CERWIN-VEGA

Residential Sound Systems

For almost two decades the name Vega has been synonymous with innovative and trend setting designs in sound reinforcement and musical instrument reproduction. This reputation has been established and perpetuated by professionals involved in everything from small recording studios to the largest rock festival. The high fidelity products manufactured by Cerwin-Vega have incorporated this same high level of engineering and production competence.

Any loudspeaker system, regardless of cost or application, has various degrees of compromise inherent. Many economic, esthetic, acoustic, mechanical, electrical, and physical parameters must be considered and properly weighted to produce desired results. An enlightened design philosophy must be formulated and upheld throughout the creation and production of a quality loudspeaker system. Generally the most difficult trade off to resolve is the cost versus performance issue. Assuming technical design competence it is apparent that a higher cost loudspeaker should have superior performance. The question then arises, "What shall be sacrificed in the design of a lower cost system?" The fundamental performance parameters are as follows: non-linear distortion; flatness and extent of frequency response; low impulse or transient distortion; dynamic range and/or maximum loudness; power capability; efficiency; dispersion; and acoustic and physical dimensions.

YOU WILL NOTICE REMARKABLY LITTLE CHANGE IN DISTORTION AND FREQUENCY RESPONSE SPECIFICATIONS FROM THE VARIOUS CERWIN-VEGA SYSTEMS. GREATER CHANGES WILL BE NOTICED IN MAXIMUM LOUDNESS CAPABILITY EFFICIENCY, AND DYNAMIC RANGE.

The number of speaker manufacturers making high efficiency wide range systems seems to be limited to a few companies. While the companies making low efficiency acoustic suspension speakers number in the legions. Why? IT IS an easier and cheaper way of making a mass market speaker. Everyone does it. Take an average small magnet woofer, weight the cone or voice coil 20-80 grams, stick it in a small sealed box, add a cheap mid or tweeter unit, and "you is a speaker designer". You have sacrificed transient and mid range response with this sluggish moving system. Because of the small magnet system and high diaphragm mass, the efficiency is enormously reduced requiring you to play at Muzak levels if you want to keep your amplifier from clipping. You have lost the necessary "head room" for clean effortless crescendos, but you do have a small saleable box with a trace of bass.

High efficiency speakers with extended bass response do require slightly larger cabinets than mass loaded sealed boxes, but the dividends of an extra inch or two in outside dimensions are enormous. Most bookshelf speakers never see a bookshelf. Their small size sitting on a floor is gauche compared to a slightly larger cabinet, suitable as a piece of furniture. Larger cabinets do cost more to manufacture. Speaker mechanisms are more difficult to construct. Heavy magnet systems and tight voice coil clearances require sturdy frames to assure alignment. The resultant greater force factors require a stronger voice coil, light but rugged diaphragms, and special linear suspensions. Fortunately the end result of all this exacting technique is a system that is so loud and clean that your ears will distort before the system itself commits distortion. Since speaker systems (unlike some amplifiers) always distort more as they are played louder, those systems with the greatest output reserve will have less distortion at softer or normal listening levels. There is nothing that can compare to a dramatic, effortless, sonically accurate playback from a well conceived high efficiency system.

Cerwin-Vega speaker systems provide at least ten db more acoustic output without distortion than any other systems in the same price range. This ten db reserve (or so called head room) allows effortless, airy, sonically accurate reproduction at normal listening levels. Competing systems of lesser efficiency and head room constantly require driving the amplifiers into the clipping mode. Instantaneous transient peaks in live music exist at a ratio of from ten to a hundred times that of the average value. When played back through inefficient speakers driven by an average size amplifier, these peaks are chopped off as the amplifier clips. This peak clipping distortion is a subtle departure from reality and is seldomnoticed by the layman except when described as dull lifeless reproduction. When played at increased volumes the longer duration transients are clipped and gross distortion occurs, which is noticeable to most listeners. The recent popularity of combining amplifiers of 1000 watts with low efficiency speaker systems is valid evidence of the above phenomenon. Unfortunately these speakers fail at these power levels. This problem can be eliminated by using high efficiency speakers and an average size amplifier at great savings in cost with increased reliability and fidelity. If the ultimate fidelity is demanded, then an excellent high efficiency speaker system driven by a large amplifier is the answer.

MODEL A-1800 S

Amplifier Specifications

Power Output:	*250 watts RMS into 8 ohms, per channel (46 volts RMS)* *400 watts RMS into 4 ohms, per channel (40 volts RMS)* *160 watts RMS into 16 ohms, per channel (51 volts RMS)*
IHFM Power:	*600 watts RMS per channel*
Distortion:	*Guaranteed at less than .08 IM or THD @ 250 watts (typically less than .008)*
Frequency Response:	*20-100 KHz + 1 db (DC-100 KHz + 1 db without low frequency roll-off)*
Damping Factor:	*500 @ 1 watt*
Hum and Noise:	*105db below maximum output*
Load Impedance:	*10,000 ohms*
Input Sensitivity:	*1 volt RMS*
Load Protection:	*V I limiter*
Overall Protection:	*Fuses*
Power Requirements:	*25 VA @ no signal 1100 VA @ maximum outpu*
Heat Sinking:	*1,000 sq. inches*
Output Indicators:	*Proportional incandescent*
Connectors:	*G R binding post, RCA input*
Dimensions:	*19" W x 5½" H x 6" D*
Weight:	**25 lbs.**
Finish:	**Brushed satin aluminum and black lettering**
Price:	*$499.00 (add $50.00 for walnut case)*

MODEL A-3000

Power Output:	*700 watts RMS into 4 ohms, per channel* *400 watts RMS into 8 ohms, per channel* *250 watts RMS into 16 ohms, per channel*
IHFM Power:	*1300 watts RMS per channel*
Distortion:	**Less than 0.08% IM or THD @ 400 watts**
Damping Factor:	*500 @ 1 watt*
Hum and Noise:	*105 db below maximum output*
Load Impedance	*4 ohms or higher*
Input Sensitivity:	*1 volt RMS*
Input Impedance:	*10,000 ohms*
Load Protection:	*VI Limiter*
Overall Protection:	*Fuses*
Power Supply:	*+ 115 volts DC full wave bridge with 13,000 mfd capacitors*
Power Requirements:	*30 VA @ no signal 1500 @ maximum output* *120 Volts AC 60 Hz*
Heat Sinking:	*1250 square inches*
Controls:	*Input Level, on off switch over temperature indicator*
VU:	*0 db = ½ output & proportional incandescent indicators*
Connectors:	*GR-Binding post, RCA inputs*
Dimensions:	*19" w x 9" h x 9" d*
Weight:	*40 lbs.*
Finish:	*Brushed Satin aluminum and black lettering, enclosed in walnut case*
Price:	*$895.00*

Speaker Systems Specifications

MODEL 24

Maximum Power Input:	*40 watts RMS; 80 watts peak*
Effective Frequency Range:	*30-25,000 Hz*
Flat Frequency Range:	*38-20,000 Hz + 4 db*
Maximum Sound Levels:	*105 db @ 4 ft. @ 40 watts RMS*
Dynamic Range:	*65 db in a 40 db noise field*
Crossover Point:	*2500 Hz*
Speaker Elements:	*LF: 12 in., 18 Hz resonance, 2 in.. voice coil, 6 lb magnet system, foam ½ roll, annulus;* *HF: 2½ in. dhorm (VHF 80), 11,500 gauss*
Dispersion:	*100 degrees*
Impedence:	*4-8 ohms*
Configuration:	*rectangular, direct radiating, 2 way*
Dimensions:	*12D x 14½W x 25H*
Finishes:	*oiled walnut, others special*
Price:	*$99.50*

MODEL 26

Maximum Power Input: *60 watts RMS; 120 watts peak*

Effective Frequency Range: *30-25,000 Hz*

Flat Frequency Range: *38-20,000 Hz ± 4 db*

Maximum Sound Levels: *109 db @ 4 ft. @ 60 watts RMS*

Dynamic Range; *69 db in a 40 db noise field*

Crossover Point: *2500 Hz*

Speaker Elements: *LF: 12 in., 18 Hz resonance, 2 in. voice coil, 6 lb magnet system, foam ½ roll annulus; HF: 2½ in. dhorm (VHF 90), 18,500 gauss*

Dispersion: *100 degrees*

Impedence: *4-8 ohms*

Configuration: *rectangular, direct radiating, 2 way*

Dimensions: *12D x 14½W x 25H*

Finishes: *oiled walnut, others special*

Price: *$129.50*

MODEL 211

Maximum Power Input: *100 watts RMS; 200 watts peak*

Effective Frequency Range: *25-25,000 Hz*

Flat Frequency Range: *32-20,000 Hz ± 3½ db*

Maximum Sound Levels: *112 db @ 4 ft. @ 100 watts*

Dynamic Range: *72 db in a 40 db ambient noise field*

Crossover Points: *2500 Hz*

Speaker Elements: *LF: 12 in., 18 Hz resonance, 2 in. voice coil, 10 lb magnet system, foam ½ roll annulus, 12,500 gauss, 1 in. p-p movement (l-122-W) HF: 2½ in. dhorm, 1 in. phenolic diaphragm, 18,500 gauss (UHF-91)*

Dispersion: *100 degrees*

Impedence: *4-8 ohms*

Configuration: *rectangular front radiating 2 way*

Dimensions: *15½D x 15W x 26H*

Finishes: *oiled walnut, others special*

Price: *$159.50*

MODEL 211 (R)

Maximum Power Input: *100 watts RMS; 200 watts peak*

Effective Frequency Range: *25-25,000 Hz*

Flat Frequency Range: *32-20,000 Hz ± 3½ db*

Maximum Sound Levels: *116 db @ 4 ft. @ 100 watts*

Dynamic Range: *76 db in a 40 db noise field*

Crossover Frequency: *1500 Hz, 3000 Hz*

Speaker Elements: *LF: 12 in., 18 Hz resonance, 2 in. voice coil, 13 lb magnet system, foam ½ roll annulus, 16,000 gauss, 1 in. p-p movement (L-123-W) HF: 2½ in. dhorm, 1 in. phenolic diaphragm, 18,500 gauss (UHF-91) MF: 1-(HF-91) Horn driver assembly*

Dispersion: *100 degrees*

Impedence: *4-8 ohms*

Configuration: *rectangular direct radiating with controllable upper mid reflection*

Dimensions: *15½D x 15W x 26H*

Finishes: *oiled walnut, others special*

Price: *$239.50*

MODEL 217 (R)

Maximum Power Input: *150 watts RMS; 300 watts peak*

Effective Frequency Range: *25-25,000 Hz*

Flat Frequency Range: *30-20,000 Hz ± 3½ db*

Maximum Sound Levels: *118 db @ 4 ft. @ 150 watts RMS*

Dynamic Range: *78 db in a 40 db noise field*

Crossover Frequency: *1500 Hz, 3000 Hz*

Speaker Elements: *LF: 15 in. 16 Hz resonance, 2-1/8" voice coil, 13 lb magnet system, foam ½ roll annulus, 16,000 gauss, 1" p-p movement (L-153-W) MF: 1-(HF-91) horn driver assembly; HF: 2½ in. dhorm, 1 in. phenolic diaphragm, 18,500 gauss*

Dispersion: *100 degrees*

Impedence: *4-8 ohms*

Configuration: *floor standing, rectangular, direct radiating with controllable upper and mid reflection, 3 way*

Dimensions: *17D x 20W x 17½H*

Finishes: *oiled walnut, others special*

Price: *$349.50*

MODEL 432 (R)

Maximum Power Input: *300 watts RMS; 600 watts peak*

Effective Frequency Range: *24-25,000 Hz*

Flat Frequency Range: *30-20,000 Hz ± 3 db*

Maximum Sound Levels: *130 db @ 300 watts @ 4 ft.*

Dynamic Range: *90 db in a 40 db ambient noise field*

Crossover Frequency: *250 Hz, 2000Hz, 4000Hz*

Speaker Elements: *LF: 18 in., 18 Hz resonance, 3 in. voice coil, 26 lb. magnet system, cloth annulus, 1 in. p-p movement, 15,000 gauss (L-188-WR); MF: 8 in., 2 in. voice coil, 12 lb. magnet system (M-82); HF: 2 horn driver assembly (HF-91); 2½ in. dhorm, 1 in. mylar diaphragm, 18,500 gauss (UHF-91)*

Dispersion: *100 degrees*

Impedence: *4-8 ohms*

Configuration: *Rear load LF and MF, front radiating HF adjustable reflection*

Dimensions: *24½D x 28W x 33H*

Finishes: *oiled walnut, others special*

Price: *$799.50*

320 SYSTEM SPECIFICATIONS

	320 MT	320 B	320 C	320 UBS (3 systems)
Maximum Power Input	100 watts RMS	150 watts RMS	300 watts RMS	300 watts RMS
Effective Frequency Range	125-25KHz	25-250Hz	25-250Hz	25-250Hz
Flat Frequency Range	125-20KHz ± 3.5db	30-250Hz ± 3db	30-250Hz ± 3db	25-250Hz ± 3db
Maximum Sound Levels	128db @ 4 ft. @ 100 watts RMS	128 db @ 4 ft. @ 150 watts RMS	130 db @ 4 ft. @ 300 watts RMS	132db @ 4 ft. @ 300 watts RMS
Dynamic Range	88db in a 40db noise field	88 db in a 40 db noise field	90 db in a 40db noise field	92db in a 40db noise field
Crossover Frequency	125Hz, 1500Hz, 4000Hz	125Hz (or 250Hz optional)	125Hz (or 250Hz optional)	125Hz (or 250Hz optional)
Dispersion	100^{o} horizontal 45^{o} vertical	Omnidirectional	Omnidirectional	Omnidirectional
Speaker Elements	Special 12" mid-bass speaker; Hf-91 mid range hi-frequency, horn driver assembly, two dhorm tweeters	L-153 W 15" bass speaker	Two special 12" bass speakers	Special 12" bass speaker (one per module)
Impedance	8 ohms	8 ohms	8 ohms	8 ohms
Configuration	Direct radiating with side reflecting upper mid-range	Four finished sides, bottom radiating commode	Four finished sides, bottom radiating commode	Modular corner loaded horn system
Dimensions	6" D, 18" W (at back) 16¾" W (at front), 14½" H	25" D x 25" H x 20" W	25" D x 25" H x 20" W	18" D, 18" W (at back) 10"W (at throat), 24" H
Finish	Oiled Walnut	Oiled Walnut	Oiled Walnut	Oiled Walnut
Price	$250.00	$250.00	$299.00	$750.00 ($250.00 per system)