



## PRODUCT CHANGES

### SURROUND MATERIAL

The K120 and 2130 12" transducers now have a treated fabric surround in place of the original paper roll. This surround is an exclusive JBL design and is treated with a special formula. It is the same surround that is used on the 2202. This change improves reliability in high power applications.



A similar impregnated fabric surround for the 2220, 2135, K130 15" transducers is being scheduled for production later this year.



The surround material on the 2115 has been changed from the original Lans-a-loy to a newer plastic foam material.

## NEW TERMS

Try to make full use of the excellent new cash-quantity discount terms which became effective June 1, 1973. Very substantial savings can be enjoyed. All prior discount terms are, of course, no longer valid. Material for all franchise classes is F.O.B. our plant, and will be shipped freight collect, unless otherwise specified by you on each order.

### 4350:

We are now shipping these superb systems to our franchised distributors upon order. The field response has been most rewarding. The necessarily higher system price has been of little deterrent to sales. The 4350 (sometimes called "The Texas Bookshelf") is a versatile system—already to be found in recording mix-down and audition applications—for an "instant cluster" in superior sound systems—in film studios—etc.



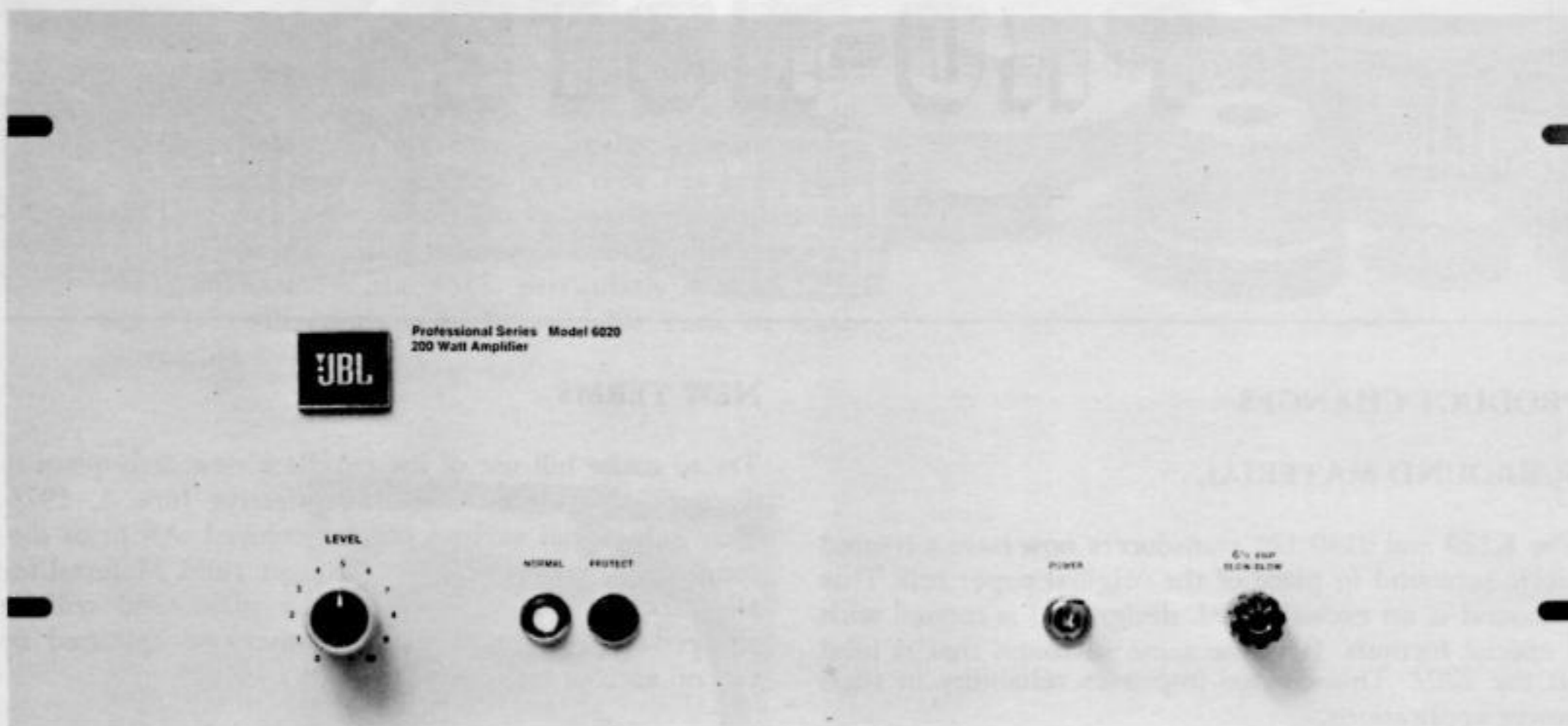
Four 4350's were used for 16 track to quad mixdown at the London Records recording session of the L.A. Philharmonic Orchestra in April this year. The results—rave reports. Four more of the 4350's are to be used for sound reinforcement at the Montreaux Jazz Festival in Switzerland this month for all the music world to hear.

For small to medium sized auditoriums, the 4350, may be your very best answer. Hearing it once is highly convincing.

## POWER AMPLIFIERS:

Please notice—in your new Confidential Price Schedule we are now offering 60Watt, 100Watt and 200-Watt amplifiers. The new 6020 supercedes the 6015.

The superior specifications and very competitive pricing of the 6020 will surely result in a high level of acceptance in sound reinforcement and public address applications.



### 6020 Specifications:

Power Gain: 73dB minimum

Input Unbalanced HiZ (50K)  
Sensitivity: .7V in for maximum output  
Balanced 15K bridging with plug-in  
5195 transformer—.383 volts  
Balanced 600 ohm matching  
with plug-in  
5195 transformer—78 millivolts

Power Output: 200 Watts at less than .5% THD  
35 to 12,000 Hz  
250 Watts at less than 4% THD

IM Distortion Less than 2% at 200 W  
(SMPTE): Less than 1% at 10 W  
Less than 1% at 150 MW

Frequency  
Response:  $\pm 1$ dB; 20—20,000 Hz at 1 Watt

Load 4 ohms unbalanced  
Impedance: 8, 16, 25 ohms transformer isolated

Load Voltage: 28, 40, 57, 70.7 volts

Output  
Regulation: Less than 1dB

Noise Level: Better than 90dB below rated output

Controls: 1 program level; 1 power on-off

Indicators: Green—Power on; safe operation  
Red—Thermal overload; amplifier in  
protected mode

Power Supply 120V AC, 50/60 Hz  
(AC Line): 52 Watts at zero signal level  
282 Watts at 70 Watts output  
370 Watts at 200 Watts output

Operating  
Temperature: Full performance to 65° C (150° F)

Dimensions: Standard rack mount: 19"x8-3/4"  
(5 panel spaces) x 10" deep

Finish: Non-glare baked enamel; light grey

Shipping  
Weight: 56 pounds

Special  
Features: Special overload protection circuit  
Forced air cooling  
AC convenience outlet

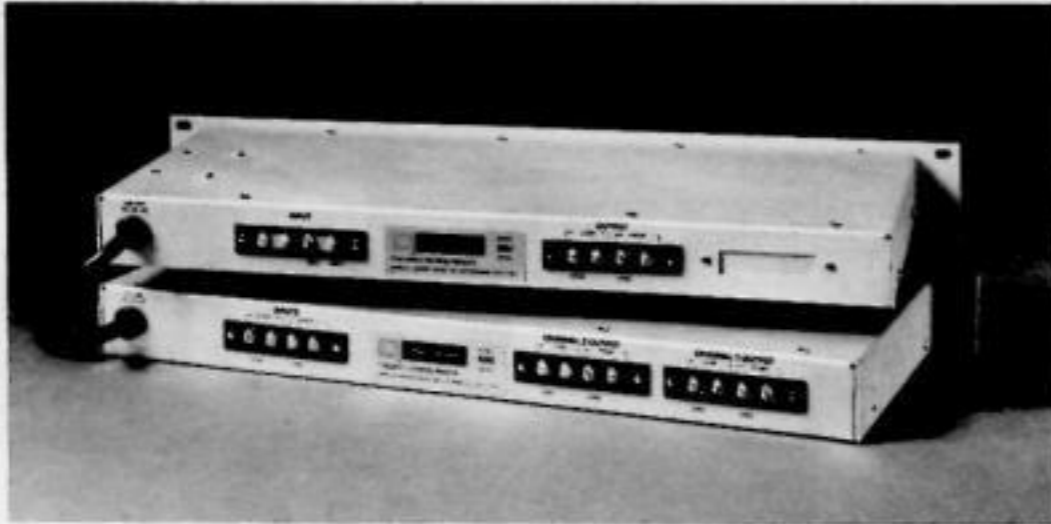
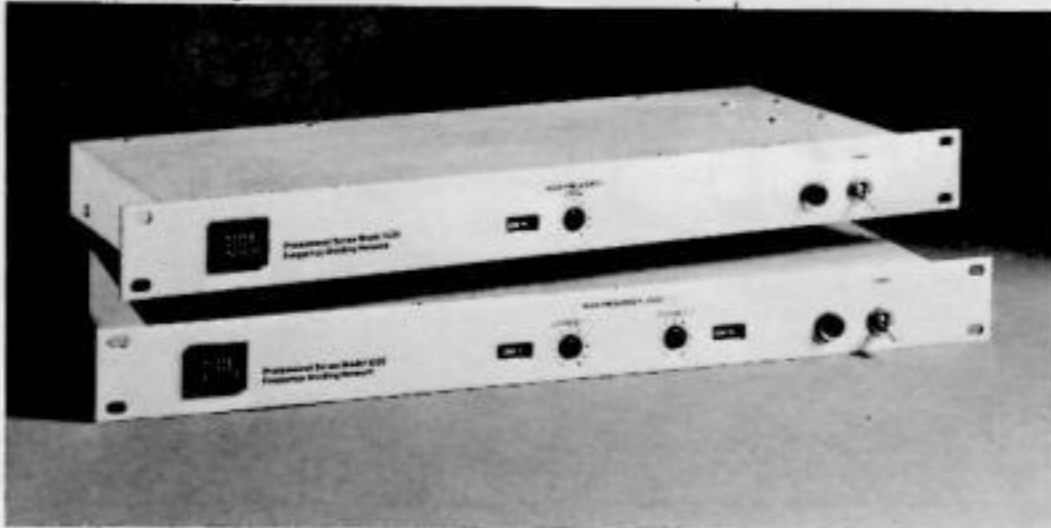
Accessories: 5195 matching/bridging transformer;  
plug-in

Warranty: 2 years



## 5231 and 5232 and 5120-5125 Cards.

These single and dual channel electronic crossover networks will be available in July.



*Bi-amplified and tri-amplified systems will be more easily constructed with these well designed products.*

The 5231 and 5232 Electronic Frequency Dividing Networks are designed for use with studio monitor or sound reinforcement loudspeaker systems where bi-amplification or tri-amplification is required. The use of electronic frequency dividing networks and multiple amplifiers results in a cleaner signal being fed from the power source directly to the loudspeakers of the system. Direct coupling to the loudspeakers also permits realization of the maximum damping factor inherent in the performance characteristics of the amplifier.

Model 5231, single channel, provides the electronic transition for one bi-amplified loudspeaker system. The 5232, a dual-channel unit, can be used for bi-amplification of two loudspeaker systems or to control both transitions of a tri-amplified system. The latter can be accomplished by utilizing one channel for the lower crossover frequency and the other channel for the high frequency transition.

Performance and operational characteristics of the two models are identical; they are maximally flat second order electronic crossover networks utilizing active filters. They exhibit unity gain in the pass band, provide adequate output to drive any quality amplifier and operate at extremely low distortion levels, even at full rated output. The crossover frequency is determined by inserting the proper printed circuit card into each channel's circuitry. Inserts are available for the following crossover frequencies: 250 Hz, 500 Hz, 800 Hz, 1200 Hz and 5 kHz. A blank card is also available for construction of circuitry to provide alternate crossover points.

Each channel is provided with a level control to allow attenuation of output above the selected crossover frequency.

## SPECIFICATIONS: 5231 Single Channel 5232 Dual Channel

Type: Active Electronic crossover.

Gain: 0dB in pass band.

Rated Output: 6.2 Volts (+18dB) into 2000 Ohms.

Distortion: Less than .5% THD, 20 Hz to 20,000 Hz rated output. Less than .2% THD, 20 Hz to 20,000 Hz at 10dB output.

Frequency  $\pm$  .5dB, 20 Hz to 20,000 Hz equivalent bandwidth.

Crossover Selectable by plug-in boards, 3dB Frequency: crossover point - 10%.

Filter Slope: 12dB per octave.

Input Impedance: Greater than 50,000 Ohms.

Load Impedance: 2,000 Ohms.

Output Impedance:  
Low: Less than 70 Ohms.  
High: Less than 40 Ohms with level control maximum c.w.  
Typically 940 Ohms with level control 50% rotation (20dB attenuation)

Channel Isolation: Greater than 60dB.

Noise Level: Greater than 90dB below rated output, 20Hz to 20,000 Hz.

Controls: One high-frequency level adjusts each channel; one on/off switch.

Power Requirement: 5 Watts, 115-230 VAC (Internal Strap), 50/60Hz

Operating Temperature: Up to 55°C.

Dimensions: 19"W x 1.75"H x 7.625"D.

Weight: 4 lbs. with accessory crossover boards installed.

## 5120-5125 Cards.

Accessories: Crossover cards (2 required for each unit).

- 5120—Blank card
- 5121—250 Hz crossover
- 5122—500 Hz crossover
- 5123—800 Hz crossover
- 5124—1200 Hz crossover
- 5125—5000 Hz crossover

## 4311

A modification of the 4310, called the 4311, is due for production in August 1973. The primary change will be the use of a new more efficient 2 inch HF unit. In addition, there is a slight change in the network and a lower system resonance. The port tube has been bent 90° to reduce port turbulence. Cabinet styling has been changed slightly. Since there is a small difference in sound character in the 4311, particularly at high SPL, the 4310 will continue to be available until, at least, November 1973.



The new Model 4311 will be priced the same as the 4310. For those customers who have no 4310's now, we highly recommend the 4311.

**JBL**

**Professional Series**

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