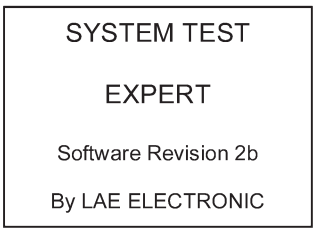
IrDA PRINTER INSTALLATION
&
OPERATING GUIDE

A044 / FST – FCC-IRC

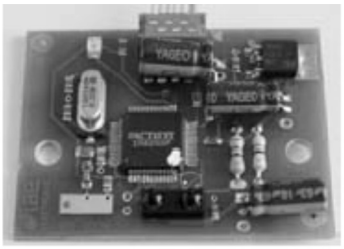
COMPONENT REQUIREMENT

- The controller must have Software Revision 2a or later (i.e. 2b, 2c, 3a, etc). the software revision is displayed on the controller at the bottom of the 'SYSTEM TEST' screen during the first 3 seconds after mains electricity is supplied to the cabinet. To check the 'Software Revision' isolate and reinstate the electricity supply to the machine.



- The controller system must have the optional IrDA PCB fitted to the unit cover and connected to the display PCB. This is usually a factory fitted option but could be retrofitted by a competent service technician

  Foster part number 00-555461 (FST-FCC-IRB)



- The controller must be fitted with the appropriate label. These are as shown below (not to scale).

Foster Cabinet Blast Chiller Label

Foster Modular Blast Chiller Label

- The printer selected for use must be capable of operating using a fully configured IrDA system. The controller infra red system is a bi- directional device utilising IrDA in the physical layer only.

  The standard printer (part number 00-555459) is such a device.

  Additional information / drivers etc can be downloaded from the supplier website at:
  http://www.custom.it/ing/wireless/01-02.htm

ENABLING THE PRINTER FUNCTION

The logging and printing system is enabled through the Service Parameters in the following manner.

1. With the blast chiller in Standby mode (not running in chill cycle or in hold mode) press the operating dial for 5 seconds to show the 'SERVICE' menu

SERVICE	
LANGUAGE	ENG
DIAGNOSTIC	1-COMP
FOOTPRINT	
PASSCODE	0
Press 2 Sec. for Exit	

2. Rotate the operating dial to change the highlighted section on the display from 'LANGUAGE' to 'PASCODE'

SERVICE	
LANGUAGE	ENG
DIAGNOSTIC	1-COMP
FOOTPRINT	
PASSCODE	0
Press 2 Sec. for Exit	

3. Press and release the operating dial. The display will change to highlight the 'PASSCODE' value

SERVICE	
LANGUAGE	ENG
DIAGNOSTIC	1-COMP
FOOTPRINT	
PASSCODE	0
Press 2 Sec. for Exit	

4. Rotate the dial to change the displayed 'PASSCODE' value to '131'. Press and release the dial to enter the service program menu.

SERVICE	
LANGUAGE	ENG
DIAGNOSTIC	1-COMP
FOOTPRINT	
PASSCODE	131
Press 2 Sec. for Exit	

5. The display will show the operating profile menu with ''SIMPLE'' highlighted.

SERVICE	
SIMPLE	
SIMPLE +	
CHEF	
CHEF +	
LE CHEF	
EXPERT	>>>
EXPERT +	
Press 2 Sec. for Exit	

6. Rotate the dial to highlight the selected (indicated by symbol '>>>' beside the name) or the required operating profile. Press and release the dial.

SERVICE	
SIMPLE	
SIMPLE +	
CHEF	
CHEF +	
LE CHEF	
EXPERT	>>>
EXPERT +	
Press 2 Sec. for Exit	

7. The display will show the operating program parameter setting screen with ''RE CHILL'' highlighted.

EXPERT	
PRE CHILL	
SOFT CHILL	
HARD CHILL	
HARD MAX	
SHOCK FREEZE	
PROFESSIONAL 1	
PROFESSIONAL 2	
PROFESSIONAL 3	
Press 2 Sec. for Exit	

8. Rotate the dial until the display changes to show 'SYSTEM' highlighted on a page by itself. Press and release the dial.

EXPERT	
SYSTEM	
Press 2 Sec. for Exit	

9. The display will show the individual system parameters with 'UV Light Time' highlighted

SYSTEM	
UV Light Time	0 min
HACCP Enable	NO
Shock Chill Temp.	NO
Chill Hysteresis	4°
Hold Hysteresis	4°
APM Time	2 Min.
APM Diff.	10°
Fan 1 Hold OP.	AUTO
Press 2 Sec. for Exit	

10. Rotate the dial to highlight the parameter 'HACCP Enable'. Press and release the dial.

SYSTEM	
UV Light Time	0 min
HACCP Enable	NO
Shock Chill Temp.	NO
Chill Hysteresis	4°
Hold Hysteresis	4°
APM Time	2 Min.
APM Diff.	10°
Fan 1 Hold OP.	AUTO
Press 2 Sec. for Exit	

11. The display will show the value of 'HACCP Enable' (typically 'NO') highlighted. Rotate the dial until the value changes to 'YES'

SYSTEM	
UV Light Time	0 min
HACCP Enable	NO
Shock Chill Temp.	NO
Chill Hysteresis	4°
Hold Hysteresis	4°
APM Time	2 Min.
APM Diff.	10°
Fan 1 Hold OP.	AUTO
Press 2 Sec. for Exit	

12. With the value changed the dial should be pressed and released. The display will automatically highlight the next parameter (Shock Chill Temp.) the dial should then be pressed and held for 2 seconds to exit the Service Settings menu

SYSTEM	
UV Light Time	0 min
HACCP Enable	YES
Shock Chill Temp.	NO
Chill Hysteresis	4°
Hold Hysteresis	4°
APM Time	2 Min.
APM Diff.	10°
Fan 1 Hold OP.	AUTO
Press 2 Sec. for Exit	

If this procedure is not followed and the 'HACCP Enable' parameter is not changed to 'YES', the controller will not output any information to the printer (or other device) when asked to perform this function.

CONFIGURING THE PRINT FUNCTION

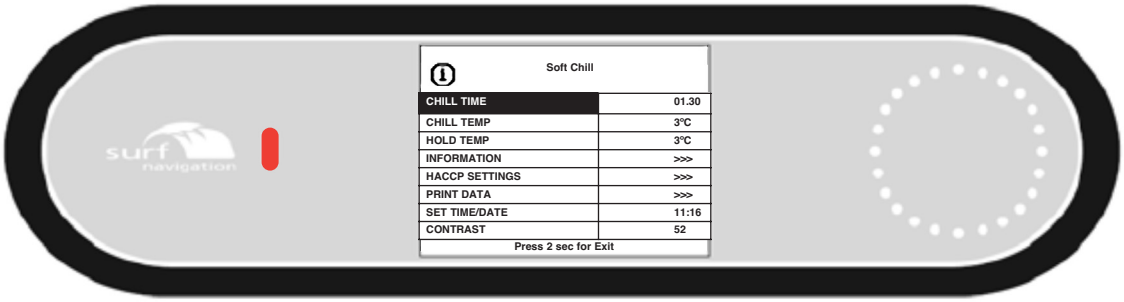
The printing function can be configured by the user in two ways to tailor the system to their requirements. These are:

- Data Rate- which is the frequency of (or interval between) temperature recordings during the chill cycle.
- Type – which determines if a complete time and temperature or summary printout is produced.

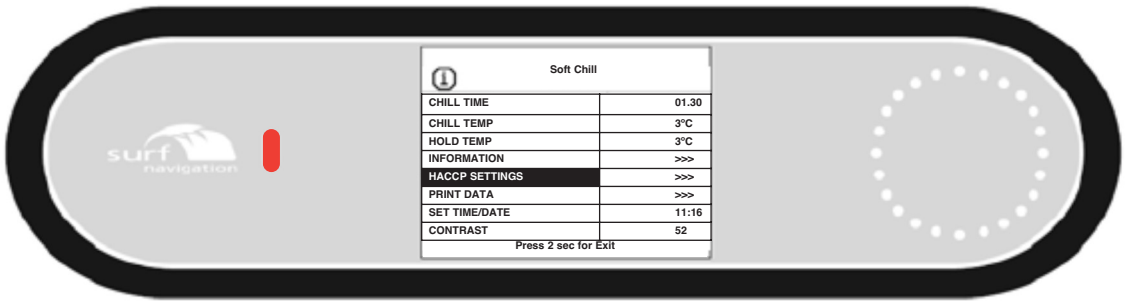
The logging and printing system is configured through the controller in the following manner:

1. With the blast chiller in Standby mode (not running a chill cycle or in hold mode) press the operating dial for 2 seconds.

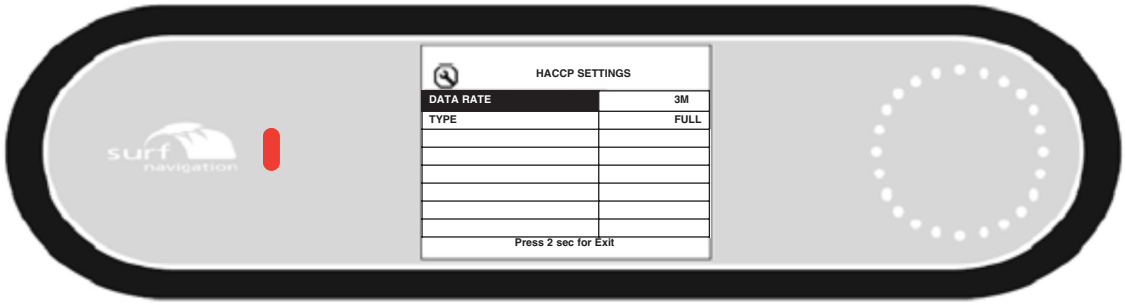
2. The display will show the program Information Menu. Rotating the dial, scroll down until 'HACCP SETTINGS' is highlighted



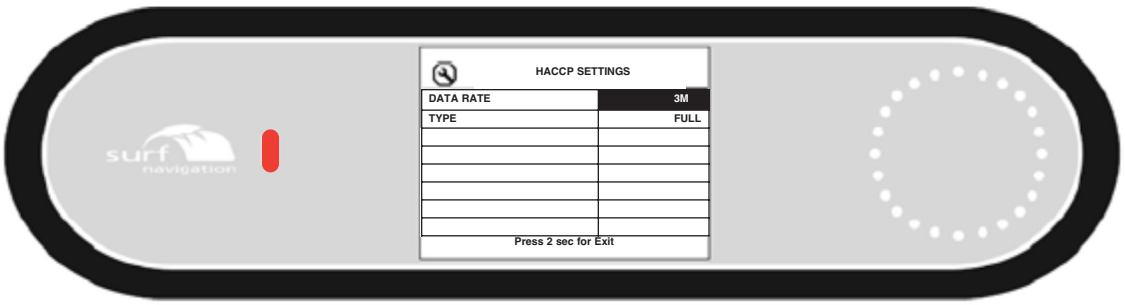
3. Press and release the dial. This will cause the controller to display the 'HACCP SETTINGS' menu



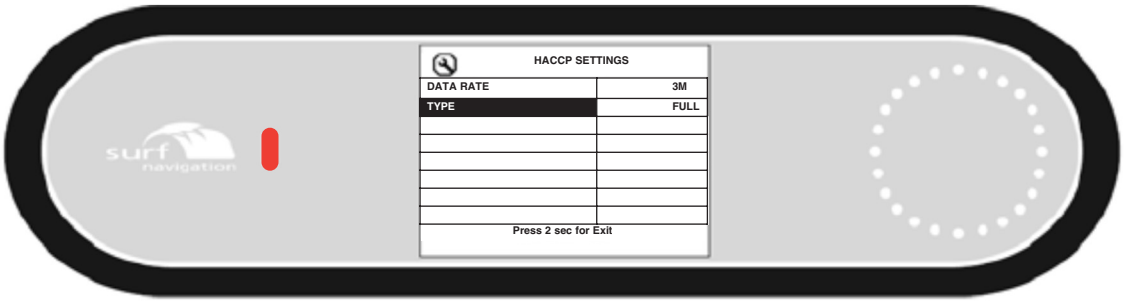
4. 'DATA RATE' will be displayed highlighted. This is the time interval between temperature values being recorded (and subsequently printed) during the chill part of the cycle



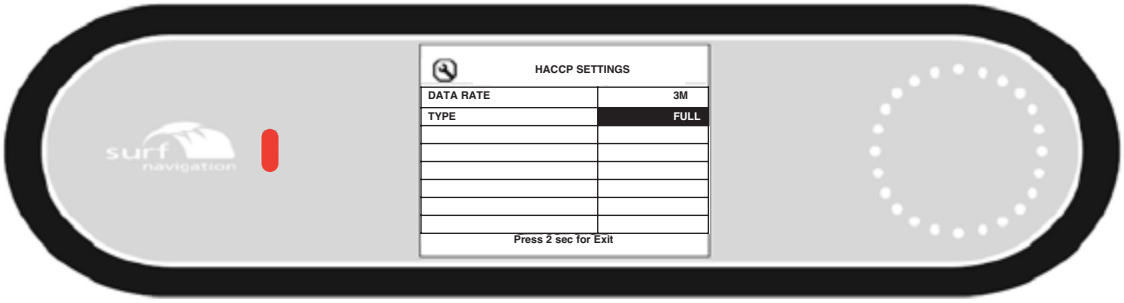
5. Pressing and releasing the dial will cause the value to be highlighted. The data rate may then be changed from 3 minutes to 5 minutes by rotating the dial. Once the required value is displayed the dial is pressed to set it.



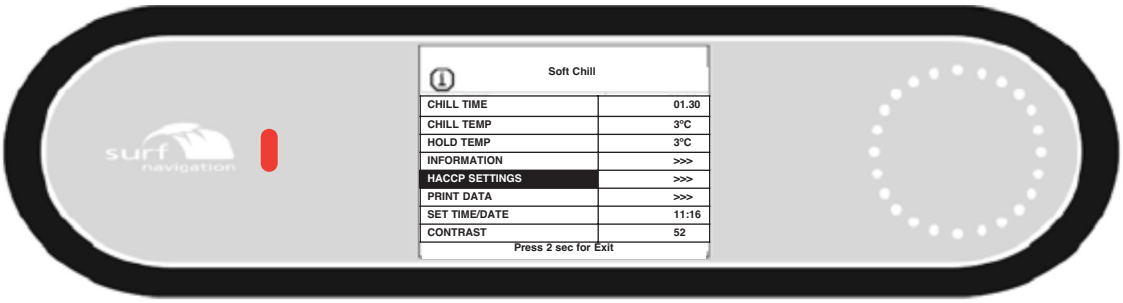
6. From Point 4 the dial can be rotated; or by following through Point 5, the display will change to show 'TYPE' highlighted. To adjust the value of 'TYPE' the dial must be pressed and released



7. The 'TYPE' of printout can be changed from 'FULL' (a complete detailed record) to 'SHORT' (a summary version) by rotating the dial. Once the required value is displayed the dial is pressed to set. The display will revert to highlighting 'DATA RATE'.



8.When the 'HACCP SETTINGS' have been configured the menu is exited either by pressing and holding the dial for 2 seconds or allowing the controller to revert after 20 seconds by itself.



PRINTING OPERATION

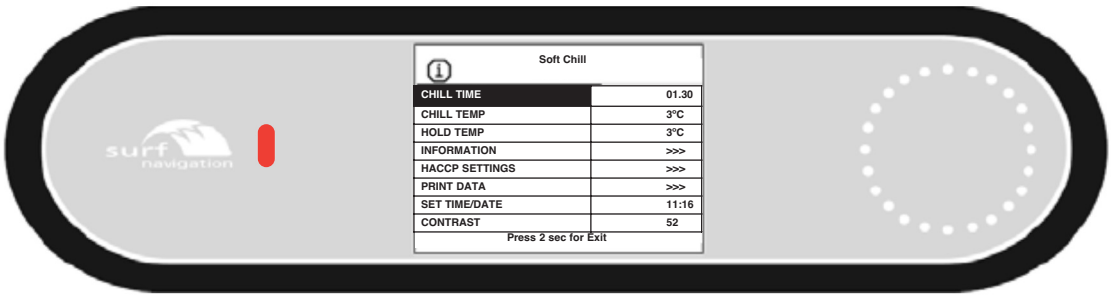
The printing operating is identical for both the cabinet and modular Blast Chiller controller.
For simplicity the diagrams below show just the cabinet variant, but the principles can be directly applied to modular versions.

Prior to starting it is necessary to ensure that the controller has been correctly configured to allow printing, and that the printer has sufficient battery charge and is correctly loaded with paper.

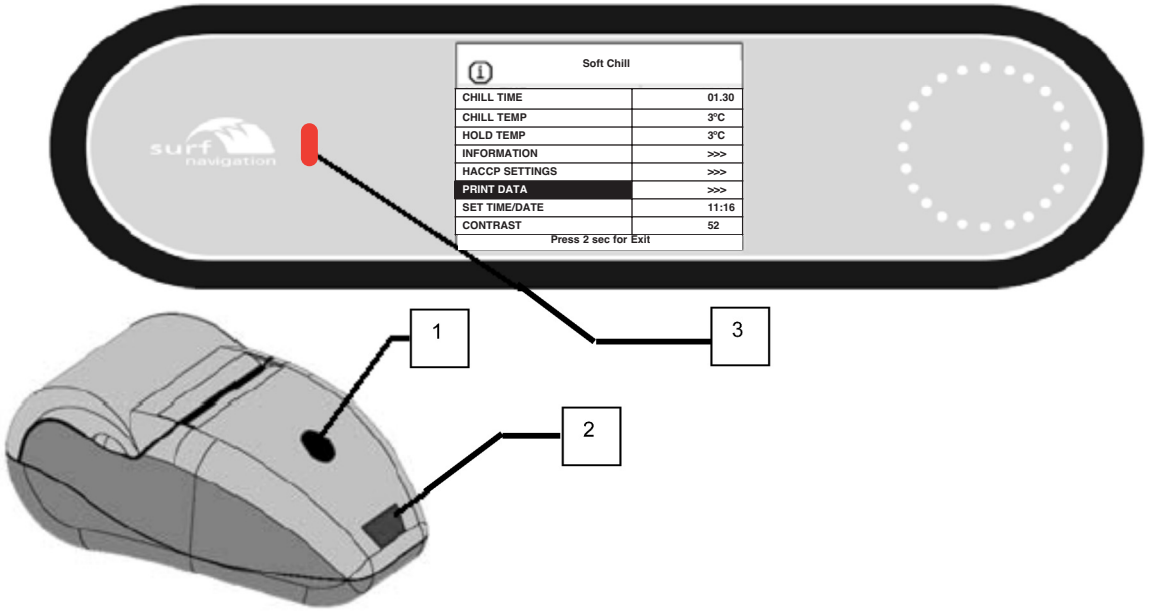
Note: It is not possible to print details of a Pre- Chill or Defrost cycle – the last chill cycle details will be printed

1. With the blast chiller in standby mode (not running a chill cycle or in hold mode) press the operating dial for 2 seconds

2. The display will show the Program Information Menu. Rotating the dial, scroll down until 'PRINT DATA' is highlighted.



3. Press the black button (1) on the top of the printer to switch it on.
Align the printer LED lens (2) with the Blast chiller LED window (3). The Lens and window should be directly facing each other, and about 300 – 450mm (12” to 18”) apart
Press and release the Blast Chiller operating



4. Once the printing has been completed the display will revert to the Program selection menu. Further copies of the printout can be produced as required following the same procedure as detailed in Points 1 to 3.

5. If ‘COMMUNICATION’ is shown on the controller – then there has been a problem with the controller sending data to the printer (i.e. printer not switched on, too far away, window not pointing at the controller etc.)
After 2 seconds the message will disappear and the display will revert to the program selection menu.

Note: Once a new chill cycle has been started all the data in the print memory will be lost.

PRINT OUTPUT

An example of the printer output is shown below along with explanations of various aspects.
Please note that this is a sample printout (the temperatures values against time are simulated) and not taken from an actual cycle

The controller can record 1000 events. That is 1000 time related readings (independent of the number of food probes fitted).
Some samples of the time period that this allows are given below:

'Data Rate' set at 3 minutes.

90 minutes chill cycle:
30 chill time recordings @3 minute intervals.
970 hold time recordings @ 15 minute intervals.
Total time span 244 hours (10 days 4 hours)

240 minute chill (freeze) cycle:
80 chill time recordings @ 3 minute intervals.
920 hold time recordings @ 15 minute intervals.
Total time span 234 hours (9 days 18 hours).

480 minute (maximum) chill cycle:
160 chill time recordings @ 3 minute intervals.
840 hold time recordings @ 15 minute intervals.
Total time span 218 hours (9 days 2 hours).

Data Rate' set at 5 minutes.

90 minutes chill cycle:
18 chill time recordings @ 5 minute intervals.
982 hold time recordings @ 15 minute intervals.
Total time span 247 hours (10 days 7 hours)

240 minute chill (freeze) cycle:
48 chill time recordings @ 5 minute intervals.
952 hold time recordings @ 15 minute intervals.
Total time span 242 hours (10 days 2 hours).

480 minute (maximum) chill cycle:
96 chill time recordings @ 5 minute intervals.
904 hold time recordings @ 15 minute intervals.
Total time span 234 hours (9 days 18 hours).

Once the controller memory is full the controller will stop. It will not over write the memory until a new chill cycle has started.

Cabinet No: is the unique cabinet identifying number generated by System Parameter 'Address'

'Program' is a description of the type of chill cycle program that was selected

'End Time' is the actual time the cabinet chilling process stopped and the controller started the Hold cycle.
This is based on the 24-hour clock and determined by the real time set in the controller.

Duration is the total length of time of the chill cycle. Determined by the use of the food probe this is either the same as set chill time or the actual chill tome required

'End Temp' is the final temperature recorded by the food probe before the cabinet enters the 'Hold' mode.

Full report column header:

ST: indicates STATUS

TIME: indicates Time at which temperature was recorded

Ta: indicates cabinet air temperature.

T1: indicates controlling food probe temperature.

T2: indicates 2nd food probe temperature for information only (if this is not fitted print out shows '—')

T3: indicates 3rd food probe temperature for information only (if this is not fitted print out shows '—')

The transition from Blast mode of the chilling cycle to the Hold mode (longer term storage). There is a double reading of the temperature at this point. The logging interval changes from the selected logging period (either 3 or 5 minutes) to a fixed 15 minutes.

'HD' indicates that the cabinet was in Hold mode when a defrost was automatically initiated. This is recorded on the print out to aid diagnosis of possible rises in the air temperature beyond the normal operating range.
If the food probe (T1) is not inserted into the product the temperature measured by this probe may also rise.

>>>>> CABINET NO. 1

DATE:	14 / 06 / 04
PROGRAM:	SOFT CHILL
START TIME:	08:30
END TIME:	10:00
CYCLE END:	12:30
DURATION:	90 m
START TEMP.:	+75°C
END TEMP.:	+1°C

STATUS: B=Blast H=Hold
A=Alarm D=Defrost P=Power-On

ST:	Time:	Ta:	T1:	T2:	T3:
B.	08:33	+63°	+70°	--	--
B.	08:36	+64°	+65°	--	--
B.	08:39	+60°	+61°	--	--
B.	08:42	+56°	+57°	--	--
B.	08:45	+52°	+53°	--	--
B.	08:48	+48°	+49°	--	--
B.	08:51	+45°	+46°	--	--
B.	08:54	+41°	+41°	--	--
B.	08:57	+37°	+38°	--	--
B.	09:00	+34°	+35°	--	--
B.	09:03	+31°	+31°	--	--
B.	09:06	+27°	+28°	--	--
B.	09:09	+25°	+26°	--	--
B.	09:12	+24°	+24°	--	--
B.	09:15	+20°	+21°	--	--
B.	09:18	+18°	+19°	--	--
B.	09:21	+16°	+17°	--	--
B.	09:24	+14°	+16°	--	--
B.	09:27	+13°	+14°	--	--
B.	09:30	+11°	+12°	--	--
B.	09:33	+9°	+10°	--	--
B.	09:36	+7°	+8°	--	--
B.	09:39	+5°	+7°	--	--
B.	09:42	+5°	+6°	--	--
B.	09:45	+3°	+4°	--	--
B.	09:48	+1°	+2°	--	--
B.	09:51	+5°	+5°	--	--
B.	09:54	+1°	+2°	--	--
B.	09:57	+1°	+3°	--	--
B.	10:00	+0°	-1°	--	--
H.	10:00	+0°	-1°	--	--
H.	10:15	+1°	+2°	--	--
HD	10:30	+4°	+5°	--	--
H.	10:45	+1°	+2°	--	--
H.	11:00	+2°	+3°	--	--
H.	11:15	+0°	-1°	--	--
HP	11:25	····· 14 / 06 / 04 ·····			
H.	11:40	+3°	+4°	--	--
H.	11:55	+1°	+2°	--	--
H.	12:10	+2°	+3°	--	--
H.	12:25	+0°	-1°	--	--

'Date' is the day/ month/ year on which the chill cycle was started. Based on date set in controller.

'Start Time' is the actual time the cabinet chilling process was started. This is based on the 24-hour clock and determined by the time set in the controller.

'Cycle End' is the actual time the cabinet was stopped.

'Start Temp' is the initial temperature recorded by the food probe.

Status definitions as used in the status column.

Depending on how the controller is configured depends on how much of the report is printed.
If the 'TYPE' of report is set to 'SHORT' only this summary section will be printed.
Alternately if the 'TYPE' were set to 'FULL' the entire report would be produced.

'HP' indicates a power failure has occurred that has exceeded the 5-minute threshold. The controller automatically records the time when the power is re-established (along with the date in case of extended power cuts).
The next temperature recording occurs 15 minutes after power is re-established (standard hold time interval).
The user can calculate the duration of the power cut by subtracting the last recorded time from the time when the power is re-established. Along with the air and food probe temperatures a decision could be made on the safety of the food product

Foster Refrigerator
Oldmedow Road, King's Lynn,
Norfolk PE30 4JU
England

Tel: 01553 691122
Fax: 01553 691447
Website: www.fosterrefrigerator.co.uk
E-mail: sales@foster-uk.com

a Division of ITW (UK) Ltd.

INFRARED PRINT INST & OP INS/0405