IBM 3814 Operator's Reference Summary

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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

Log	AUTH	View User
UTILITY	DIAG	VIEW MASK
Exec	Locate	View ChIS
CHANGE	SAVE	View TCS
Enable	Disable	View XPT

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

Immed	Sync	HEX
ID	PSWD	Config
TCS Switch	TCS Intf	ChlS Level
XPT Matrix	CU	Ch

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 digits(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.

ChlS 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

SpACE	CLR Cmd /Reset	Clear Display
1 A	2 B	3 C
4 D	5 E	6 F
7	8	9
SHIFT	0	Enter

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.

VIEW MASK	XPT MATRIX	1	CH	3	ENTER	LVL 0+2
LOCATE	CHNL	3	CU	2	ENTER	
CHANGE	C.U.	4	CH	3	ENTER	LVL 2 ONLY

LVL 2 ONLY

VIEUW USER					ENTER
CHANGE	ID	1	PSWD	000111	ENTER
CHANGE	ID	1	PSWD	0	ENTER

Command Set

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

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

Symbol Definition

The following special characters are used on most operator panels:

Character	Meaning
*	The preceding data has been modified since this layout was first called.
+	The switch is enabled.
-	The switch is disabled.
X	The connection is prohibited.
•	The connection is allowed.
S	The position is available.
=	The position is already used.
$	A conflict exists.
E	The node has been enabled without request (spurious connection).
D	The node has been disabled without request (spurious disconnection).

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 3287s 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.

UTILITY	ENTER
INITIAL.	1
DISPLAY	2
COPY	3

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Controller Switching Example

Key

View User	Enter

Display

USER	
CONTROLLER ACTIVE: m, SELECTED:	
	ENTER USER SBCMD

Key

Enable n	Enter

Display

USER	
CONTROLLER ACTIVE: m, SELECTED n	
ENABLE n	ALLOWED

Key

Exec	Enter

Display

USER	
CONTROLLER ACTIVE: n SELECTED n	
EXECUTE	

The CTLR 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.

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Logon and Logoff

Purpose

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

Format

```
Log ID q
```

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

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

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
```


Logon Example

Display

```
/                                    /
/                                    /
|                                    |
|                                    |
|                    | 3814 AVAILABLE|
```

Key

Log	ID	1	Enter

Display

```
/                                    /
/                                    /
| LOG ID 1           | ENTER YOUR PSWD|
```

Key

1	2	3	4	5	6	Enter

Display

```
/                                    /
/                                    /
|                    | LOGGED ON ID 1 |
```

Logoff Example

Key

Clear Display	Enter

Display

```
/                                    /
/                                    /
|                    | ENTER A COMMAND|
```

Key

Log	Enter

Display

```
/                                    /
/                                    /
| LOG                | CONFIRM LOG OFF|
```

Key

Log	Enter

Display

```
/                                    /
/                                    /
|                    | 3814 AVAILABLE |
```

View XPT

Purpose

The View XPT command causes the crosspoint switch matrix number m in configuration x to be displayed.

Format

```
XPT MTX m Config xx        ENTER
```

Operands

```
XPT MTX m = Switch matrix number (1 to 8)
Config xx = Configuration number (0 to 79)
      xx = 0 means previous configuration
      xx = 1 means current configuration
      xx > 1 means one of the saved
           configurations
```

Messages

Normal message:

- ENTER XPT SUBCMD

Enable

Purpose

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

Format

```
Enable CU nn Ch nn
```

Operands

```
CU nn = Control unit number (1 to 16)
Ch nn = Channel number (1 to 16)
```

Messages

Normal message:

- ALLOWED

Disable

Purpose

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

Format

```
Disable CU nn Ch nn
```

Operands

```
CU nn = Control unit number (1 to 16)
Ch nn = Channel number (1 to 16)
```

Messages

Normal message:

- ALLOWED

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

```
Config xx
```

Operands

```
Config xx = Configuration number (0 to 79);
            xx represents the name of the
            configuration to which the cur-
            rent display is to be compared.
```

Messages

Normal messages:

- IDENTICAL CONF
- CONF MISMATCH

View XPT Example

Key

View XPT	XPT Matrix	2	Config	1	Enter

Display

XPT MTX 2 CONF 1									
	CU	01	02	03	04	05	06	07	08
	CH	07		02		01	03		06
	CU	09	10	11	12				
	CH		05	07	04				
ENTER XPT SUBCMD									

Enable

Key

Enable	CU	2	Ch	4	Enter

Display

XPT* MTX 2 CONF 01									
	CU	01	02	03	04	05	06	07	08
	CH	07	04	02		01	03		06
	CU	09	10	11	12				
	CH		05	07	04				
ENABLE CU 2 CH 4						ALLOWED			

Disable

Key

Disable	CU	6	Ch	3	Enter

Display

XPT* MTX 2 CONF 01									
	CU	01	02	03	04	05	06	07	08
	CH	07	04	02		01			06
	CU	09	10	11	12				
	CH		05	07	04				
DISABLE CU 6 CH 3						ALLOWED			

Exec

Key

Exec	Enter

Display

XPT* MTX 2 CONF 01									
	CU	01	02	03	04	05	06	07	08
	CH	07	04	02		01			06
	CU	09	10	11	12				
	CH		05	07	04				
EXECUTE						EXECUTION ENDED			

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	TCS Switch	4	Enter

Display

```
TCS  SW--004  005  006  007  008  009
CONF     +--+ ++-- ++++ +--- ---- -+++
 01      ++++      -++  ++++ ++--
         -++-           +---
         ----           ++++
TCS SW 4                 ENTER TCS SUBCMD
```

Enable

Key

Enable	TCS Switch	4	TCS Intf	14	Enter

Display

```
TCS* SW--004  005  006  007  008  009
CONF     +--+ ++-- ++++ +--- ---- -+++
 01      ++++      -++  ++++ ++--
         -++-           +---
         -+--           ++++
ENABLE SW 4 INTF 14      ALLOWED
```

Disable

Key

Disable	TCS Switch	4	TCS Intf	10	Enter

Display

```
TCS* SW--004  005  006  007  008  009
CONF     +--+ ++-- ++++ +--- ---- -+++
 01      ++++      -++  ++++ ++--
         --+-           +---
         -+--           ++++
DISABLE SW 4 INTF 10     ALLOWED
```

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 nnn 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 nn Level n

Operands

Ch nn = Channel number (1 to 16)
Level n = Level number (1 to 4)

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 nn Level n

Operands

Ch nn = Channel number (1 to 16)
Level n = Level number (1 to 4)

Messages

Normal message:

- ALLOWED

View ChIS Example

Key

View ChIS	View Matrix	1	Ch	1	Enter

Display

```
CHS      CH----01 02 03 04 05 06 07 08
MTX      LVL 1  -  -  -  -  +  +  -  -
  1      LVL 2  -  +  -  -  -  -  -  -

CHS MTX 1 CH 1                ENTER CHS SUBCMD
```

Enable

Key

Enable	Ch	3	Chls Level	2	Enter

Display

```
CHS*     CH----01 02 03 04 05 06 07 08
MTX      LVL 1  -  -  -  -  +  +  -  -
  1      LVL 2  -  +  +  -  -  -  -  -

ENABLE CH 3 LEVEL 2           ALLOWED
```

Disable

Key

Disable	Ch	5	Chls Level	1	Enter

Display

```
CHS*     CH----01 02 03 04 05 06 07 08
MTX      LVL 1  -  -  -  -  +  +  -  -
  1      LVL 2  -  +  +  -  -  -  -  -

DISABLE CH 5 LEVEL 1          ALLOWED
```

Exec

Key

Exec	Enter

Display

```
CHS      CH----01 02 03 04 05 06 07 08
MTX      LVL 1  -  -  -  -  -  +  -  -
  1      LVL 2  -  +  +  -  -  -  -  -

EXECUTE                       EXECUTION ENDED
```