

**ALTEC LANSING HIGH QUALITY**

**STEREOPHONIC SOUND EQUIPMENT**

**FOR THEATRES**



## STEREOPHONIC SOUND EQUIPMENT

Altec Lansing is prepared to supply high quality stereophonic sound equipment for use with any make of "penthouse" or "button on" magnetic four channel reproducer and any make of existing sound system.

Basically, this stereophonic equipment consists of the following apparatus as described in this brochure:

- 1—5444 or 5445 Changeover Switch (for Two or Three Projectors)
- 1—5415 Systems Switching Panel.
- 1—5371 Horn Switching Panel
- 1—A-150C Four Channel Preamplifier
- 3—1530T or 1520T Power Amplifiers
- 1—625A Monitor Speaker
- 3—"Voice of the Theatre." Speaker Systems
- 629A or 631A Auditorium Speakers, as required

Three identical "Voice of the Theatre" speaker systems must be used backstage for stereophonic reproduction. If the theatre is already using one "Voice of the Theatre" speaker system, only two similar additional systems will be required. The size of the speaker systems will depend on the size of the theatre.

On the last page of this brochure is a block schematic of a typical Four Channel stereophonic system using penthouse magnetic reproducers which illustrates in general the functions of the various components.

### 5444 or 5445 Changeover Switch



The 5444 relay operated changeover switch which is connected electrically between the output of the "penthouse" or "button on" reproducer, and the input of the A-150C preamplifier provides for an immediate sound changeover from one reproducer to another at the end of the reel. It is operated by means of external push button switches, which are located on the front wall of the projection booth opposite each projector. The changeover relay has contacts for controlling the pilot lights at the push button switches.

This switch as illustrated is housed in a wall mounting cabinet which is 13 1/4 inches high, 8 inches wide, and 3 1/4 inches deep and contains provision for individual adjustment and balance of each section of each four track pick-up unit located in the reproducers. The cabinet also includes a DC power supply for the operation of relays and pilot lights.

Where three projector operation is involved, the 5445 changeover switch (not illustrated) will be provided and will serve the same functions as the 5444 described above.

### 5415 System Switching Panel



The 5415 system switching panel is used to switch system inputs between four track stereophonic sound and separate three track stereophonic sound and/or optical sound track.

### 5371 Switching Panel



The 5371 Switching Panel has two major functions. It provides the means for connecting the 625 Booth Monitor to the output of each of the three stereophonic sound tracks and also makes it possible to switch the backstage speakers and auditorium speakers from stereophonic sound to single channel optical sound.

## A-150C Preamplifier

The A-150C four channel preamplifier designed especially for use with four track stereophonic sound systems consists of four 1512B preamplifiers each having its own stepped type volume control. Three of these volume controls which are geared together and operated by a single knob are used for controlling the sound from the stereophonic backstage speakers. The fourth control is used for regulating the volume of the sound from auditorium speakers. Mounted on the rear of the amplifier chassis is a "muting" relay. This relay operates from the changeover "push button" and shorts the outputs of the A-150C preamplifier to prevent clicks during changeover. All of this equipment is housed in a wall mounting type cabinet which may be installed at any location in the booth.

Each of the 1512B preamplifiers has three gain stages and cathode follower outputs. The three gain stages use low noise non-microphonic tube types which insure low noise level. Each preamplifier channel has provision for about 8 db of gain adjustment to allow for balancing of channels. Equalization for magnetic film characteristics is provided in the preamplifiers and individual adjustment of this equalization can be made as required. The input transformers have 90 db of magnetic shielding which minimizes the possibility of hum pickup.

The P-5318 power supply is a part of the A-150C preamplifier.

The A-150B preamplifier is the same as the A-150C except it contains only three 1512B preamplifiers for three channel operation. The 11651 modification kit is available for modification of the older type three channel A-150A preamplifier to four channel operation for use with penthouse four track reproducers.

### Technical Data: A-150C Preamplifier

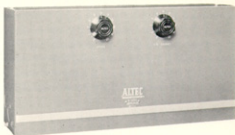
**General:** Four channel equalized preamplifier with one three-gang and one single volume control.

#### Specifications:

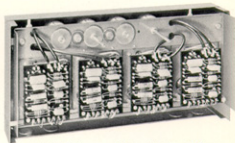
**Frequency Response:** Adjusted and equalized for pickup of magnetic recordings.  
**Source Impedance:** 30/50, 125/150, 250/300, 500/600 ohms.  
**Load Impedance:** Not less than 20,000 ohms.  
**Gain:** 74 db max. at 1000 c.p.s. (Additional 6 db available by change in transformer strapping.)  
**Channel Balance:** Locking-type, screw-adjusted attenuator with 8.5 db range.  
**Noise Level:** Less than -43 dbm measured over 20-20,000 c.p.s. band across 20,000 ohm load. (At min. fixed gain.)  
**Output Level:** +12.5 dbm at 1,000 c.p.s. and 1% total harmonic distortion (19 V. across 20,000 ohm load.)

#### Specifications:

**Dimensions:** 18" long x 9" high x 5 1/2" deep.  
**Weight:** 26 lbs.  
**Complete Tube Complement:** 4-5879, 4-12AY7, 4-6C4, (1-6X4 in power supply).  
**Power Required:** 117 V., 50/60 cycles, 35 watts.  
**Color:** Blue Gray.



A-150C Preamplifier—Cover on



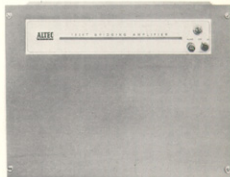
A-150C Preamplifier—Cover off

### Power Amplifiers

The Power Amplifiers are of two sizes. The 1530T is a 70 watt amplifier, and the 1520T is a 35 watt amplifier. Both of these amplifiers are high quality units of recessed pan construction and designed for rack mounting. They have a frequency response of  $\pm 1$  db from 20 to 20,000 cycles and are capable of delivering full rated power with low distortion. The size of the amplifier to be provided will be dependent upon the size and seating capacity of the theater. It is recommended that theaters having seating capacity exceeding 1600 seats use the 70 watt amplifier, and those having less than 1600 seats use the 35 watt amplifier.

### Technical Data: 1530T Amplifier

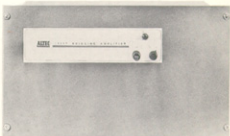
**Gain:** 73 db from 10,000 ohm source (maximum).  
**Gain Control:** Continuously variable, screw adjust, locking type, set to 60 db gain at factory.  
**Frequency Response:**  $\pm 1$  db, 20 to 20,000 cycles.  
**Power Output:** 70 watts nominal at 2% total harmonic distortion.  
**Noise Level:** -43 dbm (.001 watt reference).  
**Input Impedance:** 10,000 ohms bridging.  
**Output Impedance:** Less than 15% of nominal load impedance.  
**Load Impedance:** 4, 8, 16 ohms and 70 volt line (70 ohms).  
**Power Supply:** 105-125 V.A.C., 60 cycles.  
**Tubes:** 1-12AY7, 1-6SN7, 2-6146, 2-5R4GY, 1-OA3, 1-OC3.  
**Dimensions:** 19" x 14" x 9".  
**Color:** Blue Gray.  
**Weight:** 60 lbs.



1530T Amplifier

### Technical Data: 1520T Amplifier

**Gain:** 73 db from 10,000 ohm source (maximum).  
**Gain Control:** Continuously variable, screw adjust, locking type, set to 60 db gain at factory.  
**Frequency Response:**  $\pm 1$  db, 20 to 20,000 cycles.  
**Power Output:** 35 watts nominal at 2% total harmonic distortion.  
**Noise Level:** -43 dbm (.001 watt reference).  
**Input Impedance:** 10,000 ohms bridging.  
**Output Impedance:** Less than 20% of nominal load impedance.  
**Load Impedance:** 4, 8, 16 ohms and 70 V. line (140 ohms).  
**Power Supply:** 105-125 V.A.C., 60 cycles.  
**Tubes:** 1-12AY7, 2-6SN7, 2-6L6G, 1-5U4G.  
**Dimensions:** 19" x 10 1/2" x 9".  
**Color:** Blue Gray.  
**Weight:** 55 lbs.



1520T Amplifier

### 11750 Matching Assembly (Not Illustrated)

The 11750 matching assembly is required where the A-150C preamplifier is used with power amplifiers having 500 ohm outputs. It consists of four S-448-Q transformers housed in a wall mounting cabinet. This matching assembly is not required when the A-150C preamplifier is used with 1530T or 1520T amplifiers.



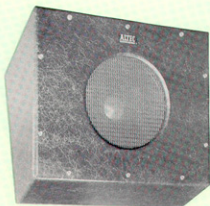
## The 629A and 631A Auditorium Speakers

The sound effects which are recorded on the fourth track of the picture film are normally transmitted to the speakers located in the auditorium through the existing theatre sound system. A 16168 matching transformer may be required to change the output impedance of the existing amplifier system to a 70 V line to match the auditorium speakers.

Two types of auditorium speakers are available for this use. The 629A consists of an Altec 600B, 12 inch Diacone speaker and a 70 V. line transformer (Code #16166X) mounted in an attractive sloping front cabinet especially designed for wall mounting. The front of this cabinet is removable to give access to the speaker and transformer. The 631A is similar to the 629A except that it includes an Altec 603C 15 inch speaker and has a larger cabinet which provides better bass response. The number of these auditorium speakers required in each instance will vary greatly. It is expected that the minimum requirement will be at least ten speakers. The use of the 70 V. line transformer insures constant matching impedance regardless of the number of speakers used and allows individual volume adjustment.

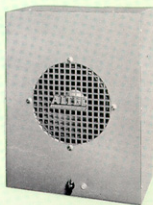
### 625 Monitor Speaker

The 625 Monitor Speaker, used in monitoring the output from each stereophonic sound channel, consists of an Altec 400B, 8 inch Diacone speaker and volume control mounted in the 625 metal cabinet.



629A Auditorium Speaker

Dimensions: 22" wide; 17" high; Depth Top: 13 1/4"; Bottom: 7 1/8".  
Finish: Splatter web—Brown and gold.  
Weight (including Speaker and transformer): 33 lbs.



### 625 Monitor Speaker

Dimensions: 12 $\frac{5}{16}$ " wide; 16 $\frac{1}{8}$ " high; 9 $\frac{1}{16}$ " deep.  
Color: Blue Gray.  
Weight with Speaker: 24 lbs.

