Apple II
Technical Notes

Developer Technical Support

Apple II Miscellaneous
#1: 80-Column Screen Dump

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This Technical Note presents an example assembly language program which dumps the contents of the 80-column text screen to whatever is connected to COUT.

```
0000:                  *
0000:                  *  80-column screen dump
0000:                  *
0000:                  *  By
0000:                  *     Greg Seitz
0000:                  *     12-Jul-84
0000:                  *
0000:                  *  This program will allow you to dump the contents
0000:                  *  of your 80-column text screen to whatever device is
0000:                  *  connected through COUT.  If it is still connected to
0000:                  *  the screen, you will obviously be printing back
0000:                  *  what you were reading.
0000:                  *
0000:        FBC1  BASCALC   EQU   $FBC1         ;convert A reg to line addr on scrn
0000:        FDED  COUT      EQU   $FDED         ;A register out as ASCII
0000:        C001  SET80COL  EQU   $C001         ;enable page 1/2 switches to control aux
0000:        C055  TXTPAGE2  EQU   $C055         ;page 2 or Aux depending
0000:        C054  TXTPAGE1  EQU   $C054         ;page 1 or main depending
0000:        0028  BASL      EQU   $28           ;BASCALC puts base addr. here
0000:        0029  BASH      EQU   $29           ;and high byte here.
0000:                  *
1000:        1000            ORG   $1000         ;or anywhere
1000:        1000  SCREENDMP EQU   *
1000:A2 00                   LDX   #0            ;START AT LINE 0
1002:                  *
1002:8A            SCRNLP    TXA                 ;CALL BASCALC
1003:20 C1 FB                JSR   BASCALC       ;FOR ADDRESS OF LINE X
1006:A0 00                   LDY   #00           ;DO 80 CHARS STARTING FROM CHARACTER 0
1008:                  *
1008:        1008  SCRNLP2   EQU   *
1008:8D 01 C0                STA   SET80COL      ;SET UP FOR MAIN/AUX SWITCHING
100B:8D 55 C0                STA   TXTPAGE2      ;START ON AUX
```

```
100E:98             33          TYA                 ;GET CURRENT INDEX FOR DIVIDE BY 2
100F:48             34          PHA                 ;SAVE ACTUAL COLUMN NUM WE'RE ON
1010:4A             35          LSR                 ;COLUMN/2=ODD OR EVEN BRANCH IF EVEN
1011:90 03   1016   36          BCC   SCRNDMP1      ;TAKEN IF EVEN SINCE STATE IS PROPER
1013:8D 54 C0       37          STA   TXTPAGE1      ;ELSE IF ODD TURN ON MAIN MEM
1016:               38 *
```

```
1016:        1016   39 SCRNDMP1  EQU   *
1016:A8             40           TAY                 ;USE COLUMN/2 FOR INDEX NOW
1017:B1 28          41           LDA   (BASL),Y      ;GRAB THE CHARACTER
1019:8D 54 C0       42           STA   TXTPAGE1      ;SEL MAIN SO IT SEES RIGHT SCREEN HOLES
101C:20 ED FD       43           JSR   COUT          ;PRINT THE CHARACTER
101F:68             44           PLA                 ;RECOVER COLUMN NUM
1020:A8             45           TAY                 ;INTO Y FOR NEXT TRIP
1021:C8             46           INY                 ;NEXT COLUMN NUM
1022:C0 50          47           CPY   #80           ;ANY MORE?
1024:90 E2   1008   48           BCC   SCRNLP2       ;TAKEN IF YES
1026:A9 8D          49           LDA   #$8D          ;ELSE CARRIAGE RETURN
1028:20 ED FD       50           JSR   COUT          ;OUT
102B:A9 8A          51           LDA   #$8A          ;LINE FEED
102D:20 ED FD       52           JSR   COUT          ;OUT
1030:E8             53           INX                 ;NEXT LINE
1031:E0 18          54           CPX   #24           ;ANYMORE?
1033:90 CD   1002   55           BCC   SCRNLP        ;TAKEN IF YES
1035:60             56           RTS

FBC1 BASCALC       ?  29 BASH             28 BASL           FDED COUT
C054 TXTPAGE1       C055 TXTPAGE2      ?1000 SCREENDMP      1016 SCRNDMP1
1008 SCRNLP2        1002 SCRNLP         C001 SET80COL
** SUCCESSFUL ASSEMBLY := NO ERRORS
** ASSEMBLER CREATED ON 15-JAN-84 21:28
** TOTAL LINES ASSEMBLED    56
** FREE SPACE PAGE COUNT   84
```