



# Letters to the editor

## Countdown timer for yacht racing

I noted in Information Centre of your March '81 issue an item headed "Countdown Timer". PT of Pullenvale, Qld was looking for an easy method of constructing a countdown clock for yacht racing.

For several years I have been using such a device of my own design. My "Yachtclock" has two pushbuttons: one to start at -10 minutes, one for -5 minutes. Pushing both together turns it off. The countdown is in 0.1 minute intervals until -1.0 minutes, when the format changes to intervals of one second.

After reading zero, "Yachtclock" turns itself off. I have designed a unique light tunnel which makes the two digit LED display readable in virtually any sunlight condition, and the NiCd battery is rechargeable from any 12 volt source.

Should PT or any other reader of EA be interested, I could supply a limited number of "Yachtclocks" for the cost of materials and labour (say \$80). I must point out, however, that as I do not have the facilities of a manufacturer, the product would not have the "polish" of a mass produced item.

I am presently developing "Yachtclock 2", with a LCD of minutes and seconds for the whole countdown. I cannot quote for this model yet, however.

D. Brown,  
3 Joad Place,  
Aranda, ACT 2614.

## Success with the Mosfet Amplifier

I have just completed construction of your Mosfet Amplifier and can say without reservation that I am absolutely delighted. It far surpasses anything that I have had in the past and that includes top line models with highly respected brand names. I have since put my other (recently acquired) amp up for sale.

A friend of mine in Rabaul, who also assembled the kit, found an error on the PC board, that being the polarised 4.7µF capacitor in the preamp stage which is shown back to front. Also the input selector switch had to be wired differently in the kit supplied by Dick Smith. I also found that if shielded cable is used on pins 26, 27 & 28, noise level drops considerably (the circuit diagram indicates the use of unshielded wire).

This is the first kit I have ever constructed and you have now won another convert to your ranks. Congratulations on your efforts.

C. Madden,  
Rabaul PNG.

**COMMENT: thank you for your comments. Errata covering the wrongly polarised capacitor was published in April issue.**

## Sennheiser Headphone Competition

Just a short note of appreciation for conducting the Sennheiser Headphone Competition.

I have now connected up my Sennheiser 2002 Stereo headphones, and I find them to be of exceptional quality with incredible dynamic range.

Please extend my appreciation also to R. H. Cunningham Pty Ltd for providing such a valuable prize.

A. Carapet,  
Belrose, NSW.

## Wind generator design problems

I have recently built the wind generator described in the July 1978 issue, but used a standard alternator plus a 3:1 pulley step-up gear to achieve the correct RPM for the propeller.

It works exceptionally well, providing over 2 amps in a 20km/hr wind and over 10 amps during gusts.

However there are two "oddities" of interest. Firstly, the propeller (which has a double ball bearing axle) seems to be stalled at all windspeeds so far experienced - even with the drive belt removed - but revs at frightening speeds when given a flick start. Slow starts are of no avail. Also, once started there is plenty of torque to drive the alternator. I have assumed that it is in fact "stalled" in the rest position.

Secondly, the alternator does not seem to retain its "residual" magnetism and I have had to make a "wind" switch, which is a simple metal plate with contacts, to initiate charging at about five revs per second of the propeller by applying the B+ to the field winding.

There is also some confusion regarding the manner in which the propeller is balanced during construction. The text says: "Find the centre and drill a 1/4in hole

for testing the balance by hanging the prop on a nail in the side of the bench. It should return to the horizontal from any position..." Granted that to attempt balance with the average nail sitting in a 1/4in hole is a bit "uncouth" from an engineering point of view, it seems to me that with a proper fulcrum the propeller would settle in any random position when correctly balanced.

I would appreciate your comments on this.

Finally if anyone else has built this wind generator they may be interested to learn that a 3Ω resistor (piece of jug element) in series with the field winding reduces the torque required for the field alone considerably thus allowing an output at lower revs - ie at low revs most (or all) of the energy goes into creating the field current which may be 2 to 3 amps at less than battery voltage - hence no charge.

At 1400rpm the 3Ω resistor drops the output current from 5 to 4.5 amps, but the alternator is a lot easier to turn. So, in practice a higher current is possible since the RPM increases.

D. Law, VK2AIL,  
Tumblong, NSW.

**COMMENT: We agree that given a proper fulcrum the propeller will settle in at any position when correctly balanced. We cannot comment in detail about the propeller design, as the article was reprinted from another magazine. However if, as you state, the prop is aerodynamically stalled at rest, then it is not really suitable for use in a wind generator. Perhaps a conventional multiblade windmill design would be more suitable.**

## Cordless telephones

A friend loaned me a copy of EA for February '81 and I read your "Forum" article. I fully support your stand about ads for CB radios and new types of telephones.

If new types of telephones are designed and built which have significant advantages over the old types, and which can be plugged into the existing telephone system without damaging Telecom equipment, - then let's use them! We would be much better off without some of the inept, bungling, shortsighted bureaucrats we are presently stuck with. The cartoon in your article is a very fitting comment on some government departments who lazily throw new ideas into the "Too Hard" basket.

G. Costin,  
Artarmon, NSW

**COMMENT: At the heart of the problem is your sentence "... which can be plugged into ... without damaging Telecom equipment." Some authority with the necessary expertise has to make this judgment.**