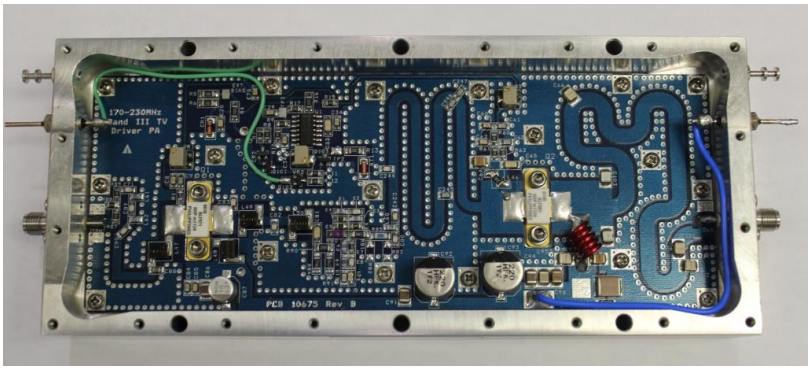
Broadcast Concepts Inc
11700 NW 102nd Road Suite 4 Miami FL 33178
Tel: 305-887-8400: Fax 305-887-8444 email:rfengineer@broadcastconcepts.com

Model: VHFTV3-25D-40-50V TV Pallet Amplifier Module

This amplifier module is ideal for driver and final output stages in analog and digital TV broadcast equipment.

- **170– 230MHz**
- **50Volts**
- **36dB gain typical.**
- **25W DVB-T**
- **30W 8VSB**
- **Thermal Tracking Bias**
- **NXP 50V LDMOS Devices**
- **CNC milled 6061 T6 housing.**
- **Made in the USA**



Dimension (L x W x H inch) [7.0” x 3.0” x 1.1”]

Electrical Specifications				
Characteristics	min	typ	max	unit
Operating Frequency range	170		230	MHz
Power Input		7.0	12.0	dbm
Input return loss	-15	-18		dB
Power Gain	35	36	38	dB
Frequency response flatness (S21)	+/- 1	+/- 1.5	+/- 1.8	dB
Collector Current @ 30W 8VSB		2.0	2.2	A dc
Supply Voltage		50		V dc
Insertion Phase variation (unit to unit)		+/-5.0		degrees
Power gain (unit to unit)		+/-1.5		dB
Two Tone IMD; 25W pep 1MHz sp		TBD		dBc
F2 Second Harmonic		TBD		dB
F3 Third Harmonic		TBD		dB
Bias Current: Q1 BLF574		100		ma
Bias Current: Q2 BLF881		700		ma
DVB-T Power		25		W
8VSB Power		30		W
Analog Power (peak sync)		40		W
Housing Temp	-40		+70	C

Maximum Digital RF output specifications are specified without pre-correction. At maximum output DVB-T shoulder performance is -30dbc and 8VSB performance is -47dBc.

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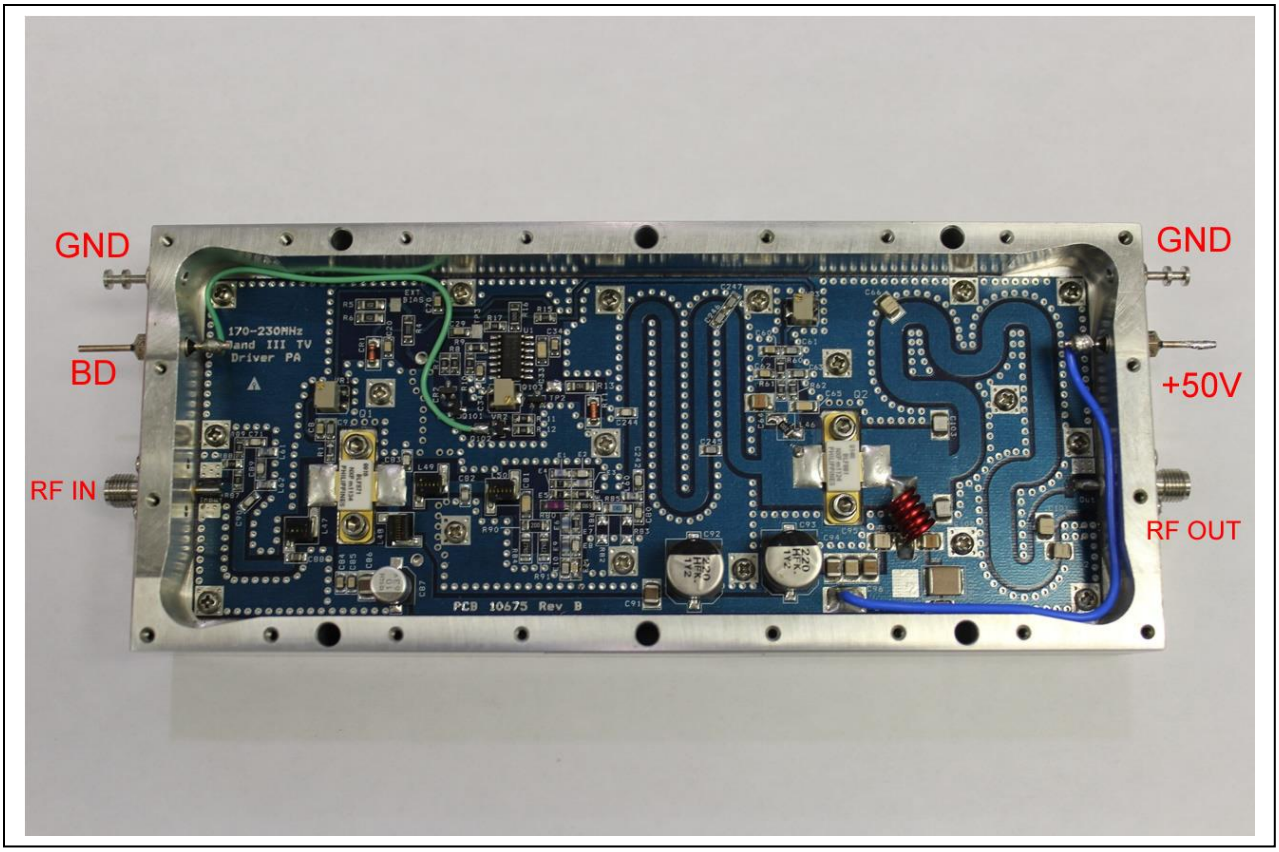
Electrical Connections



RF input and RF output are SMA female type.

BD is a bias inhibit pin. Applying a voltage greater than 2.2V will turn off the bias to the module. The BD pin was intended to accept a TTL HI input. Allowing the BD pin to float (no connection) is the normally working state.

The module should be installed on a heat sink with (6) 6-32 screws or Metric equivalent. There are 6 mounting holes 0.156 inches in diameter for this purpose.

The amplifier lid cover has been removed for illustration purposes. In normal operation the lid cover should always be installed.

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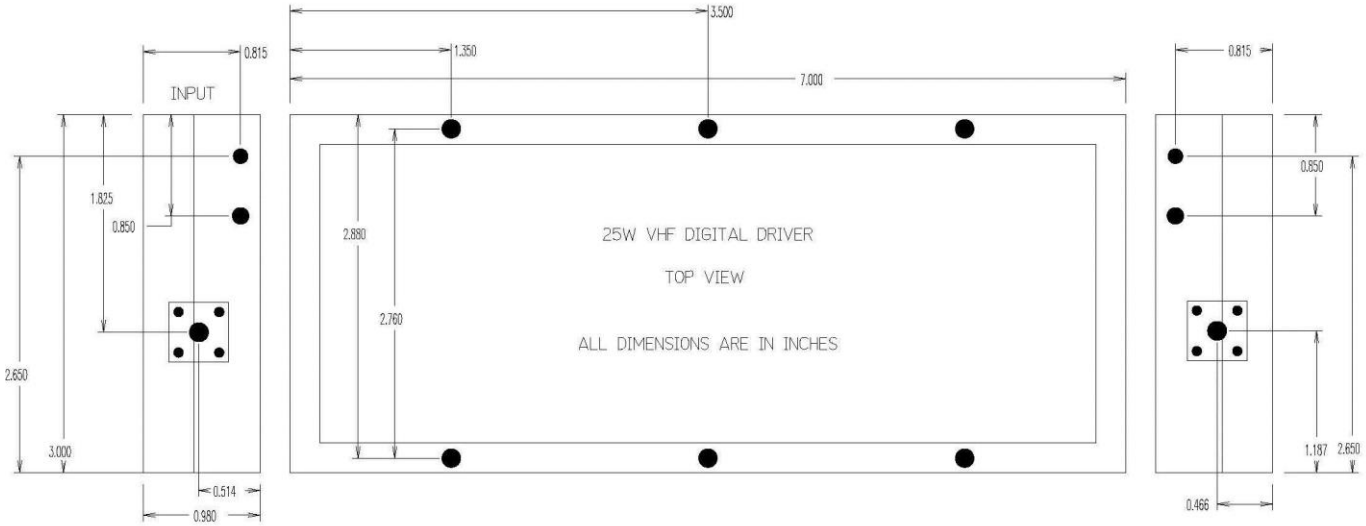
Mechanical Drawing: Figure 1



DXF Drawing link: http://broadcastconcepts.com/80watt/VHF25/CAP30ENC_DWG.DXF

Heatsink Mounting/Hardware

Tips for Mechanical Mounting:

1 All 6 mounting holes are 0.156 inch thru and they are deigned for a #6 Screw. Stainless Steel mounting hardware is recommended, grade 18-8 or better. A lock washer of same material should also be used.
2 Ensure mounting surface is flat to better than 0.0025”
3 Use a thin layer of thermal compound on the backside of the PA - no more than 0.001” - 0.002” thickness!
4 Torque all screws to 10-12 in-lbs

Warning: Failure to use a proper heat sink will cause the transistors to burn out. This type of failure is not covered by warranty. This product can be ordered with a custom heat sink. Please contact factory for more information.

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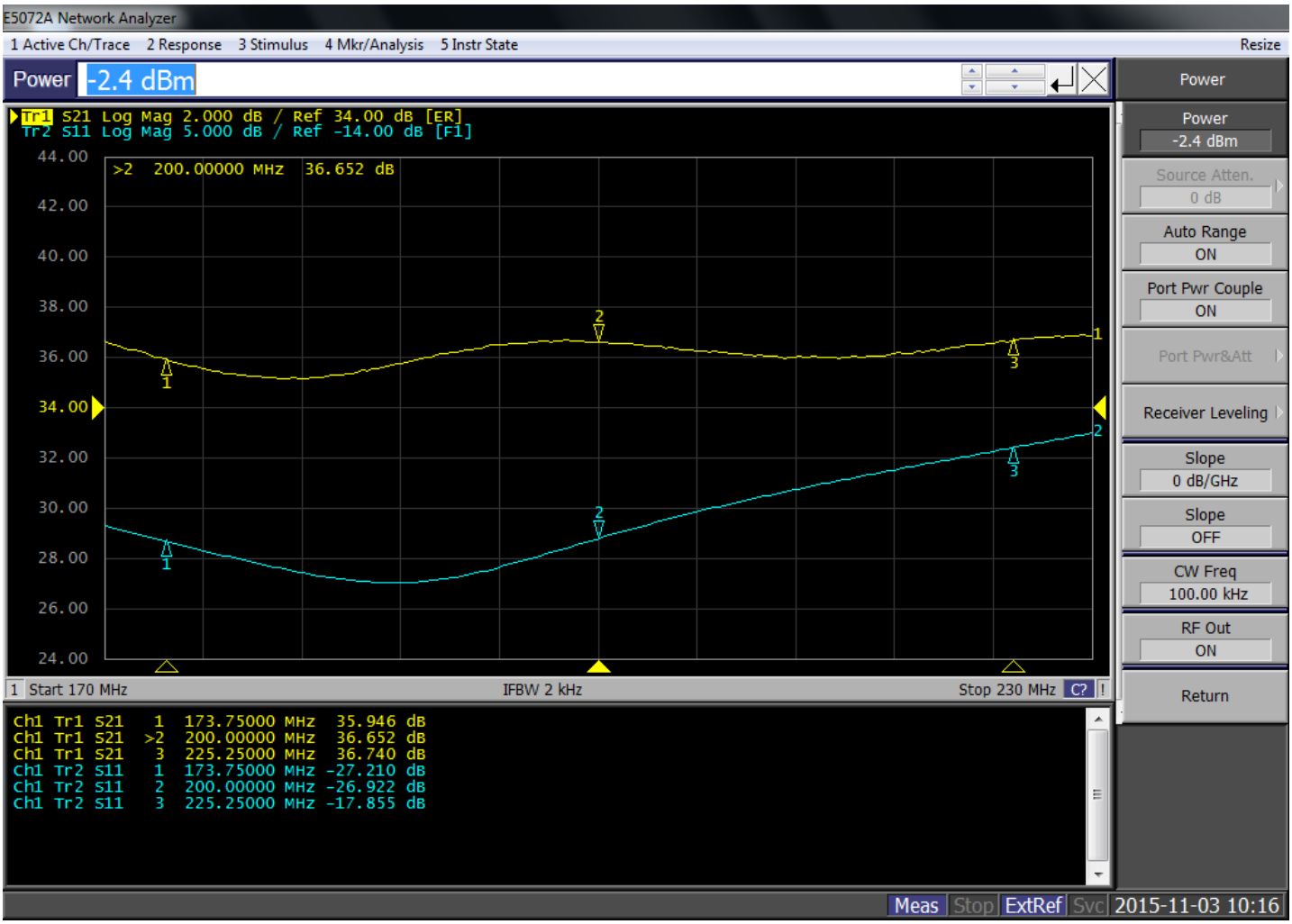
Typical small signal RF response showing S21 and S11



Warning: **Solid state amplifiers can be easily destroyed! Operating the amplifier outside of its specifications will cause the mosfets to fail. These failures are not covered by warranty.**

- Do not over drive the amplifier.
- Do not run the amplifier into an open circuit. Do not run the amplifier when the SWR is unknown. System integrator must foresee adding VSWR protection if there is a risk that the amplifier will be subjected to high VSWR conditions.
- Do not let the amplifier housing temp exceed 70C or operate without a heat sink.