

Inter-Office Memorandum

To Alto Maintainers

Date January 27, 1975

From Ed McCreight

Location Palo Alto

Subject Reserved Alto Memory Locations

Organization CSL

XEROX

I have resisted this memo as long as possible. However it now seems that without it programs will soon begin stepping on each others' private special reserved Alto memory locations. This memo purports to list the entire set of locations which are believed to be preserved across subsystem calls, or which are held to be special by hardware or microcode. If you know of other locations which should be in this list, please let me know. The czar carries the heavy burden of adjudicating territorial disputes, for which he hopes he will not need the wisdom of Solomon.

Page 0:

#0 - #17: Set to #77400 (SWAT - Morris)

Page 1:

#420: Display List Header (Std. Microcode - Thacker)  
#421: Display Interrupt Bitword (Std. Microcode - Thacker)  
#422: Interval Timer Stored Quantity (Std. Microcode - Thacker)  
#423: Interval Timer Bitword (Std. Microcode - Thacker)  
#424: Mouse X coordinate (Std. Microcode - Thacker)  
#425: Mouse Y coordinate (Std. Microcode - Thacker)  
#426: Cursor X coordinate (Std. Microcode - Thacker)  
#427: Cursor Y coordinate (Std. Microcode - Thacker)  
#430: Real Time Clock (Std. Microcode - Thacker)  
#431 - #450: Cursor bitmap (Std. Microcode - Thacker)  
#452: Interrupt wakeups waiting (Std. Microcode - Thacker)  
#453: Active interrupt bitword (Std. Microcode - Thacker)  
#457: 0 (extension of Mask Table) (Lisp Microcode - Deutsch)  
#460 - #477: Mask Table for Convert (Std. Microcode - Thacker)  
#500: Saved interrupt PC (Std. Microcode - Thacker)  
#501 - #517: Interrupt Transfer Vector (Std. Microcode - Thacker)  
#511: SWAT Interrupt (SWAT - Morris)  
#521: Disk command block header (Std. Microcode - McCreight)  
#522: Disk status (Std. Microcode - McCreight)  
#523: Disk address of latest command (Std. Microcode - McCreight)  
#524: Disk sector interrupt bitword (Std. Microcode - McCreight)  
#525: Interval timer time (Std. Microcode - Thacker)  
#527: Trap saved PC (Std. Microcode - Thacker)  
#530 - #567: Trap vector (Std. Microcode - Thacker)  
#567: SWAT Breakpoint Trap (SWAT - Morris)  
#572 - #577: Timer software (boot shouldn't disturb) (Deutsch)  
#600: Ethernet post location (Std. Microcode - Metcalfe)  
#601: Ethernet interrupt bit mask (Std. Microcode - Metcalfe)  
#602: Ethernet EOT count (Std. Microcode - Metcalfe)

#603: Ethernet load location (Std. Microcode - Metcalfe)  
#604: Ethernet input buffer count (Std. Microcode - Metcalfe)  
#605: Ethernet input buffer pointer (Std. Microcode - Metcalfe)  
#606: Ethernet output buffer count (Std. Microcode - Metcalfe)  
#607: Ethernet output buffer pointer (Std. Microcode - Metcalfe)  
#610: Ethernet serial number (Std. Microcode - Metcalfe)  
#611 - #613: Reserved for Ethernet expansion (Std. Microcode - Metcalfe)  
#614 - #621: Parity error state (Std. Microcode - Thacker)  
#622: Tape Control Block Head (Tape Microcode - Boggs)  
#630: Scan Line Table Pointer (Run Code Microcode - Laws)  
#631: Scan Line Count (Run Code Microcode - Laws)  
#632: Interrupt Mask (Run Code Microcode - Laws)  
#633: Reserved but currently unused. (Run Code Microcode - Laws)  
#700 - #706: Saved Registers (SWAT.16 - Morris)  
#720 - #777: Reserved on EARS Alto (EARS Microcode - Rider)  
#776 - #777: Reserved for music (Music microcode - Kaehler)

Page 2:

#1002: Command subsystem (McCreight)  
#1013 - #1014: SWAT linkage (Morris)

Middle of memory:

#77400 - #100377: Music block, DAC buffer (Music Microcode - Kaehler)  
#140000 - #144377: Data Line Scanner Tables (DLS Microcode - Thacker)

Last 2 pages (I/O devices):

#177016 - #177017: Printer output (Std. Hardware - Thacker)  
#177030 - #177033: Printer status, Mouse, Keyset (Std. Hardware - Thacker)  
#177034 - #177037: Keyboard (Std. Hardware - Thacker)  
#177100: Scriptographics tablet X (reserved) (Run Code Hardware - Laws)  
#177101: Scriptographics tablet Y (reserved) (Run Code Hardware - Laws)  
#177102: Cursor X (Run Code Hardware - Laws)  
#177103: Cursor Y (Run Code Hardware - Laws)  
#177104: Cursor Color (5 bits) (Run Code Hardware - Laws)  
#177105: Edge Color (Run Code Hardware - Laws)  
#177106: Red, Green or Blue color memory (Run Code Hardware - Laws)  
#177107 - #177117: Reserved (Run Code Hardware - Laws)  
#177120 - #177137: Cursor Pattern - 16x16 Pixels (Run Code Hardware - Laws)  
#177140 - #177157: Organ Keyboard (Organ Hardware - Kaehler)  
#177140 - #177177: Color Map Data (Run Code Hardware - Laws)  
#177200: Status In (PROM Programmer Hardware - McCreight)  
#177201: Current Off (PROM Programmer Hardware - McCreight)  
#177202: Current On (PROM Programmer Hardware - McCreight)  
#177203: PROM Address Out (PROM Programmer Hardware - McCreight)  
#177204: Control Out (PROM Programmer Hardware - McCreight)  
#177340 - #177777: EARS Data Buffer (EARS Hardware - Rider)  
#177770 - #177777: Tape Drive Control (Redactron Tape Drive - Thacker)  
#177776: Scriptographics tablet X (Tablet Hardware - Clark)  
#177776: Digital-Analog Converter (DAC Hardware - Kaehler)  
#177777: Scriptographics tablet Y (Tablet Hardware - Clark)