EVLA Front-End CDR

EVLA Receiver
Monitor & Control
F317 and F320 Modules
Antenna Front Ends

• Two Types of Front End Styles
  ➢ VLA Style Card Cage System
    ◆ EVLA Interface to F14’s Required
    ◆ This EVLA Interface is Called the F320
  ➢ EVLA Style Card Cage System
    ◆ This EVLA Interface is Called the F317
F320 & F14

- F320
  - Incorporates a MIB and Analog Card
  - Two New Regulator Card Supplies +5V, +15V, -15V, & 28V to F320, F14’s, and Front Ends
  - New Interface Card Manages F14 Logic Functions using MIB Features SPI and GPIO
F320 & F14

• Front End to F14 (Manages Three)
  ➢ Two DB25 Cables
  ◆ Carries Power, 11 Analog Signals, Solar or Normal Cals, 21 Digital Bits, and 3 bits of Cryogenics Control
  ➢ All Logic Switching, Sampling, etc. is Internal to the F14.
• Design – We Want More, But We Want Less
  ➢ Card Cage Allows for 96 Analog Monitor Points
  ➢ Card Cage Allows for 128 Bits Digital Monitor Points
  ➢ Card Cage Allows for 128 Bits Digital Control Points
  ➢ During Astronomy We Want Only These Defaults
    ◆ 3 Analogs, 4 Bits Digital Monitors, No Commands
    ◆ Analogs – 15°K, RCP & LCP Gate Voltage
    Summation
F317

• Front End to F317 (Manages Five)
  ➢ One DB50 Cable
    ◆ 3 Analog Channels, Solar or Normal Cals, 4 Bit Digital Monitor Bus, 4 Bits Digital Command Bus, 5 Bit Address Bus, and a SPI Port
    ◆ All Signals are Differential
  ➢ All Logic Switching, Analog Switching, etc. is Internal to the Card Cage.
  ➢ Each Front End Receiver is Individualized