

Leadership by tradition.



## COMMERCIAL PRODUCT SUMMARY

THE LEADER IN  
RF POWER AMPLIFIERS

MOBILE AMPLIFIERS - REPEATER/BASE STATION AMPLIFIERS

# TPL COMMUNICATIONS

**TPL Communications began as an RF Power Amplifier manufacturer in 1971, producing catalog products. Continued growth required several moves to larger facilities. The company is presently located in new facilities in Los Angeles, and will require additional space in the very near future.**

**The key to such success has been an emphasis on ensuring that all customers receive the exact type of equipment to fit their requirements. A TPL product can be custom designed and manufactured for any application, from mass produced items, to a single model tailored to fit any customer's needs. It is this versatility that has ensured that TPL Communications experiences a consistent growth each year.**



**TPL's line contains a wide variety of power amplifiers including:**

- **Mobile Amplifiers**
- **Base Station Amplifiers**
- **Repeater Amplifiers**
- **Cellular Amplifiers**
- **Mobile Amplifier Chargers**

**The demand for special types of amplifiers continues to grow each year. To meet this demand, TPL has added the most experienced engineers and technical people in their field, along with implementing state-of-the-art production and test equipment, to ensure delivery of the finest quality products.**

**TPL Communications has over 2,000 customers world wide, and is proud to have several of the largest and most respected communications companies in the world as clients. These include:**

**Motorla / Ericsson / Securicor/ Boeing / E.F. Johnson  
NASA / Point Mugu / U.S. Navy / Harris / Lockheed Martin  
Jet Propulsion Laboratory / Kenwood**

**It is the mission of the company to continue to provide its customers with the finest quality products available.**

# HMS HIGH POWER AMPLIFIER SYSTEM



The HMS Series is designed to provide high power output from VHF low band through 960 MHz. It is manufactured for rugged use while combining the latest technology into a space efficient package. These units are totally self-contained with a regulated switching power supply, using only 10 1/2" of vertical rack space and 15" of depth. Internal circuitry monitors several parameters of the amplifier, including forward and reflected power.

The HMS has been mechanically redesigned, making it even more functional. Input and output connectors are located on the rear of the unit making it easier to connect coaxial cables.

Dimensions: 19" W x 10 1/2" H x 15" D. Wt. 45 lbs.

## MODEL

## POWER IN

## POWER OUT

### VHF LOW BAND (35-50 MHz)

PA1-3AF-HMS	2-4W	300W
PA1-3BF-HMS	4-8W	300W
PA1-3CF-HMS	8-15W	300W
PA1-3DF-HMS	15-25W	300W
PA1-3FF-HMS	25-35W	300W
PA1-3GF-HMS	35-70W	300W

### VHF HIGH BAND (136-174 MHz)

PA3-2EF-HMS	250mW-1W	250W
PA3-2AF-HMS	1-2W	250W
PA3-2BF-HMS	2-4W	250W
PA3-2CF-HMS	5-10W	250W
PA3-2FF-HMS	10-15W	250W
PA3-2GF-HMS	20-30W	250W
PA3-2EG-HMS	500mW-2W	500W
PA3-2AG-HMS	2-4W	500W
PA3-2BG-HMS	4-8W	500W
PA3-2CG-HMS	10-20W	500W
PA3-2FG-HMS	25-35W	500W
PA3-2GG-HMS	50-70W	500W

### UHF BAND (400-512 MHz)

PA6-2EF-HMS	75-150mW	300W
PA6-2BF-HMS	5-12W	300W
PA6-2GF-HMS	20-45W	300W

### UHF HIGH BAND (806-960 MHz)

PA8-2EG-HMS	100mW	250W
PA8-2EG3-HMS	200mW	250W
PA8-2EG6-HMS	400mW	250W
PA8-2BG-HMS	3-6W	250W
PA8-2BG3-HMS	7-12W	250W
PA8-2BG6-HMS	13-24W	250W
PA8-2DG-HMS	35-50W	250W

# LMS HIGH POWER AMPLIFIER SYSTEM



**T**he LMS Series of RF Power Amplifiers is designed to provide medium power output levels up to 150 watts in the 35 MHz to 960 MHz range. It is totally self-contained with a regulated switching power supply, front panel meter for amplifier monitoring, three cooling fans, and SWR and temperature protection circuitry. It is designed for continuous duty operation in a 7" high rack mount configuration.

Dimensions: 19" W x 7" H x 11" D.  
Wt. 18 lbs.

<u>MODEL</u>	<u>POWER IN</u>	<u>NOMINAL POWER OUT</u>
<u><b>VHF LOW BAND (35-50 MHz)</b></u>		
PA1-1CF-LMS	5-15W	100W
PA1-1FE-LMS	10-30W	100W
<u><b>VHF HIGH BAND (136-174 MHz)</b></u>		
PA3-1EE-LMS	250-500mW	150W
PA3-1EE3-LMS	500mW-1W	150W
PA3-1AE-LMS	2.5-5W	150W
PA3-1AE3-LMS	5-10W	150W
PA3-1DE-LMS	10-20W	150W
PA3-1FE-LMS	25-50W	150W
PA3-1FE3-LMS	50-70W	150W
<u><b>UHF BAND (400-512 MHz)</b></u>		
PA6-1EE-LMS	100-250mW	100W
PA6-1AE-LMS	1-4W	100W
PA6-1BE-LMS	8-15W	100W
PA6-1FE-LMS	25-40W	100W
<u><b>UHF HIGH BAND (806-960 MHz)</b></u>		
*PA8-1ED-LMS	50-150mW	80W
PA8-2EF-LMS	100mW	125W
PA8-2EF3-LMS	200mW	125W
PA8-2EF6-LMS	400mW	125W
*PA8-1AC-LMS	2-5W	80W
PA8-2BF-LMS	3-6W	125W
*PA8-1DD-LMS	5-15W	80W
PA8-2BF3-LMS	7-12W	125W
PA8-2BF6-LMS	13-24W	125W
*PA8-1FD-LMS	20-35W	80W
PA8-2DF-LMS	35-50W	125W

\*Available 806-869 MHz only.





**T**he TMS Series of RF Power Amplifiers is the latest innovation in space saving technology. This series is similar to the very popular LMS Series, however TPL has engineered this unit to produce up to 150 watts output power in a package using only 3 1/2" of vertical rack space. It will accept any TPL amplifier from 35 MHz to 960 MHz. It is totally self-contained, with a regulated switching power supply, a front panel bar graph indicator for forward and reflected power monitoring, SWR and over temperature protection circuitry, and four cooling fans for continuous duty operation. Dimensions: 19" W x 3 1/2" H x 17" D. Wt. 20 lbs.

<u>MODEL</u>	<u>POWER IN</u>	<u>NOMINAL POWER OUT</u>
<u>VHF LOW BAND (35-50 MHz)</u>		
PA1-1CF-TMS	5-15W	100W
PA1-1FE-TMS	10-30W	100W
<u>VHF HIGH BAND (136-174 MHz)</u>		
PA3-1EE-TMS	250-500mW	150W
PA3-1EE3-TMS	500mW-1W	150W
PA3-1AE-TMS	2.5-5W	150W
PA3-1AE3-TMS	5-10W	150W
PA3-1DE-TMS	10-20W	150W
PA3-1FE-TMS	25-50W	150W
PA3-1FE3-TMS	50-70W	150W
<u>UHF BAND (400-512 MHz)</u>		
PA6-1EF-TMS	100-250mW	100W
PA6-1AE-TMS	1-4W	100W
PA6-1BE-TMS	8-15W	100W
PA6-1FE-TMS	25-40W	100W
<u>UHF HIGH BAND (806-960 MHz)</u>		
*PA8-1ED-TMS	50-150mW	80W
PA8-2EF-TMS	100mW	125W
PA8-2EF3-TMS	200mW	125W
PA8-2EF6-TIMS	400mW	125W
*PA8-1AC-TMS	2-5W	80W
PA8-2BF-TMS	3-6W	125W
*PA8-1DD-TMS	5-15W	80W
PA8-2BF3-TMS	7-12W	125W
PA8-2BF6-TMS	13-24W	125W
*PA8-1FD-TMS	20-35W	80W
PA8-2DF-TMS	35-50W	125W

\*Available 806-869 MHz only.

RXR SERIES



The RXR series is a family of reliable, cost effective continuous duty amplifiers. This series will accept any TPL amplifier from low band through 960 MHz, with output levels up to 150 watts. If conditions warrant, a cooling fan will be added. On 800-960 MHz models with output levels of 80 watts or higher, the cooling fan is standard. The series has four configurations, the dimensions of which are listed above. The "F" designation in the model number indicates a cooling fan, and the "PS" designation indicates a self contained switching power supply.

<u>MODEL</u>	<u>POWER IN</u>	<u>POWER OUT</u>	<u>CURRENT DRAIN</u>
<u>Low Band (35-50 MHz)</u>			
PA1-1AC-RS	1-4W	20-40W	8 Amps
PA1-1AC3-RS	4-8W	20-40W	8 Amps
PA1-1AE-RXRF	1-4W	80-120W	18 Amps
PA1-1CF-RXRF	5-15W	80-120W	16 Amps
PA1-1FE-RXRF	15-30W	80-120W	16 Amps
<u>VHF Mid Band (66-88 MHz)</u>			
PA2-1AD-RXRF	1-4W	60-100W	14 Amps
PA2-1CD-RXRF	5-25W	40-100W	14 Amps
<u>VHF High Band (136-174 MHz)</u>			
PA3-1AB-RS	1-5W	12-40W	6 Amps
PA3-1AC-RS	1-4W	30-45W	8 Amps
PA3-1AC3-RS	4-8W	30-45W	8 Amps
PA3-1DC-RS	8-15W	30-45W	6 Amps
PA3-1EE-RXRF	100-250mW	90-150W	24 Amps
PA3-1AE-RXRF	1-2.5W	80-150W	20 Amps
PA3-1AE3-RXRF	2.5-5W	80-150W	20 Amps
PA3-1DE-RXRF	8-15W	80-150W	16 Amps
PA3-1FE-RXRF	15-25W	80-150W	14 Amps
PA3-1FE3-RXRF	25-50W	80-150W	14 Amps
PA3-1FF-RXHF3	8-15W	200-250W	37 Amps
PA3-1GF-RXHF3	20-70W	140-250W	28 Amps

<u>MODEL</u>	<u>POWER IN</u>	<u>POWER OUT</u>	<u>CURRENT DRAIN</u>
<u>UHF Band (400-512 MHz)</u>			
PA6-1AB-RS	1-4W	10-25W	4 Amps
PA6-1AC-RS	1-4W	25-50W	8 Amps
PA6-1AC3-RS	4-8W	25-50W	8 Amps
PA6-1BC-RS	8-15W	25-50W	7 Amps
PA6-1EE-RXRF	75-150mW	70-100W	24 Amps
PA6-1AE-RXRF	1-4W	70-100W	20 Amps
PA6-1BE-RXRF	8-15W	70-100W	16 Amps
PA6-1FE-RXRF	25-40W	60-100W	15 Amps
<u>UHF High Band (806-869 MHz)</u>			
PA8-1EB-RS	150-250mW	20-35W	8 Amps
PA8-1AA-RS	1-3W	10-20W	5 Amps
PA8-1AB-RS	2-5W	20-35W	7 Amps
PA8-1ED-RXRF	50-150mW	60-80W	20 Amps
PA8-1AC-RXRF	1-5W	35-75W	16 Amps
PA8-1DD-RXRF	5-15W	60-80W	18 Amps
PA8-1FD-RXRF	20-40W	60-80W	14 Amps

## PACKAGING OPTIONS REPEATER/BASE APPLICATIONS



RS Package

19" extruded aluminum heat sink for rack panel mounting. Includes RF tight amplifier enclosure for continuous duty up to 50 watts.

19" W x 5 1/4" H x 3" D. WT. 6 lbs.



RXHF3 Package

This extra large rack mountable unit is designed for output application as follows: Low Band up to 300 watts, High Band up to 500 watts, UHF up to 300 watts, and 806-960 MHz up to 250 watts. Thermostatically controlled cooling fans are standard. Optionally available with attached power supply.

19" W x 14" H x 7" D. WT. 26 lbs.

# MOBILE AMPLIFIERS

<u>Model</u>	<u>Power In</u>	<u>Power Out</u>	<u>Package Size</u>	<u>Weight</u>
<b>VHF LOW BAND (35-50 MHz)</b>		All Low Band Units will tune to any frequency between 35 and 50 MHz with $\pm 1$ MHz maximum bandwidth.		
PA1-1AC	1 - 4 W	20 - 40 W	A	2 lbs.
PA1-1AC3	4 - 8 W	20 - 40 W	A	2 lbs.
PA1-1AE	1 - 4 W	80 - 120 W	C	4 lbs.
PA1-1CF	5 - 15 W	80 - 120 W	C	4 lbs.
PA1-1FE	15 - 30 W	80 - 120 W	C	4 lbs.
<b>VHF MID BAND (66-88 MHz)</b>		$\pm 2$ MHz Bandwidth (for export only - not type accepted)		
PA2-1AD	1 - 4 W	60 - 100 W	C	4 lbs.
PA2-1CD	5 - 25 W	40 - 100 W	C	4 lbs.
<b>VHF HIGH BAND (136-174 MHz)</b>		All VHF High Band Amplifiers with the exception of the PA3-1FF and PA3-1GF models are broadband and normally cover 150-174 MHz. Specify if a frequency below 150 MHz is required.		
PA3-1AB	1 - 5 W	12 - 40 W	A	2 lbs.
PA3-1AC	1 - 4 W	30 - 45 W	B	3 lbs.
PA3-1AC3	4 - 8 W	30 - 45 W	B	3 lbs.
PA3-1DC	8 - 15 W	30 - 45 W	A	2 lbs.
PA3-1AE3	1 - 3 W	70 - 140 W	C	4 lbs.
PA3-1AE6	3 - 6 W	70 - 140 W	C	4 lbs.
PA3-1DE	8 - 15 W	70 - 140 W	C	4 lbs.
PA3-1FE	20 - 40 W	70 - 140 W	C	4 lbs.
PA3-1FF	8 - 15 W	200 - 250 W $\pm 5$ MHz	D	5 lbs.
PA3-1GF	20 - 70 W	140 - 250 W $\pm 5$ MHz	D	5 lbs.
<b>UHF (400-512 MHz)</b>		All UHF Amplifiers have a minimum bandwidth of $\pm 10$ MHz from Specified frequency. Minimum 100 watt output is available on special order.		
PA6-1AB	1 - 4 W	10 - 25 W	A	2 lbs.
PA6-1AC	1 - 4 W	25 - 50 W	C	4 lbs.
PA6-1AC3	4 - 8 W	25 - 50 W	C	4 lbs.
PA6-1BC	8 - 15 W	25 - 50 W	A	2 lbs.
PA6-1AE	1 - 4 W	70 - 100 W	D	5 lbs.
PA6-1AE3	4 - 8 W	70 - 100 W	D	5 lbs.
PA6-1BE	8 - 15 W	70 - 100 W	D	5 lbs.
PA6-1FE	15 - 40 W	60 - 100 W	D	5 lbs.
<b>UHF HIGH BAND (806-869 MHz)</b>		All of these mobile amplifiers have a minimum bandwidth of 15 MHz. Some units are available with 60 MHz bandwidth. Please inquire.		
PA8-1AA	1 - 3 W	10 - 20 W	A	2 lbs.
PA8-1AB	2 - 5 W	20 - 35 W	C	4 lbs.
PA8-1AC	1 - 5 W	35 - 75 W	D	5 lbs.
PA8-1DD	5 - 15 W	60 - 80 W	D	5 lbs.
PA8-1FD	20 - 40 W	60 - 80 W	D	5 lbs.

1. TPL Commercial Amplifiers are type accepted under Parts 22 and 90. In addition, some Amplifiers are also type accepted under Part 95.
2. Please include transmit frequency and radio power to enable TPL to tune amplifier for optimum performance.



## PACKAGE A

7.5" L x 2.2" H x 3.7" W

## PACKAGE C

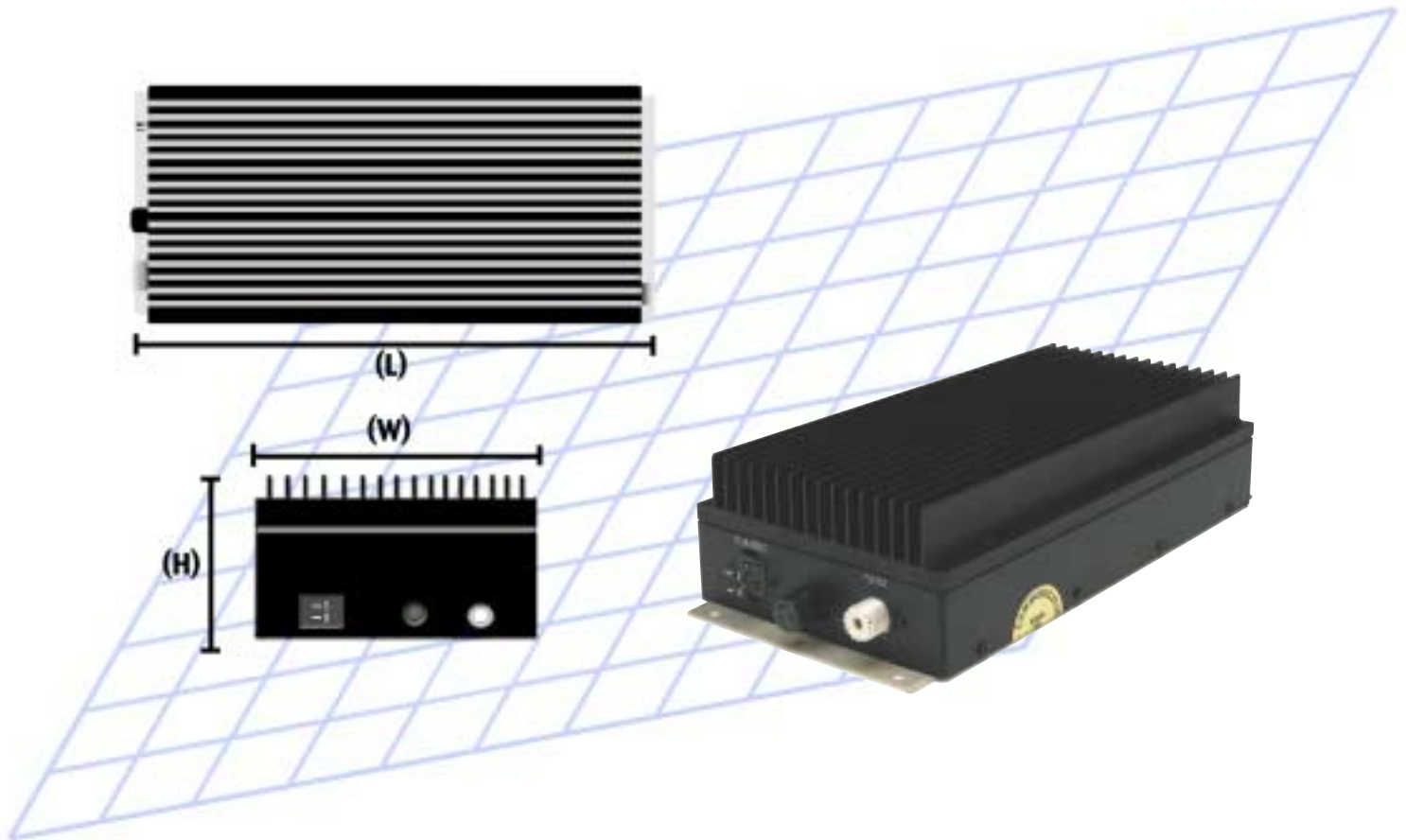
9.5" L x 3.0" H x 4.5" W

## PACKAGE B

7.6" L x 3.0" H x 4.5" W

## PACKAGE D

11.6" L x 3.0" H x 5.5" W



## GENERAL FEATURES

1. Standard voltage is 13.8 VDC. 28 volts is available for most models. 110 or 220 VAC is standard on rack mount packages with power supplies.
2. Most mobile amplifiers may be tuned for broadband operation. Repeater and Base Station amplifiers are preferably tuned to frequency.
3. All items shown are standard - Please inquire for information on special designs, e.g.; low input drive, higher output, other frequencies.
4. Carrier operated relay is standard on all mobile amplifiers, optional on Base Station Amplifiers, and not supplied on Repeater Amplifiers. All mobile amplifiers are available in continuous duty, rack mount versions. Please see packaging options page for option selection.
6. UHF connectors are standard on all mobile amplifiers through 512 MHz. Type N connectors are standard on 800-960 MHz units and all continuous duty units. Other connectors are optional.
7. Solid state switching relays are standard on all mobile 806-869 MHz units. Please inquire on availability of these types of relays for other frequencies. Mechanical relays are standard on mobile units up to 512 MHz.
8. All power specifications are nominal.
9. Specifications subject to change without notice.

# TPL DISTRIBUTORS

## **AF COMM SUPPLY**

11500 W. 90th Street  
Overland Park, KS 66214  
Phone: 913-492-6212  
FAX: 913-492-2948  
(800)-255-6222  
[www.afcommsupply.com](http://www.afcommsupply.com)

## **ELECTRO-COMM DISTRIBUTING, INC.**

4950 Oakland Street  
Denver, CO 80239  
FAX: 303-371-8158  
(800) 525-0173  
[www.electro-comm.com](http://www.electro-comm.com)

## **ELECTRO-COMM WEST, INC**

7131 Hayvenhurst Avenue  
Van Nuys, CA  
Phone: 818-994-4455

## **EPCOM**

1630 Paisano Drive  
El Paso, TX 79901  
Phone: 915-533-5119  
FAX: 915-542-4701  
[www.epcom.net](http://www.epcom.net)

## **GRAHAM RADIO**

505 Main Street  
Reading, MA 01867  
Phone: 781-944-4000  
FAX: 781-944-6230  
[www.grahamradio.com](http://www.grahamradio.com)

## **HUTTON**

2520 Marsh Lane  
Carrollton, TX 75006  
Phone: 214-239-0580  
FAX: 214-239-5264  
[www.hutton.com](http://www.hutton.com)

Atlanta, GA  
Chicago, IL  
Dallas, TX  
Denver, CO  
Harrisburg, PA  
Los Angeles, CA  
Seattle WA  
Phone: 800-442-3811

Canada  
Calgary  
Toronto  
Phone: 800-265-8685  
FAX: 800-255-9414

## **MARKETRONICS**

320 International Parkway  
Sunrise, FL 33325  
Phone: 800-845-1230  
[www.marketronics.com](http://www.marketronics.com)

## **PRIMUS ELECTRONICS**

18424 I-55, W Frontage Road  
Joliet, IL 60435  
Phone: 815-436-8945  
FAX: 815-436-8954  
800-435-1636  
[www.primuselectronics.com](http://www.primuselectronics.com)

Seattle, WA  
Phone 800-279-8306

## **SANTA FE DISTRIBUTING**

9640 Legler Road  
Lenexa, KS 66219  
Phone: 913-492-8288  
FAX: 913-894-2136

## **SYSCOM**

Av 20 de Noviembre No. 805  
Chihuahua, Mexico  
Phone: 011 521 415-2525  
FAX: 011 521 416-4298  
[www.syscom.com.mx](http://www.syscom.com.mx)

## **TALLEY COMMUNICATIONS**

12866 Ann Street  
Santa Fe Springs, CA 90670  
Phone: 562-906-8000  
FAX: 562-906-8080  
800-949-7099  
[www.talleycommunications.com](http://www.talleycommunications.com)

Hayward, CA 94045  
Phone: 510-783-2111  
FAX: 510-783-2118  
800-223-4949

San Diego, CA 92121  
Phone: 619-546-0355  
FAX: 619-546-0387  
800-494-7059

Phoenix, AZ 85009  
Phone: 602-353-8200  
FAX: 602-353-0111  
800-949-7069

## **TEDI**

4289 Dow Road 3102  
Melbourne, FL 32934  
Phone: 407-259-2711  
FAX: 407-242-3109  
800-729-8334  
[www.radiodata-com/tedi/](http://www.radiodata-com/tedi/)

## **TESSCO**

11126 McCormick Road  
Hunt Valley, MD 21031  
Phone: 410-472-7000  
FAX: 410-472-7575  
800-472-7373  
[www.tessco.com](http://www.tessco.com)



## Warranty

TPL warrants that each product is free from defects in material and workmanship. If found to be defective within period specified below, the factory, at its discretion, will either repair or replace the unit at no cost, provided the unit is delivered by the owner to the factory intact, and if examination discloses, in the factory's judgement, that it is defective under warranty. **ALL MOBILE AMPLIFIERS CARRY A FIVE-YEAR WARRANTY. ALL HMS, LMS, TMS, & RXR SERIES AMPLIFIERS CARRY A TWO-YEAR WARRANTY.**

We reserve the right to alter specifications or design without notice. In Special critical application, please consult with the manufacturer.

This publication is used to provide an outline of specifications of the Products shown. It is not to form an order or contract or be regarded as a representation of the product unless agreed to in writing by the company.



*We will build to your specifications  
call (800) HI POWER*

Leadership by tradition.

**TPL**  
COMMUNICATIONS

3370 San Fernando Road, #206 • Los Angeles, CA 90065-1437  
(323) 256-3000 • (800) HI POWER • FAX (323) 254-3210  
Email: [tplcom@usa.net](mailto:tplcom@usa.net) • [www.tplcom.com](http://www.tplcom.com)

05-0301-CPS