

JTL FIRMWARE VARIATIONS		LCIS
VERSION	DESCRIPTION	DATE
v0.00.0	Production issue	May 96
v0.00.1	Allows choice of pressure transducer type PTXV18 and PTXV07. Option to drive LED1 display. Pressure transducer location added.	
v0.00.2	Auto zero pressure facility added. PEV kept closed while network command active. Liquid hold off time not started until network command removed.	June 96
v0.00.3	Pressure transducer fault added on item 98. Maximum pressure indication changed as follows: 18 bar transducer with Mk 1 boards - 200.0 psi 18 bar transducer with Mk 2 boards - 250.0 psi 7 bar transducer with Mk 2 boards - 100.0 psi Default pressure transducer now 7 bar.	July 96
v.0.00.4	Refrigeration cut off facility from network command added. Run refrigeration regardless of setpoint network command facility added. On network initiated defrost forced defrost command now sends instruction to set plant into defrost rather than acting locally. Pressure transducer fault only active on PEV control option. Door open refrigeration cut off operation corrected.	Sept 96
v0.00.5	Drain down made operational on all defrost strategies..	Sept 96
v0.00.6	Suction valve option added on item 76.	Sept 96
v0.00.7	Pump down made available on network and contact initiated defrost Defrost information correctly initialized on power up. Pressure transducer function only available with expansion valve control. Pressure transducer fault delay added. Door functions can be deselected. Drain down allowed up to 20 mins. Pump down sequence changed to keep defrost output off in control mode.	Oct 96
v0.00.8	Defrost termination sensor choice added on item 144. Separate termination sensor option added on item 141 with selection on item 147. Excessive Superheat alarm added Fan control selection operation on network corrected During excessive Superheat condition the expansion valve output limited 33% of maximum output. Symmetrical delay added on pressure transducer. Fleeting alarm suppression added to all probes faulty. High temperature alarms can be disabled during defrost (item 127). Minimum defrost time added during which time defrost heater will be cycled if the termination temperature is exceeded (item 145). Coldstore door alarm can be selected to be critical using item 126. Critical alarm displayed on item 96. Thermistors allowed up to 95°C before fault indicated. Defrost gas valve shut whenever selected termination temperature is exceeded. Defrost scheduler communications failure invokes learned defrost facility when using network initiated defrost. Fan control hysteresis added. On plant fault network command the fans are stopped and the defrost termination valve "closed". Display pushbutton function mode selection sequence modified to increase security.	June 97
v0.00.9	Minor executive software amendments. No functional changes.	Aug 97

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v0.01.0	R408A and Ammonia added. Fans only shutdown added. Isolate mode cleared correctly after use. Optimiser functions added on items 200 - 203. Automatic exclusion from suction optimisation added on air sensor fault. Pressure display unit choice added on item 179. Fans operation during defrost recovery in "Fans on always" mode corrected. Door open critical alarm selection dependent on door function selection. Fan operation during forced defrost corrected. Forced defrost alarm added. Communications program by executive called more frequently to reduce communications turn round time for half duplex operation. "Active sign off" added to reduce inter-unit polling delays. Network communications performance information added on items 204 - 207. High temperature alarm disabled when item 32 set to 0.0.	June 98
v0.01.1	Fan delay time added on item 109. Warm start flag added to network communications protocol. Defrost termination time increased to 59 minutes for all bitswitch settings.	June 98
v0.01.2	Display pushbutton test (item 121) amended. Defrost strategy (item 107) default changed to NONE. Defrost relay mode (item 75) default changed to control. Hardware input information on network communications corrected. Time termination strategy corrected. High temperature alarm misoperation in v0.01.0 and v0.01.1 corrected.	July 98
v0.01.3	Temperature choice for display added for Celsius and Fahrenheit on item 122. Automatic network calibration of pressure transducer facility added, selected by item 177. New library software used by executive. Daylight saving operation added using choice on item 18. Maintenance unit display text improved in line with new software library features. NVRAM write handling amended to write to memory after 2 minute delay. Item 9 operation enhanced by allowing NVRAM write without delay by setting value to "1066" Liquid detection control strategy removed. Force pressure average added on item 154 for maintenance purposes. Item 203 suction group available on JTL network communications. Item 206 network zero adjustment range limited to ± 15 psi.	Dec 99
v0.01.4	Network communication failure alarm added on item 252. Network defrost failure mode enhanced to give choice of learned defrost or fixed schedule. Learned defrost correctly activated in event of plant communications fail. Learned defrost schedule visible on items 261 - 272. Valve open logging added on items 240 and 241. Shutdown refrigeration operation added selected by keyswitch input. Enabled by item 138. Factory test date added. Separate minimum superheat and minimum valve opening added for 2 temperature control on items 186 & 187. Learned defrosts problem at midnight corrected. Error where first learned defrost is ignored corrected. Learned defrost saved correctly through a power down of controller. Additional factory information added.	Apr 2000
v0.01.5	Mark 2 pcb introduced. Plant data information added on items 211 - 217 for use with Mark 2 optimisers and defrost scheduling. Additional factory information added. Broadcast "receiving" of site wide data added. Jnet network defrost in backup mode alarm added. Input test feature added on item 100.	Nov 2001
v0.01.6	Service datalogging operation error introduced in v0.01.5 corrected.	Apr 2002

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v0.01.7	<p>Defrost recovery period now lasts for full allowed duration, but when temperature is low enough (as before) dEFr is suppressed on display.</p> <p>Site number recorded.</p> <p>Circuit 0 not allowed on electric defrost data.</p> <p>Unit number range changed to 0.1 to 899.8</p> <p>Time delay added on detection of defrost scheduler fault before action to override is taken.</p> <p>Network comms initialised to prevent transmit enable on for 10 seconds after power up on Mark 2 boards.</p> <p>Item 412 added to show current defrost strategy in operation.</p> <p>Items 411 & 413 repeat items 107 & 144 for convenience.</p> <p>Temperatures added on items 421 - 425 for test purposes. Note, these temperatures are <u>NOT</u> dependant on sensor selections.</p> <p>Jnet communications level upgraded to 2.</p> <p>Changes to factory settings invokes read of factory data by network controller.</p> <p>Jnet awake enhanced.</p> <p>JTL site number broadcast.</p> <p>Hardware tests fully controllable by network communications.</p> <p>Item 214 (414) enhanced to add gas & off cycle defrosts.</p>	Feb 2004