

**Engineering Beam Position Monitor (BPM) Boards**  
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1. Assembled four BPM boards, soldered following components.

1.1. Resistors.

#	K $\Omega$	%	W
44	4.7	1	1/10
24	10	1	1/10
16	3.16	1	1/10
12	0.3	1	1/8
8	0.1	1	1/10
8	1	1	1/8
8	1.5	1	1/8
4	0.01	1	1/10
4	0.0249	1	1/10
4	0.220	1	1/10
4	0.680	1	1/8

- 1.2. 8 resistor networks, 3.3-ohms,  $\pm 5\%$ , 62.5 mW.
- 1.3. 4 metal-oxide varistors, 4 VAC, 5 VDC, 5.5 V.
- 1.4. EMI filter.
  - 1.5.1 4 low pass, 200 kHz cutoff.
  - 1.5.2 4 40-mOhm, 2 A.
- 1.5. 4 fiber optic receivers.
- 1.6. 28 fiber optic transmitters.
- 1.7. 16 LEDs.
- 1.8. 16 small outline diodes (SOD).
- 1.9. 4 dual LEDs.
- 1.10. 4 P-Channel 80 V MOSFET.
- 1.11. 4 3.3-V, ABT, 16-BIT bus, transceiver.
- 1.12. 4 3.3-V, ABT, 16-BIT, buffer/driver.
- 1.13. 4 oscillators, 3.3 V, 20 MHz.
- 1.14. 2 IC FPGAs.
- 1.15. 4 hex inverters, 3.3 V, 6 circuit.
- 1.16. 4 integrated circuits, 4 MB.
- 1.17. 12 dual buffer, SOT-23.
- 1.18. 20 dual peripheral drivers.
- 1.19. Voltage regulator.
  - 1.20.1 4 MPC, 1.2 V, SOT-223.
  - 1.20.2 4 MPC, 3.3 V, SOT-223.
  - 1.20.3 4 MIC, 2.5 V, SOT-223.
- 1.20. 4 8-position switches.
- 1.21. 4 2x7 headers, 100-MIL.
- 1.22. Shrouded header.
  - 1.23.1 10-pin, vertical.
  - 1.23.2 10-pin, right angle.
- 1.24. 4 right angle, 96 pin, DIN connectors.
- 1.23. 8 right angle, LEMO connectors.
- 1.24. 4 fuse holders, 2 A, surface mount.
- 1.25. 24 through hole test points.