



ALTEC[®]

SOUND AND COMMUNICATION EQUIPMENT FOR:

- THEATRES AND STUDIOS
- HOSPITALS
- FACTORIES
- SCHOOLS
- INDUSTRIAL INTERCOM
- MILITARY COMPLEXES
- SPORTS AND STADIUMS
- CHURCHES
- TELEPHONE COMPANIES
- CONVENTION CENTERS
- SHOPPING CENTERS
- AIRPORTS
- ENTERTAINMENT
- HOTELS
- BUSINESS
- OUTDOOR HIGH LEVEL ANNOUNCING AND EMERGENCY WARNING SYSTEMS



LARGEST MANUFACTURER OF ENGINEERED SOUND AND COMMUNICATIONS PRODUCTS

Recognition by professionals and demand for ALTEC products have made ALTEC the world's largest manufacturer of sound equipment exclusively. Its amplifiers, speaker systems, microphones, transformers, audio controls, and telephone transmission products are foremost in recording and broadcast studios, churches, auditoriums, industrial plants, outdoor sports arenas and stadiums, Giant Voice Aural Warning Systems, hospitals and major structures throughout the world.

HAND-CRAFTED FOR RELIABILITY -- BUILT WITH INTEGRITY

ALTEC is the only company that builds all major components within its own plants. Carefully assembled by hand to the highest degree of precision tolerances, each component is the product of very sophisticated machinery and expert machinists. By maintaining these high standards, ALTEC has consistently offered extremely uniform high quality in its line of fine products.

FIRST IN "HIGH FIDELITY"

In the 1920's, ALTEC under a different name as a division of Western Electric, was providing the most advanced electronic recording and playback equipment of the day to both recording and broadcast studios.

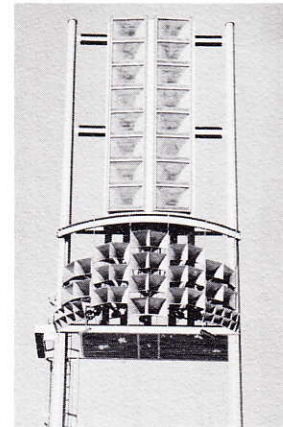
It was the pioneers of this forerunner of ALTEC who made possible the first "talkie" motion picture, "The Jazz Singer", starring Al Jolson. These engineers developed both the recording and playback techniques, as well as the systems used in the theatres.

Through the years, ALTEC systems have continued to be the standard of the theatres, concert halls, auditoriums, and other public structures where sound perfection cannot be compromised.

Today, as they have since they were conceived, all "Cinerama"® theatres rely on ALTEC "The Voice of the Theatre"® speaker systems to achieve their thrillingly realistic sound reproduction. Today, too, the use of "The Voice of the Theatre" has spread beyond the theatre — adding new realism to the excitement of sports events in arenas, stadiums and coliseums; to the intimacy of night club shows; to the serious sermons, organ and choral music in churches.



U.S. Senator George L. Murphy uses Altec 685B Cardioid Microphone at opening day of baseball season.



PROFESSIONAL PLAYBACK QUALITY FOR THE HOME

ALTEC translates its 40-year experience in professional sound systems into distinct advantages for its home stereo systems and components. Foremost is highest quality and performance, born of decades of meeting the stringent requirements of studio engineers.

A corollary benefit is modest price. Because of its vast experience, ALTEC does not have to add to its products the cost of learning a new field or technique in order to design and build the most advanced equipment.

MICROPHONES

GENERAL PURPOSE DYNAMIC (Moving Coil)



SHOWN ACTUAL SIZE



A. 677B MINIATURE LAVALIER, OMNIDIRECTIONAL

For lecturing, public speaking and newscasting. Output -58 dB, * 150/250 ohms. Smooth frequency response from 70 to 12,000 Hz when used as a lavalier. Furnished with nylon neck cord, lapel/tie clip holder, 20 ft. flexible two conductor shielded cable. May be used with 35A/40933 flexible mounting for paging. Dark green matte finish.

B. 695A & 696B NOISE CANCELLING

Stationary or mobile communications on land, sea or air. Police, fire, emergency vehicles, industrial or commercial use. Hand held, low distortion, from 100 to 5,000 Hz frequency response. 695A — with built-in transistor amplifier. Output -44 dB, * impedance 150 ohms to infinity. 696B — Output -60 dB, * 150/250 ohms or 20,000 ohms.

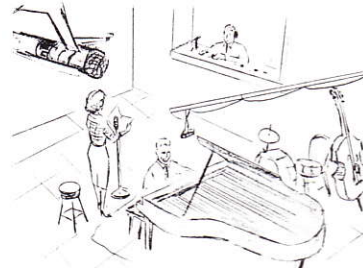
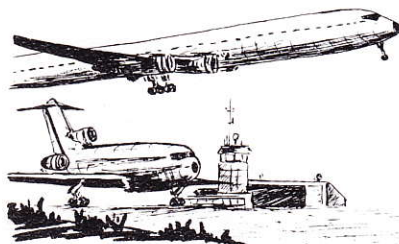
*dBm Re: 10 dynes/cm².

C. 651AH HIGH IMPEDANCE, CARDIOID

Recording, Singers, Performers, Indoor and Outdoor Bandstands. Output -57 dB, * 20,000 ohms impedance, 60 to 15,000 Hz frequency response. Average front to back discrimination 15 dB. On/Off switch. Comes with 15 ft. one-conductor cable permanently attached to the microphone, standard phone plug on other end of cable. Hand held or mount on stand.

D. 650A DELUXE CARDIOID

Used by Night-Club Singers, Musicians, Entertainers. Output impedance 150/250 or 20,000 ohms easily interchangeable within the microphone. -56 dB, * 50 to 15,000 Hz frequency response. Average front to back discrimination 20 dB. On/Off switch, recessed Bass Roll-off Switch rolls off the frequency from 400 Hz down, subdues excess instrumental bass tones, reduces rumble. 15 ft. two-conductor cable.



MICROPHONES



PROFESSIONAL—BROADCAST STUDIO QUALITY—RECORDING—PUBLIC ADDRESS—MOTION PICTURES—PAGING—LECTURING—TELEVISION

A. M49, M50, M51, M52 SOLID STATE CONDENSER

Highest quality for Studios, Broadcasting, Recording, Television. The M50 Cardioid and the M52 Omnidirectional are DC operated from mercury batteries (furnished) capable of operating 2500 hours or approximately 1 year of normal service. The power supply contains a meter indicating battery condition at all times. The M49 Cardioid and M51 Omnidirectional operate on AC power supply. All four models have 20 to 20,000 Hz frequency response, impedance 150/250 ohms, output -53 dBm*. Wind/Pop screen, holder, shock mount, cable clips, 25 ft. cable included.

B. 632C, 633A/C DYNAMIC

Very durable, temperature and humidity proof. Excellent for sports announcers, broadcasting, public address systems. Omnidirectional. Color: gray. Output -55 dBm*. 632C: 100 to 10,000 Hz frequency response, 30/50 ohms impedance. 633A/C: 35 to 12,000 Hz frequency response; 633C with 30/50 ohms or 150/250 ohms selectable impedance, 633A with 30/50 ohms only.

C. 639A, 639B MULTI-PATTERN

639B: Cardioid, Bi-Directional, Omnidirectional and 3 other directivity patterns, 639A: Cardioid, Bi-Directional and Omnidirectional. Dynamic and Ribbon transducer in one housing, used together or separately depending upon the directivity pattern needed. Superior Quality, ideal for any use. Output -52 dBm*, 40 to 10,000 Hz frequency response, 30/50 ohms impedance. Die-cast aluminum housing, dark gray.

D. 681A, 682B, 683B DYNAMIC (683B shown)

Two-tone baked enamel finish; black or dark green or dark brown with platinum or brushed chrome. May be hand held or mounted on stand. 681A: Omnidirectional, 50 to 18,000 Hz frequency response, either 150/250 or 20K ohms impedance, output -55 dBm*. 682B: Omnidirectional, 45 to 20,000 Hz frequency response, 150/250 ohms impedance, output -55 dBm*. 683B: Cardioid, 45 to 15,000 Hz frequency response, 150/250 ohms impedance, output -54 dBm*. All are supplied with 15 ft. cable, 682B and 683B also supplied with standard 3-pin plug.

*dBm Re: 10 dynes/cm².

I. 179A, 180A SHOCK MOUNTS

Use 179A with M49-M52 series microphones, 180A with 681-689 series microphones. Protects microphone from external vibration, bump, and scrape noises. Has standard 5/8" -27 thread.

J. 181B BOOM MOUNT

Provides adjustable shock mounting for all fixed or mobile boom usage. Accommodates most microphones in current use.

K. 24C, 26A, 34A DESK STANDS

Holds microphone securely on desk or speakers table. 5/8" -27 thread or 5/8" -24 thread for microphone attachment. Switch may be mounted in the 26A stand. 34A furnished with shock mount to isolate the microphone from vibration.

L. 4B ON/OFF SWITCH

Equipped with 3-pin Canon XLR-3-11 plug. Use with ALTEC microphones 682A, 683B, 684B, 685B.

E. 684B, 685B DYNAMIC (684B shown)

Each microphone comes complete with a factory calibrated frequency response curve recorded in an ALTEC anechoic chamber, using a servo-driven recorder. Two-tone black and dark green. 684B: Omnidirectional, 35 to 20,000 Hz frequency response, 150/250 ohms impedance, output -55 dBm*. 685B: Cardioid, 40 to 16,000 Hz frequency response, 150/250 ohms impedance, output -54 dBm*. Each is supplied with 15 ft. of 2-conductor cable (100% shield) and a plug for connecting to the microphone.

F. 686B LAVALIER

Dynamic, Omnidirectional. Output -55 dBm*, impedance 150/250 ohms, frequency response 70 to 20,000 Hz when used as a lavalier. Comes with a neck cord and steel spring clip, 20 ft. 2-conductor shielded cable and plug. Sintered bronze filter, non-glare dark green.

G. 687B ANNOUNCING AND PAGING MICROPHONE

Dynamic, Omnidirectional. Output -58 dBm*, 150/250 ohms impedance, 50 to 15,000 Hz frequency response with shutter closed. Shutter allows adjustment of low frequency response, reduction of unwanted interference. Maintains excellent speech reproduction in noisy surroundings. Supplied with 15 ft. 3-conductor cable (80% shield).

H. 688B, 689B, 689BX DYNAMIC (689B shown)

Two-tone black and dark green. Calibration curve included. Furnished with 15 ft. of 2-conductor shielded cable and plug. Hand held or mount on stand or boom. Impedance 150/250 ohms. 688B: 35 to 20,000 Hz frequency response, output -55 dBm*, omnidirectional. 689B and 689BX: Cardioid, 40 to 16,000 Hz frequency response, output -54 dBm*. The 689BX is a special version for stereo systems requiring matched microphones.

High resistance to shock, blasts, corrosive fumes, humidity and temperature extremes, plus wide range and smooth frequency response are attained by the use of ALTEC'S special Mylar[®] diaphragm in all of the microphones shown above.

Mylar[®] is a registered trade mark of DuPont.

Microphone Accessories



M. 22C FLOOR STAND

Weights 13 pounds. Wrinkle gray finish base, chrome stand. Adjustable from 35 to 64 inches. Has standard 5/8" -27 thread, 5/8" -24 thread also furnished.

N. 192A WIND/POP SCREEN

Furnished with M49-M52 series microphones. Prevents pick-up of undesired wind noise when used outdoors and "pop" when the speaker is close to the microphone.

O. 35A/40933 FLEXIBLE MOUNTING AND FLANGE

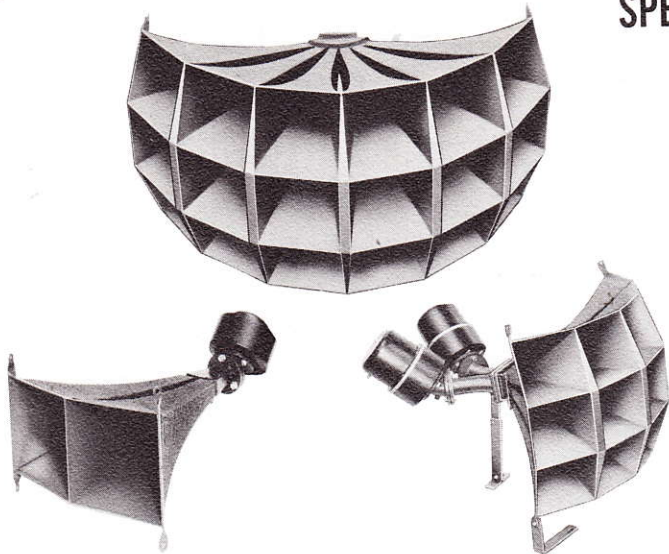
Has standard 5/8" -27 thread. Mounting 13 inches long. Mounting flange 1-3/8 inch diameter, may be mounted in any position on desk or wall. For 677B only.

P. 7A SWITCH

Use with 26A desk stand. Includes red jewel pilot light. Has both "push-to-talk" and "lock-to-talk" positions.

For additional information on any item write to ALTEC LANSING, 1515 South Manchester, Anaheim, California 92803

SPEAKERS

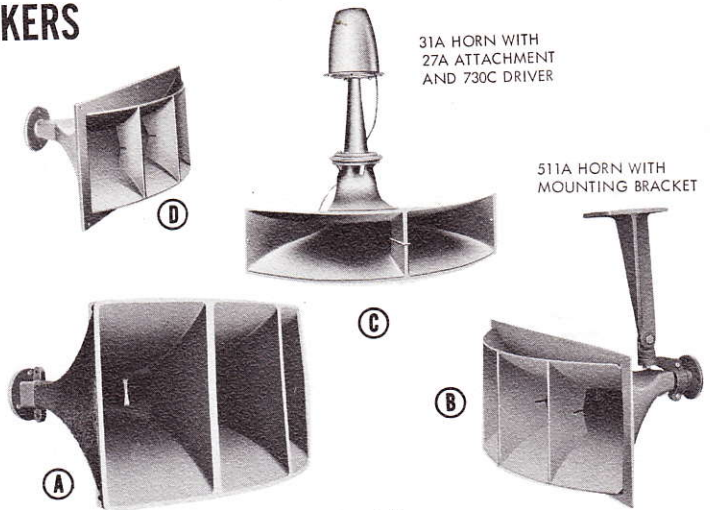


Multicellular Horns

For Auditoriums, Stadiums, Arenas, Theatres, Airport Terminals, Outdoor Voice Warning Systems, Industrial and Commercial Installations.

The most efficient of all for delivering top quality sound uniformly over a defined listening area. The excellence of the multicellular horn is the result of its unique design.

The multicellular horn consists of a number of individual exponential shaped horn cells assembled in various configurations to provide exact control of the distribution of sound area coverage. The distribution patterns vary from 20° x 40° to 60° x 125° depending on the design of the horns. One to four drivers (288D, 290E, 730C) are used with the various horns, giving from 103 to 119 dB sound pressure level at full power measured at 30 feet. Multicellular horns are available with either 300, 400, or 500 cycle low frequency cut-offs. Sound systems designed for speech-only operation normally use the 300 cycle cut-off horn. Length 17 to 31 inches, width 30 to 44 inches, 13 to 24 inches high, weigh 17 to 58 pounds. For full information request catalog AL-1434-10.



31A HORN WITH 27A ATTACHMENT AND 730C DRIVER

511A HORN WITH MOUNTING BRACKET

Sectoral Horns

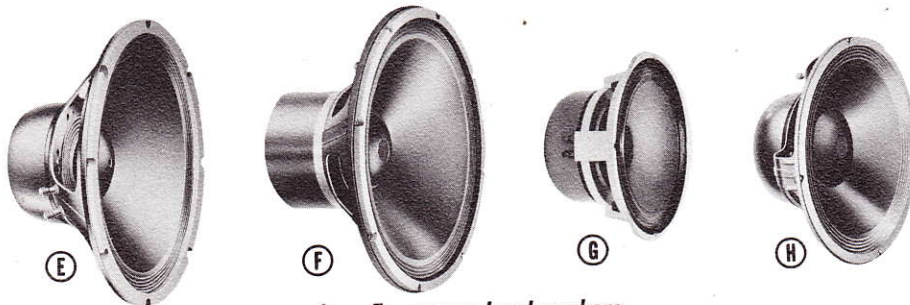
Ideal for paging systems in or around factories, airports, railroad and bus stations, shopping centers, military bases or athletic fields. Made of light weight cast aluminum and carefully designed to assure complete freedom from resonance and ring. Sound may be directed exactly where it is needed. Available in many distribution patterns. Horizontal and vertical distribution pattern is listed in degrees below. For full range system use with Low Frequency Speakers 414A, 416A, or 515B.

A. 311-90 - 90° x 40°, **311-60** - 60° x 40°. Use with drivers 730C, 288D or 290E. Gives uniform control of the projection angle. Sound pressure level at full driver power measured at 30 ft. is from 107 to 114 dB depending upon the driver used. 311-60 weighs 19-1/2 lbs. 311-90 weighs 29 pounds.

B. 511A - 90° x 40°. Use with 730C, 802D, or 806A drivers. Mounting bracket is supplied with the horn, simple to install in any position. Weighs 17-3/4 pounds.

C. 31A - 120° x 40°. Use with 730C Driver. Designed for speech and background music where wide angle coverages is required. Weighs 13 pounds.

D. 811B - 90° x 40°. Use with either the 802D or 806A driver. Weighs 9 pounds



Low Frequency Loudspeakers

OUTSTANDING AUDIO REPRODUCTION FOR WIDE-RANGE, TWO-WAY SOUND REINFORCEMENT

E. 416A 15 INCH SPEAKER

Superb bass reproduction for all wide-range public address, theatre or auditorium system. Continuous power rating of 30 watts, 20 to 1,600 Hz frequency response. Magnet weight 2.4 pounds, total weight 17-1/2 pounds.

F. 515B 15 INCH SPEAKER

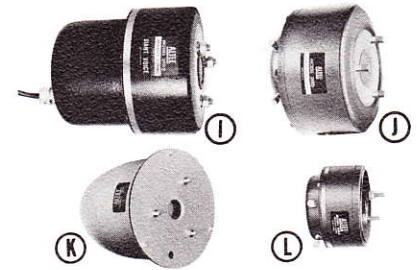
Used in the VOICE OF THE THEATRE systems. Exceptionally low frequency response of 20 to 1,000 Hz, 35 watts of continuous power. High efficiency and ability to faithfully reproduce the lowest audio frequencies at unusually high power levels. Magnet weight 4.4 pounds, total weight 26 pounds.

G. 406B 10 INCH SPEAKER

Ideal for limited-space enclosures where true high-fidelity must not be compromised in two-way loudspeakers systems. Continuous power rating of 25 watts, a frequency response of 25 to 4,500 Hz. Weighs 11-3/4 pounds.

H. 414A 12 INCH SPEAKER

An excellent choice in two-way systems utilizing ALTEC high frequency drivers and sectoral horns. Ideal for use in institutional and entertainment systems of moderate size and coverage area. 25 watts continuous power, 30 to 4,000 Hz frequency response. Weighs 15 pounds.



Driver-Loudspeakers

The Driver Loudspeakers are used with the Multicellular and Sectoral Horns listed on this page. With the few exceptions noted, all drivers may be used with all Multicellular and Sectoral Horns listed. For special applications and a complete listing of accessories, contact the factory.

I. 290E DRIVER

The most powerful Driver—100 watts above 300 Hz. Four drivers mounted on a single horn will achieve continuous sound levels as high as 82.5 dB one-half mile distant from the horn. 300-8,000 Hz frequency response, 4 ohm impedance. Weather-proofed construction for outdoor use, ideally suited to voice warning systems, stadiums, race tracks.

J. 288D DRIVER—THEATRE TYPE

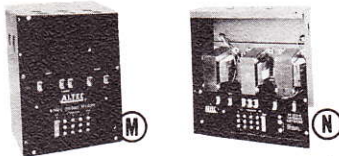
For theatres, auditoriums, factories, airports, restaurants, gymnasiums. Smooth frequency response from 500 to 16,000 Hz, 40 watts-power with 500F network, 16 ohms impedance. Recommended for sheltered or indoor installations. Model 288C is available with 24 ohm impedance.

K. 730C DRIVER

Public Address, Paging Systems, Voice Warning Systems. Frequency response 150-8,000 Hz, 75 watts power over 300 Hz, 8 ohms impedance. Weatherproof for outdoor use.

L. 802D, 806A DRIVERS—(Use with 811B or 511A Horns)

Frequency response 500-22,000 Hz, 30 watts power, 16 ohm. For use in wide range music systems, broadcast and recording studios, theatres, night clubs, dance studios.



Dividing Networks

Dividing Networks provide a smooth crossover from the low- to the high-frequency speakers and prevent low frequencies from damaging high-frequency drivers. Used between the final power amplifier and the speakers to deliver the correct frequency band to each loudspeaker.

M. N-500C NETWORK - For use in high-level systems, up to 250 watts maximum power. Crossover at 500 Hz, 12 ohms impedance. Weighs 13.25 pounds.

N. N-500F NETWORK - Crossover at 500 Hz, 250 watts (max.) power, 16 ohms impedance. Weighs 18 pounds. This network is designed to accommodate three 15067 impedance matching transformers.

O. N-500G NETWORK - Crossover at 500 Hz, 80 watts (max.) power, impedance 16 ohms. Weighs 4-1/2 pounds.

P. N-800D NETWORK - Crossover at 800 Hz, 75 watts (max.) power, impedance 16 ohms. Weighs 2.7 pounds.



SPEAKERS

Duplex® Coaxial Loudspeakers

Considered by audio engineers to be the finest single-frame full range speaker ever made. Capable of reproducing the entire range of sound, these provide unusually uniform and pure response throughout the mid-frequency range as well as those frequencies at the edge of hearing. Used in Professional Broadcasting and Studio Playback Monitoring Systems, Auditoriums, Theatres, Hotels, Transportation Terminals, Restaurants, Schools. Each Duplex Speaker is supplied with a professional full-section dividing network incorporating a high frequency balance control for matching or adjusting to the acoustical characteristics of individual listening areas.

A. 604E SUPER DUPLEX LOUDSPEAKER

Our finest. This 15 inch speaker has a frequency response of 20 to 22,000 Hz, operates from 8 ohms to 16 ohms impedance, 35 watts continuous power (50 watts peak), minimal distortion, extremely wide range, excellent sound distribution and smooth response. The 604E has a dual magnet structure weighing 26 pounds 13 ounces, contains oversize Alnico V magnets. The total weight including the network is 34 pounds.

B. 605B DUPLEX 15" SPEAKER

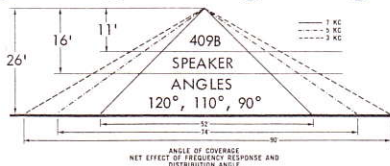
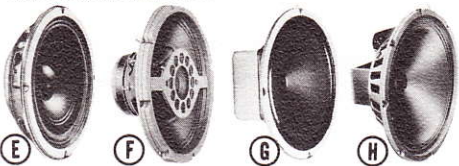
Frequency response 20 to 22,000 Hz, 35 watts continuous power (50 watts peak). Wide range, smooth response and excellent distribution. Guaranteed to meet or exceed its published specifications stating its capability to reproduce the entire audible range of sound, when mounted in the correct enclosure. Impedance 16 ohms, total weight including network, 28 pounds.

C. 615B/A DUPLEX 15" SPEAKER

Designed for ceiling installation or other location where wide-angle, conical sound distribution pattern and maximal quality reproduction is desired. Attains a uniform 90° conical distribution, exceptionally uniform response throughout the coverage area. 35 watts power (50 watts peak), 20-12,000 Hz frequency response, 16 ohms impedance, weighs 28 pounds with network.

D. 601C DUPLEX 12" SPEAKER

Continuous 20 watts power (30 watts peak). Frequency response 30-22,000 Hz, 8 ohms impedance, weighs 15 pounds with network. Horizontal distribution 90°, vertical distribution 40°. The 601C - smallest of the Duplex line - represents the only 12-inch two-way loudspeaker of professional quality that has been adopted by the audio industry for applications involving limited space, where high quality standards must be maintained.



Eight Inch Full Range Speakers

E. 755E "PANCAKE" SPEAKER

Highest quality 8-inch speaker available, superior to many larger speakers. Only 2-1/2 inches deep, it may be mounted in limited space in walls and ceilings. Performs well in a small enclosure. Frequency response 40 to 15,000 Hz, 20 watts power, 8 ohms impedance, 90° distribution.

F. 409B WIDE ANGLE SPEAKER

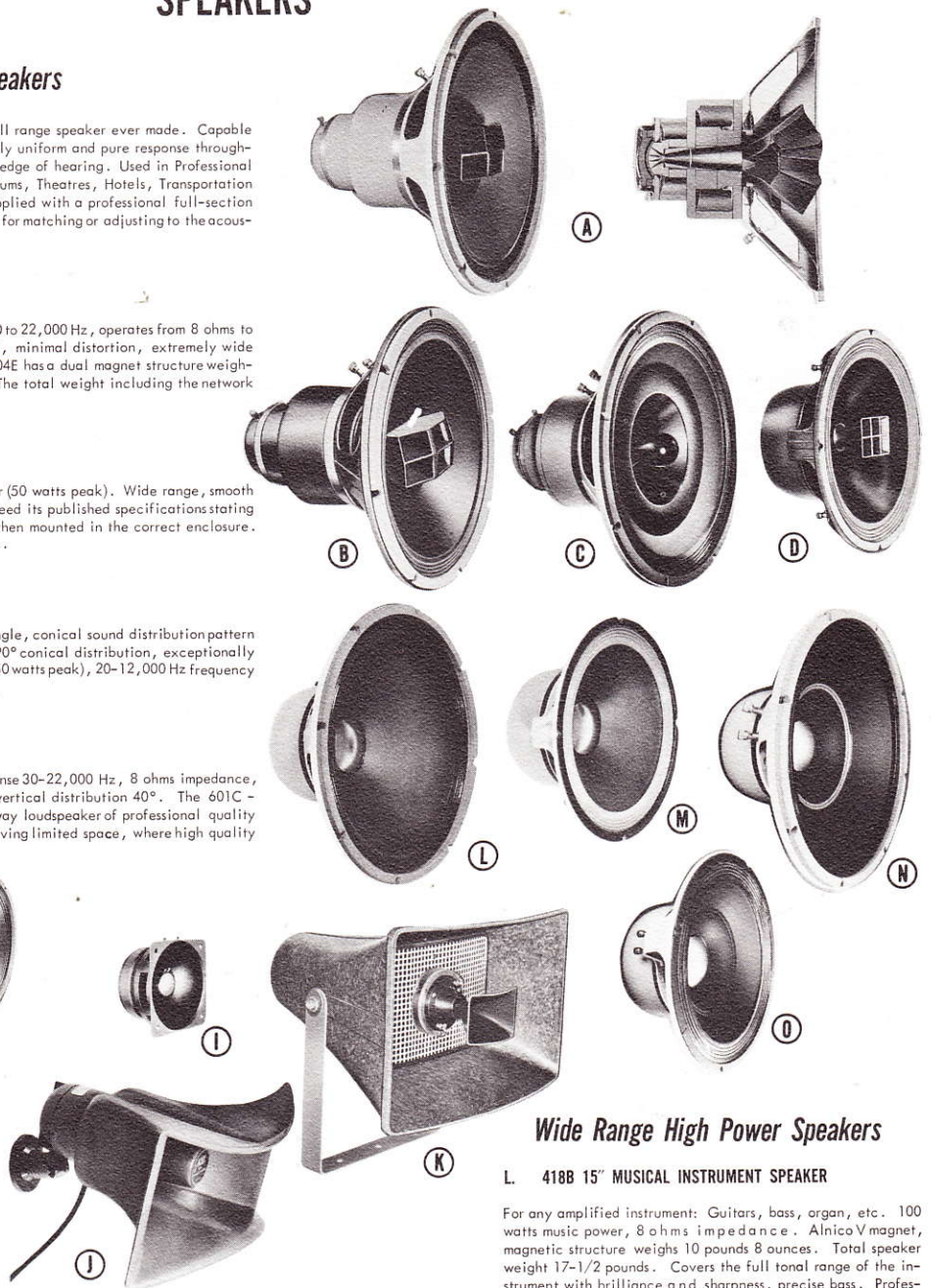
Extremely wide 120° distribution. Ideal for use in public address systems, paging facilities, background music. Low price, 50 to 14,000 Hz frequency response, 8 ohms impedance, 16 watts power, long life and trouble-free performance.

G. 401B SPEAKER

Designed for paging systems and low level music distribution. Frequency response 60 to 12,000 Hz, 15 watt power, 8 ohms impedance. Compact design for easy installation. Dust protected.

H. 403A SPEAKER

Moderately priced, wide range, designed for indoor public address, and music systems. Can be flush-mounted in wall, ceiling or baffle installations. Frequency response 70 to 11,000 Hz, 12 watts power, 8 ohms impedance.



Wide Range High Power Speakers

L. 418B 15" MUSICAL INSTRUMENT SPEAKER

For any amplified instrument: Guitars, bass, organ, etc. 100 watts music power, 8 ohms impedance. Alnico V magnet, magnetic structure weighs 10 pounds 8 ounces. Total speaker weight 17-1/2 pounds. Covers the full tonal range of the instrument with brilliance and sharpness, precise bass. Professional quality.

M. 417B 12" MUSICAL INSTRUMENT SPEAKER

Seventy-five watts music power, 8 ohms impedance. For Electric Guitars, string bass and electric organs. Alnico V magnet, magnetic structure weighs 10 pounds 8 ounces. Total speaker weight 16 pounds. Extremely high efficiency gives greater acoustic output. For professional and advanced amateur alike.

N. 420A 15" BIFLEX® SPEAKER

High efficiency, wide range, and smooth response over an unusually wide distribution area. Inner cone vibrates independently of the outer cone. Power 25 watts, 25 to 14,000 Hz frequency response, 8 ohms impedance, weighs 17-1/2 pounds. White and gray.

O. 419A 12" BIFLEX® SPEAKER

Similar to the 420A above. The entire area of the speaker cone propagates the low frequency; the smaller central cone, the high frequencies. 20 watts power, 30 to 15,000 Hz frequency response, 8 ohms impedance, weighs 15 pounds. White and gray.

I. 405A 4" LOUDSPEAKER

For peak performance in a limited mounting space. Water-resistant cone, may be used in areas of high humidity. Small size, high quality. Frequency response 60 - 15,000 Hz, 10 watts power, 8 ohms.

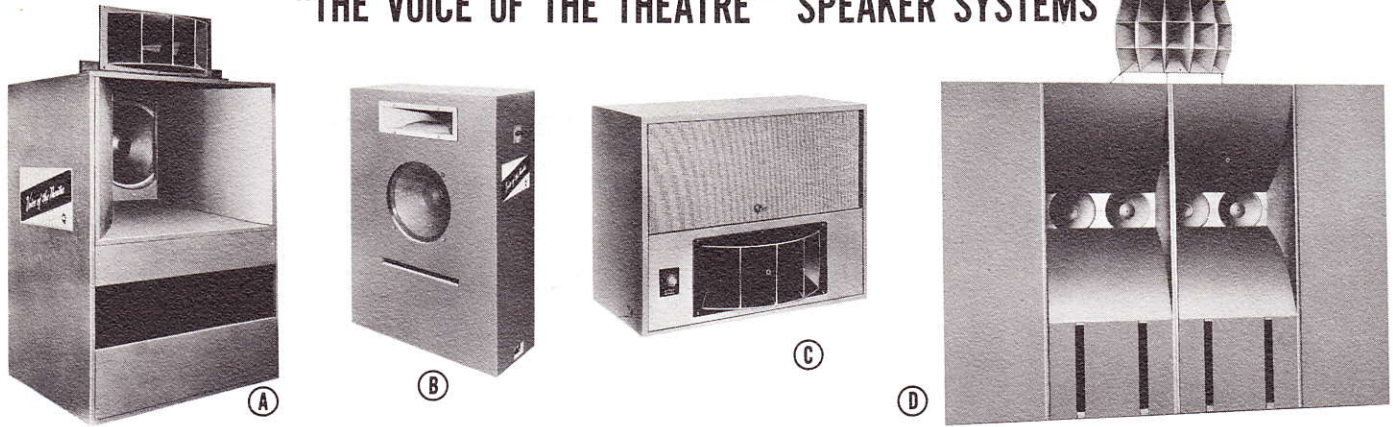
J. 151A PAGING HORN

Rugged, weatherproof construction, easy to install. Use for indoor and outdoor paging, factories, schools, athletic fields, public address systems. Frequency response 250 - 13,000 Hz, 30 watts power, 8 ohms impedance.

K. 150B "BI-ACOUSTIC" HORN SYSTEM

Versatile, Multi-Purpose two-way system in one frame. Excellent reproduction of both speech and music. Weatherproof construction. Frequency response 150 - 12,000 Hz, 50 watts power, 8 ohms impedance. Use for public address, outdoor areas, paging, airports, factories.

"THE VOICE OF THE THEATRE"® SPEAKER SYSTEMS



ALTEC'S THE VOICE OF THE THEATRE two-way Speaker Systems provide the greatest flexibility to meet any acoustical requirement. Used in the majority of theatres in the United States and in theatres throughout the world for perfect coverage of audience areas, large or small. For vivid realism in the reproduction of voice, music and sound effects, THE VOICE OF THE THEATRE is used in night clubs and churches. Used too, to add realism in the reproduction of voice, music and sound in arenas, stadiums, coliseums, and auditoriums. Speakers of the highest quality are combined to provide the greatest fidelity and perfect coverage of any area.

A. A7, A7-500 AND A7-XX

Most widely used of the famous Altec "The Voice of the Theatre" family. Compact and highly efficient with unusually wide frequency range, these are used in small to medium sized auditoriums, night clubs, meeting halls, recording studios and theatres where professional quality sound reproduction is required. Smooth, effective response from 20 to 22,000 Hz, reproducing all of the sonic and dynamic range within the limits of human hearing. Power rating 30 watts, 16 ohms impedance, supplied in a gray color. The A7 weighs 135 pounds, the crossover is at 800 Hz. The A7-500 weighs 142 pounds, the crossover is at 500 Hz. The A7-XX weighs approximately 145 pounds, the crossover is at 800 Hz. The sectoral horn may be mounted on top of the 42" high cabinet or internally.

B. A8

Designed for small theaters, night clubs, and other locations with limited space. Only 12-1/4 inches deep, the A8 can be used where space is limited and quality sound is imperative. Weighs 84 pounds. Two or three may be used to cover larger areas.

A5-X (not shown)

The cabinet and low frequency horn of this system is similar to the A7 Series, the multicellular horn and the high and low frequency driver-loudspeakers are like those used in the A4 series. Cabinet height (before mounting the multicellular horn on top) is 42 inches.

C. 844A MONITOR/PLAYBACK SPEAKER SYSTEM

Highest quality sound reproduction. For Recording Studios, Broadcasting and Telecasting Stations, Theatres, Restaurants. Wide angle distribution, wall mounted. 30 watts power, 30 to 22,000 Hz frequency response, 8 or 16 ohm impedance. Weighs 90 pounds.

A4 AND A4-X (not shown)

The two 515 B 15" low frequency speakers in these systems are mounted in the large # 210 low frequency horn. This horn is 7 feet tall, the additional height listed on the chart below includes the height of the multicellular horn mounted on top. The design of this low frequency horn allows the use of higher power input without distortion and enhances the performance of the low frequency loudspeakers. Carefully constructed of heavy materials and braced where acoustically required to prevent vibration, they may be mounted in walls and ceilings or suspended overhead in large areas. Finished in dark gray lacquer, they are to be used in auditoriums and theatres. With a weatherproof coating of resin added, they may be used in outdoor installations. The A4 has a power rating of 40 watts; the A4-X, 60 watts. The combination of horns cover the full range of audible sound.

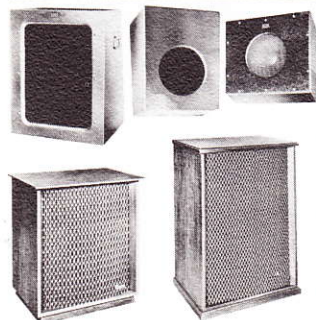
D. A1, A1-X, A2, A2-X (A2, A2-X shown)

Largest of all "The Voice of the Theatre" systems. Seven feet tall before mounting the multicellular horns on top, they vary only by the number of horns and driver-loudspeakers used. Designed for the largest theatres, they are also used by combos and rock and roll groups to obtain the terrific "full room" sound level they desire. A powerhouse of realistic sound without distortion. Specifications listed on the chart below.

A number of catalog sheets and brochures are available giving additional information about "The Voice of the Theatre", speaker cabinets, and combinations of speakers for various uses. For complete information write the factory and give both the model numbers of the speakers or systems and their intended use: Theatres, Night Clubs, Auditoriums, Arenas, Stadiums, Churches, etc.

"THE VOICE OF THE THEATRE" ORDERING CHART

| SYSTEM NUMBER | POWER (WATTS) | HF DRIVERS | LF DRIVERS (Loudspeakers) | HF HORN | DISTRIBUTION | THROAT | LF HORN | NETWORK (16 ohm) | OVERALL SIZE | | | APPROX. SHIPPING WEIGHT (POUNDS) |
|---------------|---------------|------------|---------------------------|---|--|-------------------------------|---------|------------------|--|---|------|----------------------------------|
| | | | | | | | | | H | W | D | |
| A1-X | 200 | 4 - 288C | 6 - 515B | 1804B, 60° x 125° or 1504B, 60° x 105° or 1004B, 40° x 100° | 60° x 125° 60° x 105° 40° x 100° | 2-30170 2-30170 2-30170 | 610 | N500C | 113" x 152" x 39-1/2" 113" x 152" x 39-1/2" 105" x 152" x 39-1/2" | | 2200 | |
| A1 | 100 | 2 - 288C | 6 - 515B | 1505B, 60° x 105° or 1005B, 40° x 100° | 60° x 105° 40° x 100° | 1-30172 1-30170 | 610 | N500C | 108-1/2" x 152" x 39-1/2" 102-1/2" x 152" x 39-1/2" | | 2150 | |
| A2-X | 150 | 4 - 288C | 4 - 515B | 1804B, 60° x 125° or 1504B, 60° x 105° or 1004B, 40° x 100° | 60° x 125° 60° x 105° 40° x 100° | 2-30170 2-30170 2-30170 | 410 | N500C | 113" x 113" x 39-1/2" 113" x 113" x 39-1/2" 105" x 113" x 39-1/2" | | 1400 | |
| A2 | 80 | 2 - 288C | 4 - 515B | 1505B, 60° x 105° or 1005B, 40° x 100° | 60° x 105° 40° x 100° | 1-30172 1-30170 | 410 | N500C | 108-1/2" x 113" x 39-1/2" 102-1/2" x 113" x 39-1/2" | | 1250 | |
| A4-X | 60 | 2 - 288C | 2 - 515B | 1505B, 60° x 105° or 1005B, 40° x 100° or 804B, 35° x 70° | 60° x 105° 40° x 100° 35° x 70° | 1-30172 1-30170 1-30172 | 210 | N500C | 108-1/2" x 80-1/2" x 39-1/2" 102-1/2" x 80-1/2" x 39-1/2" 102-1/2" x 80-1/2" x 39-1/2" | | 775 | |
| A4 | 40 | 1 - 288C | 2 - 515B | 1505B, 60° x 105° or 1005B, 40° x 100° or 805B, 40° x 80° | 60° x 105° 40° x 100° 40° x 80° | 1-30166 1-30210 1-30162 | 210 | N500C | 108-1/2" x 80-1/2" x 39-1/2" 102-1/2" x 80-1/2" x 39-1/2" 102-1/2" x 80-1/2" x 39-1/2" | | 750 | |
| A5-X | 35 | 1 - 288C | 1 - 515B | 1505B, 60° x 105° or 1005B, 40° x 100° or 805B, 40° x 80° | 60° x 105° 40° x 100° 40° x 80° | 1-30166 1-30210 1-30162 | 825 | N500C | 64" x 30-1/2" x 30" 59" x 30" x 27" 59" x 30" x 27" | | 275 | |
| A7 | 30 | 1 - 806A | 1 - 416A | 811B, 40° x 90° | 40° x 90° | None | 825 | N800D | 52-1/4" x 30" x 24" | | 200 | |
| A7-500 | 30 | 1 - 802D | 1 - 416A | 511A, 40° x 90° | 40° x 90° | None | 825 | N500G | 54-1/4" x 30" x 24" | | 200 | |
| A7-XX | 30 | 1 - 806A | 1 - 515B | 811B, 40° x 90° | 40° x 90° | None | 825 | N800D | 52-1/4" x 30" x 24" | | 200 | |
| A8 | 30 | 1 - 806A | 1 - 416A | 30623, 60° x 90° | 60° x 90° | None | 39624 | N800G | 42" x 30" x 12" | | 110 | |



Speaker Cabinets

These compact enclosures will provide optimum performance in a minimum of space. They are designed for excellent bass response and clean, undistorted mid-range and high-frequency reproduction. They will furnish the proper baffling and mounting for any installation.

Heavy wood construction, sturdy bracing, and proper application of acoustical material permit greater power output without cabinet rattle or boom. The furniture-type enclosures are constructed of hand-rubbed walnut. The utility cabinets are finished in protective industrial paint, designed to last indefinitely under normal use. For full ordering information on these speaker cabinets see ALTEC'S catalog sheet No. AL-1499-2.



Column Loudspeaker Systems

The 840A contains six standard 403A speakers having individual frequency ratings of 70- 11,000 Hz. 72 watts continuous power for the complete system. The deluxe 839A is designed for higher power and wider frequency response, contains six standard 755E speakers with an individual frequency rating of 40 to 15,000 Hz. 90 watts continuous power for the complete system. Cabinets are of sturdy unfinished white birch, 54-3/4" high, 11-1/2" wide, 7-1/4" deep. Design gives great control of the area covered by sound.



For additional information on any item write to: ALTEC LANSING, 1515 South Manchester, Anaheim, California 92803

POWER AMPLIFIERS



A



B



C



D

A. 128B POWER AMPLIFIER

Designed for professional recording use, may also be used with public address systems. 40 watts power, frequency response ± 1 dB 3 to 30,000 Hz. Metering circuits, 70V line connection, over-temperature warning indicator, meter illumination.

B. 351C POWER AMPLIFIER—ALL TRANSISTOR

Churches, schools, convention halls, industrial paging, recording studios, broadcast stations. 50 watts power, instantaneous operation, no warm-up time required. 16-1/2 pounds, dark green, for rack mounts.

C. 1568A POWER AMPLIFIER

Outstanding quality, stable under all load conditions. 40 watts, frequency response ± 1 dB 5 to 30,000 Hz. 150 or 600 ohms with 15095 plug-in transformer or high impedance input, 70V and 25V outputs. Simple circuitry, high efficiency. 22 pounds.

D. 1569A POWER AMPLIFIER

Full 80 watt output, frequency response ± 1 dB 5 to 30,000 Hz. 150 or 600 ohms with 15095 plug-in transformer or high impedance output, 70 and 25V outputs. 27-1/2 pounds.



E



F



J



G

E. 1570B POWER AMPLIFIER

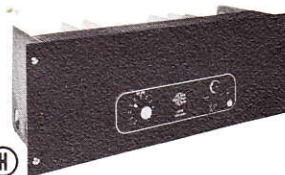
Delivers more undistorted, wide-range power per dollar invested than any other amplifier. 175 watts power, frequency response ± 1 dB 10 to 50,000 Hz, 150 or 600 ohms with 15095 plug-in transformer or high impedance input. High reliability, quality performance, economical operation. Weighs 59 lbs.

F. 1590A POWER AMPLIFIER—ALL TRANSISTOR

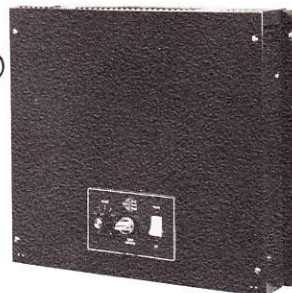
For sound, paging and music distribution systems. "Fail-Safe" automatic transfer to battery operation if power fails. High or low impedance inputs, 200 watt output, 70V line connections. 38 pounds.

G. 1593A POWER AMPLIFIER—ALL TRANSISTOR

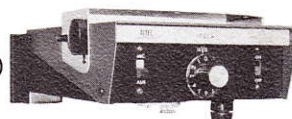
Use for public address, paging, music distribution and sound reinforcement systems. 50 watt power, under 1% distortion in 45 to 20,000 Hz range at full power. Automatic transfer to battery if AC power fails. 23 pounds, green.



H



I



K

H. 1594A POWER AMPLIFIER—ALL TRANSISTOR

Public address, schools, factories, military complexes, theatres, warning systems, rail, bus and air terminals. 100 watt power output, 20 to 20,000 Hz range, 35-1/2 pounds. Automatic transfer to battery if AC power fails.

I. 1595A POWER AMPLIFIER—ALL TRANSISTOR

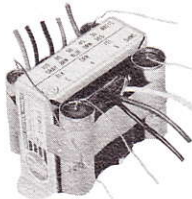
For warning systems, stadiums, theatres, arenas, military complexes. 330 watts undistorted operating power with thermostatically controlled cooling. High-voltage, variable ac supply for industrial and laboratory uses, designed for rack mounting. 80 pounds. Frequency response ± 1 dB 20 to 20,000 Hz.

J. 1601A VOICE FREQUENCY AMPLIFIER—ALL TRANSISTOR

Full 350 watt power output. For mobile voice communications, police and fire departments, riot, crowd and fire control. Operates on 28V power supply. Rugged, light weight 12-1/2 pounds, black. Frequency response ± 3 dB, 300 to 5000 Hz.

K. 1602A MOBILE POWER AMPLIFIER—ALL TRANSISTOR

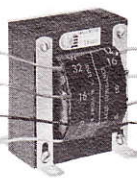
Operates from an automotive-type battery power source. Frequency response 200 to 8000 Hz for voice and public address. Power output 30 watts, 8 to 16 ohm speaker load, 3 lbs. 10 oz.



15045A



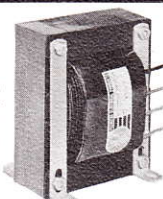
15064



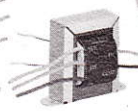
15066

70 & 20 Volt Line Transformers

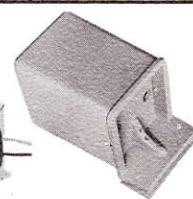
ALTEC LANSING TRANSFORMERS have less power loss than any other transformer. Using these transformers, twice as many loudspeakers may be driven from a power amplifier than with conventional transformers — or power amplifiers may be reduced by one-half or even more in size.



15067



15132



21256**

TABLE OF SPECIFICATIONS FOR ALTEC TRANSFORMERS

| MODEL NUMBER | FREQUENCY RESPONSE | AUDIO WATTS PRIMARY | SECONDARY LOAD IMPEDANCE | MAXIMUM INSERTION LOSS* | WEIGHT |
|--------------|--|------------------------|--|-------------------------|-----------|
| 15045A | ± 1 dB from selected low frequency cutoff to 10,000 Hz | 100, 80, 60 40, & 30W | 4 and 8 Ω | 0.5 dB | 2-1/2 lb. |
| 15064 | ± 1 dB from 60 to 15,000 Hz | 1, 0.5 and 0.25W | 4 and 8 Ω | 0.7 dB | 3/8 lb. |
| 15065 | ± 1 dB from 30 to 15,000 Hz | 8, 4, and 2W | 16, 8, and 4 Ω | 0.5 dB | 2-1/4 lb. |
| 15066 | ± 1 dB from 30 to 15,000 Hz | 32, 16, and 8W | 16, 8, and 4 Ω | 0.5 dB | 5 lb. |
| 15067 | ± 1 dB from 30 to 15,000 Hz | 160, or 80W, or 40W | 16 and 8 Ω , or 32 and 16 Ω | 0.3 dB, or 0.2 dB | 5-3/5 lb. |
| | (for impedance matching at other than 70 volts) | 80, or 40W | 16, 8, and 4 Ω , or 8, 4, or 2 Ω | 0.5 dB, or 1.0 dB | |
| 15074 | ± 1 dB from 60 to 15,000 Hz (twice nominal impedance) | 4, 2, and 1W | 8, 4, and 2 Ω | 1.2 dB | 5/8 lb. |
| | (four times nominal impedance) | 2, 1, and 0.5W | 16, 8, and 4 Ω | 0.8 dB | |
| 15075A | ± 2 dB from 200 to 15,000 Hz | 1, 0.5, and 0.25W | 32, 16, and 8 Ω | 0.5 dB | |
| 15132 | ± 1 dB from 100 to 10,000 Hz | 15, 7.5, and 3.75W | 8 Ω | 0.6 dB | 1/2 lb. |
| 15230 | ± 2 dB from 100 to 5000 Hz | 4, 2, 1, and 0.5W | 8 Ω | 1.0 dB | 1/2 lb. |
| 15230 | ± 2 dB from 100 to 5000 Hz | 2, 1, 0.5, and 0.25W | 8 Ω | 1.0 dB | 5/8 lb. |
| 15313 | ± 1 dB from 150 to 12,000 Hz | 30, 15, 7.5, and 3.75W | 8 and 16 Ω | 0.8 dB | 1/2 lb. |

*Insertion loss for the most unfavorable combinations of impedances.

**21256 WEATHERPROOF HOUSING for 15045A, 15064, 15065, 15074, 15075A, 15130, 15032, 15313

For additional information on any item write to: ALTEC LANSING, 1515 South Manchester, Anaheim, California 92803

AMPLIFIERS

INPUT EQUIPMENT



A. 250 T3 CONTROL CONSOLE—ALL TRANSISTOR

Designed to fill the exacting requirements of music centers, recording and broadcasting studios, convention centers and other high quality sound systems. May be used in small city studio, or with extra amplifiers and accessory equipment, in large studios. Provides selecting and mixing ten of the twelve input lines. 9-1/2" H x 44" W x 15" D. Catalog #AL-1726 describes the variations and accessories available.

B. 1591A COMPRESSOR AMPLIFIER—ALL TRANSISTOR

Engineered for mixing high/low level inputs, compression or linear amplification without exceeding dynamic ranges in recording and broadcast studios, theatres, stadiums, schools, arenas, convention centers, public address systems. Controls the problem of speech-level differences in individuals. A versatile signal-amplitude controlling/amplifying unit. Simple to install and operate. 8 lbs. 5 oz.

C. 342B AMPLIFIER

A 35 watt combined amplifier and mixing preamplifier, ideal for small public-address systems. Four microphone inputs with individual mixing volume controls. An auxiliary input at the mixing level provides a connection point for line inputs, additional preamplifier inputs, or interconnection for a group of amplifiers. Weighs 22 pounds.

D. 352A MIXER/POWER AMPLIFIER—ALL TRANSISTOR

Control and mix up to 5 independent channels. 40 watts power, operates from either ac or dc. Portable for emergency use. Two recorder outputs. Full range of plug-in accessories available. 23-1/2 pounds, dark green.

E. 361B MIXER/POWER AMPLIFIER—ALL TRANSISTOR

Control, mix, and amplify two input signals, 18 watts power. Full range of accessories available. can be tailored to the needs of small complex installations. Provides professional sound at moderate cost. 10 pounds. See ALTEC catalog AL-1483-2 for accessories and ordering information.

F. 436C COMPRESSOR AMPLIFIER

Used in automatic level-control applications in recording, TV broadcasting and public address systems. Level differences caused by individual voice intensities and unequal distances of performers from the microphone can be minimized by its use. In response to a strong input signal, it will reduce gain up to 30 dB automatically. 8-1/2 pounds.

G. "REVCN II"—REMOTE VOLUME CONTROL SYSTEM

Provides individual or central volume controls for up to 6 remotely located solid-state amplifiers in sound reinforcement systems for theatres, hotels, auditoriums, arenas. Quickly connected into or between installed sound reinforcement system components. For use with low impedance, solid state amplifiers in high quality installations. Revocon I is also available. Same operation as "Revocon II" except that it is designed for high impedance tube amplifiers. Refer to catalog AL-1468.

H. 1592A MIXER-AMPLIFIER

All purpose for professional or commercial use. Controls and mixes 5 inputs, multiple master jacks allows simultaneous operation of 2 mixers for up to 10 inputs. Automatically switches to battery if ac power fails. May be used in portable carrying case or rack mounted for permanent installation. Weighs 12 pounds., dark green. Request catalog AL-1722 for further information.

I. 1567A MIXER-AMPLIFIER

Exceptional flexibility for use in public address systems and studios or as a remote portable mixer. Has 4 low level inputs and 1 high level input each with individual volume controls, a master gain control, separate bass and treble tone controls, a power switch, illumination control and facility for an accessory VU meter. 10-3/4 pounds.

J. 1566A PREAMPLIFIER

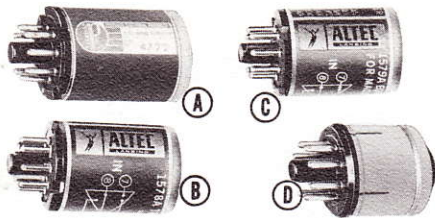
A compact three-stage microphone preamplifier with self-contained power supply. The input will accept high impedance microphones and its output will drive one or many high or low impedance amplifiers. May be used with low impedance microphones with addition of an accessory input transformer. Continuously variable gain control, power switch and circuit fuse.

K. QUICK CONNECT SOLID STATE MODULES

No wiring required, components may be arranged to create versatile audio amplification systems in a variety of combinations from simple to complex by making plug-in connections. All solid state, wide range frequency response, rugged and compact, rack panel mounted. Send for catalog AL-1493 for list of basic components.

For additional information on any item write to: ALTEC LANSING, 1515 South Manchester, Anaheim, California 92803

AMPLIFIER ACCESSORIES



A. 4722 MICROPHONE INPUT MATCHING TRANSFORMER

Provides low impedance microphone inputs for all ALTEC amplifiers requiring plug-in transformers. Has 60 dB electromagnetic shielding. Frequency response ± 1 dB 30 to 15,000 Hz, impedance 30/50 or 100/200 (with c.t.), to 40K/65K ohms, maximum operating level is 0dBm. 1-5/16" D x 1-13/16" H.

B. 1578A TRANSISTOR MICROPHONE PREAMPLIFIER

Has a gain of 33.5 dB and a frequency response of ± 0.5 dB, 20 - 20,000 Hz or ± 1.5 dB, 15 - 50,000 Hz. Sensitivity is 43 millivolts for +8 dBm output, noise level is -122 dBm equivalent input noise. Source impedance is 150 ohms nominal, usable 30 to 20,000 ohms (unbalanced), load impedance is 600 ohms. Fits a standard octal socket. 1-5/16" D x 1-13/16" H.

C. 1579A PHONO EQUALIZER PREAMPLIFIER

Designed for use with magnetic phono pickups, equalized to meet the RIAA standard. Source impedance is 47K ohms, load impedance is 600 ohms. Sensitivity is 5 millivolts for a 70 millivolt output at 1 KHz. Plugs into a standard octal socket. 1-5/16" D x 1-13/16" H.

D. 12864 AND 13033 PHONO EQUALIZER ASSEMBLIES

A plug-in assembly for magnetic phono cartridges, used with the ALTEC 1566A Preamplifiers. 1-5/16" dia. x 1-13/16" H.



K. 1551A JACK PANEL

Mounts in 1-3/4" space in a 19" standard rack mount. Contains 12 pairs of jacks with a designation strip. The jacks are the 3-terminal normaled-through type, the circuit being broken when the plug is inserted.

L. 1552A METER PANEL

Contains a VU meter, range switch and pads and terminal strip on a 3-1/2" panel for 19" rack mounting. The range switch provides ranges to indicate program levels of +5, +10 and +15 VU on a 600 ohm circuit. Additional fixed pad for circuits may be added.

M. 13718 SWITCH PLATE ASSEMBLY

Use with 1556A ALTALK Amplifier and 1557A Speaker Selector Panel. 2-3/4" W x 4-1/2" H x 2" D (including knob).



T. 1603A SEQR AMPLIFIER COUPLER

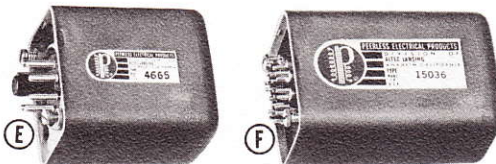
Safely parallels two amplifiers. Maintains system operation if one amplifier malfunctions or fails. Accommodates Amplifiers in 40-50, 80-100, and 150-200 watts range. 10 pounds, 7 ounces.

U. 7464 NOALA® CONTROL PANEL

Automatic noise-operated level adjustment control for areas with varying high noise levels. Airports, race tracks, railroad terminals, factories, sports arenas. Varies the output level of the sound system maintaining intelligibility during periods of high noise levels, decreases sound volume when noise subsides. 12 pounds.

V. 1604A TONE GENERATOR

Dual purpose. Provides a two-tone signal for announcing work periods, coffee breaks, or lunch periods. Also provides a siren tone for sounding alarm or warning. May be used with the ALTEC "Giant Voice" warning systems. Automatically transfers to battery in case of ac power failure, designed for continuous service. 5 pounds, 12 ounces.



E. 4665 INPUT TRANSFORMER

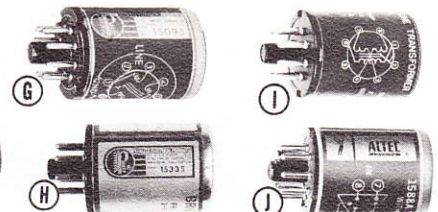
Mounts in Amphenol 78-5-8 type socket. Frequency response of ± 1 dB, 10 - 25,000 Hz. Maximum operating level is +8 dBm, 90 dB electromagnetic shielding has been provided. Input impedance is selected by strapping to obtain 30/50, 125/150, 250/300 or 500/600, center taps provided on the 125/150 and 500/600 ohm connections. The output impedance is 70K/84K ohms. 2-5/16" H x 1-1/2" W x 2" D.

F. 15036 REPEAT COIL

Input and output impedances of 125/150 or 500/600 ohms selected by strapping. Matches unequal impedances with a minimum loss and virtually no distortion. Frequency response of ± 1 dB, 20 - 20,000 Hz with a maximum operating level of +23 dBm (0.001 watt ref.). Electrostatic shield and windings balanced to provide 80 dB attenuation for longitudinal currents when used in balanced circuits. 3-1/8" H x 1-1/2" W x 2" D.

G. 15095 LINE TRANSFORMER

Provides balanced output for amplifiers. Has 30 dB electromagnetic shielding and frequency response of ± 1 dB, 30 - 20,000 KHz, 125/150, 500/600 (with c.t.) and 15K ohm impedances. Maximum operating level of +15 dBm above 30 Hz, +18 dBm above 40 Hz. 1-5/16" D x 1-13/16" H.



H. 15335 BRIDGING AND MATCHING TRANSFORMER

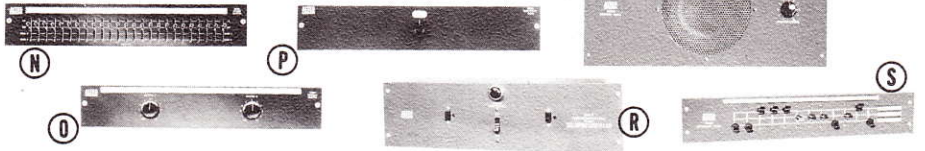
Equal input and output impedances of 15K ohms. It has 30 dB of electromagnetic shielding, ± 1 dB, 30 - 15,000 Hz frequency response. Maximum input level is +18 dBm across a 600 ohm line. 1-1/4" D x 1-11/16" H.

I. 15356 LINE TO LINE ISOLATION TRANSFORMER

Has a frequency response of ± 1 dB 30 to 20,000 Hz and impedances of 125/150 and 500/600 ohms to 500/600 ohms. Has 30 dB electromagnetic shielding, a maximum operating level of +15 dBm above 30 Hz, +20 dBm above 40 Hz. Seated height 1-13/16". Weighs 4 ounces.

J. 1588A TRANSISTOR PREAMPLIFIER

Designed for use with microphones, has a transformer-isolated input, a gain of 33.5 dB, a frequency response of ± 1 dB, 30 to 30,000 Hz and an output of +8 dBm. Source impedance is 150/250 ohms, load impedance is 600 ohms. Encased in mu-metal providing effective magnetic shielding for the input transformer of 90 dB. The equivalent input noise level is -122 dBm. Plugs into a standard octal socket. 1-5/16" D x 1-13/16" H. Interchangeable with the ALTEC 1578A.



N. 1557A SPEAKER SELECTION PANEL

Contains a bank of twenty-five 4-position lever switches. Each remote speaker station may be switched to any one of four program lines from a central point. 3-1/2" H x 19" W.

O. 1558A PROGRAM SELECTOR PANEL

Contains two 10-position rotary switches, used to select any of 10 program sources for its respective channel. Completely wired with a terminal board on the rear.

P. 1559A "ALL CALL" EMERGENCY PANEL

Designed for school and paging systems. Complete flexibility for two-way intercom systems. Switching facilities for "all-call" and "all-speaker" functions. Use with 1556A and 1557A.

Q. 1553A MONITOR PANEL

Mounts in 8-3/4" panel space on a 19" rack mount. Contains an ALTEC 403A Loudspeaker, an ALTEC 15064 transformer and an adjustable "L" pad volume control.

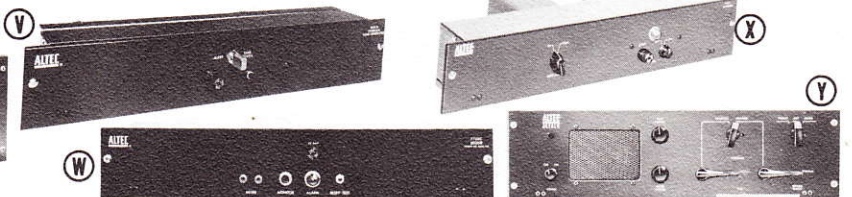
R. 1554A POWER DISTRIBUTION PANEL

Designed for master power control, panel has six outlets on the rear side controlled by a 20-Amp switch (117-120V). Two outlets, not controlled by the switch on the front panel. All outlets are 3-pin type. Mounts in 5-1/4" space in a 19" rack mount.

S. 1555A SWITCHING PANEL

Mounts in 3-1/2" panel on 19" rack mount. Contains 12 independent unswitched 2-circuit 3-position DPDT switches and designation strips. Used for remote speaker selection and speech circuits.

Special Application Equipment



W. 7740C SEQR AMPLIFIER COUPLER

Use with 351C, 1590A, 1593A, 1594A and 1595A Amplifiers. Pairs of power amplifiers of the same type and electrical specifications may be paralleled to drive a common load. The coupling, using the amplifier's 70 volt outputs, is achieved through the use of a balancing reactor that automatically compensates for minor variations in amplifier gain.

X. 443A ALTEC SARGUARD

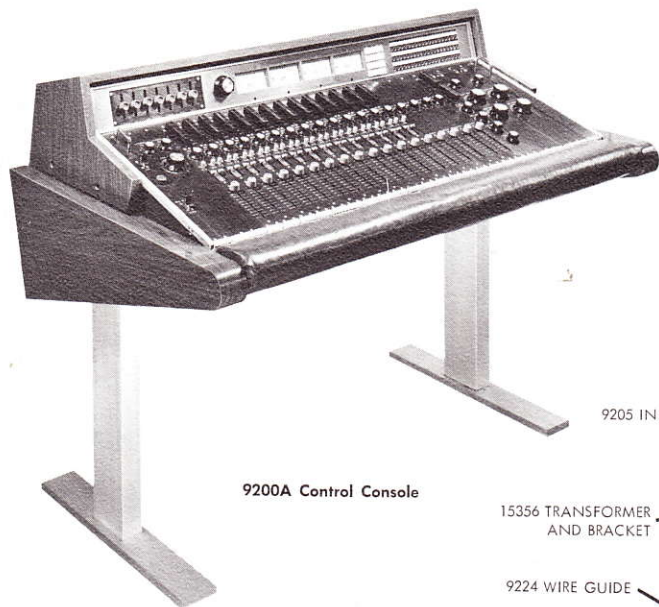
A frequency shifting device designed to reduce acoustical feedback in sound reinforcement, increasing the overall gain of the sound system. Reduces or eliminates unwanted oscillation. Makes many marginal sound systems more acceptable. Adjustable impedances and input levels. Weighs 7-1/2 pounds, green. 3-1/2" H x 19" W x 8-1/4" D.

Y. 1556A ALTALK AMPLIFIER

Provides a complete program distribution and intercommunication center in one compact, high quality package. Contains its own power supply, 14-watt amplifier, and speaker-microphone. Full range-fidelity response, inputs for microphone, phonograph, tuner, and tape player, 13 pounds.

For additional information on any item write to: ALTEC LANSING, 1515 South Manchester, Anaheim, California 92803

AUDIO CONTROLS



9200A Control Console

MIXERS

- A. ALTEC Rotary Mixers are available in 2 different frame sizes and from 1 to 8 gang units for multi-channel applications.
- B. Straight Line Mixers, precision controls for signal blending, are designed for the most critical applications in musical scoring, re-recording, radio and television usage, and high quality sound reinforcement systems. Up to 6 gang configurations available.
- C. Stereo Pan Potentiometers have a 12 dB insertion loss and are designed for 600 ohms input and output impedances.
- D. The ALTEC series of Fixed Mixer Networks will handle any number of mixer branches up to 27 (more on special order) and, because they are reversible, may be used as dividing networks.

ROTARY ATTENUATORS

- E. Precision controls for attenuation of audio signals. Enclosed controls require no cleaning. Fine silver is used in the contacts and brushes. All connections are made to solder terminals at the rear of the unit. Available in two frame sizes, 1- to 4-gang units for multi-channel applications. Input and output impedances of 600 ohms, supplied with knob and dial.

AMPLIFIERS

- F. 9470A amplifier (shown), 9475A Amplifier

Identical except for connector and outside dimensions. Highly reliable, designed to function as a preamplifier, booster amplifier, line amplifier, or program amplifier. Will produce either +18 or +27 dbm, depending on external strapping. Utilizing transformers on both input and output with multiple ranges, complete isolation is afforded for ease of matching to associated equipment. Frequency response 20 to 20,000 Hz ± 0.5 dB. Asymmetrically balanced transformers enable these units to reach a noise figure of -127 dBm with untermated input.

- G. 9471A 20 watt output Monitor Amplifier
 - H. 9476A 8 watt output Monitor/Cue Amplifier
- The latest design in solid-state circuitry. Their design parameters permit uninterrupted operation without derating at temperatures up to 55°C (131°F). Frequency response 20 to 20,000 Hz ± 0.5 dB.

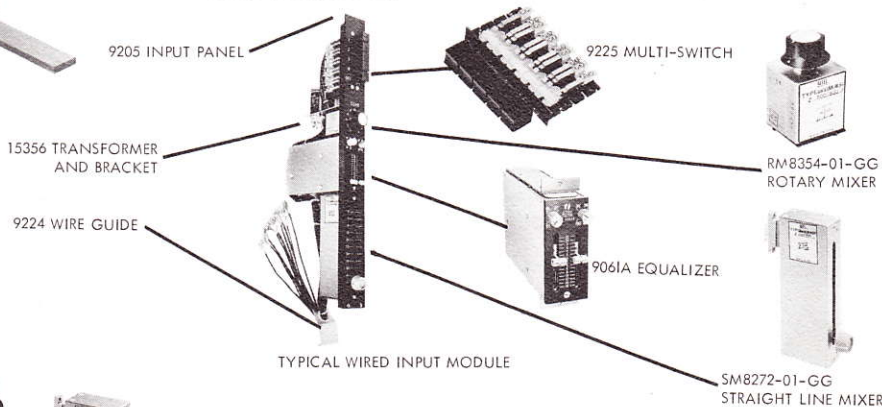
EQUALIZERS

- I. 9060A Microphone Equalizer, designed to correct the variations in response which occur when using different types of microphones for recording a single master.
- J. 9061A Program Equalizer provides continuously variable equalization at six important frequencies; at 40 or 100 Hz in the low frequency range and at 3, 5, 10 or 15,000 Hz in the high frequency area.
- K. 9062A Graphic Equalizer provides the engineer with quiet, positive, variable boost or attenuation, in steps of 1 dB, at seven critical frequencies.

Highest professional quality console, a basic unitized enclosure, completely modular, user assembled from standard ALTEC components for specific needs. Customized by the user for recording, re-recording, dubbing, broadcast studios, elaborate public address sound systems and any application for control console such as data processing, manufacturing controls, or military projects. Unequaled versatility—a maximum of 27 strip modules per cabinet, consoles may be assembled in multiples if needed.

Accommodates up to 4 VU Meters for program plus 4 additional VU meters mounted in "stack" for echo send channels, plus graphic equalizer and jack panel on the instrument panel. The strip modules are assembled according to need. One module may have a straight line pot, program equalizer, echo pot and a row of five channel selector keys. Another may use either straight line or rotary mixer; another for "talkback" including miniature dynamic microphone, slating keys and cue level control. The components listed below are a few of those available. For complete information on the 9200A and components, refer to ALTEC's Brochure AL-1728-1 and AL-1496-3.

The basic cabinet is 51 inches long, 34 inches deep, panel surface measures 18 inches from front to instrument panel. The panels can be designed and assembled for any type and number of cutouts with the necessary engraving. The customer may also choose blank panels and design his own cutouts and do his own engraving. The cabinet may be mounted in the customer's table or desk or may be mounted on the custom base.



Custom Console Components

POWER SUPPLY

- L. 9550A Power Supply used with the 9470A and 9475A Amplifier. Delivers 24V dc at 2 amps. The design of the power supply includes an external sensing circuit to insure that the output voltage will remain constant regardless of line voltage fluctuations.

SWITCHES

- M. 9225 Multi-Switch is a 5-station, formed spring switch with 5 square black buttons. The stations are all interlocking. There is one station for each channel and an OFF position. This switch may be had with up to 18 stations.
- N. 9231 Dual, 8 position key switch, comprised of 8 stations. It is a formed spring switch with crossbar contacts on each station. The switch is of the push-on, push-off type.
- O. Rotary Precision Switches are available in 1-1/2" (3.81 cm) sizes with up to 36 contacts for continuous rotation, 33 with stops, up to 2 poles per deck, and in a 2-1/2" (6.35 cm) version with 48 positions continuous rotation, 45 with stops, and up to 4 poles per deck. Up to 10 decks can be provided in a single switch.

FILTERS

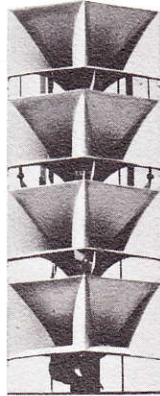
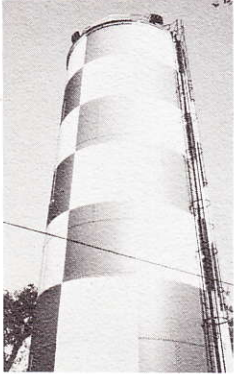
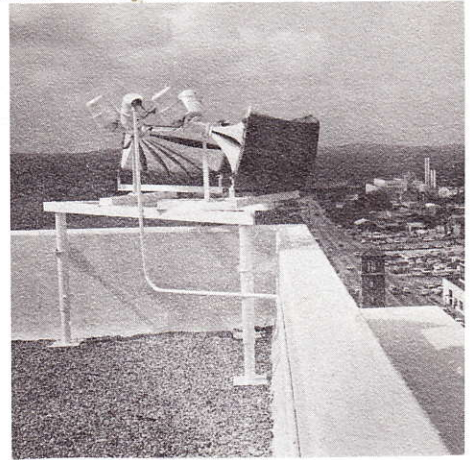
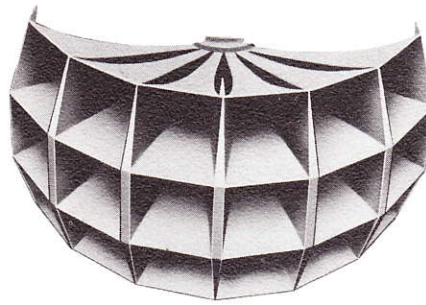
- P. 9068B Low Pass Filter
- 9069B High Pass Filter, ideal for all broadcasting, recording and reproduction of sound. As "sound effects" or "special effects" components, they are unsurpassed, a necessity where accurate control of the audio spectrum is required.

VU METERS

- Q. 9226 VU Meter
- R. 9227 Echo VU Meter, both are designed to conform to ASA Standard C16.5-1954. Both meters have a high sensitivity due to a combination of a special copper oxide rectifier and an extremely sensitive movement with a special magnetic system. The 9227 can be stacked vertically to conserve space.
- S. VU Meter Panels
- 9708A (one meter), 9709A (two meters), 9710A (shown) For one, two or three channel operation. Designed to measure and indicate the input power of an electrical signal made up of speech, music or other complex tones, to a transmitter or transmission line. Request ALTEC's catalog AL-1720.
- T. Each ALTEC Variable Rotary VU Meter Range Extender consists of a 3900 ohm, bridged-T attenuator with 3600 ohm building-out resistors at the input. All models are supplied with a knob and dial.

For additional information on any item write to: ALTEC LANSING, 1515 South Manchester, Anaheim, California 92803

"GIANT VOICE"® HIGH LEVEL VOICE WARNING SYSTEM



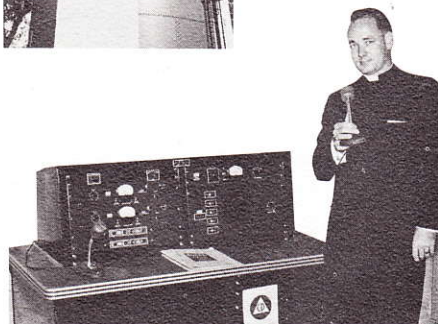
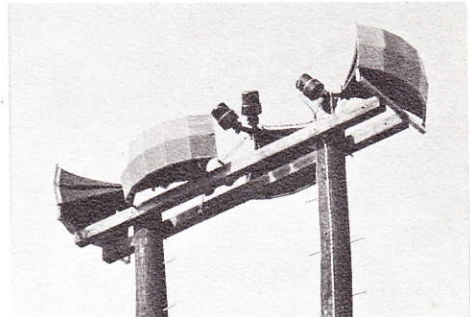
ALTEC is the first and only manufacturer to achieve complete and proven effectiveness in high level voice warning systems for effective outdoor mass communication before and during tornadoes, fires, floods, riots and routine traffic control.

A Voice Warning System is a specialized high power sound system made up of microphones, amplifiers, and loudspeakers. It is "high level" because high sound intensity is generated over vast outdoor areas through strategically spaced speakers. It uses voice messages to warn and instruct the population of an entire community in case of attack or natural disaster. Sirens and tone signals may also be broadcast by the system. Unlike the effect of sirens alone, voice communication prevents alarm during test periods and eliminates confusion and panic before and during an emergency.

GIANT VOICE provides reliably clear communications at all times under any prevailing conditions by the use of the specialized ALTEC Multicellular horns. These large horns are driven by one or more high power, compression-type ALTEC Driver Loudspeakers to deliver top quality sound over defined listening areas.

In areas such as wharfs, airports, and factories where high outdoor noise levels make other forms of mass communication difficult, the ALTEC System provides an effective measure for safety and direction. At airports it provides a reliable field-wide ground control that is fully intelligible despite jet engine blasts in the immediate area.

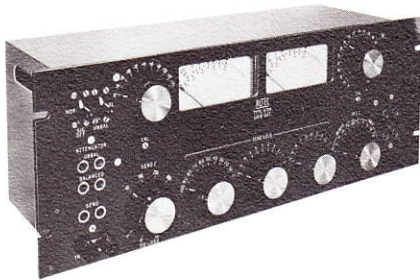
ALTEC Horn Systems are unapproached by any other commercially available horns in power capacity and ability to project speech intelligibly over vast areas. It is inherently dependable, for it will operate on both the electric mains as well as emergency power plants.



Controls for the Giant Voice Warning System may be centrally located in a CITY HALL, POLICE DEPARTMENT, or COMMUNITY CENTER. Shown above is a tornado and flood warning system used in Crockett, Texas.

Multicellular Horns and Drivers mounted on tall buildings, poles, water towers, or specially built towers effectively cover a circle 2/3 of a mile across. Horns and equipment are impervious to dust and moisture.

Test Equipment



9704A TRANSMISSION MEASURING SET

Designed to accurately measure gain, loss, frequency response and signal levels of individual audio devices or complete installations. It consists of two separate systems - one for signal source (Send) at a definite dBm level - one for signal output (Receive). Simultaneous input and output measurements may be made. The set may be used with balanced or unbalanced circuitry. Frequency response is ± 0.2 dB from 10 to 20,000 Hz.



ALTEC ACOUSTA-VOICING is a unique new method that "tunes" a sound system to complement the acoustical characteristics of the environment where it is installed. Just as a quality pipe organ must be "voiced" and tuned to the building in which it is installed, a sound system can now be voiced to match the characteristics of the room or area where it is used.

Acousta-Voicing not only controls premature squeal and howl caused by "feedback" of the sound from the loudspeakers back into the sound systems microphones thereby appreciably increasing the useful loudness ability of the sound system, but it restores the natural balance of the program material at the listeners ear even in a highly reverberant space. The increased acoustic gain made available through ALTEC Acousta-Voicing enables performers to work much greater distances from the microphone without fear of premature feedback.

Because ALTEC Acousta-Voicing controls reverberant coloration, speech interference in highly reverberant spaces is amazingly reduced. The greatly increased acoustic gain potential offered

by ALTEC Acousta-Voicing permits sound systems to be operated well below regeneration, thus insuring stability and freedom from feedback even where the microphone is carried in front of the loudspeakers, e.g., such as on a thrust stage.

Playback sound systems in theaters, recording studios, and broadcast stations can be improved to a startling degree by means of ALTEC Acousta-Voicing. Even though "feedback" is not encountered in a playback only system, the acoustic frequency response is quite irregular, even with excellent playback components, due to the interference of the room acoustics. ALTEC Acousta-Voicing can "tune" quality components to within ± 1 dB at the listeners ear over the useable audible range.

The revolutionary results obtained from the ALTEC Acousta-Voicing process rely on three fundamental factors:

1. Proper design of the sound system.
2. Proper installation and testing of the sound system.
3. Tuning of the sound system.

Utilizing this three-step procedure ensures a full frequency range, high acoustic gain, and a truly balanced sound system.

ALTEC LANSING has trained a special group of commercial sound contractors to carry out ALTEC Acousta-Voicing. These contractors have purchased special precision test equipment and have taken rigorous factory training to ensure that the sound system owner receives the full benefits of ALTEC'S sound products. Don't settle for less.

TELEPHONE TRANSMISSION EQUIPMENT



TYPICAL ALTEC AMPLIFIER

These ALTEC transistor amplifiers, two-stage, plug-in units, are designed for use in voice frequency circuits and, depending on the type, can be operated from a 20, 24-26, or 48-52 volt dc central office or battery supply. Telephone repeater systems can be assembled using these amplifiers and additional plug-in items of equipment.

| AMPLIFIER MODEL NUMBER | DC OPERATING (Volts) | CURRENT DRAIN (mA) | C.T. IN & OUT FOR DC SIMPLEX OPEN. | MAXIMUM SIMPLEX CURRENT* (mA) | INPUT AND OUTPUT IMPEDANCES (ohms) | MONITOR FACILITIES | ELECTRICAL STORM PROTECTION | MAXIMUM POWER OUTPUT |
|------------------------|----------------------|--------------------|------------------------------------|-------------------------------|------------------------------------|--------------------|-----------------------------|----------------------|
| 447B (Issue 2) | 20 | 50 mA | No | None | 600 | Yes | No | +17 dBm |
| 453B (Issue 3) | 24-26 | 20 mA at 25V | Yes | 100 | 600 | No | No | +17 dBm |
| 453BX (Issue 2) | 24-26 | 20 mA at 25V | Yes | 100 | 600 | No | Yes | +17 dBm |
| 453B (Issue 2) | 24-26 | 20 mA at 25V | Yes | 100 | 600 | Yes | Yes | +17 dBm |
| 600/900 (Issue 3) | 48-52 | 20 mA at 48V | Yes | 100 | 600 | No | No | +17 dBm |
| 455B (Issue 2) | 48-52 | 20 mA at 48V | Yes | 100 | 600 | No | Yes | +17 dBm |
| 455BX (Issue 2) | 48-52 | 20 mA at 48V | Yes | 100 | 600 | No | Yes | +17 dBm |
| 455B (Issue 2) | 48-52 | 20 mA at 48V | Yes | 100 | 600 | Yes | No | -17 dBm |
| 456B (Issue 2) | 24-26 or 48-52 | 20 mA | Yes | 100 | 600 | Yes | No | -17 dBm |

*Maximum out-of-balance simplex current is 5 mA.

2227A TRANSISTOR AMPLIFIER

Dual voltage, normal or extended low frequency response, protective devices to guard against high voltages, the effects of pulsing transients are minimized, minimizes gain variations at elevated temperatures of up to 150°, has a single gain control.

The amplifier may be used where a relatively flat frequency response is required, as in data transmission, or alternatively, in VF speech transmission where low frequency attenuation may be desirable. Because of the good battery isolation and noise rejection factor, the amplifier may be applied with advantage in locations where dialing transients from adjacent circuits may give rise to cross-talk effects via the rack common power source.

Amplifiers



460A TRANSISTOR AMPLIFIER, TELEPHONE REPEATER TYPE

A two-stage transistorized plug-in compressor-type amplifier. May be used in voice frequency systems to enable a sensibly constant speech level output to be obtained when input signal levels vary widely. Operates from a 24 to 26 volt dc central office supply, a local battery, or ALTEC power supply units. Negative feedback is used to reduce distortion and to stabilize gain.

461A TRANSISTOR AMPLIFIER, TELEPHONE REPEATER TYPE

Used to drive a loudspeaker for monitoring purposes or a distributor network to route information to several locations. A single stage, push-pull Class B operated transistor power amplifier designed for use with telephone and other communications equipment. Operates from a single supply source (24 volt) which may be obtained from a central office battery supply, a local battery, or from a power supply unit with good regulation characteristics and low ripple content in its output. No other supply voltage is required.

469A TRANSISTOR AMPLIFIER, TELEPHONE REPEATER TYPE

Used in voice communication circuits where it is necessary to bridge a transmission path for circuit distribution, or interception. Can be operated from 24-26 volt central office or battery supply. The input circuit of the amplifier can be connected across a voice frequency telephone circuit and introduces negligible loss.

480A TRANSISTOR AMPLIFIER, TELEPHONE REPEATER TYPE

Used where it is necessary to bridge a transmission path for circuit distribution monitoring, interception, etc. Utilizes three silicon transistors and a printed circuit board. Ambient temperatures as great as 140°F (60°C) produce only a minimum variation in operational characteristics. Operating voltage is selectable (24-26 or 48-52V dc) by moving the screw located on the base of the amplifier case.

481 EQUALIZING AMPLIFIER

Can be used on non-loaded facilities requiring equalization, such as data or voice circuits having deviation of ±1.0 dB, 200 to 3000 Hz. Minimum variation in operational characteristics with ambient temperatures up to 140°F. Operating voltage is selectable (24-26 or 48-52V dc). Circuitry has been designed to minimize pick up of RF radiation from nearby relays, stepping switches and battery supply transients spikes, etc., in order that relatively high speed data may be passed through the amplifier without excessive signal mutilation.

Transformers



TYPICAL ALTEC TRANSFORMER

15189 HYBRID TRANSFORMER

Pairs form hybrid circuit for 2-wire to 4-wire transitions. Features high degree of trans-hybrid loss.

15192 LINE TRANSFORMER

Designed to match a drop side impedance of 600 ohms to line impedances of 600 or 900 ohms, enables bypass signaling circuits to be derived at the center of the line windings.

15257 LINE TRANSFORMER

Designed to match a drop side impedance of 600 ohms to a line impedance of 150 ohms, and to enable bypass signaling circuits to be derived at the center of the line windings.

15036 REPEATING COIL

A high quality repeating coil for operation between 500/600 or 125/150 impedances. Frequency response within 1 dB, 20 to 20,000 Hz.

15337 HYBRID TRANSFORMER

Pair forms hybrid arrangement, provides optional 2-wire 600 or 900 ohm impedance, 4-wire 600 ohm impedance. Low insertion loss, excellent frequency response.

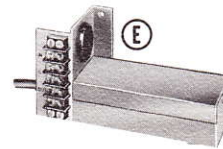
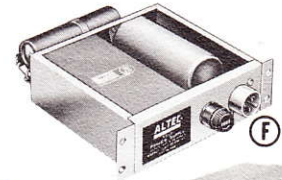
15338 LINE TRANSFORMER

Matches drop side impedance of 600 ohms to line impedance of 600 or 900 ohms. Enables bypass signaling circuits to be derived at center of line windings.

15339 LINE TRANSFORMER

Similar to 15338 above, except line impedance is 150 ohms.

Power Supplies



D



D. 529A POWER SUPPLY

Energizes up to 100 ALTEC repeater amplifiers. Operates from single phase line supply, 117V 50/60 Hz. Delivers 20V dc @ max. current of 3 amps from 10 outlets of 0.3 amp each. Rack mounted.

E. 533A POWER SUPPLY

A special unit for energizing a single ALTEC transistorized telephone amplifier from a power supply of 117 volts, 60 Hz.

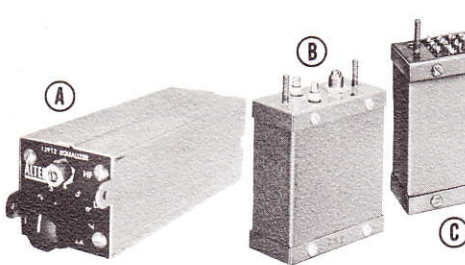
F. 536A POWER SUPPLY

Designed to power the ALTEC 7302 Loudspeaking Telephone System. Can be used to power up to 20 transistorized amplifiers.

G. 538A PLUG-IN POWER SUPPLY

Designed to provide the 24V dc power to operate any 2-repeater amplifiers if their combined power requirements do not exceed 50 mA. May be used separately wherever 50 mA at 24V may be required. Operate at either 117V or 10V ac at 60 Hz.

Equalizers



A. 12912 EQUALIZER

Used in conjunction with an amplifier to compensate for line losses over the speech frequency band on certain classifications of cable or open-wire facilities. It may be used on lines between radio transmitting and radio receiving stations and the associated radio terminal office; it also may be used on any one-way circuit, e.g., commercial speech, data transmission, facsimile transmission.

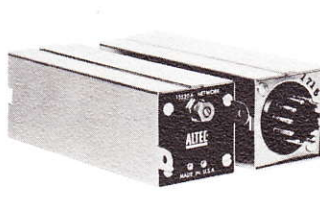
B. 1722A TELEPHONE CABLE EQUALIZER

Consists of a continuously adjustable resistance in series with a parallel combination of fixed inductance and fixed capacitance. Designed primarily to be used with the S-17 Program Amplifier System, connected as a shunt between the non-loaded cable circuit to be equalized and a terminating impedance which is practically constant at the frequencies for which equalization is desired.

C. 17249 TELEPHONE CABLE EQUALIZER

Can be used with the S-17 Program Amplifier System to equalize non-loaded cable circuits up to 15,000 Hz. Approximately 16 miles of 16-gauge, and 10 miles of 19-gauge non-loaded cable can be equalized to 15,000 Hz by using this equalizer with the ALTEC S-17 Amplifier System.

Networks

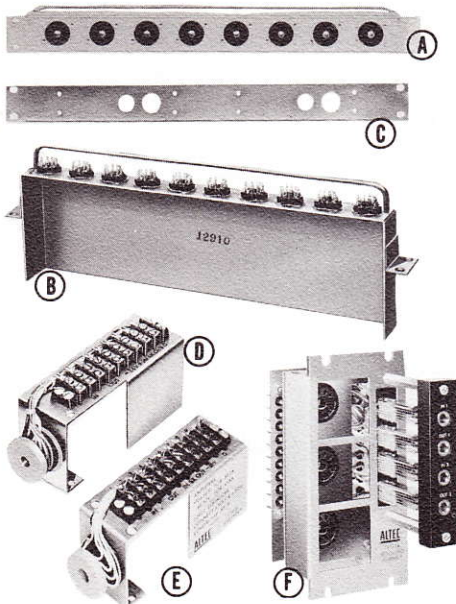


The selection of the proper balancing network is determined by the operating facility. The principal purpose of each ALTEC network is described in the table below:

| NETWORK | PRIMARY USAGE |
|---------|--|
| 13530 | Compromise network in 2-wire to 2-wire and 2-wire to 4-wire systems; also as a means to derive signaling circuits in 2-wire to 4-wire and 4-wire systems. |
| 13531 | Precision network - when the 2-wire facility is in the H88 loaded cable category. |
| 13532 | Precision network - when the 2-wire facility is in the non-loaded cable category. |
| 13533 | Compromise network similar to #13530 but with inclusion of a transformer in order to balance a transformer in a 2-wire facility; contains adjustable build out capacity. |
| 13534 | Precision network for use against open wire .104 copper side and physical circuits; contains adjustable build out capacity. |
| 14150A | Used for noise suppression on voice or data transmission circuits in 2-wire to 4-wire systems. |
| 14313A | Used in conjunction with the 15192 and/or 15257 line transformers to derive signaling circuits in the 4-wire paths of a system. |
| 14564A | Enables a precise hybrid balance to be obtained against D66-type loaded cable circuits. |

For additional information on any item write to: ALTEC LANSING, 1515 South Manchester, Anaheim, California 92803

TELEPHONE TRANSMISSION EQUIPMENT



Mounting Facilities

A. 7612 MOUNTING PANEL

Rack mounts up to eight plug-in components. Sockets are 12-pin to receive the Amphenol 77-MIP-12 plug.

B. 12910 MOUNTING PANEL

Rack mounts up to 10 plug-in components. Sockets are 11-pin to receive the Amphenol 86-CP-11 plug.

C. 14256 MOUNTING PANEL

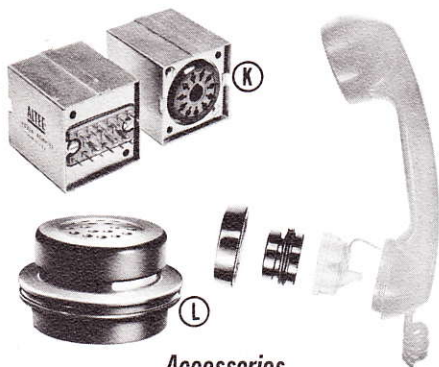
Designed to rack mount two 536A power supplies to a 19" rack. It occupies 1-3/4" (1 unit) of rack space.

D. 12962 AND E. 13227 MOUNTING ASSEMBLIES

Used to mount a single plug-in unit in a standard apparatus box. The external connections; input, output, simplex, and power are terminated at a barrier-type terminal strip.

F. 14115A MOUNTING ASSEMBLY

Permits plug-in assembly of one or two ALTEC repeaters and/or compressor amplifiers plus an ALTEC 538A power supply. When one amplifier is used, an ALTEC plug-in equalizer, attenuator, network, or pad adapter may be added.



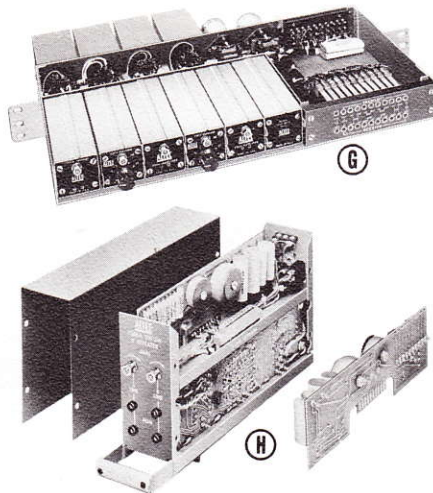
Accessories

K. 14832A AMPLIFIER ADAPTER

Designed to permit any ALTEC 11-pin, plug-in, repeater-type amplifier to be used in telephone installations equipped with 15-pin Amphenol 126-150 sockets. The adapter provides complete interchangeability of the type 227 amplifier and any ALTEC 11-pin telephone amplifier in accordance with power supply requirements of the installation. May be used with amplifiers 453B, 453B 600/900, 455B, 455B 600/900 and 456B.

L. 697A MICROPHONE ASSEMBLY

A noise-canceling dynamic microphone and a transistor amplifier, designed as a replacement for the carbon transmitter in G1-type handsets or their equivalent. Ideal for use in telephone-type handsets where a uniform frequency response, low noise, low distortion, and noise-canceling features are required. The unit is particularly beneficial in areas where high ambient noise levels exist.



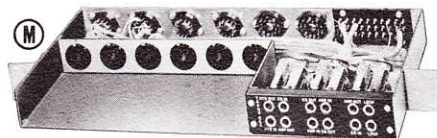
G. 7301A TELEPHONE REPEATING UNIT

A fully wired unit designed for use in voice frequency circuits to provide a quick and simple means of establishing 2-wire to 4-wire, or 4-wire to 4-wire facilities. Provisions are made for amplifiers, equalizers and other ALTEC plug-in units. Monitoring and testing facilities are readily available at 22 jacks located on the front panel.

H. 7306A/7307A VOICE REPEATER

Provides a means of inserting voice frequency gain within a 2-wire telephone circuit. The V-type repeater may be used as either a terminal repeater or an intermediate repeater; each unit may be used with any type of 2-wire line facility, either open wire, loaded, or non-loaded cable circuits. The repeater is of the hybrid type and is designed to accept any two selected hybrid balancing networks affording precision balance conditions against most types of cable facilities.

The 7306A and 7307A are electrically and mechanically identical with the exception of the connector. The 7306A is provided with an 11-pin connector; the 7307A is provided with Automatic Electric type connector.



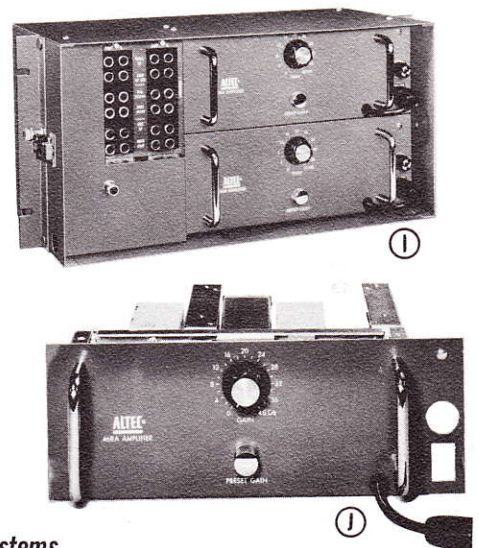
M. 7300A TELEPHONE REPEATER TERMINATION UNIT

N. 7303A TELEPHONE REPEATER TERMINATION UNIT

Provide a fully wired, versatile assembly in which the circuit components are of the "plug-in" type. A rapid and uncomplicated means of establishing VF telephone channels for general telephone, telegraph, and teletype circuits, together with PBX installations. The circuitry of each unit is identical. The 7300A is designed for installation on a standard 19" channel relay rack, the 7303A is designed to install on key telephone unit mountings. 2-wire to 4-wire termination, 4-wire intermediate and 2-wire to 2-wire repeater arrangements are available. Ask for catalog #AL-1607-1 for complete information on this unit.

O. 14535A REPEATER TERMINATING UNIT

Designed for use in voice frequency circuits to convert from two-wire to four-wire telephone circuits. The hybrid transformers establish a hybrid circuit and match the 2-wire impedance of 900 ohms. Used in conjunction with the amplifiers, they permit signal paths to be derived at the center taps of the line windings.



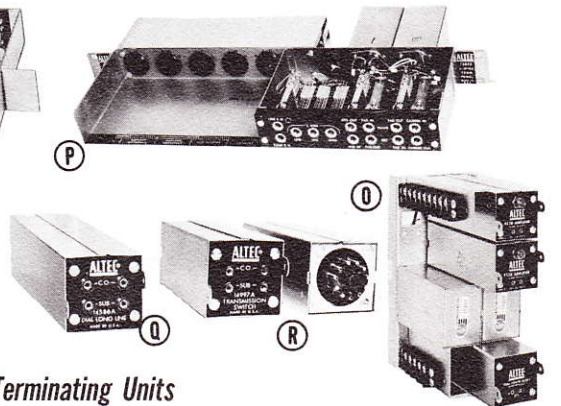
Systems

I. S-17T AMPLIFIER SYSTEM

Designed for use by telephone companies, for television, radio and communication program lines, for data transmission lines, and for line facilities requiring extremely wide frequency range. The S-17T may be either rack mounted or used in the field as portable equipment. To order a fully complemented S-17T System, the following equipment is required: one 12299 ALTEC cabinet, two 468A Amplifiers, two 541A Power Supply Units (optional), two 17224 or 17249 Equalizers (optional).

J. 468A TRANSISTOR AMPLIFIER

Used in the S-17T Amplifier System above, it is of a solid state design. Designed to operate from either 24 or 48V dc from a central office battery supply. Alternatively each 468A Amplifier can be provided with the plug-in type ALTEC Power Supply for direct operating from 117V ac, 60 Hz Supply. The 468A Amplifier is a "plug-in" type assembly, two are inserted for system operation in the 12299 Cabinet.



Terminating Units

P. 7304A 4-WIRE TERMINATING UNIT

Provides a fully wired assembly in which the circuit components are of the plug-in type to provide a rapid and uncomplicated means of establishing a two-wire voice frequency channel from four-wire voice frequency carrier channel equipment.

Q. 14586A DIAL LONG LINE

A compact, plug-in device designed for use between a central office and a subscriber location. It will repeat dial impulses between a subscriber and a central office with negligible distortion. The unit will extend reconstituted or bypass ringing to the subscriber. The ringing signal may be of either polarity at any voltage from 90 to 180 volts, and at any frequency from 90 to 180 volts, and at any frequency from 16 to 66 Hz. Ringing cutoff facilities are provided and transistor switching circuitry permits instantaneous line seizure. Two or more Dial Long Line Units may be efficiently operated in tandem. Installation of such tandem facilities requires no pulse correction circuitry.

R. 14997 TRANSMISSION SWITCH

Provides "talk-through" service when used with the 14586 Dial Long Line Unit.

For additional information on any item write to: ALTEC LANSING, 1515 South Manchester, Anaheim, California 92803

Altecom™ Intercoms for Business and Industrial Use

Altecom 100

10 - 20 Station Capacity
One Conversation Channel

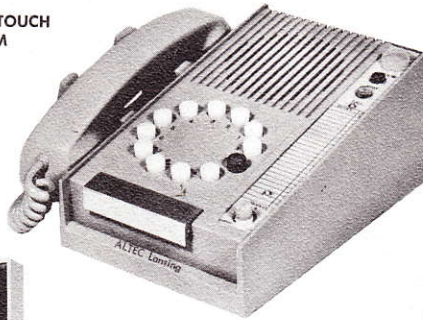
The Altecom 100 Central Cabinets are available in either 10 or 20 station capacity, utilizing one conversation channel. The system can be expanded up to 100 stations by utilizing Altecom 300 Cabinets.

Altecom 300

25 - 50 - 100 Station Capacity
Multi-Conversation Channels

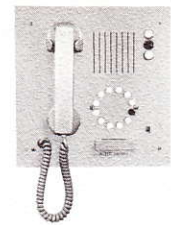
The Altecom 300 Central Cabinets are available in either 25, 50, or 100 station capacity, utilizing one to five simultaneous conversation channels.

PUSHBUTTON TOUCH
INTERCOM



CENTRAL CABINETS

12 BUTTONS PROVIDE ALL THE NECESSARY SELECTIVITY



Wall Recessed Control and
Staff Stations

Control stations and Staff stations may be flush mounted on wall as shown.

Staff Stations

User may receive and reply to calls from any Control station in the system, can originate calls to one, two or up to five Control stations.

PRIVACY AND COURTESY FEATURES

"PRIVATE" SETTING cuts out all amplified voice, both incoming and outgoing.

TELEPHONE-TYPE HANDSET permits confidential conversation.

LIGHT AND TONE SIGNALS alert you instantly when someone calls your station.

LIMITER CIRCUIT automatically compensates for the loud voices of some callers.

VOLUME CONTROL sets level of incoming sound to suit your individual requirements.

ANNUNCIATION FACILITY, incoming staff station calls are registered by illuminated name tabs.

EASE OF OPERATION

NO HANDS - "ACROSS-THE-ROOM" REPLY enables the user to reply to a call by speaking in his normal voice from anywhere in the room.

PAGE CALLS to locate roving personnel may be made from the stations.

DEPENDABILITY

GOLDEN CIRCLE SWITCHING: Entire switch mechanism has life expectancy of over 5,000,000 cycles.

COMPLETELY TRANSISTORIZED: Transistors, unlike vacuum tubes, do not deteriorate with age, provide continuous maintenance-free operation with no deterioration in sound quality.

LIFETIME HOUSINGS are made of tough, steel-reinforced high-impact plastic. Smooth lustrous surface looks like new after years of use.

Catalog sheets for all models are available. For ALTECOM 100: AL-2100 through AL-2106. For ALTECOM 300: AL-2102 and AL-2107 through AL-2110. Wire and Cables: AL-2138.

COMPLETELY TRANSISTORIZED - privacy and courtesy features - face to face voice quality - unmatched dependability, plus many other features such as PAGE, TRANSFER SWITCH, FOOTSWITCH, CONFERENCE.

NEW, DIFFERENT, TROUBLE FREE. The answer to practically all communication system problems. Suitable for those that require a minimum system today and are planning to grow tomorrow.

Employing the principles of human engineering, ALTEC LANSING'S Altecom 100 and 300 combine the utmost in versatility with remarkable simplicity of operation.

PUSHBUTTON CALL ORIENTATION puts you in instant two-way voice contact with the person you are calling by the simple touch of a button.

ADDITIONAL CONVERSATION CHANNELS can be plugged in at any time. From less than 10 stations to a total of 99 locations can be added without change in system wiring.

Engineered to provide years of continuous trouble-free service. Selector and Talk-Listen switch life tested and guaranteed for over 5,000,000 cycles. Transistor circuitry and amplifiers do not fail or deteriorate with age.

You will be pleasantly surprised at the competitive price of the Altecom 100 and 300 due to the unique simplicity of design, combined with advanced electronic circuitry.

CENTRAL CABINETS

Completely transistorized plug-in amplifiers with compressor limiter circuit provide crisp, clear, even modulated voice at all times. Advanced switching concepts using relay and transistor circuitry provide reliable station selection.

Computer plug-in module construction for ease of installation and maintenance. Permits addition of conversation channels at a later date.

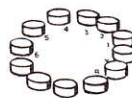
Generally, only one small 8-conductor wire is required from each Altecom 100 or 300 station to Central Cabinet regardless of system size. Minimum use of multi-conductor heavy cable makes Altecom 100 and 300 economical to install, relocate, and expand.



Altecom 500



- RING SELECTIVITY
- COMMUNICATE CONFIDENTIALLY
- PAGE AND LOCATE PERSONNEL
- CONFERENCE FACILITIES
- BACKGROUND MUSIC



SELECTIVELY RINGS up to 12 other stations with electronic push-button signaling.

TELEPHONE PAGING calls you quietly by name over built-in station speakers.

CONFERENCE FACILITIES are possible between members of your staff.

BACKGROUND MUSIC - Radio, music and tape programs can be inexpensively broadcast to all stations.

ABSOLUTE PRIVACY - Executive channel permits absolute privacy of conversation. No other person can eavesdrop or interrupt conversation.

REMOTE CHANNEL - 2-way loudspeaker stations permit conversation without interrupting work. Calls can be answered from across the room.

TIME AND ALARM SIGNALS - Facilities are available for transmission of time and alarm signals over station speakers.

For additional information on ALTECOM 500, request catalogs AL-2134 through AL-2137.

For additional information on any item, write to ALTEC LANSING, Intercommunication Division, 85 Channel Drive, Port Washington, New York, 11050

A New Concept In Communication For Nursing Homes and Hospitals

Altecom™ 400, 4000 & 4500

HUMAN ENGINEERED

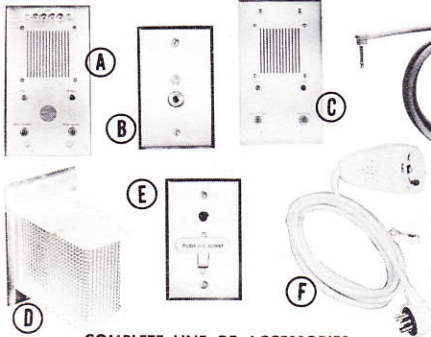
Outstanding design permits remarkable simplicity of operation. No clutter of buttons, switches, controls, etc., to confuse operators.

PUSH-BUTTON CALLING

Marvel of space age electronics. A simple touch of a button puts you in instant voice contact with person you are calling. Only 12 buttons, permits calls to any number of stations.

UNMATCHED DEPENDABILITY

Patented push-button call selector together with solid state design and absence of relays, provides a lifetime of trouble-free, continuous service.



COMPLETE LINE OF ACCESSORIES

A. DUTY STATIONS

These solid state Duty Stations alert personnel to patient and emergency calls on system via tone signals and lights. In addition, direct voice communication is possible to Nurses' or other Control Stations.

B. AUXILIARY STATIONS

These stations are used in conjunction with regular Patient Stations to provide a second location from which calls can be originated.

C. STAFF STATIONS

These solid state Staff Stations provide voice communication call origination facilities to Nurses' or other Control Stations.

D. DOME LIGHTS

Provide quick corridor identification of where calls have been originated. The multi-faceted cover provides maximum visibility and snaps out for instant bulb replacement.

E. EMERGENCY STATIONS

The utmost in convenience, patient safety, and reliability is assured by the simple, positive action of the Emergency Station. When the bar is depressed, flashing lights and tone signals continuously pulse until help arrives.

F. PILLOW SPEAKER

For the first time, a pillow speaker that works both under and on top of the pillow. Because of its shape and construction it is virtually indestructible. U.S. Patent 3,342,285

G. CORD SETS

All Cord Sets have dependable, tamper-proof sure-action operation. They withstand hard usage and frequent cleaning. Different types are available, such as: momentary, locking, diffusion-proof, geriatric.

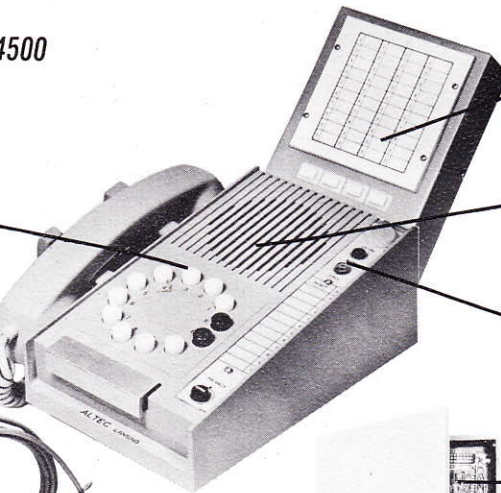
DOOR SECURITY SYSTEM (not shown)

Provides alarm circuits to indicate when a door is opened. Both visual and audible alarm signals are available. AL-2139



PATIENT

STAFF



RELIABLE AND COMPACT— LIKE A TELEPHONE.

ANNUNCIATOR PANEL

Patient and Emergency calls are registered here by illuminated name tabs and tone signals. Compact and easy to see.

VOICE PICK-UP

Large, ultra sensitive, 4" speaker provides face to face voice pickup. Even whispers and breathing are intelligible.

PRIVACY AND COURTESY

Light and tone signals alert you instantly when someone calls, or upon busy condition. An automatic volume limiter and volume control regulates level of voice.

*U.S. Patent 3,207,862

CENTRAL CABINETS

10 TO 100 STATION CAPACITY SINGLE OR MULTI-CONVERSATION CHANNELS

Central Cabinets are comparable in design, construction and reliability to telephone exchanges. Advanced, space age switching concepts using solid state circuitry, provides the utmost in dependability.

Completely transistorized amplifiers with automatic volume limiting provides face to face, intelligible voice at all times.

In large installations, any combination of communication channels and Central Cabinets can be interconnected to form a "total" communication network.

All components are fabricated on a modular plug-in basis, and mounted on swing-out metal rails for easy accessibility. Hook-up is made to plug-in screw type terminal strips. No soldering or splicing of wires is necessary. Additions and modifications can be made easily and inexpensively.

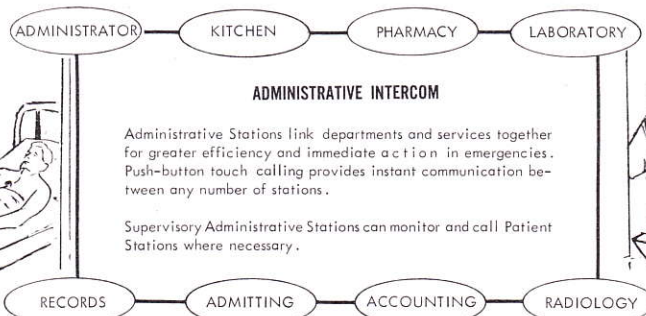
The choice of various cabinet types and features provide flexibility and the ability to furnish any type of operation desired economically.

PATIENT STATIONS

These solid state Patient Stations are available in many models that offer a combination of features, including call lamp, incoming tone signal, privacy lamp, privacy switch, cancel button, music volume, and various receptacles for cord sets or pillow speakers. So sensitive you can hear the patient breathe.

The large speaker provides clear intelligible voice pickup.

The Stations combine modular, plug-in, solid state design, with proven reliability, and an attractive appearance.



ADMINISTRATIVE INTERCOM

Administrative Stations link departments and services together for greater efficiency and immediate action in emergencies. Push-button touch calling provides instant communication between any number of stations.

Supervisory Administrative Stations can monitor and call Patient Stations where necessary.



Altecom 4400 Visual System

The typical nursing home system provides full audio communication in addition to visual communications. The four systems on this page are designed to fill every need in hospital communications, from the simplest visual system to the most complex audio system. All systems have many variations, options and combinations and can be tailored to fit individual needs.

With the simplest system, a call button pushed by the patient lights up a light at the nurses station opposite the room number. At the same time, the dome light above the room entrance and the light at the bedside station are lighted. The nurse has to enter the room to extinguish the call. This system also provides repeating tone signals at the nurses station to alert her to the call. Bathroom stations provide emergency signals of fast repeating tone and flashing lights at the nurses station and a flashing light at the patients station and the dome light.

Catalog sheets for all models are available. For ALTECOM 400: AL-2111 through AL-2118. For ALTECOM 4500: AL-2124 through AL-2129. For the ALTECOM 4400 Visual System: AL-2130 through AL-2133. ALTECOM 4000 is a custom multichannel system: AL-2114 through AL-2123. Wire and Cables: AL-2138. For the Door Security System: AL-2139.

ALTECOM ... THE WORLD'S FINEST INTERCOMMUNICATIONS EQUIPMENT

For additional information on any item, write to ALTEC LANSING, Intercommunication Division, 85 Channel Drive, Port Washington, New York, 11050



Metro-Goldwyn-Mayer



Cinerama Theatres



Columbia Records



Veterans Administration Hospitals



Houston Astrodome



Lincoln Center's Philharmonic Hall

The prestige of ALTEC sound—chosen for quality performance and low maintenance by over 10,000 world-wide customers
A few typical installations are listed below:

AIRPORT TERMINALS:

- Tulsa, Okla., Atlanta, Ga.
- Little Rock, Ark., Newark
- McCarren Field
- Sherman Air Field
- Travis Field Airport

AIRLINES:

- Eastern, Delta, Northwestern,
- Braniff, United, National,
- N.W., Orient, TWA, Western

SPACE FLIGHT CENTERS:

- John F. Kennedy Space Center
- Geo. C. Marshall Space Center

OUTDOOR WARNING SYSTEMS:

- Austin-Travis County
- Douglas Aircraft
- Long Beach Shipyards, Calif.
- United Nations Building
- Salina, Kansas

HOTELS:

- Statler Hotels
- Hilton Hotels
- La Concha Hotel, Puerto Rico
- Desert Inn, Las Vegas, Nev.
- Tropicana Hotel, Las Vegas

INDOOR AND OUTDOOR STADIUMS:

- Ak-Sar-Ben Coliseum
- Baltimore Stadium
- Boston Gardens
- Chicago Amphitheatre
- Fort Wayne Memorial Coliseum
- Hershey Sports Arena
- Jacksonville Coliseum
- Long Beach Arena
- N. C. State Fair Coliseum
- Olympia Stadium
- Pan Pacific Auditorium
- Riverside Raceways
- San Diego Sports Arena
- Winston-Salem Coliseum
- Expo 67, Montreal, Canada

UNIVERSITIES:

- University of Illinois, Texas,
- Wisconsin, Oklahoma, Oregon,
- Michigan, Kansas, Kentucky
- Northwestern University
- Rice University

TELEPHONE COMMUNICATIONS:

- Telephone Operating Companies
- Police and Fire Departments
- Railroad and Power Companies
- Military and Airlines

HOSPITALS AND NURSING HOMES:

- Doctors Hospitals
- Holiday Inn Nursing Homes
- Santa Clarita Hospital
- Holmdel Nursing Home

THEATRES:

- Greek Theatre
- Cinerama Theatres
- Loew's Theatres
- Fox Theatres
- Skouras Theatres

STUDIOS:

- Walt Disney Productions
- Universal Recording Corp.
- Metro-Goldwyn-Mayer
- United Artists
- Paramount Re-recording Studio
- National Recording
- Century Recording

BUSINESS OFFICES:

- Western Electric
- Ford Motor Company
- Johnson & Johnson
- General Motors
- Eaton, Yale & Towne
- Prudential Insurance Co.

