

# BRYSTON SP3

*fuel for the senses*



**SP 3 SURROUND PROCESSOR**



# INTRODUCING THE **SP 3** PREAMP/PROCESSOR

## OUR GOAL

With the Bryston SP-3, we have sought to design an uncluttered, easy-to-use processor/preamplifier, incorporating both stereo and a full range of surround sound capability, which delivers state-of-the-art performance in both analog and digital formats. The SP-3 will provide 2-channel stereo output as well as 5.1, 6.1 and 7.1 surround output modes.

## PERFORMANCE WITHOUT COMPROMISE

With the increased clarity and dynamic range of recordings and uncompressed movie soundtracks in the modern era, playback equipment must surpasses the parameters of even the most demanding high resolution software available. The SP-3 preamplifier/processor is without peer in meeting this performance challenge.

## UNIQUE APPROACH

The SP-3 is first and foremost an AUDIO product. Unlike most processors that have been designed to emphasize features over sonic performance, Bryston employs Class A discrete analog circuitry throughout rather than cost-saving Integrated Circuits (IC's). And like other Bryston components, the SP-3 utilizes separate power supplies for the analog and digital circuit paths (achieves a lower noise floor) plus modular construction for easy changes or modifications going forward. And considering the unpredictable world of ever changing HDMI protocol, the SP-3 simply strips away the audio portion of the signal from the HDMI inputs and passes the video untouched to the display. This helps future-proof the SP-3 while emphasizing Bryston's expertise in delivering the finest audio performance possible.

## TRUE ANALOG PASS-THROUGH

Most theater processors provide an analog pass-through option that moves the audio signal through undesirable digital circuitry before it exits the device. The Bryston SP-3 provides true analog pass-through for 2-channel as well as 5.1 and 7.1 surround formats that eliminates all digital circuits from the signal path.

## EASY TO USE

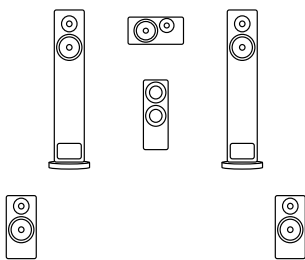
The Bryston SP-3 is the first high performance processor designed to make home theater easy for the non-technical user. For example, most functions are automatic, controls are well labeled, and there are clear unambiguous display windows. Step-by-step set-up menus are provided and a user-friendly yet comprehensive owner's manual make initial set-up simple and straightforward. Bryston also supplies each SP-3 with factory settings that include the most common configurations dialed in and ready for playback.

## HOME THEATRE PROCESSING

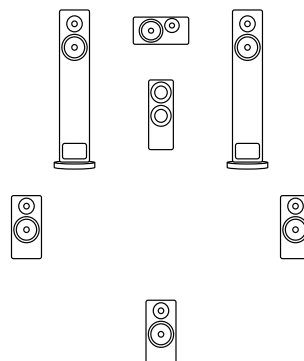
In the digital mode (HDMI, COAX, Optical), the SP-3 automatically detects the digital input signal, routes the signal through the DSP module, and adjusts to the appropriate mode. The digital circuit provides decoding for Dolby® TrueHD and DTS-HD Master Audio as well as the more standard Dolby Digital and DTS formats, in 5.1, 6.1 or 7.1 channels. There is also stereo down-mixing for all modes and independent Bass Management modes for all speaker setups. Each source can be set up with a different set of parameters if you want specific configurations for each one, such as your DVD player, cable box etc.

In addition to standard 5.1 surround, the SP 3 allows for 6.1 and 7.1 modes.

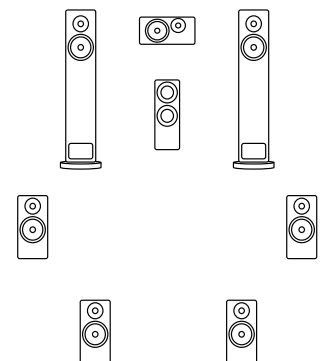
## 5.1



## 6.1



## 7.1



# SONIC SUPERIORITY

## ANALOG AND DIGITAL CONTROL

The SP-3 puts you in control numerous analog and digital input/output options:

- 8- HDMI inputs
- 2-HDMI outputs
- 4-digital inputs (coaxial)
- 3-digital inputs (TOSLINK)
- 2-channel analog (bypass) inputs
- 8 inputs for a 7.1 analog pass-through

A toggle button lets you switch easily between digital and analog inputs, and there is a built-in state of the art 24/192 Digital to Analog processor. The SP-3 provides both balanced (XLR) and unbalanced (RCA) 7.1 outputs each with its own discrete class A low level output amplifier. The two sets of 7.1 outputs can also be used in parallel if more channels are required. Balanced signal transmission uses fully discrete common-mode rejection to prevent induced hum and interference even with long cable runs.

## STEREO AND SURROUND BYPASS

While the SP-3 is a great multi-channel digital controller, users will also be able to take full advantage of stereo or surround sound in the analog realm; so, at the touch of a button, the digital circuitry can be bypassed and the SP-3 becomes an audiophile analog preamplifier—a product category for which Bryston has become renowned. The bypass mode provides a totally discrete analog signal path — including a digitally operated analog volume control. The signal does not go through any IC's or digital circuitry from input to output. There is analog bypass available for both stereo and 7.1 modes.



The SP-3 analyzes the digital bitstream, determines format, automatically adjusts mode, and provides the appropriate read out on the LCD screen.

## DIGITAL SIGNAL PROCESSING FOR MUSIC

With 2-channel sources, the SP-3's DSP music modes allow users a range of options to enhance the acoustic ambience of your listening room: Pro Logic II Music, Pro Logic II Movie, Pro Logic II Natural, Neo6, Club, etc. turning 2-channel stereo content into high quality synthesized 5.1 or 7.1 surround sound.

## SONIC SUPERIORITY BY DESIGN

The Bryston Design philosophy ensures sonic superiority. All analog signal circuitry is fully discrete to avoid the phase shift and nonlinearity inherent in ICs. We exclusively use only the finest components, such as 1% metal-film resistors, polystyrene capacitors, hand-matched transistors, and gold-plated RCA and XLR connectors to reduce noise and distortion to the absolute minimum. In addition, two completely separate and independent power supplies are employed to prevent any possibility of digital to analog crosstalk or interference. There is no internal video switching therefore eliminating interaction between video and audio circuits.

## THE RESULT

Of course, the ultimate goal of the Bryston SP-3 is to place you within the scene of a movie or to transport you to the front row of an exciting musical event. This is the one and only meaningful measure of any audio/video playback system. Take the time to visit your Bryston dealer and audition the Bryston SP-3 preamplifier/processor. We think that you'll completely rediscover how wonderfully exciting music and movies really can be.



Balanced outputs are ideal for long cable runs to reduce induced hum and noise.

# RELIABILITY AND **SUPPORT**

## **BUILT TO LAST**

Bryston applies techniques and employs custom materials in our everyday construction of electronic equipment that are more typically utilized in military and aerospace industries. Our traditional adherence to proprietary parts and sophisticated construction and testing techniques prevents the unit-to-unit variability typical of mass produced product and assures that your SP-3 will perform for many years without concern.

## **HAND ASSEMBLED WITH CARE**

All Bryston audio products are hand assembled and individually tested by a dedicated team of Bryston employees in our own North American manufacturing facility.

## **UNIQUE BURN-IN PROCEDURE**

Each and every Bryston audio product undergoes an extensive quality control “burn-in” procedure. Following a complete operational checkout, every unit is placed on a test-bench and run for 100 hours. This extremely rigorous burn-in quickly “matures” components and weeds out any potential premature failures. The result is reliable trouble-free performance for many years.

The SP-3’s existing DAC chips can run at sample rates up to 192kHz.

## **ON-LINE CUSTOMER SUPPORT**

The Bryston website allows for downloading of software updates, technical bulletins, product addendums, and complete user manuals.

## **OUR WARRANTY**

Our commitment to build-quality and to quality control is why every product we manufacture features an analog 20-Year Warranty, a warranty that remains unequaled by any other audio manufacturer in the world. Digital circuits have a full 5 year warranty.



**Above, The Bryston 9B SST C-Series amplifier featuring trigger on/off and 5 modular channels, each delivering 140 watts into 8 Ohms.**

**Two 12 volt trigger outputs allow for remote triggering of your amplifier(s) or other home theater accessories such as motorized drapes and screens.**



**The SP 3’s RS 232 port and Ethernet allows for the integration of external control systems (AMX, Crestron, etc).**

# SP 3 KEY FEATURES



## 19" C-SERIES

### SURROUND PROCESSOR 5.1, 6.1, 7.1

Processes Dolby® TrueHD, DTS-HD Master Audio, Standard Dolby Digital, DTS, and PCM formats; Dolby Pro Logic and Pro Logic IIx, DTS-ES Discrete 6.1, DTS-ES Matrix 6.1, DTS Neo:6, PCM 44kHz, 48.1kHz, 88.2, 96, 176, and 192/24bit kHz sample rates.

### AUDIOPHILE STEREO PREAMPLIFIER

Digital-bypass pure analog circuit path.

### DIGITAL/ANALOG MULTICHANNEL PREAMPLIFIER Home Theatre Control Center

7.1 analog direct pass-through for DVD-Audio Players and SACD Surround.

### DSP PROCESSOR

Ambient Surround for music.

### STEREO 24/192 D/A CONVERTER FOR HIGH-BIT PCM AUDIO

Hand-held, infrared remote control contains a tilt switch and photosensor that automatically backlights the keys when it is picked -up in a darkened room.



Hand-held, 30-button, infrared remote control contains a tilt switch and photosensor that automatically backlights the keys when it is picked up in a darkened room.



## SP 3 KEY FEATURES



SP 3 REAR PANEL

- Audiophile sound quality and construction: all analog gain blocks are fully discrete; premium components and hand-matched transistors used throughout; two separate independent linear power supplies with toroidal transformers isolate analog and digital circuitry preventing crosstalk or interference.
- Easy to use — automatically detects input signal bitstream type and adjusts mode. VFD window shows decoding and signal information and error messages; LED indicators show button selections. Clean uncluttered control layout.
- Flexible input management: select from 11 sources, including 6 digital and 1 with discrete analog two channel stereo and 7.1 analog input. Toggle button switches easily between digital and analog inputs.
- Switches video with audio
- 7.1 Balanced (XLR) outputs
- 7.1 Single Ended (RCA) outputs
- Stereo down-mixing options for all surround modes.
- Digital bass-management modes for all speaker setups.
- Bass redirection modes for any speaker set-up.
- Dynamic range-limiting for late-night enjoyment.
- Dolby Volume.
- Music DSP surround modes for two channel inputs.
- Easy set-up — VFD window provides built-in menus for speaker setup, and trim and delay adjustments etc.
- Built-in pink noise test-signal generator and test sequencer makes calibration simple.
- Individually adjustable trims and delays for each channel.
- Each input can have preferred mode saved.
- Integrates with external control systems (AMX, Crestron).
- Three 12-volt trigger outputs – one trigger input.
- One Optical output
- Standby Power Mode allows remote power up.
- Designed for easy upgrading to future formats.
- Hand assembly and tested.
- Tight quality control: 100-hour test and “burn-in”.
- Rugged reliable construction.
- 5-year warranty.

# SP 3 TECHNICAL SPECIFICATIONS

## SP-3 INPUTS

8 – HDMI  
4 – SPDIF COAX  
3 – Optical  
2 – AES//EBU Digital  
6 – Pairs Analog Single Ended  
2 – Pairs Balanced XLR  
7.1 Analog Passthrough  
1 – USB

## SP-3 OUTPUTS

7.1 Balanced  
7.1 Single Ended  
1 – Optical  
Aux – (stereo left/right downmix or extra Sub and Center)  
Audio Record Outputs: - 2 stereo (RCA) pairs from any analog input

## FREQUENCY RESPONSE:

20Hz to 20kHz +/- 0.25 dB THD & Noise (20Hz to 20kHz at 2V output level): Less than 0.006% in all modes; below 0.0013% in Bypass mode.

## SIGNAL TO NOISE RATIO:

Not less than 100dB in all modes; 110dB in Analog Bypass Mode (Ref. 1V input, maximum gain, 22kHz bandwidth).

## INPUT LEVEL:

Maximum 2 Vrms in DSP modes, 4Vrms in Bypass Mode

## OUTPUT LEVEL:

8 Vrms (16 Vrms Balanced) in DSP Modes; 10 Vrms (20 Vrms Balanced) in Bypass Mode

## OUTPUT IMPEDANCE:

110 Ohms

## D/A, A/D CONVERSION:

Crystal Semi-conductor 24-Bit Delta-Sigma

## DSP ENGINE:

T.I.

## BASS MANAGEMENT:

2nd Order high-pass filter, 4th Order low-pass filter; Crossover Frequencies from 40 to 200 Hz

## DISPLAY:

Four-line, 23-alphanumeric characters per line, Green or Blue on Black

## TRIGGER OUTPUTS:

One 12V on/off trigger; three 12V programmable

## POWER REQUIREMENTS:

100VAC, 115VAC, and 230VAC models

## REMOTE FUNCTIONS:

Power, master volume, source switching, mode switching, mute, and trims (in test mode)

## CONTROL PORT:

RS-232 (bidirectional, DB9 connector) port for integration of external control systems (AMX, Crestron, and others using character-based protocols)

## ETHERNET, TCP/IP

## AUX. INFRARED RECEIVER INPUT:

Mini-phone jack

## XLR CONFIGURATION:

Pin 1 ground, pin 2 positive, pin 3 negative

## FRONT PANEL:

C-Series Silver or Black; 17" or 19" shelf mount  
Custom version 19" rackmount available

## WEIGHT:

Approx. 24 lbs (11 kg) boxed – 18 lbs unboxed

## DIMENSIONS INCHES:

(including rubber feet):  
Shelfmount 17" or 19" wide faceplate x 15.5" deep  
x 6.25 high"

## + 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 warranty 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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