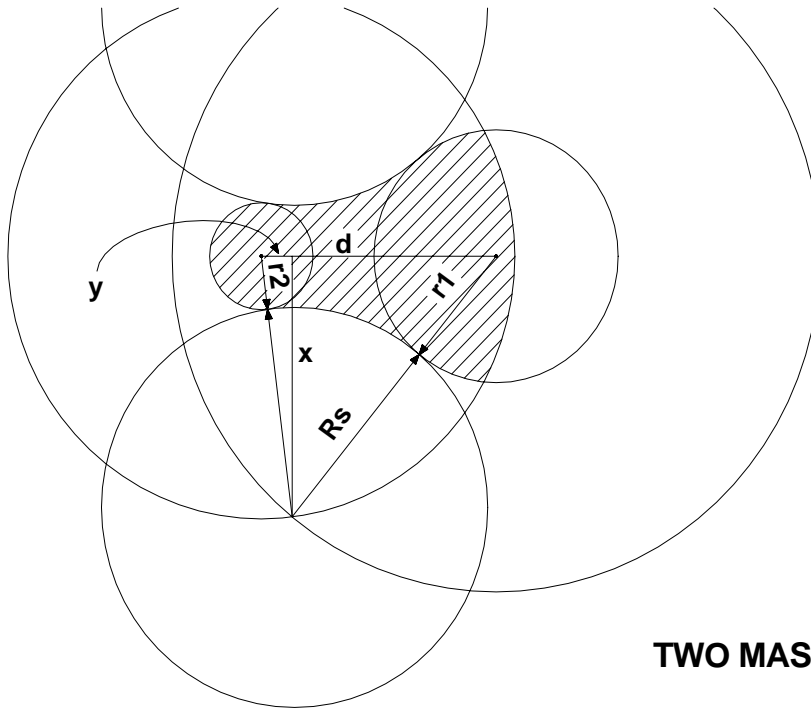


PROTECTED AREA AROUND TWO MASTS



TWO MAST PLAN

Strike distance

$$S := 100\text{ft}$$

Height of equipment plane
(bus height)

$$he := 28\text{ft}$$

Mast heights

$$hm1 := 80\text{ft}$$

$$hm2 := 100\text{ft}$$

Distance between masts

$$d := 120\text{ft}$$

Distance from masts to
sphere center

$$R1 := \sqrt{S^2 - \text{if}[S > hm1, (S - hm1)^2, 0m^2]}$$

$$R1 = 97.98\text{ft}$$

$$R2 := \sqrt{S^2 - \text{if}[S > hm2, (S - hm2)^2, 0m^2]}$$

$$R2 = 100\text{ft}$$

Radius of intersection of
sphere with equipment
plane

$$Rs := \text{if}[S > he, \sqrt{S^2 - (S - he)^2}, S]$$

$$Rs = 69.4\text{ft}$$

Radii of protected areas
around masts

$$r1 := R1 - Rs$$

$$r1 = 28.58\text{ft}$$

$$r2 := R2 - Rs$$

$$r2 = 30.6\text{ft}$$

Angle between r2 and d

$$\alpha := \arccos\left[\frac{d^2 + (r2 + Rs)^2 - (r1 + Rs)^2}{2 \cdot d \cdot (r2 + Rs)}\right]$$

$$\alpha = 51.93\text{ deg}$$

$$x := (r2 + Rs) \cdot \sin(\alpha)$$

$$y := (r2 + Rs) \cdot \cos(\alpha)$$

$$x = 78.72\text{ft} \quad y = 61.67\text{ft}$$