NOTES & ERRATA FOR PROJECTS PUBLISHED IN SILICON CHIP (1998)

Command Control Encoder, February 1998: under some circuit conditions, the buffer involving op amp IC8a may act as an inverter and this upsets the circuit operation. To avoid this, connect a 1MΩ resistor between the +12V rail and pin 3 of IC8. No other circuit changes are necessary.

Multi-Purpose Fast Battery Charger, February and March 1998: after testing three prototypes, we have found that a few component changes are required to produce reliable charging characteristics.

The 0.47µF capacitor between pin 19 of IC1 and 0V should be replaced with a 100µF 16VW electrolytic type. The polarity of the component should be with the (-) toward the outside of the printed circuit board and the (+) lead connecting to pin 19. This capacitance increase improves the detection of the NiCd and NiMH fall in voltage at full charge.

The 0.18µF MKT capacitor at pin 17 of IC1 should be reduced to .0018µF. Its markings will either show 1n8 or 182. The number of turns on inductor L1 should be reduced from 20 to 10.

The 1kΩ 0.5W resistor on the cathode of ZD1 should be replaced with a 2.2kΩ 0.5W type. Also the 470Ω 1W resistor between the cathode of D3 and pin 12 of IC1 should be replaced with two 1kΩ 1W resistors in parallel.

Charging current is best determined by checking the charging time of a discharged battery. If charging time is too long, a slight adjustment can be made to increase the current by using a larger value resistor at pin 2 of IC1. A 3.9kΩ resistor should increase the current by about 10%.

If charging time is too short, the battery is probably suffering from memory effect. Try running the battery through a few discharge (refresh) & charge cycles to bring it up to full performance.

Timeout period can be increased to suit larger amp hour batteries by increasing the value of the 820pF oscillator capacitor at pin 14 of IC1.

The wiring diagram on page 47 has two errors. The 1000µF adjacent to L1, between THS1 & $-V_{OUT}$ should be 100µF 25VW. The 470µF capacitor between ZD1 & D3 should be 1000µF 63VW (note increase in voltage rating compared to the circuit diagram).

On the circuit diagram, the 2.2kΩ resistor at pins 12 & 13 of IC2a should be 22kΩ to agree with the wiring diagram. The 1kΩ resistor feeding ZD1 should be 1/2W. There should also be a 33kΩ pulldown resistor at pin 6 to ground (as shown on the wiring diagram).

12V CFL Inverter, March 1998: we have been advised by Oatley Electronics that some kit-built examples of this project have been prone to over-heating. They suggest a change to the gate drive circuit for the Mosfets. This involves replacing each 22Ω resistor with a 4.7kΩ resistor in parallel with a 1N4148 diode, with its cathode connected to the associated Mosfet gate.

Sustain Unit For Electric Guitars, March 1998: the BFR84 dual gate Mosfet (Q1) is no longer available. The solution is to substitute a 2N5484 N-channel FET, as shown on page 93 of the July 1999 issue. An extra 22kΩ resistor is required to alter the level control voltage range from VR3 and this can be connected between pins 2 & 4 of IC2a, on the back of the PC board. Also the 0.1µF capacitor between pins 8 & 9 of IC1c should be changed to .001µF.

Chook Raffle/Random Number Generator, April 1998: if this program generates a number of less than four digits, the previous 4th digit is not erased, even though the correct value is written into the draw. The following lines will correct this anomaly:

3260 LOCATE R,C: PRINT FNCEOL$ 3270 FOR AA = 1 TO 4: LOCATE CSRLIN, C: PRINT FNCEOL$: NEXT

Command Control Decoder, May 1998: the circuit on page 62 shows a 100kΩ resistor connected to pin 1 of IC3 whereas the component overlay on page 65 shows it as 3.3kΩ. It should be 100kΩ.

Universal High Energy Ignition, June 1998: the 0.1µF capacitor shown on the overlay diagram for the points version (near diode D1) should be .01µF, as shown on the circuit.

Opus One Loudspeaker System, August 1998: the crossover network circuit on page 5 should show the tweeter reversed in phase, to agree with the pre-assembled crossover networks.

Capacity Indicator For Rechargeable Batteries, September 1998: the MAX472 current monitor is available from Semtronics Pty Ltd in Melbourne, phone (03) 9873 3555 or fax (03) 9873 3355.

12V Trickle Charger, October 1998: the circuit on page 75 shows the transformer with two 15V windings connected in parallel but there is only one winding connected to the bridge rectifier. The wiring diagram on page 77 is correct.

Turbo Timer For Your Car, November 1998: the 100µF capacitor shown connected to pin 6 of IC1 on Fig.2 (page 27) should be 220µF to agree with the circuit diagram on page 26.

Use Your Old PC Power Supply For High Current Outputs, December 1998: the circuit diagram on page 75 incorrectly shows the negative terminal of the bridge rectifier as being connected to earth. It should go to negative side of the bottom 220µF electrolytic capacitor instead. The correct circuit arrangement is shown on page 92 of January 1999.

Thermocouple Adaptor For DMMs, December 1998: the 4.7kΩ resistor from ZD1 to the 2kΩ trimpot VR2 is incorrectly shown as 47kΩ on the wiring diagram on p.34.

A 15kΩ resistor has been omitted from the parts list.

Improvements To AM Broadcast Band Reception (Vintage Radio), December 1998: the diagram on page 67 shows the two twin flex leads as being joined where they connect to the antenna loop. This is incorrect - there should be no connection between the leads at this point.