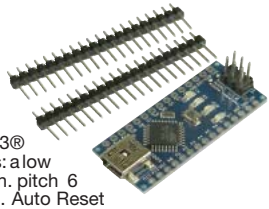
NANO V3 MICRO CONTROLLER

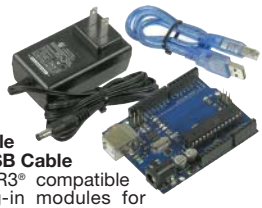


Arduino NANO compatible
Full featured Arduino NANO V3® compatible controller. Features: a low profile Mini USB connector: 1in. pitch 6 pin header for I2C connection. Auto Reset on Download, Information & Freeware available through www. arduino.cc.en and others on-line
Processor: 16 MHz ATmega328
Power: 7-12VDC (Operating 5VDC)
Digital I/O : 14 (with PWM available on 6)
Analog Input: 8
Memory: Flash: 32K-2K for bootloader
SRAM: 2K
EEPROM: 1K
Ports: Arduino I/O Pins
I2C 6 pin header
USB port: FTDI FT232RL Interface Chip
Type Mini B Connector
Power: 5V from USB, 6-20V Unregulated via Pin 30, +5 regulated via Pin 27, Auto select. Manual Reset switch. .1in. pitch holes for headers or direct connection to functions.

L: 1.7" O/A **W:** 0.7" **H:** .45 " **WT:** .015

STOCK #	DESC.	1EA
31354-MP	NANO V3 Compatible Controller	$9.95

UNO-R3 MICRO CONTROLLER KIT



Arduino UNO-R3® Compatible
Includes Power Supply & USB Cable
Full featured Arduino UNO-R3® compatible controller. Accepts all Plug-in modules for Arduino controller. The UNO is one of the most widely used microcontrollers for experimenters, hobbyists, robotists etc. Information & Freeware available through www.arduino.cc.en and others on-line.
Processor: 16 MHz ATmega328 Power: 5VDC (Recommend 7-12VDC)
Digital I/O: 14 (with PWM available on 6)
Analog Input: 6
Memory: Flash: 32K-.5K for bootloader
SRAM: 2K
EEPROM: 1K
.1in. female headers for direct connection to functions
USB port: Type B female
Power Port: 5.5mm X 2.1mm Jack

WT: .9

STOCK #	DESC.	1EA
30297-MP	UNO Compatible Controller Kit	$19.95

MEGA R3 CONTROLLER

MEGA2560 Clone
Full featured MEGA® controller. Based on the Arduino MEGA. Compatable with most existing Duemilanove & Dieci program, shield & IDEs The Mega is major step up in processing power. The Arduinos are the most widely used microcontrollers for experimenters, hobbists, robotists etc. Information & Freeware available through, forums, www.arduino.cc.en, & others on-line.
Processor: 16 MHz ATmega2560
Power: 5VDC (Recommend 7-12VDC)
Digital I/O : 54 (with PWM available on 14)
Analog Input: 16 (2 usedfor I2C communication)
UART Port: 4
Memory: Flash: 256K-8K for bootloader
SRAM: 8K
EEPROM: 4K
.1in. female headers for direct connection to functions
USB port: Type Mini B female
Power Port: 5.5mm X 2.1mm Jack

L: 4-1/4" O/A **W:** 2-1/8" **H:** 1/2 " **WT:** .1

STOCK #	DESC.	1EA
31055-MP	MEGA2560 Controller	$27.95

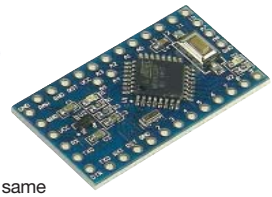
UPGRADE UNO MICRO CONTROLLER

Improved Arduino UNO-R3® Compatible
Full featured Arduino UNO-R3® compatible controller with several additional features: a low profile Mini USB connector (Overcomes the shorting out of some shield boards), a low profile heavy duty power jack with stress relief, Additional Headers for +5V & Gnd, A metric 4 pin header for connection to Grove & other Sensors, additional header for I/O pins. Accepts all Plug-in modules for Arduino controllers. Information & Freeware available through www.arduino.cc.en and others on-line
Processor: 16 MHz ATmega328
Power: 5VDC (Recommend 7-12VDC)
Digital I/O : 14 (with PWM available on 6)
Analog Input: 6
Memory: Flash: 32K-.5K for bootloader
SRAM: 2K
EEPROM: 1K
Ports: ALL Arduino I/O Pins
I2C 6 pin header
4 X1 Grove 4 Pin Metric
USB port: Type Mini B
Power Port: 5.5mm X 2.1mm Jack
.1in. Female headers for direct connection to functions
.1in. Male headers for additional +5V, Gnd and I/O Pins

L: 3" O/A **W:** 2-1/8" **H:** 3/8 " **WT:** .07

STOCK #	DESC.	1EA
31140-MP	UNO R3 Compatible Controller	$17.50

PRO-MINI MICRO CONTROLLER



Arduino PRO MINI AVR Core Development Board with Installed Bootloader
Arduino ProMini Clone - Get the same power as the UNO, or Nano in a low cost and small footprint. Features a Atmega328, 8bit, 16mHz processor, built in 3.3V regulator, 8 analog inputs and up to 14 digital I/O pins. This module does not have a USB connector. There are 5 dedicated 100 mil spaced pads for connecting the FTDI cable (DTR,TXO,RXI,VCC,GND) or a USB/TTLconverter module. The ProMini is ideal for use after you have perfected your idea on a Nano or Uno and want to embed it in the final project. Intended for advanced users. 1st. time Users should take advantage of the Arduino Nano to gain skills. Header pins not included. Code libraries, applications and schematics, Information & Freeware available through www. arduino.cc.en and others on-line.
The pre loaded Bootloader, allows Programming with an (off board) USB to TTL converter (our Stock # 31573) or a FTDI smart cable
Processor: Atmega328 @ 16mHz
Power: 3.3-6VDC On-Board 3.3 V Regulator
Note: for 3.3V input Use the **Vcc** Pin
for 4-6V input Use the **RAW** pin NOT BOTH
Supply Current 4 – 9mA (no load on I/O)
Analog Inputs 8 (10-bit ADC)
Digital I/O: 14 (with PWM available on 6)
Memory: Flash: 32K (-2K for bootloader)
SRAM: 2K
EEPROM: 1K
Ports: Arduino I/O Pins
6 Pin header for direct wiring to off Board USB connector (Not Supplied)
Manual Reset Button
.1in. pitch holes for I/O headers (NOT Supplied) or direct connection to functions

L: 1-5/16 **W:** 11/16" **H:** 1/8 " **WT:** .01

STOCK #	DESC.	1EA
31811-MP	Pro-Mini Compatible Controller	$4.95

"ARDUINO" " PI"
more Items on www.mpja .com

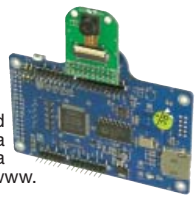
ENHANCED PRO MINI MICRO CONTROLLER

Arduino PRO MINI AVR Core Development Board with Headers & Installed Bootloader
Arduino ProMini Clone with headers & Wider Voltage Range. Get the same power as the UNO, or Nano in a low cost and small footprint. Features a Atmega 328, 8bit, 16mHz processor, built in 5V regulator, 8 analog inputs and up to 14 digital I/O pins. This module does not have a USB connector. There are 5 dedicated 100 mil spaced pads for connecting the FTDI cable (DTR,TXO,RXI,VCC,GND) or a USB/TTLconverter module. The ProMini is ideal for use after you have perfected your idea on a Nano or Uno and want to embed it in the final project. Intended for advanced users. 1st. time Users should take advantage of the Arduino Nano to gain skills. Information & Freeware available through www. arduino. cc.en and others on-line.
The pre loaded Bootloader, allows Programming with an (off board) USB to TTL converter (our Stock # 31573) or a FTDI smart cable
Features:
Processor: 16 MHz ATmega328
Power: 3.3-12VDC On-Board Regulator (Operating 5 VDC)
Note: for 3.3-5V input Use the **Vcc** Pin
for 5.5-12V input Use the **RAW** pin NOT BOTH
Digital I/O : 14 (with PWM available on 6)
Analog Input: 8
Memory: Flash: 32K (-2K for bootloader)
SRAM: 2K
EEPROM: 1K
Ports: Arduino I/O Pins 6 Pins for direct wiring to off Board USB connector (Not Supplied)
Manual Reset Button
.1in. pitch holes for headers (Supplied) or direct connection to functions

L: 1-5/16" O/A **W:** 11/16" **H:** 1/2" O/A **WT:** .012

STOCK #	DESC.	1EA
31355-MP	Pro-Mini Upgrade Controller	$4.95

ARDUINO CAMERA MODULE

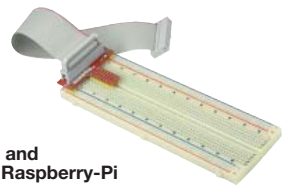


2M Pixal Camera for UNO & MEGA
ArduCAM-F RevB is an Arduino based open source camera Shield including a 2 Mega Pixal OV2540 CMOS camera module with JPEG output. More info at www. arducam.com & www.arduino.cc.en.
Power: 5 & 3.3VDC from Controller
Shield I/O are 3.3 & 5V Tolerant
Storage: SD/TF Card socket (Card not included)
support BMP/JPG
3MB FIFO for Frame buffering
Raw RGB Capture resolution: 640X600,
Supports 2 mp (1600 X 1200 JPEG image capture & storage
GPIO expansion support
SPI Slave interface
Trigger In & Out for event recording.

L: 3-7/8" **W:** 2-7/8" **H:** 5/8" O/A **WT:** .08

STOCK #	DESC.	1EA
31065-MP	ArduCAM Camera Shield	$39.95

RASPBERRY-PI GPIO BREADBOARD



26Pin V2.2 Breakout Board and Solderless Breadboard for Raspberry-Pi
Small, "T" shaped PC Board that plugs into the Solderless Breadboard and connects to your Pi by a 7in long, 26pin ribbon cable. Extends those hard to connect to I/O lines to the 830 tie point solderless breadboard to provide for easy access to the I/O lines and Power on the Raspberry controller. Peel-n-stick backer on Breadboard. LED indicator for 5V power "ON"

"T" Board: L: 1-1/2" **W:** 2" **H:** 3/4" **WT:** .3

STOCK #	DESC.	1EA
30318-MP	Raspberry-Pi GPIO Extender	$19.95

RASPBERRY-PI CAMERA MODULE

5M PixelCamera for Model A or B
High-definition OmniVision CMOS camera for the Pi controller. Uses the dedicated CSI camera connector on the top of the Pi. Built-in IR filter. Automatic White Ballance, Exposure Control & Black Level calibration. Snapshot or Video operation. Many programmable features. Supported by the latest version of Raspbian (Preferred O/S).
Power: (From Pi) 1.5V core onboard regulator
Resolution: 2592X1944 Still
Pixel Size: 1.4um X 1.4um
Supports: 1080P@30fps, 720P@60fps, 640X480P@60/90fps.
Lens mount: M12X0.5
Lens: 3.2mm/f2.0 FOV: Horiz: 63.7/Vert: 70deg.
4 corner mtg. holes.
Includes 10in. flat cable for connection to Raspberry-Pi

L: 1-13/32" **W:** 1-13/32" **H:** 7/8" **WT:** .08

STOCK #	DESC.	1EA
31178-MP	Raspberry Pi Camera	$29.95

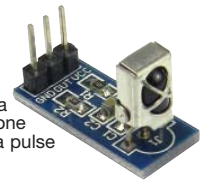
CAMERA MODULE/ CS LENS

5M Pixel Camera for Raspberry-Pi Model A or B
Give your robot sight with this High-definition OmniVision 1/4" CMOS camera with CS mount 6mm lens for the Pi controller. Uses the dedicated CSI camera connector on the top of the Pi. Built-in IR filter. Automatic White Ballance, Exposure Control & Black Level calibration. Snapshot or Video operation. Many programmable features. Supported by Raspbian (Preferred O/S).
Sensor: OV5647
Power: (From Pi) 1.5V core onboard regulator
Resolution: 2592X1944 Still
Pixel Size: 1.4um X 1.4um
Supports :1080P@30fps, 720P@60fps, 640X480P@60/90fps.
Lens mount: CS
Lens:6mm/F1.4
4 corner mtg. holes
Includes 5in. flat cable for connection to Raspberry-Pi

SQ.: 1-7/16" **H:** 1-3/8" **WT:** .1

STOCK #	DESC.	1EA
31497-MP	Pi Camera with CS Lens	$34.95

I/R REMOTE CONTROL MODULE



Add I/R Remote Control to your Arduino or Project
Serial Infrared receiver module utilizing a VS1838B module. Pin Diode & amp in one pack. Converts digital I/R signal into a pulse train output burst.
Power: 3.3 or 5V
I/R Wavelength: 940nM
Center Freq. 38KHz
View Angle: 90deg.
Data Burst: 400uS Min800uSMax
Output: 3 X1 X .1" Pitch header
Data Format: Transmitter/Controller dependant

L: 7/8" **W:** 3/8" **H:** 1/2 " **WT:** .002

STOCK #	DESC.	1EA
31945-MP	I/R Receiver Converter	$1.95

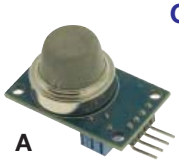
ULTRASONIC RANGE MODULE

40KHz Ultrasonic ranging module used to determine the distance to a target. Features high accuracy, non-contact, stable measurements in a simple 4 connection +5VDC module. Module "Pings" a target when triggered then outputs a logic pulse proportional to the distance. Power: 5VDC
Range: ~2cm-~2.5m Resolution: >0.5cm

L: 1-3/4" **W:** 7/8" **H:** 5/8" **WT:** .02

STOCK #	DESC.	1EA
19605-UT	Ultrasonic Range Module	$3.31

GAS SENSORS


A

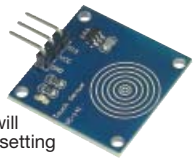

B

State of the art MQ-Series gas sensor coupled with A simple adjustable comparator circuit using a LM393 IC. Detects hazardous/ combustable Vapors in the air. Simple 4 pin connections. Designed to interface to an Arduino or other micro controllers. Freeware available through www.arduino.cc.en and other web sites. SEE ONLINE DATA FOR MORE INFORMATION
Power: 5VDC
Outputs: TTL Compatible Digital & Analog
4 Pin .1in Header pins for Power & Output
LED for Output status indication.
Board: 32mm X 18mm

WT: .02

STOCK #	STYLE	DESC.	1EA
32361-MP	A	MQ-2 Combustable Gas Sensor	$4.95
32362-MP	B	MQ-3 Ethanol Alcohol Sensor	$4.95
32363-MP	A	MQ-4 Methane Gas Sensor	$4.95
32364-MP	A	MQ-5 Natural Gas Sensor	$4.95
32365-MP	A	MQ-6 Propane-Butane Sensor	$4.95
32366-MP	B	MQ-7 Carbon Monoxide Sensor	$4.95
32367-MP	A	MQ-8 Hydrogen Gas Sensor	$4.95
32368-MP	A	MQ-9 Methane-Propane Sensor	$4.95
32369-MP	A	MQ-135 Air Quality Sensor	$6.95

TOUCH SENSOR

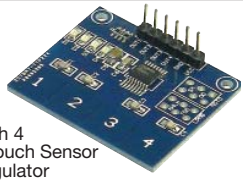


Arduino Touch Sensor Module
Arduino powered sensor for detecting finger touch. When touched; sensor Output switches to a High. Output will remain high for 100+seconds before resetting if touch is maintained.
Power: 2-5.5VDC
CMOS Output Transistor:
Voh: .8VDC, 0.6Vtyp. at Vcc=3V, Sink load of 8mA
Vol: .3V Source 4mA
3 Pin I/O header. Power LED

L: 15/16" **W:** 15/16" **H:** 3/16" **WT:** .005

STOCK #	DESC.	1EA
31301-MP	Touch Sensor Board	$3.95

4 BUTTON TOUCH SENSOR



Arduino Touch Sensor Module
Capactive Touch pad sensor with 4 Positions utalizing the TTP224 Touch Sensor
Power: 2.4-5.5VDC Onboard regulator
CMOS Output: Timed or Toggle, Active High or Active Low
Jumper field for adjusting modes.
Response Time: 60mS fast mode or 160mS in Low power
6 Pin I/O header.
Output Pin & Status LED for each output

L: 1-3/8" **W:** 1-3/16" **H:** 1/2" **WT:**.02

STOCK #	DESC.	1EA
31576-MP	4 inputTouch Sensor Board	$5.95

MOTOR SHIELD BOARD

Full featured motor drive board for connecting Servo, DC and Stepper motors to a Arduino or other micro controllers. Plugs directly onto UNO controller. Freeware available through www. arduino.cc.en and others.
Power: 5VDC Logic. External Motor 4.5-15V
Input: (.1") headers for direct connection to Arduino
Outputs: .1" headers for 2 Hobby 5V Servos
Terminal Strips for: 4 L293D "H" bridge @ .6A/bridge
Drives: 2 Bi or Uni-Polar Step Motors, 4/5/6/8 wire
or 4 DC motors.
Compatable with Mega 1280/2560, UNO, Duemilanova & Diecimila.

L: 2-5/8" **W:** 2-1/8" **H:** 1/2 " **WT:** .14

STOCK #	DESC.	1EA
30292-MP	uController "Motor Shield"	$10.95

H-BRIDGE STEPMOTOR DRIVER

Dual Driver for Arduino & Microcontrollers
Designed around the L9110S IC, can drive 2 DC motors or 1 four wire 2 phase stepper. TTL logic control input. Freeware available through www. arduino.cc.en and others.
Power: 2.5-12VDC
Output: .8A cont. 1.5A Peak
Input: TTL logic levels
Connections: 6 Pin (.1") Input header for connection to power & uController
Output: Terminal strip for AA/BB motor
LED for Power.

L: 1-1/8" **W:** 13/16" **H:** 1/2" **WT:** .01

STOCK #	DESC.	1EA
31162-MP	Dual H Motor Driver	$3.95

SD CARD DRIVER

SD Card Reader/Writer for Arduino ARM Controllers
Compact sensor sized board for reading & writing SD/TF memory modules.
2 X 8 header with .1in pitch (row 2 connected in parallel to Row 1). All SD SPI signals (CS, SCK, MISO, MOSI) available on header for easy connection to all Arduino, Raspberry-Pi & others.
Power: 3.3 & 5V (onboard 3.3V regulator)
Information & Freeware available through www.arduino.cc.en and others on-line.

L: 2" **W:** 1-1/4" **H:** 9/16" O/A **WT:** .02

STOCK #	DESC.	1EA
31491-MP	SD Card Reader/Writer	$2.95

MICRO SD CARD DRIVER

Mini-Micro SD Card Reader/Writer for Arduino ARM Controllers
Compact sensor sized board for reading & writing Mini & Micro SD memory modules. 6 pin header with .1in pitch. All SD SPI signals (CS, SCK, MISO, MOSI) available on header for easy connection to all Arduino, Raspberry-Pi & others.
Power: 3.3V
Information & Freeware available through www.arduino.cc.en and others on-line.

L: 25/32" **W:** 11/16" **H:** 1/2" O/A **WT:** .01

STOCK #	DESC.	1EA
31570-MP	Micro SD Card Reader/Writer	$1.95

2 X 16 LCD SHIELD

LCD and keypad shield for Arduino
LCD Shield for UNO, MEGA & Duemilanove. LCD features: 16 character by 2 line LCD module (Hitachi 44780 compatible), dark blue back ground, white characters, White LED backlight and contrast. Shield has 5 control buttons for: Up, Down, Left, Right and Select. Buttons use only one analog ADC port input, saving pins for other uses. Additional features include LCD contrast adjust, Reset button, ICSP port and power LED. Solder pads available for access to +5v, Gnd, Rst, A1-A5 and digital D0, D1, D2, D3, D11, D12, D13.
Power: +5 volts @ 26mA (supplied by Arduino)
Character size 2.95mm X 5.15mm
Dot Size 0.55mm x 0.60mm
Overall size: L3.20in., W2.35in., H0.55in(excluding pins)
Power: +5 volts @ 26mA (supplied by Arduino)

L: 3-1/8" **W:** 2-1/4" **H:** 7/8" **WT:** .12

STOCK #	DESC.	1EA
31059-MP	LCD Shield for Arduino	$11.95

SINGLE RELAY BOARD

Single Relay module for any project. Easily driven by an Arduino or other micro controllers. Opto Isolated Input.
Freeware available through www.arduino.cc.en & others
LED indicates Relay activated.
Selectable +5V or Ground on Input to Actuate Relay
Power: 5VDC @ ~90mA energized
Contacts: SPDT 10A @ 28VDC,30VDC,125VAC,250VAC
Input: .1in. pitch header with Vcc, Gnd, and Input
Output: Terminal strips.

L: 1-13/16" **W:** 11/16" **H:** 3/4 " **WT:** .02

STOCK #	DESC.	1EA
32574-MP	uController Relay Board	$2.95

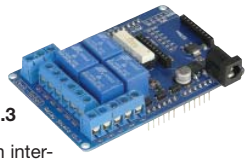
DUAL RELAY BOARD

Opto Isolated input, Dual Relay module for any project. Easily driven by an Arduino or other micro controllers.
Freeware available through www. arduino.cc.en & others
LED indicatorsfor input activity.
Ground on Input Actuates Relay
Power: 5VDC @ 80mA/channel energized
Jumper Select either Power from CPU or external.
Input: .1in. Pitch header with Vcc, Gnd, and inputs.
Input Signal: Ground energizes relay(s)
Output: Terminal strips

L: 2" **W:** 1-1/2" **H:** 3/4" **WT:** .06

STOCK #	DESC.	1EA
32442-MP	uController Dual Relay Board	$3.95

SUPER SHIELD RELAY BOARD



Quad Relay Super Shield V1.3 for Arduino
Super Shield smart module with interface for XBEE/BLUETOOTH BEE modules and 4 high quality relays providing independent SPDT switching. LED indicates status of each relay.
Power: 7-12VDC on-board 5.5X2.1mm coaxial jack
Contacts Rated: 1A, 250VAC, 3A/120VAC/24DC.
Terminal strips for relay contacts.
Standardized shield board compatible with the Arduino I/O Pins.
Digital ports 2,3,4 & 5 for relays, 0 & 1 for wireless modules
[Caution:] Place 2 layers of electrical tape over USB connector on Arduino Board to prevent inter board short

L: 3-1/8" **W:** 2-3/16" **H:** 1" **WT:** .15

STOCK #	DESC.	1EA
31300-MP	Quad Relay Super Shield	$14.95

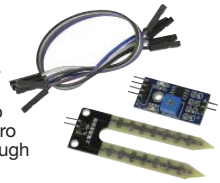
8 RELAY BOARD

8 SPDT Relay Module for Arduino
8 independent SPDT Relays designed to be driven by an Arduino or other micro controllers. Freeware available through www.arduino.cc.en & others.
LED indicators for each relay
All relays are Opto isolated.
Power: 5VDC@<30mA each.
Selectable independent or common Gnd. and/or +5V
Input: .1in. header with Vcc, Gnd, and an input pin for each relay.
Contacts: SPDT 10A @ 30VDC, 250VAC
Output: Terminal strips for contacts
4 corner mounting

L: 5-9/16" **W:** 2" **H:** 3/4" **WT:** .26

STOCK #	DESC.	1EA
31302-MP	Micro Controller 8 Channel Relay	$12.95

MOISTURE SENSOR



A simple adjustable comparator circuit using a LM393 IC to detect water continuity in soil. Designed to interface to a Arduino or other micro controllers. Freeware available through www.arduino.cc.en
Power: 3.3-5VDC
Input: 2 Pin header for connection to sensor board
Outputs: TTL Compatible Digital
Feed through of Analog Input
4 Pin .1in Header pins for Power & Outputs
LEDs for 5V Power and Output status indication.
Comparator Board: 30mm X 16mm
Sensor Board: 55mm X 20mm
Set includes Both Boards & 6in. Interconnect jumpers.

L: 2" **W:** 1-3/16" **H:** 9/16" **WT:** .02

STOCK #	DESC.	1EA
30282-MP	Micro Controller Moisture Sensor	$6.95

TILT SENSOR

Arduino Tilt Sensor
Arduino powered board with adjustable trigger sensitivity level using the LM393 IC to eliminate False triggering.
LED for Power & an LED for Tilt Detection.
Power: 3.3-5.5VDC
Approx Trip angle 45degees
Outputs: Analog: Direct Switch output
:Digital: Debounced Comparator Output.
4 Pin I/O header.
4pcs. 20cm Interconnect Jumpers.

L: 1-3/4" **W:** 9/16" **H:** 1/4" **WT:** .02

STOCK #	DESC.	1EA
31071-MP	Tilt Sensor Board	$3.95

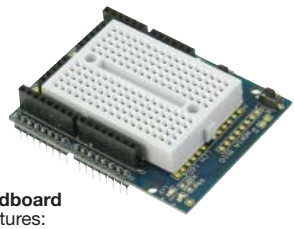
FLAME SENSOR

Arduino I/R Flame Sensor
Arduino powered board with adjustable trigger sensitivity level using the LM393 IC.
LED for Power & an LED for flame Detection.
Detection Range: 760-1100nM (Low I/R)
Power: 3.3-5.5VDC
Outputs: Analog: low level dependent on I/R Source
:Digital Low for detected Flame/Heat above setting.
4 Pin I/O header.

L: 1-1/4" **W:** 9/16" **H:** 1/2" **WT:** .02

STOCK #	DESC.	1EA
31074-MP	Flame Sensor Module	$3.95

PROTOTYPING SHIELD BOARD



Arduino Solderless Breadboard
Prototype shield V-3.1 features:
0.1" pitch headers for direct connection to/from Arduino
0.1" pitch header sockets for stacking additional boards
Reset Switch & Test Switch
Power LED, Test LED
5V & Ground Busses
RS232 Com. Port
0.1Pitch Holes for a 1602LCD and a Nokia 5110 LCD
Peel & Stick breadboard with 170 tie points

L: 2-3/4" **W:** 2-1/8" **H:** 3/4" **WT:** .06

STOCK #	DESC.	1EA
32400-MP	Solderless Breadboard V3 Shield	$8.95

SERIAL 2 X 16 LCD

Serial LCD for Arduino
LCM1602 IIC V1 Serial Board LCD for UNO, MEGA & Duemilanove. The I2C/SPI communication with microcontroller does not take a Shield position, simple 4 wire connection. LCD features: 16 character by 2 line LCD module (Hitachi 44780 compatible), dark blue back ground, white characters and White LED backlighting. Power LED.
Power: +5 volts (supplied by Arduino)
Character size: 2.95mm X 5.15mm
Dot Size: 0.55mm x 0.60mm
I/O: 4 pin header 0.1in Pitch

L: 3-1/8" **W:** 1-7/16" **H:** 7/8" O/A **WT:** .1

STOCK #	DESC.	1EA
31164-MP	2X16 Serial LCD Arduino	$9.95

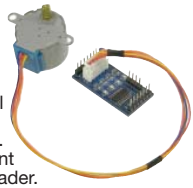
RS232 TO TTL MODULE

RS232 to TTL serial port converter module designed around the MAX3232 chip. Used with microcomputers for expansion of serial ports.
Power 3.3 or 5VDC from microcontroller or power supply.

L: 1-3/4" **W:** 1-1/4" **H:** 5/8" **WT:** .02

STOCK #	DESC.	1EA
31943-MP	RS232 to TTL Converter	$3.50

MINI STEPPER & DRIVER

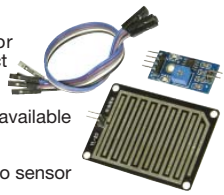


Designed for Micro-controllers
Combination of driver board & a small NEMA 11 gearhead Stepmotor.
Driver Board utilizes the ULN 2003 IC. (www.ti.com) containing 7 high current drivers all brought out to a Output header.
Outputs 1-4 are also connected to the motor header & Has four LED activation indicators on outputs (A - D) for motor phase.
Motor: P/N 28BYJ-48
Coil: Unipolar/5 Lead, 200 ohm
Step: .0879deg/step (5.625 Deg/step , 1/64 ratio)
Rate: 500pps max
Hold Torque: >350g-cm
20mm long X 28mm Dia. with 5mm dia. double "D" X 9mm brass shaft. 8" motor leads, 2 mounting ears
Board: All Outputs available on additional header. Header for selecting internal/external Motor power.
Power: 5-12VDC
Drive Current: 300mA/Peak 500mA
Signal: TTL logic
7 Pin .1in. Pitch Headers for Input & Output
5 Pin XH-5P socket for connection to Motor
4 Pin .1in. Pitch Header for Power
Set Includes:
Freeware available at arduino.cc.en and others.

L: 1-5/8" **W:** 7/8" **H:** 1/2" **WT:** .09

STOCK #	DESC.	1EA
31592-MS	Stepmotor with Driver Board	$4.95

RAIN SENSOR



A simple adjustable comparator circuit using a LM393 IC to detect water droplets on detector board. Designed to interface to a Arduino or other micro controllers. Freeware available through www.arduino.cc.en
Power: 3.3-5VDC
Input: 2 Pin header for connection to sensor board
Outputs: TTL Compatible Digital
Feed through of Analog Input
4 Pin .1in Header pins for Power & Outputs
LEDs for 5V Power and Output status indication.
Comparator Board: 30mm X 16mm
Sensor Board: 54mm X 40mm
Set includes Both Boards & 6in. Interconnect jumpers.

WT: .02

STOCK #	DESC.	1EA
30283-MP	Micro Controller Rain Sensor	$6.95

MICRO SERVO MOTOR

Servo Motor for Arduino, Raspberry-Pi Robotics
Mini servo for robotics & modeling. Nylon gears for smooth quite operation. Rated: Op. Voltage 3.5-6VDC, Stall Torque: 1.2kg/cm @ 4.8V, 1.6kg/cm @ 6V, Speed: 300Deg./Sec (60/.12sec.), Dead Bandwidth: 5us. Futaba/JR connector on 9in. cable.

L: 23mm **W:** 12mm **T:** 29mm **WT:** .02

STOCK #	DESC.	1EA
31002-MD	6V Micro Servo Motor	$5.95

ROBOTICS SERVO MOTOR

Servo Motor for Arduino, Raspberry-Pi Robotics
Heavy duty mini servo with metal gears for robotics. Rated: Op. Voltage 5-7.2VDC, Stall Torque: 7kg/cm @ 4.8V, 10+kg/cm @ 6V, Speed: 360Deg/Sec (60/.15sec.), Dead Bandwidth: 5us. 12in. cable with Futaba/JR connector.

L: 2-1/8" O/A **W:** 3/4" O/A **H:** 1-1/2" **WT:** .14

STOCK #	DESC.	1EA
31150-MP	6V Servo Motor for Robotics	$7.95

3 PIN SERVO EXTENSION CABLE

NON-POLARIZED Ribbon cable with 0.10" pitch, 3 position Socket connector on one end and 3 Pin Male connector on the other end. Socket accepts .025" round or square pins, Males are .025" Sq. Pins.

L: 50cm (19") **WT:** .01

STOCK #	DESC.	1EA
31498-CB	50CM Servo Extension Cable	$1.29

HUMIDITY SENSOR

A selfcontained Temperature & humidity sensor on a board designed to interface to a Arduino or other micro controllers. Freeware available through www.arduino.cc.en
Data:40bit serial: 2X8bit Humidity + 2X8bit Temp. +8bit Checksum
Power: 3.3-5VDC
3 Pin Interface & Power
SPI single line data line. TTL compatiable
Temp: Range: 0-50°C
Humidity Range: 20-90% RH
Sensor Board: 35mm X 15mm
Set includes Board & 6in. Interconnect jumpers.

WT: .02

STOCK #	DESC.	1EA
30287-MP	Microcontroller Humidity Sensor	$5.95

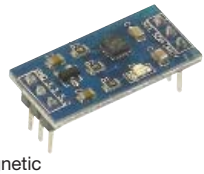
3 AXIS ACCELEROMETER SENSOR

Add an Accelerometer to Arduino & Microcontrollers
Designed for the ADXL345 triple axis accelerometer, this board supplies raw 16bit 2's complement data to a microntroller through a SPI or I2C interface. Features Tap/Double Tap and Free fall detection. Freeware available from arduino.cc.en, youtube & the many forums. NOTE: Header requires soldering
Power: 3-5VDC 40uA operating.
Output: 3 or 4 Wire SPI or I2C
Range: Select +-2, +-4, +-8 or +-16G
Resolution: 13bit/4mG/LSB
Connections: 8 Pin (.1") Input header for connection to power & uController

L: 3/4" **W:** 5/8" **H:** 1/2" (Header) **WT:** .01

STOCK #	DESC.	1EA
31163-MP	3 Axis Accelerometer	$4.95

3 AXIS COMPASS

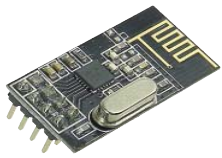


Arduino 3 Axis Digital Compass Module
A 3 axis (XYZ) digital compass/ magnetometer using Honeywell's HMC5583L sensor. Can detect magnetic fields from + to -8 Gauss, with milli-gauss resolution. As a compass, you can expect a 1-2 degree heading accuracy. Fast, up to 160 readings per second are possible. As a magnetometer can detect large masses of ferrous metals (iron), small magnets, electromagnetic fields, even currents in wires. Interface is standard I2C, the module has built-in pull up resistors on the SDA and SCL lines. On board 3.3 volt regulator allows use on 3.3 or 5 Volt micro controllers. Wide uses in navigation, robotics, RC models, science, even as a driveway automobile detector alarm. Information & Freeware available through www. arduino. cc.en and others on-line.
Power: 2.7 – 5.5VDC
Current: 100uA
Resolution: < 4.35 milligauss
Compass Accuracy: 1 – 2 degrees
Interface: 2-wire I2C
4 Pin .1in Pitch Header for Power & Input
DIM: 1.0 x 0.5in (25mm x 12mm)

L: 1" **W:** 1/2" **H:**1/2" **WT:** .02

STOCK #	DESC.	1EA
31585-MP	3 Axis Compass-Magnetometer	$4.95

WIRELESS TRANSCEIVER



Wireless Data Transceiver for Arduino Type Controllers
High speed, low power, 2.4GHz, radio data transceiver module. Based on the NRF24L01+ RF IC. It is capable of transmitting and receiving data at up to 2Mbps over 126 ISM band channels. Multiceiver design allows up to 6 channels. 3 level 8bit FIFO for both Tx. & Rx registers.8bit command word. Super low power in power Down mode (less than 1uA). Communicates up to 200 feet in open air, less in enclosed spaces. Interface between module and micro-controller is 4 wire SPI. Inputs are 5 volt tolerant, but supply voltage is 3.3 volts maximum. Can be interfaced to 5 volt systems with 3.3v regulators. Interconnect your world. Multiple uses in robotics, remote data collection, alarms, toys etc.
See: http://arduino-info.com/Nrf24L01-2.4ghz-HowTo
Power: 1.9 – 3.3VDC Max
Current: Standby 26uA
TX Current 11.3mA RX Current 13.5mA
Air Data Rate: 250kbps, 1Mbps, 2Mbps selectable
Interface: 4-pin SPI (5V tolerant)
RF 2.4GHz ISM Band – 126 programmable channels
RF TX Power: Programmable 0, -6, -12 or –18dBm
Range 200ft Max open air line of sight
8 Pin (2X4) .1in Pitch Header for Power & Input
Requires a pair for minimum Operation

L: 1-3/16" **W:** 5/8" **H:** 1/2" **WT:** .02

STOCK #	DESC.	1EA
31572-MP	Wireless Data Transceiver	$3.95

LIPO BATTERY CHECKER

Mini Tester for R/C batteries. Designed to test 1-8 Cell LiPo, Li-Ion, LiMn & LiFe Packs. Scans each cell & displays the voltage then displays total Voltage of Pack. Alarm sounds when a cell is below programmable set point.
Character Height: 0.36in.
Input Range : .5-36Vmax
Input cell Range: .5-4.5V
Cell Alarm Set point: 2.7-3.8V
Resolution: .01V
9 Pin header (.025" sq X .1" spacing), **-** and 1 for each cell in pack up to 8

L: 1-1/2" O/A **W:** 1" **T:** 1/2" **WT:** .02

STOCK #	DESC.	1EA
31067-TE	LiPo Battery Monitor	$4.95

USB/RS-232 MINI BOARD

USB 2.0 Mini module connects host computer (Windows Linux) to a Arduino or other micro controllers. On chip UART, USB Controller, Full Duplex asynchronous serial device to a USB host. Upgrade RS232 to USB. Supports Windows® up through XP, linux 2.4 & up.
Chip: Silicon Labs CP2102
Power: 5, 3.3VDC
Baud Rate: 300BPs to 1.0MBps
Connections: 6 Pin (.1") header for TXD, RXD, RST, 3.3V, 5V & Gnd.
Holes for 2X3 (.1 pitch) additional headers for RI, DCO,DTR, DSR, RTS & CTS
USB 2.0 Type A Male
LED for Power.
Freeware available through www. arduino.cc.en and others.

L: 1-17/32" O/A **W:** 5/8" **H:** 1/2" **WT:** .02

STOCK #	DESC.	1EA
31575-MP	Mini USB/RS-232 Interface	$4.95

UNO-R3 PROTECTIVE CASE

Acrylic plastic case for the Arduino UNO-R3 controller.
Protects the UNO from loose wires, dropped parts etc. Case is not water or dust proof. Holes & slots allow access to all UNO connections. Includes Hardware.
ASSEMBLY REQUIRED
UNO NOT INCLUDED

L: 3" **W:** 2-7/16" **H:** 7/8" **WT:** .1

STOCK #	DESC.	1EA
32182-MP	UNO Protective Plastic Case	$2.95

COLOR DETECTOR

Arduino Color Recognition Sensor Module
Designed around 4 White LEDs and the TAOS TCS230 sensor IC. The four white LED's to provide a broad spectrum light source. The TCS230 has an 8 x 8 array of photodiodes with color filters (16 Red, 16 Blue, 16 Green, 16 Clear). A light to frequency converter generates a 50% duty cycle square wave on the output pin. Frequency is directly proportional to light intensity. Output scaling 100%, 20% and 2% allows for wide dynamic range of intensities. The color selects (S2, S3), frequency scale (S0, S1) and output are TTL logic level and can be connected directly to the micro controller. Basic readings are easy using the Arduino "pulsein" command. Take a reading for each color. The reading with narrowest pulse width or highest frequency is the major color. Using advanced ratio analysis almost any color could be recognized. Multiple uses by adding lenses, color filters, different light source.
Check out: www. arduino.cc.en and others.
Power: 2.7 – 5VDC
Current: >30mA @ 5V
Input: TTL Logic Levels
Sensor Bandwidth: ~ 400 – 950nm
Output: TTL Level Square Wave (50% Duty Cycle)
~2Hz max Dark/24KHz Max,
Intensity/Color Dependant SEE DATA SHEET
NOTE: The OE pin (Output Enable) is grounded through R8 (0ohm), making the module enabled by default. Do not connect the OE to the micro controller, unless R8 is removed or changed to 4.7K or greater.
Dual 4 Pin .1in Pitch Headers

L: 1-1/4" **W:** 15/16" **H:** 3/4" **WT:** .03

STOCK #	DESC.	1EA
31582-MP	Color Intensity Detector Module	$7.45

MEGA I/O SENSOR SHIELD V2.0

Mega Atmega 1280/2560 Compatible
Get more out of the MEGA with this Shield designed for easy connection of sensors to all 70 of the analog and digital pins. Each connector has separate +5 volts and ground contacts. Additionally 5 special purpose connectors are provided for ICSP port, APC220 wireless module, Bluetooth wireless module, SD card interface, Ultrasonic module. Power supplied from the MEGA or jumper selectable external source. Shield also includes Reset Button, Power LED, I/O pin D13 LED.
[Input/Output Connectors]
16 Analog 54 digital
1 for APC220 wireless module
1 for Bluetooth wireless module
1 for SD card interface module
1 ICPS Port
1 External +5 volt power terminal strip (Jumper Selectable)

L: 3-7/8" O/A **W:** 2-1/8" **H:** 3/4" **WT:** .1

STOCK #	DESC.	1EA
31060-MP	MEGA 2560 Sensor Shield	$12.95

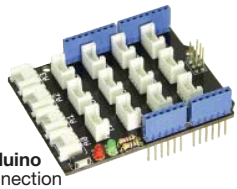
WIFI SHIELD

Arduino WiShield V2.0 WiFi Shield
Wi-Fi Shield for Arduino controllers is designed around the Microchip MRF-24WBOMA Module to give 802.11b capability. Supports both BSS & IBSS wireless networks. Connects to Secure authentication WEP-64 &128, WPA/WPA2-PSK. 1 & 2 Mbps throughput speeds. Standardized and stackable shield board compatible with the Arduino I/O Pins. Uses the Tx & Rx pins on the controller. Uses SPI for host communications <25MHz.

L: 1-7/8" **W:** 2-1/8" **WT:** .04

STOCK #	DESC.	1EA
31056-MP	WiFi Shield	$74.95

BASE SHIELD BOARD



Grove Break-out Board for Arduino
Base shield board simplifies connection in the Grove environment. Arduino pins are brought to 4 Pin JST sockets. Each JST provides 2 Signal Pins, A Ground Pin & a Vcc Pin. You have 4 available I2C connectors, 4 Analog connectors, 7 Digital connectors and 1 UART connector.
The UART connector comprises Arduino's Digital0 & Digital1 while D2-D8 Port duplicates ports in a staggered manner: D2=Digital2 & Digital3/D3= Digital3 & Digital4/.../D8=Digital8 & Digital9. The Analog Pins are treated the same A0=Analog 0 & Analog1/ A1=Analog1 & Analog2 etc. The SPI Header is feed through only as there are no Grove modules that use it. Standardized and stackable shield board compatible with the Arduino I/O Pins.

L: 2-11/16" **W:** 5/8" **WT:** .1

STOCK #	DESC.	1EA
30444-MP	Seeeduino Grove Base Shield	$9.90

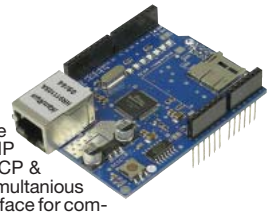
USB DISC MODULE

USB to FAT File System Control Module for Arduino
Controller/interface for USB Storage devices using the CH376 IC. For reading/writing USB drives, SD & HC-SD cards.
Supports 3 mode of communiction: 8-bit parallel,SPI, or async. serial.
Power: 5VDC (on board 3.3V regulator)
File System: FAT12, FAT16 & FAT32
Interface: SPI, Parallel, Serial
Connectors: MPU: 8 X 2 Pin .1in. Pitch Header
Device: USB Type 1 Male

L: 1-7/8" **W:** 1-1/8" **H:** 1/2" **WT:** .02

STOCK #	DESC.	1EA
31813-MP	USB Disc Module	$12.95

ETHERNET SHIELD



Stackable Ethernet Shield for UNO & MEGA
Compact LAN Shield using the Wiznet W5100 chip providing IP stack and capable of both TCP & UDP. Shield supplies up to 4 simultanious socket connections. SPI interface for communication to Arduino and or other micro controllers. Can be server or client. Micro SD card slot for file storage.
Note: the W5100 & SD card share the SPI bus, only one can be active. You must disable the one you are not using. Freeware available through www.arduino.cc.en and others. RJ jack mounted Green & Yellow LEDs
Power: 3.3/5VDC from microcontroller
Digital I/O : same as controller
Analog Input: same as controller
LEDs: 7 TX,TX,Coll,FullD,100M, Link & Power

L: 2-3/4" **W:** 2-1/8" **H:** 1-1/16" **WT:** .06

STOCK #	DESC.	1EA
31054-MP	Micro Controller Ethernet Shield	$19.95

SOUND SENSOR

Arduino Analog/Digital Sound Sensor
Arduino powered board with adjustable audio trigger sensitivity level using the LM393 IC.
LED for Power & an LED for Detection.
Power: 3.5-5.5VDC
Outputs: Analog: low level audio
Digital Low for detected sound above setting.
4 Pin I/O header.

L: 1-1/4" **W:** 9/16" **H:** 1/2" **WT:** .02

STOCK #	DESC.	1EA
31072-MP	Sound Sensor Board	$3.95

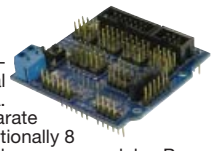
BUZZER MODULE

Compact buzzer module with transistor driver to protect I/O pins from overloading. Designed to interface to a Arduino or other micro controllers. Freeware available through www.arduino.cc.en and other websites
Power: 3.3-5VDC
Frequency: Single 3.1KHz tone
Soung Level: 80db
3 Pin Interface & Power
SPI single line data line. TTL compatiable
Set includes Board & 6in. Interconnect jumpers.

L: 2-3/16" **W:** 9/16" **H:** 1/2" **WT:** .09

STOCK #	DESC.	1EA
31063-MP	Microcontroller Buzzer Module	$1.95

SENSOR SHIELD



Arduino Sensor Shield V5.0
Sensor Shield llows quick, easy access to all 20 of the analog and digital pins on the Arduino UNO & MEGA. Each sensor connector has separate +5 volts and ground contacts. Additionally 8 connectors are provided for special purpose modules Power supplied from the Arduino or a jumper selectable external power supply. Shield also includes Reset Button, Power LED, I/O pin D13 LED. All connectors have 2.54mm pin spacing.
I/O Ports:
6 Analog
14 digital
1 128X64 graphic LCD parallel
1 128X64 graphic LCD serial
1 APC220 wireless module
1 Bluetooth wireless module
1 SD card interface
1 Ultrasonic module
1 I2C serial port
1 RS232 serial port

L: 2-1/4" **W:** 2-1/4" **H:** 3/4" **WT:** .06

STOCK #	DESC.	1EA
31058-MP	Sensor Shield V5	$7.95

REAL TIME CLOCK

Arduino Accurate Clock Shield
Clock uses the DS3231 IC from Maxim
Standardized and stackable shield board compatible with the Arduino I/O Pins. Uses the Tx & Rx pins on the controller. Uses I2Cfor host communications <25MHz.
Power: 3-5VDC/ 200uA active, 900nA(timekeep)
Accuracy: 2ppm 0C-40C (~1min/Yr)

L: 2-5/16" **W:** 1-13/16" **WT:** .04

STOCK #	DESC.	1EA
31147-MP	Accurate Realtime Clock	$16.25

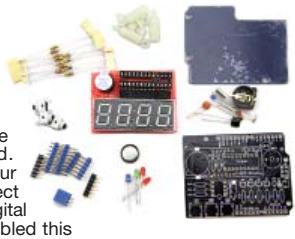
MICRO REAL TIME CLOCK

Mini Arduino Accurate Clock Module
Clock uses the DS3231 IC from Maxim
Mini module board with CR1220 battery holder. Uses I2C (SLC/SDA) for host communications <25MHz.
Power: 3-5VDC/ 200uA active, 900nA(timekeep)
Accuracy: 2ppm 0C-40C (~1min/Yr)
Output: 4Pin, 0.1in. Pitch Header
LED power Indicator
Requires CR1220 Battery (Not Supplied)

L: 1" **W:** 5/8" **H:** 1/2" **WT:** .004

STOCK #	DESC.	1EA
31950-MP	Accurate Realtime Clock	$5.95

TICK-TOCK SHIELD



Real Time Clock for The Arduino
Simple starter board is the Tick-Tock Shield Board. Perfect way to begin your Arduino experience. Project is to build a "Geek" style Digital alarm clock. Once assembled this board takes you through several programming examples ranging from easy to difficult.
Board is compatible with the Arduino I/O Pins but does not feed through signals.
NOTE: Requires assembly using soldering & mechanical skills and includes all necessary components.

L: 2-11/16" **W:** 2-1/8" **WT:** .18

STOCK #	DESC.	1EA
30432-MP	Seeeduino Tick-Tock Shield	$20.90

ULTRASONIC RANGE FINDER

Range finder set up for Microcontrollers
A basic ultrasonic range finder with 3 parts, consisting of:
Base Control board with a STC89C52 processor,
2 X 16 LCD1602 backlit display
HC-SR04 Ultrasonic Ranging module.
Base board has all CPU ports connected to headers, Power switch, Reset switch, Interface for display & Ultrasonic head and RS232 comPort.
Power: 5VDC 5.5/2.5mm Coaxial power Jack
Outputs: .1in. Pitch Headers
DB9-Female Serial Port for Programming, logging, debug
Range: <3cm-~2.5m
Note: This module is not for beginners. Requires downloading of files, software etc.

L: 3-1/2" O/A **W:** 3-1/8"O/A **H:** 1-1/4"O/A **WT:** .2

STOCK #	DESC.	1EA
31954-MP	Ultrasonic Rangefinder	$24.95

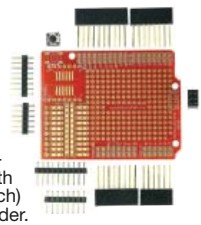
X-Y JOYSTICK

Analog joystick for the Arduino and othermicrocontrollers. Contains two 10K potentiometers connected to the handle lever for X-Y movement and when the handle is pressed in the centered position, a momentary switch "Z" is closed. The Potentiometers are wired as voltage dividers between Gnd. & Vcc. The lever is spring loaded toreturn to center position at rest. Typical connections are X and Y to the AD converter and the momentary Z switch to a digital pin. The Z switch has a 1K pull up resistor and is active low output. Can be used with 3.3V and 5V microcontrollers. This unit has three Dupont 3 pin male header connectors (.025sq X .1 spacing) for each function which makes connecting to the Arduino Sensor Shield a snap. Ideal for steering robots, games, panning cameras, and RC model control. With LED power indicator and four mounting holes

L: 2-1/8" **W:** 1-3/4" **H:** 1-1/4" **WT:** .04

STOCK #	DESC.	1EA
31061-MP	Arduino X-Y Joystick with LED	$5.95

BREADBOARD SHIELD KIT

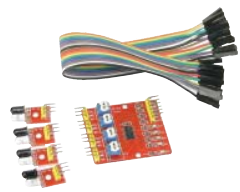


The prototyping shield makes it easy to make up your own custom circuits. Provides extra connections to all the Arduino I/O Pins, approx 190 uncommitted Plated thru holes, location for both through hole (.1pitch) & SMD IC (.05 pitch) IC's. Includes a Reset botton, I2C Header. Compatable with Mega 1280/2560 & UNO-R3

L: 2-11/16" **W:** 2-1/16" **WT:** .04

STOCK #	DESC.	1EA
30293-MP	Breadboard Shield Kit	$5.95

4CH. LINE SENSOR

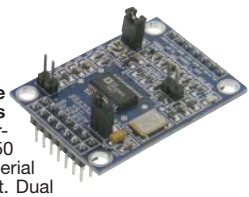


Arduino 4 Channel Line Follower Sensor
Arduino powered board with 4 adjustable sensitivity inputs for the 4 remote mount externai LED/Photo transistor Sensor boards. Included main Board, 4 Sensor Boards and 18pcs. 20cm Interconnect Jumpers.
Power: 3.2-5VDC A >1A
Outputs: 4 TTL Compatable
Detection Range: 1mm -60cm, Nearer the more stable

L: 1-1/2" **W:** 1-9/16" **H:** 1/2" **WT:** .06

STOCK #	DESC.	1EA
31068-MP	4 Channel Line Sensor	$14.95

WAVEFORM GENERATOR MODULE

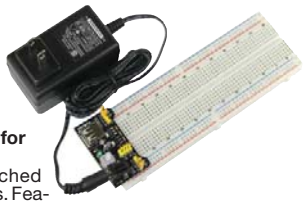


Digital Sine/Square Wave Generator for Microcontrollers
Crystal controlled signal generator based around the AD9850 Direct Digital Synthesizer chip. Serial or Parallel microcontroller input. Dual Sine & square wave outputs.
70MHz Lo-pass filter for better S/N Ratio. Adjustable amplitude by using controller D/A converter to provide closed loop feedback
Power: 5V
Output Range: Sine 0-40mHz
Square: 0-1MHz
Connection: Output: 1 X 7 Pin .1in. Pitch Header
Input: 2 X 7 Pin .1in. Pitch Header

L: 1-5/8" **W:** 1-3/16" **H:** 1/2" **WT:** .01

STOCK #	DESC.	1EA
31815-MP	Waveform Generator Module	$9.95

POWERED BREADBOARD



Solderless prototyping for Arduino & Others
Breadboard with attached 3.3V & 5V power supplies. Features: 2 Distribution strips (200 pts), Breadboard panel (830Pts.), a +3.3VDC & +5VDC power supplyBoard. Max total load:700mA. Supply Board plugs into breadboard. Selectable 5V, 3.3V or No Bus voltage for both bus strips. Power On/Off switch on board. Input power from USB Port or 5.5/2.5mm power jack. 6.5-12VDC input range. Includes a 12V Plug supply.Panel cutout: 45.5 X 26.5mm

WT: .5

STOCK #	DESC.	1EA
30176-TE	Powered Breadboard	$10.95

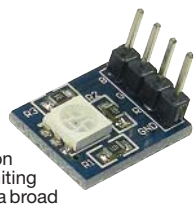
PROTOTYPING BREADBOARD

Arduino Solderless Breadboard
Prototype MEGA shield V3 features:
.1" headers Pins for direct connection to/from Arduino MEGA Power & Ports.
.1" header Sockets for stacking additional boards
6 Pin ICSP Port
Reset Switch,
2 LEDs: Power & Status
ICSP Com. Port
300+ plated holes for breadboarding
Peel & Stick breadboard with 170 tie points

L: 4-1/8" **W:** 2-3/16" **H:** 3/4" **WT:** .1

STOCK #	DESC.	1EA
31547-MP	MEGA Solderless Breadboard	$9.95

RGB LED MODULE



Arduino Experimenter's RGB Module
Module with a high brightness 5050 SMD RGB LED configured as common cathode with on board current limiting resistors. By using a micro-controller; a broad range of colors can be achieved by pulse width modulating each LED in different ratios. You can Search the net for various applications and code.
Input: 3.3V or 5V (on-board Resistors)
Forward Voltage Drop VF: Red = 2.1V, Blue= 3.2V, Green = 3.2V
Forward Current IF: 20mA/Color 50mA/Color Max.
Max Reverse Voltage VR: 5V
Intensity min.: Red=500mcd, Green=800mcd, Blue=300mcd
Wavelength Typ.: Red=625nm, Green= 530nm, Blue= 465nm
LENS – Water Clear
Viewing Angle – 120deg

L: 5/8" **W:** 1/2" **H:** 1/4" **WT:** .02

STOCK #	DESC.	1EA
31810-MP	RGB Experimenters Module	$1.50

ETHERNET INTERFACE

Compact LAN Module using the ENC28J60 chip with an SPI interface for Arduino or other micro controllers. Freeware available through www.arduino.cc.en and others
Power: 3.3VDC (5V Tolerant)
u Controller interface: 10 Pin header for power & control
LAN: RJ-45 Jack
RJ jack mounted Green & Yellow LEDs

L: 2-1/4" **W:** 1-5/16" **WT:** .02

STOCK #	DESC.	1EA
30284-MP	Micro Controller Ethernet Module	$7.95

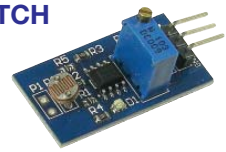
RASPBERRY-PI 2 ALUMINUM CASE

Heavy Duty protective Case, Fan & Power Supply
Industrial aluminum case for Raspberry-Pi 1B+ & Pi 2.
Case designed for End Use Applications in equipment, field, or factory. Micro fan mounts in case with double side tape and connects to 5V & ground on the Pi GPIO header.
Slot in case for I/O port wiring.
USB Ports, Network, A/V & HDMI ports available through case.
Notes:
you cannot connect a 40 Pin Breakout Cable & the fan at the same time.
S/D card Slot is not available through the case
Set includes: Case, Micro Fan and 5V, 4A Power Supply.

L: 4-1/16" **W:** 2-11/16" **H:** 1-5/8" **WT:** .8

STOCK #	DESC.	1EA
32593-MP	Raspberry-Pi 2 H/D Case	$24.95

LIGHT SENSOR SWITCH

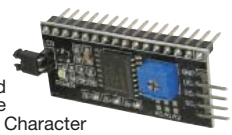


Arduino Light Sensor Switch Module
Module is used to detect ambient light. The sensor is a CDS photo resistor connected to a LM393 voltage comparator IC with adjustable sensitivity control (R6). The LED indicator that turns on when dark or low light is detected. The output can be connected directly to a micro-controller I/O port or a relay. Ideal for turning on lights automatically at night.
Power: 3.3V to 5VDC
Supply Current: < 1mA (LED off)
Output: Digital TTL Open Collector Current sink 20mA
3 Pin .1in. Pitch Header for Power & Output

L: 1-1/4" **W:** 5/8" **T:** 1/2" **WT:** .02

STOCK #	DESC.	1EA
31589-MP	Light Detector	$2.75

SERIAL SPI/LCD DRIVER BOARD



Complete SPI interface designed around the PFC8574T chip. Use to connect a 2X16 or 4X20 LCD Character Display to a Arduino or other micro controllers. Freeware available through www.arduino.cc.en and others.
[SPI Address lines A0-A2 may be pre set from factory. add or remove solder bridges as needed]
Power: 5VDC
Input: 4 Pin (.1") header for connection to uController
Outputs: 16 TTL Compatible pins to LCD module
LED for 5V Power.

L: 1-5/8" **W:** 3/4" **T:** 1/2" **WT:** .02

STOCK #	DESC.	1EA
30285-MP	uController SPI/LCD Interface	$3.95

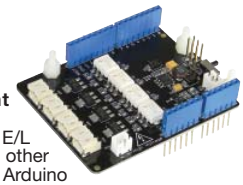
X-Y JOYSTICK

Analog joystick for the Arduino and othermicrocontrollers. Contains two 10K potentiometers connected to the handle lever for X-Y movement and when the handle is pressed in the centered position, a momentary switch "Z" is closed. The Potentiometers are wired as voltage dividers between Gnd. & Vcc. The lever is spring loaded to return to center position at rest. Connections to a microcontroller are X and Y to the AD converter and the momentary Z switch to a digital pin. The Z switch has a 10K pull up resistor and is active low output. Can be used with either 3.3V or 5V supplies. Single 5 pin male header connectors (.025sq X .1 spacing) for Output. Four corner mounting holes.

L: 2" + Pins **W:** 1-1/4" **H:** 1-1/4" **WT:** .02

STOCK #	DESC.	1EA
31064-MP	X-Y Joystick	$4.95

EL SHIELD BOARD

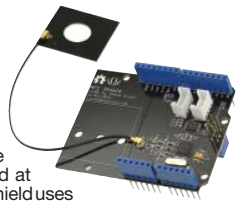


Arduino Electroluminescent Driver Module
Program your Adruino to make E/L tubing "Dance" with music or other sources. Use PWM output from Arduino to drive 4 channels of Opto-Couplers & TRIACs. Standardized and stackable shield board compatable with the Arduino I/O Pins. Requires external 5V to 110V DC/DC converter. Drives up to 15M of E/L. JST2.0 headers for connection to inverter.

L: 2-11/16" **W:** 2-1/8" **WT:** .12

STOCK #	DESC.	1EA
30431-MP	Seeeduino EL Card Shield	$27.50

NFC SHIELD BOARD



Arduino Near Field Communication Module
NFC is a system of short range (5cm-2-3/8") data exchange used at gas stations, security doors, etc. Shield uses a PN532 Transceiver module to handle contactless exchange at 13.56MHz. Supports ISO14443 A & B Standards. Shield will read and write a 13.56mhz wand or tag or you can setup point to point (P2P) data exchange by using 2 NFC Shields. Standardized and stackable shield board compatable with the Arduino I/O Pins. Uses the SPI port to communicate leaving the Arduino I/O available. Includes Grove UART and I2C ports.

L: 2-11/16" **W:** 2-1/8" **WT:** .1

STOCK #	DESC.	1EA
30429-MP	Seeeduino NFC Card Shield V2	$14.90

E-INK SHIELD BOARD

Arduino E-Paper Module
Small version of the those Page White screens used in e-readers. Super low power AMEPD (Active Matrix Electrophoretic Display), retains display with power off. Driver chip supports character of 175 languages. Display size: 2.25" X 1.125" O/A. Resolution: 172 X 72. Standardized and stackable shield board compatible with the Arduino I/O Pins. Uses the SPI port to communicate.
Some soldering & Assembly Required

L: 2-11/16" **W:** 2-1/8" **WT:** .08

STOCK #	DESC.	1EA
30434-MP	Seeeduino E-INK Card Shield	$50.90

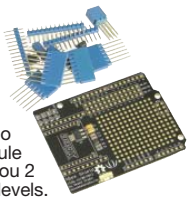
SD SHIELD BOARD

Arduino Storage Module
Standardized and stackable shield board compatable with the Arduino I/O Pins. Need more storage? Module supports SD <16G,SDHC <16G and uHD<2G. Fully compatable with existing Arduino SD card software library. Accepts full size & includes adapter for microSD cards. Uses the SPI port to communicate leaving the Arduino I/O available. Includes Grove UART & I2C ports.

L: 2-11/16" **W:** 2-1/8" **WT:** .1

STOCK #	DESC.	1EA
30428-MP	Seeeduino SD Card Shield V4	$14.90

XBEE SHIELD BOARD



Arduino BEE Interface Module
Standardized and stackable shield board compatable with the Arduino I/O Pins. Stack any BEE series modules to build your own wireless network. Module can provide level conversion to give you 2 way conversion between high & low I/O levels. On-board breadboard grid for your own circuits.

L: 2-11/16" **W:** 2-1/8" **WT:** .06

STOCK #	DESC.	1EA
30430-MP	Seeeduino XBEE Shield	$10.90

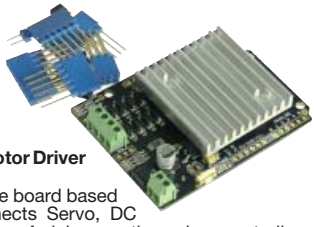
WI-FI SHIELD BOARD

Arduino Networking Module
Wi-Fi Shield for Arduino controllers is designed around the RN171 Module to give 802.11b/g capability. Supports TCP, UDP and FTP. Secure authentication WEP-128,WPA-PSK, WPA2-PSK. Built in Networking apps: DHCP client, ARP, ICMP ping, HTTP, UDP, TCP. Standardized and stackable shield board compatible with the Arduino I/O Pins. Uses the Tx & Rx pins on the controller. Includes Grove UART and I2C ports.
Some soldering & Assembly Required

L: 2-11/16" **W:** 2-1/8" **WT:** .1

STOCK #	DESC.	1EA
30435-MP	Seeeduino WiFi Shield	$60.90

MOTOR SHIELD BOARD

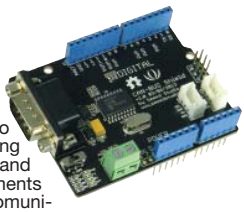


Arduino Low profile Motor Driver Module V2.0
Full featured motor drive board based on the L298 IC. Connects Servo, DC and Stepper motors to a Arduino or other micro controllers. Plugs directly onto your Arduino. Arduino powered (Via USB) or terminal strip for external.
Power: 5VDC Logic. External Motor: 6-15V
Outputs: Terminal Strip for: "H" bridge @ 1.6A/bridge
Drives: 1 Bi or Uni-Polar Step Motor, 4/5/6/8 wire
or 2 DC motors.
Heatsink can reach 100C under full load, additional cooling may be required!
Some soldering & Assembly Required

L: 2-11/16" **W:** 2-1/8" **WT:** .1

STOCK #	DESC.	1EA
30438-MP	Seeeduino Lo Profile Motor Shield	$20.50

CAN-BUS SHIELD BOARD



Arduino CAN Bus Interface Module
CAN Bus is industrial bus used to comunicate with equipment at long distances with high reliability and medium speed. Module implements CAN V2.0B at up to 1mb/sec. Communicates with Arduino over SPI interface. LEDs indicates status of board. Terminal strip for CAD pair. DB-9Male for CAN Pair, Gnd, & 12V. Standardized and stackable shield board compatable with the Arduino I/O Pins. Includes Grove UART and I2C ports.

L: 2-11/16" **W:** 2-1/8" **WT:** .1

STOCK #	DESC.	1EA
30442-MP	Seeeduino CAN-BUS Shield	$24.50

SHIELD BOT
ROBOT BASE

Arduino Beginner Robot Platform
Fully Stackable Adruino Shield module that changes your Adruino Seeeduino into a beginner robot. On-board line following sensors, packed full of expansion ports to create a base for robotics. Plug & Play set up so you can get started in a short time, Features 2 DC motors, 5 reflective I/R line trackers, 900mAh LiPo Battery Pac, 6 Grove expansion Ports, USB Mini B female port

L: 6-5/8" **W:** 3-11/16" **WT:** .7

STOCK #	DESC.	1EA
30433-MP	Seeeduino Robot Shield	$70.90

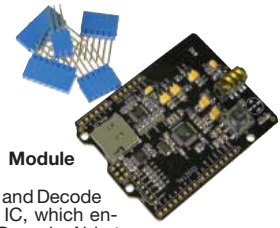
16 CHANNEL SERVO MOTOR CONTROLLER

Mini 16Channel Servo Motor Controller Module
Controller for up to 16 independent servos (SG-90 and similar). Jumper Select single 4.5-5.5Vor separate Logic and/or 4.5-6VMotor supplies. Built-in Test functions and Auto identification of Serial Port.
Power: Logic 4.5-5.5V
Servos: Select 4.5-5.5V or 4.5-6V
Input: TTL/USART 4 Pin Connector (Rx/Tx/Vcc/Gnd.
Output: 3 X1 .1" Pitch X16 headers for servo connections
LED Power Indicators for both Vcc's

SQ: 1-11/16" **H:** 1/2" **WT:** .03

STOCK #	DESC.	1EA
31946-MP	16Ch. Servo Driver	$19.95

MUSIC SHIELD BOARD



Arduino MIDI Instrument Module V2.0
Module designed to Encode and Decode Music. Based on VS1053B IC, which enables it to play files from SD card. Able to play MIDI notes by modifying the board. Supported files: MP3, WMA, WAV, AAC, MIDI, Ogg Vorbis. On-board uSD card socket (Max card 2Mb) & 3.5mm 16/32 ohm headphone jack. Multi function Switch for control of Volume & song forward/back. MIDI interface breakout with low latency. Standardized and stackable shield board compatible with the Arduino I/O Pins. Short time recording with Arduino/Seeeduino MEGA Only.
Some soldering & Assembly Required

L: 2-11/16" **W:** 2-1/8" **WT:** .1

STOCK #	DESC.	1EA
30439-MP	Seeeduino Music Shield	$28.50

GPRS SHIELD BOARD

Arduino Cellular Communications Module
Give your Arduino controllers cellular connectivity. Use the Arduino to dial a number, text friends using AT command set GSM 07.07/07.05 & enhanced SINCOM. Quad band support: 850/900/1800/1900mHz. Supports TCP/UDP protocols. Jack for headset, SIM card socket and coin cell socket (Headset, SIM card & CR1220 3V Coin cell Not included.) Standardized and stackable shield board compatible with the Arduino I/O Pins. Requires Unlocked SIM.
Some soldering & Assembly Required

L: 2-11/16" **W:** 2-1/8" **WT:** .12

STOCK #	DESC.	1EA
30436-MP	Seeeduino GPRS Cell Shield	$60.90

TERMINAL SHIELD BOARD

Arduino Break out to Terminal Strip Board Pair
Real handy pair of boards that you snap apart and mount as "Wings" on your Arduino/Seeeduino board to access the controllers header connections. Boards mount outward so you can still stack all those Shield modules. Includes a SPI header for spacing & feedthrough.

L: 2-11/16" **W:** 5/8" **WT:** .1

STOCK #	DESC.	1EA
30441-MP	Seeeduino Screw Shield	$8.50

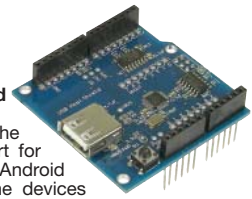
TFT LCD/TOUCH SCREEN SHIELD DISPLAY

Arduino 2.8in. TFT Touch Screen Module
Top off your stack by Adding Text and graphics to your Arduino with this Multifunction Shield. Contains a full color TFT backlit Display, a resistive Touch Screen and a SD Card socket. Display resolution: 320X240, Colors: 65k. 4 wire resistive touch screen. Uses 4 Analog pins for Touch input, SPI for communication. Standardized and stackable shield board compatible with the Arduino I/O Pins. No external power supply needed.

L: 2-11/16" **W:** 2-1/8" **WT:** .12

STOCK #	DESC.	1EA
30437-MP	Seeeduino TFT Touch Shield	$55.90

ANDROID USB SHIELD



USB Host Shield for Android Based
The ADK USB Shield provides the solution for the easist support for Android Arduino controller and Android based phones. Android phone devices need Android 2.3.4 version while tablets need Android 3.1. Provides APK package and compiled source files compatable with Arduino UNO 328, Diecimila/Duemilanove 328, MEGA 2560 (recommended), MEGA1280.
Power: 5V/3.3DC from Microcontroller
I/O : USB 2.0 Port:Type A female
Full shield I/O pass through from controller
1 SPI Port

L: 2-1/8" **W:** 2-1/8" **H:** 7/8" **WT:** .04

STOCK #	DESC.	1EA
31057 MP	ADK USB Host Shield Board	$27.95

ENERGY SHIELD BOARD

Arduino Power Source & LiPo Battery Charger
Mixed power board for Arduino. Provides Input/charger JST port for a 3.7V LiPo battery (not supplied), JST input Port for 4-5-5.5V Solar Panel and a USB Type A female for extracting power from Host Computer. SPI Header for Pass through. Standardized and stackable shield board compatible with the Arduino I/O Pins.

L: 2-11/16" **W:** 5/8" **WT:** .1

STOCK #	DESC.	1EA
30443-MP	Seeeduino Energy Shield	$30.90

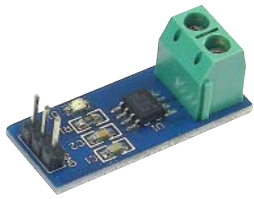
RELAY SHIELD BOARD

Quad Relay Shield V2.0 for Arduino
Shield has 4 high quality relays providing independant SPDT switching. LED indicates status of each relay. Contacts Rated: 35V Max @ 8A Max. Terminal strips for relay contacts. Standardized and stackable shield board compatible with the Arduino I/O Pins.
[Caution:] Place 2 layers of electrical tape over USB connector on Arduino Board to prevent contact.

L: 2-11/16" **W:** 2-1/8" **WT:** .2

STOCK #	DESC.	1EA
30440-MP	Seeeduino Quad Relay Shield	$21.00

5A CURRENT SENSOR

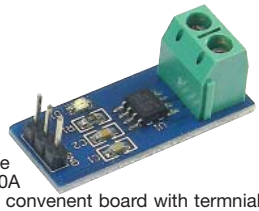


Arduino AC/DC Current Sensor
5Amp Current Sensor Module based on the ACS712TELC-05B hall effect Sensor mount on a convenent board with termnial strip for connecting your load to monitor and header pins to interface with your Arduino or micro controller.
Power: 5Vdc +-0.5V
On board power LED
Measures: positive to negitive 5Amps AC or DC
Sensitivity: 185mV per Amp
Warning: This IC uses a hall effect and is susceptible to a magnetic fields!

L: 1-1/4" **W:** 1/2" **T:** 9/16" **WT:** .02

STOCK #	DESC.	1EA
31584-MP	5A Current Sensor Module	$4.79

20A CURRENT SENSOR

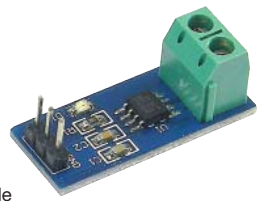


Arduino AC/DC Current Sensor
20Amp Current Sensor Module based on the ACS712TELC-20A hall effect Sensor mount on a convenent board with termnial strip for connecting your load to monitor and .1 Pitch header pins to interface with your Arduino or micro controller.
Power: 5Vdc +-0.5V
On board power LED
Measures: positive to negitive 20Amps AC or DC
Sensitivity: 66mV per Amp
Warning: This IC uses a hall effect and is susceptible to a magnetic fields!

L: 1-1/4" **W:** 1/2" **T:** 9/16" **WT:** .02

STOCK #	DESC.	1EA
31944-MP	20A Current Sensor Module	$4.79

30A CURRENT SENSOR



Arduino AC/DC Current Sensor
30Amp Current Sensor Module based on the ACS712TELC-30A hall effect Sensor mount on a convenent board with termnial strip for connecting your load to monitor and header pins to interface with your Arduino or micro controller.
Power: 5Vdc +-0.5V
On board power LED
Measures: positive to negitive 30Amps AC or DC
Sensitivity: 66mV per Amp
Warning: This IC uses a hall effect device and is susceptible to a magnetic fields!

L: 1-1/4" **W:** 1/2" **T:** 9/16" **WT:** .02

STOCK #	DESC.	1EA
31586-MP	30A Current Sensor Module	$4.79

CURRENT SENSOR

Arduino AC Current Sensor Module
Allows your microcontroller to monitor AC Current drawn on a line. Simple Current Transformer with a 1000/1 ratio.
Measures current up to 10A Max.
Connects to Analog Input Pins of Microcontroller.
On board load resistor gives 1mA/A output.
Power: None
Current: 5A
Output: 5mA (1mA/1A) into 200ohm Load (~.2V/A)
2 Pin .1" Pitch Header Out

L: 3/4" **W:** 13/16" **T:** 15/16" **WT:** .06

STOCK #	DESC.	1EA
31579-MP	AC Current Sensor	$3.95

I/R XMIT/RECEIVER PAIR

I/R Transmitter & Receiver Pair for Arduino, Rasberry-Pi and Other Controllers
Compact Transmitter "Clicker" with 21 button bubble keypad that uses the NEC code protocall Powered by a CR2025 coin cell.
Receiver board designed with the 1838T I/R sensor that contains the opto PIN diode,pre-amp, filtering, demodulator in one small package. Uses 1 pin of the microcontroller GPIO. Code libraries, applications and Information & Freeware available through: www.arduino.cc.en, www.raspberrypi.org and others.
Power: 5VDC
Frequency: 38KHz
Output: TTL compatable Data, Current Sink
Connection: 3 Pin .1in. Pitch Header

Recv. L: 3/4" **W:** 9/16" **H:** 1/2"
Trans. H: 3-3/8" **W:** 1-1/2" **T:** 1/4" **WT:** .04

STOCK #	DESC.	1EA	10+EA
32352-MP	IR Transmitter & Receiver Pair	$3.95	$3.49

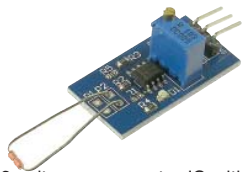
RFID/NFC READER/ WRITER

RFID kit for Arduino Microcontrollers
MIFARE RFID Reader/Writer set up that includes a MF522 reader Board, a S50 Plastic Card and a small KeyFOB.
Supports ISO14443A Transponder protocols and CRYPTO01 encryption algorithm. Open source software available at www.arduino. com and several other sites.
Module: Based on the MFRC522 IC
Frequency: 13.56MHz
Power: 3.3V @ 26mA Active ,<80uA Sleep mode
Read/Write Time: <2mS
Distance: <10cm
Data Transfer Read/Write: 424kbs
Interface: SPI
Module includes straight & right angle Headers that you have to solder
Size: 60L X 40W X 6mm Without header
Card: NFC Smart Card/Tag MIFARE S50, Blank card.
Memory: 1K EEPROM (768Available)
Comm. Speed: 106 Kbaud
Freq: 13.56MHz.
# of Writes: 100K
Size: 86 X 55 X .9mm
Compatible With most NFC supporting Android Devices.
Keyfob: NFC MIFARE 1K ISO 14443A
Freq: 13.56MHz.
# of Writes: 100K
Waterproof ABS Case
Size: 32W X 40L X 4mm

WT: .06

STOCK #	DESC.	1EA
31111-MP	RFID/NFC Reader/Writer	$11.95
31112-MP	Additional RFID/NFC Card	$0.99

TEMPERATURE SENSOR



Arduino Temperature Sensor Switch
Uses a resistive glass sealed NTC temperature sensor. The sensor is connected to a LM393 voltage comparator IC with adjustable trigger level (R6). The LED indicator turns on when above the set temperature and off when below. (Output is LOW below set temp.) The output can be connected directly to a micro-controller port. Add a driver transistor to the output, & it could switch a relay or other loads exceeding 20mA. Use for fan controllers, freezer alarms, battery chargers, thermostats, etc.
Power: 3.3V to 5V
Supply Current < 1mA (LED off)
Output: Digital TTL Open Collector Current sink 20mA
3Pin .1Pitch Header for Power & Output.

L: 1-3/16" **W:** 5/8" **T:** 5/8 " **WT:** .02

STOCK #	DESC.	1EA
31588-MP	Temperature Sensor Board	$2.49

BLUETOOTH USB ADAPTER

Add Bluetooth to Phones, Printers, Etc.
Plug-in Bluetooth to USB adapter designed around the CSR chip Version 2.
Supports most Windows systems.
Power: 5V from USB Host
Band: 2.4GHz ISM Band
Bluetooth Standard: V2.0 + EDR Class 1,2 & 3
USB Standard: V2.0
Communication Rate: 3Mbps Max
Range: ~20m
Modulation: FHSS

L: 7/8" **W:** 11/16" **T:** 5/16" **WT:** .03

STOCK #	DESC.	1EA
31942-MP	Bluetooth Transceiver, USB Plug-in	$4.95

BLUETOOTH HOST

Bluetooth Serial Host Module for Microcontrollers
Bluetooth 2.0 protocall host module with a programmable baud rate of 1200 thru 115200 (default 9600). Operates as Host/Slave pair
Power: 3.3VDC
1 time programmable Name, Default "NAME"
1 time programmable Passcode, Default 1234

L: 1-1/16" **W:** 5/8" **H:** 1/4" **WT:** .01

STOCK #	DESC.	1EA
31816-MP	Bluetooth Serial Host Module	$9.95

BLUETOOTH SLAVE

Bluetooth Serial Slave Module for Microcontrollers
Bluetooth 2.0 protocall Slave module with a programmable baud rate of 1200 thru 115200, (default 9600). Operates as Slave/Host pair
Power: 3.3VDC
1 time programmable Name, Default "NAME"
1 time programmable Passcode, Default 1234

L: 1-1/16" **W:** 5/8" **H:** 1/4" **WT:** .01

STOCK #	DESC.	1EA
31817-MP	Bluetooth Serial Slave Module	$9.95

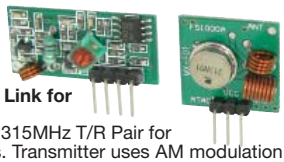
BLUETOOTH MASTER

Bluetooth Serial Host/Slave Module for Microcontrollers
Bluetooth 2.0.E.2 protocall host/Slave module with a programmable baud rate of 1200 thru 115200, (default 9600). Uses AT commands to switch Host/Slave
Power: 3.3VDC
Programmable baud rate
1 time programmable Name, Default "NAME"
1 time programmable Passcode, Default 1234

L: 1-3/8" **W:** 3/4" **H:** 1/4" **WT:** .01

STOCK #	DESC.	1EA
31818-MP	Bluetooth Serial Master Module	$11.95

315MHZ T/R PAIR



Transmitter/Receiver R/C Link for Microcontrollers
MX-JS-05V & MX-FS-03V 315MHz T/R Pair for remote control applications. Transmitter uses AM modulation to send any digital data to receiver. Output is replica of input data no decoding provided. Requires Antenna(s) not included
Power: Receiver: 5VDC @ 5mA (standby)
Transmitter: 3.5-12VDC @ <40mA (Xmit)
Frequency: 315MHz +-75 KHz
Xmitt Power: <10mW depending on Power Supply
Output Impedance: ~ 50 ohms
Receiver Sensitivity: ~-105db
Modulation: AM
Input/Output Data: TTL compatible
Data Rate: ~4KB/S
Range: 20-200m dependant on Power Supply, terrain & antennas.
Antenna Info: 25-30cM solid wire.
SOLD AS PAIR

Xmitter **SQ:** 3/4" **H:** 1/4"
Rec. L: 1-1/4" **W:** 9/16" **H:** 5/16" **ShipWT:**.02

STOCK #	DESC.	1EA
31960-MP	315MHz R/C Pair	$3.95

2.4GHz TRANSCEIVER MODULE

2.4GHz ISM Wireless Serial Port Development Board
2 board set consisting of a Nordic NRF24L01 2.4GHz Transceiver daughter board and a **STC 15F204** (80C51 CPU Family 3.6-5.5V Core) single chip Microcomputer motherboard. MCU provides the handshaking for the UART serial interface.
Auto Packet assembly, detection & validation
MCU: Compatable with 8051 CPU Command Set
Power: 3.8-5.5V On-board 3.3V Regulator
Memory: 4K Flash/256 RAM/ 1K EEPROM
Available Ports: P3.2-7/P1.6 &7/P5.4 & 5
Connection: dual 7X1 .1in Header holes for Ports
2X4 header for daughter bd.
1X4 Header Pins for RX,TX,Vcc,GND
Interface: SPI daughter board/ RxTx Serial Output
NRF24L01+ features:
Power: 5V
Freq: 2.4GHz
Modulation: GFSK
Bandwidth: 1 or 2MHz
Data Rate (air): 250K,1M or 2Mbps
3 FIFOs Rx TX 32 Bit.

L: 1-9/16" **W:** 1-1/16" **H:** 3/4" **WT:** .02

STOCK #	DESC.	1EA
31814-MP	ISM 2.4GHz Transceiver Module	$5.95

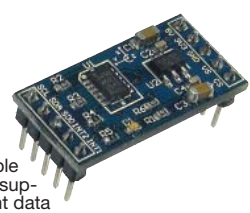
2.4GHz TRANSCEIVER MODULE

2.4GHz ISM Wireless serial Port Development Board
2 board set consisting of a Nordic NRF24L01, 2.4GHz Transceiver daughter board and a **STC 15L204** 3.3V single chip Microcomputer motherboard. MCU provides the handshaking for the UART serial interface.
Auto Packet assembly, detection & validation
MCU: Compatable with 8051 CPU Command Set
Power: 5VDC (2.4-3.6V) On-board 3.3V Regulator
Memory: 4K Flash/256 RAM/ 1K EEPROM
Available Ports: P3.2-7/P1.6 &7/P5.4 & 5
Connection: dual 7X1 .1in Header holes for Ports
2X4 header for daughter bd.
1X4 Header Pins for RX,TX,Vcc,GND
Interface: SPI daughter board/ RxTx Serial Output
NRF24L01+ features:
Power:3.3V
Freq:2.4GHz
Modulation:GFSK
Bandwidth: 1 or 2MHz
Data Rate (air): 250K,1M or 2Mbps
3 FIFOs Rx TX 32 Bit.

L: 1-9/16" **W:** 1-1/16" **H:** 3/4" **WT:** .02

STOCK #	DESC.	1EA
31940-MP	5V ISM Transceiver Module	$5.95

3 AXIS ACCELEROMETER SENSOR



Add an Accelerometer to Arduino & Microcontrollers
Designed for the ADXL345 triple axis accelerometer, this board supplies raw 16bit 2's complement data to a micrcontroller through a SPI or I2C interface. Features Tap/Double Tap and Free fall detection. Freeware available from arduino.cc.en, youtube & the many forums.
[NOTE:] Header requires soldering
Power: 3-5VDC 40uA operating.
Output: 3 or 4 Wire SPI or I2C
Range: Select +-2, +-4, +-8 or +-16G
Resolution: 13bit/4mG/LSB
Connections: 8 Pin (.1") Input header for connection to power & uController

L: 1-1/8" **W:** 9/16" **H:** 1/2" **WT:** .02

STOCK #	DESC.	1EA
31583-MP	3 Axis Accelerometer	$4.95

PIR RELAY MODULE

Omnidirectional PIR Motion Detector optimized for the human Body. SPST-NO relay output.
Power: 12VDC <50ua. Standby; ~50mA Relay Activated
Adj. Delay: ~18sec to ~3min.
Output: SPST-NO 12V Active
Range: Cone shape; 3-5m @ 0deg. (Head on) 1-3m @ +&-60deg.
[Note:]Due to wire AWG Output current limitted to 1A
6" pigtail leads In/Out, 6" leads for Sensor.

L: 1-13/16" **W:** 1-3/16" **H:** 5/8" Body **WT:** .08

STOCK #	DESC.	1EA
32183-SC	PIR With Relay Module	$5.95

MOTION DETECTOR MINI MODULE

Ultra Mini Dual Element PIR Motion Detectors for the human Body. 3V digital output to drive Your external transistor & relay (not included)
2.7-12VDC Operation @ <.5mA .
Fixed 2 Sec. Recycle & Hold times
4m range with 100 degree detection angle.

Dia: 13.5mm **L:** 18mm **WT:** .08

STOCK #	DESC.	1EA
32061-SC	PIR Mini Module	$3.95

MOTION DETECTOR/ LIGHT SENSOR

Latest Dual Element PIR Motion Detector for the human Body with adj. 3-10 lux light sensor. 3V digital output to drive Your external transistor & relay (not included)
5-20VDC Operation @ <1mA .
2 S-5min. Adj. delay
Adj. 3-7m range with <120 degree detection angle.
Selectable Retrigger/No Retrigger

L: 32mm **W:** 23mm **H:** 25mm **WT:** .08

STOCK #	DESC.	1EA
31227-SC	PIR Mini Module/Sensor	$3.95

TIME DELAY RELAY MODULE

General use relay module provides approximately 0-10sec. Delay on Make. Utilizes the popular NE555 timer IC operating as an monostable multivibrator.
Module has ten-turn time adjustment control and power on LED.
Power: 5DC
Supply Current: >90mA energized
Contacts: SPDT 10A @125/250VAC/28VDC
Timing Range: 0 to ~10sec.
LED lights when contacts close.
Terminal strips in & Out.

L: 2-3/8" **W:** 11/16" **H:** 3/4" **WT:** .03

STOCK #	DESC.	1EA
31807-RL	NE555 Time Delay Relay	$3.95

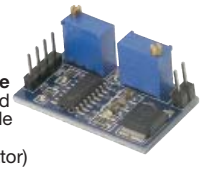
10 BIT D/A CONVERTER

D/A Converter for Microcontrollers
Serial CMOS D/A converterbased on the TLC5615 Chip. Converter has precesion internal conversion from current to voltage for ease of use. All Pins brought to headers. Selectable onboard TL431A reference or external reference source. Serial input including SPI, QSPI & Microwire using Din, Sclk & CS. Dout pin allows for daisychaining. 16, 12, or 10 bit data (using 2 or 6 dummy bits.)
Power: 5VDC
Output: Voltage=2(Vref)("data"/1024) @ 20mA max
Input: 10 Data bits with either 2 or 6 dummy bits
See TLC5615 Data Sheet for data format
Connectors: Dual 4 X 1 X .1" Pitch headers
LED Power Indicator

L: 1-3/16" **W:** 9/16" **H:** 1/2" **WT:** .01

STOCK #	DESC.	1EA
31952-MP	10 Bit DAC Converter	$9.95

ADJUSTABLE PWM MODULE

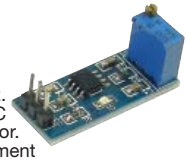


Digital Pulse Width Modulator Module
Adjustable PWM generator based around the SG3525A chip. Adjustable Frequency (R-4) & Duty Cycle (R-3)
Power: 8-12VDC (5V onboard Regulator)
Output Range: 100-400KHz
Connection: Output: 1 X 4Pin .1in. Pitch Header
Power: 1 X 2 Pin .1in. Pitch Header.

L: 1-1/4" **W:** 3/4" **H:** 1/2" **WT:** .01

STOCK #	DESC.	1EA
31951-MP	Pulse Width Modulator Module	$5.95

PULSE GENERATOR MODULE



General use module generates pulses from approximately 4Hz to 1.3Khz. Utilizes the popular NE555 timer IC operating as an astable multivibrator. Module has ten-turn frequency adjustment control and a Power On LED. Use for stepper motor pulses, testers etc.
Power: 5 –12VDC
Supply Current: 10mA
Output Current: 200mA max. Source or Sink
Frequency Range: Min: 4Hz @ 50% Duty Cycle,
Max: 1.3KHz @ 98% Duty Cycle
3 Pin .1in. Pitch Header for Power Output

L: 1-3/16" **W:** 1/2" **H:** 9/16" **WT:** .02

STOCK #	DESC.	1EA
31809-MP	NE555 Experimenters Module	$2.95

ADJUSTABLE PULSE GENERATOR

Compact PC board square wave generator utilizing the 555 IC. Features: 5-15VDC input power, 15mA output drive @ 5VDC; 35mA @ 12V Power. 4 jumper selectable frequency ranges: 1Hz-50Hz, 50-1KHz, 1KHz-10KHz & 10KHz-200KHz. Controls for Frequency Adjust & Duty Cycle. Note: Freq. & Duty Cycle interact with each other. 3Pin I/O header.

L: 1-1/4" **W:** 7/8" **H:** 9/16" **WT:** .02

STOCK #	DESC.	1EA
31070-MI	555 Pulse Generator Board	$5.95

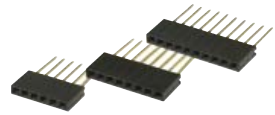
3 PIN HEADER JUMPERS

11in. Multi-colored ribbon cable with a 3 position socket on both ends of wire. Socket accepts .025 round or square pins. .10in. Pitch.

L: 11" **WT:** .007

STOCK #	DESC.	1EA
31062-PL	3 Cond. Header Jumpers, 11in.	$0.59

SHIELD BOARD HEADERS



Arduino I/O Interface Shield Headers
6,8 & 10 Pin headers for Arduino UNO PRO, MEGA shield boards. These long pin headers are the correct height to provide stacking and clearance for most shields.

H: 19mm **WT:** .001/.002

STOCK #	DESC.	1EA
31051-HC	6 Pin, Tall Headers for Shields	$0.25
31052-HC	8 Pin, Tall Headers for Shields	$0.25
31053-HC	10 Pin, Tall Headers for Shields	$0.30

12VDC BUZZER

PC mount magnetic buzzer. Rated: 12VDC (8-15V), <30mA @ 12VDC, 85db output max, 2.3KHz +- 300hz Output tone. These are self contained.

Dia: 12mm **H:** 9mm **WT:** .003

STOCK #	DESC.	1EA
30009-SU	12V Magnetic Buzzer	$0.99