BRYSTON SST

fuel for the senses

PERFORMANCE DRIVEN

BRYSTON

10B ELECTRONIC CROSSOVER

Bryston's Model 10B Electronic Crossover combines ideal signal-handling with an enormously flexible control function. Simple, direct front-panel switches allow any crossover curve to be set instantly, and the signal purity is always maintained.

The Model 10B features independently selectable crossover points for high-pass and low-pass, in case the speaker installation requires slightly overlapped, (or slightly staggered), response curves for the drivers. You can also independently select crossover slope, from 6, 12, or 18dB/Oct., where one driver requires raster cutoff than another in the same system.

MODEL 10B LR

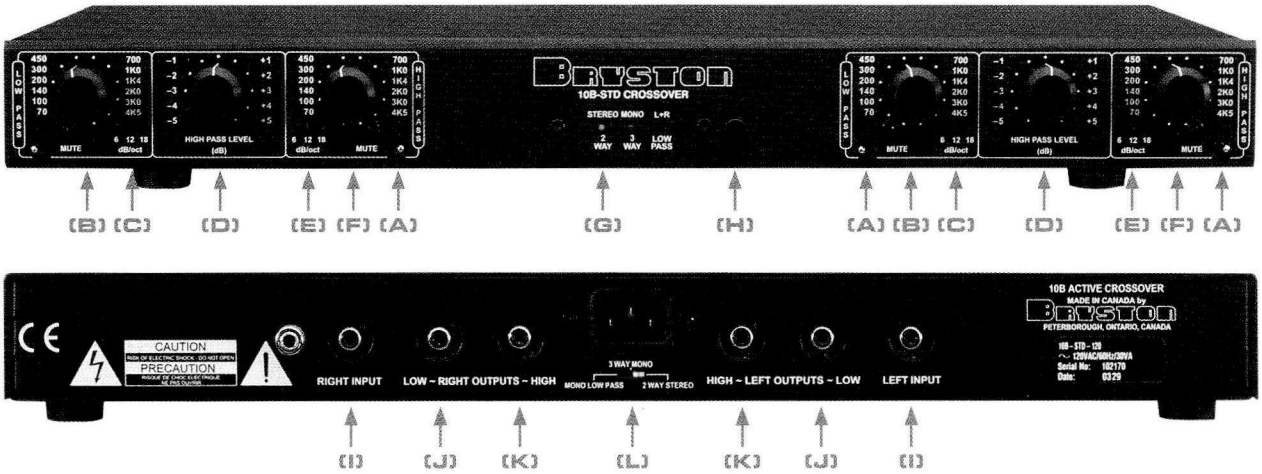
The 10B-LR, a fixed frequency plug in Linkwitz-Riley alignment with steep roll off curves of 24 dB/Oct. is also available.

The crossover may be used in any of three connections: 2-way stereo, 3-way mono, and a special configuration, 2-way stereo with summed low pass out to allow the use of one sub-woofer. The 10B is available in two stock versions, a 10B sub incorporating frequencies more suitable to sub-woofer applications and a 10B standard which is more applicable to speakers reacquiring frequency control in the midband and tweeter areas.

All crossover selections are extremely accurate and repeatable, being implemented with 1% selected metal-film resistors and polystyrene capacitors. All switches are heavily gold-plated, for lifetime protection from corrosion. The level-controls are precise 1dB increments, also derived from gold-plated switches and 1% metal-film resistors. Most important, however, is that the Bryston 10B Crossover uses NO integrated circuits in the signal path. All internal buffer and amplification stages are Bryston's exceedingly linear and superbly quiet discrete op-amp circuitry. This means the signal is always maintained as "Audiophile Quality", with stability and freedom from noise and distortion unapproached in other crossovers.

From the point of view of adaptability, flexibility and signal integrity, the Bryston 10B Electronic Crossover is the ideal choice for the widest range of multi-way speaker installations.

10B SWITCHING AND CONNECTIONS



(A) MUTE SWITCH
One each for low pass and high pass filters

(B) LOW PASS FREQUENCY SELECTOR
12 selectable crossover points

(C) LOW PASS SLOPE SELECTOR
Sets low pass slope in decibels per octave
(6, 12 or 18dB/Oct.)

(D) HIGH PASS LEVEL CONTROL
Sets high pass output level for channel.
-5dB to + 5dB in 1dB steps.

(E) HIGH PASS SLOPE SELECTOR
Sets high pass slope in decibels per octave
(6, 12 or 18dB/Oct.)

(F) HIGH PASS FREQUENCY SELECTOR
12 selectable crossover points

(G) STATUS LEDS

(H) POWER SWITCH (PUSH BUTTON)

(I) INPUT RCA OR XLR (FEMALE)

(J) LOW PASS OUTPUT RCA OR XLR (MALE)

(K) HIGH PASS OUTPUT RCA OR XLR (MALE)

(L) MODE SELECTOR SWITCH

Selectable frequencies 10B standard	70 Hz, 100 Hz, 140 Hz, 200 Hz, 300 Hz, 450 Hz, 700 Hz, 1 kHz, 2 kHz, 3 kHz, 4.5 kHz
Selectable frequencies* 10B sub	40 Hz, 50 Hz, 60 Hz, 70 Hz, 80 Hz, 90 Hz, 100 Hz, 200 Hz, 250 Hz, 300 Hz, 400 Hz, 500 Hz
Slope	6/12/18 dB per Oct.
S/N ratio	-90 dB
Distortion	0.005%
Input impediance	15k ohms, unbalanced 15k ohms, balanced
Output impediance	100 ohms

Features	Stereo 2-way Monaural 3-way Stereo 2-way summed low pass Balanced or unbalanced
	Independent high and low pass frequency selection
	± 5dB gain on high pass section
	Internal adjustments for up to ± 10 dB
Dimensions	19 or 17 x 1.75 x 10 inches, 48.25 or 43.18 x 4.44 x 25.4 cm wt: 12 lbs, 5.5 kg

* Custom frequencies available on request
** 24 dB per octave with plug-in frequency modules also available
Balanced version also available

POWERPAC SST **MONAURAL AMPLIFIERS**

The Bryston PowerPac Amplifiers are a modular monaural version of our very popular stereo amplifiers but designed to be utilized in applications where portability, sound quality and flexibility are of prime importance.

The PowerPac Amplifiers are a perfect choice for use as a portable power amplifier which can be attached directly to the rear of your loudspeaker. This provides for the use of very short speaker leads resulting in a much improved loudspeaker/amplifier interface. The PowerPac Amplifiers can also be bolted on the wall for utilization in audio/video surround systems (left/right/center/rears/backs) where a non-conspicuous power module is required. A further application would be in multi-room audio systems where single or multiple amplifiers are needed to provide music in adjacent rooms. Finally, with the recent popularity in passively or actively amplifying the individual drivers in your stereo loudspeakers the Bryston PowerPac's would be ideal for use in this capacity.

POWER PAC 60 SST MONAURAL AMPLIFIER

The Bryston PowerPac 60-SST amplifier, is a no-compromise, modular, single channel power amplifier delivering 60 watts at 8 Ohms, or 100 watts into 4 Ohms. The PowerPac 60 is a modular monaural version of our very popular 2B-LP stereo amplifier but designed to be utilized in applications where portability, sound quality and flexibility are of prime importance.

POWERPAC 120 SST MONAURAL AMPLIFIER

The Bryston PowerPac 120-SST amplifier, is a superior quality, modular, single channel power amplifier delivering 120 watts at 8 Ohms, or 200 watts into 4 Ohms. The PowerPac 120-SST is essentially a monaural version of our very popular 3B-SST stereo amplifier but intended for use in applications where portability and flexibility are of prime importance.

POWERPAC 300 SST MONAURAL AMPLIFIER

The Bryston PowerPac 300-SST amplifier, is a superior quality, modular, single channel power amplifier delivering 300 watts at 8 Ohms, or 400 watts into 4 Ohms. The PowerPac 300-SST is essentially a monaural version of our very popular 4B-SST stereo amplifier but intended for use in applications where portability and flexibility are of prime importance.

VERSATILE FEATURES

- Allows direct attachment or adjacent placement to loudspeakers.
- On-wall mounting.
- Easy application in any multiple driver active or passive stereo system.
- Balanced or unbalanced operation at the flick of a switch.
- Gold plated 5-way banana jacks, RCA and XLR connectors.
- Level control adjustment.
- Detachable power cord.

POWERPAC SPECIFICATIONS

SLEWING RATE
Greater than 60 volts per microsecond

POWER BANDWIDTH
Less than 1Hz to over 100kHz

DAMPING FACTOR
Over 500 at 20Hz, ref. 8 ohms

IMPEDANCE
50k unbalanced, 20k balanced

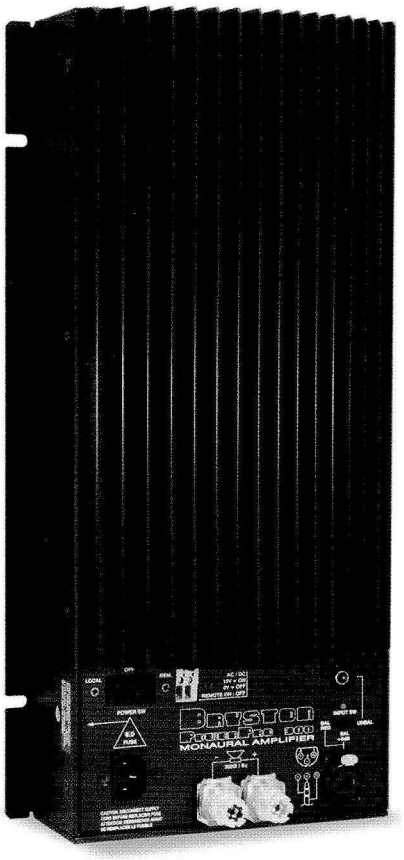
FEATURES

- Regulated power supplied to all voltage gain stages
- Gold plated input and output connectors
- Switchable balanced XLR -1/4" and RCA unbalanced inputs
- Remote power turn-on. 12 v AC/DC
- Power Clipping Indicator

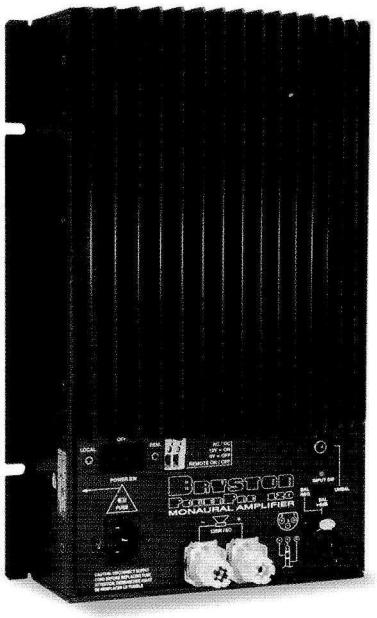
POWER PAC **COMPARISON CHART**

MODEL	WATTS	DISTORTION	NOISE	INPUT SENSITIVITY AND IMPEDANCE	DIMENSIONS
POWERPAC 60 SST	60 watts @ 8 ohms 100 watts @ 4 ohms	< 0.009% from 20Hz to 20kHz @ 60 watts IM or THD	> 101dB below full output	.75V in for 60 watts out @ 8 ohms 50k unbalanced, 20k balanced	12 x 1.8 x 7.1 inches 30.5 x 4.7 x 17.9 cm wt: 5 lbs, 2.6 kg
POWERPAC 120 SST	120 watts @ 8 ohms 200 watts @ 4 ohms	< 0.008% from 20Hz to 20kHz @ 1200 watts IM or THD	> 104dB below full output	1.0V in for 100 watts out @ 8 ohms 50k unbalanced, 20k balanced	12 x 3.6 x 7.25 inches 30.5 x 9 x 18.3 cm wt: 10 lbs, 4.5 kg
POWERPAC 300 SST	300 watts @ 8 ohms 400 watts @ 4 ohms	< 0.007% from 20Hz to 20kHz @ 300 watts IM or THD	> 106dB below rated output	1V in for 100 watts @ 8 ohms 50 Kohms unbalanced 20 Kohms balanced	17 x 8.4 x 4.5 inches 43 x 21 x 11.5 cm wt: 24 lbs, 11 kg

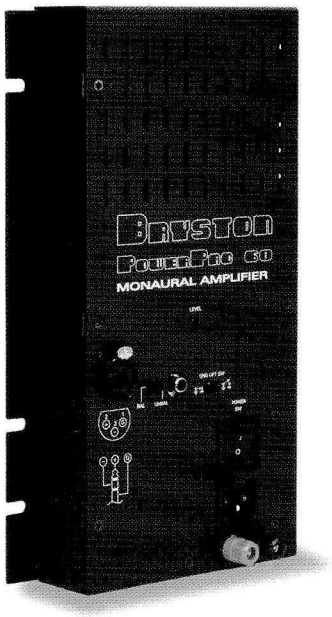
BRYSTON



POWERPAC 300 SST



POWERPAC 120 SST



POWERPAC 60 SST

BRYSTON **INTERCONNECT CABLES**

BRYSTON
ANALOG/DIGITAL/VIDEO CABLE

We at Bryston, do not think cables should be 'voiced' to sound a specific way. The best cable is NO cable at all so we contend that the best cable is the cable that changes the signal the least.

The geometry (where the plus is relative to the minus) of a cable determines the inter-relationship between the measured performance of a specific cable. These measured performance criteria are call the 'Primary Constants'. They are R-resistance, L- inductance, C- shunt capacitance and G-shunt conductance. You can play around with all types of exotic packaging and add-on appendages you like but ultimately the measured performance (primary constants) tell the tale.

COAX INTERCONNECT CABLES

An analogue Preamp/Amplifier connection is a 'high impedance interface' therefore; you are looking for low measured Capacitance. An interconnect cable acts like a capacitor in the signal path so the better that capacitor the better the interconnect. We use an interconnect wire with (very low capacitance) and the RCA connectors are made for us in Switzerland. The RCA cables 'make and break ground' first and last when connecting and disconnecting. This prevents ugly pops and bangs from going through your system with the possible negative results.

XLR INTERCONNECT CABLES

The XLR cables we use are also very low in capacitance. Actually the XLR cable we are currently using is in fact low noise balanced microphone cable with 100% shield coverage against RF. The advantage of Balanced XLR cables is that they have a noise canceling effect know as 'common mode noise reduction'. This helps prevent noise and hum from affecting your system. With today's complexity of audio and video surround systems this is a big plus, so if you 'got em-use em'.

DIGITAL CABLES

With 'Digital' interconnects things are a lot different. The wavelengths of digital signals are 'very short' (same for FM) so the lengths and terminations are much more critical than with the analogue signals previously discussed. When the wavelength of the signal the cable is used for approaches 1/30th of the length of the cable then transmission line effects start to appear and much more attention has to be paid to the connection and termination. If not then reflections and cancellation of data is a real possibility. For instance the AES/EBU digital connection on the back of the Bryston SP2 should be used with a cable having an impedance of 110 ohms.

VIDEO CABLES

Video cables also operate at very high frequencies - typically 5-6 MHz for Composite and S-Video and 8-30 MHz for Component Video depending on the scan rate and resolution. So again understanding the wavelengths of the signals and interfaces involved is important.

BRYSTON
BALANCED XLR CABLE

BRYSTON **SPEAKER CABLES**

SPEAKER CABLES

The Amplifier/Speaker interface is a 'low impedance' connection. Therefore, in a speaker cable you are looking for low 'self inductance' (because inductance rolls off the top end) as opposed to 'low capacitance' required in the RCA or XLR analogue interconnect. For speaker cables we use a stranded 9 gauge linear crystal copper with 'Heavily Gold plated' Spade lugs or Expandable Banana plugs specially made for Bryston.

IN SUMMARY:

1. The connection should be of similar metals (preferably gold) and be airtight. If not airtight it will break down molecularly over time and begin to rectify or produce a diode effect on the signal.

2. With all the RF floating around today the better the 'Shield' on the interconnect the less intrusive the RF will be.

3. The connection between your analogue Source components (Preamplifier, CD Player, Tuner, DVD Player etc.) is a 'High Impedance' connection and the interface between your power amplifier and your speakers is a 'Low Impedance' connection. So, the requirements are totally different for optimizing these interfaces.

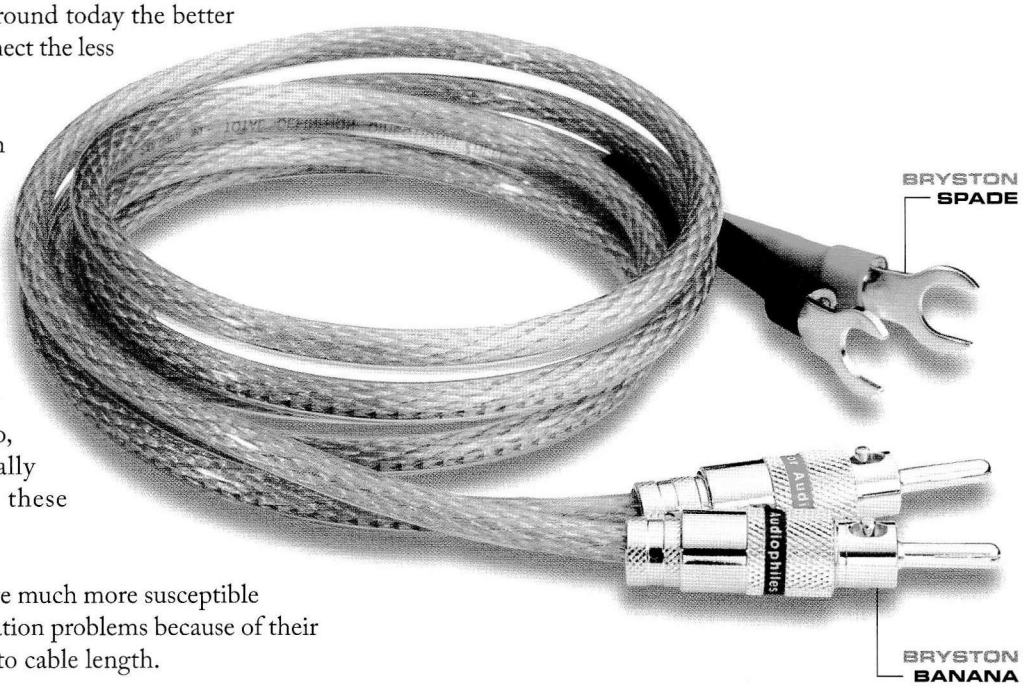
4. Digital and Video cables are much more susceptible to reflection/phase/cancellation problems because of their short wavelengths relative to cable length.

As you can see from the above, no surprise that people hear differences in cables when connected to the variety of equipment in the market today. Given the differences in input and output impedance's between transistor and tube gear, the lack of understanding of the high impedance and low impedance interfaces, the world of RF, and the digital/video connection issues no wonder we have these differences of opinion.

RECOMMENDATIONS:

Bryston highly recommends keeping the speaker wires as short as possible and utilizing XLR balanced lines if available. Given the choice of long interconnects and short speaker leads or short interconnects and long speaker leads – choose long interconnects (preferably Balanced) and short speaker leads. With digital and video cables finding out the sending and termination requirements is very important due to the very short wavelengths relative to cable lengths involved.

BRYSTON
SPEAKER CABLE



BRYSTON 5-YEAR **CABLE WARRANTY**

BRYSTON **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 as least twice as well as the advertised specifications.

Our 20-year amplifier and 5-year digital circuit 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.

Canada's largest independent manufacturer
of high-end audio electronics for consumers and professionals
Founded 1962

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