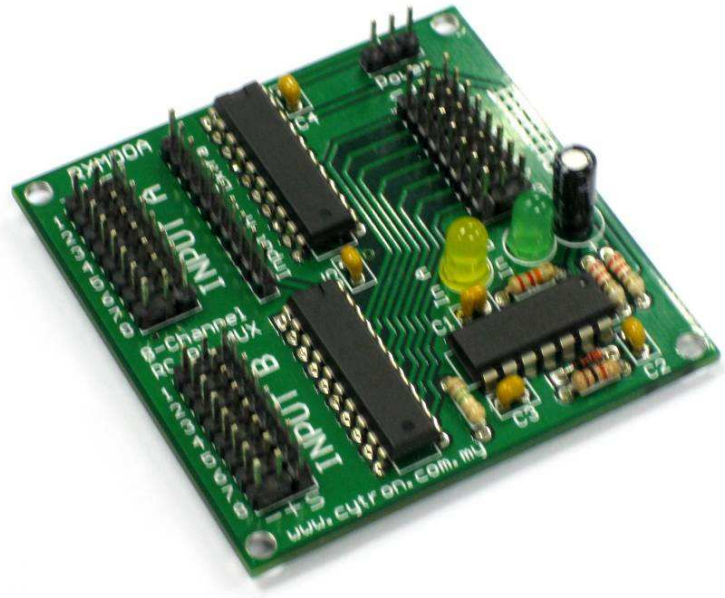
8-Channel
RC RX MUX



User's Manual

V1.0

June 2010

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1. INTRODUCTION

The 8 Channel RC RX MUX can be used with standard hobby radio control systems and servo controllers to allow easy switching of servo control between two signal sources using a 8th channel of Input A as the output selector. Signal sources can come from R/C receiver, autopilot or microcontroller that connected to Input A and Input B. Standard RC servos are connected to the output. This makes it ideal for applications in which user has two possible control sources and want to be able to switch between them on the fly.

For example, user could connect two RC receivers at Input A and Input B. The RC servos are connecting to 8 channels of output. The 8th channel of Input A will decide whether the Input A or Input B is in control, thereby setting up your own buddy-system training setup. Another possible application would involve multiplexing between an RC receiver and a servo controller, which will allow you to switch between autonomous and manual control of a set of servos.

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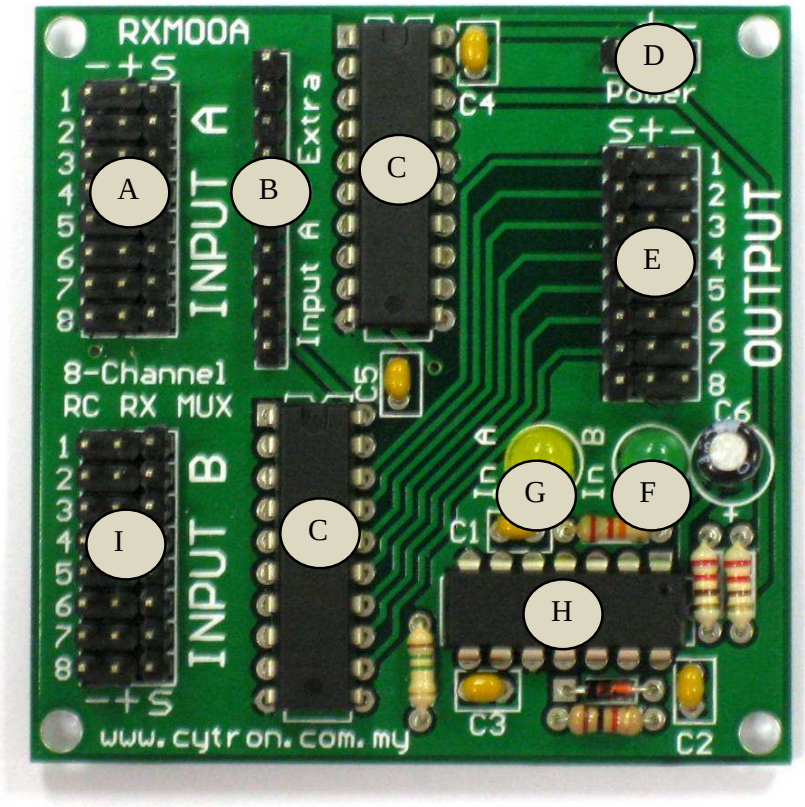
2. BOARD LAYOUT



Label	Function	Label	Function
A	Input A	**F**	Status indicator LED
B	Input A - Extra	**G**	Status indicator LED
C	74HC541 IC	**H**	CD4013 IC
D	Power	**I**	Input B
E	Output Channel		

A – Input A from RC receiver 1.

B – Extra pin for Input A.

C – 20 pin of Octal Buffer and Line Drivers, Three-State IC.

D – Power pin for RC RX MUX. However, user may get power from RC Receiver.

E – 8 output channel for RC servo motor.

F – Status indicator LED for Input B. If the outputs come from the Input B, only green LED will be turn ON.

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G – Status indicator LED for Input A. If the outputs come from the Input A, only yellow LED will be turn ON.

H – 14 pin of Dual D Flip Flop IC.

I – Input B from RC receiver 2

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3. GETTING STARTED

Switching between the two sources (Input A or Input B) is accomplished by sending the appropriate width servo signal on the 8th channel of Input A. When a servo signal less than 1.5ms wide is detected, signals connected to Input B are sent to the output. When no servo signal is detected, the RC RX MUX will default connect the Input A to the Output.

Output channel 1 will read signal source from channel 1 of either Input A or Input B. The same signal control/switching applied to the other channels.

Here is example to getting started with 8-channel RC RX MUX. 2 RC Receiver and some servos motor are needed in using RC RX MUX.

1. Connect RC Receiver/autopilots or microcontrollers to Input A and Input B. The channel of receiver is depends on the types or brand of the RC receiver. The 8th channel of Input A must be connecting to a channel of RC Receiver to decide whether the Input A or Input B is control the output.

2. Connect servos motor to the output of RC RX MUX. Output channel 1 will read signal from channel 1 of Input A or Input B. The others output channels also will read signal from the same input channel either Input A or Input B.

3. The power for servo motors and RC RX MUX is supply from the RC receiver. However user may connect 6V into power pin of RC RX MUX.

4. After all the setup is finish, user may control the servo motor using Input A and Input B depends on the signal from the 8th channel of Input A.

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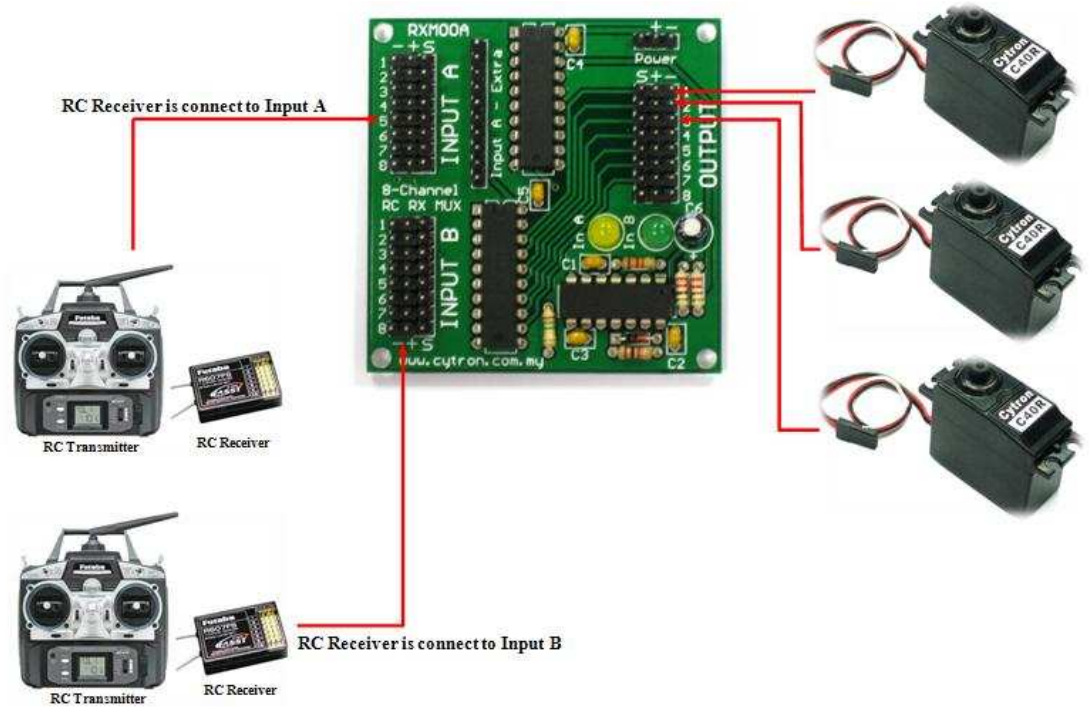

Other signal source can be used for Input A and Input B is microcontroller. SC16A is RC Servo motor controller which is design to control 16 independent standard RC servo motors. Microcontroller or Servo GUI can be used to send signal to 16 channels of SC16A. These signals from SC16A can further be connected to RC RX MUX as Input A and Input B.

Figure below shows the diagram of RC RX MUX using SC16A as receiver for both Channel A and B. 16 channels of SC16A used as Input A and Input B. Channels 1 – 8 are Input A and channels 9 – 16 are Input B. 8th channel of Input A uses to switch signal source (either Input A or Input B). User may refer SC16A user manual for more details about the product and using servo GUI.

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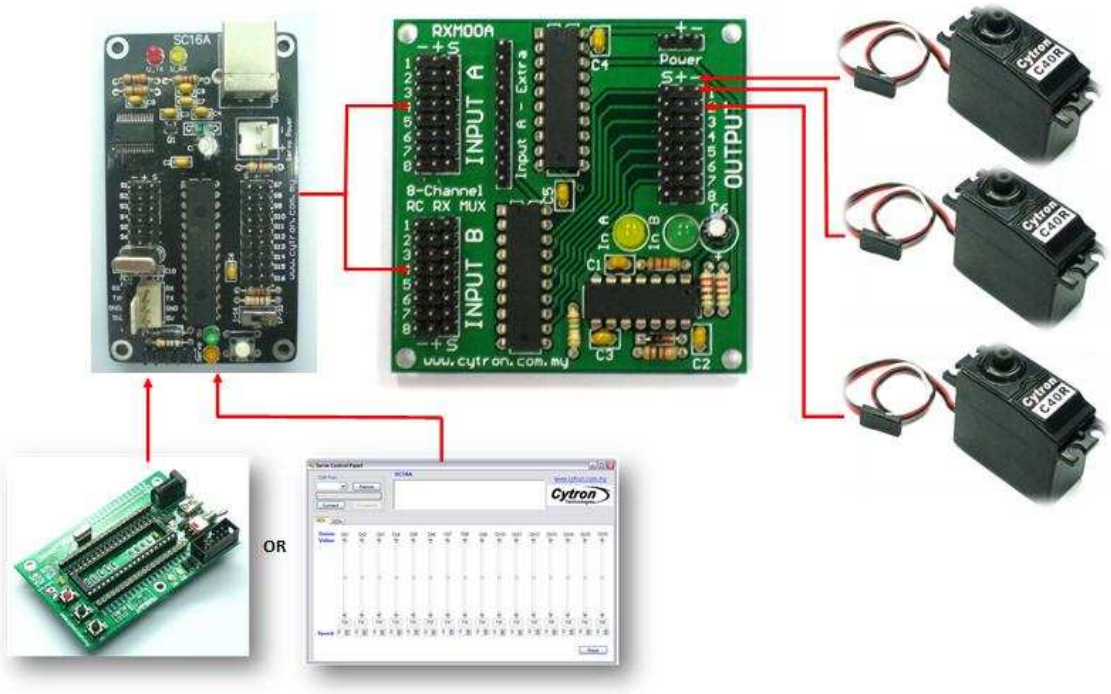
SC16A
RXM00A
INPUT A
INPUT B
8-Channel
RC RX MUX
Input A - Extra
Power
OUTPUT
www.cytron.com.my
C40R
OR

4. WARRANTY

- Product warranty is valid for 6 months.
- Warranty only applies to manufacturing defect.
- Damage caused by mis-use is not covered under warranty.
- Warranty does not cover freight cost for both ways.

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