

## Service Bulletin

<b>Title</b>	Deterioration of SPT PalmOS Memory Backup Circuitry
<b>Number</b>	HS-SB-SPT-02
<b>Date</b>	09-28-2010
<b>Affected Models</b>	Symbol SPT-1700, SPT-1800
<b>Affected Serial Numbers</b>	All

### Summary

As the Symbol SPT PalmOS series of handhelds deployed in the field age, the memory backup components may fail to keep the contents of the handheld memory intact during battery swaps, and sometimes even during a forced hard reset (i.e. severe program crash). The internal backup battery/capacitor was designed to last the useful service life of the device, now since obsolete by new technology. These backup components are part of the main logic board and not serviceable.

The Symbol SPT PalmOS series was discontinued in 2005. The original SPT-1700 units are now over a decade old, and the newer SPT-1800 units are over five years old. Repairs are uneconomical. Previously refurbished units are starting to exhibit memory issues as well.

Replacing the Symbol SPT series is the Honeywell 7600 series, custom manufactured exclusively for Hayton Systems to support the high-density bar code scanning needs in the telco environment.

### Details

The memory backup circuitry was designed to keep storage memory powered for up to several minutes. This backup power allowed the program and scanned data to stay loaded in memory during a battery swap or a system reset.

Affected units may instead lose all program data and scanned records during a battery swap process or system reset. Additionally, the memory may end up scrambled after a swap/reset resulting in a handheld that will no longer boot. In extreme cases, the firmware is affected resulting in the loss of the Restorer application. Once Restorer is lost, the unit must be sent in to Hayton Systems for re-flashing at a nominal cost. Since it is a hardware problem, there is no guarantee that it won't happen again.

### Recommended Action

For units exhibiting these problems, the following solutions are advised:

#### Mitigation

- Charge the units in the cradle. The manufacturer advised us that the backup battery/capacitor only charges when the unit is docked in the cradle with AC power.
- Make sure you are using a recently manufactured battery. The replaceable Li-Ion battery has a shelf life of about two years. Some customers have reported to us that using a new battery lessened the problems. We do have new batteries available for purchase.
- If you have the serial cable that attaches from the bottom of the unit to a laptop DB-9 serial port, you can connect the charger to the cable at the terminal end. This will allow you to keep the unit powered during a battery swap, which may reduce the possibility of losing data.
- Upload your data to a laptop using the desktop software available from Hayton Systems, or to the server. The more data you build up on the device, the more there is to lose should the memory malfunction.

#### Replacement

Despite the above mitigation measures, we have found no guaranteed way to fix a unit once it starts exhibiting the symptoms.

- We no longer sell new-old-stock or refurbished Symbol SPT units.
- **We are recommending our customers upgrade to the newer Honeywell 7600 units.**
- We can recycle Symbol SPT units/batteries at our facility in Arlington, WA.