

The JBL logo is displayed in a large, bold, white font against a black background. The background features a repeating pattern of small, dark, diamond-shaped shapes.

Technical Notes Volume 1, Number 13

JBL Concert Series Complete Sound Systems

Introduction

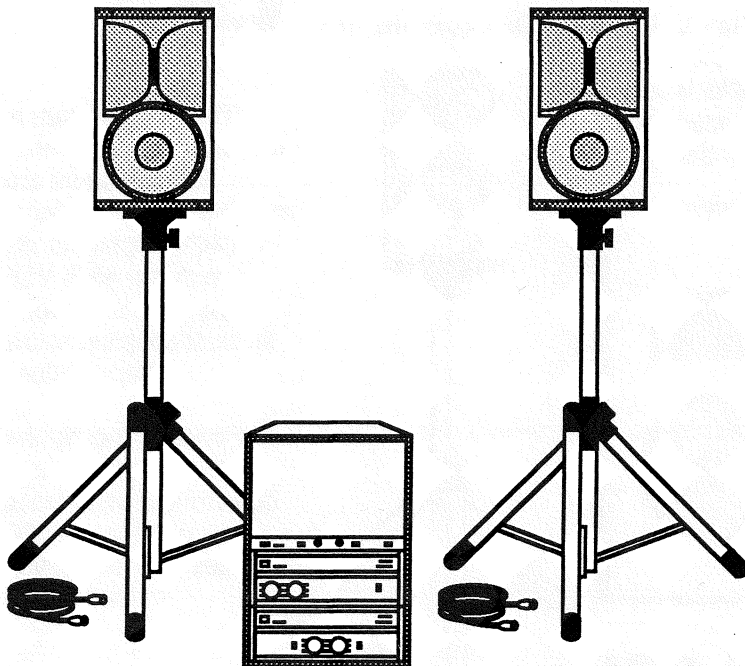
The JBL Concert Series consists of loudspeaker systems and pre-packaged amplification and loudspeaker signal processing equipment. Although primarily designed for touring sound reinforcement applications, Concert Series components and systems are equally suited for permanent installations with features such as built-in hanging hardware and pre-wired connectors for ease and adaptability of installation. This note describes the equipment and performance characteristics of complete Concert Series systems, organized by main loudspeaker type. Each is a complete two channel loudspeaker, loudspeaker signal processing and amplification system, and is shipped pre-wired, tested and ready for use. Detailed information on each component may be found in individual product literature sheets.

4825 Systems

The 4825 is the smallest of the Concert Series loudspeaker systems and serves a wide variety of applications, including live and motion picture theater sound, church sound reinforcement, nightclub entertainment, front fill in large arrays, foldback, and many others. The 4825 features extended frequency range and exceptionally smooth and uniform wide angle (100° by 100°) coverage. Systems based upon the 4825 may be readily expanded in economic increments.

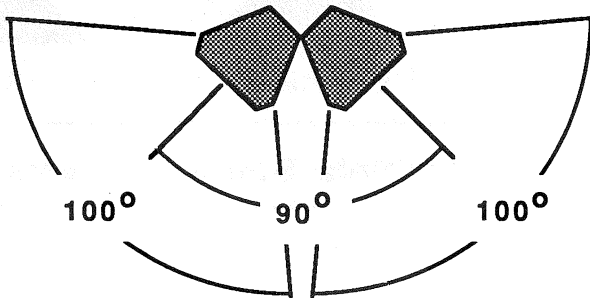
4925

Illustrated at left is the 4925 system, consisting of (2) 4825 loudspeaker systems, (1) 9922 electronics rack and (2) 3850 fifty-foot loudspeaker connecting cables. The 4925 is an ideal live reinforcement system for small clubs and as a "starter" system with future expansion in mind. The loudspeakers are shown mounted on optional tripod stands, JBL model MT4612. Optional (not shown), is the model 9916RC road case and dolly for the 9922 electronics rack.

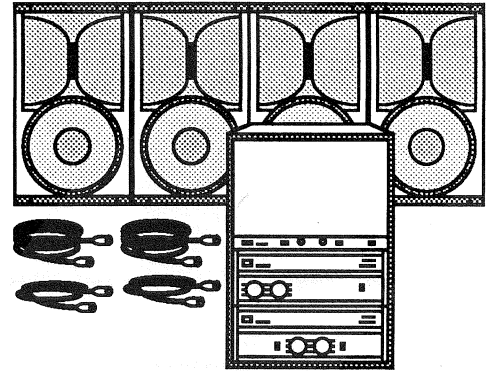


4926

The 4926 is identical to the 4925, but with four 4825 loudspeakers, two 3850 and two 3805 loudspeaker cables. No changes are required to the 9922 electronics rack. The 4926 configuration is ideally suited for wide coverage angle reinforcement applications, with the recommended splay angles between two units shown at left.



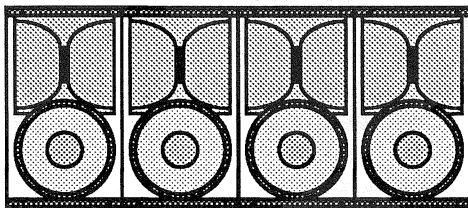
This arrangement provides more than 180 degrees of nearly seamless horizontal coverage throughout the 4825's wide frequency range. Narrowing the splay angle will result in increasing sound pressure level along the axis of the array, which is useful in environments that are deeper than they are



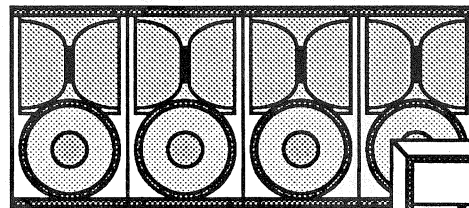
wide. Options include the MT4612 tripod stands and the 9916RC road case and dolly for the 9922 electronics rack.

4927

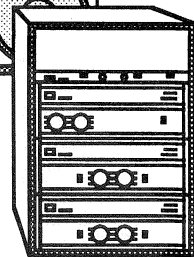
The 4927 employs (8) 4825 loudspeaker systems and the 9942 electronics rack. The 4825 loudspeakers may be stacked and splayed in many different array configurations to adapt to a wide variety of applications, installation environments and audio production requirements. For reinforcement applications, four 4825s may be arrayed on either



side of the stage stacked in groups of two for narrowed vertical coverage and splayed as above for wide horizontal coverage. The 4927

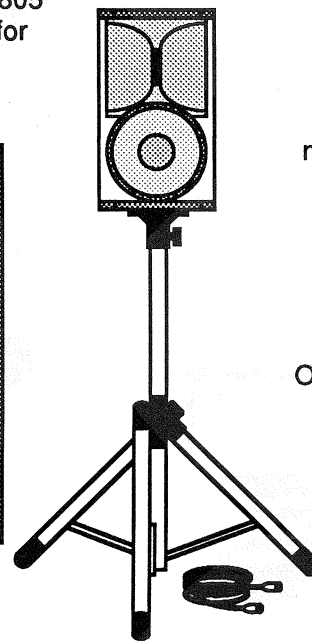
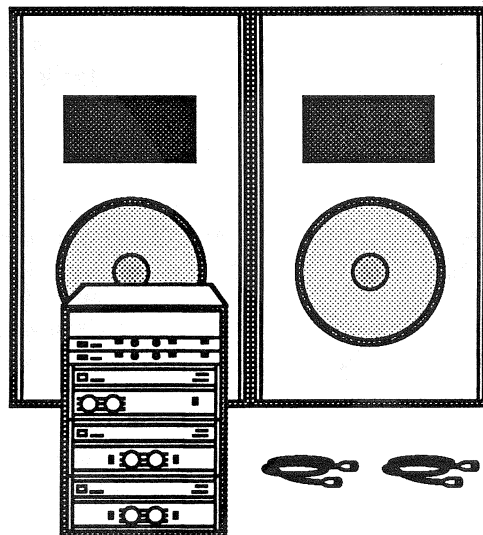
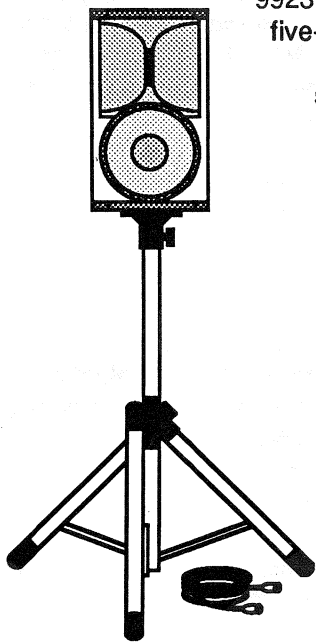


includes (4) fifty-foot model 3850 and (4) five-foot model 3805 loudspeaker cables. Options include the MT4612 tripod stands and the 9916RC road case and dolly for the electronics rack.



4945

The 4945 includes (2) 4825 loudspeaker systems, (2) 4845 VLF loudspeaker systems, the 9923 electronics rack (2) 3850 fifty-foot and (2) 3805 five-foot loudspeaker cables. The 4945 is ideal for reinforcement in small clubs with keyboard synthesizers and small to medium discos.

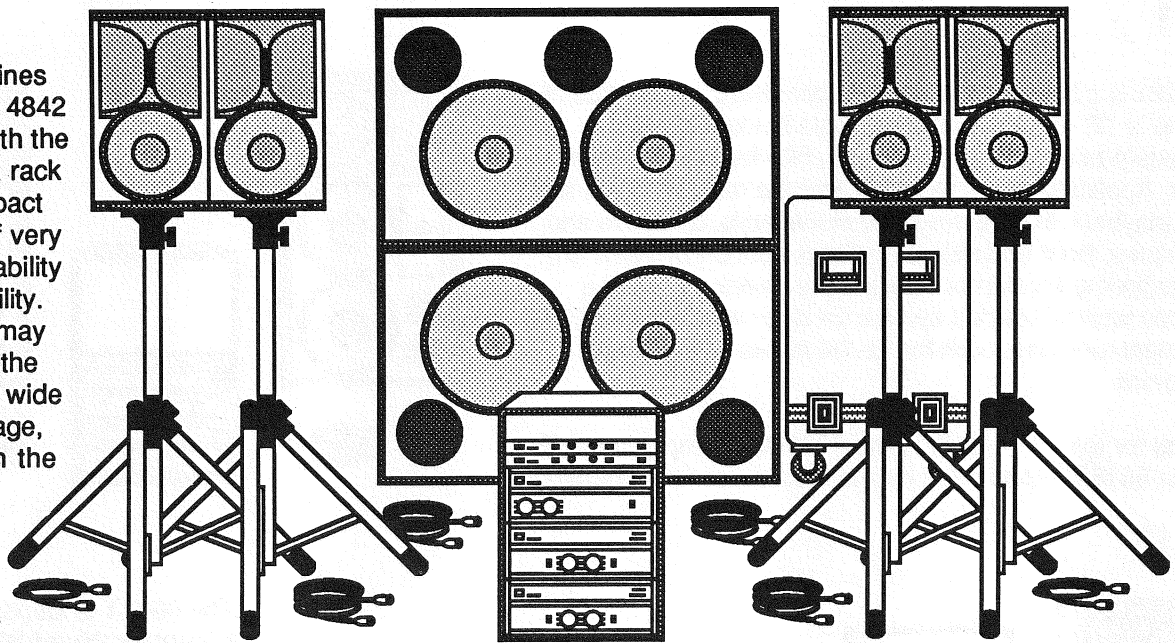


The 4945 system is shown at left. The 4825 loudspeakers are mounted on the optional MT4612 tripod stands with the 4845 VLF loudspeakers grouped for best coupling at low frequencies.

Other options include the 9916RC road case and dolly for the electronics rack and the 4870DL dollies for transporting the 4845s.

4946

The 4946 combines (4) 4825 and (2) 4842 loudspeakers with the 9923 equipment rack to deliver a compact sound system of very high output capability and great versatility. The four 4825s may be arrayed as in the 4926 system for wide or narrow coverage, depending upon the application, with the 4842s either arrayed as shown for best coupling or split as required to suit the



installation environment. The 4946 is shown above, along with the optional MT4612 accessory tripod stands and the optional 9916RC road case and dolly. Also shown are the (4) fifty-foot 3850 and (2) five-foot 3805 loudspeaker cables, which are included with the 4946. The 4870DL loudspeaker dolly for transporting the 4842s is available as an optional accessory.

System Comparison Chart

System	Main Loudspeakers	VLF Loudspeakers	Electronics Rack Assy.	Frequency Response (± 3 dB)	Maximum SPL (1)	Amplifier Power (2)
4925	(2) 4825	—	9922	70 Hz to 17.5 kHz	127 dB	750 w
4926	(4) 4825	—	9922	65 Hz to 17.5 kHz	132 dB	1,500 w
4927	(8) 4825	—	9942	60 Hz to 17.5 kHz	137 dB	3,000 w
4945	(2) 4825	(2) 4845	9923	30 Hz to 17.5 kHz	130 dB	1,350 w
4946	(4) 4825	(2) 4842	9923	25 Hz to 17.5 kHz	135 dB	2,700 w

1. Maximum SPL is for continuous program from available amplifier power and calculated to 1m reference.
2. Amplifier power is continuous average sine wave power available into nominal system load impedances.

Nominal horizontal and vertical angular coverage between - 6 dB points for each 4825 is 100 degrees. Angular coverage and axial sensitivity for arrays of 4825s will depend upon the splay angles used. Consult individual specification sheets for additional performance details.

4850 Systems

The 4850 family of modular high-power loudspeaker systems deliver exceptional performance for quality sound reinforcement and playback applications.

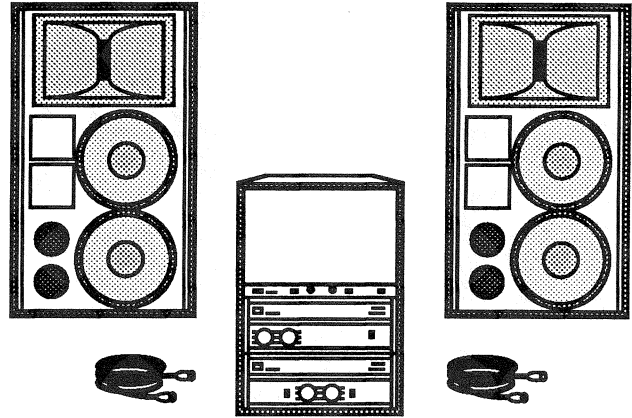
Two-way models (4850, 4852) are designed for bi-amplification and consist of dual 12 inch LF loudspeakers and a 4 inch diaphragm HF compression driver mounted to a Bi-Radial™ Flat-Front horn in a

vented enclosure. Three-way models (4851, 4853) employ tri-amplification and incorporate dual Bi-Radial™ Constant-Coverage compression VHF transducers in addition to the LF and HF devices. Both types are available in either 90 degree (4850, 4851) or 60 degree (4852, 4853) horizontal coverage versions. The enclosure tapers from front to back to enable tight cluster grouping for coherent wide angle coverage.

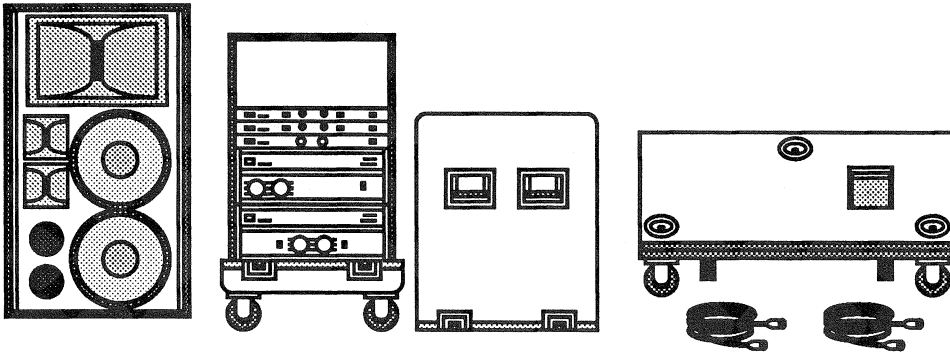
4921

The 4921 is a basic 2-way system, consisting of (2) 4850 (90 degree) or (2) 4852 (60 degree) main loudspeakers, (1) 9922 equipment rack and (2) 3850, fifty-foot loudspeaker cables. Applications for the 4921 include reinforcement and music playback in medium-sized clubs, halls, churches and auditoriums, front and side fill for large concert systems and as a beginning investment toward the development of a full-scale touring concert system for large venues. The 9922 equipment rack has room for 12-1/4 inches of additional electronics.

Options for the 4921 include the 4850DL loudspeaker dolly and the 9916RC road case for the electronics (see below).



4921T



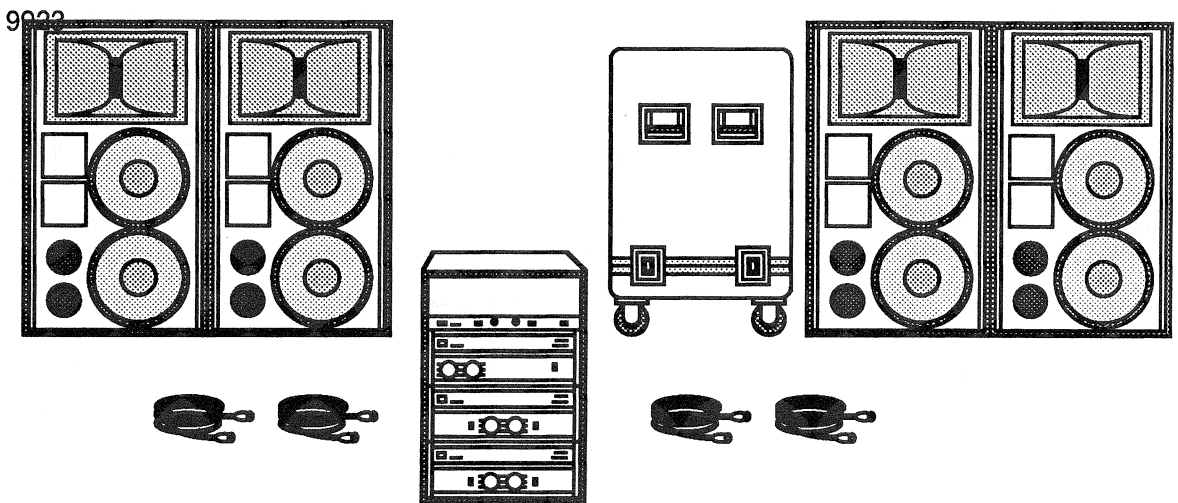
The 4921T is identical to the 4921 except for the addition of (2) VHF transducers per loudspeaker system and the 9922T electronics rack, which includes the additional crossover system and VHF power amplifier. The 4921T may be ordered with either 90 degree nominal horizontal coverage loudspeaker systems (model 4851) or 60 degree horizontal coverage loudspeaker systems (model

4853). The components of the 4921T are shown above. One loudspeaker system is shown face down on the optional 4850DL loudspeaker dolly, and the 9922T equipment rack is pictured in the lower half of the optional 9916RC road case, with the upper pod assembly standing alongside.

4941

The 4941 expands upon the basic 4921 system to include four 4850 or 4852 two-way loudspeaker systems. The 4941 is powered by the 9942 electronics rack, which includes two channel signal processing and electronic crossover equipment and 2700 watts of available amplifier power. The 4941 comes

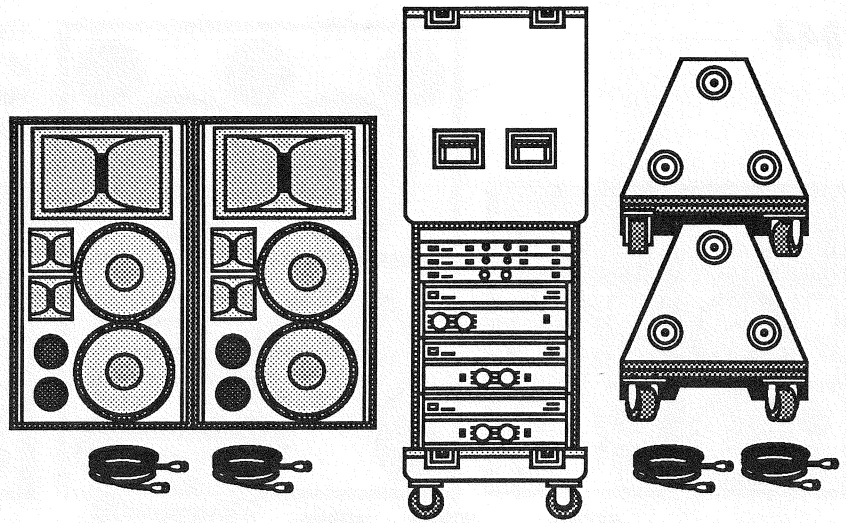
equipped with (4) fifty-foot 3850 loudspeaker connecting cables. Optional equipment includes the 9916RC road case (shown above) for the 9942 electronics rack, and the 4850DL loudspeaker dollies. One dolly per loudspeaker cabinet is recommended for transportable applications.



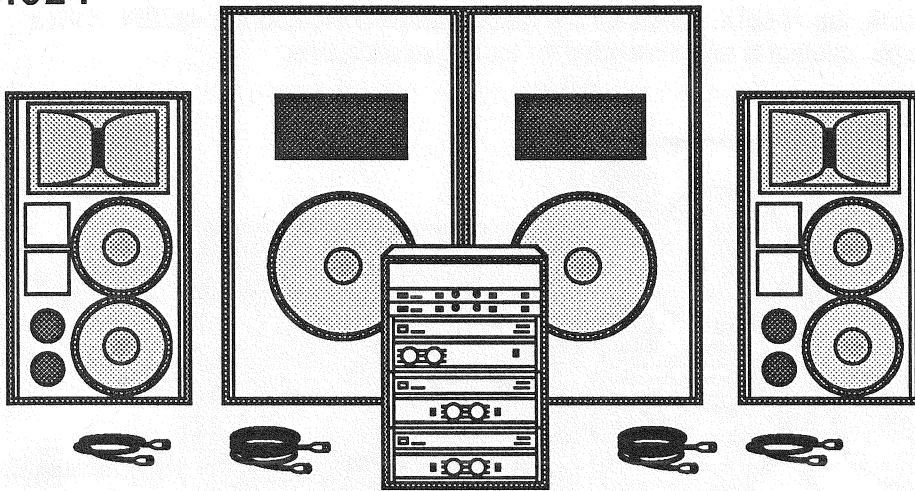
4941T

The 4941T is a three-way version of the 4941. Systems may be ordered with 4851 loudspeakers (90 degrees nominal horizontal coverage), or 4853 loudspeakers (60 degrees nominal horizontal coverage). The 9942T electronics rack includes two channels of three-way signal-processing crossovers and power amplification equipment. The 4941T includes (4) 3850 fifty-foot loudspeaker connecting cables.

The 4941T is shown at right. Two of the loudspeaker systems are shown stacked on optional 4850DL transportation dollies, and the 9942T electronics rack is shown with the optional 9916RC road case. The upper pod of the road case is inverted and stacked on the 9942T for temporary storage.



4924

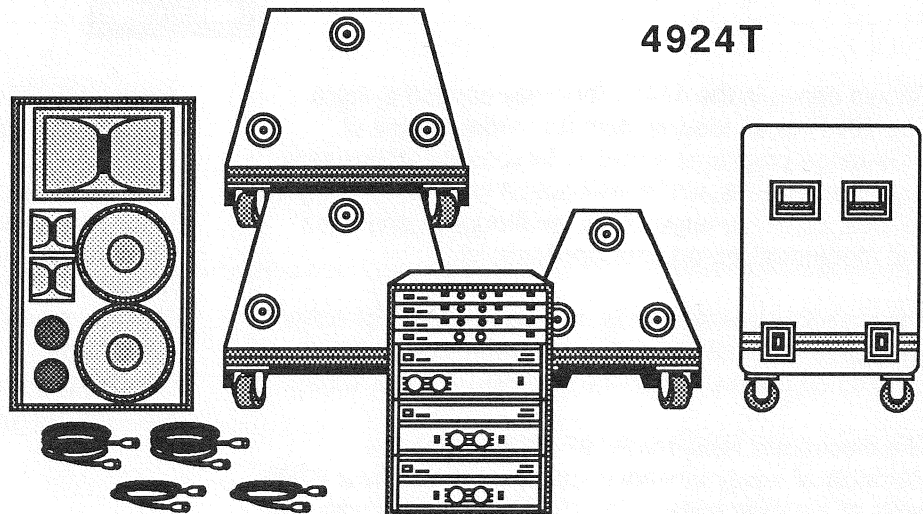


The 4924 adds a pair of 4845 VLF loudspeakers to the basic 4921 along with an additional crossover-processor and power amplifier contained in the 9923 electronics rack. The result is a three-way system capable of extended low frequency response at high output levels for medium-sized venues. The 4924 comes equipped with (4) 3850 and (2) 3805 loudspeaker cables.

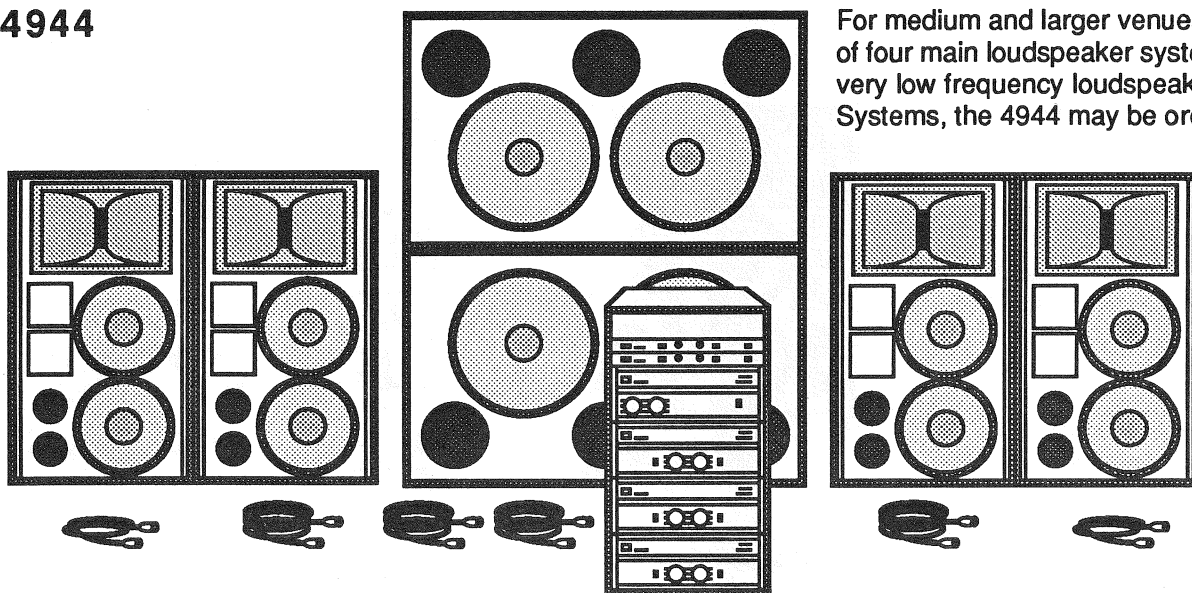
Options for the 4924 include: model 9916RC road case and dolly for the electronics, model 4850DL dollies for the main loudspeakers and 4870DLs for the 4845 VLF loudspeakers.

The 4924T, shown below in optional road livery, is a complete four-way sound system. The 4924T is identical to the 4924 except for the addition of two JBL 2404H very high frequency transducers to each main loudspeaker cabinet and the additional two channel electronic crossover and power amplifier. Standard equipment includes (2) 3850 and (2) 3805 loudspeaker connecting cables.

The 4924T may be ordered with model 4851 (90 degree horizontal coverage) or model 4853 (60 degree horizontal coverage) main loudspeaker systems. The 4850DL dollies (for the main loudspeakers), 4870DL dollies (for the subwoofers) and the 9916RC road case (for the 9923T electronics) shown at right are optional accessories for touring applications.



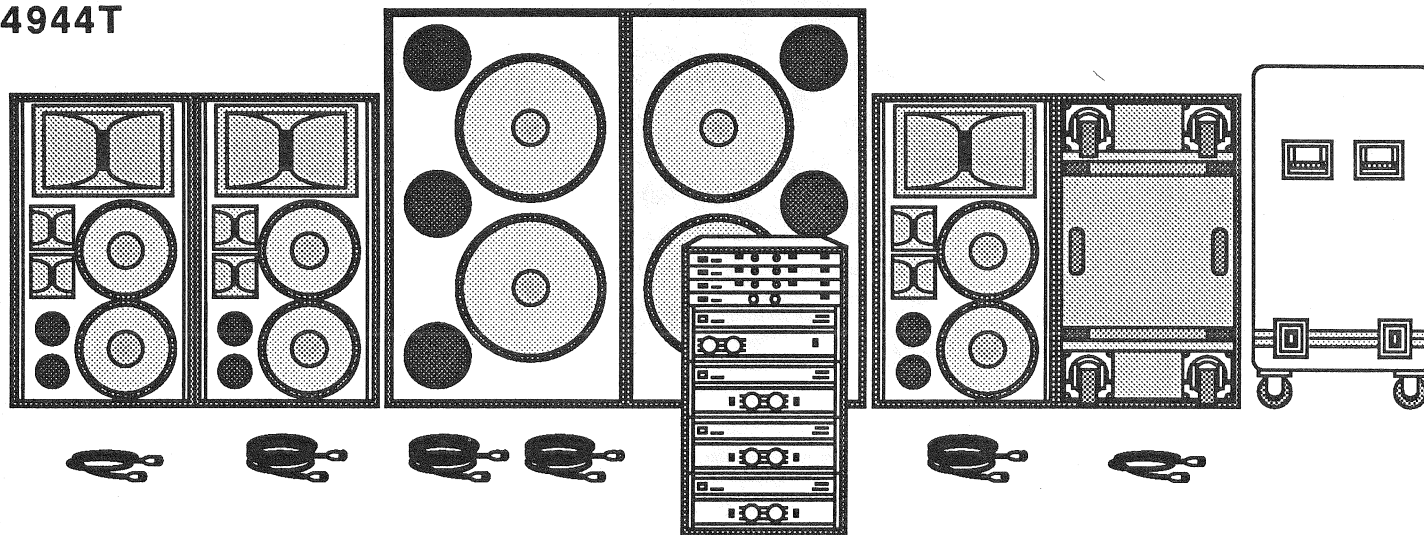
4944



For medium and larger venues, the 4944 consists of four main loudspeaker systems and two 4842 very low frequency loudspeakers. Like other 4850 Systems, the 4944 may be ordered with either 90 degree horizontal coverage main loudspeakers (4850s), or 60 degree horizontal coverage units (4852s). The 9943 electronics rack includes two channels of three-way signal processing and 3900 watts of amplifier power. The 4944 comes

equipped with (4) fifty-foot 3850 and (2) five-foot 3805 loudspeaker connecting cables. System options include the 9920RC road case for the 9943 electronics rack, the 4850DL dollies for the main loudspeakers and the 4870DL dollies for the 4842 loudspeaker systems. One dolly per cabinet is recommended for touring applications.

4944T



Shown above is the 4944T four-way concert system. The 4944T is an ideal system for reinforcement of wide-range programs including keyboard synthesizers, organs and drums, and is well-suited for a wide variety of venues, including large clubs, auditoriums, churches and medium-sized outdoor applications.

The main loudspeaker units may be specified for either 90 degree nominal horizontal coverage (model 4851), or nominal 60 degree horizontal coverage (model 4853).

The electronics rack, model 9943T includes two channels of 4-way crossover-processors and over 4,000 watts of amplifier power. The 4944T is supplied with (4)

model 3850 [50 foot] and (2) model 3805 [5 foot] loudspeaker connecting cables.

The 4944T is shown above. An optional model 4850DL loudspeaker dolly is shown attached to the face of one of the main loudspeakers, as it would be positioned for installation or removal. Next to the dolly is the optional 9920RC road case for the 9943T electronics rack. The 4870DL (not shown) is available as an option for transporting the 4842 subwoofers. One dolly per loudspeaker system is recommended.

System Comparison Chart

System	Main Loudspeakers	VLF Loudspeakers	Electronics Rack Assy.	Frequency Response (± 3 dB)	Maximum SPL (1)	Amplifier Power (2)
4921	(2) 4850 (4852)	—	9922	50 Hz to 16 kHz	133 dB (135 dB)	1,350 w
4921T	(2) 4851 (4853)	—	9922T	50 Hz to 19 kHz	133 dB (135 dB)	1,450 w
4941	(4) 4850 (4852)	—	9942	45 Hz to 16 kHz	138 dB (140 dB)	2,700 w
4941T	(4) 4851 (4853)	—	9942T	45 Hz to 19 kHz	138 dB (140 dB)	2,800 w
4924	(2) 4850 (4852)	(2) 4845	9923	30 Hz to 16 kHz	133 dB (135 dB)	1,950 w
4924T	(2) 4851 (4853)	(2) 4845	9923T	30 Hz to 19 kHz	133 dB (135 dB)	2,050 w
4944	(4) 4850 (4852)	(2) 4842	9943	25 Hz to 16 kHz	138 dB (140 dB)	3,900 w
4944T	(4) 4851 (4853)	(2) 4842	9943T	25 Hz to 19 kHz	138 dB (140 dB)	4,000 w

1. Maximum SPL is for continuous program from available amplifier power and calculated to 1m reference.
2. Amplifier power is continuous average sine wave power available into nominal system load impedances.

4870 Systems

The 4870 family of modular loudspeaker systems are designed for high-performance sound reinforcement and reproduction applications.

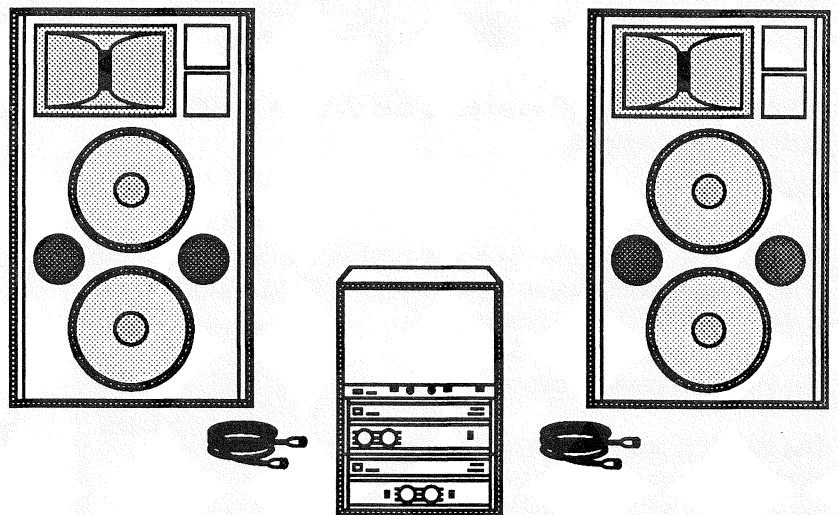
Two way models (4870, 4872) consist of dual 15 inch direct radiator loudspeakers and a 4 inch diaphragm compression driver mounted to a Flat-Front Bi-Radial™

horn in a vented enclosure. Three-way models (4871, 4873) add dual Bi-Radial Constant-Coverage VHF devices. Both types are available in either 90 degree (4870, 4871) or 60 degree (4872, 4873) nominal horizontal coverage versions to suit a wide variety of applications and installation environments.

4922

The 4922 is the most basic of the 4870-based systems, consisting of (2) 4870 or 4872 loudspeaker systems, (1) 9922 electronics rack and (2) 3850 fifty-foot loudspeaker connecting cables.

The 9922 electronics rack is a complete two channel, two-way amplification and signal processing system, incorporating balanced inputs and standardized input and output connectors. Each electronics rack is assembled, wired and fully tested before shipment.

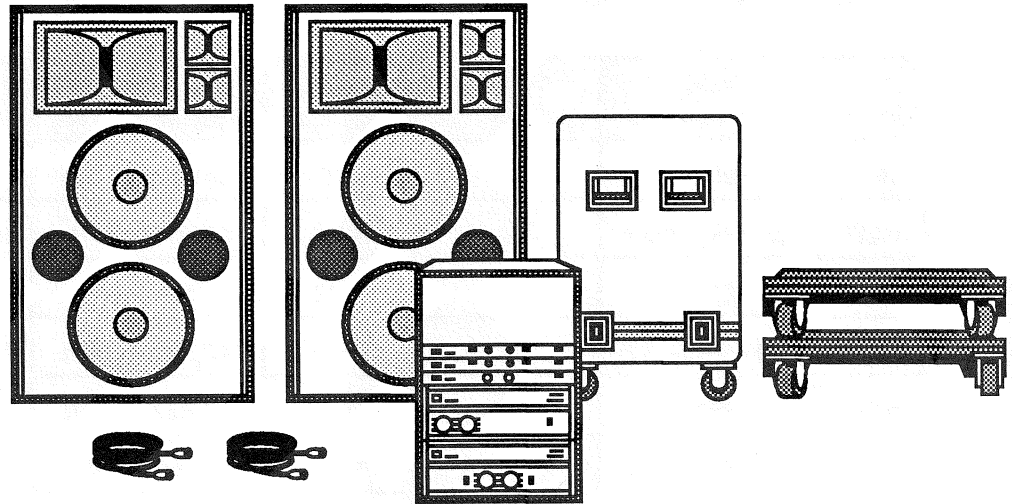


Loudspeaker systems are equipped with certified fittings for the attachment of hanging hardware. Options for the 4922 include the model 9916RC road case and dolly for the 9922 electronics rack and the 4870DL loudspeaker dollies.

4922T

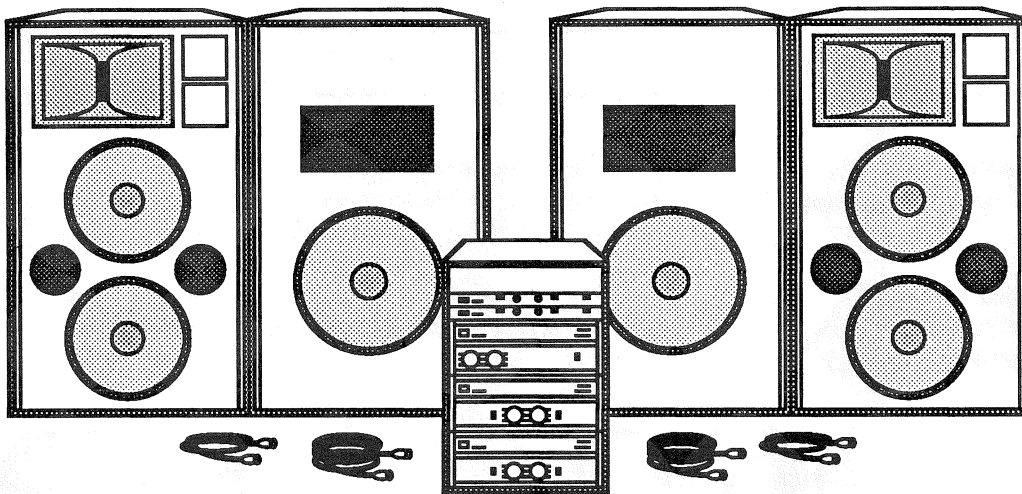
The 4922T is similar to the 4922 with the addition of (2) 2404H VHF transducers to each loudspeaker system, and the 9922T electronics rack, which includes a two-channel 7 kHz crossover processor and VHF power amplifier in addition to the 9922 complement.

Loudspeaker systems are either 90 degree horizontal coverage (4871s), or 60 degree horizontal coverage (4873s).



The 4922T is shown above, along with optional touring accessories, including the 9916RC road case and dolly for the 9922T and a pair of 4870DL loudspeaker dollies stacked at right.

4923



The 4923 adds a pair of 4845 very low frequency (VLF) loudspeaker systems to the basic 4922 system, extending the usable frequency range to 25 Hz.

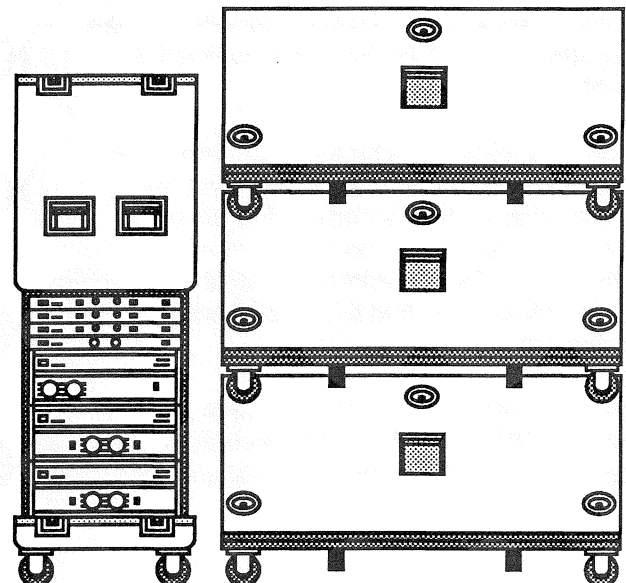
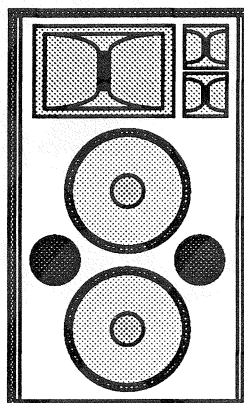
System components include: (2) 4870 or 4872 main loudspeaker systems, (2) 4845 VLF loudspeaker systems, (1) 9923 electronics rack, (2) 3850 fifty-foot and (2) 3805 five-foot loudspeaker cables.

Optional touring accessories include: model 9916RC road case and dolly for the 9923 electronics rack and the 4870DL loudspeaker dollies for the loudspeaker systems.

4923T

The 4923T is a complete four-way system, consisting of (2) 4871 or 4873 main loudspeaker systems, (2) 4845 VLF loudspeaker systems, (1) 9923T electronics rack, (2) 3850 fifty-foot and (2) 3805 five-foot loudspeaker cables.

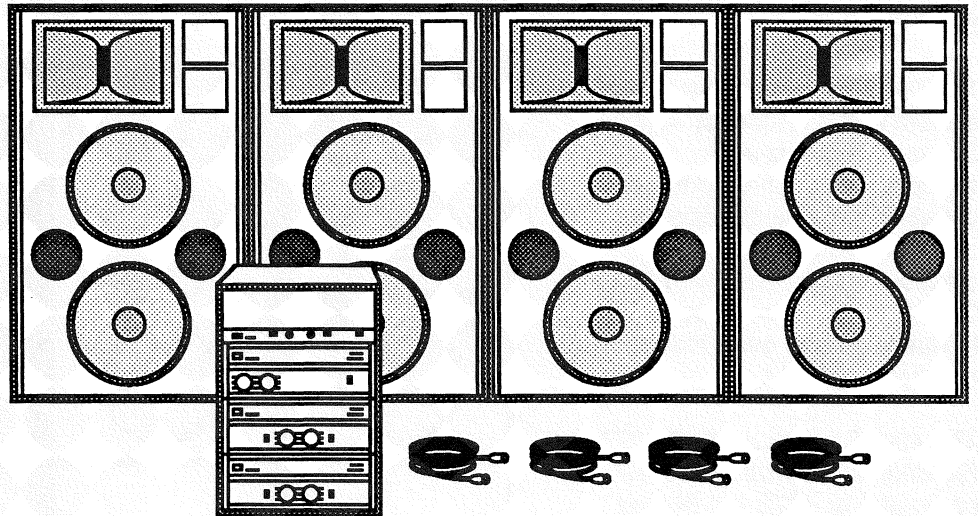
The 4923T is shown at right with the 4845s and one 4871/4873 stacked on the optional 4870DL loudspeaker dollies. The 9923T is shown mounted in the optional 9916RC road case, with the upper pod stacked on top for use.



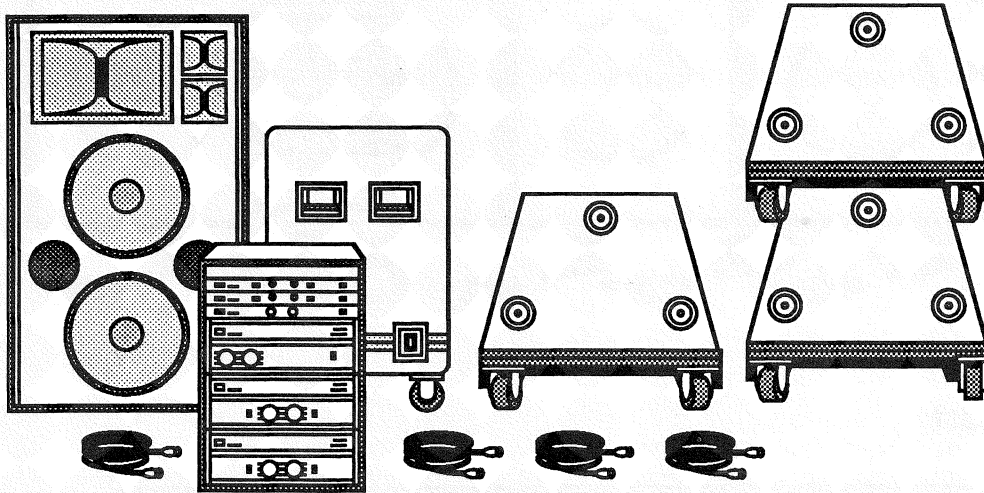
4942

The 4942 consists of (4) 4870 or 4872 loudspeaker systems (90 degree or 60 degree horizontal distribution options), the 9942 electronics rack and (4) 3850 fifty-foot loudspeaker cables.

Optional equipment for the 4942 includes the 4870DL loudspeaker dollies (one dolly per loudspeaker is recommended) and the 9916RC road case and dolly for the 9942 electronics rack. The 4942 may be readily upgraded to the 4942T.



4942T

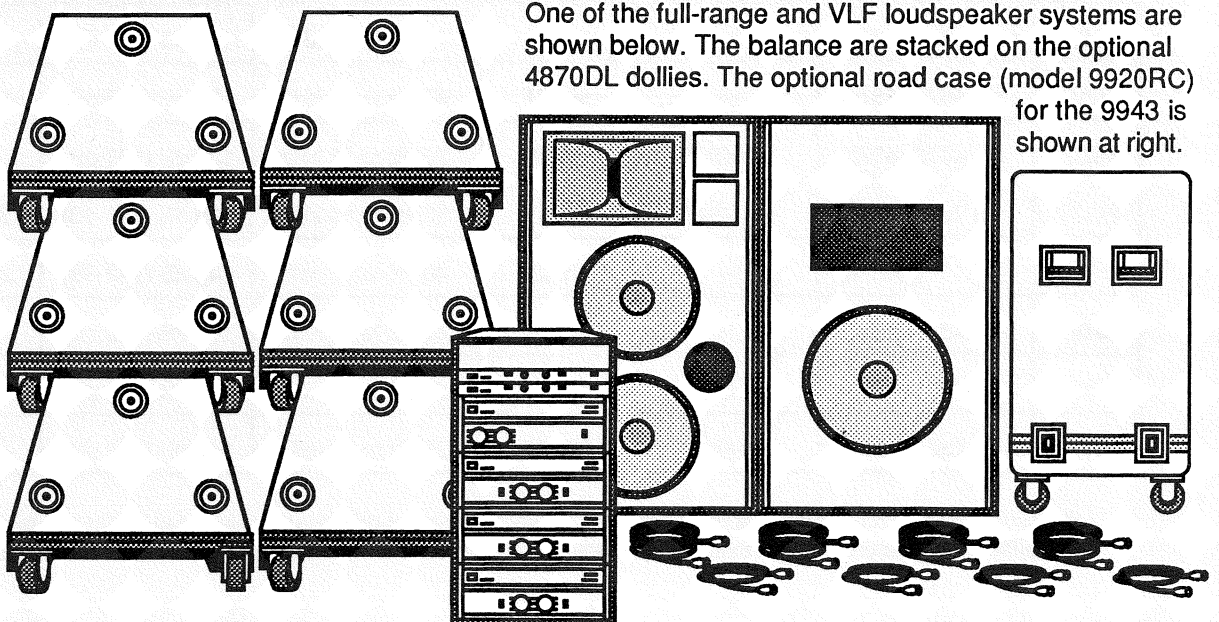


The 4942T is a three-way version of the 4942, employing the 4871 or 4873 loudspeaker systems in place of the 4870 or 4872. The electronics rack is upgraded to the 9942T by the addition of a two channel crossover-processor and the very high frequency power amplifiers.

The 4942T is shown at left, with three of the loudspeakers on optional 4870DL loudspeaker dollies, and the 9916RC road case for the 9942T in the rear.

4943

Consisting of (4) 4870 or 4872 full-range loudspeakers, (4) 4845 VLF loudspeakers, the 9943 electronics rack and (4) 3850 fifty-foot and (4) 3805 five-foot loudspeaker cables, the 4943 extends the usable frequency range to 20 Hz.



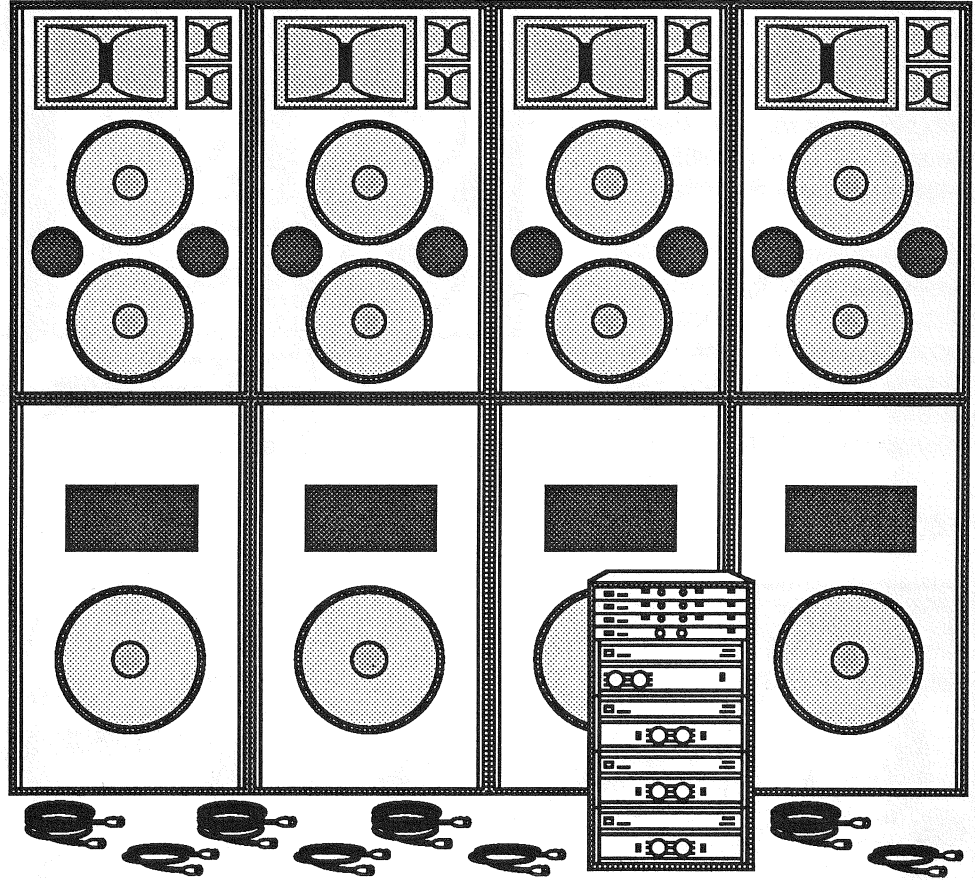
One of the full-range and VLF loudspeaker systems are shown below. The balance are stacked on the optional 4870DL dollies. The optional road case (model 9920RC) for the 9943 is shown at right.

4943T

The 4943T is a complete four-way system with a frequency range of 20 Hz to 21.5 kHz and exceptionally high output level capability. The electronics rack contains two channels of crossover processors with 80 Hz, 800 Hz and 7 kHz crossover frequencies and over 4000 watts of amplifier power.

The 4943T consists of (4) 4871 (90 degree nominal horizontal coverage) or 4873 (60 degree nominal horizontal coverage) main loudspeaker systems, (4) 4845 VLF loudspeaker systems, the 9943T electronics rack, (4) 3850 fifty-foot and (4) 3805 five-foot loudspeaker connecting cables.

System options (not shown) include the 4870DL loudspeaker dolly (8 recommended) and the 9920RC road case and dolly for the 9943T electronics rack.



System Comparison Chart

System	Main Loudspeakers	VLF Loudspeakers	Electronics Rack Assy.	Frequency Response (± 3 dB)	Maximum SPL (1)	Amplifier Power (2)
4922	(2) 4870 (4872)	—	9922	45 Hz to 16 kHz	135 dB (137 dB)	1,350 w
4922T	(2) 4871 (4873)	—	9922T	45 Hz to 19 kHz	135 dB (137 dB)	1,450 w
4923	(2) 4870 (4872)	(2) 4845	9923	30 Hz to 16 kHz	135 dB (137 dB)	1,950 w
4923T	(2) 4871 (4873)	(2) 4845	9923T	30 Hz to 19 kHz	135 dB (137 dB)	2,050 w
4942	(4) 4870 (4872)	—	9942	40 Hz to 16 kHz	140 dB (142 dB)	2,700 w
4942T	(4) 4871 (4873)	—	9942T	40 Hz to 19 kHz	140 dB (142 dB)	2,800 w
4943	(4) 4870 (4872)	(4) 4845	9943	25 Hz to 16 kHz	140 dB (142 dB)	3,900 w
4943T	(4) 4871 (4873)	(4) 4845	9943T	25 Hz to 19 kHz	140 dB (142 dB)	4,000 w

1. Maximum SPL is for continuous program from available amplifier power and calculated to 1m reference.

2. Amplifier power is continuous average sine wave power available into nominal system load impedances.

Selecting Loudspeaker Coverage (4850 and 4870 Systems)

Users have the option of 90 degree or 60 degree nominal horizontal coverage in each of the complete systems using 4850 and 4870.

When increasing horizontal coverage, the smoothest distribution will be achieved when the splay angle between two loudspeakers is the same as the nominal horizontal coverage angle of each system. For example, for 120 degrees of horizontal distribution, two 60 degree cabinets, with a 60 degree splay angle between the

horizontal axes (120 degrees included between cabinet faces) is preferred.

In touring applications with large systems, 60 degree horizontal coverage is usually chosen. Conversely, systems with two main loudspeakers are usually configured in 90 degree versions.

Other factors, such as future expansion possibilities will also affect the choice of coverage options.

System Component Chart

System Model	Standard Equipment				Optional Equipment	
	Electronics Rack	Main Loudspeakers	VLF Loudspeakers	Speaker Cables	Electronics Road Case	Speaker Dollies
4921	9922	(2) 4850 (4852)	—	(2) 3850	9916RC	(2) 4850DL
4921T	9922T	(2) 4851 (4853)	—	(2) 3850	9916RC	(2) 4850DL
4922	9922	(2) 4870 (4872)	—	(2) 3850	9916RC	(2) 4870DL
4922T	9922T	(2) 4871 (4873)	—	(2) 3850	9916RC	(2) 4870DL
4923	9923	(2) 4870 (4872)	(2) 4845	(2) 3850 (2) 3805	9916RC	(4) 4870DL
4923T	9923T	(2) 4871 (4873)	(2) 4845	(2) 3850 (2) 3805	9916RC	(4) 4870DL
4924	9923	(2) 4850 (4852)	(2) 4845	(2) 3850 (2) 3805	9916RC	(2) 4850DL (2) 4870DL
4924T	9923T	(2) 4851 (4853)	(2) 4845	(2) 3850 (2) 3805	9916RC	(2) 4850DL (2) 4870DL
4925	9922	(2) 4825	—	(2) 3850	9916RC	—
4926	9922	(4) 4825	—	(2) 3850 (2) 3805	9916RC	—
4927	9942	(8) 4825	—	(4) 3850 (4) 3805	9916RC	—
4941	9942	(4) 4850 (4852)	—	(4) 3850	9916RC	(4) 4850DL
4941T	9942T	(4) 4851 (4853)	—	(4) 3850	9916RC	(4) 4850DL
4942	9942	(4) 4870 (4872)	—	(4) 3850	9916RC	(4) 4870DL
4942T	9942T	(4) 4871 (4873)	—	(4) 3850	9916RC	(4) 4870DL
4943	9943	(4) 4870 (4872)	(4) 4845	(4) 3850 (4) 3805	9920RC	(8) 4870DL
4943T	9943T	(4) 4871 (4873)	(4) 4845	(4) 3850 (4) 3805	9920RC	(8) 4870DL
4944	9943	(4) 4850 (4852)	(2) 4842	(4) 3850 (2) 3805	9920RC	(4) 4850DL (2) 4870DL
4944T	9943T	(4) 4851 (4853)	(2) 4842	(4) 3850 (2) 3805	9920RC	(4) 4850DL (2) 4870DL
4945	9923	(2) 4825	(2) 4845	(2) 3850 (2) 3805	9916RC	(2) 4870DL
4946	9943	(4) 4825	(2) 4842	(4) 3850 (2) 3805	9920RC	(2) 4870DL

