NOTES & ERRATA FOR PROJECTS PUBLISHED IN
SILICON CHIP (2006)

Please note: errata apply primarily to the print edition of SILICON CHIP as online issues are normally changed when an error is identified. However some errata may still apply to the online edition; check carefully before making any changes to a project.

Pocket TENS Unit, January 2006: The IR2155 IC used in this project is now obsolete and difficult to obtain. According to International Rectifier, the IRS2153DPBF is the recommended replacement. (07/16)

Charger For iPOD Or MP3 Player, February 2006: Some changes to the USB output are required to effectively charge the latest iPOD NANO 2nd generation (anodised aluminium case released September 2006) and the 5th Generation iPOD video.

For the iPOD NANO 2nd generation, the D- USB pin (pin 2) must connect to a 2.5V source while the D+ USB pin (pin 3) must connect to a 2V source. These voltages can be provided using resistors connected across the 5V USB supply pins (pins 1 & 4), as shown in Fig.1 (June 2007, p99).

For the iPOD NANO 1st generation and 5th generation video (5G), the connection to the D- pin should be at 3.3V while the D+ pin should connect to 0V, as shown in Fig.2 (June 2007, p99). In most cases, the circuit shown in Fig.2 will also work for the iPOD NANO 2nd generation player.

Note that all resistors are 0.25W. This information supersedes that published in March 2006. (06/07)

PICAXE-Powered Thermostat & Temperature Display, February 2006: (1) On the circuit diagram (Fig.1), pins 3 & 4 of the PICAXE chip (IC1) are shown reversed. The overlay diagram (Fig.2) and PC board are correct. (04/06)

(2) The reset signal from the output of the PICAXE is coupled to the rest of the circuit via a 100nF capacitor, whose output is connected to ground via a resistor. On the circuit (Fig.1), this resistor is shown as 22kΩ in value, whereas on the overlay diagram (Fig.2), it's shown as 20kΩ and in the parts list as 100kΩ. Although all of these values will work, the correct value is 22kΩ. (07/06)

PC-Controlled Burglar Alarm Pt. 2, March 2006: The code number for the PC board for the keypad module is incorrectly listed in the parts list and the article as 07103061. The correct number for this PC board is 07203061. (04/06)

Studio Series Remote Control, April 2006: After power up, channel selection via the optional front-panel switches is not possible until after one channel change has been made via infrared remote. An update to the AT90S2313 microcontroller firmware is available from our website to correct this problem.

Constructors of the Studio Series Preamplifier kit do not need this update as channel selection switches were not part of the design. (04/07)

Beer 'O' Magic (Circuit Notebook), April 2006: The 100kΩ resistor from pin 8 of op amp IC1c should connect back to pin 10, not to the positive rail. Also, despite the editor's comments, a triangle wave generator should work satisfactorily in this "experimental" circuit. However, for those that would like to try the sawtooth alternative, a 555 timer based alternative is presented on page 107 of the September 2006 issue. (09/06)

Passive DI Box, May 2006: The end of the third paragraph in the third column on page 64 states: "The resistor for the ring output also prevents the possibility of the signal from a stereo source being shorted to ground. This could otherwise happen if a mono jack plug is inserted into the 'thru' socket".

This is incorrect. It should read as follows: "A stereo source will not be shorted because of the use of a stereo socket and the isolation of the left and right channels via 4.7kΩ resistors required for stereo mixing. This would not be the case if a mono socket were used instead. Note that the stereo source will be shorted at the ring terminal if a mono jack plug is inserted into the 'thru' socket". (06/06)

Lead-Acid Battery Zapper & Condition Checker, May 2006: (1) It has been found that some STP60NF06 MOSFET devices can oscillate in the Q2 pulse switching stage, typically at about 200kHz. This causes coils L1 and L2 to overheat, LED1 to glow much brighter than normally and then fuse F1 to blow. It may also cause Q2 and/or damper diode D3 (BY229-200) to be destroyed, before the fuse blows. To prevent this problem, a 100Ω 0.5W resistor must be connected in series with the gate lead of Q2 to act as a "stopper". On existing PC boards, this resistor can be fitted underneath the board, after cutting the copper track as shown in the diagram on page 107 of the October 2006 issue. (10/06) Also see overleaf.

Lead-Acid Battery Zapper & Condition Checker, May 2006: (2) If readers intend to use this project with 24V batteries, the following changes are recommended: (i) Increase the two 100Ω 5W resistors to 180Ω parts and replace both ZD1 and ZD4 with two 6.8V 1W zener diodes in series. (ii) Improve ventilation by drilling holes in the sides and top of the case and fit a heatsink to diode D3. (iii) Insert four 0.5Ω 5W resistors in parallel between the drains of Mosfets Q3 to Q6 and the battery positive to prevent oscillation when doing the "Condition" check. (12/06)

Mains Frequency Monitor (Circuit Notebook), July 2006: Pins 5 & 6 of the LM311 voltage comparator (IC6) should be connected together to prevent spurious noise pick-up. (02/07)

Mini Theremin, July & August 2006: (1) The parts list specifies a 2.5-metre length of 0.5mm enamelled copper wire for the equalising coil. This should be changed to 12 metres of 0.25mm enamelled copper wire. In addition, the following parts should be added to the list: 1 green banana socket, 1 11mm OD x 4mm ID x 2.5mm Nylon spacer or similar (eg, 3 x M4 Nylon washers), 1 300mm length of green hook-up wire. (08/06)

(2) Equalising coil L1 needs to be wound so that its self-capacitance is as low as possible. In practice, this means that the windings should be jumble-wound by hand without regard to neatness. Do not wind each layer with each turn placed adjacent to the next as would be done by a coil-winding machine. (12/06)

Automatic Daytime Running Lights (Circuit Notebook), August 2006: On the circuit diagram, transistor Q2 should be identified as a BC327 not a BC337. Also, the resistor in the base circuit of Q1 and resistor R1 should both be 4.7kΩ in value, not 10kΩ as shown. (09/06)

Ultrasonic Eavesdropper, August 2006: The code number for the PC board for this project has been changed to 01208061 to avoid confusion with the Magnetic Cartridge Preamplifier board. (10/06)

Magnetic Cartridge Preamplifier, August 2006: For Table 5, R1 should be a link for the x1 gain position. Note also that the relative gain values should be x2, x11 and x 101 instead of x1, x10 & x100. (12/07)

Galactic Voice, September 2006: (1) The 10μF capacitor that bypasses the supply for the electret microphone at the top left-hand corner of the circuit diagram (p68) should be 100μF. Also, the capacitor just to the left of the loudspeaker leads on the overlay diagram (p69) should be 100μF, to agree with the circuit. The parts list should show 9 1kΩ resistors, not 7. Finally, the text on page 73 refers to the LED flashing; it does not flash. (10/06)

(2) The panel in Fig.6 and in the photographs on pages 67 & 72 show the Effect and Depth labelling reversed. The Effects control should be in the middle. (11/06)

LED Tachometer October & November 2006: (1) In the October issue, the display reading in both Fig.1 and Fig.2 should be 1200 rather than 3200. The text describing the operation on page 27 is correct. In the November issue, the overlay diagram for the DC Relay Switch board (Fig.9) shows D1 with reversed orientation. The cathode (striped end) of D1 should be to the right. (12/06)

(2) In the circuit diagram (Fig.3), on page 29 of the October issue, Q2 and Q3 should be labelled as BC557 types, not BC337. (12/18)

DC Relay Switch, November 2006: The overlay diagram (Fig.2) shows D1 with reversed orientation. The cathode (striped end) of D1 should be to the right. In addition, the parts list should include:
  1 1N4148 diode (D3)
  4 M3 x 12mm countersunk Nylon screws
  4 3mm Nylon washers
  4 M3 nuts

Cordless Power Tool Charger Controller, December 2006: (1) The paragraph on page 37 under "Adjustments" should say: "Trimpot VR4 is adjusted so that the voltage between TP4 and TP GND is 2.5V when the thermistor is at 25°C. Alternatively set the trimpot for 2.2V at 30°C or 2.8V at 20°C".

Note also that this controller cannot be used to control the 240VAC mains input to any drill charger. As clearly indicated in the article, it must only be used to control low-voltage circuits. (02/07)

(2) By way of clarification, the controller can be used with an NiMH or Nicad battery pack of up to 15 cells (18V). This should have been included in the specification panel.

The minimum rated voltage battery pack that the charger can control is 6V (five cells). (04/08)