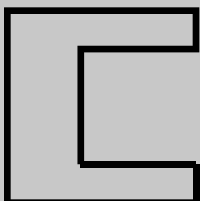


**CHEAP CONTROLS**

**MZRS232**

**MZ5VTTL**

# User Guide



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# Important Safety Instructions

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1. Read these instructions completely before installing and using the equipment.
2. Keep these instructions in a safe place.
3. Pay attention to all warnings.
4. Follow all the instructions.
5. In order to reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
6. Clean with a soft, dry cloth. If further cleaning of the switch plate is required remove from switch prior to applying moisture.
7. Refer all servicing to qualified service personnel. Service is required when the unit has been damaged in any way, such as: liquid is spilled onto the device, the device is exposed to rain, or if the unit does not operate normally.

## Warranty

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Due to the custom nature and/or possible uses of this product, Cheap Controls LLC makes no warranty, promise or representation not expressly set forth herein. Except as expressly warranted herein, the product is provided “as is” without warranty of any kind. Cheap Controls LLC disclaims and excludes all implied warranties including, without limitation, the implied warranties of noninfringement, merchantability and fitness for a particular purpose. Cheap Controls LLC does not warrant the the product will satisfy customer’s requirements or that it is without defect or error that the operation thereof will be uninterrupted. This agreement gives the customer specific legal rights. The customer may have other rights, which vary from jurisdiction to jurisdiction.

## Notice of Caution and Liability

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Only experienced persons should install this equipment. Improper installation may result in damage to this switch along with damage to the equipment it is intended to control. Cheap Controls LLC assumes no responsibility for improper installation of this equipment.

# Getting Started

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## Introduction

This device was developed to control LCD projects that have a RS232 port that accepts commands to alter video source, audio level and other settings. The device can be used to control any equipment that utilizes RS232 signalling.

## Package Includes

1. MZRS232 main board.
2. Power supply.
3. Rubber button inlay.
4. Cover plate.
5. Communication cable.
6. MZSoft installation CD.

## Installation

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### 1. Installing MZSoft on your PC.

#### **Method 1: Installing from CD**

- 1.1 Load the MZSoft Installation CD into your CD drive.
- 1.2 Go to your start menu and select RUN and enter D:\setup.exe where D: is the drive letter for your cd drive.
- 1.3 Follow the MZSoft Installation Wizard to install software.
- 1.4 Launch MZSoft.

#### **Method 2: Downloading from Cheap Controls LLC**

- 1.1 Go to [www.cheapcontrols.com](http://www.cheapcontrols.com) and download from the **RS232** page.
- 1.2 Save the downloaded file to your desktop.
- 1.3 Create a temporary folder on your desktop. (this folder can be deleted after install)
- 1.4 Unzip the downloaded file into the folder you just created.
- 1.5 Open the folder and run **setup.exe**.
- 1.6 Follow the MZSoft Installation Wizard to install software.
- 1.7 Launch MZSoft.

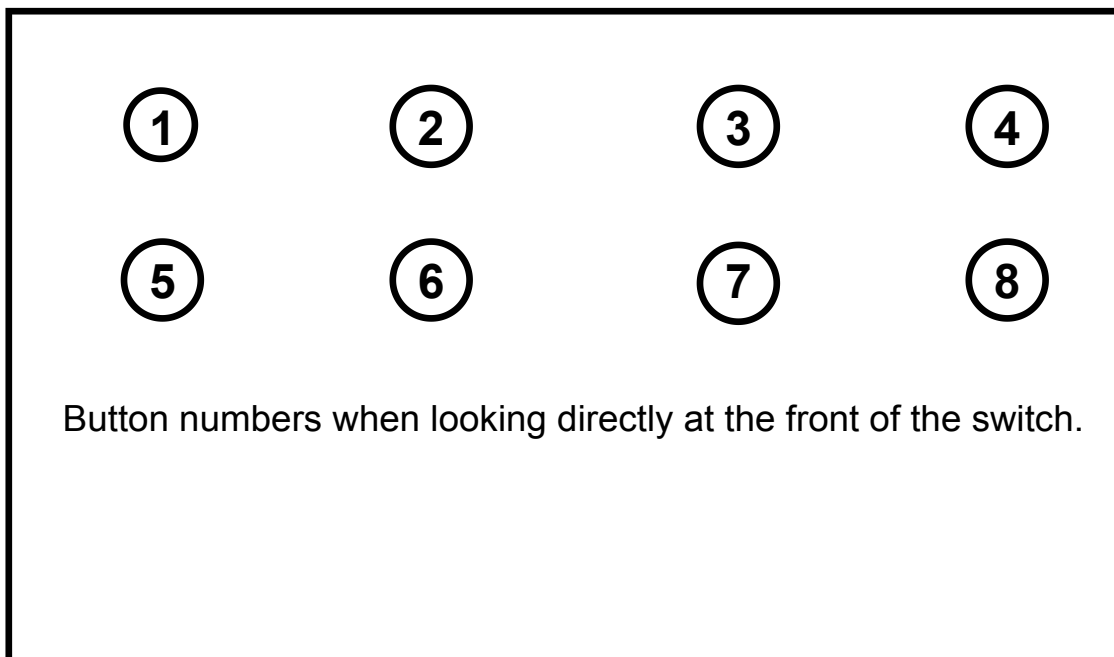
### 2. Connecting the MZRS232 to your PC.

- 2.1 Connect the power supply to the MZRS232.  
There should be a label on the power supply cord that shows the connection location.
- 2.2 Connect the communication cable to the MZRS232  
There should be a label on the comm cable that shows the connection location.  
The connection on the switch is labeled.

GND	Ground
1	RS232 input signal from the controlled device.
2	RS232 output signal to the controlled device.
- 2.3 Plug the power supply into an AC outlet.
- 2.4 Connect the communication cable to an open 9 pin serial port on your PC.  
The MZRS232 is now ready for programming.

### 3. Programming the MZRS232 with MZSoft (see fig1, below)

- 3.1 Select the proper **Communication Port** from the available options. (default is Comm 1)
- 3.2 Click **Connect**; an alert box should notify you of a connection failure.
- 3.3 Click **Read Data From Switch** to import any information currently stored in the MZRS232 memory. (data will display in the button string area 3.6)
- 3.4 Enter the data you want to send one character at a time in the **CHARACTER ARRAY**.
- 3.5 Select the proper data **Format** from the three supplied options.  
(Changing the format will convert only those characters displayed in the **CHARACTER ARRAY**. Note each character has a maximum character length: One character for **ASCII**; Three for **Decimal**; Two for **Hexadecimal**.)
- 3.6 Select the button you want the data to be associated with by clicking directly over the field to which you would like to load the characters.  
(the arrow indicates the current active field)
- 3.7 Click the **Load Field** button to convert the **CHARACTER ARRAY** to a string and send it to the indicated button string field; conversely, click **Read Field** to send the selected button string back up to the **CHARACTER ARRAY** for editing.
- 3.8 Click **Send Single Button Data** to send the selected button String to the MZRS232.  
**NOTE:** Only a single button is programmed each button press.  
(Check the Confirm box in order to see if the switched received the data)
- 3.9 Select the proper baud rate from the drop down menu. Consult your end device's documentation for the correct rate.
- 3.10 The MZRS232 is now ready for final installation.
- 3.11 The data that has been created can be stored buy clicking on **Save Button Data**.
- 3.12 Previously stored data can be loaded into the buttons buy clicking on **Load Button Data**.



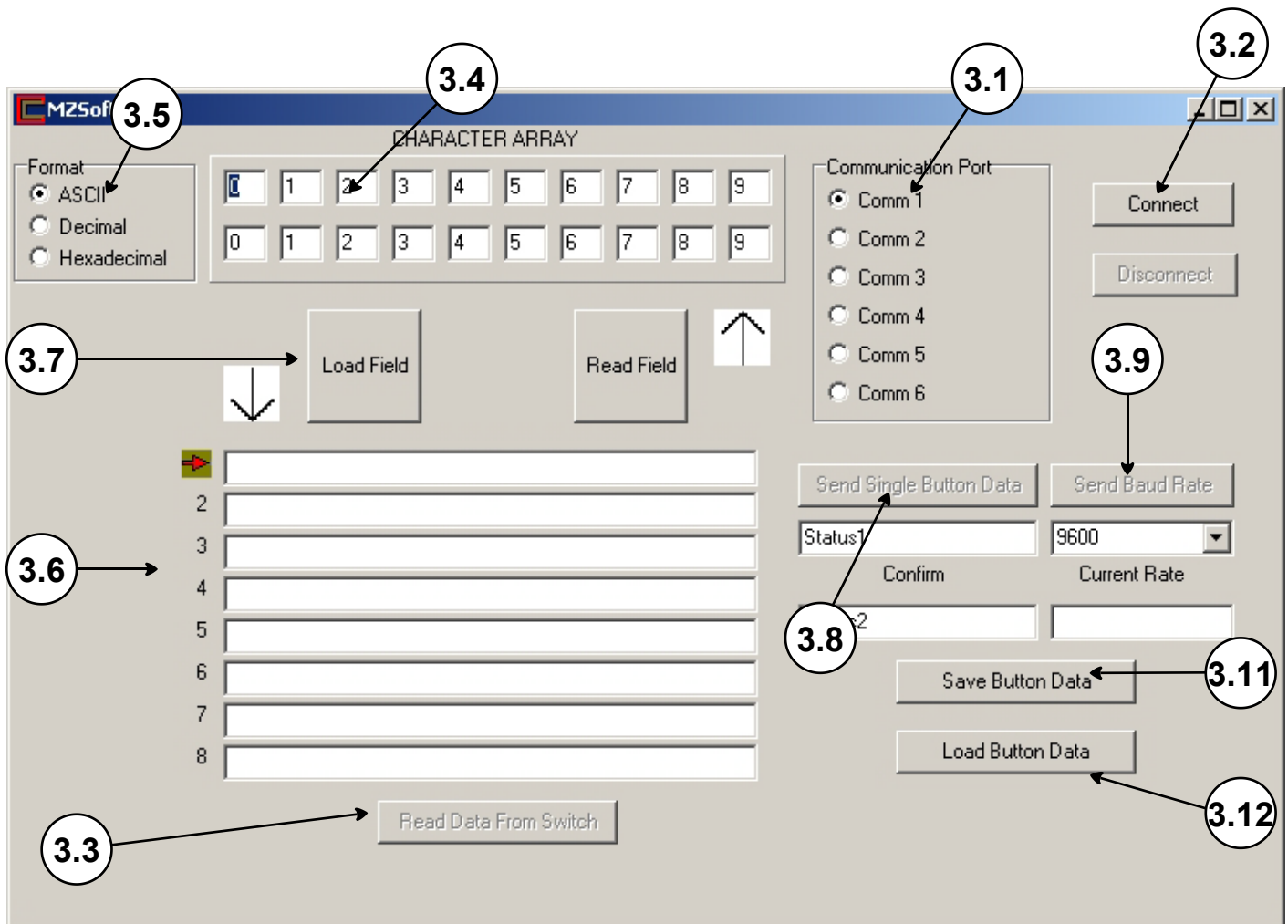


fig.1: MZSoft interface

#### 4. Connecting the MZRS232 to its end device.

4.1 Connect the power supply to the MZRS232.

There should be a label on the power supply cord that shows the connection location.

4.2 Connect the communication cable to the MZRS232

There should be a label on the comm cable that shows the connection location.

The connection on the switch is labeled.

GND Ground

1 RS232 input signal from the controlled device.

2 RS232 output signal to the controlled device.

4.3 Plug the power supply into an AC outlet.

4.4 Connect the communication cable to an open communication port on the device you are trying to control. Consult your device's documentation for proper Configuration.

4.5 Test unit.

4.6 Install the rubber inlay and cover plate.

# Troubleshooting

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## No Power

1. Make sure the power cable is connected with the correct polarity.
2. There are diodes to protect the board in case of incorrect power connection.

## No Communication with Programming PC

1. Make sure the cable is connected correctly at the MZRS232 board
2. Make sure the correct port is selected on the PC.
  
1. The switch comes programmed with test data programmed for 9600 baud.
2. A quick test is to open a terminal emulator set the baud rate and push a button.
3. Test strings are "01234567890123456789" or "abcdefghijklmnopqrst"

## No Communication with device you want to control

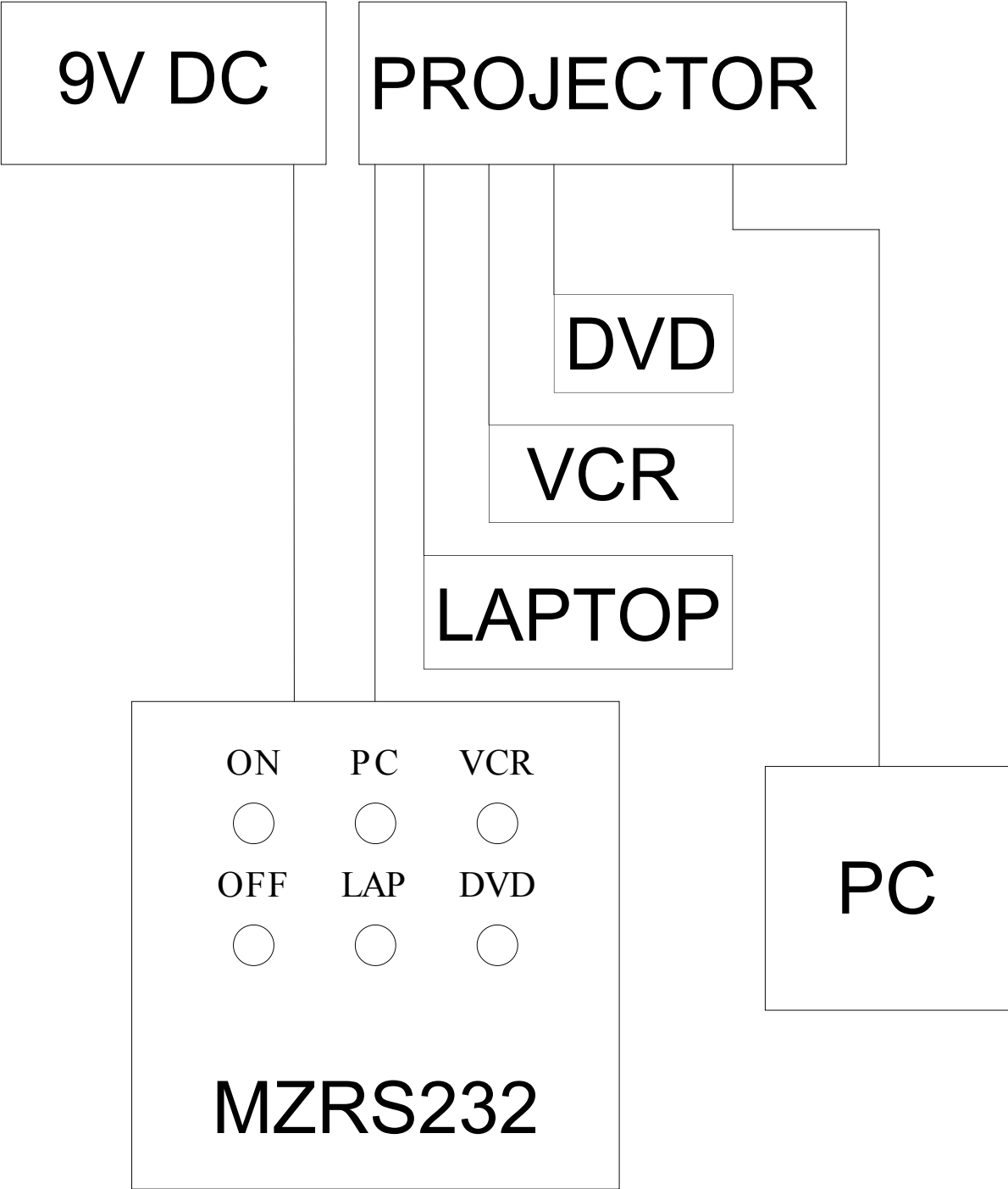
1. Reconnect to the programming pc and double check the baud rate of the switch.  
Then check the baud rate of the device you wish to control
  
2. Check the manual of the device you wish to control for further trouble shooting.

## I give up!

1. If you are still having difficulty email [info@cheapcontrols.com](mailto:info@cheapcontrols.com) .

# Simple Wiring Diagram

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This is a diagram of a controller sending signals to a projector in order to switch video signals