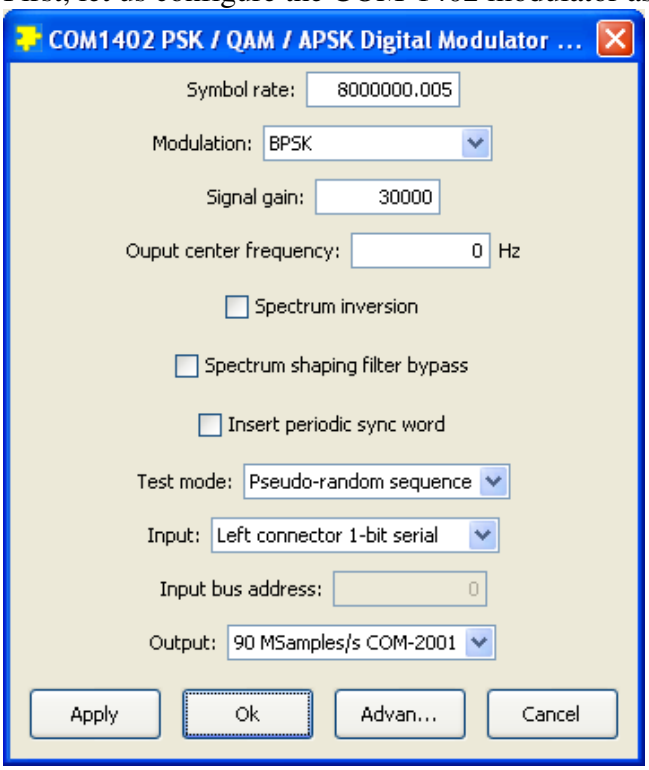
# COM-1402 -> COM-1202

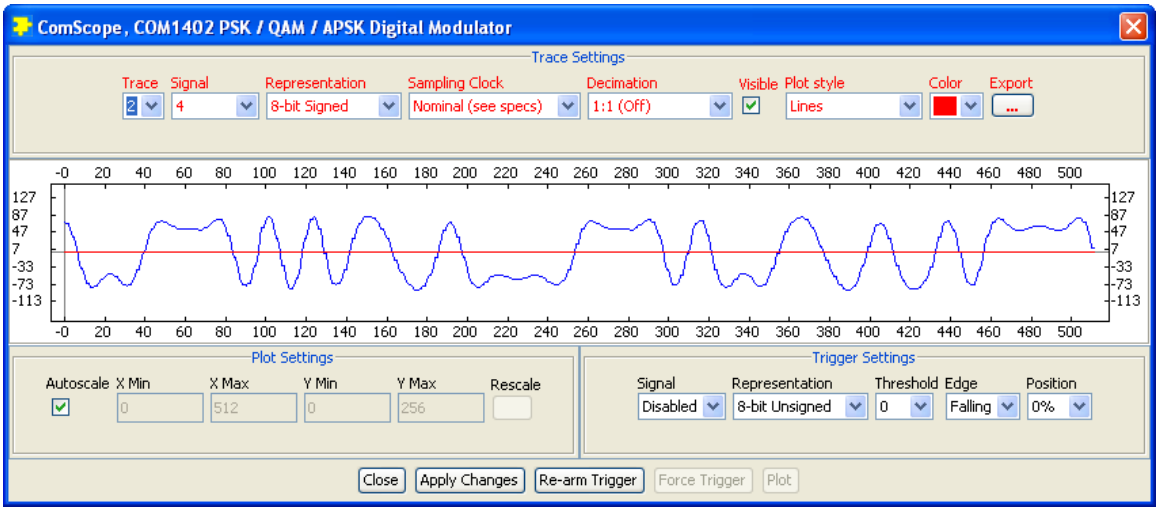
Objective: connect a digital PSK/QAM/APSK modulator and demodulator back to back. Observe the key signals, demodulator lock and error-free transmission of a pseudo-random test sequence.

Configuration: 8 Mbits/s, BPSK

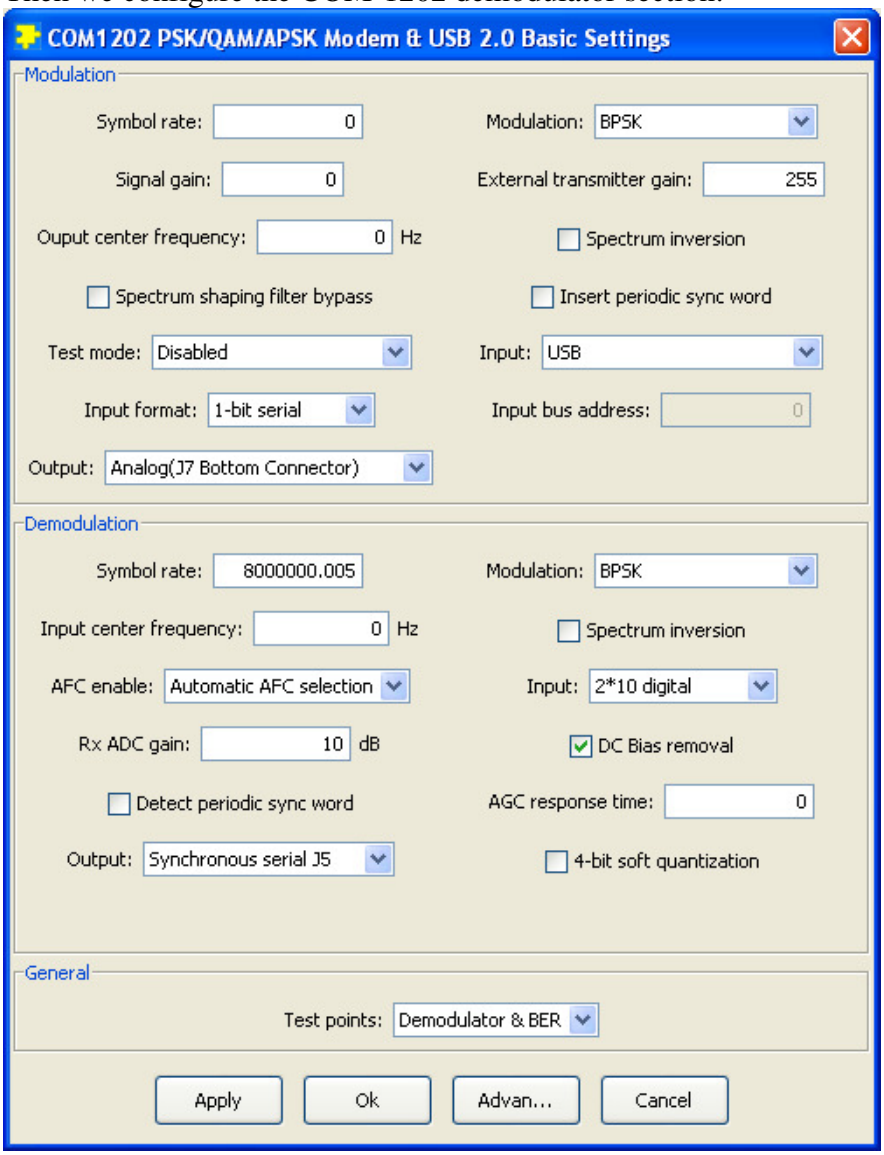
First, let us configure the COM-1402 modulator as shown below:



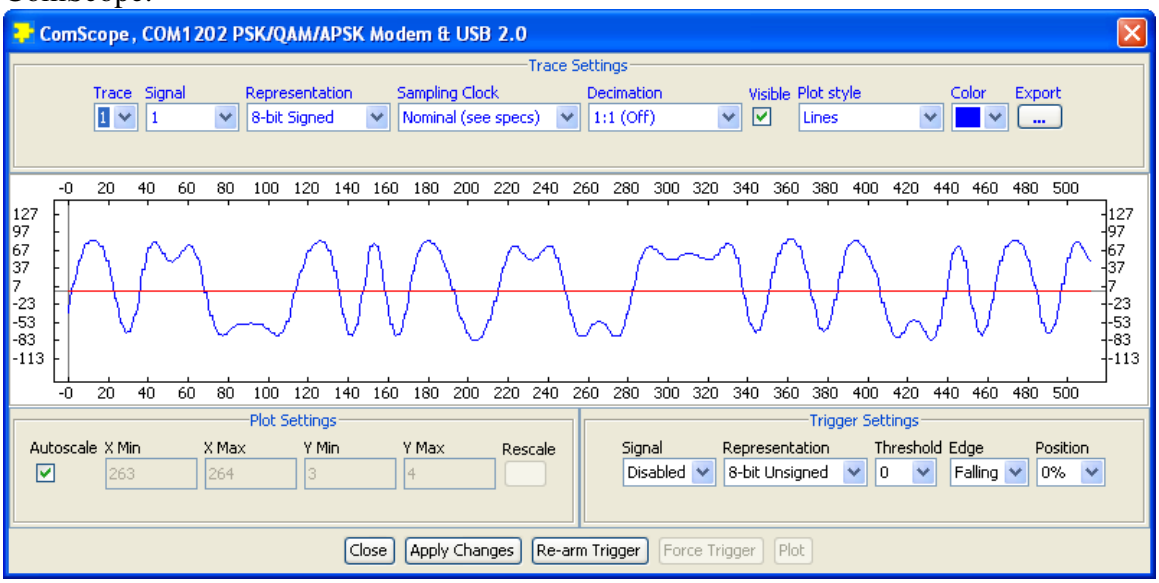

After configuring the COM-1402 modulator, observe the waveform at the output using ComScope:



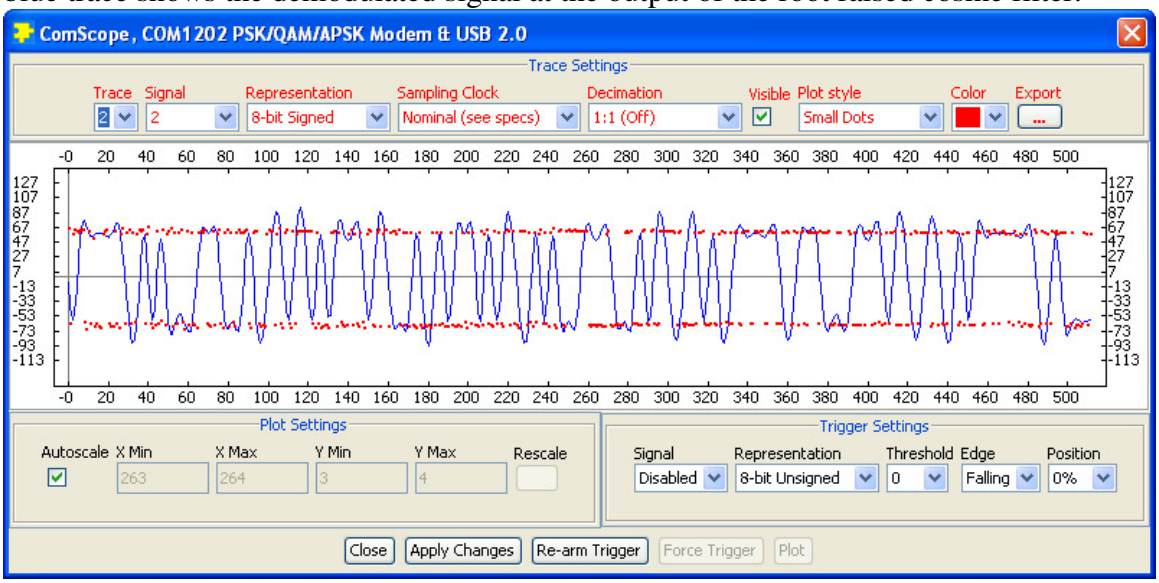

Then we configure the COM-1202 demodulator section:



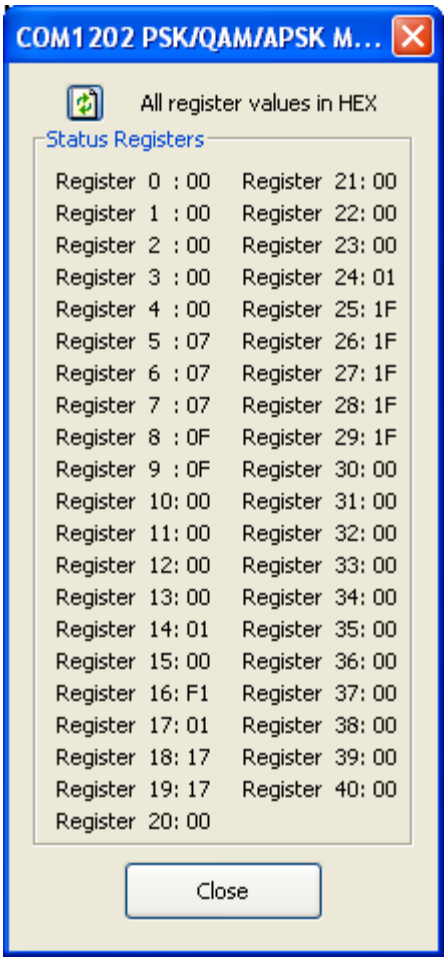
We can then observe the signals received at the COM-1202 demodulator input, using ComScope:




The demodulated bits (red dots) can also be observed using ComScope: the plot below shows that there is no intersymbol interference, perfect bit timing and no bit errors. The blue trace shows the demodulated signal at the output of the root raised cosine filter.




Since the COM-1402 is transmitting a pseudo-random binary sequence PRBS-11, the demodulator can measure the bit error rate. The BER synchronization appears as a 1 in status register SREG24. The BER count is zero in status registers SREG20 – SREG23.


COM1202 PSK/QAM/APSK M...
All register values in HEX
Status Registers
Register 0 : 00
Register 1 : 00
Register 2 : 00
Register 3 : 00
Register 4 : 00
Register 5 : 07
Register 6 : 07
Register 7 : 07
Register 8 : 0F
Register 9 : 0F
Register 10: 00
Register 11: 00
Register 12: 00
Register 13: 00
Register 14: 01
Register 15: 00
Register 16: F1
Register 17: 01
Register 18: 17
Register 19: 17
Register 20: 00
Register 21: 00
Register 22: 00
Register 23: 00
Register 24: 01
Register 25: 1F
Register 26: 1F
Register 27: 1F
Register 28: 1F
Register 29: 1F
Register 30: 00
Register 31: 00
Register 32: 00
Register 33: 00
Register 34: 00
Register 35: 00
Register 36: 00
Register 37: 00
Register 38: 00
Register 39: 00
Register 40: 00
Close