

SAM4S

ER-900 SERIES

Technical
Manual



All specifications are subject to change without notice.

Precaution Statements

Follow these safety, servicing and ESD precautions to prevent damage and to protect against potential hazards such as electrical shock.

1-1 Safety Precautions

1. Be sure that all built-in protective devices are replaced. Restore any missing protective shields.
2. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including nonmetallic control knobs and compartment covers.
3. Make sure there are no cabinet openings through which people - particularly children - might insert fingers and contact dangerous voltages. Such openings include excessively wide cabinet ventilation slots and improperly fitted covers and drawers.
4. Design Alteration Warning:
Never alter or add to the mechanical or electrical design of the ECR. Unauthorized alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.
5. Components, parts and wiring that appear to have overheated or that are otherwise damaged should be replaced with parts that meet the original specifications. Always determine the cause of damage or overheating, and correct any potential hazards.
6. Observe the original lead dress, especially near the following areas: sharp edges, and especially the AC and high voltage supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing

between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.

7. Product Safety Notice:
Some electrical and mechanical parts have special safety-related characteristics that might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original - even if the replacement is rated for higher voltage, wattage, etc.
Components that are critical for safety are indicated in the circuit diagram by shading, () or (). Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

Dispose of used batteries according to the manufacturer's instructions.

1-2 Servicing Precautions

WARNING: First read the Safety Precautions section of this manual. If some unforeseen circumstance creates a conflict between the servicing and safety precautions, always follow the safety precautions.

WARNING: An electrolytic capacitor installed with the wrong polarity might explode.

1. Servicing precautions are printed on the cabinet. Follow them.
2. Always unplug the units AC power cord from the AC power source before attempting to:
 - (a) Remove or reinstall any component or assembly
 - (b) Disconnect an electrical plug or connector
 - (c) Connect a test component in parallel with an electrolytic capacitor
3. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
4. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the portion around the serviced part has not been damaged.
5. Check the insulation between the blades of the AC plug and accessible conductive parts (examples : metal panels and input terminals).
6. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500V) to the blades of AC plug.
The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
7. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
8. Always connect an instrument's ground lead to the instrument chassis ground before connecting the positive lead ; always remove the instrument's ground lead last.

1-3 Precautions for Electrostatically Sensitive Devices (ESDs)

1. Some semiconductor (solid state) devices are easily damaged by static electricity. Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.
2. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. (Be sure to remove it prior to applying power - this is an electric shock precaution.)
3. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of electrostatic charge.
4. Do not use freon-propelled chemicals. These can generate electrical charges that damage ESDs.
5. Use only a grounded-tip soldering iron when soldering or unsoldering ESDs.
6. Use only an anti-static solder removal device. Many solder removal devices are not rated as anti-static; these can accumulate sufficient electrical charge to damage ESDs.
7. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
8. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
9. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an ESD.

Contents

Getting Started Chapter	3
About the ER-900 Series	4
Basic Features and Functions.....	5
Keyboards.....	6
Messages and Errors	7
Displayed Messages	7
Initial Clear for Error Status	8
Quick Feature Setup Chapter	9
Clerk Interrupt	10
Guest Check Management	11
Remote Guest Check Printing.....	12
Remote Kitchen Order Printing.....	13
Bitmap Printing.....	14
PC Communications	15
Pole Display Setup.....	16
Scanner Setup	17
Scanner Setup	18
Service Mode Chapter	23
Overview.....	24
Ram Clear & Memory Allocation.....	25
Clear Totals	27
Clear PLU File.....	28
Clear PLU File of Zero Priced items	29
Flash ROM Information.....	31
Function Key Assignment.....	32
ER-900 Series Function Key Codes	33
RS232 Communication Option Programs.....	34
SD Card Utilities.....	36
Load/Save Receipt Images.....	39
Key Tasks	43
Keyboard Alpha Overlays.....	44
Descriptor Code Method	45
ECR Program Codes.....	46
System Option Programming.....	49
System Option Table	50
Print Option Programming.....	54
Print Option Table.....	55
Program Scans	59
Report Table.....	61
Reports to SD Card.....	63
Cash Declaration.....	64
Technical	65
Wiring Diagrams.....	66
FLASH ROM Updates.....	67

Getting Started Chapter

About the ER-900 Series

The ER-900 Series is offered in four different configurations. There are two flat keyboard models that work well for restaurants, food service shops, or convenience stores and two raised keyboard models for retail shops.

This manual includes instructions for all models. The keyboard and printer configuration defines the model. All other features are the same, unless otherwise noted.

SAM4s ER-920

- Flat 150 position Keyboard
- Receipt Printer.



SAM4s ER-940

- Flat 150 position Keyboard
- Receipt and Journal Printers.



SAM4s ER-925

- Raised Keyboard
- Receipt Printer.



SAM4s ER-945

- Raised keyboard
- Receipt and Journal Printers.



Basic Features and Functions

SAM4s ER-900 series electronic cash registers are designed to fit into many different retail and restaurant environments. Standard features include:

- Easy drop-and-print paper loading.
- A two-line 16-character backlit LCD display and a 9-character rotating rear display.
- Kitchen Order Printing
- Scanning capabilities
- Clerk Interrupt
- Check Tracking
- PLU by Group Reporting
- Price inclusive barcodes
- Price Level sales quantities
- Up to 99 PLU Group totals.
- Up to 99 Clerks with separate report totals
- Up to 2 price levels for each PLU, with separate report totals
- Up to 99 Mix and Match Offers
- Up to 5 PLU modifier keys.
- 16 character programmable descriptors for PLUs and functions.
- Price Look Ups (PLUs) for open or preset item registration.

Keyboards

ER-920/ER-940 Flat Keyboard Versions

The ER-920/ER-940 keyboards include 150 key positions with the default legends and key assignments as shown below.

The keyboard sheet can be replaced by lifting the protective rubber cover.

**Shaded key locations are fixed and cannot be changed.*

10	20	30	40	50	60	70	80	90	100	110	QUICK HELP	RECEIPT ON/ OFF	FEED PAID OUT	FEED DETAIL
9	19	29	39	49	59	69	79	89	99	109	CLERK 1	CLERK 2	CLERK 3	CLERK 4
8	18	28	38	48	58	68	78	88	98	108	CLERK No.	PRINT CHECK	SERVICE CHECK	CHECK No.
7	17	27	37	47	57	67	77	87	97	107	CANCEL SALE	MDSE RETURN	VOID ITEM	% 2
6	16	26	36	46	56	66	76	86	96	106	PRICE LEVEL1	PRICE LEVEL2	PRICE INQUIR	% 1
5	15	25	35	45	55	65	75	85	95	105	CLEAR	PLU No.	QTY / TIME	NO SALE
4	14	24	34	44	54	64	74	84	94	104	7	8	9	CHARGE 2
3	13	23	33	43	53	63	73	83	93	103	4	5	6	CHARGE 1
2	12	22	32	42	52	62	72	82	92	102	1	2	3	SUB TOTAL
1	11	21	31	41	51	61	71	81	91	101	0	00	.	CASH

ER-925/ER-945 Raised Keyboard Version-Expanded

Your authorized dealer can expand the keyboard to 63 PLU key locations as shown

**Shaded key locations are fixed and cannot be changed.*

7	14	21	28	35	42	49	56	BLANK 7X1	CLERK No.	QUICK HELP	RCPT ON/OFF	FEED PAID OUT	FEED DETAIL
6	13	20	27	34	41	48	55		MDSE RETURN	VOID ITEM	PRICE LEVEL1	PRICE LEVEL2	% 1
5	12	19	26	33	40	47	54		CLEAR	PLU No.	QTY / TIME	PRICE INQUIRE	NO SALE
4	11	18	25	32	39	46	53		7	8	9	CHARGE 1	CHARGE 2
3	10	17	24	31	38	45	52		4	5	6	SUBTOTAL	
2	9	16	23	30	37	44	51		1	2	3	CASH	
1	8	15	22	29	36	43	50		0	00	.	CASH	

Messages and Errors

Displayed Messages

E00	SEQUENCE ERR
E01	PLU NO DATA ERR
E02	CLERK ERROR
E03	AMOUNT CNT ERR
E04	LANTRAN ERR
E05	COMM ERROR
E06	TIME ERROR
E07	OVER LIMIT ERR
E08	INACTIVE ERR
E09	X MODE ONLY
E10	NON ADD ERROR
E11	ADD CHECK ERR
E12	CONDIMENT ERROR
E13	REQ. EATIN FUNC.
E14	STOCK ERROR
E15	DRAWER ERROR
E16	REQ. GUEST #
E17	SCALE ERROR
E18	CLERK NO MATCH
E19	COMPULSORY TARE
E20	REQ. DECLARATION
E21	OFF LINE ERROR
E22	REQ. ENDORSEMENT
E23	CONSOL OVER
E24	REQ.SUBTOTAL
E25	PROMO ERROR
E26	CHECK OPEN ERR
E27	REQ. PASSWORD
E28	NO VOID PLU
E29	REQ. PORT SETUP
E30	REQ PRESET VALUE
E31	REQ. OPEN VALUE

Initial Clear for Error Status

CAUTION: Do not share this information with unauthorized users. Distribute the PGM Mode key only to those you may want to perform this function.

The initial clear function allows you to exit any register activity and return to the beginning or cleared state. Any transaction that is in progress will be exited and totals for that transaction will not be updated.

Following are some reasons you may want to perform an initial clear:

- The register is in an unknown state, and you wish to exit the current program or transaction without following normal procedures.
- You have performed a function that includes a compulsory activity and you wish to bypass the compulsion.
- An initial clear may be necessary as part of servicing, or troubleshooting.

Perform this procedure only as necessary. Contact your SAM4S dealer first if you have questions about operating or programming your SAM4S ER-900.

To Perform an Initial Clear

1. Turn the power switch located on the right side of the register to **OFF**
2. Turn the control lock to the **PGM** position.
3. Press and hold the key position where the **CASH** key is located on the default keyboard layout.
4. While continuing to hold the appropriate key, turn the power switch to the **ON**
5. The message "INITIAL CLEAR OK!" prints when the initial clear is complete.

Quick Feature Setup Chapter

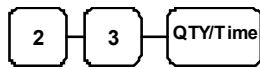
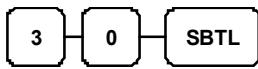
Clerk Interrupt

- The ability to interrupt a sale in progress and commence another sale for a different employee referred to as clerk interrupt
- The ER-900 Series series will operate either guest management and / or clerk interrupt.
- The clerk interrupt feature can be used via the clerk buttons, or via the Clerk # sign on button

CLERK INTERRUPT BY PUSH BUTTON

Enable Clerk Interrupt

P-MODE

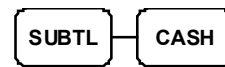
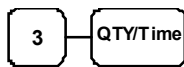
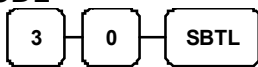


Enable Clerk Interrupt
1 = Yes
0 = No



Auto Sign Off (Clerk Pop-Up)

P-MODE

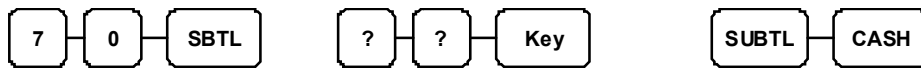


Guest Check Management

- The ER-900 series allows for either clerk interrupt and / or guest check management providing full functionality for table tracking
- The bill can be produced using the registers receipt printer with either an inbuilt graphics logo or user definable graphics logo and text. Alternatively, the bill can be printed on an external printer with a 6-line receipt header and footer.
- It is possible to control the kitchen order printing during table management with print control of such items as check #, guest number, table # etc.

Allocating Guest Check Management Functions

S-MODE

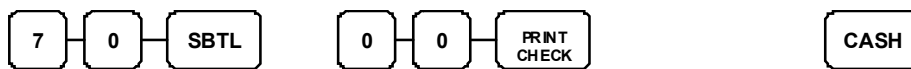


ER-900 Series

153	Check#
191	Print Check
198	Service
166	Guest#
199	Table #

Allocating Guest Check Receipt Printing

S-MODE



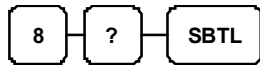
Please refer to the guest check printing for external print set-up.

Remote Guest Check Printing

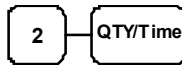
- The bill can be produced using the ECR receipt printer with either an inbuilt graphics logo or user definable graphics logo and text. Alternatively the bill can be printed on an external printer with a 6-line receipt header and footer.
- The system allows for one of 20 in-built graphic logos to be printed, as set within print options 38,39,40,41. The images for selection can be printed using the Help key in register, or using a program scan.

Parity Port Setting

S-MODE

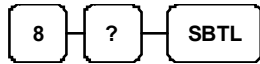


80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port

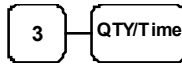


Data Bits Port Setting

S-MODE

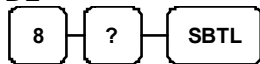


80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port

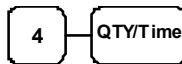


Stop Bits Port Setting

S-MODE

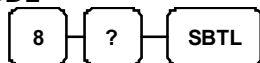


80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port

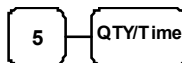


Device Function Port Settings

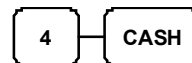
S-MODE



80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port

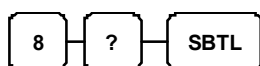


Sets the port for a remote printer

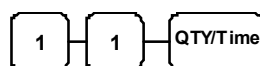


Printer Type Port Setting

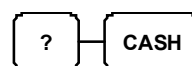
S-MODE



80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port



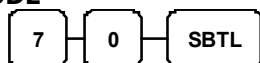
Enter the value of the model number of the printer connected



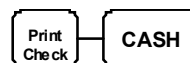
0 = None 3 = SRP270
2 = Ellix 20 4 = SRP350
For other printers see port setup

Allocating Guest Check Receipt Printing

P-MODE



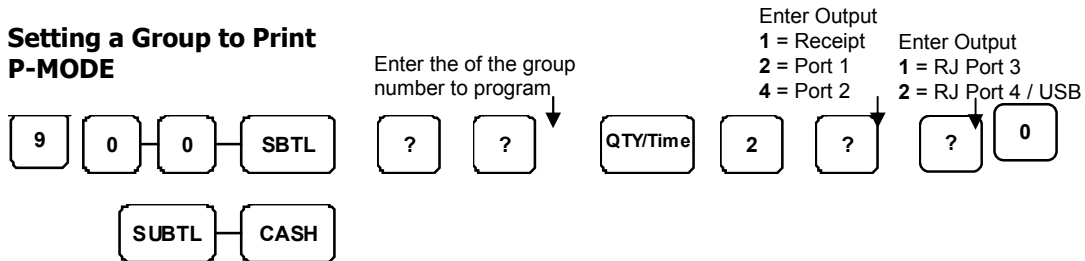
10 = Serial Port 1
20 = Serial Port 2
30 = RJ Port 3
40 = RJ Port 4 / USB



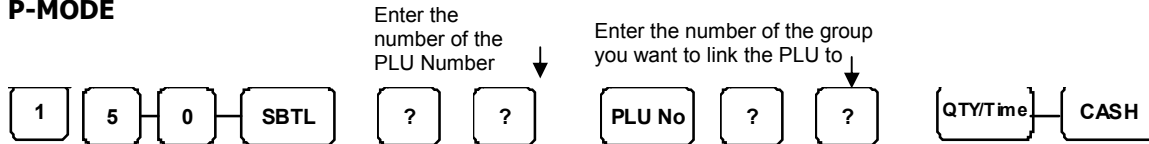
Remote Kitchen Order Printing

- It is possible to utilise both serial ports for kitchen printing direct from one machine, alternatively the kitchen ticket can be issued from the register's receipt printer.
- The groups are allocated with the printer port number, making it possible to designate different printers for different groups. The register also allows for priority sorting by group ensuring that starters can be printed before main course etc.
- The register allows for a large degree of print control. It is possible to print the retail price of the items, along with the total for the group; table, guest number etc.

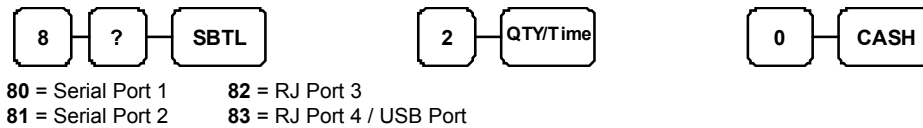
Setting a Group to Print P-MODE



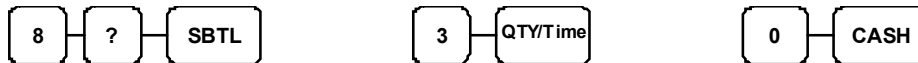
Linking a PLU to a Group P-MODE



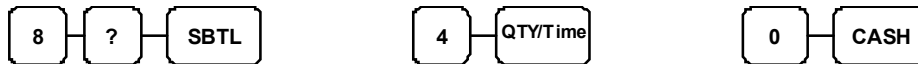
Parity Port Setting S-MODE



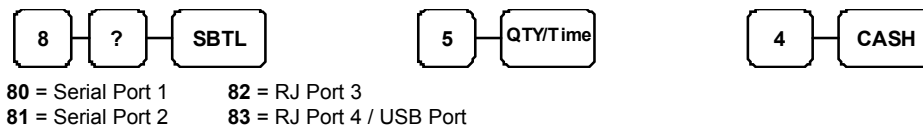
Data Bits Port Setting S-MODE



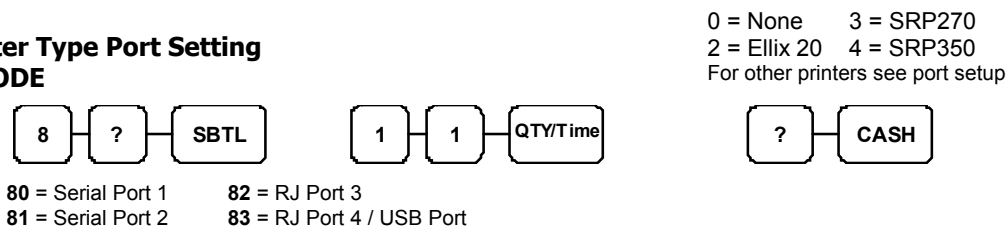
Stop Bits Port Setting S-MODE



Device Function Port Settings S-MODE

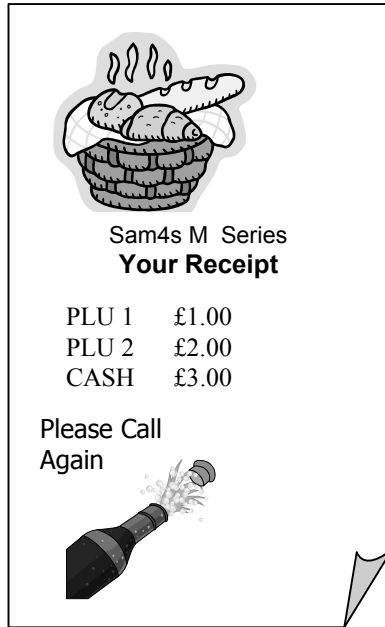


Printer Type Port Setting S-MODE



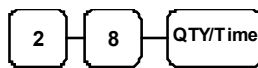
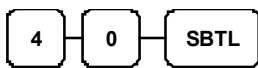
Bitmap Printing

- The bill can be produced using the ECR receipt printer with either an inbuilt graphics logo or user definable graphics logo and 6 line header and footer logo text.
- The register will allow two graphic images, which can be either the inbuilt or alternatively custom designed and downloaded from the PC utility.



BITMAP PRINTING

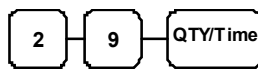
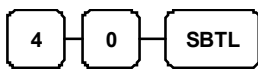
Setting the Graphical logos to print on the receipt P-MODE



1=Print
0=No Print



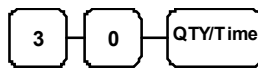
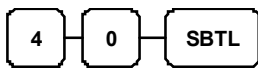
Setting the Graphical logos to print on the guest check P-MODE



1=Print
0=No Print



Setting to use the customized Graphical logo P-MODE



1= Customer
0=In Built logo



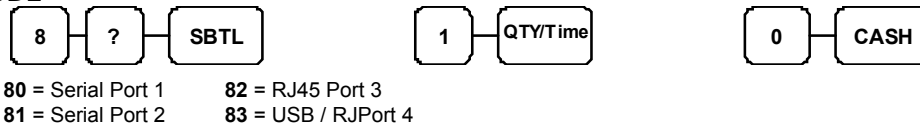
Note : In addition there are 20 inbuilt images set using Print Option# 38-41 – which allow allocation of pre-set images to the Receipt / Guest check header and footer. i.e Sale, Happy Halloween etc. The images can be printed for selection using the help key in Reg mode or using the program scan method.

PC Communications

- The ER-900 PC Utility provides the option to upload and download program files.
- The graphics logo can be designed on a PC and transmitted to the register using the utility
- It is also possible to upload the register X1, Z1, and X2, Z2 reports to the PC.

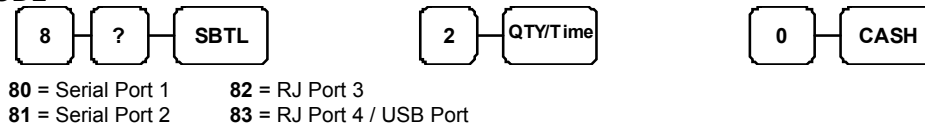
Baud Setting

S-MODE



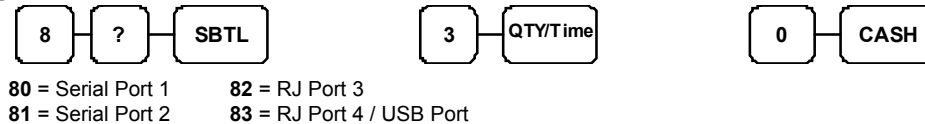
Parity Port Setting

S-MODE



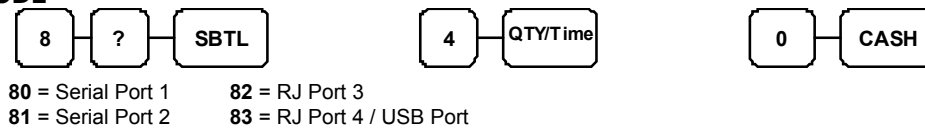
Data Bits Port Setting

S-MODE



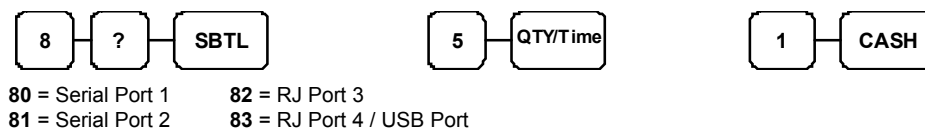
Stop Bits Port Setting

S-MODE



Device Function Port Settings

S-MODE



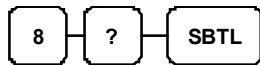
Sets the port to connect to a PC

Pole Display Setup

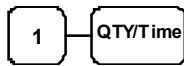
- The ER-900 range all have a built in customer display, but if you require an additional display, a pole display can be connected via one of the serial ports. This will require external power.
- The ER-900 also supports multi-line display, which means it will show you detailed information about the PLU and sale totals

Baud Rate Setting

S-MODE



80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port

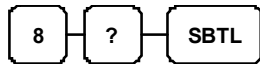


0 = 9600 (Required for Bixelon Pole Display)
2 = 2400 (Required for WD202 Pole Display)

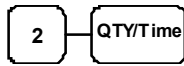


Parity Port Setting

S-MODE



80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port

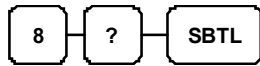


No Parity

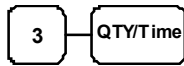


Stop Bit Port Setting

S-MODE



80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port

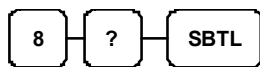


Data bits

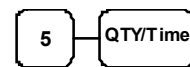


Device Function Port Setting

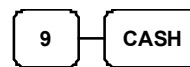
S-MODE



80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port

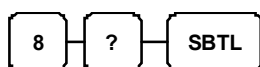


Sets Port as Pole display

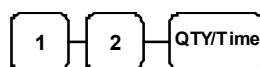


Type Setting

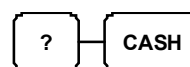
S-MODE



80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port



0 = Epson Display
1 = ICD Display

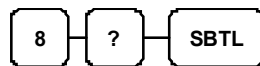


Scanner Setup

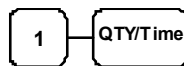
- The ER-900 allows for full stand alone scanning functionality
- Features such as price change, price inquire and not found are available within the function list.
- The register also provides mix and match discount for up to 99 discount tables.

Baud Rate Setting

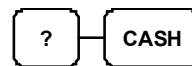
S-MODE



80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port

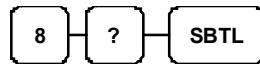


0 = 9600 – (Metrologic Orbit & Labau Scanner)
2 = 2400 – (Metrologic Voyager & Eclipse)

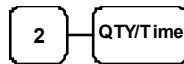


Parity Port Setting

S-MODE



80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port

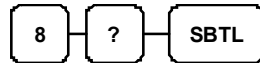


1 = Odd Parity (All Metrologic Models)
0 = No Parity (Required for Labau Scanner)

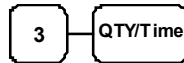


Data bits Port Setting

S-MODE



80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port

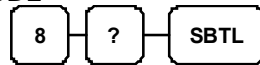


8 Data Bits

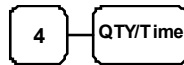


Stop Bits Port Setting

S-MODE



80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port

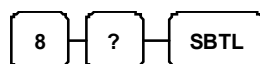


1 Stop Bit

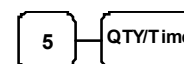


Device Function Port Settings

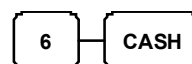
S-MODE



80 = Serial Port 1 82 = RJ Port 3
81 = Serial Port 2 83 = RJ Port 4 / USB Port



Sets the port for a Scanner



Ensure the Scanner has successfully scanned the supplied Sam4s Setup sheet

Scanner Setup

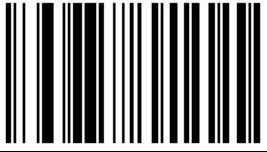
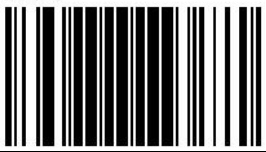

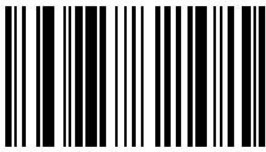


METROLOGIC VOYAGER MS9520 CONFIGURATION TO SAM4S

Scan the following barcodes in sequence to setup the scanner. If an error occurs, turn the scanner off then on

1		
ENTER PROGRAM MODE		³ 9 9 9 9 9 9
2		
RECALL DEFAULTS		³ 9 9 9 9 9 8
3		
ENABLE RS-232		³ 4 1 5 5 5 4
4		
2400 BAUD RATE		³ 4 1 5 8 3 0
5		
ODD PARITY		³ 3 1 6 0 0 5
6		
8 DATA BITS		³ 1 1 6 0 1 3
7		
LF OFF		³ 1 1 6 6 0 2
8		
UPC/EAN PREFIX ON		³ 1 1 6 6 1 7
9		
EXIT PROGRAM MODE		³ 9 9 9 9 9 9




METROLOGIC MS7120 (ORBIT) CONFIGURATION FOR SAM4S

Scan the following barcodes in sequence to setup the scanner. If an error occurs, turn the scanner off and on.

1	ENTER CONFIG MODE	6	ENABLE UPC PREFIX
999999		116617	
2	RECALL DEFAULTS	7	8 DATA BITS
999998		116013	
3	DISABLE LF SUFFIX	8	9600 BAUD RATE
116602		415850	
4	ODD PARITY	9	EXIT CONFIG MODE
316005		999999	
5	ENABLE RS-232 MODE		
415554			

METROLOGIC VOYAGER MS9590GS CONFIGURATION TO SAM4S

Scan the following barcodes in sequence to setup the scanner. If an error occurs, turn the scanner off then on.

1	
ENTER PROGRAM MODE	
2	
RECALL DEFAULTS	
3	
ENABLE RS-232	
4	
9600 BAUD RATE	
5	
ODD PARITY	
6	
8 DATA BITS	
7	
LF OFF	
8	
UPC/EAN PREFIX ON	
9	
EXIT PROGRAM MODE	

METROLOGIC ECLIPSE CONFIGURATION TO SAM4S

Scan the following barcodes in sequence to setup the scanner. If an error occurs, turn the scanner off then on.

1	
ENTER PROGRAM MODE	³ 9 9 9 9 9 9
2	
RECALL DEFAULTS	³ 9 9 9 9 9 8
3	
ENABLE RS-232	³ 4 1 5 5 5 4
4	
2400 BAUD RATE	³ 4 1 5 8 3 0
5	
ODD PARITY	³ 3 1 6 0 0 5
6	
8 DATA BITS	³ 1 1 6 0 1 3
7	
LF OFF	³ 1 1 6 6 0 2
8	
UPC/EAN PREFIX ON	³ 1 1 6 6 1 5
9	
EXIT PROGRAM MODE	³ 9 9 9 9 9 9

Service Mode Chapter

Overview

The following procedures are done from the Service Mode menu:

- Clear all totals
- Clear grand total
- Clear PLU file
- Engineer Counter Change
- EPROM Information
- Memory Allocation
- Assignment of functions to keyboard locations
- RS232C Port

Service Codes

The following Jobs Codes are explained in the service chapter.

50 SUB	Flash rom information
60 SUB	Memory allocation
70 SUB	Function key assignment
80 SUB	Device connection to Port 1
81 SUB	Device connection to Port 2
82 SUB	Device connection to Port 3
83 SUB	Device connection to Port 4

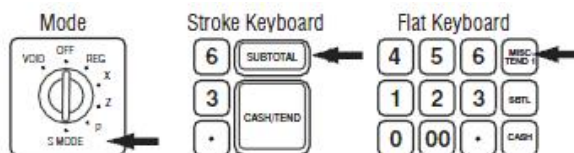
Ram Clear & Memory Allocation

Memory All Clear

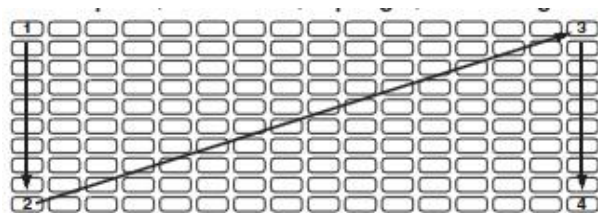
This reset procedure has been carried out at the factory and need only be carried out if the machines requires resetting back to factory defaults. Further information can be found in the Service Mode chapter

** **Warning** this operation will erase all data from the Cash Register.

1. Insert the **C** key and turn one past **PGM** position to unmarked **S** mode.
2. Then power **OFF/ON** on whilst holding the key shown below.
The display will show the prompt **RAM ALL CLEAR**



3. Press the **Top Left, Bottom Left, Top Right, Bottom Right** keys.
4. The register will show **RAM ALL CLEAR**. Then an <- for each of the 4 key presses is shown on the display



Please Wait.. displays whilst determining the Rom Version

5. At the **LOAD DEFAULT SET** prompt,
either Press **CASH** to load and print the default values.
"Memory alloc OK" is shown when completed.
or Continue as shown below to change the Default values.
6. Press **QTY/TIME** to begin entering new values.
7. When prompted with the file name i.e. **PLU** as shown above.
either Enter the **New Value** and press **CASH**
Note : Electronic Journal lines are based on remaining memory, when prompted **EJ line** press **CASH**
or Press **CASH** to bypass and accept the values shown
8. At the **PRESS CASH TO FINISH** prompt press **CASH**
9. The process is now complete and the preset values printed.
10. Turn to REG Mode, then Enter 1 and press the Clerk No. key to sign on to the system

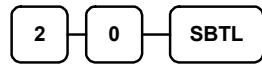
Memory Table

X	ITEM	ER-900 Sizes
1	PLU	8000 (Max.10000)
2	CLERK	14 (Max. 99)
3	GROUP	99 (Max. 99)
4	CHECK#	50 (Max. 500)
5	CHECK LINE	50 (Max. 100)
6	CHECK TYPE : Hard(1), Soft(0) -	0 (Soft) with Items, (Default) 1 (Hard) no items
7	PRICE LEVEL	2 (Max. 2)
8	MIX AND MATCH	99 (Max. 100)
9	CLERK INTERRUPT	Always = Y
10	EJ LINE	9989 (50000) *Electronic Journal lines calculated based on remaining memory.

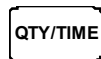
Clear Totals

**** Warning** this procedure will reset all sales totals.

1. Turn the control lock to the S position.
2. To Reset Totals, enter **20**, press the **SBTL** key.



3. Press the **QTY/TIME** key to confirm.



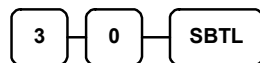
1. Press **CASH** key to finalise



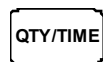
Clear Grand Totals

**** Warning** this procedure will reset all Grand Totals

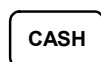
1. Turn the control lock to the S position.
2. To Reset Grand Totals, enter **30**, press the **SBTL** key.



3. Press the **QTY/TIME** key to confirm.



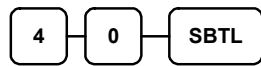
4. Press **CASH** key to finalise



Clear PLU File

**** Warning** this operation will erase all PLU data from the Cash Register.

1. Turn the control lock to the S position.
2. To Reset PLU file, enter **40**, then press the **SBTL** key.



3. Press the **QTY/TIME** key to confirm.



4. Press the **CASH** key to finalise



Clear PLU File of Zero Priced items

** **Warning** this operation will erase all PLU items where the status is Preset and both prices 1 and 2 are zero.
Ensure all sales reset reports have been carried out before this operation is commenced.

1. Turn the control lock to the S position.
2. To Reset PLU file, enter **900**, then press the **SBTL** key.

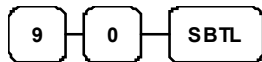
[9] — [0] — [0] — [SBTL]

2. At the **DELETE 0 PRICED N=CLEAR Y=CASH** prompt
either Press **CLEAR** to Quit
or **CASH** to delete
3. The message Please Wait appears whilst the file is checked.

Engineer Edit Counters

In order to adjust the grand total, receipt & Z counters it is first necessary to reset (Z) the financial sales report

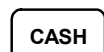
1. Turn the control lock to the S position.
2. To Reset Totals, enter **90**, press the **SBTL** key.



3. Press the **CASH** key to confirm.

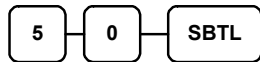


4. Follow the on screen prompts entering the new totals (zeros not allowed) and pressing **CASH**



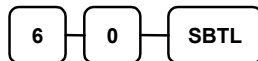
Flash ROM Information

1. Turn the control lock to the S position.
2. To print Eprom Information, enter **50**, press the **SBTL** key.



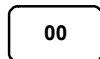
Memory Allocation Information

1. Turn the control lock to the S position.
2. To print the memory allocation, enter **60**, press the **SBTL** key.



Load Default Keyboard

1. Turn the control lock to the S position.
2. Turn the power switch to the OFF position .
3. Press and hold the **00** key



4. While continuing to hold the **00** key, turn the power switch ON

Initial Clear

1. Turn the control lock to the P position.
2. Turn the power switch to the OFF position .
3. Press and hold the **SBTL** key



4. While continuing to hold the **SBTL** key, turn the power switch ON

Function Key Assignment

Function keys may be relocated, inactivated or changed with this program.

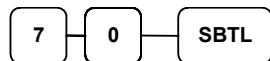
For example, you may wish to place functions, such as **PREVIOUS BALANCE** and **SERVICE** that are not placed on the default keyboard. Or perhaps, you may wish to remove a function, such as **CANCEL**, for security reasons.

Please note the following limitations:

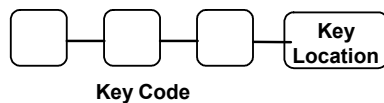
- If you assign a duplicate of a function code the duplicate will function exactly as the original - you will not get separate totals and counters on reports for the duplicated key.

To Assign a Function Key to a Location:

1. Turn the control lock to the **S** position.
2. Enter 70, then press the **SBTL** key.

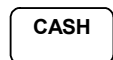


3. Refer to Function Key Codes to find the code for the key you wish to assign, press the location you wish to program.



Repeat this step to assign another key.

4. Press the CASH key to finalise, key assignment program.



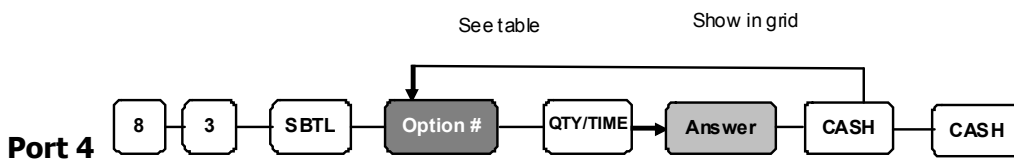
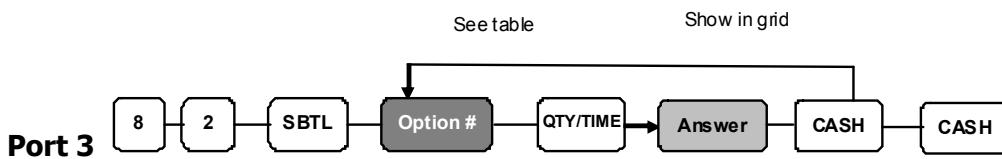
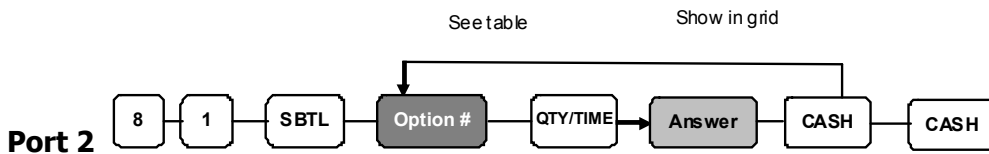
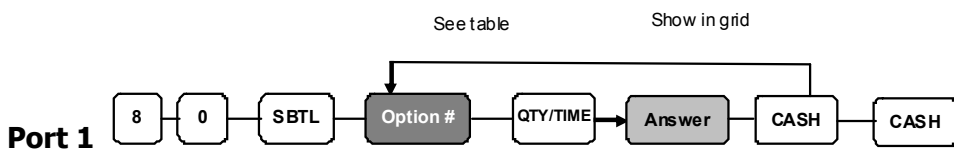
ER-900 Series Function Key Codes

Key Code	Function	Key Code	Function	Key Code	Function	Key Code	Function
1	NLU 1	151	ENDORSE	184	MODIFIER 4	217	CLERK 1
117	NLU 117	152	CHEQUE TEND	185	MODIFIER 5	218	CLERK 2
120	Numeric 1	153	CHECK #	186	P/BAL	219	CLERK 3
121	Numeric 2	154	CLEAR (ESC)	187	PAID OUT 1	220	CLERK 4
122	Numeric 3	155	CLERK #	188	PAID OUT 2	221	CLERK 5
123	Numeric 4	156	CURR. CONV. 1	189	PAID OUT 3	222	CLERK 6
124	Numeric 5	157	CURR. .CONV. 2	190	PAPER FEED	223	CLERK 7
125	Numeric 6	158	CURR. CONV. 3	191	PRINT CHECK	224	CLERK 8
126	Numeric 7	159	CURR. CONV. 4	192	PROMOTION	225	CLERK 9
127	Numeric 8	160	ANALYSIS 1	193	REC ON ACCT 1	226	CLERK 10
128	Numeric 9	161	ANALYSIS 2	194	REC ON ACCT 2	227	PRICE INQ
129	Numeric 0	162	ERR CORRECT	195	REC ON ACCT 3	228	ADD STOCK
130	Numeric 00	163	F/S SHIFT	196	SUBTOTAL	229	DEDUCT STOCK
131	DECIMAL	164	F/S SUB	197	SCALE	230	OVERWRITE STOCK
132	#/NS	165	F/S TEND	198	SERVICE	231	NOT FOUND
133	%1	166	GUEST	199	TABLE #	232	STOCK INQUIRE
134	%2	167	PLU	200	TARE	233	CHARGE #
135	%3	168	PRICE LEVEL 1	201	ANALYSIS 3	234	MACRO #
136	%4	169	PRICE LEVEL 2	202	TAX EXEMPT	235	TABLE ADD
137	%5	170	MACRO 1	203	TAX SHIFT 1	236	HELP
138	QTY/TIME	171	MACRO 2	204	TAX SHIFT 2	237	ALPHA TEXT
139	ADD CHECK <i>Tray Subtotal</i>	172	MACRO 3	205	TAX SHIFT 3	241	AUTO CASH 1
140	CANCEL	173	MACRO 4	206	TAX SHIFT 4	242	AUTO CASH 2
141	CASH	174	MACRO 5	207	TIP	243	AUTO CASH 3
142	CHARGE 1	175	MACRO 6	208	VOID ITEM	244	AUTO CASH 4
143	CHARGE 2	176	MACRO 7	209	WASTE	245	AUTO CASH 5
144	CHARGE 3	177	MACRO 8	210	VALIDATION	246	AUTO CASH 6
145	CHARGE 4	178	MACRO 9	211	PAYMENT	247	AUTO CASH 7
146	CHARGE 5	179	MACRO 10	212	RCPT ON/OFF	248	AUTO CASH 8
147	CHARGE 6	180	MDSE RETURN	213	DETAIL FEED	249	AUTO CASH 9
148	CHARGE 7	181	MODIFIER 1	214	INACTIVE		
149	CHARGE 8	182	MODIFIER 2	215	NON ADD		
150	CHEQUE CASHING	183	MODIFIER 3	216	PRICE CHG		

RS232 Communication Option Programs

The following procedure is used to define the settings for peripheral devices connected to the unit.

1. Turn the control lock to the **S** position
2. Then carry out the appropriate port settings using the values table following.



N1	OPTION	N2	VALUE
1	Baud Rate	0	9600 BPS
		1	1200 BPS
		2	2400 BPS
		3	4800 BPS
		4	19200 BPS
		5	38200 BPS
		6	57600 BPS
		7	115200 BPS
2	Parity	0	NONE
		1	ODD
		2	EVEN
3	Data Bits	0	8 BITS
		1	7 BITS
4	Stop Bits	0	1 BIT
		1	2 BIT
5	Device Function	0	NONE
		1	PC
		3	R.J. PRINTER
		4	REMOTE PRINTER
		6	SCANNER
		9	POLE
6	Initial Feeding Line KP	0 - 20	
7	End Feeding Line KP	0 - 20	
8	Initial Feeding Line Slip	0 - 20	
9	Print Line On Guest Check	0 - 50	
11	Printer Type	0	NONE
		1	SAM4s ELLIX10
		2	SAM4s ELLIX20
		3	SRP-270/270, SNBC M280
		4	SRP-350, SNBC R580/2002NP/880NP
		5	CITIZEN 3550
		6	CITIZEN 810
		7	CITIZEN 230
		8	EPSON TM T88-2
		9	EPSON U200
		10	EPSON U295
		11	EPSON U300
		12	EPSON U325
		13	EPSON U375
		14	STAR SP-200
		15	STAR SP-298
		16	STAR SP-300
		17	STAR TSP-200
12	Pole Display	0	EPSON
		1	ICD

SD Card Utilities

You can use an SD flash memory card to backup and restore program and save reports for both utility and csv view.

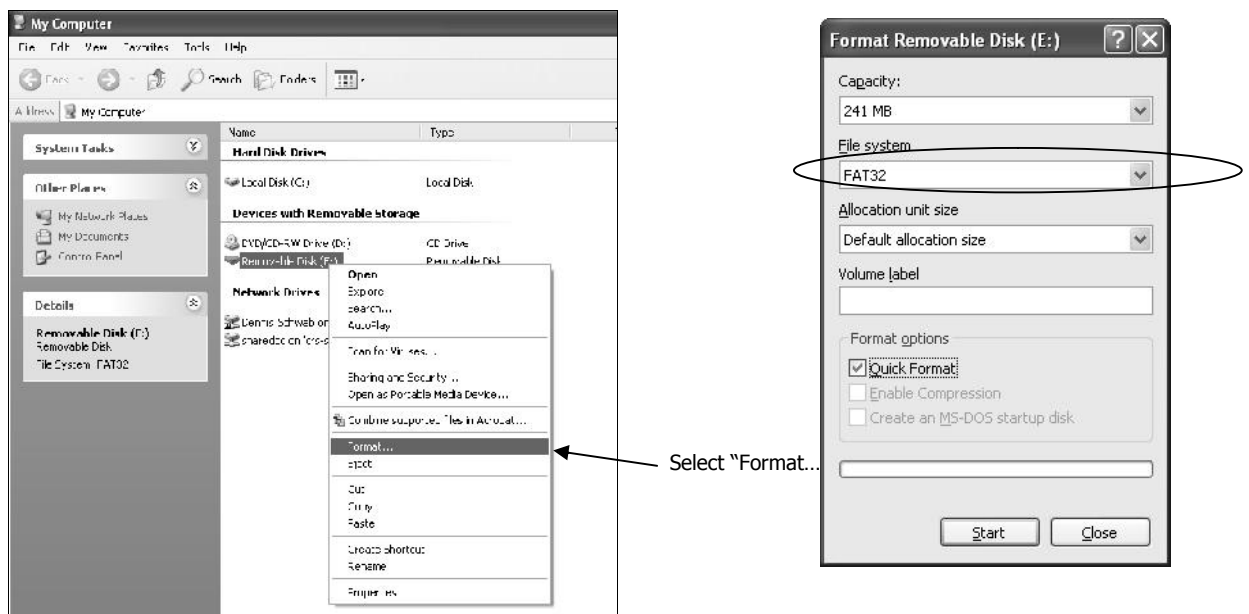
Note The data is saved in a separate folder named with the store name in **System Option #30**.

Formatting a card

NOTE: SD cards must be formatted as FAT 32.

(Caution: Formatting the SD card will clear all data on the SD card and prepare it for use.)

1. Start Windows Explorer.
2. Select the SD card drive, right click and select Format.
(Win XP screen shown; slightly different procedures are used with different operating systems.)
3. From the Format dialog select the File System: FAT32.



Backing Up the Program to an SD Card

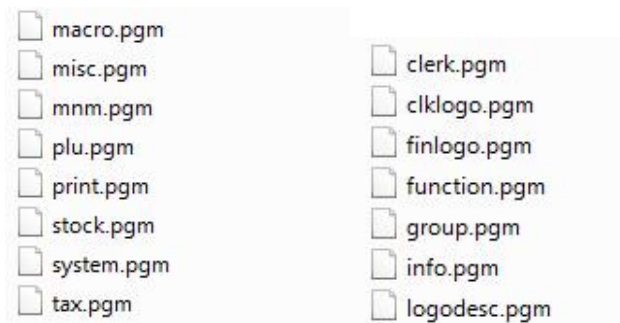
1. Insert an SD Card formatted as FAT 32 type.
2. Turn the control lock to the **S** position.
3. To backup the program to SD, enter **1 0 0**, press the **SUBTOTAL** key.



4. Return to the **REG** mode

The main program files shown below are backed up to ER900\PGMBACK*storename

Note : The store name is default to backup, and can be changed using the system options.

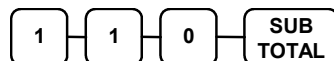


Note: The saved files can be read using the Sam4s PC utility. The files would be placed in the \ER-900PC*storename. Then the store name would be added as a Store within the utility to allow viewing of the files.

Restore Program from the SD Card

CAUTION: Memory allocation must be set the same as the saved program.

1. Insert an SD Card formatted as Fat32 type.
(Details of formatting cards can be found in the technical manual)
1. Turn the control lock to the **S** position.
2. To load the program to the register from the SD card, enter **1 1 0**, press the **SUBTOTAL** key.



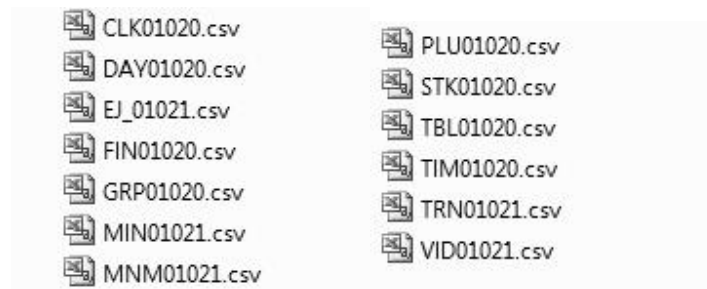
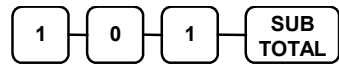
4. Return to the **REG** mode

Note: The saved files can be read using the Sam4s PC utility. The files would be placed in the \ER-900PC*storename. Then the store name would be added as a Store within the utility to allow viewing of the files.

Saving Reports(CSV) to SD Card

Reports saved are the current X1 readings.

1. Turn the control lock to the **X** position.
2. To backup Reports to SD, enter **1 0 1**, press the **SUBTOTAL** key.



Note: The above files can be viewed on a PC using a Windows program such as Notepad or Excel.

Load/Save Receipt Images

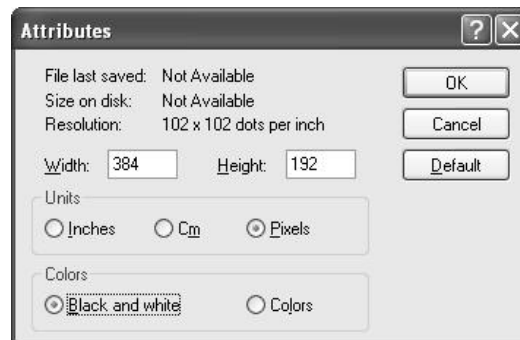
You can load a preamble and postamble image for your ER-900 receipt. Before loading, the images must be converted by the PC Utility to .img format. After conversion, they can be loaded directly by connecting a PC to the ER-900 or by copying the images to a SD card and loading (or saving the image) using the SD utility program.

Note: After loading images, you must set Print Options #28 and #29 for image printing.

Preparing a Graphic Logo Bitmap for an ER-900 Series

The image must be black/white, 384 x 192 pixels, and 10 Kbytes or less in size.

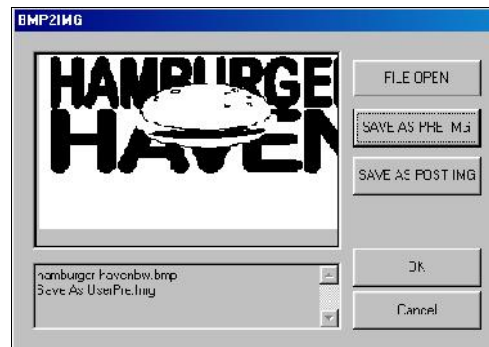
1. Open MS Paint.
2. Open the image file you wish to use.
3. Choose **Attributes** from the **Image** menu. The **Attributes** dialog box displays.



4. The image dimensions must be no larger than 384 pixels wide by 192 pixels high. If the image size in pixels is greater than the maximum, you must resize your image.
 - Click **OK** to exit the Attributes dialog.
 - Select your image. (Choose **Select All** from the **Edit** menu.)
 - Using the handles of the selected image, resize the image. Keep the image in the upper left corner of the screen.
 - Choose **Attributes** from the **Image** menu. The **Attributes** dialog box displays again. Enter 384 in the **Width** field; enter 192 in the **Height** field; select **Pixels** as the unit. Click **OK** to exit the dialog box.
 - Your image will be cropped to the 384 x 192 pixel size. If you cropped part of the image you wish to keep, you can undo (Ctrl + Z) and try again. You may have to experiment a bit to resize the image inside the 384 x 192 pixel limit.
5. After the image is sized, select **Black and white** in the **Attributes** dialog.
6. Save your image as type "Monochrome Bitmap (*.bmp,*.dib)" and confirm that the size is 10k or less. If you resized your original image, you may wish to rename when you save, so that you preserve a copy of the original image.

Use the PC Utility to Convert the Image

1. Install the ER-900 PC Utility on your PC.
2. At your PC, start the ER-900 PC Utility. (Select **Start, Programs, SHC PC UTILITY, ER-900 PC UTILITY.**) The **Store Setting** dialog box displays.
3. If you are starting the ER-900 PC Utility for the first time, you must define a store name or if a store is already defined, you can select the store from the drop down list. After the store is defined or selected, click **Close**. The PC Utility program starts.
4. Move the .bmp logos you wish to use into the store directory (i.e. C:\ER-900PC\storename.)
5. At the PC Utility, choose **Convert Logo Image** from the **Utility** menu. The Bmp dialog box displays.
6. Click **FILE OPEN**. Select the bitmap image you wish to use from the **Open** dialog and click the **Open** command button.
7. Click the **SAVE AS PRE IMG** or **SAVE AS POST IMG** button.



8. When the image is selected, click **OK**. Verify that the message "Save As UserPre.Img" or "Save As UserPost.Img" displays. If the file is too large, and cannot be loaded, the message "File Size Error" displays.

Copy the Images to an SD Card

The PC Utility will create two image files:

- USERPRE.IMG
- USERPOST.IMG

They will be located on your PC at:

C:\ER-900PC\Store Name

Copy the images to the following path on your SD card:

SD\ER900\PgmBack\Store Name

Important: In the path: C:\ER-900PC\Store Name, the store name is the name you have defined as the store in the PC Utility. Note: You must use the same store name in the ER-900 Series ECR at System Option #30.

Load the Images by SD Card

1. Insert the SD card into the register's SD slot. Note: The SD slot is located in the printer compartment of the ER-900. Remove the security screw to access the slot.
2. Turn the control lock to the **S** position.
3. To load the **Preamble Image** to the register from the SD card, then enter **1 2 0**, press the **SUBTOTAL** key.

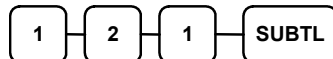


4. To load the **Postamble Image** to the register from the SD card, then enter **1 3 0**, press the **SUBTOTAL** key.

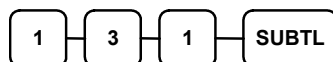


Saving Images from an ER-900 to an SD Card

1. Insert the SD card into the register's SD slot. Note: The SD slot is located in the printer compartment of the ER-900. Remove the security screw to access the slot.
2. Turn the control lock to the **S** position.
3. To save the **Preamble Image** to the register from the SD card, then enter **1 2 1**, press the **SUBTOTAL** key.



4. To save the **Postamble Image** to the register from the SD card, then enter **1 3 1**, press the **SUBTOTAL** key.



Key Tasks

Keyboard Alpha Overlays

ER-920/940 Alpha Keyboard Overlay

!	@	#	\$	%	^	&	*	()	-				
Q	W	E	R	T	Y	U	I	O	P	\				
A	S	D	F	G	H	J	K	L	;	'				
Z	X	C	V	B	N	M	,	.	/	<				
CAP	CAP	BOLD	SPACE	SPACE	SPACE	SPACE	SPACE	BACK	?	>	CLEAR		X/TIME	
									[]	7	8	9	
									1/2	1/4	4	5	6	
									€		1	2	3	SBTL
						£	¥				0	00	.	CASH

ER-925/945 Alpha Keyboard Overlay

A	H	O	V	#)	“	SPACE							
B	I	P	W	\$	-	,	SPACE							
C	J	Q	X	%	+	.	CAP	CLEAR		X/TIME				
D	K	R	Y	^	=	/	BOLD	7	8	9				
E	L	S	Z	&	;	<	BACK	4	5	6	SUBTOTAL			
F	M	T	I	*	:	>	€	1	2	3	CASH			
G	N	U	@	('	?	£	0	00	.				

Descriptor Code Method

Descriptors can be entered using the keyboard layouts or character codes as shown

If you customise your keyboard by covering key locations or by installing double or quad size keys you will need to program descriptors using the descriptor codes.

Descriptor Code Chart

Ç	ü	é	â	ä	à	á	ç	ê	ë
001	002	003	004	005	006	007	008	009	010
è	ï	î	ì	Ä	Å	É	æ	Æ	ô
011	012	013	014	015	016	017	018	019	020
ö	ò	û	ù	ÿ	ö	Ü	¢	£	¥
021	022	023	024	025	026	027	028	029	030
€	SPACE	!	"	#	\$	%	&	'	(
031	032	033	034	035	036	037	038	039	040
)	*	+	,	-	.	/	0	1	2
041	042	043	044	045	046	047	048	049	050
3	4	5	6	7	8	9	:	;	<
051	052	053	054	055	056	057	058	059	060
=	>	?	@	A	B	C	D	E	F
061	062	063	064	065	066	067	068	069	070
G	H	I	J	K	L	M	N	O	P
071	072	073	074	075	076	077	078	079	080
Q	R	S	T	U	V	W	X	Y	Z
081	082	083	084	085	086	087	088	089	090
						a	b	c	d
091	092	093	094	095	096	097	098	099	100
e	f	g	h	I	j	k	l	m	n
101	102	103	104	105	106	107	108	109	110
o	p	q	r	s	t	u	v	w	x
111	112	113	114	115	116	117	118	119	120
y	z	BACK SPACE			Double				
121	122	123			999				

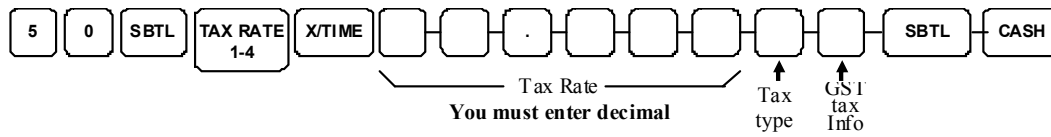
ECR Program Codes

The following Program Codes are explained in the following chapter

50 SUB	Tax Rate *Status table shown following
100 SUB	PLU Status *Status table shown following
150 SUB	PLU Group assignment
200 SUB	PLU Price/HALO
250 SUB	PLU Stock amount
280 SUB	PLU Minimum stock amount
300 SUB	PLU Descriptor
350 SUB	PLU Link
400 SUB	PLU Delete
450 SUB	PLU Mix and match
500 SUB	PLU Price Level Quantity Modifier
600 SUB	Mix and match trip level
601 SUB	Mix and match price
610 SUB	Mix and match descriptor
700 SUB	Logo descriptor
701 SUB	Financial report message
710 SUB	Clerk report message
711 SUB	Macro name
800 SUB	Secret code programming
801 SUB	Drawer assignment & training clerk
810 SUB	Descriptor programming
900 SUB	Group status *Status table shown following
910 SUB	Group descriptors
1000 SUB	NLU code number
1100 SUB	Cash-in-drawer limit
1200 SUB	Cheque change limit
1300 SUB	Date and time programming
1500 SUB	Macro key sequence
1600 SUB	Machine number programming
1800 SUB	Training mode password
1900 SUB	Euro rounding program

The following status tables, can be used in conjunction with the ECR program codes shown previously

Tax Rate Programming Flowchart



Tax Type	VALUE
If the tax is a percentage added to the sale (normal add on tax),	0
If the tax is a percentage value added tax (Inclusive in sale total),	2

GST	VALUE
GST (tax 4) is taxable by rate 1?	Yes = 1 / No = 0
GST (tax 4) is taxable by rate 2?	Yes = 1 / No = 0
GST (tax 4) is taxable by rate 3?	Yes = 1 / No = 0

Group Status Chart

Address	OPTION	VALUE
N1	Group total is added to the total of all group on the Group report?	Yes = 0 / No = 1
	Send to kitchen printer?	Yes = 2 / No = 0
N2	No Choice	0
	KP PORT# : R(print a kitchen requisition)	1
	KP PORT# : 1	2
	KP PORT# : 2	4
N3	KP PORT# : 3	1
	KP PORT# : 4	2
N4	Print Inverse on External Printers?	Yes = 1 / No = 0

PLU Status Chart

Address	Program Option	Value	=	Sum
N1	PLU is preset?	Yes = 0 No = 1		
	PLU is override preset ?	Yes = 0 No = 2		
	PLU is taxable by rate 1?	Yes = 4 No = 0		
N2	PLU is taxable by rate 2?	Yes = 1 No = 0		
	PLU is taxable by rate 3?	Yes = 2 No = 0		
	PLU is taxable by rate 4?	Yes = 4 No = 0		
N3	PLU is food stamp eligible?	Yes = 1 No = 0		
	PLU is negative item?	Yes = 2 No = 0		
	PLU is hash (non reporting) ?	Yes = 4 No = 0		
N4	PLU is single item?	Yes = 1 No = 0		
	Compulsory non-add number?	Yes = 2 No = 0		
	PLU is gallonage?	Yes = 4 No = 0		
N5	PLU is Stock inventory?	Yes = 1 No = 0		
	PLU is inactive?	Yes = 2 No = 0		
	PLU is scalable?	Yes = 4 No = 0		
N6	PLU is a condiment?	Yes = 2 No = 0		
	Compulsory condiment entry?	Yes = 4 No = 0		
N7	Print PLU on receipt?	Yes = 0 No = 1		
	Print PLU on check bill?	Yes = 0 No = 4		
N8	Print item price on receipt?	Yes = 0 No = 1		
	Print item price on check bill?	Yes = 0 No = 2		
	PLU is disabled PROMOTION function?	Yes = 4 No = 0		
N9	PLU is preset override in MGR control?	Yes = 1 No = 0		
	PLU is price change Item	Yes = 2 No = 0		
	Allow Discounts	Yes = 4 No = 0		

System Option Programming

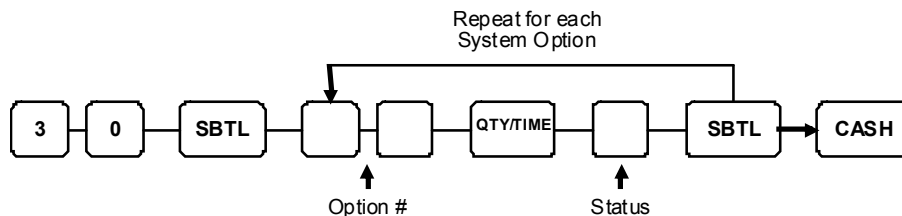
Refer to the "System Option Table" to review the system options. Read each option carefully to determine if you wish to make any changes.

NOTE: You do not need to program this section unless you wish to change the default status.

Programming a System Option:

1. Turn the control lock to the PGM position.
2. Enter **3 0**, press the **SBTL** key.
3. Enter a system option **address**
4. Press the **QTY/TIME** key.
5. Enter the number representing the status you have selected.
If there is more than one decision to be made in an address add the values representing your choices for each decision and enter the sum.
6. Press the **SUBTOTAL** key.
7. Repeat from step 3 for each system option that you wish to change.
8. Press the **CASH** key to Finish system option programming.

System Option Flowchart



System Option Table

Address	SYSTEM OPTION	VALUE	=	SUM
1	Beeper is active?	Yes = 0 No = 1		
2	Clerk sign on method is:	direct entry =	0	
		Code entry =	1	
3	Clerks are:	pop-up =	1	
		stay down =	0	
	Drawer Needs to be shut to operate	Yes = 0 No = 2		
	Activate Open Drawer Alarm	Yes = 4 No = 0		
4	The number of seconds before the open drawer warning tone sounds (default is 30 seconds).	1-99		
5	Allow the post-tender function?	Yes = 1 No = 0		
	Open Drawer on Post Tender ?	Yes = 0 No = 2		
	Allow multiple receipts?	Yes = 4 No = 0		
6	Cash declaration is required before financial reports may be taken?	Yes = 1 No = 0		
	Manager Control Negative Balances ?.	Yes = 0 No = 2		
	Manager Control Zero Balances	Yes = 4 No = 0		
7	Transaction number is reset after a financial report?	Yes = 1 No = 0		
	Grand total is reset after a Z Financial report?	Yes = 2 No = 0		
8	Open drawer during training mode?	Yes = 0 No = 1		
	Cash drawer will open when reports are run?	Yes = 0 No = 2		
9	Decimal place : (0,1,2,3) default=2	0-3		
10	Date format is	DDMMYY =	0(default)	
		MMDDYY =	1	
		YYMMDD =	2	
11	Percentage and Tax calculations will:	round Up at 0.50	0(default)	
		always round up	1	
		always round down	2	

12	Split price calculations will:	round Up at 0.50	0(default)		
		always round up =	1		
		always round down =	2		
13	Eat In / Take out / Drive Thru Analysis compulsory before tendering is allowed?		Yes = 1 No = 0		
	Hash is	Normal	0		
		Non-add	2		
14	Reset the Financial report Z counter after a Z1 Financial report?		Yes = 1 No = 0		
	Reset the Time report Z counter after a Z1 Time report?		Yes = 2 No = 0		
	Reset the PLU report Z counter after a Z1 PLU report?		Yes = 4 No = 0		
15	Reset the Clerk report Z counter after a Z1 Clerk report?		Yes = 1 No = 0		
	Reset the Group report Z counter after a Z1 Group report?		Yes = 2 No = 0		
	Reset the Daily sale report Z counter after a Z2 Daily sale report?		Yes = 4 No = 0		
16	Paper sensor is active?		Yes = 0 No = 1		
	Split pricing is deactivated?		Yes = 2 No = 0		
	Allow Direct Multiplication of a preset PLU by entering the quantity?		Yes = 4 No = 0		
17	The number of digits for Global Entry 0 is no limit		0-14		
18	Allow direct multiply by more than one digit?		Yes = 1 No = 0		
	Tender validation amount is: amount tendered amount of sale		= 2 = 0		
19	Allow Sale with Zero Stock ?.		Yes = 0 No = 1		
	Allow Euro Rounding		Yes = 2 No = 0		
	Allow Z stock report?		Yes = 0 No = 4		
20	Enable Electronic Journal?		Yes = 1 No = 0		
	Prompt Operator when Electronic Journal is full?		Yes = 2 No = 0		
	Stop Operations when Electronic Journal is full?		Yes = 4 No = 0		
21	Send only Negative Entries to Electronic Journal?		Yes = 1 No = 0		
	Send Reset Report to Electronic Journal?		Yes = 2 No = 0		

22	Use Overlay Descriptor method to program descriptor.		Yes = 1 No = 0		
	% will not affect net sales?		Yes = 2 No = 0		
	Disable Cash Declaration?		Yes = 4 No = 0		
23	Clerk Interrupt Allowed?		Yes = 1 No = 0		
	Do not count totals in void mode?		Yes = 2 No = 0		
24	Disable level keys:	Level 1 =	Yes = 1 No = 0		
		Level 2 =	Yes = 2 No = 0		
25	Price level is:	Pop-up after item	0		
		Pop-up after sale	1		
		Stay-down	2		
26	Modifier is:	Pop-up after item	0		
		Pop-up after sale	1		
		Stay-down	2		
27	Base Currency	Euro	1		
		Home	0		
	Print Euro Amount Total		Yes = 2 No = 0		
Print Euro Input Amount		Yes = 4 No = 0			
28	Print Euro Change		Yes = 1 No = 0		
	Do not Print in Void Mode		Yes = 2 No = 0		
	Do not Print Guest Check at Finalization or Clerk Interrupt Sign Off		Yes = 0 No = 4		
29	Display Stock Warning		Yes = 1 No = 0		
30	Store Name (8-characters) – Default "Backup"		Backup		
31	Barcode Type		1		
	1 : PRICE 2 : WEIGHT		2		
32	Length of Field 1 PLU Code E.g. 020012101997 for code 0200012		4 – 6		
33	Length of Field 2 Price E.g. 020012101997 @ £1.99		4 – 6		
34	Number of Decimals for Price Inclusive codes		0 – 3		

35	Use Autocutter?		Yes = 1 No = 0		
	Use Journal Spool?		Yes = 2 No = 0		
	Use MCR?		Yes = 4 No = 0		
36	MSR Track Use:	Track 1 & 2 Track 2 & 3 (default)	0 1		
37	Use Dallas?		Yes = 1 No = 0		
	Prompt for Price if Price 1 = 0.00		Yes = 2 No = 0		
38	Not found method using the function key or auto prompt for Quick creation.		0 - Quick 1 - Function		

Print Option Programming

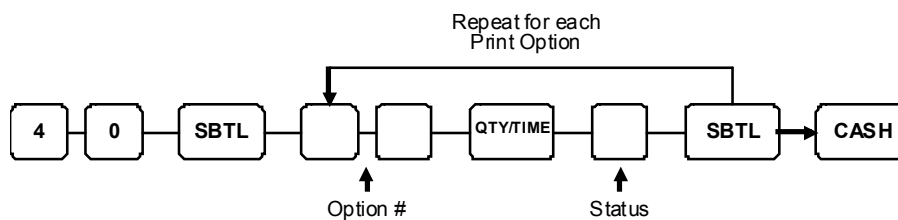
Refer to the "Print Option Table" to review the print options. Read each option carefully to determine if you wish to make any changes.

NOTE: You do not need to program this section unless you wish to change the default status.

Programming a Print Option:

1. Turn the control lock to the PGM position.
2. Enter **4 0**, press the **SBTL** key.
3. Enter a print option address, then press the **QTY/TIME** key.
4. Enter the number representing the status you have selected or if there is more than one decision to be made in an address, add the values representing your choices for each decision and enter the sum.
5. Press the **SBTL** key.
6. Repeat from step 3 for each print option that you wish to change.
7. Press the **CASH** key to end print option programming.

Print Option Flowchart



Print Option Table

Address	PRINT OPTION	VALUE	=	SUM
1	Print media total on clerk report?	Yes = 1 No = 0		
	Print tax symbol?	Yes = 0 No = 2		
2	Void Mode / Return totals on the Financial report?	Yes = 0 No = 1		
	Audaction total will print on the Financial report?	Yes = 2 No = 0		
3	Skip Zero Media totals on the Financial report?	Yes = 0 No = 1		
	Skip Zero Media totals on the Clerk report?	Yes = 0 No = 2		
	Print Clerk report at the end of the Financial report?	Yes = 4 No = 0		
4	Print PLU sale item number?	Yes = 1 No = 0		
	Print PLU with zero totals on report?	Yes = 2 No = 0		
	Subtotal is printed when the SBTL key is pressed?	Yes = 4 No = 0		
5	Print percentage of sales on the PLU report?	Yes = 1 No = 0		
	Print consecutive number counter on receipt?	Yes = 0 No = 2		
6	Print date on receipt?	Yes = 0 No = 1		
	Print time on receipt?	Yes = 0 No = 2		
	Print machine number on receipt?	Yes = 0 No = 4		
7	Print clerk name on receipt?	Yes = 0 No = 1		
	Print Z counter on reports?	Yes = 0 No = 2		
8	Home Currency symbol *see footnote 1	£		
9	Print receipt when signing on/off?	Yes = 0 No = 1		
	Print Grand total on the X Financial report?	Yes = 0 No = 2		
	Print Grand total on the Z Financial report?	Yes = 0 No = 4		

10	Print Gross total on the X Financial report?		Yes = 0 No = 1		
	Print Gross total on the Z Financial report?		Yes = 0 No = 2		
11	Print Subtotal without Add tax on the receipt?		Yes = 1 No = 0		
	Tax amount to print on receipt is:	combine =	2		
itemize =		0			
12	Print the tax amount on receipt?		Yes = 0 No = 1		
	Print taxable totals?		Yes = 2 No = 0		
	Print the tax rate?		Yes = 4 No = 0		
13	Print a VAT Breakdown of the inclusive sale?		Yes = 1 No = 0		
	Print training mode message on the receipt during training mode operations?		Yes = 2 No = 0		
14	Currency Symbol:	CONV. #1 =	.		
15		CONV. #2 =	.		
16		CONV. #3 =	.		
17		CONV. #4 =	.		
18	Print the KP order number on receipt.		Yes = 0 No = 1		
	Print the item price on the kitchen printer ?		Yes = 2 No = 0		
19	Send to Kitchen Printer in Void Mode ?		Yes = 0 No = 1		
	Send to Kitchen Printer during Training ?		Yes = 2 No = 0		
20	Combine like items on the kitchen printer?		Yes = 0 No = 1		
	Consolidation of like items on check track?		Yes = 0 No = 2		
	Chooses volume unit when the PLU is gallonage.	gallons =	0		
litres =		4			
21	Print preamble message on receipt?		Yes = 0 No = 1		
	Print postamble message on receipt?		Yes = 0 No = 2		
	Print preamble message on the guest check?		Yes = 4 No = 0		
22	Print postamble message on the guest check?		Yes = 1 No = 0		
	Do not print pre/postamble message on the journal receipt?		Yes = 2 No = 0		
23	Print average items per customer on the Financial report?		Yes = 0 No = 1		

	Print average sales per customer on the Financial report?	Yes = 0 No = 2		
24	Buffered Receipt when receipt / issue a second receipt for the same transaction?	Yes = 1 No = 0		
	Priority print by group on the kitchen printer?	Yes = 2 No = 0		
	Print PLU number and name on the receipt?	Yes = 4 No = 0		
25	Not print when polling reports?	Yes = 1 No = 0		
	Print PLU number and name on PLU report?	Yes = 2 No = 0		
	Grand total is:	net sale = 4 gross sale = 0		
26	Print journal font	normal = 0		
		condensed = 1		
	Print EJ from	newest = 0		
		oldest = 2		
	Journal print is off?	Yes = 4 No = 0		
27	Send order to the external kitchen printer when the SBTL key is pressed ?	Yes = 1 No = 0		
	Print date on hard check?	Yes = 2 No = 0		
28	Pre Print graphic logo on receipt?	Yes = 1 No = 0		
	Post Print graphic logo on receipt?	Yes = 2 No = 0		
29	Pre Print graphic logo on the guest check?	Yes = 1 No = 0		
	Post Print graphic logo on the guest check?	Yes = 2 No = 0		
30	Number of Pre-feeding lines on receipt.	0-5		
31	Number of Post-feeding lines on receipt.	0-5		

32	Print in high density?	Yes = 1 No = 0		
	Print journal In Training mode	Yes = 2 No = 0		
33	Suppress bitmap in PGM and X/Z Mode	Yes = 1 No = 0		
	Suppress printing of last report date	Yes = 2 No = 0		
34	Print Group Details on Kitchen Printer at Subtotal KP Printing (Set in conjunction with flag 27=1)	Yes = 1 No = 0		
	Two line print on KP	Yes = 2 No = 0		
35	Print sales per Price level in place of PLU total Sales on PLU Reports	Yes = 1 No = 0		
36	Adjustable Cut? (default 40)	0-70		
37	Print group totals after tender?	Yes = 1 No = 0		
38	Print preamble image number on receipt * see foot note 2	0-20		
39	Print postamble image number on receipt	0-20		
40	Print preamble image number on guest check	0-20		
41	Print postamble image number on guest check	0-20		

NOTE 1: Print Option# 8 – allows designation of a different currency symbol. To select a different symbol, type descriptors on the alpha keyboard overlay or enter three digit alpha character codes. To program by three digit alpha character codes you must select 'N' in system option #22 (See "System Option Programming").

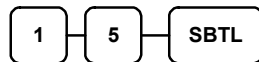
NOTE 2: Print Option# 38-41 – allow allocation of pre-set images to the Receipt / Guest check header and footer. i.e Sale, Happy Halloween etc. The images can be printed for selection using the help key in Reg mode or using the program scan method.

Program Scans

Since much time and energy has been invested in the planning and programming of your *ER-900*, it is advisable to print a hard copy of the final program for future reference.

OTHER PROGRAM SCANS

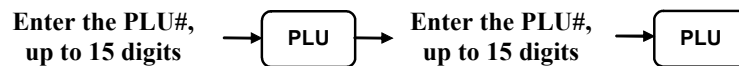
1. Turn the control lock to the PGM position.
2. To print a program scan, enter **1 5**, then press the **SBTL** key.



3. In this step, there are three different ways to scan program information. One is PLU, the other is Macro, the third is Others.

PLU PROGRAM SCAN

To read a single PLU code program information, enter the number of the PLU and press **PLU No.** key, then repeat the same PLU No.

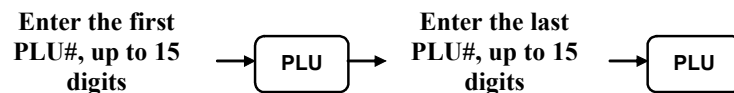


or

Press a PLU key on the keyboard and press the same key again.



To read multiple PLU program information, then enter the first number and press the PLU No. key. Then enter the last number and press PLU No. key.



or

Press the first PLU key on the keyboard, followed by the last PLU key



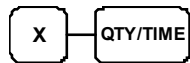
MACRO PROGRAM SCAN

To read MACRO information, press the MACRO key to be scanned,



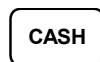
Refer to the chart below and enter a digit to represent the segment of the program you wish to print, then press the **QTY/TIME** key. Repeat this operation as required.

OTHER PROGRAM SCAN



X	Program	X	Program
0	Group	12	Drawer Limit
1	Tax	13	Cheque Change Limit
2	System option	14	Time & Date
3	Print option	16	Machine Number
4	Function keys	17	Mix & Match
5	Clerk	18	Not Used
6	Preamble message	19	Euro Rounding
7	Postamble message	20	All Function Keyboard Scan
8	Endorsement message	21	Alpha Text
9	Financial Report message	22	System Text
10	Clerk Report message	23	Group Tax Logo
11	Macro Name	24	Default Image

4. Press the **CASH** key to finalise the program.



Report Table

Report Type	Report Number	Report Mode	Mode lock	Key Sequence
Financial	1	X	X	1 – SBTL
		Z	Z	1 – SBTL
		X2	X	201 – SBTL
		Z2	Z	201 – SBTL
Time	2	X	X	2 – SBTL
		Z	Z	2 – SBTL
		X2	X	202 – SBTL
		Z2	Z	202 – SBTL
All PLU	3	X	X	3 – SBTL
		Z	Z	3 – SBTL
		X2	X	203 – SBTL
		Z2	Z	203 – SBTL
PLU By Group	33	X	X	33 – SBTL
		Z	Z	33 – SBTL
PLU By Selected Group	43	X	X	43 SBTL- Group No. - QTY/TIME
All Clerk	4	X	X	4 – SBTL
		Z	Z	4 – SBTL
		X2	X	204 – SBTL
		Z2	Z	204 – SBTL
Group	5	X	X	5 – SBTL
		Z	Z	5 – SBTL
		X2	X	205 – SBTL
		Z2	Z	205 – SBTL
All STOCK	6	X	X	6 – SBTL
		Z	Z	6 – SBTL
All Stock By Group	36	X	X	36 – SBTL
Stock By Selected Group	46	X	X	46 SBTL- Group No. - QTY/TIME
VOID	7	X	X	7 – SBTL
		Z	Z	7 – SBTL
		X2	X	207 – SBTL
		Z2	Z	207 – SBTL
Daily Sales	8	X2	X	208 – SBTL
		Z2	Z	208 – SBTL

Report Type	Report Number	Report Mode	Mode Lock	Key Sequence
Individual Clerk Report	9	X	X	9 – SBTL - # - CLERK - # - CLERK
		X2	X	209 – SBTL - # - CLERK - # - CLERK
MIX AND MATCH	10	X	X	10 – SBTL
		Z	Z	10 – SBTL
		X2	X	210 – SBTL
		Z2	Z	210 – SBTL
Open Table	11	X	X	11 – SBTL
		Z	Z	11 – SBTL
Training Report	12	X	X	12 – SBTL
		Z	Z	12 – SBTL
		X2	X	212 – SBTL
		Z2	Z	212 – SBTL
From/To PLU	13	X	X	13-SBTL XXXX – PLU – XXXX – PLU
From/To PLU		X2	X	213-SBTL XXXX – PLU – XXXX – PLU
From/To STOCK	14	X	X	14-SBTL XXXX –PLU – XXXX – PLU
Minimum Stock	16	X	X	16 – SBTL
Minimum Stock by Group	316	X	X	316 – SBTL
Minimum Stock by Selected Group	416	X	X	416 SBTL- Group No. - QTY/TIME
Not Found Sales	21	X	X Z	21 SBTL
Not Found Program	22	X	X Z	22 SBTL
Display Drawer Totals	1	X	X	80 SBTL – QTY/TIME displays *Press CLEAR to Quit

Reports to SD Card

Saving Reports to an SD Card

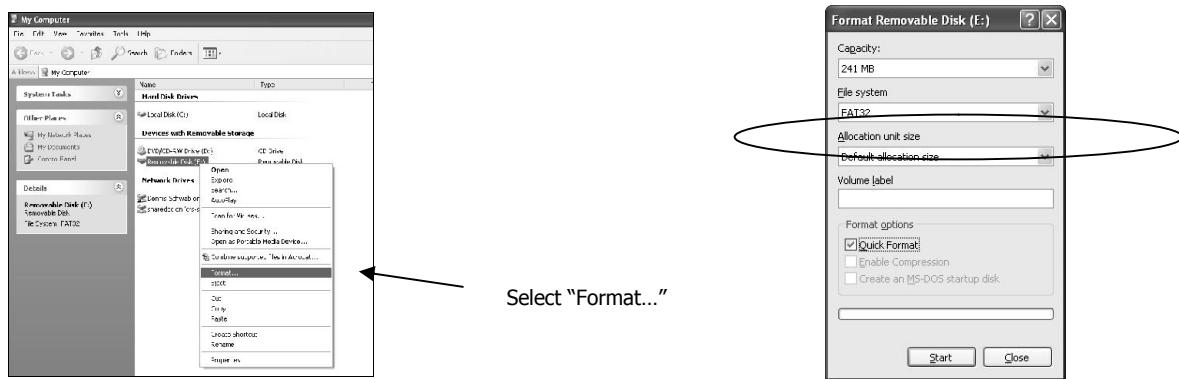
The following procedure saves all available reports to the card, to the folder name set within system options

Formatting an SD card

SD cards must be formatted as FAT 32.

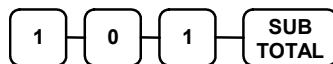
Caution: Formatting the SD card will clear all data on the SD card and prepare it for use.

1. Start Windows Explorer.
2. Select the SD card drive, right click and select Format.
(Win XP screen shown; slightly different procedures are used with different operating systems.)
3. From the Format dialog select the File System: FAT32.

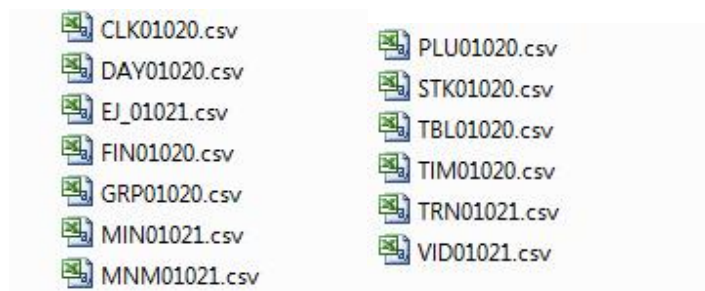


Saving Reports to the SD Card

1. Insert an SD Card formatted as Fat32 type.
3. Turn the control lock to the **X** position.
4. To backup Reports to SD, enter **1 0 1**, press the **SUBTOTAL** key.



5. The files are stored in \backup\csvbackup\date\time for PC viewing.
Note the store name \backup can be changed within the system options.



4. Return to the REG mode once the procedure is completed

Cash Declaration

If compulsory cash declaration is required you must declare the count of the cash drawer prior to taking **X** or **Z** Financial and clerk reports.

You can enter the cash drawer total in one step or to facilitate the counting of the cash drawer, you can enter each type of bill/coin and cheques separately and let the register act as an adding machine. You can also use the **QTY/TIME** key to multiply the denomination of currency times your count entered.

Either way you choose to enter cash the register will compare your declaration with the expected cash and cheque in drawer totals and print the over or short amounts on the report.

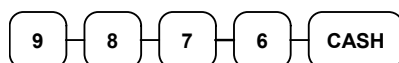
For example:

1. Turn the control lock to the **X** or **Z** position (depending upon the type of report you are taking.)

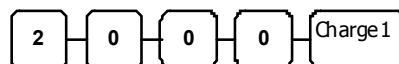
2. Press the **CASH** key.



3. Enter the total of cash.



4. Enter the total of **Charges**



5. Press the **CASH** key to total the declaration.



DATE 01/12/2012 WED TIME 03:15

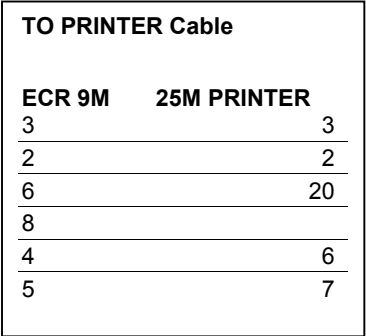
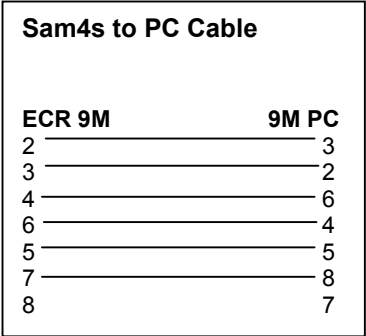
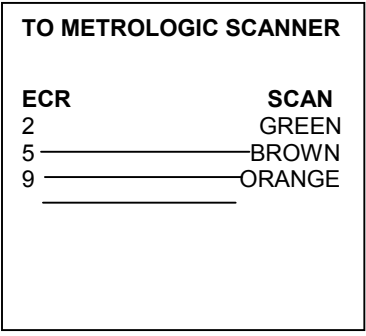
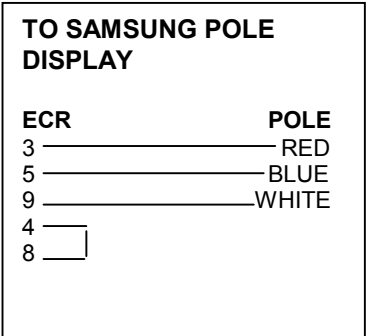
CASH DECLARATION

CASH	£98.76
CHARGE	£20.00
INPUT AMT	£118.76

CLERK 1 No.000001 0000

Technical

Wiring Diagrams



FLASH ROM Updates

The ER-900 register software is loaded in an Flash ROM (*erasable programmable read only memory*). This program may occasionally be updated by the manufacturer. Your SAM4s dealer can update the software if necessary.

The Flash ROM can be loaded through a PC Utility or by SD card.

CAUTION: Flash ROM update by either method must be done by a qualified, trained technician. DO NOT POWER OFF OR ABORT any program loading once it has started. Failure to follow the procedures exactly may cause the program to load incompletely and for the register to fail completely.

Flash ROM Update by SD

The ER-900 Flash ROM program is contained in a file named NEWNET.bin. This file will be provided to the authorized dealer and contains both the Boot program area and the Application program area.

1. At your PC, format the SD Card for FAT32.
2. Create a folder named update in the root of the SD card.
3. Copy NEWNET.bin to: SD:/update/.
4. Insert the SD card into the register. until you hear a click and the SD card is locked in

Note :- The SD slot is located inside the printer compartment. Remove the security screw and open the flap securing the SD slot.

Boot Area Update

Update instructions included with the .bin file will tell whether both Boot Area and Application Area updates are required. In most cases you may be instructed only to update the Application Area.

For application only updates go to step 7 below. For boot area begin at step 1.

1. At the ER-900, turn the control lock to the **S** position.
2. Power off the ER-900.
3. Press and hold the **1** key on the numeric keypad. Whilst continuing to hold the numeric **1** key, turn on the power switch.
4. Release the numeric **1** Key.
5. The display will flash, slowly at first.

After a few seconds a rapid beep-beep-beep will be heard and the display will flash rapidly. The boot update is now complete

6. Turn the ECR power switch OFF and proceed directly to the next step: Application Update.

Application Area Update

7. Set the control lock to the **S** position.
8. Press and hold the **2** key on the numeric keypad. Whilst continuing to hold the numeric **2** key turn on the power switch.
9. Release the numeric **2** Key.
10. The display will flash (The current program is being erased).
After a few seconds, the display will continue to flash, but at a slower rate. This continues for about 1-minute while the new program is being loaded. When the load is complete, a rapid beep-beep-beep will be heard, and the display will flash rapidly.
11. Power the register OFF. The Flash ROM update is complete.
12. Remove the SD card from the register.
13. Perform a memory all clear on the ECR.
The ECR is now ready to program or to load a previously saved program.

Flash ROM update by PC Utility

Update Files

To complete the firmware update, you will be supplied with the following files:

- NEWNET_DOWN.exe (The update utility program)
- NEWNET.bin

PC Connection Cable

YOU MUST USE Port #1. Use the following cable:

-
- The cable should be as per Sam4s to PC shown previously
STD Part # 522120 (Register DB-9MF COM 1 to PC DB-9F)

Update Boot Area

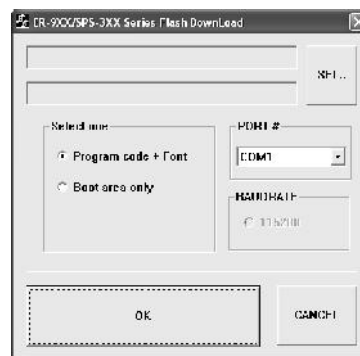
The relevant update instructions supplied with the .bin file will tell whether both Boot Area and/or Application Area updates are required, mostly it will be application.

1. Connect the Serial Cable From ECR to PC.
2. At the register, turn the control lock to the **S** position.
3. Turn the power switch to the **OFF** position.
4. Press and hold the **CASH** and **CLERK** keys.

Note Use the keys in their default locations, the upper-right and lower-right keys on the keyboard.

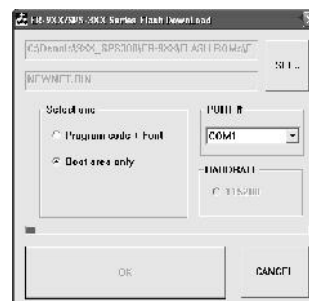
5. While continuing to hold the **CASH** and **CLERK** keys, turn the power switch to the **ON** position. The display will illuminate and the error tone will sound beep-beep-beep in quick succession; Release the keys.
6. At the PC, execute the program "NEWNET_DOWN.exe".

The Download dialog box displays.



7. Select the appropriate com port connection at your PC at the PORT# option buttons.
8. Click **SEL.** find the folder where the update files are located and select NEWNET.bin.
9. Select **Boot Area Only** option button.
10. Press **OK** Button. The download takes about 30 seconds; the scroll bar will track the progress of the download.

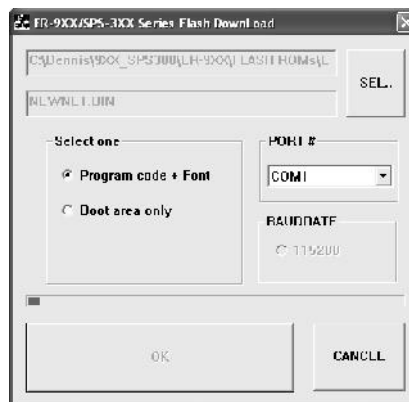
At the ECR, the display will flash slowly while the update is taking place.



11. At the PC, the message **Completed** displays. Click **OK** and the Download program will close.
12. At the ECR, the display will flash rapidly, indicating the update is complete, Turn the power switch to the **OFF** position.

Update Program Area

1. Connect the Serial Cable From ECR to PC.
2. At the register, turn the control lock to the **S** position.
3. Turn the power switch to the **OFF** position.
4. Press and hold the **CASH** and **CLERK** keys.
Note Use the keys in their default locations, the upper-right and lower-right keys on the keyboard.
5. While continuing to hold the **CASH** and **CLERK** keys, turn the power switch to the **ON** position. The display will illuminate and the error tone will sound beep-beep-beep in quick succession; Release the keys.
6. At the PC, execute the program "Download.exe". The Download dialog box displays.
7. Select the appropriate com port connection at your PC at the PORT# option buttons.
8. Click **SEL.** find the folder where the update files are located and select NEWNET.bin.
9. Select **Program code + font** option button.
10. Press **OK** Button. The download takes about minutes; the scroll bar will track the progress of the download.



11. The message **Completed** displays. Click **OK** and the Download program will close.
 12. The display will flash (The current program is being erased).
After a few seconds, the display will continue to flash, but at a slower rate. This continues for about 3 minutes while the new program is being loaded. When the load is complete, a rapid beep-beep-beep will be heard, and the display will flash rapidly. Turn the power switch to **OFF**, the program update is complete.
 13. Disconnect the PC cable.
 14. Perform a memory all clear on the ECR.
- The ECR is now ready to program or to load a previously saved program.

