

in

COLLABORATORS

	TITLE : in		
ACTION	NAME	DATE	SIGNATURE
WRITTEN BY		May 28, 2025	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

1	in	1
1.1	ModuleInformation	1

Chapter 1

in

1.1 ModuleInformation

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

```
(----) OBJECT custom  
(  0)  bltdat:INT  
(  2)  dmaconr:INT  
(  4)  vposr:INT  
(  6)  vhposr:INT  
(  8)  dskdatr:INT  
( 10)  joy0dat:INT  
( 12)  joy1dat:INT  
( 14)  clxdat:INT  
( 16)  adkconr:INT  
( 18)  pot0dat:INT  
( 20)  pot1dat:INT  
( 22)  potinp:INT  
( 24)  serdatr:INT  
( 26)  dskbytr:INT  
( 28)  intenar:INT  
( 30)  intreqr:INT  
( 32)  dskpt:LONG  
( 36)  dsklen:INT  
( 38)  dskdat:INT  
( 40)  refptr:INT  
( 42)  vposw:INT  
( 44)  vhposw:INT  
( 46)  copcon:INT  
( 48)  serdat:INT  
( 50)  serper:INT  
( 52)  potgo:INT  
( 54)  joytest:INT  
( 56)  strequ:INT  
( 58)  strvbl:INT  
( 60)  strhor:INT  
( 62)  strlong:INT  
( 64)  bltcon0:INT  
( 66)  bltcon1:INT
```

```
( 68)    bltafwm:INT
( 70)    bltalwm:INT
( 72)    bltcpt:LONG
( 76)    bltbpt:LONG
( 80)    bltapt:LONG
( 84)    bltdpt:LONG
( 88)    bltsize:INT
( 90)    pad2d:CHAR
( 91)    bltcon01:CHAR
( 92)    bltsizv:INT
( 94)    bltsizh:INT
( 96)    bltcmmod:INT
( 98)    bltbmod:INT
(100)    bltamod:INT
(102)    bltdmod:INT
(104)    pad34[4]:ARRAY OF INT
(112)    bltcdat:INT
(114)    bltbdat:INT
(116)    bltadat:INT
(118)    pad3b[3]:ARRAY OF INT
(124)    deniseid:INT
(126)    dsksync:INT
(128)    cop1lc:LONG
(132)    cop2lc:LONG
(136)    copjmpl:INT
(138)    copjmp2:INT
(140)    copins:INT
(142)    diwstrt:INT
(144)    diwstop:INT
(146)    ddfstrt:INT
(148)    ddfstop:INT
(150)    dmacon:INT
(152)    clxcon:INT
(154)    intena:INT
(156)    intreq:INT
(158)    adkcon:INT
(160)    aud:audchannel (or ARRAY OF audchannel)
(224)    bplpt[8]:ARRAY OF LONG
(256)    bplcon0:INT
(258)    bplcon1:INT
(260)    bplcon2:INT
(262)    bplcon3:INT
(264)    bpl1mod:INT
(266)    bpl2mod:INT
(268)    bplcon4:INT
(270)    clxcon2:INT
(272)    bpldat[8]:ARRAY OF INT
(288)    sprpt[8]:ARRAY OF LONG
(320)    spr:spritedef (or ARRAY OF spritedef)
(384)    color[32]:ARRAY OF INT
(448)    htotal:INT
(450)    hsstop:INT
(452)    hbstrt:INT
(454)    hbstop:INT
(456)    vtotal:INT
(458)    vsstop:INT
(460)    vbstrt:INT
```

```
( 462) vbstop:INT
( 464) sprhstrt:INT
( 466) sprhstop:INT
( 468) bplhstrt:INT
( 470) bplhstop:INT
( 472) hhposw:INT
( 474) hhposr:INT
( 476) beamcon0:INT
( 478) hsstrt:INT
( 480) vsstrt:INT
( 482) hcenter:INT
( 484) diwhigh:INT
( 486) padf3[11]:ARRAY OF INT
( 508) fmode:INT
(----) ENDOBJECT      /* SIZEOF=510 */
```

```
(----) OBJECT spritedef
(   0) pos:INT
(   2) ctl:INT
(   4) dataa:INT
(   6) datab:INT
(----) ENDOBJECT      /* SIZEOF=8 */
```

```
(----) OBJECT audchannel
(   0) ptr:PTR TO INT
(   4) len:INT
(   6) per:INT
(   8) vol:INT
(  10) dat:INT
(  12) pad[2]:ARRAY OF INT
(----) ENDOBJECT      /* SIZEOF=16 */
```

```
CONST BLTSIZV=$5C,
      JOYTEST=$36,
      DISPLAYPAL=$20,
      AC_VOL=8,
      BLTCDAT=$70,
      DISPLAYDUAL=$40,
      INTREQR=30,
      BPLCON3_EXTBLKZD=2,
      STREQU=$38,
      HHPOSR=$1DA,
      VHPOSR=6,
      VPOSR=4,
      CLXDAT=14,
      HHPOSW=$1D8,
      VHPOSW=$2C,
      VPOSW=$2A,
      SPR=$140,
      BLTALWM=$46,
      BPLDAT=$110,
      BLTBPT=$4C,
      DSKSYNC=$7E,
      VARCSYNC=16,
      VARHSYNC=$100,
      VARVSYNC=$200,
      BLTADAT=$74,
```

```
POT1DAT=20,  
JOY1DAT=12,  
BPLPT=$E0,  
POTGO=$34,  
AC_PER=6,  
SERDATR=24,  
DSKDATR=8,  
CSBLANK=8,  
VARVBLANK=$1000,  
DSKPT=$20,  
REFPTR=$28,  
POTINP=22,  
BLTAFWM=$44,  
BPLHSTOP=$1D6,  
SPRHSTOP=$1D2,  
VBSTOP=$1CE,  
VSSTOP=$1CA,  
HBSTOP=$1C6,  
HSSTOP=$1C2,  
DDFSTOP=$94,  
DIWSTOP=$90,  
COP1LC=$80,  
BLTCMOD=$60,  
STRHOR=$3C,  
DSKDAT=$26,  
INTENA=$9A,  
BLTCPT=$48,  
AC_PTR=0,  
AC_DAT=10,  
COPJMP1=$88,  
COPJMP2=$8A,  
COPCON=$2E,  
BPLCON3_BRDNTRAN=16,  
CUSTOMADDR=$DFF000,  
BLTDDAT=0,  
BPLCON2_ZDBPEN=$800,  
SERPER=$32,  
BPL1MOD=$108,  
BLTAMOD=$64,  
COP2LC=$84,  
STRVBL=$3A,  
COLOR=$180,  
SD_DATAA=4,  
DSKBYTR=26,  
SD_DATAB=6,  
DIWHIGH=$1E4,  
BEAMCON0=$1DC,  
BPLCON0=$100,  
BLTCON0=$40,  
INTENAR=28,  
SD_CTL=2,  
BPLCON1=$102,  
BLTCON1=$42,  
CLXCON2=$10E,  
BPLCON2=$104,  
BPLCON3=$106,  
BLTDPT=$54,
```

```
USE_BPLCON3=1,  
BPLCON4=$10C,  
AUD=$A0,  
BLTB DAT=$72,  
SERDAT=$30,  
COPINS=$8C,  
BPLCON3_BRDNBLNK=$20,  
FMODE=$1FC,  
HCENTER=$1E2,  
CLXCON=$98,  
INTREQ=$9C,  
BPLCON2_ZDCTEN=$400,  
BLTDMOD=$66,  
ADKCONR=16,  
DMACONR=2,  
VSSTRT=$1E0,  
HSSTRT=$1DE,  
BPLHSTRT=$1D4,  
SPRHSTRT=$1D0,  
VBSTRT=$1CC,  
HBSTRT=$1C4,  
DDFSTRT=$92,  
DIWSTRT=$8E,  
BPLCON3_EXTBLNKEN=1,  
CSCBLANKEN=$400,  
LOLDIS=$800,  
VTOTAL=$1C8,  
HTOTAL=$1C0,  
DENISEID=$7C,  
BLTCON0L=$5B,  
SD_POS=0,  
STRLONG=$3E,  
POT0DAT=18,  
JOY0DAT=10,  
VARBEAM=$80,  
DMACON=$96,  
HSYNCTTRUE=1,  
VSYNCTTRUE=2,  
CSYNCTTRUE=4,  
AUD0=$A0,  
AUD1=$B0,  
BPL2MOD=$10A,  
AUD2=$C0,  
BLTBMOD=$62,  
DSKLEN=$24,  
AUD3=$D0,  
BPLCON2_ZDBPSEL0=$1000,  
SD_SIZEOF=8,  
AC_SIZEOF=16,  
BPLCON3_ZDCLKEN=4,  
BPLCON2_ZDBPSEL1=$2000,  
SPRPT=$120,  
BPLCON2_ZDBPSEL2=$4000,  
BLTSIZE=$58,  
ADKCON=$9E,  
BLTSIZH=$5E,  
BLTAPT=$50,
```


AC_LEN=4