Using the NXIC CTD End Cap Switch

INTRODUCTION

This application note explains how to use a NXIC CTD with the Battery Switch End cap installed.

SUMMARY OF APPLICATION NOTE

In a standard NXIC CTD the battery is always powered. The NXIC CTD Battery Switch End cap allows the user to manually remove power when the unit is in between uses. This switch can only be used in the following modes; Auto Logging on power up, Battery End cap Enabled interval, or Battery End cap Enabled – Delayed Start interval.

NOTE. The battery must always be removed whenever the unit is being shipped or stored for long periods.

DESCRIPTION OF NXIC END CAP SWITCH

The NXIC CTD End cap Switch disconnects the battery without the need to open the unit. A special 6-pin battery power-shorting plug is provided to apply power to the NXIC CTD. Unplugging the shorting plug disconnects the battery. An adaptor cable is supplied so that the standard test cable can still be used.

USING THE NXIC END CAP SWITCH

The following set up information is required to run the NXIC CTD with the NXIC End cap Switch.

CONNECTING A PC TO THE NXIC CTD

A NXIC CTD with an End cap Switch is shown set up with a laptop computer in Figure 1.

To connect a NXIC CTD with your computer use the adaptor cable B176-207.

CAUTION. The adaptor cable will use battery power when there is no external power supply.

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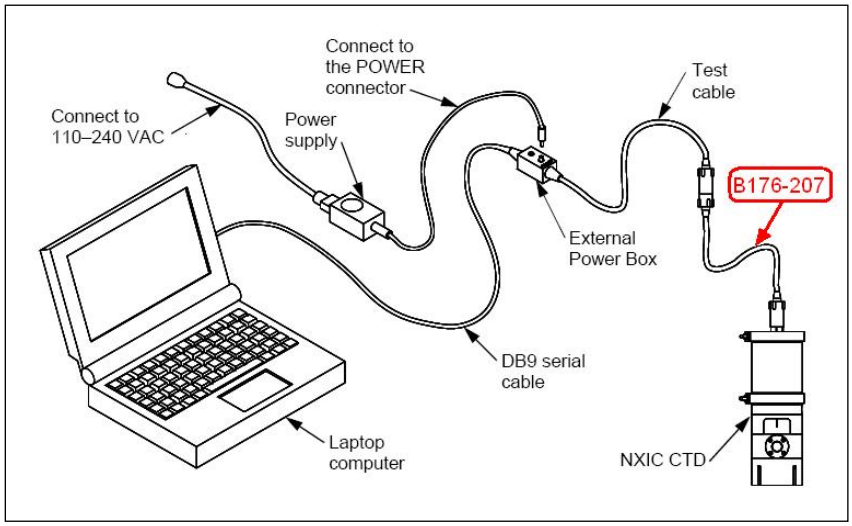

Figure 1. NXIC CTD Setup with B176-207 Battery Adapter Cable

VERIFY FIRMWARE VERSION

Firmware version must be 4.3 or greater.

To verify Firmware version choose View->Terminal to open a terminal window. Then type ***O<CR> to get into Open mode and VER<CR>. Firmware version will be displayed. To update Firmware go to www.rdinstruments.com for latest version.

USING AUTOLOG

With the Autolog feature, the NXIC CTD starts logging data to a new file 30 seconds after conductivity reaches 1.0 mS/cm. The file will be open and logging data until 30 seconds after conductivity goes below 1.0 mS/cm. To learn more about the Autolog feature, reference AN2007005, *Using the NXIC CTD Autolog Feature.*

CAUTION. The file will be lost if power is removed before the file is saved and closed! To ensure that the data file has been saved and closed properly, wait more than thirty seconds after removing the NXIC CTD from the water before disconnecting power to the NXIC CTD. We generally advise customers to wait two minutes. Similarly, wait more than 30 seconds before redeployment, or else a new file will not be created and logging will continue on the same file.

USING BATTERY END CAP ENABLED INTERVAL MODE

When the Autolog is not being used it is important to enable the battery switched mode. To enable this function choose View->Terminal to open a terminal window. Then type ***O<CR> to get into Open mode and BATSW=ON<CR>. Now the NXIC CTD will run in Interval operating mode whenever power is applied. Connecting the battery-shorting plug will cause the NXIC to open a file and start taking interval data immediately. The files will be automatically sequentially named starting with INT01. Reference the NXIC CTD user manual for more information on setting interval logging. Once the deployment is completed the battery switch plug needs to be removed and the adaptor cable connected. Another interval will automatically start and a new file created. This file will not have data from the deployment and can be ignored.

BATTERY END CAP ENABLED – DELAYED START INTERVAL

It is possible to use Delay Start Mode with the battery switched end cap. In CTDPro only use Delay Start Interval in the Running Mode area. Setup the delay time and date normally and deploy. When the Data Filename dialog box opens you need to enter a filename. Note that this file will be deleted when the adapter cable is disconnected and the unit loses power. When the battery-shorting plug is connected and power is restored, a file will be created (INT01 if this is the first file in memory) and one interval will be run before the unit goes into low power mode. When the delay time arrives the unit will start taking data intervals and append that data to the file started when the battery was powered. Once the deployment is completed the battery switch plug needs to be removed and the adaptor cable connected. Another interval will automatically start and a new file created. This file will not have data from the deployment and can be ignored.

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NOTES

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