

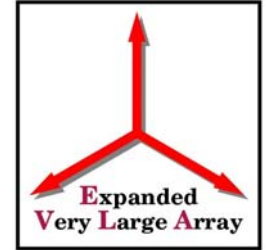
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# EVLA Front-End CDR

## EVLA Low Frequency Receiver Capability



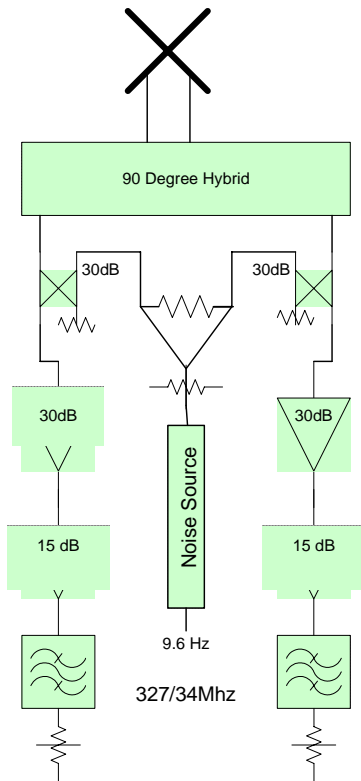
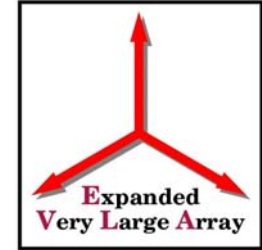
# Low Band Overview



- 
- P-Band
  - 4-Band
  - 2-Band
  - 4-P Converter



# P Band



## 310-344 MHz, 2 channel VLA P-band Receiver (legacy)

Custom cross-dipole, NRAO design, near prime focus—At 290 K.

Commercial wide-band hybrid, quadrature phase shifter—At 290 K.

Cal coupler—At 290 K

Cal source, NoiseCom/MC63147— At 290 K.

LNA, NRAO design—At 290 K,  $T_e=28$  K,  $G=33$  dB

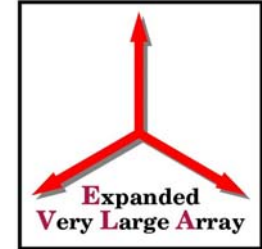
2 outputs at 310 - 344 MHz, -35 dBm

Cryogenics: None.

**Receiver FE NF est=55 K**

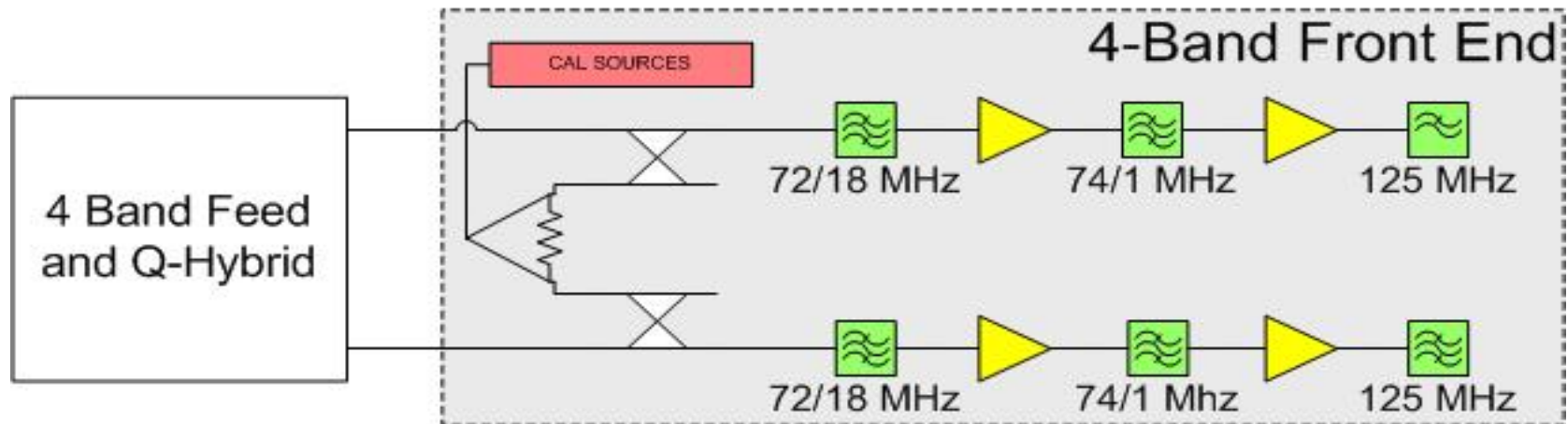


# 4 Band



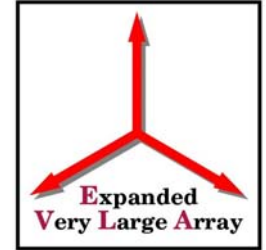
## 73-75 MHz, 2 channel VLA 4-band Receiver (legacy)

Custom cross-dipole, NRL design, near prime focus—At 290 K.  
Commercial wide-band hybrid, quadrature phase shifter—At 290 K.  
Cal coupler—At 290 K  
Cal source, NoiseCom/MC63147– At 290 K.





# SAO 2 Band



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- 196 MHz, 290 K, Feed at Prime Focus
  - Preliminary receivers were tested on five VLA antennas.
  - Currently being redesigned.
  - Any questions, contact:

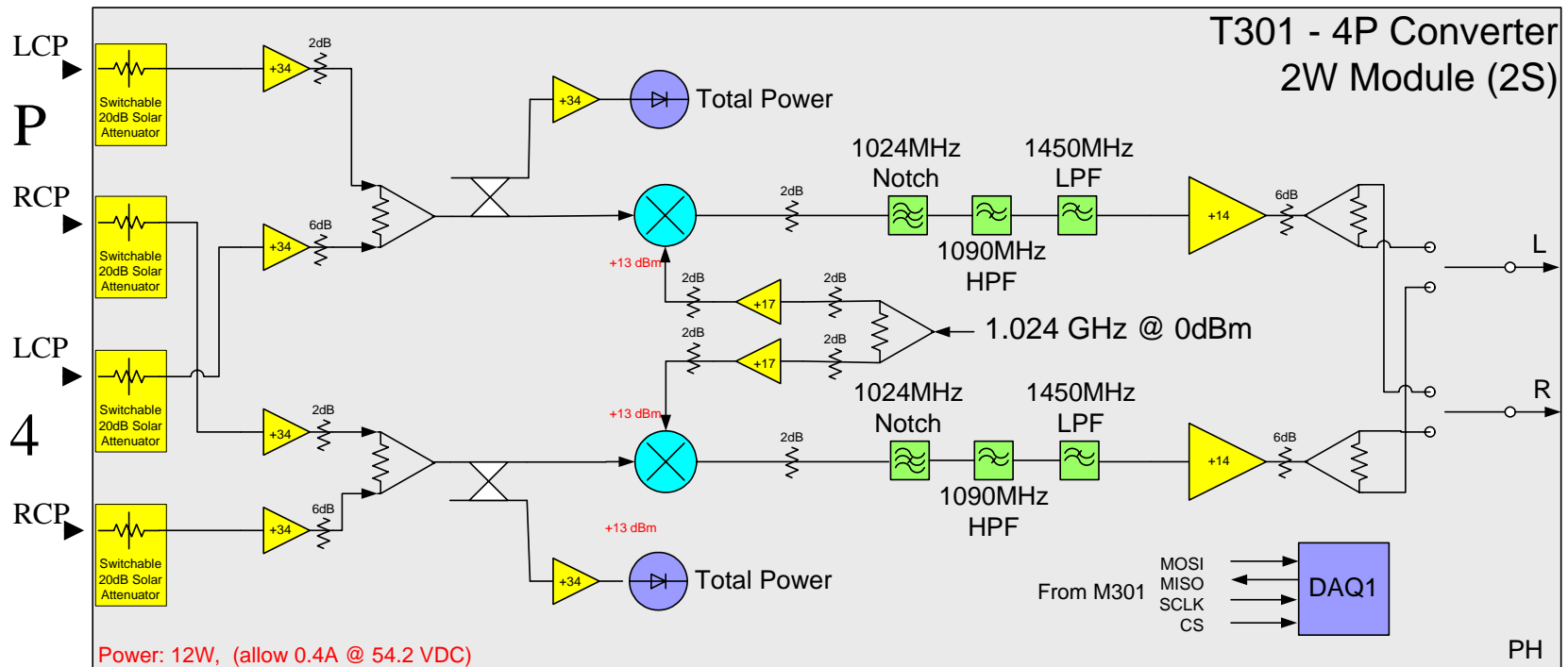
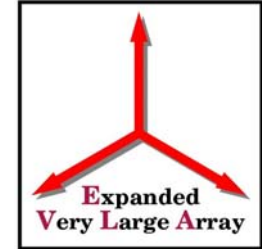
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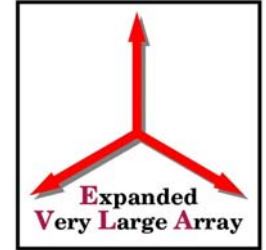
# 4-P Converter



Note: EVLA uses dedicated inputs for both bands.



# Summary



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- Low Band Front Ends are legacy hardware
    - No schedule/cost impact to EVLA
  - 4-P Converter is new
  - 2-Band information included for completeness only, I.E. we are aware