Trident Robotics

and Research, Inc.

TRC006

User's Manual

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This device is not intended for use in life support equipment and should not be used in any medical or other application where intermittent malfunction or failure may directly jeopardize the health or well-being of an individual or individuals without adequate safeguards.

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Trident Robotics and Research, Inc.
TRC006
busTR™ Interface Card for ISA

1.0 Introduction

1.1 General Information

The TRC006 is a bus decoder/buffer card for the ISA bus. It provides a single ***busTR*** interface to connect any one of a variety of Trident Robotics' remotable I/O boards for servo applications. This allows locating noise sensitive analog electronics away from the computer bus, closer to the analog plant you are trying to control.

2.0 Specifications

The TRC006 is addressable in I/O space only, using 16-bit words. It does not respond to byte accesses. The TRC006 can be configured to consume either 32 or 64 bytes of the I/O space. No interrupt support is provided.

3.0 Installation

3.1 General Information

The TRC006 is transparent from a software standpoint and can be installed in any ISA slot. For use in an EISA bus, it can also be addressed in slot-specific mode with greater addressing capabilities. There are no configuration registers. All configuration is done by means of DIP switches, shown in Figure 3.1, which are described below. To turn a switch "ON," push the slider toward the "ON" label.

3.2 Address Space Size

DIP switches 3 and 4 determine the size of the addressable space of the TRC006. For 32 bytes turn switch 3 off and switch 4 on. For 64 bytes (TRC004, TRC020, TRC040), turn switch 3 on and switch 4 off.

3.3 Base Address Selction

Address bits 5-9 are selectable and correpond to DIP switches 5-9. An "ON" switch represents

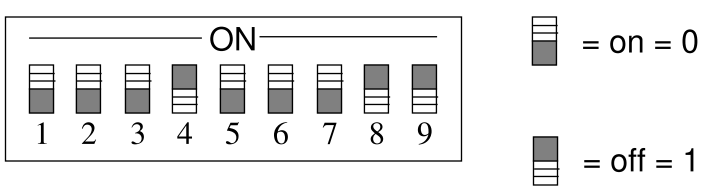

Figure 3.1: TRC006 DIP Switches

logic 0. Bit 5 is "don't care" in 64-byte mode.

Address bit 0 is not decoded by the ***busTR*** interface, so all accesses must be word-length and word-aligned.

For ISA bus systems, the base address can be set to any address between 100h and 3A0h that does not interfere with other system or peripheral I/O addresses. (COM ports use 2E8h-2EFh, 2F8h-2FFh, 3E8h-3EFh, and 3F8h-3FFh.) For EISA bus systems it is recommended to set the base address in the range 000h-0FFh and use slot-specific I/O access. Slot-specific I/O accesses are achieved by pre-pending the slot number to the base address (i.e. 6000h for slot 6 with base address 000h.)

4.0 Operations

4.1 General Information

To a host computer, the connected ***busTR*** board is characterized as a block of 16-bit memory locations as described in the user's manual for the respective board. These locations reside on 16-bit boundaries from the base address. The busTR interface does not decode address bit A0 (lsb) so all data transfers must be word size and word aligned. The TRC006 is transparent except for establishing the base address.

4.2 Reads and Writes

All reads and writes to and from the busTR board connected to the TRC006 occur within the specified address space, subject to the selection of the base address as described in Section 3.0. All accesses must be word-sized and word-aligned.