```
MCM TAPE TAPE-03.TXT

TAPE LABEL/ANNOTATINS: "X COMM
                        IN 1
                        From Z, July 7"

DATE CREATED: 1976



GROUPS:
    0    3    4  201  202  210  212  214  215  216  217
  220  221  222  223  224  240  241  242


NAMES IN GROUP 0:
ANΔ  BAU  CHK  DAT  DES  DIR  DXΔ  FNΔ  GPΔ  NPG  PAG  SCA
SET  SOR  SYI  SYO  VOL  WID  XFE  YAI  YAO  YCI  YCO  YEI
YEO  ΔCP  ΔCR  ΔLD


    ∇ZΔ←ANΔ XΔ;JΔ
[1]   ⍝     ZΔ←ANΔ XΔ           APR 30/76
[2]   ⍝SUBFUNCTION TO ΔCR
[3]   JΔ←0∘ZΔ←0 4ρ''∘→(2=ρρZΔ←XΔ)/0
[4]   L:→0×ι0=ρXΔ←(((XΔ=' ')ι0)-⎕IO)↓XΔ←JΔ↓XΔ
[5]   →L∘ZΔ←ZΔ⌿1 4ρ((JΔ←(XΔι' ')-⎕IO)↑XΔ),'   '
    ∇


    ∇BAUD X;R;Z
[1]   ⍝     BAUD X              APR 30/76
[2]   ⍝CHANGE BAUD RATE TO X IF ⎕IN OR ⎕OU ARE
[3]   ⍝POINTING TO A COMMUNICATIONS INTERFACE
[4]   ⍝X IS BAUD RATE IN BITS PER SECOND
[5]   R←¯1+⌊+.5+25000÷X
[6]   →(~∨/225 193=0 1 0/⎕OUι0)/IN
[7]   ((3↑⎕YO[ι1]0),R)⎕YO[ι1]0
[8]   IN:→(~∨/225 193=0 1 0/⎕INι0)/0
[9]   ((3↑⎕YI[ι1]0),R)⎕YI[ι1]0
    ∇

CHK   [3 by 1 by 42 array of type char; element size 3 byte(s)]


DAT   [vector of type char of length 8; element size 1 byte(s)]
NOV 1/76


    ∇DESCRIBE XΔ;FΔ;TΔ;SΔ;UL;IΔ
[1]   ⍝     DESCRIBE X          MAY 05/76 ⍝
[2]   ⍝DESCRIBE FUNCTIONS IN GROUP(S) X
[3]   ∘0 9 0 0 ⎕YO[ι1]2∘PAGE 60 66∘⎕OU(⎕YA 66),16∘UL←70ρ'_'
[4]   DNG:→(0=×/ρFΔ←(3=⎕NC FΔ)≠FΔ←⎕XN ⎕XV∘⎕XS 1↑XΔ)/NON
[5]   NPG∘→(10<60-1↓⎕PCι0)/GNP
[6]   GNP:⎕←2 0ρ''∘⎕←UL∘⎕←'GROUP',(5∓1↑XΔ),'  ',GPΔ∘⎕←''∘⎕←UL
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[7]   DNF:SΔ←1 4↑FΔ◦IΔ←⎕IO
[8]   DFN:→DFN◦⍞←7↓TΔ◦→('⍝'≠TΔ[6+⎕IO])/NXT◦→(5=ρTΔ←SΔ ⍞ZZ[IΔ←IΔ+1]FNΔ)/NXT
[9]   NXT:→(0≠×/ρFΔ←1 0↓FΔ)/DNF◦⍞←''
[10]   NON:→(0≠ρXΔ←1↓XΔ)/DNG◦⍞←''
[11]   NPG◦⍞←UL
    ∇


    ∇DIRECTORY
[1]   ⍝     DIRECTORY           JUNE 01/76
[2]   ⍝LIST TAPE DIRECTORY ON PRINTER .
[3]   ◦LM 9◦PAGE 60 66◦⍞OU(⍞YA 66),16
[4]   ⍞←'                COMMUNICATIONS SUBSYSTEM'
[5]   ⍞←'                SOFTWARE SUPPORT PACKAGE'
[6]   ⍞←(45ρ' '),DATE
[7]   ⍞←''
[8]   ⍞←'SECTION 1: FILE DIRECTORY.'
[9]   ⍞←'' E
[10]   ⍞←'   GROUP   0: DIRECTORY AND UTILITY FUNCTIONS.'
[11]   ⍞←'   GROUP   3: DIAGNOSTICS AND TAPE UTILITIES.'
[12]   ⍞←'   GROUP   4: TEXT/700 FILE CREAT ROUTINES.'
[13]   ⍞←''
[14]   ⍞←'SECTION 2: MCM PERIPHERAL SUPPORT.'
[15]   ⍞←''
[16]   ⍞←'   GROUP 201: MCP-132 PRINTING/PLOTING/DRAWING SUPPORT.' ⍀
[17]   ⍞←'   GROUP 202: PMR-400 CARD READER SUPPORT'
[18]   ⍞←''
[19]   ⍞←'SECTION 3: RS-232C COMPATABLE PRINTERS AND TERMINALS.'
[20]   ⍞←''
[21]   ⍞←'   GROUP 210: MCM/700 TO IBM 2741,3767 AND DATEL'
[22]   ⍞←'   GROUP 212: MCM/700 TO TEKTRONICS 4013.'
[23]   ⍞←'   GROUP 214: MCM/700 TO CDI 1030.'
[24]   ⍞←'   GROUP 215: MCM/700 TO TELETYPE MODEL 33.'
[25]   ⍞←'   GROUP 216: MCM/700 TO VOLKER CRAIG MODEL VC103.'
[26]   ⍞←'   GROUP 217: MCM/700 TO DATAMEDIA MODEL 1520.'
[27]   ⍞←''
[28]   ⍞←'SECTION 4: COMPUTER TO COMPUTER COMMUNICATIONS.'
[29]   ⍞←''
[30]   ⍞←'   GROUP 220: MCM/700 TO MCM/700.'
[31]   ⍞←'   GROUP 221: MCM/700 TO COMSHARE.'
[32]   ⍞←'   GROUP 222: MCM/700 TO I.P. SHARPE.'
[33]   ⍞←'   GROUP 223: MCM/700 TO SCIENTIFIC TIME SHARING.'
[34]   ⍞←'   GROUP 224: MCM/700 TO BOEING.'
[35]   ⍞←''
[36]   ⍞←'SECTION 5: APPLICATION PACKAGES.'
[37]   ⍞←''
[38]   ⍞←'   GROUP 240: DATA TRANSFER PACKAGE -MCM TO MCM'
[39]   ⍞←'   GROUP 241: DATA TRANSFER PACKAGE MCM TO APLSV.'  |
[40]   ⍞←'   GROUP 242: DATA TRANSFER PACKAGE - MCM AND 360/APL.'
[41]   NPG◦LM 0
    ∇


    ∇DXΔ XΔ;DΔ;NΔ;NMΔ;HΔ
[1]   ⍝     DXΔ XΔ              JUNE 14/76
[2]   ⍝SUBFUNCTION TO ΔCR
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[3]   →(VΔΔ,VΔ,VΔ,FΔΔ,VΔ,A2Δ)[⎕IO+⎕NC XΔ]
[4]   FΔΔ:NΔ←⎕IO-1
[5]   FΔ:→EΔ∘→(5≠ρ⎕←XΔ ⎕ZZ[NΔ←NΔ+1]FNΔ)/FΔ
[6]   VΔ:NMΔ←'(',(⍕ρDΔ),')',((6ρ0)≠0\0ρDΔ←⍎XΔ)/' ALPHA'
[7]   NMΔ[(' '=NMΔ)/⍳ρNMΔ]←','
[8]   →EΔ∘⎕←⍎XΔ∘⎕←XΔ,':  ',NMΔ
[9]   A2Δ:→EΔ∘⎕←XΔ,'- SYSTEM VARIABLE'
[10]   VΔΔ:⎕←XΔ,' NO VALUE'
[11]   EΔ:⎕←''
    ∇

FNΔ   [3 by 1 by 38 array of type char; element size 3 byte(s)]


GPΔ   [vector of type char of length 30; element size 1 byte(s)]
DIRECTORY AND COMMON FUNCTIONS


    ∇NPG
[1]   ⍝     NPG                  APR 30/76
[2]   ⍝FORCE NEW PAGE ON PRINTER. NOTE PAGEING MUST BE ON.
[3]   ⎕←((0⌈(1↑⎕YO[⍳1]6)-1↓⎕PC⍳0),0)ρ''
    ∇


    ∇ZΔ←PAGE MΔ
[1]   ⍝     ZΔ←PAGE MΔ           APR 6/76
[2]   ⍝SET PAGEING TO PRINT 1↑MΔ LINES ON
[3]   ⍝A PAGE WHICH IS 1↓MΔ LINES LONG
[4]   ⍝RESULT (ZΔ) IS THE PREVIOUS SETTING
[5]   →(⩽/MΔ)/L8∘→(0=ρ,MΔ)/L8
[6]   'RANGE ERROR'
[7]   →
[8]   L8:((⌽-\⌽MΔ),(ρ,MΔ)↓ZΔ←⎕YO[⍳1]6)⎕YO[⍳1]6
[9]   ZΔ←⌽+\⌽2↑ZΔ∘⎕PC 0 0
    ∇

SCA   [3 by 1 by 99 array of type char; element size 3 byte(s)]



    ∇SETUP T
[1]   ⍝     SETUP T              JULY 06/76
[2]   ⍝SET UP COMMUNICATIONS INTERFACE
[3]   ⍝USING TABLES YYI, YYO FOR CORRESPONDANCE
[4]   ⍝YEI YEO FOR EBCDIC, AND YAI YAO FOR ASCII
[5]   ⍝ACCORDING TO T (CEA).
[6]   ⍝NOTE: PROMPT SWITCH MUST CORRESPOND TO TABLE SETTING
[7]   →SUO⌈⍳0≠1↑⎕IN ⎕YA('I'⎕YW 'Y',T,'I'),255-64
[8]   'NO SUCH INPUT DEVICE'
[9]   →
[10]   SUO:→0×⍳0≠1↑⎕OU ⎕YA('O'⎕YW 'Y',T,'O'),255-128+32
[11]   'NO SUCH OUTPUT DEVICE'
[12]   →
    ∇
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    ∇RΔ_←SORT AΔ_
[1]   ⍝     RΔ_←SORT NΔ_        JULY 09/76
[2]   ⍝SORT THE ALAPA ARRAY NΔ_ INTO ASCENDING SEQUENCE
[3]   ⍝CAN BE USED FOR SORTING GROUP NAMES EG. Z←SORT ⎕XN 2
[4]   ⍝NOTE: BLANKS SORT HIGH
[5]   RΔ_←AΔ_[⍋39⊥⍉⎕Y AΔ_;]
    ∇


    ∇SYI
[1]   ⍝     SYI
[2]   ⍝SET INPUT TO EIA INTERFACE S
[3]   ⍝USING YYI TO GENERATE INPUT TABLES
[4]   →0×⍳0≠ 1↑⎕IN ⎕YA ('I'⎕YW'YYI'),255-64
[5]   'NO SUCH INPUT DEVICE'
[6]   →
    ∇


    ∇SYO
[1]   ⍝     SYO
[2]   ⍝SET OUTPUT TO EIA INTERFACE
[3]   ⍝USING YYO TO GENERATE OUTPUT TABLES
[4]   →0×⍳0≠1↑⎕OU ⎕YA ('O'⎕YW'YYO'),255-128+32
[5]   'NO SUCH OUTPUT DEVICE'
[6]   →
    ∇

VOL   [vector of type char of length 34; element size 1 byte(s)]
COMMUNICATIONS AND MCP-132 SUPPORT


    ∇R←WIDTH X;Y
[1]   ⍝     R←WIDTH X
[2]   ⍝CHANGE PRINT WIDTH TO X (30≤X≤132)
[3]   ⍝RESULT R IS THE PREVIOUS WIDTH
[4]   ⍝WIDTH IS UNCHANGED IF X IS EMPTY.
[5]   →((30≤X)∧X≤132)/L8∘→(0=⍴X)/L8
[6]   'RANGE ERROR'
[7]   →
[8]   L8:R←1↑Y←⎕YO[⍳1]1
[9]   (X,(⍴,X)↓Y)⎕YO[⍳1]1
    ∇


    ∇R←XFER X
[1]   ⍝     R←XFER X            APR 30/76
[2]   ⍝TRANSFER DATA X TO AND FROM EIA INTERFACE
[3]   ∘⎕IN 1↑⎕OU ⎕YA 1 31
[4]   R←⍞''∘⎕←X
[5]   ⍝IN CASE ATTENTION
    ∇
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YAI   [34 by 1 array of type char; element size 8 byte(s)]
8100000007304652 8482060000808008 00000000000A0080 80800D8080846C6C
6C896C6C82836C6C 6C6C6C6C6C6C6C6C 6C6C6C6C6C6C6C6C 6C6C6C6C6C276458
2A2B2C2E5630312F 374B342842000102 0304050607080957 5551365C43295E47
603A490A5D254A59 5B263C483E38404C 3B3F46615F624563 506C522D356C0B0C
0D0E0F1011121314 15161718191A1B1C 1D1E1F2021222324 6C6C6C6A84000000
026900FF00200079 80B902FF96FD06F5 82FD82FD02FD82FD 027D00FF86FD00FD
02FD00FD007D00FD 006900FF0040007D 0060007B8040007B 006900FF026D00F9
00F900FF82FF0279 86B800FD80FF82FD 86FF80FD00FC007D A6FD02FF00FD00FD
02FD00FD00FD007D 0000007900F90079


YAO   [18 by 1 array of type char; element size 8 byte(s)]
4100000007304652 8482060000808008 00000000000A0080 80800D8080303132
3334353637383946 6162636465666768 696A6B6C6D6E6F70 7172737475767778
797A484C202E4023 24255E262A282982 822D5F3D2B508244 534D824F5451822F
3F825955424E4549 2C528282825B3C5D 82823B273A224A82 4B3E474157435658
5A21828282827F7E 8282000000000000


YCI   [34 by 1 array of type char; element size 8 byte(s)]
8100000007410152 78820600002D1F1D 3D003D00032E3D1F 1C2D3C341F27501E
140419164205560F 1A6C6C6C6C022818 36246C6C6C061315 1B88836C87011722
11001D1223071C0E 556C6C6C6C03201F 1009210C34080B0D 4B82846C8427523F
592B3E26432C5849 386C6C6C6C295C48 37636C6C6C2D4A5B 4088836C87643C62
5D313B25452E4C3A 576C6C6C6C2A6146 0A305F47352F5E60 5182846C84000000
08CFC8C708C308CF C84300DFE0C700CF D88248CF0843004B 444788C328533023
2853000338030043 3A03387338422003 3803205B3803301B 2803202BC84300DF
584B08CFF8C788FF E84308CF68C7ECCF FCCFC8FFEC4308DF FC47CCDF00030003
0001200300032003 2001204300010003


YCO   [18 by 1 array of type char; element size 8 byte(s)]
4100000007410152 8282060000801F1D 3D003D00032E3D1F 1C80808080242010
3004081828383473 39363A2A0A332326 19031A062112050B 1B29250232313522
2714664600115070 4448586878746482 82377713534B826A 65618245425B8207
4782677276524A59 3B69828282017B41 82822B096B494382 5A516379757A7162
5460828282827F82 8282000000000000


YEI   [34 by 1 array of type char; element size 8 byte(s)]
8100000007410152 78820600002D1F1D 3D003D00032E3D1F 1C2D3C341F273450
36081B231204171F 0E6C6C6C6C02151D 0C006C6C6C061921 1088836C87011442
0B091C2413051820 0F6C6C6C6C03161E 0D56554B28071A22 1182846C6C273552
372F4045252B3C46 3A6C6C6C6C295B3B 47316C6C6C2D3E5F 0A88836C87645943
5E304C634A2C4861 496C6C6C6C2A263F 605857515C2E3862 5D82846C6C000000
08CFC8C708C308CF C84300DFE0C700CF D88248CF0843004B 444788C328533023
2853000338030043 3A03387338422003 3803205B3803301B 2803202BC84300DF
584B08CFF8C788FF E84308CF68C7ECCF FCCFC8FFEC4308DF FC47CCDF00030003
0001200300032003 2001204300010003


YEO   [18 by 1 array of type char; element size 8 byte(s)]
4100000007410152 7882060000801F1D 3D003D00032E3D1F 1C80808080142010
300828183804245B 2313330B2B1B3B07 2721113109291939 052512320A2A1A3A
0626477100375070 4868587844645482 820141034379824B 5249825972458222
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6282464A53696B67 3665828282027642 8282353475746182 51777B635A736A7A
6660828282827F82 8282000000000000



    ∇ΔN ΔCP ΔG;ΔGC;ΔGN;ΔT
[1]   ⍝     ΔN ΔCP ΔG           JUNE 25/76
[2]   ⍝COPY GROUP(S) ΔG TO DRIVE ΔN
[3]   ⍝IF ΔG IS EMPTY,COPY ALL GROUPS
[4]   ΔG←⎕XNι0∘→(0≠ρ,ΔG)/ΔNA∘⎕PT←10
[5]   ΔNA:'GROUP ';ΔGC∘⎕XS ΔGC∘ΔGN←SORT ⎕XN ΔGC←1↑ΔG
[6]   ΔGC ⎕XC[ΔN]ΔGN
[7]   L5:ΔGC ⎕XW[ΔN]ΔT∘→(0=⎕NC ΔT←1 4↑ΔGN)/L6
[8]   L6:→(0≠ρΔGN←1 0↓ΔGN)/L5,L7
[9]   L7:→(0<ρΔG←1↓ΔG)/ΔNA
[10]   ⎕PT←0∘⎕XS 0∘⎕XF[ΔN]ι0
    ∇


    ∇ΔCR GNΔ;IΔ;GΔ;NMΔ
[1]   ⍝     ΔCR X              APR 30/76
[2]   ⍝DISPLAY FUNCTION X (FORMATTED WITH LINE NUMBERS)
[3]   ⍝IF X IS NUMERIC, DISPLAY ALL FUNCTIONS IN THE GROUP(S) X
[4]   ∘0 9 0 0 ⎕YO[ι1]2∘PAGE 60 66∘⎕OU(⎕YA 66),16
[5]   →L3Δ∘GNΔ←1∘NMΔ←ANΔ GNΔ∘→(0=0\0ρGNΔ)/L0Δ
[6]   L0Δ:GNΔ←GNΔ[⍋GNΔ←((GNΔιGNΔ)=ιρGNΔ)/GNΔ←,GNΔ]
[7]   L1Δ:→EΔ⌈ι0=ρGNΔ
[8]   ⎕XS GΔ∘NMΔ←SORT ⎕XN GΔ←''ρGNΔ
[9]   ⎕←''∘⎕←'GROUP: ',(⍕GΔ),'    ',(46ρGPΔ,46ρ' '),DATE
[10]   ⎕←''∘⎕←(((⌈(×/ρNMΔ)÷80),80)ρNMΔ⍪20 4ρ' '
[11]   L3Δ:IΔ←⎕IO-1
[12]   L2Δ:→(IΔ=⎕IO+¯1+1↑ρNMΔ)/E1Δ
[13]   →L2Δ∘DXΔ NMΔ[IΔ←IΔ+1;]
[14]   E1Δ:→L1Δ∘GNΔ←1↓GNΔ∘NPG
[15]   EΔ:→0
    ∇


    ∇ΔLD;ΔG;ΔI;ΔX;XΔ;ΔRX
[1]   ⍝     ΔLD                JUNE 14/76
[2]   ⍝LIST GROUP TITLES AND NAMES ON PRINTER ES
[3]   ⎕←'FILE:  ',(50↑VOL,50ρ' '),DATE∘PAGE 48 51∘⎕OU(⎕YA 66),16
[4]   ⎕←'ACTIVE GROUPS ARE: ',⍕ΔG←⎕XNι0×ΔI←⎕IO∘⎕←''
[5]   ΔL:⎕←'GROUP',(7⍕ΔG[ΔI]),'   ',GPΔ∘⎕XS ΔG[ΔI]∘⎕←''
[6]   ⎕←XΔ←((ΔRX∘→(0=ΔRX←⌊(×/ρΔX)÷80)/ΔN),80)ρ(ΔX←⎕XN ΔG[ΔI])∘⎕←''∘0 6 0 0
⎕YO[ι1]2
[7]   ΔN:⎕←,ΔRX↑ΔX∘→(0=×/ΔRX←¯1 1×(ρΔX)-20 0×ΔRX)/ΔM
[8]   ΔM:→((ΔI←ΔI+1)≤ρΔG)/ΔL∘0 0 0 0 ⎕YO[ι1]2
[9]   NPG
    ∇



NAMES IN GROUP 3:
BIG  FSΔ  F    GPΔ  ISI  PIT  PLT  POS  PΔ   QQX  RAM  RCS
RDS  REC  ROL  ROM  SPA  STA  TIT
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BIG   [1 by 59 array of type char; element size 3 byte(s)]
5C2EFC
2E68C0
0B3D46
DB0A16
060E00
46840A
0950BB
0B46AD
00069D
2DFA15
15153D
46AD07
1D3D46
C8003C
1148AC
0B46DB
0AD006
605135
153D11
333525
35CF25
F92515
3DEBF4
3D46FF
09C814
0125C1
CF70AF
2EF825
2E1836
00C12D
3DCF46
A4001D
1D1DEF
250640
02B1E0
CFC41A
E040D4
2EB068
DD2EF9
44D62E
3E27C3
2DA844
C62EC0
357091
2E0640
02A7B5
E850EC
2E0E27
066C2D
253515
F93D25
44B62E
114807
02AC2E
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CA2ECE
2ED22E
DA2EDF
2EE82E
F6AE00


FSΔ   [3 by 1 by 23 array of type char; element size 3 byte(s)]



    ∇F;T;A;Y;YCO;YO;AL
[1]   ⍝     F                    JUNE 14/76
[2]   ⍝PRINT CURRENT COMM TABLES ON MCP-132
[3]   YCO←⎕YO[⍳1]Y←(-⍳1)+⍳11
[4]   YO←⎕YO[2+⍳1]AL←⎕Y(-⍳1)+⍳109
[5]   A←⎕OU⍳0∘'O'⎕YR'T'∘'SAVE OUTPUT TABLE'
[6]   ∘PAGE 48 51∘⎕OU(⎕YA 66),16∘'O'⎕YX⍳0
[7]   ⎕←''∘⎕←'COMM CONTROL TABLES FOR: ',GPΔ,'   ',DATE
[8]   ⎕←''∘⎕←'    OUTPUT             INPUT'
[9]   ⎕←(⍕YCO),(11 4ρ' '),⍕⎕YI[⍳1]Y
[10]   ⎕←''∘⎕←'OUTPUT TRANSLATE TABLE'∘⎕←''
[11]   ⎕←1↓4⍕¯13↑YO∘⎕←6 16ρYO
[12]   ⎕←''∘⎕←'INPUT TRANSLATE TABLE'∘⎕←''
[13]   ⎕←8 16ρ⎕YI[1+⍳1](-⍳1)+⍳128
[14]   →(~''ρ(6ρ2)⊤''ρ⎕YI[⍳1]0)/NP∘'PROMPT?'
[15]   ⎕←''∘⎕←'INPUT PROMPT TABLE'∘⎕←''
[16]   ⎕←1↓4⍕¯13↑YO∘⎕←6 16ρYO←⎕YI[2+⍳1]AL
[17]   NP:∘'O'⎕YW'T'∘⎕OU 1↑A∘NPG
    ∇

GPΔ   [vector of type char of length 30; element size 1 byte(s)]
TAPE UTILITIES AND DIAGNOSTICS


    ∇R←ISIZE M
[1]   ⍝     R←ISIZE M ⍝
[2]   ⍝R IS SIZE IN BYTES OF INTEGER DATA M
[3]   R←2+(ρρM)+(×/ρM)×1+⌊.125+256⍟1⌈⌈/,⌈/|M
    ∇


    ∇R←PITCH X;Y
[1]   ⍝     R←PITCH X
[2]   ⍝CHANGE NUMBER OF CHARACTERS PER INCH TO X (1⩽X⩽60)
[3]   ⍝RESULT R IS THE PREVIOUS SETTING
[4]   ⍝PITCH REMAINS UNCHANGED IF X ISEMPTY.
[5]   →((1⩽X)∧X⩽60)/L8∘→(0=ρ,X)/L8
[6]   'RANGE ERROR'
[7]   →
[8]   L8:R←120÷(Y←⎕YO[⍳1]0)[2+⍳1]
[9]   Y[2+⍳1]←X+2|X←⌈120÷X∘→(0=ρ,X)/0
[10]   Y ⎕YO[⍳1]0
    ∇
```

```
PLT   [4 by 66 array of type char; element size 2 byte(s)]
F4EB 0668 2D06 4E84
F815 0600 8BF8 46C8
003C 0340 AC0B 46AD
0028 063C 2D1E 2026
210E 3F46 5300 2E21
3633 C753 453C 4248
5720 4621 2046 AD00
0688 2D1E 2026 210E
B446 5300 46E0 07B0
2B2E 00F5 3D3D 4657
0868 A120 1640 4659
2046 5708 1688 6859
2046 5920 4621 2044
362C 071A 1C13 181E
0F1C 1513 1820 0B16
130E 2719 1F1E 1A1F
1E27 0E0F 2013 0D0F
2E20 3614 C73C 6C60
2D20 0627 D046 AD00
2806 7B2D C22D C7B0
504E 20D0 46AD 0028
06E7 2DC2 247F 2DC7
464E 2015 C7D0 46AD
20C2 0257 0620 5507
3525 3525 3D46 8B20
3DC6 94F0 C59B E840
7620 C22C 08D0 A896
F006 009D E846 AD20
C657 C524 07B2 5507
C0C0 C0C0 C0C0 C0C0
C0C0 2E20 3600 C70A
0A0A 0A24 08AA D036
08C7 24FE 31EF F007
06E0 5544 BB0B 06E0
5544 BB0B 45C8 2403
2C01 44BD 20C0 C0C0
C0C0 C0C0 48C9 20C1
24E0 3CE0 2B44 AD20
06E0 5546 AD00 066A
2D44 C40B 45C8 2403
2C01 484E 20C1 24E0
3CE0 4821 2046 FF09
2E20 3614 D048 4020
3E59 0725 2E21 362C
C7B0 484B 2011 25FA
0746 AD00 066A 2D44
C40B 46AD 0006 722D
44C4 0B30 3132 3334
3536 3738 3946 6162
6364 6566 6768 696A
6B6C 6D6E 6F70 7172
7374 7576 7778 797A
484C 202E 4023 2425
5E26 2A28 2900 822D
5F3D 2B50 8444 534D
```

```
864F 5451 882F 3F8A
5955 424E 4549 2C52
8C8E 905B 3C5D 9294
3B27 3A22 4A96 4B3E
4741 5743 5658 5A21
989A 9C9E 3EB0 A028
5429 5450 4F2E 4B2F
5F3F 5F4F 4D4F 5F4F
3F48 4D47 4D43 4A42
4A2C 5F4C 2B4C 4B4E
4AC3 12D8 4633 2724



    ∇POSITION S
[1]   ⍝     POSITION S          MAY 04/76
[2]   ⍝POSITION THE CARRIAGE ON THE MCP-132 TO LOCATION S E
[3]   ⍝S IS THE X AND Y COORDINATES IN INCHES Y
[4]   ⍝POSITIVE DIRECTIONS ARE ↑ AND →
[5]   ' 'PΔ⌈120 96×S
    ∇


    ∇C PΔ A
[1]   ⍝     C PΔ A              MAY 01/76
[2]   ⍝SUBFUNCTION TO CALL PLOTER PLT
[3]   A □ZZ[C]PLT
    ∇

QQX   [3 by 1 by 26 array of type char; element size 3 byte(s)]



    ∇RAM X
[1]   ⍝     RAM  X             APR 30/76
[2]   ⍝CHECK RANDOM ACCESS MEMORY
[3]   ⍝X IS MEMORY SIZE, IE. 2 4 OR 8
[4]   →(0=□_0 X)/OK
[5]   'RAM MEMORY ERROR'
[6]   →0
[7]   OK:'RAM MEMORY OK'
    ∇

RCS   [numeric vector of length 19; element size 3 byte(s)]
179798 173599 165295 175999 221948 163253 219896 166212 172482 175298 171720
160806 250427 171199 168887 155953 522240 522240 522240

RDS   [numeric vector of length 19; element size 3 byte(s)]
179798 173599 165295 175999 156500 163119 219896 166212 172482 175298 171720
160806 250427 171199 168887 155953 160490 522240 522240


    ∇REC;IΔ_;NΔ_
[1]   ⍝     RECOVER            APR 30/76
[2]   ⍝RECOVER INFORMATION FROM A TAPE WHERE THE DIRECTORY
[3]   ⍝HAS BEEN DESTROYED. MOUNT DEAD TAPE ON LEFT DRIVE,
```

```
[4]   ⍝INITIALIZED TAPE ON RIGHT DRIVE.
[5]   NΔ_←''∘IΔ_←2
[6]   JΔ_:IΔ_←(1↑IΔ_)⎕ZZ QQX
[7]   (1↓IΔ_)⎕XW[2]NΔ_←(1 0↓⎕FN)⌿4 0↓⎕VA
[8]   →JΔ_∘⎕EX NΔ_
    ∇


    ∇R←ROLL X;Y
[1]   ⍝     R←ROLL X
[2]   ⍝CHANGE NUMBER OF LINES PER INCH TO X (1≤X≤48)
[3]   ⍝RESULT R IS THE PREVIOUS SETTING
[4]   ⍝ROLL IS UNCHANGED IF X IS EMPTY.
[5]   →((1≤X)∧X≤48)/L8∘→(0=⍴,X)/L8
[6]   'RANGE ERROR'
[7]   →
[8]   L8:R←96÷(Y←⎕YO[⍳1]0)[3+⍳1]
[9]   Y ⎕YO[⍳1]0∘Y[3+⍳1]←⌈1↑96÷X,R
    ∇


    ∇ROM ;C
[1]   ⍝     ROM                 APR 30/76
[2]   ⍝CHECK ROM MEMORY.
[3]   ⍝RDS IS CHECK SUMS FOR DISK SYSTEM AS OF FEB 18/76
[4]   ⍝RCS IS CHECK SUMS FOR COMMUNICATIONS SUBSYSTEM
[5]   →(∧/RDS=C←⎕_1⍳19)/OK
[6]   →(∧/RCS=C)/OK
[7]   'ROM MEMORY ERROR'
[8]   →0
[9]   OK:⎕←'ROM MEMORY IS GOOD'
    ∇


    ∇ZΔ←SPACE XΔ
[1]   ⍝     ZΔ←SPACE XΔ         MAY 03/76
[2]   ⍝1↑ZΔ IS THE NUMBER OF BLOCKS USED ON FILE XΔ
[3]   ⍝1↓ZΔ IS 1+LAST BLOCK USED ON FILE XΔ
[4]   ⍝IF 1↓ZΔ IS MUCH LARGER THAN 1↑Z, THE FILE
[5]   ⍝SHOULD BE COPIED TO COMPRESS UNUSED SPACE
[6]   ⍝A DISK CONTAINS 1023 - 256 BYTE BLOCKS, AND A 300
[7]   ⍝FOOT TAPE APPROXIMATELY 800 - 128 BYTE BLOCKS.
[8]   ZΔ←⎕ZZ[XΔ]FSΔ
    ∇


NAMES IN GROUP 4:
WRA  WRT

WRA   [3 by 1 by 95 array of type char; element size 3 byte(s)]


WRT   [3 by 1 by 91 array of type char; element size 3 byte(s)]
```

```
NAMES IN GROUP 201:
BIG  BOX  CEN  EQU  GPΔ  HLI  HS   LIN  NPG  PAG  PIT  PLO
PLT  POS  PRT  PΔ   ROL  R    TIT  VLI  VS   WID  ZAP

BIG   [1 by 59 array of type char; element size 3 byte(s)]
2423C4
2368C0
0B3D46
DB0A16
060E00
46840A
0950BB
0B46AD
00069D
2DFA15
15153D
46AD07
1D3D46
C8003C
1148AC
0B46DB
0AD006
605135
153D11
333525
35CF25
F92515
3DEBF4
3D46FF
09C814
0125C1
CF7077
23F825
2E1836
00C12D
3DCF46
A4001D
1D1DEF
250640
02B1E0
CFC41A
E0409C
23B068
A523F9
449E23
3E27C3
2DA844
8E23C0
357059
230640
02A7B5
E850B4
230E27
066C2D
253515
```

```
F93D25
447E23
111207
027423
922396
239A23
A223A7
23B023
BEA300



    ∇S BOX C;H;V
[1]   ⍝     S BOX C               DRAW A BOX WHERE
[2]   ⍝S IS START POINT - HOR. AND VER. DISTANCE
[3]   ⍝FROM CURRENT LOCATION IN INCHES.
[4]   ⍝C IS WIDTH, HEIGHT OF BOX IN INCHES.
[5]   H←((-1+⌈20×1↑C),2)↑HS◦V←((-1+⌈12×1↓C),2)↑VS
[6]   POS S
[7]   POS 1 ¯1×C◦'-'PΔ H◦POS 0 1×C◦'-'PΔ H◦'|'PΔ V
[8]   POS -S+1 0×C◦'|'PΔ V
    ∇


    ∇R←L CENTRE X;N
[1]   ⍝     R←L CENTRE X        MAY 04/76 L
[2]   ⍝SUBFUNCTION TO PLOT
[3]   R←N⍴X⍴N←((ρρX)↑(⌊((L×(1 2=ρρX)/10 6)-⌈/ρX)÷2),1)ρ' '
    ∇


    ∇ΔR←EQU;ΔI
[1]   ⍝     ΔR←EQU
[2]   ⍝EVALUATE EQUATION FOR PLOTTING
[3]   ⍝RESULT ΔR IS FORMATTED TO BE THE ARGUMENT FOR PLOT.
[4]   ΔX←9↓⍞'EQUATION: '
[5]   ΔR←⍎29↓⍞'DEFINE INDEPENDENT VARIABLE: '
[6]   ΔR←(ΔIρΔR),(ΔI←(ρΔR),1)ρ⍎ΔX
    ∇

GPΔ   [vector of type char of length 32; element size 1 byte(s)]
MCP-132 PRINTING/PLOTING/DRAWING


    ∇S HLINE L;ΔPI;ΔPO
[1]   ⍝     S HLINE L
[2]   ⍝DRAW A HORIZONTAL LINE OF LENGTH L STARTING AT POSTION S
[3]   ⍝S IS THE X AND Y DISPLACEMENT FROM THE CURRENT POSITION
[4]   POS S+0 .06
[5]   ΔPI ⎕YO[ι1]0◦ΔPI[2+ι1]←8◦ΔPO←(ΔPI←⎕YO[ι1]0)[2+ι1]
[6]   ⎕←(⌊15×L)ρ'_'
[7]   ◦ΔPI ⎕YO[ι1]0◦ΔPI[2+ι1]←ΔPO
[8]   POS -S+0 ¯.1
    ∇
```

```
HS    [2 by 121 numeric array; element size 2 byte(s)]
718 0
712 0
706 0
700 0
694 0
688 0
682 0
676 0
670 0
664 0
658 0
652 0
646 0
640 0
634 0
628 0
622 0
616 0
610 0
604 0
598 0
592 0
586 0
580 0
574 0
568 0
562 0
556 0
550 0
544 0
538 0
532 0
526 0
520 0
514 0
508 0
502 0
496 0
490 0
484 0
478 0
472 0
466 0
460 0
454 0
448 0
442 0
436 0
430 0
424 0
418 0
412 0
406 0
400 0
394 0
```

388 0
382 0
376 0
370 0
364 0
358 0
352 0
346 0
340 0
334 0
328 0
322 0
316 0
310 0
304 0
298 0
292 0
286 0
280 0
274 0
268 0
262 0
256 0
250 0
244 0
238 0
232 0
226 0
220 0
214 0
208 0
202 0
196 0
190 0
184 0
178 0
172 0
166 0
160 0
154 0
148 0
142 0
136 0
130 0
124 0
118 0
112 0
106 0
100 0
94 0
88 0
82 0
76 0
70 0
64 0
58 0

```
52 0
46 0
40 0
34 0
28 0
22 0
16 0
10 0
4 0
0 0
```

```
    ∇S LINE X;Y;Z;R
[1]   ⍝      S LINE X
[2]   ⍝DRAW A LINE L INCHES LONG AT ANY ANGLE
[3]   ⍝X IS LENGTH(INCHES), ANGLE(RADIANS)
[4]   ⍝S IS X AND Y DISPLACEMENT FROM THE CURRENT LOCATION
[5]   Y←⌈(2 1○¯1↑X)×120 96×1↑X
[6]   R←((1+R,1)⍴Y÷R)×(⌽R←⌈⌈/|Y÷3 4)∘.+0 0
[7]   R←⌈R-(⍴R)⍴Y∘→(0≤⌊/Y←⌊≠R)/9
[8]   POS S+Y÷120 96
[9]   '.'PΔ R
[10]   POS -S  Δ
    ∇
```

```
    ∇NPG
[1]   ⍝     NPG                 APR 30/76
[2]   ⍝FORCE NEW PAGE ON PRINTER. NOTE PAGEING MUST BE ON.
[3]   □←((0⌈(1↑□YO[⍳1]6)-1↓□PC⍳0),0)⍴''
    ∇
```

```
    ∇ZΔ←PAGE MΔ
[1]   ⍝     ZΔ←PAGE MΔ          APR 6/76
[2]   ⍝SET PAGEING TO PRINT 1↑MΔ LINES ON
[3]   ⍝A PAGE WHICH IS ¯1↑MΔ LINES LONG
[4]   ⍝RESULT (ZΔ) IS THE PREVIOUS SETTING
[5]   →(≤/MΔ)/L8∘→(0=⍴,MΔ)/L8
[6]   'RANGE ERROR'
[7]   →
[8]   L8:((⌽-\⌽MΔ),(⍴,MΔ)↓ZΔ←□YO[⍳1]6)□YO[⍳1]6
[9]   ZΔ←⌽+\⌽2↑ZΔ∘□PC 0 0
    ∇
```

```
    ∇R←PITCH X;Y
[1]   ⍝     R←PITCH X
[2]   ⍝CHANGE NUMBER OF CHARACTERS PER INCH TO X (1≤X≤60)
[3]   ⍝RESULT R IS THE PREVIOUS SETTING
[4]   ⍝PITCH REMAINS UNCHANGED IF X ISEMPTY.
[5]   →((1≤X)∧X≤60)/L8∘→(0=⍴,X)/L8
[6]   'RANGE ERROR'
[7]   →
[8]   L8:R←120÷(Y←□YO[⍳1]0)[2+⍳1]
```

```
[9]   Y[2+⍳1]←X+2|X←⌈120÷X∘→(0=⍴,X)/0
[10]   Y ⍞YO[⍳1]0
    ∇


    ∇PLOT W;C;S;TX;TY
[1]   ⍝     PLOT W
[2]   ⍝PLOT W ON THE MCP-132. W IS AN N BY 2
[3]   ⍝ARRAY OF CO-ORDINATES.  PLOT SCALES THESE POINTS
[4]   ⍝TO CORRESPOND TO THE WIDTH AND HEIGHT SPECIFIED.
[5]   C←18↓19⍞'PLOT CHARACTER(S):∘'
[6]   S←⍎22↓⍞'WIDTH,HEIGHT (INCHES): '
[7]   TX←14↓⍞'X AXIS TITLE: '
[8]   TY←((⍴TY),1)⍴TY←14↓⍞'Y AXIS TITLE: '
[9]   W←W-(⍴W)⍴⌊≠W←W+W←⌊W×(⍴W)⍴S×60 48÷(⌈≠W)-⌊≠W
[10]   POS .2 0∘⍞←(1↓S)CENTRE TY∘⍞OU ⍞YA 66
[11]   0 0 HLINE 1↑S∘0 0 VLINE 1↓S
[12]   ' 'PΔ-¯1 2↑W∘C PΔ W
[13]   ⍞←(1↑S)CENTRE TX∘⍞←' '
[14]   POS ¯.2 0
    ∇

PLT   [4 by 66 array of type char; element size 2 byte(s)]
F4EB 0668 2D06 4E84
F815 0600 8BF8 46C8
003C 0340 AC0B 46AD
0028 063C 2D1E 2026
210E 3F46 5300 2E21
3633 C753 453C 4248
5720 4621 2046 AD00
0688 2D1E 2026 210E
B446 5300 46E0 07B0
2B2E 00F5 3D3D 4657
0868 A120 1640 4659
2046 5708 1688 6859
2046 5920 4621 2044
D22A 071A 1C13 181E
0F1C 1513 1820 0B16
130E 2719 1F1E 1A1F
1E27 0E0F 2013 0D0F
2E20 3614 C73C 6C60
2D20 0627 D046 AD00
2806 7B2D C22D C7B0
504E 20D0 46AD 0028
06E7 2DC2 247F 2DC7
464E 2015 C7D0 46AD
20C2 0257 0620 5507
3525 3525 3D46 8B20
3DC6 94F0 C59B E840
7620 C22C 08D0 A896
F006 009D E846 AD20
C657 C524 07B2 5507
C0C0 C0C0 C0C0 C0C0
C0C0 2E20 3600 C70A
0A0A 0A24 08AA D036
08C7 24FE 31EF F007
```

```
06E0 5544 BB0B 06E0
5544 BB0B 45C8 2403
2C01 44BD 20C0 C0C0
C0C0 C0C0 48C9 20C1
24E0 3CE0 2B44 AD20
06E0 5546 AD00 066A
2D44 C40B 45C8 2403
2C01 484E 20C1 24E0
3CE0 4821 2046 FF09
2E20 3614 D048 4020
3E59 0725 2E21 362C
C7B0 484B 2011 25FA
0746 AD00 066A 2D44
C40B 46AD 0006 722D
44C4 0B30 3132 3334
3536 3738 3946 6162
6364 6566 6768 696A
6B6C 6D6E 6F70 7172
7374 7576 7778 797A
484C 202E 4023 2425
5E26 2A28 2900 822D
5F3D 2B50 8444 534D
864F 5451 882F 3F8A
5955 424E 4549 2C52
8C8E 905B 3C5D 9294
3B27 3A22 4A96 4B3E
4741 5743 5658 5A21
989A 9C9E 3EB0 A028
5429 5450 4F2E 4B2F
5F3F 5F4F 4D4F 5F4F
3F48 4D47 4D43 4A42
4A2C 5F4C 2B4C 4B4E
4AC3 12D8 4633 2724
```

```
    ∇POSITION S
[1]   ⍝     POSITION S          MAY 04/76
[2]   ⍝POSITION THE CARRIAGE ON THE MCP-132 TO LOCATION S E
[3]   ⍝S IS THE X AND Y COORDINATES IN INCHES Y
[4]   ⍝POSITIVE DIRECTIONS ARE ↑ AND →
[5]   ' 'PΔ⌈120 96×S
    ∇
```

```
    ∇PRT X;T;A
[1]   ⍝     PRT X
[2]   ⍝PRINT X ON MCP-132 WITHOUT DISTROYING EIA TABLES'
[3]   ∘'O'⎕YW'T'∘⎕OU 1↑A∘⎕←X∘⎕OU ⎕YA 66∘'O'⎕YXι0∘'O'⎕YR'T'∘A←⎕OUι0
    ∇
```

```
    ∇C PΔ A
[1]   ⍝     C PΔ A              MAY 01/76
[2]   ⍝SUBFUNCTION TO CALL PLOTER PLT
[3]   A ⎕ZZ[C]PLT
    ∇
```

```
    ∇R←ROLL X;Y
[1]   ⍝     R←ROLL X
[2]   ⍝CHANGE NUMBER OF LINES PER INCH TO X (1⩽X⩽48)
[3]   ⍝RESULT R IS THE PREVIOUS SETTING
[4]   ⍝ROLL IS UNCHANGED IF X IS EMPTY.
[5]   →((1⩽X)∧X⩽48)/L8∘→(0=⍴,X)/L8
[6]   'RANGE ERROR'
[7]   →
[8]   L8:R←96÷(Y←⎕YO[⍳1]0)[3+⍳1]
[9]   Y ⎕YO[⍳1]0∘Y[3+⍳1]←⌈1↑96÷X,R
    ∇

R     [2 by 100 numeric array; element size 8 byte(s)]
401015BF9217271B 4010130A1BE0937B
40202B7F242E4E36 402015D6BB42B7C2
4030413EB6457550 402FF838CA06F4F5
404056FE485C9C6B 403FAA23F4380F2F
40506CBDDA73C386 404F1BBCDCBFA542
4060827D6C8AEAA1 405E3D6922A2A468
4070983CFEA211BC 406CFFDF24960678
4080ADFC90B938D6 407B543572FEA54B
4090C3BC22D05FF1 40892BF1E0C15A8F
40A0D97BB4E7870C 4096791823AAD2F7
40B0EF3B46FEAE27 40A32E37F5A80DE8
40C104FAD915D542 40AF3E7AA88900A3
40D11ABA6B2CFC5C 40BA9DB01E95C0BA
40E13079FD442377 40C5405B1ADB5F5C
40F146398F5B4A92 40CF1BBCDCBFA54C
411015BF9217271B 40D825DFFB217440
4111171B8B38998C 40E055A2740E02CC
41121877845A0BFE 40E7A2BEE6E0AC67
411319D37D7B7E70 40EE05D4EF7AD72E
41141B2F769CF0E1 40F378709A22A801
41151C8B6FBE6353 40F7F510E880F709
41161DE768DFD5C5 40FB772D61284FFA
41171F4362014837 40FDFB3AA406C819
4118209F5B22BAA8 40FF7EADFF221FF2
411921FB54442D1A 4E00000000000001
411A23574D659F8C 40FF7EADFF221FEE
411B24B3468711FD 40FDFB3AA406C812
411C260F3FA8846F 40FB772D61284FF1
411D276B38C9F6E1 40F7F510E880F6F9
411E28C731EB6952 40F378709A22A7F5
411F2A232B0CDBC4 40EE05D4EF7AD717
41202B7F242E4E36 40E7A2BEE6E0AC4C
41212CDB1D4FC0A7 40E055A2740E02BA
41222E3716713319 40D825DFFB21741E
41232F930F92A58B 40CF1BBCDCBFA528
412430EF08B417FC 40C5405B1ADB5F3B
4125324B01D58A6E 40BA9DB01E95C098
412633A6FAF6FCE0 40AF3E7AA889007F
41273502F4186F51 40A32E37F5A80DC5
4128365EED39E1C3 4096791823AAD2D3
412937BAE65B5435 40892BF1E0C15A64
```

412A3916DF7CC6A6 407B543572FEA52A
412B3A72D89E3918 406CFFDF24960645
412C3BCED1BFAB8A 405E3D6922A2A433
412D3D2ACAE11DFB 404F1BBCDCBFA516
412E3E86C402906D 403FAA23F4380EFE
412F3FE2BD2402DF 402FF838CA06F4C0
4130413EB6457550 402015D6BB42B795
4131429AAF66E7C2 4010130A1BE0934B
413243F6A8885A34 B43243F6A8885A31
41334552A1A9CCA6 C010130A1BE093AF
413446AE9ACB3F18 C02015D6BB42B7F9
4135480A93ECB18A C02FF838CA06F53C
413649668D0E23FC C03FAA23F4380F78
41374AC2862F966D C04F1BBCDCBFA581
41384C1E7F5108DF C05E3D6922A2A4A8
41394D7A78727B4E C06CFFDF24960689
413A4ED67193EDC0 C07B543572FEA561
413B50326AB56032 C0892BF1E0C15AAE
413C518E63D6D2A4 C096791823AAD31A
413D52EA5CF84515 C0A32E37F5A80E00
413E54465619B787 C0AF3E7AA88900C0
413F55A24F3B29F9 C0BA9DB01E95C0D3
414056FE485C9C6B C0C5405B1ADB5F74
4141585A417E0EDD C0CF1BBCDCBFA563
414259B63A9F814F C0D825DFFB217454
41435B1233C0F3C1 C0E055A2740E02F0
41445C6E2CE26633 C0E7A2BEE6E0AC81
41455DCA2603D8A4 C0EE05D4EF7AD741
41465F261F254B16 C0F378709A22A814
414760821846BD88 C0F7F510E880F718
414861DE11682FFA C0FB772D61285006
4149633A0A89A269 C0FDFB3AA406C81C
414A649603AB14DB C0FF7EADFF221FF4
414B65F1FCCC874D CE00000000000001
414C674DF5EDF9BE C0FF7EADFF221FED
414D68A9EF0F6C30 C0FDFB3AA406C80E
414E6A05E830DEA2 C0FB772D61284FEA
414F6B61E1525114 C0F7F510E880F6F3
41506CBDDA73C386 C0F378709A22A7E6
41516E19D39535F8 C0EE05D4EF7AD704
41526F75CCB6A86A C0E7A2BEE6E0AC36
415370D1C5D81ADC C0E055A2740E029B
4154722DBEF98D4D C0D825DFFB217403
41557389B81AFFBF C0CF1BBCDCBFA50A
415674E5B13C7231 C0C5405B1ADB5F14
41577641AA5DE4A3 C0BA9DB01E95C06C
4158779DA37F5715 C0AF3E7AA8890052
415978F99CA0C984 C0A32E37F5A80DA9
415A7A5595C23BF5 C096791823AAD2BF
415B7BB18EE3AE67 C0892BF1E0C15A4F
415C7D0D880520D9 C07B543572FEA509
415D7E698126934B C06CFFDF2496062E
415E7FC57A4805BD C05E3D6922A2A41C
415F81217369782F C04F1BBCDCBFA4E6
4160827D6C8AEAA1 C03FAA23F4380ECD
416183D965AC5D13 C02FF838CA06F48F

```
416285355ECDCF84 C02015D6BB42B763
4163869157EF41F6 C010130A1BE09319
416487ED5110B468 346487ED5110B461



    ∇S TITLE X;P;R;HEI;CPI
[1]   ⍝     S TITLE X
[2]   ⍝X IS ALPHA VECTOR TO BE PRINTED X
[3]   ⍝S IS THE X AND Y DISPLACEMENT FROM THE CURRENT LOCATION
[4]   ⍝CHARACTER HEIGHT IS SET BY HEI AND
[5]   ⍝CHARACTERS PER INCH IS SET BY CPI IN LINE 6
[6]   ⍝'DEFAULT SETTING IS:'⍝HEI←.25⍝CPI←5
[7]   POS S
[8]   P←PITCH ⌈6×CPI⍝R←ROLL 7×÷HEI
[9]   □←X □ZZ['.']BIG
[10]   ⍝PITCH P⍝' 'PΔ⌈0 96×7÷ROLL R
[11]   POS -S
    ∇


    ∇S VLINE L
[1]   ⍝     S VLINE L -S
[2]   ⍝DRAW VERTICAL LINE OF LENGTH L STARTING AT POSTION S
[3]   ⍝S IS THE X AND Y DISPLACEMENT FROM THE CURRENT LOCATION.
[4]   POS S
[5]   '|'PΔ((-1+⌈12×L),2)↑VS
[6]   POS -S
    ∇

VS    [2 by 97 numeric array; element size 2 byte(s)]
0 762
0 754
0 746
0 738
0 730
0 722
0 714
0 706
0 698
0 690
0 682
0 674
0 666
0 658
0 650
0 642
0 634
0 626
0 618
0 610
0 602
0 594
0 586
0 578
0 570
```

0 562
0 554
0 546
0 538
0 530
0 522
0 514
0 506
0 498
0 490
0 482
0 474
0 466
0 458
0 450
0 442
0 434
0 426
0 418
0 410
0 402
0 394
0 386
0 378
0 370
0 362
0 354
0 346
0 338
0 330
0 322
0 314
0 306
0 298
0 290
0 282
0 274
0 266
0 258
0 250
0 242
0 234
0 226
0 218
0 210
0 202
0 194
0 186
0 178
0 170
0 162
0 154
0 146
0 138
0 130
0 122

```
0 114
0 106
0 98
0 90
0 82
0 74
0 66
0 58
0 50
0 42
0 34
0 26
0 18
0 10
0 6
0 0
```

```
    ∇R←WIDTH X;Y
[1]   ⍝     R←WIDTH X
[2]   ⍝CHANGE PRINT WIDTH TO X (30≤X≤132)
[3]   ⍝RESULT R IS THE PREVIOUS WIDTH
[4]   ⍝WIDTH IS UNCHANGED IF X IS EMPTY.
[5]   →((30≤X)∧X≤132)/L8∘→(0=⍴X)/L8
[6]   'RANGE ERROR'
[7]   →
[8]   L8:R←1↑Y←⎕YO[⍳1]1
[9]   (X,(⍴,X)↓Y)⎕YO[⍳1]1
    ∇
```

```
ZAP   [2 by 100 numeric array; element size 2 byte(s)]
0 306
10 324
20 340
30 358
40 376
50 394
58 410
68 426
78 442
88 456
98 470
108 484
118 496
126 508
136 520
146 530
156 540
166 548
176 554
184 560
194 566
204 570
214 572
224 574
```

234 576
244 574
252 572
262 570
272 566
282 560
292 554
302 548
312 540
320 530
330 520
340 508
350 496
360 484
370 470
378 456
388 442
398 426
408 410
418 394
428 376
438 358
446 340
456 324
466 306
476 288
486 268
496 250
504 234
514 216
524 198
534 180
544 164
554 148
564 132
572 118
582 104
592 90
602 78
612 66
622 54
632 44
640 34
650 26
660 20
670 14
680 8
690 4
698 2
708 0
718 0
728 0
738 2
748 4
758 8
766 14

```
776 20
786 26
796 34
806 44
816 54
824 66
834 78
844 90
854 104
864 118
874 132
884 148
892 164
902 180
912 198
922 216
932 234
942 250
952 268
960 288



NAMES IN GROUP 202:
GPΔ  LIS  SET  STA  YYI

GPΔ   [vector of type char of length 43; element size 1 byte(s)]
PMR-400 CARD READER SUPPORT - JUN 08/76:GMS


    ∇LIST;A
[1]   ⍝     LIST            GMS:JUN 08/76
[2]   ⍝TEST FUNCTION TO READ CARDS
[3]   ⍝AND LIST THEM ON THE MCP-132
[4]   →L1⌈⍳131=1↑1↓⎕IN⍳0∘⎕OU ⎕YA 66
[5]   →0×⍳0=1↑⎕IN⍳0∘SETUP
[6]   L1:⎕←A←⍞''
[7]   →(4>8|¯1↑⎕IN⍳0)/L1
[8]   ⍝PREVIOUS LINE CHECKS FOR END OF FILE
    ∇


    ∇SETUP;A;X;R
[1]   ⍝     SETUP           GMS:JUN 04/76
[2]   ⍝SETUP INPUT TABLES FOR CARD READER
[3]   →TOK⌈⍳0≠A←⎕YA 131
[4]   'NO CARD READER CONNECTED!'
[5]   →0
[6]   TOK:∘⎕IN 0∘'I'⎕YW'YYI'∘⎕IN A
[7]   X←0 0 0 0
[8]   X[⍳1]←1∘→CSP⌈⍳~'Y'∈⍞'PROCESS MNEMONICS? :'
[9]   CSP:X[1+⍳1]←1∘→COF⌈⍳~'Y'∈⍞'SUPRESS TRAILING SPACES? :'
[10]   COF:X[1+⍳1]←X[1+⍳1]+2∘→(⎕LC+1)⌈⍳~'Y'∈⍞'STOP READER BETWEEN CARDS? :'
[11]   →SSS∘X[2+⍳1]←80∘→('M'=R)/⎕LC+1∘→(~(R←1↑26↓⍞'PUNCHED OR MARKED CARDS?
:')∈'PM')/⎕LC
```

```
[12]   →((R=0)∨R>80)/⎕LC∘R←⍎R∘→(~∧/R∈'0123456789')/⎕LC∘R←28↓⍞'HOW MANY COLUMNS PER
CARD? :'
[13]   X[2+⍳1]←R
[14]   SSS:X ⎕YI[⍳1]0∘⎕IN A
    ∇


    ∇STATUS;X;S;AS
[1]   ⍝     STATUS X        GMS:JUN 03/76
[2]   ⍝RETURN STATUS OF CARD READER
[3]   ∘⎕IN S∘X←⎕IN ⎕YA 131∘S←1↑⎕IN⍳0
[4]   AS←8 3⍴'NO YES'[,(3×⍳S)∘.+⍳3]∘S←(8⍴2)⊤X[3]
[5]   →(0 131=X[2])/NO,RDR
[6]   NO:'NO CARD READER ON THE SYSTEM'
[7]   →0
[8]   RDR:'DEVICE : PMR-400'
[9]   'READER RUNNING?        ',AS[1;]
[10]   'STACKER FULL?          ',AS[2;]
[11]   'HOPPER EMPTY?          ',AS[3;]
[12]   'READ OVERRUN?          ',AS[4;]
[13]   'READ ERROR?            ',AS[5;]
[14]   'CARDS JAMMED?          ',AS[6;]
[15]   'CARD NOT BEING READ?   ',AS[7;]
[16]   'READ DATA AVAILABLE?   ',AS[8;]
    ∇

YYI   [68 by 1 array of type char; element size 8 byte(s)]
8380000000012800 0000000000000000 0000000000000000 0000000000000102
030405060708090A 0B0C0D0E0F101112 1314151617181 91A 1B1C1D1E1F202122
232425262728292A 2B2C2D2E2F303132 3334353637383 93A 3B3C3D3E3F404142
434445464748494A 4B4C4D4E4F505152 5354555657585 95A 5B5C5D5E5F606162
6364656667686 96A 6B6C6D0000000000 0000000000000000 0000000000000000
48249B252E183600 C724F03C10480118 C20E03023C014803 18466A18C70E023C
8348031846922506 2B2DCDC6442F18C2 3C6D60DB243C762B 3C7568EE24440118
2727272727272727 270C0F1113182727 5B0B161A120B3508 270D0B1C0E271C0F
0B0E0F1C270E1C13 200F1C5B6E272727 2727272727272727 2727272727272727
2727272727272727 2727272727272727 6E00004692250611 2DC3182DC7D03C6E
2B467218D007F43D 46922506112DA855 473D0E0146AE1824 02680A2506025506
0455463002452C40 2471680A253C0148 8D25060855463002 452C40C82430488D
25C13C41481D250E 0246AE18D8354679 25488D25F8151948 36253E6E0E0146AE
1824026851250602 55C724016872250E 0246AE18D8469225 0611832D06271D19
686F25BF68662515 3E6E35E61E0044DB 2416007D7D11688D 254524F0687B2524
7F0B47B8070E0244 03182E20361DC715 EFF0076D247B2483 24DC24F124022513
25182527252D2537 253A2540254C2555 255E2569256D2577 257F2585A5480A3A




NAMES IN GROUP 210:
COM  GP∆  SIM  YEI  YEO  YYI  YYO  YCI  YCO


    ∇COMMENTS
[1]   ⍝     COMMENTS            MAY 04/76
[2]   ⍝TURN ON PROMPT SWITCH ON THE SCI-1200.
[3]   ⍝DATEL TERMINALS USE CORRESPONDENCE CODE
```

```
[4]   ⍝IBM 3767 GENERALLY ARE EBCDIC
[5]   ⍝IBM 2741 TERMINALS ARE EITHER CORR. OR EBCDIC.
[6]   ⍝EXECUTE THE FUNCTION SETUP'X' TO POINT □IN AND □OUT
[7]   ⍝TO A 2741 TYPE DEVICE. (X←C FOR CORRESPONDENCE, X←E FOR EBCDIC)
[8]   ⍝THE FUNCTION 'BAUD' IN GROUP 0 WILL CHANGE
[9]   ⍝TRANSFER RATE IF A SPEED OTHER THAN
[10]   ⍝134.5 BAUD IS REQUIRED
    ∇
```

```
GPΔ   [vector of type char of length 35; element size 1 byte(s)]
MCM/700 TO IBM 2741, 3767 AND DATEL
```

```
    ∇SIM ;X;Y
[1]   ⍝     SIMULATE            MAY 03/76
[2]   ⍝USE THE 2741 AS INPUT AND OUTPUT DEVICE FOR MCM/700
[3]   Y←⍮X←6↓□'      '
[4]   →2∘□←Y∘→2⌈⍳'←'∈X
    ∇
```

```
YEI   [34 by 1 array of type char; element size 8 byte(s)]
A1000000274101B9 78820600082D1F1D 3D003D30032E3D1F 1C3C803480273450
36081B231204171F 0E6C6C6C6C02151D 0C006C6C6C061921 1088836C87011442
0B091C2413051820 0F6C826C6C03161E 0D56554B28071A22 1189846C6C273552
372F4045252B3C46 3A6C6C6C6C295B3B 47316C6C6C2D3E5F 0A88836C87645943
5E304C634A2C4861 496C826C6C2A263F 605857515C2E3862 5D89846C6C142010
300828183804245B 2313330B2B1B3B07 2721113109291939 052512320A2A1A3A
0626477100375070 4868587844645482 820141034379824B 5249825972458222
6282464A53696B67 3665828282027642 8282353475746182 51777B635A736A7A
6660828282827F82 8282000000000000
```

```
YEO   [18 by 1 array of type char; element size 8 byte(s)]
41000000274101B9 78820600082D1F1D 3D003D30032E3D1F 1C3C803480142010
300828183804245B 2313330B2B1B3B07 2721113109291939 052512320A2A1A3A
0626477100375070 4868587844645482 820141034379824B 5249825972458222
6282464A53696B67 3665828282027642 8282353475746182 51777B635A736A7A
6660828282827F82 8282000000000000
```

```
YYI   [34 by 1 array of type char; element size 8 byte(s)]
A1000000274101B9 78820600082D1F1D 3D003D30032E3D1F 1C3C80348027501E
140419164205560F 1A6C6C6C6C022818 36246C6C6C061315 1B88836C87011722
11001D1223071C0E 556C826C6C03201F 1009210C34080B0D 4B89846C6C27523F
592B3E26432C5849 386C6C6C6C295C48 37636C6C6C2D4A5B 4088836C87643C62
5D313B25452E4C3A 576C826C6C2A6146 0A305F47352F5E60 5189846C6C242010
3004081828383473 39363A2A0A332326 19031A062112050B 1B29250232313522
2714664600115070 4448586878746482 82377713534B826A 65618245425B8207
4782677276524A59 3B69828282017B41 82822B096B494382 5A516379757A7162
5460828282827F82 8282000000000000
```

```
YYO   [18 by 1 array of type char; element size 8 byte(s)]
41000000274101B9 78820600082D1F1D 3D003D30032E3D1F 1C3C803480242010
3004081828383473 39363A2A0A332326 19031A062112050B 1B29250232313522
2714664600115070 4448586878746482 82377713534B826A 65618245425B8207
```

```
4782677276524A59 3B69828282017B41 82822B096B494382 5A516379757A7162
5460828282827F82 8282000000000000


YCI   [34 by 1 array of type char; element size 8 byte(s)]
A1000000274101B9 78820600082D1F1D 3D003D30032E3D1F 1C3C80348027501E
140419164205560F 1A6C6C6C6C022818 36246C6C6C061315 1B88836C87011722
11001D1223071C0E 556C826C6C03201F 1009210C34080B0D 4B89846C6C27523F
592B3E26432C5849 386C6C6C6C295C48 37636C6C6C2D4A5B 4088836C87643C62
5D313B25452E4C3A 576C826C6C2A6146 0A305F47352F5E60 5189846C6C242010
3004081828383473 39363A2A0A332326 19031A062112050B 1B29250232313522
2714664600115070 4448586878746482 82377713534B826A 65618245425B8207
4782677276524A59 3B69828282017B41 82822B096B494382 5A516379757A7162
5460828282827F82 8282000000000000


YCO   [18 by 1 array of type char; element size 8 byte(s)]
41000000274101B9 78820600082D1F1D 3D003D30032E3D1F 1C3C803480242010
3004081828383473 39363A2A0A332326 19031A062112050B 1B29250232313522
2714664600115070 4448586878746482 82377713534B826A 65618245425B8207
4782677276524A59 3B69828282017B41 82822B096B494382 5A516379757A7162
5460828282827F82 8282000000000000




NAMES IN GROUP 212:
COM  GPΔ  SET  SIM


    ∇COM
[1]   ⍝     COMMENTS
[2]   ⍝THE MCM/700 COMMUNICATIONS SUBSYSTEM DEFAULTS TO
[3]   ⍝TEKTRONICS 4013 TERMINAL SUPPORT. THE SETUP FUNCTION IN
[4]   ⍝THIS CASE JUST SELECTS THE DEVICE, THE COMMUNICATIONS
[5]   ⍝TABLES ARE LOADED FROM READ ONLY MEMORY.
    ∇

GPΔ   [vector of type char of length 27; element size 1 byte(s)]
MCM/700 TO TEKTRONICS 4013.


    ∇SETUP;A
[1]   ⍝     SETUP               JUNE 01/76
[2]   ⍝SET UP COMMUNICATIONS TABLES TO RECEIVE INPUT
[3]   ⍝AND PRINT OUTPUT ON A TERMINAL
[4]   ⍝NOTE:  PROMPT SWITCH MUST BE ON.
[5]   →OK⌈⍳0≠1↑□OU A←□YA 193,255-32
[6]   'NO EIA INTERFACE CONNECTED'
[7]   →
[8]   OK:⍬□IN A
    ∇
```

```
    ∇SIM ;X;Y
[1]   ⍝     SIM                 JUNE 01/76
[2]   ⍝USE THE TEK-4013 AS INPUT AND OUTPUT DEVICE FOR MCM/700
[3]   Y←⍮X←6↓⍞'      '
[4]   →2∘⍞←Y∘→2⌈⍳'←'∈X
    ∇



NAMES IN GROUP 214:
GPΔ  SET  SIM  YYI  YYO

GPΔ   [vector of type char of length 14; element size 1 byte(s)]
CDI MODEL 1030


    ∇SETUP;A
[1]   ⍝     SETUP J
[2]   ⍝SET UP COMMUNICATIONS TABLES TO RECEIVE INPUT
[3]   ⍝AND PRINT OUTPUT ON A TERMINAL
[4]   ⍝NOTE:  PROMPT SWITCH MUST BE ON.
[5]   →OK⌈⍳0≠1↑⍞OU A←⍞YA 193,255-32
[6]   'NO EIA INTERFACE CONNECTED'
[7]   →
[8]   OK:∘'O'⍞YW'YYO'∘'I'⍞YW'YYI'∘⍞IN A
    ∇


    ∇SIM ;X;Y
[1]   ⍝     SIM                 MAY 03/76
[2]   ⍝USE THE CDI-1030 AS INPUT AND OUTPUT DEVICE FOR MCM/700
[3]   Y←⍮X←6↓⍞'      '
[4]   →2∘⍞←Y∘→2⌈⍳'←'∈X
    ∇

YYI   [34 by 1 array of type char; element size 8 byte(s)]
A100000027B04652 48820600080D0A08 00000000000A0080 8000070000846C6C
6C896C6C6C836C6C 6C6C826C6C6C6C6C 6C6C6C6C6C6C6C6C 6C6C6C6C6C276429
2A2B2C2D2E2F3058 574B342842000102 0304050607080956 5551355C43505E47
603A490A5D254A59 5B263C483E38404C 3B3F46615F624563 6C6C6C3631520B0C
0D0E0F1011121314 15161718191A1B1C 1D1E1F2021222324 6C6A6C3784303132
3334353637383946 6162636465666768 696A6B6C6D6E6F70 7172737475767778
797A484C202E2223 2425262728295F82 822D3D5E7E508244 534D824F5451822F
3F825955424E4549 2C52828282403C60 82823B3A2B2A4A82 4B3E474157435658
5A21828282827F7C 8282000000000000


YYO   [18 by 1 array of type char; element size 8 byte(s)]
4100000027B04652 48820600080A0D08 00000000000A0080 8000070000303132
3334353637383946 6162636465666768 696A6B6C6D6E6F70 7172737475767778
797A484C202E2223 2425262728295F82 822D3D5E7E508244 534D824F5451822F
3F825955424E4549 2C52828282403C60 82823B3A2B2A4A82 4B3E474157435658
5A21828282827F7C 8282000000000000
```

```
NAMES IN GROUP 215:
GPΔ  SET  SIM  YYI  YYO

GPΔ   [vector of type char of length 19; element size 1 byte(s)]
TELETYPE (MODEL 33)


    ∇SETUP;A
[1]   ⍝     SETUP J
[2]   ⍝SET UP COMMUNICATIONS TABLES TO RECEIVE INPUT
[3]   ⍝AND PRINT OUTPUT ON A TERMINAL
[4]   ⍝NOTE:  PROMPT SWITCH MUST BE ON.
[5]   →OK⌈⎕IO≠1↑□OU A←□YA 193,255-32
[6]   'NO EIA INTERFACE CONNECTED'
[7]   →
[8]   OK:⍞←'O'□YW'YYO'⍞←'I'□YW'YYI'⍞←□IN A
    ∇


    ∇SIM ;X;Y
[1]   ⍝     SIM                  MAY 03/76
[2]   ⍝USE THE TELETYPE-33 AS INPUT AND OUTPUT DEVICE FOR MCM/700 PΔ
[3]   Y←⌽X←6↓□'      '
[4]   →2⍞←□←Y⍞←→2⌈⎕IO'←'∈X
    ∇

YYI   [34 by 1 array of type char; element size 8 byte(s)]
A100000027B046E2 48810600000D0A08 00000000000A0080 8000070000846C6C
6C896C6C6C836C6C 6C6C826C6C6C6C6C 6C6C6C6C6C6C6C6C 6C6C6C6C6C273D64
2F6A6C495B575838 344B352842000102 030405060708095C 512A2C2E406C0B0C
0D0E0F1011121314 15161718191A1B1C 1D1E1F2021222324 55435645356C6C6C
6C6C6C6C6C6C6C6C 6C6C6C6C6C6C6C6C 6C6C6C6C6C6C6C6C 6C6C6C6C84303132
3334353637383981 4142434445464748 494A4B4C4D4E4F50 5152535455565758
595A8181202E813C 813D813E81818181 812B2D81812A8181 81812181813F812F
5C81818181818181 2C81818181813B81 81815B5D28298181 273A818181818181
8122818181817F24 8181000000000000


YYO   [18 by 1 array of type char; element size 8 byte(s)]
4100000027B046E2 48810600000D0A08 00000000000A0080 8000070000303132
3334353637383981 4142434445464748 494A4B4C4D4E4F50 5152535455565758
595A8181202E813C 813D813E81818181 812B2D81812A8181 81812181813F812F
5C81818181818181 2C81818181813B81 81815B5D28298181 273A818181818181
8122818181817F24 8181000000000000



NAMES IN GROUP 216:
CLE  CPS  CUR  GPΔ  HOM  SET  SIM  YYI  YYO


    ∇CLEAR
[1]   ⍝     CLEAR                MAY 04/76
[2]   ⍝CLEAR THE SCREEN
[3]   □BO 12
    ∇
```

```
    ∇X CPS Y N
[1]   ⍝     X CPS Y             MAY 04/76
[2]   ⍝SUBFUNCTION TO CURSOR
[3]   □BO 15
[4]   □BO 16⊥1 10 10⊤X
[5]   □BO Y
    ∇


    ∇X CURSOR Y
[1]   ⍝     X CURSOR Y          MAY 04/76
[2]   ⍝POSITION THE CURSOR TO LINE X, COLUMN Y
[3]   □BO X∘(1↑Y) CPS 1↓Y←12 5+24 7×(¯1+Y)
    ∇

GPΔ   [vector of type char of length 26; element size 1 byte(s)]
VOLKER CRAIG (MODEL VC103)


    ∇HOME
[1]   ⍝     HOME                MAY 04/76
[2]   ⍝MOVE THE CURSOR TO THE HOME POSITION.
[3]   □BO 11
    ∇


    ∇SETUP;A
[1]   ⍝     SETUP J
[2]   ⍝SET UP COMMUNICATIONS TABLES TO RECEIVE INPUT
[3]   ⍝AND PRINT OUTPUT ON A TERMINAL
[4]   ⍝NOTE:  PROMPT SWITCH MUST BE ON.
[5]   →OK⌈⍳0≠1↑□OU A←□YA 193,255-32
[6]   'NO EIA INTERFACE CONNECTED'
[7]   →
[8]   OK:∘'O'□YW'YYO'∘'I'□YW'YYI'∘□IN A
    ∇


    ∇SIM ;X;Y
[1]   ⍝     SIM                 MAY 03/76'
[2]   ⍝USE THE TERMINAL AS INPUT AND OUTPUT DEVICE FOR MCM/700
[3]   Y←⌽X←6↓⍞'      '
[4]   →2∘□←Y∘→2⌈⍳'←'∈X
    ∇

YYI   [34 by 1 array of type char; element size 8 byte(s)]
A100000027B04609 50800600000D0A08 00000000000A0080 8000070000846C6C
6C896C6C6C836C6C 6C6C826C6C6C6C6C 6C6C6C6C6C6C6C6C 6C6C6C6C6C276429
2A2B2C2D2E2F3058 574B342842000102 0304050607080956 5551355C43505E47
603A490A5D254A59 5B263C483E38404C 3B3F46615F624563 6C6C6C3631520B0C
0D0E0F1011121314 15161718191A1B1C 1D1E1F2021222324 6C6A6C3784303132
3334353637383946 6162636465666768 696A6B6C6D6E6F70 7172737475767778
797A484C202E2223 2425262728295F81 812D3D5E7E508144 534D814F5451812F
3F815955424E4549 2C52818181403C60 81813B3A2B2A4A81 4B3E474157435658
5A21818181817F7C 8181000000000000
```

```
YYO   [18 by 1 array of type char; element size 8 byte(s)]
4100000027B04609 50800600000D0A08 00000000000A0080 8000070000303132
3334353637383946 6162636465666768 696A6B6C6D6E6F70 7172737475767778
797A484C202E2223 2425262728295F81 812D3D5E7E508144 534D814F5451812F
3F815955424E4549 2C52818181403C60 81813B3A2B2A4A81 4B3E474157435658
5A21818181817F7C 8181000000000000



NAMES IN GROUP 217:
A    BEL  CH   CLE  CUR  CV   C    EOL  EOS  GP∆  HOM  O70
ORD  PRI  RET  SET  V    YYI  YYO

A     [39 by 23 array of type char; element size 1 byte(s)]
          MCM/700 CONFIGURATOR
MCM/700 SYSTEM:           CONFIGURATION
      MEMORY REQUIRED :        K BYTES
      TAPES REQUIRED  :
      TEXT/700 SYSTEM :

PERIPHERALS:              NUMBER
      PRINTER MCP-132 :
      CRT VDU-24      :
      DISK DDS-500    :
      EIA SCI-1200    :

SUPPLIES:                 NUMBER
      CASSETTE TAPES  :
      FLOPPY CARTRIGES:
      USERS GUIDE     :
      TEXT/700 MANUAL :

SOFTWARE PACKAGES         NUMBER
      FINANCE         :
      MATHEMATICS     :
      STATISTICS      :
      COMPLEX MATH    :



    ∇BELL
[1]   ⍝     BELL                MAY 03/76
[2]   ⍝RING THE BELL(KEYBOARD CONNECTED)
[3]   □BO 7
    ∇


    ∇CH X;I
[1]   ⍝     CH X                MAY 03/76 IS
[2]   ⍝MOVE CURSOR IN HORIZONTAL DIRECTION
[3]   ⍝POSITIVE DIRECTION IS RIGHT
[4]   X←⌈|X∘I←28 8[(⍳1)+X<0]
[5]   □BO I
[6]   →(0≠X←X-1)/2
    ∇
```

```
    ∇CLEAR
[1]   ⍝     CLEAR               MAY 03/76
[2]   ⍝CLEAR THE SCREEN
[3]   ⎕BO 12
    ∇


    ∇CURSOR X
[1]   ⍝     CURSOR X            MAY 03/76 E
[2]   ⍝MOVE CURSOR TO COLUMN 1↑X,LINE 1↓X.
[3]   ⎕BO (1↓X)-⍳1∘⎕BO 32+(1↑X)-⍳1∘⎕BO 30
    ∇


    ∇CV X;I
[1]   ⍝     CV X                MAY 03/76
[2]   ⍝MOVE CURSOR IN VERTICAL DIRECTION
[3]   ⍝POSITIVE DIRESTION IS UP
[4]   X←⌈|X∘I←10 31[(⍳1)+0<X]
[5]   ⎕BO I
[6]   →(0<X←X-1)/2
    ∇

C     [numeric vector of length 16; element size 1 byte(s)]
3 4 5 8 9 10 11 14 15 16 17 20 21 22 23 100


    ∇EOL E
[1]   ⍝     EOL                 MAY 03/76
[2]   ⍝ERASE FROM CURSOR TO END OF LINE
[3]   ⎕BO 29
    ∇


    ∇EOS
[1]   ⍝     EOS                 MAY 03/76
[2]   ⍝ERASE SCREEN TO END OF PAGE
[3]   ⎕BO 11
    ∇

GPΔ   [vector of type char of length 22; element size 1 byte(s)]
DATAMEDIA (MODEL 1520)


    ∇HOME
[1]   ⍝     HOME                MAY 03/76
[2]   ⍝MOVE THE CURSOR TO THE HOME POSITION.
[3]   ⎕BO 25
    ∇


    ∇O70
[1]   '          MCM/700 CONFIGURATOR 00
[2]   'MCM/700 SYSTEM:           CONFIGURATION
[3]   '      MEMORY REQUIRED :         K BYTES
[4]   '      TAPES REQUIRED  :
```

```
[5]   '      TEXT/700 SYSTEM :
[6]   '
[7]   'PERIPHERALS:              NUMBER
[8]   '      PRINTER MCP-132 :
[9]   '      CRT VDU-24      :
[10]   '      DISK DDS-500    :
[11]   '      EIA SCI-1200    :
[12]   '
[13]   'SUPPLIES:                 NUMBER
[14]   '      CASSETTE TAPES  :
[15]   '      FLOPPY CARTRIGES:
[16]   '      USERS GUIDE     :
[17]   '      TEXT/700 MANUAL :
[18]   '
[19]   'SOFTWARE PACKAGES         NUMBER
[20]   '      FINANCE         :
[21]   '      MATHEMATICS     :
[22]   '      STATISTICS      :
[23]   '      COMPLEX MATH    :
    ∇


    ∇ORDER;ANS;I;ST;T
[1]   ⍝     ORDER               MAY 03/76
[2]   ⍝DEMONSTRATION PROGRAMME
[3]   ⍞←A∘I←''ρ⍳1+ST←T←0∘CLEAR
[4]   →AGN∘⍞←'PRICE     SUBTOTAL   TOTAL'∘CUR 52 2∘⍞←DATE∘CUR 60 1
[5]   ERR:∘EOL∘CUR 30,C[I]∘⍞DL 3∘⍞←'ERROR'
[6]   AGN:CUR 50,C[I]∘ANS←⍞''∘CUR 30,C[I]
[7]   →(~∧/ANS∈'0123456789 ')/ERR∘→(0=ρANS)/TST
[8]   →(V[I;2]<ANS←⍎ANS)/ERR
[9]   →(~v/V[I;]=ANS)/ERR∘→(10≤V[I;2])/OK
[10]   OK:ST←ST+⍎⍞←9 2 0⍕+/PRI[I;]×ANS,1
[11]   TST:→(¯1=-/C[I+0 1])/NST
[12]   ST←0×T←T+ST∘⍞←10 2 0⍕ST∘CUR 60,C[I]
[13]   →(¯1≠I-ρC)/NST
[14]   ⍞←10 2 0⍕T∘CUR 70,C[I]
[15]   NST:→((ρC)>I←I+1)/AGN
    ∇

PRI   [2 by 15 numeric array; element size 2 byte(s)]
400 4600
1400 0
500 0
4500 0
2500 0
4000 0
1100 0
12 0
15 0
10 0
5 0
150 0
400 0
300 0
100 0
```

```
    ∇RETURN
[1]   ⍝     RETURN              MAY 03/76
[2]   ⍝RETURN CURSOR TO LEFT MARGIN
[3]   □BO 13
    ∇


    ∇SETUP;A
[1]   ⍝     SETUP
[2]   ⍝SET UP COMMUNICATIONS TABLES TO RECEIVE INPUT
[3]   ⍝AND PRINT OUTPUT ON A TERMINAL T
[4]   ⍝NOTE:  PROMPT SWITCH MUST BE ON.
[5]   →OK⌈⍳0≠1↑□OU A←□YA 193,255-32
[6]   'NO EIA INTERFACE CONNECTED'
[7]   →
[8]   OK:∘'O'□YW'YYO'∘'I'□YW'YYI'∘□IN A
[9]   'FULL DUPLEX DATA RATE AND EIA'
[10]   'MUST BE PRESSED IN.'
    ∇

V     [2 by 15 numeric array; element size 2 byte(s)]
4 8
1 2
0 1
0 10
0 10
0 10
0 10
0 1000
0 1000
0 1000
0 1000
0 1000
0 1000
0 1000
0 1000


YYI   [34 by 1 array of type char; element size 8 byte(s)]
A100000027B04614 50820600000D0A08 00000000000A0080 8000070000846C6C
6C896C6C6C836C6C 6C6C826C6C6C6C6C 6C6C6C6C6C6C6C6C 6C6C6C6C6C276429
2A2B2C2D2E2F3058 574B342842000102 0304050607080956 5551355C43505E47
603A490A5D254A59 5B263C483E38404C 3B3F46615F624563 6C6C6C3631520B0C
0D0E0F1011121314 15161718191A1B1C 1D1E1F2021222324 6C6A6C3784303132
3334353637383946 6162636465666768 696A6B6C6D6E6F70 7172737475767778
797A484C202E2223 2425262728295F82 822D3D5E7E508244 534D824F5451822F
3F825955424E4549 2C52828282403C60 82823B3A2B2A4A82 4B3E474157435658
5A21828282827F7C 8282000000000000


YYO   [18 by 1 array of type char; element size 8 byte(s)]
4100000027B04614 50820600000D0A08 00000000000A0080 8000070000303132
3334353637383946 6162636465666768 696A6B6C6D6E6F70 7172737475767778
797A484C202E2223 2425262728295F82 822D3D5E7E508244 534D824F5451822F
3F825955424E4549 2C52828282403C60 82823B3A2B2A4A82 4B3E474157435658
5A21828282827F7C 8282000000000000
```

```
NAMES IN GROUP 220:
COM  GPΔ  SET  YYI  YYO


    ∇COM
[1]   ⍝     COMMENTS            JUNE 01/76
[2]   ⍝GROUP 240 CONTAINS FUNCTIONS TO TRANSFER DATA BETWEEN MCM/700'S.
[3]   ⍝TO START THE SYSTEMS, EXECUTE THE FUNCTION SETUP
[4]   ⍝ON THE MASTER COMPUTER AND RUN ON THE SLAVE COMPUTER.
    ∇

GPΔ   [vector of type char of length 19; element size 1 byte(s)]
MCM/700 TO MCM/700.


    ∇SETUP;A
[1]   ⍝     SETUP               JUNE 01/76
[2]   ⍝SET UP COMMUNICATIONS TABLES TO RECEIVE INPUT
[3]   ⍝AND SEND OUTPUT TO ANOTHER MCM/700.
[4]   ⍝NOTE:  PROMPT SWITCH MUST BE OFF.
[5]   →OK⌈⍳0≠1↑□OU A←□YA 1 31
[6]   'NO EIA INTERFACE CONNECTED'
[7]   →
[8]   OK:⋄□IN A⋄'I'□YW'YYI'⋄'O'□YW'YYO'
    ∇

YYI   [34 by 1 array of type char; element size 8 byte(s)]
8100000003304652 84820600080D0A08 00000000000A0080 8000070000846C6C
6C896C6C6C836C6C 6C6C826C6C6C6C6C 6C6C6C6C6C6C6C6C 6C6C6C6C6C276458
2A2B2C2E5630312F 374B342842000102 0304050607080957 5551365C43295E47
603A490A5D254A59 5B263C483E38404C 3B3F46615F624563 506C522D356C0B0C
0D0E0F1011121314 15161718191A1B1C 1D1E1F2021222324 6C6C6C6A84000000
026900FF00200079 80B902FF96FD06F5 82FD82FD02FD82FD 027D00FF86FD00FD
02FD00FD007D00FD 006900FF0040007D 0060007B8040007B 006900FF026D00F9
00F900FF82FF0279 86B800FD80FF82FD 86FF80FD00FC007D A6FD02FF00FD00FD
02FD00FD00FD007D 0000007900F90079


YYO   [18 by 1 array of type char; element size 8 byte(s)]
4100000003304652 84820600080D0A08 00000000000A0080 8000070000303132
3334353637383946 6162636465666768 696A6B6C6D6E6F70 7172737475767778
797A484C202E4023 24255E262A282982 822D5F3D2B508244 534D824F5451822F
3F825955424E4549 2C528282825B3C5D 82823B273A224A82 4B3E474157435658
5A21828282827F7E 8282000000000000




NAMES IN GROUP 221:
GPΔ  SIG  TER

GPΔ   [vector of type char of length 27; element size 1 byte(s)]
COMSHARE SIGN-ON PROCEDURE.
```

```
    ∇SIGNON;P;T
[1]   ⍝     SIGNON              JULY 06/76
[2]   ⍝SIGN ON PROCEDURE FOR COMSHARE
[3]   ∘SETUP'C'∘⎕NC'XFER'
[4]   ∘⎕IN 1↑⎕OUι0∘P←1↓'ACOUNT:LOCK'∘⎕IN 0
[5]   T ⎕YI[ι1]0∘T[1+ι1]←67∘T←⎕YI[ι1]0
[6]   WAIT:'PHONE 1-416-678-6900'∘⎕PT←10
[7]   →WAIT⌈ι2>4|¯1↑⎕OUι0 N
[8]   XFER'*'∘⎕DL 2
[9]   XFER(N←(Pι':')-⎕IO)↑P
[10]   XFER(N+1)↓P
[11]   XFER P←''
[12]   XFER'APL'∘⎕PT←0
    ∇


    ∇TERMINAL;L;L1;N;BC
[1]   ⍝     TERMINAL            MAY 03/76
[2]   ⍝MCM/700 OPERATES AS A TERMINAL TO HOST COMPUTER
[3]   ⍝NOTE:TRANSMISSION IS LIMITED TO 128 CHARACTERS AT A TIME.
[4]   ⍝TO EXIT FROM THIS FUNCTION TYPE ω RETURN
[5]   L←'       '∘BC←⎕Y 108
[6]   IN:∘⎕IN 1↑⎕OUι0∘L1←(ρL)↓'L∘⎕IN 0
[7]   L←XFER L1∘→('ω'=(1⌊ρL1)↑L1)/0
[8]   DLP:→((¯1+ρL)≤N←(LιBC)-⎕IO)/IN
[9]   N↑L
[10]   →(0=N←((BC≠L←(1+N)↓L)ι1)-⎕IO)/DLP
[11]   →DLP∘L←N↓L
    ∇



NAMES IN GROUP 222:
GPΔ  SIG  TER

GPΔ   [vector of type char of length 29; element size 1 byte(s)]
I.P. SHARP SIGN-ON PROCEDURE.


    ∇SIGNON;P
[1]   ⍝     SIGNON              JULY 06/76
[2]   ⍝SIGN ON PROCEDURE TO 360/APL WITH 3705 FRONT END PROCESSOR
[3]   ⍝300 BAUD - CORRESPONDENCE
[4]   SETUP'C'∘⎕NC'XFER'
[5]   P←13↓(14+ι1)↓'ACCOUNT:LOCK )       :'∘⎕IN 0
[6]   WAIT:'PHONE 1-416-360-1200'∘⎕PT←10
[7]   →WAIT⌈ι2>4|¯1↑⎕IN 1↑⎕OUι0
[8]   XFER')'∘⎕DL 1∘⎕BO 52∘⎕DL 1
[9]   P←XFER P
[10]   P∘⎕PT←0 F
    ∇
```

```
    ∇TERMINAL;L;L1;N;BC
[1]   ⍝     TERMINAL            MAY 03/76
[2]   ⍝MCM/700 OPERATES AS A TERMINAL TO HOST COMPUTER
[3]   ⍝NOTE:TRANSMISSION IS LIMITED TO 128 CHARACTERS AT A TIME.
[4]   ⍝TO EXIT FROM THIS FUNCTION TYPE ω RETURN
[5]   L←'       '∘BC←⎕Y 108
[6]   IN:∘⎕IN 1↑⎕OU⍳0∘L1←(ρL)↓⍞L∘⎕IN 0
[7]   L←XFER L1∘→('ω'=(1⌊ρL1)↑L1)/0
[8]   DLP:→((¯1+ρL)≤N←(L⍳BC)-⎕IO)/IN
[9]   N↑L
[10]   →(0=N←((BC≠L←(1+N)↓L)⍳1)-⎕IO)/DLP
[11]   →DLP∘L←N↓L
    ∇



NAMES IN GROUP 223:
A    COM  GPΔ  SET  SIG  TER  YAI  YAO

A     [4 by 11 numeric array; element size 2 byte(s)]
7 48 70 82
132 130 6 0
0 0 128 128
8 0 0 0
0 0 0 0
0 0 0 0
0 0 10 0
128 0 0 0
128 0 0 0
128 13 0 0
128 128 0 0



    ∇COMMENTS;Y
[1]   ⍝     COMMENTS            JUNE 16/76
[2]   ⍝THIS PROCEDURE IS FOR STSC 30 CPS ASCII HALF DUPLEX
[3]   ⍝FOR A DIRECT LINE INTO STSC.  TO ENTER STSC
[4]   ⍝VIA TYMNET OR TELENET, OR AT A DIFFERENT SPEED, OR SIMULATING
[5]   ⍝SELECTRIC, THIS PROCEDURE MUST BE CHANGED.
[6]   ⍝     TO GENERATE ASCII TABLES YAI AND YAO EXECUTE
[7]   ⍝THIS FUNCTION AFTER CONNECTING THE SCI1200 TO THE SYSTEM.
[8]   ⍝SAVE THE VARIABLES YAI AND YAO ON TAPE.
[9]   ∘⎕OU 1↑ ⎕IN ⎕YA 1 31
[10]   ∘A ⎕YI[1]Y∘A ⎕YO[1]Y←¯1+⍳11∘'A IS FROM GROUP 223'
[11]   ∘¯2 108 ⎕YI[2]7 13
[12]   ∘'I'⎕YR'YAI'∘'O'⎕YR'YAO'
    ∇

GPΔ   [vector of type char of length 29; element size 1 byte(s)]
SCIENTIFIC SIGN-ON PROCEDURE.


    ∇SETUP T
[1]   ⍝     SETUP T             JUNE 16/76
[2]   ⍝SET UP COMMUNICATIONS INTERFACE
```

```
[3]   ⍝USING TABLES YYI, YYO FOR CORRESPONDANCE
[4]   ⍝YEI YEO FOR EBCDIC, AND YAI YAO FOR ASCII
[5]   ⍝ACCORDING TO T (CEA).
[6]   ⍝NOTE: PROMPT SWITCH MUST CORRESPOND TO TABLE SETTING
[7]   T←2 3⍴'Y',T,'IY',T,'O'∘⎕IN 0
[8]   →SUO⌈⍳0≠1↑⎕IN ⎕YA('I'⎕YW T[⍳1;]),255-64
[9]   'NO SUCH INPUT DEVICE'
[10]   →
[11]   SUO:→0×⍳0≠1↑⎕OU ⎕YA('O'⎕YW T[1+⍳1;]),255-128+32
[12]   'NO SUCH OUTPUT DEVICE'
[13]   →
    ∇


    ∇SIGNON;P;Q
[1]   ⍝     SIGNON              JULY 06/76
[2]   ⍝SCIENTIFIC TIME SHARING SIGN ON PROCEDURE
[3]   ⍝FOR A DIRECT LINE, 300 BAUD, ASCII, HALF DUPLEX.
[4]   Q←⎕YI[⍳1]0∘SETUP'A'∘⎕NC'XFER'
[5]   ∘⎕IN 1↑⎕OU⍳0∘P←13↓15⍞'ACCOUNT:LOCK ):'∘⎕IN 0
[6]   WAIT:'PHONE 1-914-428-8821'∘⎕PT←10
[7]   →(~∧/1 0=2↑,(5⍴2)⊤¯1↑⎕OU⍳0)/WAIT
[8]   XFER')'∘⎕DL 3∘⎕←'2'∘⎕DL 3∘⎕←'○'∘⎕DL 2
[9]   ,P←XFER P∘⎕PT←0
[10]   Q ⎕YI[⍳1]0∘Q[1+⎕IO]←50
    ∇


    ∇TERMINAL;L;L1;N;BC
[1]   ⍝     TERMINAL            MAY 03/76
[2]   ⍝MCM/700 OPERATES AS A TERMINAL TO HOST COMPUTER
[3]   ⍝NOTE:TRANSMISSION IS LIMITED TO 128 CHARACTERS AT A TIME.
[4]   ⍝TO EXIT FROM THIS FUNCTION TYPE ω RETURN
[5]   L←'       '∘BC←⎕Y 108
[6]   IN:∘⎕IN 1↑⎕OU⍳0∘L1←(⍴L)↓⍞L∘⎕IN 0
[7]   L←XFER L1∘→('ω'=(1⌊⍴L1)↑L1)/0
[8]   DLP:→((¯1+⍴L)≤N←(L⍳BC)-⎕IO)/IN
[9]   N↑L
[10]   →(0=N←((BC≠L←(1+N)↓L)⍳1)-⎕IO)/DLP
[11]   →DLP∘L←N↓L
    ∇

YAI   [34 by 1 array of type char; element size 8 byte(s)]
8100000007304652 8482060000808008 00000000000A0080 80800D8080846C6C
6C896C6C82836C6C 6C6C6C6C6C6C6C6C 6C6C6C6C6C6C6C6C 6C6C6C6C6C276458
2A2B2C2E5630312F 374B342842000102 0304050607080957 5551365C43295E47
603A490A5D254A59 5B263C483E38404C 3B3F46615F624563 506C522D356C0B0C
0D0E0F1011121314 15161718191A1B1C 1D1E1F2021222324 6C6C6C6A84000000
026900FF00200079 80B902FF96FD06F5 82FD82FD02FD82FD 027D00FF86FD00FD
02FD00FD007D00FD 006900FF0040007D 0060007B8040007B 006900FF026D00F9
00F900FF82FF0279 86B800FD80FF82FD 86FF80FD00FC007D A6FD02FF00FD00FD
02FD00FD00FD007D 0000007900F90079
```

```
YAO   [18 by 1 array of type char; element size 8 byte(s)]
4100000007304652 8482060000808008 00000000000A0080 80800D8080303132
3334353637383946 6162636465666768 696A6B6C6D6E6F70 7172737475767778
797A484C202E4023 24255E262A282982 822D5F3D2B508244 534D824F5451822F
3F825955424E4549 2C528282825B3C5D 82823B273A224A82 4B3E474157435658
5A21828282827F7E 8282000000000000



NAMES IN GROUP 224:
GPΔ  SET  SIG  TER  YYI  YYO

GPΔ   [vector of type char of length 17; element size 1 byte(s)]
MCM/700 TO BOEING


    ∇SETUP;T
[1]   ⍝     SETUP               MAY 05/76
[2]   ⍝SET UP COMMUNICATIONS INTERFACE
[3]   ⍝USING TABLES YYI AND YYO (CDI 1030 ASCII)
[4]   ⍝NOTE: PROMPT SWITCH MUST BE OFF
[5]   →SUO⌈⍳0≠1↑□IN □YA('I'□YW'YEI'),255-64
[6]   'NO SUCH INPUT DEVICE'
[7]   →
[8]   SUO:→0×⍳0≠1↑□OU □YA('O'□YW'YEO'),255-128+32
[9]   'NO SUCH OUTPUT DEVICE'
[10]   →
    ∇


    ∇SIGNON;P;Q
[1]   ⍝     SIGNON              JULY 06/76
[2]   ⍝BOEING SIGN ON PROCEDURE
[3]   ⍝FOR A DIRECT LINE, 300 BAUD, ASCII, HALF DUPLEX.
[4]   Q←□YI[⍳1]0∘SETUP'A'∘□NC'XFER'
[5]   ∘□IN 1↑□OU⍳0∘P←(4+⍳1)⍕'LOG 10522 10522 450K APL NOM'∘□IN 0
[6]   WAIT:'PHONE 1-212-935-9370'∘□PT←10
[7]   →(~∧/1 0=2↑,(5ρ2)⊤¯1↑□OU⍳0)/WAIT
[8]   XFER''∘□DL 3∘□←'2'∘□DL 3∘□←'○'∘□DL 2
[9]   XFER 'CTS'
[10]   ,P←XFER P∘□PT←0
[11]   Q □YI[⍳1]0∘Q[1+□IO]←50
    ∇


    ∇TERMINAL;L;L1;N;BC O
[1]   ⍝     TERMINAL            MAY 04/76
[2]   ⍝MCM/700 OPERATES AS A TERMINAL TO HOST COMPUTER A
[3]   ⍝NOTE:TRANSMISSION IS LIMITED TO 128 CHARACTERS AT A TIME.
[4]   ⍝TO EXIT FROM THIS FUNCTION TYPE ω RETURN
[5]   L←'       '∘BC←□Y 108
[6]   IN:∘□IN 1↑□OU⍳0∘L1←(ρL)↓⍕L∘□IN 0
[7]   L←XFER L1∘→('ω'=(1⌊ρL1)↑L1)/0
[8]   DLP:→((¯1+ρL)≤N←(L⍳BC)-□IO)/IN
[9]   N↑L
```

```
[10]   →(0=N←((BC≠L←(1+N)↓L)ι1)-⎕IO)/DLP
[11]   →DLP∘L←N↓L
    ∇

YYI   [34 by 1 array of type char; element size 8 byte(s)]
8100000007304652 80820600000D0A08 00000000000A0080 8000070000846C6C
6C896C6C6C836C6C 6C6C826C6C6C6C6C 6C6C6C6C6C6C6C6C 6C6C6C6C6C276429
2A2B2C2D2E2F3058 574B342842000102 0304050607080956 5551355C43505E47
603A490A5D254A59 5B263C483E38404C 3B3F46615F624563 6C6C6C3631520B0C
0D0E0F1011121314 15161718191A1B1C 1D1E1F2021222324 6C6A6C3784000000
6C37846C6C6C896C 6C6C836C6C6C6C82 6C6C6C6C6C6C6C6C 6C6C6C6C6C6C6C6C
6C6C2764292A2B2C 2D2E2F3058574B34 2842000102030405 0607080956555135
5C43505E47603A49 0A5D254A595B263C 483E38404C3B3F46 615F6245636C6C6C
3631520B0C0D0E0F 1011121314151617


YYO   [18 by 1 array of type char; element size 8 byte(s)]
4100000007304652 80820600000D0A08 00000000000A0080 8000070000303132
3334353637383946 6162636465666768 696A6B6C6D6E6F70 7172737475767778
797A484C202E2223 2425262728295F82 822D3D5E7E508244 534D824F5451822F
3F825955424E4549 2C52828282403C60 82823B3A2B2A4A82 4B3E474157435658
5A21828282827F7C 8282000000000000




NAMES IN GROUP 240:
COM  DWR  GET  GPΔ  PUT  REA  RUN  SET  SRE  SWR  TRA  WRI
XFE  XTY  YYI  YYO


    ∇COMMENTS
[1]   ⍝     COMMENTS            JUNE 02/76
[2]   ⍝TO RUN THE DATA TRANSFER PACKAGE ONE COMPUTER
[3]   ⍝ACTS AS MASTER, THE OTHER AS SLAVE.
[4]   ⍝1. TURN ON BOTH COMPUTERS AND SELECT GROUP 240.
[5]   ⍝2. CONNECT THE COUPLERS TO THE PHONE LINE. NOTE THAT ONE
[6]   ⍝   OF THE COUPLERS MUST BE IN ANSWER MODE.
[7]   ⍝3. RUN THE FUNCTION SETUP ON THE MASTER COMPUTER.
[8]   ⍝4. EXECUTE THE FUNCTION RUN ON THE SLAVE COMPUTER.
[9]   ⍝5. THE COMPUTERS ARE NOW READY TO SEND OF RECEIVE DATA.
[10]   ⍝   BY EXECUTING THE FUNCTIONS READ, WRITE OR DWRITE FROM THE
[11]   ⍝   MASTER COMPUTER.
[12]   ⍝6. AVOID TRANSMITTING ITEMS WITH TWO CHARACTER NAMES
[13]   ⍝   ENDING IN Δ SINCE LOCAL VARIABLES USE THESE NAMES.
    ∇


    ∇DΔ DWRITE XΔ;IΔ;JΔ;IOΔ
[1]   ⍝     DΔ DWRITE XΔ        JULY 07/76
[2]   ⍝WRITE PREFORMATTED ALPHA DATA TO 360/APL
[3]   ⍝DΔ IS DESIRED DIMENSIONS OF DATE
[4]   ⍝XΔ IS TO BE THE DATA NAME IN THE 360
[5]   ⍝VECTORS A00,A01,--- ,AXX CONTAIN THE ALPHA DATA
[6]   ⍝NOTE:       128≥⍴AXX
[7]   IΔ←TRA(⍕2,DΔ),' SWRITE''',XΔ,''''
```

```
[8]   JΔ←⎕IO←0×IOΔ←⎕IO∘→(0=×/DΔ)/0
[9]   LPΔ:→(0=⎕NC NΔ←'A',¯2↑⍕100+JΔ)/ERΔ
[10]   →LPΔ∘JΔ←JΔ+1∘→(0=IΔ←⍎TRA⍎NΔ)/DNΔ
[11]   DNΔ:→0∘⎕IO←IOΔ
[12]   ERΔ:'NOT ENOUGH DATA'
    ∇


    ∇ZΔ←RΔ GET IΔ;EΔ
[1]   ⍝     ZΔ←RΔ GET IΔ        JUNE 02/76
[2]   ⍝GET FROM RΔ(ANY SHAPE) THE ROW STARTING AT ELEMENT IΔ(⎕IO←0)
[3]   ZΔ←⍎'RΔ',(0≠ρ3↓EΔ)/EΔ∘EΔ[(' '=EΔ)/⍳ρEΔ←'[',(⍕¯1↓(ρRΔ)⊤IΔ),';]']←';'
    ∇

GPΔ   [vector of type char of length 42; element size 1 byte(s)]
DATA TRANSFER PACKAGE - MCM/700 TO MCM/700


    ∇ZΔ←RΔ PUT IΔ;EΔ
[1]   ⍝     ZΔ←RΔ PUT IΔ        JUNE 02/76
[2]   ⍝PUT INTO RΔ(ANY SHAPE) THE ROW STARTING AT ELEMENT IΔ(⎕IO←0) FROM LΔ
[3]   ZΔ←RΔ∘⍎'RΔ',((0≠ρ3↓EΔ)/EΔ∘EΔ[(' '=EΔ)/⍳ρEΔ←'[',
(⍕¯1↓(ρRΔ)⊤IΔ),';]']←';'),'←LΔ'
    ∇


    ∇READ XΔ;IΔ;JΔ;NΔ;MΔ;LΔ;RΔ;IOΔ;TΔ
[1]   ⍝     READ XΔ             JUNE 02/76
[2]   ⍝READ DATA OR FUNCTION XΔ FROM ANOTHER MCM
[3]   MΔ←×/NΔ←1↓NΔ∘→(0>TΔ←1↑NΔ←TRA'SREAD ''',XΔ,'''')/NVΔ
[4]   IΔ←⎕IO←0×IOΔ←⎕IO
[5]   →(0=×/ρRΔ←NΔρ((TΔ=20)/0),(TΔ=2)/' ')/DNΔ
[6]   LPΔ:LΔ←XTYP⍕IΔ
[7]   LDΔ:→LDΔ∘LΔ←LΔ,XTYP⍕ρLΔ∘→(v/(ρLΔ)=MΔ,¯1↑NΔ)/ADΔ,NCΔ
[8]   ADΔ:→DNΔ∘RΔ←NΔρLΔ
[9]   NCΔ:→((IΔ←IΔ+''ρρLΔ)<MΔ)/LPΔ∘RΔ←RΔ PUT IΔ
[10]   DNΔ:→XTΔ∘⍎XΔ,'←RΔ'∘→(TΔ=3)/FNΔ
[11]   FNΔ:∘⎕FX RΔ
[12]   XTΔ:→0∘⎕IO←IOΔ∘⎕←'0'
[13]   NVΔ:'NO VALUE'
[14]   →
    ∇


    ∇RUN
[1]   ⍝     RUN                 JUNE 01/76
[2]   ⍝EXECUTE STATEMENTS RECEIVED FROM ANOTHER SYSTEM
[3]   SETUP
[4]   RΔ:⎕←''
[5]   →RΔ∘⍎⍞''
    ∇


    ∇SETUP;A
[1]   ⍝     SETUP               JUNE 01/76
[2]   ⍝SET UP COMMUNICATIONS TABLES TO RECEIVE INPUT
```

```
[3]   ⍝AND SEND OUTPUT TO ANOTHER MCM/700.
[4]   ⍝NOTE:  PROMPT SWITCH MUST BE OFF.
[5]   →OK⌈⍳0≠1↑⎕OU A←⎕YA 1 31
[6]   'NO EIA INTERFACE CONNECTED'
[7]   →
[8]   OK:⍞←⎕IN A⍞←'I'⎕YW'YYI'⍞←'O'⎕YW'YYO'
    ∇


    ∇SREAD XΔ;IΔ;LΔ;IOΔ;RΔ;TΔ;ROΔ
[1]   ⍝     SREAD XΔ            JUNE 02/76
[2]   ⍝SLAVE READ TO TRANSFER DATA OR FUNCTION XΔ
[3]   →(0 2 3=TΔ←⎕NC XΔ)/NVΔ,DAΔ,FNΔ
[4]   →0⍞←⎕←'¯2'⍞←'INVALID TYPE'
[5]   NVΔ:→0⍞←⎕←'¯1'⍞←'NO VALUE'
[6]   DAΔ:→OKΔ⍞←TΔ←TΔ+18×0=0\0⍴RΔ←⍎XΔ
[7]   FNΔ:RΔ←⎕CR XΔ
[8]   OKΔ:IΔ←TRAN⍕TΔ,⍴RΔ
[9]   ⎕IO←0×IOΔ←⎕IO←⍞←(0=×/⍴RΔ)/0
[10]   RΔ←,RΔ←⍞←(255<×/⍴RΔ)/LPΔ
[11]   LPΔ:LΔ←RΔ GET IΔ
[12]   EDΔ:IΔ←TRAN(ROΔ←((TΔ=2 20)/128 10)⌊⍴LΔ)↑LΔ
[13]   →(0≠⍴LΔ←ROΔ↓LΔ)/EDΔ
[14]   ⎕IO←IOΔ←⍞←(0<IΔ)/LPΔ
    ∇


    ∇DΔ SWRITE XΔ;IΔ;MΔ;LΔ;RΔ;IOΔ;TΔ;JΔ
[1]   ⍝     DΔ SWRITE XΔ        JUNE 01/76
[2]   ⍝SLAVE WRITE TO RECEIVE DATA OR
[3]   ⍝FUNCTION XΔ FROM ANOTHER SYSTEM
[4]   IΔ←⎕IO←0×IOΔ←⎕IO
[5]   MΔ←×/DΔ←1↓DΔ⍞←TΔ←1↑DΔ
[6]   →DNΔ×⍳0=×/⍴RΔ←DΔ⍴((TΔ=20)/0),(TΔ=2)/' '
[7]   LPΔ:LΔ←''
[8]   LDΔ:→(((⍴LΔ←LΔ,XTYP ⍴LΔ)=MΔ,¯1↑DΔ)/ADΔ,NCΔ),LDΔ
[9]   ADΔ:→DNΔ⍞←RΔ←DΔ⍴LΔ
[10]   NCΔ:→((IΔ←IΔ+''⍴⍴LΔ)<MΔ)/LPΔ⍞←RΔ←RΔ PUT IΔ
[11]   DNΔ:→XTΔ⍞←⍎XΔ,'←RΔ'⍞←(TΔ=3)/FNΔ⍞←⎕←'0'
[12]   FNΔ:⍞←⎕FX RΔ
[13]   XTΔ:⎕IO←IOΔ .
    ∇


    ∇RΔ←TRANSFER XΔ
[1]   ⍝     RΔ←TRANSFER XΔ      JULY 07/76
[2]   ⍝TRANSFER DATA FOR READ AND WRITE
[3]   ⍝RECEIVED DATA IS CHECKED FOR NUMERIC AND EXECUTED
[4]   S1:→0⍞←RΔ←⍎RΔ⍞←((RΔ←⍞''⍞←⎕←XΔ)⎕ZZ CHK)/ERΔ
[5]   ERΔ:'ERROR IN TRANSMITTING'
[6]   RΔ
[7]   FΔ:RΔ←('AR'=1↑17↓(17+⍳1)⎕'ABORT OR RETRY? :R')/AB,S1⍞←⎕IN 0
[8]   →RΔ,FΔ⍞←⎕IN 1↑⎕OU⍳0
[9]   AB:→
    ∇
```

```
    ∇WRITE XΔ;IΔ;LΔ;IOΔ;RΔ;TΔ;ROΔ
[1]   ⍝     WRITE XΔ            JUNE 02/76
[2]   ⍝WRITE DATA OR FUNCTION XΔ TO ANOTHER MCM
[3]   →(0 2 3=TΔ←⎕NC XΔ)/NVΔ,DAΔ,FNΔ
[4]   'INVALID TYPE'
[5]   →
[6]   NVΔ:'NO VALUE'
[7]   →
[8]   DAΔ:→OKΔ∘TΔ←TΔ+18×0=0\0ρRΔ←⍎XΔ
[9]   FNΔ:RΔ←⎕CR XΔ
[10]   OKΔ:IΔ←TRAN(⍕TΔ,ρRΔ),' SWRITE''',XΔ,''''
[11]   ⎕IO←0×IOΔ←⎕IO∘→(0=×/ρRΔ)/0
[12]   RΔ←,RΔ∘→(255<×/ρRΔ)/LPΔ
[13]   LPΔ:LΔ←RΔ GET IΔ
[14]   EDΔ:IΔ←TRAN(ROΔ←((TΔ=2 20)/128 10)⌊ρLΔ)↑LΔ
[15]   →(0≠ρLΔ←ROΔ↓LΔ)/EDΔ
[16]   ⎕IO←IOΔ∘→(0<IΔ)/LPΔ
    ∇


    ∇RΔ←XFER XΔ
[1]   ⍝     RΔ←XFER XΔ          JUNE 02/76
[2]   ⍝TRANSFER DATA BETWEEN SYSTEMS
[3]   RΔ←⍞''∘⎕←XΔ
    ∇


    ∇ZΔ←XTYPE XΔ
[1]   ⍝     ZΔ←TYPE XΔ          JUNE 01/76
[2]   ⍝TRANSMITT XΔ, FIX TYPE (GLOBAL VARIABLE TΔ) OF RESULT
[3]   ⍝EXECUTE IF NUMERIC, RETURN IF CHARACTER
[4]   →0∘ZΔ←⍞''∘→(TΔ=20)/NUM∘⎕←XΔ
[5]   NUM:ZΔ←⍎⍞''
    ∇

YYI   [34 by 1 array of type char; element size 8 byte(s)]
8100000003304652 84820600080D0A08 00000000000A0080 8000070000846C6C
6C896C6C6C836C6C 6C6C826C6C6C6C6C 6C6C6C6C6C6C6C6C 6C6C6C6C6C276458
2A2B2C2E5630312F 374B342842000102 0304050607080957 5551365C43295E47
603A490A5D254A59 5B263C483E38404C 3B3F46615F624563 506C522D356C0B0C
0D0E0F1011121314 15161718191A1B1C 1D1E1F2021222324 6C6C6C6A84000000
026900FF00200079 80B902FF96FD06F5 82FD82FD02FD82FD 027D00FF86FD00FD
02FD00FD007D00FD 006900FF0040007D 0060007B8040007B 006900FF026D00F9
00F900FF82FF0279 86B800FD80FF82FD 86FF80FD00FC007D A6FD02FF00FD00FD
02FD00FD00FD007D 0000007900F90079


YYO   [18 by 1 array of type char; element size 8 byte(s)]
4100000003304652 84820600080D0A08 00000000000A0080 8000070000303132
3334353637383946 6162636465666768 696A6B6C6D6E6F70 7172737475767778
797A484C202E4023 24255E262A282982 822D5F3D2B508244 534D824F5451822F
3F825955424E4549 2C528282825B3C5D 82823B273A224A82 4B3E474157435658
5A21828282827F7E 8282000000000000
```

```
NAMES IN GROUP 241:
COM  DWR  GET  GPΔ  OUT  PUT  REA  RTY  SEN  SIG  SRE  SWR
TER  TRA  WRI  XTY  ΔPU


    ∇COMMENTS
[1]   ⍝     COMMENTS            JULY 13/76
[2]   ⍝DATA TRANSFER PACKAGE TO APLSV AT U OF T
[3]   ⍝TO RUN THIS SYSTEM:
[4]   ⍝  1. SELECT GROUP 241 (⎕XS 241)
[5]   ⍝  2. EXECUTE THE FUNCTION SIGNON.
[6]   ⍝  3. EXECUTE THE FUNCTION SEND (SEND'') TO MOVE THE
[7]   ⍝     APPROPRIATE FUNCTIONS TO THE U OF T SYSTEM.
[8]   ⍝  4. TO READ DATA FROM APLSV, EXECUTE READ FUNCTION.
[9]   ⍝     (READ'NAME') WHERE NAME IS THE DATA NAME IN THE APLSV SYSTEM.
[10]  ⍝  5. TO WRITE DATA TO THE APLSV SYSTEM, EXECUTE THE FUNCTION WRITE
[11]  ⍝     (WRITE'NAME') WHERE NAME IS THE DATA NAME IN THE MCM SYSTEM.
[12]  ⍝  6. A FUNCTION DWRITE IS SUPPLIED TO WRITE LARGER DATA ITEMS TO APLSV
[13]  ⍝NOTE: DATA AND FUNCTIONS READ FROM APLSV MUST CONFORM TO MCM
[14]  ⍝      SIZE RESTRICTIONS.  DO NOT USE NAMES ENDING IN DEL 'Δ'.
    ∇


    ∇DΔ DWRITE XΔ;IΔ;JΔ;IOΔ
[1]   ⍝     DΔ DWRITE XΔ        JULY 07/76
[2]   ⍝WRITE PREFORMATTED ALPHA DATA TO APLSV
[3]   ⍝DΔ IS DESIRED DIMENSIONS OF DATE
[4]   ⍝XΔ IS TO BE THE DATA NAME IN THE APLSV SYSTEM
[5]   ⍝VECTORS A00,A01,--- ,AXX CONTAIN THE ALPHA DATA
[6]   ⍝NOTE:       128≥ρAXX
[7]   IΔ←TRA(⍕2,DΔ),' SWRITE''',XΔ,''''
[8]   JΔ←⎕IO←0×IOΔ←⎕IO∘→(0=×/DΔ)/0
[9]   LPΔ:→(0=⎕NC NΔ←'A',¯2↑⍕100+JΔ)/ERΔ
[10]   →LPΔ∘JΔ←JΔ+1∘→(0=IΔ←⍎TRA⍎NΔ)/DNΔ
[11]   DNΔ:→0×⎕IO←IOΔ
[12]   ERΔ:'NOT ENOUGH DATA'
    ∇


    ∇ZΔ←YΔ GET IΔ;EΔ
[1]   ⍝     ZΔ←YΔ GET IΔ        JULY 07/76
[2]   ⍝GET FROM YΔ(ANY SHAPE) THE ROW STARTING AT ELEMENT IΔ(⎕IO←0)
[3]   →(0=ρEΔ←⍕¯1↓(ρ⍎YΔ)⊤IΔ)/G1Δ
[4]   EΔ[(' '=EΔ)/⍳ρEΔ←'[',EΔ,' ]']←';'
[5]   G1Δ:ZΔ←⍎YΔ,EΔ
    ∇

GPΔ   [vector of type char of length 35; element size 1 byte(s)]
TRANSFER PACKAGE - MCM/700 TO APLSV


    ∇OUT;O;BS
[1]   ⍝     OUT                 APR 05/76
[2]   ⍝ISSUE O BACKSPACE U BACKSPACE T  TO 360/APL
```

```
[3]   →(128=BS←⎕YO[⍳1]3)/0
[4]   O←⎕YO[2+⍳1]'OUT'
[5]   ⎕BO ¯1↑O∘⎕BO BS∘⎕BO 1↑1↓O∘⎕BO BS∘⎕BO 1↑O∘⎕BO 95 BO
    ∇


    ∇ZΔ PUT IΔ;EΔ
[1]   ⍝     ZΔ PUT IΔ           JULY 07/76
[2]   ⍝PUT INTO ZΔ(ANY SHAPE) THE ROW STARTING AT ELEMENT IΔ(⎕IO←0) FROM LΔ
[3]   →(0=ρEΔ←⍕¯1↓(ρ⍎ZΔ)⊤IΔ)/P1Δ
[4]   EΔ[(' '=EΔ)/⍳ρEΔ←'[',EΔ,' ]']←';'
[5]   P1Δ:∘⍎ZΔ,EΔ,'←LΔ'
    ∇


    ∇READ XΔ;IΔ;JΔ;NΔ;MΔ;LΔ;RΔ;IOΔ;TΔ
[1]   ⍝     READ XΔ             JULY 12/76
[2]   ⍝READ DATA OR FUNCTION XΔ FROM APLSV R
[3]   MΔ←(2⌊ρMΔ)↑MΔ←⌽NΔ,×/NΔ←1↓NΔ∘→(0>TΔ←1↑NΔ←TRA'SREAD ''',XΔ,''''')/NVΔ
[4]   IΔ←⎕IO←0×IOΔ←⎕IO
[5]   →(0=×/ρRΔ←NΔρ((TΔ=20)/0),(TΔ≠20)/' ')/DNΔ
[6]   LPΔ:LΔ←''
[7]   LDΔ:→((MΔ=ρLΔ←LΔ,XTYP IΔ+ρLΔ)/ADΔ,NCΔ),LDΔ
[8]   ADΔ:→DNΔ∘RΔ←NΔρLΔ
[9]   NCΔ:→((IΔ←IΔ+''ρρLΔ)<MΔ)/LPΔ∘'RΔ'PUT IΔ
[10]   DNΔ:→XTΔ∘⍎XΔ,'←RΔ'∘→(TΔ=3)/FNΔ
[11]   FNΔ:∘⎕FX RΔ
[12]   XTΔ:→0∘⍞''∘⎕←0×⎕IO←IOΔ
[13]   NVΔ:'NO VALUE'
[14]   →
    ∇


    ∇YΔ←RTYPE XΔ
[1]   ⍝     YΔ←RTYPE XΔ         JULY 07/76
[2]   ⍝TRANSMITT XΔ, FIX TYPE (GLOBAL VARIABLE ZΔ) OF RESULT
[3]   ⍝EXECUTE IF NUMERIC, RETURN IF CHARACTER
[4]   ⍝THIS FUNCTION MUST RESIDE IN APLSV SYSTEM
[5]   →(ZΔ=20)/NUΔ,0ρ⎕←XΔ
[6]   →0,0ρYΔ←⍞
[7]   NUΔ:YΔ←⍎⍞
    ∇


    ∇SEND XΔ;YΔ;IΔ
[1]   ⍝     SEND  XΔ            JULY 07/76
[2]   ⍝SEND FUNCTIONS XΔ TO APLSV.(0=4|ρ,XΔ)
[3]   ⍝IF XΔ IS EMPTY SEND GENERATES REQUIRED NAME LIST
[4]   ⍝THE RESPONSE FROM APLSV IS DISPLAYED BRIEFLY FOR EACH FUNCTION Y
[5]   ⍝LINE TRANSMITTED. NO CHECKING IS PERFORMED ON THIS RESPONSE
[6]   XΔ←'SREASWRIRTYPGET ΔPUT'∘→(0≠ρ,XΔ)/OKΔ
[7]   OKΔ:⎕PT←10∘→(0≠4|ρ,XΔ)/LEΔ
[8]   NXΔ:YΔ←⎕CR 4↑XΔ∘IΔ←⎕IO
[9]   S1Δ:⍞''∘⎕←YΔ[IΔ;]
[10]   →((IΔ←IΔ+1)<⎕IO+1↑ρYΔ)/S1Δ
[11]   ⍞''∘⎕←'∇'
```

```
[12]   →⎕PT←0∘→(0≠ρXΔ←4↓XΔ)/NXΔ)
[13]   LEΔ:'LENGTH ERROR'
[14]   →
    ∇


    ∇SIGNON;P
[1]   ⍝     SIGNON              JULY 06/76
[2]   ⍝SIGN ON PROCEDURE TO APLSV AT U OF T
[3]   ⍝300 BAUD - CORRESPONDENCE
[4]   SETUP'C'
[5]   P←13↓(14+⍳1)⍴'ACCOUNT:LOCK )      :'∘⎕IN 0
[6]   WAIT:'PHONE 1-416-978-7447'∘⎕PT←10
[7]   →WAIT⌈⍳2>4|¯1↑⎕IN 1↑⎕OU⍳0
[8]   ∘⎕DL 1∘⎕BO 52∘⎕DL 1
[9]   P←⍴''∘⎕←P∘⎕PT←0
[10]   P
    ∇


    ∇SREAD XΔ;IΔ;LΔ;IOΔ;RΔ;ZΔ;ROΔ
[1]   ⍝     SREAD XΔ            JULY 07/76
[2]   ⍝SLAVE READ TO TRANSFER DATA OR FUNCTION XΔ
[3]   ⍝THIS FUNCTION MUST RESIDE IN APLSV SYSTEM
[4]   →(0 2 3=ZΔ←⎕NC XΔ)/NVΔ,DAΔ,FNΔ
[5]   →0×⍴⎕←¯2
[6]   NVΔ:→0×⍴⎕←¯1
[7]   DAΔ:→OKΔ,ZΔ←ZΔ+18×0=0\0ρRΔ←⍎XΔ
[8]   FNΔ:RΔ←⎕CR XΔ
[9]   OKΔ:IΔ←⍎⍴',0ρ⎕←ZΔ,ρRΔ
[10]   →(0=×/ρRΔ)/0
[11]   ⎕IO←0×IOΔ←⎕IO
[12]   →(255<×/ρRΔ)/LPΔ
[13]   →EDΔ,0ρLΔ←,RΔ
[14]   LPΔ:LΔ←'RΔ'GET IΔ
[15]   EDΔ:→(ZΔ=20)/NUΔ
[16]   →GTΔ,0ρ⎕←((ROΔ←128⌊ρLΔ)↑LΔ),'.'
[17]   NUΔ:⎕←(ROΔ←10⌊ρLΔ)↑LΔ
[18]   GTΔ:IΔ←⍎⍴
[19]   →(0≠ρLΔ←ROΔ↓LΔ)/EDΔ
[20]   →(0<IΔ)/LPΔ
[21]   ⎕IO←IOΔ
    ∇


    ∇DΔ SWRITE XΔ;IΔ;MΔ;LΔ;RΔ;IOΔ;ZΔ;JΔ
[1]   ⍝     DΔ SWRITE XΔ        JULY 07/76
[2]   ⍝SLAVE WRITE TO RECEIVE DATA OR FUNCTION XΔ
[3]   ⍝THIS FUNCTION MUST RESIDE IN APLSV SYSTEM
[4]   IΔ←⎕IO←0×IOΔ←⎕IO
[5]   MΔ←(2⌊ρMΔ)↑MΔ←⌽DΔ,×/DΔ←1↓DΔ,0ρZΔ←1↑DΔ
[6]   →DNΔ×⍳0=×/ρRΔ←DΔρ((ZΔ=20)/0),(ZΔ≠20)/' '
[7]   LPΔ:LΔ←''
[8]   LDΔ:→((MΔ=ρLΔ←LΔ,RTYPE IΔ+ρLΔ)/ADΔ,NCΔ),LDΔ
[9]   ADΔ:→DNΔ,0ρRΔ←DΔρLΔ
[10]   NCΔ:'RΔ'ΔPUT IΔ
```

```
[11]   →((IΔ←IΔ+''ρρLΔ)<MΔ)/LPΔ
[12]   DNΔ:→(ZΔ=3)/FNΔ,⎕←0
[13]   ⍎XΔ,'←RΔ'
[14]   →XTΔ
[15]   FNΔ:IΔ←⎕FX RΔ
[16]   XTΔ:⎕IO←IOΔ
    ∇


    ∇TERMINAL;L;L1;N;BC
[1]    ⍝     TERMINAL            MAY 04/76
[2]    ⍝MCM/700 OPERATES AS A TERMINAL TO HOST COMPUTER
[3]    ⍝NOTE:TRANSMISSION IS LIMITED TO 128 CHARACTERS AT A TIME.
[4]    ⍝TO EXIT FROM THIS FUNCTION TYPE ω RETURN
[5]    L←'        '∘BC←⎕Y 108
[6]    IN:∘⎕IN 1↑⎕OUι0∘L1←(ρL)↓⍞,L∘⎕IN 0
[7]    L←⍞''∘,←L1∘→('ω'=(1⌊ρL1)↑L1)/0
[8]    DLP:→((¯1+ρL)≤N←(LιBC)-⎕IO)/IN
[9]    N↑L
[10]    →(0=N←((BC≠L←(1+N)↓L)ι1)-⎕IO)/DLP
[11]    →DLP∘L←N↓L
    ∇


    ∇RΔ←TRANSFER XΔ
[1]    ⍝     RΔ←TRANSFER XΔ      JULY 07/76
[2]    ⍝TRANSFER DATA FOR READ AND WRITE
[3]    ⍝RECEIVED DATA IS CHECKED FOR NUMERIC AND EXECUTED
[4]    S1:→0∘RΔ←⍎RΔ∘→((RΔ←¯1↓⍞''∘,←XΔ)⎕ZZ CHK)/ERΔ
[5]    ERΔ:→RΔ←0∘→('0'≠1↑RΔ)/E1Δ
[6]    E1Δ:'ERROR IN TRANSMITTING'
[7]    RΔ
[8]    FΔ:RΔ←('AR'=1↑17↓(17+ι1)⍞'ABORT OR RETRY? :R')/AB,S1∘⎕IN 0
[9]    →RΔ,FΔ∘⎕IN 1↑⎕OUι0
[10]    AB:→
    ∇



    ∇WRITE XΔ;IΔ;LΔ;IOΔ;RΔ;TΔ;ROΔ
[1]    ⍝     WRITE XΔ            JULY 12/76 T
[2]    ⍝WRITE DATA OR FUNCTION XΔ TO APLAV
[3]    →(0 2 3=TΔ←⎕NC XΔ)/NVΔ,DAΔ,FNΔ
[4]    'INVALID TYPE'
[5]    →
[6]    NVΔ:'NO VALUE'
[7]    →
[8]    DAΔ:→OKΔ∘TΔ←TΔ+18×0=0\0ρRΔ←⍎XΔ
[9]    FNΔ:RΔ←⎕CR XΔ
[10]    OKΔ:(2,1↓⎕YO[ι1]0)⎕YO[ι1]0
[11]    IΔ←TRAN(⍕TΔ,ρRΔ),' SWRITE''',XΔ,''''
[12]    ⎕IO←0×IOΔ←⎕IO∘→(0=×/ρRΔ)/0
[13]    →EDΔ∘LΔ←,RΔ∘→(255<×/ρRΔ)/LPΔ
[14]    LPΔ:LΔ←'RΔ'GET IΔ
[15]    EDΔ:IΔ←TRAN(ROΔ←((TΔ=2 3 20)/128 128 10)⌊ρLΔ)↑LΔ
[16]    →(0≠ρLΔ←ROΔ↓LΔ)/EDΔ
```

```
[17]   ⎕IO←IOΔ◦→(0<IΔ)/LPΔ
[18]   (7,1↓⎕YO[⍳1]0)⎕YO[⍳1]0
    ∇


    ∇ZΔ←XTYPE XΔ
[1]   ⍝     ZΔ←TYPE XΔ          JULY 07/76
[2]   ⍝TRANSMITT XΔ, FIX TYPE (GLOBAL VARIABLE TΔ) OF RESULT
[3]   ⍝EXECUTE IF NUMERIC, RETURN IF CHARACTER
[4]   →0◦ZΔ←¯2↓⍕''◦→(TΔ=20)/NUM◦⎕←XΔ
[5]   NUM:ZΔ←⍎¯1↓⍕''
    ∇


    ∇ZΔ ΔPUT IΔ;EΔ
[1]   ⍝     ZΔ ΔPUT IΔ          JULY 07/76
[2]   ⍝PUT INTO ZΔ(ANY SHAPE) THE ROW STARTING AT ELEMENT IΔ(⎕IO←0) FROM LΔ
[3]   ⍝THIS FUNCTION MUST RESIDE IN APLSV SYSTEM
[4]   →(0=ρEΔ←⍕¯1↓(ρ⍎ZΔ)⊤IΔ)/P1Δ
[5]   EΔ[(' '=EΔ)/⍳ρEΔ←'[',EΔ,' ]']←';'
[6]   P1Δ:⍎ZΔ,EΔ,'←LΔ'
    ∇



NAMES IN GROUP 242:
AN   DWR  GET  GPΔ  OUT  PUT  REA  SEN  SIG  SRE  SWR  TER
TRA  TYP  WRI  XFE  XFR  ΔBU  ΔGE  ΔPU


    ∇Z←AN X
[1]   ⍝     Z←AN X              MAY 04/76
[2]   ⍝CHECK TYPE - EXECUTE IF NUMERIC
[3]   ⍝THIS FUNCTION MUST RESIDE IN THE 360
[4]   →(T=20)/NUM
[5]   Z←X
[6]   →0
[7]   NUM:Z←⍎X
    ∇


    ∇D DWRITE X;I;J;IO;YO
[1]   ⍝     D DWRITE X          JUNE 01/76
[2]   ⍝WRITE PREFORMATTED DATA TO 360/APL
[3]   ⍝D IS DESIRED DIMENSIONS OF DATE
[4]   ⍝X IS TO BE THE DATA NAME IN THE 360
[5]   ⍝VECTORS A00,A01,--- ,AXX CONTAIN THE ALPHA DATA
[6]   ⍝NOTE:        60≥ρAXX
[7]   (3,1↓YO←⎕YO[⍳1]0)⎕YO[⍳1]0
[8]   ◦TRA⍕2,D◦TRA' SWRITE''',X,''''
[9]   I←⎕IO←0×IO←⎕IO◦→(0=×/D)/0
[10]   J←0
[11]   LPΔ:→(0=⎕NC N←'A',¯2↑⍕100+J)/ERR
[12]   →(0=I←⍎TRA⍎N)/DONE
[13]   →LPΔ◦J←J+1
[14]   DONE:⎕IO←IO◦TRA 0
```

```
[15]   →0∘YO ⎕YO[⍳1]0
[16]   ERR:'NOT ENOUGH DATA'
[17]   OUT
    ∇


    ∇Z←R GET I;E
[1]   ⍝     Z←R GET I           MAY 04/76
[2]   ⍝GET FROM R(ANY SHAPE) THE ROW STARTING AT ELEMENT I(⎕IO←0)
[3]   E[(' '=E)/⍳ρE←'[',(⍕¯1↓(ρR)⊤I),';]']←';'
[4]   Z←⍎'R',(0≠ρ3↓E)/E
    ∇

GPΔ   [vector of type char of length 37; element size 1 byte(s)]
TRANSFER PACKAGE - MCM/700 TO 360/APL


    ∇OUT;O;BS
[1]   ⍝     OUT                 APR 05/76
[2]   ⍝ISSUE O BACKSPACE U BACKSPACE T  TO 360/APL
[3]   →(128=BS←⎕YO[⍳1]3)/0
[4]   O←⎕YO[2+⍳1]'OUT'
[5]   ⎕BO ¯1↑O∘⎕BO BS∘⎕BO 1↑1↓O∘⎕BO BS∘⎕BO 1↑O∘⎕BO 95 BO
    ∇


    ∇Z←R PUT I;E
[1]   ⍝     Z←R PUT I           MAY 04/76
[2]   ⍝PUT INTO R(ANY SHAPE) THE ROW STARTING AT
[3]   ⍝ELEMENT I(⎕IO←0) FROM GLOBAL VARIABLE L E
[4]   E[(' '=E)/⍳ρE←'[',(⍕¯1↓(ρR)⊤I),';]']←';'
[5]   ∘⍎'R',((0≠ρ3↓E)/E),'←L'
[6]   Z←R
    ∇


    ∇READ X;I;J;N;M;L;R;IO;T
[1]   ⍝     READ X              MAY 06/76
[2]   ⍝READ DATA X FROM 360/APL
[3]   N←1↓N∘→(0>T←1↑N←⍎TRA' SREAD ''',X,''''')/NVΔ
[4]   I←⎕IO←0×IO←⎕IO
[5]   →DNΔ×⍳0=M←×/ρR←Nρ((T=20)/0),(T=2)/' '
[6]   LPΔ:L←TYP⍕I
[7]   LDΔ:→LDΔ∘L←L,TYP⍕ρL∘→((ρL)=M,¯1↑N)/ADΔ,NXΔ
[8]   NXΔ:→(M>I←I+ρL)/LPΔ∘R←R PUT ''ρI
[9]   DNΔ:→0×⎕IO←IO∘⍎X,'←R'∘TRA'0'
[10]   ADΔ:→DNΔ∘R←NρL
[11]   NVΔ:'NO VALUE'
[12]   →
    ∇


    ∇SEND X;Y;I
[1]   ⍝     SEND  X             MAY 04/76
[2]   ⍝SEND FUNCTIONS X TO 360/APL. 0=4|ρ,X
[3]   ⍝IF X IS EMPTY SEND GENERATES REQUIRED NAME LIST
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```
[4]   X←'SREASWRIAN  XFR ΔGETΔPUTΔBUI'∘→(0≠ρ,X)/XOK
[5]   XOK:→(0≠4|ρ,X)/LEΔ
[6]   NEXT:Y←⎕CR 4↑X∘I←⎕IO
[7]   S1:∘TRA Y[I;]
[8]   →((I←I+1)<⎕IO+1↑ρY)/S1
[9]   ∘TRA'∇'
[10]   →((0≠ρX←4↓X)/NEXT),0
[11]   LEΔ:'LENGTH ERROR'
[12]   →
    ∇


    ∇SIGNON;P
[1]   ⍝     SIGNON              JULY 06/76
[2]   ⍝SIGN ON PROCEDURE TO 360/APL WITH 3705 FRONT END PROCESSOR
[3]   ⍝300 BAUD - CORRESPONDENCE
[4]   SETUP'C'∘⎕NC'XFER'
[5]   P←13↓(14+⍳1)⍴'ACCOUNT:LOCK )       :'∘⎕IN 0
[6]   WAIT:'PHONE 1-416-360-1200'∘⎕PT←10
[7]   →WAIT⌈⍳2>4|¯1↑⎕IN 1↑⎕OU⍳0
[8]   ∘⎕DL 1∘⎕BO 52∘⎕DL 1
[9]   ,P←XFER P∘⎕PT←0
    ∇


    ∇SREAD X;I;L;IO;R;T;RO
[1]   ⍝     SREAD X             MAY 04/76
[2]   ⍝SLAVE READ TO TRANSFER DATA X FROM 360 TO MCM/700.
[3]   ⍝THIS FUNCTION MUST BE RESIDENT IN THE 360
[4]   T←2+18×0=0\0ρR←⍎X
[5]   ⍝NOTE LINE EDΔ
[6]   ⍝1. Z STOPS TRAILING BLANK SUPRESSION FOR CHARACTER DATA
[7]   ⍝2. MAX OF 10 NUMBERS ARE TRANSMITTED PER LINE. THIS
[8]   ⍝   MAY BE INCREASED IF 120>ρ⍕10↑L.
[9]   I←⍎XFR T,ρR
[10]   →(0=×/ρR)/0
[11]   I←⎕IO←0×IO←⎕IO
[12]   →(255<×/ρR)/LPΔ
[13]   R←,R
[14]   LPΔ:L←R ΔGET I
[15]   EDΔ:I←⍎XFR((RO←((T=2 20)/120 10)⌊ρL)↑L),(T=2)↑'Z'
[16]   →(0≠ρL←RO↓L)/EDΔ
[17]   →(0≠I)/LPΔ
[18]   ⎕IO←IO
    ∇


    ∇SWRITE X;I;N;M;L;R;IO;T;J
[1]   ⍝     SWRITE X            JUNE 01/76
[2]   ⍝SLAVE WRITE TO RECEIVE DATA X FROM MCM/700
[3]   ⍝THIS FUNCTION MUST RESIDE IN THE 360
[4]   I←⎕IO←0×IO←⎕IO
[5]   T←1↑N←⍎XFR 0ρ'GET TYPE AND RHO'
[6]   N←1↓N
[7]   →DNΔ×⍳0=M←×/ρR←Nρ((T=20)/0),(T=2)/' '
[8]   LPΔ:L←AN XFR I
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```
[9]   LDΔ:→((ρ,L)=M,¯1↑N)/ADΔ,NXΔ
[10]   →LDΔ,0ρL←L,AN XFR ρ,L
[11]   NXΔ:R←R ΔPUT''ρI
[12]   →(M>I←I+ρL)/LPΔ
[13]   DNΔ:⍋X,'←R' J
[14]   →0×⎕IO←IO
[15]   ADΔ:R←NρL
[16]   →DNΔ
    ∇


    ∇TERMINAL;L;L1;N;BC
[1]   ⍝     TERMINAL            MAY 04/76
[2]   ⍝MCM/700 OPERATES AS A TERMINAL TO HOST COMPUTER
[3]   ⍝NOTE:TRANSMISSION IS LIMITED TO 128 CHARACTERS AT A TIME.
[4]   ⍝TO EXIT FROM THIS FUNCTION TYPE ω RETURN
[5]   L←'       '∘BC←⎕Y 108
[6]   IN:∘⎕IN 1↑⎕OU⍳0∘L1←(ρL)↓'L∘⎕IN 0
[7]   L←XFER L1∘→('ω'=(1⌊ρL1)↑L1)/0
[8]   DLP:→((¯1+ρL)≤N←(L⍳BC)-⎕IO)/IN
[9]   N↑L
[10]   →(0=N←((BC≠L←(1+N)↓L)⍳1)-⎕IO)/DLP
[11]   →DLP∘L←N↓L
    ∇


    ∇R←TRANSFER X
[1]   ⍝     R←TRANSFER X        JUNE 01/76
[2]   ⍝TRANSFER DATA FOR READ AND WRITE
[3]   ⍝RECEIVED DATA IS CHECKED FOR NUMERIC
[4]   S1:→(∧/(R←¯1↓'''∘⎕←X)∈' 0123456789[]')/0
[5]   ERR:'ERROR IN TRANSMITTING'
[6]   R
[7]   R←('AR'=1↑17↓'ABORT OR RETRY? :')/AB,S1∘⎕IN 0
[8]   →R,ERR∘⎕IN 1↑⎕OU⍳0
[9]   AB:OUT
[10]   →
    ∇


    ∇Z←TYPE X
[1]   ⍝     Z←TYPE X            MAY 06/76
[2]   ⍝TRANSMITT X, FIX TYPE (GLOBAL VARIABLE T) OF RESULT
[3]   ⍝EXECUTE IF NUMERIC, DROP LAST BYTE IF CHARACTER
[4]   →0∘Z←¯2↓'''∘→(T=20)/NUM∘⎕←X
[5]   NUM:Z←⍋¯1↓'''
    ∇


    ∇WRITE X;I;L;IO;R;T;RO;YO
[1]   ⍝     WRITE X             JUNE 01/76
[2]   ⍝WRITE DATA X TO 360/APL
[3]   →(0 2 3=T←⎕NC X)/NVΔ,DAΔ,FNΔ
[4]   'INVALID TYPE'
[5]   →
[6]   FNΔ:→0∘SEND 4↑X,'   '
```

```
[7]   NVΔ:'NO VALUE'
[8]   →
[9]   DAΔ:(3,1↓YO←⎕YO[⍳1]0)⎕YO[⍳1]0
[10]   T←T+18×0=0\0ρR←⍞X
[11]   ∘TRA⍕T,ρR∘TRA' SWRITE''',X,''''
[12]   I←⎕IO←0×IO←⎕IO∘→(0=×/ρR)/0
[13]   R←,R∘→(255<×/ρR)/LPΔ
[14]   LPΔ:L←R GET I
[15]   EDΔ:I←⍞TRA(RO←((T=2 20)/60 10)⌊ρL)↑L
[16]   ⍝NOTE:TRANSMISSION IS LIMITED TO 60 CHAR. PER LINE
[17]   →(0≠ρL←RO↓L)/EDΔ
[18]   ⎕IO←IO∘→(0<I)/LPΔ
[19]   YO ⎕YO[⍳1]0
    ∇


    ∇R←XFER X
[1]   ⍝     Z←XFER X            MAY 04/76
[2]   ⍝TRANSFER DATA TO AND FROM SYSTEM
[3]   R←⍞''∘⎕←X
[4]   ∘'IN CASE ATTN'
    ∇


    ∇Z←XFR X
[1]   ⍝     Z←XFR X             MAY 04/76
[2]   ⍝TRANSFER DATA BETWEEN 360 AND MCM
[3]   ⍝THIS FUNCTION MUST RESIDE IN 360
[4]   Z←⍞,0ρ⎕←X
    ∇


    ∇Z←ΔBUILD
[1]   ⍝     Z←BUILD             MAY 04/76
[2]   ⍝BUILD INDEX FOR R (ANY SHAPE)
[3]   ⍝SPECIAL VERSION FOR 360 WITH ΔFMT
[4]   Z←'R'
[5]   →(0=ρ,¯1↓ρR)/0
[6]   Z←'R[',(,('I3'ΔFMT ¯1↓(ρR)⊤I),';'),']'
    ∇


    ∇Z←R ΔGET I
[1]   ⍝     Z←R ΔGET I          MAY 04/76
[2]   ⍝GET FROM R(ANY SHAPE) THE ROW STARTING AT ELEMENT I(⎕IO←0)
[3]   Z←⍞ΔBUILD
    ∇


    ∇Z←R ΔPUT I
[1]   ⍝     Z←R ΔPUT I          MAY 04/76
[2]   ⍝PUT INTO R(ANY SHAPE) THE ROW STARTING AT
[3]   ⍝ELEMENT I(⎕IO←0) FROM GLOBAL VARIABLE L M
[4]   ⍞ΔBUILD,'←L'
[5]   Z←R
    ∇
```