

NOTES & ERRATA FOR PROJECTS PUBLISHED IN SILICON CHIP (1992)

12VDC/240VAC 40-watt Inverter, February 1992: a number of kitset suppliers have produced a 60VA version of this project with the upgraded M2165 transformer. However, some kits have been supplied with incorrectly phased transformers. When the circuit is connected as described in the article, the two Mosfets are likely to be destroyed.

The problem can be overcome by checking the phasing of the transformer and rewiring it so that the two 0V tap connections become the centre tap. In the event of any damage, all claims regarding faulty transformers should be referred to the retail outlet where the kit was purchased.

12VDC/240VAC 40-watt Inverter, February 1992: at least one retailer has supplied kits that included MTP3055A Mosfets instead of the specified MTP3055E devices. Unfortunately, these are not equivalent devices, as the "A" version includes an internal fast reverse recovery diode whereas the "E" version has a controlled avalanche diode. If you use the MTP3055A device in this circuit, it will "blow up". Do not substitute for the specified MTP3055E devices.

TV Transmitter for UHF VCRs, March 1992: the 12V supply connections shown on the overlay diagram of page 18 are reversed. Also the photo of the underside of the transmitter board is for the version described in December 1991. The components on the copper side of the board are not used in the UHF version.

Thermostatic Switch for Car Radiator Fans, March 1992: the wiring diagram on page 44 shows the collector of Q3 going to FAN +ve. It should go to the FAN -ve.

Studio Twin 50 Amplifier, March & April 1992: the power amplifier stages can become unstable if the poly-switches (TH1) open due to overdrive and disconnect the Zobel networks. To prevent this, replace the two poly-switches on the PC board with wire links and connect them instead between the outputs of the Zobel networks and the speakers.

The diagram showing the wiring details for this modification is on page 101 of the February 1993 issue.

Studio Twin 50 Amplifier, April 1992: the 0.33 μ F output capacitor in the right hand channel of the phono preamplifier is incorrectly positioned on the wiring diagram (Fig.5). It should be connected between the 100 Ω resistor and the nearby vacant pad that runs back to the adjacent 1M Ω resistor.

Studio Twin 50 Stereo Amplifier, April, May 1992: since this amplifier was published, it has enjoyed modest popularity in the marketplace although the kit has since been discontinued. Part of the reason is that the original Darlington transistors have become virtually unobtainable.

A number of kits have been supplied with TIP142/147 Darlington transistors made by SGS-ATES and these have been found to be thermally unstable. If a Studio Twin 50 using these Darlington transistors is left on long enough, it will most probably burn them out. The reason appears to be that the SGS transistors do not have the same bias and thermal characteristics as the Philips TIP142/147 transistors used in the original design. So as originally presented, the circuit is not thermally stable with these SGS transistors.

Our remedy has been to modify the Vbe multiplier (Q17) and to increase the source degeneration resistors in the output stage.

To be specific, the Vbe multiplier (Q7) is now a BD679 Darlington transistor and the resistor between its base and collector has been reduced from 680 Ω to 330 Ω . The 0.47 Ω emitter resistors have been increased to 1 ohm. This will slightly reduce the maximum power output.

We have also reduced the quiescent current setting to around 25mA. These changes make the amplifier thermally stable but even so, its quiescent current stability is still not as good as would be the case with the originally specified Philips TIP142/147 Darlington transistors.

Telephone Intercom, May 1992: the 5-band colour code list for the 150 Ω resistor on page 63 is incorrect. The correct colour code is brown green black black brown.

Video Switcher, June 1992: the type number allocated to the PC board should be SC02206921, not 02204921. The latter number applies to the modulator board used in the TV transmitter for VHF VCRs, published in the March 1992 issue.

Three 47k resistors are missing from the circuit diagram on pages 70-71, although they are shown on the parts layout diagram and were included in the parts list. These go between pin 3 of IC5b and ground; between pin 11 of IC6d and ground; and between pin 9 of IC6c and ground.

There are also several errors on the parts layout diagram on page 76: (1) the REG1 and REG2 designations (bottom left) should be swapped (the pin connections are correct); (2) the unmarked resistor at top centre should be labelled 4.7k Ω ; (3) the 4.7k resistor just below IC1 should be 47k Ω ; and (4) the positive side of the 10 μ F capacitor below REG2 (after the labels have been swapped) should go to the ground (G) connection of the regulator, not to its input (I). This will involve cutting the copper track adjacent to the positive terminal of the capacitor and then joining this terminal to the ground (G) connection of the regulator using a short wire link (note: later boards will have this error corrected).

Finally, there should be fifteen 47k resistors (not twelve) in the parts list, while a 2.2k resistor should also be added to the list.

Nicad Discharger, July 1992: diode D3 is shown on the wiring diagram of Fig.2(a) with reversed polarity. This can lead to a burnt-out 4.7 Ω resistor in the emitter circuit of Q1 and, ultimately, to the destruction of the transistor itself.

Portable 12V SLA Battery Charger, July 1992: transistor Q1 is shown reversed on the parts layout diagram (Fig.3) on page 56. Also the polarity of the 220 μ F capacitor is unmarked. The positive terminal is at the top.

6/12V SLA Battery Charger, August 1992: diode D2 was omitted from the parts list. It is a 1N5404.

Interphone, August & September 1992: simplified circuit and details appear in the November 1992 issue.

Drill Speed Controller, September 1992: modifications appear in the November 1992 issue.

2kW 24VDC/240VAC Sinewave Inverter, October 1992 - February 1993: this project is now obsolete as the transformer bobbins are no longer available. (07/03)

Automatic Nicad Battery Discharger, November 1992: the circuit on page 41 shows a 1 μ F capacitor across D1 and a 10 μ F capacitor across LED 1 while the component overlay on page 42 shows these capacitors swapped. The circuit is correct.

Low-Cost Speed Controller, November & December 1992: two changes have been made to the circuit and these will be implemented on the PC board supplied with the kit. First, C9, across the source-drain connections of the paralleled FETs, will be omitted. Second, VR3, a 50k trimpot has been added in series with R2 which is now changed from 47k to 10k.

Also, the text of the article on page 43 of the December 1992 issue makes reference to the RDS figures for several FETs as being 18M Ω , 15M Ω and 23M Ω . These figures should be 18m Ω , 15m Ω and 23m Ω ; ie, milliohms not megohms.

High-current 0-20V Power Supply, December 1992: the circuit on page 35 shows the bridge rectifier, BR1, connected the wrong way around.