

COM-2002 DIGITAL-TO-ANALOG CONVERSION (I & Q COMPLEX) 80 MSamples/s

Key Features

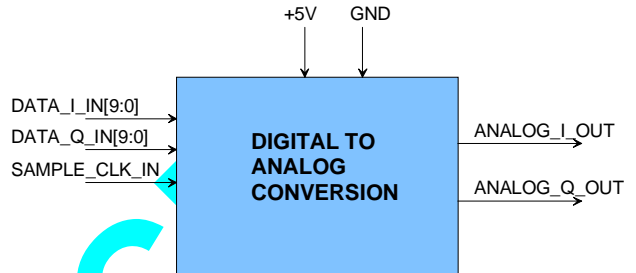
- Converts the complex baseband digital signal to two analog baseband signals.
- Dual 80 MHz 10-bit D/A converters.
- 6-pole Butterworth clock rejection filters.
- A/D clock rejection > 84 dBc.
- Output voltage: 1V_{pp} with 0.85V DC bias.
- Single 5V supply
- Connectorized 3"x 3" module for ease of prototyping.
- Analog: SMA connectors
- Digital: standard 40 pin 2mm dual row connectors (left)

For the latest data sheet, please refer to the **ComBlock** web site: www.comblock.com/download/com2002.pdf. These specifications are subject to change without notice.

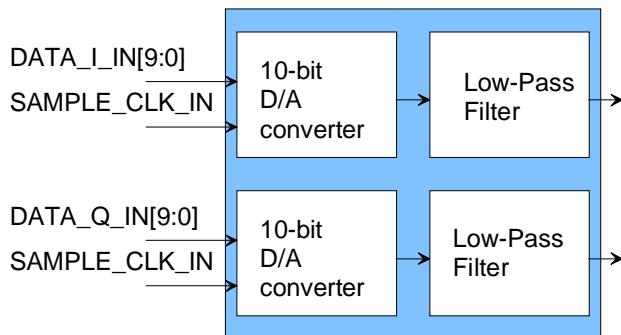
For an up-to-date list of **ComBlock** modules, please refer to www.comblock.com/product_list.htm.

Electrical Interface

Inputs / Outputs



Block Diagram

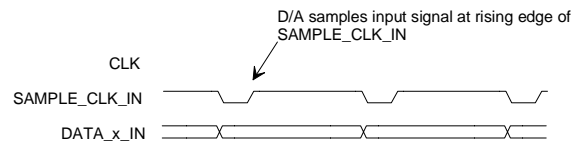


Input Module Interface	Definition
DATA_I_IN[9:0]	Modulated input signal, digital, baseband, real axis. 10-bit unsigned format. 0x000 for maximum output level 0x3FF for minimum output level 0x1FF or 0x200 for near center level.
DATA_Q_IN[9:0]	Modulated input signal, digital, baseband imaginary axis. Same format as DATA_I_IN.
DAC_CLK_IN	Input signal sampling clock. The input samples are stable at the rising edge of DAC_CLK_IN.
Analog Output Signals	Definition
ANALOG_I_OUT	Analog output, baseband, real-axis. Peak amplitude: 1.0Vpp DC bias: 0.85V. SMA female connector.
ANALOG_Q_OUT	Analog output, baseband, imaginary-axis. Peak amplitude: 1.0Vpp DC bias: 0.85V. SMA female connector.
Serial Monitoring & Control	DB9 connector. 115 Kbaud/s. 8-bit, no parity, one stop bit. No flow control.
Power Interface	4.75 – 5.25VDC. Terminal block. Power consumption is 200 mA.

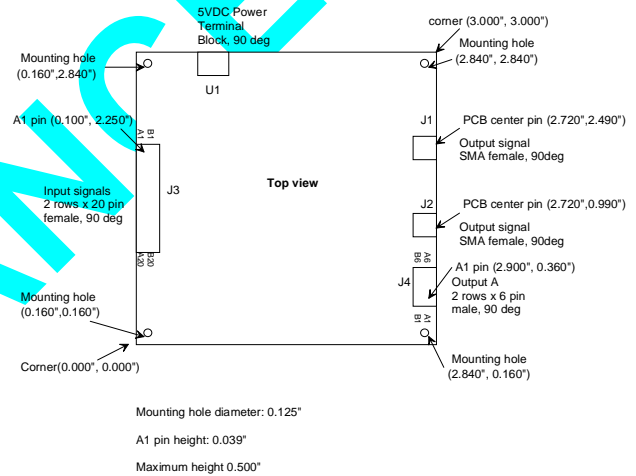
Timing

The I/O signals are synchronous with the rising edge of the reference clock CLK (i.e. all signals transitions always occur after the rising edge of the reference clock CLK). The maximum CLK frequency is 80 MHz.

Input



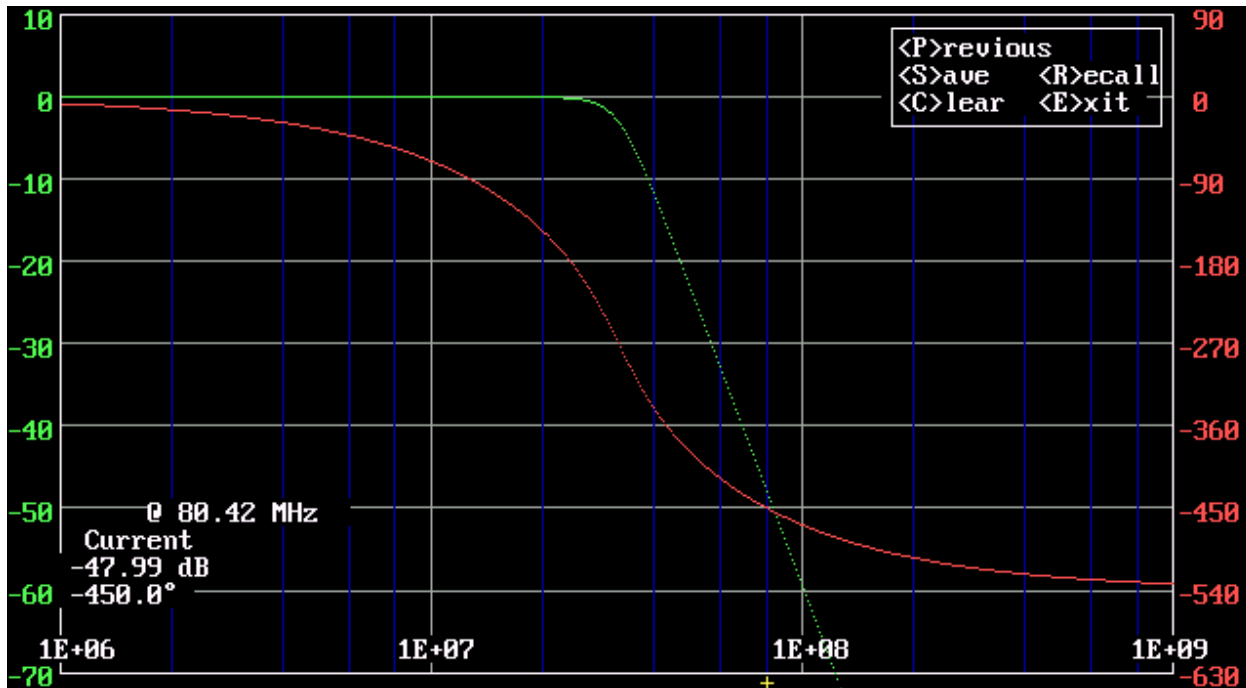
Mechanical Interface



Performance

Low Pass Filter

Each D/A converter is followed by a 6-pole Butterworth low-pass filter to suppress harmonics. The filter response is as follows:



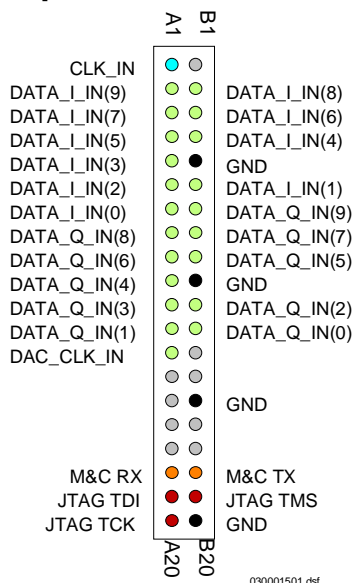
F (MHz)	10	20	26	32	64	80
Atten. (dB)	-0.00	-0.01	-0.35	-3.04	-36.0	-47.35

Out of band spectral spurious lines: < -84dBc in any 3 KHz band.

Pinout

ComBlock Ordering Information

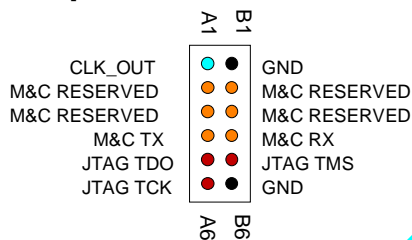
Input Connector J3



COM-2002
DIGITAL TO ANALOG CONVERSION,
BASEBAND, 80 Msamples/s.

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Output Connector J4



This connector is to forward JTAG, GND and other monitoring and control signals to subsequent analog modules.

I/O Compatibility List

(not an exhaustive list)

Input	Output
	COM- 4001/4002/4003/ 4005/4006 RF Quadrature Modulators