



## **P2A** PACKETS-TO-ANALOG CONVERTER

- Digital IF data inputs via 10GbE interfaces
  - SDDS packet format supported
  - VITA-49 coming soon
- L-band analog output, 950 MHz to 1750 MHz
- 1800 MSPS 14-bit DACs
- Six-channel output per DAC
  - Four 40 MHz bandwidth streams
  - Two 80 MHz bandwidth streams
- 1.5 GByte DDR3 memory per DAC
  - Allows absorption of large network latency
  - Independent configuration for each input stream
- Programmable attenuator, 0 dB to 31.5 dB, 0.5 dB steps
- Accepts external 10 MHz reference, optional
- Command and control via dedicated Ethernet interface
- Redundant, hot-swappable power supplies

**USING MULTI-RATE SIGNAL PROCESSING TECHNIQUES,** the P2A combines up to six digital IF packet streams into each frequency-multiplexed DAC output. To meet your mission needs, various configurations can combine up to 48 digital packet streams into eight DAC outputs. Optional RF splitters may be included in the chassis to split DAC outputs for signal distribution to multiple modems or other devices.

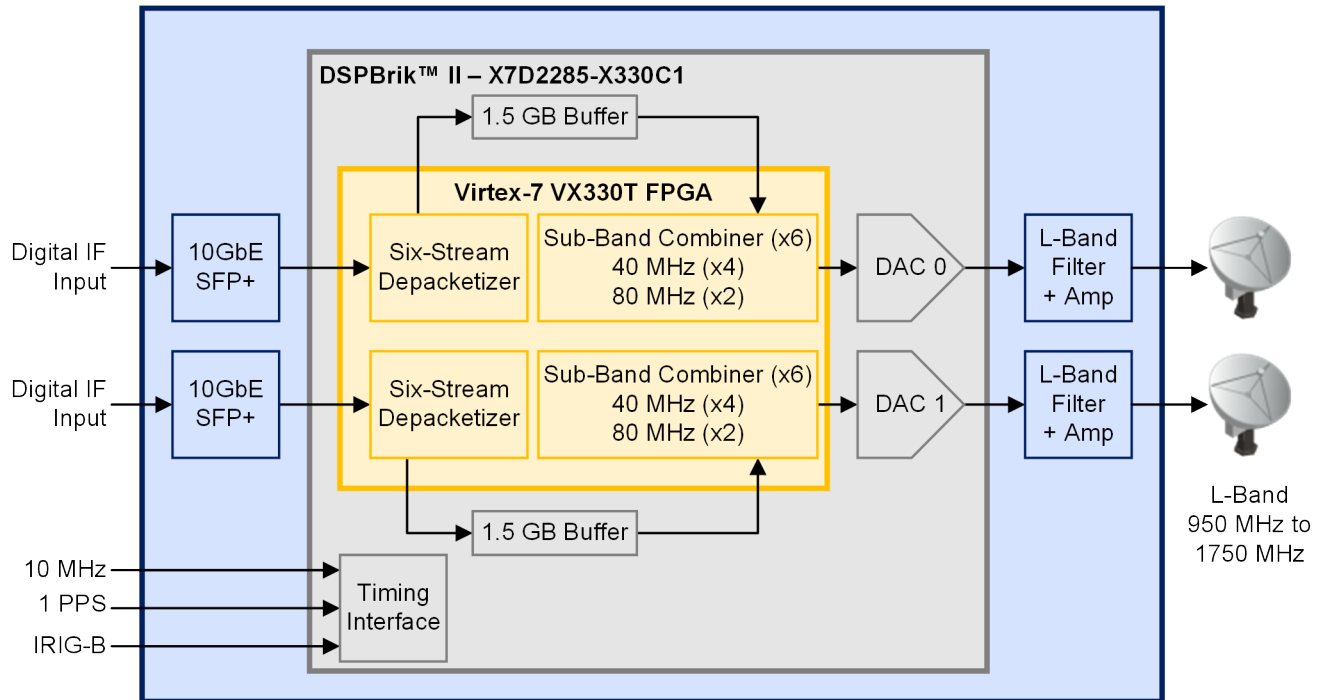
**THE COMPACT 19-INCH RACKMOUNT (1U) CHASSIS** contains the RF components required for connecting directly to L-band analog modems, block upconverters, or a signal distribution infrastructure. The integrated, high-performance cavity filter provides a spectrally clean L-band output from 950 MHz to 1750 MHz.

**THE 10 GIGABIT ETHERNET (10GBE) SDDS INPUTS** feed a flexible de-packetizer that can be configured to receive multicast or unicast data from multiple sources across multiple VLANs. The P2A supports both 40 MHz and 80 MHz bandwidth signals.

**THE P2A'S LARGE NETWORK BUFFER FEATURE** provides uninterrupted data playback even with large network latency. The configurable network buffer also enables the P2A to generate long periods of continuous data even with non-coherent reference clocks.

**BUILT ON HIGH-PERFORMANCE FPGA TECHNOLOGY,** the P2A supports seamless in-field firmware upgrades to meet the demands of evolving requirements, making it easy to deploy and maintain hundreds of units.

# BLOCK DIAGRAM



## SPECIFICATIONS

### GENERAL

- Number of 10 Gigabit Ethernet Inputs: 1 per DAC, up to 9 per chassis
- Number of DAC Outputs: Up to 8
- Command/Control: 10/100/1000 Mbit Ethernet, RJ45
- Power Connector: NEMA5-15
- Power: 110/220 VAC 50/60 Hz, 300 Watts, max
- Dimensions: 1U 19" rackmounts, 26" depth
- Operating Temperature: 0° C to 50° C

### DATA INPUT/OUTPUT

- Analog Output Power:
  - 40 MHz: -21 dBm, max
  - 80 MHz: -18 dBm, max
- Analog: 50 Ω, AC-coupled, 950 MHz to 1750 MHz, SMA connector
- Input Data Connector: 10 Gigabit Ethernet, SFP+ modules (included), SR/LR fiber or direct attach copper
- Digital Data Format: SDDS, 80 MHz and 40 MHz bandwidths, standard configuration assumes df/dt=0
  - VITA-49 coming soon
- Clock/Reference: 750 mVpp to 2 Vpp (1.5 dBm to 10 dBm), 50 Ω, AC-coupled, sine or square wave, SMA connector
- 1 PPS: CMOS compatible, 50 Ω, SMA connector
- Time:
  - IRIG-B: 0.5 Vpp to 6 Vpp, 50 Ω, 1 kHz AM, SMA
  - NMEA-0813: RS-232 signal level, LEMO connector, DB9 adapter supplied

### ORDERING INFORMATION

P2A - **g d s a** - A2P - **c p - f b l r**

- P2A Order Codes**
  - g**: number of 10GbE inputs, 1 per DAC channel, standard
  - d**: number of WB DAC channels (1, 2, 4, 6, or 8)
  - s**: output splitter width per channel (1, 2, 4, or 8)
  - a**: integrated amplifier per channel (N: not present or A: present on all channels)
- A2P Order Codes**
  - c**: number of L-band ADC inputs
  - p**: number of 10 GbE outputs (0, 1, 2, 4, or 8)
  - f**: 10 GbE input media (see website for options)
  - b**: X7D2285 Boot Mode (N: NFS or F: internal flash)
  - l**: Flash Lock (U: unlocked or L: locked/write-protected)
  - r**: Rackmount slides (N: none, 28: 28", or 30: 30")

**Call for availability or custom configurations.**

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|   |                                  |                                      |                                |
|---|----------------------------------|--------------------------------------|--------------------------------|
| <b>ADDRESS</b>                                  | <b>ORDER LINE</b>                | <b>TECH SUPPORT</b>                  | <b>FAX/WEB</b>                 |
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