DBE Analog inputs

- Each DBE enclosure will have two Samplers
  - 500-1000 MHz inputs sampled at 1024 MHz

The next generation DBEs
- 1024-2048 MHz inputs sampled at 2048 MHz
- 2048-4096 MHz inputs sampled at 4096 MHz
- Or some combination
Teledyne RAD004

- Teledyne purchased the Rockwell Sampler Division

- The RAD004 is used in the EVLA project
  - 3 bit sampler
  - 4.096 GHz clock

- Advertised small signal analog bandwidth - 10 GHz
6 Bit 4 GS/s Analog to Digital Converter

Features

- 6-Bit Resolution
- Up to 4 GS/s Sampling Rate
- Integrated Dual Track and Hold
- 0.5 Vpp Differential Full Scale Range
- 6 GHz Full Power Bandwidth (min)
- DNL: 0.5 LSB
- INL: 1 LSB
- ENOB: 4.5 Typical (DC to 4 GHz)
- No Missing Codes
- LVDS Compatible, Adjustable CML Output
- Grey Code Output
- Over-Range Indicator Output
- Integrated Pseudo Random Pattern Generator
- 2 Clock Cycles Latency
- 88 Pin QFP Package
- 7.5 W Power Dissipation
- 1 to 4 Demultiplexed Binary Output when Coupled with RDX004M4
- ROHS Compliant

Figure 1 - Functional Block Diagram
NEXT WEEK I PLAN TO THINK ABOUT THE OPTION OF USING TECHNOLOGY THAT ISN’T YET AVAILABLE.