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Re: Rework for ∓forCE rev. 2.1 boards

☐ **CE-R #2.1.1 LCD contrast voltage failure**

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Problem When the Micrel 3172BM is not enabled and there is a voltage on the feedback pin that exceeds 15V the 28VOUT signal can surge up to 66 volts when 12V power is applied. This can cause damage to the Micrel IC, the Cap C122, the fuse F4 and the FET Q1.

Rework Solution

- Substitute a MMBZ522BLT1 (2.5V Zener) for the RB400D diode D19.

Alternate Rework Solution

- Cut the trace between R107 (2K pot) and D18 pin 3.
- Solder a 20K O 0603 resistor across the cut.

☐ **CE-R #2.1.2 +12 volt overshoot**

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Problem When the Micrel 3172BM is not enabled and there is a voltage on the feedback pin that exceeds 15V the 12VOLT line can surge when 12V power is applied. This can cause damage to the Cap C119 and the fuse F3.

Rework Solution

- Substitute a MMBZ522BLT1 (2.5V Zener) for the RB400D diode D17.

Alternate Rework Solution

- Remove the solder from pin 3 of D16 and raise the part.
- Solder a 15K O 0603 resistor between the pad and pin 3.

☐ **CE-R #2.1.3 Battery Charging circuit will not shut off**

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Problem If there is no battery and the charging circuit is turned on by the software, it will not recognize that there is no battery and will remain at 12 volts.

Solution

- Install battery after power is applied and before the charge light comes on.