CHAR	000000RG	CHCR	000216R	CHLF	000224R
CHRTAB = ****** G		CHSPC	000232R	CH05	000014R
CH1	000024R	CH15	000062R	CH2	000070R
CH23	000110R	CH24	000134R	CH25	000140R
CH26	000144R	CH3	000150R	CH4	000164R
CH5	000212R	CR = 000015		CTLP = 000020	
DAC0 = ****** G		DAC1 = ****** G		DAC2 = ****** G	
DUM = 000000		INC	000240R	INC6	000242R
INC8	000244R	LF = 000012		PC =%000007	
R0 =%000000		R1 =%000001		R2 =%000002	
R3 =%000003		R4 =%000004		R5 =%000005	
R6 =%000006		R7 =%000007		SP =%000006	
SPACE = 000040		. = 000246R			

END ?

```
             ; ***********************************************************
             ;
             ;
             ;                    CHARACTER DISPLAY
             ;                    VERSION          3C
             ;
             ;              NOV 15,1974
             ;
             ;              R0=PTR TO BUFFER OF CHARS-FIRST WORD #OF BYTES
             ;              R1=BIT TEST ROTATING MASK
             ;              R2=CHARACTER INCERMENT-DETERMINES CHARACTER SIZE
             ;              R3=POINTER AT CHAR DOT DATA
             ;              R4=X POSITION OF FIRST CHAR
             ;              R5=Y POSITION OF FIRST CHAR
             ;
             ;
        000000          R0=%0
        000001          R1=%1
        000002          R2=%2
        000003          R3=%3
        000004          R4=%4
        000005          R5=%5
        000006          R6=%6
        000007          R7=%7
        000007          PC=R7
        000006          SP=R6
        000020          CTLP=20
        000040          SPACE=40
        000015          CR=15
        000012          LF=12
        000000          DUM=0
                        .TITLE  CHAR
                        .GLOBL  CHAR,DAC0,DAC1,DAC2,CHRTAB
        000000          .CSECT
000000 012046 CHAR:   MOV     (R0)+,-(SP)      ;GET CHAR COUNT
000002 016702         MOV     INC,R2           ;SET CHARACTER SIZE
       000232
000006 012737`        MOV     #-2048 ,@#DAC2   ;TURN DOT OFF JUST IN CASE
       174000
       000000
000014 005316 CH05:   DEC     (SP)             ;IS THERE MORE CHARS?
000016 002002         BGE     CH1              ;YES-GO DRAW THEM
000020 005726         TST     (SP)+            ;NO-POP OLD CTR
000022 000207         RTS     PC               ;ALL DONE!!!!!!!!!!!!!!!!!!!!!!!!!!!!
000024 112003 CH1:    MOVB    (R0)+,R3         ;GET CHAR
000026 010046         MOV     R0,-(SP)         ;SAVE PTR
000030 122703         CMPB    #CR,R3           ;IS IT A CARRIAGE RETURN?
       000015
000034 001470         BEQ     CHCR             ;YES-GO CR
000036 122703         CMPB    #LF,R3           ;NO-IS IT A LINE FEED?
```

```
          000012
000042 001470          BEQ     CHLF          ;YES-GO LF
000044 122703          CMPB    #SPACE,R3     ;NO-IS THIS A SPACE?
       000040
000050 001470          BEQ     CHSPC         ;YES-GO SPACE
000052 003003          BGT     CH15          ;NO-IF LESS THAN SPACE BAD CHAR

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000054 122703          CMPB    #137,R3       ;IS IT GREAYER THAN 137?
       000137
000060 002003          BGE     CH2           ;NO-GOOD CHAR!
000062 012703'CH15:    MOV     #CHRTAB,R3    ;YES-BAD CHAR
       000000
000066 000410          BR      CH23
000070 162703 CH2:     SUB     #37,R3        ;ZERO FOR FIRST CHAR IN TABLE
       000037
000074 010301          MOV     R3,R1         ;SAVE VALE TEMP
000076 006303          ASL     R3            ;R3=R3*2
000100 060103          ADD     R1,R3         ;R3=R3*3
000102 006303          ASL     R3            ;R3=R3*6 (FOR 3 WORDS)
000104 062703'         ADD     #CHRTAB,R3    ;R3 PTS AT FIRST CHAR DATA BYTE
       000000
000110 012701 CH23:    MOV     #200,R1       ;SET TEST BIT
       000200
000114 010546          MOV     R5,-(SP)      ;SAVE INITIAL Y POSITION
000116 010467          MOV     R4,CH24+2     ;SAVE INITIAL X
       000014
000122 010367          MOV     R3,CH25+2     ;SAVE INITIAL CHAR PTR
       000014
000126 005137'         COM     @#DAC2        ;TURN DOT ON INTO CHAR
       000000
000132 000404          BR      CH26          ;SKIP
000134 012704 CH24:    MOV     #DUM,R4       ;RESET PTR
       000000
000140 012703 CH25:    MOV     #DUM,R3       ;RESET X
       000000
000144 012700 CH26:    MOV     #6,R0         ;SET BYTE CTR
       000006
000150 130123 CH3:     BITB    R1,(R3)+      ;IS THE BIT ON?
000152 001404          BEQ     CH4           ;NO-DONT MOVE IN DACS
000154 010437'         MOV     R4,@#DAC0     ;MOVE X
       000000
000160 010537'         MOV     R5,@#DAC1     ;MOVE Y
       000000
000164 060204 CH4:     ADD     R2,R4         ;INCREMENT X
000166 005300          DEC     R0            ;DONE ALL THE BYTES?
000170 003367          BGT     CH3           ;NO-SO FINISH
000172 160205          SUB     R2,R5         ;DECREMENT Y
000174 000241          CLC
000176 106001          RORB    R1            ;MOVE TEST BIT DOWN ONE
000200 001355          BNE     CH24          ;IF NOT ZERO DRAW NEXT ROW
000202 060204          ADD     R2,R4         ;ZERO-SETUP FOR NEXT CHAR
000204 012605          MOV     (SP)+,R5      ;REPLACE INITIAL Y
000206 005137'         COM     @#DAC2        ;TURN DOT OFF OUT OF CHAR
       000000
000212 012600 CH5:     MOV     (SP)+,R0      ;REPLACE PTR
000214 000677          BR      CH05          ;GO TO IT AGAIN
000216 012704 CHCR:    MOV     #-2048.,R4    ;RESET X TO FAR LEFT
       174000
000222 000773          BR      CH5           ;NEXT
000224 166705 CHLF:    SUB     INC8,R5       ;MOVE DOWN ONE ROW
       000014
000230 000770          BR      CH5           ;NEXT
000232 066704 CHSPC:   ADD     INC6,R4       ;MOVE RIGHT ONE CHAR SPACE
       000004
```

```
000236 000765        BR      CH5           ; GO ON
000240 000040 INC:   .WORD   40            ; INC BETWEEN DOTS IN CHARS
000242 000300 INC6:  .WORD   300           ; INC6=6*INC
000244 000400 INC8:  .WORD   400           ; INC6=8*INC
       000001        .END
```

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000000 ERRORS

PAL-11S   V003A

*S
LINK-11S V002A
*I A

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*B 1000

PASS 1

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