

# High Level Hybrid Bipolar Pre-amplifier +40 dBm IP<sub>3</sub> 50 to 500 MHz

**Angle Linear**

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These amplifiers were originally developed for NASA and represent the best in Silicon Bipolar Transistor (SBT) amplifier design available today. The use of hybrid combined medium power SBT's provide high dynamic range and give better reliability than single stage amplifiers. These amplifiers have moderate gain to provide a higher system dynamic range. As always, Angle Linear guarantees unconditional stability of every preamplifier we make. Units can be supplied with internal low pass filters (7 section), 0.25 db loss, -55dbc at 2nd harmonic, -75 dbc at 3rd harmonic.

Specify any 50 MHz band, example, Part number HY1318BNE = 130 to 180 MHz or HY1015BNE = 100 to 150 MHz. Gain will be higher at lower end of segment by < 2db.

## typical specifications:

Frequency band	Gain (db)
50 to 100 MHz	24
100 to 150 MHz	21
150 to 200 MHz	19
200 to 250 MHz	18
250 to 300 MHz	17
300 to 350 MHz	16
350 to 400 MHz	15
400 to 450 MHz	13
450 to 500 MHz	12

Gain +/- 1.5 db over any 50 MHz segment

Noise figure: 2.0 dB +/- 0.3 db

return loss in & out: >18 dB

Output: IP3 +40 dBm or better

IP2 +55 dBm or better

Out Comp pt: 1 dB >+28 dBm



Units operate from +12.0 to +16 VDC. Internal voltage regulator allows for operation up to +28 VDC but an external dropping resistor is recommended for voltages above +16VDC. Each amplifier has its own independent bias current regulator. External and internal high voltage transient suppressors provide 40kV, 1 micro sec. pulse protection. Output intercept will be reduced with voltages lower than 13.4 VDC. DC current requirement is typically 130 mA at +13.8 VDC. Filtering on the DC terminal provides >80 dB attenuation from 25 MHz to several GigaHertz.

Construction is rugged: an irradiated aluminum enclosure with stainless steel hardware throughout. Twenty four screws attach the covers and give maximum shielding for the most hostile RF environments.

Connectors (tri-metal) have ptfе (Teflon) dielectric with gold pins and are available in type N, TNC & SMA. Dimensions: 3" x 3.5" x 0.9". Mounting and connector configuration/positions give maximum versatility for rack panel shelf mounting: "E connector" mounting (end) shown, "T" denotes top mounting for higher density packaging (similar to our standard PHEMT (GaAs FET) preamplifiers). These amplifiers are also available in our line of receiver multicouplers. Specify operating voltage.

**P/N example: HY4050BNE, Hi level bipolar, 400 to 500 MHz, end mounted connectors.**

Maximum continuous input power +14 dBm Operating temp & storage = -20 to +70 degrees C

Add LP suffix for low pass filter and specify highest pass frequency needed.

Connectors: N = N, T = TNC, S = SMA. "E" suffix = end mounted, "T" suffix = top mounted

Contact Angle Linear for other frequencies  
http://www.anglelinear.com

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