LaserTraq
Portable
Barcode Reader

Proudly distributed and supported in Australia by:

ASP Microcomputers
456 North Road,
Ormond, Victoria, 3204
Australia
Telephone: (03) 9578-7600
Fax: (03) 9578-7727
Email: solutions@asp.com.au
www.asp.com.au

(ASP Microcomputers is a division of Grayline Holdings Pty. Ltd,. ABN 81 004 940 729)

Manual revised: October 3rd, 2001

Contents

Caution - Laser Light

The ASP LaserTraq is a class II laser product, containing a 670nm laser diode of 1.0mW output.

Do not stare into the beam emitted by the LaserTraq.

EMC Statement

The LaserTraq has been tested for compliance with the following standards:

USA	FCC Part 15, Subpart B, Class A.
Australia	Australian Standard AS3548:1993.

N515

Meet the ASP LaserTraq

Thanks for purchasing the ASP LaserTraq. We know you'll be pleased with your decision, because your new LaserTraq is an advanced, yet easy to use product, and ASP's friendly staff are here to assist you when required.

Some of LaserTraq's important features include:

All-in-One Design The LaserTraq integrates a high performance distance scanning laser engine inside a compact housing, providing a single hand solution to mobile scanning.

Large display & large keys The LaserTraq's large easy to read LCD graphics display can display up to 8 lines of text and graphics, and has a backlight facility for low light conditions. LaserTraq's keypad uses soft touch keys, large enough for real people!

Programmable ASP can develop custom applications for you, or you can use pre-programming applications from a growing library. Either way, you get the benefit of a large one megabyte of battery backed memory.

And there's more! Drop the LaserTraq into its optional cradle and while the rechargeable batteries (if fitted) are being recharged, you can download via an infrared link to the cradle, and then to your PC by the RS232 standard. You can even daisy-chain a number of cradles together for centralised downloading of a number of LaserTraq units. Have an application where modem download is appropriate? No problems, ASP has such applications already developed. You can also get an optional leather case to protect your LaserTraq, and you have the security of a 12 month warranty.

LaserTraq Application Programs

This manual covers the general operation and facilities of the LaserTraq, but the operation of your LaserTraq is governed by the application program that is loaded into it. Because this will vary from one application to another, you will need to consult the application program notes supplied for detailed operating instructions, unless you're using our standard Stocktaking program, which is described at the end of this manual.

LaserTraq General Overview

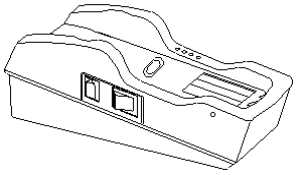
The following table presents a general overview of the LaserTraq keys and other parts of the unit. Note that the actual usage of keys depends on the application program.

Laser Engine	The Laser Engine produces the laser beam that enables the unit to read bar codes
LCD Graphics Display	The LCD Graphics Display has a display area of 128 dots by 64 dots, or up to 8 lines of 16 characters of text. The display also has a backlight to assist in low light conditions.
Charge Points	Allows the battery pack to be recharged in the cradle.
Infrared Interface	This is used for data communication in the cradle.
Battery Cover	Housing main batteries and backup battery
Host Connector	Used for data communication to the host machine
Indicator	Shows the result of a read; RED means Good Read.

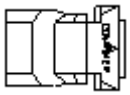
Red PW Key	Turns the power on and off.
Orange SCAN Key	Press this button to scan a barcode.
User defined keys	The function of the E1 and E2 keys is defined by the application program.
MENU/EXIT	MENU returns to the Main Menu, EXIT quits the current operation.
SHIFT	Changes between numeric and letter input.
FNC	Press this key to access the blue printed commands.
CAP	Changes between upper and lower case letters.
Numeric Keys	These keys allow entry of numbers unless the FNC, SHIFT or CAPS keys have been pressed.
BS/CLR	Backspaces one character, or clears input.
YES/LOCK	Inputs Yes at prompts, or locks all keys except SCAN, LOCK and PW.
EDIT/BL	Allows data to be edited, or turns on backlight.
←/UP	Moves cursor left, or moves cursor down.
RPL/DEL	Replaces current data with new data, or deletes data.
NO/INS	Inputs No at prompts, or inserts new data.
→/DOWN	Moves cursor right, or moves cursor down.

LaserTraq Accessories

The following accessories are available for the ASP LaserTraq:



Cradle – The LaserTraq cradle provides facilities for uploading data to and downloading data from the LaserTraq, while at the same time, recharges the LaserTraq's batteries (if the NiMh battery pack is fitted). The cradle also provides a programming cable socket for loading application programs into the LaserTraq. The cradle connects to a serial port on your PC via the supplied cable, and you can daisy-chain to up to 30 cradles via the RS-485 connectors. The cradle is powered by a regulated plug pack power supply, and has facilities for charging a spare battery pack as well.



Line Charger – A lower cost, but less flexible, alternative to the cradle is the Line Charger, which plugs into a serial port on your PC – directly if it's a 25 pin port, or via a cable or adaptor if it's a 9 pin port. The Line Charger connects to the LaserTraq via the included download cable, which plugs into the narrow connector near the LaserTraq's wrist strap. An optional programming cable is also available, to allow you to load application programs into the LaserTraq. The Line Charger is supplied with a regulated plug pack power supply, and a cable back to a serial port on your PC.

Programming Cable – The Programming Cable connects between the narrow connector near the LaserTraq's wrist strap and either the Cradle or Line Charger, to allow application programs to be loaded into the LaserTraq.

Direct Connect Cable – One end of the Direct Connect Cable attaches to the LaserTraq via the connector near the wrist strap, and the other end has two DB9 connectors – one for the serial port on a PC, and the other for a LaserTraq modem. Note that the cable can be plugged into **either** a PC or a Modem – **not both** at the same time. Since it doesn't provide battery charging facilities, the Direct Connect Cable is suitable only if the LaserTraq is powered by alkaline batteries.

LaserTraq Modem – The LaserTraq Modem is used for specialised applications where data needs to be directly downloaded over phone lines to a central point. The LaserTraq is supplied with its own plug pack power supply.

Leather Case – Also available for your LaserTraq is an Australian made protective leather case.

Using the Laser Scanner

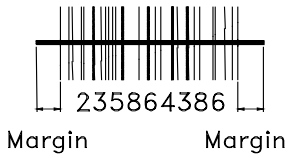
The LaserTraq's laser barcode scanner is designed to be easy to use. If you're at a stage in the application program where scans can be made, just press the oval shaped orange button under the display to activate the laser. The intense red beam is called the "scan line", and all you need to do is to position this scan line across the barcode to be read as indicated below.

Once the scanner has read the barcode you'll hear a "beep" to signal a good read, and the barcode contents will be displayed on the screen of your LaserTraq (unless the program handles scans otherwise).

When you're positioning the scan line, you must ensure the scan line covers **all** the bars and is at right angles to the bars, as shown on the right.

Remember, a successful scan is indicated by a "beep". If you don't hear a beep then try to scan the barcode again, and check that your LaserTraq application program is supposed to read the type of barcode label that you are trying to read.

The examples below should help you understand the acceptable ways to position the laser beam scan line.



Yes

Yes

Yes

No

No

No

No

Barcode Label Hints

- You should try to avoid using poor quality labels or inappropriate types of barcodes. If in doubt, discuss this with your Dealer.
- Guard against barcode damage such as:
  - ♦ Liquid spills on the barcode symbol (coffee, etc).
  - ♦ Ink smearing or erased bars which may result from excessive pressure on the barcode surface.
  - ♦ Scratches through the barcode symbol.
  - ♦ Writing across the barcode symbol.
- The use of a protective covering, such as “invisible” sticky tape or clear Contact, will prolong the useful life of a barcode label.

The LaserTraq has been designed to provide a high read rate when a good symbol is scanned. Scanning difficulty is usually caused by either a damaged barcode symbol or improper operation of the system by the operator.

Care of your LaserTraq

Although the LaserTraq is ruggedly built, damage is possible through misuse. These few simple common sense rules will cover help you to avoid problems:

- **Don’t** connect or disconnect any of the plugs when the power is on.
- **Don’t** drop the LaserTraq. Although the LaserTraq has been tested to survive an average accidental drop, it is most unwise to let this happen since damage to the case, display or memory could result.
- **Do** use the wrist strap and Leather Case to help prevent problems.
- **Don’t** leave the unit in a “hostile” environment where it could be exposed to direct sunlight, dust or dirt, moisture, or extremes of temperature.
- **Don’t** press the keys with sharp objects - you may damage or perforate the keys
- **Don’t** place items on top of the LaserTraq unit.
- **Don’t** lay the LaserTraq face down as accidental operation may result.
- **Clean** the LaserTraq only with a soft dry cloth, no water.

Printing Barcode Labels

If you need to print your own sheets of barcode labels, ASP can also supply our **Label+** barcode label printing program, which allows sheets of UPC/EAN, Code 39, Code 128, Code 93, Codabar and ITF labels to be printed on any Microsoft Windows compatible printer.

A 7-day evaluation version of Label+ is available for download from ASP's web site at http://www.asp.com.au.

What do I do if ...

My LaserTraq won't turn on The most likely cause is that the batteries are flat. If you have rechargeable batteries, put the LaserTraq on to charge or fit a newly charged battery pack. If you have alkaline batteries, replace them.

My LaserTraq won't scan any barcodes Check that the barcode symbology (type) you're trying to scan is intended for your application. If in doubt, try some other barcodes or call our service department for help.

Batteries and Cables

The LaserTraq is a battery powered device, designed to use either three standard AA size alkaline batteries, or a NiMh (Nickel Metal Hydride) rechargeable battery pack. You can change the type of batteries you use at any time.

To install or change the batteries, turn the LaserTraq over so that the keyboard is facing down. The battery compartment is in the bottom section of the case, and can be accessed by removing the security screw and sliding the cover off. If you don't have a screwdriver handy, you'll find that a five or ten cent coin is an ideal substitute.

On the side of the battery door, next to the screw and on the opposite side of the door, there are raised markings. Using your thumb and forefinger, press inwards on these raised marks, then pull the door back about five millimetres - you may find it helps to press down on the battery door near the IR sensor, with your other hand.

Once you've slid the door open about five millimetres, you can lift the battery door off to reveal the battery compartment. With the door open, the batteries may be replaced, but make sure you observe the marked polarity – the positive end of the batteries points towards the laser beam end of the unit.

While you have the battery compartment open, you should also note the coin-shaped silver CR2032 Lithium battery – this is the memory backup battery. In the distant future, you may be told by the LaserTraq to replace this battery, so now you know where it is. To avoid losing the contents of memory, you must never remove both the main batteries and the backup battery at the same time.

You must replace all three batteries at the same time – do not mix old and new batteries. We recommend alkaline batteries for the longest operating life, but standard AA batteries can be used if needed.

When you replace the battery door, don't forget to do up the security screw again!

While you're looking at the back of the LaserTraq, you'll see a dark red "window", and 2 silver pads. The window is the Infrared Sensor that the LaserTraq uses to transfer data between it and the cradle/charger, while the silver pads are the battery charging contacts used by the cradle. You should also take heed of the laser light warning label, which cautions you not to stare into the laser beam.

You might have also noticed the narrow connector near the wrist strap. If you are using the Line Charger or Direct Connect Cable, this connector is where they attach. If you have a Cradle/Charger, you'll only need to use

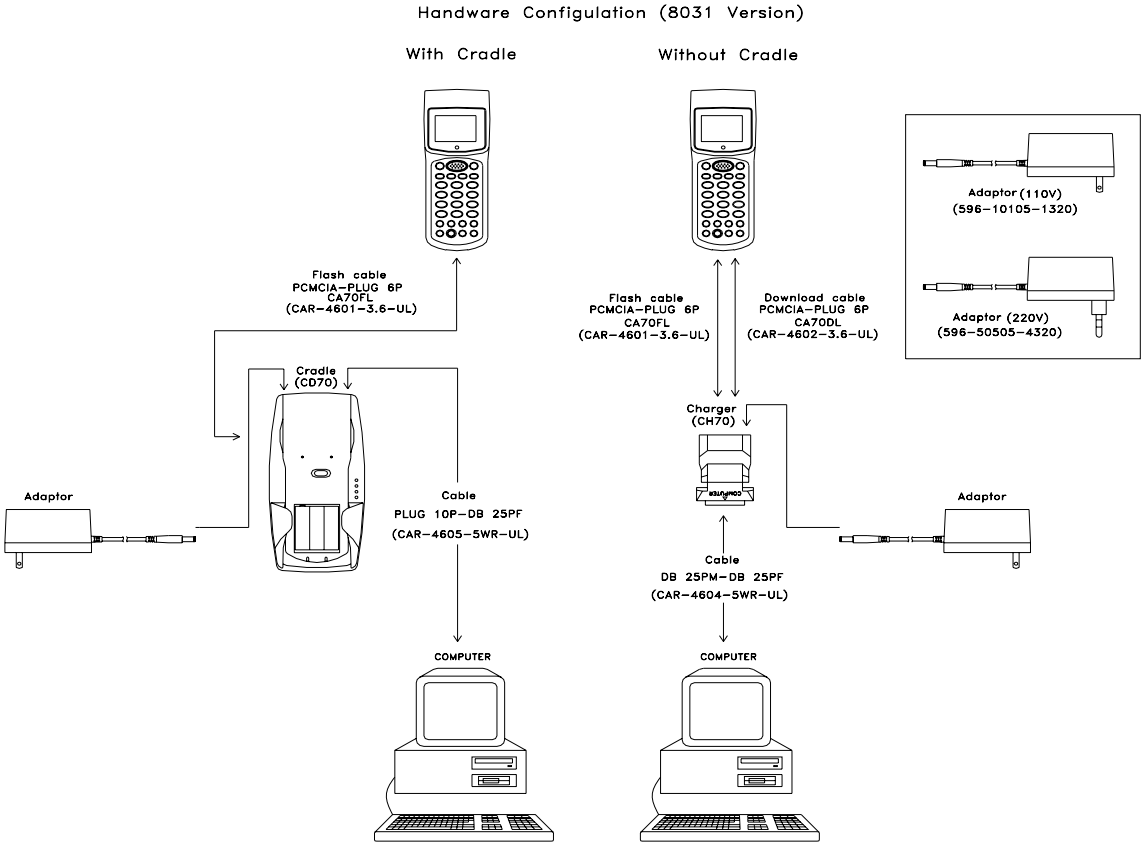
this connector to load an application program into your LaserTraq unit, a task your Dealer or ASP has probably already performed for you.

RS-232 Connector Signals

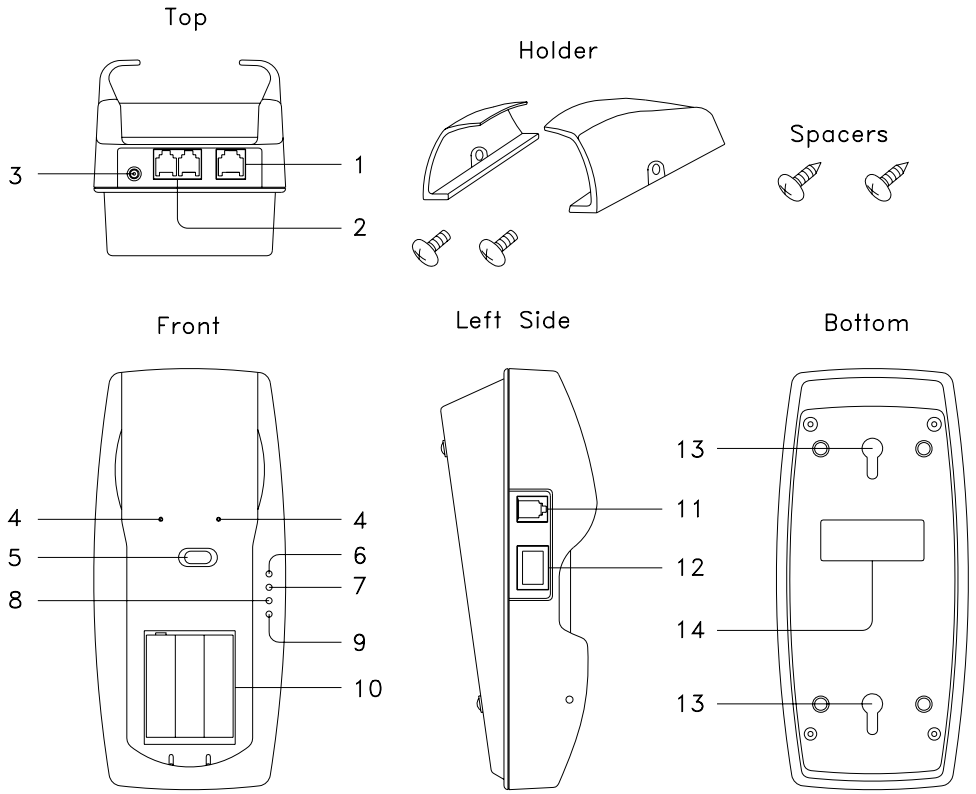
The RS-232 cables and connectors on the Cradle, the Line Charger and the Direct Connect Cable are designed to connect to standard DB9 and/or DB25 PC compatible serial ports.

Typical Configurations

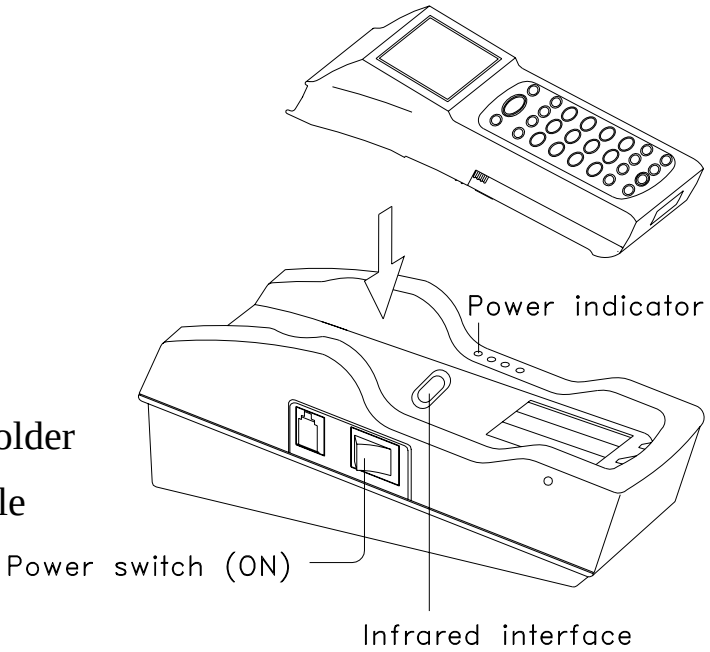
Shown below are the two main methods of connecting the LaserTraq to your PC. The diagram on the left shows use with the Cradle/Charger, while the diagram on the right shows use with the Line Charger.



Cradle Components & Options

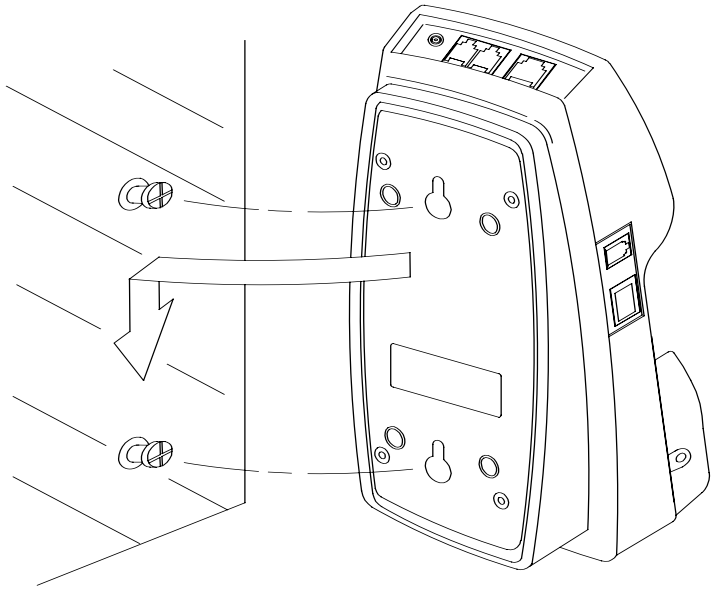


1. RS232C connector (connects to PC)
2. RS485 connectors (daisy-chain to other cradles)
3. Socket for plug pack power supply
4. Charge points
5. Infrared sensor
6. Power indicator
7. Charging indicator
8. TX indicator
9. RX indicator
10. Rechargeable battery pack holder
11. Socket for programming cable
12. Power switch
13. Holes for wall mounting
14. Identification label



Wall Mounting Option

The Cradle/Charger is designed so that it can be used on a desktop, or mounted on a wall. To mount it on the wall, you'll need to "reverse" the cradle, so that the cradle slopes out, not in.

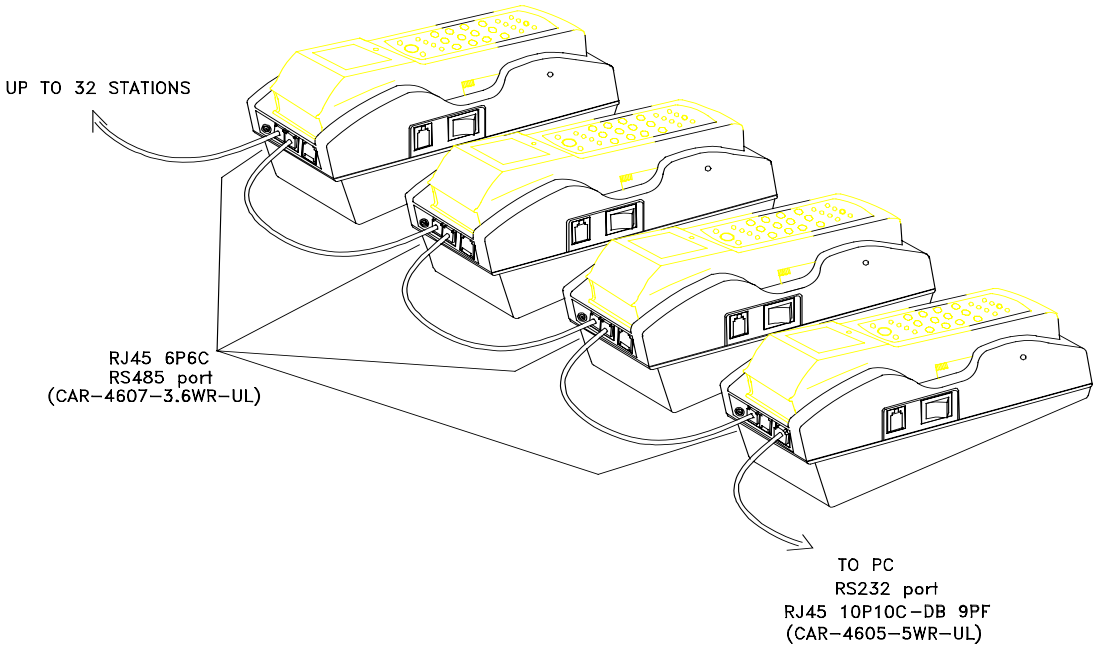


To reverse the cradle, remove the six Philips head screws on the underside of the cradle, then pull off the bottom section. Rotate the bottom section of the case half a turn, then put it back on and re-fit the six screws.

On the wall, you'll need to attach two screws in a vertical line about 125mm apart, leaving the heads protruding a few millimetres. Place the keyhole shaped holes on the cradle over the screw heads, and pull it down to lock it in place. If the cradle is loose on the wall, remove it and tighten the screws up a little.

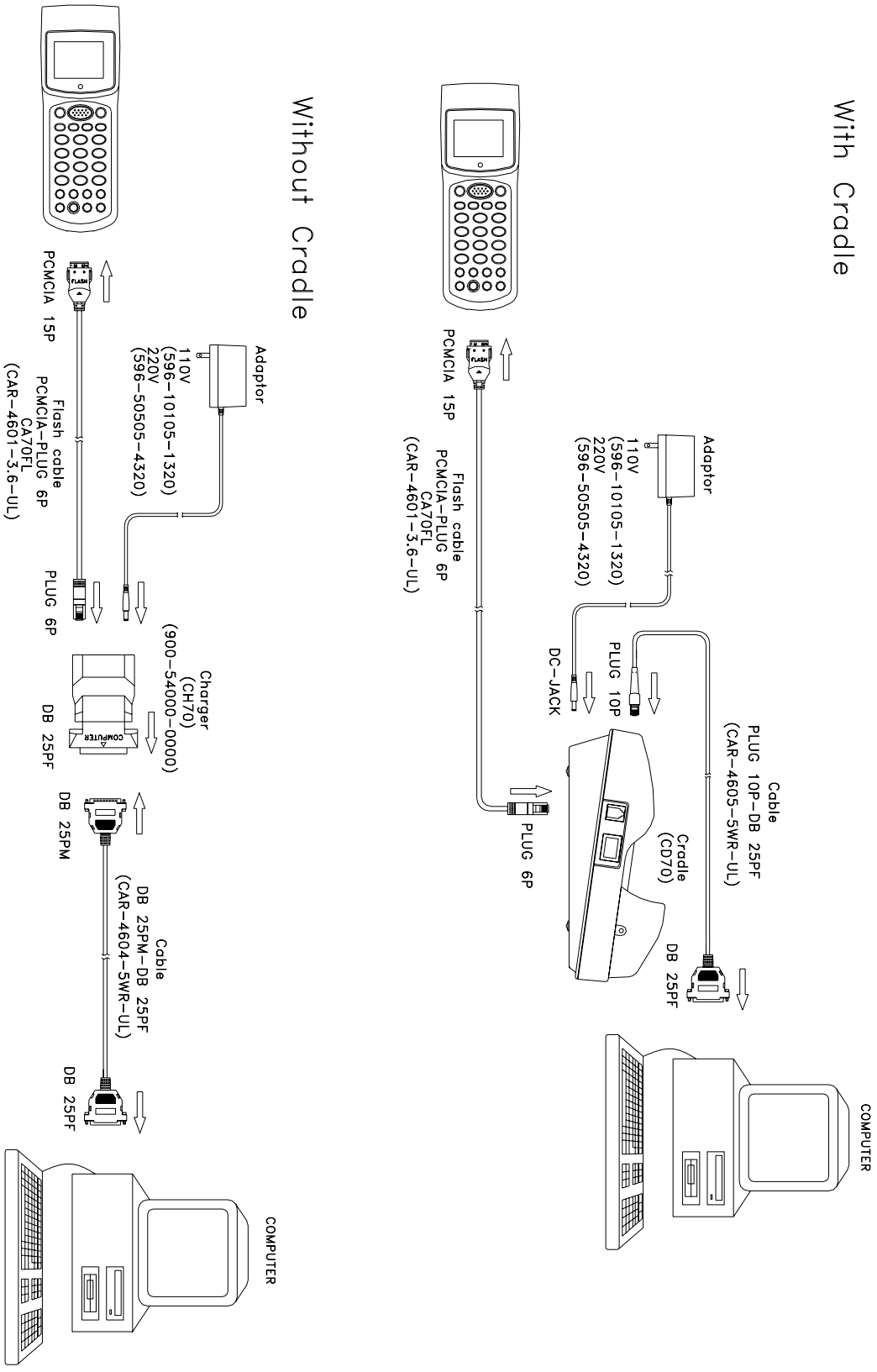
Networking option

Using the RS-485 IN and OUT connectors, it is possible to “daisy chain” up to 30 cradles together. The first cradle (the one on the right in the diagram below) is connected to the PC using the standard download cable plugged into its RS-232 port, and it is connected to the RS-485 IN connector on the second unit using an RS-485 cable. The RS-485 OUT connector on the second unit is connected to the RS-485 IN connector on the third unit, and so on.



Programming with Flash Cable

The diagrams below show the connections necessary to load an application program into a LaserTraq unit.



Barcode Types

Product Codes - UPC, EAN and APN

UPC (Universal Product Code), EAN (European Article Number) and APN (Australian Product Number) codes are compatible article numbering systems used for consumer products sold in retail outlets. Product codes are numeric only, and are assigned to manufacturers by a national organisation.

Code 39

Code 39 was the first alphanumeric symbology developed. Widely used, it is now the “de facto” non-retail symbology. Although there are only 43 characters used in Code 39's character set, it is possible to encode all 128 ASCII characters using Code 39's Full ASCII mode.

Code 128 and EAN-128

Code 128 is a relatively new symbology, providing a very high density alphanumeric barcode. Code 128 consists of 106 different printed characters, with each character having three possible meanings depending on which of three different character sets is in use. EAN-128 is a specialised version of Code 128 used for Trade Unit Numbering.

Code 93

Code 93 is also relatively new, and was specifically designed to complement Code 39, providing the same facilities at a higher density.

Codabar

Codabar is commonly used in library and blood bank applications, having the digits 0 - 9 and the characters $, :, /, ., + and -. There are four different start/stop codes, allowing useful information to be conveyed in these overhead characters.

Interleaved 2-of-5 (ITF) and ITF-14

Interleaved 2-of-5 (ITF) is a numeric-only code with the advantage of high information density. It is not as reliable in use as other codes, and is accordingly not recommended. ITF-14 is a specialised 14-digit-only version of Interleaved 2-of-5 code used for Trade Unit Numbering.

Standard Stocktake Program

If you don't order a custom program for your LaserTraq unit, it will be supplied with our standard stocktake program, which is described below.

When the LaserTraq unit is turned on, it displays the ASP LaserTraq logo. You can then press any key to display the Main Menu:

Main Menu

```
   MAIN MENU
1  Stock    2  Send
3  Setup    4  Print
5  Erase    6  Util
```

To select a function from the Main Menu, press the numeric key corresponding to the function – for example, press **1** to begin a stocktake, or press **3** to set up the unit.

1. Stocktake

When you select the Stocktake function from the Main Menu, you will be presented with the following sub-menu:

```
Stocktake
  1  Scan Input
  2  Browse
  3  Query
  4  Download
```

To select one of the Stocktake Menu functions, use the ⇦ and ⇨ arrow keys (at the bottom left of the keypad) to move the highlighted bar to the required function, then press the **E1** (enter) key (at the top of the keypad, to the right of the orange scanning button).

Note that the display is actually only four lines long – it will scroll to display other selections when the highlighted bar gets to the top or bottom of the screen.

Scan Input

This is where the "dirty work" of the stocktake is done – you can scan (or enter from the keyboard) the barcode numbers on your stock items, then scan or enter a quantity. The number of barcode/quantity pairs stored in memory is displayed at the top of the screen.

Press the **MENU** key to cease collecting stocktake data and return to the Main Menu.

Browse

The browse function allows you to examine the stocktake data stored in memory, and to delete records if required. At the top of the screen, the current record number and the number of records stored in memory is displayed, in the form **–5/9-**, where the first number is the current record number.

You can use the ⇦ and ⇨ arrow keys (at the bottom left of the keypad) to move around the records stored in memory, and the **DEL/RPL** key can be used to delete the currently displayed record. Care should be taken when browsing, because there is no confirmation when deleting records.

To exit the browse function and return to the Main Menu, press the **MENU** key.

Query

This function allows you to scan or enter a barcode number, and the unit then searches memory for the barcode number and displays the matching record. If there is more than one matching record, the ⇦ and ⇨ arrow keys can be used to move between them.

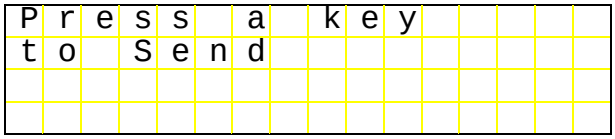
To exit the query function and return to the Main Menu, press the **MENU** key.

Download

The Download function allows a database to be loaded into the LaserTraq from the PC. This facility is not used in this program.

2. Send

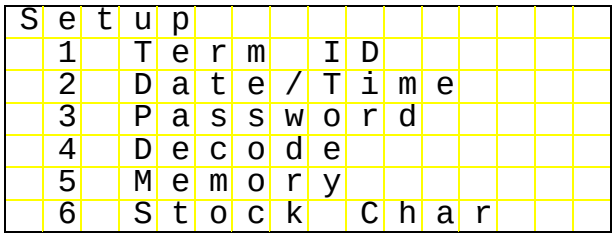
When you enter the Send function, you will be presented with the following display:



At this prompt, you can press the **MENU** key to return to the Main Menu, or any other key to start the download. The stocktake program uses the standard xmodem checksum download protocol, which is supported by almost every communications or terminal program, such as HyperTerminal that comes with the Windows operating system.

3. Setup

When you enter the Setup function, you will be presented with a sub-menu:



To select one of the Setup Menu functions, use the ⇦ and ⇨ arrow keys (at the bottom left of the keypad) to move the highlighted bar to the required function, then press the **E1** (enter) key (at the top of the keypad, to the right of the orange scanning button).

Note that the display is actually only four lines long – it will scroll to display other selections when the highlighted bar gets to the top or bottom of the screen.

Term ID

This section of the Setup Menu allows you to assign a unique terminal number to your LaserTraq units, so that after download, you can identify which unit data has come from.

To leave the current Terminal ID as it is, just press the **E1** (enter) key to return to the Setup Menu, or press the **MENU** key to exit to the Main Menu.

To enter a new Terminal ID, use the numeric keys, then press **E1** (enter) to store the new Terminal ID. The display will then show a "**Success!**" message, and then await a keypress before returning to the Setup Menu. The Terminal ID can be set to any number from **1** to **255**.

Note that the Terminal ID facility is not used in this program.

Date/Time

This function allows you to set the LaserTraq's internal clock/calendar. When you enter this function, a highlighted cursor will appear over the first digit of the date. You can use the ⇦ and ⇨ arrow keys to move the highlighted cursor to the numbers you need to change, then use the numeric keys to enter new digits. The cursor will automatically advance to the next digit during entry, skipping over the / and **:** separator characters.

Once you've corrected the date and/or time, press the **YES** key to store the new date and time and return to the Setup Menu. To discard any changes you've made, and return to the Setup Menu without altering the date and time, press the **NO** key.

Note that the on-screen display of the time and date does not change while you're in this function.

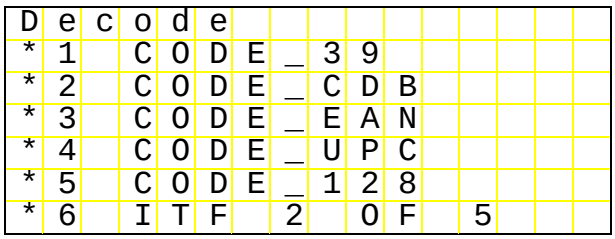
Password

Using this function, you can set a password to restrict access to the Setup Menu.

To enter a new password, use the numeric keys or use the **SHIFT** and/or **CAP** keys to enter alphanumeric characters, then press E1 (enter) to store the new password. The display will then show a "Success!" message, and then await a keypress before returning to the Setup Menu. The password can be up to eight characters long.

Decode

This function allows you to select the barcode symbologies that can be read by the LaserTraq. An asterisk on the left of a symbology shows that the symbology is enabled.

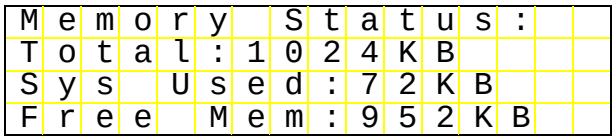


Use the ⇦ and ⇨ arrow keys to move the highlighted cursor between symbologies, then use the **E1** (enter) or **SP** (space) keys to toggle the symbology under the cursor on or off. Press the **MENU** key to return to the Main Menu.

Note that the display is actually only four lines long – it will scroll to display the other symbologies when the highlighted bar gets to the top or bottom of the screen.

Memory

The Memory function displays the total amount of memory available in the LaserTraq unit, the amount of memory used by the program, and how much memory is available for data storage.



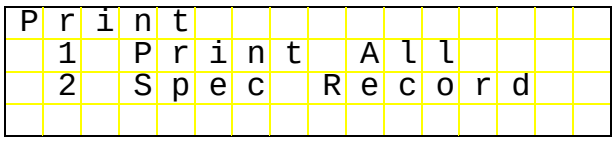
From this display, you can press the **MENU** key to return to the Main Menu, or any other key to return to the Setup Menu.

Stock Character

This function allows you to select which character is used to separate the fields of data records during download. The most commonly used character is the comma, and the other options are a semi-colon, a dollar sign, an asterisk, a forward slash or nothing.

4. Print

The Print function simply outputs data to the serial port of the LaserTraq. When you enter the Print function, you will be presented with the following sub-menu:

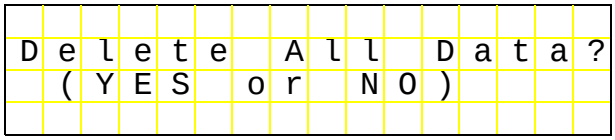


Select **1** to print all records, or **2** to print a specific record, or press the **MENU** key to return to the Main Menu.

If you elect to print specific records, you will be prompted for the starting record number and the number of records to print.

5. Erase

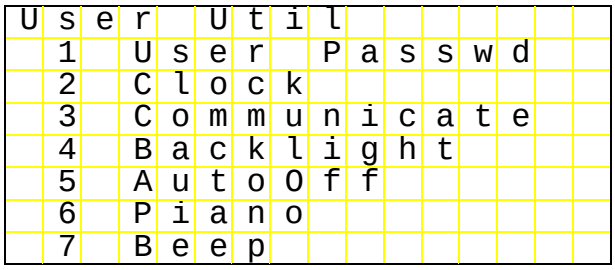
When you enter the Erase function, you will be presented with the following menu:



Press the **YES** key to delete all stored data, or the **NO** or **MENU** key to return to the Main Menu.

6. User Utilities

When you enter the User Utilities function, you will be presented with a sub-menu:



To select one of the User Utilities functions, use the ⇦ and ⇨ arrow keys (at the bottom left of the keypad) to move the highlighted bar to the required function, then press the **E1** (enter) key (at the top of the keypad, to the right of the orange scanning button).

Note that the display is actually only four lines long – it will scroll to display other selections when the highlighted bar gets to the top or bottom of the screen.

User Password

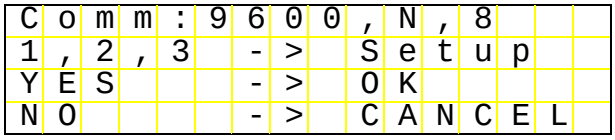
If you set a User Password, you will be prompted to enter that password every time you turn the unit on. If you have set a password and want to remove it, go to User Password in the User Utilities menu, then press the **E1** (enter) key at the password prompt.

Clock

Selecting Clock displays the current date and time, updated every second. Press the **E1** (enter) key to return to the User Utilities menu, or the **MENU** key to return to the Main Menu.

Communicate

The Communicate function allows you to set the RS-232 communications parameters of the unit, from the following display:



Press the **1** key to cycle through the available baud rate settings, press the **2** key to cycle between 7 and 8 data bits, or press the **3** key to cycle between the parity settings.

Once you've changed the communications settings, press the **YES** key to store the new settings and return to the Setup Menu. To discard any

changes you've made, and return to the Setup Menu without altering the communications settings, press the **NO** key.

Backlight

This function turns the display backlight on and off. If the LaserTraq is turned off, or is shut down automatically, the backlight will be off when the unit is turned on again. Note that turning the backlight on increases the power consumption of the unit.

Auto Off

The Auto Off timer sets the number of minutes of inactivity after which the unit will shut itself off to conserve power. You can set the Auto Off timer to between **1** and **60** minutes, or set it to **0** minutes to disable the Auto Off timer so that the unit will not automatically shut itself down.

Piano

This is a "fun" function – when you run it, you can press the keys on the LaserTraq to play different tones. Here's a rough approximation of a familiar tune to get you going:

```
1 2 3 1
1 2 3 1
3 4 5
3 4 5
5 6 5 4 3 1
5 6 5 4 3 1
1 0 1
1 0 1
```

Don't waste too much time on this, though….

Beep

The Beep function is used to set the pitch of the beeper sound. The default value is **4500** hz, and the pitch can be set to any value between **100** hz and **20000** hz, although the "most useful" tones are between 1000 hz and 5000hz. You should note that the apparent volume of different pitches can vary greatly, and that very high pitched tones will either be inaudible or will sound much lower in frequency due to the characteristics of the beeper.

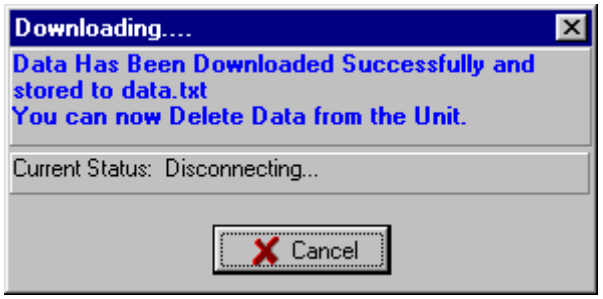
LaserTraq Download Utility

ASP's LaserTraq Download Utility is designed to quietly run in the background on your computer, ready to receive data from a LaserTraq terminal at any time.

Using the Download Utility

Once the Download Utility is set up and running on your computer, downloading is simple. Just plug the LaserTraq into the serial cable, then select the **Send** function on the LaserTraq. Data from the LaserTraq will be saved into the configured file, and you can then clear the memory of the LaserTraq using the **Erase** function.

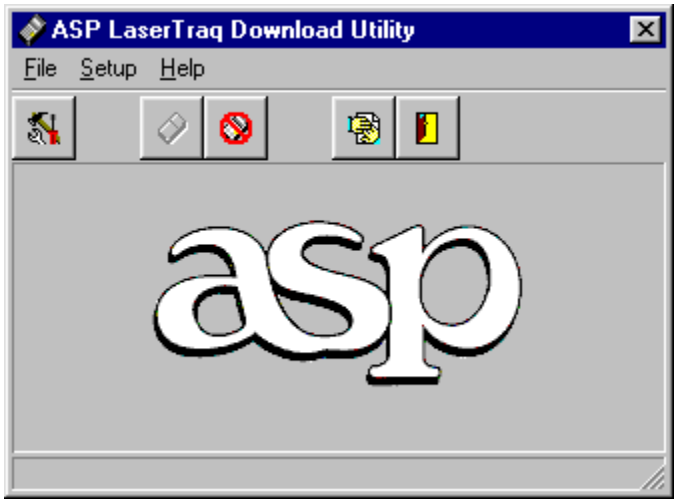
Normally, the LaserTraq utility lives in the system tray, at the bottom right of your screen, next to the time, as shown on the right. As soon as you plug a LaserTraq unit in and start it downloading, the download status screen shown on the right will pop up to show you that the data has been downloaded and saved, and the program will beep. The Downloading screen will disappear after about ten seconds, ready for the next download.



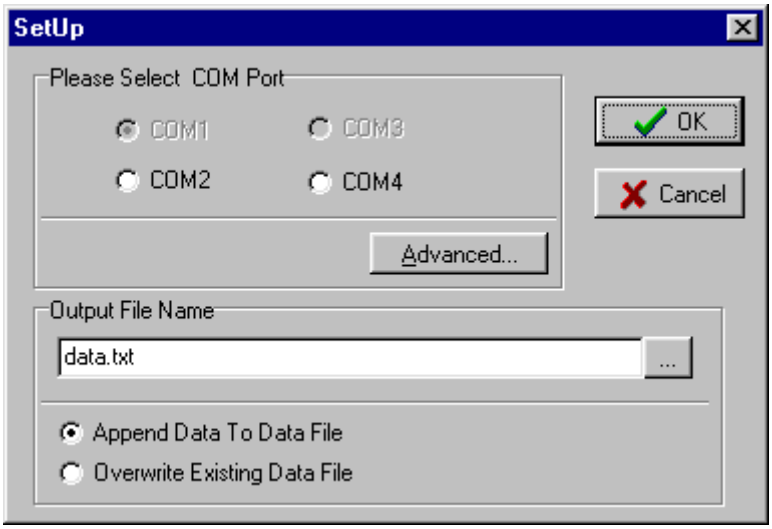
Once the data has been downloaded, don't forget to use the Erase function to clear the data from the memory of the LaserTraq.

Setting Up the Download Utility

When you install the LaserTraq Download Utility on your system, you need to configure it before it can communicate with the LaserTraq unit, and you need to tell it where and in what filename to store the data it collects. You can do this from the main screen



From the main screen of the program, select **Setup** from the **Setup** menu, or press the first icon on the toolbar.



This will bring up the **Setup** screen, as shown on the right.

First, you need to set the COM port. COM Ports that are not available (perhaps they are not installed, or are in use by other programs) are greyed out.

The **Advanced** button opens another screen that allows you to change the baud rate from the default of **9600**, and other options, but you should not change these settings unless you have good reasons.

You can set the **Output Filename** and Path of the text file that the downloaded data will be stored into, press the **…** button to open a standard Windows File Open window to select a file, or type the filename and path into the box on the screen.

The final option on this screen controls what the program does if the Output Filename already exists and/or already contains data. With the **Append** option (usually the best choice), newly collected data will be added to the end of the file. With the **Overwrite** option, any old data still in the file will be erased and discarded, and the output file will only contain the new data.

Finally, when the LaserTraq Download Utility is running in the system tray, you can open then main screen by either double-clicking on the system tray icon, or by right-clicking on the icon and selecting **Open** from the menu that pops up. You can also go straight to the Setup screen by selecting **Setup** from the right-click menu.

If, for some reason, you want to temporarily disable the Download Utility, so that it won't automatically download, you can do this by clicking the third icon on the toolbar, by selecting **Disable** from the **File** menu, or by selecting **Disable** from the right-click menu. To re-enable automatic download, click on the second icon on the toolbar, by selecting **Enable** from the **File** menu, or by selecting **Enable** from the right-click menu.

Year 2000 Statement

The ASP LaserTraq contains a clock/calendar component that does not maintain century information – that is, the year is stored as two digits only. The application program loaded into the LaserTraq has the responsibility of determining the century and converting the year from two digits to four digits.

There are two main ways of converting a two digit year to a four digit year, and these are the “assumed century” and the “pivot” method.

In the assumed century method, a fixed century prefix is added to the two digit year – for example, 20 is prefixed to the year so that all dates from the year 2000 to 2099 are possible. If this method is used, it would not be possible to use for the clock/calendar to be set to dates before the year 2000 or after the year 2099.

In the pivot method, a pivot year is picked, and all two digit numbers less than or equal to the pivot year would be assumed to begin with 20 and all years greater than the pivot year would be assumed to begin with 19. If, for example, a pivot year of 90 was used, the clock/calendar could be set to dates between 1990 and 2089. Similarly, if a pivot year of 20 was used, the clock/calendar could be set to dates between 1920 and 2019.

The decision to use the assumed year method or the pivot method of year expansion will be decided based on the requirements of the application program.

Note that in either case, the 100 year range of the two digit year clock/calendar only compromises the dates to which the calendar may be set – it does not compromise any calculations that the application program might perform on dates. Provided the necessary range of any such date calculations are correctly and completely specified before the application program is written, correct operation and therefore year 2000 compliance can be assured.

Most programs do not need to perform calculations on dates, and in these cases, full and valid year 2000 compliant operation of the clock/calendar is claimed for use between the years 2000 and 2099 if the assumed century model of year expansion is used, or between the years determined by the pivot year if the pivot year method of year expansion is used.

Warranty

To the extent permitted by law ASP's Warranty in respect of the LaserTraq and its use is limited to correction of defects in the LaserTraq due to faulty components or workmanship for a period of one year from the date of purchase.

The warranty on any application program created by ASP for the LaserTraq is limited, to the extent permitted by law, to the purchaser of the LaserTraq and correction of “bugs” reported in detail to ASP by the purchaser.

Prudent implementation of any data collection system dictates that extensive testing for suitability and performance be carried out prior to commencing use.

It is your responsibility to carefully pack any unit being returned for service, warranty or otherwise, and pay shipping charges to your dealer location or ASP. Units sent freight collect will not be accepted. Freight back to you will be paid by ASP in the case of warranty repairs.

ASP welcomes suggestions for product improvements.