

NOTES & ERRATA FOR PROJECTS PUBLISHED IN SILICON CHIP (1988)

Low Ohms Tester for DMMS, February 1988: the 10k Ω feedback resistor between pins 6 and 2 of IC1 is incorrectly shown on the wiring diagram (Fig.2) as 1k Ω .

Protector Car Burglar Alarm, February 1988: in some projects, the 4027 (IC2) has been damaged by voltage transients from the ignition cutout relay. To solve this problem, delete the link connecting the emitters of Q7, Q8 and Q9 to the earth track (ie, delete the link immediately to the left of Relay 1 - see Fig.2, p.22).

A length of insulated hookup wire should then be run from the now vacant pad adjacent to Q8 directly to the Ground input on the PCB terminal block on the left hand side of the board.

Remote Switch for Car Alarms, March 1988: the inductor marked L2 in the receiver should have an F29 slug, not F16 as specified.

Remote Switch for Car Alarms, March 1988: a small inductor should be inserted between the base of Q2 and the negative side of the 2.2 μ F capacitor in the receiver circuit. This is to prevent RF energy from reaching IC1a and thus desensitising the circuit.

The inductor can be made by winding eight turns of 0.63mm enamelled copper wire on a 3.2mm former (ie, a 1/8th-inch drill bit). It can then be installed directly on the PC board in place of an existing wire link. Note that the 2.2 μ F capacitor is shown with reversed polarity on the overlay diagram and should be installed the other way round.

Finally, the 100k resistor connected to the base of Q2 should be reduced to 47k to increase the damping across L2.

This project was also the subject of a "Kit Clinic" article in the January 1989 issue.

UHF Remote Switch (March 1988) & UHF Remote Chime/Doorbell (August 1988): some readers have reported difficulties with these projects. Here's how to solve the problems:

First, readers should note the errata above for the UHF Remote Switch receiver (March 1988). These changes were all incorporated into the UHF Remote Chime/Doorbell (August 1988).

The kits we inspected failed to work because of incorrect component types and values. The following comments apply to both projects:

Transmitter: low-voltage miniature ceramic capacitors must be used where specified. Keep their leads short by pushing them all the way down onto the PCB. Do not use the larger 1kV ceramic capacitors. Their stray capacitance will upset the tuned frequency and can result in a transmitter that continues oscillating after the power switch has been released. Result - a flat battery.

Similarly, the 0.1 μ F capacitor must be a miniature polyester type (do not use a metallised polyester type). The trimmer capacitor must be a 2-6pF type as specified - you will not be able to correctly set the transmitter frequency with other values.

Receiver: the four .001 μ F capacitors used in the front end must all be ceramic types as specified. Do not use metallised polyester (greencap) types - they don't operate well at 304MHz. L3 was also found to be incorrect. It must be a 3.3uH inductor (a 3.3mH inductor will seriously degrade the sensitivity of the receiver).

Finally, the PCB patterns were inadvertently omitted from the wiring diagrams for the Remote Chime/Doorbell (p.59, August 1988). The diagrams are reprinted on page 103 of the September 1988 issue.

Optical Tachometer, May 1988: the 10 μ F electrolytic capacitor connected to the cathode of photodiode ID1 is shown reversed connected on the wiring diagram on page 20. The circuit on page 19 is correct.

High Energy Ignition System, May & June 1988 (and May 1990): a letter concerning this electronic ignition on page 91 of the March 1993 issue suggests the use of a plastic case with a metal lid, to eliminate problems with punch-through of the transistor insulating washer. We strongly recommend against this approach as the high voltage on the case lid could give a nasty shock to an unwary user.

To help prevent arcing and punch-through, we recommend that the holes in the case for the TO-3 transistor be lightly chamfered to remove any swarf. The use of two insulating washers is also a good approach.

High Energy Ignition System, May & June 1988 (and May 1990): we recommend against using sport ignition coils such as the commonly available "GT40". These coils draw more current than the original vehicle's coil and may seriously overheat.

Automatic Light Controller, June 1988: there are two errors on the circuit diagram on page 57; pins 12 and 13 of IC2c are shown transposed, as are pins 4 and 6 of IC1. The wiring diagram on page 59 is correct.

Also the text in paragraph two, column three, page 58 should state "This low signal is then inverted by IC2d and the resulting high applied to pin 12 of IC2c via D10 and R7".

RF Sniffer Probe & Preamplifier, June 1988: the circuit diagram for the RF Sniffer Probe published in the June 1988 issue was for an initial prototype, rather than for the final version which was shown in the coded photograph. The diagram on page 80 of the September 1988 issue shows the correct version, the main differences being the connections for the 470Ω base bias resistors on transistor stages Q1, Q2 and Q3.

The supply feedpoint was also shown incorrectly - it should go to the midpoint of the two 10Ω resistors. The coded photograph published on page 73 of the June 1988 issue is correct as are other constructional details.

Studio 200 Stereo Control Unit, June 1988: the following parts should be added to the parts list: 2 x 100μF 16VW PC electrolytics, 2 x 0.1μF metallised polyester, 1 x .01μF 250VAC (Wima MP3 or Philips MKT-P 2222 330 40103).

Studio 200 Stereo Control Unit, June 1988: experience with the control unit when teamed with a number of power amplifiers has shown that the combination can oscillate supersonically when the Treble control is at maximum and the Volume control is at high settings. While these are abnormal control settings, if oscillation is allowed to persist it may damage the power amplifier or the speakers.

To prevent the condition occurring, we suggest that an additional 270pF capacitor be connected across the 4.7k feedback resistor for IC2 in each channel.

In addition, a 560pF capacitor should be connected across the volume control potentiometer; ie, one 560pF capacitor across VR1a and one across VR1b.

Studio 200 Stereo Control Unit, June, July 1988: we have had a report of overheating of the output transistors in the headphone driver amplifiers. This is possibly caused by mismatch between diodes D1 and D2 and the transistors Q1 and Q2.

We therefore recommend that D1 and D2 in both channels be replaced with 1N914s or 1N4148s.

Studio 200 Stereo Control Unit, June, July 1988: in spite of the notes published regarding D1 and D2, a number of constructors have still experienced overheating problems with Q1 and Q2 in the headphone driver amplifiers.

To cure this problem, 33Ω emitter resistors should be installed for Q1 and Q2. To do this, disconnect the emitters of Q1 and Q2 from the PCB and wire the 33Ω resistors in series, between the PCB and the free emitter leads. This will slightly reduce the available headphone drive level. If this is critical, reduce the 82Ω resistor to 47Ω.

Remote/Alert Doorbell, August 1988: when setting the transmitter frequency for Q1, do not connect pin 15 of IC1 to the +12V supply. This can damage IC1. Instead, disconnect the 47k resistor from pin 15 and connect it instead to the +12V supply to make the transmitter run continuously. (See also the notes over the page.)

Universal Power Supply Board, August 1988: the 1000μF capacitor in Fig.8 (parts layout) is shown with reversed polarity. (11/04)

Hands-Free Speakerphone, September 1988: the 1μF capacitor shown connected to pin 17 on the circuit diagram of page 17 is the wrong way around. The wiring diagram on page 19 is correct.

The text on page 19 concerning the "initial circuit checks" has an error. The external 25 to 50-volt supply should be connected via a 560Ω resistor to board inputs 1 & 6, not 1 & 3.

Fish Bite Detector, September 1988: all the diodes are shown reversed on the wiring diagram. The circuit diagram is correct.

Switchmode Battery Charger, September 1988: pin 11 of IC1 should be shown earthed on the circuit diagram.

FM Stereo Transmitter, October 1988: the 0.01μF filter capacitor connected to pin 12 of the IC should be 0.001μF. With the 0.01μF in place the transmitter will not work in stereo.

Poor Man's Plasma Display, November 1988: the Veroboard wiring diagram on page 44 contains an error in the wiring to the 555. Pin 3 is shown connected to the positive supply line. The copper strip between the 1k resistor and short supply link should be cut.

120W Public Address Amplifier, December 1988: the switch contacts 1 and 2 associated with the 6.5mm jack socket (top lefthand corner of the circuit) should be shown normally open, not normally closed. The wiring diagram on page 45 of the January 1989 issue is correct.