DSP-5 Monitoring Histograms

- DSP5 also maintains 6 more timing & 1 event size histograms for itself
- **Highest bin represents that range or higher (overflow)**
- **Time Unit is microsec. Size Unit is Int == 4 Bytes**
- **All histograms have 16 bins**

Time Histograms	Range	Resolution
Input Manager	[0..31]	2 µs
Unpack	[0..31]	2 µs
Process	[0..63]	4 µs
Output Manager	[0..31]	2 µs
Idle Time	[0..2047]	128 µs
Monitoring Time	[0..2047]	128 µs
Size Histograms	**Range**	**Resolution**
Total Event size	[0..127]	8 ints
Error Histograms	**Range**	**Resolution**
DSP5 Errors	[0..15]	error #

- **Total event size does *not* include wDSP H+T length (3 ints)**

- See next slide for a description of DSP-5 errors

Last modified: July 17, 2002

DSP-5 Error Handling

Event Iterator (infinite loop)

reset timer

Input (ext.FIFO to int.Mem)

read time

Unpack (data organized acc. to origin)

read time

Process (stub compilation)

read time

Output (through DSP serial port)

read time

Each iterator stage defines an error "flavor". Errors can be "fatal" or not. If fatal, the rest of the event processing is abandoned. DSP5 sends header & trailer plus error messages to the alpha worker.

DSP-5 error mask

7	6	5	4	3	2	1	0
idle	mislgn	ovrflw	outp	proc	unpck	input	fatal

- **Every error corresponds to a bin for the DSP5 error histogram**

Last modified: July 17, 2002