Micro-Research Finland Oy
Välitalontie 83 C, FI-00660 Helsinki, Finland

Document: GUNRC-TREF-003
Date: 14 November 2006
Issue: 1

Author: Jukka Pietarinen

E-Gun Receiver GUN-RC-202

Technical Reference

Contents

Introduction

The E-Gun Receiver (GUNRC) demodulates two trigger signals from the optical signals sent by the E-Gun Transmitter (GUNTX). The receiver is enclosed in a 3U high and 10HP wide HF plug-in unit.

Connections

E-Gun Receiver Front Side

The front side of the E-Gun Receiver is shown in Figure 1: E-Gun Receiver Front PanelFigure 1. The front side includes the following connections and status leds:

Label	Connector	Signal Levels	Description
CH1 out	BNC	0 - 5 V into 50 ohm	Channel 1 output
CH1 RX	LC	850 nm optical input	Channel 1 optical input
CH1 TX feedback	LC	850 nm optical output	Channel 1 optical feedback output
CH2 out	BNC	0 - 5 V into 50 ohm	Channel 2 output
CH2 RX	LC	850 nm optical input	Channel 2 optical input
CH2 TX feedback	LC	850 nm optical output	Channel 2 optical feedback output
CH1 pulse	Yellow Led		Led lights up on received pulse on channel 1
CH1 signal detect	Green Led		Led is on when a signal is received on CH1 RX
CH2 pulse	Yellow Led		Led lights up on received pulse on channel 2
CH2 signal detect	Green Led		Led is on when a signal is received on CH1 RX

CH1 out and CH2 out provide signal levels of 0 to 5 V into ground terminated 50 ohm. Note that without load the high state will exceed 5 V.

The output signal is driven low when there is no signal at the RX input.

The pulse detect leds response to very short pulses is limited. The leds will light up for a minimum of about 100 ms, but the triggering of the led circuit will require a minimum output pulse length of approximately 20 ns.

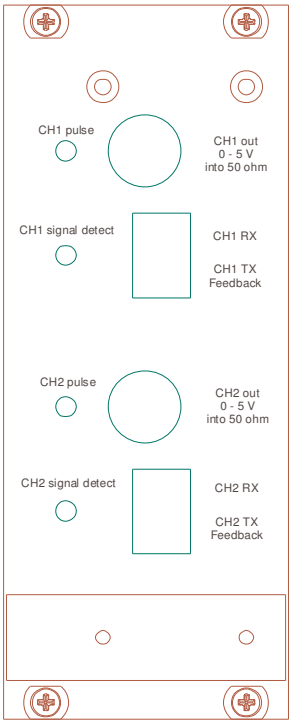

Figure 1: E-Gun Receiver Front Panel

E-Gun Receiver Back Side

The back side of the E-Gun Receiver contains the power supply connector. The power supply connector is a four-pin LEMO EXG.0B series connector which mates with a LEMO FGG.0B connector. The back side of the plug-in unit is shown in Figure 2.

The power supply pins V+ and V- are isolated from signal and frame ground. Signal ground is connected to frame ground at the power supply connector only. The power supply requirements of the E-Gun Receiver are following:

Power Supply	Requirement	Power Consumption
V+ - V-	18 VDC to 36 VDC	~10W

Connector Pin	Connection	Description
Pin 1, Pin 2	V-	Negative Power Supply (isolated from ground)
Pin 3, Pin 4	V+	Positive Power Supply (isolated from ground)
Connector Frame	Ground	Chassis and Signal Ground

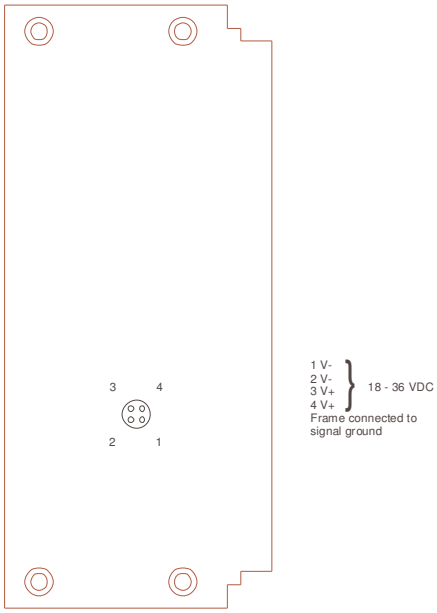

Figure 2: E-Gun Receiver Back Panel