

## Hat's off to EFY

Your service is excellent! It encourages us to contribute DIY articles as well as innovative thoughts. You also respond to our questions and doubts. Hat's off to EFY team!

Pamarthi Kanakaraja

Through email

**EFY.** Thanks for the feedback! Your feedback and suggestions are extremely important to us.

## Thank You EFY

I am a ninth-grade student and refer to EFY for my school projects related to Internet safety, medical technology, robotics and more. EFY is an informative magazine. Thank you EFY!

Ashar

Through email

**EFY.** It is our pleasure to get an email from a ninth-grade student who is benefiting from EFY. And thanks for sharing your feedback! We are glad that you find the magazine useful.

## Power Amplifier

In 'Power Amplifier for FM Transmitter' DIY article published in November 2014 issue, please mention the type of antenna used and also its construction in detail.

Jethava Nirupa

Through email

*The author Joy Mukherji replies:*

A  $\frac{1}{4}$ -wavelength ground plane antenna was used for testing at 96MHz and gave good results.

Mount the antenna as high as possible for maximum range. Construction details are shown in Figs 1 and 2.

Each arm is  $\frac{1}{4}$ -wavelength and consists of 12SWG-enameled copper wire. Different frequencies require different lengths of copper rods and 12SWG central radiators. These can be calculated using the relationship:

$$\text{Length} = 7488/F$$

where F is the frequency between 88MHz and 108MHz.

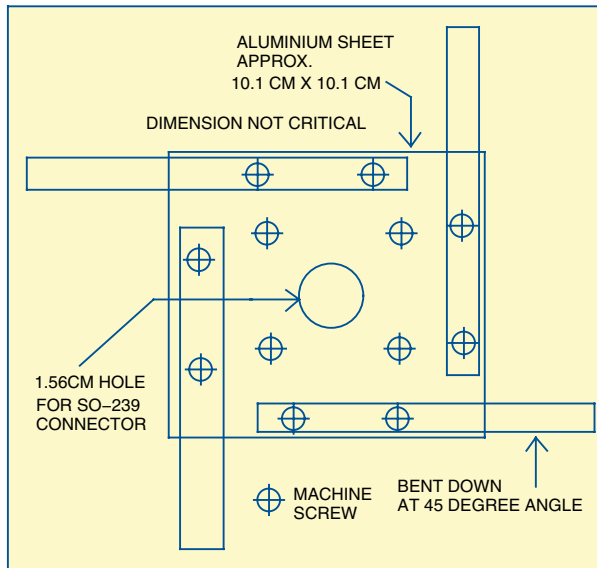


Fig. 1: Antenna made with aluminium sheet

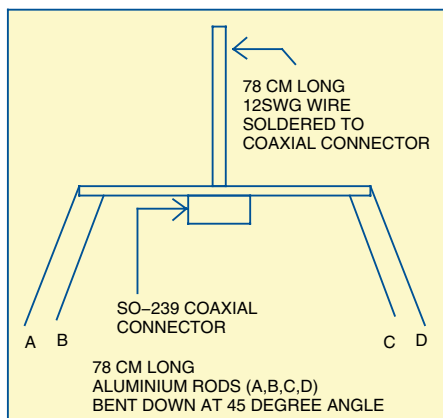


Fig. 2: Installation of aluminium rods for the antenna

## 'Spot An Error' Award Winner

In 'Assistive Device for the Speech Impaired,' article published in October issue, in the third paragraph under Circuit and working, the part of the sentence '...thereby avoiding interferences from the commercially-available receivers,' is wrong. The transmitters nearby will cause interferences, not receivers.

Allen Mathew

A half-wave dipole antenna can also be used for the sake of simplicity. Use a 75-ohm coaxial cable to feed the dipole and a 50-ohm coaxial

for the ground plane antenna. The ground plane antennae for FM band are readily available from China on eBay.

## Bed Vacancy Alarm

In 'Bed Vacancy Alarm System' DIY article published in September issue, on page 102, ATmega328 with bootloader is mentioned in parts list and also in PCB, but ATmega328P is mentioned in the text. This is confusing because ATmeg-

a328P and ATmega328 have different signatures.

Also, in the PCB layout, footprint and symbol of Schottky diodes (1N5819) are wrong. It should be DO-41 package. And, LED2 is shown in green colour in circuit but in the PCB it is red.

Rakesh P.

Through email

*The author T.K. Hareendran replies:* The project was based on ATmega328P with pre-burned Arduino bootloader. As per the datasheet, ATmega328 has a device signature of 0x1E 0x95 0x14 and ATmega328P of 0x1E 0x95 0x0F.

Another difference is the process technology where P indicates pico-Power technology and is best suited for low-power applications.

Normally, Arduino IDE does not differentiate between the two (with P and without P) when doing the serial programming. But if you are burning the bootloader, keep an eye out for this difference. Arduino Uno uses Atmega328P-PU as the original chip. **EFY.** Thanks for pointing out the mistakes in the PCB layout and LED colours!