Maintenance Panel Error Code Summary for Xerox 1108 Interlisp-D

There are two types of maintenance panel codes: progress codes and error codes. Progress codes are placed in the Maintenance Panel at various stages of initialization. Error codes are traps which freeze or blink the error number in the maintenance panel. All errors except the 9000-range errors are fatal.

Summary of MP code ranges

0000-0499 boot-time diagnostics
0500-0699 IOP code
0700-0899 Pilot microcode
0900-0999 Pilot
1000-6999 tech-rep diagnostics
7000-8887 Star
8888-8888 MP lamp test
9000-9999 Lisp

Boot-time errors

0096 Insufficient real memory (<1MByte) for lisp

0149 Usually right after power-on. Disk not ready. Safe and effective to 0-boot from this state.

0200-0299 Booting phase 2 (Initial microcode)

0200 normal booting phase 2

0201 CP error in reading from boot device

0202 null Mesa germ installed in physical volume

0203 broken rigid disk boot chain (possibly intermittent)

0204 Illegal IOP port command

0205 CP Trap (CS parity or double-bit memory error)

0206 null diagnostic microcode in physical volume

0207 null Pilot/Mesa emulator microcode in physical volume

0208 null Mesa germ installed in physical volume

0217 Inconsistent Virtual Memory. Requires re-installation or try another partition.

0500-0502 Domino progress codes

0500	StartDomino	Domino has started
0501	InitReadTOD	Domino starting to read the TOD clock
0502	InitReadTODdone	Reading of TOD clock completed (next MP number from Lisp)

0505-0599 Domino error codes

0505	CSParity	CS parity error detected
0506	BurdockCPDisabled	Burdock attempted to use EtherKludge
0507	CPBurdockDisabled	CP attempted to use EtherKludge
0508	IOPBreak	An IOP break with no IOP kernel
0509	IllegalIOPIntr	Illegal IOP interrupt
0510	BadMapEntry	Incorrect vm Map entry in IOP access.
0511	NoCPDmaComplete	CP Dma operation failed to complete
0512	NoCPDmaChannel	CP Dma channel not specified
0513	ReadCPPortDead	CP not responding to Read CPPort
0514	WriteCPPortDead	CP not responding to Write CPPort
0520	StackOverflow	A task's stack has overflowed
0565	InvToneCmd	Invalid keyboard tone generator comnd
0570	InvProcCmd	Invalid cmd value in Processor CSB
0571	UnImplCmd	Unimplemented cmd in Processor CSB
0572	SetTODError	The Time-Of-Day could not be set
0576	LSEPCtlOVR	LSEP Control CSB overrun
0580	NoValidCommand	Invalid floppy IOCB command

0581	UnImplFloppyCmd	Unimplemented floppy IOCB cmd
0582	InvalidEscapeCmd	Invalid Escape floppy cmd
0583	CommandTrack	Floppy track register is not correct
0584	TrackToBig	Floppy track number is too large
0585	BadDmaChannel	Couldn't program Floppy Dma
0586	NoDmaEndCount1	External Dma End Count not set
0587	NoDmaEndCount2	Internal Dma End Count not set

0900-0999 Pilot codes

0915 Pilot breakpoint

0937 Trying to find out the time and date. Will hang in this state if no time server is responding, and the time has not been set on the machine since power-up.

0981 Trying to discover Ethernet pup host number. Will hang in this state if non-Lisp code tries to perform Pup operations and no Pup ID Server responds.

9000-9299 DLion Interlisp-D microcode error detected

Most of these errors are indicative of some serious problem, probably hardware, and usually fatal (but try ^D if you can't TeleRaid). The main exception is 9004 see description of code 9304.

9001	CSParErr	Control store parity error
9002	StackErr	hardware stack overflow
9003	IBEmptyErr	instruction fetch unit empty error
9004	VirtAddrErr	Attempt to reference virtual address >22 bits
9005	EmuMemErr	double bit memory error or non-existent memory
9013	NegPcError	inconsistent PC at FnCall
9014	applyUfn	arg to apply not integer
9016	notFreeTrap	stack allocation error
9024	Page fault in the page fault handler.	
9048	ReFOvr page fault under page fault	
9049	Ghost context switch	
9051	BadUfnTable	
9120	MiscErr	opcode no such register
9121	MiscErr	opcode bad 2nd byte
9127	PcNegError	inconsistent PC at Punt
9136	CycleMask	bad caller
9129	M1Loc	microcode error
9130	M2Loc	microcode error
9131	M3Loc	microcode error

9300-9399 Lisp system code error (call to \MP.ERROR)

These codes generally indicate an error state in Lisp system code that cannot be handled in the break package. Most are "should never happen" cases that indicate a serious error; but some (in particular, 9305 and 9318) may be much less serious. If possible, use TeleRaid to find out more information (press the Undo key to enter the TeleRaid server (cursor changes into "TeleRaid"), and run the TeleRaid user from another machine). Even if you can't TeleRaid from another machine, several of these codes you can convert into a Lisp break if the world is still mostly consistent and the error occurred under user code (rather than, say, the garbage collector): type ^B to the TeleRaid server. Summary of TeleRaid server commands:

^B attempt to enter Break. If error is in a special system context, will change cursor to "CANT", indicating refusal to enter break.

^D perform Hard Reset clear stack, flush all non-restartable processes.

^N continue from error. This is usually not possible, except for code 9318, or when you got a 9915 error by typing ^C while the Raid interrupt was enabled.

^P display Pup host number (in decimal) in maintenance panel.

9302 Invalid Vmem: attempt to boot an image that is not a valid Lisp sysout, or which is inconsistent from

having some, but not all, of its dirty pages written. Can happen if you boot instead of calling LOGOUT. Usually caught sooner as code 217.

9303 "No place for IOCB page at startup" should never happen.

9304 Map out of bounds: attempt to use a pointer larger than the virtual address space of the machine. Usually means garbage was fetched from somewhere that should have contained a pointer. This usually appears as code 9004 instead.

9305 Invalid address: attempt to use a pointer that does not refer to an existing (allocated) part of virtual memory. Usually means garbage was fetched from somewhere that should have contained a pointer. This error can often be converted to a break with the ^B TeleRaid command.

9306 Invalid virtual page. Usually caught sooner, as a 9004.

9307 "Unavailable page on real page chain" inconsistent state in page fault handler.

9308 "Loop in \SELECTREALPAGE" inconsistent state in page fault handler.

9309 Attempt to allocate already existing page (from call to \NEWPAGE).

9310 "\DONEWPAGE failed to allocate new map page"

9311 "Locked page occupies a file page needed to lock another" bad state in virtual memory system.

9312 Arg to CLOCK0 not an integer box.

9313 Fault on resident page: processor took a page fault for a page that appears to be resident.

9314 PageFault on stack: shouldn't happen, as stack is resident.

9316 Attempt to extend vmem beyond 8MB (can only happen if running with VMEM.PURE.STATE on).

9317 Attempt to write a locked page when not under \FLUSHVM bad state in virtual memory system.

9318 Error in uninterruptable system code: an error that ordinarily would enter a break (e.g., a type test failure), but in a piece of code that should not be user-interruptable. This is generally a sign that some datum used by system code has been smashed, but this is not always fatal. Should you not have a wizard handy to diagnose the error with TeleRaid, you can type ^N after entering the TeleRaid server; Lisp will go ahead and attempt to enter a the break anyway, from which (if it succeeds) you might be able to glean more information about the problem.

9319 Stack full: hard stack overflow. A soft stack overflow (Lisp break "STACK FULL") occurs when the stack is mostly used up; if you proceed beyond that point without resetting you can completely fill the stack and get this MP code. Press STOP to perform a HARDRESET to clear the stack, or run TeleRaid to find out who was guilty of overflowing the stack.

9320 MDS full: the space for allocation of fixed-length objects is completely exhausted. A continuable Lisp break "STORAGE FULL" occurs when MDS is nearly full.

9321 Unknown UFN: attempt to execute an unimplemented opcode. This usually means that the processor is trying to execute random memory, or took a wild jump somewhere. Often a microcode bug.

9322 Atoms full: the limit on number of litatoms (2^15) has been reached.

9323 Pnames full: there is no more space for storing the pnames of litatoms. This is unlikely to occur unless you create an extraordinary number of litatoms with very long pnames.

9324 Stack frame use count overflow: the program has attempted to create more than 200 references to the same stack frame.

9400-9899 unassigned

9900-9924 Attempt to call Raid or Alto O.S. (BCPL Subr).

The only one that is likely to ever occur is 9915, call to RAID. Note that if you have the Raid interrupt enabled (by default on ^C), you will get a 9915 error by typing that interrupt character.

9905 NOOPSUBR
9906 \BACKGROUNDSUBR
9907 \CHECKBCPLPASSWORD
9908 DISKPARTITION
9909 DSPBOUT
9910 \DSPRATE
9911 \GATHERSTATS
9912 \GETPACKETBUFFER
9913 \LISPFINISH

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\MOREVMEMFILE
RAID
\READRAWPBI
\WRITERAWPBI
SETSCREENCOLOR
SHOWDISPLAY
\PUPLEVEL1STATE
\WRITESTATS
\CONTEXTSWITCH
\COPYSYS0SUBR
\WRITEMAP
```