

NOTES & ERRATA FOR PROJECTS PUBLISHED IN SILICON CHIP (1997)

Control Panel For Multiple Smoke Alarms, January 1997: A 47k Ω resistor should be added to the circuit between pin 11 of IC5f and the +9V rail, while one of the 100 μ F bypass capacitors on the +9V rail should be 10 μ F. The component overlays are correct. Note also that the parts list should show four 1k Ω resistors (not three).

Digi-Temp Digital Thermometer, January 1997: The designer of this project has advised that the pinout diagram for the DS1820 sensors is reversed; the GND terminal should be on the right hand side and the +5V on the left hand side. No damage appears to occur when this wrong connection is made.

Pink Noise Source, January 1997 & Electronics TestBench: The 22k Ω resistor shown connected between pins 1 & 2 of IC1 on the PC board overlay diagram should be 220k Ω . The circuit diagram is correct.

Bridged Amplifier Loudspeaker Protector, April 1997: A reader has pointed out that this version of the loudspeaker protector cannot be used in some bridged amplifiers in cars. This applies mainly to the lower-powered bridge amplifiers which do not use a DC-DC inverter and which have the loudspeaker outputs floating at half the DC supply, around +7V.

It also applies to some inverter-driven bridge amplifiers which have a single DC rail. In these cases, the amplifier outputs may be floating at around +25V DC above chassis, for example. Therefore, before you consider building the Loudspeaker Protector for installation with bridged amplifiers in cars, you should measure the DC voltage at both sides of the speaker outputs with respect to chassis. If the outputs are floating at a DC voltage above chassis (eg, +7V) the Loudspeaker Protector will not be suitable as it would be permanently latched off.

Please also note that the parts list specifies a value of 100 μ F for C1 whereas it should be 220 μ F, as on the circuit diagrams. The additional 100 μ F capacitor for the built-in version should be rated at 75VW or 100VW not 63VW, where the amplifier supply rail is between 66V and 75V.

Model Train Controller, April 1997: To avoid a problem with the loco moving backwards for a short distance when power is first applied, the 4700 μ F capacitor connected between switch S1 and the -12V rail needs to be modified. Instead two back-to-back 4700 μ F 25VW capacitors should be connected between the common terminal of switch S1 and the 0V rail. Alternatively, wire a switch in series with the output so that the track is not connected when power is first applied to the controller.

Audio/RF Signal Tracer, June 1997: Users of this project will find that the unit produces a lot of noise and what may sound like "motor-boating" when it is switched to high gain and RF modes and with no connections to the input probe and earth clip. This is normal and is a function of its high gain. As soon as the unit is connected to a circuit the noise drops and the wanted signal will be heard.

There is a discrepancy between the circuit on page 40 and the wiring diagram on page 43. The circuit shows the signal from switch S2b coupled to pin 3 of IC2 via a 0.1 μ F capacitor and pin 2 grounded. The PC board has this reversed, with pin 3 grounded and signal going to pin 2 via the 0.1 μ F capacitor. The PCB is correct.

If the unit is to be used on valve amplifiers, there is the possibility that connecting the unit to a voltage above 100V may blow the LM318 IC's input protection diodes. To prevent this, we suggest soldering two 1N914 diodes in inverse parallel across the 100k Ω bias resistor to pin 3. These diodes can be installed on the copper side of the PC board.

12V/24V Motor Speed Controller, June 1997: There are some mistakes in the text on page 30. In the third paragraph down, the text states "Make sure that they (the diodes) are connected in the right direction across the motor; ie, anodes to the positive supply line." The diode(s) should be connected with cathode to the positive supply line, as shown in the circuit and wiring diagrams.

Also on page 30 the text states that "you should be able to measure about +12V at pin 16 .. of IC1". Pin 16 is grounded. It should refer to pin 12.

Colour TV Pattern Generator, June & July 1997: The patterns produced by the TV Pattern Generator are slightly off-centre on the TV screen due to a slight displacement in the line sync signal. In most cases, the normal over-scanning of each line on the TV screen will mask out this small shift.

It can be corrected by adding an RC network to delay the line sync by the requisite 1.5 μ s. This involves adding a 4.7k Ω resistor between the D7 output of IC1 at pin 11 and the sync input of IC10 at pin 16. The pin 16 input of IC10 is bypassed to ground with a 270pF capacitor.

The resistor is best placed instead of the link on the PC board above the three 330 Ω resistors near IC10. Note that IC10 has an incorrect pin 1 labelling on the PC board. The position shown for pin 1 is actually pin 16. The capacitor can connect from pin 16 to pin 1 of IC10 on the underside of the PC board.

On-Board Mixer for R/C Receivers, July 1997: The circuit on page 79 shows diode D3 reverse-connected. Its cathode should connect to pin 3 of IC2a.

Flexible Interface Card For PCs, July 1997: The circuit on page 25 shows 4.7k Ω resistors to the LEDs of the 4N28 optocouplers but 1.5k Ω resistors on the wiring diagram on page 27. Either value will work.

There are two errors in the Basic listing shown on page 28. Line 90 should read: B\$ = RIGHT\$(TIMES\$,2): WHILE RIGHT\$(TIMES\$,2) = B\$: WEND 'wait one second. Line 220 should read: LOCATE 24,20: PRINT "Line";LIN; 'print it. Note: do not put full stops at the ends of the lines.

Flexible Interface Card, July 1997; Stepper Motor Controller, August 1997; and PC Card For Two Stepper Motors, September 1997: In the circuit of each of these boards the resistor from pin 4 of IC1 is shown going to ground. This is how the printed circuit boards will be supplied. The resistor should go to the +5V supply, which is pin 16 of IC1. On each board it is quite simple to move the ground end of the resistor to the positive supply after drilling one hole. If you are only using a single board this may not be a problem, although we do suggest that you move the 10k Ω resistor so that it is wired between pins 4 and 16.

The problem shows up when you are using several cards with different addresses on the same printer port and start changing these addresses.

TENS Unit, August 1997: Electrodes for this unit may be difficult to locate. Two sources are as follows: Water Fuel, 18 Springfield Road, Springvale, Vic 3172, phone (03) 9574 0002; or, Masters Medical, 8 Palmer Street, Parramatta, NSW 2150, phone (02) 9890 1711.

Remote Controlled Gates For Your Home, August 1997: The relay wiring to both motors M1 and M2 on the circuit diagram (page 69, August 1997) is incorrect. The diagram on page 93 of the September 1997 issue shows the corrected relay wiring for motor M2. Motor M1, which is driven by relays RLY1 and RLY2, should be wired in exactly the same fashion as shown on page 93 of the September 1997 issue.

The parts layout diagram shown on page 70 of the August 1997 issue is correct.

Multi-Spark CDI, September 1997: Transistor Q1 in the impulse tachometer circuit on page 30 should be labelled a BC327 and not BC337 as shown.

Low Dropout 5V Regulator, Circuit Notebook, October 1997: This circuit has the emitter & collector of Q1 reversed. The emitter should go to the +9V supply & the collector should connect to the 5V output.

5-Digit Tachometer, October 1997: (1) the PC component diagram on page 25 has link LK1 incorrectly labelled. In fact, the unlabelled link next to it, connecting to pin 6 of IC5, is LK1. (04/98)

(2) Tables 3 & 4 on page 26 have some errors in the DIP switch settings. The multiplier for a 3-cylinder 4-stroke engine should be 320 (not 360). This requires the DIP settings to be 0010 0000 (not 00100100 as shown). Also the 5-cylinder 4-stroke multiplier of 192 should be 1100 0000 (not 1000 0000) as shown. (02/04)

240VAC 10A Motor Speed Controller, November 1997: While this controller is suitable for power tools with nameplate ratings up to 10A, it is not suitable for appliances such as 2400W radiators which draw 10A continuously.

We have also been advised that the mica washers supplied in some early kits have been prone to flashover to the case. To avoid this, we suggest that a minimum of two mica washers be used for both the fast recovery diode and the IGBT. Better still, we suggest that SIL-PAD heatsink washers, a composite of silicone rubber & fibreglass be used, as these have a considerably higher voltage rating. The SIL-PAD 400 (.007) has a breakdown rating of 3.5kV AC.

Positive Earth HEI, November 1997: The circuit on page 90 shows a BC337 for Q3. It should be a BC327. The .01 μ F capacitor associated with D1 should be marked C2, not C1.

Stepper Motor Driver With Onboard Buffer, December 1997: The overlay diagram on page 64 shows a .01 μ F capacitor connected to pins 1 and 4 of IC2. This should be a .001 μ F as shown in the circuit and parts list.