

# BRYSTON SP2

*fuel for the senses*



**SP2 SURROUND PROCESSOR**

**PERFORMANCE DRIVEN**

# INTRODUCING THE **SP 2 PREAMP/PROCESSOR**

## OUR GOAL

With the SP 2, we have sought to design an uncluttered, easy-to-use processor/preamplifier, incorporating stereo and a full range of surround sound capability, which delivers state-of-the-art performance in both analog and digital formats.

## PERFORMANCE WITHOUT COMPROMISE

With today's increased clarity and dynamic range in recordings and movie sound-tracks you need equipment that not only equals but surpasses the parameters of the most demanding material available. The SP 2 preamplifier/processor is without peer in meeting this performance challenge.

## EASY TO USE

The Bryston SP 2 is the first high-end 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 LCD and LED displays. Step-by-step set-up menus with error messages displayed on the LCD window, and a user-friendly, yet comprehensive user manual, make the initial set-up simple and straightforward.

## HOME THEATRE PROCESSING

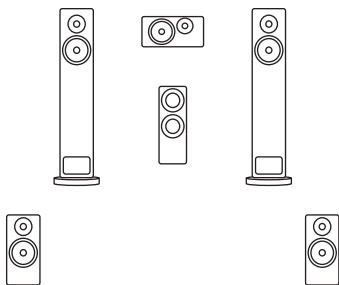
In the digital mode, the SP 2 automatically detects the digital input signal, routes the signal through the DSP module, and adjusts to the appropriate mode. The digital circuit provides decoding for Dolby Digital, Dolby Pro Logic IIx, DTS and THX formats, in 5.1, 6.1 and 7.1 channels. There's also Mono and Stereo Down-mixing for all modes, independent Bass Management modes for all speaker setups.

## ANALOG AND DIGITAL CONTROL

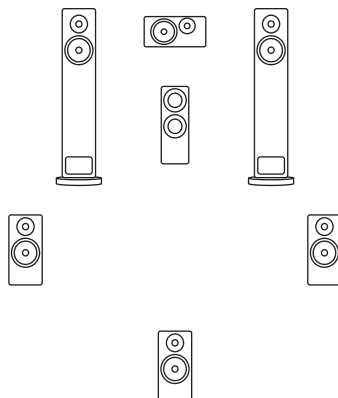
The SP 2 puts you in control of a full range of input/output options, allowing a choice of 13 sources, with 6 digital inputs (4 - coaxial & 2 - TOSLINK; (Pro model, single AES/EBU replaces 2 - TOSLINKS), 6 stereo analog inputs, and a set of 6 inputs for a 5.1 analog pass through. A Digital toggle button lets you switch easily between digital and analog input signals, and there is a built-in 24/192 D/A processor. The SP 2 provides both unbalanced outputs (RCA) and a set of 6 true balanced outputs (XLR) for 5.1 and stereo, each with its own discrete class A output amplifier. Balanced signal transmission uses common-mode rejection to prevent induced hum and interference even with long cable runs.

In addition to standard 5.1 surround, the SP 2 allows for 6.1 and 7.1 modes.

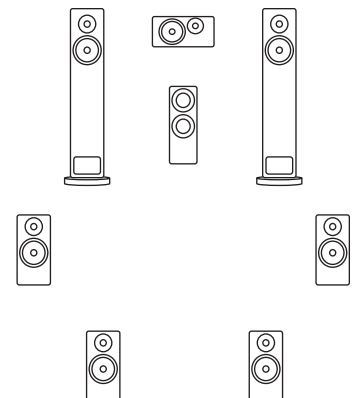
## 5.1



## 6.1



## 7.1



# SONIC SUPERIORITY

## STEREO PREAMPLIFICATION

While the SP 2 is a great multi-channel controller, there are those who still like their stereo in the analog realm; so, at the touch of a button, the digital circuitry can be bypassed and SP 2 operated as a Bryston audiophile - quality analog pre-amp. The bypass mode provides a totally discrete analog signal path — including an analog volume control. The signal does not go through any IC's or digital circuitry from input to output.

## DIGITAL SIGNAL PROCESSING FOR MUSIC

The SP 2's DSP music modes allow you a range of options to enhance the acoustic ambience of your listening room: Stereo 5, Natural, Club, Stadium, Hall, Theatre, Church, Party, etc.

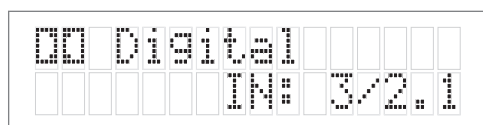
## SONIC SUPERIORITY BY DESIGN

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 video switching on-board therefore eliminating interaction between video and audio circuits.

## THE RESULT

Of course, the purpose of all this technology is to place you within the scene of the movie, or to transport you to the actual musical event. Whether you can experience all the drama, movement, and emotions intended is the one truly meaningful measure of any audio/video system. Take the time to visit your Bryston dealer and audition the Bryston SP 2 preamplifier/processor. We think that you'll rediscover how exciting audio can be.



The SP 2 analyzes the digital bitstream, determines format, automatically adjusts mode, and provides a readout on the LCD screen.



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 2 will perform for many years without concern.

## HAND ASSEMBLED WITH CARE

All audio products we make 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.



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

## EASY FUTURE UPGRADES

We've designed the SP 2 with a field upgradable ROM chip. This allows for convenient upgrades so future software changes are quick and easy to implement. On the hardware side, our pin-to-pin compatible digital board topology facilitates upgrades to future formats or digital processing technologies. The SP 2's existing DAC chips can run at sample rates up to 192kHz facilitating upgrades to accommodate future formats. It is worth noting that many manufacturers promise that their units will be upgradable for future technology. Bryston actually does it (and is doing so today, at moderate cost, for the SP 2's predecessor).

## 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 unequalled by any other audio manufacturer in the world. Digital circuits have a full 5 year warranty.



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 2's RS 232 port allows for the integration of external control systems (AMX, Crestron, etc).

# SP 2 KEY FEATURES



19" C-SERIES

## SURROUND PROCESSOR

### 5.1, 6.1, 7.1

Processes Dolby, DTS, THX, and PCM formats: Dolby Digital, Dolby Pro Logic and Pro Logic IIx, DTS-ES Discrete 6.1, DTS-ES Matrix 6.1, DTS Neo:6, THX Surround EX™, THX Ultra certified, PCM 32kHz, 44kHz, 48kHz, 96kHz sample rates.

## AUDIOPHILE STEREO PREAMPLIFIER

### Digital-bypass pure analog circuit path

## DIGITAL/ANALOG MULTICHANNEL PREAMPLIFIER

### Home Theatre Control Center

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

## DSP PROCESSOR

### Ambient Surround for music

## STEREO 24/96 D/A CONVERTER

### For high-bit PCM audio



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 2 KEY FEATURES



SP 2 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. LCD 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 5.1 input. Toggle button switches easily between digital and analog inputs.
- 6 Balanced (XLR) outputs. (5.1)
- Two RCA outputs or 6.1 and 7.1 channel surround
- Stereo and Mono 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 of Dolby Digital.
- Music DSP modes: Natural, Club, Stadium, Hall, Theatre, Church, etc.
- Party mode (5-channel summed mono distribution for even room-coverage) and 5-channel Stereo option (stereo fed to front & rear).
- Easy set-up — LCD window provides built-in menus for speaker setup, and trim and delay adjustments, and displays error messages. Built-in 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).
- Control port for Bryston SPV external video switchers.
- Two 12-volt trigger outputs.
- Standby Power Mode allows remote power up.
- Designed for easy upgrading to future formats.
- Hand assembly.
- Tight quality control: 100-hour test and “burn-in”.
- Rugged reliable construction.
- 20-year analog transferable warranty.
- 5-year warranty on digital circuits.

# SP 2 TECHNICAL SPECIFICATIONS

## **SOURCE SELECTION:**

Accommodates 13 sources, up to 6 of which may be digital inputs

## **DIGITAL INPUTS:**

4 coaxial S/PDIF (RCA), 2 of which may be assigned to optical S/PDIF (TOSLINK)

## **OPTIONAL INPUT:**

1 AES/EBU replaces the 2-optical inputs

## **STEREO ANALOG INPUTS:**

6 stereo pairs (RCA)

## **DISCRETE 5.1 ANALOG INPUTS:**

6 unbalanced (RCA) for Left, Centre, Right, Right Surround, Left Surround, and Subwoofer

## **MAIN AUDIO OUTPUTS:**

6 unbalanced (RCA) and 6 balanced (XLR) for Left, Right, Centre, Right Surround, Left Surround, and Subwoofer

## **+ OUTPUTS FOR 6.1/7.1:**

Left Rear, Right Rear (RCA)

## **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 3V output level): Less than 0.006% in all modes; below 0.0025% 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 Semiconductor 24-Bit Delta-Sigma

## **DSP ENGINE:**

Motorola

## **BASS MANAGEMENT:**

2nd Order high-pass filter (x5), 4th Order low-pass filter; Crossover Frequencies from 40 to 200 Hz

## **DISPLAY:**

Two-line, 16-alphanumeric characters per line, black-on-green

## **TRIGGER OUTPUTS:**

One 12V on/off trigger; one 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, D9 connector) port for integration of external control systems (AMX, Crestron, and others using character-based protocols)

## **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. 22 lbs (10 kg)

## **DIMENSIONS**

(including rubber feet):

Shelfmount 17" or 19"x13.5"x4.5"

Custom Rackmount Faceplate 19"x13.5"x3.75"

# 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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