ATmega32-AVR
AUTOMATE THE WORLD

AVR Atmega16 based Projects List

Share this:

1.
MULTI-FUNCTION DIGITAL WRISTWATCH CIRCUIT ATMEL ATMEGA168PA Digital clock project PCB design is very good and prepared and used according to the coffers of small metal wristwatch. Except for a few digital Wristwatch circuit material including all...

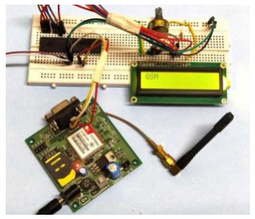
2.
TINY USB PROGRAMMER AVR MICROCONTROLLERS AVRDUDE USB programmer There are few components – the ATtiny45 microcontroller, two Zener diodes, a capacitor and several resistors. Of course, there are still connectors – USB plug and IDC-6 plug....

3. Keypad Door Lock using AVR Microcontroller – Atmega16 Password Based Keypad Door Lock In this article, a digitally secured lock based on password verification is explained. The system uses a seven segment display array to show the password,...

4.
MultiPurpose Atmel Development Boards Project Atmel series microcontrollers series to prepare for the software quality testing to ensure ease in your test circuit has 3 different test circuit. ATmega8, ATMega16, atmega162, ATtiny2313 and ATTINY13 made...

5.
ATmega16 Analog-Looking Digital Clock Project Atmega16 microcontroller in our circuit monitor 7 inch in size. Screen “3 inch” or “4 inch” may be, it doesn’t matter. We have the biggest screen by controlling the foot...

6. Interfacing GSM Module with AVR Microcontroller: Send and Receive Messages GSM modules are interesting to use especially when our project requires remote access. These modules could make all actions that our normal mobile phone could do, like making/receiving a call, sending/receiving...

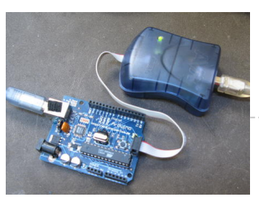


7.

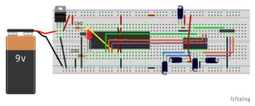
Power factor measurement using Atmel AVR Micro-Controllers To learn about the power factor measurement, you should have a basic knowledge of power factor. There are three types of loads. Resistive Inductive Capacitive When we apply AC voltage...

8.

DC motor interfacing with AVR ATmega16/ATmega32 DC motor converts electrical energy in the form of Direct Current into mechanical energy. In case of motor, the mechanical energy produced is in the form of rotational movement of...

9. 

Minimal Arduino with ATmega8 Like me, you may have a few old Arduino boards or ATmega8 chips (in the boards) laying around from when you were first playing with Arduino. Those chips can still...

10. 

Micro-controller Programming on a Bread Board In playing around with DIY electronics, Pugs has developed enough confidence to share his knowledge with his juniors. So, in one such occasion, he decided to give a try to...

11. Nokia5110 graphical display interfacing with AVR ATmega16/ATmega32 Introduction Nokia5110 is a graphical display that can display text, images and various patterns. It has a resolution of 48x84 and comes with a backlight. It uses SPI communication to...

12. Analogue to Digital Conversion on an ATmega168 Many AVR microcontrollers are capable of doing Analogue to Digital Conversion. The ATmega168 has 6 ports (8 ports on the SMD packages) that can be used for analogue input. This...

13. How to drive 595 shift registers with AVR hardware SPI Driving a shift register using an AVR chip's built-in hardware is really quite easy. Most of their offerings have an SPI module, or Serial Peripheral Interface. A shift register is...

14. Make your own AVR JTAG debugger Tired of putting LEDs every time you want to check some value in the microcontroller? Well, its time to build yourself a debugger. A debugger is a device which helps...

15. Fastest Finger First Quiz Project using ATmega16 Most of you must have watched quiz games in TV shows or at your schools where few contestants are required to press a switch if they know the answer to...

16. Build Your Own Microcontroller Based PID Control Line Follower Robot (LFR) – Second Part One of the interesting parts in building the Line Follower Robot is; you could start it with a very simple version by using just two transistors with the LED and...

17. Convert $2 LED Lamp to $50 Smart Lamp A smart bulb is an internet or Bluetooth-capable LED light bulb that allows lighting to be customized, scheduled and controlled remotely. Smart bulbs are among the most immediately successful offerings...

18. Darby's not dead. Hardware components: Particle Spark Core × 1 atmega168 × 1 pn532 breakout board/ adafruit × 1 Story In the future there is a bar where all the dead punk rockers...

19. Digital Thermometer using AVR, LM35 and 16×2 LCD Thermometers are the device we use to measure the temperature in any desired scale and we all will be quite familiar with the analog thermometers. There are some disadvantages in...

20. Digital Clock using AVR Atmega16 Microcontroller Digital clocks revolutionize the way we live our daily life as it helps people to stick with their schedule. This article will teach you to build your own Digital clock...

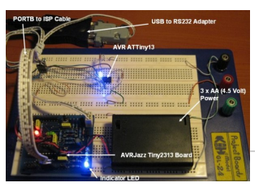
21. Automatic plant watering system using AVR(Atmega16) Microcontroller Plant watering system evolved through various stages where primitive irrigation systems possess many drawbacks as it fails to conserve water and human energy. So introducing Automation in it can help...

22.

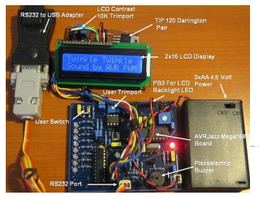
Analog to Digital Converter AVR C Programming One of the important features in today's modern microcontroller is the capability of converting the analog signal to the digital signal. This feature allows us to process the analog world...

23.

AVRJazz Mega168/328 Learning and Development Board The AVRJazz Mega168 board from ermicro is designed to be used both as the AVR microcontroller learning and development board. The AVR Jazz Mega168 board is stand alone microcontroller module...

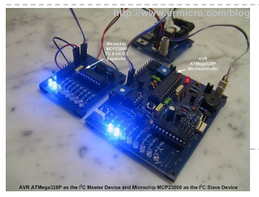
24. 

Atmel AVR ISP Microcontroller Programmer Project One of the frustrating part in learning AVR microcontroller for the beginners is the AVR microcontroller programmer. The question is how to program my AVR mircrocontroller; actually if you googling...

25. 

AVR Twinkle Twinkle Using PWM Project Would be interesting if we could make our microcontroller to sing for us not just beeping or blinking; this project is all about using the powerful AVR ATmega168 16-bit PWM...

26. Build Your Own Microcontroller Based PID Control Line Follower Robot (LFR) – Second Part One of the interesting parts in building the Line Follower Robot is; you could start it with a very simple version by using just two transistors with the LED and...

27. 

Transforming your AVR Microcontroller to the I2C or TWI Slave I/O Expander Project The I2C bus (read as I squared C) is one of the most important embedded system serial bus interface first introduced by Philips in 1980; using just two lines called...

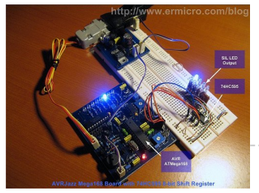
28. Building the I2C Smart DC Motor Controller with Atmel AVR Microcontroller – Part 1 The idea of building my own I2C (read as I square C) smart DC motor controller is came to me when I was learning and playing together with my son...

29. Telepresence Robot using Microchip PIC16F1829 and Atmel AVR ATmega168 I2C Smart DC Motor Controller Microcontroller – Part 2 The I2C (read as I square C) smart DC motor controller is designed using the Atmel 8-bit AVR Atmega168 microcontroller

and configured to act as the I2C slave device where...

30. The LED Chasing Effect Project using Atmel AVR Microcontroller One of the interesting projects for most of the embedded beginners enthusiasts or hobbyists is to build the LED chasing effect. In this project we are going to use both...

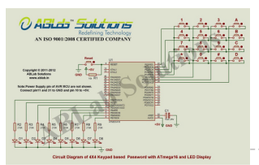
31. How to use I2C-bus on the Atmel AVR Microcontroller I2C (read as I Squared C) bus first introduced by Philips in 1980, because of its simplicity and flexibility the I2C bus has become one of the most important microcontroller...

32. 

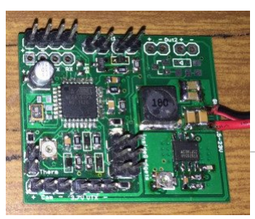
Using Serial Peripheral Interface (SPI) Master and Slave with Atmel AVR Microcontroller Sometimes we need to extend or add more I/O ports to our microcontroller based project. Because usually we only have a limited I/O port left than the logical choice is...

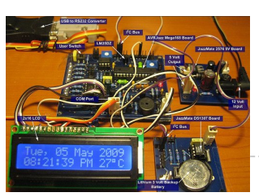
33. An advanced energy saver project with DTMF capabilities to use electricity efficiently by reducing the unwanted uses.

INTRODUCTION: A lot of electricity is wasted due to ignorance or fault of the user. Sometimes a person in the room turns on all the electric equipments which is of...

34. 

4X4 Keypad based Password with ATmega16 and LED Display Security is a prime concern in our day-today life. Everyone wants to be as much secured as possible. Keypad based password is one of the many method and the most...

35. 
Custom PCB for Lights, Temperature, Video OSD and VTX PSU upgrades to HKing Rattler RC Car I've had the HobbyKing Rattler for some time now and I've been making small modifications here and there which have accumulated over time and has gotten to the point where...

36. 

Using Maxim DS1307 Real Time Clock with Atmel AVR Microcontroller Using Atmega32 Building our own digital clock is one of the dreamed project by most of the hobbyist or anyone that want to learn or involve seriously in the embedded system world;...

37. AVR Thermostat This thermostat is built around an ATMega164 and a TC1047A temperature sensor. It controls your furnace and air conditioner. It is not programmable, although it has a clock and is capable if some…

38. Building a Wifi Radio – Part 7, Building an LCD Display This is the seventh part of an ongoing series about building a low cost, open source streaming internet radio. If you haven't already, check out the previous parts (see the…

39. Atmel AVR ATMega16 Interfacing WIth 16×2 char LCD An alphanumeric low cost LCD Display is very essential for may small and big projects to Display various type of information. Hitachi HD44780 Chipset based 16x2 char LCD is Really very cheap…

40. Working with Atmel AVR Microcontroller Basic Pulse Width Modulation (PWM) Peripheral Pulse Width Modulation (PWM) is a technique widely used in modern switching circuit to control the amount of power given to the electrical device. This method simply switches ON and…

41. ATMega16 AVR Microcontroller Seven Segment Digital Clock The ATMega16 Seven Segment Digital Clock In this ATMega16 AVR project we will be designing and implementing a digital clock with the aid of a Atmel AVR ATMega16 microcontroller and…

42. Weeks 11-12: AVR USB Devices and Programming One of the relatively unexplored topics in this week's lecture was USB, the ubiquitous protocol that allows computers to communicate with peripheral devices (containing microcontrollers). Creating a USB device allows…

43. Interfacing LCD with ATmega32 Microcontroller To establish a good communication between human world and machine world, display units play an important role. And so they are an important part of embedded systems. Display units - big…

44. Read multiple switches using ADC The ATMega168 is a great general purpose 8-bit AVR microcontroller from Atmel. It has 23 GPIO pins, but sometimes (as I have found) you can run out of I/O pins…

45. Atmega168 TV-B-Gone Yes, I know what you are thinking: "oh no, please not another TVBGone..." Anyway, this instructable is for the newbies as me which are still experimenting with Arduino, and prefer...

46. ATmega DIP40 Minimal Board After I wrote several articles about using ATmega microcontrollers (DIP40) in Arduino environment I had some feedback that I was asked how to be effectively put into operation this project....

47. Program an ATmega168/328 with codebender If you want to use an inexpensive ATmega168 or ATmega328p for your project, but you want the simplicity of the arduino code and codebender, this tutorial will guide you through!...

48. Interfacing 16X2 LCD to AVR Microcontroller Well this is not different from the way interfacing the LCD to 8051 or PIC microcontroller. The crystal oscillator will provide the clock to the microcontroller. The capacitors connected...

49. Simple Single Motor Control using AVR ATmega16 Microcontrollers are good when it comes to brain, but to do anything in real world they need muscles too ! Their muscles are electromechanical actuators like motors. Their are several...

50. Electronic cricket his electronic cricket is a fun project. A real crickets chirp at night and faster in warmer temperatures. A cricket chirp is composed of a group of three sinus waves of...

51. Interfacing Serial Bluetooth Modem with Computer using ATmega16 This article would give you a general idea about how to setup and interface any Bluetooth modem with your computer. There are many types of Bluetooth modems available in market,...

52. Smart Home Automation using AVR in this technological world, automatic systems are being preferred over manual system. In this series Home Automation plays an important role for humans. In this unit we talk about basic...

53. Interfacing 4-wire Resistive Touchscreen with ATMega16 Microcontroller Touch screens are two dimensional input devices. Nowadays most of the electronic gadgets use them. Laptops, smart phones, tablets and even some home appliances like washing machines & microwave ovens...

54. Fastest Finger First Circuit using ATMega16 Fastest Finger first circuit is basically used in quiz type games where the reaction speed of a participant is significant. The circuit enables us to identify who responded first to...

55. DIY: Retro Style Analog Volt Meter using Servo Motor Digital equipments have rapidly replaced Analog equipments in the long run. Well that is because the former has lot of advantages over the latter. But do you miss those retro...

56. embRACE: The Embedded Race embRACE, a game developed on the embedded platform, entirely coded in assembly language. The game has been programmed on an ATMega16 micro-controller, interfaced with a 16x2 LCD display module. The...

57. Controlling RGB LED colour using Atmega16 This tutorial will give you a brief introduction to the concept of colors and how different colors can be produced using RGB LED. The color would be controlled using an...

58. Speed and Direction Control of Stepper Motor using AVR Microcontroller Stepper motor can be termed as digital motor because it operates on pulses. Unlike AC or DC motor that rotates continuously, stepper motor rotates in steps. It rotates in number...

59. Digital Clock using Seven Segment Display and ATMega16 In this ATMega16 AVR project we will be designing and implementing a digital clock with the aid of a atmel AVR ATMega16 microcontroller and seven segment display. Before going through this digital clock...

60. Interfacing 16X2 LCD to AVR Microcontroller Well this is not different from the way interfacing the LCD to 8051 or PIC microcontroller. The crystal oscillator will provide the clock to the microcontroller. The capacitors connected to...

61. 4 Wire Touch Screen Based Digital Magic Slate Ever played with magic slates in your childhood? Well this project will show you how to make a digital magic slate using a PC, a touch screen and few other...

62. GSM Based Intruder Alerting System Did you know that most of the thefts at home happen when it is empty? But not everyone is rich enough to hire a security for their house and at...

63. GSM Based AC Appliance Control This project would show you how to control an AC appliance remotely from anywhere using your mobile phone. This kind of project is useful in various applications. Say for example...

64. Cell Phone Controlled Pick and Place Robot Conventionally, wireless controlled robots uses circuits, which have a drawback of limited working range, limited frequency range and limited control. Use of mobile phones for robotic control can overcome these...

65. Variable Power Supply with LCD Are you an electronic hobbyist? Then an adjustable power supply is a must for your various needs. This project explains how to make a LM317 based adjustable power supply unit...

66. Interfacing Triple-Axis Accelerometer with AtMega16 Requirements AtMega 16 IC/development board 3-Axis accelerometer LCD screen 16X2 (for displaying X, Y and Z data) Description This project makes use of three out of the eight ADCs present...

67. Bluetooth Controlled Portable LED Display The aim of the project is to make a portable LED display from SMD LEDs and to display the custom programmed patterns at our command. The core application of the project...

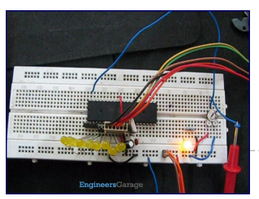
68. Coin Operated Timer Control Power Supply Box to Control AC Appliances Saving electricity is a major concern for domestic and industrial units. We always try hard to save electricity in many ways to reduce our electricity bills, but due to some...

69. Sleeping Security – Smart Keypad Lock using AtMega16 This project is just a smart version of any keypad lock. What's smart about it is that it can detect whether it is needed by the user or not and...

70. Un-interruptible Bench-top DC Power Supply With Display This tutorial explains how to make your own power supply unit for all your electronics andembedded system experiments. It also has a backup battery which will be used in case...

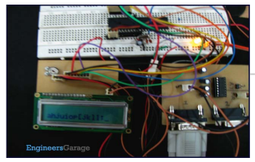
71. How to display text on 16×2 LCD using AVR microcontroller (ATmega16) This article is in continuation to the article Single character LCD display using AVR. The aforesaid article shows how to display a single letter on LCD. Moving forward towards learning...

72. Display custom characters on LCD using AVR Microcontroller (ATmega16) This is the most interesting article to play with LCD. After going through the article, you can create any character/symbol which cannot be created using the ASCII values for example...

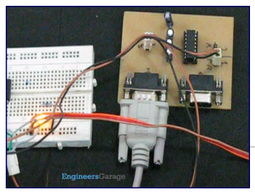
73. 

How to use inbuilt ADC of AVR microcontroller (ATmega16) Microcontroller understands only digital language. However, the inputs available from the environment to the microcontroller are mostly analog in nature, i.e., they vary continuously with time. In order to understand...

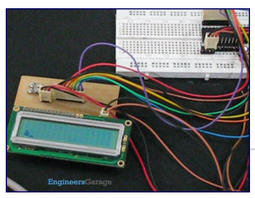
74. Serial communication (Data receive) using AVR Microcontroller (ATmega16) USART Communication between two entities is important for the information flow to take place. In general the information transport system can be parallel in which the



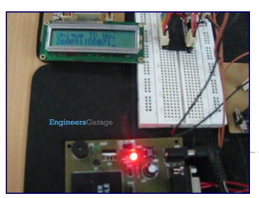
complete byte of data is...

75. 

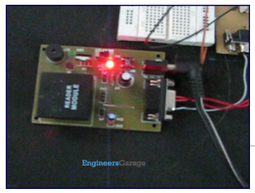
How to interface AVR microcontroller with PC using USART (RS232 protocol) This article covers data transmission using 8 bit USART. The readers should have a basic understanding of serial communication and how to receive the serial data output. More details on...

76. 

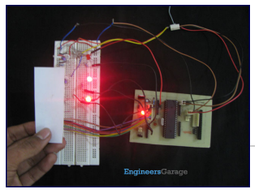
Serial communication with AVR microcontroller using interrupts In our previous articles on serial data transmission using AVR microcontroller we have demonstrated serial communication using the polling method. In Polling, the microcontroller waits for the RXC flag (in...

77. 

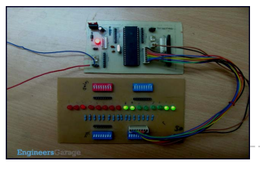
How to interface RFID with AVR microcontroller (ATmega16) Knowingly or unknowingly the RFID technology is used by us in our day to day life. The most familiar example is seen in MNCs, schools and offices for daily attendance...

78. 

RFID interfacing with AVR microcontroller (ATmega16) using interrupts This article covers how to extract and display the twelve byte unique tag ID received by RFID module on LCD using interrupt method. Before proceeding to this article readers must...

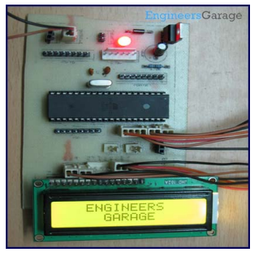
79. 

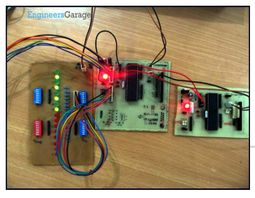
How to use inbuilt analog comparator of AVR microcontroller Analog comparator is a device which compares two input voltages and generates output accordingly. The article on IR sensor explains the use of comparator in sensor designing. Comparators form an...

80. 

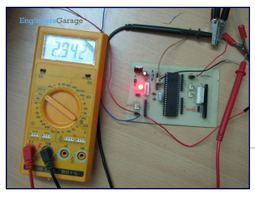
How to disable JTAG of AVR microcontroller JTAG stands for “Joint Test Action Group” which was standardized as the IEEE 1149.1 Standard Test Access Port and Boundary-Scan Architecture in 1990. JTAG is generally used in IC debugging and device programming....

81. How to interface LCD in 4 bit mode with AVR microcontroller This article explains interfacing of LCD with ATmega16 using 4-bit mode. In this mode only four pins are used for sending data and command instructions. This mode has the advantage...



82. 

SPI (serial peripheral interface) using AVR microcontroller (ATmega16) There are different protocols for serial communication between two deceives like, USART, SPI, I2C etc. Before selecting any communication protocol, data transfer rate is an important parameter. SPI transfers data...

83. 

How to use fast PWM (Pulse Width Modulation) Mode of AVR microcontroller Timer This article is in continuation of PWM generation using AVR timer. In the previous article, PWM generation using Phase correct PWM mode is described. However, there are some applications like...

84. Phase Correct PWM (Pulse Width Modulation) Mode of AVR microcontroller Timer Pulse Width Modulation is well known technique for controlling power electronics devices like SCR, IGBT etc. PWM is also used in motor speed controlling. Square wave generation by using AVR...

85. Waveform Generation using AVR Microcontroller (Atmega16) Timers At times we come across applications or situations wherein we need to generate square waves with the microcontroller. The square wave can be generated by programming a pin which toggles...

86. Serial communication (USART) with different frame size using AVR microcontroller The previous article explains serial communication using 8-bit data transfer. AVR microcontroller also supports serial data transfer with frame size of 5, 6, 7 and 9 data bits. The size...

87. How to use External (Hardware) Interrupts of AVR Microcontroller (ATmega16) This article introduces the concept of interrupts and the different types of interrupts in AVR Microcontroller (ATmega16). Interrupt as the name suggests, interrupts the current routine of the microcontroller. Microcontroller...

88. How to interface LED with AVR Microcontroller (ATmega16) ATmega16 has 32 I/O pins to communicate with external devices. Before interfacing with external devices, these pins must be cofigured as input or output pin. This article demonstrates the

basic...

89. How to interface keypad with AVR microcontroller (ATmega16) Keypad is most widely used input device to provide input from the outside world to the microcontroller. The keypad makes an application more users interactive. The concept of interfacing a...

90. How to interface Servo Motor with AVR Microcontroller (ATmega16) Servo motors find huge applications in industries in the field of automation, control & robotics. The servo motors are well known for their precise control and work on the principle...

91. How to take input from a particular pin of ATmega16 For understanding the human needs a system must be able to take input from user. The devices which can be used to take input for a system are keypad, touch...

92. How to interface serial ADC0831 with AVR microcontroller (ATmega16) ADC is an electronics device that converts the analog signals to digital number proportional to the magnitude of voltage. The ADC chips like ADC0804, ADC0809 etc., give 8-bit digital output....

93. How to configure Watchdog Timers of AVR Microcontroller (ATmega16) Some high end applications require multiple or critical calculations to be done by the microcontroller. This may lead to cases when the controller enters into wrong or infinite loops. As...

94. How to interface GPS with AVR microcontroller (ATmega16) GPS modem is a device which receives signals from satellite and provides information about latitude, longitude, altitude, time etc. The GPS navigator is more famous in mobiles to track the...

95. Interfacing SD Card with AVR Microcontroller This project explains how to interface the SD card with an AVR microcontroller. In this project an ATMEGA16 microcontroller is used. The microcontroller runs on 5V power supply with a built in crystal frequency...

96. How to Program in Boot Loader Section In the AVR microcontroller the flash memory is divided into two parts, namely Application Section and Boot Loader Section. A code can be programmed into either the Application Section or...

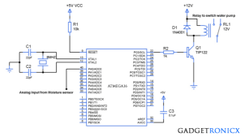
97. How to Initialize Peripherals from Boot Loader Section In almost all the microcontroller codes the peripheral initialization functions like uart initialization, spi initialization are written along with the different application codes. These initialization functions are actually repetitions of...

98. How to Use SPM for Flash to Flash Programming The Self Programming Mode (SPM) is a feature which enables a microcontroller to program its own flash memory. Using the SPM a microcontroller can program itself with an SPM code....

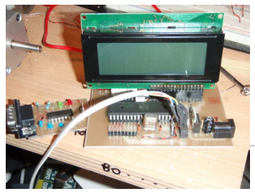
99. How To Use SPM To load Application from EEPROM In any microcontroller the Boot-Loader is the first code which executes before the application code does. The major function of the Boot-Loader is to load the application code into the...

100. How To Write a Simple Bootloader For AVR In C language The BootLoader is a code which executes when a microcontroller is powered ON or reset. It basically sets an environment for the application code to execute. It is the Boot-Loader...

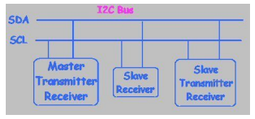
101. LCD Scrolling Display Module A microcontroller is a device which has an inbuilt processor surrounded by few dedicated hardware modules. Once the microcontroller initializes them they start operating on their own. In case of...

102. 

Automatic plant watering system using AVR(Atmega16) Microcontroller Primitive irrigation systems possess many drawbacks as it fails to conserve water and human energy. So introducing Automation in it can help us to overcome these drawbacks and pave way...

103. 

Atmega16/32 Development Board With LCD This instructable shows, how to do your own development board for Atmega16 or Atmega32 processors.The Internet is full of home made development boards, but I think that, there is room...

104. 

I2C Bus for ATtiny and ATmega I love the Atmel AVR microcontrollers! Since building the Ghetto Development System described in this Instructable, I've had no end of fun experimenting with the AVR ATtiny2313 and the ATmega168...

105.

Ultrasonic Spheroid Levitation Device Using Atmega16 Introduction The goal of this project was to design and build a gaming device capable of levitating a ping pong ball at varying heights based on the proximity of the...

106. Embedded Foot Pronation Detection Using Atmega644 Introduction and Rationale Our ECE 4760 design project integrates three different kinds of sensor measurements to track a user's movement speed, regularity of gait, force on impact, pronation of foot,...

107. Virtual Archery Using Atmega644 Introduction For our final project, we built a virtual archery game. The game simulates the firing of an arrow on a target without arrows flying around. The purpose of this...

108. FM Radio Receiver Using Atmega644 Introduction The goal of our project was to design a low cost and user-friendly FM radio receiver. Our project uses a FM receiver integrated circuit to perform the pre-processing units...

109. Mister Gloves – A Wireless USB Gesture Input System Using Atmega644 Introduction Mister Gloves is a wireless USB gesture input system that enables a person to use a computer by performing intuitive hand and finger motions in the air. While wearing...

110. ATmega644 JTAG Debugger Introduction The purpose of this project was to design and implement a debugger for the ATmega644 that communicated through its JTAG interface and was capable of controlling program execution by...

111. Star Duel video game Using Mega32 1. Introduction 1.1 Project Summary Our project is a space dogfighting video game where two players attempt to destroy each other using a variety of ships and weapons. The battlefield...

112. Reversi Video Game Using ATmega32 Introduction "Our project implements the game, Reversi, on TV with a smart artificial intelligence and a host of other features!" It's our childhood game. We were so excited when we...

113. PC-CONTROLLED SCANNING TUNNELING MICROSCOPE Using ATMega163 INTRODUCTION For our final project, we designed a scanning tunneling microscope (STM) that could be used to gather information about the surface topography of metals and semiconductors at the sub-micron...

114. Hard Drive Based AVR Programmer Using Mega163 The project which we are presenting is not the project we presented in our proposal. We initially planned to build a WWVB time-code receiver, which would demodulate a 60 kHz...

115. Spring 2002 Gmouse Using Atmel ATMEGA163 Introduction With all focus of computer technology advancement placed on processors and memory, sometimes the most simple of components are overlooked. This is especially the case with the mouse, a...

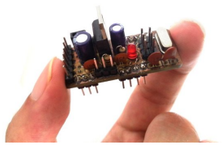
116. Inductance/Capacitance Meter Saga I had a bunch of random inductors in some random drawers and I wanted to know what values they were. These values are quite often not obvious by looking at...

117. Programming an ATMega128 We tried all kinds of ways to get the Arduino IDE to compile and program our ATMega128 chips that we'd so carefully soldered onto our breakout boards. Steve spent longer...

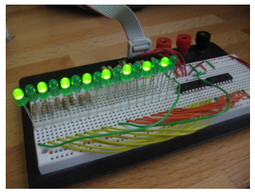
118. ATMEGA Core Temperature Sensor Abstract: I recently stumbled across an interesting fact in the datasheet for the ATMEGA32u4, the microcontroller I am using for my Einstepper Project. I was surprised to find that Atmel...

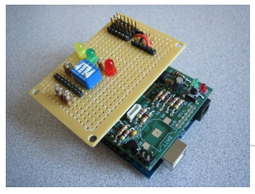
119.

Accelerometer Interfacing with AVR The article covers how to interface an accelerometer with the atmega32/atmega16. Before proceeding, the user must know the basics of ADC (Analogy to digital converter) of the AVR.An accelerometer is...

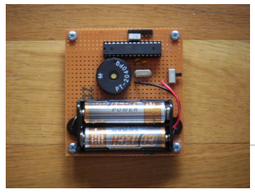
120. 
ArrDrownHo! – Easily convert AVR to Arduino Cap'n ArrDrownHo! is the lovechild of Ardweeny and Boarduino and he's here to commandeer your AVR ships. ArrDrownHo! inherits pros of both and cons of neither. Pick up an AVR chip...

121. How to drive 595 shift registers with ATmega168 Driving a shift register using an AVR chip’s built-in hardware is really quite easy. Most of their offerings have an SPI module, or Serial Peripheral Interface. A shift register is...

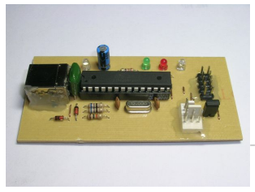


122. 

HexiLogger, an Arduino based data logger using ATmega328 The purpose of this project was to create a simple, portable device that would periodically read sensors and then store the sensor data so it could be retrieved later. The...

123. 

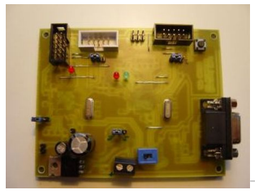
Algorithmic 8-bit workshop using ATMega328 I was asked to give a workshop regarding sound art in Super Public Art School that is held at Titanik-gallery in Turku. As I have been working lately with microcontroller...

124. 

Atmel AVR Infrared Downloader using ATmega8 AVR IR Downloader is one of final assignments at Electrical Engineering Brawijaya University of Malang, Indonesia. The basic idea was came from our lecturer at campus, Ir. Nanang Sulistyanto. If...

125.

AVR DDS signal generator V2.0 using ATmega16 Finally second and improved AVR DDS signal generator is here. First AVR DDS V1.0 generator was only an attempt of running DDS algorithm without any amplitude control. This time I...

126. 

Evertool using ATmega16 microcontroller Evertool is an AVRISP/STK500-protocol and JTAGICE compatible Programmer/JTAG debugger. ISP Programmer compatible with Atmel AVRISP, directly accessable with AVRStudio and avrdude JTAG debugger compatible with Atmel JTAGICE, directly accessable with...

127.

The Tuxgraphics AVR NTP clock using ATmega168 The Network Time Protocol (NTP) has revolutionized the world. Suddenly one could have anywhere in the world accurate time and date. NTP is a simple UDP based protocol and can...

128. The Prototino™ using ATmega168 microcontroller What is a Prototino™? The Prototino™ is an Arduino clone with a built in prototyping area. Designed to make a permanent version of your project once you have...

129. Tetrapuzz – Tetris clone for AVR using ATmega168 This is a projected that I finished development on over a year ago and I'm just now getting around to documenting it. I wanted to program Tetris from scratch and…

130. Dot Matrix Arduino Clock using ATMega168 The great adventure that is building clocks continues. Points of interest in this build is that it was the first chance I got to play with the dot matrix display…

131. Output number when button is pressed using Atmega16 microcontroller This is simple demo program of reading button state, lighting LEDs, sending information via USART. 8 buttons are connected to Atmega16 port A, 8 LEDs to port B via current…

132. Understanding Logic Analyzer basics using SCANALOGIC-2 EDU KIT A logic analyzer is an excellent tool for capturing many digital signals at once and displaying their timing relationships. It is particularly useful in verifying and debugging digital circuits. This…

133. Led Blink Code – Hello World Led using atmega16 in C Configuring the microcontroller before running it the first time: Fuse bytes : high and low Program them once before you start using the micro-controller Disable JTAG to free up PORTC…

134. LED DOT Matrix Pong using ATMega16 Microcontroller The classic pong game. Two players. Press the buttons to move paddles up/down. Ball bounces back and forth. If you fail to catch it, your opponent gets one point. Score…

135. How to drive 595 shift registers with AVR hardware SPI using ATmega168 microcontroller Driving a shift register using an AVR chip's built-in hardware is really quite easy. Most of their offerings have an SPI module, or Serial Peripheral Interface. A shift register is...

136. AttoBasic HOME using Atmega168 microcontroller This is the central location for resource for all versions of AttoBasic for Atmel AVR controllers and Adurino computers Devices directly supported include ATMEGA328, ATMEGA168, ATMEGA88M, ATMEGA32U4, ATMEGA32, ATMEGA163, ATMEGA8515,...

137. Cellphone Operated Robot using ATmega16 AVR microcontroller This Instructible is entered in the Category: 13 - 18 of the National Robotics Week Robot Contest MY URL-http://avadhutelectronics.blogspot.com/ MY Email-avadhut.deshmukh@gmail.com Video :Cellphone Operated Robot Step 1 Component Required...

138. MMC/SD/SDHC AVR Interface using ATMega8 microcontroller MMC/SD/SDHC card library This project provides a general purpose library which implements read and write support for MMC, SD and SDHC memory cards. It includes low-level MMC, SD and SDHC...

139. Atmel atmega projects l35 heat time display keypad using ATMega microcontroller Atmel ATMEGA series of three projects are made with micro-controllers delivering projects bahramelectronic.ir Thank you brother Bahram's administrator. 1 - ATMEGA16 LCD display temperature measurement (LM35) 2 - ATmega8 application of the keypad display with 7 segmet 3 - ATMEGA32 with a...

140. AVR RGB LED and Sound Show using ATmega168 microcontroller Here is a nice and entertaining project created by http://www.ermicro.com . The author has a very good programming, teaching, drawing and artistic skills. The tutorial is well planned and executed....

141. Embedded System Design with the Atmel Avr Microcontroller – AVR E-Book This textbook provides practicing scientists and engineers an advanced treatment of the Atmel AVR microcontroller. This book is intended as a follow-on to a previously published book, titled Atmel AVR...

142. Atmel AVR Microcontroller Primer: Programming and Interfacing – AVR E-Book This textbook provides practicing scientists and engineers a primer on the Atmel AVR microcontroller. Our approach is to provide the fundamental skills to quickly get up and operating with this...

143. AVR Power Usage Logger using ATmega168 microcontroller This ATmega168-based project monitors household power usage and logs it to an SD card. Signals from voltage and current detectors amplified LMC6484AIN quad op-amp and then AVR microcontroller computes the...

144. AVR Digital Hum Nuller using ATmega168 microcontroller This ATmega168-based digital comb filter built to clean a realtime audio signal. It can remove the ubiquitous 60Hz (50Hz in some countries) hum noise caused by power lines and household...

145.

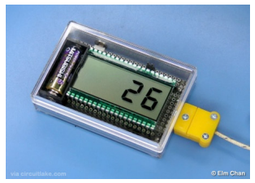
Rechargeable Battery Capacity Tester using ATMega168 microcontroller This ATMega168-based battery tester allows you to find out the overall capacity of the rechargeable battery. It can shows how long will a battery last from the time it's fully...

146.
Handy Password Managing System, Lord of the Keys using AVR ATmega168 The Lord of the Keys is password managing system that able to store many usernames and passwords inside a Java Card™ smart card (one of the most secure methods to...

147.

AVR Ultrasonic Spheroid Levitation Device using ATMega16 microcontroller The goal of this project was to design and build a 'gaming' device capable of levitating a ping pong ball at varying heights based on the proximity of the user...

148. AVR Thermocouple Temperature Meter using ATmega164 microcontroller The benefit using thermocouple sensor for measure temperature is it has wide range measurement (-200 °C to +1350 °C / -328 °F to +2462 °F range for Type K), inexpensive,...



149.

AVR Based Car Diagnostic Tools using ATmega169 This project focuses on tapping into GM pre-1996 car and light truck diagnostic information. These systems are commonly referred to as OBDI, or ALDL (Assembly Line Diagnostic Link). They are...

150. SP12 serial programmer software SP12 supports the following devices: AT90S1200, AT90S2313, AT90S8515, AT90S4414, AT90S2323, AT90S4434, AT90S8535, AT90S2343, ATtiny22, AT90S2333, AT90S4433, ATtiny12, ATtiny13, ATtiny15L, ATtiny26, ATtiny25, ATtiny45, ATtiny85, ATtiny2313, ATtiny861, ATmega103, ATmega603, ATmega161, ATmega162, ATmega163,...

151. Helianthus: The Solar Tracking System using ATmega16 microcontroller Renewable energy solutions are becoming increasingly popular. Photovoltaic (solar) systems are but one example. Maximizing power output from a solar system is desirable to increase efficiency. In order to maximize...

152. PCM Audio Based Door Bell using Atmega32 microcontroller This is a simple procedure to play PCM audio on any AVR microcontroller. AVR's high speed PWM is used to play the audio. It almost sound fine and can be...

153. AVR Based CRO using Atmega16 microcontroller STEP 1: Circuit Diagram Components ATmega16 MAX232 0.1uf Capacitor ----- 4pcs DB9 Connector 7805 for 5v power supply STEP 2: Programme Code (Compile using Codevision AVR & Burn in Atmega16...

154. Power usage monitor using Atmel AVR using Atmega168 microcontroller This project uses Atmega168 microcontroller to compute the power usage at home and logs it to an SD card. It has a graphical LCD display too that shows the power...

155. Cellphone controlled robot vehicle using ATmega16 microcontroller When we talk about wireless robot vehicles, we usually think about the RF circuits. But this project is different. It uses a mobile phone to control the motion of a...

156. A physical display device for website visitors based on Atmega168 If you have a blog or website and want to make a physical device to display the number of visitors, this project might be interesting to you. It describes about...

157. Tetris and Snake with one AVR using Atmega168 microcontroller This project describes two games – Tetris and Snake, both programmed inside an Atmega168 microcontroller. You can plug this device to a PAL TV and have fun playing the games....

158. Development Board With LCD using Atmega16 microcontrollers This instructable shows, how to do your own development board for Atmega16 or Atmega32 processors.The Internet is full of home made development boards, but I think that, there is room...

159. Portal "Still Alive" on using ATMega16 microcontrollers Yet another Portal-related instructable , but Different ! This one shows you how to : 1)Build a very cheap device that plays an 8-bit version of Still Alive from Portal...

160. Wireless Accelerometer Controlled rgb-LED's using atmega168 microcontroller MEMS (Micro-Electro-Mechanical Systems) Accelerometers are in widespread use as tilt-sensors in mobile phones and cameras. Simple accelerometers are available both as ic-chip's and cheap development pcb-boards. Wireless chips are also...

161. Color Sensor using Atmega16 microcontroller This is a simple color sensor using Atmega16 MCU and can sense Red ,Green and Blue color. How it works: the sensor consist from LDR sensor and RGB LED ,so when the...

162. Rechargeable Battery Capacity Tester using ATMega168 microcontroller Do you have a pile of AA rechargeable batteries in your drawer? Some are old, some are new, but which sets would you bring with your camera on your next...

163. Programming Arduino Bootloader without Programmer using ATmega168 microcontroller OH NO!!! You've screwed up and now the Arduino bootloader on your 'duino is gone! What are you going to do? Go spend money for a programmer??? Well don't! I've...

164. How to program a AVR (arduino) with another arduino using attiny2313 microcontroller * you've got your arduino with atmega168 and you bought an atmega328 at you local electronics store. It doesn't have an arduino bootloader * you want to make a project...

165. How to program a AVR (arduino) with another arduino using atmega168 microcontroller This instructables is usefull if: * you've got your arduino with atmega168 and you bought an atmega328 at you local electronics store. It doesn't have an arduino bootloader * you...

166. Arduino Powered Binary Clock using ATmega168 microcontroller This instructable will help you to build an Arduino Binary Clock. The orignial idea for this instructable was designed by Daniel Andrade. My instructable uses surface mount components, but can...

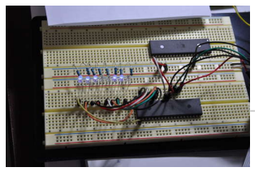
167. A credit card sized Ethernet Arduino compatable controller board using ATmega168 microcontroller I love the Arduino as a simple and accessible controller platform for many varied projects. A few months ago, a purchased an Ethernet shield for my Arduino controller to work...

168. The Word Clock – Arduino version using ATMega168 microcontroller Major updates - A much better enclosure for this clock has been designed - check out http://www.instructables.com/id/The-Wordclock-Grew-Up/ Last month I wanted to build a special gift for my beautiful wife,...

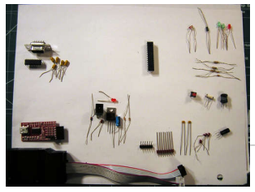
169. Arduino R/C Lawnmower (painted) using Atmega168 microcontroller What this is: This instructable will show you how to make your Arduino into an R/C interface that you can use for just about anything requiring remote control. I will also...

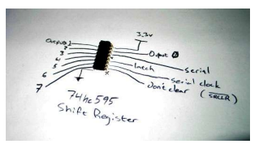
170. The Household Informer using atmega168 microcontroller Who wants to go outside to see if the mail has arrived? In the cold winter or rain I'd rather not have to put on a jacket and shoes, only...

171. The $9 Quasi-duino (Almost-duino) Do you currently have an Arduino and want to make it smaller for cheap? The Quasi-duino is for you (Italian for almost-duino). This makes a functional "almost" Arduino, in a...

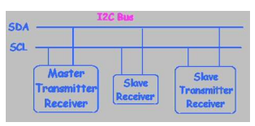
172.  Beginner's Guide – AVR Programming You will get this done in 30 min. Step 1: Parts 1. 1 X any type of circuit board 2. 1 X Atmel AVR Atmega16 microcontroller 3. 8 X 330...

173. Assembling the ZIFduino USB 1.2 using ATMEGA168 microcontroller The ZIFduino, for all intents and purposes, is an Arduino with a ZIF socket. It's geared toward those that want to do prototyping on the platform, but then move the...

174.  Build a Complete AVR System and Play Mastermind using ATmega328p microcontroller The game Mastermind has been around a long time, and I remember getting a board version with colored pegs when I was a kid. I love this game, as it...

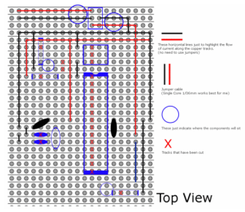
175.  Watch futurama on an 8×8 pixel screen using atmega168 microcontroller here's how to convert otherwise reasonable quality video into pixelated garbage and play it on a 2 color 8x8 led matrix, with no sound and only moderate sync. ingredients: -...

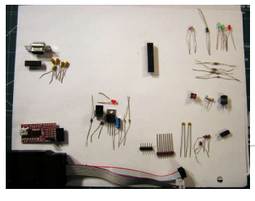
176. FanBus Digital Fan and LED Interface for PC using ATMega168 microcontroller Last year I modified a blue LED fan with RGB LED's to enhance the look of my server case. Last summer I built a gaming computer and ever since I...

177. 

I2C Bus for ATtiny and ATmega168 I love the Atmel AVR microcontrollers! Since building the Ghetto Development System described in this Instructable, I've had no end of fun experimenting with the AVR ATtiny2313 and the ATmega168...

178. Stripboard Arduino using ATMega168 microcontroller In this, my first Instructable I'm going to show you how to make a stripped down Arduino for a fraction of the price, using Stripboard/Veroboard. Material List: 1x Atmel ATMega168...

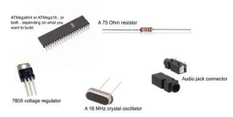


179. 

Build a Complete AVR System and Play Mastermind Using Microcontrollers The game Mastermind has been around a long time, and I remember getting a board version with colored pegs when I was a kid. I love this game, as it...

180.

Adding ICSP header to your Arduino/AVR board using ISP10PIN microcontroller So you may have been playing with Arduino's, or rather, Hackduino's. If you made your own Hackduino or similar project, you may be wondering how to add the ICSP header....

181. 

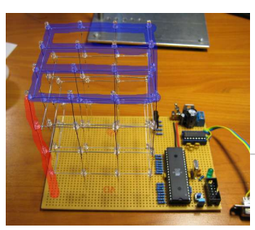
Portal "Still Alive" on AVR microcontrollers Yet another Portal-related instructable , but Different ! This one shows you how to : 1)Build a very cheap device that plays an 8-bit version of Still Alive from Portal...

182.

Build your own (cheap!) multi-function wireless camera controller using Microcontroller AVR ATMega8 Introduction Ever fancied building your own camera controller? IMPORTANT NOTE: Capacitors for the MAX619 are 470n or 0.47u. The schematic is correct, but the component list was wrong - updated. This is...

183.

Color Changing Digital PC Fan Controller using Microcontroller ATMega168 We've all seen LED fans that you can put in your computer to make it look cool. They usually come in blue, sometimes red or green and consist of a...

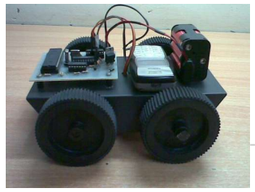
184. 

LED Cube 4x4x4 using Microcontroller Atmega16 Amazing 3 dimensional LED display. 64 LEDs makes up this 4 by 4 by 4 cube, controlled by an Atmel Atmega16 microcontroller. Each LED can be addressed individually in software,...

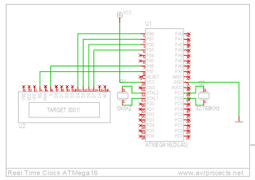
185. Rechargeable Battery Capacity Tester using Microcontroller ATMega168 Do you have a pile of AA rechargeable batteries in your drawer? Some are old, some are new, but which sets would you bring with your camera on your next...

186.

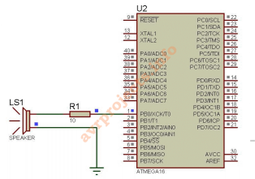
Build your own Wifi radio using Microcontroller ATmega16 The internet hosts lots and lots of online radiostreams, most of them with a certain theme, ranging from old time classics to Tibetian riverdancing. I must admit that I love...

187. 

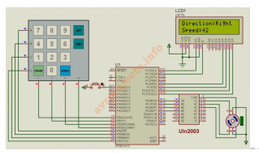
Cellphone Operated Robot Using Microcontrollers Component Required: IC1 - MT8870 DTMF decoder IC2 - ATmega16 AVR microcontroller IC3 - L293D motor driver IC4 - 74LS04 NOT gate D1 - 1N4007 rectifier diode R1, R2 -...

188. 

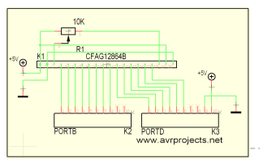
Real Time Clock ATMega16 Description The ATMega16 chip in the M16 has a real-time counter that operates asynchronously when a 32,768hz watch crystal is connected to it, providing a real-time clock. Bascom has built-in...

189. 

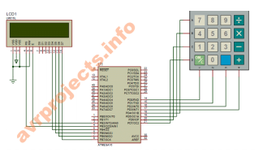
Digital Melody player using atmega16 microcontroller Here' s an melody player with Atmega16. The command "Sound Speaker" is used to generate sound. This is the inbuilt command in Bascom AVR. For more Detail: Digital Melody player...

190. 

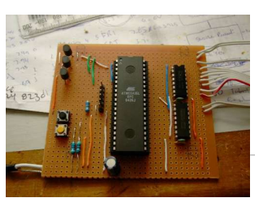
Stepper motor Control with Atmega16 With this project you can control a unipolar stepper motor. You can control both the speed and the direction of the motor. The speed and direction and can changed with...

191. 

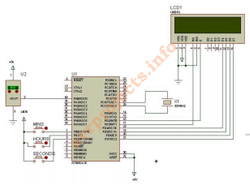
Graphical LCD with KS108 controller Description The Graphical LCD 128x64 controlled is with the ATMega16, the graphic LCD GLCD HG1286418C-VA with a S6B0107/S6B0108 controller is used. See below for the pinout of the display. The...

192. 

Simple calculator using avr microcontroller Atmega16 Here's a simple calculator with the Atmega16 microcontroller. It have an LCD display and a 4x4 keypad. You can also download the proteus simulation file on the downloads Bascom Code...

193. 

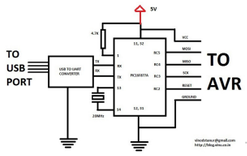
DIY TiX Clock using ATMEGA16 AVR microcontroller Here's my instructable for a DIY TiX clock. It is powered by an AVR microcontroller. The display is made up using a piece of reflector grid you find covering office...

194. 

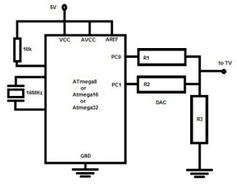
Thermometer with Clock using ATmega16 This project will display the temperature and time over the LCD display. LM35 is used to sense the temperature and the analog out of the LM35 is converted to digital...

195.

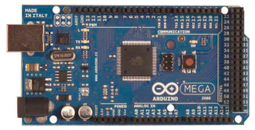
4 bit interfacing of a 16X2 LCD display to PIC16F877A, Atmega16/32 & MSP430 16x2 LCDs are most commonly used display units in microcontroller based projects. I got much information about LCD, LCD commands, LCD initialization etc from the below link and I hope,...

196. 

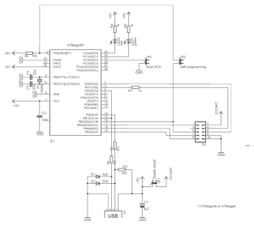
My own AVR ISP programmer using PIC16f877a and python! Introduction: (don't skip to read the note below) I recently purchased few AVR microcontrollers. I don't know much about AVR since I am using it for first time. Any way,...

197. 

AVR based monochrome signal generation for a PAL TV using atmega16 micrcontroller Introduction: I have learned some thing about TV in one of my B.tech semester but I forgot most of them. Now I refreshed a few basics and tried to implement...

198. 

Running PYTHON (pymite-09) on an Arduino MEGA 2560 using atmega16 micrcontroller Now it is the first time I am using an arduino board. Arduino mega 2560 is really a great product. The chip got a flash of 256KB, RAM of 8KB...

199. 

ATmega USB Programmer USB programmer for Atmel AVR microcontrollers including ATmega series This is USBasp in circuit Programmer for programming Atmel AVR Series using USB interface. It is a complete DIY guide to...

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