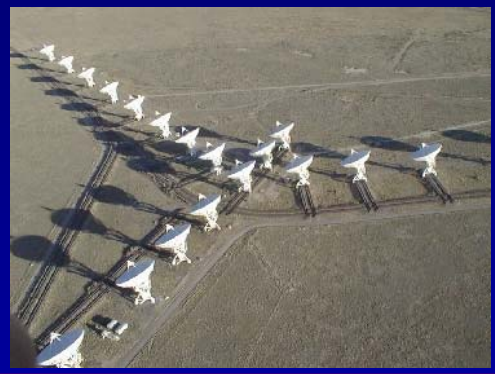

MIB FUNCTIONALITY

INTERFACE TO ETHERNET

- Ethernet Protocol Drives the Probable Need For RTOS Kernel In MIB
- Ethernet Protocols to be Used – Probably TCP/IP, UDP, ICMP
- Multiple Commands or Monitors Can be Sent in a Single Ethernet Frame

RTOS

- Will Implement TCP/IP Stack
- May Also be Used to Prioritize Tasks and Handle Interrupts
- Should be as Compact as Possible
- We Want to Obtain the RTOS Source Code

COMMANDS

- Commands Can be Queued for Implementation at an Absolute Time
- Commands Can be Sent for Immediate Implementation
- Commands Are Addressed to an Individual MIB
- A Single Command Can Cause the MIB to Implement Multiple Actions

MONITOR DATA VALUES

- MIB Can Periodically Send Monitor Data Values
- Monitor Data Values Can be Requested by Control Computer
- All Monitor Data Values are Time Stamped
- Monitors Are Addressed to a Specific Destination Target

MIB TO MIB COMMUNIUCATION

- Some MIB to MIB Communication Would Be Beneficial, and is Planned

LOADING OF CODE

- MIB Loads Code From Flash Memory on MIB and Module at Power Up
- MIB Firmware Runs From On-Chip Memory
- Flash Memory on Module Can be Loaded by Ethernet

MODULE SERIAL NUMBER, SLOT ID

- MIB Will Obtain Module Serial Number and Slot ID From the Module

SAFETY OF MODULE

- The MIB will NOT Implement Tasks Necessary for Safety or Protection of Module

A/D AND D/A CAPABILITIES

- A/D And D/A Capabilities Will NOT be Directly Implemented by the MIB
- The MIB Will Communicate With A/D and D/A Converters on the Module Via SPI

TIMING PULSES AVAILABLE TO MIB

- 1 PPS
- 10 Second Pulse
- 19.2 Hz (Transition)
- 10 ms

TIME

- On Board Timer Will Keep Absolute Time to At Least 10 ms Resolution
- Time Will be Obtained From Control Computer Ahead of a Timing Pulse, and the Timer Will Start at the Arrival of the Pulse