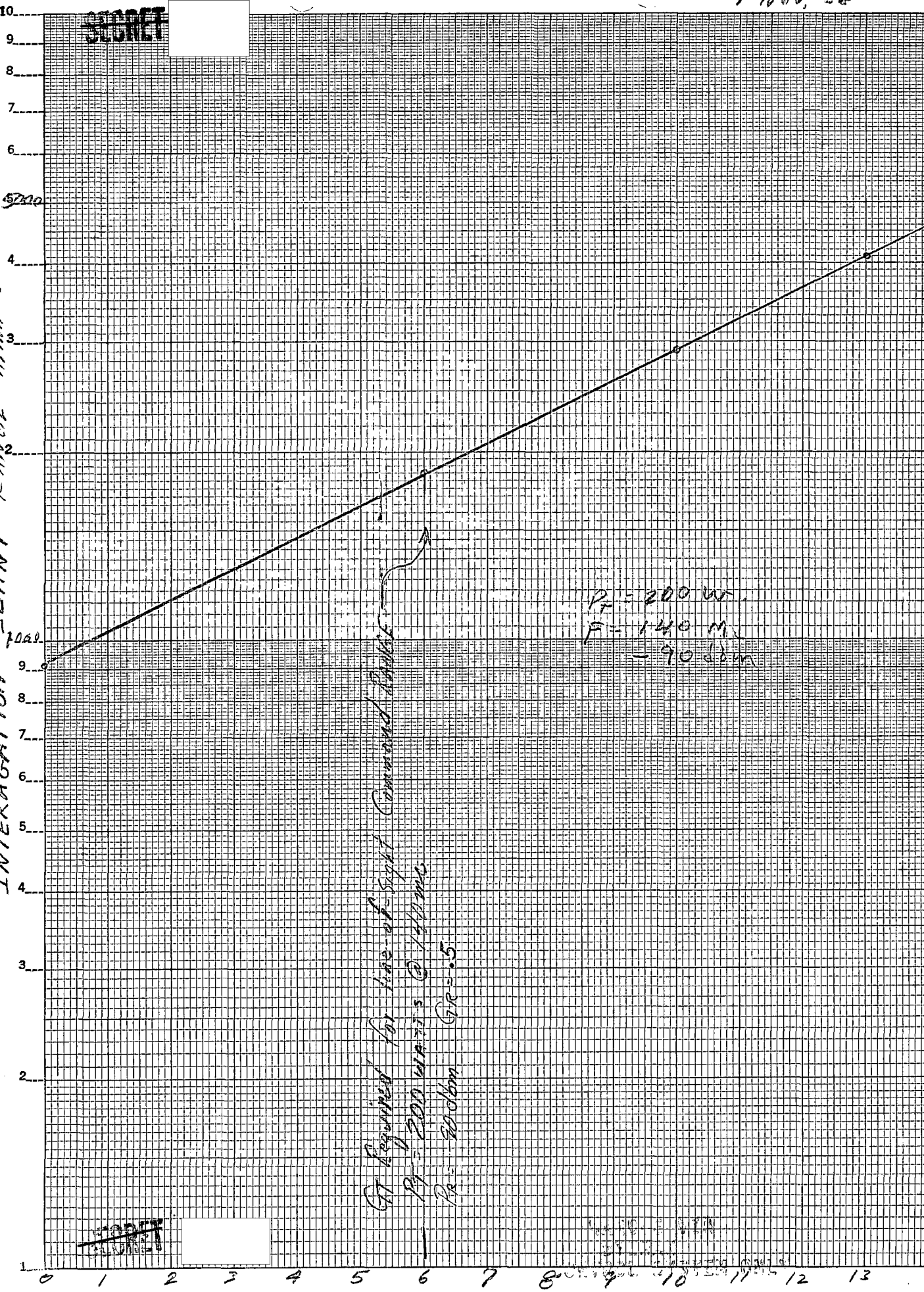


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~~SECRET~~

359-63 KEUFFEL & ESSER CO.
Semi-Logarithmic, 2 Cycles X 10 to the 1/2 inch,
5th lines accented.
MADE IN U.S.A.

INTERAGATION SLANT RANGE IN MI.



~~SECRET~~

G_T IN DB

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Interrogation

$$D = \frac{\sqrt{\frac{P_T G_T G_R \lambda^2}{P_R}}}{4\pi} =$$

$$= \frac{\sqrt{\frac{10 \times 200 \times .5 \times 4.58}{10^{-12}}}}{4\pi} = \frac{\sqrt{4.58 \times 10^3 \times 10^{12}}}{4\pi}$$

$$= \frac{\sqrt{45.8 \times 10^{14}}}{4\pi} = .5 \times 10^7$$

$$= 5.38 \times 10^6 \text{ meters} = \frac{5380}{1.853} = \underline{\underline{2900 \text{ n. miles}}}$$

$$G_R = .5$$

$$P_R = -90 \text{ dbm} = 10^{-12} \text{ W.}$$

$$F = 140 \text{ Mc.}$$

$$\lambda = 2.14 \text{ meters}$$

$$\lambda^2 = 4.58$$

$$P_T = 200$$

$$G_T = 10 \text{ db} = 10$$

$$4\pi = 12.56$$

$$At G_T = 10 \text{ db.} \quad 5.38 \times 10^6 \text{ meters} = \frac{5380}{1.853} = \underline{\underline{2900 \text{ n. miles}}}$$

$$At G_T = 0 \text{ db} \quad = \frac{2900}{\sqrt{10}} = \underline{\underline{918 \text{ n. miles}}}$$

$$At G_T = 3 \text{ db.} \quad \sqrt{2} \times 918 = \underline{\underline{1300 \text{ n. miles}}}$$

$$At G_T = 6 \text{ db} \quad \underline{\underline{1840 \text{ n. miles}}}$$

$$At G_T = 13 \text{ db} \quad 4100$$

NOTE:

P_r was changed to -90 dbm