



# Owners Manual

**PHSP12**

**PHSP16**

**PHSP20**

## How to use

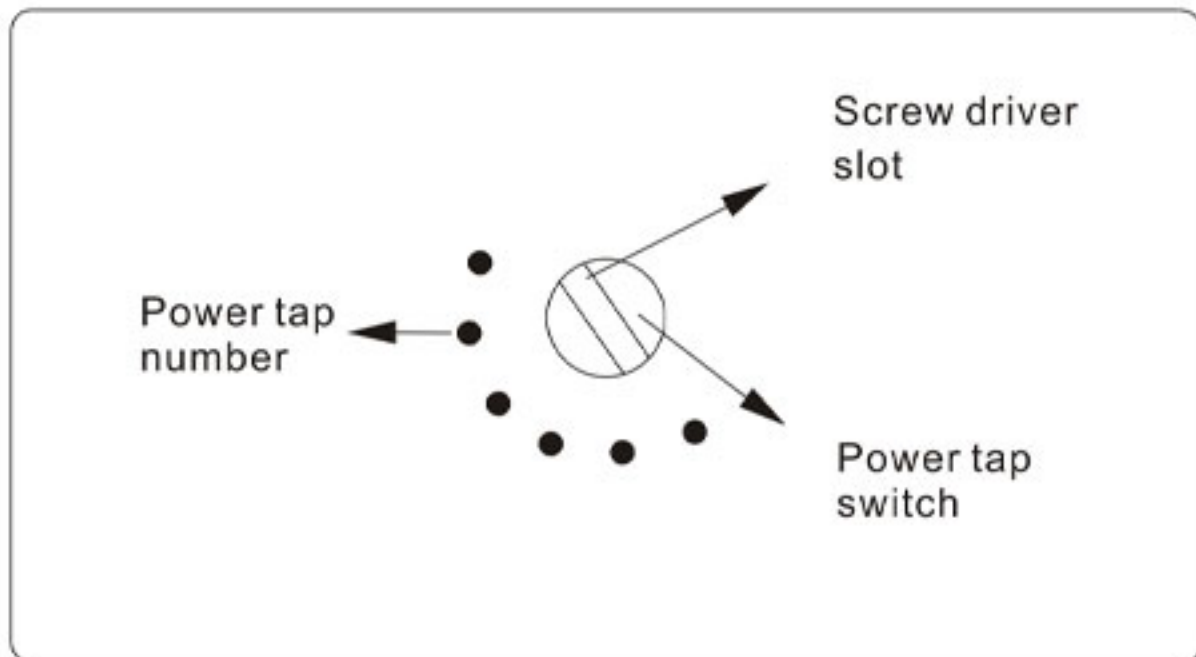
1. Careful attention should be required for the polarity when more than two speakers are in operation at the same place, otherwise the sound of poor quality and/or sound pressure of low level will be reproduced. Connection should be made in the same way as in the case of battery, same polarity with parallel connection and different polarity with series connection.
2. When long wiring is called for, the low impedance connection invites large power loss, resulting in inefficient operation of speakers. In case wiring becomes longer than 50 meters, equip matching transformer and use with proper high impedance.
3. For low impedance connection, the total impedance of speakers should be equal to output impedance of amplifier.
4. Connect the speakers to be equal the total input power ( wattage ) to the output power of amplifier for high impedance connection. It means the impedance matching.

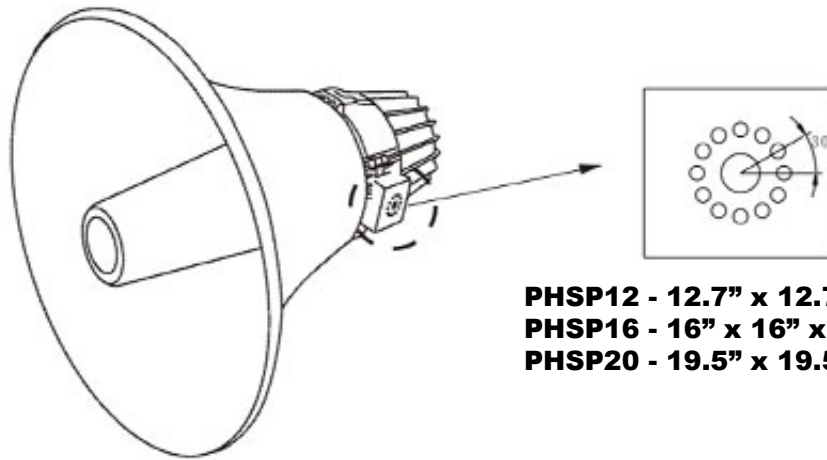
5. When setting the power tap switch, be certain to use the proper positions for either 70 V or 100V systems, to prevent horn damage.

(FOR PHSP12, PHSP16, PHSP20)

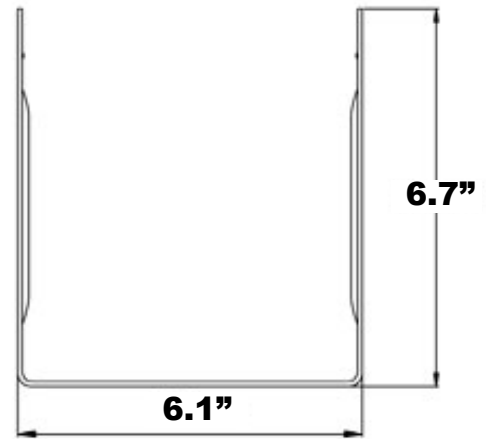
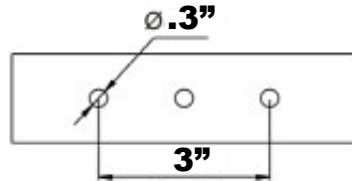
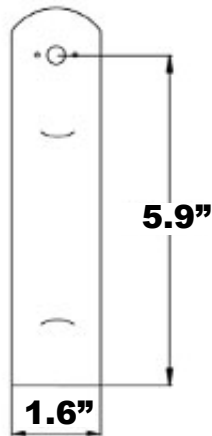
## Change Impedance

\*See instructions on HORN LABEL





**PHSP12 - 12.7" x 12.7" x 14"**  
**PHSP16 - 16" x 16" x 16.5"**  
**PHSP20 - 19.5" x 19.5" x 19"**



Technical data	PHSP12	PHSP16	PHSP20
Load rating	60W	80W	100W
Nominal impedance	16 ohms	16 ohms	16 ohms
Transformer tapings	60/30/15/7.5w(70V)	80/40/20/10W(70V)	100/50/25/12.5W(70V)
	60/30/15w(100V)	80/40/20W(100V)	100/50/25W(100V)
Frequency range	400Hz-5KHz	400Hz-5KHz	400Hz-5KHz
SPL(@1W/m)	103 dB	105 dB	105 dB
Dimension Ø×D(mm)	Ø323×357mm	Ø405×420mm	Ø500×482mm
Material, colour	ALU / RAL7042	ALU / RAL7042	ALU / RAL7042