System 2217

L-Band RADAR Recorder

DSPCon

Acquiring, Processing and Managing the World's Data.

Version 3.0 bp

What is the System 2217?

DSPCon's System 2217 is a sophisticated data acquisition system that is designed to record L-band RADAR signals for analysis. Between two and sixteen independent intermediate frequency analog signals are recorded to a Fibre Channel RAID storage unit. An external sample clock running at up to 105 MHz synchronizes all sixteen channels and a low-voltage TTL signal is used to gate the acquisition.

The System provides application graphical user interface (GUI) utilities for capturing data from the A/D converters, recording the data to RAID, and archiving the data to files on the host computer.

Applications:

- L-Band Radar Development

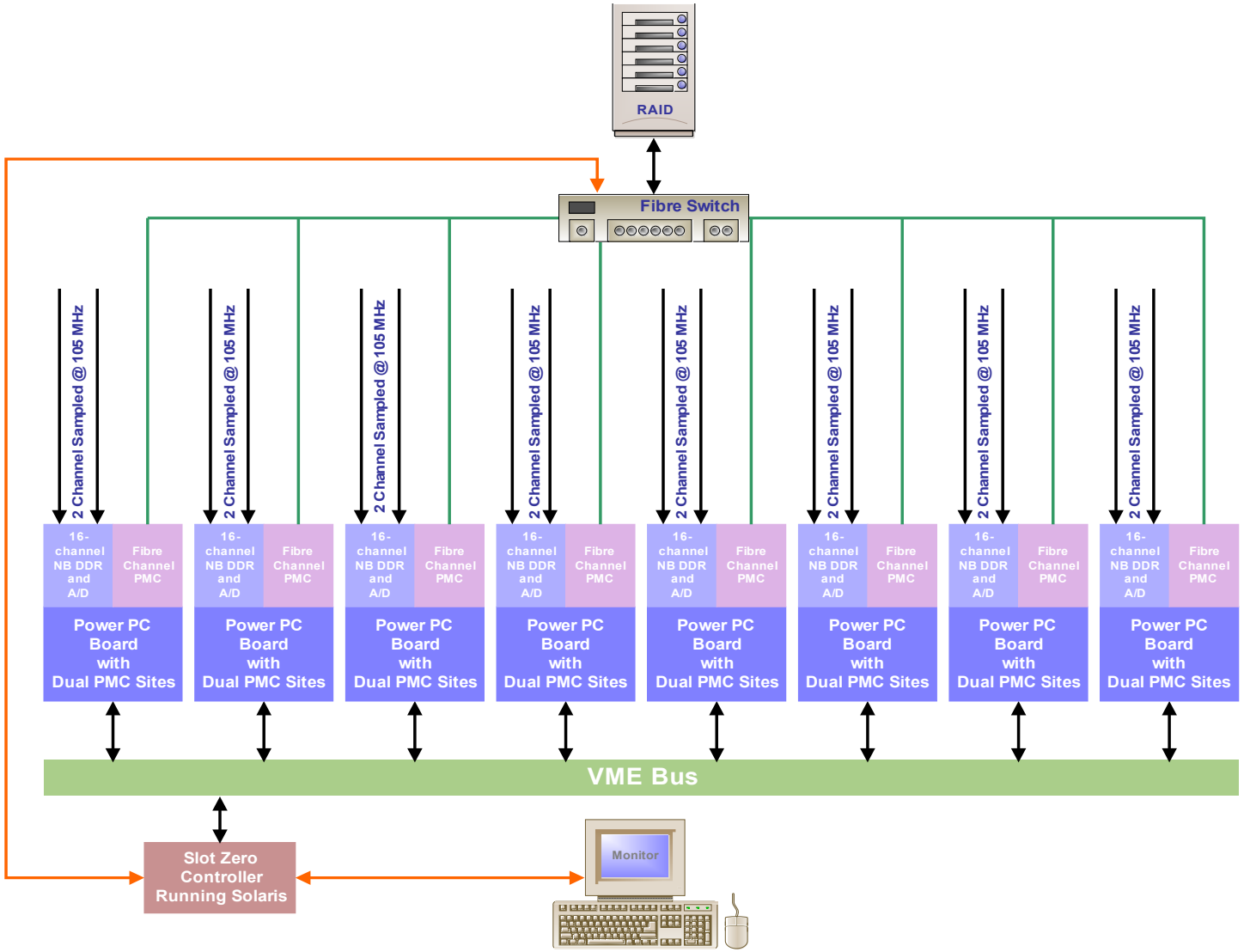
System Specifications

Number of Channels	2 to 16
Input Bandwidth	50 MHz
Number of WB/NB Channels	16WB or 256NB
Number of A/D Bits	14
SNR	72 dB minimum
SFDR	100 dBFS (two tone)
Processing Power	1 to 3 million gate FPGA per channel pair 1.3 GHz, 3.0GFLOP PowerPC per channel pair
Algorithms Supported	AM, FM, USB, LSB, CW+BFO
Storage Capacity	2 Gbyte of RAM per 2 channels, and 7 Tbytes in a single RAID

System Features

- Accepts up to 16 analog inputs with a bandwidth up to 50 MHz
- Can directly record any combination of up to 16 WB channels or 256 NB channels
- Is able to be trigger with Range/Gate information from the RADAR
- Is able to perform a variety of signal processing or data packing algorithms in the FPGA, and/or the PowerPC
- Can handle much faster burst to local RAM and 7 Tbytes (or greater) of RAID

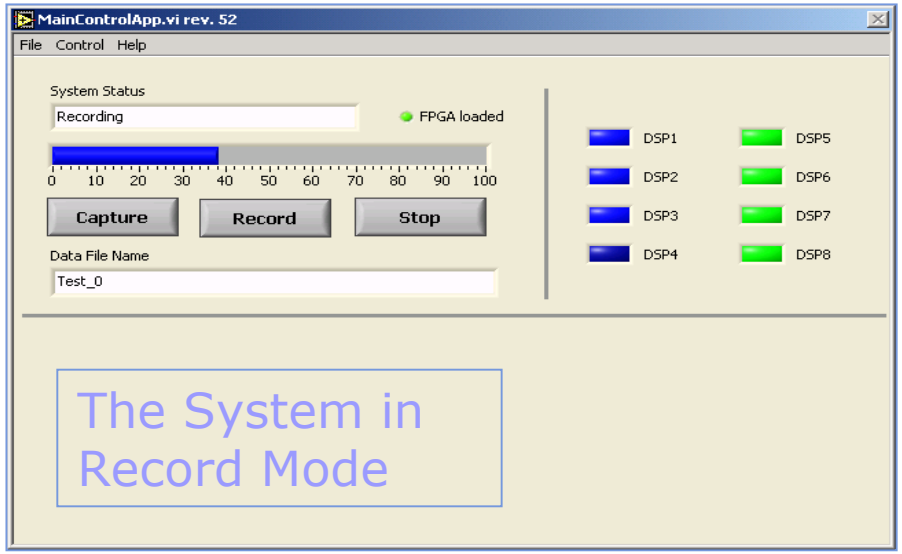
System Block Diagram



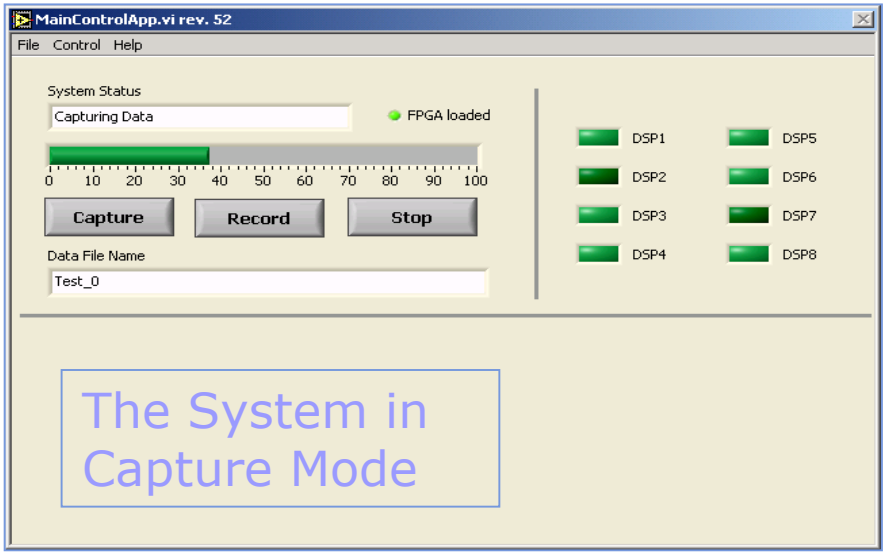
System Components Overview

- System contains between 4 and 16, 105 MHz, 14-bit A/D Converters with synchronized clocks
- Any channel can be recorded, and/or down-converted, processed and recorded
- Each analog channel has 8, Narrowband Digital Down-converters tied to it
- Each analog channel has a dedicated FPGA and a Power PC DSP tied to it
- Each subsystem has 2 Gbytes of memory and Fibre Channel access to a RAID

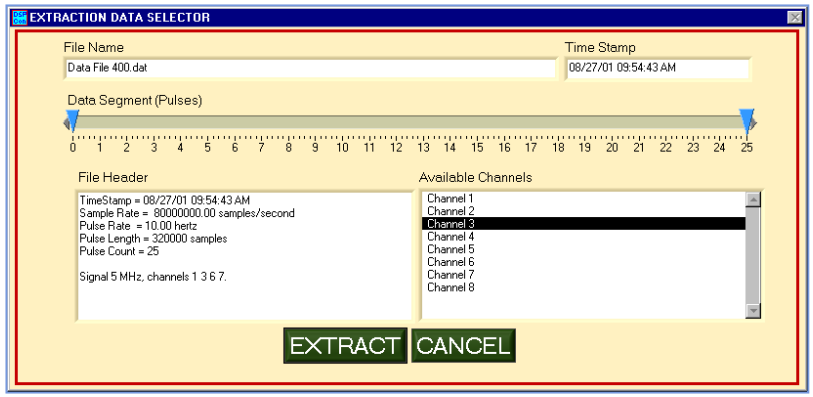
Graphical User Interfaces



The System in Record Mode



The System in Capture Mode



- Upload/Extract Control
- Disk Maintenance

- Loading & programming of DSPs & FPGAs
- Selection of Capture Mode (Burst versus Continuous)
- Selects Active Channels
- Status
  - Channel Activity
  - RAM and Disk Remaining

Contact Information

DSPCon, Inc.
380 Foothill Rd.
Bridgewater, NJ 08807
888-DSP-CON8
Fax: 908-722-3259
E-mail: info@dspcon.com
Website: www.dspcon.com