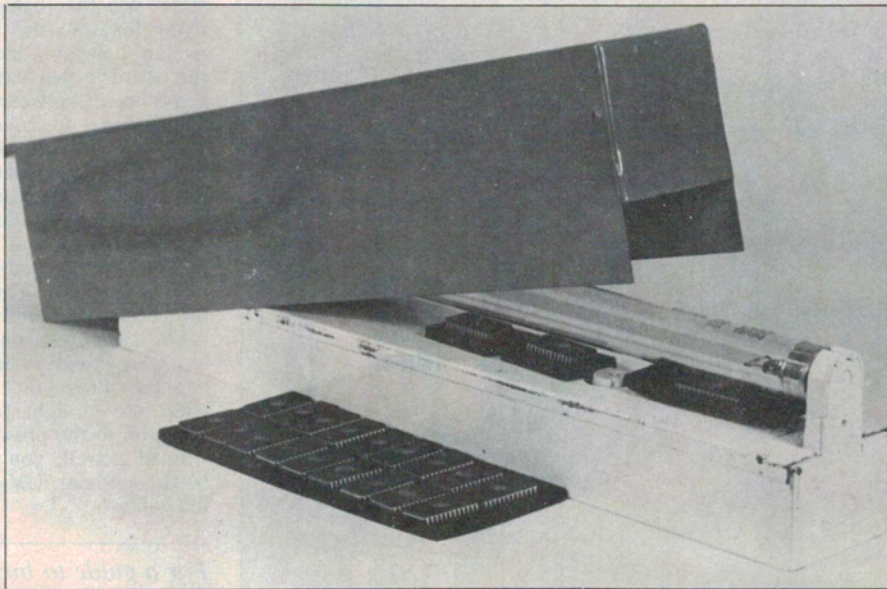


Pangalactic EPROM eraser

Geoff Nicholls



FOR ANYONE developing and using EPROM-based software, the essential 'tools' for the task are an EPROM programmer and an EPROM eraser. We have described a number of EPROM programmers over the years: the ETI-643 Universal programmer (Dec '79), the ETI-686 PPI-based programmer (October '82) and the popular ETI-668 for the Microbee (Feb '83 and Jan '84). We have, however, not published an eraser for the popular and widely-used UV-erasable PROMs. This project rectifies that omission.

To 'erase' a UV-erasable EPROM, all you need do is place the IC's 'window' in a strong source of shortwave ultraviolet light with a wavelength of 2537 angstroms for a period determined by the UV source intensity. The data books recommended a minimum integrated exposure (UV intensity times exposure time) for erasure of 15 W-sec/cm². For most types, this gives an erasure time of around 15-20 minutes using an ultraviolet lamp with a 12 mW/cm² rating, providing you stick the EPROM about 25 mm from the lamp during erasure.

First problem — find a UV lamp with appropriate wavelength output and power rating. We found a Philips type (G 15 T8)

This project is the perfect companion to our popular ETI-668 Microbee EPROM programmer, or any EPROM programmer for that matter.

stocked by Circuit Components of 383 Forest Rd, Bexley, NSW 2207; (02) 59-3720. This is a 15 watt tube that fits a normal fluorescent lamp batten, which was neat because it solved the mechanical problems too.

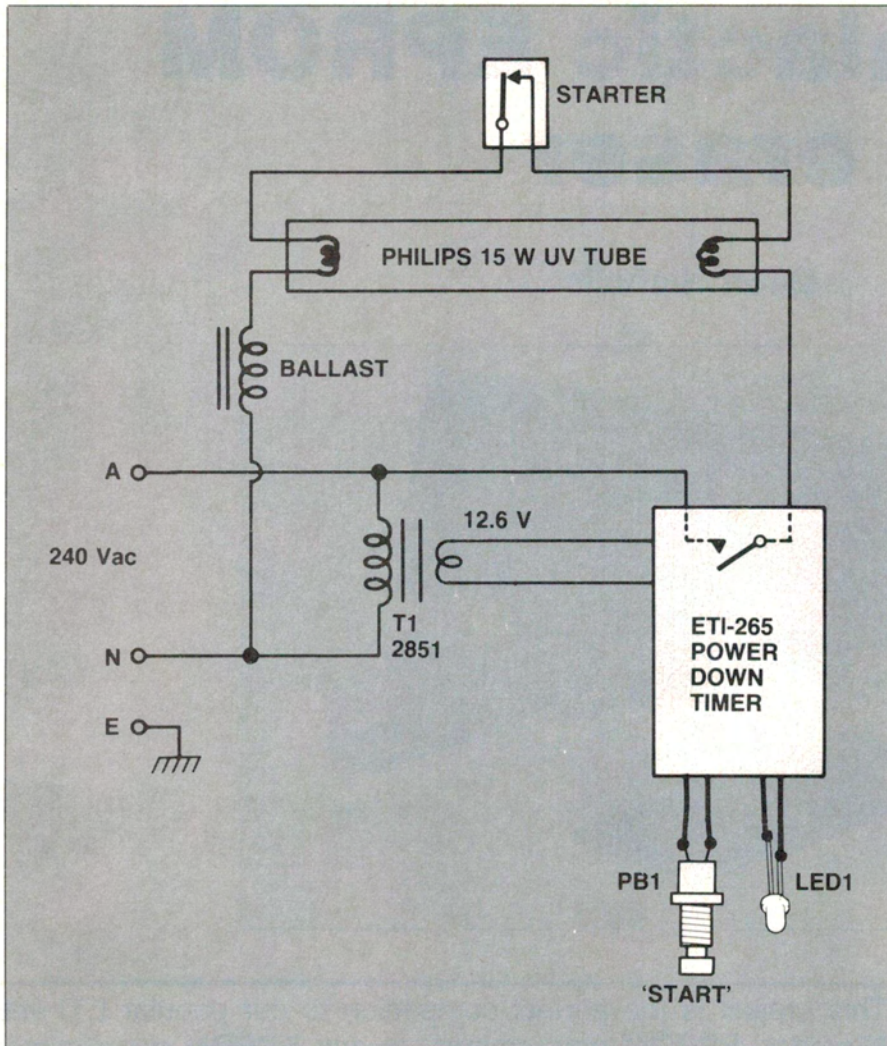
Next problem, an 'erasure timer'. Our ETI-265 Power Down Timer (July 1983) suits the requirement perfectly. In fact, use of this project in an EPROM eraser was mentioned in the article. With a little trial and error to test how critical the whole set up might be, it was found that a fair latitude of exposure time could be allowed. Ten minutes was found to be a minimum for 2716s, 2532s, etc and 30 minutes a reliable maximum.

The '265 timer fitted neatly inside a 15 W fluorescent light batten and the EPROMs could be sat beneath the tube at closer than the 25 mm distance recommended in the data books, especially if you leave the device stuck in its piece of conductive foam.

Where did that name *come* from? Fans of "The Hitchhikers Guide to the Galaxy" will recognise it instantly. The prefix 'pan' means "all", the suffix 'galactic' means "of the galaxy". So, you can erase any of the known UV-erasable EPROMs available in our galaxy.

Construction

For construction of the ETI-265 timer, refer to the article in the July 1983 issue. Before assembling the '265 board, use the blank board as a template to mark out its mounting hole positions on the lamp batten base. Then, using the components, mark out the mounting hole positions for the 2851 transformer, and the two-way terminal block. Drill the holes and clean off any burrs. Determine hole positions for the mains cable clamp grommet, the LED and pushbutton in the end of the batten furthest from the starter. Drill these holes and remove any burrs, as before. ▶



Attach leads about 100 mm long to the pushbutton and the LED and mount them. Mount the terminal block and the 2851 transformer. I mounted a piece of heavy cardboard beneath the transformer to prevent accidental access to the tranny via some pre-existing holes in the batten base.

Assemble the ETI-265 timer board, selecting C1, R1 and RV1 from Table 1 in the '265 article. Attach flying leads for the rectifier input (about 300 mm long) and the switched mains output (use 240 Vac rated wire here; determine their approximate lengths beforehand). Solder the flying leads to the board from the LED (watch polarity) and pushbutton. Mount the board in the batten, putting a piece of heavy card between the board and the batten base to cover pre-existing holes. Wire up the transformer secondary and then install the mains cable and mains wiring, as per the overlay/wiring diagram here. Check it all thoroughly.

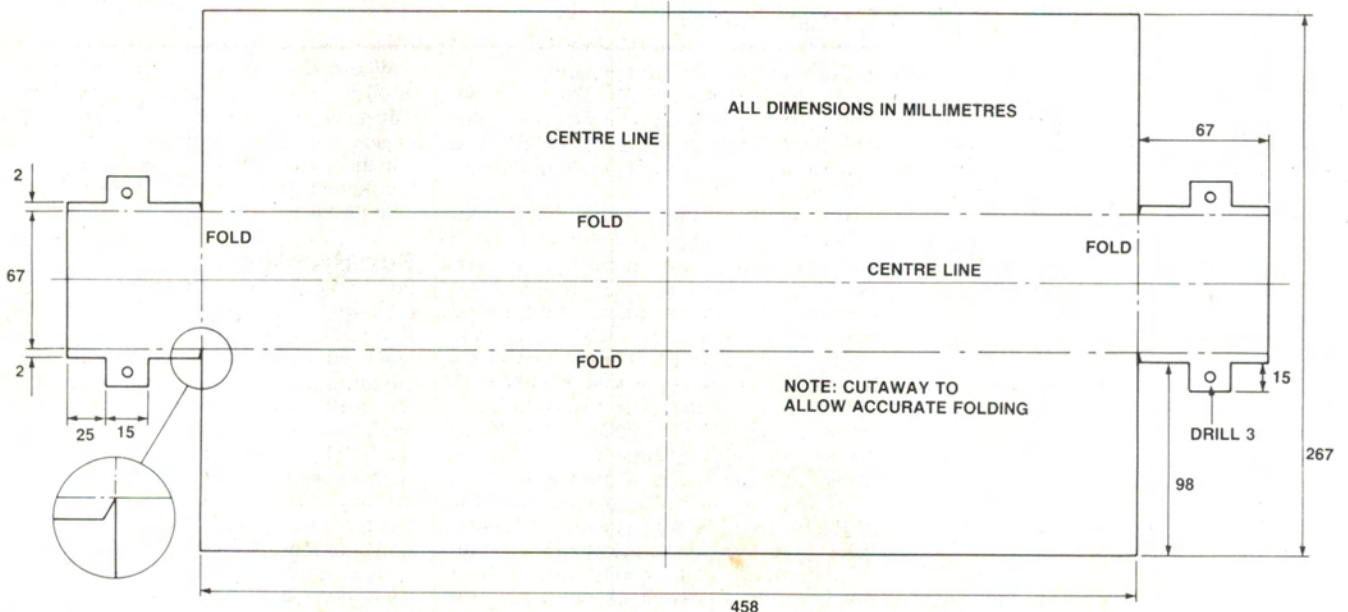
Now you can cut out and bend up the batten cover. I used self-tapping screws to hold it together. This cover just sits over the batten when in use.

For a trial test, put the lamp in the batten, plug in and switch on. Nothing should happen. Press the pushbutton and the lamp should light (as should the LED), going off at the pre-determined time later.

If all is well, you're ready to erase any of the popular UV-erasable EPROMs in the galaxy! ●

For a guide to buying components and kits, see SHOP AROUND this issue.

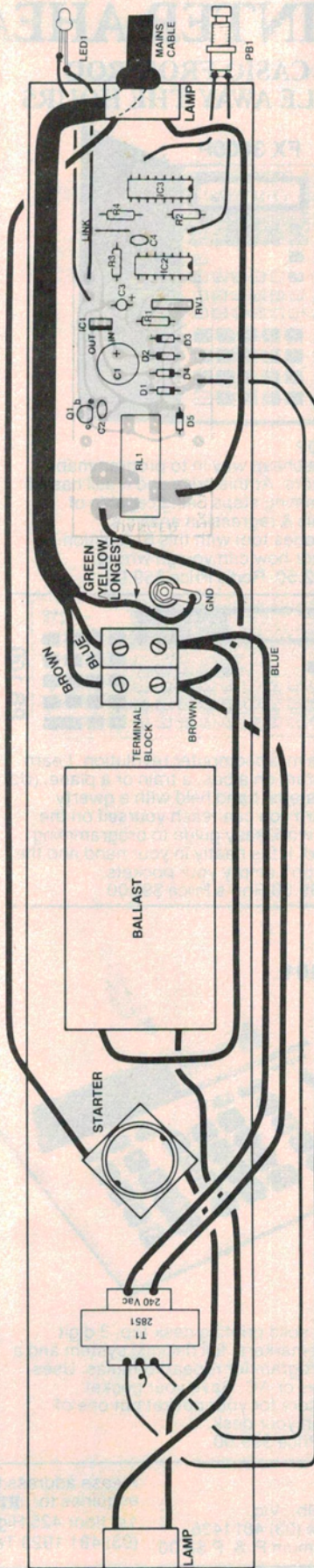
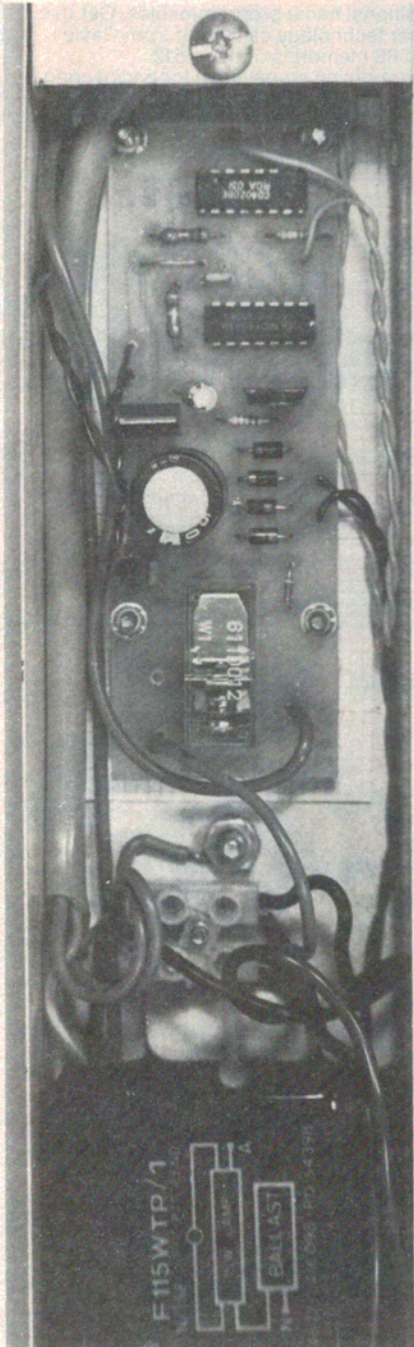
Batten cover. Dimensions for cutting out the batten cover.



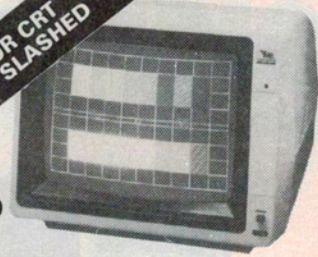
PARTS LIST — ETI-669

ETI-265 'Power Down' Timer project (board and electronics only); 15 W fluorescent lamp batten; Philips TUV 15 W UV (G 15 T8); transformer 2851; two-way terminal block; mains cable, 3-pin mains plug and clamp grommet; 4 x 25 mm bolts and nuts and washers; hookup wire — some 10 x 0.2 mm, some 24 x 0.2 mm; sheet of light gauge aluminium, 680 x 300 mm; four self-tapping screws, etc.

Price estimate: \$60-\$70



**COLOUR CRT
PRICES SLASHED**



**\$486.00
(51+)**

KD1401 High Resolution RGB Monitor

330mm (14") 0.31mm dot dia., P22 phosphor
Separate RGB, H Sync (#), V Sync (#).
18MHz Bandwidth, Resolution 720Hx240V, 70W

\$547.00 (1+)

KD1410 Medium Resolution similar to above
with 0.64mm dot dia.

\$286.00 (1+)

\$254.00 (51+)

Contact us for attractive prices on
peripherals and 68000/6502 EC's.



P.O. Box 6502, Goodna. QLD. 4300
BRISBANE — AUSTRALIA
Phone: 61-7-288 2455/288 2757
Telex: AA43778 ENECON



- Write for FREE Catalogue -

**IMPORTERS
MANUFACTURERS
DISTRIBUTORS**

Exciting Lighting

729 6337

(SHOWROOM BY APPOINTMENT)

SPECIALISING IN
DISPLAY, ADVERTISING, ENTERTAINMENT AND SPECIAL EFFECT LIGHTING * ROPE/SNAKE LIGHT - 12V AND 240V * POLYCARBONATE TUBE LIGHT * STAR LIGHT PANELS * INFINITY PANELS * BUBBLE MACHINES * PINSPOTS * SCANNERS * HELICOPTER LIGHTS * MIRROR BALLS AND MOTORS * BUBBLE LAMPS * SPECIAL KEY LIGHTS * VARIOUS TYPES OF LONG LIFE ENERGY SAVING LAMPS AND GLOBES * FLASHING DISPLAY BOXES * ELECTRONIC LIGHTING CONTROLLERS - CHASERS, MUSICOLOUR, MATRIX, STARBURST * BUDDLIGHT RIBBON * NEOLIGHT

AGENTS FOR THE NEW "LINE LITE" PLUS MANY OTHER EXCITING LIGHTING PRODUCTS

P.O. Box 634, Dandenong, Vic., 3175

**ALSO AGENTS FOR THE POPULAR
RANGE OF CITRONICS PRODUCTS**