**BOM for FM Converter** **June 2026**

| Capacitors | Not critical unless noted | |
|---|---|---|
| | Value | Note |
| C1 | 100pF | |
| C2 | 220pF (10%) | Must be stable. I use Mica. |
| C3 | 100nF | Not critical, but use a good capacitor |
| C4, C12 | 100nF-150nF | |
| C5, C45 | 100nF (0805 chip) 6V or more. | |
| C6 | 33-100pF | Stability |
| C10, C11 | 22pF | |
| C16 | 33pF | Depends on antenna coupling you use. Use high volage |
| C20, C21, C22 | 150nF - 470nF | cap in an AC/DC set |
| C40 | 2200uF 16V or more | |
| C42, C44 | 22uF - 47uF 6V or more | I used tantalum, but aluminum is OK too. |
| C46, C47, C48[2] | 22uF - 47uF 15V or more | I used aluminum, but tantalum is OK too. |

Standard 5% resistors. 0.1 watt

| | Value | Note |
|---|---|---|
| R1 | 1k | |
| R2[2] | 18k | |
| R5 | 47k | |
| R7, R21, R27 | 100k | |
| R8 | 220k | |
| R9 | 560k | |
| R15, R16, R19 | 1.8k - 2.2k | R15, R16 not needed for Si4825 |
| R20 | 270k | |
| R22, R23 | 18k - 22k | Not needed for Si4825 |
| R24 | 3.3k | |
| R25, R40, R41 | 10k | |

Precision 1% resistors 0.1 watt

| | Value | Note |
|---|---|---|
| R11 | 750 ohm | |
| R12 | 3k | |
| R13 | 51k | |
| R14 | 330k | |

Trim Potentiometers

| | Value | Note |
|---|---|---|
| RV2 | 20k or 22k | Piher PT10LV10-223A2020-PM-S |
| RV10 | 5k or 4.7k | Piher PT10LV10-472A2020-PM-S |

DNI = Do Not Install

[1]V1 boards only; [2]V2 boards only

Semiconductors

| | Part # | Note |
|---|---|---|
| D10, D11, D12 | 3mm LED | D10, D11 not needed with Si4825 |
| D40 | 1N5817 | 1N4001 or 1N4148 can be used if there is enough voltage |
| D41 | 1N5344A | ONLY for series string. DO NOT POPULATE for parallel string |
| D43, D44[2] | 1N914 | |
| Q20 | 2N3904 (TO92) | |
| U1 | 74HCT9046 (SOIC-16) | |
| U2 | LM358 (8 pin DIP) | |
| U10 | Si4826 or Si4835 (SOIC-16) | |
| U11 | MCP100-300D (TO92) | or MCP100-270D |
| U40 | 5V regulator LP2950-50 (TO92) | |
| U41 | 3.3V regulator 78L33 (TO92) | |

Misc

| | | |
|---|---|---|
| J10 | 6-pin male header | |
| J11 | 4-pin male header (not needed for Si4825) | |
| Y1 | 32768Hz Crystal | |
| | Circuit board | |

Parts Not Used

| | | |
|---|---|---|
| R3[1] | DNI | V1: For other phase detector |
| R4 | 0 ohm jumper | |
| R26 | DNI | Treble boost |
| C17[1], C18 | DNI | Filter for reference voltage |
| C23 | DNI | Treble boost |
| C41, C43 | DNI | Extra supply filtering |
| C14, C15 | DNI | Alternative antenna matching |
| D42 | DNI | Overvoltage protection |
| FB1 | 0 ohm jumper | EMI control |
| R3, R6 | DNI | 4047 temp comp (V2 board) |

DNI = Do Not Install

[1]V1 boards only; [2]V2 boards only