



**CINEMA**

AUDIO FREQUENCY **AMPLIFIERS**

**CINEMA ENGINEERING**  
DIVISION AEROVOX CORPORATION  
BURBANK, CALIFORNIA

CATALOG 716-CA



# AUDIO FREQUENCY AMPLIFIERS

## Laboratory Type

For Scientific Laboratories — Broadcast and TV Program Equipment  
Tape and Disc Recording Equipment — High Fidelity Sound Systems  
Motion Picture Film Recording Equipment.

Cinema Amplifiers represent the finest quality to be offered for use by the trade. These amplifiers are especially adapted for large multiple installations as well as small individual applications. Cinema amplifiers' performance and quality are recognized throughout the world. Moderate price, with quality and consistent performance, has been a Cinema criterion over the past many years.

Cinema Amplifiers use custom-built transformers and other high quality components to provide consistent performance and reli-

ability demanded by our discriminating customers. All feedback is designed within Cinema Amplifiers. Neither input nor output transformers are included in the feedback loop—thus providing complete isolation. This detail is very important to the flexible operation of quality equipment.

The new standardized plug-in chassis assembly has greatly enhanced the Cinema Amplifier line by increasing further its flexibility of application. All specifications listed in this catalogue are based on nominal vacuum tube characteristics.

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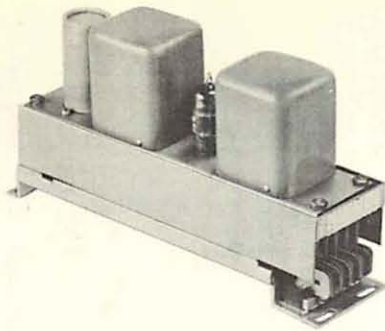
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# PLUG-IN TYPE 101-AX PRE-AMPLIFIER

The 101-AX Pre-Amplifier is a laboratory plug-in type, using highest quality components assuring maximum stability. Uniformity of performance makes this amplifier well suited for large multiple installations.

**CIRCUIT FEATURES:** Uses single 12AX7 tube with triode sections in cascade, providing

two stages of amplification. Precision, non-inductive, wire-wound resistors are used in all important elements of circuit. Triple mu-metal shielding in input transformer. Internal RC filter provides decoupling and smoothing of high voltage, 22½ db feedback gives this amplifier extra stability.

## SPECIFICATIONS

**FREQUENCY RANGE:** 20 to 20,000 cps response plus or minus ½ db. See typical response in chart at bottom of this page.

**GAIN:** 42 db and 32 db, fixed. Gain easily changed on exposed terminal board.

**OUTPUT LEVEL:** Plus 4 dbm.

**OUTPUT IMPEDANCES:** To work into 30-50, 125-150 ohm unbalanced line; 200-250, 500-600 ohm balanced line. Easily changed on exposed terminal board.

**MAXIMUM INPUT LEVEL:** Minus 38 dbm or minus 28 dbm.

**INPUT IMPEDANCES:** 30-50, 125-150 ohm unbalanced line. 200-250, 500-600 ohm balanced line. Easily changed on exposed terminal board.

**NOISE LEVEL:** 80 db below plus 4 dbm output level using direct current on tube heaters. With alternating current on tube heaters, the noise level is approximately 65 db below 4 dbm output level.

**INTERMODULATION:** Does not exceed 2% at plus 4 dbm. A 12-kc carrier was modulated by 40 cps at a ratio of 1 to 4 to obtain this data. See typical amplifier test chart at bottom of this page.

**DISTORTION:** In the range of 50 to 15,000 cps, the harmonic distortion does not exceed ½% at plus 4 dbm.

**TUBE COMPLEMENT:** One 12AX7.

**SHIELDING:** Three mu-metal shields in input transformer. Entire assembly and wiring shielded from stray electro-static fields.

**POWER REQUIREMENTS:** 300 volts dc at 3 ma and 6.3 volts ac at 300 ma.

**RECOMMENDED POWER SUPPLIES AND FILTERS:** Cinema Type HV-1 High Voltage Supply, Cinema Type LV-1 Low Voltage Supply.

**TERMINALS:** Solder type (part of connector in base mounting plate). Especially well adapted to multiple installations.

**MECHANICAL FEATURES:** Four shock mounts provided on chassis for reduction of microphonics. Entire amplifier chassis made of 16 ga. steel. Plug-in chassis includes ten-circuit connector with solid nickel silver contact springs. Connector spring arrangement can be adjusted to provide load on heater supply circuit when chassis is removed.

**SUGGESTED MOUNTING:** Cinema Type 346 Series Mounting Frames.

**MOUNTING CENTERS:** 1½" x 9¾". Use 8-32 machine screws.

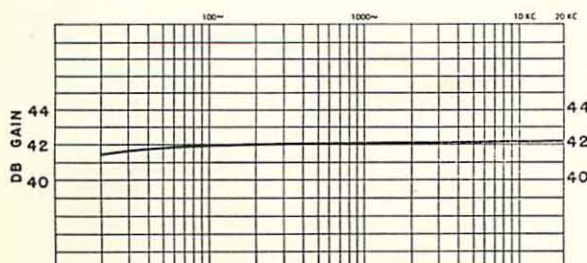
**CUBIC DISPLACEMENT:**

Without mounting base .....2½" x 9½" x 5¼".  
With mounting base.....2⅝" x 10¼" x 6⅜".

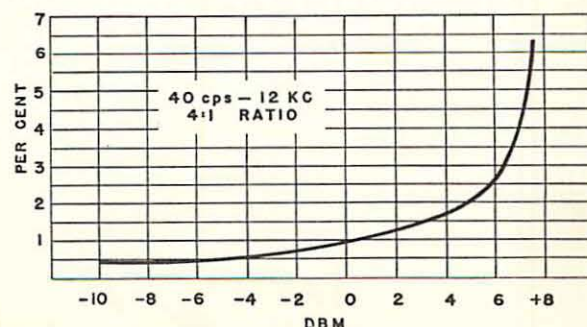
**NET WEIGHT:** With base 4½ lbs. Less Base 4 lbs.

**SHIPPING WEIGHT:** Approximately 5 lbs.

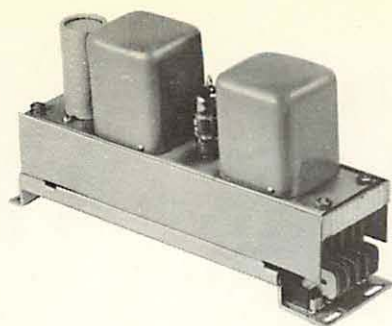
### RESPONSE CHARACTERISTICS



### INTERMODULATION







# PLUG-IN TYPE 101-BX MICROPHONE PRE-AMPLIFIER

The 101-BX Microphone Pre-Amplifier is a laboratory type, plug-in amplifier specifically designed only for use with microphones of 30 to 50 ohms impedance. This amplifier is designed for distant microphone pickup, such as 6 to 10 feet. The highest quality components are used, assuring maximum stability. Uniformity of performance makes this amplifier well suited for large multiple installations.

**CIRCUIT FEATURES:** Uses single 12AY7 tube with triode sections in cascade, providing

two stages of amplification. Built especially for low level microphone service, the 101-BX gives you gain ahead of the noise source (the tube), which effectively reduces the noise level 10 db below conventional pre-amplifiers. Precision, non-inductive, wire wound resistors are used in all important elements of the circuit. Triple mu-metal shielding in input transformer. Internal RC filter provides decoupling and smoothing of high voltage. 22 db feed-back gives this amplifier extra stability.

## SPECIFICATIONS

**FREQUENCY RANGE:** 20 to 20,000 cps response plus or minus 1/2 db. See typical response in chart at the bottom of this page.

**GAIN:** 50 and 40 db fixed. Gain easily changed on exposed terminal board. Gain measurement in accordance Bulletin C1016.

**OUTPUT LEVEL:** Plus 4 dbm.

**SOURCE IMPEDANCE:** Microphones of 30 to 50 ohms.

**OUTPUT IMPEDANCES:** To work into 30-50, 125-150 ohm unbalanced line; 200-250, 500-600 ohm balanced line. Easily changed on exposed terminal board.

**MAXIMUM INPUT LEVEL:** Minus 46 dbm or minus 36 dbm.

**NOISE LEVEL:** 82 db, below 4 dbm output level using direct current on tube heaters. With alternating current on tube heaters, the noise level is approximately 65 db below plus 4 dbm output level. Built especially for low level microphone service, the 101-BX gives you gain ahead of the noise source (the tube) this; with differences in loading effectively increases the signal-to-noise ratio by 10 db over conventional pre-amplifiers. Write for Bulletin C1016 for complete details.

**INTERMODULATION:** Does not exceed 2% at plus 4 dbm. A 12-kc carrier was modulated by 40 cycles at a ratio of 1 to 4 to obtain this data. See typical amplifier test chart at bottom of this page.

**DISTORTION:** In the range of 50 to 15,000 cps, the harmonic distortion does not exceed 1/2% at plus 4 dbm.

**TUBE COMPLEMENT:** One 12AY7. (A 12AX7 tube may be substituted with an increase in noise level and microphonics. Gain increase will be 1.25 db.)

**SHIELDING:** Three mu-metal shields in input transformer. Entire assembly and wiring shielded from stray electro-static fields.

**POWER REQUIREMENTS:** 300 volts dc at 4.5 ma and 6.3 volts ac or dc at 300 ma.

**RECOMMENDED POWER SUPPLIES AND FILTERS:** Cinema Type HV-1 High Voltage Supply, Cinema Type LV-1 Low Voltage Supply.

**TERMINALS:** Solder type (part of connector in base mounting plate). Especially well adapted to multiple installations.

**MECHANICAL FEATURES:** Four shock mounts provided on chassis for reduction of microphonics. Entire amplifier chassis made of 16 ga. steel. Plug-in chassis includes ten-circuit connector with solid nickel silver contact springs. Connector spring arrangement can be adjusted to provide load on heater supply circuit when chassis is removed.

**MOUNTING CENTERS:** 1 1/2" x 9 3/4". Use 8-32 machine screws.

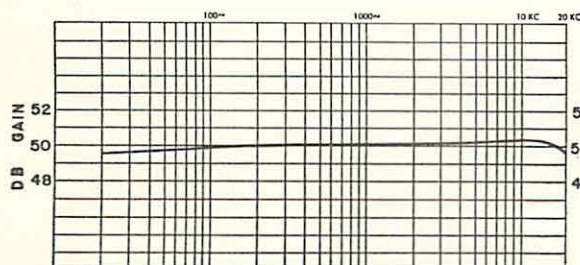
**SUGGESTED MOUNTING:** Cinema Type 346 Series Mounting Frames.

**CUBIC DISPLACEMENT:**  
Without Mounting Base ..... 2 1/2" x 9 1/2" x 5 1/4"  
With mounting base ..... 2 5/8" x 10 1/4" x 6 3/16".

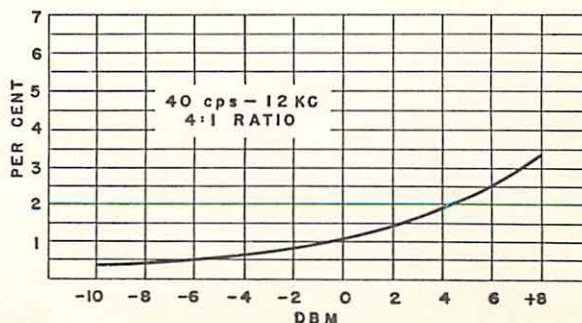
**NET WEIGHT:** With Base, 4 1/2 lbs. Less Base, 4 lbs.

**SHIPPING WEIGHT:** Approximately 5 lbs.

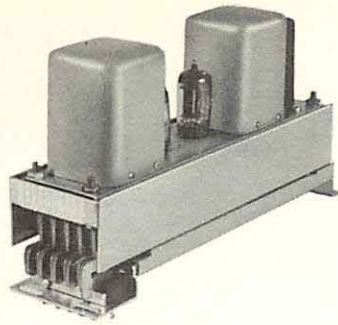
## RESPONSE CHARACTERISTICS



## INTERMODULATION







# PLUG-IN TYPE 102-AX LINE AMPLIFIER

The 102-AX Line Amplifier is a laboratory plug-in type using highest quality components assuring maximum stability. Uniformity of performance makes this amplifier well suited for large multiple installations. As an intermediate amplifier it may be used following pre-amplifier stages or as a line booster. More than enough power capacity is built into this amplifier to handle requirements of telephone lines and bridge busses.

**CIRCUIT FEATURES:** Two stages of push-pull amplification are provided by using the triode sections of two dual triode tubes. Precision, non-inductive, wire-wound resistors are used in all important elements of circuit. Triple mu-metal shielding used in input transformer. Internal RC filter provides decoupling and smoothing of high voltage. 16½ db feedback gives amplifier extra stability.

## SPECIFICATIONS

**FREQUENCY RANGE:** 20 to 20,000 cps response plus or minus 1 db. See typical response in chart at bottom of this page.

**GAIN:** 42 db, fixed.

**OUTPUT LEVEL:** Plus 24 dbm.

**OUTPUT IMPEDANCES:** To work into 30-50, 125-150 ohm unbalanced line; 200-250, 500-600 ohm balanced line. Easily changed on exposed terminal board.

**MAXIMUM INPUT LEVEL:** Minus 18 dbm.

**INPUT IMPEDANCES:** 30-50, 125-150 ohm unbalanced line; 200-250, 500-600 ohm balanced line. Easily changed on exposed terminal board.

**NOISE LEVEL:** 95 db below plus 24 dbm output level using direct current on tube heaters. (With alternating current on tube heaters, the noise level is approximately 79 db below plus 24 dbm output level.)

**INTERMODULATION:** Does not exceed 2% at plus 24 dbm. A 12-kc carrier was modulated by 40 cycles at a ratio of 1 to 4 to obtain this data. See typical amplifier test chart at bottom of this page.

**DISTORTION:** In range of 50 to 7500 cycles harmonic distortion does not exceed ½% at rated level of plus 24 dbm.

**TUBE COMPLEMENT:** One 12AU7 and one 12AX7.

**SHIELDING:** Three mu-metal shields in input transformer. Entire assembly and wiring shielded from stray electro-static fields.

**POWER REQUIREMENTS:** 300 volts dc at 17½ ma and 6.3 volts ac or dc at 600 ma.

**TERMINALS:** Solder type (part of connector in base mounting plate). Especially well adapted to multiple installations.

**RECOMMENDED POWER SUPPLIES AND FILTERS:** Cinema Type HV-1 High Voltage Supply, Cinema Type LV-1 Low Voltage Supply.

**MECHANICAL FEATURES:** Four shock mounts provided on chassis for reduction of microphonics. Entire amplifier chassis made of 16 ga. steel. Plug-in chassis includes ten-circuit connector with solid nickel silver contact springs. Connector spring arrangement can be adjusted to provide load on heater supply circuit when chassis is removed.

**MOUNTING CENTERS:** 1½" x 9¾". Use 8-32 machine screws.

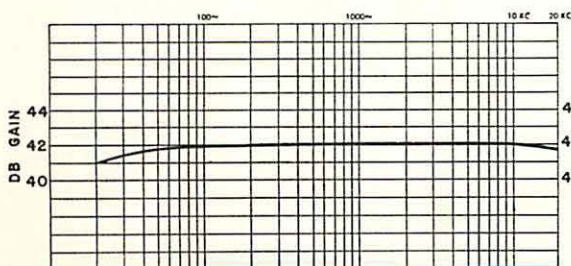
**SUGGESTED MOUNTING:** Cinema Type 346 Series Mounting Frames.

**CUBIC DISPLACEMENT:**  
Without Mounting Base .....2½"x9½"x5¼".  
With mounting base.....2⅝" x 10¼" x 6⅜".

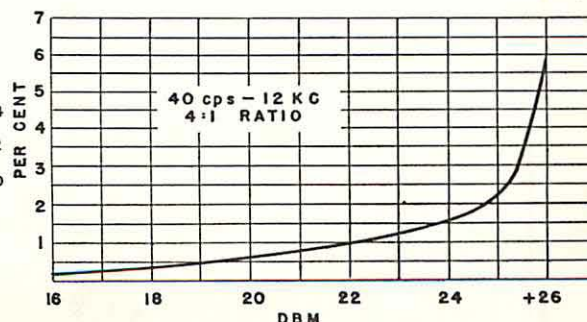
**NET WEIGHT:** With Base, 4½ lbs. Less Base, 4 lbs.

**SHIPPING WEIGHT:** Approximately 5 lbs.

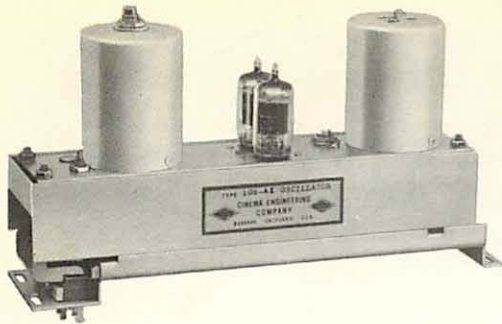
RESPONSE CHARACTERISTICS



INTERMODULATION







# PLUG-IN TYPE 106-AX OSCILLATOR FOR MAGNETIC RECORDER (Bias, Mixing, Circuit and Wave Trap)

The 106-AX Oscillator is a laboratory plug-in type, using highest quality components, assuring maximum stability. Uniformity of performance makes this oscillator well suited for large multiple installations. Especially built for magnetic film recording, the 106-AX Oscillator includes a mixing circuit and wave trap in addition to 60 kc bias. Made to work out of an unterminated 500/600 ohm unbalanced program line, and into a recording head of an inductance of 2-3 millihenries. Pre-equalization is not used in the 106-AX

as the necessary post-equalization is provided in the 107-AX ( ) series of equalizer pre-amplifiers.

**CIRCUIT FEATURES:** A single push-pull LC Oscillator stage is followed by a push-pull buffer stage using the triode sections of two dual triode tubes. Precision non-inductive wire wound resistors are used in all important elements of the circuit. (All inductances are tunable, providing variable elements for adjustable frequency control and (adjustable) alignment of harmonic suppression filter and wave trap.

## SPECIFICATIONS

**FREQUENCY RANGE:** 20 to 20,000 cps response plus or minus 1/2 db (program line). (Oscillator frequency 60 kc).

**GAIN:** None.

**OUTPUT LEVEL:** 50 ma. at 60 kc (program level plus 8 dbm).

**OUTPUT IMPEDANCES:** To work into 2-3 Milli-henry recording heads.

**MAXIMUM INPUT LEVEL:** Plus 8 dbm.

**NOISE LEVEL:** Oscillator provides excellent sinusoidal wave form, resulting in a complete absence of noise from this source. (Wave form of bias frequency with harmonic content creates noise in recording background).

**INTERMODULATION:** None.

**DISTORTION:** None.

**TUBE COMPLEMENT:** Two 12AU7 tubes.

**SHIELDING:** Entire assembly and wiring shielded from stray electro-static fields.

**POWER REQUIREMENTS:** 180-300 vdc at 19-32 ma. and 6.3 vac or dc at 600 ma.

**TERMINALS:** Solder type (part of connector in base mounting plate). Especially well adapted to multiple installations.

**RECOMMENDED POWER SUPPLIES:** Cinema Type HV-1 High Voltage Supply, Cinema Type LV-1 Low Voltage Supply.

**MECHANICAL FEATURES:** Four shock mounts provided on chassis for reduction of microphonics. Entire oscillator chassis made of 16 ga. steel. Plug-in chassis includes ten-circuit connector with solid nickel silver contact springs. Connector spring arrangement can be adjusted to provide load on heater supply circuit when chassis is removed.

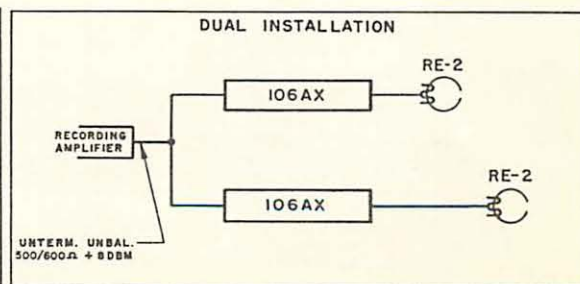
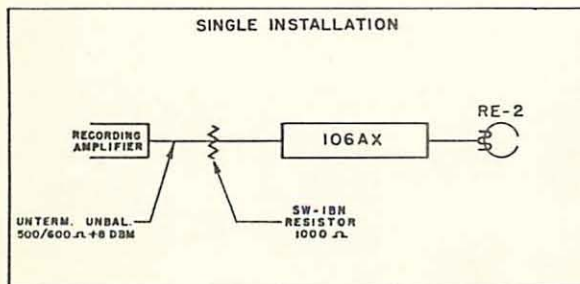
**MOUNTING CENTERS:** 1 1/2" x 9 3/4". (Use 8-32 machine screws).

**SUGGESTED MOUNTING:** Cinema Type 346 Series Mounting Frames.

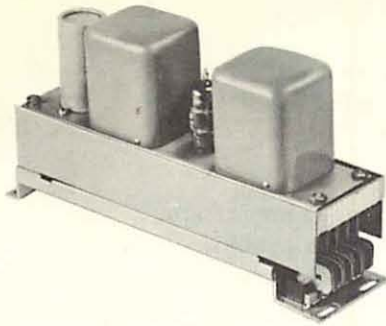
**CUBIC DISPLACEMENT:** Without mounting base: 2 1/2" x 9 1/2" x 5 1/4"; with mounting base: 2 5/8" x 10 1/4" x 6 3/16".

**NET WEIGHT:** With Base: 3 lbs. Less Base: 2 1/2 lbs.

**SHIPPING WEIGHT:** Approximately 4 lbs.







# PLUG-IN TYPE 107-AX PRE-AMPLIFIER EQUALIZER FOR MAGNETIC FILM PLAYBACK

The 107AX Equalizer - Pre-Amplifier is a laboratory plug-in type using highest quality components, assuring maximum stability. Built especially for magnetic tape and film reproduction. Furnished in two types of equalization. Specify type 107AX-16 for 7.2—7.5 inches-per-second speed, or type 107AX-35 for 16—18 inches-per-second speed. Uniformity of performance makes this amplifier particularly suited for large multiple installations.

The 107-AX16 (for film speeds of 7.2 to 7.5 inches per second), and the 107-AX35 (for film speeds of 16 to 18 inches per second) are equalized to operate in the ranges of 20—7000 cps. and 20—10,000 cps. re-

spectively, from magnetic film recorded without pre-equalization. High-pass and low-pass filters, defining the desired frequency spectrum desired, may be inserted in the playback system, as usual.

**CIRCUIT FEATURES:** Uses single 12AX7 tube with triode sections in cascade, providing two stages of amplification. Precision non-inductive wire wound resistors are used in all important elements of circuit. Triple mu-metal shielding in input transformer. Internal R. C. filter provides decoupling and smoothing of high voltage. Frequency selective feed-back gives this amplifier positive equalization and stability.

## SPECIFICATIONS

**FREQUENCY RANGE:** 20 to 10,000 cps. (conventional 8000 cycle low pass filter should be used in system).

**GAIN:** Fixed, 18 db at 1000 cps.

**OUTPUT LEVEL:** Minus 16 dbm.

**OUTPUT IMPEDANCES:** To work into 30-50, 125-150 ohm unbalanced line; 200-250, 500-600 ohm balanced line. Easily changed on exposed terminal board.

**MAXIMUM INPUT LEVEL:** Minus 33 dbm at 1000 cps.

**INPUT IMPEDANCES:** For use with 10 milli-henry play-back head.

**NOISE LEVEL:** 75 db below minus 16 dbm output level using direct current on tube heaters (with alternating current on tube heaters, the noise level is approximately 60 db below minus 16 dbm output level).

**INTERMODULATION:** Not applicable to this amplifier.

**DISTORTION:** In the range of 50 to 7500 cps, the harmonic distortion does not exceed 1/2% at minus 16 dbm.

**TUBE COMPLEMENT:** One 12AX7.

**SHIELDING:** Three mu-metal shields in input transformer. Entire assembly and wiring shielded from stray electro-static fields.

**POWER REQUIREMENTS:** 300 vdc at 3 ma. and 6.3 vac or dc at 300 ma.

**RECOMMENDED POWER SUPPLIES:** Cinema Type HV-1 High Voltage Supply, Cinema Type LV-1 Low Voltage Supply.

**TERMINALS:** Solder type (part of connector in base mounting plate). Especially well adapted to multiple installations.

**MECHANICAL FEATURES:** Four shock mounts provided on chassis for reduction of microphonics. Entire amplifier chassis made of 16 ga. steel. Plug-in chassis includes ten-circuit connector with solid nickel silver springs. Connector spring arrangement can be adjusted to provide load on heater supply circuit when chassis is removed.

**SUGGESTED MOUNTING:** Cinema Type 346 Series Mounting Frames.

**MOUNTING CENTERS:** 1 1/2" x 9 3/4". (Use 8-32 machine screws.

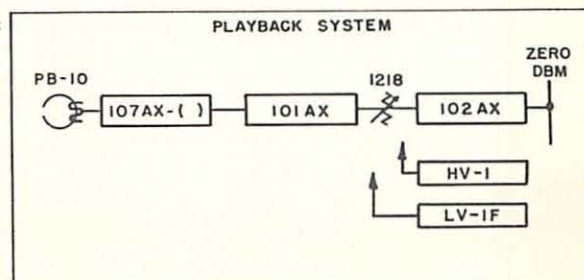
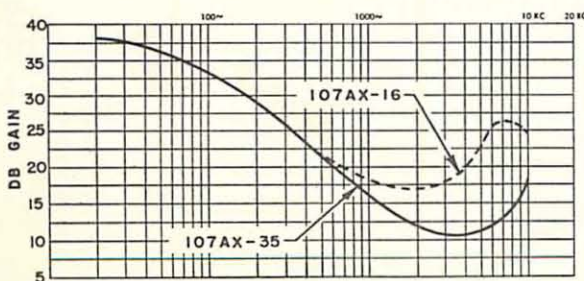
**CUBIC DISPLACEMENT:** Without mounting base: 2 1/2" x 9 1/2" x 5 1/4"; with mounting base: 2 5/8" x 10 1/4" x 6 3/16" overall.

**NET WEIGHT:** With Base: 4 1/2 lbs. Less Base: 4 lbs.

**SHIPPING WEIGHT:** Approximately 5 lbs.

**WHEN ORDERING:** Specify type desired; 107AX-16, 107AX-35, or combination unit 107AX-1635.

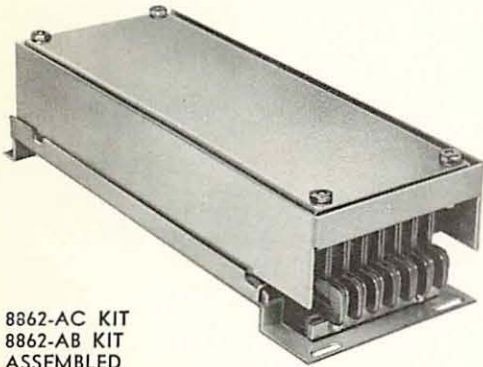
## RESPONSE CHARACTERISTICS





# SHOCK MOUNTED PLUG-IN CHASSIS

## IN KIT FORM



8862-AC KIT  
8862-AB KIT  
ASSEMBLED

An innovation in Laboratory apparatus, the new Cinema 8862 Series Plug-In Chassis sells for less than the price of a pair of the best cable connectors. The well designed Chassis employs new Cinema designed ten element connectors. These are the open leaf spring type which allow full accessibility. Contact springs and stationary blades are Nickel Silver. Their design has been proven through years of telephone maintenance experience. Terminal designation strips are included. They provide space for writing in circuit symbols.

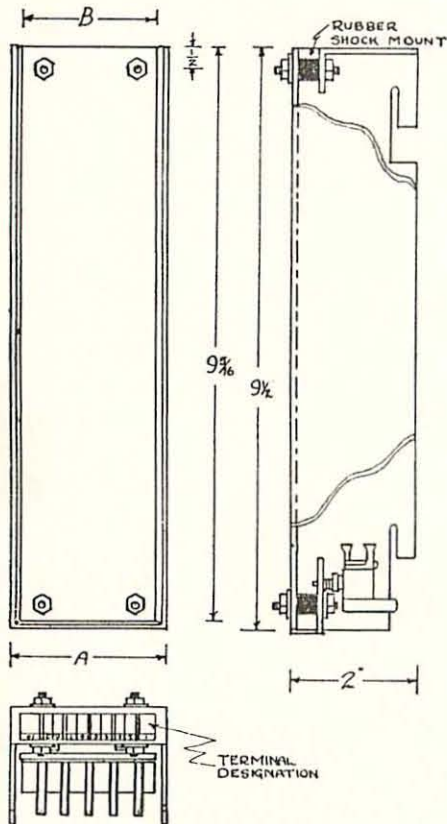
The Chassis frame assembly and base plate assembly are furnished in a knocked-down kit to save your dismantling time. All details have been considered for your convenience. Made from heavy gauged steel, the frame and base are protectively plated. The Chassis plate is of heavy gauged steel with angle edge for extra rigidity. This plate is shock mounted against microphonics with four Cinema 7038 shock mounts. Complete hardware is furnished with all kits. Order spare kits to set up rapid test positions in your Laboratory location.

### PLUG-IN CHASSIS FRAME ASSEMBLY KIT—

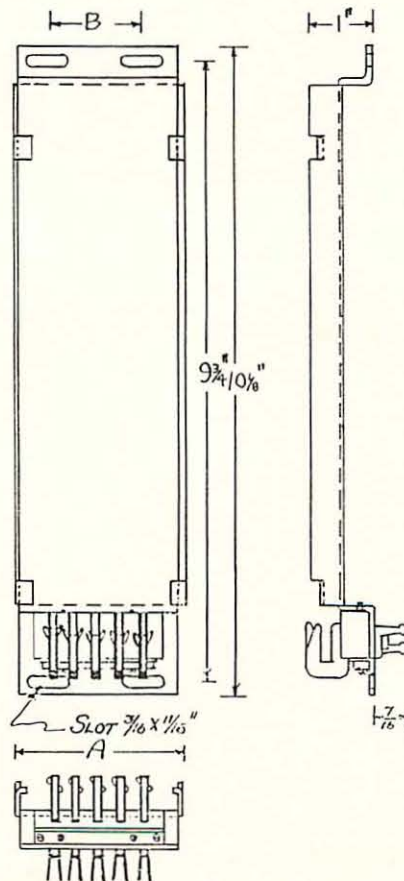
Consists of chassis plate, frame, four shock mounts, ten element male connector, and miscellaneous hardware.

### PLUG-IN CHASSIS BASE PLATE

**ASSEMBLY KIT—** Consists of base plate, ten element female connector, and miscellaneous hardware.



CHASSIS FRAME



BASE ASSEMBLY



## MECHANICAL DETAILS

### CHASSIS FRAME KITS

DIMENSIONS				
Type	"A"	"B"	Net Wt.	Ship. Wt.
8862-AC	2½"	2⅛"	1 Lb.	1½ Lbs.
8862-CC	5 "	4⅝"	2 Lbs.	2½ Lbs.
8862-DC	7½"	7⅛"	2 Lbs.	2½ Lbs.

The Chassis Bases mount in Cinema 346 Series Mounting Frames or any strip mounting on ½" centers. For instance, six 8862-A

### BASE ASSEMBLY KITS

DIMENSIONS				
Type	"A"	"B"	Net Wt.	Ship. Wt.
8862-AB	2⅝"	1½"	1 Lb.	1½ Lbs.
8862-CB	5⅛"	4"	1½ Lb.	2 Lbs.
8862-DB	7⅝"	6½"	2 Lbs.	2½ Lbs.

Chassis will fit in the 346 Series Mounting Frames, or any other combination of Chassis adding up to 16 inches in width.

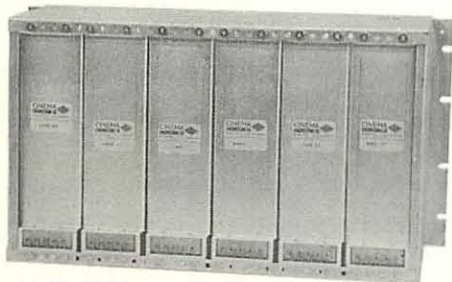
# 346 SERIES MOUNTING FRAMES

## For Plug-In Chassis

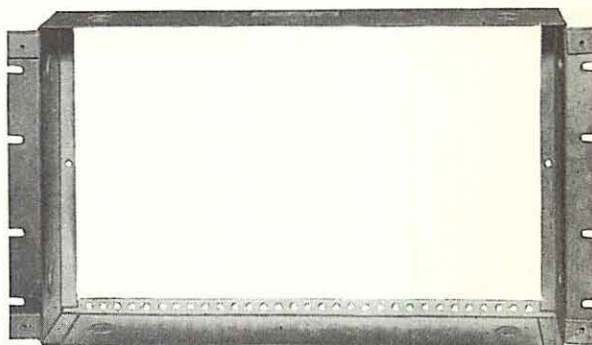
Well designed for matching standard 3/16" thick Relay Rack Panels, the 346 Series Mounting Frames fit all existing equipment. Illustrated above is the shallow model 346E without panel. Plug-In Chassis may be mounted for front access using the 346G, or for rear access, using Type 346E or 346G.

The flange edges of the frame are slotted for standard Western Electric and Cinema racks. They require 10½" vertical panel space. Chassis mounting holes are on ½" mounting centers, allowing enumerable combinations of component chassis arrangements in the 16" clearance window.

Heavy gauged steel is used throughout the construction of the 346 Mounting Frames. All steel parts are protectively plated.



Rear view of 346 Series Mounting Frame shown above. Six 8862-A Chassis mounted with connector terminals to rear. Note neat arrangement for convenient wiring, of connectors. Chassis frames are accessible from front and may be unlatched easily by hand.



Standard ½" pipe knock-outs are provided in the sides of the frame to run connecting cables into equipment. Four special shallow headed screws are included to mount frame to rack. Cinema Type 12342 grey enamelled 1/16" Panel may be purchased as an accessory for any of the 346 Series Mounting Frames. This panel is 1/16" thick aluminum alloy with Cinema Grey baked enamel finish. Mounting screws are furnished with panel.

**346-E MOUNTING FRAME**—Dimensions: 19" wide, 10½" High, depth behind panel — 3". Complete with hardware. Net Weight 3¼ pounds, Shipping Weight 5½ pounds.

**346-G MOUNTING FRAME**—Dimensions: 19" wide, 10½" high, depth behind panel — 6½". Complete with hardware. Net Weight 7 pounds, Shipping Weight 9½ pounds.

**12342 BLANK PANEL**— Dimensions: 19" x 10½". Four holes drilled for mounting on 346 Series Mounting Frames. 1/16" high tensile strength aluminum alloy. Cinema grey baked enamel finish. Complete with mounting screws. Net Weight 1¼ pounds. Shipping Weight, 2 lbs.



# CINEMA POWER SUPPLIES

These power supplies were designed specifically to meet the rigid requirements of high quality plate and filament voltages in connection with high gain laboratory pre-amplifiers, line amplifiers, etc. They incorporate full-wave vacuum tube or selenium rectifiers followed by full pi-section brute-force filters.

The low voltage supplies may be adjusted to meet a wide range of load conditions. The accompanying curves show complete terminal voltage vs. load current relationships. It will be noted that ample voltage is available to compensate for voltage drops in the low voltage lines.

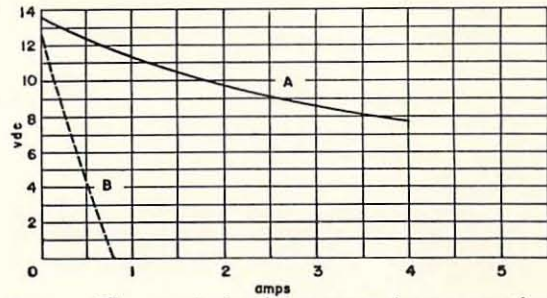
Each power supply is fused and all components are conservatively rated to permit continuous 24 hours-a-day service.

All power supplies are mounted on rigid, unitized chassis, companion in design to Cinema 8862 Plug-In Type Chassis. The chassis are made of corrosion-proofed, 16 ga. steel. Units may be wall mounted or rack mounted on Cinema Type 346 Series Mounting Frames. Ample space is provided on the 346 Mounting Frames for both high and low voltage power supplies together.

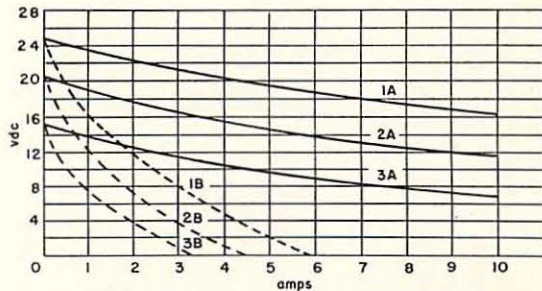
**NOTE:** Power Supply terminal blocks are mounted in-board for flush-type mounting (wall mount). Power supplies should be mounted in the 346 Series Mounting Frames. For uniform wiring, the terminal blocks may be relocated for alignment with the terminals of the Type 8862 Chassis.

## CHARACTERISTIC CHARTS

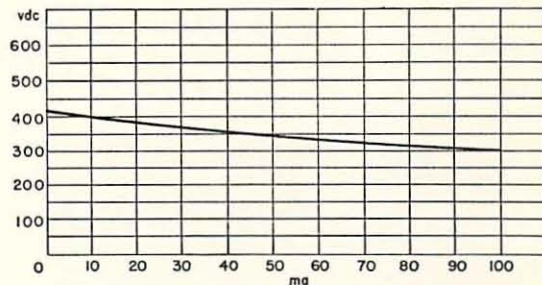
The curves below give operating characteristics of the Cinema Power Supplies over a wide range of load conditions. On the LV-1 and LV-2 curves, the solid lines represent minimum resistance setting of the internal adjusting resistors, and the dashed lines maximum setting.



**LV-1:** The terminal voltage range for any particular current may be found between Curves "A" and "B".

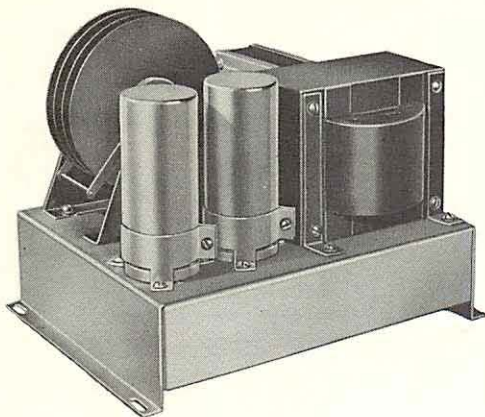


**LV-2:** Using Transformer Tap No. 1, the terminal voltage range for a particular current falls between curves "1A" and "1B". Similarly, ranges for taps No. 2 and No. 3 fall between pairs "2A-2B" and "3A-3B" respectively.



**HV-1:** All high voltage terminal measurements made with 3 amperes fixed load on the 6.3 volts ac supply and 115 volts ac line voltage. Customer may add appropriate series resistance to obtain exact current requirement of load.





TYPE **LV-1(F)**  $\frac{0-7.5 \text{ vdc}}{4 \text{ amps.}}$

**OUTPUT:** 0—7.5 volts dc (adjustable range) at 4 amperes maximum. With internal adjustable resistor for exact voltage adjustment.

**HUM LEVEL (Ripple):** About .03 volts ac (full load). Hum and noise level below that required for Cinema Amplifiers 101-AX, 101-BX, 102-AX, etc.

**INPUT:** 105-125 volts, 50-60 cycles, 65 watts (full load).

**RECTIFIER:** Selenium stack type; full-wave (bridge).

**TERMINALS:** Heavy solder lugs. Provisions made for relocating terminal block.

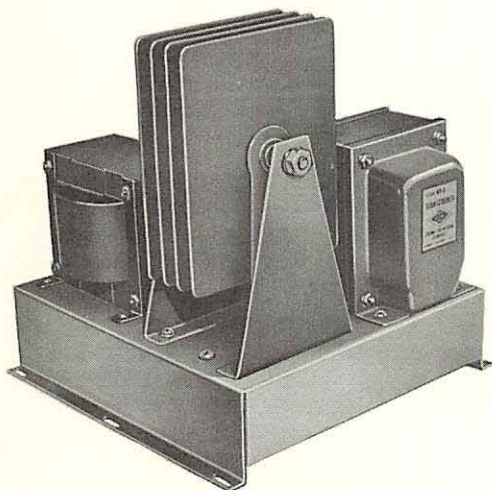
**MOUNTING CENTERS:**  $6\frac{1}{2}'' \times 9\frac{3}{4}''$  (10:32 machine screws).

**SUGGESTED MOUNTING:** Cinema Type 346 Series Mounting Frames.

**CUBIC DISPLACEMENT:**  $7\frac{1}{2}'' \text{ w } 10\frac{1}{8}'' \text{ l } \times 8'' \text{ h.}$

**NET WEIGHT:** 21 Lbs.

**SHIPPING WEIGHT:** 27 Lbs.



TYPE **LV-2(G)**  $\frac{0-16 \text{ vdc}}{10 \text{ amps}}$

**OUTPUT:** 0—16 volts dc (adjustable range) at 10 amperes maximum. Economical operation for either 6.3 or 12.6 volt filaments. In addition to internal adjustable resistor, transformer primary provides three separate taps for selection of most economical operation.

**HUM LEVEL (Ripple):** About .03 volts ac (full load). Hum and noise level below that required for Cinema Amplifiers 101-AX, 101-BX, 102-AX, etc.

**INPUT:** 105-125 volts, 50-60 cycles, 230 watts (full load).

**RECTIFIER:** Selenium stack type; full-wave (bridge).

**TERMINALS:** Heavy solder lugs. Provisions made for relocating entire terminal block.

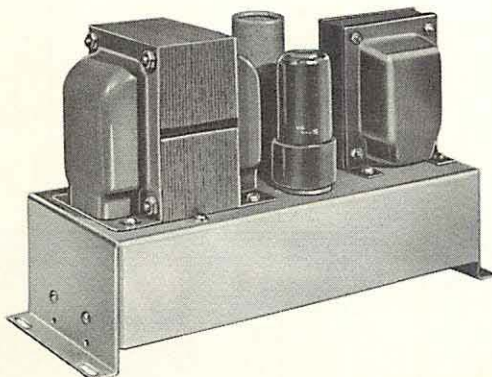
**MOUNTING CENTERS:**  $9\frac{3}{4}'' \times 9''$  (10:32 machine screws).

**SUGGESTED MOUNTING:** Cinema Type 346 Series Mounting Frames.

**CUBIC DISPLACEMENT:**  $10\frac{1}{8}'' \text{ W } \times 10\frac{1}{8}'' \text{ L } \times 10\frac{1}{2}'' \text{ H.}$

**NET WEIGHT:** 31 Lbs.

**SHIPPING WEIGHT:** 34 Lbs.



TYPE **HV-1(E)**  $\frac{300 \text{ vdc}}{100 \text{ ma}} \frac{6.3 \text{ vac}}{3 \text{ amps.}}$

**OUTPUT:** 300 Volts D.C.; 100 ma; 6.3 vac; 3 amps.

**HUM LEVEL (Ripple):** 0.02 Volts A.C. at full load. Hum and noise level below that required for Cinema 101-AX, 101-BX, 102-AX, etc. Amplifier.

**INPUT:** 105-125 Volts; 60 Cycle; 90 watts maximum.

**RECTIFIER:** One 5V4-G Vacuum Tube; full wave.

**TERMINALS:** Heavy solder lugs. Provision made for relocating entire terminal block.

**MOUNTING CENTERS:**  $3'' \times 9\frac{3}{4}''$  (10:32 machine screws).

**CUBIC DISPLACEMENT:**  $3\frac{7}{8}'' \text{ W } \times 10\frac{1}{8}'' \text{ L } \times 7'' \text{ H.}$

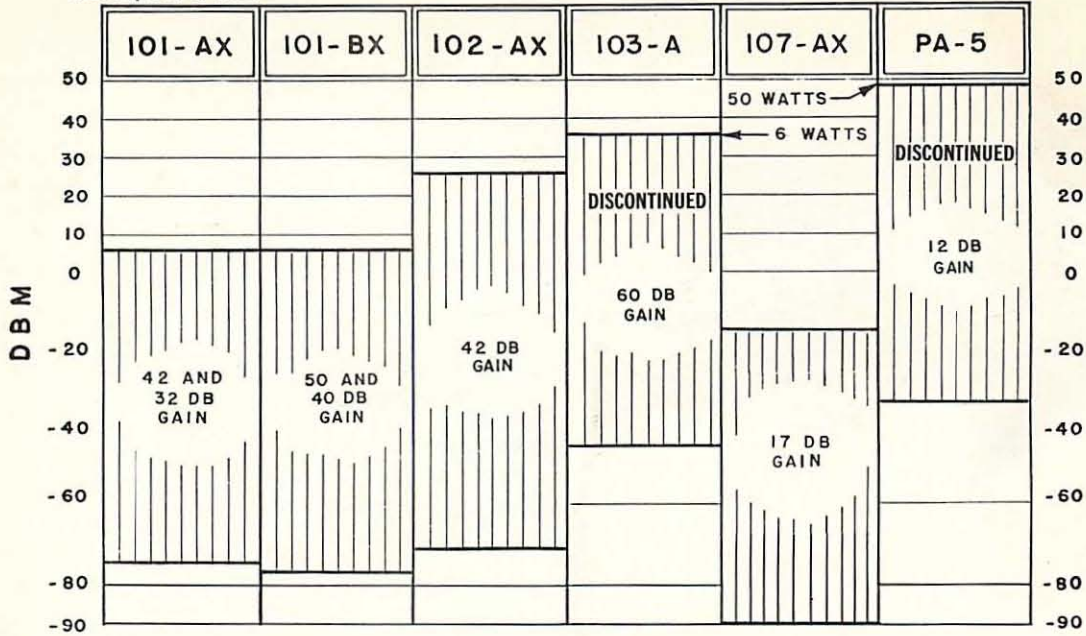
**NET WEIGHT:** 10 lbs.

**SHIPPING WEIGHT:** 14 lbs.

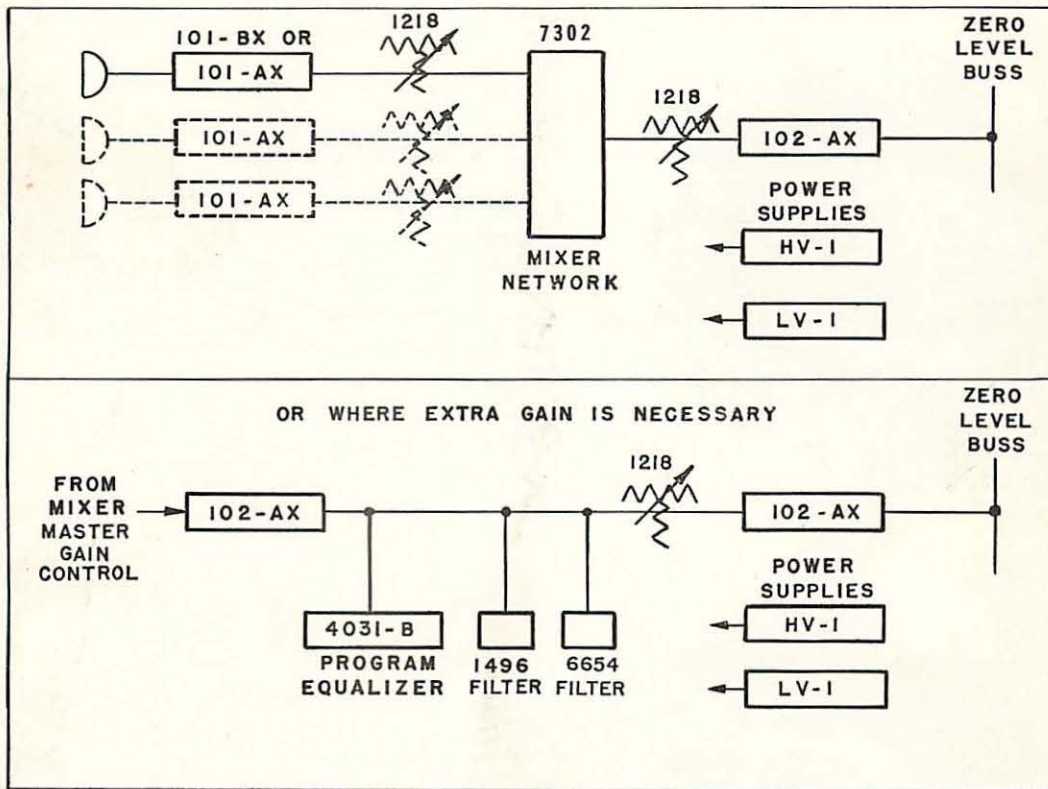


### CINEMA AMPLIFIERS' GAIN AND POWER AT A GLANCE

Shaded blocks in chart indicate operating range of each amplifier. The lower limits of the shaded block represent the hum and noise level. The upper limits of the shaded block indicate the maximum output level at which each amplifier is rated.



AUDIO CHANNELS USING CINEMA EQUIPMENT



## CINEMA ENGINEERING

DIVISION AEROVOX CORPORATION

1100 CHESTNUT STREET • BURBANK, CALIFORNIA

Printed in U.S.A.



• BURBANK • CALIFORNIA •

## PRICE LIST FOR

CATALOG 16-CA

<u>Item Number</u>	<u>Net Price</u>
101-AX (Complete)	\$ 103.00
101-BX (Complete)	104.50
102-AX (Complete)	111.75
103-AX	Discontinued
106-AX (Complete)	100.50
107-AX-16 (Complete)	111.50
107-AX-35 (Complete)	111.50
107-AX-1635 (Complete)	124.50
346-E	10.25
346-G	12.25
8862-AB	6.75
8862-CB	7.25
8862-DB	7.50
8862-AC	9.25
8862-CC	9.75
8862-DC	10.75
12342	7.25
HV-1(E)	56.00
LV-1(F)	107.50
LV-2(G)	122.50
PA-5	Discontinued

Plug-in amplifiers may be purchased "Less Mounting Base." (The price will be \$3.50 Less.)

ALL PRICES ARE F.O.B. BURBANK, CALIFORNIA  
THESE PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

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4-6-59

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# Cinema Engineering

DIVISION AEROVOX CORPORATION

1100 CHESTNUT STREET

BURBANK, CALIFORNIA

VICTORIA 9-5511

ATTENUATORS - PRECISION RESISTORS - AMPLIFIERS - COMMUNICATION EQUIPMENT - RESISTANCE DECADES - MAGNETIC RECORDING COMPONENTS - SWITCHES

June 29, 1959

Clark Recording  
124 West 75th Street  
New York, New York

Attention: Gordon Clark,  
Owner

Dear Sir:

We wish to acknowledge and thank you  
for your recent inquiry expressing interest in Cinema  
products.

It is trusted that the enclosed literature  
covers in detail the item on which you inquired.

For additional information, please contact  
either your local Cinema Factory Sales Representative, or  
the factory Sales-Service Department, who will be pleased  
to assist you.

Trusting we may have the pleasure of  
serving you in the near future, we remain

Yours very truly,

CINEMA ENGINEERING  
Division Aerovox Corporation

Gloria M. Smith  
Sales-Service Manager

GMS:sf  
enc.

P.S. Your local Cinema Representative is: **SYDNEY H. BAUM**  
**70-15 FLEET STREET**  
**FOREST HILLS 75, N. Y.**