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Knowledge Base Article

Product Group: Microlog Analyzer
Product: CMXA44; CMXA70; CMXA75
Version: N/A

Abstract

This document provides details on the Microlog MX (CMXA44) and Microlog GX (CMXA70 and CMXA75) batteries, the steps that should be followed when charging these instruments, and also what to do if battery/charging problems are suspected.

Overview

The Microlog MX/GX is powered from a Canon camcorder style Lithium Ion (Li-ion) battery and also incorporates an internal backup battery which can maintain the system settings (in RAM) for a maximum of 36 hours should the main battery become discharged, or is removed and there is no external DC power supply to the unit.

The table in Figure 1 shows the life expectancy of the main and backup batteries in different states:

State	Life Expectancy
Instrument switched on (taking data) & main battery fully charged	8 hours typical
Instrument switched on, in idle mode (at menu screen) & main battery fully charged	14 hours typical
Instrument off, main battery fully charged	14 days typical
Instrument switched off, main battery removed and running on backup battery	36 hours typical

Figure 1. Battery life expectancy table

If the main and backup battery are allowed to discharge completely, then the instrument shall behave as if it has experienced a hardware reset (i.e. some settings including the date/time settings shall return to default values).

- **Data and programs stored in the Flash memory will be maintained.**

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Internal Backup Battery

The internal backup battery is ONLY charged when either the instrument is switched ON or when the external Power Adaptor/Battery Charger is being used to power the unit.

Battery Level Information

The instrument battery status is displayed by pressing the "." key. This is available from most screens. The display reports the status of the main internal battery and the condition of the unit's backup battery. [Figure 2]

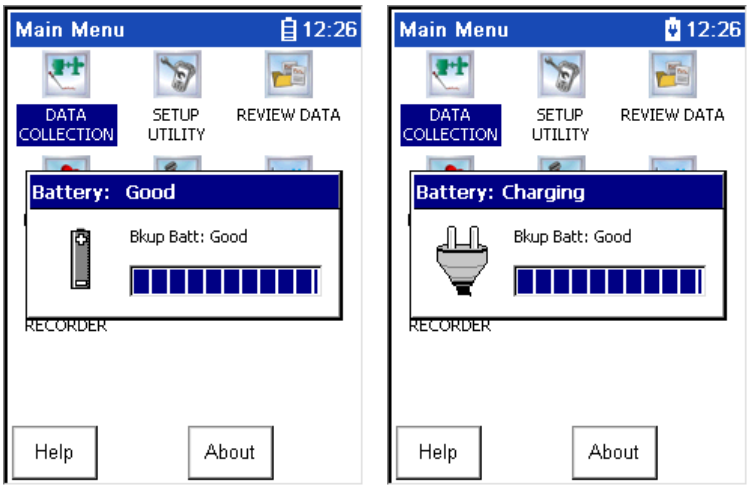

Figure 2. Example instrument screen shots showing battery status dialog

Battery Charge Times

Main Battery

3 hours to 70% charge (from flat)

5 hours to 100% charge (from flat)

Backup Battery

The backup battery is trickle charged from the main battery whenever the unit is switched on. It is also trickled charged whenever the external Power Adaptor/Battery Charger is attached, irrespective of the unit being on or off. The recharge times are detailed in the table in Figure 3.

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Unit Status	Recharge Time (from flat)
Off, not powered by mains adaptor	N/A
On, not powered by mains adaptor	24 – 30 hours
Off, powered by mains adaptor	24 – 30 hours
On powered by mains adaptor	24 – 30 hours

Figure 3. Battery recharge time

Precautions

Do not use the Microlog MX/GX beyond its operating temperature range, as discharging the Li-ion battery when too hot or cold may cause a safety hazard. Additionally, as Li-ion batteries should only be charged between 0 °C and +45 °C, the Microlog GX/MX will only allow charging when the ambient temperature is within these limits. If the ambient temperature exceeds these limits while charging, the charge will stop; charging cannot restart until the temperature reduces and the charger is removed and reconnected to the unit.

If battery problems are suspected, the battery should be cycled. This is done by fully discharging the battery, followed by giving it a full charge from the external Power Adaptor/Battery Charger. The best way to discharge the battery is to set the unit Timeout function to OFF and leave the unit running – it will automatically switch off when the battery is fully discharged.

For further assistance, please contact the Technical Support Group by phone at 1-800-523-7514 option 8, or by email at TSG-Americas@skf.com.