

SUMMARY DESCRIPTION AND SPECIFICATIONS  
OF  
LANGEVIN PRODUCTS

(all products listed herein are normally carried in stock for immediate shipment)

AMPLIFIERS

TYPE	DESCRIPTION
101-D	50 Watt Power Amplifier. Equipped with self-contained power supply. Source impedance: Match 500 ohms. Bridge 1 to 25,000 ohms. Output load impedance: 2/8/15/32/150 or 600 ohms.
3101-F	50 Watt Power Amplifier, with pre-amplifier stage for low impedance (30 or 250 ohms) microphones and phonograph pick-ups. Equipped with self-contained power supply. Output impedances same as 101-D.
3101-H	Same as 3101-F, except with pre-amplifier stage for high impedance microphones.
128	20 Watt Power Amplifier, equipped with self-contained power supply. Output load impedance: 2/8/16/32/150 or 600 ohms. (see page 2)
130-A	8 Watt Power Amplifier, equipped with self-contained power supply. Input impedance: 150/600/5000/20,000 ohms. Output impedance: 3.2/6.4/16/600 ohms.
116-B	Plug-in type two stage, medium gain, low noise pre-amplifier or booster amplifier. Input source impedance: 30/150/250/600 ohms. Output load impedance: 150 or 600 ohms. Gain 40 db with provisions for adjusting 34 db.
117-A	Plug-in type two stage, push-pull, fixed gain, line, program, booster or monitor amplifier. Input and output impedances same as 116-B. Gain 50 db.
3102	(Multi-Channel) master gain-line driver amplifier (102-F) and self-contained power supply (201-B) mounted on a type 3-A mounting frame. (see page 2)
102-A	Two stage fixed gain, microphone, line or program amplifier. Source impedance: 30/250 or 600 ohms. Load impedance: 150 or 600 ohms. Gain approximately 55 db with provisions for decreasing to 45 db or 35 db maximum.
102-B	Three stage electronic controlled variable gain, microphone, line or program amplifier. Similar to 102-A, except 103-A pre-amplifier input panel added. Source impedance: 30 or 250 ohms. Gain approximately 95 db with provisions for decreasing to 85 db or 75 db maximum.
102-D	Same as 102-A, except supplied with "Bridging or 600 Ohm" input. Gain approximately 55 db high gain and 36 db when bridging 600 ohms, with provisions for decreasing 10 or 20 db.
102-F	Same as 102-B, except with 103-B (special) pre-amplifier input panel for high impedance inputs. Maximum gain odb (.001 Watts) output with approximately 3.5 millivolts input.
103-A	Pre-amplifier input panel for source impedance of 30 db, 2500 ohms. Gain approximately 35 db.

103-C	Pre-amplifier input panel for high impedance inputs. Gain approximately 40 db.
123-A	Pre-amplifier equalized for General Electric or Pickering type phonograph pick-ups. Gain approximately 44 db.

NOTE: All pre-amplifier input panels are mounted on a plate 5-1/4" x 2-3/16" in size.

128 SERIES, 3102 SERIES ORDERING INFORMATION

When ordering a 128 series or a 3102 series amplifier, add the type designation letters of the input panels required to the type number of the basic amplifier, as follows:

Type 128-AB=Basic Type 128 amplifier with Types I-A and I-B input panels added.

Type 3102-BBHJ=Basic Type 3102 Amplifier with Two Types I-B, One Type I-H and One Type I-J added.

The 128 and 3102 series amplifiers may be ordered with the desired input panels installed at the factory or input panels may be ordered separately if desired.

AMPLIFIER TYPE	INPUT PANEL	DESCRIPTION
128 (basic)		20 Watt Power Amplifier. Utilizes one or two input panels listed below. Equipped with self-contained power supply.
3102 (basic)		Multi-channel driver amplifier for use with from one to four input panels. (see below). Equipped with master gain stage line (102-F) amplifier and self-contained (201-B) power supply. Mounted on a type 3-A mounting frame.
	I-A	Line level input panel (400-G) with transformer for matching 600 ohms; 35,000 ohms bridging 0-600 ohms. Supplied with Volume Control.
	I-B	Pre-amplifier input panel (103-A) for source impedance of 30 or 250 ohms. Supplied with volume control.
	I-E	Pre-amplifier input panel (103-C) for high impedance inputs. Supplied with volume control.
	I-H	Pre-amplifier, (123-A) equalized for GE or Pickering types of phono pick-ups. Supplied with volume control.
	I-J	Input panel (403-A) for high impedance radio tuners or equivalent. Supplied with two volume controls.
	I-M	Input panel (402-A) for monitor (Broadcast use) for source impedance of 30/150/250/600 ohms.
	I-Q	Input panel (404-A) similar to I-M, except supplied with 100-K volume control, and the input circuit is arranged for minimum "cross-talk" effect.

POWER SUPPLIES
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TYPE	A.C. LINE SUPPLY	PLATE SUPPLY	FILAMENT SUPPLY	TYPE RECTIFIER
201-B	105-125V. 50/60 Cycles	75 MA. Max. at 245 to 375V.	6.3V. 8 Amps.	5Y3GT or 5U4G
205-B	100-130V. 200-260V. 50/60 Cycles	425 MA. Max. at 220 to 300V. 150 MA. Max. at 180 to 260V.	(2)@6.3V. 8 Amps.	Selenium Cell
206-B*	105-125V. 210-250V. 50/60 Cycles	210 MA. Max. at 270 to 350V.	6.3V. 8 Amps.	Selenium Cell
208-A*	105-125V. 50/60 Cycles	110 MA. Max. at 275V.	6.3V. 8 Amps.	5Y3GT Tube
210-A*	105-125V. 210-250V. 50/60 Cycles	425 MA. Max. at 300V.	(2)@6.3V. 8 Amps.	Selenium Cell
211-A*	105/125V. 50/60 Cycles	3 Amps. Max. at 24V. D.C.	None	Selenium Cell
212-A	105/125V. 50/60 Cycles	10 Amps. Max. at 24V. D.C.	None	Selenium Cell

\*Plug-in Type Unit does not include 33-S Receptacle - SEE MISCELLANEOUS.

**MODIFICATION GROUPS**

TYPE	DESCRIPTION
7-A	Consists of mat panel, escutcheon plate and bracket for rack mounting 101-D amplifier.
19-A	Consists of 2 #4001 Grayhill Push Button Switches for metering tube circuits of 116-B pre-amplifier.
20-A	Consists of 4 #4001 Grayhill Push Button Switches, for metering tube circuits of 117-A pre-amplifier.
21-A	Consists of mat panel and bracket to rack mount Type 128 series amplifiers.
22-A	For adding low impedance microphone or phonograph input stage to 101-D Amplifier. (Modifies 101-D Amplifier to 3101-F) Consists of 103-A pre-amplifier, volume control and accessories.
23-A	For adding high impedance microphone input stage to 101-D amplifier. (Modifies 101-D Amplifier to 3101-H). Consists of 103-C pre-amplifier, volume control and accessories.
24-A	For adding high impedance microphone input stage to 128 basic amplifier. (Modifies 128 basic amplifier to 128-E). Consists of 103-C pre-amplifier, volume control and accessories.

**MOUNTING TRAYS AND FRAMES**

TYPE	DESCRIPTION
3-A	Occupies 10 $\frac{1}{2}$ " of rack space. Mounts 3 units, each 10 $\frac{1}{4}$ " x 5 $\frac{1}{4}$ " in size.
4-A	Size 5-7 $\frac{32}$ " x 10-5 $\frac{32}$ ". Occupies 1/3 of space available on a 3-A mounting frame. Mounts 4 type 103 series amplifiers.
5-A	Occupies 6-3 $\frac{4}$ " of rack space. Mounts 12 Type 602-A line isolation coils or equivalent.
7-A	Occupies 3 $\frac{1}{4}$ " of rack space. Mounts 7 Type 602-A line isolation coils or equivalent.
10-B	Occupies 7 $\frac{1}{2}$ " of rack space, 13" depth. Mounts 6 type 16-B trays or 4 type 17-B trays or 3 type 16-B trays and 2 type 17-B trays or 4 type 16-B trays and 1 type 17-B trays or 2 type 19-A trays or 1 type 20-A tray.
16-B	Occupies 2-3 $\frac{16}$ " width of 10-B mounting frame and mounts 1 type 116-B plug-in pre-amplifier.
17-B	Occupies 3 $\frac{1}{2}$ " width of 10-B mounting frame and mounts 1 type 117-A plug-in program amplifier or 1 type 208-A plug-in power supply.
19-A	Occupies 8-3 $\frac{4}$ " width of 10B mounting frame and mounts 1 type 206-B plug-in power supply or 1 type 211-A plug-in power supply.
20-A	Occupies 14 $\frac{1}{4}$ " width of 10-B mounting frame and mounts 1 type 210-A plug-in power supply.

CABINETS

TYPE	DESCRIPTION
201-A	Accommodates amplifier type 101-D, 3101-F and H, 3102 series and is suitable for wall or shelf mounting.
202-A	Accommodates Langevin Type 128 series amplifiers and is suitable for wall or shelf mounting.

NOTE: Cabinets are finished in dark gray baked-on enamel.

BLANK MAT PANELS  
(RMA Standard Width 19")

TYPE	31-B	32-A	33-A	34-A	35-A	36-A	37-A	38-A
PANEL SPACE COVERED	1 $\frac{3}{4}$ "	3 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "	7"	8 $\frac{3}{4}$ "	10 $\frac{1}{2}$ "	12 $\frac{1}{4}$ "	14"

NOTE: Panels are finished in dark grey baked-on enamel. Each Panel supplied with chrome finish Binder Head Mounting screws and spacers. (Dark umber grey finish available upon request).

MISCELLANEOUS

TYPE	DESCRIPTION
1-A	Pilot light assembly for 128 series amplifiers. Consisting of socket, neon lamp, plastic lamp cover and 4000 ohm resistor.
1-A	Remote Control Unit wired for use with Langevin Types 3102 series amplifiers, 103-A or 103-C pre-amplifiers. Provisions for control of four pre-amplifiers and one master gain control. Mounted in a 5" x 9-1/2" x 6-1/4" size slope front type steel cabinet, finished in baked-on aluminum grey enamel and is equipped with rubber feet.
1-A	Blank Plate 5-7/32" x 2-3/16" in size, with mounting hardware. Covers unused space normally occupied by 103-A amplifier.
2-A	Blank Plate 10-5/32" x 5-7/32" in size, with mounting hardware. Covers unused space on Type 3-A Mounting Frame.
33-S	Receptacle (Cannon DPB-B14-33S) Mates with plugs on all PLUG-IN type amplifiers and power supplies.
506	Tube Check Meter (Weston 506 Special) 3" sq. face, black background, white lines and letters with special calibrated scale, for checking cathode current of individual tubes in 116-B and 117-A amplifiers.
301	Rubber Shock Mounts (U.S. Rubber 301). For supporting mounting frames. Dimensions of rubber cushion $\frac{1}{2}$ " x $\frac{1}{2}$ ". Supplied with mounting hardware.

*This schedule lists the standard line of LANGEVIN amplifiers, power supplies and accessories.*

*Our Engineering Department is equipped to design high quality, special purpose units for production to your order.*

**DESCRIPTIVE LITERATURE AVAILABLE UPON REQUEST.**

## TRANSFORMER AND FILTER REACTOR SPECIFICATIONS

### POWER TRANSFORMERS

TYPE	PRIMARY VOLTAGE 50/60 CYCLES	PLATE WINDINGS	FILAMENT WINDINGS	CASE NO. OR SIZE* WIDTH x DEPTH x HEIGHT
100-B	110-120	430-0-430, 300 MA	5V-6A 6.3V CT - 8A	Special 5 A 5-15/16 High
100-C	115/120 230/240	430-0-430 300 MA	5V-6A 6.3V CT - 8A	Special 5 A 5-15/16 High
101-D	110-120	430-395-0- 395-430 140 MA	5V-3A 6.3V CT - 5A	5 A
102-A	110-120	260-230-0- 230-260, 75 MA	5V-3A 6.3V CT - 8A	4 A
105-B	105-115-125-210 220-230-240-250	20-0-325 392-402 425 MA	None	5-1/2 A
106-B	Same as 105-B	None	6.3V CT - 6A	4 A
107-C	110-120	0-40-420-430-450 210 MA	None	5 A
108-B	117	350-0-350 100 MA	5V-2A 6.3V - 2.3 A	3-1/8 x3-1/8 x 3
110-B	105-110-115 120-125 98-100-96	144 VA Auto Power 0-48-49-50 144 VA	None	5 A
111-B	110-120 220/240	None	6.3 - 8A	3 A
112-B	110-120	440-400-400-440 110 MA	5V - 2A 6.3V - 4.5A	3-13/16 x3-1/8 x 3-7/8
113-A	104-107-110	40-44-45 500 Watts	None	7-1/2 x 5 x 7-1/2

\*See last page for dimensions of "A" series cases.

### FILTER REACTORS

TYPE	INDUCTANCE	D. C. RATING FOR STATED INDUCTANCE	D. C. RESISTANCE	INSULATION TEST VOLTAGE	CASE NO. OR SIZE WIDTH x DEPTH x HEIGHT
200-B	6 HY	280 MA	100 Ohms	1500	4 A
201-A	30 HY	30 MA	800 Ohms	1000	1 A
202-A	5-1/2 HY	140 MA	200 Ohms	1000	2-7/8 x 2-7/16 x 2
204-A	12 HY	80 MA	250 Ohms	1500	2 A
205-A	10 HY	140 MA	200 Ohms	1500	3 A
211-A	1-3/4 HY	425 MA	27 Ohms	1500	4 A
212-A	18 HY	150 MA	230 Ohms	1250	4 A
213-A	4-1/2 HY	210 MA	100 Ohms	1500	3 A
214-A	2 HY	100 MA	75 Ohms	1000	1-56/64x1-1/4 x 1-9/16
215-A	4 HY	210 MA	70 Ohms	1500	Special 3 A
(Dual Choke)	4 HY	210 MA	70 Ohms	1500	5
216-A	12 HY	.124 A	182 Ohms	1000	2-15/16x2-9/16x 5
(Dual Choke)	12 HY	.124 A	182 Ohms	1000	
217-A	.043 HY	2. A	.017 Ohms	1250	5-1/2 x 5 x 7-1/2

### OUTPUT TRANSFORMERS

(Frequency Response  $\pm$  db 30 to 20,000 Cycles)

TYPE	PRIMARY IMPEDANCE	SECONDARY IMPEDANCE	OPERATING LEVEL	CASE NO. OR SIZE WIDTH x DEPTH x HEIGHT
307-A	2800 Ohms plate to plate C.T.	500/125/4	15 Watts	4 A
308-A	4000 Ohms	600/150	1 Watt	3 A (Electro-Magnetic Shielding)
309A	16,000 Ohms	600/150	+16 DBM	(Electro-Magnetic Shielding) 2-3/8 x 1-3/4 x 3-1/4
311-C (Hum-bucking plate to plate C.T. construction)	10,000 Ohms	600/150 Tertiary feed-back winding	+40 DBM	3 A (Electro-Static Shielding)
313-A	16,000 Ohms	600/150 Tertiary feed-back winding	+20 DBM	(Electro-Magnetic Shielding) 2-1/8 x 1-3/4 x 3-1/4
314-A	16,000 Ohms	600/150	+16 DBM	(Electro-Magnetic Shielding) 3 A
316-A	3700 Ohms plate to plate C.T.	600/150/32/16/8/2 Tertiary feed-back winding	50 Watts	6 x 4-1/2 x 5-15/16
317-A	6800 Ohms plate to plate C.T.	600/150/32/16/8/2 Tertiary feed-back winding	20 Watts	4A
320-A	10,000 Ohms plate to plate C.T.	600/6.4/3.2 Tertiary feed-back winding	10 Watts	3 x 2-1/2 x 2-13/16



INPUT TRANSFORMERS

TYPE	SOURCE IMPEDANCE (OHMS)	SECONDARY IMPEDANCE (OHMS)	MAXIMUM OPERATING LEVEL (DBM)	REMARKS	CASE NO. OR SIZE DIAMETER - HEIGHT	
400-D	600 and bridging (15,000)	60,000 to single grid	+10	Electromagnetic Shield	1-3/8	1-13/16
401-B	30/250/600	30,000 single or push-pull grids C.T.	+10	Electromagnetic Shield	1-3/8	1-13/16
402-B	30/120 nominal	50,000 to single grid	+10	Electromagnetic Shield working range of 120 ohm tap, 60 to 250 ohms	1-3/8	1-13/16
403-A	600 and bridging (15,000)	100,000 single or push-pull grids C.T.	+10	Electromagnetic Shield	1-3/8	1-13/16
404-A	30/250/600	108,000 single or push-pull grids C.T.	+10	Triple Electro-magnetic Nickel Alloy Shielding	0A	
406-A	150/600	108,000 single or push-pull grids C.T.	+10	Triple Electro-magnetic Nickel Alloy Shielding & Electrostatic Shield grounded internally	0A	
408-A	600/150 C.T. 37.5/340	65,000 single or push-pull grids C.T.	+10	Electromagnetic Shield, also Electrostatic Shield brought out for external connection	1-3/8	1-13/16
408-B	600/150 C.T. 37.5/340	65,000 single or push-pull grids C.T.	+10	Triple Electro-magnetic Nickel Alloy Shielding also Electrostatic Shield brought out for external connection	0A	
409-A	150 CT/600 CT Balanced Construction	125,000 single or push-pull grids C.T.	+10	Double Electro-magnetic Nickel Alloy Shielding also Electrostatic Shield brought out for external connection. Hum-Bucking Construction minimizes pick-up	0A	
412-A	150/600 C.T.	60,000 to single grid	+10	Electromagnetic Shield	1-3/8	1-13/16

**LINE ISOLATION AND BRIDGING TRANSFORMERS**

TYPE	PRIMARY IMPEDANCE (OHMS)	SECONDARY IMPEDANCE (OHMS)	INSERTION LOSS AT 1000 CYCLES	FREQUENCY RESPONSE	MAXIMUM OPERATING LEVEL	CASE SIZE
602-A (Balanced Line Isolation)	150/600	150/600	.5 db	±1 db from 30 to 20,000 cycles	+18 DBM	2 A
602-B (Balanced Line Isolation)	150/600	150/600	1.6 db	±.5 db from 20 to 20,000 cycles	+40 DBM	2 A
602-C (L-1783)	150/600 C. T.	150/600 C. T.	Same as 602-B	Same as 602-B	Same as 602-B	2 A
606-A (Bridging)	48,000/12,000	600/150	Bridging loss: 24/18 db - 600 ohms 30/24 db - 150 ohms	±.5 db from 30 to 20,000 cycles	+40 DBM	2 A

**LINE TO VOICE COIL TRANSFORMERS**

TYPE	PRIMARY IMPEDANCE (OHMS)	SECONDARY IMPEDANCE (OHMS)	INSERTION LOSS AT 1000 CYCLES	FREQUENCY RESPONSE	MAXIMUM OPERATING LEVEL	CASE NO. OR SIZE HEIGHT-MTG CTRS.
609-B	500/1000/ 1500/2000/ 3000/3500/ 4000/6000/ 8000	3.2/6.5	.7 db	±1 db from 50 to 10,000 cycles	5 watts	Channel Construction 2-3/4 2-13/16
611-A	150/600	3.2/6.5	.5 db	±.5 db from 50 to 15,000 cycles	10 watts	Channel Construction 2-3/4 3-9/16
612-A	1000 to 128,000 (5 watts to to 10 milliwatts in 3 db steps)	3.2/6.5	.5 db	±1 db from 50 to 10,000 cycles	5 watts	Channel Construction 3-1/8 3-1/8
615-A (T-201-A) (L-900)	1000/1500/ 2000/2500 3000/4000 750/500	6-8	.7 db	±1 db from 50 to 10,000 cycles	10 watts	Channel Construction 3-1/8 3-1/8
616-A (L-1215)	150/600	6.5/13	.5 db	±.5 db from 50 to 15,000 cycles	10 watts	Channel Constuc-tion 2-3/4 3-9/16

**AC LINE AUTO TRANSFORMERS**

TYPE	VOLTAGE	MAXIMUM RATING (V. A)	CASE SIZE	NET WEIGHT (LBS.)
800-A	220/110	250	5 A	10.25
801-A	220/110	500	6 A	16.5
803-A	230/115	75	4 A	8
806-A	125/120/115/ 110/105	500	4 A	6

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*Write for quotations on your requirements for special audio, power, modulator, or other units.*

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MARCH 15, 1952

**CASE DIMENSIONS**

(In Inches)

TYPE	A	B	C	D	E
0A	1-55/64	1-41/64	3	Single stud Mounting	11/16
1-A	2-7/16	2	2-7/8	5/8	13/16
2-A	2-3/4	2-3/8	3-3/16	3/4	15/16
3-A	3-1/16	2-9/16	3-5/8	7/8	1-1/16
4-A	4-1/2	3	3-7/8	!	1-3/4
5-A	5	3-7/8	5	1-7/16	2
5½-A	5	4-1/2	5	1-13/16	2
6-A	5	5-1/8	5	2-1/16	2

