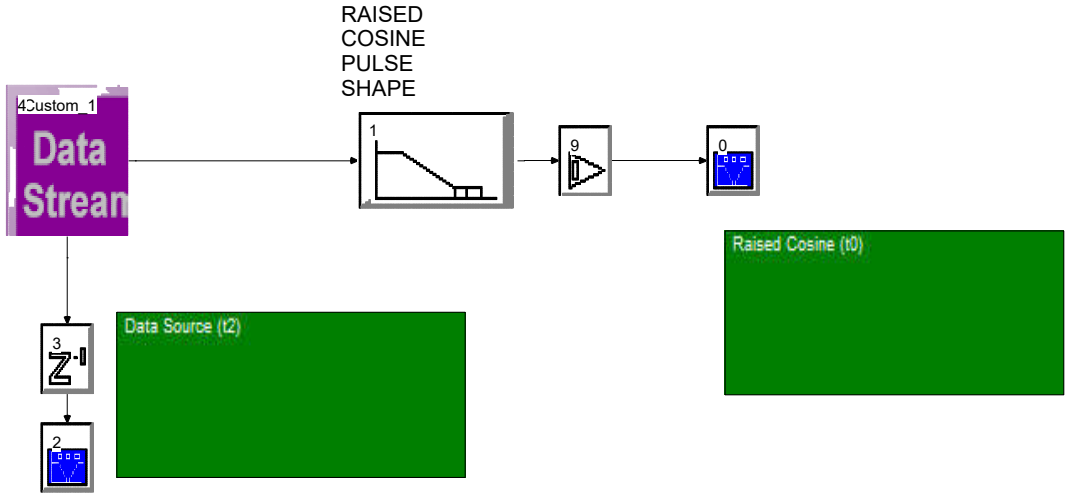
# *Digital Communication - Raised Cosine Pulses*

The binary data is shaped into a raised cosine pulse which causes zero intersymbol interference.




Run the system and note the raised cosine pulse does not produce any intersymbol interference.

Increase the number of samples to 16384, run the system again. In the ANALYSIS window take the 20logFFT spectrum of the received raised cosine pulse shaped signal. Confirm that the required bandwidth is now 2400Hz. Hence sketch the bandwidth required in a graphic frequency (Hz) vs magnitud (dB).

Change the roll-of parameter to 0.22 (see LINEARSYS/FILTER-COMM in the raised cosine filter dialog box) and rerun the system. Note there is still zero ISI but the excess bandwidth is reduced. Sketch the band with required (Hz vs dB).

Generate the eye diagram for this system.

Change the shaping filter to a root raised cosine. Note there is now some ISI.