



GREAT PLAINS AUDIO

MODEL 604-8H-III

TWO-WAY LOUDSPEAKER SYSTEM



❑ **Superior Reproduction: Then & Now**

For more than fifty years, there has been one studio monitor loudspeaker that has been the defacto standard by which all others have been measured. Though it has been through various generations, it is still known by the simple model number which graced the very first unit manufactured – **604**. The popularity of this outstanding loudspeaker grew until, by the 1970's, 604-based systems were used in more recording studios than all other types combined. It's ability to reproduce program material with stunning transparency is legendary.

During the 1980's and 1990's, both playback and performing rooms underwent drastic changes that significantly deadened them. Smaller speaker systems became the aural monitors of choice for many studios. Recently, however, many veteran artists and producers, dissatisfied with the unnatural results of these changes, have led the industry to return to more realistic, live-sound environment in both the recording studio and performance venues.

In addition, many of the newest generation of producers and artists are beginning to experience the tremendous differences a recording studio with live rooms and large loudspeaker systems are capable of. As a result, more and more are specifying this exciting environment for their newest creative works. Now, more than ever, it has become obvious that nothing produces a more natural, live-sound experience in rooms of this type than does a large, 604-based speaker system.

❑ **Building A Better 604**

As with all things, there is always room for improvement, and the

604 was no exception. Here at Great Plains Audio, we receive more inquiries and have more discussions with people about the 604 than for any other loudspeaker we manufacture. Those interested cover a wide wide spectrum - everything from studio recording engineers to serious home audio enthusiasts. As we listened to all of them, we began to understand the needs and desires of the current generation of audio professionals and private system users. Almost without exception, they expressed a desire for extended, smooth high-frequency response, articulate midrange response, and clean, accurate bass performance. The result of exhaustive research and testing is what we believe is the best sounding yet in the 604 family, the *Great Plains Audio Model 604-8H, Series III*.

When applied to loudspeakers, the term "digital-ready" usually implies that the product is able to handle the enhanced dynamics that are now technologically available from digitally processed sound. The new, super-efficient *Model 604-8H-III* is capable of handling the dynamics of sound from any medium far better than any of the smaller, low efficiency loudspeaker available today.

❑ **Superior Craftsmanship**

The new *604-8H, Series III* is a 15-inch (381 mm), low-frequency loudspeaker coupled to a one-inch (25 mm), high-frequency compression driver, both mounted to a single 16-inch (406 mm) diameter frame. Each component is structurally, magnetically, electrically, and mechanically independent of the other. The low frequency loudspeaker cone is attached to a 3.0-inch (76 mm) diameter, edge-wound, copper-ribbon voice-coil and a 5.6-pound (2.54 kg) ferrite magnet, producing a gap flux density of 1.3T.

The high frequency compression driver features a 2.5-pound (1.13 kg) ferrite magnet having a gap flux density of 1.6 T, and a 1.75-inch (45 mm) diameter, edge-wound, aluminum-ribbon voice-coil. This voice-coil is attached to a high grade aluminum alloy diaphragm having a tangential compliance. Sound waves from the high frequency voice-coil and diaphragm assembly are channeled through our **Radial-Wave™ Phasing System** into an exponential throat. This throat actually passes through the center of the low frequency component, exiting through a one-inch (25 mm) diameter aperture into our new high-frequency horn, which provides accurate delivery of frequencies from 1,500 Hz to beyond 20 kHz.

We also recommend our optional *N604-8A Crossover Network* for the *604-8H-III*, which divides the audio bandwidth into two sections, using a minimal-parts-count design. The electro-acoustical division is centered at 1,500 Hz, with this crossover providing 12dB/octave of attenuation for both the low frequency section and the high frequency section. It was designed specifically with our new horn to provide an extremely accurate frequency response that extends beyond 20 kHz.

"The Legacy Lives On"™

604-8H-III TWO-WAY STUDIO MONITOR LOUDSPEAKER SYSTEM

PERFORMANCE SPECIFICATIONS -

Frequency Response: 40 Hz - 20 kHz (see figure, below)

Power Handling: 100 watts continuous pink noise with a 6 dB crest factor from 40 Hz - 16 kHz, AES Standard 2.

Pressure Sensitivity: 121.5 dB SPL (at 1 Meter, calculated from Sensitivity Power Rating)

Minimum Impedance: 8 ohms

Input Connections: Spring-loaded push terminals.

Components:

Low-frequency section - One 15-inch (381 mm), high efficiency, low-frequency woofer with a 3-inch (76 mm) voice coil.

High-frequency section - One high-frequency compression driver, coaxially mounted, having a 1-inch (25 mm) throat exit and 1.75-inch (45 mm) diaphragm/voice coil assembly with tangential compliance coupled to a proprietary, exponentially-flared radial horn.

Standard Crossover

Network (optional): Model N604-8A. Full-section with 1,500 Hz crossover frequency, 12 dB per octave slope for both high and low frequencies.

Thiele-Small Parameters:

X_{max}	=	0.15-inches (4 mm)
R_e (ohms)	=	7.14
V_d	=	19.20 cu. in. (0.32 l)
F_s (Hz)	=	33.70
V_{as}	=	11.65 cu. ft. (329.9 l)
Ref. Eff (%)	=	4.61
Q_{ts}	=	0.26
Q_{ms}	=	11.80
Q_{es}	=	0.26
V_{id}	=	0.24 cu. ft.
S_d	=	128 cu. in. (825.8 sq. cm)

Effective Piston Diameter: = 12.77 inches

LF & HF Magnet Type: FerriteV

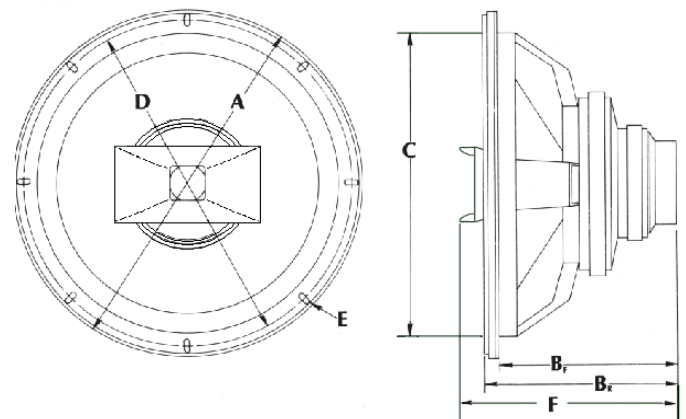
Flux Density: LF = 13,000 Gauss
HF = 16,000 Gauss

Net Weight: 38pounds (17.3 kg), less network.

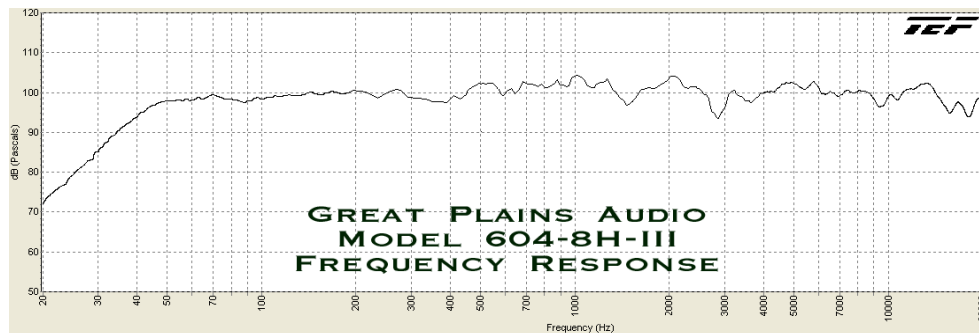
Finish: Textured black powder coat.

Recommended Enclosure: 9 cu. ft. (254.9 L), with tuning at 45.5 Hz. Recommend two 5.25-inch (133 mm) diameter by 2.3-inch (58 mm) long ducts or 2.5"(6.4 cm) x 11" (27.9 cm) horizontal slot for above tuning.

Loudspeaker Mounting Dimensions:



A =	Loudspeaker Diameter: 16 inches (406 mm)
B_F =	Depth When Front Mounted: 8 inches (203 mm)
B_R =	Depth When Rear Mounted: 8.75 inches (222 mm)
C =	Baffle Opening Diameter: 14 1/8 (359 mm)
D =	Bolt Circle Diameter: 15 inches (381 mm)
E =	Bolt Hole Slots: 1/4" (6 mm) x 3/4" (19 mm), 8 slots spaced 45° apart.
F =	Total Depth: 10.75 inches (273 mm)



Measured using GPA N604-8A Crossover in 9 cubic foot tuned enclosure.

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