

**in**

**COLLABORATORS**

	<i>TITLE :</i> in	
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>
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**REVISION HISTORY**

NUMBER	DATE	DESCRIPTION	NAME

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# Chapter 1

in

## 1.1 ModuleInformation

```
ShowModule v1.10 (c) 1992 $#%
now showing: "intuition/intuition.m"
NOTE: don't use this output in your code, use the module instead.

(----) OBJECT tablethookdata
(  0)   screen:PTR TO screen
(  4)   width:LONG
(  8)   height:LONG
( 12)   screenchanged:LONG
(----) ENDOBJECT      /* SIZEOF=16 */

(----) OBJECT tabletdata
(  0)   xfraction:INT
(  2)   yfraction:INT
(  4)   tabletx:LONG
(  8)   tablety:LONG
( 12)   rangex:LONG
( 16)   rangey:LONG
( 20)   taglist:PTR TO tagitem
(----) ENDOBJECT      /* SIZEOF=24 */

(----) OBJECT easystruct
(  0)   structsize:LONG
(  4)   flags:LONG
(  8)   title:PTR TO CHAR
( 12)   textformat:PTR TO CHAR
( 16)   gadgetformat:PTR TO CHAR
(----) ENDOBJECT      /* SIZEOF=20 */

(----) OBJECT colorspec
(  0)   colorindex:INT
(  2)   red:INT
(  4)   green:INT
(  6)   blue:INT
(----) ENDOBJECT      /* SIZEOF=8 */

(----) OBJECT remember
(  0)   nextremember:PTR TO remember
```

```
(     4)      remembersize:LONG
(     8)      memory:PTR TO CHAR
(----) ENDOBJECT      /* SIZEOF=12 */

(----) OBJECT extnewwindow
(    0)      leftedge:INT
(    2)      topedge:INT
(    4)      width:INT
(    6)      height:INT
(    8)      detailpen:CHAR
(    9)      blockpen:CHAR
(   10)      idcmpflags:LONG
(   14)      flags:LONG
(   18)      firstgadget:PTR TO gadget
(   22)      checkmark:PTR TO image
(   26)      title:PTR TO CHAR
(   30)      screen:PTR TO screen
(   34)      bitmap:PTR TO bitmap
(   38)      minwidth:INT
(   40)      minheight:INT
(   42)      maxwidth:INT
(   44)      maxheight:INT
(   46)      type:INT
(   48)      extension:PTR TO tagitem
(----) ENDOBJECT      /* SIZEOF=52 */

(----) OBJECT nw
(    0)      leftedge:INT
(    2)      topedge:INT
(    4)      width:INT
(    6)      height:INT
(    8)      detailpen:CHAR
(    9)      blockpen:CHAR
(   10)      idcmpflags:LONG
(   14)      flags:LONG
(   18)      firstgadget:PTR TO gadget
(   22)      checkmark:PTR TO image
(   26)      title:PTR TO CHAR
(   30)      screen:PTR TO screen
(   34)      bitmap:PTR TO bitmap
(   38)      minwidth:INT
(   40)      minheight:INT
(   42)      maxwidth:INT
(   44)      maxheight:INT
(   46)      type:INT
(----) ENDOBJECT      /* SIZEOF=48 */

(----) OBJECT window
(    0)      nextwindow:PTR TO window
(    4)      leftedge:INT
(    6)      topedge:INT
(    8)      width:INT
(   10)      height:INT
(   12)      mousey:INT
(   14)      mousex:INT
(   16)      minwidth:INT
(   18)      minheight:INT
```

```
( 20)    maxwidth:INT
( 22)    maxheight:INT
( 24)    flags:LONG
( 28)    menustrip:PTR TO menu
( 32)    title:PTR TO CHAR
( 36)    firstrequest:PTR TO requester
( 40)    dmrequest:PTR TO requester
( 44)    reqcount:INT
( 46)    wscreen:PTR TO screen
( 50)    rport:PTR TO rastport
( 54)    borderleft:CHAR
( 55)    bordertop:CHAR
( 56)    borderright:CHAR
( 57)    borderbottom:CHAR
( 58)    borderrport:PTR TO rastport
( 62)    firstgadget:PTR TO gadget
( 66)    parent:PTR TO window
( 70)    descendant:PTR TO window
( 74)    pointer:PTR TO INT
( 78)    ptrheight:CHAR
( 79)    ptrwidth:CHAR
( 80)    xoffset:CHAR
( 81)    yoffset:CHAR
( 82)    idcmpflags:LONG
( 86)    userport:PTR TO mp
( 90)    windowport:PTR TO mp
( 94)    messagekey:PTR TO intuimessage
( 98)    detailpen:CHAR
( 99)    blockpen:CHAR
(100)    checkmark:PTR TO image
(104)    screentitle:PTR TO CHAR
(108)    gzzmousex:INT
(110)    gzzmousey:INT
(112)    gzzwidth:INT
(114)    gzzheight:INT
(116)    extdata:PTR TO CHAR
(120)    userdata:PTR TO CHAR
(124)    wlayer:PTR TO layer
(128)    ifont:PTR TO textfont
(132)    moreflags:LONG
(----) ENDOBJECT      /* SIZEOF=136 */

(----) OBJECT ibox
(  0)    left:INT
(  2)    top:INT
(  4)    width:INT
(  6)    height:INT
(----) ENDOBJECT      /* SIZEOF=8 */

(----) OBJECT extintuimessage
(  0)    intuimessage:intuimessage (or ARRAY OF intuimessage)
( 52)    tabletdata:PTR TO tabletdata
(----) ENDOBJECT      /* SIZEOF=56 */

(----) OBJECT intuimessage
(  0)    execmessage:mn (or ARRAY OF mn)
( 20)    class:LONG
```

```
( 24)    code:INT
( 26)    qualifier:INT
( 28)    iaddress:LONG
( 32)    mousex:INT
( 34)    mousey:INT
( 36)    seconds:LONG
( 40)    micros:LONG
( 44)    idcmpwindow:PTR TO window
( 48)    speciallink:PTR TO intuimessage
(----) ENDOBJECT      /* SIZEOF=52 */

(----) OBJECT image
(  0)    leftedge:INT
(  2)    topedge:INT
(  4)    width:INT
(  6)    height:INT
(  8)    depth:INT
( 10)    imagedata:PTR TO INT
( 14)    planepick:CHAR
( 15)    planeonoff:CHAR
( 16)    nextimage:PTR TO image
(----) ENDOBJECT      /* SIZEOF=20 */

(----) OBJECT border
(  0)    leftedge:INT
(  2)    topedge:INT
(  4)    frontpen:CHAR
(  5)    backpen:CHAR
(  6)    drawmode:CHAR
(  7)    count:CHAR
(  8)    xy:PTR TO INT
( 12)    nextborder:PTR TO border
(----) ENDOBJECT      /* SIZEOF=16 */

(----) OBJECT intuitext
(  0)    frontpen:CHAR
(  1)    backpen:CHAR
(  2)    drawmode:CHAR
(  4)    leftedge:INT
(  6)    topedge:INT
(  8)    itextfont:PTR TO textattr
( 12)    itext:PTR TO CHAR
( 16)    nexttext:PTR TO intuitext
(----) ENDOBJECT      /* SIZEOF=20 */

(----) OBJECT stringinfo
(  0)    buffer:PTR TO CHAR
(  4)    undobuffer:PTR TO CHAR
(  8)    bufferpos:INT
( 10)    maxchars:INT
( 12)    disppos:INT
( 14)    undopos:INT
( 16)    numchars:INT
( 18)    dispcount:INT
( 20)    cleft:INT
( 22)    ctop:INT
( 24)    extension:PTR TO stringextend
```

```
( 28)    longint:LONG
( 32)    altkeymap:PTR TO keymap
(----) ENDOBJECT      /* SIZEOF=36 */

(----) OBJECT propinfo
(  0)    flags:INT
(  2)    horizpot:INT
(  4)    vertpot:INT
(  6)    horizbody:INT
(  8)    vertbody:INT
( 10)    cwidth:INT
( 12)    cheight:INT
( 14)    hpotres:INT
( 16)    vpotres:INT
( 18)    leftborder:INT
( 20)    topborder:INT
(----) ENDOBJECT      /* SIZEOF=22 */

(----) OBJECT boolinfo
(  0)    flags:INT
(  2)    mask:PTR TO INT
(  6)    reserved:LONG
(----) ENDOBJECT      /* SIZEOF=10 */

(----) OBJECT extgadget
(  0)    nextgadget:PTR TO extgadget
(  4)    leftedge:INT
(  6)    topedge:INT
(  8)    width:INT
( 10)    height:INT
( 12)    flags:INT
( 14)    activation:INT
( 16)    gadgettype:INT
( 18)    gadgetrender:LONG
( 22)    selectrender:LONG
( 26)    gadgettext:PTR TO intuitext
( 30)    mutualexclude:LONG
( 34)    specialinfo:LONG
( 38)    gadgetid:INT
( 40)    userdata:LONG
( 44)    moreflags:LONG
( 48)    boundsleftedge:INT
( 50)    boundstopedge:INT
( 52)    boundswidth:INT
( 54)    boundsheight:INT
(----) ENDOBJECT      /* SIZEOF=56 */

(----) OBJECT gadget
(  0)    nextgadget:PTR TO gadget
(  4)    leftedge:INT
(  6)    topedge:INT
(  8)    width:INT
( 10)    height:INT
( 12)    flags:INT
( 14)    activation:INT
( 16)    gadgettype:INT
( 18)    gadgetrender:LONG
```

```
( 22)    selectrender:LONG
( 26)    gadgettext:PTR TO intuitext
( 30)    mutualexclude:LONG
( 34)    specialinfo:LONG
( 38)    gadgetid:INT
( 40)    userdata:LONG
(----) ENDOBJECT      /* SIZEOF=44 */

(----) OBJECT requester
(  0)    olderrequest:PTR TO requester
(  4)    leftedge:INT
(  6)    topedge:INT
(  8)    width:INT
( 10)    height:INT
( 12)    relleft:INT
( 14)    reltop:INT
( 16)    reqgadget:PTR TO gadget
( 20)    reqborder:PTR TO border
( 24)    reqtext:PTR TO intuitext
( 28)    flags:INT
( 30)    backfill:CHAR
( 32)    reqlayer:PTR TO layer
( 36)    reqpad1[32]:ARRAY OF CHAR
( 68)    imagebmap:PTR TO bitmap
( 72)    rwindow:PTR TO window
( 76)    reqimage:PTR TO image
( 80)    reqpad2[32]:ARRAY OF CHAR
(----) ENDOBJECT      /* SIZEOF=112 */

(----) OBJECT menuitem
(  0)    nextitem:PTR TO menuitem
(  4)    leftedge:INT
(  6)    topedge:INT
(  8)    width:INT
( 10)    height:INT
( 12)    flags:INT
( 14)    mutualexclude:LONG
( 18)    itemfill:LONG
( 22)    selectfill:LONG
( 26)    command:CHAR
( 28)    subitem:PTR TO menuitem
( 32)    nextselect:INT
(----) ENDOBJECT      /* SIZEOF=34 */

(----) OBJECT menu
(  0)    nextmenu:PTR TO menu
(  4)    leftedge:INT
(  6)    topedge:INT
(  8)    width:INT
( 10)    height:INT
( 12)    flags:INT
( 14)    menuname:PTR TO CHAR
( 18)    firstitem:PTR TO menuitem
( 22)    jazzx:INT
( 24)    jazzy:INT
( 26)    beatx:INT
( 28)    beaty:INT
```

```
(----) ENDOBJECT      /* SIZEOF=30 */  
  
CONST IDCMP_MENU_PICK=$100,  
      AUTOITEXTFONT=0,  
      WA_DETAILPEN=$80000068,  
      ALERT_TYPE=$80000000,  
      GTYP_GADGETTYPE=$FC00,  
      GACT_ALTKEYMAP=$1000,  
      WA_ACTIVATE=$80000089,  
      WFLG_ACTIVATE=$1000,  
      FREEHORIZ=2,  
      NOSUB=31,  
      IDCMP_DELTAMOVE=$100000,  
      IDCMP_MOUSEMOVE=16,  
      CURSORDOWN=$4D,  
      MIDDLEDOWN=$6A,  
      MENUDOWN=$69,  
      SELECTDOWN=$68,  
      IDCMP_GADGETDOWN=$20,  
      OKCANCEL=2,  
      MENU_CANCEL=2,  
      WA_AMIGAKEY=$80000094,  
      IDCMP_VANILLAKEY=$200000,  
      WFLG_WINDOWACTIVE=$2000,  
      REQACTIVE=$2000,  
      COMMSEQ=4,  
      WA_HELPGROUP=$8000009B,  
      GFLG_REL_SPECIAL=$4000,  
      KNOB_HIT=$100,  
      GTYP_GADGET0002=2,  
      TABLETA_DUMMY=$8003A000,  
      TABLETA_INPROXIMITY=$8003A008,  
      WA_NEWLOOKMENUS=$80000093,  
      WA_PUBSCREENFALLBACK=$8000007A,  
      WFLG_NEWLOOKMENUS=$200000,  
      IDCMP_MENUVERIFY=$2000,  
      IDCMP_REQVERIFY=$800,  
      IDCMP_SIZEVERIFY=1,  
      GTYP_SDOWNBACK=$70,  
      GTYP_WDOWNBACK=$60,  
      GACT_RELVERIFY=1,  
      MENUUP=$E9,  
      WA_PUBSCREEN=$80000079,  
      WA_CUSTOMSCREEN=$80000070,  
      WFLG_ZOOMED=$10000000,  
      TABLETA_BUTTONBITS=$8003A007,  
      WFLG_REFRESHBITS=$C0,  
      GFLG_GADGHIGHBITS=3,  
      SIMPLEREQ=16,  
      CHECKIT=1,  
      WA_SMARTREFRESH=$8000008D,  
      WA_SIMPLEREFRESH=$8000008C,  
      WA_NOCAREREFRESH=$80000087,  
      WFLG_WINDOWREFRESH=$1000000,  
      WFLG_NOCAREREFRESH=$20000,  
      WFLG_OTHER_REFRESH=$C0,  
      WFLG_SIMPLE_REFRESH=$40,
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```
WFLG_SMART_REFRESH=0,
GFLG_DISABLED=$100,
DEFERREFRESH=$8000,
ITEMENABLED=16,
MENUNABLED=1,
WA_TABLETMESSAGES=$8000009A,
IDCMP_MOUSEBUTTONS=8,
WA_CHECKMARK=$8000006D,
WA_POINTERDELAY=$80000099,
WFLG_MENUSTATE=$8000,
IDCMP_IDCMPUPDATE=$800000,
MENUNULL=$FFFF,
KNOBHMIN=6,
NOITEM=$3F,
HIGHITEM=$2000,
WFLG_NW_EXTENDED=$4000,
GFLG_EXTENDED=$8000,
MENUTOGGLED=$4000,
IDCMP_NEWPREFS=$4000,
WBENCHOPEN=1,
MENUWAITING=3,
TABLETA_RESOLUTIONX=$8003A009,
TABLETA_RESOLUTIONY=$8003A00A,
GACT_IMMEDIATE=2,
AUTOTOPEDGE=3,
AUTOLEFTEDGE=6,
IG_LEFTEDGE=0,
BOOLMASK=1,
GTYP_SYSTYPEMASK=$F0,
GTYP_GTYPEMASK=7,
GFLG_LABELMASK=$3000,
GD_LEFTEDGE=4,
WA_DRAGBAR=$80000082,
WFLG_DRAGBAR=2,
WA_BACKDROP=$80000085,
WFLG_BACKDROP=$100,
IDCMP_DISKINSERTED=$8000,
AUTOFRONTPEN=0,
SUPER_UNUSED=$FCFC0000,
GTYP_SUNUSED=$70,
TABLETA_ANGLEX=$8003A003,
TABLETA_ANGLEY=$8003A004,
WA_REPORTMOUSE=$80000086,
WFLG_REPORTMOUSE=$200,
GACT_FOLLOWMOUSE=8,
GFLG_LABELIMAGE=$2000,
GFLG_GADGIMAGE=4,
GFLG_GADGHIMAGE=2,
USEREQIMAGE=$20,
HIGHIMAGE=0,
TABLETA_ANGLEZ=$8003A005,
GTYP_SUPFRONT=$50,
GTYP_WUPFRONT=$40,
WA_GADGETS=$8000006C,
GFLG_IMAGEDISABLE=$800,
IDCMP_REQCLEAR=$1000,
GACT_BORDERSNIFF=$8000,
```

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```
KNOBVMIN=4,
GACT_STRINGEXTEND=$2000,
GACT_BOOLEXTEND=$2000,
GFLG_STRINGEXTEND=$400,
AMIGAKEYS=$C0,
WA_COLORS=$8000007C,
WBENCHCLOSE=2,
GTYP_CLOSE=$80,
WA_CLOSEGADGET=$80000084,
WA_DEPTHGADGET=$80000083,
WA_SIZEGADGET=$80000081,
WFLG_CLOSEGADGET=8,
WFLG_DEPTHGADGET=4,
WFLG_SIZEGADGET=1,
GTYP_CUSTOMGADGET=5,
GTYP_STRGADGET=4,
GTYP_PROPGADGET=3,
GTYP_BOOLGADGET=1,
GTYP_REQGADGET=$1000,
GTYP_GZZGADGET=$2000,
GTYP_SCRGADGET=$4000,
GTYP_SYSGADGET=$8000,
GACT_ACTIVEGADGET=$4000,
GACT_ENDGADGET=4,
WA_GIMMEZEROZERO=$80000091,
WFLG_GIMMEZEROZERO=$400,
GFLG_LABELSTRING=$1000,
AUTONEXTTEXT=0,
GFLG_LABELITEXT=0,
ITEMTEXT=2,
WA_RMBTRAP=$8000008A,
WFLG_RMBTRAP=$10000,
WFLG_INREQUEST=$4000,
SYSREQUEST=$4000,
IDCMP_DISKREMOVED=$10000,
GTYP_SDRAGGING=$30,
GTYP_WDRAGGING=$20,
WA_SCREENTITLE=$8000006F,
WA_TITLE=$8000006E,
IDCMP_RAWKEY=$400,
MAXPOT=$FFFF,
GACT_TOGGLESELECT=$100,
WA_RPTQUEUE=$80000080,
WA_MOUSEQUEUE=$8000007E,
DEFAULTMOUSEQUEUE=5,
GACT_LONGINT=$800,
GFLG_GADGHBOX=1,
HIGHBOX=$80,
NOMENU=31,
MENUHOT-1,
AUTOBACKPEN=1,
WA_BLOCKPEN=$80000069,
GFLG_GADGHNONE=3,
HIGHNONE=$C0,
PREDRAWN=2,
ISDRAWN=$1000,
MIDRAWN=$100,
```

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```
WA_TOP=$80000065,
KEYCODE_B=$35,
GFLG_GADGHCOMP=0,
HIGHCOMP=$40,
AUTODRAWMODE=1,
DEADEND_ALERT=$80000000,
RECOVERY_ALERT=0,
WA_ZOOM=$8000007D,
WFLG_HASZOOM=$20000000,
GTYP_WZOOM=$60,
WA_SIZEBBOTTOM=$8000008F,
WFLG_SIZEBBOTTOM=$20,
GFLG_SELECTED=$80,
GFLG_RELBOTTOM=8,
CURSORRIGHT=$4E,
AMIGARIGHT=$80,
ALTRIGHT=$20,
WA_BUSYPOINTER=$80000098,
WA_POINTER=$80000097,
WA_SIZEBRIGHT=$8000008E,
WA_INNERHEIGHT=$80000077,
WA_MAXHEIGHT=$80000075,
WA_MINHEIGHT=$80000073,
WA_HEIGHT=$80000067,
WFLG_SIZEBRIGHT=16,
GACT_STRINGRIGHT=$400,
GACT_STRINGCENTER=$200,
GFLG_RELHEIGHT=$40,
GFLG_RELRIGHT=16,
OKOK=1,
KEYCODE_M=$37,
KEYCODE_N=$36,
GTYP_SIZING=16,
POINTREL=1,
KEYCODE_Q=16,
IDCMP_REQSET=$80,
KEYCODE_LESS=$38,
WA_BORDERLESS=$80000088,
WFLG_BORDERLESS=$800,
PROPBORDERLESS=8,
KEYCODE_V=$34,
WA_OBSOLETE=$80000096,
KEYCODE_X=$32,
CURSORLEFT=$4F,
AMIGALEFT=$40,
ALTLEFT=16,
WA_LEFT=$80000064,
GMORE_SCROLLRASTER=4,
GACT_STRINGLEFT=0,
KEYCODE_Z=$31,
WFLG_WINDOWTICKED=$4000000,
CHECKED=$100,
WFLG_VISITOR=$8000000,
IDCMP_GADGETUP=$40,
FREEVERT=4,
IDCMP_LONELYMESSAGE=$80000000,
IDCMP_WBENCHMESSAGE=$20000,
```

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```
NOISYREQ=4,
WA_NOTIFYDEPTH=$80000095,
CWCODE_DEPTH=1,
GMORE_BOUNDS=1,
GTYP_SDEPTH=$50,
GTYP_WDEPTH=$40,
MAXBODY=$FFFF,
AUTOKNOB=1,
TABLETA_TABLETZ=$8003A001,
WA_HELPGROUPWINDOW=$8000009C,
WA_WBENCHWINDOW=$8000008B,
WFLG_WBENCHWINDOW=$2000000,
IDCMP_CHANGEWINDOW=$2000000,
IDCMP_INTUITICKS=$400000,
IDCMP_INACTIVEWINDOW=$80000,
IDCMP_ACTIVEWINDOW=$40000,
IDCMP_CLOSEWINDOW=$200,
IDCMP_REFRESHWINDOW=4,
REQOFFWINDOW=$1000,
OKABORT=4,
GFLG_TABCYCLE=$200,
MIDDLEUP=$EA,
CURSORUP=$4C,
MENUTOGGLE=8,
TABLETA_PRESSURE=$8003A006,
PROPNEXTLOOK=16,
LOWCOMMWIDTH=16,
LOWCHECKWIDTH=13,
COMMWIDTH=27,
CHECKWIDTH=19,
WA_INNERWIDTH=$80000076,
WA_MAXWIDTH=$80000074,
WA_MINWIDTH=$80000072,
WA_WIDTH=$80000066,
GFLG_RELWIDTH=$20,
HC_GADGETHELP=1,
WA_MENUHELP=$80000092,
WA_AUTOADJUST=$80000090,
WA_IDCMP=$8000006A,
IDCMP_GADGETHELP=$4000000,
IDCMP_MENUHELP=$1000000,
GMORE_GADGETHELP=2,
KEYCODE_GREATER=$39,
GACT_BOTTOMBORDER=$80,
GACT_TOPBORDER=$40,
GACT_LEFTBORDER=$20,
GACT_RIGHTBORDER=16,
WA_BACKFILL=$8000007F,
NOREQBACKFILL=$40,
CWCODE_MOVESIZE=0,
IDCMP_NEWSIZE=2,
WA_SUPERBITMAP=$80000071,
WFLG_SUPER_BITMAP=$80,
TABLETA_RANGEZ=$8003A002,
SELECTUP=$E8,
WA_WINDOWNAME=$8000007B,
WA_PUBSCREENNAME=$80000078,
```

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```
WA_FLAGS=$8000006B,  
HIGHFLAGS=$C0  
  
#define FULLMENUNUM/3  
#define MENUNUM/1  
#define SHIFTSUB/1  
#define SHIFTITEM/1  
#define SHAKNUM/1  
#define SHIFTMENU/1  
#define ITEMNUM/1  
#define SPARNUM/1  
#define SSBNUM/1  
#define SWBNUM/1  
#define SRBNUM/1  
#define SUBNUM/1
```