

PHEMT (GaAs FET) Dual Stage Preamplifiers

Angle Linear

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Angle Linear has been producing GaAs FET preamplifiers for well over two decades. Primarily used in commercial applications, these preamplifiers represent the best of present day technology in receiver front end design. We now use PHEMT devices in our GaAs FET type preamplifiers.

Common port inductance, an integral part of every amplifier design, yields excellent input and output return losses while maintaining the low noise figure characteristics of PHEMT devices and enhancing stability. Angle Linear guarantees unconditional stability of every preamplifier. There are no stability problems when cascading our preamplifiers with Hi-Q band pass filters in repeater and receiver multicoupler applications. Filter-duplexer response curves are not altered by the input and output characteristics.

Useable bandwidth for noise figure, gain and return loss are typically 10 percent at the operating frequency by design. Preamplifiers are available on any frequency up to several GigaHertz.

Output compression level are typically +18 dBm and 3rd order intercept is typically +29 dBm. Higher output level units are available, see our "HY" series of PHEMT preamplifiers.

Noise figure is typically 0.5 dB below 500 MHz, 0.6 dB to 750 MHz and 0.7 db to 1 GHz.

Gain is typically: 38 db at 300 MHz; 35 db at 400 MHz; 33 dB at 500 MHz; 32 db at 600 MHz; 27 dB at 800 MHz; and 25 dB at 950 MHz. Input and output return loss are typically greater than 10 dB. We do not produce this amplifier below 300 MHz as there is too much gain.



Every preamplifier has over and reverse voltage protection. External and internal high voltage transient suppressors provides 40kV, 1 micro sec. pulse protection. Internal voltage regulation permits operation from +11 to +28 VDC. For voltages greater than +18 VDC an external dropping resistor should be employed. Filtering on the DC terminal provides >70 dB attenuation from 20 MHz to several GigaHertz. DC current requirement is typically 100 mA.

Construction is rugged: an irradiated aluminum enclosure with stainless steel hardware throughout. Twenty screws attach the covers and give maximum shielding for the most hostile RF environments. Silver connectors have ptfе (Teflon) dielectric with gold pins and are available in type N, TNC and SMA (ss). Dimensions: 1.5"x 2.5"x 0.7". Mounting and connector positions give maximum versatility for high density rack panel mounting.

To order: specify center frequency of operation (MHz), G suffix for PHEMT, type of connector, Example: 2X813GNT, "T" suffix = top connector mounting, 813 MHz plus and minus 40 MHz from center frequency, GaAs FET (PHEMT) device, N connectors, 10 % band width.
Connectors: N = N, T = TNC and S = SMA

Angle Linear also produces: Hi intercept PHEMT & bipolar preamplifiers, Receiver Multicouplers, Preselectors, Window Filters, Duplexers, Notch Filters, FET preamplifiers, Bias Tees, and does developmental work in receiver front ends.

Specifications subject to change.

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