5.3 POWER AMPLIFIERS (UNIVERSAL POWER MODULES)

The power modules supplied with your system (UPM-1503 Single or Dual, UPM2405) consists of a regulated dual output DC power supply set at ± 12 Volts (Vs) and a linear power operational amplifier. A breadboard is also mounted on the chassis which could be used to implement signal conditioning circuitry. This module is used to drive the DC motors of the experimental setups and can be used for other devices in your laboratory.

One section of the module is labelled "DC Power Supply" and has three binding posts labelled +Vs, GND and -Vs with Vs set to 12 Volts. These may be used to power active components on the breadboard as well as to bias the sensors. The maximum current available from this section is 1 Ampere.

Another section is labelled "Power Amplifier" and has four binding posts. It can be used in any standard op-amp configuration (summer, inverter, buffer etc..). Its two inputs are labelled (-) for the inverting input and (+) for the non-inverting input. The output is also labelled and a binding post adjacent to it is labelled GND. The load should be connected between the output terminal and GND. The Power Op-Amp must have a feedback path from the output to the negative input otherwise its output will saturate.

The Power section is powered via a different power supply and depends on the model you have purchased.

b) POWER OPERATIONAL AMPLIFIER

	UPM-1503 (Single or Dual)	**UPM 2405**
Maximum current output	3 Amperes	5 Amperes
Maximum power output	45 Watts	100 Watts
Maximum output voltage	15	24
Power bandwidth	60 KHz.	60 KHz.
Small signal bandwidth	700 KHz.	700 KHz.
Slew rate	9 V/microsec.	9V/microsec.