



TECHNICAL NOTE

DATE
01-22-01

SeeDOS Ltd
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PAGE
page 1 of 2

NUMBER
4434-00

SUBJECT: CDX-2000A Electrometer Battery Troubleshooting

The following information is provided as a service to our users and customers:

This technical note applies to Standard Imaging CDX-2000A Electrometers with serial numbers beginning with B98-B00.

Mode Switch Positions-

OFF- The CDX-2000A mode switch must be in the 'OFF' position when attempting to fully recharge the battery.

CHARGE- The CDX-2000A mode switch 'CHARGE' position is used when performing a timed charge collection (integration) of an incoming signal and NOT for charging the battery. DO NOT ATTEMPT TO CHARGE THE BATTERY BY SETTING THE MODE SWITCH TO THE 'CHARGE' POSITION.

VOLTAGE- The CDX-2000A mode switch 'VOLTAGE' position displays the voltage level of the battery. The display will indicate 'RECHARGE BATTERY' when the battery voltage reaches a level of 5.3 volts. A fully charged battery is considered to be 6.0 volts or greater and a discharged battery is 5.3 volts or less. Monitoring the battery voltage before and after use to determine when recharging is required will prolong the life of a battery.

Normal Battery Charging-

Recharging the lead acid battery (REF 73006-110) after normal use should take between 6 to 8 hours. The CDX-2000A electrometer may be charged continuously with no detrimental effects to the internal battery. It is recommended that the battery be charged overnight to fully recharge a discharged battery.

Normal Electrometer Operation-

The CDX-2000A will operate with the charger plugged in to a wall outlet. The validity of the measurements being recorded is not affected.

Replacement Battery-

A replacement battery (REF 73006-110) can be ordered directly from Standard Imaging, Inc., 7601 Murphy Drive, Middleton, Wisconsin 53562. Tel (800) 261-4446 Fax (608) 831-2202.

Severely Discharged Battery-

The CDX-2000A is powered with a 6.0 volt rechargeable lead acid battery. The battery will become severely discharged if the electrometer is left operating unattended for a period of time greater than 6 to 8 hours OR placed in storage while still in operation. The charging circuit trickle charges the battery until it has



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page 2 of 2

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a terminal voltage of approximately 4.5 volts, subsequently bulk charging at a higher rate. The battery will NOT recover quickly during charging if the battery has been severely discharged to less than 4.0 volts. Recharging may take 36 hours or more for recovery. The internal battery charging electronics have been designed that they will NOT force charge a battery which can considerably shorten the battery life. Allowing a battery to become severely discharged can cause permanent damage to the battery. It is important NOT to allow the battery to become severely discharged.