1. Introduction

The *720 Portable Data Terminal* is a durable, flexible, high performance terminal designed for all-day, everyday use. It is supported by a rich set of development tools, including a Windows based application generator, "C" and "Basic" compilers and ready to use applications such as CipherTrack. It uses a brightly lit, easy-to-read 128x64 graphic dots LCD with back-light and adjustable contrast settings to allow clear reading regardless of the ambient light. With its integrated Laser barcode scanning unit and built-in RS-232 and IrDA port, the *720* is ideal for inventory control, work-in-process tracking, shop floor management, asset tracking, warehousing and distribution operations.

2. General Features and Characteristics

Basic characteristics of the *720 Portable Data Terminal* are listed below,

2.1 Electrical

- Operation battery : two AAA size batteries or Ni-MH rechargeable battery pack
- Backup battery : 3.0V, 7.0mAh, rechargeable Lithium battery for SRAM & calendar
- Working time: more than 30,000 readings (with its CPU in low speed mode - assume 1 reading every 5 seconds).

2.2 Environmental

- Humidity (operating): non-condensed 10% to 90%
- Humidity (storage): non-condensed 5% to 95%
- Temperature (operating): -20 to 60 °C
- Temperature (storage): -30 to 70 °C
- EMC regulation: FCC class A, CE and C-Tick approved
- Shock resistance: 1.5m drop onto concrete

2.3 Physical

- Dimensions: 204mm (L) x 79mm (W) x 40mm (H)
- Weight: 330g (including batteries)
- Color: Dark gray
- Material: ABS

2.4 CPU

- Toshiba 16-bit CMOS type CPU
- Dual clock, can be switched to *Low Clock* to save power (refer to the ***speed*** setting in section 5.3).

2.5 Memory

Program memory

- 1 M Bytes flash memory is used to store the program code, font, constant data, and so on.

Data memory

- Base memory : 256 K Bytes SRAM.
- Extended memory : 8 M Bytes Smart-Media card.

2.6 Scanner

The *720 Portable Data Terminal* is equipped with a Laser barcode scanner, detail specifications are as following:

- Light source: visible Laser diode operating at 670±15nm
- Scan rate: 36±3 scans per second
- Scan angle: 42° nominal
- Minimum print contrast: 20% absolute dark/light reflectance at 670nm
- Depth of field: 5 ~ 95 cm, depends on barcode resolution

2.7 Display

- 128x64 graphic dots STN LCD display with icons and LED back-light
- Icons include battery low warning, alpha input, shift mode, and Smart-Media card indication.

2.8 Keypad

- 32 rubber keys, including alphanumeric keys, arrow keys, function keys, and scan trigger key.

2.9 Indicator

Buzzer

- Software programmable audio indicator, 1KHz to 4KHz, low power transducer type.

LED

- A programmable dual-color LED for status indication.
- Usually green for good read, red for error input.

2.10 Communication

Three kinds of communication are provided: standard RS-232, Infrared, and RF.

- RS-232: Transmission speed is up to 115200bps
- Infrared: standard IrDA 1.0 and high speed IR.
  Transmission speed is up to 115200bps
  Distance: 5 to 100 cm
  View angle: 30 degrees
- RF: Transmission rate 4800bps
  Distance: up to 100 m

2.11 Programming Language

"C", "BASIC", and a Windows-based Application Generator

2.12 Accessories

- RS-232 cable
- High speed IR Transceiver
- Cradle (for charging and communication)
- RF base station