

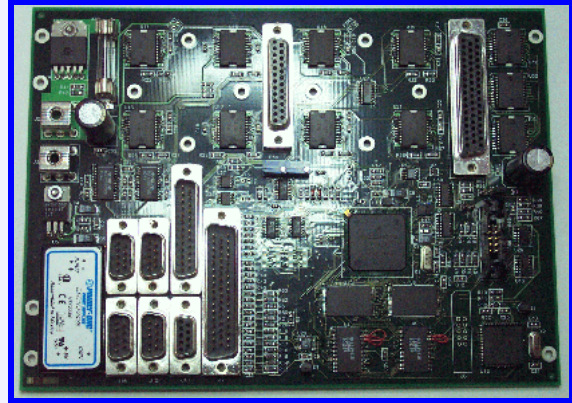


# GENERIC ROBOTIC CONTROLLER (GRC) BOARD SPECIFICATIONS (PRELIMINARY)

(Specifications subject to change without notice.)

## BACKGROUND

Amtech Aeronautical Limited is pleased to announce the product launch of a Generic Robotic Controller (GRC) board adaptable to a variety of remotely controlled and autonomous ground vehicle applications. Amtech is licensed for the GRC design and associated technologies by Defence Research and Development Canada Suffield (DRDC Suffield). Developed to DRDC Suffield's requirements, the GRC is designed with a number of configurable features that facilitate the integration of the board to applications with a variety of control and monitoring requirements, and interfaces.



Generic Robotic Controller Board

## PRODUCT OVERVIEW/SPECIFICATIONS

### General

- 160 mm x 220 mm (Custom size, approximately Eurocard 6U standard)
- Four layer board

### Processor

- Motorola MPC555 Processor at 40 MHz

### Memory

- 26 KB internal RAM
- 448 KB internal Flash EEPROM
- 1 MB external RAM (2 MB max)
- 4 MB external Flash (16 MB max)
- 6 KB TPU microcode RAM

### Dedicated Outputs

- 24 relay drivers (0.5A drive) resistive or inductive loads with over current limit, open load and short to ground feedback
- 4 channels D/A (12 bit) 0-2.5V or 0-5V operation
- 16 channels PWM or 8 channels of 7 amp H-Bridge with over current and open load feedback
- 3 LED outputs

### Communications Ports

- 4 serial ports
- 2 ports 7-wire (1,250,000 baud max)
- 2 ports 3-wire (9,600 baud max)
- 2 CAN ports (1 Mbps)
- Fibre optic comms
- BDM interface

### Dedicated Inputs

- Left and right wheel encoder inputs (each with Phase A, B inputs) to TPU inputs
- Tachometer input with high voltage buffering and wave shape smoothing
- 8 A/D channels PWM feedback
- 9 A/D gauge/switch inputs
- 4 A/D channels programmable variable gain
- 1 A/D battery voltage monitoring with voltage divider circuitry
- 1 A/D battery current with integrated current sensor for external loads
- 1 digital input for safety sense for use with hand held pendant
- 1 A/D onboard temperature monitor



### Safety Features

- External windowed supervisory watchdog circuit

### Power Requirements

- 24 VDC
- Current required dependant on output current being driven, board fused at 1 Amp)

### Environmental (Typical)

- Industrial grade components
- -40 to +85 degrees C operating temperature, typical)
- Humidity 0 to 90%, noncondensing

### Miscellaneous

- GRC is integrated with DRDC Suffield's ANCAEUS software.
- GRC must be configured/programmed for each application. Technical/engineering support available for customization of the board configuration and programming to a particular application.
- GRC was developed as a ground-vehicle controller board performing control functions and basic vehicle state monitoring (navigation functions not included).

### CONTACT INFORMATION

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