

SERVICE BULLETIN NO. 20120222

February 22, 2012

SUBJECT **Display Errors Below 55°F (13°C)**

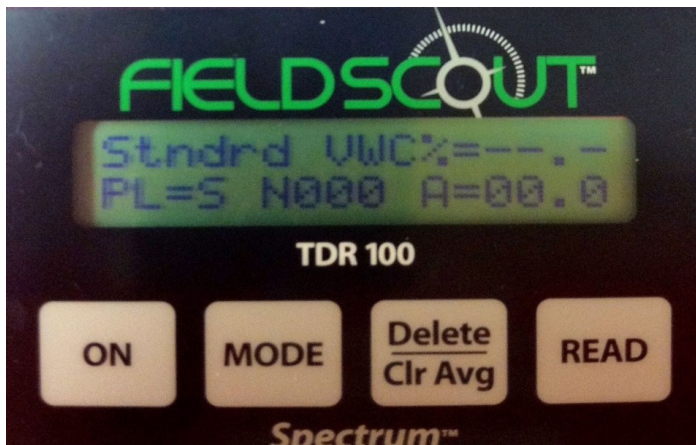
PRODUCT FAMILY **FieldScout TDR Soil Moisture Meters**

AFFECTED UNITS Models TDR 300 and TDR 100 (item numbers 6440FS and 6430FS), with serial numbers in the ranges 4781 to 5932, shipped between June 7, 2011 and February 15, 2012.

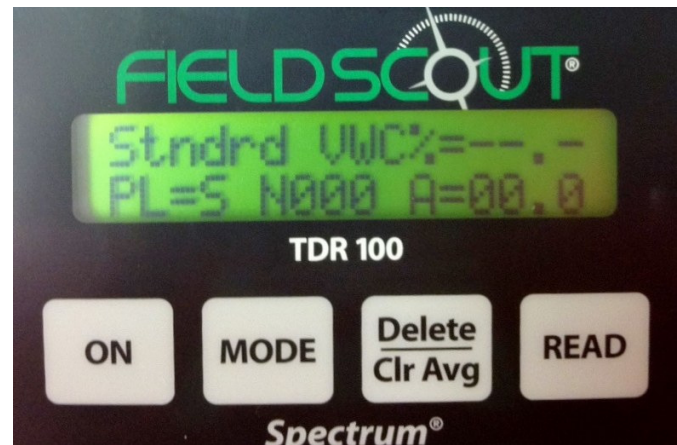
DETAILS

Due to a change in display manufacturers, a cool-temperature display failure may occur for some TDR 100 and TDR 300 Soil Moisture Meters. At temperatures below 55°F (13°C), the LCD may display random characters, and at lower temperatures may be completely blank. For the TDR 300, the meter is still functioning, logging all data accurately, but no information is displayed for the operator. The TDR 100 only displays readings, so it is unusable when the LCD malfunctions. Once warmed to above 55°F (13°C), the meters function properly.

Not all units within the serial number and date ranges are subject to the problem. Compare the LCD to the images below. If the LCD has a gray background, then it is not affected. If the LCD has a yellow background, then it may exhibit the temperature-related symptoms above, and needs to be repaired. See the images below.



Gray Background – No temperature-related issue



Yellow Background – Check serial and ship date

CIRCUMVENTION

The display functions normally above 55°F (13°C).

RESOLUTION

The problem can be eliminated on units exhibiting the display problem by soldering wires across two 10 kohm resistors on the main circuit board.

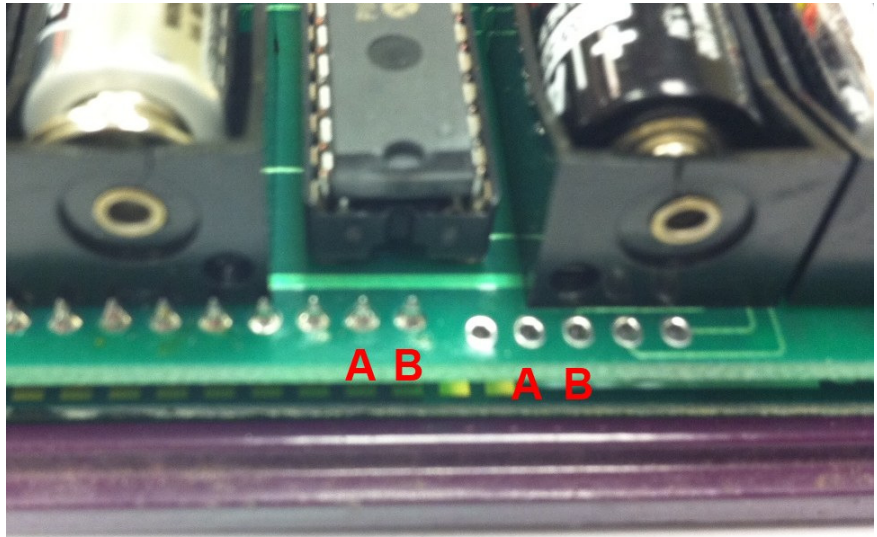
Spectrum Technologies will repair any units in the affected serial number range. Please contact Spectrum to obtain an RMA number to include with the meter.

REPAIR PROCESS

The following detailed repair information is for use by distributors and repair personnel.

1. Confirm that the unit does require repair by reviewing the serial number range, Spectrum shipping date range, and LCD color as detailed above.

2. Remove the four screws and the top cover of the TDR display as if you were replacing the batteries. If there are batteries installed, remove them. Lay the display on your work surface, oriented to match the image at right.



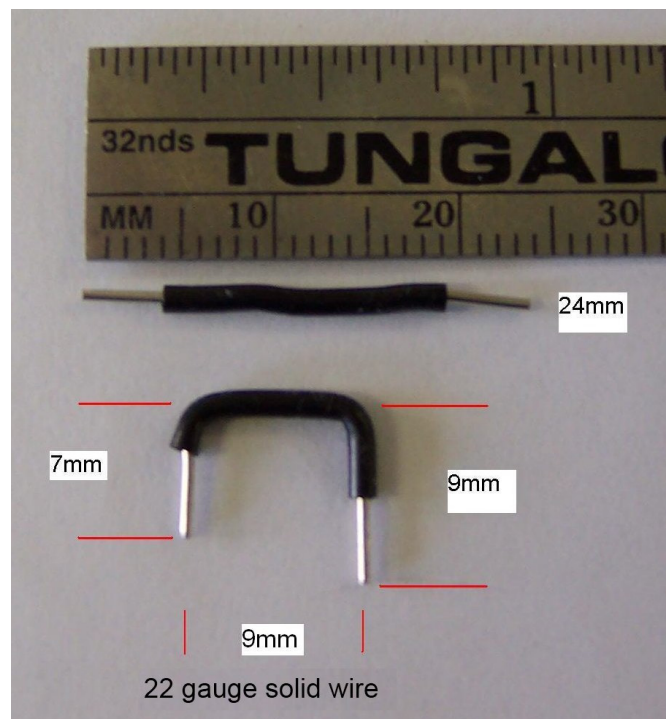
3. Review the instruction video on the Spectrum Technologies web site at:

<http://www.specmeters.com/sb20120222/>

4. Insert the spacer between the two circuit boards. A piece of cardboard or a file card will do.

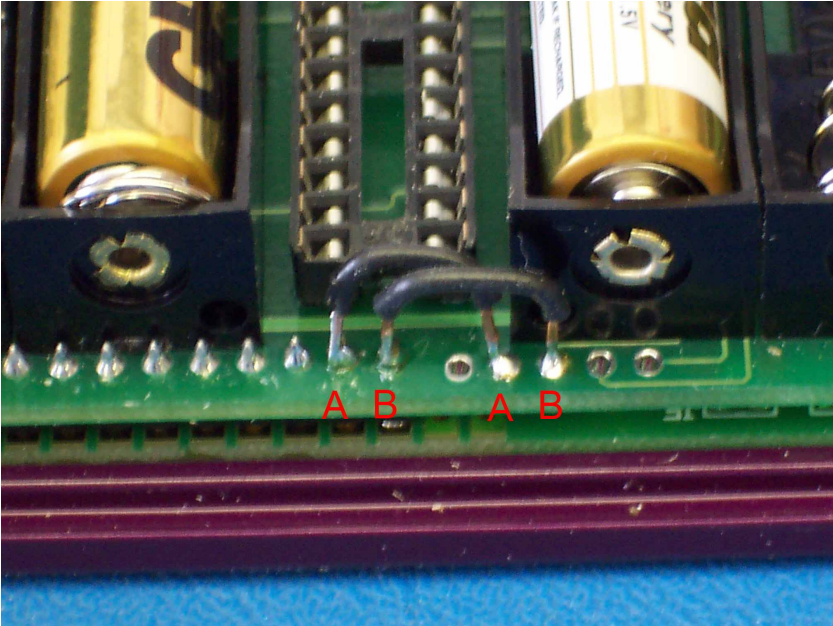
5. Ready two jumper wires (provided, or as specified in the image at right).

6. Set the longer legs of the two wires into the two holes marked A and B to the right of the above image. Align the short legs close to the pins A and B on the left above.



7. Solder the wires into the two holes on the right.

8. Using soldering tweezers or needle-nosed pliers, bend each of the left legs of the wires to press against the corresponding pin (A to A and B to B) and solder in place. The end result should appear as below (the processor chip was removed on the unit used for the photograph).



9. Insert batteries, and check that the TDR powers up properly (the LCD pictures on the first page show the main screen, which displays after the firmware version and battery level appear).

10. Remove the batteries and replace the cover, securing it with the four screws.