



## 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. Before we'll ship them, your loudspeakers have to meet our exacting requirements,

### 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 one of five PF Series intelligent Class D digital amplifiers. The PF series light weight switching power supplies are over 70% efficient at full output. Their 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 or the PF series amplifier with a RHAON empowered 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 cable.

If you need an outstanding high-power 12-inch subwoofer, order the SGX12S or SG12S-5. For less demanding applications, the SG12S-2 with a 200 Watt PF1-200 is a logical choice. If you need Ethernet-based audio operations networking, order either the SG12-2R, or the SG12S-5R ; both are RHAON empowered.

## SG /SGX Series

**SGX12S**

Non-Powered

**SYGMA**

**SG12S**

Powered

## 12" Subwoofers

### PASSIVE : POWERED : NETWORKED



#### • Powerful 12" Subwoofers

Outstanding  $\pm 3$  dB, 50 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:** 1.0 V for RPO  
**SGX12S:** 97 dB (1W/1m)

### Max SPL

**SG12S-2 & -2R:** 123 dB program, 126 dB peak  
**SG12S-5 & -5R:** 124 dB program, 127 dB peak  
**SGX12S:** 126 dB program, 129 dB peak

**Freq. Resp:**  $\pm 3$  dB, 50 Hz to 120 Hz

**LF Driver:** 12" woofer, model SSL12-16;  
 400 W RMS @ 8 Ohms, 800 W program.

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

**Finish:** Black or white paint

### Power

**SG12S:** 115 V AC OR 230V AC  
**SGX12S:** 800 Watts program at 4 Ohms

### Connectors

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

**Hardware:** 12-point univ. mtg. hdw. (#10 metric threads)  
 U-bracket attachment points

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

### Weight

**SG12S-2 & -2R:** 49.2 Lbs (22.31 Kg) net  
**SG12S-5, -5R:** 51.2 Lbs (23.22 Kg) net  
**SGX12S:** 47.2 Lbs (21.40 Kg) net

## PF1-200 & PF1-500 AMPLIFIER

**Power:** PF1-200: 200 W RMS @ 4 Ohms  
 PF1-500: 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:** Power: EC Power connector

**Input:** Looping XLR; female in, male out (pin 1 chassis, pin 2 +, pin 3 -)

**PF1-200:** 2.4 A @ 120 V, 1.2 A @ 240 V

Idle current: 200 mA @ 120 V; 100 mA @ 240 V

Max inrush current: 1 A, Universal 90-260 VAC, 50/60 Hz

**PF1-500:** 5 A @ 120 V, 2.5 A @ 240 V

Idle current: 400 mA @ 120 V; 200 mA @ 240 V

Max inrush current: 1 A, Switchable 115-230 VAC, 50/60 Hz

## PF1-200R & PF1-500R RHAON EMPOWERED AMPLIFIER

The PF1-200R is identical to the PF1-200 except for the addition of the RHAON Network Interface; additional capabilities include:

**Input:** CobraNet; dual RJ45 connectors; accept Cat 5 copper cable.  
 AES/EBU Phoenix connectors;  
 Analog Phoenix connectors

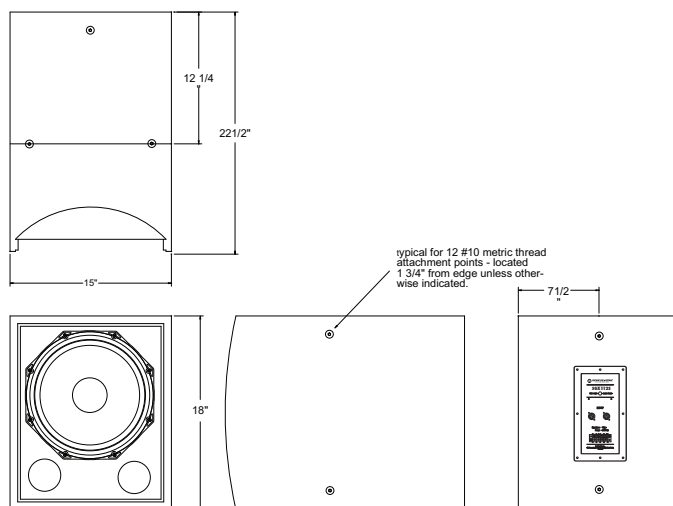
**Digital Format:** 16, 20 or 24 bit PCM; 48 or 96 kHz sample rate; selectable Network Latency.

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

For additional details on the RHAON Audio Operations Network, refer to Renkus-Heinz brochure # RH 606.

Note: All analog inputs and outputs comply with AES Standard 45-2005 on interconnecting, grounding and shielding.

## DIMENSIONAL INFORMATION



**SYGMA**

### Note:

The UMH (Universal Mounting Hardware) attachment points have #10 metric 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)