

Technical Report
 Transmitter Model XP6102
 FCC ID# BRWXP6102

3.0 THEORY OF OPERATION

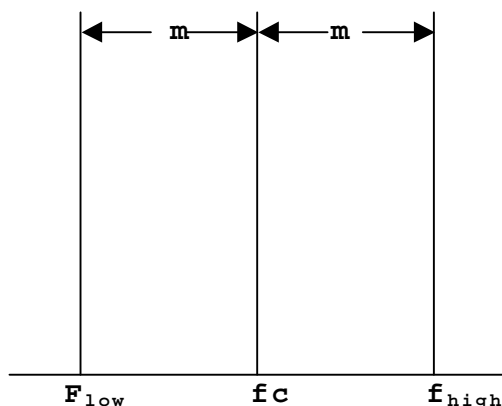
3.1 General

Reference is made to Figure 5.1, Transmitter Block Diagram.

The HORIZON HOBBY DISTRIBUTORS, INC. Model XP6102 R/C Transmitter is sticks type Transmitter.

It operates on any of the R/C frequency (Channels) allowed by the Commission in the 72 -73 MHz frequency band. Selection of the desired RF channel is made by Quarts crystal.

This transmitter employs Frequency-Shift-Keying (FSK) of the carrier frequency, whereby the output frequency is either low or high due to the symmetrical FSK modulation process, the (center) output frequency cannot be directly measured, but must be calculated by taking the average of the high and low frequency states.



$m = \text{shift from center frequency}$
 $m = \text{approx. } 1.8\text{KHz}$

$$f_{\text{carrier}} = (f_{\text{low}} + f_{\text{high}}) / 2$$

The peak-to-peak deviation of the FSK signal is approximately 3.6 KHz ("sliver modulation")

Because of the unfamiliarity of the general public with the term FSK, this modulation technique is commonly named FM.