

Bandwidth Calculation:

$$B_n = 2M + 2DK \text{ (Facsimily by direct FM modulation of the carrier)}$$

Where

$$M = N/2 \text{ where } N \text{ is Bit Rate}$$

$$D = \text{Band Width}$$

$$K = 1.1$$

$$M = 9600 \text{ Bits/Sec} / 2 = 4800$$

$$D = 17000 \text{ Hz}$$

$$K = 1.1$$

Therefore:

$$\underline{B_n = 47,000\text{Hz or } 47\text{kHz}}$$