Second Edition (June 1983)

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This publication applies to the operator (authority level 1) of the IBM 3814 Switching Management System. This reference summary contains basic information from the IBM 3814 Switching Management System Operator’s Guide, GA22-7078.

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3814 Introduction

The 3814 is a microprocessor-driven switching management system. A single series of commands can change a predetermined configuration very quickly.

The mask is used to prohibit certain cross-point connections. It is equivalent to the pins behind the flip-down panel on the 2914. It only needs to be changed when machines are added, removed, or rearranged.

The ChiS (channel interface switches) act as bypass switches that in effect remove a level (a group of four control unit switches) from a channel. They are equivalent to the switches behind the flip-down panel on a 2914. These are only changed for problem isolation or the addition or removal of channel cables in the 3814.

The XPT (crosspoint) switches connect a channel port to a control unit port under control of the mask. They are equivalent to the dials on the front panel of a 2914. These are changed anytime a configuration is changed.

The 3814 can store XPT switch settings for all of the normal configurations that are commonly used.

User ID 1 Keys

Command and Subcommand Keys

<table>
<thead>
<tr>
<th>Log</th>
<th>AUTH</th>
<th>View User</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTLL/TY</td>
<td>DIAG</td>
<td>VIEW MASK</td>
</tr>
<tr>
<td>Exec</td>
<td>Locate</td>
<td>View ChiS</td>
</tr>
<tr>
<td>CHANG</td>
<td>SAVE</td>
<td>View TCS</td>
</tr>
<tr>
<td>Enable</td>
<td>Disable</td>
<td>View XPT</td>
</tr>
</tbody>
</table>

Log
Request for a logon or logoff.

View User
Valid only if the alternate controller attachment feature is installed. Request that the controller switching panel be displayed.

Exec
Request that the display as presented be executed.

Locate
Request that the display be started at the position specified.

View ChiS
Request that the channel interface switches be displayed.

View TCS
Request that the two-channel switches be displayed.

Enable
Request that a XPT, TCS, or ChiS port be enabled. Also used to assign the active controller if the alternate controller attachment feature is installed.

Disable
Request that a XPT, TCS, or ChiS port be disabled.

View XPT
Request that the crosspoint switches be displayed.
### Operand Keys

<table>
<thead>
<tr>
<th></th>
<th>Immed</th>
<th>Sync</th>
<th>HEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>PSWD</td>
<td>Config</td>
<td></td>
</tr>
<tr>
<td>TCS Switch</td>
<td>TCS Intf</td>
<td>Ch1S Level</td>
<td></td>
</tr>
<tr>
<td>XPT Matrix</td>
<td>CU</td>
<td>Ch</td>
<td></td>
</tr>
</tbody>
</table>

**Immed**
Request that the Exec command be processed immediately without regard to the state of the I/O interface.

**Sync**
Request that the Exec command be processed only when a null condition occurs on the affected interface.

**ID**
Specifies that the next digit(s) keyed will be the user authority level.

**PSWD**
Specifies that the next digit(s) keyed will be the user password.

**Config**
Specifies that the next digit(s) keyed will be the configuration number.

**TCS Switch**
Specifies that the next digit(s) keyed will be the number of the control-unit multiple-channel switch.

**TCS Intf**
Specifies that the next digit(s) keyed will be the interface number of the control-unit multiple-channel switch.

**Ch1S Level**
Specifies that the next digit(s) keyed will be the level number of the channel interface switch.

**XPT Matrix**
Specifies that the next digit(s) keyed will be the crosspoint switch matrix number.

**CU**
Specifies that the next digit(s) keyed will be the control unit port number.

**Ch**
Specifies that the next digit(s) keyed will be the channel port number.

### Numeric and Other Keys

<table>
<thead>
<tr>
<th></th>
<th>CLR Cmd/Reset</th>
<th>Clear Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>F</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>SHIFT</td>
<td>0</td>
<td>Enter</td>
</tr>
</tbody>
</table>

**CLR Cmd/Reset**
If pressed once, request that the command area be cleared. If pressed twice consecutively, ends any current command execution.

**Clear Display**
Request to clear the display area and to cancel the active function.

**0-9**
The numeric keys are self-explanatory.

**Enter**
Request that the current command be operated on.

### Console Indicators

**Ready**
Lighted when the console is operational.

**MSG Logged**
Lighted each time a message that requires immediate attention is logged in the log file. It can be turned off by pressing the CLR Cmd/Reset key or by entering any command key. If the alarm feature is installed on the 3604 operator console, the alarm sounds when this indicator is lighted.

**Running**
Lighted when an I/O operation is in process.

**Alt Term Req**
Lighted on the active console when a user tries to use a second console.
Command Set

The command set of the 3814 is entered from the 3604 Model 6 operator console.

<table>
<thead>
<tr>
<th>Command</th>
<th>Subcmd</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>View User</td>
<td>Enable</td>
<td>Switch alternate controllers. Request controller switching. (Valid only when the alternate controller feature is installed.)</td>
</tr>
<tr>
<td></td>
<td>Execute</td>
<td>Execute the Enable request. (Valid only when the alternate controller feature is installed.)</td>
</tr>
<tr>
<td></td>
<td>Clear</td>
<td>Terminate View User and clear the screen.</td>
</tr>
<tr>
<td>Log</td>
<td></td>
<td>Log on or off.</td>
</tr>
<tr>
<td>View XPT</td>
<td>Enable</td>
<td>Display status of crosspoint switch.</td>
</tr>
<tr>
<td></td>
<td>Config</td>
<td>Enable a control-unit-to-channel switch.</td>
</tr>
<tr>
<td></td>
<td>Execute</td>
<td>Compare configuration function.</td>
</tr>
<tr>
<td></td>
<td>Clear</td>
<td>Terminate View XPT and clear the screen.</td>
</tr>
<tr>
<td>View TCS</td>
<td>Locate</td>
<td>Display status of two-channel switches.</td>
</tr>
<tr>
<td></td>
<td>Enable</td>
<td>Scan two-channel switch display.</td>
</tr>
<tr>
<td></td>
<td>Disable</td>
<td>Enable a two-channel switch.</td>
</tr>
<tr>
<td></td>
<td>Execute</td>
<td>Disable a control-unit-to-channel switch.</td>
</tr>
<tr>
<td></td>
<td>Clear</td>
<td>Change the switch settings.</td>
</tr>
<tr>
<td></td>
<td>Clear</td>
<td>Terminate View XPT and clear the screen.</td>
</tr>
<tr>
<td>View ChiS</td>
<td>Locate</td>
<td>Display status of channel interface switches.</td>
</tr>
<tr>
<td></td>
<td>Enable</td>
<td>Scan the interface display.</td>
</tr>
<tr>
<td></td>
<td>Disable</td>
<td>Enable the channel interface switch.</td>
</tr>
<tr>
<td></td>
<td>Execute</td>
<td>Disable the channel interface switch.</td>
</tr>
<tr>
<td></td>
<td>Clear</td>
<td>Change the switch settings.</td>
</tr>
<tr>
<td></td>
<td>Clear</td>
<td>Terminate View ChiS and clear the screen.</td>
</tr>
</tbody>
</table>

Symbol Definition

The following special characters are used on most operator panels:

<table>
<thead>
<tr>
<th>Character</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>The preceding data has been modified since this layout was first called.</td>
</tr>
<tr>
<td>*</td>
<td>The switch is enabled.</td>
</tr>
<tr>
<td>-</td>
<td>The switch is disabled.</td>
</tr>
<tr>
<td>K</td>
<td>The connection is prohibited.</td>
</tr>
<tr>
<td>!</td>
<td>The connection is allowed.</td>
</tr>
<tr>
<td>$</td>
<td>The position is available.</td>
</tr>
<tr>
<td>@</td>
<td>The position is already used.</td>
</tr>
<tr>
<td>$</td>
<td>A conflict exists.</td>
</tr>
<tr>
<td>E</td>
<td>The node has been enabled without request (spurious connection).</td>
</tr>
<tr>
<td>D</td>
<td>The node has been disabled without request (spurious disconnection).</td>
</tr>
</tbody>
</table>

View User

Purpose

The View User command can be used to switch alternate controllers if the alternate controller attachment feature is installed.

Format

View User

Operands

None

Messages

Normal message:

- ENTER USER SBCMD

Enable

Purpose

Enable is a subcommand of View User. The enable subcommand enables a request for a controller switching operation. This subcommand is available only when the alternate controller attachment feature is installed.

Format

Enable n

Operands

n = 1 if the current active controller is 2
    = 2 if the current active controller is 1

Messages

Normal message:

- ALLOWED
- ALREADY ENABLED

Exec

Purpose

The Exec key must be pressed to initiate controller switching after the Enable subcommand has been completed.

Format

Exec

Switching Alternate Controllers

When the alternate controller feature is installed, the controllers can be switched by either of two procedures:

- Switching from the operator control panel.
  - This method does not require that an operator console be attached. However, the operator must be aware that there is no indication of which controller is the active controller without a console.
  - Note: If an operator console is attached to the standby controller and is logged on, the console must be logged off and a minimum of 1 minute must be waited before performing this procedure.

- Switching from an operator console.
  - This method requires that an operator console be attached to the active controller.
  - Note: If an operator console is attached to the standby controller and the console is logged on, the console must be logged off and a minimum of 1 minute waited before performing this procedure.
Switching From the Operator Control Panel

The following procedure can be initiated from the control panel of either controller.

Perform the following sequence:

1. If the Local/Remote switch is in the Remote position, set it to the Local position.
2. Press the Power On and Reset pushbuttons at the same time while watching the Power On indicator. The Power On indicator should flash for approximately 2 seconds if the switching request is accepted.
3. After the switching request has been accepted, switch the Local/Remote switch back to Remote if it was in that position before doing item 1.

Switching From the Operator Console

This procedure may be invoked from a 3604 or a 3278 in 3604 emulation mode. The 3278 must be attached to the active controller. When switching occurs, the 3278s and 3278s will not be switched.

To enter emulation mode, do the following:

1. Initialize the 3278 to the 3814 IDLE frame.
2. Key 'CE 3604' and press the ENTER key.

The 3604 panel should display:

```
mm/dd/yy hh:mm n 3814 AVAILABLE
```

Where:
- `mm/dd/yy` = month/day/year
- `hh:mm` = hour:minute
- `n` = number of the controller that is currently active

Notes:
1. The date, time, and controller number will not be displayed on the 3604 EMULATION MODE panel.
2. The date and time will be displayed as 0's if the display/printer attachment feature is not installed.
3. Perform a log on.

Controller Switching Example

<table>
<thead>
<tr>
<th>Key</th>
<th>View</th>
<th>User</th>
<th>Enter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>USER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controller Active: n, Selected:</td>
<td>ENTER USER SBCMD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key</th>
<th>Enable</th>
<th>n</th>
<th>Enter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>USER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controller Active: n, Selected n</td>
<td>ENABLE n ALLOWED</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key</th>
<th>Exec</th>
<th>Enter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>USER</td>
<td></td>
</tr>
<tr>
<td>Controller Active: n, Selected n</td>
<td>EXECUTE</td>
<td></td>
</tr>
</tbody>
</table>

The CTRL SW IN PROC message is displayed, the 3604 screen is cleared, and within 4 minutes should display:

```
mm/dd/yy hh:mm n 3814 AVAILABLE
```

Note: When controllers are switched from a 3278, the screen of the switching 3278 is cleared, and the 3278 attached to the other controller displays the 3604 emulation panel followed 10 seconds later by the 3814 IDLE panel.
Logon and Logoff

**Purpose**
The Log command is keyed to log on or log off a 3814 user.

**Format**
```
Log ID a
```

**Operands**
- `q` = The ID authority level number.
  - `q` of 0 = User who can run diagnostic tests and utility, View ChiS, View XPT, View TCS, View Mask, and Auth functions.
  - `q` of 1 = User who can invoke all 3814 commands except Save, View User, View Mask, Auth, Utility, and Diag.
  - `q` of 2 = User who can invoke all commands except Utility and Diag.

**Messages**
Normal messages:
- 3814 AVAILABLE
- ENTER YOUR PSWD
- LOGGED ON ID 0
- LOGGED ON ID 1
- LOGGED ON ID 2
- CONFIRM LOG OFF

Logon Example

**Display**
```

```

**Key**
```
Log ID 1 Enter
```

**Display**
```

```

**Key**
```
1 2 3 4 5 6 Enter
```

Clear Display

**Purpose**
The Clear subcommand terminates the preceding function and blanks the screen. The operator is prompted to key a command or subcommand.

**Format**
```
Clear
```

**Operands**
None

**Messages**
Normal message:
- ENTER A COMMAND

Logoff Example

**Key**
```
Clear Display Enter
```

**Display**
```

```

**Key**
```
Log Enter
```

**Display**
```

```

**Key**
```
Log Enter
```

**Display**
```

```

**Exec**

**Purpose**
Exec is a subcommand of View XPT, View TCS, and View ChiS. The Exec command causes the switches to be altered according to the configuration on the display.

Note: If the alternate controller attachment feature is installed, Exec is also a subcommand of View User. The Exec subcommand causes the controllers to be switched if the View User Enable subcommand has been allowed.

**Format**
```
Execute
Execute Sync
Execute Immed
```

**Operands**
- `Sync` (default value)
- `Immed`
Purpose
The View XPT command causes the crosspoint switch matrix number m in configuration x to be displayed.

Format
\texttt{XPT \textbf{MTX} m \textbf{Config} xx \textbf{ENTER}}

Operands
\begin{itemize}
  \item \texttt{XPT \textbf{MTX} m} = Switch matrix number (1 to 8)
  \item \texttt{Config xx} = Configuration number (0 to 79)
  \item xx = 0 means previous configuration
  \item xx = 1 means current configuration
  \item xx > 1 means one of the saved configurations
\end{itemize}

Messages
Normal message:
\begin{itemize}
  \item ENTER XPT SUBCMD
\end{itemize}

Enable
Purpose
Enable is a subcommand of View XPT. The Enable key is used to signal that a switch should be enabled.

Format
\texttt{Enable \textbf{CU} mm \textbf{Ch} nn}

Operands
\begin{itemize}
  \item \texttt{CU mm} = Control unit number (1 to 16)
  \item \texttt{Ch nn} = Channel number (1 to 16)
\end{itemize}

Messages
Normal message:
\begin{itemize}
  \item ALLOWED
\end{itemize}

Disable
Purpose
Disable is a subcommand of View XPT. The Disable key is used to signal that a switch should be disabled.

Format
\texttt{Disable \textbf{CU} mm \textbf{Ch} nn}

Operands
\begin{itemize}
  \item \texttt{CU mm} = Control unit number (1 to 16)
  \item \texttt{Ch nn} = Channel number (1 to 16)
\end{itemize}

Messages
Normal message:
\begin{itemize}
  \item ALLOWED
\end{itemize}

Config
Purpose
Config is a subcommand of View XPT. The Config key is used to request a comparison between the XPT data on the display and any configuration stored on the diskette for the same matrix.

Format
\texttt{Config xx}

Operands
\begin{itemize}
  \item \texttt{Config xx} = Configuration number (0 to 79); xx represents the name of the configuration to which the current display is to be compared.
\end{itemize}

Messages
Normal messages:
\begin{itemize}
  \item IDENTICAL CONF
  \item CONF MISMATCH
\end{itemize}
View TCS

Purpose
View TCS causes the two-channel switches, starting with
switch number mmm in configuration x, to be displayed.

Format
TCS Sw mmm Config x

Operands
TCS sw mmm = TCS number (1 to 128)
Config x = Configuration number (0 to 6)
  x = 0 means previous configuration
  x = 1 means current configuration
  x = 2 to 6 means one of the saved
    configurations

Messages
Normal message:
  • ENTER TCS SUBCMD

Locate

Purpose
Locate is a subcommand of View TCS. The TCS number
mmm designates the starting position of the display.

Format
Locate Sw mmm

Operands
Sw mmm = TCS number (1 to 128)

Messages
Normal message:
  • ENTER TCS SUBCMD

Enable

Purpose
Enable is a subcommand of View TCS. The Enable key is
used to signal that the switch should be enabled.

Format
Enable Sw mmm intf nn

Operands
Sw mmm = TCS number (1 to 128)
Intf nn = Interface number in one TCS switch
  mmm; it must be a number between 1
  and 16.

Messages
Normal message:
  • ALLOWED

Disable

Purpose
Disable is a subcommand of View TCS. The Disable key is
used to signal that the switch should be disabled.

Format
Disable Sw mmm intf nn

Operands
Sw mmm = TCS number (1 to 128).
Intf nn = Interface number in one TCS switch
  mmm; it must be a number between 1
  and 16.

Messages
Normal message:
  • ALLOWED

View TCS Example

Key
View TCS Switch 4 Enter

Display
TCS SW-004 005 006 007 008 009
CONF + - + - - - - - - - - - - -
01 ----- + + + - - - - - -
----- + + + - - - - - -
----- + + + - - - - - -
----- ----- + + + - - - -
----- ----- ----- + + + -
----- ----- ----- ----- + +

Enable

Key
Enable TCS Switch 4 TCS intf 14 Enter

Display
TCS* SW-004 005 006 007 008 009
CONF + - + - - - - - - - - - - -
01 ----- + + + - - - - - -
----- + + + - - - - - -
----- + + + - - - - - -
----- ----- + + + - - - -
----- ----- ----- + + + -
----- ----- ----- ----- + +

Disable

Key
Disable TCS Switch 4 TCS intf 10 Enter

Display
TCS SW-004 005 006 007 008 009
CONF + - + - - - - - - - - - - -
01 ----- + + + - - - - - -
----- + + + - - - - - -
----- + + + - - - - - -
----- ----- + + + - - - -
----- ----- ----- + + + -
----- ----- ----- ----- + +

Exec

Key
Exec Enter

Display
TCS SW-004 005 006 007 008 009
CONF + - + - - - - - - - - - - -
01 ----- + + + - - - - - -
----- + + + - - - - - -
----- + + + - - - - - -
----- ----- + + + - - - -
----- ----- ----- + + + -
----- ----- ----- ----- + +
EXECUTE EXECUTION ENDED
View ChIS

Purpose
The View ChIS command causes the settings of channel interface switch matrix number m, starting with channel port number nn, to be displayed. The ChISs are for error isolation only and are not normally controlled by the operator.

Format
```
View ChIS View MTX m Ch nn
```

Operands
- View MTX m = Switch matrix number (1 to 8)
- Ch nn = Channel number (1 to 16)

Messages
Normal message:
- ENTER CHS SUBCMD

Locate

Purpose
Locate is a subcommand of View ChIS. The Locate command is keyed to specify that channel interface switch number nn is to be the starting position of the display.

Format
```
Locate Ch nn
```

Operands
- Ch nn = Channel number (1 to 16)

Messages
Normal message:
- ENTER CHS SUBCMD

Enable

Purpose
Enable is a subcommand of View ChIS. The Enable key is used to signal that the switch should be enabled.

Format
```
Enable Ch mm Level n
```

Operands
- Ch mm = Channel number (1 to 16)
- Level n = Level number (1 to 6)

Messages
Normal message:
- ALLOWED

Disable

Purpose
Disable is a subcommand of View ChIS. The Disable key is used to signal that the switch should be turned off.

Format
```
Disable Ch mm Level n
```

Operands
- Ch mm = Channel number (1 to 16)
- Level n = Level number (1 to 6)

Messages
Normal message:
- ALLOWED