

general features

- compact SIOX rev.B DCM
- communicates with host *TORNADO* DSP via serial port
- complete single-channel digital radio receiver solution requires only external programmable tuner and RF amplifier

details

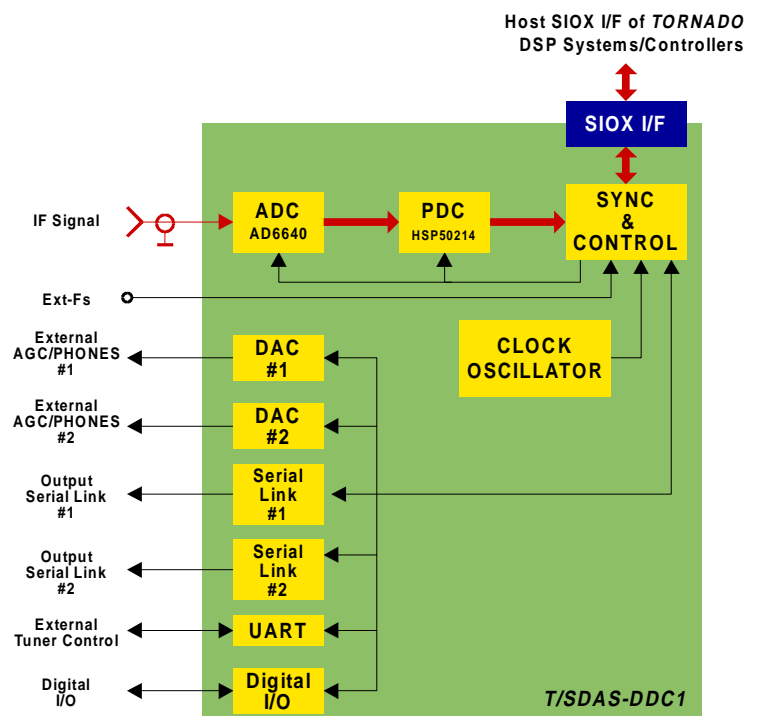
- high-accuracy 65 MSPS 12-bit ADC with 240MHz bandwidth (allows undersampling)
- 65MSPS HSP50214 PDC with built-in resampling and AM/FM/PM demodulation
- plug-in oscillators for ADC/PDC sampling frequency/CLKIN and PDC PROCLK
- external ADC/PDC sampling frequency option
- 115kbaud UART with RS232C I/F for external programmable tuner control
- two 12-bit DACs for external RF amplifier gain control
- two programmable output serial links for external RF amplifier gain control or general purpose serial output
- headphone output
- one digital I/O pin for external synchronization event and host DSP interrupt generation

software tools

- Hypersignal RIDE DSP development & simulation IDE
- demo samples

applications

- digital radio
- cellular telephony
- radio-monitoring
- radio-modems
- RF instrumentation



Technical Specifications

<i>A/D resolution</i>	12 bits (Analog Devices AD6640 chip)
<i>input A/D signal range</i>	± 0.5 V SE @ 50 Ohm
<i>input signal bandwidth</i>	10 kHz ... 240 MHz
<i>A/D nonlinearity</i>	± 1 LSB max differential nonlinearity ± 2 LSB max integral nonlinearity
<i>A/D SNR</i>	69 dB typ
<i>PDC</i>	Harris HSP50214B with built-in resampling and AM/FM/PM/SSB demodulation
<i>maximum ADC/PDC sampling frequency (Fs/CLKIN)</i>	65 MHz
<i>ADC/PDC Fs/CLKIN source</i>	plug-in Fs/CLKIN crystal oscillator (≤ 65 MHz) external Fs/CLKIN input (≤ 65 MHz)
<i>PDC PROCLK source</i>	plug-in PROCLK crystal oscillator (≤ 55 MHz)
<i>maximum UART baud rate</i>	115 kBaud (all standard baud rates are available)
<i>external I/F for UART</i>	RS232C
<i>D/A channels</i>	2
<i>D/A resolution</i>	12 bits
<i>D/A signal output range</i>	0..4 V DC @ 600 Ohm (recommended for external IF amplifier gain control) ± 2 V AC @ 600 Ohm (recommended for headphones output)
<i>D/A SNR</i>	68 dB typ
<i>D/A settling time</i>	10 us
<i>number of external output serial links</i>	2
<i>communication parameters for external output serial links</i>	14/22/30 data bits, inversed frame synch pulse, serial clock equal to host SIOX-XMIT clock, programmable serial clock polarity and framing feature
<i>number of digital I/O pins</i>	1 bit
<i>digital I/O and external Fs signal level</i>	TTL @ 3.2 mA
<i>host TORNADO I/F</i>	SIOX rev.B with SIO-0 port used
<i>power consumption</i>	5 V @ 0.5 A, +12 V @ 200 mA, -12v @ 40 mA

TORNADO-3x, TORNADO-4x, TORNADO-54x, TORNADO-6x, TORNADO-P6x, TORNADO-P3x, TORNADO-P54x, TORNADO-E/EL, TORNADO-PX, TORNADO-SX, MIRAGE-510DX, UECLM, MX-Link, PIOX, PIOX-16, SIOX are trademarks of MicroLAB Systems Ltd. All other products and company names used are trademarks of their respective holders.