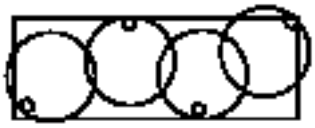
Application Note
For FreeSpace® 3 System

Loudspeaker Design Sheet

Step 1: Distribute speakers for even coverage

Copy spacing shapes onto transparencies. Place spacing shapes on a scale drawing of the room to cover at least 80% while overlapping shapes as little as possible. Follow these rules:

- When designing systems, start by adding satellites in the corners. (Two satellites in adjacent corners can cover a wall length up to 60 feet.)
- Always use an even number of satellites (2, 4, 6 etc).
- Make sure there is one satellite within 25 feet of all listeners.
- If the wall length is less than 30 feet, use one satellite and alternate satellites on the two walls (as shown above).
- If the wall length is greater than 60 feet, add another satellite every 25 feet.



Number of satellite pairs = _____ Pairs

Step 2: Calculate the maximum continuous SPL (Volume)

The maximum sound pressure level that can be achieved in the space – when the design rules above are followed – is dependent on the tap settings of the transformers as shown below:

Typical dB-SPL	Tap
89 - 92	200 W
86 - 89	100 W
83 - 86	50 W
80 - 83	25 W

Tap Setting = _____ Watts

Maximum SPL = _____ dB-SPL

Step 3: Select an amplifier

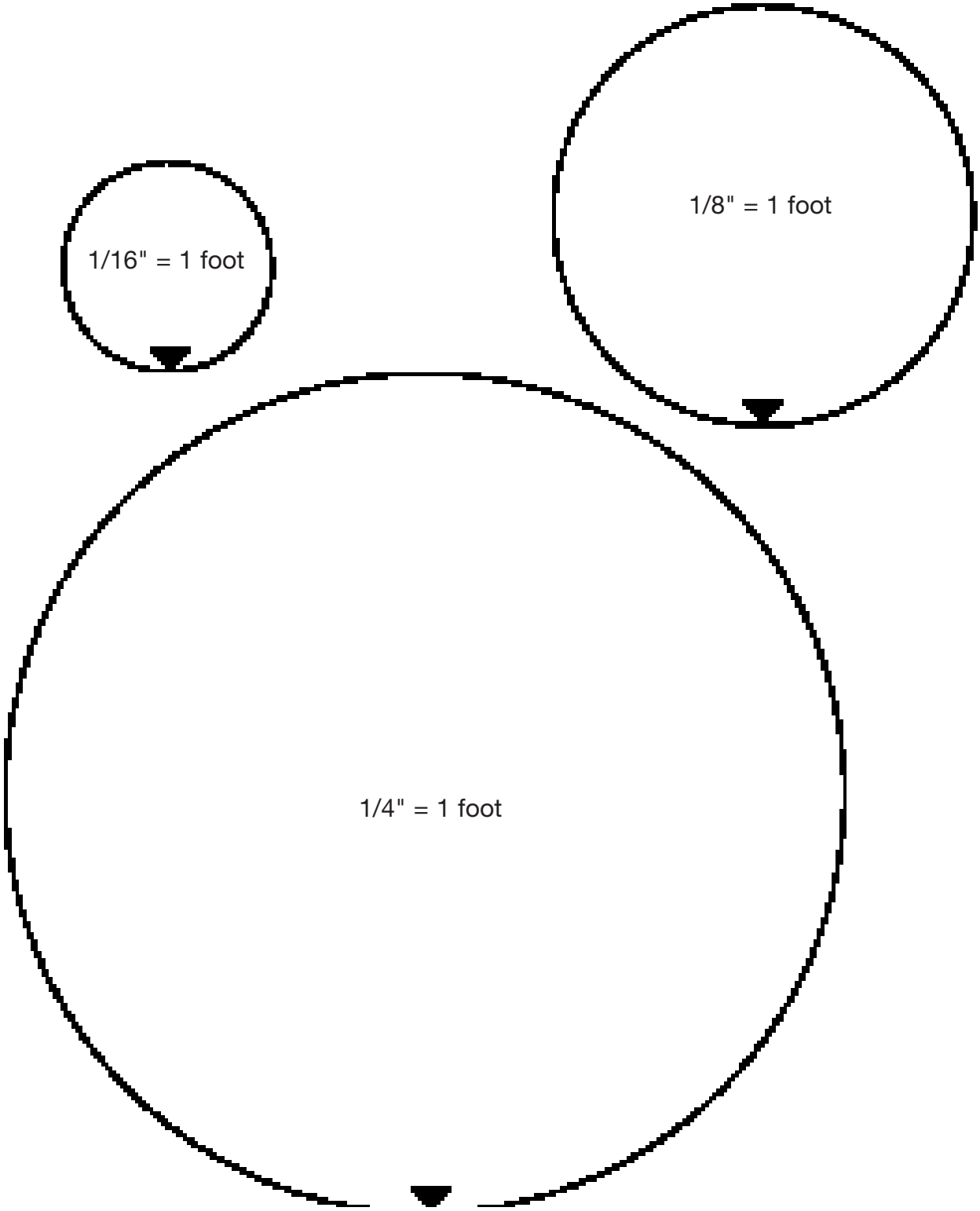
Calculate the total continuous power required by adding up the tap setting wattage of all the transformers.

Select an amplifier with a power handling rating at least 25% (1.25 times) higher than the wattage calculated above.

Make sure the amplifier can deliver peaks of twice the continuous power required (3dB peaks).

Total Power = _____ Watts

Amplifier Power Needed = _____ Watts

FreeSpace® 3 System

English spacing shapes FreeSpace® 3 satellites