

## ***The Gauss 15" Loudspeakers***

### ***The Gauss Tradition of Quality***

At Gauss we build our loudspeakers to sound good *and* to be reliable. A combination of the most advanced computer design philosophies, sophisticated manufacturing techniques and old-fashioned common sense assure you that your Gauss loudspeaker delivers the sound the way you want... and that it will be the world's most reliable loudspeaker.

### ***Designed for Higher Efficiency***

All Gauss loudspeakers are designed to give you high conversion efficiency... for every watt you put into a Gauss loudspeaker, a larger percentage comes out as sound! This means you can get up to your required sound pressure with a smaller number of cabinets and amplifiers.

To assure you of this efficiency, we wind our voice coils directly onto aluminum formers. This sophisticated method of construction provides the best possible heat transfer from coil to former and much better mechanical reliability. In simplest terms, this means the voice coil won't come loose under high power, a common cause of failure in ordinary speakers.

### ***Dynamically Centered Voice Coils***

By using two spiders, Gauss can dynamically center the computer designed voice coil in the gap with audio power supplied to the coil. This precision construction means that the Gauss coil will stay centered more precisely at all times, no matter what signals are presented to it. Some manufacturers actually shim the voice coil during manufacture to position it so it does not rub against the pole pieces. Others resort to Teflon coatings to minimize rubbing (naturally, if it does rub, the Teflon eventually wears off).

To avoid lead fatigue or eyelet failure, the most common cause of failure in loudspeakers, Gauss voice coil leads do not pass across the cone or dome at any point. Instead, leads are brought out on opposite sides of the voice coil and run directly to binding posts on the spider ring using silver braided wire.

All Gauss loudspeakers use a rigid die cast aluminum frame to support the massive magnet structure and provide proper cone support to eliminate physical distortions of the cone. In addition, the frame provides a massive heat-sink and eliminates frame induced vibrations common to stamped frames. Cone materials are selected to provide exactly the right mass and characteristics for a wide variety of applications.





### ***Every Loudspeaker is Tested at Full Power***

The final assurance that your Gauss speaker will be reliable is our exclusive *on line* testing. Every Gauss loudspeaker is tested, unbaffled, for ten minutes at full rated power using white noise. Then, the loudspeaker is checked for D.C. resistance, motional impedance and a test *at full specified excursion* for specious noises. No other speaker manufacturer subjects their products to such rigid testing.

### ***The Gauss 15" Loudspeakers***

These loudspeakers are designed for sound reinforcement and live music reproduction.

The 4583A is a general purpose loudspeaker featuring a long voice coil to provide more power at lower frequencies. It is best used in a tuned enclosure from 35-800 Hz. To achieve its low bass, the 4583A has the lowest sensitivity of the Gauss 15" speakers with 4" coils.

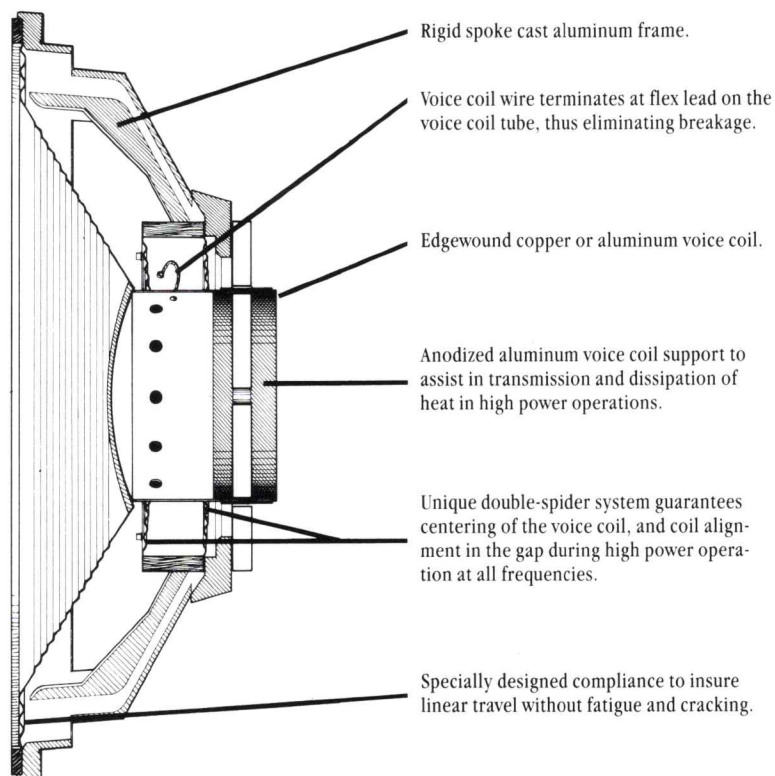
The 4582 features the highest sensitivity of this group, with a short coil, short excursion, and stiff suspension. It is best used in a horn loaded enclosure from 60-2000 Hz.

The 4580 features an intermediate voice coil and is ideal for intermediate applications from 45-1200 Hz. It has greater sensitivity than the 4583A at the sacrifice of some LF response.

The 3581 has the greatest sensitivity of the Gauss 15" speakers... an incredible 103 dB! It also has the most extended range. The copper clad, aluminum voice coil is short, making the 3581 suitable for horn loaded mid-bass applications from 80-3000 Hz, or in open back or reflex tuned lead instrument applications.

The 3580 is a 200-watt intermediate voice coil speaker for intermediate applications from 35-1200 Hz. Ideal in tuned bass enclosure.

Your Gauss dealer can help you pick the right Gauss loudspeaker for your needs.



## Specifications

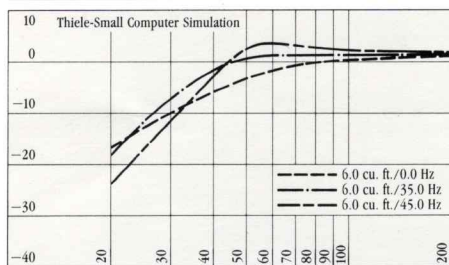
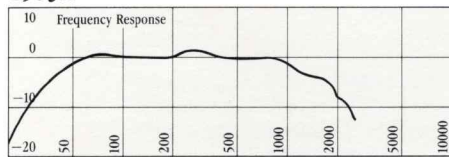
	4583A	4582/4562	4580/4560	3581	3580/3540
Diameter: Voice Coil/Frame	4 1/8" / 15"	4 1/8" / 15"	4 1/8" / 15"	3" / 15"	3" / 15"
Nominal Impedance	8 Ohms	8 Ohms/16 Ohms	8 Ohms/16 Ohms	8 Ohms	4 Ohms/8 Ohms
Nominal Application	Ext. Bass	Horn Loading	Bass	Ext. High	Bass
On-Axis Bandwidth*	35-2500 Hz	35-3500 Hz	35-2500 Hz	50-6000 Hz	30-3000 Hz
Rated Power**	400 Watts	400 Watts	400 Watts	200 Watts	200 Watts
Sensitivity: Metric/EIA***	97/48	100/51	98/47	103/54	101/52
Displacement: Linear (Xmax) Maximum	±.250" ±.375"	±.040" ±.165"	±.090" ±.215"	±.040" .165"	±.065" ±.200"
Free Air Resonance (Fs)	31 Hz	34 Hz	31 Hz	29 Hz	25 Hz
Highest Recommended Xo	800 Hz	1200 Hz	800 Hz	1200 Hz	1200 Hz
Thiele-Small Parameters					
Qms	2.5	2.1	2.3	1.73	2.7
Qes	.33	.24	.26	.22	.17
Qts	.30	.21	.23	.19	.16
Vas	10.0	8.8	7.0	15.8	15.5
D.C. Resistance (Re)	5.2 Ohms	6.7, 13.4 Ohms	6.8, 13.5 Ohms	6.1 Ohms	3.4, 6.1 Ohms
Baffle Opening: Front Load	14"	14"	14"	14"	14"
Rear Load	13 3/4"	13 3/4"	13 3/4"	13 3/4"	13 3/4"
Depth	7 1/4"	7 1/4"	7 1/2"	6 1/4"	6 1/4"
Net Weight	25 lbs.	25 lbs.	25 lbs.	18 1/4 lbs.	18 1/4 lbs.

\* -6 dB, optimally tuned 4 ft<sup>3</sup> reflex type enclosure. Please refer to TS calculations for individual power bandwidth calculations.

\*\* All power ratings given: W=(Vrms)<sup>2</sup>/Z. For product comparison, program power may be considered as 2 to 4 times "RMS" rating.

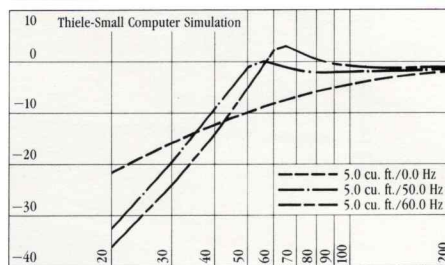
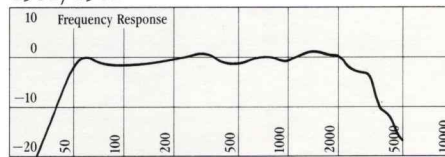
\*\*\* (TYP) Metric sensitivity: 1 W, 1 M averaged swept sine wave over usable bandwidth (subtract 49 dB for EIA rating).

### 4583A



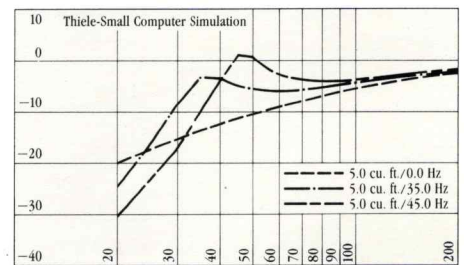
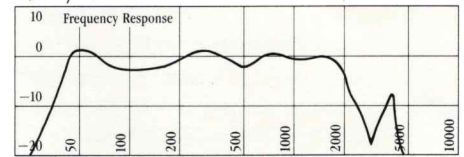
Volume	Area	Port	Duct	F <sub>B</sub>
*6 cu. ft.	13 in <sup>2</sup>	4 1/2 in.		35
6 cu. ft.	26 in. <sup>2</sup>	1 1/2 in.		45

### 4582/4562



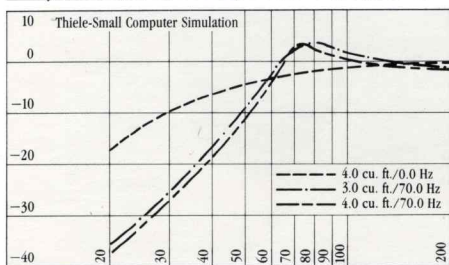
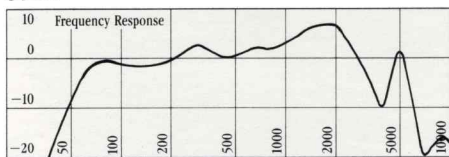
Volume	Area	Port	Duct	F <sub>B</sub>
*5 cu. ft.	22 in <sup>2</sup>	0		50
5 cu. ft.	45 in. <sup>2</sup>	0		60

### 4580/4560



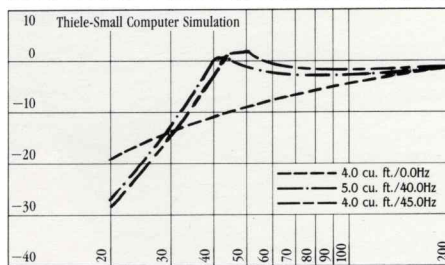
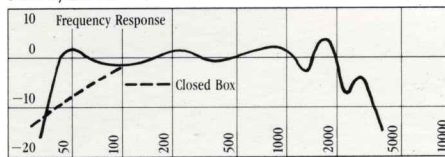
Volume	Area	Port	Duct	F <sub>B</sub>
*5 cu. ft.	20 in <sup>2</sup>	5 in.		35
5 cu. ft.	25 in. <sup>2</sup>	2 1/2 in.		45

### 3581



Volume	Area	Port	Duct	F <sub>B</sub>
*3 cu. ft.	28 in <sup>2</sup>	0		70
4 cu. ft.	50 in. <sup>2</sup>	0		70

### 3580/3540



Volume	Area	Port	Duct	F <sub>B</sub>
*4 cu. ft.	22 in <sup>2</sup>	3 1/2 in.		45
5 cu. ft.	20 in. <sup>2</sup>	3 in.		40

**gauss**  
by Cetec

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Sound Ideas for Tomorrow... Today!

Cetec Gauss is constantly striving to maintain the highest professional standards. As a result of these efforts, modifications may be made from time to time to existing products without prior notice. Specifications may therefore differ from those listed.

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