

# RENKUS-HEINZ

## 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 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 multi-channel playback systems in clubs and disco's (with optional subwoofers.)
- Distributed sound reinforcement systems in sports arenas and stadiums.
- Side fill loudspeakers in sound reinforcement systems.
- High output floor monitors in live sound venues



### 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 reducing AC power requirements and eliminating 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 RHYON empowered amplifier equipped for connection to the Renkus-Heinz Audio Operations Network. RHAON empowers you with full control over digital audio distribution, speaker-specific DSP and control/monitoring – all using standard Ethernet hardware and cable.

If you need an outstanding high-power 12-inch 2-way system, order the SGX121 or SG121-5. For full range nearfield applications, the SG121-2 with a 200 Watt PF1-200 is a logical choice. For stage monitoring and other ultra-demanding applications, order the SG121-52R: it's bi-amped with 500 / 200 watt Class D amplifiers and RHAON empowered. If you need Ethernet-based audio operations networking, order the SG121-2R, SG121-5R or the SG121-52R; all are RHAON empowered.

## SG121 Series Self-Powered

## SGX121 Non-Powered

### 12" WOOFER + 2" HF 2-WAY LOUDSPEAKER SYSTEMS

### PASSIVE : POWERED : NETWORKED YOUR CHOICE



#### • Compact Multi-Function Design

Outstanding, full-range  $\pm 3$  dB, 65 Hz to 18 kHz performance in a versatile multi-angle enclosure.

#### • Flexible Input Configurations

Choose passive inputs, or go self-powered with the PF1 series intelligent amplifiers, either single-channel or bi-amped, with or without RHAON networking.

#### • RHAON Audio Operations Network

All self-powered SG121 series cabinets are available with RHAON for flexible digital signal distribution, loudspeaker management and control

#### • Exclusive 90° by 60° Complex Conic Design

Provides constant beamwidth/directivity without the problems of conventional rectangular horns; can be rotated 90° within the cabinet for wide or deep listening spaces.

#### • 2" Extended Range Titanium HF Driver

Provides smooth, low distortion high frequency performance to 18 kHz and beyond.

#### • Heavy-Duty 12" Woofer

Easily handles 500 Watts of program power.

## Technical Information

**SENSITIVITY:** SG121: 1.0 V for rated power output  
SGX121: 97 dB (1W/1m)

**MAXIMUM SPL:** SG121-5/5R/52R: 124 dB pgm, 127 dB peak  
SG121-2R: 120 dB pgm, 123 dB peak  
SGX121: 126 dB pgm, 129 dB peak

**DISPERSION:** 90° H by 60° V

**FREQ. RESP:** ± 3 dB, 65 Hz to 18 kHz

**HF DRIVER:** 2" Titanium driver, model SSD202-8  
40 W RMS, 80 W program

**LF DRIVER:** 12" woofer; model SSL12-15, 1" VC;  
250 W RMS @ 4 Ohms, 500 Watts pgm

**ENCLOSURE:** 13-ply hardwood, perforated metal grille  
**FINISH:** Black or white paint

**POWER:** SG121 series: See amplifier specs.  
SGX121: 500 Watts program at 4 Ohms

**CONNECTORS:** SG121 series; See amplifier specs  
SGX121: Screw terminals & looping 4-pin  
Neutrik SpeakOn style connectors

**HARDWARE:** 12-point univ. mtg. hdw.

**DIMENSIONS:** U-bracket attachment points  
23" H x 15 1/4" W x 14" D

(58.4cm x 38.7 cm x 35.6 cm)  
**NET WEIGHT:** SGX121 - 40 Lbs. (18.14 Kg) net  
SG121-5/5R - 44 Lbs. (19.96 Kg) net  
SG121-52R - 46 Lbs. (20.9 Kg) net  
SG121-2/2R - 42 Lbs. (19 Kg) net

## PF1-200 & PF1-500 Amplifiers

**POWER:** PF1-200: 200 W RMS@ 4 Ohms, 300 W Burst  
PF1-500; 500 W RMS @4 Ohms, 500 W Burst

**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

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

**POWER:** Universal 90–260 VAC, 50/60Hz.  
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  
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

## PF1-200R & PF1-500R RHAON Empowered Amplifiers

The PF1-200R & PF1-500R are identical to the PF1-200 & PF1-500 except for the addition of the RHAON Network Interface; additional capabilities include:

**INPUTS:** Cobranet; dual RJ45 connectors; accept  
Cat e5 copper cable.  
AES/EBU; Phoenix connectors  
Analog; Phoenix connectors

**DIGITAL FORMAT:** 16 or 24 bit PCM; 48 or 96 kHz sample rate;  
selectable Network Latency.

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

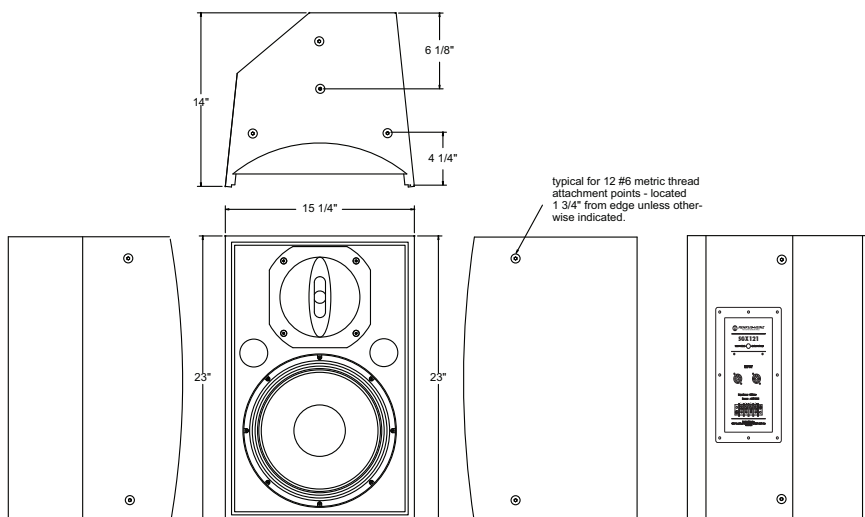
For additional details on the RHAON Audio Operations Network, refer  
to Renkus-Heinz brochure # RH 606

## PF2-500R RHAON Empowered BiAmplifier

The PF2-500R is a RHAON empowered 500/200 Watt biamplifier. It  
is identical to the PF1-500R except for also having a 200 Watt HF  
amplifier and associated electronic crossover.

**POWER:** 6 A @ 120 V, 3 A @ 240 V  
Idle current: 500 mA @ 120 V;  
250 mA @ 240 V  
Max inrush current: 1 A

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



# SYGMA

Note:  
The UMH (Universal  
Mounting Hardware) attach-  
ment points have #6 metric  
threads and are positioned  
1 3/4" from the edges  
unless otherwise indicated.

The rear view of a SGX121  
is shown. The enclosure is  
shown without its metal  
grille.

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

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