Standard Break Key Sequence Combinations During Password Recovery

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Introduction

This document provides standard break key sequence combinations for the most common operating systems, and some tips on how to troubleshoot problems.

The Electronic Industries Association RS-232 logic level uses +3 to +25 volts to signify a Space (Logic 0) and -3 to -25 volts for a Mark (logic 1). A break signal is when the data line remains in the space condition for a specified duration, usually 100 ms to ½ second. All characters begin with a start bit and end with a stop bit (and also a parity bit or two). The level condition of the start and stop bits is always opposite. So, no character combination can look like the break signal. A break signal enables you to access a ROM Monitor on Cisco IOS® devices when a password recovery is necessary.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software and hardware versions.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Standard Break Key Combinations

Software	Platform	Operating System	Try This
Hyperterminal	IBM Compatible	Windows XP	Ctrl-Break
Hyperterminal	IBM Compatible	Windows 2000	Ctrl-Break
Hyperterminal	IBM Compatible	Windows 98	Ctrl-Break
Hyperterminal (version 595160)	IBM Compatible	Windows 95	Ctrl-F6-Break
Kermit	Sun Workstation	UNIX	Ctrl-\l Ctrl-\b
MicroPhone Pro	IBM Compatible	Windows	Ctrl-Break
Minicom	IBM Compatible	Linux	Ctrl-a f
ProComm Plus	IBM Compatible	DOS or Windows	Alt-b
SecureCRT	IBM Compatible	Windows	Ctrl-Break
Telix	IBM Compatible	DOS	Ctrl-End
Telnet	N/A	N/A	Ctrl-], then type **send brk**
Telnet to Cisco	IBM Compatible	N/A	Ctrl-]
Teraterm	IBM Compatible	Windows	Alt-b
Terminal	IBM Compatible	Windows	Break Ctrl-Break
Tip	Sun	UNIX	Ctrl-], then Break or Ctrl-

	Workstation		c
			~#
VT 100 Emulation	Data General	N/A	F16
Windows NT	IBM Compatible	Windows	Break-F5
			Shift-F5
			Shift-6 Shift-4 Shift-b (^$B)
Z-TERMINAL	Mac	Apple	Command-b
N/A	Break-Out Box	N/A	Connect pin 2 (X-mit) to +V for half a second
	Cisco to aux port	N/A	Control-Shft-6, then b
	IBM Compatible	N/A	Ctrl-Break

Tips to Troubleshoot

- Problems that you encounter during password recovery often occur because you are not sure about what the break key sequence is for the (non-Cisco) software you use. For software not listed in the table, and for additional information, refer to the documentation of the individual software packages.
- The auxiliary (AUX) port is not active during the boot sequence of a router. Therefore, it is no use if you send a break through the AUX port. You need to have connection to the console port, and have these settings:

  9600 baud rate

  No parity

  8 data bits

  1 stop bit

  No flow control
- Some versions of Windows NT have hyperterminal software that cannot send the correct break key signal. Visit http://www.hilgraeve.com/htpe/index.html for an upgrade of the hyperterminal software.
- In some cases, the break sequence might not get transmitted properly when using a USB/Serial converter cable. In such cases, use a keyboard with a different connector port (for example, a PS/2).

How to Simulate a Break Key Sequence

Break key sequence simulation is useful if your terminal emulator does not support the break key, or if a bug does not allow your terminal emulator to send the correct signal.

Note: The hyperterminal under Windows NT had this behavior in the past.

Complete these steps to simulate a break key sequence:

1. Connect to the router with these terminal settings:

   1200 baud rate

   No parity

   8 data bits

   1 stop bit

   No flow control

   You no longer see any output on your screen, and this is normal.

2. Power cycle (switch off and then on) the router and press the SPACEBAR for 10-15 seconds in order to generate a signal similar to the break sequence.

3. Disconnect your terminal, and reconnect with a 9600 baud rate. You enter the ROM Monitor mode.

If all these methods fail to properly send a break, retry the procedures from a different terminal or PC platform.

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Related Information

- **Password Recovery Procedures**
- **Technical Support & Documentation - Cisco Systems**
