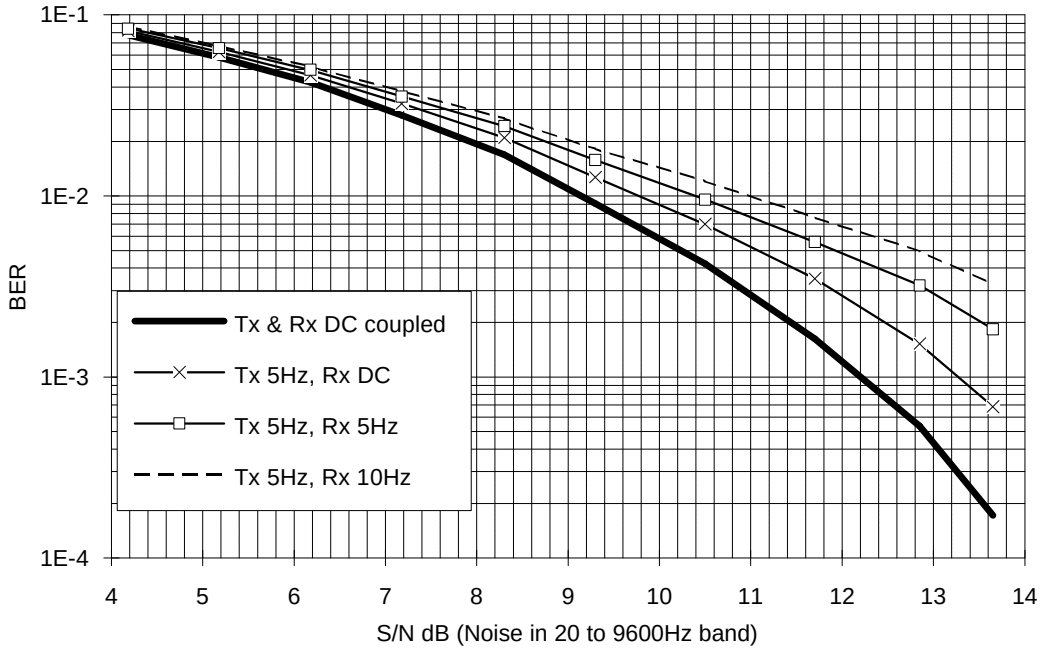

Figure 19 Effect of AC Coupling on BER (without FEC)

Secondly, any ac coupling at the receive input will transform any step in the voltage at the discriminator output to a slowly decaying pulse which can confuse the modem's level measuring circuits. As illustrated in Figure 20 below, the time for this step to decay to 37% of its original value is 'RC' where:

RC = 1/(2 x π x the 3dB cut-off frequency of the RC network)

which is 32 msec, or 153 symbol times at 4800 symbols/sec, for a 5Hz network.

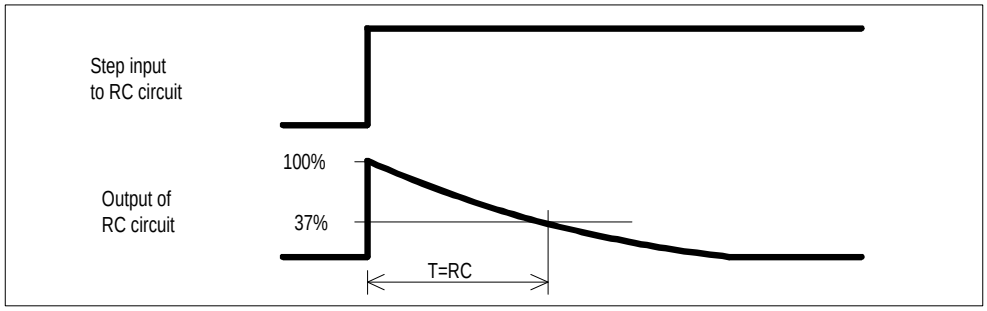

Figure 20 Decay Time - AC Coupling

In general, it will be best to dc couple the receiver discriminator to the modem, and to ensure that any ac coupling to the transmitter's frequency modulator has a -3dB cut-off frequency of no higher than 5Hz (for 4800 symbols/sec).