

## Model P155FM17 FM Pallet Amplifier Module

This amplifier module is ideal for final PA stages in analog FM broadcast equipment.

- **86– 110MHz**
- **48Volts**
- **Pout: 165W peak**
- **17dB Gain Class B**
- **Field proven NXP BLF177**
- **Made in the USA**



Dimension (L x W x H inch) [4.50" x 2.25" x 0.75"]

Absolute Maximum Ratings			
Symbol	Parameter	Value	Unit
Vs	Drain voltage supply	52	V DC
Is	Supply Current	5.5	A dc
VSWR	Load Mismatch (All phase angles, Id=5A)	10 to 1	
Tc	Base plate operating temperature	0 to +60C	Celsius
RF IN	RF Input	4.0	Watts

Electrical Specifications: 48VDC 15ma bias 25C				
Characteristics	min	typ	max	unit
Operating Frequency range	86		110	MHz
Power Input		3	4	Watts
Input return loss (88-98)		-10	-8	dB
Input return loss (98-108)		-12	-10	dB
Collector Efficiency @ 150W	70	73		%
Supply Voltage		48	52	V dc
Insertion Phase variation (unit to unit)		+/-5.0		degrees
Power gain (unit to unit)		+/-0.5		dB
F2 Second Harmonic	-28	-23	-20	dB
F3 Third Harmonic		-50		dB
Bias Current:		15		ma

## Heatsink Mounting/Hardware

### **Tips for Mechanical Mounting:**

- 1 All mounting holes are designed 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 reduce product service life and may 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.

### Bias Settings:

The factory bias settings are 15ma @ 48V for the BLF177 mosfet. This bias setting offers a good compromise between efficiency and harmonic performance.

### Applications:

This product is marketed for use in manufacturing and repairing FM transmitter equipment.

### Notice:

This product represents a major design update to our BLF177 pallet. This design offers the following improvements over the last version:

- (1) Elimination of low frequency gain. The pallet can now drive any load at any power level without risk of spurious output. (Driving loads in excess of 2:1 is not recommended)
- (2) 2db higher gain. Since the feedback is no longer necessary for stability the gain has increased. In the old design feedback was used to attenuate low frequency gain.
- (3) 10% higher efficiency.
- (4) Higher output power. Peak saturated power is 180W compared to 160W on the old version.

There is only 1 specification that has been degraded. Input return loss was typical -15dB on the old version. Input return loss is -10db typical but it can be as high as -8dB at low end of the band. Most exciters should still have no problem driving this pallet; however, when a low quality exciter is used it may be necessary to install a 3dB attenuator at the output of the exciter.