



**SHORT FORM  
BROCHURE**



# Introduction

Bourns, Inc. has supplied components used in the design and assembly of professional audio equipment for many decades. With a commitment to excellence and technology, Bourns has established a reputation in the professional audio industry for bringing quality, reliability and value to an established customer base that includes some of the industry's leading manufacturers and suppliers of audio equipment.

Bourns supplies components such as panel controls, slide potentiometers and rotary encoders used in the manufacture of audio and broadcast mixing consoles, video editing stations, sound processors, guitar amplifiers, electric guitars, keyboards, digital drums, recording equipment, DJ mixers, and various types of outboard gear. With a wide portfolio of products, there are components suitable for use in studio equipment and "road-worthy"

components designed to withstand the abuse of repeated set-ups and tear downs associated with concert tours.

As the professional audio industry evolves with technological trends and experiences worldwide growth, Bourns continues to design and add components to its portfolio to meet industry demands. In addition to supplying catalog components, Bourns can *customize* components to meet the designer's needs by offering various value-added options such as brackets, cable harnesses and connectors.

Bourns also offers a wide array of trimming potentiometers, resistor networks, power resistors and magnetic products suitable for use in professional audio equipment. This vast array of products provides audio equipment manufacturers with a convenient single point of purchase and reduction in the number of needed suppliers.



Complete data sheets for all models are available at [www.bourns.com](http://www.bourns.com)

# Audio & Broadcast Mixing Consoles

World-renowned mixing console manufacturers use Bourns® optical encoders and panel controls. For digital mixing consoles, optical encoders such as Bourns® Models EN and EM14 are ideal high-reliability, long-life solutions that can bring years of service to recording engineers and producers alike. For analog mixing consoles, panel controls such as Bourns® Models 51, 81 and 91 provide long-life and low noise, in part due to the superior characteristics of the conductive polymer resistive element design. These controls are typically used for tone/frequency adjustment, balance adjustment, attenuation, and effect sends. For consumer/professional mixers, Bourns offers high quality panel controls and has recently expanded the product line utilizing long-life carbon resistive elements for low noise operation. Models PTH90 and PTJ90 feature dual concentric shafts with integrated rotary or push switches.

Bourns now offers a full line of slide potentiometers including our latest release, Model PSM Motorized Slide Potentiometer with touch sense lever and optional snap-in connector.

Bourns also offers an array of slide potentiometers including Model PTS Master Fader, PTL Slide Potentiometer with LED, PTE Low Profile Slide Potentiometer and PTF Long-Life Slide Potentiometer. These models are all available in various standard resistances, tapers, levers, and travel lengths. These components are typically used for volume controls and master faders.



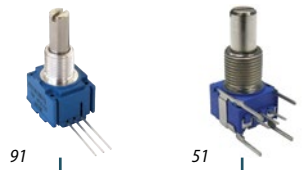
PSM



PTL



PTS

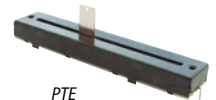


91

51



PTF



PTE

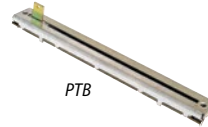


# Sound Recording and Video Editing Equipment

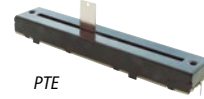
The newest generation of sound recording equipment and video editing stations are digital. These units have a jog-shuttle control that enables the engineer to search through a song or video to a specific point for sound overdubs or for editing purposes. The components used for jog-shuttle controls must have a long rotational life and be able to withstand the strain of constant adjustment. Models EN and EM14 are the perfect choice for this application. These components are designed to provide years of reliable service to sound and video engineers.



PTA



PTB



PTE



PTF



EM14



EN

Slide potentiometers are also used for recording level adjustment on digital recording equipment. Video transitions and intensity levels can also use slide potentiometers. The PTA, PTB, PTE and PTF models all offer the performance required for these applications.



# Electric Guitars and Effect Pedals

## Electric Guitars

Bourns offers “guitar pots.” For the standard drop-in replacement, Bourns offers the PDB241-GTR and long-life PDA24 with knurled or solid shaft. These models are available in an audio or linear taper, and in a variety of resistance values. Recently added are the new “mini” guitar pots; Model PDB181-GTR and PDB183-GTR with a push-pull switch. A dual potentiometer for blend-balance control is also available in Model PDB182.



95 Premium



95 Long Bushing



82 Vintage

In response to market demand, Bourns has re-released the Model 82 Vintage Guitar Potentiometer. This model was originally released in the late 70s and made its way into custom guitar shops, where artists quickly recognized its superior performance. Referred to as the “square blue pot,” this product has withstood the test of time, with some artists noting that they still have the original guitar potentiometers in

their instruments. The Model 82 Vintage Guitar Potentiometer is available with standard bushing, and now also available with long bushing for through-body mounting.

Bourns also offers premium guitar pots with long-life and extremely low noise. The Model 95A1D-Z28 with knurled or solid shaft is available in an audio or linear taper, and in a variety of standard resistance values including 25 kΩ and 50 kΩ for guitars with active electronics. For thick body guitars, Model 95Z1D-Z33 offers a long bushing and shaft with similar resistance and taper values.

Special options are available upon request.

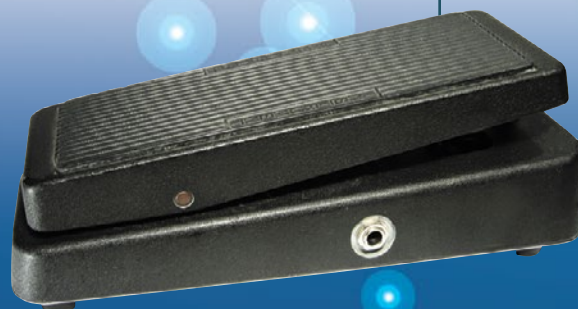


## Effect Pedals

Whether it's volume, tone or wah-wah effect that an artist is trying to achieve, effect pedals need reliable potentiometers that are designed to withstand the demands of daily usage. Bourns® Model 6630 Precision Potentiometer is used in high-end pedals for its long-life and outstanding performance.



6630



PDB241-GTR



PDB241-GTR03



PDB182-GTR



PDB181-GTR



PDB183-GTR

# Instrument Amplifiers



96



PEC11R



PTV111

There are a variety of products in the Bourns Pro Audio portfolio for use in guitar and keyboard amplifiers. Models 96, 53 and PDA241 are all available in the most popular resistances and tapers. These products are designed with the high performance specifications required for use in this application. These models are suitable for use as volume or tone controls. Other popular models include the Model PDB183 potentiometer with push-pull switch and the PDB181 mini-potentiometer.

For digital guitar amplifiers, popular models include the EM14 Optical Encoder and PEC11 Contacting Encoder. Both products have optional push switch options that can be used for menu selection or activation of effects. These products are recommended for their rugged design and superior performance.



51



PDB181



PDB183



PDA241



# Keyboards, Digital Drums and Sound Processors



PES12



PTV09



ECW



PEC11R



## Keyboards and Digital Drums

Analog keyboards and synthesizers with hundreds of manual controls are a thing of the past. Bourns offers optical and contacting encoders suitable for use in the new generation of digital keyboards, keyboard controllers and digital drum controllers. Models PES12, PEC11, and ECW are typical discrete components used in keyboards and digital drums. Some keyboard manufacturers may still use low cost panel controls such as Models PDB18, PTV111 and PTV09.



## Sound Processors

Industry leaders in the design of sound processors also use Bourns® panel controls where low cost panel controls are still the primary component of choice. Bourns standard catalog Models PTD90, PTR90, PTV09, PTV111 and PTV142 offer rugged designs suitable for use in digital delays, compressors, limiters, crossovers, parametric equalizers and other types of sound processors. Some units may require the use of a jog-shuttle to scroll through menus and the EM14 and EN Optical Encoders are a great solution for this application.



PTV111



PTR90



PTD90



EN

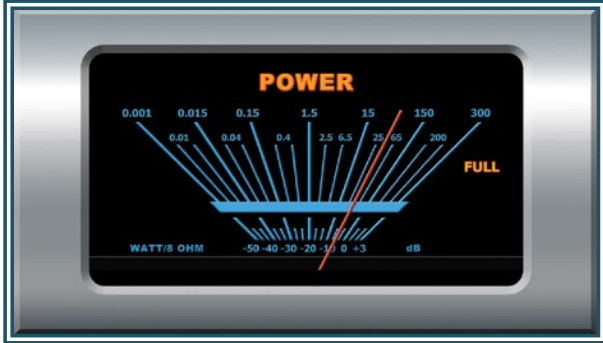


EM14





# Circuit Protection in Pro Audio

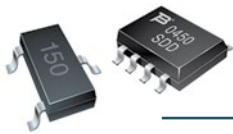


Professional audio equipment continues to evolve with designs that incorporate smart features and interconnectivity to computers and other equipment. Power, communication and data ports are found in virtually all state-of-the-art audio equipment designs including audio, video and broadcast mixing consoles, digital recording equipment, instrument amplifiers, and sound processors. By incorporating these ports, the internal hardware is much more susceptible to faults from short circuits, electrostatic discharge (ESD) and power surges. Bourns offers a wide variety of circuit protection products to assist in preventing equipment damage and failure.

Ports in pro audio equipment that require protection include Ethernet, Universal Serial Bus (USB), High-Definition Multimedia Interface (HDMI), FireWire, Audio/Video and AC/DC input/output.

TVS Diode Arrays provide Ethernet ports with protection from ESD. Multifuse® PTCs and ChipGuard® products are the right solution to protect USB ports from overcurrent and ESD. ChipGuard® ESD Suppressors, Multifuse® PTCs and TVS Diode Arrays provide ESD and overcurrent protection to HDMI ports. Bourns has a variety of PortNote® Solutions to assist designers with recommended protection circuits and products applicable to each port type. Bourns® circuit protection devices are UL® recognized.

For a complete listing of circuit protection products offered by Bourns, please visit: [www.bourns.com](http://www.bourns.com).



TVS Diode Arrays



Multifuse® PTCs



ChipGuard® ESD Suppressors

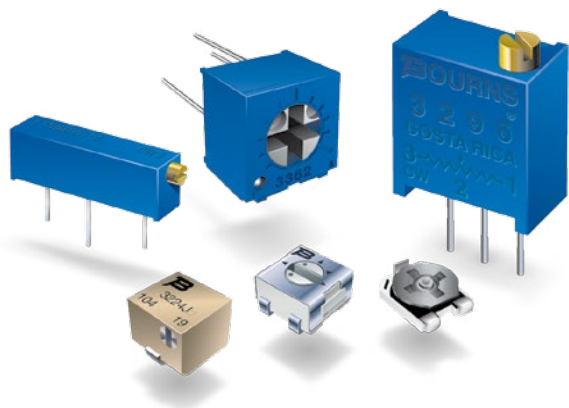


# Board Level Resistive Components in Pro Audio

## Trimming Potentiometers

Trimming potentiometers are used for the adjustment of power supply circuits in all types of professional audio equipment including power amplifiers, powered mixing consoles, sound processors and other peripheral outboard equipment. Bourns offers a wide variety of standard trimming potentiometers suitable for use in these applications including multiturn through-hole models (3296 and 3006) and surface mount models (3224 and 3223). These models offer stability under extreme thermal excursion encountered by amplifiers and peripheral outboard equipment.

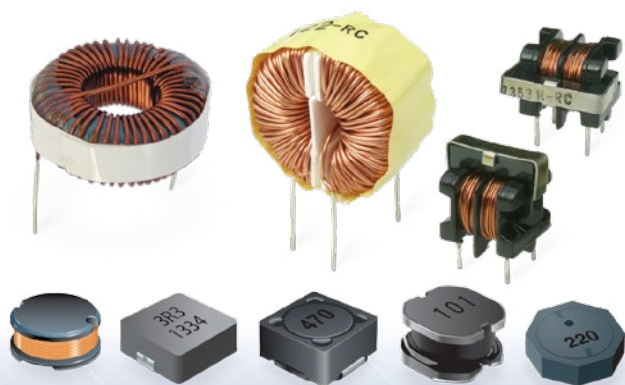
Use of trimming potentiometers is emerging in electric guitars and basses with active circuitry. Single-turn potentiometers, such as Models 3362 and 3314, are being used to fine-tune the input intensity of each string.



## Magnetic Products

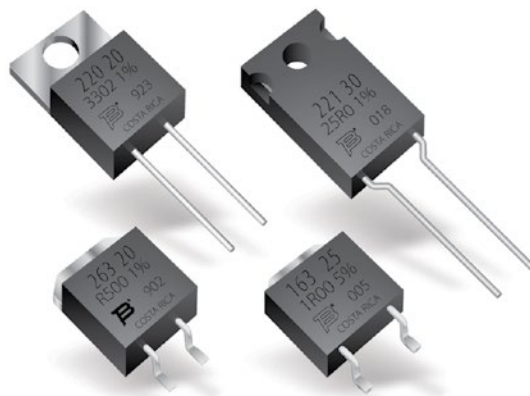
Bourns produces a large variety of inductors and common mode chokes that are highly suitable for Pro Audio applications. Inductors are typically used as energy storage devices as well as RFI/EMI filters, along with common mode chokes for RFI/EMI noise suppression in the power supply section of audio equipment.

Inductors such as Model SDR non-shielded low cost series, SRR/SRU shielded low magnetic flux series, SRN semi-shielded (a hybrid series of non-shielded/shielded), SRP shielded high current series, 2x00 toroid self-shielding series and 7x00 / 8100 common mode choke series are all ideal for use in the design of audio equipment including amplifiers, control boards, converters, mixers, receivers, recorders, speaker systems, wireless audio system and wireless speakers. For higher quality standards, automotive grade AEC-Q200 qualified versions are available.



## Power Resistors

Power resistors are used as balance resistors and current limiters in voltage regulator/power conditioners, power amplifiers, guitar amplifiers and powered mixing consoles. Bourns offers a wide variety of commercial off-the-shelf power resistors suitable for these applications. Models including PWR220T, PWR221T, PWR263S, and PWR163S feature low inductance, high pulse capability and a copper or ceramic backplane. The PWR Series Power Resistors are high performance products offered in surface mount and through-hole versions.





## Worldwide Sales Offices

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Americas:	+1-951-781-5500	+1-951-781-5006
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Europe, Middle East, Africa:	+36 88 520 390	+36 88 520 211
Japan:	+81 49 269 3204	+81 49 269 3297
Korea:	+82 70 4036 7730	+886 2 25624116
Singapore:	+65 6348 7227	+65 6348 1272
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Bourns® products are available through an extensive network of manufacturer's representatives, agents and distributors.

To obtain technical applications assistance, a quotation, or to place an order, contact a Bourns representative in your area.

Specifications subject to change without notice. Actual performance in specific customer applications may differ due to the influence of other variables. Customers should verify actual device performance in their specific applications.

[www.bourns.com/proaudio](http://www.bourns.com/proaudio)

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