# 5F1 CHAMP VALUE PACK: PARTS LIST

SKU **AP-5F1VPP** · Evatco Electronic Valve & Tube Company · www.evatco.com.au

Fender 5F1 Champ: 5W single-ended Class A, 12AX7 preamp, 6V6GT power valve, 5Y3GT rectifier, cathode biased, one volume and two inputs. This Value pack uses Evatco and generic branded capacitors. Every item and quantity in the pack, with colour codes for every resistor. Tick each part off as you check it. Reference numbers (R1, C1, V1 and so on) match Rob Robinette's 5F1 layout. His drawings are for 120V mains, so read the 240V notes on page 2. Check every part against the schematic and layout you build from.

## PARTS

| ✓ | Item | Qty |
|---|---|---|
| **CHASSIS, BOARD & HARDWARE** | | |
| ☐ | 5F1 Tweed Champ Chassis, pre-punched | 1 |
| ☐ | 5F1 Turret Board | 1 |
| ☐ | Fender-Style Octal Ceramic Socket (V2 6V6, V3 5Y3) | 2 |
| ☐ | 9-Pin Valve Socket (V1 12AX7) | 1 |
| ☐ | Clip-Type Octal Valve Retainer | 2 |
| ☐ | M3 and M4 Screws, Nuts & Washers (6 pack) | 2 |
| ☐ | Locking Earth Solder Lugs (one dedicated to mains earth) | 4 |
| ☐ | Rubber Grommets, 10mm (transformer leads) | 2 |
| **TRANSFORMERS** | | |
| ☐ | PT: Hammond 291AEX Power Transformer, 240V primary, 325-0-325V, 6.3V CT and 5V heaters | 1 |
| ☐ | OT: Hammond 1750C Single-Ended Output Transformer, 5W, use the 8k tap for a 6V6, 3.2Ω secondary (4Ω speaker) | 1 |
| **VALVES / TUBES** | | |
| ☐ | V1: JJ 12AX7 / ECC83S Preamp Valve | 1 |
| ☐ | V2: JJ 6V6S Power Valve | 1 |
| ☐ | V3: JJ 5Y3S Rectifier Valve | 1 |
| **CAPACITORS** | | |
| ☐ | C1, C2: Metal Film 0.022µF 630V (coupling) | 2 |
| ☐ | C3: Evatco 16µF 500V Axial (B+1 filter) | 1 |
| ☐ | C4, C5: Evatco 8µF 450V Axial (B+2, B+3 filters) | 2 |
| ☐ | C6: Evatco 25µF 50V Axial (6V6 cathode bypass) | 1 |
| ☐ | C7: Evatco 25µF 50V Axial (optional V1A cathode bypass) | 1 |

| ✓ | Item | Qty |
|---|---|---|
| **CONTROLS, JACKS & PILOT LIGHT** | | |
| ☐ | R12: Alpha 1MΩ Audio (Log) Volume Pot with Power Switch | 1 |
| ☐ | Black Knob for Volume Pot | 1 |
| ☐ | In 1, In 2: Switchcraft Type 11 Mono Input Jack | 2 |
| ☐ | Spkr: Switchcraft Type 11 Mono Speaker Jack | 1 |
| ☐ | Pilot Light Assembly & Green Jewel | 1 |
| ☐ | 6.3V Pilot Lamp Bulb | 1 |
| **MAINS, FUSE & WIRING** | | |
| ☐ | F1: 3AG Panel-Mount Fuse Holder | 1 |
| ☐ | F1: Slow-Blow Fuse, 500mA to 1A for 240V (keep spares) | 2+ |
| ☐ | 3-Core Earthed 240V Mains Lead | 1 |
| ☐ | Cable Gland / Strain Relief | 1 |
| ☐ | Heat Shrink Pack | 1 |
| ☐ | Vintage Cloth Pushback Wire | 3m |
| ☐ | Twisted Heater Wire | 1m |
| ☐ | 18AWG Buss Wire | 1 |
| ☐ | Speaker Wire, jack to speaker | As req. |

# RESISTORS AND COLOUR CODES

**How to read the bands:** hold the resistor with the **gold band on the right** and read from the left. Bands 1 and 2 are the first two digits, band 3 is the multiplier, and the gold band 4 means ±5% tolerance.

**Example:** Brown (1) Black (0) Green (×100k) Gold = 10 × 100,000 = 1,000,000Ω = **1MΩ**. Always confirm with a multimeter before fitting.

| ✓ | Qty | Value | Type | Band 1 | Band 2 | Band 3 | Band 4 |
|---|---|---|---|---|---|---|---|
| **RESISTORS: 1 WATT CARBON FILM** | | | | | | | |
| ☐ | 1 | **1MΩ** R1: input jack grid resistor | 1W Carbon Film | Brown | Black | Green | Gold |
| **RESISTORS: 1 WATT METAL OXIDE** | | | | | | | |
| ☐ | 2 | **68kΩ** R2, R3: grid stoppers | 1W Metal Oxide | Blue | Grey | Orange | Gold |
| ☐ | 2 | **1.5kΩ (1k5)** R4: V1A cathode; R6: V1B cathode | 1W Metal Oxide | Brown | Green | Red | Gold |
| ☐ | 2 | **100kΩ** R5, R7: V1 plate loads | 1W Metal Oxide | Brown | Black | Yellow | Gold |
| ☐ | 1 | **220kΩ** R9: V2 grid leak | 1W Metal Oxide | Red | Red | Yellow | Gold |
| ☐ | 1 | **22kΩ** R13: negative feedback | 1W Metal Oxide | Red | Red | Orange | Gold |
| **RESISTORS: POWER** | | | | | | | |
| ☐ | 1 | **10kΩ** R10: B+ voltage dropping | 2W Metal Oxide | Brown | Black | Orange | Gold |
| ☐ | 1 | **22kΩ** R11: B+ voltage dropping | 2W Metal Oxide | Red | Red | Orange | Gold |
| ☐ | 1 | **470Ω** R8: 6V6 cathode (bias) resistor | 5W Cement | *No colour bands. Value printed on the body.* | | | |

## COLOUR CHART colour · digit · multiplier

| Black | Brown | Red | Orange | Yellow | Green | Blue | Violet | Grey | White |
|---|---|---|---|---|---|---|---|---|---|
| 0 · ×1 | 1 · ×10 | 2 · ×100 | 3 · ×1k | 4 · ×10k | 5 · ×100k | 6 · ×1M | 7 · ×10M | 8 · – | 9 · – |

**Look-alikes to watch:** there are two 22kΩ resistors with the same colours (Red Red Orange): R13 is 1W and R11 is the larger 2W, so sort them by size. 220kΩ (Red Red Yellow) differs from 22kΩ only in band 3.

**Building on 240V:** wire the 291AEX's 240V primary tap and insulate each unused primary lead with heat shrink; follow Hammond's wiring diagram, as lead colours vary. Australian mains colours: Brown = Active, Blue = Neutral, Green/Yellow = Earth. The fuse and the power switch (on the volume pot) both go in the Active line. The earth wire goes to its own star-washered solder lug near the mains entry and is never removed. Use a slow-blow fuse (500mA to 1A), not the 2A shown on US layouts.

**Not included:** cabinet and speaker. The 1750C has a 3.2Ω secondary, so use a 4Ω speaker: a Jensen P8R 4Ω for an original-size Champ cabinet, or a Jensen P10R 4Ω for a larger one. Never run a valve amp without a speaker connected.

**DANGER: HIGH VOLTAGE.** Valve amps run at lethal voltages, and the filter capacitors can hold a charge after the amp is switched off and unplugged. This is a component pack, not a kit: no instructions or build support are included. For experienced builders and technicians only. Have your mains wiring checked by a qualified person before first power-up, and use a variac or bulb limiter for the first power-up.