

; 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] pixmap 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] |
| ioVCIpSiz | 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 |

Appendix B - System Equates 37

| | | | |
|------------|-----|------|--|
| 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) |
|------------|-----|-------|--|

;+ 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

```

| | | | |
|---------------|-----|---|-----------------------------|
| 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 | |