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M45  
Sound

# GENERAL SERVICES ADMINISTRATION FEDERAL SUPPLY SERVICE

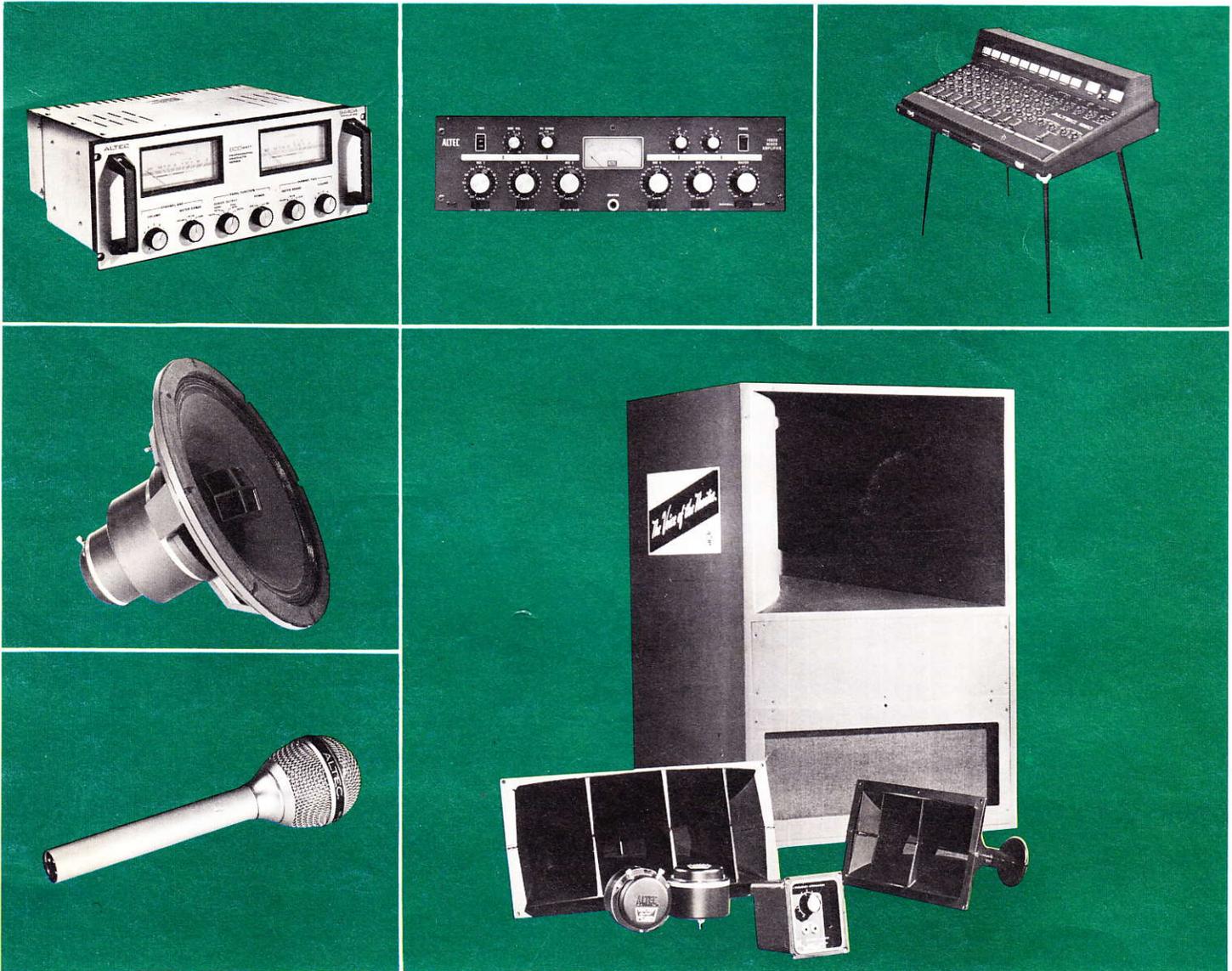
## AUTHORIZED FEDERAL SUPPLY SCHEDULE PRICE LIST



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CONTRACTOR: ALTEC CORPORATION, SOUND PRODUCTS DIVISION  
**CONTRACT: GS-00S-07116 • LARGE BUSINESS**  
CONTRACT PERIOD: JULY 1, 1976 THROUGH MARCH 31, 1977

Prices shown herein are net (Discount Deducted)



**INTERCOMMUNICATION AND PUBLIC ADDRESS EQUIPMENT  
FSC GROUP 58, PART VI, FEDERAL SUPPLY CLASS 5830**



## Voice of the Theatre Speaker Systems

About 40 years ago, someone discovered that by using both a metal high frequency horn and low frequency cone type woofer, the highest quality of frequency response for the human voice and full range music could be achieved. This system was called "The Voice of the Theatre."

Forty years later, the name is still the same, but a lot of improvements have been made. Our low frequency woofers are now capable of handling 150 watts continuous. And all the systems pictured below utilize an 800 Hz crossover. This was done to obtain more warm, mellow sound from the low frequency speaker, and to increase the projection and power handling of the high frequency unit.

The high frequency drivers use the exclusive Altec Symbiotik diaphragm for greater power-handling capability. And because these drivers are ultra efficient, very little wattage is needed from the power amplifiers, so distortion is significantly reduced.

We make these speakers to be used, and used hard. But maybe most important, they

can deliver high output, loud but undistorted. And with the projection that allows every frequency to come through, especially the critical highs.

Each of the Voice of the Theatre systems now uses an "H" series loudspeaker, a

superb speaker with outstanding performance capability. We urge you to listen to these systems. Only then will you understand Altec's justifiable pride in "The Voice of the Theatre."

### Specifications

Model	Power Rating	Impedance	Dimensions	Weight	Speaker Components	Enclosure Type	Cabinet Style
1204B	50 watts (100 watts*)	8 ohms	45" x 28" x 28"	120 lbs.	421 type LF 808 HF driver N809-8A network	Multi-port bass reflex	Vinyl covered casters, tow bar, bumpers
1208B	50 watts (100 watts*)	8 ohms	42" x 30" x 24" (horn inside enclosure)	160 lbs.	421 LF speaker 511B horn 808 HF driver N809-8A network	Horn loaded bass reflex	Utility gray plywood
1218A	50 watts (100 watts*)	8 ohms	30" x 28" x 20"	110 lbs.	418 type LF 807 HF driver 811B horn N809-8A network	Bass reflex	Resilient epoxy, snap on cover, recessed handles

\*These systems utilize the N809-8A crossover which has a variable attenuator for the high frequency driver. The "0" position represents full power to the HF driver, which has a 50 watt power handling capacity. The power handling of the entire speaker system may be increased to 100 watts by setting the HF attenuator in the "5" position.



## 1221A Stage Monitor

### Monitor speakers are a singer's best friend.

If you're a singer, you've undoubtedly noticed that most of the time, trying to hear yourself on stage becomes the world's biggest hassle — especially when the instruments behind you are really loud, or the sound system speakers are far away. Good microphones and a good sound system will clear up part of your problems, but they are still rarely enough to produce sufficient level on stage to make you feel comfortable and perform your best. Designing the perfect monitor speaker was no easy task. There's a lot of requirements besides just being loud. First of all, it has to sound good. Not honky or boomy — but sweet, crisp, and full. So that you sound like you, and not somebody else. To accomplish this, we chose a two way system, utilizing a 12-inch 417-8H type woofer in a ported reflex cabinet for maximum bass, and very mids. For the high end, we found the 32A horn and 808 driver provided an excellent combination of punch and sweetness. High end articulation is absolutely essential to add realism to your voice.

The next most important aspect of a monitor speaker is its dispersion. Too many monitor

speakers, especially those with cone speakers only, beam the high frequencies to a very narrow angle, which tend to make them almost useless unless you're standing directly in front of them. The 1221A uses the 32A high frequency horn which can guarantee you 100° of good horizontal coverage even at 16 kHz. That gives you the freedom to move all over the stage and still hear the critical highs.

Last, and probably most important, a good monitor speaker must be loud. That can be done in a couple of ways. The extremely smooth extended response of the 1221A Monitor matches the rejection characteristics

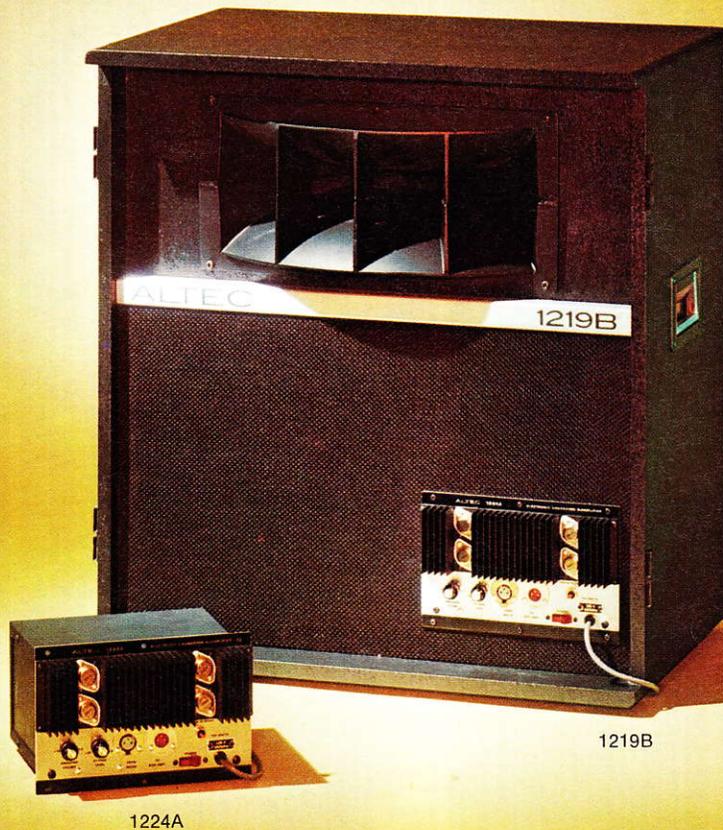
of most high quality cardioid microphones to provide the utmost in feedback suppression. And by making a monitor speaker highly efficient, you can hear the peaks in the music much louder. The 417 woofer and 808 driver have more than paid their dues when it comes to the efficiency department. With maximum power input (100 watts), the 1221A can produce over 120 dB at 4 ft.

The slant back speaker panel of the 1221A Monitor provides just the right angle from the floor to the singer's ears. You get all the advantages of a larger speaker cabinet, but still maintain a low profile, so the audience sees more of you.

### 1221A Stage Monitor Speaker System Specifications

Power Rating	Impedance	Dimensions	Weight	Speaker Components	Enclosure Type	Cabinet Style
50 watts (100 watts)*	8 ohms	28" W x 24" D x 22" H	64 lbs.	417-8h type LF 32A HF horn 808 HF driver special design crossover network	multi port bass reflex	vinyl covered plywood with edge bumpers and snap-off foam grille

\*The 1221A utilizes a crossover which has a variable attenuator for the high frequency driver. The "0" position represents full power to the HF driver, which has a 50 watt power handling capacity. The power handling of the entire speaker system may be increased to 100 watts by setting the HF attenuator in the "5" position.



## The Altec 1219B Speaker System and 1224A Biampifier

The Altec 1219B — a new standard of performance in clean, high-level sound reinforcement. The Altec 1224A — a rugged new biampifier designed to take road abuse. And it's dependable — for continuous hassle-free performance.

The 1219B features our time-proven Voice of the Theatre type components — a 418 type high-power bass driver in a bass reflex enclosure, and an 811B horn with an

807-8B driver. The Voice of the Theatre components and systems have reached a level of fame second only to the performers who use them, and the 1219B continues this tradition. And the tough, epoxy-finished cabinet has a removable cover for portability and protection.

We've tied the components together with our new 1224A biampifier. Super stable and rugged. Low distortion. Reliability. The

result is a high-level powered speaker system which is super clean, portable, and dependable. The biamp concept results in an efficiency of power transfer not possible in conventional systems. And the 1224A is available separately for use with other systems you may wish to convert to the biamp advantage.

New from Altec. The 1219B powered speaker system, and the 1224A biampifier.

### Specifications

Model	Power Output Bass Amp.	Power Output Treble Amp.	Input Sensitivity	Power Requirements	Total Harmonic Distortion	Crossover Frequency	Frequency Response	Acoustic Output at Maximum Gain Settings	Input Impedance	Enclosure	Dimensions	Weight	Input Connectors
1219B	60 watts	30 watts	0.5V rms	160 watts at full output	—	800 Hz with -12 dB/octave rolloff	35 Hz to 20,000 Hz	120 dB SPL measured at 4' on axis with 0.5V rms input of pink noise from 100 Hz to 10 kHz	15,000 ohms	Bass reflex type. ¾" plywood construction with resilient epoxy finish. Recessed handles and removable front cover.	30¼"H x 28"W x 19¾"D	123 lbs.	1 Cannon XL 3-pin female wired in parallel to 1 Cannon XL 3-pin male
1224A	100 watts continuous (4 ohms) 60 watts continuous (8 ohms)	50 watts continuous (4 ohms) 30 watts continuous (8 ohms)	0.5V rms direct (for rated output, gain controls at full boost)	120V ac, 50/60 Hz, 160 watts at full output	Less than 0.15% at rated output into 8 ohms	500, 800 or 15,000 Hz with 12 dB/octave rolloff	20 Hz to 20,000 Hz, ±1 dB (composite output)	—	15,000 ohms direct 15,000 ohms with 15335A transformer 600 ohms with 15095A transformer	—	6½"H x 9¾"W x 9"D	16 lbs.	1 Cannon XL 3-pin female wired in parallel to 1 Cannon XL 3-pin male

# 'Voice of the Theatre' Speaker Systems

Ever been to the movies? Who hasn't, but recall for a minute, have you ever really *listened* to the movies? Try to imagine what it would be like to experience modern cinema without the vivid realism of motion picture theatre sound. Altec sound. From the early pioneering days of monaural optical sound tracks to today's multichannel sound systems, Altec is the unquestionable leader in theatre sound.

There is an Altec 'Voice of the Theatre' speaker system for every size application, from the slim A8 for small theatres of up to 500-seat capacity to multiples of the massive A2 system for 70 mm houses. And 'Voice of the Theatre' systems are used for more than cinema sound. Science theatres, museums, schools, churches, amusement parks, all use 'Voice of the Theatre' systems. Wherever high-level, high-accuracy sound reproduction is required in a large acoustic environment, the 'Voice of the Theatre' is the logical choice.

## A2

The largest Altec 'Voice of the Theatre' system, the A2 is used in large enclosed environments, often in arrays for multichannel use. Its unprecedented efficiency makes it capable of extremely high sound levels. Various high-frequency horns can be selected to optimally suit the application.

## A4

Similar to the A2, but smaller and with only half as many active components. Ideally suited for

high-level use in enclosed environments of larger dimensions, but where space limitations prevent the use of the A2. The A4X is of the same size and appearance as the A4, but utilizes two compression drivers for increased high-frequency energy. A variety of high-frequency horns are available for both the A4 and A4X.

## A5X

A very popular system for medium-sized theatres, the A5X utilizes the same active components as the A2 and A4, but with only one bass driver and one high-frequency driver. Several different high-frequency horns are also available for this model.

## A7-8, A7-500-8

For smaller theatres, or where space is at a premium for multitrack systems, the A7 is the choice. The A7-500-8 features improved high-frequency projection over the A7-8, but both are less sensitive and capable of slightly less maximum acoustic output than the A5X. Sectoral horns only are available on the A7's.

## A8

The A8 is a very slim unit designed for use where space is extremely limited. Sensitivity, maximum acoustic output, and low-frequency response are diminished as compared to the A7's and A5X. The A8, however, maintains the 'Voice of the Theatre' standard of performance when used in smaller environments.

	Amplifier Power (watts)	Pressure Sensitivity* (db SPL)	Distribution Pattern	LF Drivers	HF Drivers	HF Horn	Throat	Network	LF Cabinet	Dimensions	Weight	
A2	100	108	60°V x 105°H	(4) 515B	(2) 288-16G	1505B	(1) 30172	N500F	(1) 210	108½"H x 113"W x 39½"D	1263 lbs	
			40°V x 100°H			or 1005B	(1) 30170			(1) 15067	(1) 210A	276cmH x 287cmW x 100cmD 102½"H x 113"W x 39½"D 260cmH x 287cmW x 100cmD
A4	60	107	60°V x 105°H	(2) 515B	(1) 288-16G	1505B	(1) 30166	N500F	(1) 210	108½"H x 80½"W x 39½"D	763 lbs	
			40°V x 100°H			or 1005B	(1) 30210			(1) 15067	276cmH x 205cmW x 100cmD 102½"H x 80½"W x 39½"D	346.1 kg 750 lbs
			40°V x 80°H			or 805B	(1) 30162				260cmH x 205cmW x 100cmD 102½"H x 80½"W x 39½"D 260cmH x 205cmW x 100cmD	340.2 kg 745 lbs 337.9 kg
A4X	100	107	60°V x 105°H	(2) 515B	(2) 288-16G	1505B	(1) 30172	N500F	(1) 210	108½"H x 80½"W x 39½"D	788 lbs	
			40°V x 100°H			or 1005B	(1) 30170			(2) 15067	276cmH x 205cmW x 100cmD 102½"H x 80½"W x 39½"D 260cmH x 205cmW x 100cmD	357.4 kg 755 lbs 342.5 kg
A5X	60	104	60°V x 105°H	(1) 515B	(1) 288-16G	1505B	(1) 30166	N500F	(1) 828B	64"H x 30½"W x 30"D	293 lbs	
			40°V x 100°H			or 1005B	(1) 30210				163cmH x 78cmW x 76cmD 59"H x 30"W x 27"D	132.9 kg 280 lbs
			40°V x 80°H			or 805B	(1) 30162				150cmH x 76cmW x 69cmD 59"H x 30"W x 27"D 150cmH x 76cmW x 69cmD	127.0 kg 275 lbs 124.7 kg
A7-8	50	101	40°V x 90°H	(1) 416-8B	(1) 806-8B	811B	None	N801-8A	(1) 828B	52½"H x 30"W x 24"D 133cmH x 76cmW x 61cmD	135 lbs 61.4 kg	
A7-500-8	50	101	40°V x 90°H	(1) 416-8B	(1) 802-8E	511B	None	N501-8A	(1) 828B	54½"H x 30"W x 24"D 138cmH x 76cmW x 61cmD	142 lbs 64.4 kg	
A8	50	97	60°V x 90°H	(1) 416A	(1) 806A	32B	None	N800E	39624	42"H x 30"W x 12"D 107cmH x 76cmW x 31cmD	112 lbs 50.8 kg	

\*Measured at 4' on axis with 1 watt input of pink noise, band-limited from 500-3000 Hz. NOTE: A2, A4 and A5 systems are shipped as components.



A2

A5X

A8

A7-500-8

A4

A7-8



A variety of utility speaker systems is available from Altec, for virtually any sound reinforcement and sound reproduction requirement. The 9844A and 9845A have both been used extensively in recording studios, amusement parks, concert halls, churches and many other applications. The 849A is an ideal column speaker for small meeting rooms. Its small size and controlled vertical distribution pattern make it a perfect choice for small room reinforcement installations.

Even though Altec offers an extremely diverse selection of speaker systems, variations in architecture and acoustic environments generally preclude the use of standard or even specialized systems. For this reason, Altec makes available its various system components, and your Altec Sound Contractor has been trained to accurately appraise the situation and custom design an Altec system to meet its needs. High-frequency horns and drivers, bass drivers, frequency-dividing networks, and enclosures are available.

Altec low-frequency horn-loaded enclosures effect excellent dispersion pattern control, to perfectly complement high-frequency horns and drivers, and can be used with most Altec 15-inch bass drivers. The 614D and 612C enclosures are widely used to house single 12- and 15-inch loudspeakers in utility applications.

The 814A is a directional low-frequency loudspeaker designed to overcome the problems associated with a too-broad dispersion pattern in reverberant atmospheres. Low-frequency energy is difficult to control, and tends to "fan out" much more than energy in the mid and high frequencies. In reverberant environments, a high ratio of reflected-to-direct energy can occur, resulting in considerable loss in intelligibility. The 814A solves this problem by tightly controlling the horizontal dispersion in the low frequencies, and vertical control is achieved by stacking multiple 814A elements to narrow the distribution pattern.



### UTILITY SYSTEMS

	Power Rating (watts)	Frequency Response	Pressure Sensitivity* (dB SPL)	Nominal Impedance (ohms)	Distribution Pattern	Crossover Frequency	Dimensions	Weight	Finish
9845A	50	30-20,000 Hz	97	16	40°V x 90°H	500 Hz	40"W x 28"H x 24½"D-102 cmW x 71 cmH x 62 cmD	130 lbs-59.0 kg	Gray lacquer
9844A	60	35-20,000 Hz	99	8	40°V x 90°H	800 Hz	31"W x 24"H x 16"D-79 cmW x 61 cmH x 41 cmD	90 lbs-40.8 kg	Gray lacquer
814A	100	100-1500 Hz	99	8	Cardioid		20"W x 20"H x 12"D-51 cmW x 51 cmH x 31 cmD	40 lbs-18.1 kg	Gray enamel
849A	40	150-15,000 Hz	100	16 or 125	20°V x 120°H		7"W x 28"H x 6¼"D-18 cmW x 71 cmH x 16 cmD	18.3 lbs-8.3 kg	Gray enamel

\*Measured with 1 watt input of pink noise at 4' on axis.

### ENCLOSURES

	Speaker Size	Pressure Sensitivity† (dB SPL)	Dimensions	Weight	Finish
210	15" (2 each)	107.0*	84"H x 80½"W x 39½"D-213 cmH x 204cmW x 100 cmD	451 lbs-205 kg	Gray lacquer
211A	15" (2 each)	106.0*	32½"H x 84"W x 39½"D-83 cmH x 213 cmW x 100 cmD	342 lbs-155 kg	Gray lacquer
612C	15"	99.0**	29½"H x 25½"W x 20"D-75 cmH x 65 cmW x 51 cmD	75 lbs-34 kg	Gray lacquer
614D	12"	94.0†	24"H x 20½"W x 15¼"D-61 cmH x 52 cmW x 39 cmD	35 lbs-16 kg	Gray lacquer
815A	15" (2 each)	105.0*	44½"H x 33½"W x 32½"D-113 cmH x 85 cmW x 83 cmD	139 lbs-63 kg	Gray lacquer
816A	15"	101.5**	21¾"H x 30"W x 26"D-55 cmH x 76 cmW x 66 cmD	95 lbs-43 kg	Gray lacquer
828B	15"	101.5**	42"H x 30"W x 24"D-107 cmH x 76 cmW x 61 cmD	180 lbs-82 kg	Gray lacquer

\*Mounted with 2 - 515B's. \*\*Mounted with 1 - 515B. †Mounted with 1 - 414-8C. ‡1 watt input of pink noise, band-limited from 100-1000 Hz

# Studio Monitors

With today's recording processes, as much creativity goes on after the musicians leave the studio as while they were there. Often what appears on record to be a large, cohesive musical group, is actually a composite of several different tracks recorded with a few (sometimes only one) musicians in the studio at a time. The multiple tracks are then mixed down, balanced, and adjusted to produce what is finally heard on the record. During this mix-down process, the engineer is totally dependent upon his playback monitors for a true, flawless reproduction of the original track, and to determine how his very subtle adjustments affect the sound during mix-down. The playback monitors must be accurate, articulate, totally faithful reproducers.

Altec makes several monitor systems, all of which have a wide variety of applications beyond the recording studio.

## **604-8G/620A**

The 604-8G is the newest in the famous 604 series of duplex monitor loudspeakers. The 604 series has been around for over a quarter of a century and, in that length of time, has developed an enviable reputation as a high-accuracy, high-efficiency playback monitor, while constantly being refined. The 604-8G is the most sophisticated and refined single-frame reproducer we have ever built.

The 620A is a beautiful oiled oak cabinet with cocoa brown knit grille, and is designed specifically for the 604-8G. Together they form a beautiful, accurate, high-efficiency playback monitor system.

## **9849-8A/D**

The 9849 is our space-conserving monitor. Its relatively small size now permits Altec performance where space limitations would have prevented it in the past. The 9849 not only serves as an excellent monitor, but can also be used in multipurpose applications where both playback and reinforcement requirements must be met. This makes it an ideal choice for churches, community centers, and recreation halls. You may choose from either the gray utility cabinet with

black cloth grille (model 9849-8A), or a beautiful oiled oak cabinet, brown knit grille combination (model 9849-8D).

## **9846-8A**

The 9846-8A has earned an excellent reputation as a superb medium-efficiency monitor with exceptional response at the extreme ends of the audio band, something not often accomplished in a medium-sized monitor enclosure. It utilizes a highly compliant 15" bass driver (model 411-8A) in a sealed enclosure for extremely low distortion at very low frequencies, combined with a high-frequency compression driver (model 802-8E) and sectoral horn (model 511B) for the presence and punch that have made Altec monitors famous. The 802-8E driver provides extended high-frequency response beyond 16 kHz.

## **A7-500-8**

The legacy of the A7 is a famous one. Starting life purely as a cinema playback unit, it was soon in demand for use as a studio monitor and home reproducer. Many engineers still swear by the A7, and have made it their standard of comparison for everything audio. Very versatile and efficient, the A7 is ideally suited for use wherever good projection over long distances of wide-response material is required.

## **9844A**

Like the 9849 speaker systems, the 9844A makes an excellent multipurpose system. It can be used wherever a relatively compact utility system is required for monitoring, sound reproduction, or limited sound reinforcement. The 9844A utilizes two 12-inch bass drivers coupled through a precision dividing network to a compression driver and sectoral horn.

## **9845A**

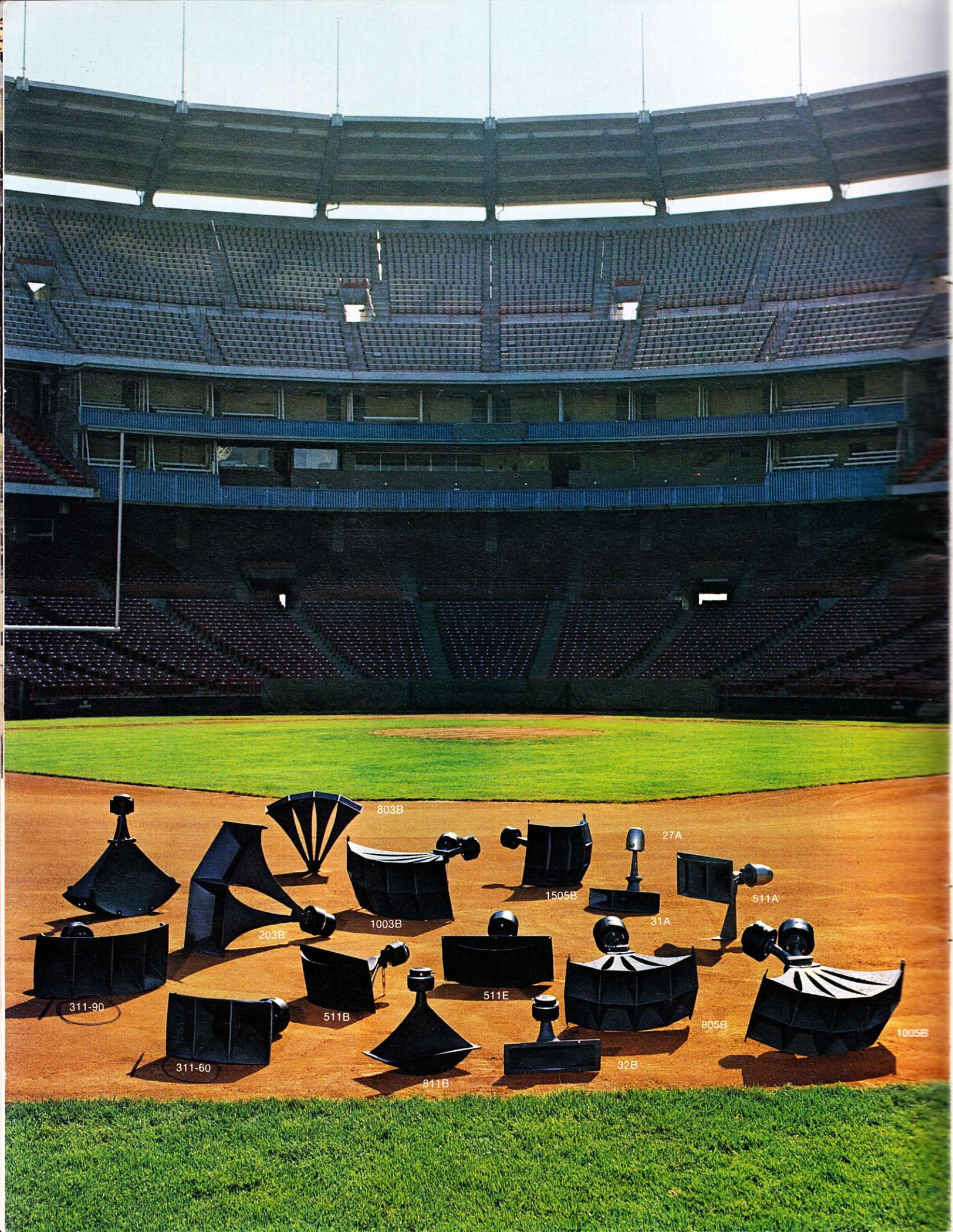
Utilizing 16-ohm versions of the A7-500-8 components, the 9845A possesses many of the same qualities of efficiency, clarity, and definition so characteristic of the "Voice of the Theatre" systems. Its reduced size, as compared to the A7-500-8, makes it preferable in many applications where performance is a requirement and size a limitation.



### STUDIO MONITORS

	Power Rating* (watts)	Frequency Response	Pressure Sensitivity** (dB SPL)	Nominal Impedance (ohms)	Distribution Pattern	Crossover Frequency	Dimensions	Weight	Finish
604-8G/620-A	65	20-20,000 Hz	100	8	40°V x 90°H	1500 Hz	26"W x 40"H x 18"D 66 cmW x 102 cmH x 46 cmD	138 lbs- 62.6 kg	Oiled oak
9844A	60	35-20,000 Hz	99	8	40°V x 90°H	800 Hz	31"W x 24"H x 16"D 79 cmW x 61 cmH x 41 cmD	90 lbs- 40.8 kg	Gray lacquer
9845A	50	30-20,000 Hz	97	16	40°V x 90°H	500 Hz	40"W x 28"H x 24½"D 102 cmW x 71 cmH x 62 cmD	130 lbs- 59.0 kg	Gray lacquer
9846-8A	100	25-20,000 Hz	93	8	40°V x 90°H	500 Hz	26½"W x 31"H x 23¾"D 67 cmW x 79 cmH x 60 cmD	105 lbs- 47.6 kg	Light gray
9849-8A/ 9849-8D	60	40-15,000 Hz	94	8	40°V x 90°H	1500 Hz	20½"W x 24"H x 15¼"D 52 cmW x 61 cmH x 39 cmD	60 lbs- 27.2 kg	9849-8A, Gray lacquer 9849-8D, Oiled oak
A7-500-8	50	45-20,000 Hz	101	8	40°V x 90°H	500 Hz	30"W x 54½"H x 24"D 76 cmW x 107 cmH x 61 cmD	142 lbs- 64.4 kg	Gray lacquer

\*Measured with pink noise band-limited to the frequency response of the system.  
 \*\*Measured with 1 watt input of pink noise at 4' on axis.



311-90

311-60

203B

511B

1003B

803B

511E

1505B

31A

27A

511A

805B

32B

1005B

811B

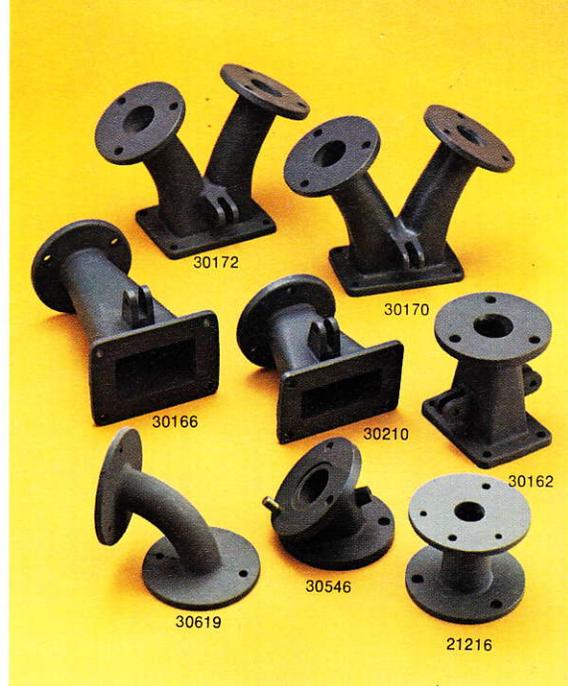
# Horns and Throats

As a supplier of a quality line of sound products for commercial use, Altec offers a complete line of multicell, sectoral and paging horns, and throat adaptors. There is an Altec horn and throat for every commercial sound purpose. Your Altec sound contractor will advise you which horn, throat and compression driver is best suited to your particular application.

Multicell horns are made of rugged lightweight material, selected to withstand a variety of weather conditions for outdoor applications. They are ideally suited for public address systems, and other applications where maximum control and penetration of acoustic energy is required. Multicells have excellent directivity characteristics, especially at lower frequencies, and feature extremely precise control over vertical distribution and extremely sharp dispersion pattern limits.

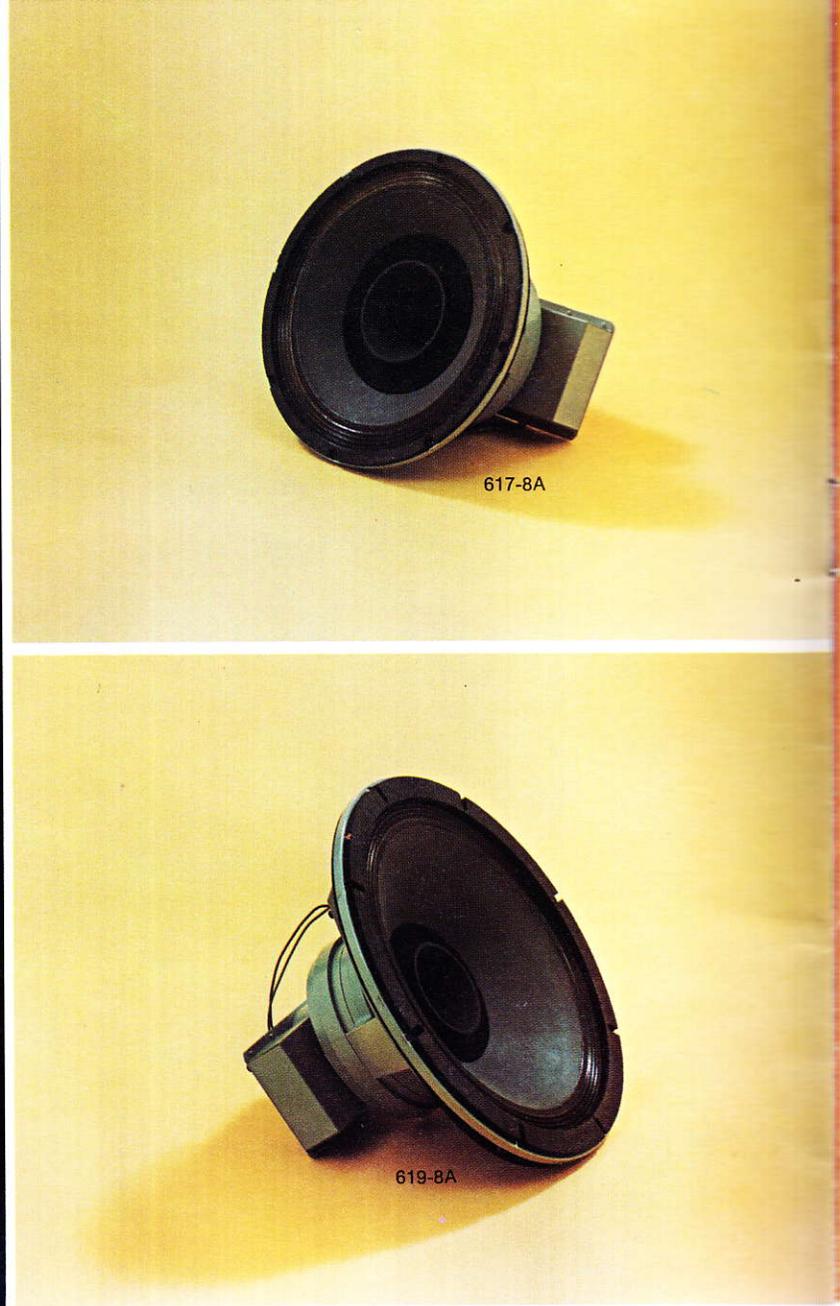
Altec sectoral horns are precision-manufactured from cast aluminum for strength and durability. They are designed for systems where a high degree of horizontal dispersion uniformity and high-frequency energy projection is required. They are most often used in wide-range 2-way systems for demanding music reproduction or sound reinforcement.

The 31A and 511A are paging horns, often used with a compression driver as the only active element in the system. The 32B is used with a high-frequency driver in 2-way music systems, and provides exceptionally broad horizontal distribution of high-frequency energy.



	203B	311-60	311-90	803B	805B	1003B	1005B	1505B	32B	511A	511E	31A	511B	811B
Type	Multicell	Sectoral	Sectoral	Multicell	Multicell	Multicell 2 x 5	Multicell 2 x 5	Multicell 3 x 5	Sectoral	Sectoral	Sectoral	Sectoral	Sectoral	Sectoral
Distribution Pattern	20°V x 40°H	40°V x 60°H	40°V x 90°H	35°V x 70°H	40°V x 80°H	35°V x 90°H	40°V x 100°H	60°V x 105°H	40°V x 90°H	40°V x 90°H	40°V x 90°H	40°V x 120°H	40°V x 90°H	40°V x 90°H
Low-Frequency Limit	300 Hz	300 Hz	300 Hz	300 Hz	500 Hz	300 Hz	500 Hz	500 Hz	800 Hz	500 Hz	500 Hz	300 Hz	500 Hz	800 Hz
Throat Required	None	None	None	30162	30162	*30210 †30170	*30210 †30170	*30166 †30172	None	None	None	27A	None	None
Dimensions Inches	32"W x 17"H x 31"D	19½"W x 10"H x 21"D	29½"W x 12½"H x 16½"D	26½"W x 32"H x 16½"D	17½"W x 24½"H x 13"D	25½"W x 38"H x 16½"D	17¼"W x 30"H x 13"D	16¾"W x 30½"H x 18½"D	16"W x 8"H x 8¾"D	23¾"W x 18½"H x 17¾"D	25¾"W x 16¾"H x 17¼"D	23"W x 17"H x 14"D	23½"W x 10¾"H x 11½"D	18½"W x 8½"H x 13½"D
Metric	81 cm W x 43 cm H x 79 cm D	50 cm W x 25 cm H x 53 cm D	74 cm W x 31 cm H x 42 cm D	67 cm W x 81 cm H x 42 cm D	45 cm W x 62 cm H x 33 cm D	65 cm W x 97 cm H x 41 cm D	44 cm W x 76 cm H x 33 cm D	43 cm W x 78 cm H x 47 cm D	41 cm W x 20 cm H x 22 cm D	59 cm W x 47 cm H x 45 cm D	65 cm W x 42 cm H x 45 cm D	58 cm W x 43 cm H x 36 cm D	60 cm W x 27 cm H x 29 cm D	47 cm W x 22 cm H x 34 cm D
Weight	22 lbs- 10.0 kg	19.5 lbs- 8.8 kg	29 lbs- 13.2 kg	27 lbs- 12.2 kg	17 lbs- 7.7 kg	32 lbs- 14.5 kg	20 lbs- 9.1 kg	22 lbs- 10.0 kg	10 lbs- 4.5 kg	20 lbs- 9.1 kg	20 lbs- 9.1 kg	15 lbs- 6.8 kg	12.25 lbs- 5.6 kg	9 lbs- 4.1 kg

\*For use with one driver †For use with two drivers \*\*Discontinued product



## Altec Column Speaker Systems

Small rooms and nightclubs mean small stages. And small stages mean feedback problems due to tight microphone placement. A column speaker won't completely eliminate feedback, but maximum output can be effected even when the microphones are located extremely close to the speakers.

### 1217A Two Way Column

In small dead rooms, the dispersion pattern of a column speaker can't be beat. For maximum articulation and clarity, the best answer is a high frequency horn. Our new 1217A is the best of both ideas. The six 403A's, H600 horn and T50 high frequency driver combine to deliver an extended frequency response unmatched by most two-way systems costing much more. So if you're ready to upgrade your present sound

system, add a little brightness with our new 1217A.

### 1211A Monitor Column

Like the 1217A, our new 1211A combines the full, warm sound of a column speaker and the crisp articulation of a high frequency horn. The 1211A was designed for use as both an onstage monitor speaker and an extremely compact reinforcement speaker. Because of its ultra flat response, it becomes an excellent monitor speaker when aimed directly at the vocalist's microphone. The full range attenuator allows you to control the individual level of each 1211A when used on a single amplifier. The optional 1114A Rotating Speaker Stand can be used to tilt back the 1211A in a monitor application, or permanently install it to a wall or ceiling.

## Ceiling Speakers

**The Altec 617-8A Ceiling Loudspeaker System** is designed for distributed sound reinforcement systems, where uniform frequency response and wide angle sound distribution patterns are required. The 617-8A will either front or rear mount into enclosures as small as 3 cubic feet without sacrificing efficiency.

All components are mounted directly to the loudspeaker frame. The dual full-section dividing network is prewired to the high- and low-frequency elements, and a mounting plate is provided to accommodate accessory Altec line-matching transformers.

**The Altec 619-8A 15" Duplex Ceiling Loudspeaker System** has been developed to perform in recommended enclosures as small as 4 cubic feet and still maintain uniform response throughout the bandwidth without sacrificing efficiency. The dual magnet structures allow each speaker to be magnetically, electrically and mechanically independent.

### Specifications

Model	Power Rating	Impedance	Dimensions	Weight	Speaker Components
1211A	50 watts	8 ohms	35" x 11" x 14"	45 lbs.	Three 8 inch Altec 403A speakers, HF206 horn, T60 driver, full system attenuator
1217A	75 watts	12 ohms	62" x 14" x 14"	85 lbs.	Six 8 inch Altec 403A speakers, H600 horn, T50 driver, special design 3000 Hz network



## Altec Musical Instrument Loudspeakers

Altec Sound Products Division is one of the world's largest manufacturers of top-quality industrial/professional sound systems, commercial sound equipment and musical sound products. The name "Altec", on sound equipment, means unexcelled quality, craftsmanship and performance.

Whatever your speaker requirements are, you will most assuredly find that Altec loudspeakers represent the ultimate in efficiency, tonal response and reliability.

Altec's new "H Series II" speakers, displayed on this page, feature special heat-dissipating aluminum coil supports and extremely rugged copper voice coils that permit extensive use with minimal chance of burnout. We are confident that the "H Series II" speakers will provide superior performance in such applications as club, church, theatre and auditorium sound systems. We offer our assurance of Altec reliability now and in the years to come.

### Speaker Specifications

Model	417-8H II	418-8H II	421-8H II	425-8H II
Size:	12"	15"	15"	10"
Power Rating:	100 watts*	150 watts*	150 watts*	75 watts*
Pressure Sensitivity 1/watt at 3 ft.	100 dB SPL	103 dB SPL	102 dB SPL	98 dB SPL
Frequency Response:	60-8000 Hz	45-8000 Hz	35-3500 Hz	60-10,000 Hz
Application:	Full range	Full Range	Bass	Full range
Impedance:	8 ohms	8 ohms	8 ohms	8 ohms
Magnet Structure Weight:	11½ lbs.	11½ lbs.	17½ lbs.	11½ lbs.
Weight:	17 lbs.	20 lbs.	22 lbs.	16 lbs.

\*May be used with amplifiers having up to equal continuous RMS power rating.

### Specifications

	617-8A Two-Way Coaxial	619-8A Two-Way Coaxial
Power Rating (Watts)*	60	75
Frequency Response	50-15,000 Hz	40-15,000 Hz
Pressure Sensitivity** (dB SPL)	98	100
Crossover Frequency	1500 Hz	1500 Hz
Flux Density (Gauss) LF	12,000	12,000
Dimensions		
Diameter	12¼" — 31.1 cm	16" — 40.6 cm
Depth	7¾" — 19.7 cm	9" — 22.9 cm
Weight	25.5 lbs.- 11.6 kg	28.3 lbs.- 12.8 kg

\*High-frequency driver power capacity is rated three ways for comparison purposes: Column 1 reflects measurement with continuous musical program material, Column 2 with instantaneous peak power capacity, and Column 3 with continuous pink noise (500-20,000 Hz). All power measurements are made with driver mounted to Altec 500 Hz horn.

\*\*Measured at 4' on axis from mouth of Altec 90° sectoral horn with 1 watt input of pink noise, band-limited from 500-3000 Hz

# Compression and Bass Drivers

Altec compression drivers are high-efficiency devices designed to be used with Altec sectoral, multicell and paging horns in a variety of applications. They are most often used as the high-frequency component in wide-range 2-way systems for music reproduction and sound reinforcement, or as the single active component in paging or public address applications.

## **290-4G**

The 290-4G is a high-power compression driver designed for use with Altec multicellular horns as a wide-band outdoor public address or voice-warning loudspeaker. Its extended rear cap is designed to house an Altec line-matching transformer for 70 or 210-volt line operation, while maintaining an assembly resistant to the corrosive forces of nature.

## **288-8G/16G**

The 288 is the ideal choice for the high-frequency component in a high-level, low distortion, wide-response, 2-way music reproducer. It has established itself as the finest driver obtainable for theatre sound use and music reproduction, and is an excellent choice for a wide variety of reinforcement applications where extended response and maximum efficiency are required.

## **291-16B**

When the requirements are high sensitivity, high power handling, high maximum acoustic output, in a wide-range 2-way system, the 291-16B is the logical choice. When combined with appropriate bass drivers, networks and horns, it forms an outstanding system for public address or musical sound reinforcement.

## **808-8A**

The 808-8A compression driver serves as an excellent mid-range and high-frequency driver in systems where high power handling is a must. Mounted to a 511B or 811B horn, it will function beautifully in wide-range, high-level, musical sound reinforcement applications.

## **421-8H**

The 421-8H is a low-frequency loudspeaker designed for use with electronically amplified musical instruments or as the bass driver in 2-way musical sound reinforcement applications. Its high sensitivity and power handling combined with designed-in dependability make it ideal in these applications.

## **411-8A**

For extended low-frequency response with medium efficiency, the 411-8A is an excellent choice. One of its distinct advantages is its ability to produce excellent bass response in sealed cabinets of modest size. It can be combined with Altec high-frequency compression drivers and horns using a 30904 attenuator/equalizer, resulting in an exceptionally wide-range, low distortion, 2-way system.

## **515B**

Where maximum efficiency and acoustic output are a requisite, the 515B should be chosen. The heart of the larger "Voice of the Theatre" systems, the 515B is capable of tremendous bass response at very high levels, when mounted in an Altec low-frequency horn enclosure.

## **416-8B**

Where enclosure size is a limitation, but high efficiency and acoustic output must be maintained, the 416-8B should be used. It is similar to the 515B, except that it is slightly lower in sensitivity and maximum acoustic output, and its voice coil impedance is 8 ohms, as compared to the 515B's 16-ohm coil. It is the bass driver used in the A7 series "Voice of the Theatre" systems.

## **414-8C**

For performance approaching that of a 515 or 416 in a smaller frame size, there is the 414-8C. It has very high sensitivity and maximum acoustic output for a 12" bass driver and, as a 12", can operate in smaller enclosures than its 15" counterparts. The 9849 series of monitors capitalizes on the 414-8C's excellent characteristics to produce outstanding performance in an enclosure of modest dimensions.



### HIGH-FREQUENCY DRIVERS

	Power Capacity* (watts)			Frequency Response	Pressure Sensitivity** (dB SPL)	Nominal Impedance (ohms)	Diaphragm Material	Voice Coil Diameter	Weight
	1	2	3						
288-8G 288-16G	60	150	15	500-15,000 Hz	109	8 16	Aluminum	2.8" - 7.1 cm	29.25 lbs - 13.3 kg
290-4G			120	300-7000 Hz	106.5	4	Phenolic	2.8" - 7.1 cm	32 lbs - 14.5 kg
291-16B	120	300	50	500-13,000 Hz	108	16	Symbiotik	2.8" - 7.1 cm	28 lbs - 12.7 kg
802-8E	40	100	10	500-20,000 Hz	104	8	Aluminum	1 3/4" - 4.5 cm	7.25 lbs - 3.3 kg
808-8A	100	200	30	500-20,000 Hz	107	8	Symbiotik	1 3/4" - 4.5 cm	7.0 lbs - 3.2 kg

\*High-frequency driver power capacity is rated three ways for comparison purposes: Column 1 reflects measurement with continuous musical program material, Column 2 with instantaneous peak power capacity, and Column 3 with continuous pink noise (500-20,000 Hz). All power measurements are made with driver mounted to Altec 500 Hz horn.

\*\*Measured at 4' on axis from mouth of Altec 90° sectoral horn with 1 watt input of pink noise, band-limited from 500-3000 Hz

### BASS DRIVERS

	Power Rating† (watts)	Frequency Response	Pressure Sensitivity# (dB SPL)	Nominal Impedance (ohms)	Diameter	Weight
411-8A	100	20-1000 Hz	93	8	15 5/8" - 38.9 cm	20.5 lbs - 9.3 kg
414-8C	50	30-4000 Hz	94	8	12 1/4" - 31.1 cm	15 lbs - 6.8 kg
416-8B	75	20-1600 Hz	97	8	15 5/8" - 38.9 cm	17.5 lbs - 7.9 kg
421-8H	150	35-8000 Hz	98	8	16" - 40.6 cm	20.7 lbs - 9.4 kg
515B	75	20-1000 Hz	99	16	15 5/8" - 38.9 cm	26 lbs - 11.8 kg

†Measured with pink noise (20-1000 Hz) in recommended enclosure

#Measured at 4' on axis with 1 watt input of pink noise, band-limited from 100-1000 Hz in 5 cu. ft. laboratory enclosure.

# Loudspeakers



## LOUDSPEAKERS

	403A	405-8G	409-8C	604-8G	616-8A	755E
Type	Wide-range cone radiator	Wide-range cone radiator	Two-way coaxial	Two-way coaxial	Two-way coaxial	Wide-range cone radiator
Power Rating (watts)*	12	10	16	65	50	20
Frequency Response	70-11,000 Hz	60-15,000 Hz	50-14,000 Hz	20-20,000 Hz	20-15,000 Hz	40-15,000 Hz
Pressure Sensitivity** (dB SPL)	95	91	94	100	100	92
Nominal Impedance (ohms)	8	8	8	8	8	8
Nominal Free-Air Cone Resonance	80 Hz	120 Hz	84 Hz	25 Hz	25 Hz	64 Hz
Crossover Frequency			2500 Hz	1500 Hz	1000 Hz	
Flux Density (gauss)	9000	10,500	7500	15,500	14,000	9000
HF section			8500	13,000	10,000	
LF section						
Dimensions						
Diameter	8 $\frac{3}{8}$ "-21.1 cm	4 $\frac{3}{8}$ "-11.1 cm	8 $\frac{1}{8}$ "-20.6 cm	16"-40.6 cm	15 $\frac{1}{8}$ "-38.9 cm	8 $\frac{3}{8}$ "-21.3 cm
Depth	4"-10.2 cm	2 $\frac{1}{8}$ "-5.4 cm	3 $\frac{1}{4}$ "-8.3 cm	11 $\frac{1}{8}$ "-28.3 cm	8 $\frac{1}{2}$ "-21.6 cm	2 $\frac{1}{4}$ "-5.7 cm
Weight	3 lbs-1.4 kg	2 lbs-0.9 kg	3 lbs-1.4 kg	34 lbs-15.4 kg	23 lbs-10.4 kg	4.5 lbs-2.0 kg

\*Measured with pink noise, band limited from 20 Hz-20 kHz

\*\*Measured at 4' on axis with 1 watt input of pink noise, band-limited from 500-3000 Hz.

## DIVIDING NETWORKS

Model	Crossover Frequency	Input/Output Impedance (ohms)	Power Rating (watts)	Features
N500F	500 Hz	16	250	Passive dual LC network. 12 dB/octave slope. HF shelving, four 1 dB steps.
N501-8A	500 Hz	8	100	Passive dual LC network. 12 dB/octave slope. Continuously variable HF shelving, 0 to -20 dB.
N800D	800 Hz	16	75	Passive dual LC network. 12 dB/octave slope. HF shelving, four 1 dB steps.
N801-8A	800 Hz	8	100	Passive dual LC network. 12 dB/octave slope. Continuously variable HF shelving, 0 to -20 dB.

Altec manufactures a wide variety of line-matching transformers for use in 70 or 210 volt distributed systems. Altec transformers are highly accurate, low-loss devices, and are available in several physical and electrical sizes.

# Control Console



1220AC

## 1220AC Control Console

The 1220AC Control Console is a portable solid-state mixer/preamplifier complete with carrying case and detachable legs. It has a self-contained reverb unit, 10 low-impedance, transformer-isolated input channels and one auxiliary input channel for high-level devices. Each of the 10 channels has controls to adjust volume, bass, treble and reverb levels. The output of each channel of 1220AC may be monitored on two selectable channels. Each input is independently monitored by a VU meter prior to entry onto the main (master) channel. The combined signals of reverb and channels 1-11 are fed to a summing amplifier in the main channel. Other special circuits include a line and polarity indicator and switch to prevent shock hazards, an electronic crossover output circuit for bi-amplification, and a peak limiter circuit. Input/output connections, primary power controls and the reverb locking lever are on the rear panel. Modular construction makes operation and service easy.

### Gain—

86, 78 or 74 dB for channels 1-10 with 150-ohm source

### Input Clipping Level:

-8 dBm

### Power Output:

+21 dBm

### Frequency Response:

$\pm 1$  dB from 30 Hz to 20 kHz

### Crossover Frequency:

500 or 800 Hz with  $\pm 10$  dB shelving balance

### Input Impedance:

150 ohms nominal (channels 1-10)  
5000 ohms nominal (channel 11)

### Load Impedance:

600 ohms nominal

### Equivalent Input Noise:

-127.5 dBm

### Tone Control Response:

$\pm 16$  dB at 100 Hz (LF) and 10 kHz (HF)

### Limiter Attack:

10  $\mu$ s to  $\pm 1$  dB

### Limiter Release:

63% recovery in 0.5 second (FAST) or 1.5 seconds (SLOW)

### Limiter Distortion:

Typically less than 1% for 10 dB of compression with +8 dBm output

### Power Requirements:

120/240V ac, 50/60 Hz, 50 watts—or  
24/28V dc battery, 1A maximum

### Dimensions:

36"W x 24"D x 11"H  
91.4 cmW x 61.0 cmD x 27.9 cmH

### Weight:

62 pounds - 28.12 kg