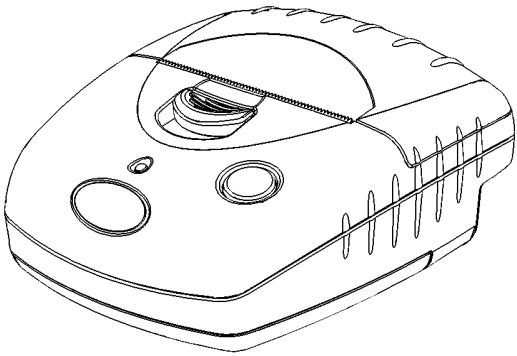
ABLE Systems Limited
DENTON DRIVE, NORTHWICH, CHESHIRE, CW9 7TU, ENGLAND
Tel: +44 (0)1606 48621 Fax:+44 (0)1606 44903
Website: www.able-systems.com e-mail: contact@able-systems.com



Ap1300 Series Thermal Mini Printer

Quick Start Guide

1. INFORMATION

Product Set includes:

- 1 x Ap1300 Printer.
- 2 x Roll of 36mm Diameter Thermal Paper.
- 1 x Data Cable (D9 – RJ12).
- 1 x UK only Trickle Charger.
- 1 x Wall/Belt Mounting Kit.
- 1 x Quick Start Guide.

Other Accessories available:

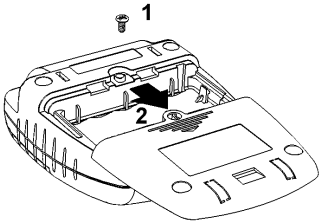
ASL Product Code		*Description*
AP1300	-	Serial RS-232 Printer (including Battery Pack).
AP1300-IR	-	Serial RS-232 Printer with IrDA (including Battery Pack).
AP1300-BT	-	Serial RS-232 Printer with Bluetooth™ (including Battery Pack).
BC1300	-	Universal Input Trickle Charger (UK/Euro/USA).
BC1300B	-	UK Only Trickle Charger.
BC1300FC	-	Universal Fast Charger with Vehicle Input (UK/Euro/USA/Aus).
A05836TPR1	-	36mm Diameter Thermal Paper Roll.
AP1300-D9	-	D9 to RJ12 Data Cable.
AP1300-BP	-	Replacement / Spare Battery Pack.

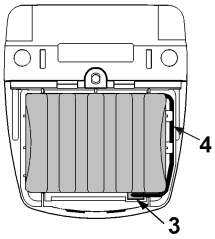
2. PREPARATION

Fitting/Connecting the Battery Pack:

For safety, the Battery Pack is supplied discharged and disconnected. Before use, the Battery must be connected (see below) and fully charged.

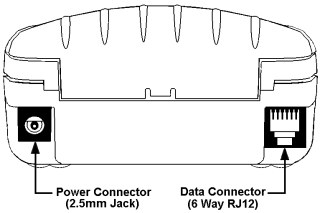
1. Remove the screw from the Battery Compartment Door.
2. Push down, and slide back the Battery Compartment Door.
3. Fit the Battery Pack Connector taking care to insert it correctly.
4. Fit the Battery Pack ensuring wires are correctly routed and not trapped,





Connecting the AC Battery Charger:

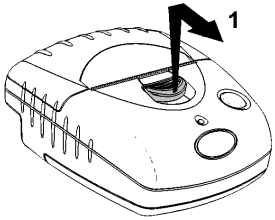
1. Plug the AC Battery Charger into a suitable Mains Outlet Socket and Insert the Jack Plug into the Power Connector at the Rear of the Printer. The LED will Flash Orange to show that the Printer is on charge. There is also the option of charging the Printer via the Jack Socket in the D9 Connector.

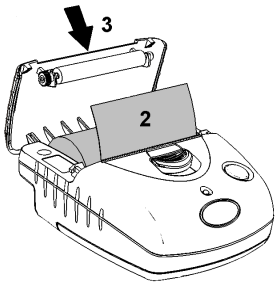


Fully charging the Battery Pack takes about 15 hours with the Trickle Charger, or about 3 hours with the Fast Charger.

Loading Paper:

1. Slide the Lid Release Button forwards until the Lid springs open.
2. Unwind a small amount of paper from the roll and Insert the Paper Roll into the Printer.
3. Close the Lid down, and the paper is loaded.





Pressing the paper feed button when the printer is idle advances paper at typically 50mm per second, depending on the battery voltage. However, the feed button has several additional functions:
A single press and release of the button:

- In idle or spooling mode, advances paper.
- In sleep mode, wakes up the printer into idle mode.

"Double-clicking" the button:

- In idle mode, prints a demo/test message including the firmware version, encoded calibration data, and the full character set.
- In spooling mode, exits spooling mode and prints any stored data.

3. OPERATION

Modes Of Operation:

The Ap1300 has three operating modes, when not actually printing:

- "Idle Mode": ready to accept data, but no data are in the buffer awaiting printing, and the printer motor is not running;
- "Sleep Mode": effectively switched off and awaiting either a press on the paper feed button, connection of the external charger, or some external data to exit sleep mode and enter idle mode;
- "Spooling Mode": active, but storing data for later printing.

The LED is off in sleep mode.
No hardware power switch is fitted. Power control is automatic or by command from the host. To save power, the printer enters sleep mode after a period of inactivity, factory-set to 30 seconds. It can also be programmed to stay awake indefinitely or to go to sleep on command.

Idle Mode:

In idle mode, the printer is ready to receive data, which will be printed as soon as complete lines or graphics patterns are decoded. It responds to the paper feed button in the normal way, and can also produce a demonstration print (see below). Power consumption is such that a fully-charged battery pack would last over 10 hours, but the printer will normally switch from idle mode into sleep mode when there is no activity, extending battery life.

Sleep Mode:

In sleep mode, power consumption is negligible, but data stored in the buffer are lost. Special routines allow for data to be printed out automatically before going to sleep. User programmable settings such as Baud rate and operational preferences are retained during sleep mode or battery replacement. The system designer can maximise battery life by arranging that the printer is generally in sleep mode, except when printing.

The printer enters sleep mode as follows:

- By command from the host.
- At the end of the (programmable) period of inactivity. (This period is extended in spooling mode).

But, the Ap1300 will never enter sleep mode when:

- A charger is connected.
- Data is being received.
- The RS-232 "Wake-up" control line is 'active'.
- An IrDA connection is present ("Ap1300-IR" only)

The printer may be woken up from sleep mode as follows:

- By pressing the paper feed button.
- By connecting the external battery charger.
- By RS-232 data from the host (typically a string of 50 NUL characters).
- By the RS-232 "Wake-up" control line becomes 'active'.
- By Infra-Red activity ("Ap1300-IR" only).

Spooling Mode

In spooling mode, data is received and stored, but not printed. This is useful when printing needs to be suppressed during data transfer (for example in mobile radio systems); or when the printer is unable to print because the paper has run out or the lid is open.

The Ap1300 will automatically enter spooling mode when the paper is out, when the head is up, or if some other error condition occurs, or alternatively by command from the host. Spooling mode may be cleared by host command, automatically when the condition is cleared, or by "double-clicking" the feed button.

Continuous Operation

Please see the Ap1300 User Manual for the charger specification. Available at www.able-systems.com

4. SPECIFICATION

Print Mode:
Thermal Line Dot Print (8 dots/mm)
Fujitsu Printer Mechanism.

Interface Options:

RS-232 only (6 Way RJ12)	-	AP1300
RS-232 + Infra-red (IrDA)	-	AP1300-IR
RS-232 + Bluetooth™	-	AP1300-BT

Interface Details:

RS-232	Rx, Tx, Busy, Ground, Wake-up control. Selectable baud rates and formats.
IrDA	IrPHY V1.0, IrLAP, IrLMP, IAS, TinyTP, IrCOMM 9-wire
Bluetooth	Full Bluetooth Support

Battery Pack:
5 Cell NiMH Battery Pack (up to 1.8Ah capacity).

Charger:

Universal Input Trickle Charger (UK/Euro/USA). *Input: 110/230V 60/50Hz*	-	BC1300
UK Only Trickle Charger. *Input: 230V 50Hz*	-	BC1300B
Universal Fast Charger with Vehicle Input (UK/Euro/USA/Aus). *Input: 110/230V 60/50Hz*	-	BC1300FC

Print Speed:
50 mm/s Typical.

Thermal Paper:

58mm Paper Width. 36mm Max Outer Diameter. 14.5m approx. length.	-	A05836TPR1

Printer Life:
50kms of Paper (3500 Paper Rolls).

Outer Dimensions:
Height = 47mm
Width = 92mm
Depth = 108mm

Weight:
345g (including Paper Roll and Battery Pack).

WARNING:
Only use ABLE Systems approved
Battery Packs and Chargers

For a Full Ap1300 User Manual, please visit our Website:
www.able-systems.com