

### Design Without Boundaries - Performance Without Limits

Loudspeakers; amplifiers; signal processors; audio and control networks. SYGMA brings them all together to create a new kind of sound system, a new level of performance. World-class European transducers are paired with our advanced Complex Conic horns for audiophile reproduction that makes performances and audiences truly come alive. PF-1 Series Intelligent Digital Amplifiers can connect to RHAON, the Renkus-Heinz Audio Operations Network. RHAON gives you complete control of digital audio distribution, loudspeaker processing and system management.

The global SYGMA development and manufacturing process delivers unsurpassed quality and innovation, for performance and style that will make you proud and durability that will keep you sounding great. Custom colors and weather resistant treatment are available as options.

#### Applications

- Virtually any application where size is important and high output and outstanding sonic performance are required.
- Ideal for live music and speech reinforcement, club/disco systems and high power distributed systems.
- Churches, schools, performing art centers, night clubs, stadiums and arenas.



#### PF Series Intelligent Amplifiers

Passive, powered or networked, you can choose the system configuration that meets your needs at any time. At the factory or in the field, the SGX passive connector plate can be easily replaced by a 500 Watt PF Series intelligent Class D digital amplifier. The PF1-500's lightweight switching power supply is over 70% efficient at full output. Its high efficiency reduces AC power requirements and eliminates the need for a cooling fan.



Whenever you are ready for Ethernet audio networking, your SYGMA loudspeakers are too; just replace the connector plate with a RHAON empowered PF1-500R amplifier equipped for connection to the Renkus-Heinz Audio Operations Network. RHAON empowers you with full control over digital audio distribution, loudspeaker-specific DSP and control/monitoring – all using standard Ethernet hardware and cabling.

If you need an outstanding high-power 12-inch subwoofer, order the SGX12S or SG12S-5. If you need Ethernet-based audio operations networking, order the RHAON empowered SG12S-5R.

## SG / SGX Series



**SGX12S**

Non-Powered

**SG12S-5R**

RHAON Empowered

**SG12S-5**

Self-Powered

### 12" Subwoofers

**PASSIVE : POWERED : NETWORKED**



- **Powerful 12" Subwoofers**

Outstanding 40 Hz to 120 Hz, 129 dB peak SPL sub-bass performance.

- **Flexible Input Configurations**

Choose passive inputs, or go self-powered with the PF1 series intelligent amplifiers, with or without RHAON networking.

- **RHAON Renkus-Heinz Audio Operations Network**

All self-powered SG12S series subwoofers are available with RHAON for flexible digital signal distribution, loudspeaker management and control.

- **High Performance, High Power Woofer**

With long-throw magnetic structures easily handle 800 Watts of program power.

- **Built-In Low Pass Filter**

Eliminates the need for a separate electronic crossover.

## TECHNICAL INFORMATION

**Sensitivity**  
**SG12S-5, -5R:** 1.0 V for RPO  
**SGX12S:** 97 dB (1W/1m)

**Max SPL:** 127 dB peak

**Freq. Resp:** ± 3 dB, 40 Hz to 120 Hz

**LF Driver:** 12" woofer, model SSL12-16;  
 250 W RMS @ 4 Ohms, 500 W pgm

**Enclosure:** 13-ply hardwood, perforated metal grille

**Finish:** Black; custom colors and weather resistant treatment are available as options.

**Power**  
**SG12S-5, -5R:** 115 V AC or 230V AC  
**SGX12S:** 500 W pgm at 4 Ohms

**Connectors**  
**SG12S:** See Amplifier Specs  
**SGX12S:** Screw terminals & looping 4-pin Neutrik Speakon style connectors

**Hardware:** 12-point univ. mtg. hdw. (Metric M10 threads)

**Dimensions:** 18" H x 15" W x 22 1/4" D  
 (47.7cm x 38.1 cm x 56.5 cm)

**Weight**  
**SG12S-5, -5R:** 53 Lbs (24.2 Kg) net  
**SGX12S:** 48 Lbs (21.9 Kg) net

## PF1-500 DIGITAL AMPLIFIER

**Power:** 500 W RMS @ 4 Ohms  
**Freq. Resp:** +0.0, -5 dB, 20 Hz to 20 kHz  
**THD Distortion:** < 0.02% typical  
**Hum & Noise:** <100 dB (A weighted)  
**Damping:** >100  
**Input:** 10K Ohm balanced differential  
**Sensitivity:** 1.0 V for RPO  
**CMR:** 74 dB

**Controls:** Gain (screwdriver adjustable)  
**Power Connector:** IEC Power connector  
**Input:** Looping XLR; female in, male out (pin 1 chassis, pin 2 +, pin 3 -)  
**Power:** Switchable, 115 or 230 V AC, 50/60 Hz  
 5 A @ 120 V, 2.5 A @ 240 V  
 Idle current: 400 ma @120 V; 200 ma @ 240 V  
 Max inrush current: 1 A

## PF1-500R RHAON EMPOWERED AMPLIFIER

The PF1-500R is identical to the PF1-500 except for the addition of the RHAON Network Interface; additional capabilities include:

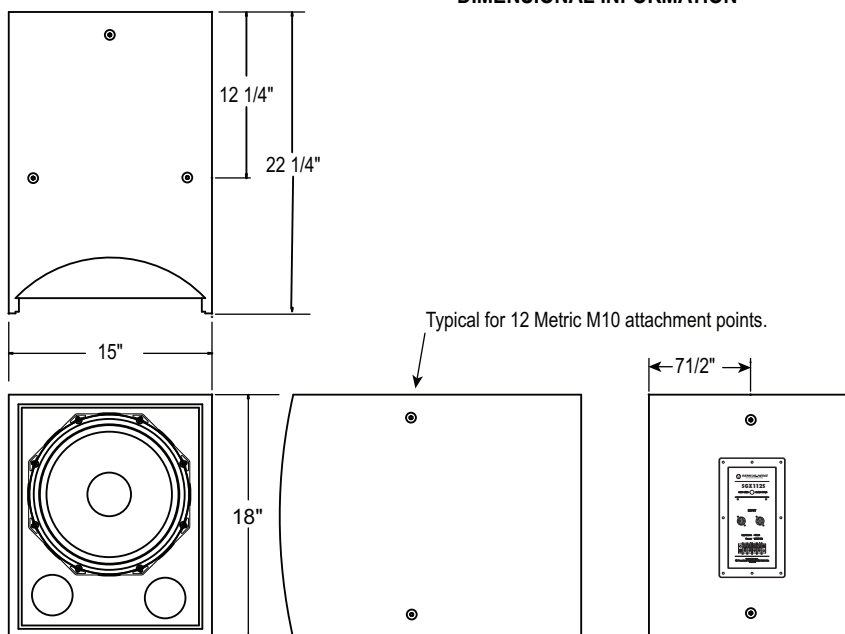
**Inputs:** CobraNet: Dual RJ45 connectors; accept Cat 5 copper cable.  
 AES/EBU: Phoenix connectors;  
 Analog: Phoenix connectors  
**Digital Format:** 16, 20 or 24 bit PCM; 48 or 96 kHz sample rate; selectable Network Latency.

**Protection:** Soft & Peak limiting, Excursion Control & Thermal Regulation

For additional details on the RHAON Audio Operations Network, refer to [www.renkus-heinz.com/Rhaon/Index.html](http://www.renkus-heinz.com/Rhaon/Index.html).

Note: All analog inputs and outputs comply with AES Standard 48-2005 on interconnecting, grounding and shielding.

## DIMENSIONAL INFORMATION



**SYGMA**

### Note:

The UMH (Universal Mounting Hardware) attachment points have Metric M10 threads and are positioned 1 3/4" from the edges unless otherwise indicated.

The rear view of a SGX12S is shown. The enclosure is shown without its metal grille.

For more detailed dimensional information, please refer to the 2D and 3D drawing files on our website, [www.renkus-heinz.com](http://www.renkus-heinz.com)



**RENKUS-HEINZ**

Renkus-Heinz, Inc., 19201 Cook Street, Foothill Ranch, CA 92610-3501, USA  
 Tel: +1 949-588-9997 • Fax: +1 949-588-9514 • Sales@renkus-heinz.com • www.renkus-heinz.com

RH607 Rev G February 2011