NOTES & ERRATA FOR PROJECTS PUBLISHED IN
SILICON CHIP (2021)

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.

Bass Block subwoofer, January 2021: the specified Altronics C3055 driver is no longer available. The SB Acoustics SB16PFCR25-8 is a suitable substitute available from Wagner Electronics for $46.50 at the time of writing. See the February 2023 Ask Silicon Chip column for advice on tweaking the design to suit this new woofer. (02/23)

Busy Loo Indicator, January 2021: At the bottom of the left-hand column on page 79, where the text says the inputs of IC1b are normally high, it should read IC1d instead. (02/21)

Mini Digital AC Panel Meters, January 2021: If the current transformer secondary is not terminated with a low impedance, it will generate a very high (and potentially dangerous) voltage if any significant AC current is flowing in the primary. So make sure to connect the secondary leads of the CT to the panel meter before any current is allowed to flow through the primary. (02/21)

Radiating Test Antenna for AM Radios, Circuit Notebook, January 2021: The ferrite rod is 200mm long, not 400mm as stated in the text. (02/21)

Arduino-based Adjustable Power Supply, February 2021: (1) While the specified SY4030 relay from Jaycar is rated to carry 1A, it only has a 500mA switch rating. The similar S4100 relay from Altronics specifies a 1A switching current. Power supplies built using the Jaycar part should set the current limit no higher than 500mA to avoid damage to the relay. Other similar relays are available with a 1A contact rating; it appears that this refers to the carry current only, and not the switching current, so check the data sheet if substituting a different part. (04/21)
   (2) The 51kΩ resistor's five-band colour code is incorrect. It should read "green brown black red brown". (06/21)

High-Current Four Battery/Cell Balancer, March & April 2021: (1) In the parts list on p27, several Mosfets (Q11,Q12,…) are listed as "S6M4" types. The correct type code is QS6M4. (04/21)
   (2) The UM6K34N and UM6K31N transistor types have been swapped throughout both parts of this article. Q7 should have been specified as UM6K34N, while Q8, Q13, Q18, Q19 and Q24 should have been UM6K31N. This is not critical unless the total battery 'stack' voltage can exceed 50V. In that case, replace Q8 and Q18 with the 60V-tolerant UM6K34N. Finally, in the second article (April), at the start of page 82 where it refers to dividing a reading by 3.3V, it should instead be divided by 1.65V (ie, half the 3.3V rail, which is the ADC reference voltage). (09/21)

Refined Full-Wave Motor Speed Controller, April 2021: We have created an alternative version of the PIC firmware, 1010221B.HEX. This works identically to the original (A) version, except that it won't start the motor if the speed pot is not at zero when power is applied. You need to rotate the speed pot to zero and then back up to start the motor. This safety feature could be useful in some situations. (07/21)

Digital FX (Effects) Pedal, April & May 2021: Fig.2 in the April issue shows incorrect connections for op amp IC3b. Its pins 5 & 6 are swapped. Pin 6 (-) should be at the top, connected to the 4.7uF capacitors, while pin 5 (+) should be at the bottom, connected to Vcc/2. The PCB has the right connections. (08/22)

Programmable Hybrid Lab Supply with WiFi, May & June 2021: (1) In the parts list on page 36, the item at the top of the right-hand column should have read VXO7805-500 (5V) rather than VXO7803-500 (3V). The circuit should still work even with the 3V part fitted. Also, the MCP4725 DAC specified comes in several versions; MCP4725A0T-E/CH is the required part. (06/21)
   (2) The footprints for transistors Q3 and Q4 on the PCB are incorrect, with the base & emitter pins (pins 1 & 2) swapped. There are two possible solutions to this: either gently bend the pins of these transistors up so that they can be soldered in place upside-down, or trim the leads of two NPN TO-92 package transistors to reach the appropriate pads. Also, there is an error in the parts list; the 150Ω axial resistor should be 68Ω, and the 68Ω SMD resistor should be 150Ω 0.5W (M2012/0805 size). This error also affects Fig.6 in the June 2021 issue; the 150Ω through-hole resistor below REG2 should be 68Ω, and the 68Ω SMD resistor to the right of REG1 should be 150Ω 0.5W. (09/21)
   (3) The optional microSD card socket is the Hirose Electric DM3D-SF, not the Altronics P5717 (an Oupiin part) as specified in the parts list on page 36 of the May issue. (12/21)
   (4) On p74 of the June issue, Fig.7 shows the copper layers swapped and thus the SMD components are shown placed on the wrong side of the board and mirrored. The actual locations of some of these parts can be seen in the photo at the bottom of p75 of the same issue, and the diagram has been corrected in the June 2021 online issue. This means that two 1.8kΩ resistors are under the ESP-32 module. (05/22)
   (5) The pins on the Altronics ESP32 module may be too widely spaced to fit the control PCB. The revised control PCB, code 18104212 (siliconchip.com.au/Shop/8/5826) accommodates different module widths. This can be used with the Hybrid Lab Supply project if the correct shorting links are bridged (indicated with arrows on the silkscreen). (04/23)

Advanced GPS Computer, June 2021: (1) in the parts list on p29, the catalog code given for the laser-cut lid was SC5083, but that is the original 'inset' lid to suit the 3.5in touchscreen. As mentioned in the article, a different lid is needed to give enough clearance inside the box. The correct catalog code is SC5856. (07/21)

(2) the circuit diagram (Fig.1, p27, June) and overlay diagram (Fig.2, p78, July) label the data line from the GPS module as RX. The text did not explain that this should connect to the TX wire of the GPS module. For the suggested module, the pins/wires labelled E (yellow), G (black), T (blue) and V (red) go to the GPS1 pads EN, G, RX and 5V on the PCB, respectively. The other two are not needed and can be soldered to the remaining GPS1 pads. (06/23)

Mini Arcade Pong, June 2021: if you can't get the 7450 or 74LS50, you can use the 74LS51, which is more readily available. To use the 74LS51, pins 11 and 12 need to be tied high (they must be left open if using the 7450). You can do this by bridging them together and then running a short wire link to pin 14. (07/21)

Single-Chip Silicon Labs FM/AM/SW Digital Radio Receiver, July 2021: the specified 3.3V regulator for REG2 (LM2936-3.3) has swapped input & output pins compared to the footprint on the PCB. So if you use this regulator, install it facing the opposite direction to that shown in Fig.5 on page 68, or mount it on the opposite side of the PCB but with the flat side facing as shown. Also note that its part code is incorrectly written as LP2936-3.3 in the circuit diagram, Fig.3, on page 67. (10/21)

Battery Manager, August 2021: in Fig.3 on page 72, Q2 has been incorrectly drawn with a P-channel Mosfet symbol. It is an N-channel Mosfet, like Q1 and Q3. The gate, drain and source pins are marked correctly. (10/21)

Bush VTR103 AM/FM radio, Vintage Radio, August 2021: in the circuit diagram (Fig.2) on pages 102 & 103, capacitor C11 should have been shown in series with L5, not L6. This means that C11 and L6 form a parallel resonant network, not series resonant as stated in the text. Also, the right-most label in the photo at the bottom of p100 is wrong. It is the VHF RF amplifier load coil, not the VHF antenna coil. (10/21)

History of Op Amps, August 2021: in Figs.13 & 14 on p43, the 2π factors should be in front of the square root symbols, not within them. (10/22)

Touchscreen Digital Preamplifier, September 2021: in the circuit diagram (Fig.6) on pages 42 & 43, the Vdd pins of IC6 and IC7 are incorrectly shown connected to +12V. They actually connect to +5.5V. (10/21)

Tapped Horn Subwoofer, September 2021: the Altronics C3088 driver specified for this design has been discontinued. Wagner Electronics (www.wagneronline.com.au) sell suitable alternatives: the SB Acoustics SB20PFC30-8 ($55) and SB20PFCR30-8 ($56.50). These cost less than the originally specified driver and give very similar performance. The only design change required is to increase the diameter of the driver hole from 180mm to 187mm. (10/21)

Tele-com intercom, October 2021: in the parts list on page 38, one of the alternative transformers for the ringer section is shown as Triad FS24-100-C2 (Mouser Cat 553-FS24-100-C2). This should instead be Triad FS24-100 (Mouser Cat 553-FS24-100). Also see the notes on suppressing noise from alternative switchmode power supplies (other than those specified in the parts list) in the Mailbag section of this issue. (12/21)

Pocket Weather Station, November 2021: in Fig.2, the DAT connection from the DHT11 should be connected to pin D4 of the Arduino Nano, not D5. (01/22)

USB Cable Tester, November & December 2021: in the circuit diagram, Fig.1 on page 30 of the November issue, the numbers for pins 8 and 10 on IC1 are swapped. Pin ANE2/RE2 connecting to USBU-GND via a resistor should be pin 10, while pin ANE0/RE0, connecting to USBU-ID via a resistor, is actually pin 8. (03/22)

Hummingbird Amplifier Module, December 2021: in Fig.7 on p23, the "E" & "B" labels for Q12 have been swapped. In the body text of p23, **MLJ**15032/33 should read **MJE**15032/33. (01/22)

SMD Trainer, December 2021: the parts list and kit for the SMD Trainer Board only lists two 100nF capacitors when three are shown on the schematic and PCB. The kit has been updated, but those who have already received kits should note that the circuit will most likely work correctly without the 100nF capacitor below IC2. (01/22)