#### **UREI ELECTRONIC PRODUCTS**

# 6210/6211 ENERGIZER AMPLIFIERS



## **FEATURES:**

Converts JBL 4400 Series or other small 8 ohm monitors to self-contained powered operation

40 Watts Output Power into 8 ohms

Fully complementary output

Low negative feedback-Low T.I.M. distortion

Active balanced inputs

**Rugged** construction

Dual input connectors allowing for linking of amplifiers together

Additional Features on the 6211:

Built-in microphone preamplifier to allow for use as a self-contained portable P.A. system

Mic/Line selector switch

Low-cut filter switch

The JBL/UREI Model 6210 and 6211 Energizer Amplifiers represent a new approach to powering loudspeakers. Designed to be mounted on the rear of any 8 ohm loudspeaker system, including the JBL 4400 Series Studio Monitors, these two new amplifiers are ideal for mobile mixing situations, broadcast studio monitoring, moderate level stage monitoring and P.A. applications.

The Model 6210 Energizer Amplifier has an active balanced input and will accept balanced or unbalanced line level sources. For flexibility, it has both three pin XLR and 6.3 mm ( $\frac{1}{4}$  in) phone jack input connectors, wired in parallel.

The Model 6211 Amplifier features, in addition, a switch activated preamplifier for low impedance



microphone inputs. It also includes a user selectable high pass filter for reducing microphone proximity effects and wind pops. Male and female XLR input connectors, wired in parallel, allow for linking several amplifiers together when fed from a common source.

Both Energizer Amplifiers feature 40 watts output into 8 ohms and come ina rugged aluminum and steel case only 75 mm (3 in) deep. Both amplifiers have complementary output stages with minimum negative feedback for low TIM (transient intermodulation distortion).

Installation is simple, using the template and hardware provided, and output connections are made directly to the speaker terminals with colorcoded wiring already attached and strain relieved. Additional features common to both models include an illuminated AC power switch, level control, and a ground lift switch.

An optional 19 inch rack mounting kit, Model MR6202, is available to mount two Energizer Amplifiers side-by-side. Additionally, the Model SC6201 security cover option prevents inadvertent gain changes.



6211 Energizer Amplifier mounted on JBL Model 4406

#### ARCHITECTS AND ENGINEERS SPECIFICATIONS:

The energizer amplifier shall provide 40 watts output into 8 ohms at 0.1% or less THD. The amplifier shall have an active balanced line [or microphone] level input [with a preamp in-out switch], an illuminated AC power switch, level control, [high pass filter and switch,] and a ground lift switch.

The two input connectors, wired in parallel, shall be a three pin female XLR type and (a 6.3 mm ( $\frac{1}{10}$  in) phone jack, 6210 only) [male XLR type]. The output shall be through an attached color-coded cable with tinned ends.

The unit shall be packaged in a finned extruded aluminum heatsink with steel cover, panels and mounting feet, with four mounting holes in a 190 mm (7½ in) square pattern. Four 8-32 machine screws shall be provided for mounting. The amplifier shall be designed to be attached to a loudspeaker enclosure and shall be 203 mm x 216 mm x 70 mm deep (8 in x 8½ in x 2¼ in deep) in size and weigh 3.0 kg (6.5 lbs).

The amplifier shall be the JBL/UREI Model 6210 [6211] Energizer Amplifier.

#### SPECIFICATIONS:

Midband Power Output:	40 watts into 8 ohm load
Frequency Response:	+0 – 1 dB, 20 Hz to 20 kHz, at any level up to rated output
Input:	Balanced bridging differential amplifier
Input Impedance:	<ul> <li>6210: 40k ohms used as balanced input; 20k ohms used as unbalanced (single-ended) input</li> <li>6211: LINE: 40k ohms used as balanced input; 20k ohms used as unbalanced (single-ended) input</li> <li>MIC: 7.8k ohms used as balanced input; 3.9k ohms used as unbalanced (single-ended) input</li> </ul>
Filter:	6211: Switchable low cut (high pass) filter — 3 dB @ 200 Hz, 6 dB/octave
Connectors:	6210: Inputs: 3 conductor XLR female and 6.3 mm (¼ in) phone jack wired in parallel
	6211: Inputs: Male and female 3 conductor XLR wired in parallel to allow linking of multiple inputs
· · · · · · · · · · · · · · · · · · ·	Output: Color coded tinned wire leads Power: 1.5 m (5 ft) 3 conductor captive AC cord
Controls:	<ul> <li>6210: Power switch (illuminated), level control and recessed ground lift switch</li> <li>6211: Power switch (illuminated), level control recessed MIC/LINE push-button switch, recessed filter switch and recessed ground lift switch</li> </ul>
AC Power:	120 VAC 60 Hz, 80 W typ at rated power. Other voltages available on special order
Dimensions:	203 x 216 mm x 70 mm deep 8 in x 8½ in x 2¾ in deep
Mounting Means:	19 mm (7½ in) square symmetrical hole mounting pattern in base
Net Weight:	3 kg (6.5 lbs)
Shipping Weight:	3.6 kg (8 lbs)
Materials:	Heatsink is heavy-duty extruded aluminum, black anodized; cover is 18 Ga steel painted black
Accessories:	Model MR6202 Rack Mount Kit Mounts 2 amplifiers side by side, requiring 305 mm (12 in) of rack space (including connector clearance). Made of 14 Ga steel. Model 6201SC Security Cover
6217	6218

JBL/UREI continually engages in research related to product improvement. New materials, production methods, and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL/UREI product may differ in some respect from its published description but will always equal or exceed the original design specifications unless otherwise stated.





MODEL 6210 MODEL 6211 ENERGIZER AMPLIFIER

# INSTALLATION AND OPERATING INSTRUCTIONS



### **FEATURES**

- Converts the JBL 4400 Series Studio Monitors or 8 ohm loudspeaker systems into complete self-contained sound systems. The 6210 will accept line level input only whereas the 6211 is selectable for line or microphone level input signals.
- Balanced inputs.
- Dual input connectors allow for "linking" amplifiers together.
- 40 watts of output power at 8 ohms with less than 0.1% THD.
- Fully complementary output circuitry.
- Low negative feedback.
- Low TIM distortion.
- Rugged construction.
- Simple mounting system allows the 6210 and 6211 to be conveniently attached to the loudspeaker enclosure.



#### **AMPLIFIER MOUNTING**

Both the 6210 and 6211 are designed to be conveniently mounted to the loudspeaker enclosure. The amplifiers have a symmetrical mounting pattern, so that the unit can always be mounted with the fins vertical, for the best cooling efficiency. Current production of JBL 4400 Series Studio Monitors has been designed with factory-installed threaded attach points. However, early production 4400 Series monitors and other loudspeaker systems will require minimal drilling in order to mount the unit. All necessary hardware and a mounting template are provided for your convenience.

#### SECURITY COVER

In some installations it may be necessary to safeguard the level control settings from accidental misadjustment. Such safeguarding can be achieved with the JBL Model 6201SC Security cover accessory available from your dealer.

The 6201SC Security Cover is a locking cap which replaces the Level Control knob. Installation is simple:

- 1. Remove the Level Control Knob. If the knob is on too tight to be removed by hand, grasp the bar on the knob with pliers and pull straight out.
- 2. Before installing the 6201SC Security Cover, preset your level to the desired point.
- 3. Press the security cover into the opening, making sure it "snaps" firmly into place. Should you ever need to readjust the level and, therefore, need to regain access to the level control, you can do so by carefully inserting the blade of a small screwdriver under the lip of the cover cap. Pry back and the cap should lift out without difficulty.

#### AC POWER

Amplifiers shipped to destinations in the USA and Canada are wired for 120 VAC 60 Hz operation.

#### **RACK MOUNTING**

The 6210 and 6211 can be mounted in a standard 19 inch rack with the optional 6202RM Rack Mount Kit. The kit vertically mounts two units side-by-side so that they occupy 12" of rack space, including clearance for the connectors.

#### **MAINTENANCE**

This amplifier is an all solid-state unit, ruggedly constructed with only the highest quality components. As such, it should provide years of trouble-free use with normal care. All parts used are conservatively rated for their application, and workmanship meets our rigid standards.

#### NO SPECIAL PREVENTIVE MAINTENANCE IS REQUIRED.

#### **REPAIRS AND WARRANTY**

This product is factory warranted to the the original purchaser against defects in material and workmanship for one year from the date of purchase. We suggest that you retain a copy of your dated sales receipt for proof of warranty status. Should service be required, the dealer from whom the unit was purchased will be glad to assist in the return for factory repair. Alternatively, you may call or write directly to the factory at the address below for a Return Authorization Number which must accompany all repairs. For prompt service, ship the unit prepaid directly to the factory with the RA Number visible on the shipping label. Tape a note to the unit describing the problem, and instructions for return. Use the original factory shipping carton if possible. Shipping to the factory is at your risk. Do not take chances with inadequate packing materials. We will pay one-way return costs on any in-warranty repair.

> Service Address UREI Incorporated 8460 San Fernando Road Sun Valley, CA 91352 USA

Telephone 818-767-1000 Fax 818-767-8861

#### 6210 / 6211



#### 1. <u>POWER SWITCH</u> Illuminated rocker power switch.

#### 2. LOW CUT FILTER SWITCH (6211 ONLY)

If microphone proximity effects, breath blasts, air conditioning rumble etc. are troublesome, the use of this filter will roll off the low frequency response of the 6211 and reduce these effects.

#### 3. OUTPUT LEVEL CONTROL

Adjusts output level from no output to full output.

#### 4. <u>MIC/LINE SWITCH (6211</u> <u>ONLY)</u>

This switch allows you to select the input to the 6211 Amplifier. The Mic/Line Switch is a twoposition switch which can be accessed with a sharp instrument, i.e. a pen or small screwdriver. In the "out" or "Mic" position, the switch actuates the microphone preamplifier adding 50 dB of gain to the input signal level. When depressed, or in the "Line" position, the switch disconnects the microphone preamplifier circuitry for use with line level signals.

#### 5. INPUT CONNECTOR

On both models this connector is a female XL type connector. Wiring convention is : Pin 3 "+" or high ; Pin 2 "-" or low ; and Pin 1 shield ground.

#### 6. INPUT/LINK CONNECTOR

On the Model 6210 this is a 1/4 inch 3conductor phone jack with the tip connected as "+" or high; the ring connected as "-" or low; and the sleeve connected as shield ground.

On the Model 6211 this connector is a 3 pin male XL type. Wiring convention is the same as the female XL connector. Both models have these connectors wired in parallel\* with the female XL Input connector and may be used for input or linking two or more amplifiers together.

\* Line level on the input is line level out on the other connector.

#### 7. <u>AUDIO GROUND LIFT</u> <u>SWITCH</u>

To comply with most electrical codes, these amplifiers are supplied with a 3-conductor AC power cord, the U-ground of which is connected to the chassis. In some installations this may create a ground loop problem when an AC potential exists between audio ground and electrical power ground. This will be evidenced by "hum" or "buzz" through the audio system. The Audio Ground Lift Switch allows you to interrupt the connection between audio and power grounds.

#### 8. POWER CORD

1.5 meter (5 foot) 3 wire AC power cord with Uground male connector.

#### 9. FUSE HOLDER

Replace fuse only with the correct value as labelled. Failure to do so will void the warranty.

#### 10. AMPLIFIER OUTPUT

Output is on the back of the amplifier. The red wire is in phase with the "+" pin or tip of the input connectors. The Red wire connects to the Red binding post of the JBL 4400 Series Loudspeaker. The Black wire connects to the Black binding post. THIS AMPLIFIER IS TO BE USED ONLY WITH LOUDSPEAKER IMPEDANCES OF 8 OHMS OR GREATER.

#### SPECIFICATIONS:

Output Power, 8 ohm load:	40 Watts, 20 Hz - 20 kHz at less than 0.1% THD.
Frequency Response:	+0,-1 dB, 20 Hz to 20 kHz, at any level up to rated power.
Input:	Balanced bridging differential amplifier.
Input Impedance:	Line: 40 kohms used as balanced input; 20 kohms used as unbalanced (single-ended) input.
	Mic: 7.8 kohms used as balanced input; 3.9 kohms used as unbalanced (single-ended) input.
Maximum Input Level:	+20 dB (7.75 V rms).
Input Sensitivity:	1.1 V for rated output into 8 ohm load.
Voltage Amplification:	Variable; maximum 26 dB.
AC Power:	Typical Power Consumption: At idle: 10 W. At rated output: 80 W.
Dimensions:	203 x 216 x 70 mm (8 x 8-1/2 x 2-3/4 in).
Net Weight:	3kg (6.51bs).
Mounting:	191mm (7-1/2 in) square symmetrical hole mounting pattern in base.
Materials:	Heatsink is heavy-duty extruded aluminum, black anodized. Cover is 18 GA steel painted black with white nomenclature.





JBL Incorporated, 8500 Balboa Boulevard, P.O. Box 2200, Northridge, California 91329 U.S.A.

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