Wideband VLBA

Steven Durand
presenting
for the
Electronics Division
Casper Collaborators

- Radio Astronomy Lab (RAL)
- Berkeley Wireless Research Center (BWRC)
- Space Sciences Laboratory (SSL)
- MIT Haystack Observatory
- Allen Telescope Array (ATA)
- Combined Array for Research in Millimeter-wave Astronomy (CARMA)
- Jet Propulsion Laboratory (JPL)
- National Radio Astronomy Observatory (NRAO)
- National Astronomy and Ionosphere Center (NAIC)
- Square Kilometer Array (SKA)
- South Africa SKA
- Commonwealth Scientific and Industrial Research Organization (CSIRO)
- Long Wavelength Array (LWA)
- Sub millimeter Array (SMA)
- Jodrell Bank
- University of Arizona and Caltech
IBOB2 Layout

By Mike Revnell
VBDE Block Diagram
Version 5

- 2.048 GHz Clock
- 32 MHz Clock
- 1 PPS

- SMA
- AGC
- 8 bit Sampler
- SMA
- Z-DOK
- SMA
- Z-DOK
- SMA
- V5LX110T Filter Bank
- and QDR Memory
- 4 passbands
- IBOB-2 V2
- Ethernet Data
- Ethernet Control
- 100 Mbit

- 120 Vac Power supplies
- LVDS GPIO + CLK
- PPC 440 EPx Computer
- RS232
- UART
- USB2
- PCI
- 10/100/1000T
VLBA Station Configuration

- Timing module
- VDBE (1)
- VDBE (1)
- IF Distributor
- Ethernet switch
- VDBE (1)
- 1GE (4) Data
- VDBE (1)
- 1GE (4) Data
- VDBE (1)
- 10GE Data
- MARK5 A
- MARK5 C
- T-1 Network connection
- 1GE (4) M&C

SJD 6
VBDE Clock Board

Designed by MIT Haystack
**Allied Telesis**

**AT-9448Ts/XP**
48-Port 10/100/1000T Managed Layer 3 Switch with 2 10GbE XFP Bays and a Stacking Module Expansion Bay with 48Gbps Stack Backplane

**AT-9448Ts/XP-xx**
Layer 3 stackable switch with 48-port 10/100/1000Base-T plus 2 XFPs bays (unpopulated) and memory flash card slot

**Network QoS and IGMP for Video and Voice over IP**
A rich offering of voice and video networking features is incorporated to ensure support for demanding multimedia networking applications

**Key Features**

10 Gigabit Ethernet Support
- Two integrated XFP bays for 10GbE transceiver modules
Electronics Division

IF Distributor
IF Distributor

Ethernet Switch
Timing Module

DBE (1-4)

Maser Room

Computer Room

Mark5 C