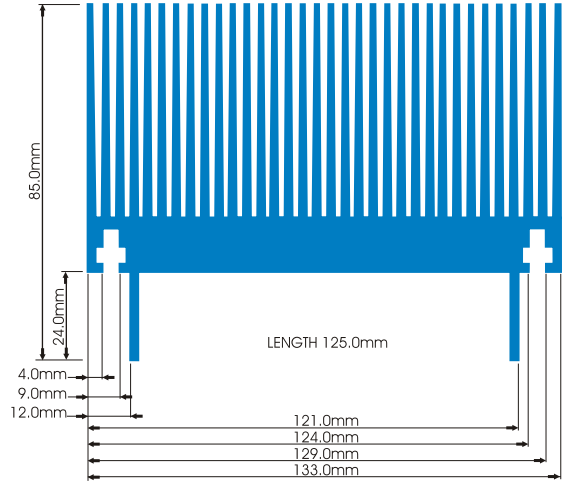
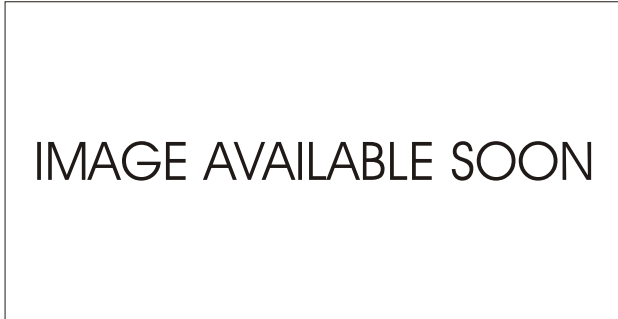


## LA600M DATA & APPLICATION NOTES

### MOSFET



### ● SPECIFICATION / FEATURES

THE **PRISM LA450M** IS AN ENCAPSULATED AND ELECTRONICALLY PROTECTED POWER AMPLIFIER MODULE. THE CIRCUIT USES COMPONENTS OF THE HIGHEST QUALITY AND IS ASSEMBLED USING PREDOMINANTLY SURFACE MOUNT COMPONENTS. THE INNOVATIVE DESIGN RESULTS IN A VERY RUGGED MODULE THAT ALSO EXHIBITS EXCELLENT SONIC QUALITIES.

#### FEATURES

- 4 OR 8 OHM OPERATION
- WIDE FREQUENCY RESPONSE
- SHORT CIRCUIT OVERLOAD PROTECTION
- MOSFET
- PSU AVAILABLE SEPARATELY
- DC OFFSET PROTECTION
- THERMAL OVERLOAD PROTECTION
- ANTI-THUMP DELAY AT SWITCH ON

#### SPECIFICATION

● OUTPUT POWER (4OHMS)	600W (RMS)
● FREQUENCY RESPONSE (-3dB)	3Hz - 50KHz
● THD @ 1KHz	0.004%
● S/N RATIO	100dB
● SLEW RATE (TYPICAL)	70V/ $\mu$ SECOND
● INPUT SENSITIVITY	500mV (RMS)
● DAMPING FACTOR	>200
● SUPPLY VOLTAGE (MAX)	+/- 95VOLTS

### ● APPLICATION NOTES

TO POWER THE **LA600M** AMPLIFIER MODULE YOU WILL NEED A SYMMETRICAL DC POWER SUPPLY WITH AN OUTPUT RANGE BETWEEN  $\pm 80V$  AND  $\pm 95V$  NOMINAL. WE RECOMMEND THE USE OF THE **PRISM AUDIO PS1000** POWER SUPPLY.

■ FOR 8 OHM OPERATION, ONE POWER SUPPLY WILL SUPPLY TWO LA600M MODULES.

■ FOR 4 OHM OPERATION, ONE POWER SUPPLY PER LA600M MODULE IS REQUIRED.

THE WIRING BETWEEN THE POWER SUPPLY AND THE LA600M MODULE SHOULD BE AS SHORT AS POSSIBLE. IF CONNECTIONS EXCEED 150mm THEN TWO EXTRA ELECTROLYTIC CAPACITORS ARE REQUIRED TO 'LOCALLY' DECOUPLE THE LA450M MODULE - SEE BELOW.

THE AMPLIFIER SHOULD BE INSTALLED HORIZONTALLY (FINS VERTICAL) TO ALLOW COOLING AIR TO CIRCULATE THROUGH THE FINS - GOOD AIR FLOW IS **VERY IMPORTANT**, PARTICULARLY WHEN USING THE AMPLIFIER WITH 4 OHM LOADS.

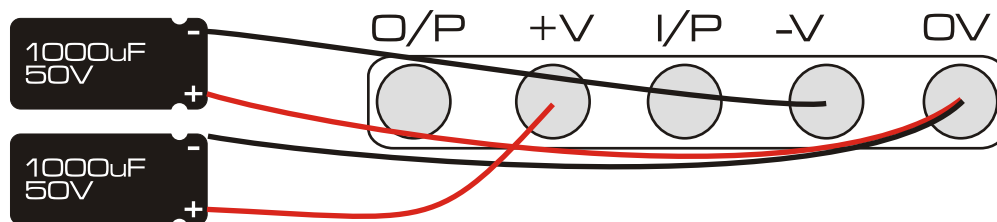
IF THE MODULE IS COOLED WITH A FAN, INSIDE A PIECE OF EQUIPMENT, MAKE SURE WARM EXHAUST AIR CAN EXIT THE ENCLOSURE WITHOUT BEING RECIRCULATED INTERNALLY.

TEMPERATURE OVERLOAD PROTECTION IS PROVIDED WITHIN THE MODULE. THIS IS RESETTING. IT OPERATES AT APPROXIMATELY 100C HEATSINK TEMPERATURE.

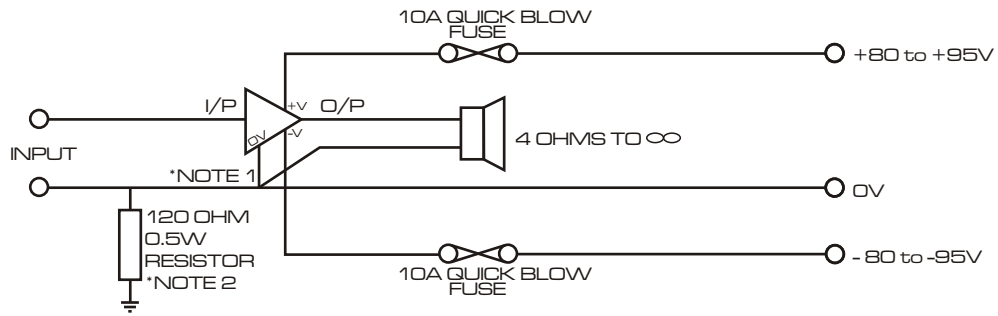
THE AMPLIFIER IS PROTECTED ELECTRONICALLY AGAINST **SHORT TERM** OVERLOADS AT THE OUTPUT. DO NOT OPERATE THE AMPLIFIER IF YOU SUSPECT A FAULTY LOAD.

PROLONGED OVERLOAD WILL CAUSE THE THERMAL TRIP TO OPERATE AND COULD CAUSE PERMANENT MODULE DAMAGE. CERTAIN REACTIVE LOADS, EITHER VERY CAPACITIVE OR VERY INDUCTIVE CAN CAUSE INSTABILITY AND/OR OVER DISSIPATION - ALWAYS CHECK THE RUNNING TEMPERATURE OF THE MODULE. IF THE HEATSINK TEMPERATURE EXCEEDS 85C USE A COOLING FAN.

IF YOU DO NOT USE A **PRISM PS1000** POWER SUPPLY, BE CAREFUL NOT TO LET THE **OFF LOAD** VOLTAGE EXCEED  $\pm 95V$ OLTS. IF A REGULATED POWER SUPPLY IS USED, BE SURE NOT TO LET IT EXCEED  $\pm 80V$ OLTS.



## ● APPLICATIONS INFORMATION



### NOTE 1

STAR EARTH POINT - THIS IS IDEALLY THE MID POINT OF THE POWER SUPPLY BULK STORAGE CAPACITORS. THESE SHOULD BE SITUATED AS CLOSE TO THE MODULE AS POSSIBLE. THE POSITIVE AND NEGATIVE SUPPLY LINES SHOULD ALSO BE AS SHORT AS POSSIBLE.

### NOTE 2

EARTH LOOP STOPPER RESISTOR - 0.5W

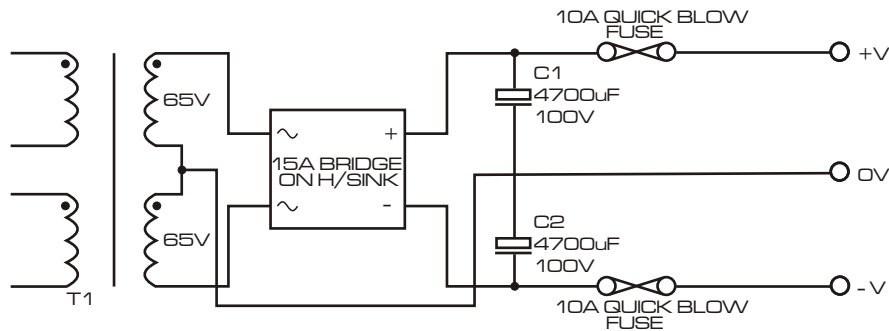
### NOTE 3

IF SOLDERING TO THE MODULE PINS, DO NOT ALLOW THE SOLDER ON THE END OF THE PIN TO REMAIN MOLTEN FOR MORE THAN 3 SECONDS

### NOTE 4

IF A REGULATED POWER SUPPLY IS USED, THE VOLTAGE SHOULD NOT EXCEED  $\pm 80$  VOLTS

## ● TYPICAL LA600M POWER SUPPLY



T1 = 600VA +65-0, 65-0  
C1/C2 = 4700uF 80V ELECTROLYTICS  
BRIDGE = 25A 400V PIV

THE MAINS INPUT PRIMARY MUST BE PROTECTED BY A HBC CERAMIC FUSE. A 6.3A RATING IS SUGGESTED.

### NOTE 5

THE MODULE SHOULD BE MOUNTED VERTICALLY IN FREE AIR SO THAT AIR CAN PASS THROUGH THE FINS. IF THE MODULE IS USED ON NORMAL MUSIC, NO EXTRA COOLING IS NORMALLY REQUIRED. HOWEVER, FOR SOME APPLICATIONS OR IN INSTALLATIONS WHERE THE MODULE IS FITTED INTERNALLY, A COOLING FAN WILL BE REQUIRED.

### NOTE 6

NO INPUT COUPLING CAPACITOR IS REQUIRED

### NOTE 7

ALWAYS USE A QUICK BLOW FUSE (10A) IN BOTH SUPPLY RAILS TO PROTECT THE LOAD IN THE EVENT OF A FAULT WHICH PRESENTS DC TO THE LOAD.

### NOTE 8

ALWAYS RETURN ALL 0V CONNECTIONS TO THE POWER SUPPLY.

### NOTE 9

USE WITH AN OUTPUT TRANSFORMER IS NOT RECOMMENDED.