THE EXPERTS IN SMALL PRINTER SOLUTIONS

AP1300
Thermal Printer

User Guide

Version 2.0

CE

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UKAS MANAGEMENT SYSTEMS 0273

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2 INTRODUCTION

This document is a User Guide, written for the person connecting and using the Able Systems AP1300 thermal printer. Please read this Guide carefully before making any connection.

A separate Programmer Guide provides details of the control codes and describes the internal operation of this product.

2.1 NOTES ON PRINTER FIRMWARE REVISIONS (INCLUDING FLASH)

Able Systems reserves the right to modify and improve the firmware in its printer products at any time. Whilst every effort is made to ensure backward compatibility, no guarantee in this respect is given or implied.

The AP1300 includes a flash-reprogramable microcontroller. This allows firmware upgrades under customer control. Refer to us for more information.

2.2 COPYRIGHT NOTICE AND DISCLAIMER

Copyright subsists in all Able Systems intellectual property, including controller firmware (embedded software) and circuit diagrams, pin connection lists and application data. No warranty in respect of patent rights of Able Systems Limited or of third parties is given. Unauthorised reproduction or amendment of controller firmware may result in prosecution.

Design Registration: 000093323-0001

Able Systems do not assume responsibility for interchangeable functionality of other parties' command sets.

2.3 DOCUMENTATION REVISION HISTORY

Title (and Revision Number)	Issue Date	Comments
User Guide to the AP1300 Rev 1.0	11 Mar 2004	This document is the original release
User Guide to the AP1300 Rev 1.1	23 Nov 2005	Product code prefixes removed throughout. Note added regarding prohibited printing during fast charge in Section 4.3 Minor changes to Section 8.2 Added to AP1300-BT information in Section 8.3 Added reference to PDA's in Section 11.2
User Guide to the AP1300 Rev 1.2	12 Aug 2013	Addition of the AP1300-BTi variant Formatting changes to bring the style in line with the Ap1400 documentation
User Guide to the AP1300 Rev 1.3	12 Jan 2016	Addition of battery usage and storage guidelines in Section 4.5 Minor changes to Sections 4.1, 4.7, 8.3, 9.3
User Guide to the AP1300 Rev 2.0	1 Oct 2024	Removal of obsolete sections – 8.2 (IrDA Interface); 2.5 (Software Support);

2.4 ORDERING PART CODES, OPTIONS AND ACCESSORIES

The following table details full Able Systems part codes for products related to the AP1300 printer:

ASL PRODUCT CODE	DESCRIPTION
PRINTERS	
AP1300	RS-232 printer (includes 1800mAH NiMH Battery Pack)
AP1310	RS-232 printer with larger paper capacity (includes 1800mAH NiMH Battery Pack)
AP1300BT	As AP1300, with additional Bluetooth interface
AP1310BT	As AP1310, with additional Bluetooth interface
EVALUATION KITS	
AP1300KIT1	Complete kit suitable for evaluation of AP1300 printer
Ap1310KIT1	Complete kit suitable for evaluation of AP1310 printer
AP1300BTKIT1	Complete kit suitable for evaluation of AP1300BT printer
AP1310BTKIT1	Complete kit suitable for evaluation of AP1310BT printer
Each kit contains the following items: Printer (variant depends on chosen kit, includes battery pack) 'Universal' input trickle charger D-9 data cable for PC 2 paper rolls Wall / Belt Mounting bracket and fixing kit Primary Cell Cradle Quick-start guide *N.B. Alternative items may be substituted if stock is unavailable.*	
PAPER	
A05836TPR1	Thermal Paper Roll (36 mm dia, 14.5 m long approx) – suitable for AP1300 and AP1300BT
A05856TPR1	Thermal Paper Roll (55 mm dia, 34.0 m long approx) – suitable for AP1310 and AP1310BT
POWER PACKS	
AP1300BP01	Battery Pack (1800 mAH NiMH)
CHARGERS	
BC1300	'Universal' input trickle charger
BC1300CLAHL	Cigar lighter charger
CABLES AND ADAPTORS	
AP1300D9	Data cable with D-9 for direct PC connection
AP1300BR01	Combined wall-mounting bracket and Belt-clip
AP1300PCC	Primary Cell Cradle (Fits 4 x AAA primary non-rechargable cells)
AP1300USBC	USB to RS232 D9 converter

N.B. The list of options and accessories available is likely to change over time. Please check our web site (http://www.able-systems.com) for the most up-to-date information.

2.5 SOFTWARE SUPPORT

Support for a number of different platforms can be provided on request. At the time of release, the following software was available:

Operating System	Software
Windows	Drivers
	Setup utilities
	Flash Upgrade Utility
	Font Editor Utility
Linux	Cups drivers
Android	Android app available on the Google Play store
	SDK
iOS	iOS app available on the iTunes app store
	SDK

Please request the software you require by e-mailing DriverRequest@Able-Systems.com.

3 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.
- "Spool Mode": active but storing data for later printing.

Modes are indicated by different colour combinations on the front-panel LED (see section 6).
No light is emitted in sleep mode.

No hardware power switch is fitted, as power control is either automatic or by command from the host computer. To save power, the printer enters sleep mode after a period of inactivity. It can also be programmed to stay idle indefinitely or to go to sleep on command.

3.1 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 up to 10 hours, but the printer will normally switch from idle mode into sleep mode when there is no activity, extending battery life.

3.2 SLEEP MODE

The printer enters sleep mode after a period of inactivity. This period is factory-set to 30 seconds (except the AP1300BT and AP1310BT which are factory-set to 4 minutes) but is programmable from the host.

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, however, 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 spool mode)
- the battery voltage falls below a pre-set lower limit.

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'

The printer is woken up from sleep mode as follows:

- by pressing the paper feed button
- by connecting the external battery charger
- by an RS-232 data stream from the host: a certain period of logical '0' bits is required, typically a string of 50 NUL characters at 9,600 Baud. These data will be lost. There is a delay of up to 100 ms before the serial output lines are established and the printer is ready to accept data
- by the RS-232 "Wake-up" control line becoming 'active'

3.3 SPOOL MODE

In spool 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 spool mode when the paper is out, when the lid is open, or if some other error condition occurs, or alternatively by command from the host. Spool mode may be cleared by host command, automatically when the condition is cleared, or by "double-clicking" the feed button. Power consumption in spool mode is similar to that in idle mode.

4 BATTERY PACKS

4.1 OVERVIEW OF BATTERY OPERATION

The printer is normally supplied with a standard 1.8Ah NiMH battery pack. The primary power for the printer comes from the battery pack.

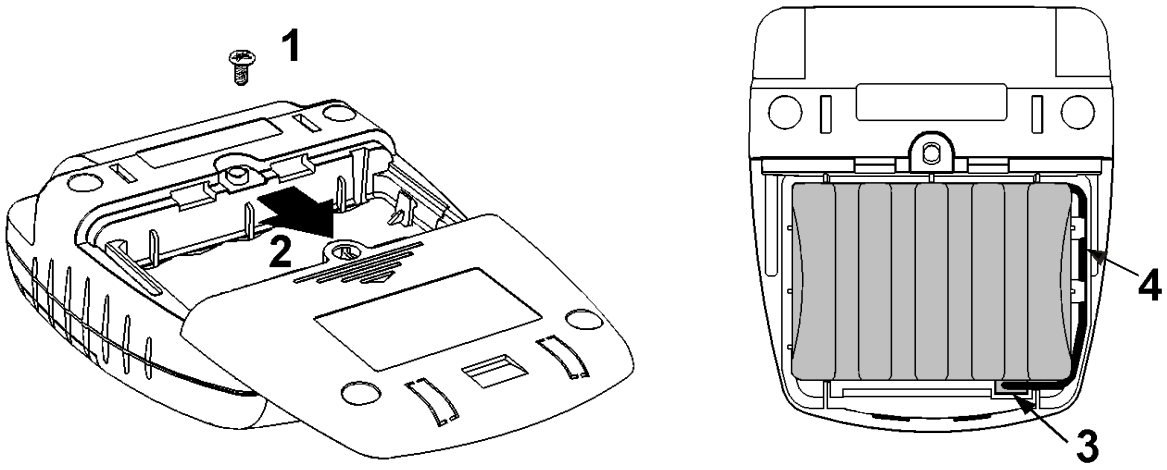
The printer can operate with or without a charger connected. If required, the charger can be operated continuously to keep the battery fully charged, although a high printing duty cycle may reduce the charge in the battery. Operation from the charger alone is not possible: a battery pack must always be fitted.

N.B. For safety the battery pack is shipped fitted into the battery compartment but discharged and disconnected. The batteries should be connected and fully charged upon receipt of a new printer or battery pack (see below).

4.2 FITTING AND CONNECTING THE BATTERY PACK

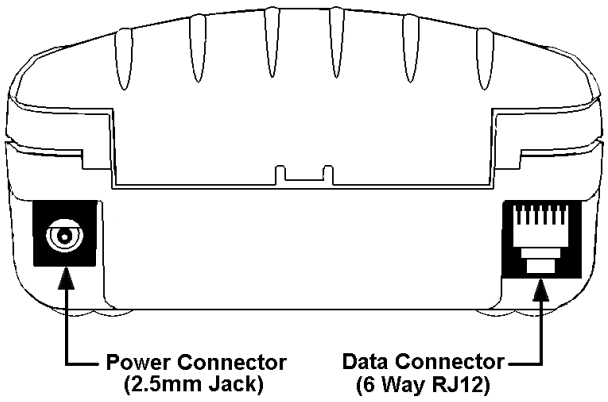
The procedure for connecting the battery pack is as follows:

1. Remove the screw from the battery compartment door (if fitted),
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.



4.3 CHARGING THE BATTERY

Plug the 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.



N.B. Please note that while the printer may be used as normal when trickle charging.

4.4 BATTERY PACK HANDLING PRECAUTIONS

WARNING! Battery Handling Precautions

The battery pack is fitted with an internal safety fuse, but the user must take care to avoid short-circuiting the contacts by preventing them from touching any metallic object. For example, the battery pack should never be carried loose in a pocket where it could rub against coins, keys or other metallic objects.

Short-circuiting the contacts of the battery pack will cause a heavy current to flow, which may lead to excessive heating of the battery pack, or any metallic objects connected to it. This could cause burns or start a fire.

WARNING! Do Not Try To Open The Battery Pack

The standard battery pack contains five Nickel-Metal-Hydride Cells. Exposing the cells increases the risk of leakage or short-circuiting.

CAUTION: It is strongly recommended that the external charger is disconnected whenever the battery pack is removed or replaced.

Please observe local standards for the handling, transport and disposal of Nickel-Metal-Hydride Cells.

4.5 BATTERY PACK CAPACITY

The printer is supplied with a 1.8Ah NiMH battery pack. This battery pack should be recharged while installed in the printer. This takes about 15 hours. The capacity of the battery pack when fully charged will normally be sufficient to print normal text along about four full rolls of paper. However, the amount of printing which can be achieved depends greatly on the printing density, idle time and other factors such as the ambient temperature and the history of the battery pack.

With the printer awake but idle, a fully charged battery would last for up to 10 hours, but the built-in sleep mode shuts down the printer completely, reducing energy consumption to a negligible rate.

In the event of the battery becoming exhausted, the printer will automatically protect its own control circuitry by entering sleep mode if the instantaneous battery voltage drops below a threshold (e.g. during a particularly heavy section of print). In this case data stored in the buffer is lost.

The battery pack should be capable of up to 500 complete charge and discharge cycles, though this may be reduced in very repetitive applications. If a particular battery pack appears not to be holding charge as well as expected, it may be worn out and should be replaced by a new one. Please consult us for further details and recommended battery treatment.

Certain precautions should be taken to protect against over discharge of the batteries, which is a state from which they may never recover. We recommend that the batteries go through a recharge cycle at least once every 3 months. If printers are not intended to be used immediately upon receipt, we recommend completing a recharge cycle prior to storing the printer. Where the printer is being used infrequently, we recommend recharging the batteries after each use. If the printer will be inactive for long periods we recommend disconnecting the battery during these times.

During battery charging the printer may become quite warm. This can crease the paper within the mechanism. The system designer may wish to feed out some paper before printing begins, either controlled from the host, or by the user pressing the paper feed button.

4.6 PRIMARY CELL CRADLE

Also available, as an accessory, is a battery cradle suitable for 4 x AAA primary (non-rechargable) cells. If the standard rechargable NiMH battery pack becomes discharged and there is no time, or no available mains charger, to recharge it, then the AAA battery cradle may be used to power the printer for short periods.

N.B. The cradle is suitable for four AAA 1.5V primary (non-rechargable) cells only.

4.7 ALTERNATIVE POWER ARRANGEMENTS

Alternative arrangements, such as direct power from a vehicle 12V or 24V starter battery, or direct power from a high-capacity voltage source, are also available. If this is a requirement please see our website, or contact us, for information on these alternative models.

5 PAPER

Pressing the paper feed button when the printer is idle advances paper at typically 50 mm 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 spool mode, advances paper (in steps of 1/16 mm)
- in sleep mode, wakes up the printer into idle mode

"Double-clicking" the button: (i.e. pressing and releasing twice in quick succession just like a PC mouse)
- in idle mode, prints a demo/test message including the firmware version, encoded calibration data, and the full character set
- in spool mode, or having been out of paper, prints any stored data and enters idle mode.

Some of the functions of the paper feed button can be invoked or disabled under control of the host.

5.1 LOADING PAPER

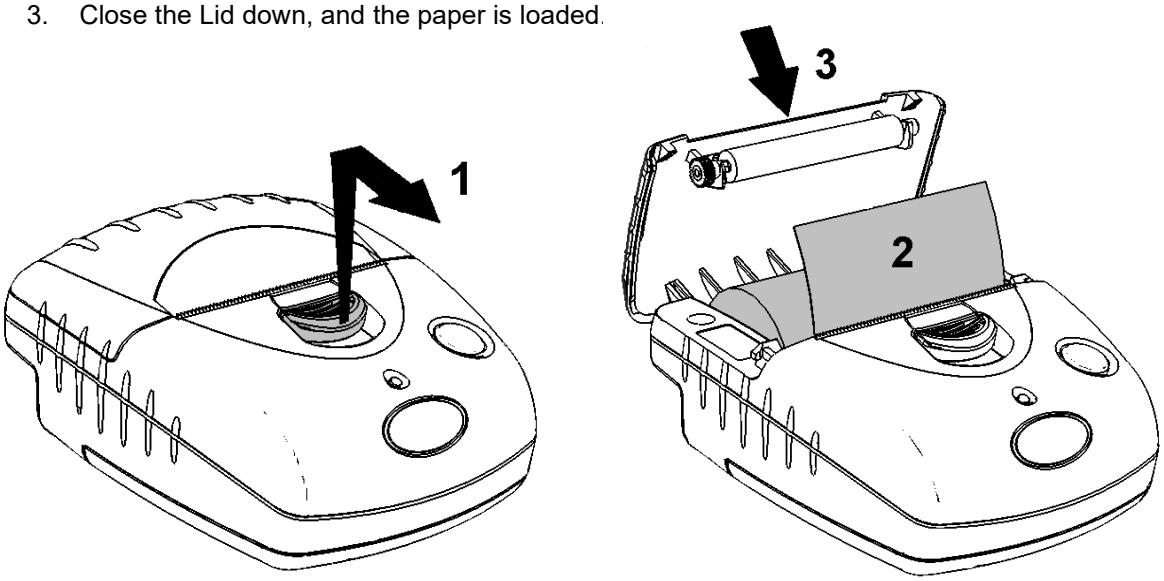
Paper rolls must be 57.5 ± 0.5 mm wide, 36 or 55mm maximum diameter (depending on the printer model) and have the thermally sensitive coating on the outside. The printer can accept rolls which are coreless or wound on a core.

Suitable rolls are available as ASL Product Code:

A05836TPR1 Thermal Paper Roll for AP1300 (36 mm dia, 14.5 m long approx)
A05856TPR1 Thermal Paper Roll for AP1310 (55 mm dia, 34.0 m long approx)

The procedure for loading paper is as follows:

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.



After loading, check that the paper advances properly, and tear off any excess by pulling the paper sharply towards you across the serrated tear bar. In the event of a jam or other paper loading problem, release the lid and straighten the paper before closing again.

5.2 PAPER OUT AND HEAD UP SENSORS

A reflective optical Paper Out sensor within the mechanism detects an out-of-paper condition, and/or senses black marks to register with labels. A mechanical Head Up sensor detects when the lid is open.

By default, the printer enters Spool mode automatically if either sensor becomes active. Spool mode is automatically exited, and any stored data printed, when new paper is loaded, and the lid closed. This behaviour may be modified. Please refer to the Programmers' Guide for details of how to configure these functions.

6 LED INDICATIONS

The LED indicator at the front of the AP1300 has a number of colour combinations, which repeat in up to a 4-phase pattern to provide status information (see table below).

In summary, if the LED is constant green it indicates that the printer is operating normally from its battery pack. Flashing on and off indicates that Spool mode is active and no printing can take place. Orange advises the battery is being charged. Red warns of a low battery or other problem.

No light indicates that the unit is in sleep mode, has a flat battery, or the battery is not connected.

LED Pattern Table

Pattern	***Battery***	***Buffer Mode***
Constant Green	*Running*	*Normal*
Fast Flashing Green	*Running*	*Spool **
Long Green - Short Red	*Battery Low*	*Normal*
Short Green - Short Red	*Battery Low*	*Spool **
Short Green - Long Orange	*Trickle Charging*	*Normal*
Long Orange Flashing	*Trickle Charging*	*Spool **
Fast Flashing Orange	*Fast Charging*	*Spool (Printing prohibited)*
Fast Flashing Red	*Error Condition*	*Spool (Printing prohibited)*
No light	*Flat, or in sleep mode*	

* (Spool may have resulted from Paper Out or Head Up conditions)

Although these tables may seem complicated, few applications will produce many of the combinations.

Other LED Patterns

Other LED patterns may be programmed into the AP1300 on request or by the system designer. Please refer to the Programmers' Guide for details of how to configure these functions.

7 PRINTER OPERATION AND PROGRAMMING

The AP1300 range utilises a printer mechanism, with a fixed (parallel) print head with 384 horizontally arranged thermal elements. The paper is advanced by a stepper motor, and printing takes place in a single dot row for each step of the paper. Each printed dot is approximately 1/8 mm square. The printing speed and dot density are controlled according to the battery voltage and the head temperature.

Various printing modes, including graphics, are invoked by 'Escape' sequences. Control codes and status report protocols are described in detail in the Programmers' Guide, available separately.

7.1 DATA BUFFER

The printer has a nominal 32k byte buffer to optimise throughput: this enables data to be received into the buffer while previous lines are being printed. Printing will be initiated on receipt of a valid logical line of data or a complete graphics pattern.

The buffer may be cleared by data command or by a hardware reset. A partially full line will be printed on receipt of an appropriate control code, or after a programmable timeout delay.

7.2 SPOOL MODE

Spool mode can be entered by:

- a command from the host
- Paper Out condition or Head Up condition being sensed
- fast charging detected
- an error condition (e.g. head over temperature, battery over voltage, etc)

In spool mode, the buffered data are stored without being printed until the mode is exited by:

- a command from the host
- the 'causing condition' (e.g. Paper Out or Head Up) being cleared
- the paper feed button being double-clicked

7.3 CHARACTER PRINTING AND FONTS

The default 32-column character set is formed from a 24x10 dot matrix and is based on the industry standard IBM® character set Code Page 437. This character set has been modified to include the Euro symbol (‘€’) at position 80H (128 Decimal), in place of the usual capital C with cedilla (‘Ç’).

Various combinations of single or double width, single or double height, inverted, underlined, and other attributes may be mixed within a line.

Codepage 1252 is selectable on printers running firmware V8.3 or higher. Please refer to the Programmers Guide for more information.

Customised fonts may be created using the Able Systems Font Editor Utility and downloaded to the AP1300. Only a single custom font may be loaded in the printer at one time, though this font may include multiple language options.

7.4 GRAPHICS PRINTING AND OTHER PROGRAMMING MODES

Various dot-addressable graphics modes are supported, at up to 384 dots per line. The Windows driver operates in the graphics mode. Refer to the Programmer’s Guide for full details of this and other advanced programming modes.

8 INTERFACE DETAILS

8.1 RS-232 SERIAL INTERFACE

All models of AP1300 printer have an industry standard RS-232 interface. The default parameters are 9600 baud, 8 data bits, 1 stop bit and no parity. Other baud rates can be programmed by control codes, or by using the Setup Utility. Please visit our website or contact us if you would like a copy of the Setup Utility.

Serial data is expected in standard RS-232C format with -12V meaning 'mark' or '1' and +12V a logical '0', with reference to the common ground. The serial data output line, TxD, transmits XON/XOFF and status information to the host at the same Baud rate and in the same format as the serial data input. The hardware busy line is true (nominal -12V) when busy. Both serial output lines will relax to approximately 0V when the printer is in sleep mode, and the user must allow a short period after awakening before relying on the values of these signals.

Some host equipment use a constant space condition (+12V) to indicate a reset condition or wait state. Some battery powered host equipment present the same output signal when they go to sleep. The AP1300 can be set to ignore this condition as detailed in the Programmer's Guide, but even then this type of host behaviour may result in one or more spurious characters being received and printed by the AP1300, or the printer may be prevented from going to sleep.

8.2 BLUETOOTH INTERFACE (APPLIES TO AP1300BT AND AP1310BT ONLY)

The AP1300BT and Ap1310BT include a Bluetooth 5.0 compliant module, and is certified to CE, FCC and IC standards. The protocols and profiles supported by the AP1300BT and AP1310BT are SPP (Serial Port Profile) and iAP. Please contact us if further details or alternative profiles are required.

The detail of how to establish a Bluetooth link and transfer data will vary greatly depending on the primary host device. However, the process will generally involve the following stages:

i. Discovery of Bluetooth devices.
ii. Discovery of the printer's services.
iii. Selection of the Serial Port Profile.
iv. It may be necessary to Pair with the printer.
v. Connecting to the printer.

N.B. A PIN is usually not required for making a secure Bluetooth connection but if a PIN is requested the default value for the AP1300BT or AP1310BT is "1234".

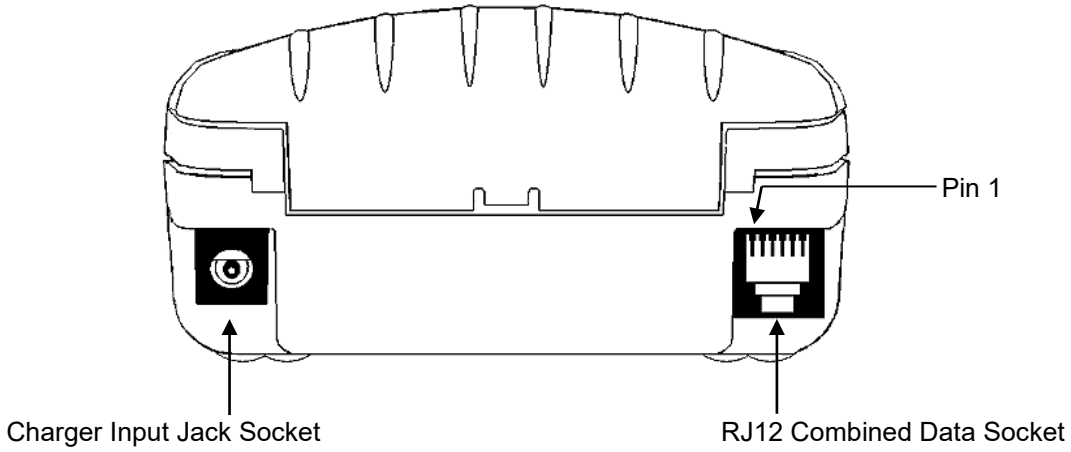
Usually, the bluetooth link is maintained for as long as the devices are within operating range. While the link is active, data may be exchanged freely between the two devices. Occasionally the link may be lost, in which case the user should re-initiate the link from the primary host as described above.

There is no facility to wake the printer over the bluetooth link (If such a facility is required, please contact us). The printer must be awake before a bluetooth link may be established and any data can be transferred to it via the bluetooth interface. Because of this the default Sleep Periods for the AP1300BT and AP1310BT are extended to 4 minutes.

9 CONNECTIONS AND EMC PRECAUTIONS

9.1 CONNECTOR DETAILS

The AP1300 has two user connectors shown below:



9.2 CONNECTOR PINOUTS

Charger Input Jack Socket Detail

Pin	Dimension (mm)	Function
Inner	Inside Ø 2.5	Positive / Charger Input
Outer	Outside Ø 5.5	Negative / 0V Common

The maximum insertion length is 12 mm.

RJ12 Combined Data Socket Detail

RJ12 Pin	Input / Output (AP1300)	AP1300 Function
1	--	Not Connected
2	i/p	Wake-up Input
3	i/p	RS-232 Rx data
4	o/p	RS-232 Tx data
5	o/p	RS-232 Busy
6	---	0V Common (RS-232 signal return)

9.3 BATTERY CHARGER DETAILS

The AP1300 monitors charge current into the printer but does not regulate it in anyway. In order to fully and safely charge the batteries a suitable current-regulated charger must be connected. This may be a simple current source for trickle charging, or a more complex intelligent fast charger with automatic fast charge termination.

The following battery chargers are available:

- 'Universal' trickle charger (ASL Product Code BC1300)
- Cigar lighter charger (ASL Product Code BC1300CLAHL)

Alternatively, the user may make their own charger arrangements. The recommended battery trickle charge supply current is 270mA +/- 20mA, at between 6V and 8V. An external charger supply must have an output current which remains within this range between these voltage extremes.

N.B. This connection is for a current-regulated battery charger only. Do not connect a standard voltage power supply. Serious damage may result from inappropriate connections. (Please contact us if you are unsure about this).

9.4 RS232 DATA CABLES

Data cables suitable for connecting the printer to a standard PC via a D-9 plug (ASL Product Code AP1300D9) and USB-A (ASL Product Code AP1300USBC) are available.

The AP1300D9 connections to a standard PC COM port are as follows:

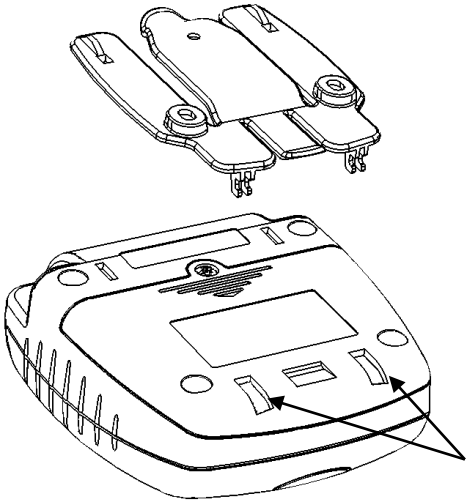
D-9 Pin	Name	Function (refers to PC)	AP1300 Pin
3	TxD	Serial Data Output	3
2	RxD	Serial Data Input	4
4	DTR	Handshaking Output	2
6 & 8	CTS & DSR	Busy Input	5
5	SGND	Signal Common 0V	6

The wake-up input (pin 2 of the RJ-12) can be driven by a normal RS-232 handshaking output and activates the printer when a positive voltage ('space' condition) is asserted. Connecting it to the PC DTR signal wakes the printer when the COM port is 'opened'. It may alternatively be tied to a positive voltage in the range +3V -> +12V to keep the printer awake permanently. In this case, the printer will 'attempt' to go to sleep if the normal inactivity time-out elapses but will merely reset and then re-start. This behaviour may be avoided by switching off the sleep period timeout.

10 WALL AND BELT MOUNTING INSTRUCTIONS

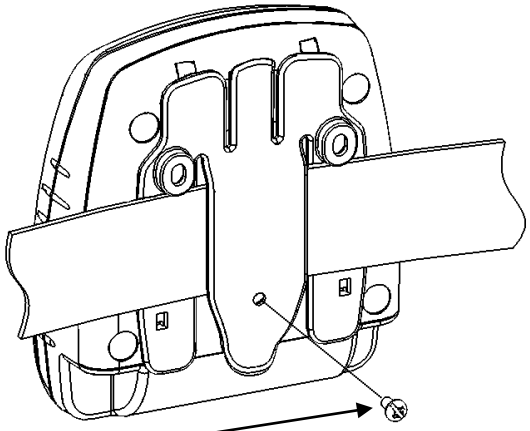
A combined bracket/clip suitable for fixing the AP1300 to a wall or belt is available (ASL Product Code AP1300BR01). The bracket is included in the evaluation kits and is supplied complete with wall plugs and screws.

The bracket snaps into the bottom of the printer, and when used to clip to a belt, it may be secured by using the supplied extended screw. Prior to use, two small 'breakouts' must be removed from the battery cover of the AP1300 as shown below:



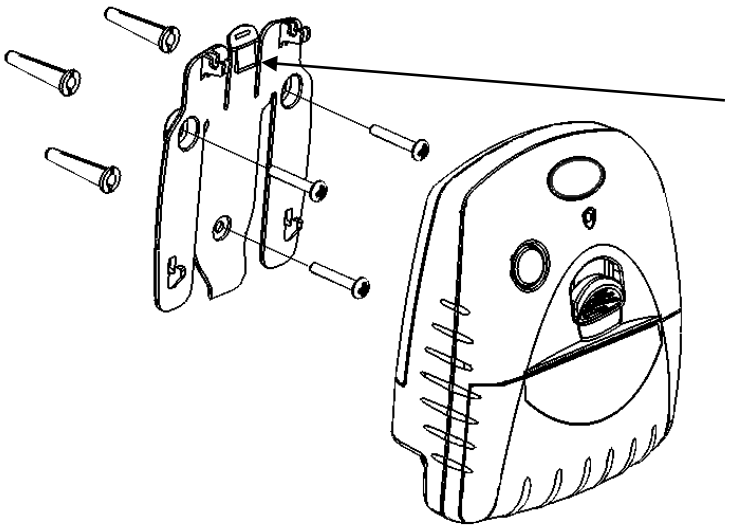
Remove the two 'break-outs' using a small screwdriver.

When fitting to a belt, the bracket should be slotted onto the printer first, and then the entire assembly clipped over the belt as shown:



The securing screw may be fitted if required.

When fitting to a wall, the bracket must be located on the wall using screws and wall plugs as shown. The printer may then be clipped into place and removed as required.



Use a finger or small screwdriver to release the clip and then gently lift the printer to remove from the wall bracket.

11 REGULATORY APPROVALS

11.1 EMC

The AP1300, AP1310, AP1300BT and AP1310BT are fully EMC (Electro-Magnetic Compatibility) compliant and are CE marked.

System EMC compliance remains the responsibility of the system designer. It is recommended that screened cables are used; earthing arrangements will depend on the application. Further advice is available from Able Systems on request.

11.2 CE

The AP1300, AP1310, AP1300BT and AP1310BT are CE marked. A Declaration of Conformity is included below, with full details.

11.3 FCC

Applies to AP1300BT and AP1310BT only.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

11.4 IC

Applies to AP1300BT and AP1310BT only.

This device contains license-exempt transmitter(s)/ receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference;
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempté de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exemptés de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de interférance;
2. L'appareil doit accepter tout interférance radioélectrique subi, même si l'interférance est susceptible de compromettre le fonctionnement.

11.5 OTHER APPROVALS

If other regulatory approvals are required, please contact us for further information.

12 TECHNICAL SUPPORT

If more information is required, please contact:

Technical Support: (support@Able-Systems.com)
Or call +44 (0) 1606 48621 and select option 4 for Technical Support.

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Producer Compliance Registration Certificate 2024

Able Systems Limited

Producer ID Number WEE/MM0004AA

Introduction

This document is confirmation that Able Systems Limited, is registered with WEEE Light as a Producer of EEE items.
For further information contact
0191 901 0530 or email audit@avcweeeco.com.

Producers Details			
Company:	Able Systems Limited	**Address:**	Denton Drive Northwich CW9 7TU

Producer

Defined as manufacturer, importer and/or re-brander of EEE made ready for sale in the UK

Compliance Declaration

- Able Systems Limited is registered with WEEE Light Ltd a licensed PCS and has been issued with WEE/MM0004AA as its unique producer ID by the appropriate agency
- Able Systems Limited comply under regulations 11, 43 and 50 for its B2C market share responsibilities for the collection, treatment, reuse, recycling and recovery of WEEE arising in the compliance period
- Able Systems Limited comply under regulation 12.2 for B2B with the alternative WEEE arrangements clearly outlined in their General Terms and Conditions of Sale, when it sells EEE to B2B end customers and/or resellers

Definitions Explained:

Producer	means, the Manufacturer, UK Importer and/or Re Brander
Producer ID	means, the unique number issued by the appropriate environment agency
EEE	means, Electrical Electronic Equipment
WEEE	means, Waste Electrical Electronic Equipment
PCS	means, Producer Compliance Scheme
B2B	means, EEE items sold to a non-household end user
B2C	means, EEE items sold to a householder end user

DMGrayson

Diane Grayson
Director
WEEE Light Ltd

WEEE light
delivered by WeeeCO

Declaration of Conformity

No. CE20241119-01-EN

Manufacturers Name: Able Systems Limited
Manufacturers Address: Denton Drive, Northwich, Cheshire CW9 7TU United Kingdom

Declares under sole responsibility that the products as originally delivered:

AP1300	with BC1300V4 charger
AP1310	with BC1300V4 charger

Complies with the essential requirements of the following applicable European Directives and carries the CE marking accordingly:

- Low Voltage Directive (LVD) 2014/35/EU
- General Product Safety Regulation (GPSR) 2023/988/EU
- Electromagnetic Compatibility Directive (EMC) 2014/30/EU
- Restriction of Hazardous Substances (RoHS) 2014/2102

EN 55035, EN 55032, EN 61000-6-2, EN 61000-6-3

Signed

Peter Littler
Head of Quality and Compliance

Date: 19.11.2024

CE

Declaration of Conformity

No. CE20241119-02-EN

Manufacturers Name: Able Systems Limited
Manufacturers Address: Denton Drive, Northwich, Cheshire CW9 7TU United Kingdom

Declares under sole responsibility that the products as originally delivered:

Ap1300BT	with BC1300V4 charger
Ap1310BT	with BC1300V4 charger

Complies with the essential requirements of the following applicable European Directives and carries the CE marking accordingly:

- Low Voltage Directive (LVD) 2014/35/EU
- General Product Safety Regulation (GPSR) 2023/988/EU
- Electromagnetic Compatibility Directive (EMC) 2014/30/EU
- Radio Equipment Directive (RED) 2014/53/EU
- Restriction of Hazardous Substances (RoHS) 2014/2102

EN 55035, EN 55032, ETSI EN 301 489-1 ETSI EN 301 489-3
EN 61000-6-2, EN 61000-6-3

Signed

Peter Littler
Head of Quality and Compliance

Date: 19.11.2024

CE