

Goodmans POWER RANGE Audioms



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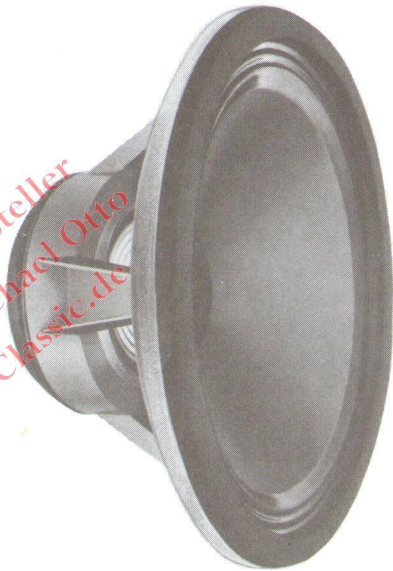
Goodmans Power Range Loudspeakers . . .

are for professional use, where reliability has to complement the *total* sound performance. The listed uses are typical, not an exhaustive *detailing*. Power Range Loudspeakers are found in such diverse situations as acoustic research, pest control and alarm systems. Popular examples are shown for ease of selection.

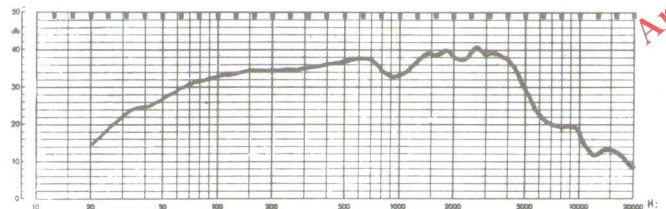
	8P	10P	12P	15P	18P	
Public Address						
Indoors	X	X				Single units or in columns for increased directional characteristics.
Outdoors		X	X			
General Sound Reinforcements	X					
Musical Instrument Amplification						
Guitars		X	X	X		For Church or Theatre Organs the *Audiom 81 with Midax horn is very suitable.
Bass Guitars			X		X	
Pop Organs			X	X		
Discotheques and Dance Clubs		X		X		Also the *Axiom 301 where power does not exceed 25 watts/speaker.

*See also the Goodmans High Fidelity Manual for further information.

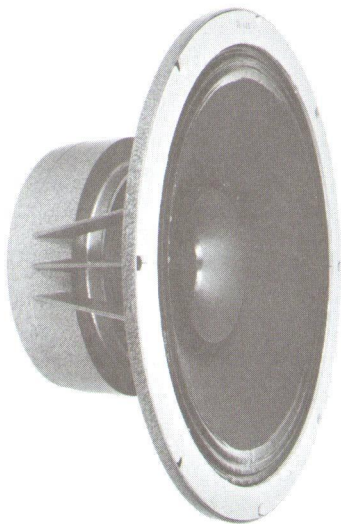
18P



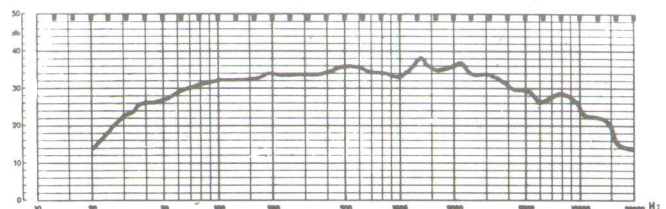
Nominal Power Rating: 100 watts.
Fundamental Resonance (Typical): 45 Hz.
Flux Density (Typical): 13,500 gauss.
Voice Coil Diameter: 3" (76mm).
Impedance: 8 or 15 ohms.
Overall Diameter: 18 $\frac{1}{8}$ " (459 mm).
Overall Depth: 8 $\frac{3}{4}$ " (222mm).
Baffle Hole Diameter: 16 $\frac{1}{4}$ " (413mm).
Fixing Holes: 8 holes $\frac{5}{16}$ " (8mm) dia. 17 $\frac{1}{4}$ " (438mm) PCD.
Nett Weight: 19lbs (8.6kg).
Suitable Sealed Enclosure Volume (per loudspeaker):
 7,000 cu.ins. (120 lts).



15P



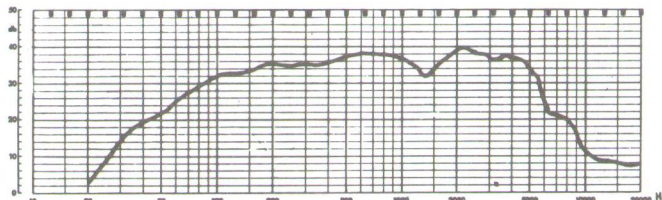
Nominal Power Rating: 50 watts.
Fundamental Resonance (Typical): 56 Hz.
Flux Density (Typical): 15,000 gauss.
Voice Coil Diameter: 1 $\frac{3}{4}$ " (44mm).
Impedance: 8 or 15 ohms.
Overall Diameter: 15 $\frac{1}{8}$ " (383mm).
Overall Depth: 6 $\frac{7}{16}$ " (163mm).
Baffle Hole Diameter: 13" (330mm).
Fixing Holes: 8 holes $\frac{9}{32}$ " (7mm) dia. on 14 $\frac{9}{16}$ " (370mm) PCD.
Nett Weight: 15lb 2ozs. (6.9kg).
Suitable Sealed Enclosure Volume (per loudspeaker):
 4,800 cu.ins. (80 lts).



12P



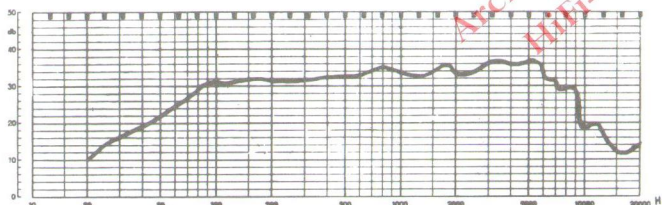
Nominal Power Rating: 50 watts.
 Fundamental Resonance (Typical): 85 Hz.
 Flux Density (Typical): 14,000 gauss.
 Voice Coil Diameter: 1 3/4" (44mm).
 Impedance: 8 or 15 ohms.
 Overall Diameter: 12 1/4" (311mm).
 Overall Depth: 6" (152mm).
 Baffle Hole Diameter: 11" (279mm).
 Fixing Holes: 4 holes 5/16" (8mm) dia. on 11 3/4" (298mm) PCD.
 Nett Weight: 10lb. 12ozs. (4.8kg).
 Suitable Sealed Enclosure Volume (per loudspeaker):
 3,000 cu.ins. (50 lts).



10P



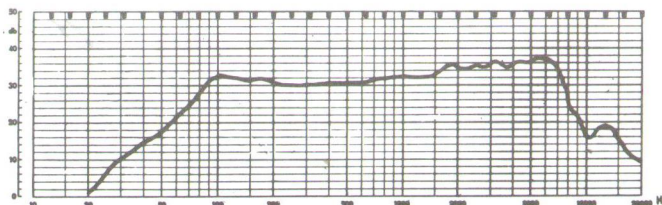
Nominal Power Rating: 15 watts.
 Fundamental Resonance (Typical): 85 Hz.
 Flux Density (Typical): 12,500 gauss.
 Voice Coil Diameter: 1" (25mm).
 Impedance: 8 or 15 ohms.
 Overall Diameter: 10 3/16" (259mm).
 Overall Depth: 3 3/8" (96mm).
 Baffle Hole Diameter: 9" (229mm).
 Fixing Holes: 4 holes 9/32" (7mm) dia. on 9 23/32" (247mm) PCD.
 Nett Weight: 2lb 11ozs. (1.2kg).
 Suitable Sealed Enclosure Volume (per loudspeaker):
 2,000 cu.ins. (30 lts).



8P



Nominal Power Rating: 15 watts.
 Fundamental Resonance (Typical): 85 Hz.
 Flux Density (Typical): 12,500 gauss.
 Voice Coil Diameter: 1" (25mm).
 Impedance: 8 or 15 ohms.
 Overall Diameter: 8 1/2" (204mm).
 Overall Depth: 3 3/8" (95mm).
 Baffle Hole Diameter: 7" (178mm).
 Fixing Holes: 4 holes 1/32" (6mm) dia. on 7 5/8" (194mm) PCD.
 Nett Weight: 2lb 8ozs. (1.1kg).
 Suitable Sealed Enclosure Volume (per loudspeaker):
 1,300 cu.ins. (20 lts)



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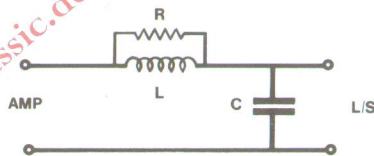
Goodmans Power Range Loudspeakers are rated as the maximum continuous sine wave power (average watts) that can be sustained when used in the recommended enclosures and within the frequency range from Resonance to 10,000 Hz.

Loudspeakers should be chosen to handle the maximum power of the driving amplifier and this is often considerably in excess of its rated sine wave power capability, due to power supply regulation and/or its overload characteristic.

Instantaneous and distorted outputs of 1.5 times the nominal amplifier rating, are commonplace, and the amplifier power should be multiplied by this factor when selecting suitable loudspeakers for use under these conditions.

Amplifiers which have low output impedances (i.e. Transistor Amplifiers and those with considerable negative feedback) generate fast rise, square waves at the output when overdriven; these can be damaging to the loudspeaker. By using a suitable network between the amplifier and the loudspeaker, not only will the loudspeaker be protected, but, the operating conditions of the amplifier will also improve the load becoming almost purely resistive above 20k Hz. The network, which does not alter the loudspeaker working range, may be fitted in the loudspeaker enclosure or at the amplifier output terminals, where one network may be used for a multiple 'speaker system', with the impedance chosen to suit.

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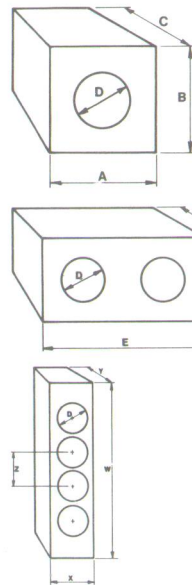


Impedance	L	R	C
4	125 μH	5	8 μFD
8	250 μH	10	4 μFD
15	500 μH	20	2 μFD

The inductance L should have a resistance not greater than $R \div 50$.

The capacitor C must be of the paper or Polyester type, with a suitable working voltage, typically 150 VDC. The resistor R power rating can be $\frac{1}{20}$ the output power of the amplifier.

Goodmans Power Range Loudspeaker enclosures should be constructed from . . . Plywood or Chipboard (not Blockboard) . . . glued and screwed together . . . and completely airtight. For the best results the inside should be lined throughout with fibreglass, 2" inches thick, protective bars or material across the baffle hole must be recessed, or fitted so that the cone movement is not restricted.



Power Audiums

	8P	10P	12P	15P	18P
Single Speaker Enclosure					
A	15	18	22	24	28
B	12	14	16	18	21
C	7	8	9	11	12
D	7	9	11	13	16 1/4
Thickness	1/2"	1/2"	3/4"	3/4"	3/4"
Twin Speaker Enclosure					
E	20	24	28	35	40
F	15	18	20	25	28
Thickness	1/2"	3/4"	3/4"	3/4"	1"
Four Speaker Column					
W	40	48	56		
X	10	12	14		
Y	6	7	9		
Z	9	11	13		
Thickness	3/4"	3/4"	3/4"		

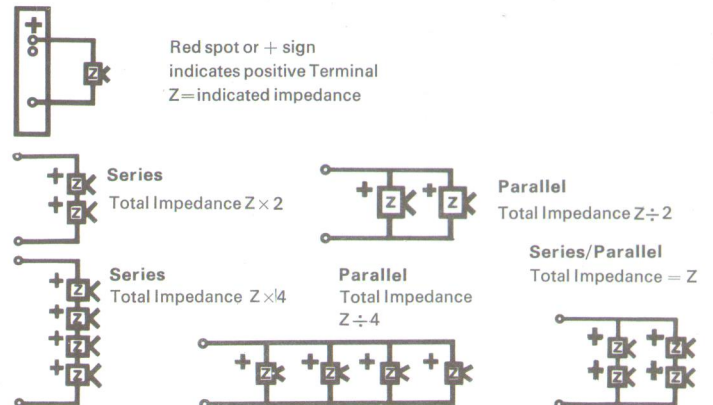
All dimensions are internal and are given in inches. The proportions can be varied but, the internal volume must not exceed that specified on pages 2 and 3 for each loudspeaker in one enclosure.

If Goodmans Power Range speakers are used in open baffles or reflex cabinets, the low frequency response of the amplifier must be controlled to prevent excessive cone excursions at low frequencies, where these cabinets present little or no acoustic loading.

Loudspeakers can be wired in series or parallel, or indeed any combination of these, to obtain a convenient total load impedance for the amplifier.

Do not use loudspeakers of differing impedances in one system, as this will cause uneven distribution of the audio power.

Observe the polarity of the connections at all times, particularly where more than one loudspeaker is housed in an enclosure.



The specifications in this brochure are correct at publication date. However, we reserve the right to make alterations, without notice, resulting from continuing development.