Source File: MF 0.2.4

Program Unit: MAIN Entry: 000006B4

```
00001  REM MF v 0.2.4
00002  REM Improved IF...THEN blocks and variables
00003  REM April 14,1993
00004
00005  DIM N(65):DIM T$(30):DIM B(26):DIM C(26):DIM label$(65):DIM label2$(26)
00006
00007  FOR l%= 0 TO 65
00008  IF l%<=26 THEN READ label$(l%),B(l%),C(l%) ELSE READ label$(l%)
00009  NEXT l%
00010
00011  DATA "Total Solar Array Current= ",1.91,-7.64
00012  DATA "Battery charge/discharge= ",-3.81,1935.48
00013  DATA "Battery voltage= ",.022,0
00014  DATA "Battery center voltage=",.009961,0
00015  DATA "Bus voltage= ",.02021,0
00016  DATA "+5 V regulator voltage= ",.0062,0
00017  DATA "-5  V regulator voltage= ",-.0062,0
00018  DATA "+10 V regulator voltage= ",.0126,0
00019  DATA "JTA output power= ",5.1,-805.8
00020  DATA "JTD output power= ",5.4,-626.4
00021  DATA "Calibration voltage #2= ",.002,0
00022  DATA "Offset voltage #1= ",.002,0
00023  DATA "Battery Temperature= ",-.139,92.991
00024  DATA "JTD Temperature= ",-.139,92.991
00025  DATA "Baseplate  #1 Temperature= ",-.139,92.991
00026  DATA "Baseplate  #2 Temperature= ",-.139,92.991
00027  DATA "Baseplate  #3 Temperature= ",-.139,92.991
00028  DATA "Baseplate  #4 Temperature= ",-.139,92.991
00029  DATA "Calibration Temperature #1= ",.002,0
00030  DATA "Offset Voltage #2= ",.002,0
00031  DATA "Solar Panel #1 Temperature= ",.38,-260.3
00032  DATA "Solar Panel #2 Temperature= ",.38,-244.34
00033  DATA "Solar Panel #3 Temperature= ",.38,-245.48
00034  DATA "Solar Panel #4 Temperature= ",.38,-245.86
00035  DATA "",0,0
00036  DATA "Calibration Temperature #2= ",.002,0
00037  DATA "Calibration Temperature #3= ",.002,0
00038  DATA "Spares (TBD) channel 27a= "
00039  DATA "Spares (TBD) channel 27b= "
00040  DATA "Spares (TBD) channel 27c= "
00041  DATA "Spares (TBD) channel 28a= "
00042  DATA "Spares (TBD) channel 28b= "
00043  DATA "Errors Memory Unit #0= "
00044  DATA "Errors Memory Unit #1= "
00045  DATA "Errors Memory Unit #2= "
00046  DATA "Errors Memory Unit #3= "
00047  DATA "JTA Power is "
00048  DATA  "JTD Power is "
00049  DATA "JTA Beacon is "
00050  DATA "UVC status is "
00051  DATA "UVC level is "
00052  DATA  "Main Relay is ",""
00053  DATA  "Battery Status is "
00054  DATA "Battery Logic is ",""
00055  DATA "PCU Status is "
```

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```
00056  DATA "PCU Status is "
00057  DATA "Memory Unit#0 is "
00058  DATA "Memory Unit#1 is "
00059  DATA "Memory Unit#2 is "
00060  DATA "Memory Unit#3 is "
00061  DATA "Memory Select "
00062  DATA "Memory Select ","",""
00063  DATA "Computer Power is ",""
00064  DATA "Solar Pannel #1 is "
00065  DATA "Solar Pannel #2 is "
00066  DATA "Solar Pannel #3 is "
00067  DATA "Solar Pannel #4 is "
00068  DATA "Solar Pannel #5 is ",""
00069  DATA "CW Beacon Source is ",""
00070
00071  label2$(0)=" mA":label2$(1)=" mA"
00072  FOR l%=2 TO 26
00073  IF l%<=11 THEN label2$(l%)= " volts"
00074  IF l%>11 THEN label2$(l%)= " °C"
00075  NEXT l%
00076  label2$(8)=" mW":label2$(9)=" mW":label2$(19)=" volts"
00077
00078  test$="BEACON:"
00079  test2$="RA"
00080  test3$="M0"
00081
00082  start:
00083   TEXTFONT(3)
00084   TEXTSIZE(10)
00085
00086  menuID=0
00087  menuITEM=0
00088  MENU 1,0,1,"File"
00089  MENU 1,1,1,"Captured PSK TLM":cmdkey 1,1,"D"
00090  MENU 1,2,1,"Monitored PSK TLM":cmdkey 1,2,"M"
00091  MENU 1,3,1,"Quit":cmdkey 1,3,"Q"
00092
00093  ON MENU GOSUB menucheck:
00094  MENU ON
00095
00096  idle:
00097  GOTO idle:
00098
00099  menucheck:
00100  menuID=MENU(0)
00101  menuITEM=MENU(1)
00102
00103  HandleMenu:
00104  SELECT CASE menuID
00105  CASE 1
00106  SELECT CASE menuITEM
00107  CASE 1
00108      f1$=FILES$(1,"TEXT")
00109      f2$=f1$+".Decoded"
00110      f3$=f1$+".Temp"
00111      IF f1$="" THEN GOTO start:
00112  CASE 2
00113  PRINT "This function not yet available...Click once to restart."
```

```
00114  WHILE MOUSE(0)<>1:WEND:CLS:GOTO start:
00115  CASE 3: CLS:END
00116  END SELECT
00117  END SELECT
00118
00119  NoNo1:
00120  INPUT;"Decode All-[1], One-[2] or Range-[3]";how%
00121  SELECT CASE how%
00122  CASE 1
00123      lim1%=0:lim2%=65:CLS
00124  CASE 2:
00125      CLS
00126      NoNo2:
00127      INPUT;"Channel Number"; lim1%
00128      IF lim1%<0 OR lim1% >65 THEN CLS:GOTO NoNo2:
00129      lim2%=lim1%
00130      CLS
00131  CASE 3
00132      NoNo3:
00133      CLS
00134      INPUT;"Lower,Upper (i.e. 5,10)"; lim1%,lim2%
00135      IF lim1%<0 OR lim1% >65 OR lim2% <0 OR lim2% > 65 THEN CLS:GOTO NoNo3:
00136      CLS
00137  CASE ELSE
00138      CLS:GOTO NoNo1:
00139  END SELECT
00140
00141  OPEN f1$ FOR INPUT AS #1
00142  OPEN f2$ FOR OUTPUT AS #2
00143  OPEN f3$ FOR OUTPUT AS #3
00144  CLOSE #3
00145  OPEN f3$ AS #3 LEN= 132
00146  FIELD #3, 132 AS frame$
00147
00148  fc%=0
00149  WHILE NOT EOF(1)
00150  READEM:
00151  LINE INPUT#1,stream$
00152  IF INSTR(1,stream$,test$) >0 THEN
00153  LINE INPUT#1, stream2$
00154  IF INSTR(1,stream2$,test2$) >0 THEN
00155  PRINT stream$:PRINT #2, stream$
00156  PRINT stream2$:PRINT #2,stream2$
00157
00158  nums$=""
00159  fc%=fc%+1
00160  FOR l% = 0 TO 65
00161  IF l%<=26 THEN
00162      INPUT #1, N(l%)
00163      nums$=nums$+MKI$(N(l%))
00164  ELSEIF l%>26 THEN
00165      x$=INPUT$(1,1)
00166    IF ASC(x$)=32 OR ASC(x$)=13 THEN x$=INPUT$(1,1)
00167    IF ASC(x$)-48 >=0 AND ASC(x$)-48 <=9 THEN
00168      N(l%)=ASC(x$)-48
00169      nums$=nums$+MKI$(N(l%))
00170    END IF
00171    IF ASC(x$)>=65 AND ASC(x$)<=70 THEN
```

```
00172      N(l%)=ASC(x$)-55
00173       nums$=nums$+MKI$(N(l%))
00174     END IF
00175   END IF
00176   NEXT l%
00177       LSET frame$=nums$
00178       PUT#3,fc%
00179       PRINT:PRINT#2,
00180       CALL PSK (fc%,B(),C(),N(),lim1%,lim2%,frame$,label$(),label2$(),T$())
00181   END IF
00182   IF INSTR(1,stream2$,test3$)>0 THEN GOTO READEM:
00183   END IF
00184   WEND
00185
00186   finish:
00187   PRINT "Decoded" fc%" Telemetry Frames."
00188   PRINT #2, "Decoded" fc%" Telemetry Frames."
00189   PRINT:
00190   NoNo4:
00191   INPUT; "Decode Another-[1] or End-[2]";stoporgo%
00192   SELECT CASE stoporgo%
00193   CASE 1
00194       CLS:RESET:GOTO start:
00195   CASE 2
00196       CLS:RESET:KILL f3$
00197   END
00198   CASE ELSE :CLS:GOTO NoNo4:
00199   END SELECT
00200
00201
```


Symbol and Label Tables for: MAIN

SYMBOL	TYPE	STORAGE	ADDRESS
N!()	SINGLE	LOCAL	0000006C
T$()	STRING	LOCAL	0000018E
B!()	SINGLE	LOCAL	00000262
C!()	SINGLE	LOCAL	000002E8
LABEL$()	STRING	LOCAL	0000036E
LABEL2$()	STRING	LOCAL	00000514
L%	INTEGER	LOCAL	000005D4
TEST$	STRING	LOCAL	0000002A
TEST2$	STRING	LOCAL	00000030
TEST3$	STRING	LOCAL	00000036
MENUID!	SINGLE	LOCAL	000005D6
MENUITEM!	SINGLE	LOCAL	000005DA
F1$	STRING	LOCAL	0000003C
F2$	STRING	LOCAL	00000042
F3$	STRING	LOCAL	00000048
HOW%	INTEGER	LOCAL	000005DE
LIM1%	INTEGER	LOCAL	000005E0
LIM2%	INTEGER	LOCAL	000005E2
FRAME$	STRING	LOCAL	0000004E
FC%	INTEGER	LOCAL	000005E4
STREAM$	STRING	LOCAL	00000054

STREAM2$	STRING	LOCAL	0000005A
NUMS$	STRING	LOCAL	00000060
X$	STRING	LOCAL	00000066
STOPORGO%	INTEGER	LOCAL	000005E6

STORAGE	MEMORY
LOCAL	1516

LABEL	ADDRESS	LABEL	ADDRESS
START	00000B04	MENUCHECK	00000DD8
IDLE	00000DCE	HANDLEMENU	00000E0C
NONO1	000010A0	NONO2	000011AA
NONO3	00001276	READEM	000014F2
FINISH	00001B3E	NONO4	00001C90

Source File: MF 0.2.4

Program Unit: PSK Entry: 00001DFA

```
00202  SUB PSK (fc%,B(),C(),N(),lim1%,lim2%,frame$,label1$(),label2$(),T$()) STATIC
00203  GET#3,fc%
00204  FIELD #3, 132 AS frame$
00205  l%=0
00206  FOR z%=1 TO 132 STEP 2
00207    x$=MID$(frame$,z%,2)
00208    N(l%)=CVI(x$)
00209    l%=l%+1
00210  NEXT z%
00211
00212  errorsum%=0
00213  sparesum%=0
00214  FOR l%=27 TO 35
00215  IF l%<=31 THEN sparesum%=sparesum%+N(l%) ELSE errorsum%=errorsum%+N(l%)
00216  NEXT l%
00217
00218  FOR l%=36 TO 56
00219  IF N(l%)=1 THEN T$(l%-36)="ON" ELSE T$(l%-36)="OFF"
00220  NEXT l%
00221
00222  FOR l%=lim1% TO lim2%
00223  IF l%<=26 THEN
00224    N(l%)= B(l%)*N(l%)+C(l%)
00225   ELSEIF l%=38 THEN
00226    IF N(l%)=1 THEN T$(l%-36)="PSK" ELSE T$(l%-36)="CW"
00227   ELSEIF l%=40 THEN
00228    IF N(l%)=1 THEN T$(l%-36)="1" ELSE T$(l%-36)="2"
00229   ELSEIF l%=43 OR l%=44 THEN
00230    IF N(l%)=1 THEN T$(l%-36)="TRIC" ELSE T$(l%-36)="FULL"
00231   ELSEIF l%=46 OR l%=52 THEN
00232    IF N(l%)=1 THEN T$(l%-36)="BIT1" ELSE T$(l%-36)="LSB"
00233   ELSEIF l%=47 OR l%=53 THEN
00234    IF N(l%)=1 THEN T$(l%-36)="BIT2" ELSE T$(l%-36)="MSB"
00235   ELSEIF l%=58 OR l%=59 OR l%=60 OR l%=61 OR l%=62 THEN
00236    IF N(l%)=1 THEN T$(l%-36)="Lit" ELSE T$(l%-36)="Dark"
00237   ELSEIF l%=64 THEN
00238    IF N(l%)=1 THEN T$(l%-36)="CPU" ELSE T$(l%-36)="TLM"
```

```
00239  END IF
00240  NEXT l%
00241
00242  FOR l%=lim1% TO lim2%
00243  IF l%<=26 THEN
00244    IF l%=24 THEN l%=l%+1
00245    PRINT label$(l%);USING "####,.# ";N(l%);:PRINT label2$(l%)
00246    PRINT #2,label$(l%);USING "####,.# ";N(l%);:PRINT #2, label2$(l%)
00247  ELSEIF (l%>26) AND (l%<=35) THEN
00248    IF l%=27 THEN PRINT:PRINT #2,
00249    PRINT label$(l%);N(l%)
00250    PRINT #2,label$(l%);N(l%)
00251     IF l%=31 THEN
00252      PRINT "Total spares= "sparesum%:PRINT
00253      PRINT #2,"Total spares= "sparesum%:PRINT#2,
00254     ELSEIF l%=35 THEN
00255      PRINT "Total errors= "errorsum%:PRINT
00256      PRINT #2, "Total errors= "errorsum%:PRINT #2,
```



```
00257     END IF
00258  ELSEIF (l%>=36) AND (l%<>42) AND (l%<>45) AND (l%<>54) AND (l%<>55) AND
(l%<>57) AND (l%<>63) AND (l%<>65) THEN
00259    PRINT label$(l%);T$(l%-36)
00260    PRINT #2,label$(l%);T$(l%-36)
00261  END IF
00262  NEXT l%
00263  PRINT:PRINT#2,
00264  PRINT:PRINT#2,
00265  END SUB
```


Symbol and Label Tables for: PSK

SYMBOL	TYPE	STORAGE	ADDRESS
FC%	INTEGER	DUMMY	
B!()	SINGLE	DUMMY	
C!()	SINGLE	DUMMY	
N!()	SINGLE	DUMMY	
LIM1%	INTEGER	DUMMY	
LIM2%	INTEGER	DUMMY	
FRAME$	STRING	DUMMY	
LABEL$()	STRING	DUMMY	
LABEL2$()	STRING	DUMMY	
T$()	STRING	DUMMY	
L%	INTEGER	LOCAL	00000032
Z%	INTEGER	LOCAL	00000034
X$	STRING	LOCAL	0000002C
ERRORSUM%	INTEGER	LOCAL	00000036
SPARESUM%	INTEGER	LOCAL	00000038

STORAGE	MEMORY
LOCAL	62

```
LABEL                    ADDRESS   LABEL                    ADDRESS

*****  0 errors
```