ComBlock Assembly

COM5003B TCP-IP GATEWAY
-> COM1028 FSK/GFSK/MSK/GMSK Digital Modulator
-> COM1027 FSK/MSK/GFSK/GMSK Digital Demodulator
-> COM5003B TCP-IP GATEWAY

Configuration

5 Mbits/s modulation rate
MSK, modulation index 0.5
HDLC enabled
IP address: 172.16.1.128 , port 1024 (transmit)
IP address: 172.16.1.129 , port 1024 (receive)
Interface between modulator and digital demodulator is unsigned

Checklist

Step 1 Ping the transmit side
Using the Comblock control center, ping the transmit COM-5003 at address 172.16.1.128 (or whatever address you selected).

Step 2 Ping the receive side
Using the Comblock control center, ping the transmit COM-5003 at address 172.16.1.129 (or whatever address you selected).

Step 3 Demodulator lock status
Using an oscilloscope, verify that the COM-1027 demodulator is locked.
Both J4/A7 (AFC lock) and J4/B7 (input signal power detection are at logic high (3.3V).

Step 4 Received HDLC frame markers
Using an oscilloscope, verify that the receive COM-5003 detects the 0x7E HDLC flags at TP8.
As no payload data is being transmitted, the data stream consists of empty HDLC frames (consecutive 0x7E HDLC flags). TP8 should show nearly periodic pulses spaced 1.6us (8-bit) apart in the average.

Step 5 End to end communication. Type text.
Start two instances of the Hyperterminal program and connect them to the transmit COM-5003 and receive COM-5003 respectively. Both use port 1024 for data transfers.
Need help configuring Hyperterminal?
Please see the basic settings document 5003_5003.pdf located in the 'Basic Settings' folder of the ComBlock CD-ROM.

Type text on the hyperterminal window connected to the transmit COM-5003.
The text will appear in the other hyperterminal window after transiting
through the complete ComBlock assembly.

Step 6 Visualize internal FSK demodulator signals using ComScope
Highlight the COM-1027 and click on the 6th button from the left to activate ComScope.
In order to visualize the COM-1027 baseband inputs, select trace1/signal1/8-bit unsigned
and trace2/signal2/8-bit unsigned. Then click on the 'Apply changes' button. Click on
Re-arm trigger and Force trigger. The input will be as shown below: