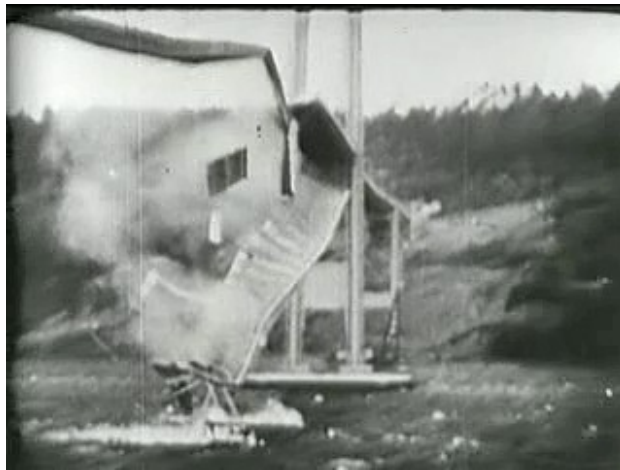


Technical Errata: NAE-ER-002



At a Flash Summary

<i>Affected Product</i>	<i>LB-Cable</i>
<i>Affected Revision</i>	<i>1.0</i>
<i>Severity</i>	<i>Medium</i>
<i>Fix?</i>	<i>Yes</i>
<i>Work-Around?</i>	<i>N/A</i>
<i>Summary</i>	<i>EMI Problems with LB-Cable</i>

Description of Problem

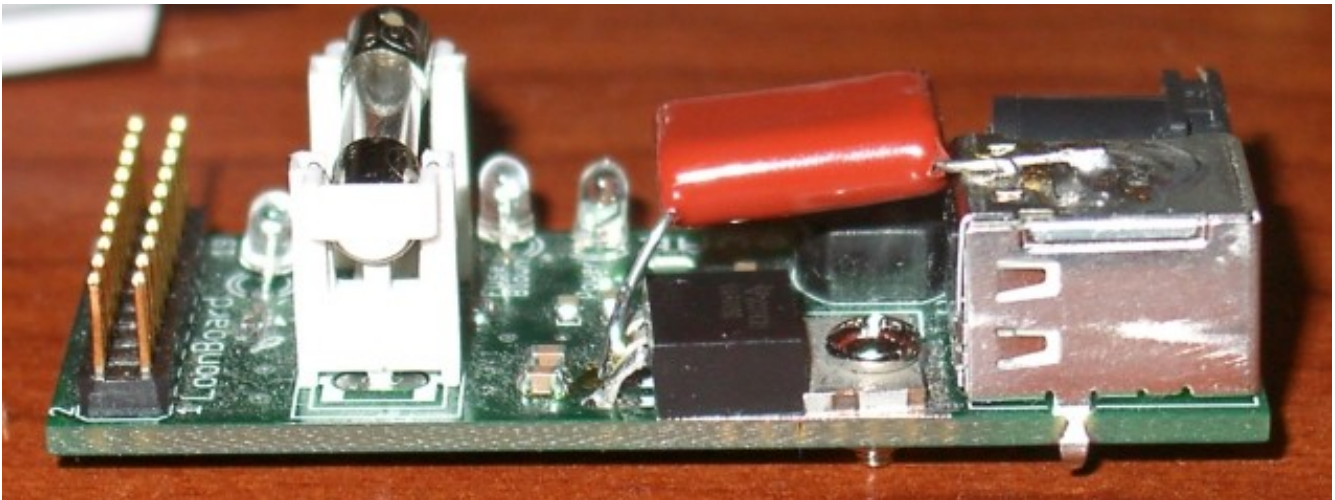
The shield on the USB cable connector is not connected to the system ground. This is done to avoid a ground loop, but it results in interference problems. This is characterized as poor performance with the USB cable, especially drop-outs.

On Linux you can use the “dmesg” command and you will see the following sort of messages:

```
ftdi_sio 5-1:1.0: FTDI FT232BM Compatible converter detected
usb 5-1: FTDI FT232BM Compatible converter now attached to ttyUSB0
hub 5-0:1.0: port 1 disabled by hub (EMI?), re-enabling...
usb 5-1: USB disconnect, address 26
ftdi_sio 5-1:1.0: device disconnected
FTDI FT232BM Compatible ttyUSB0: FTDI FT232BM Compatible converter
now disconnected from ttyUSB0
```

Fixes

The fix is easy – a small value capacitor must be connected between the USB shield and system ground. To do this solder one leg of the capacitor to the top of the USB connected, and one leg to the middle pin of the 3-pin voltage regulator. You can solder to any other ground point such as the tab of the 3-pin voltage regulator as well.



The capacitor should be around 470 pF, however any value will work. In the picture above a 0.47uF capacitor was used as that was the capacitor that was available within five feet of the work station. It has so far proven completely reliable for the task.

Document Revision History

January 9, 2006:

- Initial release.

Disclaimer: NewAE assumes no liability whatsoever and disclaims any express, implied, or statutory warranty related to its products including, but not limited to, the implied warranty of merchantability, fitness for a particular purpose, or non-infringement. In no event shall NewAE be liable for any direct, indirect, consequential, punitive, special or incidental damages (including, without limitation, damages for loss of profits, business, interruption, or loss of information) arising out of the use or inability to use this document, even if NewAE has been advised of the possibility of such damages. NewAE makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to the specifications and product descriptions at any time without notice. NewAE does not make any commitment to update the information contained herein. NewAE's products are not intended, authorized, or warranted for use as components in applications intended to support or sustain life.

© NewAE 2005-2006. All rights reserved.