

# Wiring between KWM-2/2A and power supply

F1LAG (CCAЕ #0075)

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First column: the pin numbers of the 11-pins KWM-2/2A power socket (and also the female 11-pins plug which will fit into it).

Second column: the colors of the wires in the original Collins connecting cable.

Third column: the functions of each connection as described in the KWM-2/2A Collins manual.

Pins 7 to 11 have different roles depending on the filament supply arrangement (6VAC for PM-2 and 516F-2, 12VDC for MP-1, 24VDC for 516E-2).

Last remaining columns: the corresponding connection points internal to each type of power supply with their names as per the respective Collins manuals.

KWM-2/2A (J13)	wire color	Function (KWM-2/2A doc)	PM-2 (P2)	516F-2 (P1)	MP-1 (TB1 and E3)	516E-2 (TB1)
J13-1	WHT-ORN	+ 275 V	P2-1 = + 275	P1-1 = + 275 VDC	TB1-4 = Low B+ (+ 260 VDC)	TB1-4 = + 260 VDC
J13-2	WHT	+ 800 V	P2-2 = + 800	P1-2 = + 800 VDC	TB1-1 = High B+ (+ 750 VDC)	TB1-5 = + 800 VDC
J13-3	WHT-GRN	GND	P2-3 = GROUND	P1-3 = GND	E3 = GND	TB1-1 = GROUND
J13-4	WHT-BLK-RED	- 70 V	P2-4 = -50 TO -90V	P1-4 = BIAS -55 TO -80 VDC	TB1-5 = BIAS (- 65 VDC)	TB1-6 = -65 VDC
J13-5	WHT-BLK-ORN	ON-OFF switch	P2-5 = AC switched	P1-5 = AC switched	TB1-3 = ON-OFF SW	TB1-7 = ON-OFF SWITCH
J13-6	WHT-BLK-GRN	EXT SW CKT	NC	NC	NC	TB1-8 = Voice op. relay
J13-7	WHT-BLK-BLU	6V: AC COM / 12V: GND / 24V: GND	P2-7 = AC common	P1-7 = AC common	E3 = GND	TB1-2 = AC common
J13-8	WHT-BLK	6V: 6VDC or 6.3VAC / 12V: NC / 24V: NC	P2-8 = 6.3V	P1-8 = 6.3V filament	NC	NC
J13-9	WHT-BRN	6V: 6VDC or 6.3VAC / 12V: NC / 24V: NC	P2-9 = 6.3V	P1-9 = 6.3V filament	NC	NC
J13-10	WHT-BLU	6V: GND / 12V: GND / 24V: 24VDC	P2-10 = GROUND	P1-10 = GND	E3 = GND	TB1-3 = 24V FILAMENT
J13-11	WHT-RED	6V: GND / 12V: 12VDC / 24V: NC	P2-11 = GROUND	P1-11 = GND	TB1-2 = 12V FIL	NC

## Notes:

- For 516E-1 (12VDC) power supply, wiring is same as for 516E-2 (24VDC) except that wire from J13-10 goes to TB1-1 (GROUND) and wire from J13-11 goes to TB1-3 (12V FILAMENT) in 516E-1.
- All eleven wires are connected inside the plug going into J13.
- Wire sizes:
  - AWG 22 (0.3mm<sup>2</sup>) to pins 1, 2, 4, 5, 6 and 7
  - AWG 16 (1.3 mm<sup>2</sup>) to pins 3 and 10
  - AWG 14 (2 mm<sup>2</sup>) to pins 8, 9 and 11
- Wire insulation rating is 1kV except wire to pin 2 which is 3kV.

