

; QuickDraw Equates -- This file defines the public equates for QuickDraw.

; Transfer modes

srcCopy	EQU	0
srcOr	EQU	1
srcXor	EQU	2
srcBic	EQU	3
notSrcCopy	EQU	4
notSrcOr	EQU	5
notSrcXor	EQU	6
notSrcBic	EQU	7
patCopy	EQU	8
patOr	EQU	9
patXor	EQU	10
patBic	EQU	11
notPatCopy	EQU	12
notPatOr	EQU	13
notPatXor	EQU	14
notPatBic	EQU	15

; Definitions for Font Style Bits (right to left)

boldBit	EQU	0
italicBit	EQU	1
ulineBit	EQU	2
outlineBit	EQU	3
shadowBit	EQU	4
condenseBit	EQU	5
extendBit	EQU	6

; FontInfo record

ascent	EQU	0	; ascent [word]
descent	EQU	2	; descent [word]
widMax	EQU	4	; maximum width [word]
leading	EQU	6	; leading [word]

; Point structure

v	EQU	0	; vertical coordinate [word]
h	EQU	2	; horizontal coordinate [word]

; Rectangle structure

topLeft	EQU	0	; upper left corner [point]
botRight	EQU	4	; lower right corner [point]
top	EQU	0	; top coordinate [word]
left	EQU	2	; left coordinate [word]

```
bottom      EQU 4      ; bottom coordinate [word]
right       EQU 6      ; right coordinate [word]

; Bitmap Structure

baseAddr    EQU 0      ; bitmap base address [pointer]
rowBytes    EQU 4      ; row bytes (must be even) [word]
```

```

bounds          EQU 6           ; bounding box [rectangle]
bitmapRec       EQU 14          ; size of a bitmap

```

```

; Cursor Structure

```

```

data            EQU 0           ; visible bits [32 bytes]
mask            EQU $20          ; mask bits [32 bytes]
hotSpot         EQU $40          ; relative origin [point]
cursRec         EQU 68          ; size of a cursor

```

```

; PenState record

```

```

psLoc           EQU 0           ; pen location [point]
psSize          EQU 4           ; pen size [point]
psMode          EQU 8           ; pen mode [word]
psPat           EQU 10          ; pen [pattern]
psRec           EQU 18          ; size of pen state

```

```

; Polygon record

```

```

polySize        EQU 0           ; total bytes [word]
polyBBox        EQU 2           ; bounding box [rectangle]
polyPoints      EQU 10          ; vertices [Points]

```

```

; Region Structure

```

```

rgnSize         EQU 0           ; total bytes [word]
rgnBBox         EQU 2           ; bounding box [rectangle]
rgnData         EQU 10          ; region data [array]

```

```

; Picture Structure

```

```

picSize         EQU 0           ; total bytes [word]
picFrame        EQU 2           ; bounding box [rectangle]
picData         EQU 10          ; picture byte codes [array]

```

```

; QDProcs structure

```

```

textProc        EQU 0           ; [pointer]
lineProc        EQU 4           ; [pointer]
rectProc        EQU 8           ; [pointer]
rRectProc       EQU $C          ; [pointer]
ovalProc        EQU $10          ; [pointer]
arcProc         EQU $14          ; [pointer]
polyProc        EQU $18          ; [pointer]
rgnProc         EQU $1C          ; [pointer]
bitsProc        EQU $20          ; [pointer]
commentProc     EQU $24          ; [pointer]
txMeasProc      EQU $28          ; [pointer]
getPicProc      EQU $2C          ; [pointer]
putPicProc      EQU $30          ; [pointer]

```

qdProcsRec	EQU	\$34	; size of QDProcs record
; GrafPort Structure			
device	EQU	\$0	; device code [word]
portBits	EQU	\$2	; port's bitmap [bitmap]
portBounds	EQU	\$8	; bounding box of bitmap [rect]

portRect	EQU	\$10	; port's rectangle [rect]
visRgn	EQU	\$18	; visible region [handle]
clipRgn	EQU	\$1C	; clipping region [handle]
bkPat	EQU	\$20	; background [pattern]
fillPat	EQU	\$28	; fill [pattern]
pnLoc	EQU	\$30	; pen location [point]
pnSize	EQU	\$34	; pen size [point]
pnMode	EQU	\$38	; pen mode [word]
pnPat	EQU	\$3A	; pen [pattern]
pnVis	EQU	\$42	; pen visible [word]
txFont	EQU	\$44	; text font [word]
txFace	EQU	\$46	; text face [word]
txMode	EQU	\$48	; text mode [word]
txSize	EQU	\$4A	; text size [word]
spExtra	EQU	\$4C	; space extra [fixed]
fgColor	EQU	\$50	; foreground color mask [long]
bkColor	EQU	\$54	; background color mask [long]
colrBit	EQU	\$58	; color bit [word]
patStretch	EQU	\$5A	; pattern stretch [word]
picSave	EQU	\$5C	; picture being saved [handle]
rgnSave	EQU	\$60	; region being saved [handle]
polySave	EQU	\$64	; polygon being saved [handle]
grafProcs	EQU	\$68	; QDProcs array [pointer]
portRec	EQU	\$6C	; size of grafport

; QuickDraw Global Variables

GrafGlobals	EQU	0	; A5 offset to globptr
thePort	EQU	0	;GrafPtr
white	EQU	thePort-8	;Pattern
black	EQU	white-8	;Pattern
gray	EQU	black-8	;Pattern
ltGray	EQU	gray-8	;Pattern
dkGray	EQU	ltGray-8	;Pattern
arrow	EQU	dkGray-68	;Cursor
screenBits	EQU	arrow-14	;BitMap
randSeed	EQU	screenBits-4	;LONGINT

; Color Separation

normalBit	EQU	0	; normal screen mapping
inverseBit	EQU	1	; inverse screen mapping
redBit	EQU	4	; RGB additive mapping
greenBit	EQU	3	; for photos from screen
blueBit	EQU	2	
cyanBit	EQU	8	; CMYBk subtractive mapping
magentaBit	EQU	7	; for ink jet printer

yellowBit	EQU	6
blackBit	EQU	5
blackColor	EQU	33
whiteColor	EQU	30
redColor	EQU	205
greenColor	EQU	341
blueColor	EQU	409

```

cyanColor      EQU  273
magentaColor   EQU  137
yellowColor    EQU   69

```

```
; Standard Picture Comments
```

```

picLParen      EQU   0
picRParen      EQU   1

```

```
; QuickDraw verbs
```

```

frame          EQU   0
paint          EQU   1
erase          EQU   2
invert         EQU   3
fill           EQU   4

```

```
; QuickDraw private global variables
```

```

wideOpen       EQU   randSeed-4      ;RgnHandle
wideMaster     EQU   wideOpen-4      ;RgnPtr
wideData       EQU   wideMaster-10   ;Fake Region
rgnBuf         EQU   wideData-4      ;PointsHandle
rgnIndex       EQU   rgnBuf-2        ;INTEGER
rgnMax         EQU   rgnIndex-2      ;INTEGER
playPic        EQU   rgnMax-4        ;Long
qdSpare0       EQU   playPic-2       ;unused word
thePoly        EQU   qdSpare0-4      ;POLYHANDLE
polyMax        EQU   thePoly-2       ;INTEGER
patAlign       EQU   polyMax-4       ;Point
fontAdj        EQU   patAlign-4      ;Fixed Point
fontPtr        EQU   fontAdj-4       ;long, ^FMOutput record
playIndex      EQU   fontPtr-4       ;long
fontData       EQU   playIndex-22    ;unused word
lastGrafGlob   EQU   fontData
grafSize       EQU   4-lastGrafGlob   ;total size in bytes

```

```
;*****FROM HERE TO THE ENDIF IS ALL THE NEW STUFF FOR COLOR QUICKDRAW
```

```

hilightBit     EQU   7               ; flag bit in HilightMode (lowMem flag)

```

```
; Equates for resource ID's
```

```

defQDColors    EQU   127            ; resource ID of clut for default QDColors

```

```

;
; PixMap field offsets
;

```

pmBaseAddr	EQU	\$0	; [long]	
pmNewFlag	EQU	\$4	; [1 bit]	upper bit of rowbytes is flag
pmRowBytes	EQU	\$4	; [word]	
pmBounds	EQU	\$6	; [rect]	
pmVersion	EQU	\$E	; [word]	pixMap version number
pmPackType	EQU	\$10	; [word]	defines packing format


```

pmPackSize      EQU  $12      ; [long]   size of pixel data
pmHRes          EQU  $16      ; [fixed] h. resolution (ppi)
pmVRes          EQU  $1A      ; [fixed] v. resolution (ppi)
pmPixelFormat    EQU  $1E      ; [word]   defines pixel type
pmPixelSize     EQU  $20      ; [word]   # bits in pixel
pmCmpCount      EQU  $22      ; [word]   # components in pixel
pmCmpSize       EQU  $24      ; [word]   # bits per field
pmPlaneBytes    EQU  $26      ; [long]   offset to next plane
pmTable         EQU  $2A      ; [long]   color map
pmReserved      EQU  $2E      ; [long]   MUST BE 0

pmRec           EQU  $32      ; size of pixMap record

;
;      PixPat field offsets
;

patType         EQU  $0        ; [word] type of pattern
patMap          EQU  $2        ; [long] handle to pixmap
patData         EQU  $6        ; [long] handle to data
patXData        EQU  $A        ; [long] handle to expanded pattern data
patXValid       EQU  $E        ; [word] flags whether expanded pattern valid
patXMap         EQU  $10       ; [long] handle to expanded pattern data
pat1Data        EQU  $14       ; [8 bytes] old-style pattern/RGB color

ppRec           EQU  $1C      ; size of pixPat record

;
;      Pattern types
;

oldPat          EQU  0         ; foreground/background pattern
newPat          EQU  1         ; self-contained color pattern
ditherPat       EQU  2         ; rgb value to be dithered

oldCsrPat       EQU  $8000     ; old-style cursor
cCsrPat         EQU  $8001     ; new-style cursor

;
;      additional offsets in a color GrafPort
;

portPixMap      EQU  portBits  ; [long] pixelMap handle
portVersion     EQU  portPixMap+4 ; [word] port version number
grafVars        EQU  portVersion+2 ; [long] handle to more fields
chExtra         EQU  grafVars+4 ; [word] character extra
pnLochHFract    EQU  chExtra+2 ; [word] pen fraction

bkPixPat        EQU  bkPat     ; [long] handle to bk pattern
rgbFgColor      EQU  bkPixPat+4 ; [6 bytes] RGB components of fg color
rgbBkColor      EQU  rgbFgColor+6 ; [6 bytes] RGB components of bk color

```

```
pnPixPat      EQU  $3A      ; [long] handle to pen's pattern
fillPixPat    EQU  pnPixPat+4 ; [long] handle to fill pattern

;
;
;      GDevice field offsets
```


crsrHotSpot	EQU	crsrMask+32	:[POINT] HOT-SPOT FOR CURSOR
crsrXTable	EQU	crsrHotSpot+4	:[LONG] TABLE ID FOR EXPANDED DATA
crsrID	EQU	crsrXTable+4	:[LONG] ID FOR CURSOR
crsrRec	EQU	crsrID+4	:SIZE OF CURSOR SAVE AREA

```
;
;
;      Clcon (Color Icon) field offsets
```

```
iconPMap      EQU 0                ;[PIXMAP] ICON'S PIXMAP
iconMask      EQU iconPMap+pmRec    ;[BITMAP] 1-BIT VERSION OF ICON ONE-BIT
; MASK FOR ICON
iconBMap      EQU iconMask+bitmapRec ;[BITMAP] 1-BIT VERSION OF ICON
iconData      EQU iconBMap+bitmapRec ;[LONG] HANDLE TO PIXMAP DATA
; FOLLOWED BY BMAP AND MASK DATA
iconRec       EQU iconData+4        ; SIZE OF ICON HEADER
```

```
;
;
;      Gamma Table format
```

```
gVersion      EQU 0                ; [word] gamma version number
gType         EQU gVersion+2        ; [word] gamma data type
gFormulaSize  EQU gType+2           ; [word] Formula data size
gChanCnt      EQU gFormulaSize+2    ; [word] number of channels of data
gDataCnt      EQU gChanCnt+2        ; [word] number of values/channel
gDataWidth    EQU gDataCnt+2        ; [word] bits/corrected value (data packed to next
; larger byte size)
gFormulaData  EQU gDataWidth+2      ; [array] data for formulas, followed by gamma values
```

```
;
;
;      EXTENSIONS TO THE QDPROCS RECORD
```

```
opcodeProc    EQU $34              ; [pointer]
newProc1      EQU $38              ; [pointer]
newProc2      EQU $3C              ; [pointer]
newProc3      EQU $40              ; [pointer]
newProc4      EQU $44              ; [pointer]
newProc5      EQU $48              ; [pointer]
newProc6      EQU $4C              ; [pointer]
cqdProcsRec   EQU $50              ; size of QDProcs record
```

```
;
;
;      OFFSETS WITHIN GRAFVARs:
```

```
rgbOpColor    EQU 0                ; [6 bytes] color for addPin, subPin and average
rgbHiliteColor EQU rgbOpColor+6     ; [6 bytes] color for hiliting
pmFgColor     EQU rgbHiliteColor+6  ; [4 bytes] palette handle for foreground color
pmFgIndex     EQU pmFgColor+4       ; [2 bytes] index value for foreground
pmBkColor     EQU pmFgIndex+2       ; [4 bytes] palette handle for background color
pmBkIndex     EQU pmBkColor+4       ; [2 bytes] index value for background
pmFlags       EQU pmBkIndex+2       ; [2 bytes] flags for Palette Manager

grafVarRec    EQU pmFlags+2         ; size of grafVar record
```

```
; color manager equates
```

```
; RGBColor structure
red          EQU  $0      ;red channel intensity  [short]
green        EQU  $2      ;green channel intensity [short]
blue         EQU  $4      ;blue channel intensity  [short]
```

```

rgbColor          EQU  $6          ;size of record

; ColorSpec structure

value             EQU  $0          ;value field          [short]
rgb               EQU  $2          ;rgb values           [rgbColor]
colorSpecSize     EQU  $8          ;size of record

; MatchRec structure

;red              EQU  $0          ;defined in RGBColor
;green            EQU  $2          ;defined in RGBColor
;blue             EQU  $4          ;defined in RGBColor
matchData         EQU  $6          ; [long]
matchRecSize      EQU  $A

;
;          ColorTable field offsets
;

ctSeed            EQU  0           ; [long] id number for table
transIndex        EQU  ctSeed+4    ; [word] index of transparent pixel
ctSize            EQU  transIndex+2; [word] number of entries in CTTable
ctTable           EQU  ctSize+2    ; [variant] array of color spec

ctRec             EQU  ctTable     ; size of record without color table
ctEntrySize       EQU  8          ; size of each entry in table

minSeed           EQU  1023        ; minimum seed value (< minSeed reserved for rsrc ID's)

protect           EQU  7          ; protect bit is bit #8
reserveBit        EQU  6          ; reserve bit is bit #7

invalColReq       EQU  -1         ; invalid color table request

; CProcRec structure

nxtComp           EQU  $0          ;link to next proc    [pointer]
compProc          EQU  $4          ;pointer to routine   [pointer]
cProcSize         EQU  8          ; size of CProcRec

; inverse Table structure
ITabSeed          EQU  $0          ;[long] ID of owning color table
ITabRes           EQU  $4          ;[word] client ID
ITTable           EQU  $6          ;table of indices starts here

; SProcRec structure

nxtSrch           EQU  $0          ;[pointer] link to next proc
srchproc          EQU  $4          ;[pointer] pointer to routine
sProcSize         EQU  8          ; size of SProcRec

```

; request List structure

reqLSize	EQU	0	; request list size [word]
reqLData	EQU	2	; request list data [words]

;System Equates -- This file defines the low-level equates for the Macintosh software. The comments marked with ";+" denote categories or managers.

```
PCDeskPat      EQU   $20B      ; desktop pat, top bit only! others are in use
HiKeyLast      EQU   $216      ; Same as KbdVars
KbdLast        EQU   $218      ; Same as KbdVars+2

ExpandMem      EQU   $2B6      ; pointer to expanded memory block
expandSize     EQU   64        ; size of expanded memory block

; more specific fields for _Open

ioMix          EQU   $1C        ; General purpose field imported by driver[long]
ioFlags        EQU   $20        ; General purpose flags [word]
ioSlot         EQU   $22        ; Slot [byte]
iold           EQU   $23        ; Id [byte]

ioSEBlkPtr     EQU   $22        ; Pointer to the seBlock [long]

; ioFlags:
fMulti         EQU   $00        ; b0 = fMulti: ioSEBlkPtr is valid (ioSlot, iold are invalid)

; Test Manager EQU's
videoMagic     EQU   $5A932BC7; When VideoInfoOk contains this value, the video card is ok
(CritErr).

; Unit table size constants (Used in startInit.a)
unitEntries    EQU   64        ; default # of entries in unit table
maxUTEntries   EQU   unitEntries+64 ; Set Max higher so the table can grow.

bgnSlotUnit    EQU   48        ; default start unit number for slots.
bgnSlotRef     EQU   -(bgnSlotUnit+1) ; default start RefNum for slots.

; Start Boot state constants.
sbState0      EQU   0          ;StartBoot code is at state-0.
sbState1      EQU   1          ;StartBoot code is at state-1.

; The Alarm Clock

alarmFIEnable  EQU   0          ; 1 => alarm clock mechanism is triggered

; start of new low mem

SCSIBase      EQU   $0C00      ; (long) base address for SCSI chip read
SCSIDMA       EQU   $0C04      ; (long) base address for SCSI DMA
```

Appendix B - System Equates 17

SCSIHsk	EQU	\$0C08	; (long) base address for SCSI handshake
SCSIGlobals	EQU	\$0C0C	; (long) ptr for SCSI mgr locals
RGBBlack	EQU	\$0C10	; (6 bytes) the black field for color <C413>
RGBWhite	EQU	\$0C16	; (6 bytes) the white field for color <C413>
RowBits	EQU	\$0C20	; (word) screen horizontal pixels

ColLines	EQU	\$0C22	; (word) screen vertical pixels
ScreenBytes EQU		\$0C24	; (long) total screen bytes
; \$0C28 unused (was SlotDT)			
NMIFlag	EQU	\$0C2C	; (byte) flag for NMI debounce
VidType	EQU	\$0C2D	; (byte) video board type ID
VidMode	EQU	\$0C2E	; (byte) video mode (4=4bit color)
SCSIPoll	EQU	\$0C2F	; (byte) poll for device zero only once. ; (init to \$FFFF, by default)
SEVarBase	EQU	\$0C30	; (\$0C30-0CB0) 128 bytes for sys err data ; note!!! - if changed, need to change also in hwequ file
MMUFlags	EQU	\$0CB0	; (byte) cleared to zero (reserved for future use)
MMUType	EQU	\$0CB1	; (byte) kind of MMU present
MMU32bit	EQU	\$0CB2	; (byte) boolean reflecting current machine MMU mode
MMUFluff	EQU	\$0CB3	; (byte) fluff byte forced by reducing MMUMode to MMU32bit.
MMUTbl	EQU	\$0CB4	; (long) pointer to MMU Mapping table
MMUTblSize	EQU	\$0CB8	; (long) size of the MMU mapping table
SInfoPtr	EQU	\$0CBC	; (long) pointer to Slot manager information
ASCBBase	EQU	\$0CC0	; (long) pointer to Sound Chip
SMGlobals	EQU	\$0CC4	; (long) pointer to Sound Manager Globals
TheGDevice	EQU	\$0CC8	; (long) the current graphics device
CQDGlobals	EQU	\$0CCC	; (long) quickDraw global extensions
; TEMPORARY EQUATES			
DeskCPat	EQU	\$0CD8	;[PixPatHandle] Handle to desk pixPat
DeskPatDisable	EQU	\$0CDC	;[byte/boolean] if 0, then use deskCPat
ADDBase	EQU	\$0CF8	; (long) pointer to Front Desk Buss Variables
WarmStart	EQU	\$0CFC	; (long) flag to indicate it is a warm start
wmStConst	EQU	\$574C5343	; warm start constant
TimeDBRA	EQU	\$0D00	; (word) number of iterations of DBRA per millisecond
TimeSCCDB	EQU	\$0D02	; (word) number of iter's of SCC access & DBRA.
SlotQDT	EQU	\$0D04	; ptr to slot queue table
SlotPrTbl	EQU	\$0D08	; ptr to slot priority table
SlotVBLQ	EQU	\$0D0C	; ptr to slot VBL queue table
ScrnVBLPtr	EQU	\$0D10	; save for ptr to main screen VBL queue
SlotTICKS	EQU	\$0D14	; ptr to slot tickcount table

;4appletalk	EQU	\$0D1C	; (long) pointer to appletalk globals
TableSeed	EQU	\$0D20	; (long???) seed value for color table ID's
SRsrcTblPtr	EQU	\$0D24	; (long) pointer to slot resource table.

JVBLTask	EQU	\$0D28	; vector to slot VBL task interrupt handler
WMgrCPort	EQU	\$0D2C	; window manager color port
VertRRate	EQU	\$0D30	; (word) Vertical refresh rate for start manager.
; additional private low memory globals for nuMac's and later			
;SynListHandle	EQU	\$0D32	;a handle to a list of synthesized fonts
;LastFore	EQU	\$0D36	;8 bytes: last foreground and background colors (FM)
;LastMode	EQU	\$0D3E	;word: last text mode (Font Manager)
;LastDepth	EQU	\$0D40	;word: last depth font prepared for
;FMExist	EQU	\$0D42	;byte: clear if InitFonts has already been called
; Unused \$0D43-0D53			
;MBProcHndl	EQU	\$0D54	; Alladin/ handle to current menubar defproc
;mRect	EQU	\$0D58	; Alladin/ used by mbar defproc
;MenuCInfo	EQU	\$0D5C	; handle to menu color table
ChunkyDepth	EQU	\$0D60	; depth of the pixels
CrsrPtr	EQU	\$0D62	; pointer to cursor save area
PortList	EQU	\$0D66	; list of grafports<C14X>
MickeyBytes	EQU	\$0D6A	; long pointer to cursor stuff
QDErr	EQU	\$0D6E	; QuickDraw error code [word]
VIA2DT	EQU	\$0D70	; 32 bytes for VIA2 dispatch table for NuMac ; uses \$0D70 - \$0D8F
SInitFlags	EQU	\$0D90	; StartInit.a flags [word]
DTQueue	EQU	\$0D92	; (10 bytes) deferred task queue header
DTQFlags	EQU	\$0D92	; flag word for DTQueue
DTskQHdr	EQU	\$0D94	; ptr to head of queue
DTskQTail	EQU	\$0D98	; ptr to tail of queue
JDTInstall	EQU	\$0D9C	; (long) ptr to deferred task install routine
HiliteRGB	EQU	\$0DA0	; 6 bytes: rgb of hilite color
TimeSCSIDB	EQU	\$0DA6	; (word) number of iter's of SCSI access & DBRA
DSCtrAdj	EQU	\$0DA8	; (long) Center adjust for DS rect.
IconTLAddr	EQU	\$0DAC	; (long) pointer to where start icons are to be put.
VideoInfoOK	EQU	\$0DB0	; (long) Signals to CritErr that the Video card is ok
EndSRTPtr	EQU	\$0DB4	; (long) Pointer to the end of the Slot Resource Table (Not the SRT buffer).

SDMJumpTblPtr	EQU	\$0DB8	; (long) Pointer to the SDM jump table
JSwapMMU	EQU	\$0DBC	; (long) jump vector to SwapMMU routine
SdmBusErr	EQU	\$0DC0	; (long) Pointer to the SDM busErr handler
LastTxGDevice	EQU	\$0DC4	; (long) copy of TheGDevice set up for fast text measure

```
; Unused $0DC8-... ; PLEASE MAINTAIN THIS POINTER TO UNUSED
```

```
; CRSRSAVE $88C-8CB is no longer used
; *** RESERVED FOR USE BY QUICKDRAW ***
```

```
NewCsrJTbl      EQU   $88C      ; location of new csr jump vectors
NewCsrJCnt      EQU   1         ; 2 new vectors
JAllocCsr       EQU   $88C      ; (long) vector to routine that allocates cursor
JSetCCsr        EQU   $890      ; (long) vector to routine that sets color cursor
JOpcodeProc     EQU   $894      ; (long) vector to process new picture opcodes
CRSRBASE        EQU   $898      ; (long) scrnBase for cursor
CsrDevice       EQU   $89C      ; (long) current cursor device
SrcDevice       EQU   $8A0      ; (LONG) Src device for Stretchbits
MainDevice      EQU   $8A4      ; (long) the main screen device
DeviceList      EQU   $8A8      ; (long) list of display devices
CRSRROW         EQU   $8AC      ; (word) rowbytes for current cursor screen
QDColors        EQU   $8B0      ; (long) handle to default colors
```

```
; QuickDraw
```

```
HiliteMode      EQU   $938      ; used for color highlighting
```

```
; END OF TEMPORARY EQUATES
```

```
; Exception vectors
```

```
BusErrVct       EQU   $08      ; bus error vector
```

```
;-----
; MMU Equates
;-----
```

```
; MMU Mode bits
;
; type MMU_Mode = (true32b,false32b)
```

```
false32b       EQU   0         ;modified
true32b         EQU   1
```

```
;+ System Error Handler
```

```
RestProc        EQU   $A8C      ; Resume procedure f      InitDialogs [pointer]
```

```
; equates for new queue elements
```

```
slQType         EQU   6         ; slot interrupt queue element ID    <C409>
```

```
;Default Startup
```

```
;DefaultRec offsets for set/get default startup
```

```
drDriveNum      EQU    0      ;[INTEGER]  
drRefNum        EQU    2      ;[INTEGER]
```


; Deferred Task Queue Element

dtQType	EQU	7	; deferred task queue element ID
inDTQ	EQU	6	; bit index for "in deferred task" flag
dtLink	EQU	0	; Link to next element [pointer]
dtType	EQU	4	; Unique ID for validity [word]
dtFlags	EQU	6	; optional flags [word]
dtAddr	EQU	8	; service routine [pointer]
dtParm	EQU	\$C	; optional A1 parameter [long]
dtResrvd	EQU	\$10	; reserved [long]
dtQEISize	EQU	20	; length of DT queue element in bytes

;+ ROM Equates

ROM85	EQU	\$28E	; (word) actually high bit - 0 for ROM vers \$75 (sic) and later
ROMMapHndl	EQU	\$B06	; (long) handle of ROM resource map

;+ Screen Equates

ScrVRes	EQU	\$102	; screen vertical dots/inch [word]
ScrHRes	EQU	\$104	; screen horizontal dots/inch [word]
ScrnBase	EQU	\$824	; Screen Base [pointer]
ScreenRow	EQU	\$106	; rowBytes of screen [word]

; Mouse/Keyboard

MBTicks	EQU	\$16E	; tick count @ last mouse button [long]
JKybdTask	EQU	\$21A	; keyboard VBL task hook [pointer]
KeyLast	EQU	\$184	; ASCII for last valid keycode [word]
KeyTime	EQU	\$186	; tickcount when KEYLAST was rec'd [long]
KeyRepTime	EQU	\$18A	; tickcount when key was last repeated [long]

;+ Parameter RAM (a twenty byte copy of the real parameter ram).

SPConfig	EQU	\$1FB	; config bits: 4-7 A, 0-3 B (see use type below)
SPPortA	EQU	\$1FC	; SCC port A configuration [word]
SPPortB	EQU	\$1FE	; SCC port B configuration [word]

; SCC Serial Chip Addresses

SCCRd	EQU	\$1D8	; SCC base read address [pointer]
SCCWrr	EQU	\$1DC	; SCC base write address [pointer]

; Serial port use type

useFree	EQU	0	; Use undefined
useATalk	EQU	1	; AppleTalk

```
useAsync      EQU    2      ; Async
useExtClk     EQU    3      ; externally clocked

; Unpacked, user versions of parameter ram

DoubleTime    EQU    $2F0    ; double click ticks [long]
```

CaretTime	EQU	\$2F4	; caret blink ticks [long]
KeyThresh	EQU	\$18E	; threshold for key repeat [word]
KeyRepThresh	EQU	\$190	; key repeat speed [word]
SdVolume	EQU	\$260	; Global volume(sound) control [byte]

;+ System Clocks

Ticks	EQU	\$16A	; Tick count, time since boot [long]
Time	EQU	\$20C	; clock time (extrapolated) [long]

;+ Cursor

iBeamCursor	EQU	1	; text selection cursor
crossCursor	EQU	2	; for structured selection
plusCursor	EQU	3	; for drawing graphics
watchCursor	EQU	4	; for indicating a long delay

; result codes for Relstring call

sortsBefore	EQU	-1	; str1 < str2
sortsEqual	EQU	0	; str1 = str2
sortsAfter	EQU	1	; str1 > str2

;+ Queue Package

qInUse	EQU	7	; queue-in-use flag bit
--------	-----	---	-------------------------

; Header Record

qHeadSize	EQU	\$A	; queue header size
qFlags	EQU	0	; miscellaneous flags [word]
qHead	EQU	2	; first element in queue [pointer]
qTail	EQU	6	; last element in queue [pointer]

; General Purpose Queue Element Definition

qLink	EQU	0	; link to next queue element [pointer]
qType	EQU	4	; queue element type [word]

;+ Event Manager

evType	EQU	4	; event queue element is type 4
--------	-----	---	---------------------------------

; Event Type Numbers (in EvtNum)

nullEvt	EQU	0	; event 0 is the null event
mButDwnEvt	EQU	1	; mouse button down is event 1

mButUpEvt	EQU	2	; mouse button up is event 2
keyDwnEvt	EQU	3	; key down is event 3
keyUpEvt	EQU	4	; key up is event 4
autoKeyEvt	EQU	5	; auto-repeated key is event 5
updatEvt	EQU	6	; update event
diskInsertEvt	EQU	7	; disk-inserted event
activateEvt	EQU	8	; activate/deactive event

netWorkEvt	EQU	\$A	; network event
ioDrvrEvt	EQU	\$B	; driver-defined event
app1Evt	EQU	\$C	; application defined events
app2Evt	EQU	\$D	
app3Evt	EQU	\$E	
app4Evt	EQU	\$F	

; Modifier bits in event record

activeFlag	EQU	\$0	; activate?
btnState	EQU	\$7	; state of button?
cmdKey	EQU	\$8	; command key down?
shiftKey	EQU	\$9	; shift key down?
alphaLock	EQU	\$A	; alpha lock down?
optionKey	EQU	\$B	; option key down?

; Event Record Definition

evtNum	EQU	0	; event code [word]
evtMessage	EQU	2	; event message [long]
evtTicks	EQU	6	; ticks since startup [long]
evtMouse	EQU	\$A	; mouse location [long]
evtMeta	EQU	\$E	; state of modifier keys [byte]
evtMBut	EQU	\$; state of mouse button [byte]
evtBlkSize	EQU	\$10	; size in bytes of the event record
MonkeyLives	EQU	\$100	; monkey lives if >= 0 [word]
SEvtEnb	EQU	\$15C	; enable SysEvent calls from GNE [byte]
JournalFlag	EQU	\$8DE	; journaling state [word]
JournalRef	EQU	\$8E8	; Journalling driver's refnum [word]

;+ Memory Manager

; Master pointer bits for handles - USE _HLock, _HPurge, etc. for portability

lock	EQU	7	; lock bit in a master pointer
purge	EQU	6	; bit for purgeable/unpurgeable
resource	EQU	5	; bit to flag a resource handle
RSDHndl	EQU	\$28A	; resource driver handle (-1 until initialized)

BufPtr	EQU	\$10C	; top of application memory [pointer]
StkLowPt	EQU	\$110	; Lowest stack as measured in VBL task [pointer]
TheZone	EQU	\$118	; current heap zone [pointer]
ApplLimit	EQU	\$130	; application limit [pointer]
SysZone	EQU	\$2A6	; system heap zone [pointer]
ApplZone	EQU	\$2AA	; application heap zone [pointer]
HeapEnd	EQU	\$114	; end of heap [pointer]
HiHeapMark	EQU	\$BAE	; (long) highest address used by a zone below sp<01Nov85

JTC>

MemErr	EQU	\$220	; last memory manager error [word]
maxSize	EQU	\$800000	; outrageously large memory mgr request
dfltStackSize	EQU	\$00002000	; 8K size for stack
mnStackSize	EQU	\$00000400	; 1K minimum size for stack

; _InitZone argument table.

startPtr	EQU	0	; Start address for zone [pointer]
limitPtr	EQU	4	; Limit address for zone [pointer]
cMoreMasters	EQU	8	; Number of masters to allocate at time [word]
pGrowZone	EQU	10	; growZone procedure [pointer]

; Control/Status Call Codes

killCode	EQU	1	; KillIO code
drvStsCode	EQU	8	; status call code for drive status
ejectCode	EQU	7	; control call eject code
tgBuffCode	EQU	8	; set tag buffer code

; Driver flags, (Bit definitions for DCtlFlags byte)

dReadEnable	EQU	0	; enabled for read operations
dWritEnable	EQU	1	; enabled for writing
dCtlEnable	EQU	2	; enabled for control operations
dStatEnable	EQU	3	; enabled for status operations
dNeedGoodBye	EQU	4	; needs a "goodbye kiss"
dNeedTime	EQU	5	; needs "main thread" time
dNeedLock	EQU	6	; needs to be accessed at interrupt level

; Run-Time flags, (Bit definitions for DCtlFlags+1 byte)

dOpened	EQU	5	; bit to mark driver 'Open'
dRAMBased	EQU	6	; 1=RAM-based Driver, 0=ROM-based
drvActive	EQU	7	; bit to mark the driver active

; Drive queue element offsets

dQDrive	EQU	\$6	; drive number [word]
dQRefNum	EQU	\$8	; driver refnum [word]
dQFSID	EQU	\$A	; file system handling this drive [word]
dQDrvSz	EQU	\$C	; number of blocks this drive [word]
dQDrvSz2	EQU	\$E	; if qType = 1, high word of drive size

; Queue Element Type Definitions

ioQType	EQU	2	; I/O queue element is type 2
drvQType	EQU	3	; timer queue element is type 3
fsQType	EQU	5	; File System VCB element

; Device Control Entry Definition

dCtlEntrySize	EQU	\$34	; length of a DCE [52 bytes]
dCtlDriver	EQU	0	; driver [handle]
dCtlFlags	EQU	4	; flags [word]
dCtlQueue	EQU	6	; queue header

dCtlQHead	EQU	8	; queue first-element [pointer]
dCtlQTail	EQU	\$C	; queue last-element [pointer]
dCtlPosition	EQU	\$10	; position [long]
dCtlStorage	EQU	\$14	; driver's private storage [handle]
dCtlRefNum	EQU	\$18	; refNum of this driver [word]
dCtlCurTicks	EQU	\$1A	; counter for timing systemTask calls [long]
dCtlWindow	EQU	\$1E	; driver's window (if any) [pointer]

dCtlDelay	EQU	\$22	; number of ticks between sysTask calls [word]
dCtlEMask	EQU	\$24	; desk accessory event mask [word]
dCtlMenu	EQU	\$26	; menu ID associated with driver [word]
dCtlSlot	EQU	\$28	; device slot Number [byte]
dCtlSlotId	EQU	\$29	; device Id within slot [byte]
dCtlDevBase	EQU	\$2A	; driver scratch ptr/offset from base to device [long]
dCtlOwner	EQU	\$2E	; ptr to task control block(ownership) [Ptr]
dctlExtDev	EQU	\$32	; Id of external device [byte]

; Driver Globals

UTableBase	EQU	\$11C	; unit I/O table [pointer]
UnitNtryCnt	EQU	\$1D2	; count of entries in unit table [word]

JFetch	EQU	\$8F4	; fetch a byte routine for drivers [pointer]
JStash	EQU	\$8F8	; stash a byte routine for drivers [pointer]
IODone	EQU	\$8FC	; IODone entry location [pointer]

;Chooser

chooserID	EQU	1	; caller value for the chooser
-----------	-----	---	--------------------------------

;+ I/O System

; File positioning modes for ioPosMode field of I/O record

fsAtMark	EQU	0	; at current position of mark
fsFromStart	EQU	1	; offset relative to beginning of file
fsFromLEOF	EQU	2	; offset relative to logical end-of-file
fsFromMark	EQU	3	; offset relative to current mark
rdVerify	EQU	\$40	; read verify mode

; Permission values for ioPermsn field of I/O record

fsCurPerm	EQU	0	; whatever is currently allowed
fsRdPerm	EQU	1	; request to read only
fsWrPerm	EQU	2	; request to write only
fsRdWrPerm	EQU	3	; request to read and write
fsRdWrShPerm	EQU	4	; request for shared read and write

; I/O record (general fields with trap-specific ones listed below)

ioQEISize	EQU	\$32	; length of I/O parameter block [50 bytes]
ioLink	EQU	\$0	; queue link in header [pointer]
ioType	EQU	\$4	; type for safety check [byte]
ioTrap	EQU	\$6	; the trap [word]
ioCmdAddr	EQU	\$8	; address to dispatch to [pointer]
ioCompletion	EQU	\$C	; completion routine [pointer]

ioResult	EQU	\$10	; I/O result code [word]
ioFileName	EQU	\$12	; file name pointer [pointer]
ioVRefNum	EQU	\$16	; volume refnum [word]
ioDrvNum	EQU	\$16	; drive number [word]
ioRefNum	EQU	\$18	; file reference number [word]
ioFileType	EQU	\$1A	; specified along with FileName [byte]

; specific fields for _Read, _Write

ioBuffer	EQU	\$20	; data buffer [pointer]
ioByteCount	EQU	\$24	; requested byte count [long]
ioNumDone	EQU	\$28	; actual byte count completed [long]
ioPosMode	EQU	\$2C	; initial file positioning mode/eol char [word]
ioPosOffset	EQU	\$2E	; file position offset [long]

; specific fields for _Allocate

ioReqCount	EQU	\$24	; requested new size [long]
ioActCount	EQU	\$28	; actual byte count allocated [long]

; specific fields for _Open

ioPermssn	EQU	\$1B	; permissions [byte]
ioOwnBuf	EQU	\$1C	; "private" 522-byte buffer [pointer]

; specific fields for _ReName

ioNewName	EQU	\$1C	; new name pointer [pointer]
-----------	-----	------	------------------------------

; specific fields for _GetFileInfo, _SetFileInfo

ioFQEISize	EQU	\$50	; File command parameter length [80 bytes]
ioFDirIndex	EQU	\$1C	; directory index of file [word]
ioFIAttrib	EQU	\$1E	; in-use bit=7, lock bit=0 [byte]
ioFFIType	EQU	\$1F	; file type [byte]
ioFIUsrWds	EQU	\$20	; finder info [16 bytes]
ioFFINum	EQU	\$30	; file number [long]
ioDirID	EQU	\$30	; directory ID
ioFIStBlk	EQU	\$34	; start file block (0000 if none) [word]
ioFILgLen	EQU	\$36	; logical length (EOF) [long]
ioFIPyLen	EQU	\$3A	; physical length in bytes [long]
ioFIRStBlk	EQU	\$3E	; resource fork's start file block [word]
ioFIRLgLen	EQU	\$40	; resource fork's logical length (EOF) [long]
ioFIRPyLen	EQU	\$44	; resource fork's physical length [long]
ioFICrDat	EQU	\$48	; creation date & time [long]
ioFIMdDat	EQU	\$4C	; last modification date & time [long]

; Specific fields for _GetEOF, _SetEOF

ioLEOF	EQU	\$1C	; logical end-of-file [long]
--------	-----	------	------------------------------

; Specific fields for _SetFileType

```
ioNewType          EQU    $1C          ; new type byte [byte]

; Specific fields for _GetVollInfo, _GetVolume, _SetVolume, _MountVol, _UnmountVol, _Eject.
; Note that these traps have a bigger record size.

ioVQEISize          EQU    $40          ; Volume command parameter length [64 bytes]
ioVDrvNum           EQU    $16          ; drive or volume number [word]
```

ioVNPtr	EQU	\$12	; name buffer (or zero) [pointer]
ioVolIndex	EQU	\$1C	; volume index number [word]
ioVCrDate	EQU	\$1E	; creation date & time [long]
ioVLsBkUp	EQU	\$22	; last backup date & time [long]
ioVAtrb	EQU	\$26	; Volume attributes [word]
ioVNmFls	EQU	\$28	; # files in directory [word]
ioVDirSt	EQU	\$2A	; start block of file dir [word]
ioVBILn	EQU	\$2C	; length of dir in blocks [word]
ioVNmAIBlks	EQU	\$2E	; num blks (of alloc size) this dev [word]
ioVAIBlkSiz	EQU	\$30	; alloc blk byte size [long]
ioVClpSiz	EQU	\$34	; bytes to try to allocate at a time [long]
ioAIBlSt	EQU	\$38	; starting block in block map [word]
ioVNxtFNum	EQU	\$3A	; next free file number [long]
ioVFrBlk	EQU	\$3E	; # free alloc blks for this vol [word]
;--- New File System Equates ---			
;			
; Catalog structure equates:			
fsRtParID	EQU	1	; DirID of parent's root
fsRtDirID	EQU	2	; Root DirID
fsXTCNID	EQU	3	; Extent B*-Tree file ID
fsCTCNID	EQU	4	; Catalog B*-Tree file ID
fsUsrCNID	EQU	\$10	; First assignable user CNode ID
; Additional equates for catalog information return:			
ioFIBkDat	EQU	\$50	; File's last backup date
ioFlxFndrInfo	EQU	\$54	; File's additional finder info bytes
ioFIParID	EQU	\$64	; File's parent directory ID
ioFIClpSiz	EQU	\$68	; File's clump size, in bytes
; Additional equates for directory information return:			
ioDirFlg	EQU	4	; Bit in ioFIAttrb set to indicate directory
ioDrUsrWds	EQU	\$20	; Directory's user info bytes
ioDrDirID	EQU	\$30	; Directory ID
ioDrNmFls	EQU	\$34	; Number of files in a directory
ioDrCrDat	EQU	\$48	; Directory creation date
ioDrMdDat	EQU	\$4C	; Directory modification date
ioDrBkDat	EQU	\$50	; Directory backup date
ioDrFndrInfo	EQU	\$54	; Directory finder info bytes
ioDrParID	EQU	\$64	; Directory's parent directory ID
ioHFQEISiz	EQU	\$6C	; Size of a Hierarchical File Queue Element
; Additional equates for _TFGetVolInfo:			
ioVLsMod	EQU	\$22	; Last modification date
ioVSigWord	EQU	\$40	; Volume signature

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ioVCBVMst	EQU	\$2A	
ioVNxtCNID	EQU	\$3A	
ioVDrvInfo	EQU	\$42	; Drive number (0 if volume is offline)
ioVDRefNum	EQU	\$44	; Driver refNum
ioVFSID	EQU	\$46	; ID of file system handling this volume
ioVBkup	EQU	\$48	; Last backup date (0 if never backed up)
ioVSeqNum	EQU	\$4C	; Sequence number of this volume in volume set

ioVWrCnt	EQU	\$4E	; Volume write count
ioVFilCnt	EQU	\$52	; Total number of files on volume
ioVDirCnt	EQU	\$56	; Total number of directories on the volume
ioVFndrInfo	EQU	\$5A	; Finder information for volume
ioHVQEISize	EQU	\$7A	; Length of Hierarchical Volume information PB

; New fields for _GetFCBInfo:

ioFCBIndx	EQU	\$1C	; FCB index for _GetFCBInfo
ioFCBFiller1	EQU	\$1E	; filler
ioFCBFINm	EQU	\$20	; File number
ioFCBFlags	EQU	\$24	; FCB flags
ioFCBStBlk	EQU	\$26	; File start block
ioFCBEOF	EQU	\$28	; Logical end-of-file
ioFCBPLen	EQU	\$2C	; Physical end-of-file
ioFCBCrPs	EQU	\$30	; Current file position
ioFCBVRefNum	EQU	\$34	; Volume refNum
ioFCBClpSiz	EQU	\$36	; File clump size
ioFCBParID	EQU	\$3A	; Parent directory ID

; New fields for _GetWDInfo:

ioWDIndex	EQU	\$1A	; Working Directory index for _GetWDInfo
ioWDProcID	EQU	\$1C	; WD's ProcID (long)
ioWDVRefNum	EQU	\$20	; WD's Volume RefNum (word)
ioWDDirID	EQU	\$30	; WD's DirID (long)

; New fields for _FSControl call:

ioFSVrsn	EQU	\$20	; File system version
----------	-----	------	-----------------------

; New field for CatMove

ioNewDirID	EQU	\$24	; destination directory for CatMove
------------	-----	------	-------------------------------------

;

;--- End of New File System Equates ---

; Specific fields for _Control, _Status

csCode	EQU	\$1A	; control/status code [word]
csParam	EQU	\$1C	; operation-defined parameters [22 bytes]

; FInfo (Finder Information) record layout

fdType	EQU	\$0	; type of file [long]
fdCreator	EQU	\$4	; file's creator [long]
fdFlags	EQU	\$8	; flags [word]
fdLocation	EQU	\$A	; file's location [point]
fdFldr	EQU	\$E	; file's window [word]

; added for HFS

; FXInfo record layout

fdIconID	EQU	\$0	; Icon ID [word]
fdUnused	EQU	\$2	; unused but reserved [4 words]


```

fdComment      EQU   $A      ; Comment ID [word]
fdPutAway      EQU   $C      ; Home Dir ID [2 words]

```

```

; DInfo record layout

```

```

frRect         EQU   $0      ; Folder Rect [4 words]
frFlags        EQU   $8      ; Flags [word]
frLocation     EQU   $A      ; Location [2 words]
frView         EQU   $E      ; Folder view [word]

```

```

; DXInfo record layout

```

```

frScroll       EQU   $0      ; scroll position [2 words]
frOpenChain    EQU   $4      ; dirID chain of open folders [2 words]
frUnused       EQU   $8      ; unused but reserved [word]
frComment      EQU   $A      ; comment [word]
frPutAway      EQU   $C      ; Dir ID [2 words]

```

```

;end of addition

```

```

; Masks for fdFlags field of FInfo record defined above

```

```

fHasBundle     EQU   13      ; set if file has a bundle
fInvisible     EQU   14      ; set if file's icon is invisible
fTrash         EQU   -3      ; file is in Trash window
fDesktop       EQU   -2      ; file is on desktop
fDisk          EQU   0       ; file is in disk window

```

```

; File System Globals

```

```

DrvQHdr        EQU   $308    ; queue header of drives in system [10 bytes]
BootDrive      EQU   $210    ; drive number of boot drive [word]
EjectNotify    EQU   $338    ; eject notify procedure [pointer]
IAZNotify      EQU   $33C    ; world swaps notify procedure [pointer]
SFSaveDisk    EQU   $214    ; last vRefNum seen by standard file [word]
CurDirStore    EQU   46+$36A ; save dir across calls to Standard File [long]

```

```

;+ Date-Time record (for use with _Secs2Date, and _Date2Secs)

```

```

dtYear         EQU   $0      ; year (1904..) [word]
dtMonth        EQU   $2      ; month (1..12) [word]
dtDay          EQU   $4      ; day (1..31) [word]
dtHour         EQU   $6      ; hour (0..23) [word]
dtMinute       EQU   $8      ; minute (0..59) [word]
dtSecond       EQU   $A      ; second (0..59) [word]
dtDayOfWeek    EQU   $C      ; day of week, sunday..saturday (1..7) [word]

```

```

;+ Miscellaneous stuff

```

OneOne	EQU	\$A02	; constant \$00010001 [long]
MinusOne	EQU	\$A06	; constant \$FFFFFFFF [long]
Lo3Bytes	EQU	\$31A	; constant \$00FFFFFF [long]
ROMBase	EQU	\$2AE	; ROM base address [pointer]

RAMBase	EQU	\$2B2	; RAM base address [pointer]
SysVersion	EQU	\$15A	; version # of RAM-based system [word]
RndSeed	EQU	\$156	; random seed/number [long]

;+ Scratch Areas

scratch20	EQU	\$1E4	; scratch [20 bytes]
scratch8	EQU	\$9FA	; scratch [8 bytes]

;+ Scrap Manager

ScrapSize	EQU	\$960	; scrap length [long]
ScrapHandle	EQU	\$964	; memory scrap [handle]
ScrapCount	EQU	\$968	; validation byte [word]
ScrapState	EQU	\$96A	; scrap state [word]
ScrapName	EQU	\$96C	; pointer to scrap name [pointer]

;+ Desk Accessories

; Message Definitions (in CScCode of control call)

accEvent	EQU	\$40	; event message from SystemEvent
accRun	EQU	\$41	; run message from SystemTask
accCursor	EQU	\$42	; cursor message from SystemTask
accMenu	EQU	\$43	; menu message from SystemMenu
accUndo	EQU	\$44	; undo message from SystemEdit
accCut	EQU	\$46	; cut message from SystemEdit
accCopy	EQU	\$47	; copy message from SystemEdit
accPaste	EQU	\$48	; paste message from SystemEdit
accClear	EQU	\$49	; clear message from SystemEdit
goodBye	EQU	-1	; goodbye message

;International stuff

IntlSpec	EQU	\$BA0	; (long) - ptr to extra Intl data
----------	-----	-------	-----------------------------------

;Switcher

SwitcherTPtr	EQU	\$286	; Switcher's switch table
--------------	-----	-------	---------------------------

; Trap bits for memory manager

tSysOrCurZone	EQU	10	; bit set implies System Zone
---------------	-----	----	-------------------------------

```
clearBit          EQU    9          ; bit clear implies Current Zone  
                                   ; bit set means clear allocated memory.
```

```
; Peripheral chips and Magic Hardware addresses
```

```

CPUFlag          EQU    $12F      ; $00=68000, $01=68010, $02=68020 (old ROM inits to $00)
                                   ; (this is old DskWr11 flag . . .)

; VIA (6522) interface chip

VIA              EQU    $1D4      ; VIA base address [pointer]

; Disk Address

IWM              EQU    $1E0      ; IWM base address [pointer]

; Interrupt secondary vectors

Lvl1DT          EQU    $192      ; Interrupt level 1 dispatch table [32 bytes]
Lvl2DT          EQU    $1B2      ; Interrupt level 2 dispatch table [32 bytes]
ExtStsDT        EQU    $2BE      ; SCC ext/sts secondary dispatch table [16 bytes]

; Parameter Ram

SPValid         EQU    $1F8      ; validation field ($A7) [byte]
SPATalkA        EQU    $1F9      ; AppleTalk node number hint for port A
SPATalkB        EQU    $1FA      ; AppleTalk node number hint for port B
SPAlarm         EQU    $200      ; alarm time [long]
SPFont          EQU    $204      ; default application font number minus 1 [word]
SPKbd           EQU    $206      ; kbd repeat thresh in 4/60ths [2 4-bit]

SPPrint         EQU    $207      ; print stuff [byte]
SPVolCtl        EQU    $208      ; volume control [byte]
SPClikCaret     EQU    $209      ; double click/caret time in 4/60ths[2 4-bit]

SPMisc1         EQU    $20A      ; miscellaneous [1 byte]
SPMisc2         EQU    $20B      ; miscellaneous [1 byte]

GetParam        EQU    $1E4      ; system parameter scratch [20 bytes]
SysParam        EQU    $1F8      ; system parameter memory [20 bytes]

; Cursor

CrsrThresh      EQU    $8EC      ; delta threshold for mouse scaling [word]
JCrsrTask       EQU    $8EE      ; address of CrsrVBLTask [long]
MTemp           EQU    $828      ; Low-level interrupt mouse location [long]
RawMouse        EQU    $82C      ; un-jerked mouse coordinates [long]
CrsrRect        EQU    $83C      ; Cursor hit rectangle [8 bytes]
TheCrsr         EQU    $844      ; Cursor data, mask & hotspot [68 bytes]
CrsrAddr        EQU    $888      ; Address of data under cursor [long]
CrsrSave        EQU    $88C      ; data under the cursor [64 bytes]
CrsrVis         EQU    $8CC      ; Cursor visible? [byte]
CrsrBusy        EQU    $8CD      ; Cursor locked out? [byte]

```

CrsrNew	EQU	\$8CE	; Cursor changed? [byte]
CrsrState	EQU	\$8D0	; Cursor nesting level [word]
CrsrObscure	EQU	\$8D2	; Cursor obscure semaphore [byte]

; Mouse/Keyboard

KbdVars	EQU	\$216	; Keyboard manager variables [4 bytes]
KbdType	EQU	\$21E	; keyboard model number [byte]
MBState	EQU	\$172	; current mouse button state [byte]
KeyMap	EQU	\$174	; bitmap of the keyboard [2 longs]
KeypadMap	EQU	\$17C	; bitmap for numeric pad-18bits [long]
Key1Trans	EQU	\$29E	; keyboard translator procedure [pointer]
Key2Trans	EQU	\$2A2	; numeric keypad translator procedure [pointer]
JGNEFilter	EQU	\$29A	; GetNextEvent filter proc [pointer]
KeyMVars	EQU	\$B04	; (word) for ROM KEYM proc state
Mouse	EQU	\$830	; processed mouse coordinate [long]
CrsrPin	EQU	\$834	; cursor pinning rectangle [8 bytes]
CrsrCouple	EQU	\$8CF	; cursor coupled to mouse? [byte]
CrsrScale	EQU	\$8D3	; cursor scaled? [byte]
MouseMask	EQU	\$8D6	; V-H mask for ANDing with mouse [long]
MouseOffset	EQU	\$8DA	; V-H offset for adding after ANDing [long]

; System Clocks

AlarmState	EQU	\$21F	; Bit7=parity, Bit6=beeped, Bit0=enable [byte]
------------	-----	-------	--

;+ Vertical Blanking Interrupt Handler

; VBL Block Queue Element

vType	EQU	1	; VBL queue element is type 1
inVbl	EQU	6	; bit index for "in VBL" flag
vblink	EQU	0	; Link to next element [pointer]
vblType	EQU	4	; Unique ID for validity [word]
vblAddr	EQU	6	; service routine [pointer]
vblCount	EQU	\$A	; timeout count [word]
vblPhase	EQU	\$C	; phase count [word]
VBLQueue	EQU	\$160	; VBL queue header [10 bytes]

; Event manager

jPlayCtl	EQU	16	; playBack call
jRecordCtl	EQU	17	; record call
jcTickCount	EQU	0	; journal code for TickCount
jcGetMouse	EQU	1	; journal code for GetMouse
jcButton	EQU	2	; journal code for Button
jcGetKeys	EQU	3	; journal code for GetKeys
jcEvent	EQU	4	; journal code for GetNextEvent(Avail)
SysEvtMask	EQU	\$144	; system event mask [word]
SysEvtBuf	EQU	\$146	; system event queue element buffer [pointer]
EventQueue	EQU	\$14A	; event queue header [10 bytes]

EvtBufCnt EQU \$154 ; max number of events in SysEvtBuf - 1 [word]

; Event Queue Element Data Structure

evtQWhat	EQU	6	; event code [word]
evtQMessage	EQU	8	; event message [long]
evtQWhen	EQU	\$C	; ticks since startup [long]

evtQWhere	EQU	\$10	; mouse location [long]
evtQMeta	EQU	\$14	; state of modifier keys [byte]
evtQMBut	EQU	\$15	; state of mouse button [byte]
evtQBlkSize	EQU	\$16	; size of event record counting queue info

; flags in flags field in heapzone header

fOnCheck	EQU	0	; Turn On Checking
fChecking	EQU	1	; Checking on
fNSelCompct	EQU	4	; Use non-selective compact algorithm when 1.
fNoRvrAlloc	EQU	5	; Don't use rover allocation scheme when 1.
fNSelPurge	EQU	6	; Use non-selective purge algorithm when 1.
fRelAtEnd	EQU	7	; MakeBk packs rels at end of free bk when 1.

ROZ	EQU	\$0	; bit in flags field of MemMgr zone header
-----	-----	-----	--

; Block Types

tybkMask	EQU	3	; Mask for block type
tybkFree	EQU	0	; Free Block
tybkNRel	EQU	1	; Non-Relocatable
tybkRel	EQU	2	; Relocatable

; Block Offsets

tagBC	EQU	0	; Tag and Byte Count field [long]
handle	EQU	4	; back pointer to master pointer [pointer]
blkData	EQU	8	; data starts here

; Heap Zone header

bkLim	EQU	\$0	; last block in zone [pointer]
purgePtr	EQU	\$4	; roving purge placeholder [pointer]
hFstFree	EQU	\$8	; first free handle [pointer]
zcbFree	EQU	\$C	; # of free bytes in zone [long]
gzProc	EQU	\$10	; grow zone procedure [pointer]
mAllocCnt	EQU	\$14	; # of master ptrs to allocate [word]
flags	EQU	\$16	; Flags [word]
cntRel	EQU	\$18	; # of allocated relocatable blocks [word]
maxRel	EQU	\$1A	; max # of allocated rel. blocks [word]
cntNRel	EQU	\$1C	; # of allocated non-rel. blocks [word]
maxNRel	EQU	\$1E	; max # of allocated non-rel. blocks [word]
cntEmpty	EQU	\$20	; # of empty handles [word]
cntHandles	EQU	\$22	; total # of handles [word]
minCBFree	EQU	\$24	; min # of bytes free [long]
purgeProc	EQU	\$28	; purge warning procedure [pointer]
allocPtr	EQU	\$30	; roving allocator [pointer]
heapData	EQU	\$34	; start of heap zone data

GZRootHnd	EQU	\$328	; root handle for GrowZone [handle]
GZRootPtr	EQU	\$32C	; root pointer for GrowZone [pointer]
GZMoveHnd	EQU	\$330	; moving handle for GrowZone [handle]
MemTop	EQU	\$108	; top of memory [pointer]
MmlnOK	EQU	\$12E	; initial memory mgr checks ok? [byte]
HpChk	EQU	\$316	; heap check RAM code [pointer]
MaskBC	EQU	\$31A	; Memory Manager Byte Count Mask [long]

MaskHandle	EQU	\$31A	; Memory Manager Handle Mask [long]
MaskPtr	EQU	\$31A	; Memory Manager Pointer Mask [long]
MinStack	EQU	\$31E	; min stack size used in InitApplZone [long]
DefltStack	EQU	\$322	; default size of stack [long]
MMDefFlags	EQU	\$326	; default zone flags [word]

;+ System Error Handler

DSAlertTab	EQU	\$2BA	; system error alerts [pointer]
DSAlertRect	EQU	\$3F8	; rectangle for disk-switch alert [8 bytes]
DSDrawProc	EQU	\$334	; alternate syserror draw procedure [pointer]
DSWndUpdate	EQU	\$15D	; GNE not to paintBehind DS AlertRect? [byte]
WWExist	EQU	\$8F2	; window manager initialized? [byte]
QDExist	EQU	\$8F3	; quickdraw is initialized [byte]
ResumeProc	EQU	\$A8C	; Resume procedure from InitDialogs [pointer]
DSErrCode	EQU	\$AF0	; last system error alert ID

;+ Drivers

dskRfN	EQU	\$FFFB	; 3.5" disk reference number
IntFlag	EQU	\$15F	; reduce interrupt disable time when bit 7 = 0

; Serial I/O Driver

SerialVars	EQU	\$2D0	; async driver variables [16 bytes]
PortAUse	EQU	\$290	; bit 7: 1 = not in use, 0 = in use ; bits 0-3: current use of port (see use type) ; bits 4-6: user specific
PortBUse	EQU	\$291	; port B use, same format as PortAUse
SCCAsTs	EQU	\$2CE	; SCC read reg 0 last ext/sts rupt - A [byte]
SCCBSts	EQU	\$2CF	; SCC read reg 0 last ext/sts rupt - B [byte]

; Serial handshake record definition

shFXOn	EQU	\$0	; XOn/XOff output control flags [byte]
shFCTS	EQU	\$1	; CTS hardware handshake flag [byte]
shXOn	EQU	\$2	; XOn character [byte]
shXOff	EQU	\$3	; XOff character [byte]
shErrs	EQU	\$4	; errors that cause abort [byte]
shEvs	EQU	\$5	; status changes that cause events [byte]
shFlInX	EQU	\$6	; XOn/XOff input flow control flag [byte]
shNull	EQU	\$7	; not used [byte]

; Serial status record definition

ssCumErrs	EQU	\$0	; cumulative errors [byte]
ssXOffSent	EQU	\$1	; XOff sent as input control flag [byte]
ssRdPend	EQU	\$2	; read pending flag [byte]
ssWrPend	EQU	\$3	; write pending flag [byte]
ssCTSHold	EQU	\$4	; CTS flow control hold flag [byte]

Appendix B - System Equates 51

```
ssXOffHold      EQU    $5          ; XOff received as output flow control [byte]
; Disk Driver
; Driver Code Header (for I/O drivers, desk accessories)
drvFlags        EQU    $0          ; various flags and permissions [word]
```

drvDelay	EQU	\$2	; # of ticks between systask calls [word]
drvEMask	EQU	\$4	; event mask [word]
drvMenu	EQU	\$6	; driver menu ID [word]
drvOpen	EQU	\$8	; open routine offset [word]
drvPrime	EQU	\$A	; prime routine offset [word]
drvCtl	EQU	\$C	; control routine offset [word]
drvStatus	EQU	\$E	; status routine offset [word]
drvClose	EQU	\$10	; warmstart reset routine offset [word]
drvName	EQU	\$12	; length byte and name of driver [string]

; Driver Status record definition

dsTrack	EQU	\$0	; current track [word]
dsWriteProt	EQU	\$2	; bit 7=1 if volume locked [byte]
dsDiskInPlace	EQU	\$3	; disk in place [byte]
dsInstalled	EQU	\$4	; drive installed [byte]
dsSides	EQU	\$5	; bit 7=0 if single-sided drive [byte]
dsQLink	EQU	\$6	; next queue entry [pointer]
dsDQVers	EQU	\$A	; 1 for HD20 [word]
dsDQDrive	EQU	\$C	; drive number [word]
dsDQRefNum	EQU	\$E	; driver reference number [word]
dsDQFSID	EQU	\$10	; file-system identifier [word]
dsTwoSideFmt	EQU	\$12	; -1 if two-sided disk [byte]
dsDiskErrs	EQU	\$14	; error count [word]
dsDrvSize	EQU	\$12	;drive block size low word [word]
dsDrvS1	EQU	\$14	;drive block size high word [word]
dsDrvType	EQU	\$16	;1 for HD20 [word]
dsDrvManf	EQU	\$18	;1 for Apple Computer, Inc [word]
dsDrvChar	EQU	\$1A	;230 (\$E6) for HD20 [word]
dsDrvMisc	EQU	\$1C	;0 -- reserved [byte]

DskErr	EQU	\$142	; disk routine result code [word]
PWMBuf2	EQU	\$312	; PWM buffer 1 (or 2 if sound) [pointer]

; Drive command codes

dcRead	EQU	0
dcWrite	EQU	1
dcStatus	EQU	3
dcInit	EQU	25
dcScan	EQU	26

; Sound Stuff

SoundPtr	EQU	\$262	; 4VE sound definition table [pointer]
SoundBase	EQU	\$266	; sound bitMap [pointer]
SoundVBL	EQU	\$26A	; vertical retrace control element [16 bytes]
SoundDCE	EQU	\$27A	; sound driver DCE [pointer]
SoundActive	EQU	\$27E	; sound is active? [byte]

SoundLevel	EQU	\$27F	; current level in buffer [byte]
CurPitch	EQU	\$280	; current pitch value [word]
;			
I/O System			
noQueueBit	EQU	\$9	; tells I/O system not to queue the request
asyncTrpBit	EQU	\$A	; bit in high byte of trap specifying async

```

toExtFS          EQU    $3F2      ; hook for external file systems

; File System Globals

DskVerify        EQU    $12C      ; used by 3.5 disk driver for read/verify [byte]
TagData          EQU    $2FA      ; sector tag info for disk drivers [14 bytes]
BufTgFNum        EQU    $2FC      ; file number [long]
BufTgFFlg        EQU    $300      ; flags [word]
BufTgFBkNum      EQU    $302      ; logical block number [word]
BufTgDate        EQU    $304      ; time stamp [word]

; I/O Command Equates for I/O Queue Elements (match trap numbers)

aRdCmd           EQU    2         ; read command
aWrCmd           EQU    3         ; write command
aCtlCmd          EQU    4         ; control command
aStsCmd          EQU    5         ; status command

; New fields for _SetPMSP call: PMSP = "Poor Man's Search Path"

ioPMSPFlg        EQU    $1A      ; Flag whether to enable the PMSP
ioPMSPHook       EQU    $1C      ; Pointer to PMSP hook proc

; Print variables

ScrDmpEnb        EQU    $2F8      ; screen dump enabled? [byte]
ScrDmpType       EQU    $2F9      ; FF dumps screen, FE dumps front window [byte]

; Scrap Variables

ScrapVars        EQU    $960      ; scrap manager variables [32 bytes]
ScrapInfo        EQU    $960      ; scrap length [long]
ScrapEnd         EQU    $980      ; end of scrap vars
ScrapTag         EQU    $970      ; scrap file name [STRING[15]]

; Segment Loader

LaunchFlag       EQU    $902      ; from launch or chain [byte]
SaveSegHandle    EQU    $930      ; seg 0 handle [handle]
CurJTOffset     EQU    $934      ; current jump table offset [word]
CurPageOption   EQU    $936      ; current page 2 configuration [word]
LoaderPBlock     EQU    $93A      ; param block for ExitToShell [10 bytes]
CurApRefNum     EQU    $900      ; refNum of application's resFile [word]
CurrentA5        EQU    $904      ; current value of A5 [pointer]
CurStackBase    EQU    $908      ; current stack base [pointer]
CurApName       EQU    $910      ; name of application [STRING[31]]
LoadTrap        EQU    $12D      ; trap before launch? [byte]

SegHiEnable      EQU    $BB2      ; (byte) 0 to disable MoveHHi in LoadSeg

```

;device manager - Chooser message values

newSelMsg	EQU	12	;a new selection has been made
fillListMsg	EQU	13	;fill the list with choices to be made
getSelMsg	EQU	14	;mark one or more choices as selcted
selectMsg	EQU	15	;a choice has actually been made
deselectMsg	EQU	16	;a choice has been canceled

terminateMsg	EQU	17	;lets device package clean up
buttonMsg	EQU	19	;a button has been clicked
psAlert	EQU	6	;page setup alert bit in HiliteMode
theChooser	EQU	1	

Toolbox Equates -- This file defines the high-level equates for the
Macintosh toolbox software. The comments marked with ";+" denote managers.

;+ Resource Manager

; Resource attributes

resSysRef	EQU	7	; reference to system/local reference
resSysHeap	EQU	6	; In system/in application heap
resPurgeable	EQU	5	; Purgeable/not purgeable
resLocked	EQU	4	; Locked/not locked
resProtected	EQU	3	; Protected/not protected
resPreload	EQU	2	; Read in at OpenResource?
resChanged	EQU	1	; Existing resource changed since last update

rcbMask	EQU	\$FD	; Must preserve ResChanged over _ResAttrs
---------	-----	------	---

; Map attributes

mapReadOnly	EQU	7	; is this file read-only?
mapCompact	EQU	6	; Is a compact necessary?
mapChanged	EQU	5	; Is it necessary to write map?

; Resource Manager Globals

TopMapHndl	EQU	\$A50	; topmost map in list [handle]
SysMapHndl	EQU	\$A54	; system map [handle]
SysMap	EQU	\$A58	; reference number of system map [word]
CurMap	EQU	\$A5A	; reference number of current map [word]
ResReadOnly	EQU	\$A5C	; Read only flag [word]
ResLoad	EQU	\$A5E	; Auto-load feature [word]
ResErr	EQU	\$A60	; Resource error code [word]
ResErrProc	EQU	\$AF2	; Resource error procedure [pointer]
SysResName	EQU	\$AD8	; Name of system resource file [STRING[19]]

;new Resource Manager stuff

RomMapInsert	EQU	\$B9E	; (byte) determines if we should link in map
TmpResLoad	EQU	\$B9F	; second byte is temporary ResLoad value.

; the following word values are to be placed into the
; word located at RomMapInsert

MapTrue	EQU	\$FFFF	; link in ROM map with resload true
MapFalse	EQU	\$FF00	; link in ROM map with resload false

;+ Font Manager

; Standard font ID's

sysFont	EQU	0	; system font ID
applFont	EQU	1	; application font ID
newYork	EQU	2	; standard release fonts
geneva	EQU	3	

monaco	EQU	4
venice	EQU	5
london	EQU	6
athens	EQU	7
sanFran	EQU	8
toronto	EQU	9
cairo	EQU	11
losAngeles	EQU	12
times	EQU	20
helvetica	EQU	21
courier	EQU	22
symbol	EQU	23
mobile	EQU	24

; Font Manager Globals

ApFontID	EQU	\$984	; resource ID of application font [word]
FMDefaultSize	EQU	\$987	; default size [byte]
CurFMInput	EQU	\$988	; quickdraw FMInput Record [pointer]
FMgrOutRec	EQU	\$998	; quickdraw FontOutput Record [pointer]
FScaleDisable	EQU	\$A63	; disable font scaling? [byte]

;new FONT manager stuff

WidthListHand	EQU	\$8E4	; list of extra width tables, or nil.
WidthPtr	EQU	\$B10	; (long) Font Mgr global
WidthTabHandle	EQU	\$B2A	; Font width table handle for measure
LastSPEextra	EQU	\$B4C	; (long) most recent value of space extra
SysFontFam	EQU	\$BA6	; (word) System font family ID or zero
SysFontSize	EQU	\$BA8	; (word) System font size (or zero for 12 pt)
FDevDisable	EQU	\$BB3	; (byte) \$FF to disable device-defined style extra
LastFOND	EQU	\$BC2	; (long) handle of last font def record
FONID	EQU	\$BC6	; (word) ID of last font def record
FractEnable	EQU	\$BF4	; (byte) flag for fractional font widths
UsedFWidths	EQU	\$BF5	; (byte) flag saying if we used fract widths
FScaleHFact	EQU	\$BF6	; (long) horz. font scale factor
FScaleVFact	EQU	\$BFA	; (long) vertical font scale factor

;+ Window Manager

dialogKind	EQU	2	; system windows have negative kinds
userKind	EQU	8	; dialog windows
			; this and above numbers are for user

; Values returned by window definition function's hit routine

wNoHit	EQU	0	; not in window at all
wInContent	EQU	1	; in content area
wInDrag	EQU	2	; in drag area
wInGrow	EQU	3	; in grow area
wInGoAway	EQU	4	; in go away area

wInZoomIn	EQU	5	; in zoom in
wInZoomOut	EQU	6	; in zoom out

; FindWindow Return Codes

inDesk	EQU	0	; not in any window
inMenuBar	EQU	1	; in the menu bar

inSysWindow	EQU	2	; in a system window
inContent	EQU	3	; in content area of user window
inDrag	EQU	4	; in drag area of user window
inGrow	EQU	5	; in grow area of user window
inGoAway	EQU	6	; in go away area of user window
inZoomIn	EQU	7	; in zoom in part code
inZoomOut	EQU	8	; in zoom out part code

; Resource ID's for windows

deskPatID	EQU	16	; desk pattern PAT ID
documentProc	EQU	0	; standard document WDEF ID
dBoxProc	EQU	1	; dialog box (document without titleBar) WDEF ID
plainDBox	EQU	2	; no border WDEF ID
altDBoxProc	EQU	3	; no shadow or title WDEF ID
noGrowDocProc	EQU	4	; no grow area WDEF ID
zoomDocProc	EQU	8	; with zoom box WDEF ID
zoomNoGrow	EQU	12	; zoom with no grow box WDEF ID
rDocProc	EQU	16	; document with rounded corners WDEF ID

; Window Data Structure Definition

windowPort	EQU	0	; grafPort [108 bytes]
windowKind	EQU	\$6C	; type of window [word]
wVisible	EQU	\$6E	; visible flag [byte]
wHilited	EQU	\$6F	; select (hilite) flag [byte]
wGoAway	EQU	\$70	; has go away button [byte]
wZoom	EQU	\$71	; has zoom box [byte]
structRgn	EQU	\$72	; structure region of window [Handle]
contRgn	EQU	\$76	; content region of window [Handle]
updateRgn	EQU	\$7A	; update region of window [Handle]
windowDef	EQU	\$7E	; window definition procedure [Handle]
wDataHandle	EQU	\$82	; window proc-defined data [Handle]
wTitleHandle	EQU	\$86	; title string [Handle]
wTitleWidth	EQU	\$8A	; width in pixels of title string [word]
wControlList	EQU	\$8C	; control list of this window [handle]
nextWindow	EQU	\$90	; next window in z-ordered list [pointer]
windowPic	EQU	\$94	; picture handle for updates [handle]
wRefCon	EQU	\$98	; application use [long]
windowSize	EQU	\$9C	; size of window data structure

; Window Manager Globals

WindowList	EQU	\$9D6	; Z-ordered linked list of windows [pointer]
PaintWhite	EQU	\$9DC	; erase newly drawn windows? [word]
WMgrPort	EQU	\$9DE	; window manager's grafport [pointer]
GrayRgn	EQU	\$9EE	; rounded gray desk region [handle]
CurActivate	EQU	\$A64	; window slated for activate event [pointer]
CurDeactive	EQU	\$A68	; window slated for deactivate event [pointer]

DragHook	EQU	\$9F6	; user hook during dragging [pointer]
DeskPattern	EQU	\$A3C	; desk pattern [8 bytes]
DeskHook	EQU	\$A6C	; hook for painting the desk [pointer]
GhostWindow	EQU	\$A84	; window hidden from FrontWindow [pointer]

;+ Menu Manager

; "ASCII" marks for menu characters

noMark	EQU	0	
commandMark	EQU	\$11	; command fan (cloverleaf)
checkMark	EQU	\$12	; check mark for menus
diamondMark	EQU	\$13	; diamond mark for menus
appleMark	EQU	\$14	; desk ornament menu title

; MenuList Data Structure Definition -- one per menuBar

			; 6 Byte header
lastMenu	EQU	0	; number of bytes in this menuList [word]
lastRight	EQU	2	; h coordinate of 1st free point in menuBar [word]
			; one of the following per menu
menuoH	EQU	0	; menu handle [handle]
menuLeft	EQU	4	; coordinate of left edge of menu [word]

; MenuInfo Data Structure -- one per menu

menuID	EQU	0	; unique ID for each menuBar [word]
menuWidth	EQU	2	; menu width [word]
menuHeight	EQU	4	; menu height [word]
menuDefHandle	EQU	6	; menu definition proc [handle]
menuEnable	EQU	\$A	; enable flags, one bit/item [long]
menuData	EQU	\$E	; menu item string [STRING]
menuBlkSize	EQU	\$E	; size of a menu block plus dataString

; MenuString Data Structure -- one per menu item

itemIcon	EQU	0	; icon byte
itemCmd	EQU	1	; apple (command key) byte
itemMark	EQU	2	; checkmark character byte
itemStyle	EQU	3	; style byte

; Menu Manager Globals

MenuList	EQU	\$A1C	; current menuBar list structure [handle]
MenuFlash	EQU	\$A24	; flash feedback count [word]
MenuHook	EQU	\$A30	; user hook during menuSelect [pointer]
MBarEnable	EQU	\$A20	; menuBar enable for desk accessories[word]
MBarHook	EQU	\$A2C	; user hook during menuSelect [pointer]

;new Menu Manager stuff

MBarHeight	EQU	\$BAA	; (word) height of menu bar (usually 20)
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;+ Control Manager

; Part Codes

inButton	EQU	10	; in a push button
inCheckBox	EQU	11	; in a checkBox button
inUpButton	EQU	20	; in up button area of a dial
inDownButton	EQU	21	; in down button area of a dial
inPageUp	EQU	22	; in page up (gray) area of a dial
inPageDown	EQU	23	; in page down (gray) area of a dial

inThumb EQU 129 ; in thumb area of a dial

; Constants for axis parameter of DragGrayRgn and DragControl

noConstraint EQU 0 ; free form dragging
hAxisOnly EQU 1 ; horizontally only
vAxisOnly EQU 2 ; vertically only

; Resource ID's for controls

pushButProc EQU 0 ; rounded-corner pushButtons CDEF ID
checkBoxProc EQU 1 ; check-box type buttons CDEF ID
radioButProc EQU 2 ; radio buttons CDEF ID
scrollBarProc EQU 16 ; scrollBar CDEF ID
useWFont EQU 8 ; add this to get window font CDEF ID

sBarPatID EQU 17 ; scrollBar pattern ID

; Control Template

nextControl EQU \$0 ; next control in the list [handle]
contrOwner EQU \$4 ; owning window [pointer]
contrRect EQU \$8 ; bounding rectangle [8 bytes]
contrVis EQU \$10 ; visible state [byte]
contrHilite EQU \$11 ; hilite state [byte]
contrValue EQU \$12 ; current value of control [word]
contrMin EQU \$14 ; minimum value of control [word]
contrMax EQU \$16 ; maximum value of control [word]
contrDefHandle EQU \$18 ; control definition procedure [handle]
contrData EQU \$1C ; data for definition proc [handle]
contrAction EQU \$20 ; local actionProc [pointer]
contrRFcon EQU \$24 ; refcon defined by application [long]
contrTitle EQU \$28 ; title string [STRING]
contrSize EQU \$28 ; size of control data structure less title

; Control Manager Globals

DragPattern EQU \$A34 ; DragTheRgn pattern [8 bytes]
DragFlag EQU \$A44 ; implicit parameter to DragControl [word]
CurDragAction EQU \$A46 ; implicit actionProc for dragControl [pointer]

;+ Text Edit

; Justification styles

teJustLeft EQU 0 ; left justified text
teJustRight EQU -1 ; right justified text
teJustCenter EQU 1 ; center justified text
teForceLeft EQU -2 ; for Arabic fonts, force left justification

; Text Edit Record

teDestRect	EQU	\$0	; destination rectangle [8 bytes]
teViewRect	EQU	\$8	; view rectangle rectangle [8 bytes]
teSelRect	EQU	\$10	; select rectangle [8 bytes]

teLineHite	EQU	\$18	; lineheight [word]
teAscent	EQU	\$1A	; first baseline offset [word]
teSelPoint	EQU	\$1C	; selection point [long]
teSelStart	EQU	\$20	; selection start [word]
teSelEnd	EQU	\$22	; selection end [word]
teActive	EQU	\$24	; active [byte]
teWordBreak	EQU	\$26	; word break routine [pointer]
teClikProc	EQU	\$2A	; click loop routine [pointer]
teClikTime	EQU	\$2E	; time of last click [long]
teClikLoc	EQU	\$32	; location of double click [long]
teCarTime	EQU	\$34	; time for next caret toggle [long]
teCarOn	EQU	\$38	; is caret on? [byte]
teCarAct	EQU	\$39	; is caret active? [byte]
teJust	EQU	\$3A	; fill style [word]
teLength	EQU	\$3C	; length of text below [word]
teTextH	EQU	\$3E	; text [handle]
teRecBack	EQU	\$42	; unused [word]
teRecLine	EQU	\$44	; unused [word]
teLftClick	EQU	\$46	; click was to left? [byte]
teLftCaret	EQU	\$47	; caret was to left? [byte]
teCROnly	EQU	\$48	; <CR> only for line breaks? [byte]
teFontStuff	EQU	\$4A	; space for font specifier [8 bytes]
teFont	EQU	\$4A	; text font [word]
teFace	EQU	\$4C	; text face [word]
teMode	EQU	\$4E	; text mode [word]
teSize	EQU	\$50	; text size [word]
teGrafPort	EQU	\$52	; grafport for editing [pointer]
teHiHook	EQU	\$56	; hook for hilite routine [pointer]
teCarHook	EQU	\$5A	; hook for hilite routine [pointer]
teNLines	EQU	\$5E	; number of lines [word]
teLines	EQU	\$60	; line starts [words...]
teRecSize	EQU	\$68	; base size of a record w/o lines
; Text Edit Globals			
TEScrpLength	EQU	\$AB0	; textEdit Scrap Length [word]
TEScrpHandle	EQU	\$AB4	; textEdit Scrap [handle]
TEWdBreak	EQU	\$AF6	; default word break routine [pointer]

;new TE stuff

WordRedraw	EQU	\$BA5	; (byte) - used by TextEdit RecalDraw
TESysJust	EQU	\$BAC	; (word) system justification (intl. textEdit)
TEFlags	EQU	teRecBack	; turn whole byte into bit flags
teFAutoPos	EQU	6	; set this bit for auto position/scroll

;+ Dialog Manager

; Item codes in item list

userItem	EQU	0	; application-defined (dialog only)
ctrlItem	EQU	4	; must be added to following four items
btnCtrl	EQU	0	; standard button
chkCtrl	EQU	1	; standard check box
radCtrl	EQU	2	; standard radio button
resCtrl	EQU	3	; control defined in resource file
statText	EQU	8	; static text
editText	EQU	16	; editable text (dialog only)
iconItem	EQU	32	; icon
picItem	EQU	64	; quickdraw picture
itemDisable	EQU	128	; add to any of above to disable

; Generic buttons

okButton	EQU	1	; OK button
cancelButton	EQU	2	; Cancel button

; Alert/Dialog Resource ID's

stopIcon	EQU	0	; stop icon ID
noteIcon	EQU	1	; note icon ID
cautionIcon	EQU	2	; caution icon ID

; Dialog Template

dBounds	EQU	\$0	; dialog bounds rectangle
dWindProc	EQU	\$8	; window proc ID
dVisible	EQU	\$A	; visible flag
dGoAway	EQU	\$C	; go away flag
dRefCon	EQU	\$E	; reference constant
dItems	EQU	\$12	; item list ID and handle
dTitle	EQU	\$14	; dialog window title

; Alert Template

aBounds	EQU	\$0	; alert box height and width
aItems	EQU	\$8	; item list ID
aStages	EQU	\$A	; stages word

; Dialog/Alert Window Record

dWindow	EQU	\$0	; window record
items	EQU	\$9C	; Item list [handle]
teHandle	EQU	\$A0	; textEdit object [handle]
editField	EQU	\$A4	; current field being edited [word]
editOpen	EQU	\$A6	; is editing open? [word]

aDefItem	EQU	\$A8	; default item for alerts [word]
dWindLen	EQU	\$AA	; dialog record length
; In each item			
itmHndl	EQU	0	; handle to the item
itmRect	EQU	\$4	; bounding rect of item

```

itmType          EQU    $C      ; item type
itmData          EQU    $D      ; item string, must be even length

; Dialog Manager Globals

ANumber          EQU    $A98    ; active alert ID [word]
ACount           EQU    $A9A    ; # times this alert called [word]
DABeeper         EQU    $A9C    ; beep routine [pointer]
DAStrings        EQU    $AA0    ; paramText substitution strings [4 handles]
DlgFont          EQU    $AFA    ; default dialog font ID [word]

;+ Package Globals

AppPacks         EQU    $AB8    ; packages' code [8 handles]

;+ Finder related Globals

FinderName       EQU    $2E0    ; "Finder" name [STRING[15]]
AppParmHandle    EQU    $AEC    ; handle to hold application parameters

;+ Miscellaneous Globals

AppIScratch      EQU    $A78    ; application scratch area [12 Bytes]
ToolScratch      EQU    $9CE    ; scratch area [8 bytes]
TempRect         EQU    $9FA    ; scratch rectangle [8 bytes]

; System Patterns

sysPatListID     EQU    0      ; ID of PAT# which contains 38 patterns

; Resource Manager

mCCMask          EQU    $60     ; mapCompact + mapChanged
mChMask          EQU    $20     ; mapChanged
mCoMask          EQU    $40     ; mapCompact

; Font Manager

; Font header values

propFont         EQU    $9000   ; proportional font type
prpFntH          EQU    $9001   ; with height table
prpFntW          EQU    $9002   ; with width table
prpFntHW         EQU    $9003   ; with height & width table

```


fixedFont	EQU	\$B000	; fixed-pitch font type
fxdFntH	EQU	\$B001	; with height table
fxdFntW	EQU	\$B002	; with width table
fxdFntHW	EQU	\$B003	; with height & width table
fontWid	EQU	\$ACB0	; width-only font type

; control/status codes for linkage w/font manager

fMgrCtl1 EQU 8 ; printer drivers

; Font Header Data Record

fFontType	EQU	0	; font type [word]
fFirstChar	EQU	2	; ASCII code of first char [word]
fLastChar	EQU	4	; ASCII code of last char [word]
fWidMax	EQU	6	; maximum width of any char in pixels [word]
fKernMax	EQU	8	; Negative of maximum character kern [word]
fNDescent	EQU	10	; negative of descent [word]
fFRectWidth	EQU	12	; width of font rectangle [word]
fFRectHeight	EQU	14	; height of font rectangle [word]
fOWTLoc	EQU	16	; offset to offset/width table [word]
fAscent	EQU	18	; ascent above baseline in pixels [word]
fDescent	EQU	20	; descent below baseline in pixels [word]
fLeading	EQU	22	; space between lines in pixels [word]
fRowWords	EQU	24	; row width of bit image / 2 [word]

; Font Manager Input Record (CurFMInput)

fmInFamily	EQU	0	; family [word]
fmInSize	EQU	2	; size [word]
fmInFace	EQU	4	; face [word]
fmInNeedBits	EQU	5	; needBits [byte]
fmInDevice	EQU	6	; device number [byte]
fmInNumer	EQU	8	; numerator of scale [fixed]
fmInDenom	EQU	12	; denominator of scale [fixed]

; Font Manager Output record (FMgrOutRec)

fmOutError	EQU	0	; error code [word]
fmOutFontH	EQU	2	; the actual font [handle]
fmOutBold	EQU	6	; bolding factor [byte]
fmOutItalic	EQU	7	; italic factor [byte]
fmOutULOffset	EQU	8	; underline offset [byte]
fmOutULShadow	EQU	9	; underline halo [byte]
fmOutULThick	EQU	10	; underline thickness [byte]
fmOutShadow	EQU	11	; shadow factor [byte]
fmOutExtra	EQU	12	; extra horizontal width [byte]
fmOutAscent	EQU	13	; height above baseline [byte]
fmOutDescent	EQU	14	; height below baseline [byte]
fmOutWidMax	EQU	15	; maximum width of character [byte]
fmOutLeading	EQU	16	; space between lines [byte]
fmOutNumer	EQU	18	; point for numerators of scale factor [long]
fmOutDenom	EQU	22	; point for denominators of scale factor [long]

;WidthTable data structure

widTabData	EQU	0	;ARRAY[1..256] OF LONGINT character widths
widTabFont	EQU	1024	;Handle font record used to build table
widthSEextra	EQU	1028	;LONGINT space extra used for table
widthStyle	EQU	1032	;LONGINT extra due to style
widthFID	EQU	1036	;INTEGER font family ID
widthFSize	EQU	1038	;INTEGER font size request

widthFace	EQU	1040	;INTEGER style (face) request
widthDevice	EQU	1042	;INTEGER device requested
widthVInScale	EQU	1044	;FIXED scale factors requested
widthHInScale	EQU	1048	;FIXED scale factors requested
widthAFID	EQU	1052	;INTEGER actual font family ID for table
widthFHand	EQU	1054	;Handle family record used to build up table
widthUsedFam	EQU	1058	;BOOLEAN used fixed point family widths
widthAFace	EQU	1059	;BYTE actual face produced
widthVOutput	EQU	1060	;INTEGER vertical scale output value
widthHOutput	EQU	1062	;INTEGER horizontal scale output value
widthVFactor	EQU	1064	;INTEGER vertical scale output value
widthHFactor	EQU	1066	;INTEGER horizontal scale output value
widthASize	EQU	1068	;INTEGER actual size of actual font used
widTabSize	EQU	1070	;INTEGER total size of table

; Font Family Definition

ffFlags	EQU	0	; flags for family (word)
ffFamID	EQU	2	; family ID number (word)
ffFirst	EQU	4	; ASCII code of first character (word)
ffLast	EQU	6	; ASCII code of last character (word)
ffAscent	EQU	8	; maximum ascent expressed for 1 pt (word)
ffDescent	EQU	10	; maximum descent expressed for 1 pt (word)
ffLeading	EQU	12	; maximum leading expressed for 1 pt (word)
ffWidMax	EQU	14	; maximum widMax expressed for 1 pt (word)
ffWTabOff	EQU	16	; offset to width table (long)
ffKernOff	EQU	20	; offset to kerning table (long)
ffStylOff	EQU	24	; offset to style mapping table (long)
ffProperty	EQU	28	; style property info (12 words)
ffIntl	EQU	52	; reserved for international use (2 words)
ffVersion	EQU	56	; FOND version number

; Font Characterization Table

dpiVert	EQU	0	; vertical dots per inch [word]
dpiHoriz	EQU	2	; horizontal dots per inch [word]
boldChr	EQU	4	; bold characteristics [3 bytes]
italChr	EQU	7	; italic characteristics [3 bytes]
			; unused [3 bytes]
outlineChr	EQU	13	; outline characteristics [3 bytes]
shadowChr	EQU	16	; shadow characteristics [3 bytes]
condChr	EQU	19	; condensed characteristics [3 bytes]
extendChr	EQU	22	; extended characteristics [3 bytes]
underChr	EQU	25	; underline characteristics [3 bytes]

; Globals

CurFMFamily	EQU	\$988	; current font family
CurFMSize	EQU	\$98A	; current font size
CurFMFace	EQU	\$98C	; current font face
CurFMNeedBits	EQU	\$98D	; boolean specifying whether it needs strike

CurFMDevice	EQU	\$98E	; current font device
CurFMNumer	EQU	\$990	; current numerator of scale factor
CurFMDenom	EQU	\$994	; current denominator of scale factor
FOutRec	EQU	\$998	; Font Manager output record
FMDotsPerInch	EQU	\$9B2	; h,v dotsPerInch of current device

FMStyleTab	EQU	\$9B6	; style heuristic table supplied by device
------------	-----	-------	--

RomFont0	EQU	\$980	; system font [handle]
----------	-----	-------	------------------------

GotStrike	EQU	\$986	; Do we have the strike? [byte]
-----------	-----	-------	---------------------------------

; Window Manager

; Window Definition Procedure Messages

wDrawMsg	EQU	0	; draw yourself
----------	-----	---	-----------------

wHitMsg	EQU	1	; hit test
---------	-----	---	------------

wCalcRgnMsg	EQU	2	; recalculate your regions
-------------	-----	---	----------------------------

wInitMsg	EQU	3	; initialize yourself
----------	-----	---	-----------------------

wDisposeMsg	EQU	4	; dispose any private data
-------------	-----	---	----------------------------

wGrowMsg	EQU	5	; drag out grow outline
----------	-----	---	-------------------------

wGIconMsg	EQU	6	; draw the grow icon
-----------	-----	---	----------------------

OldStructure	EQU	\$9E6	; saved structure region [handle]
--------------	-----	-------	-----------------------------------

OldContent	EQU	\$9EA	; saved content region [handle]
------------	-----	-------	---------------------------------

SaveVisRgn	EQU	\$9F2	; temporarily saved visRegion [handle]
------------	-----	-------	--

CurDeKind	EQU	\$A22	; window kind of deactivated window [word]
-----------	-----	-------	--

SaveUpdate	EQU	\$9DA	; Enable update accumulation? [word]
------------	-----	-------	--------------------------------------

; Menu Manager

; Menu Definition Procedure Messages

mDrawMsg	EQU	0	; draw yourself
----------	-----	---	-----------------

mChooseMsg	EQU	1	; select an item
------------	-----	---	------------------

mSizeMsg	EQU	2	; calculate your size
----------	-----	---	-----------------------

; Menu Resource IDs

textMenuProc	EQU	0	; standard text menu MDEF ID
--------------	-----	---	------------------------------

maxMenu	EQU	\$60	; maximum of 16*6 menus in menuBar
---------	-----	------	------------------------------------

mListSize	EQU	\$66	; menu list is 102 bytes long
-----------	-----	------	-------------------------------

TheMenu	EQU	\$A26	; ID of hilited menu [word]
---------	-----	-------	-----------------------------

SavedHandle	EQU	\$A28	; saved bits under a menu [handle]
-------------	-----	-------	------------------------------------

;misc Menu stuff

MrMacHook	EQU	\$A2C	; Mr. Macintosh hook [pointer]
-----------	-----	-------	--------------------------------

; Control manager

; Control Definition Procedure Messages

drawCtlMsg	EQU	0	; draw message
------------	-----	---	----------------

hitCtlMsg	EQU	1	; hit test message
calcCtlMsg	EQU	2	; calc region message
newCtlMsg	EQU	3	; init message
dispCtlMsg	EQU	4	; dispose any private data message
posCtlMsg	EQU	5	; adjust indicator position message
thumbCtlMsg	EQU	6	; calculate rectangles for thumb dragging
dragCtlMsg	EQU	7	; custom drag message

```

trackCtlMsg          EQU    8          ; track yourself message

; Text Edit

TEDoText             EQU    $A70        ; textEdit doText proc hook [pointer]
TERecal              EQU    $A74        ; textEdit recalText proc hook [pointer]

;stage definition--packed 2 to a byte, 4 stages in a word

volBits              EQU    3          ; number of beeps
alBit                EQU    4          ; alert bit (put up box this time?)
okDismissal          EQU    8          ; bit for OK/Cancel default in each stage

; DialogList Data Structure Definitions

dlgMaxIndex           EQU    0          ; maximum index (=items-1) stored here

SaveProc              EQU    $A90        ; address of Save failsafe procedure
SaveSP                EQU    $A94        ; Safe SP for restart or save

; Package Manager

FPState              EQU    $A4A        ; floating point state [6 bytes]
App2Packs             EQU    $BC8        ; $BC8-$BE7 eight more package handles

; Resource Manager

RMGRPerm              EQU    $BA4        ; (byte) - permission byte for OpenResFile

; Miscellaneous Constants

screenRadius          EQU    $00100010 ; rounded corners for desk area

; Miscellaneous Globals

IconBitmap            EQU    $A0E        ; bitmap used for plotting things
TaskLock              EQU    $A62        ; re-entering SystemTask [byte]
CloseOrnHook          EQU    $A88        ; hook for closing desk ornaments

;new MacApp stuff

MAErrProc             EQU    $BE8        ; (long) MacApp error proc address
MASuperTab            EQU    $BEC        ; (long) handle to MacApp superclass table

;***** NEW TOOL EQUATES *****
;
; Font Manager

```


; addition to FMgrOutRec (was unused)
fmOutCurStyle EQU 17 ;style algorithmically applied by QuickDraw
;
;
;

; Window Manager

; auxWinRec structure

awNext	EQU	\$0	;next in chain	[Handle]	
awOwner	EQU	\$4	;owner ID	[WindowPtr]	
awCTable	EQU	\$8	;color table	[CTabHandle]	
dialogCTable	EQU	\$C	;handle to dialog manager structures		[handle]
awFlags	EQU	\$10	;handle for Ernie	[handle]	
awResrv	EQU	\$14	;for expansion	[longint]	
awRefCon	EQU	\$18	;user constant	[longint]	
auxWinSize	EQU	\$1C	;size of record		

AuxWinHead	EQU	\$0CD0	;[handle] Window Aux List head
------------	-----	--------	--------------------------------

; Window Part Identifiers which correlate color table entries with window elements

wContentColor	EQU	0
wFrameColor	EQU	1
wTextColor	EQU	2
wHiliteColor	EQU	3
wTitleBarColor	EQU	4

;

;

; Control Manager

; auxCtlRec structure

acNext	EQU	\$0	;next in chain	[AuxCtlHndl]
acOwner	EQU	\$4	;owner ID	[ControlHandle]
acCTable	EQU	\$8	;color table	[CCTabHandle]
acFlags	EQU	\$C	;misc flag byte	[word]
acReserved	EQU	\$E	;for expansion	[LONGINT]
acRefCon	EQU	\$12	;user constant	[LONGINT]
acSize	EQU	\$16	;size of record	

AuxCtlHead	EQU	\$0CD4	;[handle] Control Aux List head
------------	-----	--------	---------------------------------

; Here are some equates for the colors of control parts

cFrameColor	EQU	0
cBodyColor	EQU	1
cTextColor	EQU	2
cThumbColor	EQU	3

;

;

; Menu Manager

MenuDisable	EQU	\$0B54	; menuID and Item when disabled item selected
MBDFHndl	EQU	\$0B58	; handle to current menu bar defproc
MBSaveLoc	EQU	\$0B5C	; handle to the mbarproc private data
MenuCInfo	EQU	\$0D50	; hanel to menu color information table

; Leftover Alladdin ROM equates

MBProcHndl	EQU	\$0D54	; handle to current menubar defproc
------------	-----	--------	-------------------------------------

```

MRect          EQU    $0D58    ; used by Alladin's mbar proc
MBFlash        EQU    $0D5C    ; used by Alladin's mbar proc

```

```

; The following two equates have never been defined in an equate file, they were in
; the mdefproc.      The locations $B26 and $B26 were orginally used, and built in to
; the MacPlus and Alladdin Roms, but since scrolling had to work on 64K ROM machines
; $A0A and $A0C were chosen for that.      Hence forth the following values will be used.

```

```

TopMenuItem    EQU    $A0A      ; pixel value of top of scrollable menu
AtMenuBottom   EQU    $A0C      ; pixel value of bottom of scrollable menu

```

```

;
; color menu table equates (mct = menu color table)
;

```

```

mctID          EQU    $0
mctItem        EQU    $2
mctRGB1        EQU    $4
mctRGB2        EQU    $A
mctRGB3        EQU    $10
mctRGB4        EQU    $16
mctReserved    EQU    $1C
mctEntrySize   EQU    $1E

```

```

;
; miscellaneous equates for hierarchical menus
;

```

```

hMenuCmd       EQU    $1B      ; itemCmd == $1B ==> hierarchical menu for this
hierMenu       EQU    -1       ; InsertMenu(handle, hierMenu), when beforeID ==
                                ; hierMenu, the handle is inserted in the
                                ; hierarchical menuList
mPopUpMsg      EQU    4        ; menu defProc messages

menuDelay      EQU    $7E      ; param ram locations for user settable
menuDrag       EQU    $7F      ; hierarchical menu delay and drag ticks

```

```

;
; miscellaneous menubar equates
;

```

```

mbMenu1Loc     EQU    $A       ; first menu is 10 pixels from left side of screen

```

```

;
; color menu table search (and destroy) messages (mct = menu color table)
;

```

```

mctAllIDs      EQU    -97      ; search for all IDs for the given Item
mctAllItems    EQU    -98      ; search for all Items for the given ID
mctLastIDIndic EQU    -99      ; last entry in color table has this in ID field

```

```

;
;

```

```
;                                Background Notification Manager
BNMQHd      EQU    $B50      ; head of background notification Q

;_____
```

; Text Edit

; Set/Replace style modes

fontBit	EQU	0	; set font
faceBit	EQU	1	; set face
sizeBit	EQU	2	; set size
clrBit	EQU	3	; set color
addSizeBit	EQU	4	; add size mode

; handle to style record

teStylesH	EQU	\$4A	; replaces teFont/teFace
-----------	-----	------	--------------------------

; offsets into TStyleRec

nRuns	EQU	0	; [INTEGER] # of entries in styleStarts array
nStyles	EQU	2	; [INTEGER] # of distinct styles
styleTab	EQU	4	; [STHandle] handle to distinct styles
lhTab	EQU	8	; [LHHandle] handle to line heights
teRefCon	EQU	12	; [LONGINT] reserved
teReserved	EQU	16	; [LONGINT] reserved
runs	EQU	20	; array of styles

; offsets into StyleRun array

startChar	EQU	0	; [INTEGER] offset into text to start of style
styleIndex	EQU	2	; [INTEGER] style index

stStartSize	EQU	4	; size of a styleStarts entry
-------------	-----	---	-------------------------------

; offsets into STElement

stCount	EQU	0	; [INTEGER] # of times this style is used
stHeight	EQU	2	; [INTEGER] line height
stAscent	EQU	4	; [INTEGER] ascent
stFont	EQU	6	; [INTEGER] font
stFace	EQU	8	; [Style] face
stSize	EQU	10	; [INTEGER] size
stColor	EQU	12	; [RGBColor] color
stRecSize	EQU	18	; size of a teStylesRec ** <C182/6oct86/MBK> **

; offsets into TextStyle

tsFont	EQU	0	; [INTEGER] font
tsFace	EQU	2	; [Style] face
tsSize	EQU	4	; [INTEGER] size
tsColor	EQU	6	; [RGBColor] color

styleSize	EQU	12	; size of a StylRec	** <C182/6oct86/MBK> **
; offsets into StScrpRec				
scrpNStyles	EQU	0	; [INTEGER] # of styles in scrap	
scrpStyleTab	EQU	2	; [ScrpSTTable] start of scrap styles array	

; offsets into scrpSTElement

scrpStartChar	EQU	0	; [LONGINT] char where this style starts
scrpHeight	EQU	4	; [INTEGER] line height
scrpAscent	EQU	6	; [INTEGER] ascent
scrpFont	EQU	8	; [INTEGER] font
scrpFace	EQU	10	; [Style] face
scrpSize	EQU	12	; [INTEGER] size
scrpColor	EQU	14	; [RGBColor] color
scrpRecSize	EQU	20	; size of a scrap record

; System Error Equates -- This file defines the equates for the Macintosh return error codes

; General System Errors (VBL Mgr, Queueing, Etc.)

noErr	EQU	0	; 0 for success
qErr	EQU	-1	; queue element not found during deletion
vTypErr	EQU	-2	; invalid queue element
corErr	EQU	-3	; core routine number out of range
unimpErr	EQU	-4	; unimplemented core routine
seNoDB	EQU	-8	; no debugger installed to handle debugger command <what
num???			>

; I/O System Errors

controlErr	EQU	-17	
statusErr	EQU	-18	
readErr	EQU	-19	
writErr	EQU	-20	
badUnitErr	EQU	-21	
unitEmptyErr	EQU	-22	
openErr	EQU	-23	
closErr	EQU	-24	
dRemovErr	EQU	-25	; tried to remove an open driver
dInstErr	EQU	-26	; DrvrInstall couldn't find driver in resources
abortErr	EQU	-27	; IO call aborted by KillIO
notOpenErr	EQU	-28	; Couldn't rd/wr/ctl/sts cause driver not opened

; File System error codes:

dirFulErr	EQU	-33	; Directory full
dskFulErr	EQU	-34	; disk full
nsvErr	EQU	-35	; no such volume
ioErr	EQU	-36	; I/O error (bummers)
bdNamErr	EQU	-37	; there may be no bad names in the final system!
fnOpnErr	EQU	-38	; File not open
eofErr	EQU	-39	; End of file
posErr	EQU	-40	; tried to position to before start of file (r/w)
mFulErr	EQU	-41	; memory full (open) or file won't fit (load)
tmfoErr	EQU	-42	; too many files open
fnfErr	EQU	-43	; File not found
wPrErr	EQU	-44	; diskette is write protected
fLckdErr	EQU	-45	; file is locked
vLckdErr	EQU	-46	; volume is locked
fBsyErr	EQU	-47	; File is busy (delete)
dupFNErr	EQU	-48	; duplicate filename (rename)
opWrErr	EQU	-49	; file already open with with write permission
paramErr	EQU	-50	; error in user parameter list
rfNumErr	EQU	-51	; refnum error
gfpErr	EQU	-52	; get file position error
volOffLinErr	EQU	-53	; volume not on line error (was Ejected)

permErr	EQU	-54	; permissions error (on file open)
volOnLinErr	EQU	-55	; drive volume already on-line at MountVol
nsDrvErr	EQU	-56	; no such drive (tried to mount a bad drive num)
noMacDskErr	EQU	-57	; not a mac diskette (sig bytes are wrong)
extFSErr	EQU	-58	; volume in question belongs to an external fs
fsRnErr	EQU	-59	; file system internal error: during rename the old entry was deleted but could not be restored . . .

badMDBErr	EQU	-60	; bad master directory block
wrPermErr	EQU	-61	; write permissions error
; Font Manager Error Codes			
fontDecError	EQU	-64	; error during font declaration
fontNotDeclared	EQU	-65	; font not declared
fontSubErr	EQU	-66	; font substitution occurred
; Disk, Serial Ports, Clock Specific Errors			
firstDskErr	EQU	-84	
lastDskErr	EQU	-64	
noDriveErr	EQU	-64	; drive not installed
offLinErr	EQU	-65	; r/w requested for an off-line drive
noNybErr	EQU	-66	; couldn't find 5 nybbles in 200 tries
noAdrMkErr	EQU	-67	; couldn't find valid addr mark
dataVerErr	EQU	-68	; read verify compare failed
badCkSmErr	EQU	-69	; addr mark checksum didn't check
badBtSlpErr	EQU	-70	; bad addr mark bit slip nibbles
noDtaMkErr	EQU	-71	; couldn't find a data mark header
badDCKSum	EQU	-72	; bad data mark checksum
badDBtSlp	EQU	-73	; bad data mark bit slip nibbles
wrUnderRun	EQU	-74	; write underrun occurred
cantStepErr	EQU	-75	; step handshake failed
tk0BadErr	EQU	-76	; track 0 detect doesn't change
initIWMErr	EQU	-77	; unable to initialize IWM
twoSideErr	EQU	-78	; tried to read 2nd side on a 1-sided drive
spdAdjErr	EQU	-79	; unable to correctly adjust disk speed
seekErr	EQU	-80	; track number wrong on address mark
sectNFErr	EQU	-81	; sector number never found on a track
fmt1Err	EQU	-82	; can't find sector 0 after track format
fmt2Err	EQU	-83	; can't get enough sync
VerErr	EQU	-84	; track failed to verify
clkRdErr	EQU	-85	; unable to read same clock value twice
clkWrErr	EQU	-86	; time written did not verify
prWrErr	EQU	-87	; parameter ram written didn't read-verify
prInitErr	EQU	-88	; InitUtil found the parameter ram uninitialized
rcvrErr	EQU	-89	; SCC receiver error (framing, parity, OR)
breakRecd	EQU	-90	; Break received (SCC)
; AppleTalk error codes			
ddpSktErr	EQU	-91	; error in socket number

ddpLenErr	EQU	-92	; data length too big
noBridgeErr	EQU	-93	; no network bridge for non-local send
lapProtErr	EQU	-94	; error in attaching/detaching protocol
excessCollsns	EQU	-95	; excessive collisions on write
portInUse	EQU	-97	; driver Open error code (port is in use)
portNotCf connection)	EQU	-98	; driver Open error code (parameter RAM not configured for this

```

memROZErr      EQU  -99      ; hard error in ROZ

; Scrap Manager error codes

noScrapErr     EQU  -100     ; No scrap exists error
noTypeErr      EQU  -102     ; No object of that type in scrap

; Storage allocator error codes

memFullErr     EQU  -108     ; Not enough room in heap zone
nilHandleErr   EQU  -109     ; Handle was NIL in HandleZone or other;
memWZErr       EQU  -111     ; WhichZone failed (applied to free block);
memPurErr      EQU  -112     ; trying to purge a locked or non-purgeable block;

memAdrErr      EQU  -110     ; address was odd, or out of range;
memAZErr       EQU  -113     ; Address in zone check failed;
memPCErr       EQU  -114     ; Pointer Check failed;
memBCErr       EQU  -115     ; Block Check failed;
memSCErr       EQU  -116     ; Size Check failed;
memLockedErr   EQU  -117     ; trying to move a locked block (MoveHHI)

; New system error codes :

dirNFErr       EQU  -120     ; Directory not found
tMWDOErr       EQU  -121     ; No free WDCB available
badMovErr      EQU  -122     ; Move into offspring error
wrgVolTypErr    EQU  -123     ; Wrong volume type error [operation not supported for MFS]

; Resource Manager error codes (other than I/O errors)

resNotFound    EQU  -192     ; Resource not found
resFNotFound    EQU  -193     ; Resource file not found
addResFailed    EQU  -194     ; AddResource failed
addRefFailed    EQU  -195     ; AddReference failed
rmvResFailed    EQU  -196     ; RmveResource failed
rmvRefFailed    EQU  -197     ; RmveReference failed
resAttrErr     EQU  -198     ; attribute inconsistent with operation
mapReadErr     EQU  -199     ; map inconsistent with operation

;
;
; some miscellaneous result codes

evtNotEnb      EQU   1       ; event not enabled at PostEvent

;
;      System Error Alert ID definitions.  These are just for reference because
;      one cannot intercept the calls and do anything programmatically...

dsSysErr       EQU  32767    ; general system error
dsBusError     EQU   1       ; bus error
dsAddressErr    EQU   2       ; address error

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dsIlllInstErr	EQU	3	; illegal instruction error
dsZeroDivErr	EQU	4	; zero divide error
dsChkErr	EQU	5	; check trap error
dsOvFlowErr	EQU	6	; overflow trap error
dsPrivErr	EQU	7	; privelege violation error

dsTraceErr	EQU	8	; trace mode error
dsLineAErr	EQU	9	; line 1010 trap error
dsLineFErr	EQU	10	; line 1111 trap error
dsMiscErr	EQU	11	; miscellaneous hardware exception error
dsCoreErr	EQU	12	; unimplemented core routine error
dsIrqErr	EQU	13	; uninstalled interrupt error

dsIOCoreErr	EQU	14	; IO Core Error
dsLoadErr	EQU	15	; Segment Loader Error
dsFPErr	EQU	16	; Floating point error

dsNoPackErr	EQU	17	; package 0 not present
dsNoPk1	EQU	18	; package 1 not present
dsNoPk2	EQU	19	; package 2 not present
dsNoPk3	EQU	20	; package 3 not present
dsNoPk4	EQU	21	; package 4 not present
dsNoPk5	EQU	22	; package 5 not present
dsNoPk6	EQU	23	; package 6 not present
dsNoPk7	EQU	24	; package 7 not present

dsMemFullErr	EQU	25	; out of memory!
dsBadLaunch	EQU	26	; can't launch file

dsFSErr	EQU	27	; file system map has been trashed
dsStknHeap	EQU	28	; stack has moved into application heap
dsReinsert	EQU	30	; request user to reinsert off-line volume
dsNotThe1	EQU	31	; not the disk I wanted
negZcbFreeErr	EQU	33	; ZcbFree has gone negative
menuPrgErr	EQU	84	; happens when a menu is purged

```

;***** ADDITIONS MADE FOR NEW QUICKDRAW AND COLOR *****
; Note: the following error codes are also used but not documented anywhere obvious!!
;
;
; dsGreeting      EQU    40      ; welcome to Macintosh greeting
; dsFinderErr     EQU    41      ; can't load the Finder error
;

```

;Slot Declaration ROM Manager Errors

silnitSDTblErr	EQU	1	;slot int dispatch table could not be initialized.
silnitVBLQsErr	EQU	2	;VBLqueues for all slots could not be initialized.
silnitSPTblErr	EQU	3	;slot priority table could not be initialized.
sdmJTInitErr	EQU	10	;SDM Jump Table could not be initialized.
sdmInitErr	EQU	11	;SDM could not be initialized.
sdmSRTInitErr	EQU	12	;Slot Resource Table could not be initialized.
sdmPRAMInitErr	EQU	13	;Slot PRAM could not be initialized.
sdmPriInitErr	EQU	14	;Cards could not be initialized.

;Color Quickdraw & Color Manager Errors

cMatchErr	EQU	-150	; Color2Index failed to find an index
cTempMemErr	EQU	-151	; failed to allocate memory for temporary structures
cNoMemErr	EQU	-152	; failed to allocate memory for structure
cRangeErr	EQU	-153	; range error on colorTable request
cProtectErr	EQU	-154	; colorTable entry protection violation

cDevErr	EQU	-155	; invalid type of graphics device
cResErr	EQU	-156	; invalid resolution for MakeITable

; errors for Color2Index/ITabMatch

iTabPurgErr	EQU	-9	
noColMatch	EQU	-10	

; errors for MakeITable

qAllocErr	EQU	-11	
tblAllocErr	EQU	-12	
overRun	EQU	-13	
noRoomErr	EQU	-14	