BRYSTON

BP26

OWNER'S MANUAL

IMPORTANT SAFETY INSTRUCTIONS

The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage " within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.
DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, ARE PLACED ON THE EQUIPMENT.
TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE.
THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE.

Bryston analog audio products are warranted to be free from manufacturing defects for twenty (20) years from the original date of manufacture. The warranty includes parts and labour.
Bryston Digital products and cables are warranted for five years from the original date of manufacture. The warranty includes parts and labour.
Bryston products having motorized moving parts, excluding motorized volume controls, are warranted for three years from the original date of manufacture. The warranty includes parts and labour.
Bryston will remedy the problem by repair or replacement, as we deem necessary, to restore the product to full performance. Bryston will pay shipping costs one way (usually the return portion) during the first three years of warranty coverage.
In the event of a defect or malfunction, contact Bryston's repair centers for return authorization. Products must be returned using original packaging material only. Packing material may be purchased from Bryston if necessary. This warranty is considered void if the defect, malfunction or failure of the product or any component part was caused by damage (not resulting from a defect or malfunction) or abuse while in the possession of the customer. Tampering by persons other than factory authorized service personnel or failure to fully comply with Bryston operating instructions voids the warranty. This warranty gives you specific legal rights and you may also have other rights which may vary from province to province and country to country.
As of 2006-02-22 Bryston will only warranty Bryston products purchased through authorized Bryston dealers. Bryston products with a date code of 0608 or higher (date code format is "yyww", where "yy" is the two least significant digits of the year and "ww" is the week of the year) must be accompanied by a copy of the bill-of-sale from a Bryston authorized dealer to qualify for warranty service. The warranty is transferable from the original owner to a subsequent owner as long as a copy of the bill-of-sale from the original authorized Bryston dealer accompanies the re-sale. The copy of the bill of sale to any subsequent owner need ONLY include the Name of the Bryston Authorized Dealer and the Model and Serial number of the Bryston product The warranty will only be honored in the country of the original purchase unless otherwise pre-authorized by Bryston.

BRYSTON SERVICE in CANADA:

Postal address: **P.O. BOX 2170, Stn. Main**
PETERBOROUGH, ONTARIO
CANADA K9J 7Y4

Courier address: **677 NEAL DRIVE**
PETERBOROUGH, ONTARIO
CANADA K9J 6X7

PHONE: 705-742-5325
FAX: 705-742-0882
E-mail: cdnser@bryston.com

BRYSTON SERVICE in the USA:

79 COVENTRY ST., Suite 5
NEWPORT, VERMONT
U.S.A. 05855-2100

PHONE: 802-334-1201
FAX: 802-334-6658
E-mail: usaser@bryston.com

BRYSTON SERVICE outside Canada and the USA:

contact your local distributor *or*

CHECK OUR WEB SITE: www.bryston.com
E-MAIL BRYSTON DIRECTLY: cdnser@bryston.com
FAX BRYSTON DIRECTLY: 01-705-742-0882
PHONE BRYSTON DIRECTLY: 01-705-742-5325

Bryston BP26 PREAMPLIFIER

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BP26MM with 17” Black Dress Panel.
See back page for other model variations

GENERAL SPECIFICATIONS:

Frequency Response:
20Hz-20kHz +/- .05dB

Maximum Output:
15 volts unbalanced, 30 volts balanced

IMD/THD: <0.0015% at 3 volts out

Sensitivity:
Balanced inputs: 1.00 V
UnBalanced line level inputs: 500 mV

Rated Noise:
-100dB (Ref. 500mV unbalanced input, 20-20kHz)
-103dB (Ref. 1 volt balanced input 20-20kHz)

XLR Connector Pin out (Balanced I/O):
Pin 1 ground, pin 2 positive, pin 3 negative

Features:
- 2 pair balanced female XLR inputs
- 1 pair balanced male XLR outputs
- 5 pair RCA inputs
- 4 pair RCA + 1 pair phono inputs (BP26P & BP26MC only)
- 4 pair RCA + 2 SPDIF digital inputs (BP26 DA only)
- 2 pair RCA outputs
- 1 tape loop

Options:
- Silver faceplate & hand held remote (std. is black)
- 19" x 1.75" Rack mount faceplate (std. 17" long)
- Moving magnet RIAA phono equalization module
- Moving coil & moving magnet RIAA phono EQ module
- Digital audio input (SPDIF) module

Dimensions:
Standard version: 17" (or 19") x 2.25" x 11"
43.18cm x 5.7cm x 28cm
Rack mount version: 19" x 1.75" x 11"
48.26cm x 4.44cm x 28cm

Weight:
actual: 12.4 lb. (5.62Kg)
shipping: 16 lb. (7.25Kg)

ADDITIONAL SPECIFICATIONS FOR BP26DA:

Input Sample Rate: 16kHz to 108kHz.
Word Length: 16, 18, 20, 24 Bit
Data format: SPDIF standard
Distortion: < 0.002%, 20Hz-20kHz
Signal to Noise Ratio: > 100dB
Frequency Response: 20Hz-20kHz +/- .1dB

ADDITIONAL SPECIFICATIONS FOR BP26P:

Phono Inputs:
Distortion: <0.005%, IM or THD, any frequency or combination of frequencies from 20-20kHz, at rated output or below.
Rated Noise: Phono: -80dBA referred to an input of 5 millivolts RMS @ 1kHz
RIAA Accuracy: Within less than +/- 0.05dB from 20-20kHz inclusive
Input sensitivity: 5mV

ADDITIONAL SPECIFICATIONS FOR BP26MC

Phono Inputs:
Distortion: <0.005%, 20-20kHz, with preamplifier driven to full rated output
Noise: Equivalent to approximately 1000 ohm metal film register (Thermal noise greater than 85dB below 0.6mV input, unweighted)
Gain: 16.5 or 22.5dB (internally reconfigurable)
Frequency Response: Below 5Hz to above 30kHz, within less than +/- 0.5dB
Input sensitivity: 350uV (0.35mV)

SERIAL NUMBER, DATE CODE, ELECTRICAL RATINGS

ATTENTION: To obtain the model number and serial number of this product please refer to the label attached to the bottom cover.
This label also contains electrical ratings and the date code (date of manufacture). The date code is a 4 digit code wherein the first 2 digits are the two least significant digits of the year (e.g. "05" means the year 2005) and the last two digits are the week of the year (numbered from 01 to 52)

Although all of the above specifications can be met regardless of whether the BP26 preamplifier is positioned immediately above or below the MPS2 power supply, optimum performance will be achieved when the power supply is positioned above *the preamplifier.*

INTRODUCTION

Thank you for choosing a Bryston Preamplifier. Bryston welcomes any suggestions you may have, or comments regarding the operation of your amplifier. We consider you, our customer, to be Bryston's most important resource, and your opinion is very much appreciated.

SETUP

The Bryston BP26 pre-amps, with remote-control, should be placed where there is a direct line-of-sight between the hand-held remote and the remote infra-red sensor eye located on the left side of the pre-amplifier's front panel.

If you purchased the BP26P or BP26MC, both of which include a Phono section, avoid placing the pre-amplifier directly on top of your power amplifier. Power amplifiers usually employ large power supplies and the transformers) in the power supplies can cause interference (hum) with the sensitive phono section inside the pre-amp.

Next, insert the 6-pin XLR cable from the outboard power supply into the "Power Supply" input connector (6 pin XLR) located on the rear of the preamplifier. Then plug the power supply into an appropriate AC power outlet. The preamplifier is powered up turning on the MPS2 Power Supply via its Power switch ~ a toggle switch located on the front of the MPS2 external power supply. The "green" LED on the outboard power supply and the preamplifier front panel indicates power-on.

MPS2 POWER SUPPLY

The BP26 preamp is powered by the MPS2 power supply. Please refer to the MPS2 POWER SUPPLY OWNERS MANUAL for more information.
A power supply cable, for the sole purpose of connecting the BP26 preamp to the MPS2 power supply, is supplied with your BP26 preamp. Do not dissassemble or attempt to modify this cable in any way as it may be unsafe to do so.

WARNING! Main output 1, 2, 3 & 4 connector terminals on the MPS2 Power Supply rear panel are HAZARDOUS LIVE and present a risk of electric shock. Use only preassembled power interconnect cables provided by Bryston for connection of these terminals.

ANALOG AUDIO CONNECTIONS TO OTHER EQUIPMENT

All inputs and outputs employ fully discrete active circuitry and all input and output connectors have gold plated contact surfaces. Only cables with high quality gold plated connectors should be used with your pre-amp to avoid noise and distortion from the corrosion that will eventually appear on poorly plated cable connectors.
Connect the pre-amplifier's left and right outputs from either the RCA or Balanced XLR connectors to the appropriate left and right input jacks on your power amplifier. Balanced cables are an advantage if you are using long runs of cable, (greater than 10 feet), between your preamplifier and power amplifier. Connect your CD player, tuner, tape deck, video recorder, or laser disc, etc. to the specific left/right preamplifier inputs. With phono stage equipped models, (BP26P & BP26MC) connect your phono cables to the phono input jacks. If your turntable leads have a separate ground wire, it may be connected to the ground post adjacent to the phono inputs on the rear panel.
The Bryston BP26 pre-amps also feature two pairs of balanced XLR input jacks. Many signal sources, including CD-players and separate D/A converters are now available with Balanced outputs for minimum noise pickup on the cables.

The tape loop may be used to insert a surround sound processor, cassette tape deck or video tape recorder into your system. Plug your tape deck or external processor's input cables into the "*To Tape"* jacks, and the processor or deck's output cables into the "*From Tape*" jacks at the rear of the pre-amp. The tape or processor loop may be operated via the "Tape/Source" toggle switch located on the front panel of the preamplifier.

HEADPHONE OUTPUT

It is recommended that you use headphones with an impedance of greater than 50 ohms for optimal performance. The main outputs, both balanced and single-ended, will be muted when a phone plug is inserted into the headphone jack (TAPE outputs are not muted). The front panel indicator LED will *not* turn red, however, as is does when the outputs are muted via the MUTE toggle switch or the hand held remote control.

ANALOG AUDIO INPUTS

BP26 preamplifiers are equipped with five pairs of RCA input connectors: two pairs of balanced XLR input connectors, and one pair of RCA tape input jacks.
Balanced inputs use 3 pin XLR female connectors with pin 1 being ground, pin 2 as positive signal, and pin 3 as negative signal. Input sensitivity is 1 volt and input impedance is 15K ohms.
Single-ended (or unbalanced) inputs employ gold plated RCA (Phono) jacks. Line input sensitivity is 500mV and input impedance is 50K ohms. *See also PHONO EQUALIZATION MODULES* for Phono input details.

ANALOG AUDIO OUTPUTS

There are two pairs of parallel RCA main outputs and one pair of RCA tape output jacks. One pair of balanced outputs, using 3 pin male XLR jacks, are also provided.

Balanced Outputs: As with the input XLR jacks, pin 1 is ground, pin 2 is positive and pin 3 is negative. These outputs are capable of driving 30 volts into any load of 600 ohms or greater. Do not short any of these three pins together!

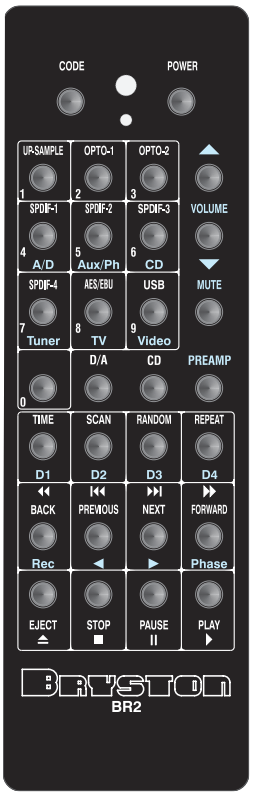
Single-ended or unbalanced outputs: As with unbalanced inputs, these connectors are gold plated RCA (phono) jacks. They are capable of driving 15 volts into any load of 600 ohms or greater.

TAPE LOOP

Tape Outputs: The "TO TAPE" outputs are selected by the rotary 'SOURCE" knob and are provided as a recording output. This feed is unaffected by the operation of other front panel controls.

Tape Inputs: The "FROM TAPE" (unbalanced RCA) inputs are useful for monitoring tape playback or processed signals. Moving the "Tape/Source" toggle to Tape' (up) position monitors the recorded signal on recorders equipped with a separate playback head, or the processed signal when using a signal processor. Input sensitivity is 500mv, input impedance is 10K ohms.

OPTIONAL REMOTE CONTROL



The VOLUME, MUTE & output PHASE of the Bryston BP26 preamplifier can be remotely controlled with the BR2 multi-model hand held infra-red remote control. This remote features a backlit panel and a solid machined aluminum enclosure and buttons.

Volume is remotely controlled via the ▲ (up) and ▼ (down) arrow buttons. A motorized volume control ensures the lowest distortion with maximum long term reliability. Volume is also manually adjustable from the front panel.

The ***Phase*** button (or the "Polarity/Invert" toggle switch on the front panel) allows you to invert the absolute phase of the audio signal (not to be confused with the left-versus-right channel phase), because polarity reversal can occur in the recording chain. It is desirable to maintain absolute phase as originally played in the recording hall as that will provide the most accurate representation of the original wave front. This may be audible in some cases as a more realistic rendition of musical transients when the preamplifiers maintain non-inverting polarity at the Main output for all inputs when the pilot light (or status LED) is green. The polarity is inverted when the status LED is yellow. The "To Tape" outputs are always non-inverted.

The ***Mute*** button mutes the main outputs (both balanced and unbalanced) of the preamplifier, but not the tape outputs (labeled "To Tape"). Refer also to the Power Supply section earlier in this manual for information regarding remote amplifier control (on/off) via the mute switch.

PHONO EQUALIZATION MODULES (OPTIONAL):

Bryston's optional phono equalizer circuitry features highly accurate equalization, extremely low noise and distortion and provides headroom margins sufficient to prevent overload from any known phono source. If your turntable provides a separate ground lead system noise may be minimized by connecting it to the ground post adjacent to the phono inputs on the rear panel.

Moving Magnet Phono Cartridge Input (MM):
This is Bryston's standard RIAA phono equalization stage. It is found in both the "-P" and "-MC" versions of the BP26 preamp. Input impedance is 50K ohms and sensitivity is 5mV.

Moving Coil Phono Cartridge Input (MC):
Moving coil phono cartridges require much more gain than the more common moving magnet types. To accommodate moving coil cartridges Bryston offers the BP26MC pre-amp which include specially designed, custom made step-up transformers in addition to Bryston's standard RIAA phono equalization stage found in the "-P" versions of the BP26 pre-amp. Which phono equalization stages are engaged is determined by the front panel toggle switch labeled "MC Phono / MM Phono". This switch is not present on the BP26P model; it is replaced, instead with a "Mono / Stereo" switch. Please note that it is important that your phono cartridge is connected to the correct inputs in order to achieve proper performance.
Input impedance is 180 ohms and sensitivity is 350uV

DIGITAL AUDIO INPUT MODULE (OPTIONAL):

The BP26DA model contains two SPDIF compatible digital audio inputs. To select either the DAC-1 or DAC-2 digital audio input, first set the rotary SOURCE selector to DAC, and then select between the two SPDIF inputs with the DAC-1/ DAC-2 toggle switch. The digital-to-analog convertor can handle input sample rates from 16KHz to 108KHz, and word lengths of 16, 18, 20 or 24 bits.

VISUAL INDICATORS:

MPS2 Power Supply: The LED on the front panel of the MPS2 lights GREEN when power is on.

BP26 Preamp: The three colour LED (light emitting diode) located on the front panel lights RED when the output is muted, GREEN when the output signal is non-inverting polarity and YELLOW when the output signal is

inverted with respect to the input. When the LED is unlighted, the power is off.

FRONT PANEL CONTROLS:

MUTE/NORMAL TOGGLE SWITCH: Mutes or releases mute at the main outputs, (not 'To Tape' outputs), without changing the volume control setting, each time pushed.

POLARITY/INVERT TOGGLE SWITCH: Reverses polarity at main outputs each time pushed. (GREEN LED indicates positive polarity, YELLOW LED indicates inverse polarity).

VOLUME CONTROL: Rotary control varies the output level to the 'MAIN OUTPUTS', (does not effect 'TO TAPE' outputs). BALANCE: Rotary control adjusts the left-versus-right channel levels.

BALANCE CONTROL: is a tailored-inflection type which has very gradual action near the center of rotation allowing fine adjustments to the stereo image. For convenience the electrical center of the control is detented.

SOURCE SELECT SWITCH: Rotary switch determines which input will appear at the "TO TAPE" outputs for recording or processing, as well as determining which program is available at the Main outputs. (When the "TAPE/SOURCE" switch is in "Tape" position, "FROM TAPE" inputs appear at Main Outputs).

MONO/STEREO SWITCH: **"**Stereo" position provides two-channel stereo at the Main outputs. 'Mono' position sums the main outputs to monaural. The 'TO TAPE' outputs are always stereo. (Switch not present on "-MC" or "-DA" models).

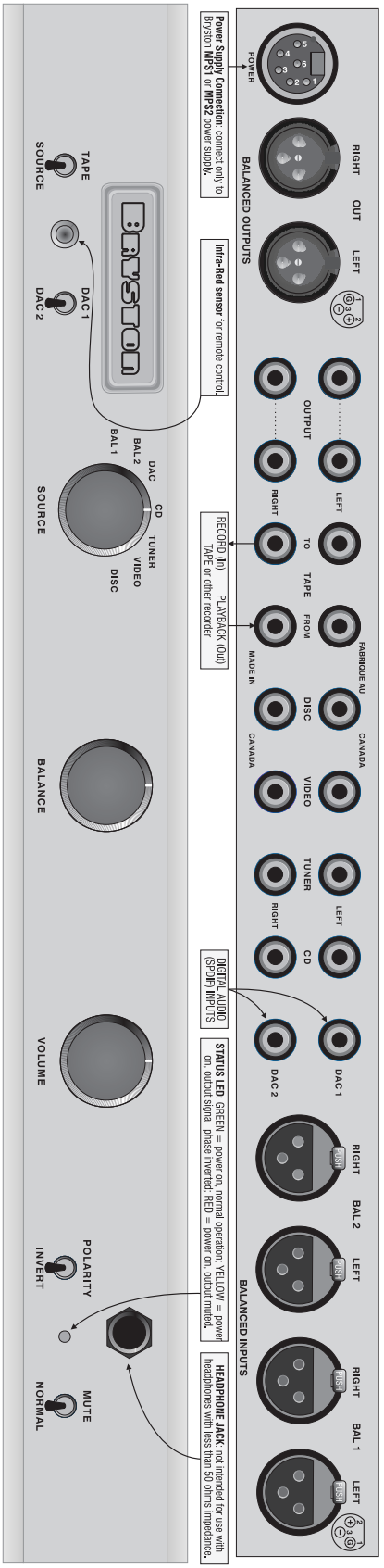
MC/MM PHONO SWITCH: This switch is present on the BP26MC models only. It allows the selection of either Moving-Magnet or Moving-Coil phono equalization. This switch takes the place of the "Mono/Stereo" toggle switch on other BP26 models.

DAC-1/DAC-2 TOGGLE SWITCH: Only on BP26DA models, this switch determines which of the two SPDIF digital audio inputs is processed and then sent to the tape and main outputs. The SOURCE select switch must also be in the "DAC" position to monitor the digital audio inputs.

TAPE/SOURCE SWITCH: **"**Source" position monitors whichever input is selected at the rotary SOURCE selector rotary switch. "Tape" position provides monitoring of the "FROM TAPE*"* input for A/B comparison with the source. Should an external processor or equalizer be connected in the tape loop, the 'TAPE / SOURCE" switch will act as an in/out switch for the external equipment.

BP26 DA

Stereo preamplifier with 2 pairs of balanced inputs, 1 pair of balanced outputs, 4 pairs of single ended line level inputs, two digital audio SPDIF inputs (16KHz to 108KHz sample rate, 16 to 24 bit word length) and a tape loop. Other features include phase inversion and mute switches and an external power supply. All BP26 models also include infra-red remote control.



BP26 P

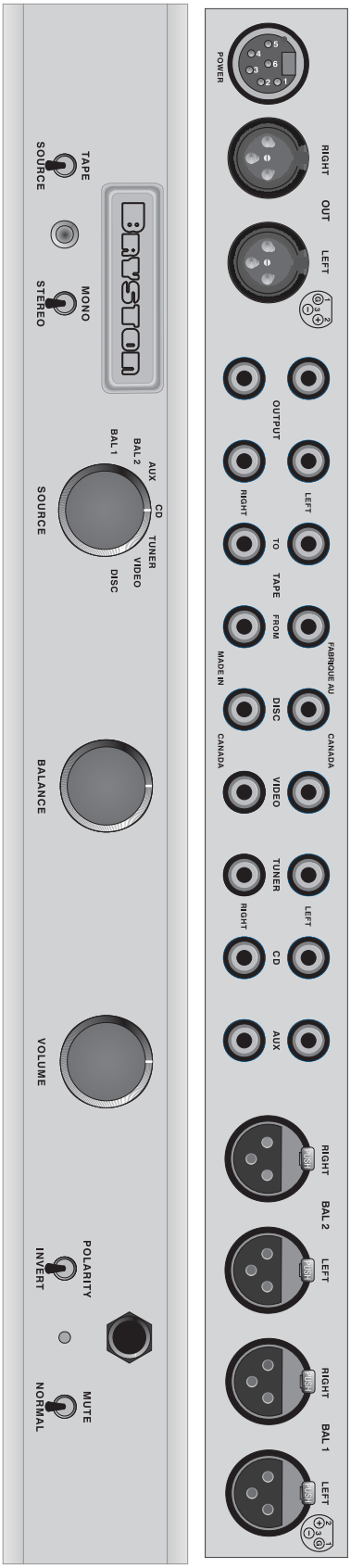
Stereo preamplifier with 2 pairs of balanced inputs, 1 pair of balanced outputs, 4 pairs of single ended line level inputs, one pair of single ended phono inputs and a tape loop. Other features include phase inversion and mute switches and like all BP26 preamps, an external power supply.

BP26 MC

Stereo preamplifier with 2 pairs of balanced inputs, 1 pair of balanced outputs, 4 pairs of single ended line level inputs, one pair of single ended phono inputs and a tape loop. Other features include phase inversion and mute switches and a moving coil phono stage (selectable by a front panel switch).

BP26

Stereo preamplifier with 2 pairs of balanced inputs, 1 pair of balanced outputs, 4 pairs of single ended line level inputs, one pair of single ended phono inputs and a tape loop. Other features include phase inversion and mute switches and an external power supply. All BP26 models also include infra-red remote control.



BP26_C100_FRONT+REAR_PANEL_ILLUSTRATIONS