market retailer.

Attached to the sides of the main chassis are massive heat sinks sized to passively cool the amplifier. No fans are used on this big boy to add even a touch of unwanted noise to your system.

Byston 4B SST2
A pure dual mono design offering 300 watts per channel into 8 Ohms, 500 into 4 Ohms and over 1000 watts in bridged mono mode.

Bolted to the front of the main chassis is an impressive hunk of 1.25 centimetre thick aluminum. This plate houses a jeweled-style power switch.

The back of the chassis contains the inputs, configuration options, and outputs for the amplifier. Both balanced and single ended (RCA type) signal inputs are represented. A magnetic-trip circuit breaker is in place to protect the amp. Configuration switches for remote power up are provided. Switches are also provided to tune the input sensitivity based on the signal input selected. Finally, heavy duty 5-way binding posts are provided for connecting your speaker wire (all the way up to 'garden hose' in diameter). I've used similar WBT binding posts in some of my projects and these posts alone can be quite costly.

This type of construction is typical of a Bryston amplifier.

Working with Bryston, SmartHouse has put together some useful information on amplifiers and what Bryson have to offer.

As a brand, Bryston is not only one of the most trusted brands in amplifiers but are a company who have stood by their products by offering an unprecedented 20 year warranty.

Very few companies in the Hi-Fi market do this. And very few companies know as much about amplifiers as Bryston.

Bryson deliver this sort of guarantee because each component is built by hand and fully tested at their Canadian manufacturing operation.

How to buy the right amplifier

When it comes time to purchase a new amplifier, several things should be considered prior to making the purchase. Firstly get to know a little bit about the brand you are buying, do they have a sound pedigree, what do the media say about their products and how long have they been in the Hi-Fi business.

At the end of the day, their experience and knowledge counts a lot when it comes to buying a quality product.

A visit to the Bryston factory reveals that the components in their amplifiers and their construction methods are of an exceptional quality similar to what is found in military and aerospace applications.

A long time sound gear manufacturer, Bryston has been involved in the research and development of new amplifier designs for many years and is constantly striving to improve upon their rock

Pre- Amplifier

A Pre-amplifier, typically is a single piece component that takes low-level signal from different sources such as CD and DVD. The front panel of the component generally has a selection of controls that allows for selection between the inputs, along with other various control functions like volume or tone control. At the rear of the panel a set of outputs are located; the output signal is generally sent to a power amplifier that then amplifies the signal to a much higher current that is suitable for driving a pair of loudspeakers.

Integrated Amplifier

Simply put, an integrated amplifier is single piece component that has power amplification - a transformer - and additionally has a selection of controls that range from switches, buttons and knobs incorporated into the chassis of the component that allows you to, among stother things, switch between audio sources such as CD, DVD, Radio, adjust volume and also possible tone control. Additionally, you may also have the option to select between two sets of speakers. On the rear panel you would have multiple inputs allowing for the above mentioned components to be plugged in; and in addition a set of speaker binding posts would be mounted. The binding posts allow the speaker cable to be connected to the rear of the panel. A point to remember is that an integrated amplifier is essentially a pre amplifier and power amplifier in the one chassis.

stable designs to provide the user even greater gains in sonic purity.

Today Bryston deliver one of the finest integrated amplifiers in the world in a compact chassis to one of the most powerful monoblock designs available, Bryston offers something for the audiophile in all of you.

Simplicity in design and operation make the user interface intuitive and hassle-free. New designs feature dual mono construction so that there is no inter-channel distortion or loss of power. Each speaker is driven by its own, pure power supply and amplifier.

Do I need an integrated amplifier, power amplifier or for that matter a pre/power combination? What is the difference?

Let's start off with the basics by explaining the difference between the options. We take a look at the pre-amplifier and the integrated amplifier.

AMPLIFIER HISTORY

An audio amplifier is critical when you are looking for high quality sound output. An audio amplifier is an electronic amplifier that amplifies low-power audio signals (signals composed primarily of frequencies between 20 hertz to 20,000 hertz, the human range of hearing) to a level suitable for driving loudspeakers and is the final stage in a typical audio playback chain. The preceding stages in such a chain are low power audio amplifiers which perform tasks like pre-amplification, equalization, tone control, mixing/effects, or audio sources like record players, CD players, and cassette players. Most audio amplifiers require these low-level inputs to adhere to line levels.

While the input signal to an audio amplifier may measure only a few hundred microwatts, its output may be tens, hundreds, or thousands of watts. The audio amplifier was invented in 1906 by Lee De Forest when he invented the triode vacuum tube. The triode was a three terminal device with a control grid that can modulate the flow of electrons from the filament to the plate. The triode vacuum amplifier was used to make the first AM radio.[1]

Early audio amplifiers were based on vacuum tubes (also known as valves), and some of these achieved notably high quality (e.g., the Williamson amplifier of 1947-9). Most modern audio amplifiers are based on solid state devices (transistors such as BJTs, FETs and MOSFETs), but there are still some who prefer tube-based amplifiers, due to a perceived 'warmer' valve sound. Audio amplifiers based on transistors became practical with the wide availability of inexpensive transistors in the late 1960s.

Key design parameters for audio amplifiers are frequency response, gain, noise, and distortion. These are interdependent; increasing gain often leads to undesirable increases in noise and distortion. While negative feedback actually reduces the gain, it also reduces distortion. Most audio amplifiers are linear amplifiers operating in class

Amplifier history courtesy of Wikipedia. Content also sourced from HomeTheatre Magazine.

BRYSTON Dealers

NSW
Alexandria - Sydney Hi Fi Architectural 1300 284 234
Castle Hill - Sydney Hi Fi - 9899 9079
Gordon - Electronic Enterprises - 9880 2111
Hamilton - Audio Junction - 4962 1490
Mascot - Audio Solutions - 9317 3330
Newtown - The Hi Fi Trader - 9550 4041

VIC
Carlton - Carlton Audio Visual - 9639 2737
Ringwood - Audio Trends - 9874 8233

QLD
Newmarket - Living Sound - 3552 7000

TAS
Hobart - Quantum AV - 6231 0088

SA
Collinswood - High End Audio Research 8269 7212
Prospect - Challenge Hi Fi | 8269 7333

WA
Perth - Douglas Hi Fi - 9322 3466

New Zealand
Howick - Eastern Hi Fi - 09 271 4209
Newmarket - Eastern Hi Fi - 09 358 2858
Wellington - Eastern Hi Fi - 04 473 8447

Byston 28B SST2
A state of the art 1000 watt power amplifier.