

System 3121 and 3121R

Wideband, Multi-Channel Sonar Recording System



System 3121
For Engineering Development



System 3121R
For harsh, rugged environments
(includes shielding and stiffeners)

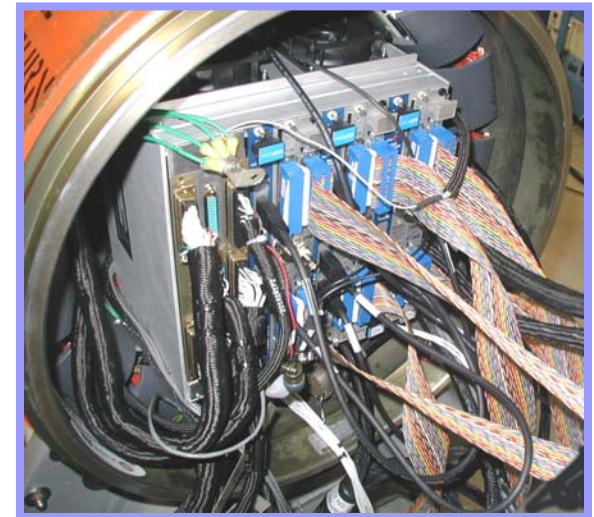


Acquiring, Processing and Managing the World's Data.

What is the System 3121 ?

- Digital Data Acquisition and Recording tool
- Records and stores 96 channels of data
 - Up to 40 Mbytes per second
 - To a RAID drive
 - Simultaneously to external Fibre Channel device
 - Can record up to 300 Gbytes of data during a single test
- 3121R for — Ruggedized, harsh environments
- Cost-effective solution for research and development

System 3121R shown mounted in torpedo



System Specifications

Number of Channels	96
Input Bandwidth	90kHz
Number of WB Acoustic Channels	96; simultaneously sampled
Number of A/D Bits	24 optionally rounded to 16
SNR	90 dB minimum
SFDR	100 dBFS
Processing Power	3.0 GFLOPs
Algorithms Supported	AM, FM, USB, LSB, CW+BFO
Storage Capacity	300 Gbytes in a single RAID

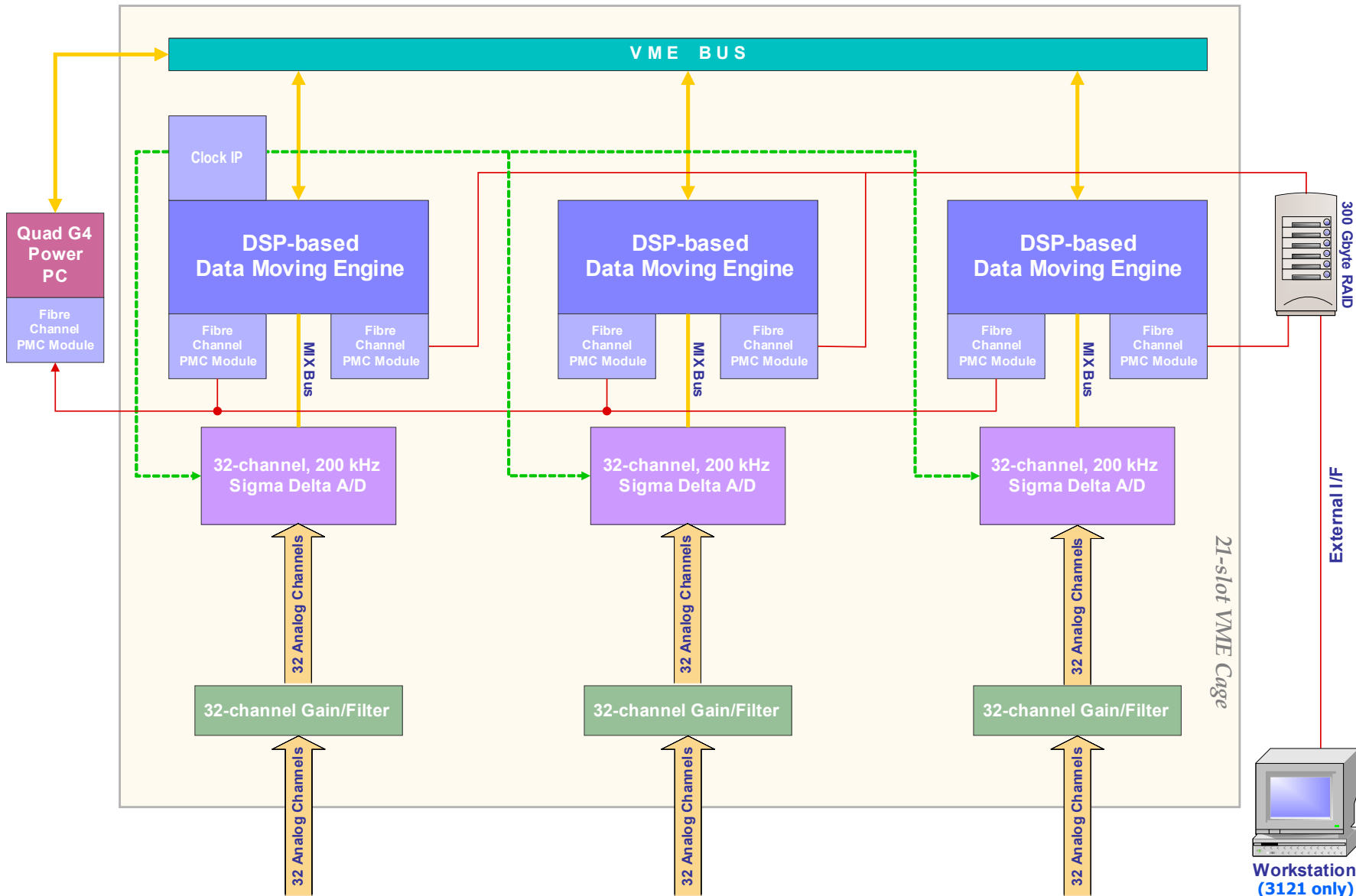
System Overview

Host computer runs system's control host software and is designed to allow for simple, straightforward control of the system's DSP hardware while providing real-time status message display capability.

VME chassis houses DSP and A/D hardware, as well as PMC modules that allow for Fibre Channel communication.



System Block Diagram



Data Flow

- Acquires 96 analog outputs from a SONAR array and sends them to the input of three signal conditioning cards
 - Each card is 32-channels and is designed to provide programmable gain up to 1000, in steps of 1, 2, 5, 10, etc.
- Data is then sent through a DSP baseboard, over a Fibre Channel network and stored on a 300-Gbyte RAID drive via a Fibre Channel network
- Control computer issues appropriate start/stop commands and retrieves status messages over Fibre Channel loop.
- All three board sets (32-channels each) write data in real-time to the RAID when in record mode.

Hardware

- Host computer running Windows 2000 equipped with an HSSDC Fibre Channel HBA
- A 19", rack-mount VME card cage
- Three DSP units, each including:
 - A DSP processor board
 - An A/D converter board
 - Two Fibre Channel PMC modules
- One clocking module
- Three signal conditioner cards
- A Fibre Channel hub equipped with three Fibre Channel DB-9 GBICs
- A 300-GB RAID Drive

Contact Information

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