```
EEEEEEEEEE  XX      XX    AAAAAA    MM      MM  PPPPPPPP    LL          EEEEEEEEEE    SSSSSSSS
EEEEEEEEEE  XX      XX    AAAAAA    MM      MM  PPPPPPPP    LL          EEEEEEEEEE    SSSSSSSS
EEEEEEEEEE  XX      XX    AAAAAA    MM      MM  PPPPPPPP    LL          EEEEEEEEEE    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   MMMMMMMMMM  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
EE            XX  XX     AA    AA   MM  MM  MM  PP      PP  LL          EE          SS
EEEEEEEE        XX       AA    AA   MM      MM  PPPPPPPP    LL          EEEEEEEE      SSSSSS
EEEEEEEE        XX       AA    AA   MM      MM  PPPPPPPP    LL          EEEEEEEE      SSSSSS
EEEEEEEE        XX       AA    AA   MM      MM  PPPPPPPP    LL          EEEEEEEE      SSSSSS
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  EEEEEEEEEE  SSSSSSSS
EEEEEEEEEE  XX      XX   AA    AA   MM      MM  PP          LLLLLLLLLL  EEEEEEEEEE  SSSSSSSS
EEEEEEEEEE  XX      XX   AA    AA   MM      MM  PP          LLLLLLLLLL  EEEEEEEEEE  SSSSSSSS
```

```
TTTTTTTTTT  EEEEEEEEEE    SSSSSSSS  TTTTTTTTTT  LL          AAAAAA    BBBBBBBB     IIIIII     000000
TTTTTTTTTT  EEEEEEEEEE    SSSSSSSS  TTTTTTTTTT  LL          AAAAAA    BBBBBBBB     IIIIII     000000
    TT      EE          SS              TT      LL        AA      AA  BB      BB     II     00      00
    TT      EE          SS              TT      LL        AA      AA  BB      BB     II     00      00
    TT      EE          SS              TT      LL        AA      AA  BB      BB     II     00      00
    TT      EE          SS              TT      LL        AA      AA  BB      BB     II     00      00
    TT      EEEEEEEE      SSSSSS        TT      LL        AA      AA  BBBBBBBB       II     00      00
    TT      EEEEEEEE      SSSSSS        TT      LL        AA      AA  BBBBBBBB       II     00      00
    TT      EE                  SS      TT      LL        AAAAAAAAAA  BB      BB     II     00      00
    TT      EE                  SS      TT      LL        AAAAAAAAAA  BB      BB     II     00      00
    TT      EE                  SS      TT      LL        AA      AA  BB      BB     II     00      00      ....
    TT      EE                  SS      TT      LL        AA      AA  BB      BB     II     00      00      ....
    TT      EEEEEEEEEE  SSSSSSSS        TT      LLLLLLLLLL  AA      AA  BBBBBBBB     IIIIII     000000     ....
    TT      EEEEEEEEEE  SSSSSSSS        TT      LLLLLLLLLL  AA      AA  BBBBBBBB     IIIIII     000000     ....

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
FFFFFFFF    00      00  RRRRRRRR
FFFFFFFF    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
```

```
!File:  TESTLABIO.FOR
!       Version 'V04-000'
!
!****************************************************************************
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!****************************************************************************
!
! Tests the LABIO system by allocating upto 16 channels
! Enter the number of channels, rate, and buffer size

        Program TEST_LABIO

        include 'LABCHNDEF.FOR'

        Parameter MBX_NAME = 'TEST_LABIO2'
        Character*130 RETURN
        Character*15 COMMAND
        Character*24 DATE_TIME
        Logical*4 SUCCESS,SYS$CREMBX
        Integer*4 TEST_CHAN,TEST_RATE,TEST_BUF_SIZE

!
! Map To the Global Data Base and the event flags

        Call LABIO_INIT(0)

! Open Mailbox to LABIO_CONNECT

        Open ( Unit = 1, Name = 'LABIO_CONNECT' , Type = 'OLD' )

! Create Mailbox for response from LABIO_CONNECT

        SUCCESS = SYS$CREMBX(,MBX_CHANNEL,,,%Val('FD00'x),,MBX_NAME)
        If (.not.  SUCCESS )  Call FATAL_ERROR( SUCCESS, 'CREATING MAILBOX')
!
! Open via FORTRAN
```

```
!
        Open ( Unit = 2, Name = MBX_NAME, Type = 'OLD' )
!
! Deassign the channel assigned when we created it
        Call SYS$DASSGN( %Val(MBX_CHANNEL) )
!
! Connect to the LABIO system
        COMMAND = 'CONNECT'
        Write(1,100) COMMAND,MBX_NAME
!
! Wait for Response from LABIO system
        Read(2,200) RETURN_CODE,RETURN
        If( RETURN_CODE .ne. 0 ) Go To 99       !Failed to connect!
!
! Get parameters from operator
10      LAST_TEST_CHAN=TEST_CHAN
        Type 600,' Enter number of channels, rate(in tics), and buffer size'
        Accept 700, TEST_CHAN,TEST_RATE,TEST_BUF_SIZE
        If ( TEST_CHAN .eq. 0 ) Call Exit(1)
!
! Deallocate Channels from last time
        Do 20 AD_CHANNEL=1,LAST_TEST_CHAN
        Call SYS$CLREF(%Val(EF_ACTIVITY_OFF+AD_CHANNEL)) !Stop Acq.
        Call SYS$SETEF(%Val(EF_NOTIFY_OFF+AD_CHANNEL))

        COMMAND = 'DEALLOCATE'
        Write(1,400) COMMAND,AD_CHANNEL
        Read(2,200) RETURN_CODE,RETURN
        If( RETURN_CODE .ne. 0 )
        1  Type 500,' Deallocation failure',RETURN_CODE,RETURN
20      Continue
!
! Allocate Channels
!
        Do 30 AD_CHANNEL=1,TEST_CHAN

        COMMAND = 'ALLOCATE'
        Write(1,400) COMMAND,AD_CHANNEL,TEST_RATE,TEST_BUF_SIZE,0
        Read(2,200) RETURN_CODE,RETURN
        If( RETURN_CODE .ne. 0 )
        1  Type 500,' Allocation failure',RETURN_CODE,RETURN


! Enable data acqusition by setting event flag ACTIVITY and NOTIFY
!
        Call SYS$SETEF(%Val(EF_ACTIVITY_OFF+AD_CHANNEL))
30      Call SYS$SETEF(%Val(EF_NOTIFY_OFF+AD_CHANNEL))
        Go To 10
!
! Connect Failure
```

```
!
99      Type 500, ' Connect failure',RETURN_CODE,RETURN
        Go To 10

100     Format(' ',A,A)
200     Format(I2,A)
400     Format(' (',A,41)
500     Format(A/' ',I2,A)
600     Format(A)
700     Format(3I10)
        End
```

XALINK
MAR

DRMASTER
FOR

LABIOLINK
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LABIOPEAK
FOR

LABIOSTRT
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XAMESSAGE
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