INIT.ASM - Accolade's SEGA initialization program
Version: 03/12/91

2500 A.D. 68000 Macro Assembler - Version 5.00a

Input Filename : init.asm
Output Filename : init.obj

```
1                                       .LIST ON
2                                       .NAM INIT.ASM - Accolade's SEGA initialization program
3                                       .SUBTTL Version:  03/12/91
4
5                                   ;*******************************************************************************
6
7                                       .PW     123
8                                       .PL     79
9                                       .LINKLIST
10                                      .OPTIONS X
11
12                                  ;*******************************************************************************
13
14          0000 0001               ACCODEV EQU     1               ;Accolade development system in use
15
16          0000 0000               Stack   EQU     $00000000       ;At the top of RAM, change if you like
17
18          00A0 0000               Z80_Addr EQU    $00A00000       ;Z80 data
19          00A1 1100               Z80_Bus EQU     $00A11100       ;Z80 buss request
20          00A1 1200               Z80_Res EQU     $00A11200       ;Z80 reset line
21
22          00C0 0000               VidDat  EQU     $00C00000       ;Video chip data register
23          00C0 0004               VidCom  EQU     $00C00004       ;Video chip command register
24
25                                  ;*******************************************************************************
26                                  ; First define vector table for 68000
27
28                                      .CODE
29
30  00000000                            ORG     $000000
31
32  00000000    0000 0000 0000 0200     DC.l    Stack,StartUp,ColdSt,ColdSt
                0000 0294 0000 0294
33  00000010    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
34  00000020    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
35  00000030    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
36  00000040    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
37  00000050    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
38  00000060    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
39  00000070    0000 034E 0000 0294     DC.l    ScanVec,ColdSt,VBLVec,ColdSt
                0000 0350 0000 0294
40  00000080    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
41  00000090    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
42  000000A0    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
43  000000B0    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
44  000000C0    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
45  000000D0    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
46  000000E0    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
47  000000F0    0000 0294 0000 0294     DC.l    ColdSt,ColdSt,ColdSt,ColdSt
                0000 0294 0000 0294
```

INIT.ASM - Accolade's SEGA initialization program
Version: 03/12/91

```
48
49                                  ;*************************************************************************
50
51  00000100  53 45 47 41 20 47            DC.b    'SEGA GENESIS    '      ;$100-$10F
              45 4E 45 53 49 53
              20 20 20 20
52  00000110  28 43 29 41 43 4C            DC.b    '(C)ACLD 1991.MAR'      ;$110-$11F
              44 20 31 39 39 31
              2E 4D 41 52
53  00000120  20 20 20 20 20 20            DC.b    '                '      ;$120-$12F
              20 20 20 20 20 20
              20 20 20 20
54  00000130  20 20 20 20 20 20            DC.b    '                '      ;$130-$13F
              20 20 20 20 20 20
              20 20 20 20
55  00000140  20 20 20 20 20 20            DC.b    '                '      ;$140-$14F
              20 20 20 20 20 20
              20 20 20 20
56  00000150  47 61 6D 65 20 74            DC.b    'Game title here '      ;$150-$15F ;FILL IN TITLE
              69 74 6C 65 20 68
              65 72 65 20
57  00000160  20 20 20 20 20 20            DC.b    '                '      ;$160-$16F
              20 20 20 20 20 20
              20 20 20 20
58  00000170  20 20 20 20 20 20            DC.b    '                '      ;$170-$17F
              20 20 20 20 20 20
              20 20 20 20
59  00000180  47 4D 20 41 43 4C            DC.b    'GM ACLD??? -00'        ;$180-$18D ;FILL IN 3 LETTER CODE
              44 3F 3F 3F 20 2D
              30 30
60
61  0000018E  FFFF                         DC.w    $FFFF                   ;FILL IN the additive checksum of ROM
62                                                                          ;from $200 to ROM end
63
64  00000190  4A 20 20 20 20 20            DC.b    'J               '      ;$190-$19F
              20 20 20 20 20 20
              20 20 20 20
65
66  000001A0  0000 0000 0007 FFFF          DC.l    $00000000,$0007FFFF     ;Start/end of ROM, FILL IN END
67  000001A8  00FF 0000 00FF FFFF          DC.l    $00FF0000,$00FFFFFF     ;Start/end of RAM
68
69  000001B0  20 20 20 20 20 20            DC.b    '                '      ;$1B0-$1BF
              20 20 20 20 20 20
              20 20 20 20
70  000001C0  20 20 20 20 20 20            DC.b    '                '      ;$1C0-$1CF
              20 20 20 20 20 20
              20 20 20 20
71  000001D0  20 20 20 20 20 20            DC.b    '                '      ;$1D0-$1DF
              20 20 20 20 20 20
              20 20 20 20
72  000001E0  20 20 20 20 20 20            DC.b    '                '      ;$1E0-$1EF
              20 20 20 20 20 20
              20 20 20 20
73  000001F0  55 20 20 20 20 20            DC.b    'U               '      ;$1F0-$1FF
              20 20 20 20 20 20
              20 20 20 20
74
75                                  ;*************************************************************************
76
77  00000200                        StartUp
78  00000200  4A79 00A1 0008                tst     $A10008         ;Check DDR's for warm/cold start
79  00000206  6600 0124                     bne     WarmSt
80  0000020A  4A79 00A1 000A                tst     $A1000A
81  00000210  6600 011A                     bne     WarmSt
82
83            [01]                       .IFZ    ACCODEV
84
85                                       tst     $A1000C         ;Don't use this with the Accolade development
86                                       bne     WarmSt          ;system enabled.  This means that all of the
87                                                               ;DDR's must be set to $40 for production code,
88                                                               ;not just the first two.
89
90            [00]                       .ENDIF
91
```

```
     INIT.ASM - Accolade's SEGA initialization program
     Version:  03/12/91

 92  00000214   607E                        bra.s   ColdSt
 93
 94                                    ;*************************************************************************
 95
 96  00000216   53 65 67 61 20 61           dc.b    'Sega and Genesis are registered trademarks '
                6E 64 20 47 65 6E
                65 73 69 73 20 61
                72 65 20 72 65 67
                69 73 74 65 72 65
                64 20 74 72 61 64
                65 6D 61 72 6B 73
                20
 97  00000241   6F 66 20 53 65 67           dc.b    'of Sega Enterprises Ltd.'
                61 20 45 6E 74 65
                72 70 72 69 73 65
                73 20 4C 74 64 2E
 98  00000259   41 63 63 6F 6C 61           dc.b    'Accolade Inc. is not associated with Sega Enterprises Ltd.'
                64 65 20 49 6E 63
                2E 20 69 73 20 6E
                6F 74 20 61 73 73
                6F 63 69 61 74 65
                64 20 77 69 74 68
                20 53 65 67 61 20
                45 6E 74 65 72 70
                72 69 73 65 73 20
                4C 74 64 2E
 99
100                                            .EVEN ON
101
102                                   ;*************************************************************************
103
104  00000294                         ColdSt
105  00000294   1039 00A1 0001                move.b  $A10001,D0      ;Check for SEGA write
106  0000029A   0240 000F                     and     #$000F,D0       ;Don't write if zero
107  0000029E   6710                          beq.s   ?1
108  000002A0   33FC 5345 00A1 4000           move    #'SE',$A14000   ;Write SEGA ASCII
109  000002A8   33FC 4741 00A1 4000           move    #'GA',$A14000
110  000002B0   302E 0004             ?1      move    4(A6),D0        ;Read VidCom
111  000002B4   4DF9 00C0 0000                lea     VidDat,A6       ;Init common address register
112  000002BA   41F9 0000 0000                lea     VidTbl,A0       ;Now init vid chip
113  000002C0   303C 0017                     move    #23,D0          ;24 values to write
114  000002C4   3D58 0004             ?2      move    (A0)+,4(A6)
115  000002C8   51C8 FFFA                     dbra    D0,?2
116  000002CC   2D7C 4000 0080 0004           move.l  #$40000080,4(A6) ;now finish fill command at table end
117  000002D4   3CBC 0000                     move    #0,(A6)         ;fill zeros
118
119  000002D8   2078 01A8                     move.l  $1A8,A0         ;Now clear system RAM
120  000002DC   2278 01AC                     move.l  $1AC,A1         ;using table entries
121  000002E0   7000                          moveq   #0,D0
122  000002E2   20C0                  ?3      move.l  D0,(A0)+
123  000002E4   B0C9                          cmpa    A1,A0
124  000002E6   6DFA                          blt     ?3
125
126  000002E8   2D7C 4000 0010 0004           move.l  #$40000010,4(A6) ;Clear V Scroll table to 0
127  000002F0   [illegible]                   move    #$27,D1         ;Clear 40 entries
128  000002F4                         ?4      move    D0,(A6)
129  000002F6   [illegible]C                  dbra    D1,?4
130
131  000[illegible]00 0000 0004               move.l  #$C0000000,4(A6) ;Clear palette to 0
132  000[illegible]                           moveq   #$3F,D1         ;Do 64 colors
133  000[illegible]3C80               ?5      move    D0,(A6)
134  000[illegible]51C9 FFFC                  dbra    D1,?5
135
136  0000030A   6100 0046                     bsr     InitZ80         ;Init the Z80 to a known state
137  0000030E   1D7C 009F 0011                move.b  #$9F,$11(A6)    ;Set audio attenuation to max
138  00000314   1D7C 00BF 0011                move.b  #$BF,$11(A6)
139  0000031A   1D7C 00DF 0011                move.b  #$DF,$11(A6)
140  00000320   1D7C 00FF 0011                move.b  #$FF,$11(A6)
141  00000326   3D7C 8A00 0004                move    #$8A00,4(A6)    ;Turn off scan line interrupt index
142  0000032C                         WarmSt
143  0000032C   4DF9 00C0 0000                lea     VidDat,A6       ;Init common address register
144  00000332   1039 00A1 0001                move.b  $A10001,D0      ;Check for SEGA write
145  00000338   0240 000F                     and     #$000F,D0       ;Don't write if zero
```

```
0000033C  6710                          beq.s   ?1
0000033E  33FC 5345 00A1 4000           move    #'SE',$A14000    ;Write SEGA ASCII
00000346  33FC 4741 00A1 4000           move    #'GA',$A14000
0000034E                        ?1
                                                                 ;Init Joy pad DDR's
                                                                 ;Init Vid chip to your specs
                                                                 ;Init Z-80 to your specs/routine
                                                                 ;Turn on interrupts


                                ;***********************************************************************
                                ; Use your routines and/or labels for these

0000034E                        ScanVec
0000034E  4E73                          rte

                                ;***********************************************************************
                                ; Use your routines and/or labels for these

00000350                        VBLVec
00000350  4E73                          rte

                                ;***********************************************************************
                                ; Initialize the Z-80 to a known state
                                ;
                                ; USES: D0/A0
                                ; RETURNS: Nothing

00000352  33FC 0000 00A1 1200   InitZ80 move    #$0000,Z80_Res   ;Reset the Z-80
0000035A  C0C0                          mulu    D0,D0            ;delay
0000035C  33FC 0100 00A1 1100           move    #$0100,Z80_Bus   ;request the buss
00000364  C0C0                          mulu    D0,D0            ;delay
00000366  33FC 0100 00A1 1200           move    #$0100,Z80_Res   ;Start 'er up
0000036E  C0C0                          mulu    D0,D0            ;delay
00000370  33FC 0100 00A1 1100           move    #$0100,Z80_Bus   ;request the buss
00000378  C0C0                          mulu    D0,D0            ;delay
0000037A  0839 0000 00A1 1100   ?1      btst    #$00,Z80_Bus     ;wait till granted
00000382  66F6                          bne     ?1
00000384  41F9 00A0 0000                lea     Z80_Addr,A0
0000038A  10BC 00F3                     move.b  #$F3,(A0)        ;DI
0000038E  117C 00ED 0001                move.b  #$ED,1(A0)       ;IM 1
00000394  117C 0056 0002                move.b  #$56,2(A0)
0000039A  117C 0018 0003                move.b  #$18,3(A0)       ;JR -2
000003A0  117C 00FE 0004                move.b  #$FE,4(A0)
000003A6  33FC 0000 00A1 1200           move    #$0000,Z80_Res   ;Reset the Z-80
000003AE  C0C0                          mulu    D0,D0            ;delay
000003B0  33FC 0000 00A1 1100           move    #$0000,Z80_Bus   ;give back the buss
000003B8  C0C0                          mulu    D0,D0            ;delay
000003BA  33FC 0100 00A1 1200           move    #$0100,Z80_Res   ;Start 'er up
000003C2  C0C0                          mulu    D0,D0            ;delay
000003C4  33FC 0000 00A1 1100           move    #$0000,Z80_Bus
000003CC  4E75                          rts

                                ;***********************************************************************

                                        .DATA

000000[illegible] 00 8300       VidTbl  DC.w    $8004,$8114,$8200,$8300,$8400,$8500,$8600,$8700
[illegible]00 8700
[illegible] 8AFF 8B00                   DC.w    $8800,$8900,$8AFF,$8B00,$8C81,$8D00,$8E00,$8F01
[illegible] 8E00 8F01
[illegible]100 9200 93FF                DC.w    $9001,$9100,$9200,$93FF,$94FF,$9500,$9600,$9780
[illegible] 9500 9600 9780

                                ;***********************************************************************

                                        END
```