Hardware Definitions for the IBM 3490E Model F1A with FC3000 Control Unit in a 3494 ATL

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1.1.1 Basic Hardware Definition Steps for the F1A

Before you can use the IBM 3490E model F1A tape subsystem in a 3494 ATL, you need to define it to the MVS system and Processor through IOCP or through Hardware Configuration Definition (HCD). If you will be using BTLS (Basic Tape Library Support) to control the library functions of the 3494, then either HCD or IOCP/MVSCP may be used. If you will be using DFSMS/OAM (System Managed Tape) to control the library functions of the VTS, then you must use HCD. You may need to update missing interrupt handling (MIH) values as well.

The necessary implementation steps are listed below for a 3494 with one L14 frame and two D14 frames, each containing a FC3000 control unit and 2 F1A drives. The FC3000 CUs are ESCON attached through three 9032-3 ESCON Directors. This paper assumes that the 3490Es are being attached to existing ESCON Directors. If you are installing ESCON Directors for the first time, then the ESCON Directors themselves will also have to be defined in the IOCP or HCD IODF. Please refer to IOCP Use's Guide GC38-0401 and/or HCD User's Guide SC33-6468 for information on defining the ESCON Directors themselves. A CNTLUNIT and an IODEVICE macro need to be coded for each ESCON Director.

We also note in this paper the differences in the definitions if you are NOT attaching through ESCON Directors.

1. Define the devices though IOCP (BTLS only).

   An IOCP example of the F1A strings has been included showing the drives configured with contiguous device numbers:

   WITH ESCON DIRECTORS:

```
            3490E model F1A IOCP
CHPID PATH = 40,TYPE=CNC,SWITCH=01
CHPID PATH = 50,TYPE=CNC,SWITCH=02
CHPID PATH = 60,TYPE=CNC,SWITCH=03
CNTLUNIT  CUNUMBR=440,PATH=(40),UNIT=3490,                  X
      UNITADD=((00,2)),LINK=(D4)
IODEVICE ADDRESS=(A40,2),UNIT=3490,CUNUMBR=(440),           X
      UNITADD=00
CNTLUNIT  CUNUMBR=450,PATH=(50),UNIT=3490,                  X
      UNITADD=((00,2)),LINK=(D5)
IODEVICE ADDRESS=(A42,2),UNIT=3490,CUNUMBR=(450),           X
      UNITADD=00
CNTLUNIT  CUNUMBR=460,PATH=(60),UNIT=3490,                  X
      UNITADD=((00,2)),LINK=(D6)
IODEVICE ADDRESS=(A44,2),UNIT=3490,CUNUMBR=(460),           X
      UNITADD=00
```

   WITHOUT ESCON DIRECTORS:

```
            3490E model F1A IOCP
CHPID PATH = 40,TYPE=CNC
CHPID PATH = 50,TYPE=CNC
CHPID PATH = 60,TYPE=CNC
CNTLUNIT  CUNUMBR=440,PATH=(40),UNIT=3490,                  X
      UNITADD=((00,2))
IODEVICE ADDRESS=(A40,2),UNIT=3490,CUNUMBR=(440),           X
      UNITADD=00
CNTLUNIT  CUNUMBR=450,PATH=(50),UNIT=3490,                  X
      UNITADD=((00,2))
IODEVICE ADDRESS=(A42,2),UNIT=3490,CUNUMBR=(450),           X
      UNITADD=00
CNTLUNIT  CUNUMBR=460,PATH=(60),UNIT=3490,                  X
```

```
      UNITADD=((00,2))
IODEVICE ADDRESS=(A44,2),UNIT=3490,CUNUMBR=(460),          X
      UNITADD=00
```

2. Define devices through HCD.

   APAR OW25291 is available. This APAR allows the user to supply, through HCD interactive panels, the information obtained from Tape Library resident devices at IPL time. This user supplied data is redundant if the devices are available (powered on, and enabled to the channel and NOT busy on another system). If the devices were not so enabled, then this optional data will suffice to allow the devices to be varied online, without another IPL or an HCD re-activate.

   The APAR changes the tape UIM (CBDUS005). It introduces two additional parameters for the tape library resident devices. This changes the HCD device definition dialog (panel CBDPDV13) because these new parameters are now shown in the Define Device Parameters/Features panel. The change is done by DFSMS.

   The updated CBDPDV13 panels are shown with notes pointing to the fields added by this APAR.

   To properly define a 3494 with the three frames containing six F1As attached through three FC3000 control units, it is necessary to define three Tape Control Units with one path each, and six strings of one drive each. The reason for the one-drive-strings is that each drive has a unique LIBPORT identifier.

   Figure 1 on page 4 and Figure 2 on page 5 show the two important panels for specifying one of the FC3000 tape control units.

```
------------------------ Add Control Unit ---------------------
CBDPCU10

Specify or revise the following values.

Control unit number  . . . . 0440  +

Control unit type  . . . . . 3490-C2A          +

Serial number  . . . . . . . _________
Description  . . . . . . . . ________________________________

Connected to switches  . . . 01  __  __  __  __  __  __  __  +
Ports  . . . . . . . . . . . D4  __  __  __  __  __  __  __  +

If connected to a switch, select whether to have CHPIDs/link
addresses, and unit address range proposed.

Auto-assign  . . . . . . . . 2   1.  Yes
                                 2.  No

 F1=Help    F2=Split   F3=Exit    F4=Prompt  F5=Reset   F9=Swap
F12=Cancel
```

Figure 1. Adding the first FC3000 Control Unit through HCD, Part 1

Note that if you are not connecting the F1As through ESCON Directors, then the Connected to Switches fields and Ports fields would be blank. After you have specified the control unit number and the type (here, 3490) as shown in Figure 1 on page 4, and after you have chosen the processor, the control unit is connected to, the panel shown in Figure 2 on page 5 is displayed.

```
------------------------- Add Control Unit -------------------------
CBDPCU12

Specify or revise the following values.

Control unit number  . : 0440         Type . . . . . : 3490-C2A
Processor ID . . . . . : PROC1        This is the main processor

Channel path IDs . . . . 40   __  __  __  __  __  __  __  +
Link address . . . . . . D4   __  __  __  __  __  __  __  +

Unit address . . . . . . 00   __  __  __  __  __  __  __  +
Number of units  . . . . 02  ___ ___ ___ ___ ___ ___ ___

Logical address  . . . . 0  + (same as CUADD)

Protocol . . . . . . . . __  + (D,S or S4)
I/O concurrency level  . 2  + (1, 2 or 3)


 F1=Help     F2=Split    F4=Prompt   F5=Reset    F9=Swap    F12=Cancel
```

Figure 2. Adding the first F1A Control Unit through HCD, Part 2

Note again, that if the F1As are not being attached via ESCON Directors, then the Link address fields would be blank. Figure 3 on page 5 and Figure 4 on page 6 show the two important panels for specifying the second FC3000 tape control unit.

```
------------------------ Add Control Unit ---------------------
CBDPCU10

Specify or revise the following values.

Control unit number  . . . . 0450  +

Control unit type  . . . . . 3490-C2A          +

Serial number  . . . . . . . _________
Description  . . . . . . . . ________________________________

Connected to switches  . . . 02 __  __  __  __  __  __  __  +
Ports  . . . . . . . . . . . D5 __  __  __  __  __  __  __  +

If connected to a switch, select whether to have CHPIDs/link
addresses, and unit address range proposed.

Auto-assign  . . . . . . . . 2   1.  Yes
                                 2.  No

 F1=Help    F2=Split   F3=Exit    F4=Prompt  F5=Reset   F9=Swap
F12=Cancel
```

Figure 3. Adding the Second FC3000 Control Unit through HCD, Part 1

Note that if you are not connecting the F1As through ESCON Directors, then the Connected to Switches fields and Ports fields would be blank. After you have specified the control unit number and the type (here, 3490) as shown in Figure 3 on page 5, and after you have chosen the processor, the control unit is connected to, the panel shown in Figure 4 on page 6 is displayed.

```
------------------------- Add Control Unit -------------------------
CBDPCU12

Specify or revise the following values.

Control unit number  . : 0450         Type . . . . . : 3490-C2A
Processor ID . . . . . : PROC1        This is the main processor

Channel path IDs . . . . 50   __  __  __  __  __  __  __  +
Link address . . . . . . D5   __  __  __  __  __  __  __  +

Unit address . . . . . . 00   __  __  __  __  __  __  __  +
Number of units  . . . . 02  ___ ___ ___ ___ ___ ___ ___

Logical address  . . . . 0  + (same as CUADD)

Protocol . . . . . . . . __  + (D,S or S4)
I/O concurrency level  . 2  + (1, 2 or 3)


 F1=Help     F2=Split    F4=Prompt   F5=Reset    F9=Swap    F12=Cancel
```

Figure 4. Adding the Second FC3000 Control Unit through HCD, Part 2

Note again, that if the F1As are not being attached via ESCON Directors, then the Link address fields would be blank.

The next screens show the control unit definitions for the last control unit required.

```
------------------------ Add Control Unit ---------------------
CBDPCU10

Specify or revise the following values.

Control unit number  . . . . 0460  +

Control unit type  . . . . . 3490-C2A          +

Serial number  . . . . . . . _________
Description  . . . . . . . . ________________________________

Connected to switches  . . . 03  __  __  __  __  __  __  __  +
Ports  . . . . . . . . . . . D6  __  __  __  __  __  __  __  +

If connected to a switch, select whether to have CHPIDs/link
addresses, and unit address range proposed.

Auto-assign  . . . . . . . . 2   1.  Yes
                                 2.  No

 F1=Help    F2=Split   F3=Exit    F4=Prompt  F5=Reset   F9=Swap
F12=Cancel
```

Figure 5. Adding the third FC3000 Control Unit through HCD, Part 1

```
------------------------- Add Control Unit -------------------------
CBDPCU12

Specify or revise the following values.

Control unit number  . : 0460         Type . . . . . : 3490-C2A
Processor ID . . . . . : PROC1        This is the main processor

Channel path IDs . . . . 60   __  __  __  __  __  __  __ +
Link address . . . . . . D6   __  __  __  __  __  __  __ +

Unit address . . . . . . 00   __  __  __  __  __  __  __ +
Number of units  . . . . 16  ___ ___ ___ ___ ___ ___ ___

Logical address  . . . . 0  + (same as CUADD)

Protocol . . . . . . . . __  + (D,S or S4)
I/O concurrency level  . 2  + (1, 2 or 3)


 F1=Help     F2=Split    F4=Prompt   F5=Reset    F9=Swap    F12=Cancel
```

Figure 6. Adding the third FC3000 Control Unit through HCD, Part 2

The number of drives specified above for each FC3000 is two. Each of these two drives should be defined separately in HCD because a different LIBPORT identifier is used for each drive. This is unique to the 3490E model F1A.

To define the IBM 3490E F1A drives, you need to go to the Device List Panel either from the Main Panel by entering 1 and then 5, or via the Control Unit List Panel by using action *s*. To add the F1A drives, press PF11. The screen shown in Figure 7 on page 7 is displayed.

```
------------------------------ Add Device --------------------------
CBDPDV10

Specify or revise the following values.

Device number  . . . . . . . . 0A40  (0000 - FFFF)
Number of devices  . . . . . . 1___
Device type  . . . . . . . . . 3490_________  +

Serial number  . . . . . . . . __________
Description  . . . . . . . . . ________________________________

Connected to CUs . . 0440  ____  ____  ____  ____  ____  ____  ____  +


 F1=Help     F2=Split    F3=Exit     F4=Prompt   F5=Reset    F9=Swap
F12=Cancel
```

Figure 7. Adding the first F1A drive through HCD, Part 1

After entering the required information and specifying to which processors and operating systems the devices are connected, the screen in Figure 8 on page 8 is displayed, where you can update the device parameters.

```
CBDPDV13           Define Device Parameters / Features           Row 1 of 6
Command ===> _____________________________________________ Scroll ===> PAGE

Specify or revise the values below.

Configuration ID . : AB           MVS operating system
Device number  . . : 0A40         Number of devices  :1
Device type  . . . : 3490

Parameter/  Value    P Req.  Description
Feature
OFFLINE     yes              Device considered online or offline at IPL
DYNAMIC     yes              Device supports dynamic configuration
LOCANY                       UCB can reside in 31 bit storage
LIBRARY     yes·             Device supports auto tape library
AUTOSWITCH  No               Device is automatically switchable
LIBRARY-ID  22334·           5 digit library serial numb er
LIBPORT-ID  01·              2 digit library string ID ( port number)
SHARABLE    yes·             Device is Sharable between  systems
COMPACT     yes              Compaction
****************************** Bottom of data ****************************


 F1=Help        F2=Split       F4=Prompt      F5=Reset       F7=Backward
 F8=Forward     F9=Swap       F12=Cancel     F22=Command
```

Figure 8. Adding the first F1A drive through HCD, Part 2

Note: 1. If you are defining drives that are installed in an system-managed IBM 3494 Library, you must specify LIBRARY=yes. For BTLS-managed library drives, specify LIBRARY=no.

Note: 2. If your system has APAR OW25291 installed, you will see this field. In the event that the library drives are not available st IPL, this field will supply the Library ID at IPL time, so that the drives may be varied online without re-activating the HCD. See the last section of this paper for a description of this field

Note: 3. If your system has APAR OW25291 installed, you will see this field. In the event that the library drives are not available st IPL, this field will supply the Port ID at IPL time, so that the drives may be varied online without re-activating the HCD. See the last section of this paper for a description of this field

Note: 4. If more than one MVS system will be sharing the F1A drives in the 3494, then specify yes for SHARABLE. This will force OFFLINE = yes.

To define the second F1A drive in the L14 frame, you need to go back to the Device List Panel from the Main Panel by entering 1 and then 5. To add the second drive, press PF11. The screen shown in Figure 9 on page 9 is displayed.

```
------------------------------ Add Device --------------------------
CBDPDV10

Specify or revise the following values.

Device number  . . . . . . . . . 0A41  (0000 - FFFF)
Number of devices  . . . . . . . 1___
Device type  . . . . . . . . . . 3490_____  +

Serial number  . . . . . . . . . _________
Description  . . . . . . . . . . _____________________________

Connected to CUs . . 0440  ____  ____  ____  ____  ____  ____  ____  +


 F1=Help     F2=Split    F3=Exit     F4=Prompt   F5=Reset    F9=Swap
F12=Cancel
```

Figure 9. Adding the second F1A in the L14 frame through HCD, Part 1

After entering the required information and specifying to which processors and operating systems the device is connected, the screen in Figure 10 on page 9 is displayed, where you can update the device parameters.

```
CBDPDV13           Define Device Parameters / Features           Row 1 of 6
Command ===> ____________________________________________ Scroll ===> PAGE

Specify or revise the values below.

Configuration ID . : AB          MVS operating system
Device number  . . : 0A41        Number of devices  :1
Device type  . . . : 3490

Parameter/  Value    P Req.  Description
Feature
OFFLINE     yes              Device considered online or offline at IPL
DYNAMIC     yes              Device supports dynamic configuration
LOCANY                       UCB can reside in 31 bit storage
LIBRARY     yes·             Device supports auto tape library
AUTOSWITCH  No               Device is automatically switchable
LIBRARY-ID  22334·           5 digit library serial numb er
LIBPORT-ID  02·              2 digit library string ID ( port number)
SHARABLE    yes·             Device is Sharable between  systems
COMPACT     yes              Compaction
****************************** Bottom of data ****************************


 F1=Help       F2=Split      F4=Prompt     F5=Reset      F7=Backward
 F8=Forward    F9=Swap      F12=Cancel    F22=Command
```

Figure 10. Adding the second F1A drive through HCD, Part 2

Note: 1. If you are defining drives that are installed in an system-managed IBM 3494 or Library, you must specify LIBRARY=yes. For BTLS-managed library drives, specify LIBRARY=no.

Note: 2. If your system has APAR OW25291 installed, you will see this field. In the event that the library drives are not available st IPL, this field will supply the Library ID at IPL time, so that the drives may be varied online without re-activating the HCD. See the last section of this paper for an explanation of this field.

Note: 3. If your system has APAR OW25291 installed, you will see this field. In the event that the library drives are not available st IPL, this field will supply the Port ID at IPL time, so that the drives may be varied online without re-activating the HCD. See the last section of this paper for an explanation of this field.

Note: 4. If more than one MVS system will be sharing the F1A drives in the 3494, then specify yes for SHARABLE. This will force OFFLINE = yes.

The following screens repeat the process for other four devices.

```
------------------------------ Add Device --------------------------
CBDPDV10

Specify or revise the following values.

Device number  . . . . . . . . . 0A42  (0000 - FFFF)
Number of devices  . . . . . . . 1___
Device type  . . . . . . . . . . 3490_________  +

Serial number  . . . . . . . . . __________
Description  . . . . . . . . . . ________________________________

Connected to CUs . . 0450  ____  ____  ____  ____  ____  ____  ____  +


 F1=Help     F2=Split    F3=Exit     F4=Prompt   F5=Reset    F9=Swap
F12=Cancel
```

Figure 11. Adding the third F1A drive through HCD, Part 1

```
CBDPDV13           Define Device Parameters / Features           Row 1 of 6
Command ===> ____________________________________________ Scroll ===> PAGE

Specify or revise the values below.

Configuration ID . : AB           MVS operating system
Device number  . . : 0A42         Number of devices  :1
Device type  . . . : 3490

Parameter/  Value    P Req.  Description
Feature
OFFLINE     yes              Device considered online or offline at IPL
DYNAMIC     yes              Device supports dynamic configuration
LOCANY                       UCB can reside in 31 bit storage
LIBRARY     yes              Device supports auto tape library
AUTOSWITCH  No               Device is automatically switchable
LIBRARY-ID  22334            5 digit library serial number
LIBPORT-ID  03               2 digit library string ID (port number)
SHARABLE    yes              Device is Sharable between systems
COMPACT     yes              Compaction
****************************** Bottom of data ****************************


 F1=Help        F2=Split       F4=Prompt      F5=Reset       F7=Backward
 F8=Forward     F9=Swap       F12=Cancel     F22=Command
```

Figure 12. Adding the third F1A drive through HCD, Part 2

```
------------------------------ Add Device --------------------------
CBDPDV10

Specify or revise the following values.

Device number  . . . . . . . . 0A43  (0000 - FFFF)
Number of devices  . . . . . . 1___
Device type  . . . . . . . . . 3490_____  +

Serial number  . . . . . . . . _________
Description  . . . . . . . . . ________________________________

Connected to CUs . . 0450  ____  ____  ____  ____  ____  ____  ____  +


 F1=Help     F2=Split    F3=Exit     F4=Prompt   F5=Reset    F9=Swap
F12=Cancel
```

Figure 13. Adding the fourth F1A drive through HCD, Part 1

```
CBDPDV13           Define Device Parameters / Features           Row 1 of 6
Command ===> ____________________________________________ Scroll ===> PAGE

Specify or revise the values below.

Configuration ID . : AB          MVS operating system
Device number  . . : 0A43        Number of devices  :1
Device type  . . . : 3490

Parameter/  Value    P Req.  Description
Feature
OFFLINE     yes             Device considered online or offline at IPL
DYNAMIC     yes             Device supports dynamic configuration
LOCANY                      UCB can reside in 31 bit storage
LIBRARY     yes             Device supports auto tape library
AUTOSWITCH  No              Device is automatically switchable
LIBRARY-ID  22334           5 digit library serial number
LIBPORT-ID  04              2 digit library string ID (port number)
SHARABLE    yes             Device is Sharable between systems
COMPACT     yes             Compaction
****************************** Bottom of data ******************************


 F1=Help       F2=Split      F4=Prompt     F5=Reset      F7=Backward
 F8=Forward    F9=Swap      F12=Cancel    F22=Command
```

Figure 14. Adding the fourth F1A drive through HCD, Part 2

```
------------------------------ Add Device --------------------------
CBDPDV10

Specify or revise the following values.

Device number  . . . . . . . . 0A44  (0000 - FFFF)
Number of devices  . . . . . . 1___
Device type  . . . . . . . . . 3490_____  +

Serial number  . . . . . . . . _________
Description  . . . . . . . . . ________________________________

Connected to CUs . . 0460  ____  ____  ____  ____  ____  ____  ____  +


 F1=Help     F2=Split    F3=Exit     F4=Prompt   F5=Reset    F9=Swap
F12=Cancel
```

Figure 15. Adding the fifth F1A drive through HCD, Part 1

```
CBDPDV13           Define Device Parameters / Features           Row 1 of 6
Command ===> _____________________________________________ Scroll ===> PAGE

Specify or revise the values below.

Configuration ID . : AB           MVS operating system
Device number  . . : 0A44         Number of devices  :1
Device type  . . . : 3490

Parameter/  Value    P Req.  Description
Feature
OFFLINE     yes              Device considered online or offline at IPL
DYNAMIC     yes              Device supports dynamic configuration
LOCANY                       UCB can reside in 31 bit storage
LIBRARY     yes              Device supports auto tape library
AUTOSWITCH  No               Device is automatically switchable
LIBRARY-ID  22334            5 digit library serial number
LIBPORT-ID  05               2 digit library string ID (port number)
SHARABLE    yes              Device is Sharable between systems
COMPACT     yes              Compaction
****************************** Bottom of data ****************************


 F1=Help        F2=Split       F4=Prompt      F5=Reset       F7=Backward
 F8=Forward     F9=Swap       F12=Cancel     F22=Command
```

Figure 16. Adding the fifth F1A drive through HCD, Part 2

```
------------------------------ Add Device --------------------------
CBDPDV10

Specify or revise the following values.

Device number  . . . . . 0A45  (0000 - FFFF)
Number of devices  . . . . . 1___
Device type  . . . . . 3490_____  +

Serial number  . . . . . _________
Description  . . . . . _____________________________

Connected to CUs . . 0460  ____  ____  ____  ____  ____  ____  ____  +


 F1=Help     F2=Split    F3=Exit     F4=Prompt   F5=Reset    F9=Swap
F12=Cancel
```

Figure 17. Adding the sixth F1A drive through HCD, Part 1

```
CBDPDV13           Define Device Parameters / Features           Row 1 of 6
Command ===> ____________________________________________ Scroll ===> PAGE

Specify or revise the values below.

Configuration ID . : AB           MVS operating system
Device number  . . : 0A45         Number of devices  :1
Device type  . . . : 3490

Parameter/  Value    P Req.  Description
Feature
OFFLINE     yes              Device considered online or offline at IPL
DYNAMIC     yes              Device supports dynamic configuration
LOCANY                       UCB can reside in 31 bit storage
LIBRARY     yes              Device supports auto tape library
AUTOSWITCH  No               Device is automatically switchable
LIBRARY-ID  22334            5 digit library serial number
LIBPORT-ID  06               2 digit library string ID (port number)
SHARABLE    yes              Device is Sharable between systems
COMPACT     yes              Compaction
****************************** Bottom of data ******************************


 F1=Help        F2=Split       F4=Prompt      F5=Reset       F7=Backward
 F8=Forward     F9=Swap       F12=Cancel     F22=Command
```

Figure 18. Adding the sixth F1A drive through HCD, Part 2

If you define esoteric device names containing multiple tape-device types, the default device preference list is built in the following order:

a. 3590-1

b. 3490

c. 3480

3. Update or set values for the missing interrupt handler (MIH).

   The FC3000 attachment of F1As does not automatically upload the MIH timeout values to the host operating system in Read Configuration Data. It is necessary that you specify MIH timeout values for IBM 3490E devices.

   The 3590 A00 and A50 return recommended MIH timeout values to the host operating system in Read Configuration Data. It is not necessary that you specify MIH timeout values for IBM 3590 devices; the device-supplied values handle all MIH timeouts.

   If you currently specify your own MIH timeout values for non-3590 tape devices, we recommend that you review your procedures to see if a timeout value other than the IBM-supplied default of 3 minutes needs to be used. If so, specify the timeout for each individual device. MIH timeout values can be specified only by class (for example; all tapes) or on an individual device basis. Specification of an MIH timeout value for the entire tape class would negate the 3590 device's recommended values and adversely affect MIH recovery processing on 3590 devices. You can specify the MIH values either in PARMLIB member IECIOSxx or by the MVS operator command SETIOS.

   Figure 19 on page 14 shows how to specify MIH values for IBM 3480 devices (addresses 800 to 807), for IBM 3490E drives using CST cartridges (addresses 900 to 907), for IBM 3490E drives with ECCST cartridges (addresses 9E0 to 9EF), and for the FC3000 attached F1As at 45 minutes.

```
MIH=(0800-0807),TIME=03:00
MIH=(0900-0907),TIME=10:00
MIH=(09E0-09EF),TIME=20:00
MIH=(0A40-0A45),TIME=45:00
```

Figure 19. Sample MIH Specification in PARMLIB member IECIOSxx

In Figure 20 on page 14, we give an example of the operator commands to specify the MIH values on a device basis.

```
SETIOS MIH=(0800-0807),TIME=03:00
SETIOS MIH=(0900-0907),TIME=10:00
SETIOS MIH=(09E0-09EF),TIME=20:00
SETIOS MIH=(0A40-0A45),TIME=45:00
```

Figure 20. Sample Operator Commands to Set MIH Value

4. Explanation of the LIBRARY-ID and LIBPORT-ID fields

   If you have APAR OW25291 installed, there are two new fields on the Device Features panel called LIBRARY-ID and LIBPORT-ID.

   When adding the devices in a 3494 library through HCD, you can optionally supply default information for those two fields. Host software uses the information to understand the association of the subsystems to automated tape

libraries and their configuration within the library. If you do not provide the information, the operating system will attempt to obtain the information from the tape subsystem at IPL or I/O activation time. If it cannot get the information from the subsystem (as is the case if the subsystem is not powered on during IPL), the devices cannot be used, so providing the default is a good idea.

The LIBRARY-ID is the library sequence number that was entered via the library manager console during the installation of the library.

The LIBPORT-ID is assigned by the library manager to each tape subsystem associated with a library sequence number. It is also called the Subsystem ID and identifies the subsystems sequential position in the library configuration.

If the library does not contain a Virtual Tape Server subsystem, there is only one library sequence number and one associated sequence of subsystem IDs. For a library that contains both a Virtual Tape Server subsystem and non-VTS subsystems, two library sequence numbers, each with their own associated set of subsystem IDs, are maintained by the library manager.

The values to enter for the virtual drives in the VTS subsystem:

- For LIBRARY-ID

  Open the OPERATIONAL STATUS panel on the Library Manager Console. The LIBRARY-ID is the 5 character field under ″VTS 1″ in the Library Sequence Number section of the panel.

- For LIBPORT-ID

  For the VTS(s), the LIBPORT are always as follows:

  - For the devices attached to the control unit with logical address of 0, use a LIBPORT-ID of 01.
  - For the devices attached to the control unit with logical address of 1, use a LIBPORT-ID of 02.
  - For the devices attached to the control unit with logical address of 2, use a LIBPORT-ID of 03.
  - For the devices attached to the control unit with logical address of 3, use a LIBPORT-ID of 04.

  NOTE: The above values are used whether or not the 3494 library has only a VTS subsystem or a VTS and non-VTS subsystems and/or more than one VTS.

  The values to enter for the non-VTS drives:

- For LIBRARY-ID

  Open the OPERATIONAL STATUS panel on the Library Manager Console. The LIBRARY-ID is the 5 character field under ″non-VTS″ in the Library Sequence Number section of the panel.

- For LIBPORT-ID

  Enter the subsystem ID, xx, determined as follows:

  - Subsystem IDs are assigned started with the subsystems (if any) in the Lxx frame of the 3494 library and incremented for each subsystem located in frames farther from the Lxx frame, EXCEPT for the Model D12 frame that contains the 3590 Model B1A drives associated with a 3494 Model B16 Virtual Tape Server Controller and the virtual subsystem represented by the VTS itself.

- The first subsystem is assigned a subsystem ID of 01, each subsequent subsystem ID is incremented by 1, with the highest subsystem ID of 32
- A separate subsystem ID is assigned to:
  a. Each direct SCSI host attached 3590 Model B1A drive
  b. Each 3590 Model A00 but not its associated 3590 drives
  c. Each 3490 Model C1A or C2A regardless of how it attaches to a host
  d. Each 3490 Model F1A attached to an FC3000 controller.

This is how the subsystem IDs are determined for the non-VTS portion of the following 3494 library configuration:

- Model L12, with two 3590 Model B1A drives attached to a SCSI host
  o Two subsystem IDs are assigned, 01 and 02
- Model S10
  o No subsystem IDs are assigned
- Model D12, with six 3590 Model B1A drives attached to a VTS
  o No subsystem IDs are assigned because these drives are associated with the model B16, Virtual Tape Server Controller
- Model B16
  o No subsystem IDs are assigned
- Model D14, with a 3590 Model A00 and four 3590 Model B1A drives
  o One subsystem ID is assigned, 03
- Model D14, with a 3490 FC3000 and two F1As
  o Two subsystem IDs are assigned, 04 and 05
- Model D12, with four 3590 Model B1A drives, not attached to a VT
  o Four subsystem IDs are assigned, 06, 07, 08 and 09

NOTE: Not all drives will be defined for every host. You will need to determine which drives are attached to the host you are providing the information for.