

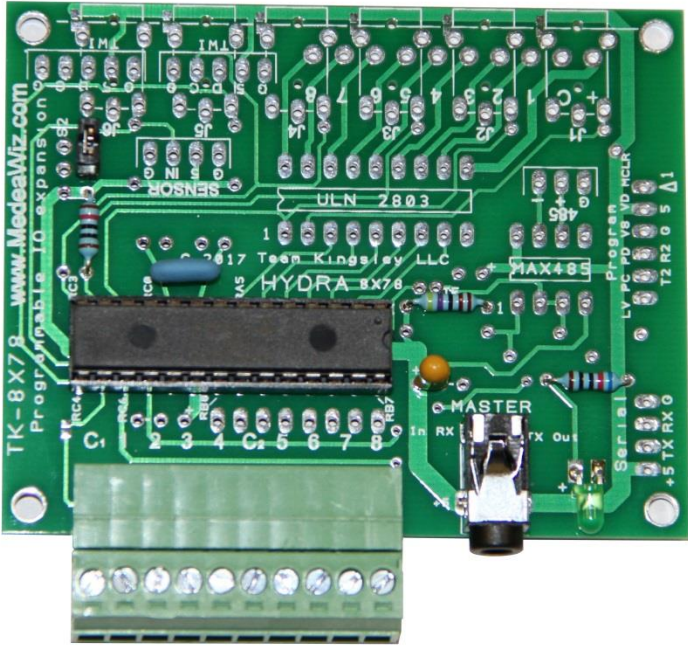
MedeaWiz® 8X78

Input / Output Expander

FW version 1.0

PCB version 1.0

Manual version 1.10



Note that this manual may change periodically

Please go to www.MedeaWiz.com for the latest version

Table of Contents

Introduction 1

Quick Start Guide 2

8X78 Options..... 3

Circuit Board Option Locations 4

Processor IO Port / Pin Usage 6

What’s included 7

Support 7

Custom Orders 7

Introduction

The MedeaWiz 8X78 adds more trigger inputs for the Sprite video player. It also has provisions to add other inputs and outputs in various combinations:

- 8 sinking outputs
- 6 additional 3.5mm ports to control up to 6 more Sprites
- PIR / sensor input
- TWI communications port
- 485 communications port
- 4x4 matrix keypad port
- USART serial communications port

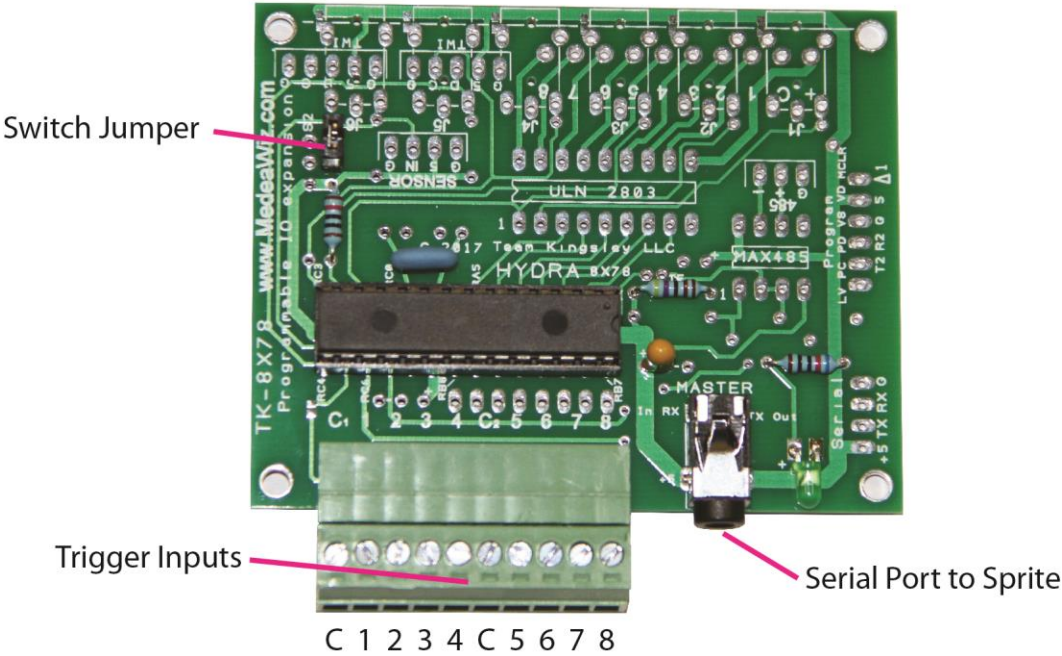
The base model is equipped with screw terminals and programmed to take up to 8 inputs and control up to 8 trigger files on the Sprite. You can use pushbuttons, other dry contacts, or logic-level voltage change with Low transition trigger.

You can choose to allow an interrupt from a new trigger event, or not to allow an interrupt, by a jumper switch.

With the Sprite in the Serial Control Mode, you can have a looping video and control other videos to play on command. Once the commanded video ends, the looping video will play again until a new command is received.

The 8X78 is powered by the Sprite over the included 3.5mm 4 pole plug-in cable.

Quick Start Guide



Connect pushbutton / trigger inputs and name your files as follows:

Trigger / Button -- Use terminals -----File Name

1	1&C	001
2	2&C	002
3	3&C	003
4	4&C	004
5	5&C	005
6	6&C	006
7	7&C	007
8	8&C	008

Switch Jumper S1 installed = no interrupt. Removed = interrupt on new trigger.

Connect the Sprite I/O port to the 8X78 Serial Port using a 3.5mm 4 pole cable.

Set the Sprite Control Mode to Serial Control, and set the Baud Rate to 9600.

Name your files to match the input numbers. You must also have a 000 looping file.

8X78 Options

Circuit Board Options

The 8X78 rev 1 circuit board has provisions to add a ULN2803 driver IC and a 10 position screw - terminal strip. This will allow driving low voltage lamps or relays. We can install this on request, offered as part number 8X78-8SO. Or you can install it yourself since the standard included programming will drive each of the 1 to 8 outputs while the corresponding file 001 to 008 is playing.

There is provision, by cutting trace and bridging solder gap, to allow up to 25 pushbuttons / dry contacts inputs in a 5 x 5 matrix on the 10 screw terminals. This will require a programming change in the 8X78.

A provision is made for an 8 pin header for a 4x4 matrix keypad to plug in. This will require a programming change in the 8X78.

The Stack Port allows stacking of a Sprite circuit board with the 8X78 for custom OEM applications. It shares the connections with the 3.5mm 4 pole Serial Port.

Up to 6 more 3.5mm 4 pole jacks to interface up to 6 more Sprites can be added. This option will require custom programming. Depending on your needs, there are multiple possibilities.

The Sensor port can connect to a 3 wire 5 Volt PIR motion sensor or PING ultrasonic range finder from <http://www.Parallax.com> as well as the alternate eBay units. These options will require custom programming and perhaps an added pull resistor.

The TWI (Two Wire serial Interface) port has 2 parallel header points for in and out on a single bus. This option will require custom programming.

The 485 serial port has a location for a MAX485 or similar line driver IC and 3 wire header. No provision is on the PCB for termination resistors. The TE (Transmit Enable) pin can be connected by a jumper to Pin RC2, or to any other unused I/O pin. This option will require custom programming.

Programming Options

The 8X78 comes pre-programmed to take up to 8 triggers / pushbuttons that will play up to 8 files, and will drive the optional ULN2803 output driver, if installed.

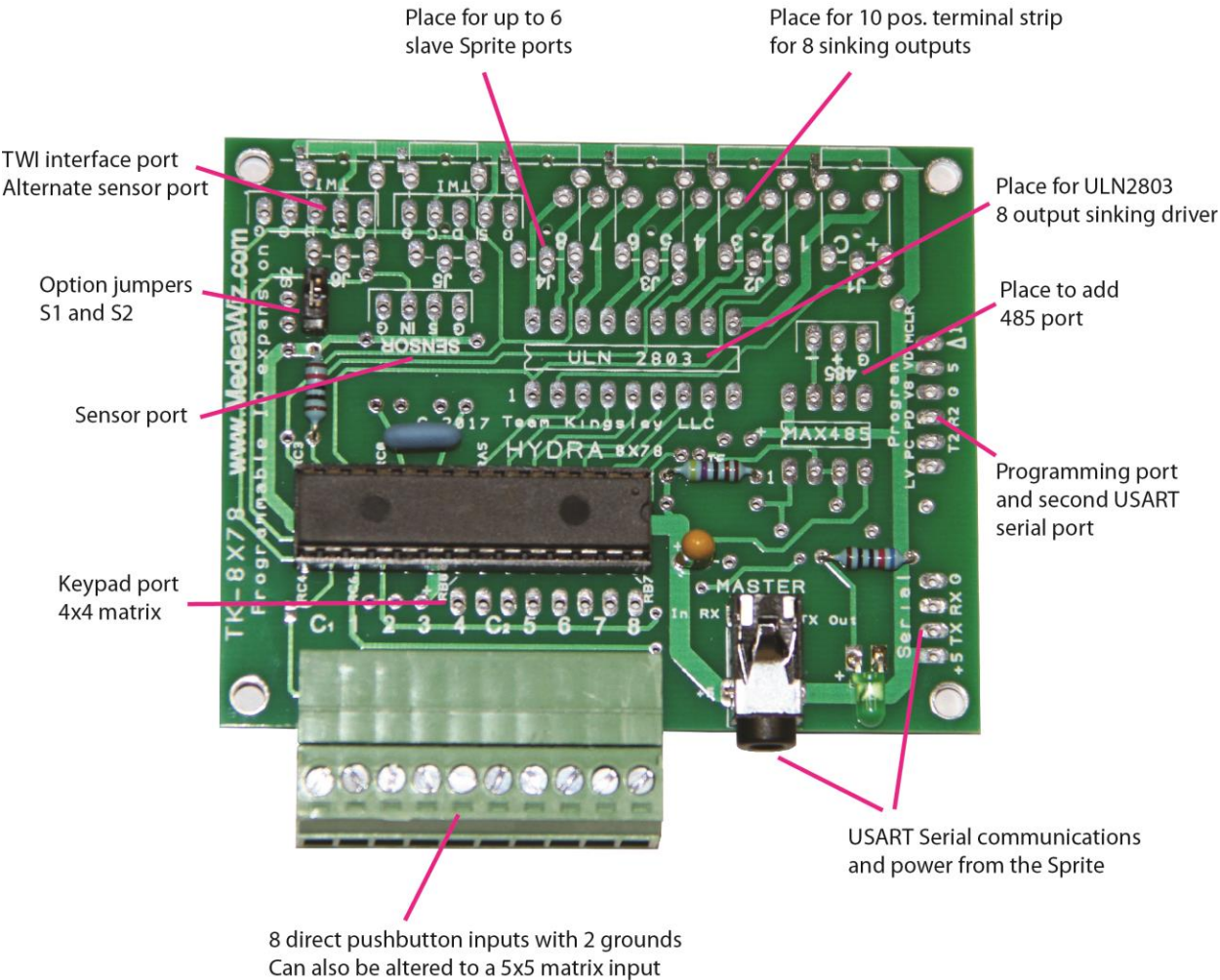
You can re-program the PIC processor to meet your custom needs, or contact us for a quote on a custom program.

The Program Port allows direct programming of the PIC processor using available third-party tools such as the PICKit™ 3. Free software development tools are available from <http://www.microchip.com/>

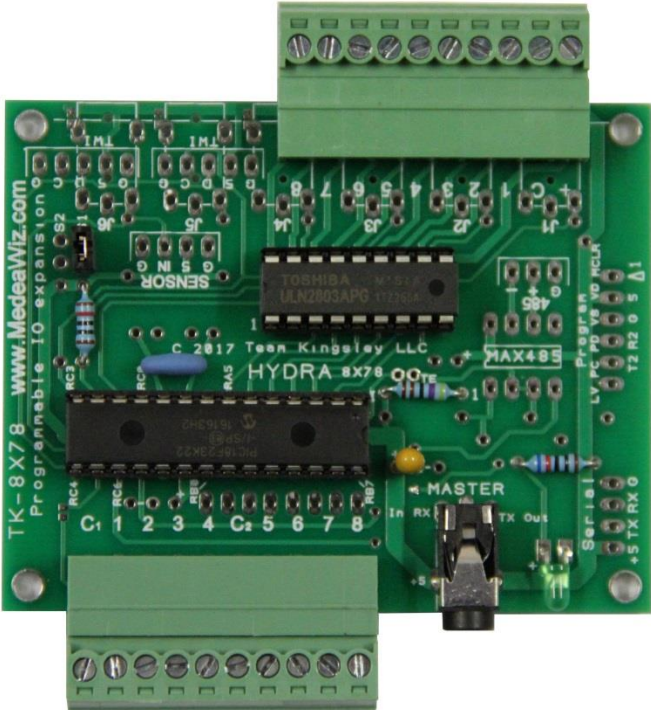
Circuit Board Option Locations

MedeaWiz® Hydra 8X78

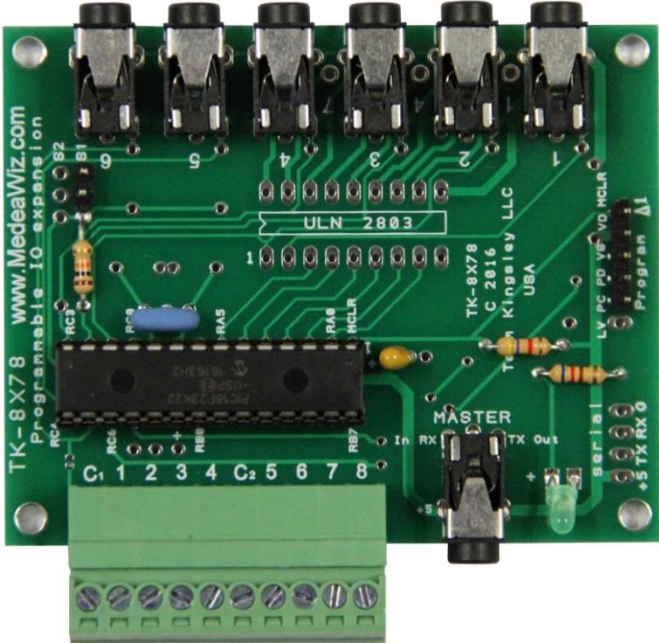
Optional I/O provisions



Shown as delivered with standard parts loaded to accept up to 8 pushbutton inputs.



8X78-8SO rev 1 version shown with 8 sinking outputs ULN2803 driver and terminal strip



8X78 rev 0 version shown with 6 Slave serial ports

Processor IO Port / Pin Usage

8X78 Port Pin Usage Chart

PIC I/O	8 Pushbutton	Matrix input ³	USART	Sinking Outputs	Slave Sprite Ports	Option Jumpers	TWI Port	485 Port	Sensor Port
RA0				1	J1 TX				
RA1				2	J2 TX				
RA2				3	J3 TX				
RA3				4	J4 TX				
RA4				5	J5 TX				
RA5				6	J6 TX				
RA6 ¹									
RA7 ¹									
RB0	1	x							
RB1	2	x							
RB2	3	x							
RB3	4	x							
RB4	5	x							
RB5	6	x							
RB6	7	x	TX2					TX	
RB7	8	x	RX2					RX	
RC0				7	J1 RX				
RC1				8	J2 RX				
RC2					J3 RX	S1		TE ²	
RC3					J4 RX	S2	SCL		
RC4		x			J5 RX		SDA		
RC5		x			J6 RX				x
RC6			TX						
RC7			RX						

1) RA6 and RA7 are used for the installed resonator. They can be used for I/O if the internal oscillator is used.

2) The Transmit Enable of the 485 port must be connected by jumper to RC2 or any other unused I/O pin.

3) Matrix inputs may be from 2x3 to 5x5. The 5x5 option requires adding pull-up resistors and solder gap bridges for RC4 and RC5, and trace cuts at C₁ and C₂.

What's included

The 8X78 comes as pictured on the cover with

- 1) Pre-programmed PIC processor installed
- 2) 3.5mm 4 pole plug to plug cable, for direct plug connection to the Sprite.

Support

We do our very best to answer your calls and emails in a timely manner. We generally return calls and emails within 2 hours or less during business hours. We do monitor emails in the evenings and weekends and will try to respond outside of business hours.

Please read the entire manual. If we have a good manual then we will get fewer calls. Let us know where we can improve it to help others in the future.

If you are still having trouble, or need technical support for some other application, please email or call us. We are here to help when you need it.

World-wide

support@MedeaWiz.com

In USA

Team Kingsley LLC

support@TeamKingsley.com

618-797-9951 x300

Custom Orders

We can offer:

Bare circuit boards

Installed ULN2803 output driver and terminal strip

Custom programming

Please email sales@MedeaWiz.com or your Distributor for a quote.