Electronics Projects with the ESP8266 and ESP32 Updates

Listing 1-3 Radio station URLs constantly change. URLs at May 2022 are:

```
"1940sradio1.co.uk:8100/stream/1/",                        // 1940s music
"irmedia.streamabc.net/irm-bbrberlinclub-mp3-128-4574783", // Berlin
"media-ice.musicradio.com/ClassicFM",                      // Classic FM
"stream.live.vc.bbcmedia.co.uk/bbc_radio_fourfm",          // BBC Radio4
"vpr.streamguys1.com/vpr64.mp3",                           // Vermont
"stream.radiometro.no/metro128.mp3",                       // Trondheim
"radio.virginradio.co.uk/stream"                          // Virgin
```

Listing 4-4. With ESP8266 Version 3.0.2, the combination of *phonering* and *playtone* functions produces a clicking, rather than a phone ringing, sound. Delete the *playtone* function and in the *phonering* function, replace the `playTone(300, 40)` instruction with

```
tone(piezoPin, 300)
delay(40)
```

and similarly for the `playTone(350, 40)` instruction.

Listing 4-5. Delete the instructions:

```
#include <ESP8266WebServer.h>
ESP8266WebServer server
```

Listing 5-3 is based on version 2.8.0 of the *IRremote* library for the ESP32 microcontroller.

Listing 5-3_NEW is based on version 3.0.2 of the *IRremote* library.

Library version 3.0.2 instruction `IrReceiver.begin(IRpin)` replaces library 2.8.0 instructions `IRrecv irrecv(IRpin)`, `decode_results reading` and `irrecv.enableIRIn()`. The library version 3.0.2 instruction `if(IrReceiver.decode())` replaces the instruction `if(irrecv.decode(&reading))`.

Received data is accessed in library version 3.0.2 from `IrReceiver.decodedIRData` (`protocol`, `command` and `numberOfBits`), rather than from `reading` (`decode_type`, `value` and `bits`) in library version 2.8.0.

ESP32 analog input (pages 632-633) The GPIO pins 0, 2, 4, 12, 13, 14, 15, 25, 26 and 27 are also available for analog input, but not when Wi-Fi is in use.

When the voltage on an ADC pin is required, the `analogReadMilliVolts(pin)` instruction is recommended, rather than the `analogRead(pin)*3300/4095.0` instruction.

Listing 21-5 The `analogAttenuation(attenuation)` instruction, which sets the attenuation of all analog input pins, replaces the `analogSetPinAttenuation(ADCpin, attenuation)` instruction.

ESP-MESH protocol could be included in Chapter 14: *ESP-NOW and LoRa communication*, but the book already covered many topics and a line had to be drawn somewhere.

Details of ESP-MESH with sketches are included in the folder *ESP-MESH*.

Corrections

Despite repeatedly checking the page proofs, some typos persevered.

If you find other typos, then please either email *esp32ndc@gmail.com* or use *GitHub Issues* to log the typo or other issues.

Page 28 Figure 2-1	change TX to RX and change RX to TX
Page 96 text first line	change 13, 14 and 15 to S0, S1 and S2
Page 96 text line 4	change 14 and 15 to S1 and S2
Page 165 lines 1 and 2	change the order of the two lines to:

```
WiFi.softAPConfig(local_ip, gateway, subnet);
WiFi.softAP(ssidAP, passwordAP);
```

Page 172 text line 7	change `R"(=== and ===)"` to `R"===( and )==="`
Page 174 lines 1 and 3	change Listing 7-2 to Listing 7-3
Page 175 line 1	change `variable` to `variab`
Page 207 text line 1	delete "or app"
Page 233 line 11	change `servoFb.write(N)` to `servoFB.write(N)`
Page 234 Listing 9-3	ESP8266 GPIO pin numbers in the sketch differ from those in Table 9-1 (Page 231) and Figure 9-4 (page 232). In the sketch, change GPIO pin numbers for *FBpin, laserPin, trigPin* and *echoPin* to *D5, D6, D8* and *D7*.
Page 505 last line	change resistor R1 is R2× to resistor R2 is R1×
Page 588 listing line 3	in the comment, change Wi-FI to Wi-Fi
Page 599 text line 3	change Listing 20-2 to Listing20-3
Page 656 (last-7) line	change 0x2A63 to 0x2A6E

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May 2022