

# Airborne Telemetry

## NPM-2101-1 NetDAS – PCM Merger Module *Airborne Data Acquisition Products*

### DESCRIPTION

The NetDAS PCM Merger NPM-2101-1 module is designed to receive RS422 PCM clock and data inputs and buffer data for insertion into a separate independent output data stream. The module generate buffers of data by “locking” up to either a Major or Minor frame, and will then output requested parameters onto the high speed TE bus. The module contains a Virtex II FPGA device that is used to perform all the frame synchronization and data transfers. The module features a large 1M x 32-bit SRAM that is used to hold the data buffers. The module also provides an external sync pulse and clock for frame synchronization, which can be directly connected to an external data acquisition unit, such as an RMU, to allow for synchronous operation between the host and source systems.

### SPECIFICATIONS

PCM Interface	
PCM Frame Parameters	
Frame Pattern	2 to 64 bits – each bit maskable
Frame Size	2K (2048) Words
Word Size	8-16 Bits
Orientation	MSB/LSB
Frame Error Thresholds	
Search/Check Errors	0 to 15 Bits
Lock/Flywheel Errors	0 to 15 Bits
Check Frames	0 to 15 Frames
Flywheel Frames	0 to 15 Frames
Subframe Parameters	
Type	ID
Direction	Up/Down
Size	Up to 128 Frames
Sub-frame Error Thresholds	
Check Errors	0 to 7 Bits
Lock/Flywheel Errors	0 to 7 Bits
Check Frames	0 to 15 Frames
Flywheel Frames	0 to 15 Frames

PCM Interface Specifications



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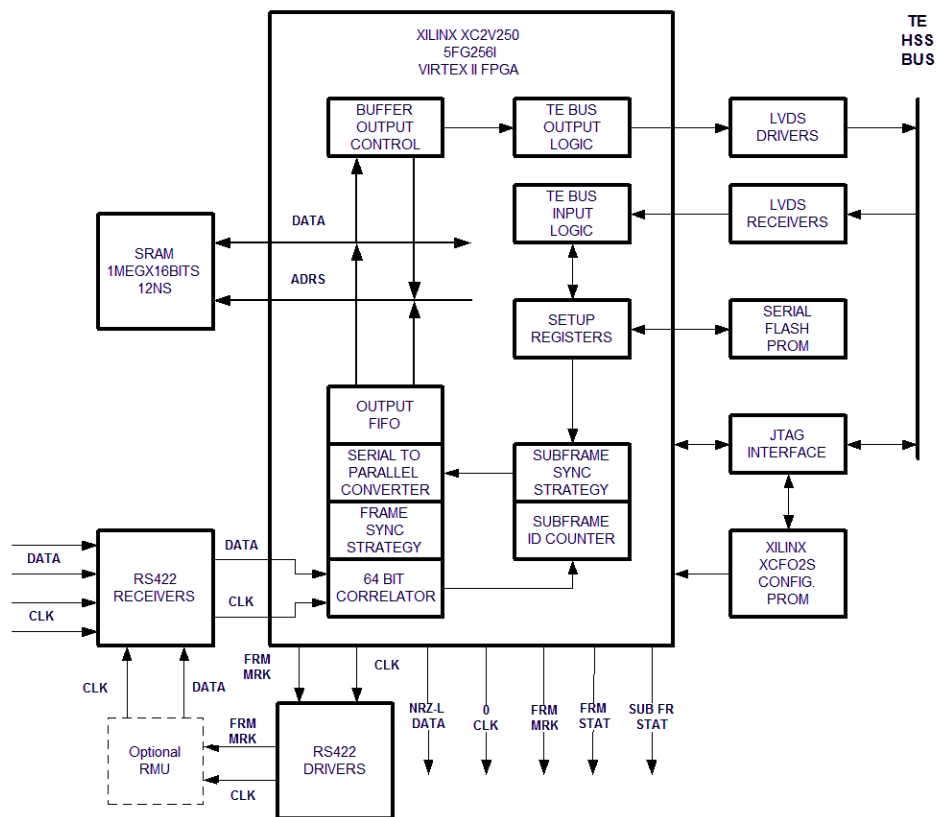
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Data Buffer	
General	
Data Output Control	Bypass, Frame Lock, Subframe Lock
Buffer Switch	Major Frame, Minor Frame, Immediate
Buffer Size	Partitioned 1meg x 16 bits
Buffer Speed	12ns

**Data Buffer Specifications**

Outputs	
Status	
Frame Mark	RS422/TTL (Optional RMU Interface Signal)
PCM Clock	RS422/TTL (Optional RMU Interface Signal)
PCM Data	RS422/TTL
Frame Lock	RS422/TTL
Frame Search	TTL

**Output Specifications**



**NPM-2101-1 Functional Block Diagram**

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