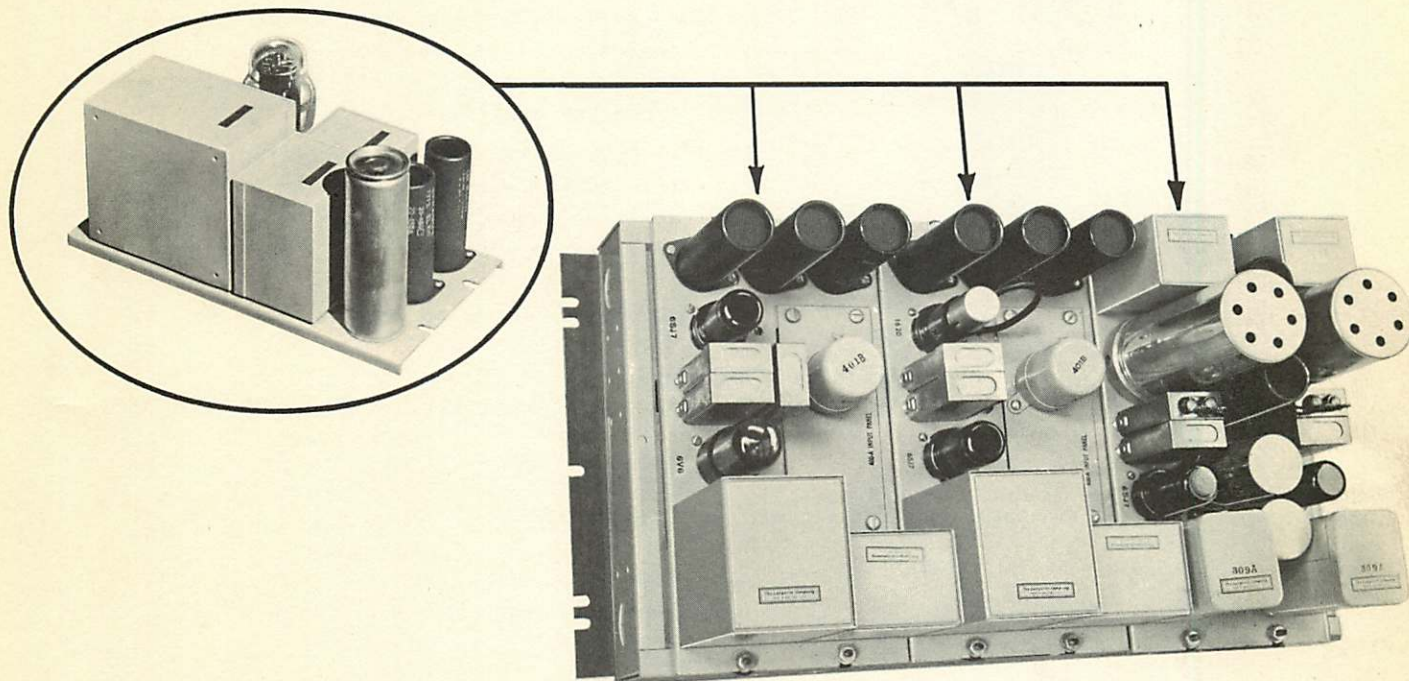


MICROPHONE TO LINE SERIES

BY
Langevin

TYPES ... 111 - 106 - 102 - 201



Rack mount assembly of Langevin "microphone to line" series reading from left to right Type 102-A, Program Amplifier; Type 106-B, Booster or Pre-Amplifier; and Type III-C, Pre-Amplifier or Booster. (Insert) 201-B Power Supply.

A complete line of Broadcast Audio facilities has been designed on the same size chassis for versatile arrangement in studio equipment racks. These units, as illustrated above, comprise a dual channel pre-amplifier, the Type III series; a single channel pre-amplifier and booster amplifier, the Type 106 series; a program amplifier, the Type 102 series; and a 75 MA power supply for these amplifiers, the Type 201 series.

Microphone to Line

Along with the Langevin Type 128-M (20 watt power monitor amplifier), these units form a complete "microphone to line" series. They are built to Langevin standards of high quality performance, and rugged mechanical construction. The chassis are of 16 gauge bonderized steel. The transformers are specially wound in our transformer shops and are given complete mechanical and electrical protection by impreg-

nating, baking, potting and encasing in steel housings. All components are conservatively rated.

Broadcast Specifications

FCC Broadcast specifications are rigidly adhered to by the Langevin Test Department so that each amplifier is a low noise level, minimum distortion unit with wide range frequency response--- ± 1 db from 30 to 15,000 cycles.

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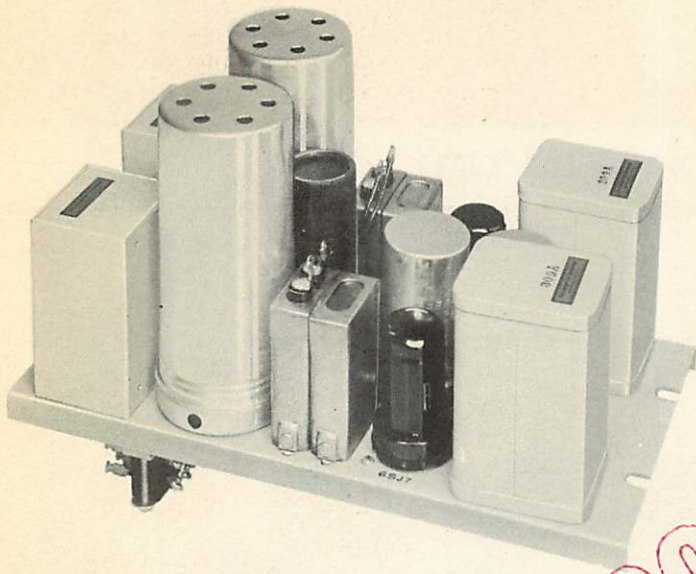
The equipment herein described is licensed under U.S. patents of the A. T. & T. Co. and the Western Electric Company.

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TYPE III SERIES PRE-AMPLIFIER AND/OR BOOSTER AMPLIFIER



The Langevin Type III series dual pre-amplifier or booster amplifier is constructed so that two separate amplifiers are provided on the same chassis. Each amplifier is an individual, two stage unit with its own input and output transformer and tube complement. This unit can be used as two pre-amplifiers, or two booster amplifiers. And, if studio equipment design requires, one side of the Type III can be employed as a pre-amplifier...the other as a booster amplifier.

Both of the two stage amplifiers on the Type III chassis are fixed, medium gain units. The entire chassis occupies only 1/3 of the space provided on a Langevin 3-A rack mounting frame (frame occupies 10-1/2 in. of standard rack space--see Mounting Details, page 4).

ELECTRICAL CHARACTERISTICS

Type III-C

SOURCE IMPEDANCE: 30, 250 or 600 Ohms.
LOAD IMPEDANCE: Nominal 600 Ohms.
OUTPUT POWER: +16 DBM (approximately .038 watt) with less than 1% Total RMS Harmonic Distortion at 400 cycles single frequency.
MAXIMUM GAIN: Approximately 47 db (fixed).
OUTPUT NOISE: Unweighted, equivalent to an input signal of -124 DBM (single frequency tone) over a band width of 20,000 cycles.

FREQUENCY CHARACTERISTIC: ± 1 db over the range 30 to 15,000 cycles.

EXTERNAL POWER REQUIREMENTS: Filament: 6.3 volts, 1.2 amperes; Plate: 275 volts, 16 MA.

TUBE COMPLEMENT: 2-1620's; 2-6SJ7's.

Type III-D

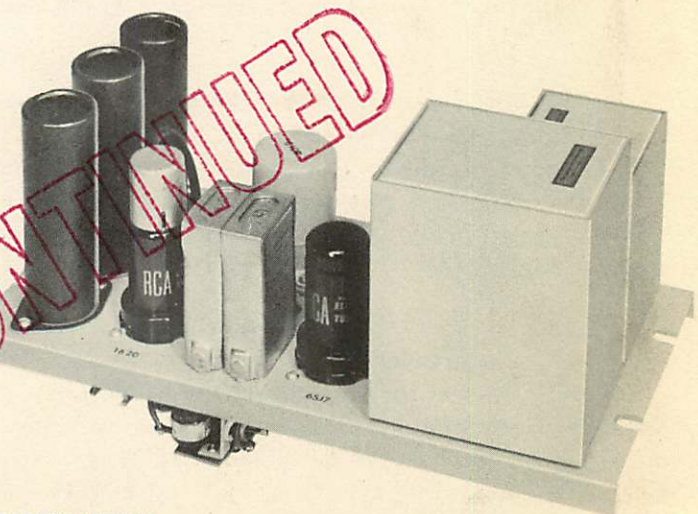
Same as Type III-C except:

SOURCE IMPEDANCE: 150 or 600 Ohms.

LOAD IMPEDANCE: 150 or 600 Ohms.

TYPE 106 SERIES PRE-AMPLIFIER AND/OR BOOSTER AMPLIFIER

For applications requiring the use of a single channel booster amplifier or pre-amplifier, the Langevin 106 is provided. This unit is two stage, has a fixed gain, and is constructed on the same size chassis as the Type III series dual pre-amplifier and 102 series program amplifier (10-1/4" x 5-1/4"). It occupies only 1/3 of the space provided on the Langevin 3-A Rack Mounting Frame (see Page 4 for mounting details).



ELECTRICAL CHARACTERISTICS

Type 106-B

SOURCE IMPEDANCE: 30, 250 or 600 Ohms.
LOAD IMPEDANCE: Nominal 150 or 600 Ohms.
OUTPUT POWER: +16 DBM (approximately .038 watt) with less than 1% Total RMS Harmonic Distortion at 400 cycles single frequency.
MAXIMUM GAIN: Approximately 38 db with provision for decreasing to 28 or 18 db.

OUTPUT NOISE: Unweighted, equivalent to an input signal of -118 DBM (single frequency tone) over a band width of 20,000 cycles.

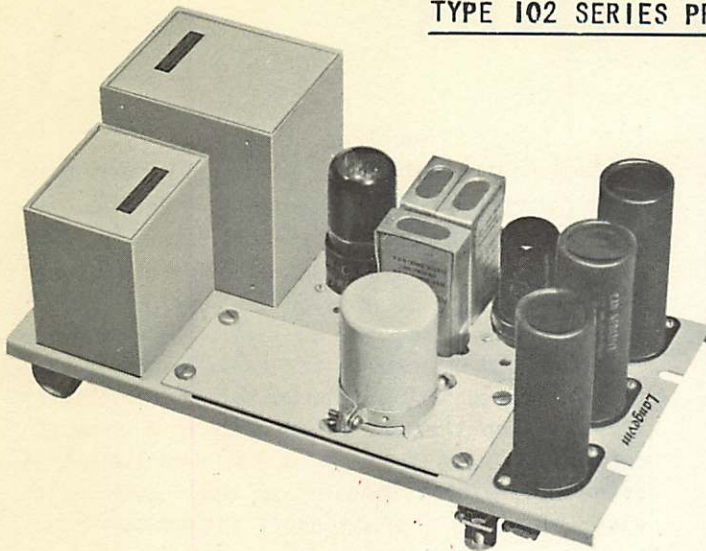
FREQUENCY CHARACTERISTIC: $\pm .5$ to 1 db over the range 30 to 15,000 cycles.

EXTERNAL POWER REQUIREMENTS: Filament: 6.3 volts, .6 amperes; Plate: 275 volts 8 MA.

TUBE COMPLEMENT: 1-1620; 1-6SJ7.

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TYPE 102 SERIES PROGRAM AMPLIFIER



Completing the series of Langevin standard rack mounting "microphone to line" amplifiers is the Type 102 series program amplifier. This unit is available with a choice of input panels (Amplifier Types 102-A and 102-D).

The 102 (output power +28 DBM) has sufficient power to drive a line at +8 VU allowing for a 6 db isolation pad, and 14 db of additional power to handle instantaneous peaks.

This two stage unit is constructed on a 10-1/4" x 5-1/4" chassis, and occupies only one third of the space available on a Type 3-A mounting frame. A special bracket is provided on the underside of the chassis to mount a Daven #950 T or H pad (or similar).

ELECTRICAL CHARACTERISTICS

Type 102-A

SOURCE IMPEDANCE: 30, 250 or 600 Ohms.
LOAD IMPEDANCE: Nominal 150 or 600 Ohms.
OUTPUT POWER: +28 DBM (approximately 0.6 watt) with less than 1% Total RMS Harmonic Distortion at 400 cycle single frequency.
MAXIMUM GAIN: Approximately 55 db with provision for decreasing to 45 or 35 db.
OUTPUT NOISE: Unweighted, equivalent to an input signal of -112 DBM (single frequency tone) over a band width of 20,000 cycles.
FREQUENCY CHARACTERISTIC: ± 5 to 1 db over the range 30 to 15,000 cycles.

EXTERNAL POWER REQUIREMENTS: Filament: 6.3 volts, 0.75 amperes; Plate: 275 volts, 31 MA.

TUBE COMPLEMENT: 1-6SJ7; 1-6V6 or 6V6GT.

Type 102-D

Same as Type 102-A except supplied with "bridging or 600 Ohm" input.

SOURCE IMPEDANCE: 600 Ohms or bridging input.

MAXIMUM GAIN: Bridging 600 Ohms - 36 db with provision for decreasing to 26 db or 16 db; Matching 600 Ohms - Same as Type 102-A.

VOLUME CONTROL: (not supplied) A 25,000 Ohm volume control can be connected in the bridging input.

TYPE 201 POWER SUPPLY

As illustrated on page one, the Type 201 series power supplies have been designed to supply plate and filament power for the Langevin series of rack mounting "microphone to line amplifiers" and similar units. The Type 201 is a 75 MA power supply and operates from a 105 to 125 volt, 50 or 60 cycle AC source. It is constructed on the same size chassis as the other Langevin rack mounting units, and can be mounted adjacent to them.

The Type 201-B incorporates an additional filter section for pre-amplifiers.

ELECTRICAL CHARACTERISTICS

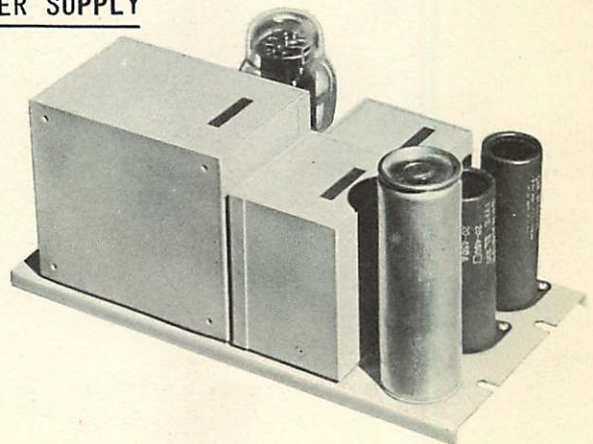
Type 201-A

INPUT: 105-125 volts, 50-60 cycle, single phase AC.

OUTPUT:

Plate Supply

	MA Output	with 5Y3GT or 274B Tube	with 5U4G Tube
Low Taps	75	220 V	245 V
	30	285 V	300V
	10	320 V	330 V
High Taps	75	260 V	280 V
	30	325 V	340 V
	10	365 V	375 V



Filament Supply: 6.3 volts at 8 amperes maximum with center tap.

POWER CONSUMPTION: 110 VA at 120 volts, full load.

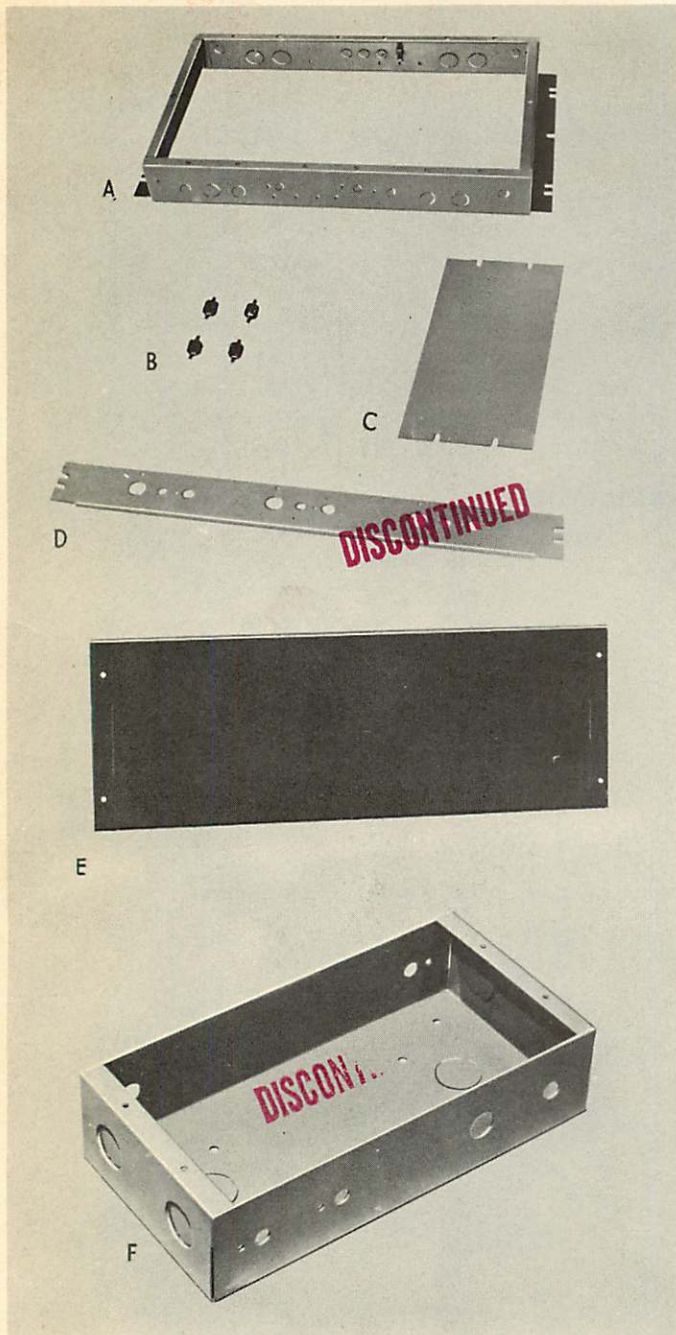
RIPPLE VOLTAGE: Approximately .04% at full power output (75 MA). Approximately .02% at 30 MA load.

Type 201-B

Same as Type 201-A except provides an additional filter section (Type 201-B retard coil and 40 mfd condenser) for pre-amplifiers, Langevin Type 111 series, Type 106 series, or similar.

RIPPLE VOLTAGE: Through 2nd filter section, considerably lower than ripple voltage for Type 201-A (see above).

MOUNTING DETAILS



Mounting Frame

Each of the units in the Langevin series of standard rack mounting "microphone to line amplifiers" is constructed on the same size chassis (10-1/4" x 5-1/4"). Three chassis of this size can be mounted on a Langevin Type 3-A Mounting Frame (see A - at left). This frame is equipped with knockouts for cable conduits, and for switches, volume controls, and indicator lamps, (when the 3-A is mounted in a Type 201 cabinet). The 3-A Frame is constructed of 16 gauge zinc plated, bonderized steel, and occupies only 10-1/2" of standard rack space.

Blank Plate

A blank plate, Type 2-A, (see Item C - at left) is available for covering any unused space on the 3-A Mounting Frame.

Controls Mounting Bracket

The 14-A Mounting Bracket, (illustrated at left - see D) has been designed to fit a standard relay type rack, and is available for mounting switches, neon indicator lamps, and volume controls for the rack mounting amplifiers, when they are mounted on a 3-A Frame.

Mat Panel

A 10-1/2" standard rack mat panel, Type 36-A, is available. This panel can be drilled to accommodate any controls, power switches, etc., for the "microphone to line" series.

Single Unit Mounting Frame

The Type 6-A Mounting Frame, (see F - at left), is available for mounting any of the units in the rack mounting series - 111, 106, 102 and 201 as a single unit.

Shock Mounts

Four special shock mounts (see B - at left) are provided with each unit in the "microphone to line" series. These mounts effectively insulate the amplifiers from vibration.

MECHANICAL CHARACTERISTICS

All Units in Langevin "microphone to line" rack mounting series

Chassis Size: Length: 10-1/4 in.
Width: 5-1/4 in.

Finish: Light Gray baked-on enamel over bonderized 16 gauge steel.

	Type 111	Type 106	Type 102	Type 201
Weight	6 lbs.	6 lbs.	8 lbs.	11½ lbs.
Shipping Weight	12 lbs.	12 lbs.	14 lbs.	17½ lbs.

