

## P-ALFA and E-ALFA Basic Spectrometer Specifications

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|                          | <b>P-ALFA</b><br><b>(Includes GALFACTS)</b>  | <b>E-ALFA</b>  |
|--------------------------|--|--|
| <b>Analog Input</b>      |  |  |
|                          | 7-beams, 2-pols/beam   | 7-beams, 2-pols/beam   |
|                          | 14 IF signals nominally covering 100-400 MHz   | 14 IF signals nominally covering 100-400 MHz                     |
|                          | 14 channel IF to quadrature baseband converter   | 14 channel IF to quadrature baseband converter                   |
| <b>Sampling</b>          | Four 12-bit 300 MHz ADCs (2 pols, baseband data, I and Q inputs)                         | Four 12-bit 200 MHz ADCs (2 pols, baseband data, I and Q inputs) |
|                          | Sub-banding in 100 MHz, or smaller, bands to cover the 300 MHz                           | Sub-banding in 100 MHz, or smaller, bands to cover the 200 MHz   |
|                          | Flexibility for steering the sub-bands   | Flexibility for steering the sub-bands                           |
| <b>Outputs</b>           |  |  |
|                          | Selectable number (256, 512, 1024, 2048) spectral channels over 300 MHz per polarization | 8192 spectral channels over 200 MHz per polarization             |
|                          | Output bits, 8   | Output bits, 8   |
|                          | Selectable time sampling (16 $\mu$ sec, 32 $\mu$ sec, 64 $\mu$ sec)                      | ~3 msec time sampling for RFI excision-fixed, not selectable     |
|                          | Option for cross products for GALFACTS or polarization summing for pulsars               | Cross products for RFI Identification                            |
|                          | External clock and sync  | External clock and sync  |
|                          | Spectral normalization   | Capability for radar blanking                                    |
| <b>Desirable Options</b> |  |  |
|                          | Capability for reprogrammable polyphase filter shapes should not be excluded             |  |
|                          | Computations done in PC whenever possible  |  |