

```

EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP LL EEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP LL EEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP LL EEEEEEEEE SSSSSSSS
EE XX XX AA AA MMMM MMMM PP PP LL EE SS
EE XX XX AA AA MMMM MMMM PP PP LL EE SS
EE XX XX AA AA MMMM MMMM PP PP LL EE SS
EE XX XX AA AA MM MM MM PP PP LL EE SS
EE XX XX AA AA MM MM MM PP PP LL EE SS
EEEEEEEE XX XX AA AA MM MM PPPPPPPP LL EEEEEEEEE SSSSSSS
EEEEEEEE XX XX AA AA MM MM PPPPPPPP LL EEEEEEEEE SSSSSSS
EEEEEEEE XX XX AA AA MM MM PPPPPPPP LL EEEEEEEEE SSSSSSS
EE XX XX AAAAAAAAAA MM MM PP LL EE SS
EE XX XX AAAAAAAAAA MM MM PP LL EE SS
EE XX XX AAAAAAAAAA MM MM PP LL EE SS
EE XX XX AA AA MM MM PP LL EE SS
EE XX XX AA AA MM MM PP LL EE SS
EE XX XX AA AA MM MM PP LL EE SS
EEEEEEEEEE XX XX AA AA MM MM PP LLLLLLLLLL EEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AA AA MM MM PP LLLLLLLLLL EEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AA AA MM MM PP LLLLLLLLLL EEEEEEEEE SSSSSSSS

```

```

LL          AAAAAA  BBBB8888  IIIIII  000000  SSSSSSSS  TTTTTTTTTT  AAAAAA  TTTTTTTTTT
LL          AAAAAA  BBBB8888  IIIIII  000000  SSSSSSSS  TTTTTTTTTT  AAAAAA  TTTTTTTTTT
LL          AA      AA  BB      BB  II      00      00  SS      TT      AA      AA  TT
LL          AA      AA  BB      BB  II      00      00  SS      TT      AA      AA  TT
LL          AA      AA  BB      BB  II      00      00  SS      TT      AA      AA  TT
LL          AA      AA  BB      BB  II      00      00  SS      TT      AA      AA  TT
LL          AA      AA  BBBB8888  II      00      00  SSSSSS  TT      AA      AA  TT
LL          AA      AA  BBBB8888  II      00      00  SSSSSS  TT      AA      AA  TT
LL          AAAAAAAAAA  BB      BB  II      00      00  SS      TT      AAAAAAAAAA  TT
LL          AAAAAAAAAA  BB      BB  II      00      00  SS      TT      AAAAAAAAAA  TT
LL          AA      AA  BB      BB  II      00      00  SS      TT      AA      AA  TT
LL          AA      AA  BB      BB  II      00      00  SS      TT      AA      AA  TT
LLLLLLLLLL  AA      AA  BBBB8888  IIIIII  000000  SSSSSSSS  TT      AA      AA  TT
LLLLLLLLLL  AA      AA  BBBB8888  IIIIII  000000  SSSSSSSS  TT      AA      AA  TT

```

```

FFFFFFFFFF  000000  RRRRRRRR
FFFFFFFFFF  000000  RRRRRRRR
FF          00      00  RR      RR
FF          00      00  RR      RR
FF          00      00  RR      RR
FF          00      00  RR      RR
FFFFFFFFFF  00      00  RRRRRRRR
FFFFFFFFFF  00      00  RRRRRRRR
FF          00      00  RR  RR
FF          00      00  RR  RR
FF          00      00  RR  RR
FF          00      00  RR  RR
FF          000000  RR      RR
FF          000000  RR      RR

```

LB
C
C
C
4
C
C
C
5
5
6
C
C
C
7
8

File: LABIOSTAT.FOR
Version 'V04-000'

```

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```

Program LABIO_STATUS

This is a utility routine for the LABIO system. It displays the status of all 16 channels of the A/D. It assumes that the terminal is a VT52 or an equivalent, e.g VT100 in VT52 mode. The display is update once every 1-9 seconds. Default is one second. There are 5 commands associated with the program

```

C - display status of 16 channels
P - display status by process PID
H - display help frame (timeouts after 1 min.)
E - Exit to VMS DCL
Digit(1-9) Change cycle time.

```

The key pad can also be used to enter commands. The special function keys on the VT52 or VT100 correspond to the first 4 commands (3 on VT52).

Typing ANY key will cause a display refresh.

```
Include 'LABCHNDEF.FOR'
```

```

Character*10 STATUS(4)
Character*8 XTIME
Character*9 XDATE
Parameter COMMAND_MAX = 4
Character*1 COMMAND,COMMAND_TABLE(COMMAND_MAX,2),ESCAPE,TERMINATOR
Character*63 COMMAND_DEV

```

```

External $$$ NOTRAN, $$$ NORMAL, $$$ PARTESCAPE
External IOSM_CVTLOW, IOSM_NOECHO, IOSM_TIMED, IOS_READVBLK, IOSM_PURGE

```

```

Logical SUCCESS,SYSSQIOW,SYSSASSIGN
Integer CHANNEL,DISPLAY_FLAG,OLD_DISPLAY,COMMAND_CHAN
Integer DEF_TIME_OUT,TIME_OUT
Byte ERASE_SCREEN(2),HOME(2),ERASE_LINE(2),VT52_MODE(7)
Integer*2 IO_STATUS(4),CHAR_COUNT
Equivalence (ESCAPE,HOME),(CHAR_COUNT,IO_STATUS(2))

```

```

VT52 control ESCAPE Sequences

```

```

Data HOME,ERASE_SCREEN,ERASE_LINE
1 /'33'O,'H','33'O,'J','33'O,'K'/

```

```

VT100 control ESCAPE sequences

```

```

This ESC seq places a VT100 in VT52 mode

```

```

Data VT52_MODE/'33'O,['','?','2','L','33'O,']'/

```

```

Data STATUS/'Unknown','Inactive','Active'/'/'/
Data COMMAND_TABLE/'C','P','E','H','P','Q','S','R'/'/
Data DISPLAY_FLAG,ERASE_FLAG /1,.TRUE./
Data DEF_TIME_OUT /1/

```

```

Map to the GLOBAL DATA section created by the I/O program

```

```

Call LABIO_INIT(0)

```

```

Place VT100's in VT52 mode

```

```

Type 500, VT52_MODE

```

```

Initialize Command input channel

```

```

We will read the command via a QIOW with a 1 sec timeout
Commands are single character, to simplify matters we will
read with no echo and convert lower to upper case.

```

```

Call SYSSASSIGN( 'TT',COMMAND_CHAN,...)
QIO_READ = %Loc(IOSM_NOECHO) + %Loc(IOSM_CVTLOW) + %Loc(IOSM_TIMED)
1 + %Loc(IOS_READVBLK)
TT_PURGE = %Loc(IOSM_PURGE)
Go To 25 ! Display Something

```

```

Get a command from the user, but only wait a short time (TIME_OUT)
so we can update the screen. The input buffer is purged if a command
was decode on the last read. (Prevents unnecessary erase loops)

```

```

20 DISPLAY_FLAG = OLD_DISPLAY !Default is last display
    TIME_OUT = DEF_TIME_OUT !Default time out
21 TABLE_INDEX = 1 !Assume no escape sequence
22 Call SYSSQIOW(%Val(COMMAND_CHAN),%Val(QIO_READ+PURGE),
    1 IO_STATUS,...,%Ref(COMMAND),%Val(1),%Val(TIME_OUT),...,)
    PURGE = 0

```



```

PID_COUNT = 0
Do 52 PID_INDEX = 1, MAX_PID
PID = CONNECT_BLOCK(PID_INDEX,1)
If ( PID .ne. 0 ) PID_COUNT = PID_COUNT + 1
52 Continue

Type 400,ERASE_LINE,PID_COUNT,CHANNEL_COUNT
OLD_DISPLAY = DISPLAY_FLAG
ERASE_FLAG = .false.
Go to 20

:
: Status display via process (PID)
60 If ( ERASE_FLAG ) Type 300, HOME,ERASE_SCREEN
Type 100, HOME,XTIME,XDATE
PID_COUNT = 0           ! Number of connected processes
CHANNEL_COUNT = 0      ! Number of allocated channels
Do 61 PID_INDEX = 1, MAX_PID
PID = CONNECT_BLOCK(PID_INDEX,1)
If ( PID .ne. 0 ) Then
PID_COUNT = PID_COUNT + 1
OLD_COUNT = CHANNEL_COUNT
Do 62 CHANNEL = 1, MAX_AD_CHANNEL
If( AD_BLOCK( 2,CHANNEL) .eq. PID ) Then !If right PID, display info
Type 200, CHANNEL, STATUS(AD_BLOCK(1,CHANNEL)+1),
1 (AD_BLOCK(J,CHANNEL), J = 2,6 )
CHANNEL_COUNT = CHANNEL_COUNT + 1
End IF
Continue
62 If (OLD_COUNT .eq. CHANNEL_COUNT ) Type 800, '<None>',PID,ERASE_LINE
End IF
61 Continue
Type 400,ERASE_LINE,PID_COUNT,CHANNEL_COUNT,ERASE_SCREEN
OLD_DISPLAY = DISPLAY_FLAG
ERASE_FLAG = .false.
Go to 20

:
: Exit
99 Call Exit

:
: Format Statments
100 Format(1X,2A1,'          Lab IO Status as of ',A,' ',A//
1' Channel Status      PID      Tics/Sample  Buffer Size
1      Buffers '/')

200 Format(I5,5x,A8,Z10,4I12)

300 Format(' ',4A1)

400 Format(' '2A1/' Totals: ',I2,' Processes connected ',I2,' Channels
1 allocated'/'          <Type an H for help>'2A1$)

```

```

500  Format(' '7A1)
600  Format(' '4A1/
1' The following commands are available://'
1'  VT100  VT52  any'//
1'  -----  ----  ----'//
1'  PF1    red   C   Channel Display'//
1'  PF2    blue  P   Process Display'//
1'  PF3    grey  H   Help Display'//
1'  PF4    n/a   E   Exit'//
1' To change display time, type a digit 0-9 for the desired time'//)
700  Format(A)
800  Format(' ',A6,11X,Z10,2A1)
900  Format(I5,5x,A8,2A1)
      End
! [End of File]

```

LP
30
C
C
C
12
10
C
C
C
10
C
C
C
10
C
C
C
10
18
C
C
C
20
10

XALINK
MAR

LABIOLINK
COM

DRMASTER
FOR

LPATEST
FOR

XMESSAGE
MAR

LABTOPEAK
FOR

LABIOSTR
COM

XATEST
FOR

LABTOCOM
FOR

LABDEMO
COM

LABMBXDEF
FOR

LABIOSAMP
FOR

MAILCOMPRESS
COM

LABCHNDEF
FOR

CONNECT
COM

LABTOCON
FOR

LABDEMO
FOR

PEAK
FOR

DRCOPYBLD
COM

XIDRIVER
MAR

LABTOSEC
FOR

DRSLAVE
FOR

LABTOACQ
FOR

LABTOCOMP
COM

LABIOSTAT
FOR

TESTLABIO
FOR