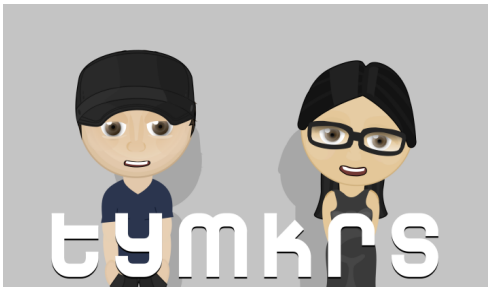
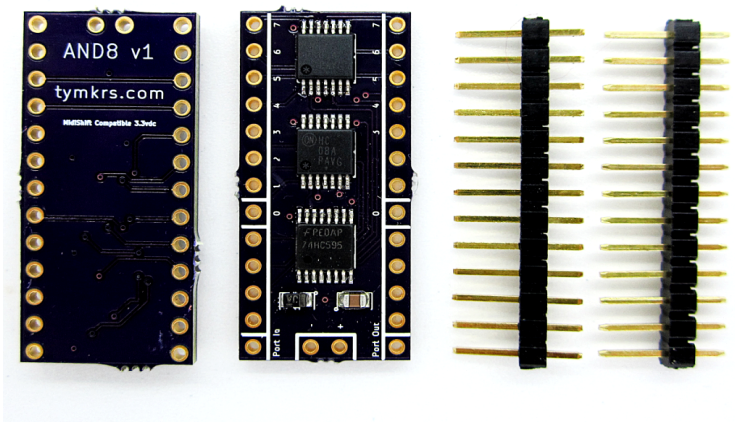


The Toymakers @ tymkrs.com
Questions? Please contact us:
feedback@tymkrs.com

DATASHEET



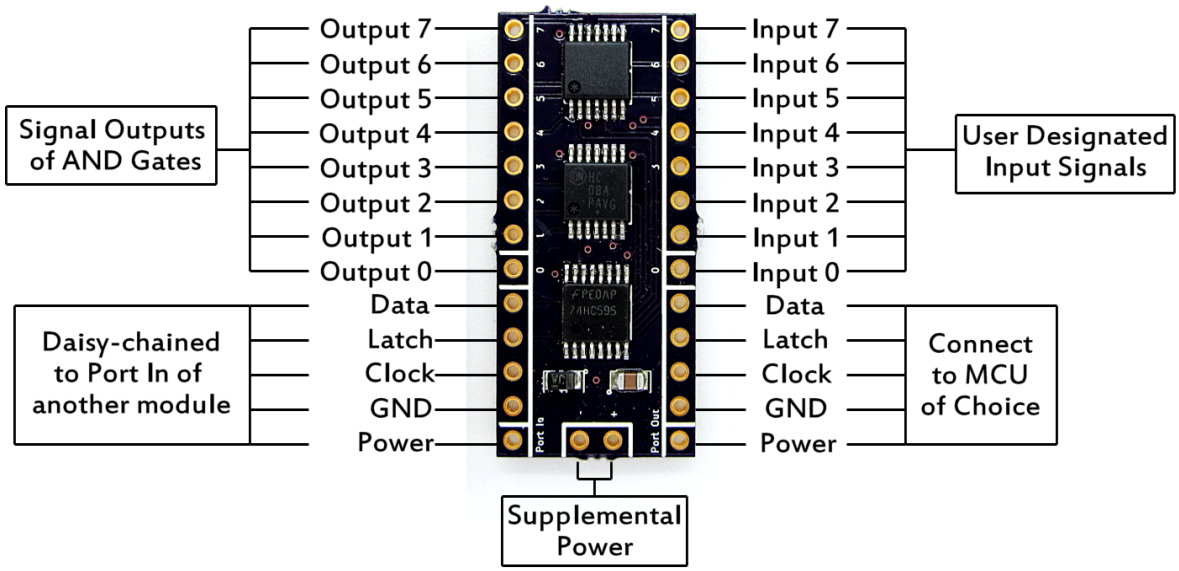
AND8 Module

Data Gating Module

The AND8 Module is a data gating module that uses AND gates capable of gating 8 incoming signals.

- Kit Type: SMT kit with minimal throughhole soldering
- Function: Allows the user to simultaneously gate 8 incoming signals via an AND gate and serial to parallel shift register.
- Uses 3 pins, VCC, and GND on the MCU to send serial data to the shift register
- Can be used in gating digital or analog signaling.

KIT CONTENTS



Contents of the AND8 Module:

- AND8 printed circuit board (33.12 x 15.34 x 1.60mm) – reflowed for you already
- 2 – 1x13 male headers

Electrical Components:

Reference	Quantity	Type	Value
U1	1	Logic Gate, 14-TSSOP	AND - MC74HCT08A
U2	1	Logic Gate, 14-TSSOP	AND - MC74HCT08A
U3	1	Parallel to Serial Shift Register	74HC595
C1	1	Capacitor, 25V	10.0 uF
C2	1	Capacitor, 16V	0.1 uF

75HC595 Shift Register Maximal Operating Conditions
Datasheet: http://www.nxp.com/documents/data_sheet/74HC_HCT595.pdf

Parameter	Maximal Ratings	Unit
Supply Voltage	-0.5 – +7.0	V
Operating Temperature	-40 to +125	ºC
Output Current (Qn)	+/- 35 per pin	mA
Supply Current	70	mA

AND Gate Maximal Operating Conditions
Datasheet: http://www.ic72.com/pdf_file/m/9625.pdf

Parameter	Maximal Ratings	Unit
Supply Voltage	-0.5 – 7.0	V
DC Input Current, per Pin	+/- 20	mA
DC Output Current, per Pin	+/- 25	mA
DC Supply Current, Vcc and GND Pins	+/- 50	mA
Power Dissipation	450	mW
Storage Temperature	-65 to +150	ºC
Output Current (Qn)	+/- 35 per pin	mA
Supply Current	70	mA

Recommended Operating Conditions

Parameter	Ratings	Unit
DC Supply Voltage	2.0 – 6.0	V
Operating Temperature	-40 to +125	ºC

Tools and material required for assembly (not included with the kit):

- Soldering iron
- Solder

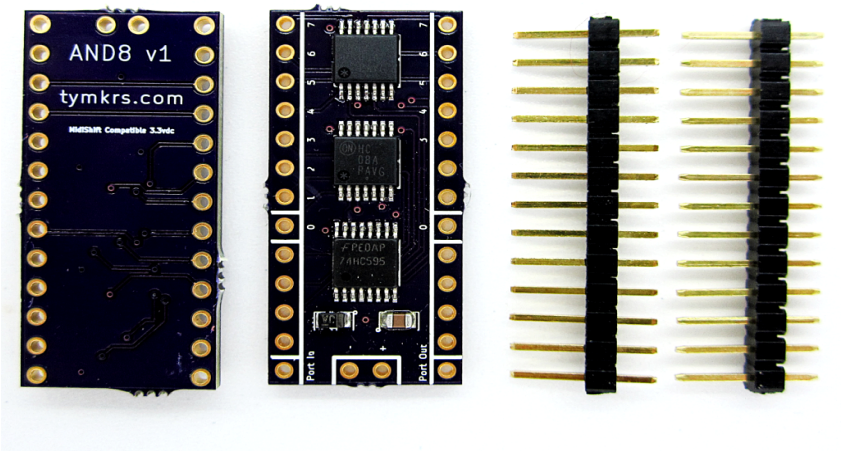
User provided items required for intended function:

- 8 signals
- Microcontroller of choice

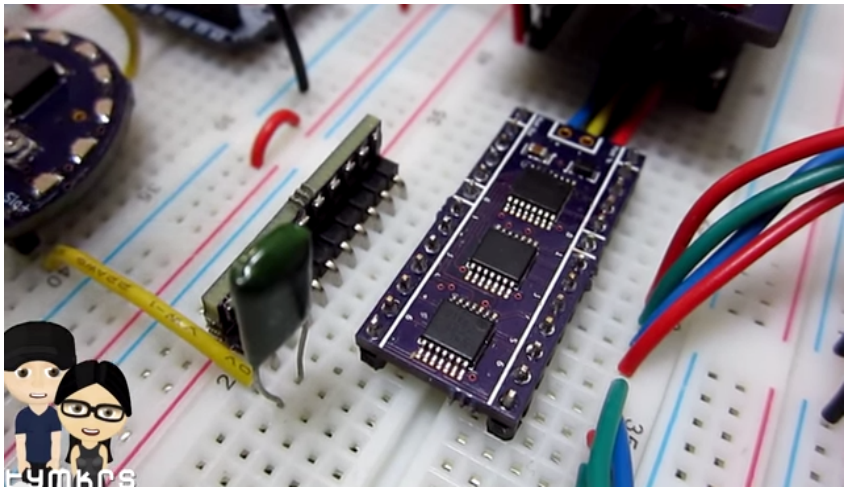
Additional physical/electrical specifications:

- Printed Circuit Board size: 1.30 x 0.60 x 0.063" (33.12 x 15.34 x 1.60mm)
- PCB thickness: 0.063" (1.60mm), not including any components
- PCB thickness: 0.433" (11.0 mm), max height with headers.
- Headers are breadboard friendly.

Additional Picture:



Kit Parts



Assembled PCB
on Breadboard gating 8 555-based signals!

Use Instructions

Build Notes:

- **Method of use:** Control of the AND8 by the microcontroller of choice requires at minimum Clock, Latch, Serial, and GND. Power and GND can come from the microcontroller or by way of the supplemental power header.
- **Requirements:** GND of the microcontroller should be connected to GND of the AND8 module. The voltage between the microcontroller and the NPN8 must also be the same. Ie. If your microcontroller runs off of 3.3V, your board needs to be powered with 3.3V. This is due to the comparator in the shift register which determines what a 1 and what a 0 is.
- **Daisy-chaining**: Multiple AND8s can be connected to each other. The Port Out of one AND8 can be connected to the Port In of another AND8. The microcontroller would still send the serial data to all chained AND8s.
- The output signals are determined by how your code controls the parallel-to-serial shift register 74hc595.

Example Code