

Receiver Front End Multi-Component Assemblies



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22 CFR 125.4(b)(13)

A Subsidiary of Comtech Telecommunications

Since 1992 Comtech-Hill has successfully delivered receiver protection and reliable system performance to mission critical systems and sub-systems deployed on ships, missiles, aircraft, ground-fixed and ground mobile platforms. The range of applications includes:

SYSTEM	VEHICLE/PLATFORM	DEVICE TYPE
ESM system	Helicopter	Broadband limiter set
ESM system	Maritime Helicopter	Broadband limiter set
Situational awareness	Fixed and tilt rotor	Broadband switch-limiter
ESM system	AEW platform	Suite of control devices
Maritime surveillance	Turboprop plane	Broadband limiter set
Airport defense	Fire control radar	Limiter
EW defensive system	Naval warships	Limiter/switch
D&D	New Air defense radar	Receiver protector

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Task: Design a receiver front-end for your system that must survive broad band high power threats from external jammers; “fly-by” emitters and host platform signals. Integrate high power receiver protection and low-noise amplifier to reduce overall noise figure and VSWR interactions. Survive kilowatt threats in a changing RF environment.

Solution: A custom designed multi-component assembly from Hill Engineering division of Comtech PST, offering single contractor responsibility for design, layout, testing (including high incident power testing,) environmental stress screening and adherence to schedule.

Example: see the next slide.....

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The system: Airborne radar operating in the 9.4-10.4 GHz band

Receiver module required: Pass signals in the 9.4-10.4 GHz range with maximum noise figure of 2.9 dB and 13 dB Gain, P1 of 16 dBm. Build in threat protection from signals anywhere in the 6-18GHz range that vary from a few Watts to more than a kilowatt at pulse widths up to 50 microseconds.

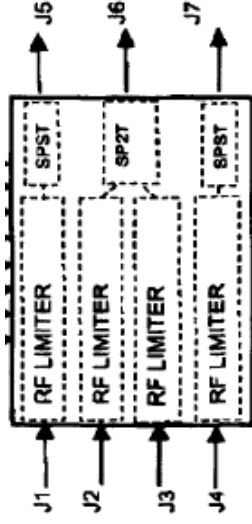
Solution: Comtech-hill high power limiter with integrated Low Noise Amplifier in a 0.5 x 0.62 x 2.2 inch package. The module is SMA ported, requiring only one +5V power input @ 30 mA.



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.....A FEW OF OUR OTHER RECEIVER RELATED APPLICATIONS:

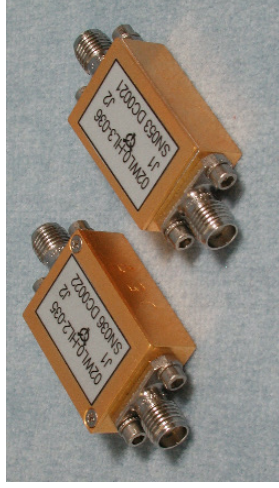


The device shown above contains a 1KW high power limiter followed by a switch and switch driver in each of four bands: 0.5-2 GHz; 2-6 GHz and 6-18 GHz, all in a single 2.5 x 1.5 x 0.75 inch package

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.....A FEW OF OUR OTHER RECEIVER RELATED APPLICATIONS:



Limiter-switch for shipboard EW system. (right)

Limiter set protecting a very sensitive Receiver from 0.4 to 18 GHz in two bands Including 1KW long pulse in mid-band (left)



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COMTECH-HILL OFFERS RECEIVER CUSTOMERS:

- **Broadband receiver protectors – Kilowatt threats at long pulse widths**
- **Multiple limiters and switches in compact packages**
- **Complete receiver front ends with LNA**
- **Design, Qualification, Full power testing**
- **Dedication to schedule**
- **Stability of a major company in the industry**

.....What can we design for you?

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