Readout—
A SELECTION FROM OUR POSTBAG

Radiation counter

Sir—With reference to my article *Radiation Counter* in the March 1967 issue. I would draw readers' attention to an error on the e.h.t. circuit Fig. 3.

The base bias resistor (R16) should be shown connected to the negative supply rail and not the collector of the transistor as it appears in the magazine. I would think that the latter configuration would severely damp the oscillatory circuit, however the effect on its performance could only be found by experiment (it may in fact work like this). This error also renders the underside wiring diagram Fig. 5 incorrect.

P. F. Bretherick,
Eastcote,
Ruislip,
Middlesex.

Surprise flash

Sir—In your article *Photoflash Slave Unit* in the March 1967 issue, you suggest adapting an extension lead by reversing the wires to one of the connectors to ensure that the slave unit may be connected to an electronic flashgun with polarities on its trigger lead connector opposite to those required on the slave unit connector. While this is perfectly satisfactory electronically, it should be pointed out that the better quality extension leads have connectors with all metal casings. Adapting such an extension lead would result in the casing of one connector having a polarity opposite to that of the other connector. Touching both connectors with the flashgun switched on would result in one's fingers being effectively shorted across the flashgun's trigger capacitor, which may be charged to a potential of up to 250 volts. While this would constitute no danger to a normal healthy person, the element of surprise might cause the equipment to be dropped, with somewhat disastrous results!

With this in mind, perhaps a better method of ensuring correct polarity would be to use an extension lead with moulded plastic connectors. As the insides of these connectors are not accessible without destroying the casing, the lead itself would have to be cut and reconnected in reverse, the join naturally requiring careful insulation. This would result in only the actual connecting points of the two connectors having opposite polarities. The chances of touching both these at the same time are only small. However, if metal-cased connectors are employed on the flashgun trigger lead and the slave unit itself the effectiveness of this is reduced considerably.

The most satisfactory arrangement would be to utilise some of the unoccupied space in the slave unit case by fitting a switch to reverse the connections between the slave unit's connector and the thyristor.

A. W. Hawkins,
Lowestoft,
Suffolk.

Quick-blip

Sir—I have been taking this journal for quite a time and have been particularly pleased with the articles on Radio Control by Mr D. Bollen. I hope you will persuade him to do some more of this type of article. . . .

My other request is this, could your contributors give general parameters of transistors used in their articles as well as the alternatives. I would like to make up a lot more of the gear described but am often unable to get the transistors listed in the materials lists. Our local dealers have never heard of some of the transistors specified and even famous makes such as Mullard are difficult to obtain. Given some details of the transistors used, one could try and find alternatives among those available locally.

H. C. Wells,
Como,
Western Australia.

We have twisted Mr Bollen's arm and the first part of a new article starts on page 432 this month.

Hot point

Sir—It is with horror that I realise that no emphasis has been placed on the ease with which f.e.t.s can be destroyed. I have in mind all those unsuspecting enthusiasts who are contemplating the building of your Integrated Stereo Amplifier (December 1966 issue), in which I note there is no protection of the f.e.t. from lethal transients. The transistor in question, a 2N3819, has a maximum rating of 20 volts gate to any other electrode. Unlike an ordinary transistor, it will be permanently destroyed if any breakdown occurs, and even touching the gate with a finger may cause this if the body has some stray capacity to the mains. After my first disaster, I adopted the following procedure:

Before the transistor is ever brought near mains, batteries, or soldering irons, a length of fine wire (about 36 s.w.g.) is wound round the three leads to short them to each other, and kept in place until construction is complete, and a pair of catching diodes installed. These diodes are reverse biased and connected between the gate and the appropriate voltage sources to limit the range of voltage applied to the gate. In the case of the Stereo Amplifier, one is connected to earth (anode end) and the other (cathode end) may be taken to the drain electrode. These catching diodes must be silicon, type OA200 being suitable, and will protect the transistor against transients which can occur when plugging in external signal sources.

James M. S. Hutchinson,
University of Bradford,
Bradford, 7.

While your comments are entirely justified, it must be said that I have designed quite a few circuits for the practical constructor that do in fact contain field effect transistors and have yet to be informed of anyone who has had the misfortune to liquidate one. As long as common sense is used in the handling of these devices, they are quite as tame as the bipolar transistor. As you will no doubt appreciate there was a great deal of trepidation in soldering transistors without a heatsink in the early days, but standard soldering procedure would in fact have caused no trouble at all.

However, do not misunderstand me, there is a real danger of field effect transistor and possibly one of the more pertinent points would be in ensuring that the soldering iron is isolated from the mains earth. No doubt this comment will draw criticism from some people as safety is all a matter of degree.—R.H.