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BRYSTON
A Lifetime of Music

This Issue

Recording Studios & Bryston

Many times we get asked to provide a list of recording studios which use Bryston amplifiers. Here are some recent ones:

Bearsville Sound Studios
James Newton Howard
Dorion Recordings
Telarc Recordings.
PolyGram Studios
Steve Winwood
MasterMix
Peter Gabriel
Stewart Copland
Manta Eastern Sound,
Mad Dog Studio Inc
Abby Road Studios
Power House
TownHouse Studios
Studio Action
WhiteField St. Recordings
MasterPiece Mastering
Axis Studio
Atlantic Recording,
The Hit Factory,
Sound Trak
H.B.O. Studio Productions.

Bryston A Big Hit In Hollywood

Bryston has become the choice of many of the foremost film scoring engineers in the Hollywood area. Films such as Independence Day, Ransom, Mission Impossible, Space Jam, Preachers Wife, Long Kiss Goodnight, First Wives Club and Dantes Peak were all recorded using Bryston amplification and/or PMC loudspeakers. (Bryston is the distributor in North America for PMC speakers).

For those unfamiliar with a scoring stage it is a huge building, (usually on a movie studio lot) which has enough space to allow a full orchestra to be recorded and monitored from a glassed-in recording facility at one end of the room. The music score is added to the film at this point and all the musicians, conductors, composers, directors and sound-recording engineers are involved in this final mix.

It is a unique and emotional experience to stand 10 feet in front of the L.A. Philharmonic on one of these stages and experience this process first hand. These are the best of the best musicians, recording engineers and facilities available due to the budget and prestige of a first run Hollywood movie. We at Bryston are extremely proud of the fact that Bryston Amplifiers and PMC Loudspeakers are becoming the mainstay of these very talented and demanding recording engineers.

I will continue to update you as required on the names of future movies and facilities that come on board with Bryston amplifiers. Scoring Stage - the place where music and pictures all come together.

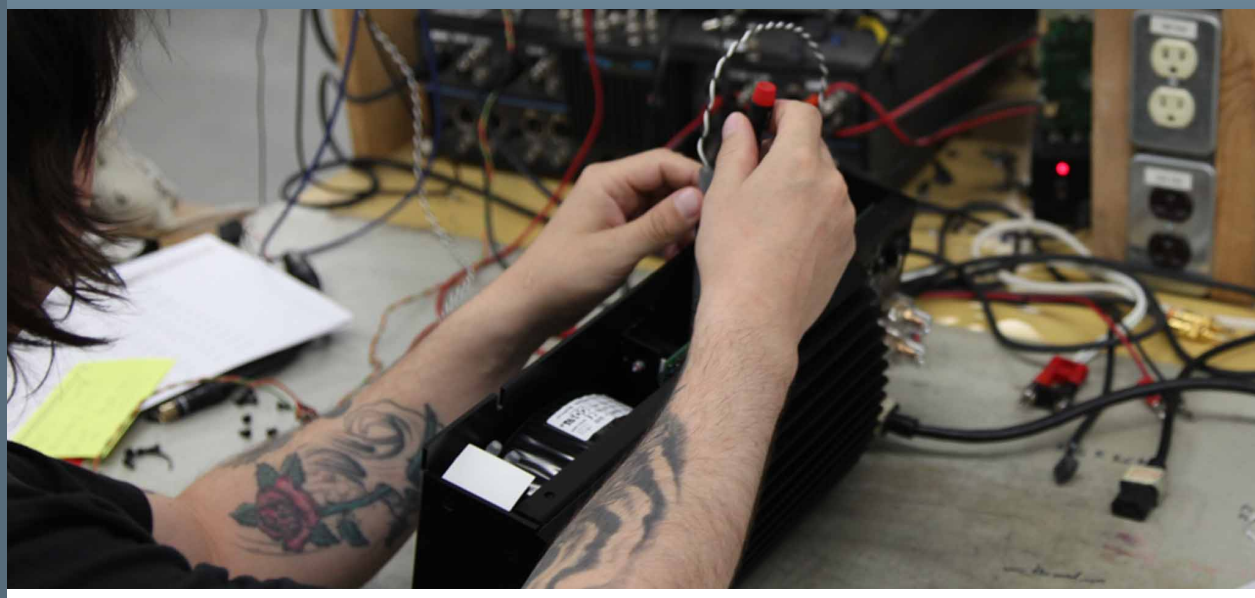
The Balancing Act

The technology of balanced-line audio wiring is quite trendy today, and there is quite a bit of information (and misinformation) in the popular press about it. For the most part, the authors are treating it as a "discovery" of some kind, and postulating all kinds of fanciful reasons as to why it is the new, the one, the only way to go. Fortunately, balanced-line technology is one of those happy circumstances, like chicken soup, which "couldn't hurt", and sometimes can help.

Since Bryston has been producing audio products which use balanced-line technology for over 20 years; we have a great deal of experience with this type of system, and have acquired an excellent understanding of the potential benefits and costs which result from it. In general, the benefits involve a reduction in system noise. Note that I did not say a reduction in component noise.

In fact, the electrical noise floor measured in each individual component, such as an amp or preamp, will at best remain the same, and may increase a bit due to the extra circuitry involved in balancing the signal, (producing a push-pull output, or accepting a push-pull, 3-wire input).

The system noise can be helped, however, if you in-



clude everything as installed, since on occasion a normal, 2-wire audio feed can pick up extra noise on the cable, due to the interference from power lines, RF , light dimmer buzz, or ground loops in the system. A balanced line will reject the extra induced noise by subtractive cancellation between the "plus" and "minus" sides of the signal lead, thus preventing an increase in system noise. This can be a benefit in some systems, especially when the amplifier is located at a substantial distance from the preamp. However, if the system is already well-behaved in this respect, as it should be with proper installation techniques, balanced lines will not change anything.

Other benefits have been claimed, such as an "increase in slew rate", and a "reduction in amplitude-related distortions".

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For the most part, these claims are specious. The limiting slew rate in an overall system, in terms of capability, is invariably the amplifier, unless the preamp is of exceedingly poor design. The only slew-rate which can theoretically be increased by balanced-line technology is the preamps (due to the double-ended output additively doubling the base volts per microsecond). This obviously does nothing for the amplifier.

The postulated improvement in amplitude related distortions is equally unlikely. In a properly designed preamplifier, distortion is essentially invariant with amplitude, and it is more possible that the increased circuit complexity would have a small detrimental effect on the overall distortion, though in most cases this would be essentially negligible. The claims that balanced-line technology could have some mysterious beneficial effect on the already illusory magical cable properties which are expounded upon at length by their manufacturers are so fatuous as to not justify a reply. Suffice it to say that the laws of physics still apply, whether the line is balanced, unbalanced or tied around your grandmother's left leg.

Balanced-lines do not enjoy any magical properties. They do have some potential advantages for some systems which could justify the moderate extra cost

and complexity involved in their implementation, the disadvantages are inherently rather minor, and can be considered innocuous enough to ignore where the system cannot be brought under control though standard practices in installation.

Indeed, Bryston provides all of our amplifiers, most pre-amplifiers and our electronic crossovers (optional) with balanced-line technology as standard, since in complex sound systems, the chance for noise and interference is much higher.

IN CONCLUSION: balanced-line technology:

Will:

1. Reduce any system noise caused by ground loops, RF, power lines etc.
2. Allow shorter speaker leads by permitting the amplifier to be placed adjacent to speakers without extra noise.

Will Not:

1. Increase the slew rate of an audio system.
2. Affect the given cable properties.
3. Improve distortion characteristics in an otherwise well designed audio product.
4. Improve on the individual audio component noise.

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