

# Hexadecimal Display Autonomous Mode Switch

Team 708  
Hardwired Fusion



# Hexadecimal Display Auto Mode

## ■ Table of Contents

- Application
- Switch Box
- BCD to Hexadecimal
- Schematic
- Modes for Lunacy (Specific to Team 708 Lunacy)
- Bill of Materials

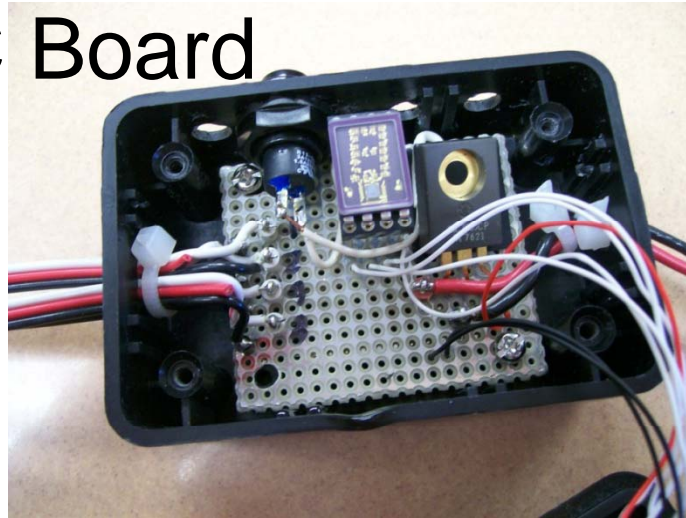
# Hexadecimal Display Auto Mode

## ■ Application

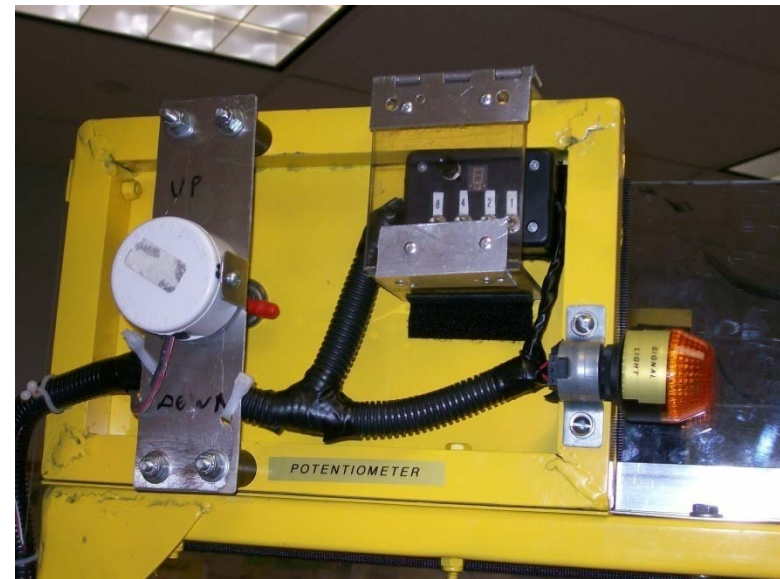
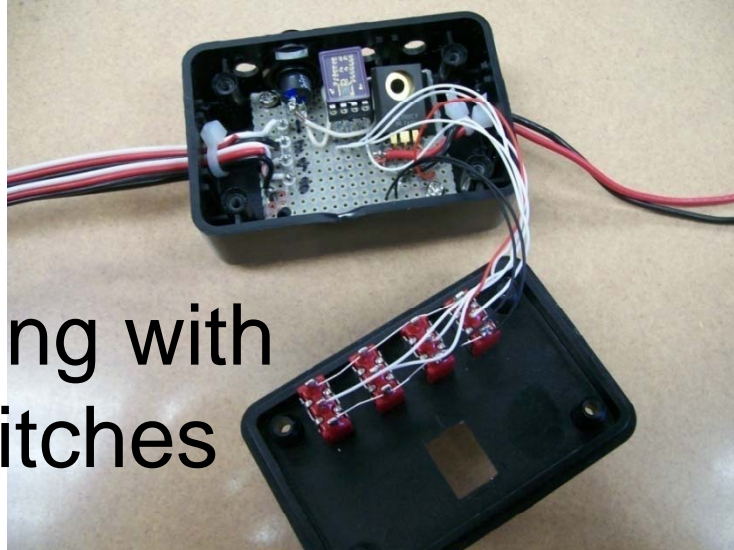
■ This Autonomous Mode Robot Switch box (located on the robot) allows the team to select 1 of 15 different options prior to the match, for the robot in Autonomous Mode. Selection is made via 4 toggle switches with verification from a 4x7 Dot matrix Hexadecimal display.

# Hexadecimal Display Auto Mode

PC Board



Casing with  
switches



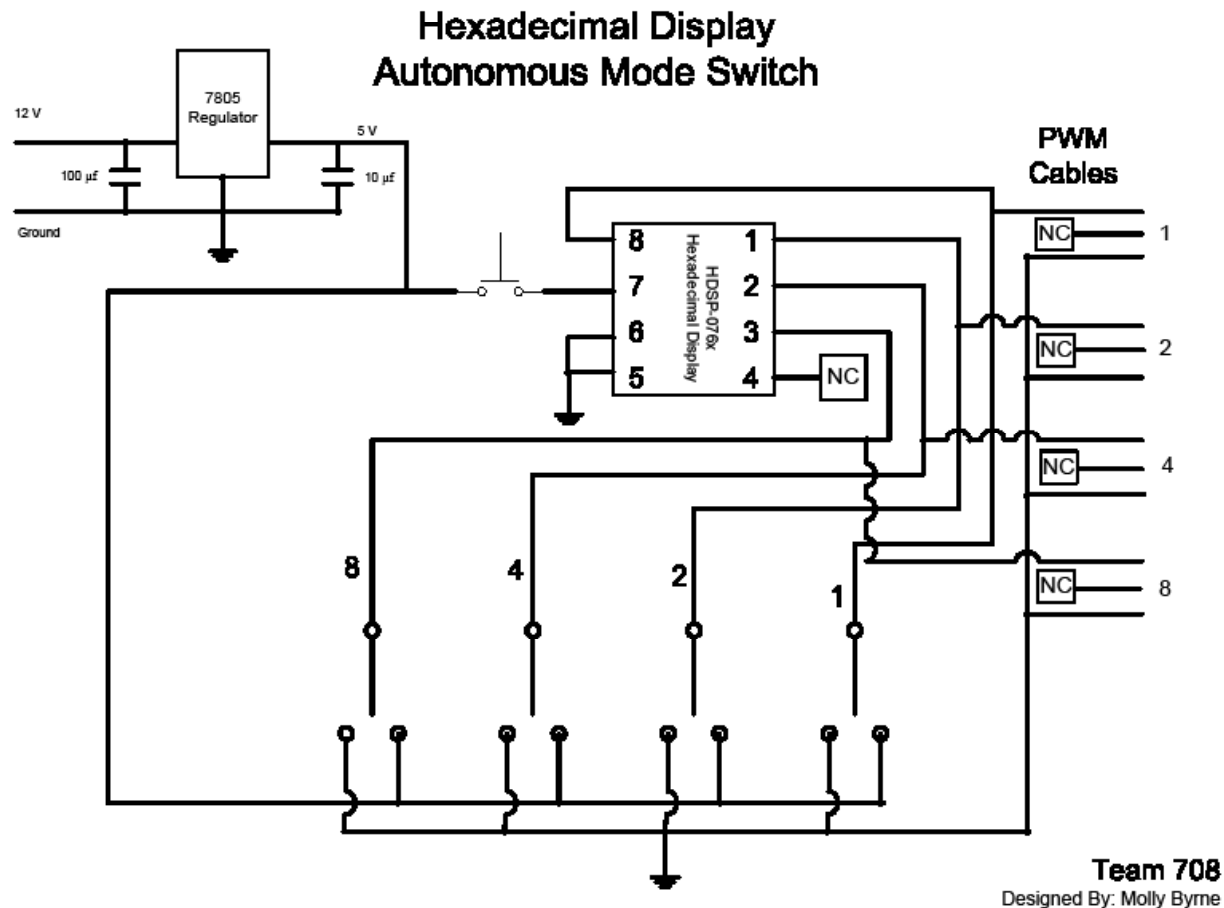
Mounted and  
Covered

# Hexadecimal Display Auto Mode

Hex	Digit	Digit	Digit	Digit	Decimal
	4	3	2	1	
	8	4	2	1	
	$2^4$	$2^3$	$2^2$	$2^1$	
0	0	0	0	0	0
1	0	0	0	1	1
2	0	0	1	0	2
3	0	0	1	1	3
4	0	1	0	0	4
5	0	1	0	1	5
6	0	1	1	0	6
7	0	1	1	1	7
8	1	0	0	0	8
9	1	0	0	1	9
A	1	0	1	0	10
B	1	0	1	1	11
C	1	1	0	0	12
D	1	1	0	1	13
E	1	1	1	0	14
F	1	1	1	1	15

# Hexadecimal Display Auto Mode

## ■ Schematic



# Hexadecimal Display Auto Mode

708 Autonomous Modes for 2009

Hex	8	4	2	1	Start Position	Name
0	0	0	0	0	Any	No Auto
1	0	0	0	1	Center	Pick up EC on right drive to near right
2	0	0	1	0	Center	Pick up EC on right drive to far right
3	0	0	1	1	Near Left	Pick up EC on left drive to near right
4	0	1	0	0	Near Left	Pick up EC on left drive to far right
5	0	1	0	1	Far Left	Pick up EC on right drive to near right
6	0	1	1	0	Far Left	Pick up EC on right drive to far right
7	0	1	1	1	Center	Drive to near right
8	1	0	0	0	Center	Drive to far right
9	1	0	0	1	Near Left	Drive to near right
A	1	0	1	0	Near Left	Drive to far right
B	1	0	1	1	Far Left	Drive to near right
C	1	1	0	0	Far Left	Drive to far right
D	1	1	0	1	Any	Drive down right wall and score
E	1	1	1	0	Any	Drive down left wall and score
F	1	1	1	1	Any	Drive to middle and circle

# Hexadecimal Display Auto Mode

## ■ Bill of Materials

- (1) 7805 Regulator
- (1) 100 uf cap
- (1) 10 uf cap
- (1) Avago HDSP-076x 0962 Hexadecimal Display
- (1) Momentary 2 poll switch
- (4) 2 position micro switches
- (4) PWM cables