



# Virtual Auxiliary Port Feature and Configuration of DSL Settings

**Last Updated: July 25, 2011**

The virtual auxiliary port feature provides support for dial backup and out-of-band management on Cisco 837 and Cisco 831 routers, and provides support for out-of-band management on Cisco SOHO 97 and Cisco SOHO 91 routers. On these routers, the console port and the auxiliary port share the same physical RJ-45 port. The console port must be changed to act as a virtual auxiliary port, using the command-line interface (CLI) before the dial backup and out-of-band management capabilities can be enabled.

In addition, digital subscriber line (DSL) settings can now be configured on the Cisco 837, Cisco 831, Cisco SOHO 97, and Cisco SOHO 91 routers by using the DSL settings commands.

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- [Information About the Virtual Auxiliary Port, page 2](#)
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## Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the Feature Information Table at the end of this document.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to [n](#). An account on [n](#) is not required.



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In addition, digital subscriber line (DSL) settings can now be configured on the Cisco 837, Cisco 831, Cisco SOHO 97, and Cisco SOHO 91 routers by using the DSL settings commands.

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## Information About the Virtual Auxiliary Port

When the virtual auxiliary port is enabled, the signals directed from the RJ-45 pins are processed by the auxiliary port driver, and the console port is disabled. The virtual auxiliary port can be used to provide the standard Cisco IOS interactive user interface.

## How to Configure the Virtual Auxiliary Port and the DSL Settings

- [Configuring the Virtual Auxiliary Port, page 2](#)
- [Configuring the DSL Settings, page 3](#)

### Configuring the Virtual Auxiliary Port

Perform these steps to configure the virtual auxiliary port.

#### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **line con0**
4. **modem enable**

#### DETAILED STEPS

|        | Command or Action                                                              | Purpose                                                                                                          |
|--------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Step 1 | <b>enable</b><br><br><b>Example:</b><br>Router> enable                         | Enables privileged EXEC mode. <ul style="list-style-type: none"><li>• Enter your password if prompted.</li></ul> |
| Step 2 | <b>configure terminal</b><br><br><b>Example:</b><br>Router# configure terminal | Enters global configuration mode.                                                                                |
| Step 3 | <b>line con0</b><br><br><b>Example:</b><br>Router(config)# line con0           | Enters line configuration mode for the console interface.                                                        |

# Information About the Virtual Auxiliary Port

When the virtual auxiliary port is enabled, the signals directed from the RJ-45 pins are processed by the auxiliary port driver, and the console port is disabled. The virtual auxiliary port can be used to provide the standard Cisco IOS interactive user interface.

## How to Configure the Virtual Auxiliary Port and the DSL Settings

- [Configuring the Virtual Auxiliary Port, page 2](#)
- [Configuring the DSL Settings, page 3](#)

### Configuring the Virtual Auxiliary Port

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| Step 1 | <b>enable</b><br><br><b>Example:</b><br>Router> enable                         | Enables privileged EXEC mode. <ul style="list-style-type: none"><li>• Enter your password if prompted.</li></ul> |
| Step 2 | <b>configure terminal</b><br><br><b>Example:</b><br>Router# configure terminal | Enters global configuration mode.                                                                                |
| Step 3 | <b>line con0</b><br><br><b>Example:</b><br>Router(config)# line con0           | Enters line configuration mode for the console interface.                                                        |

|        | Command or Action                                        | Purpose                                                    |
|--------|----------------------------------------------------------|------------------------------------------------------------|
| Step 4 | <b>modem enable</b>                                      | Changes the console port to function as an auxiliary port. |
|        | <b>Example:</b><br><br>Router(config-line)# modem enable |                                                            |

## Configuring the DSL Settings

Perform these steps to configure the DSL settings.



### Note

For each DSL setting to take effect, the asymmetric digital subscriber line (ADSL) driver resets the ADSL subsystem, which causes the firmware to be downloaded again.

### SUMMARY STEPS

1. enable
2. configure terminal
3. interface atm0
4. dsl noise-margin *decimal*
5. end
6. enable
7. configure terminal
8. interface atm0
9. dsl max-tone-bits *integer*
10. end
11. enable
12. configure terminal
13. interface atm0
14. dsl gain-setting tx-offset *decimal*
15. end
16. enable
17. configure terminal
18. interface atm0
19. dsl gain-setting rx-offset *decimal*
20. end

|        | Command or Action                                        | Purpose                                                    |
|--------|----------------------------------------------------------|------------------------------------------------------------|
| Step 4 | <b>modem enable</b>                                      | Changes the console port to function as an auxiliary port. |
|        | <b>Example:</b><br><br>Router(config-line)# modem enable |                                                            |

## Configuring the DSL Settings

Perform these steps to configure the DSL settings.



### Note

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15. end
16. enable
17. configure terminal
18. interface atm0
19. dsl gain-setting rx-offset *decimal*
20. end

## DETAILED STEPS

|               | Command or Action                                                                                        | Purpose                                                                                                                                                |
|---------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 1</b> | <b>enable</b><br><br><b>Example:</b><br>Router> enable                                                   | Enables privileged EXEC mode. <ul style="list-style-type: none"> <li>Enter your password if prompted.</li> </ul>                                       |
| <b>Step 2</b> | <b>configure terminal</b><br><br><b>Example:</b><br>Router# configure terminal                           | Enters global configuration mode.                                                                                                                      |
| <b>Step 3</b> | <b>interface atm0</b><br><br><b>Example:</b><br>Router(config)# interface atm0                           | Enters interface configuration mode.                                                                                                                   |
| <b>Step 4</b> | <b>dsl noise-margin <i>decimal</i></b><br><br><b>Example:</b><br>Router(config-if)# dsl noise-margin 0.5 | Sets the noise margin offset. <ul style="list-style-type: none"> <li><i>Decimal</i> ranges from -3 dB to 3 dB with a granularity of 0.5 dB.</li> </ul> |
| <b>Step 5</b> | <b>end</b><br><br><b>Example:</b><br>Router(config-if)# end                                              | Exits interface configuration mode and resets the ADSL subsystem.                                                                                      |
| <b>Step 6</b> | <b>enable</b><br><br><b>Example:</b><br>Router> enable                                                   | Enables privileged EXEC mode. <ul style="list-style-type: none"> <li>Enter your password if prompted.</li> </ul>                                       |
| <b>Step 7</b> | <b>configure terminal</b><br><br><b>Example:</b><br>Router# configure terminal                           | Enters global configuration mode.                                                                                                                      |

## DETAILED STEPS

|               | Command or Action                                                                                        | Purpose                                                                                                                                                |
|---------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 1</b> | <b>enable</b><br><br><b>Example:</b><br>Router> enable                                                   | Enables privileged EXEC mode. <ul style="list-style-type: none"> <li>Enter your password if prompted.</li> </ul>                                       |
| <b>Step 2</b> | <b>configure terminal</b><br><br><b>Example:</b><br>Router# configure terminal                           | Enters global configuration mode.                                                                                                                      |
| <b>Step 3</b> | <b>interface atm0</b><br><br><b>Example:</b><br>Router(config)# interface atm0                           | Enters interface configuration mode.                                                                                                                   |
| <b>Step 4</b> | <b>dsl noise-margin <i>decimal</i></b><br><br><b>Example:</b><br>Router(config-if)# dsl noise-margin 0.5 | Sets the noise margin offset. <ul style="list-style-type: none"> <li><i>Decimal</i> ranges from -3 dB to 3 dB with a granularity of 0.5 dB.</li> </ul> |
| <b>Step 5</b> | <b>end</b><br><br><b>Example:</b><br>Router(config-if)# end                                              | Exits interface configuration mode and resets the ADSL subsystem.                                                                                      |
| <b>Step 6</b> | <b>enable</b><br><br><b>Example:</b><br>Router> enable                                                   | Enables privileged EXEC mode. <ul style="list-style-type: none"> <li>Enter your password if prompted.</li> </ul>                                       |
| <b>Step 7</b> | <b>configure terminal</b><br><br><b>Example:</b><br>Router# configure terminal                           | Enters global configuration mode.                                                                                                                      |

|                | Command or Action                                                                                                          | Purpose                                                                                                                                                      |
|----------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 8</b>  | <b>interface atm0</b><br><br><b>Example:</b><br>Router(config)# interface atm0                                             | Enters interface configuration mode.                                                                                                                         |
| <b>Step 9</b>  | <b>dsl max-tone-bits <i>integer</i></b><br><br><b>Example:</b><br>Router(config-if)# max-tone-bits 10                      | Sets the maximum bits per tone limit. <ul style="list-style-type: none"> <li><i>Integer</i> ranges from 2 dB to 14 dB with a granularity of 1 dB.</li> </ul> |
| <b>Step 10</b> | <b>end</b><br><br><b>Example:</b><br>Router(config-if)# end                                                                | Exits interface configuration mode and resets the ADSL subsystem.                                                                                            |
| <b>Step 11</b> | <b>enable</b><br><br><b>Example:</b><br>Router> enable                                                                     | Enables privileged EXEC mode. <ul style="list-style-type: none"> <li>Enter your password if prompted.</li> </ul>                                             |
| <b>Step 12</b> | <b>configure terminal</b><br><br><b>Example:</b><br>Router# configure terminal                                             | Enters global configuration mode.                                                                                                                            |
| <b>Step 13</b> | <b>interface atm0</b><br><br><b>Example:</b><br>Router(config)# interface atm0                                             | Enters interface configuration mode.                                                                                                                         |
| <b>Step 14</b> | <b>dsl gain-setting tx-offset <i>decimal</i></b><br><br><b>Example:</b><br>Router(config-if)# dsl gain-setting tx-offset 0 | Sets the transmit gain offset. <ul style="list-style-type: none"> <li><i>Decimal</i> ranges from -10 dB to 3 dB with a granularity of 0.5 dB.</li> </ul>     |

|                | Command or Action                                                                                                          | Purpose                                                                                                                                                             |
|----------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 8</b>  | <b>interface atm0</b><br><br><b>Example:</b><br>Router(config)# interface atm0                                             | Enters interface configuration mode.                                                                                                                                |
| <b>Step 9</b>  | <b>dsl max-tone-bits <i>integer</i></b><br><br><b>Example:</b><br>Router(config-if)# max-tone-bits 10                      | Sets the maximum bits per tone limit.<br><br><ul style="list-style-type: none"> <li><i>Integer</i> ranges from 2 dB to 14 dB with a granularity of 1 dB.</li> </ul> |
| <b>Step 10</b> | <b>end</b><br><br><b>Example:</b><br>Router(config-if)# end                                                                | Exits interface configuration mode and resets the ADSL subsystem.                                                                                                   |
| <b>Step 11</b> | <b>enable</b><br><br><b>Example:</b><br>Router> enable                                                                     | Enables privileged EXEC mode.<br><br><ul style="list-style-type: none"> <li>Enter your password if prompted.</li> </ul>                                             |
| <b>Step 12</b> | <b>configure terminal</b><br><br><b>Example:</b><br>Router# configure terminal                                             | Enters global configuration mode.                                                                                                                                   |
| <b>Step 13</b> | <b>interface atm0</b><br><br><b>Example:</b><br>Router(config)# interface atm0                                             | Enters interface configuration mode.                                                                                                                                |
| <b>Step 14</b> | <b>dsl gain-setting tx-offset <i>decimal</i></b><br><br><b>Example:</b><br>Router(config-if)# dsl gain-setting tx-offset 0 | Sets the transmit gain offset.<br><br><ul style="list-style-type: none"> <li><i>Decimal</i> ranges from -10 dB to 3 dB with a granularity of 0.5 dB.</li> </ul>     |

| Command or Action                                                                                                                                     | Purpose                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 15</b> <code>end</code><br><br><b>Example:</b><br><code>Router(config-if)# end</code>                                                         | Exits interface configuration mode and resets the ADSL subsystem.                                                                                        |
| <b>Step 16</b> <code>enable</code><br><br><b>Example:</b><br><code>Router&gt; enable</code>                                                           | Enables privileged EXEC mode. <ul style="list-style-type: none"> <li>• Enter your password if prompted.</li> </ul>                                       |
| <b>Step 17</b> <code>configure terminal</code><br><br><b>Example:</b><br><code>Router# configure terminal</code>                                      | Enters global configuration mode.                                                                                                                        |
| <b>Step 18</b> <code>interface atm0</code><br><br><b>Example:</b><br><code>Router(config)# interface atm0</code>                                      | Enters interface configuration mode.                                                                                                                     |
| <b>Step 19</b> <code>dsl gain-setting rx-offset decimal</code><br><br><b>Example:</b><br><code>Router(config-if)# dsl gain-setting rx-offset 1</code> | Sets the receive gain offset. <ul style="list-style-type: none"> <li>• <i>Decimal</i> ranges from -5 dB to 3 dB with a granularity of 0.5 dB.</li> </ul> |
| <b>Step 20</b> <code>end</code><br><br><b>Example:</b><br><code>Router(config-if)# end</code>                                                         | Ends the configuration mode.                                                                                                                             |

## Configuration Example for Configuring the DSL Settings

```

interface atm0
no ip address
dsl noise-margin 0
dsl max-tone-bits 14
dsl gain-setting tx-offset 0
dsl gain-setting rx-offset 1

```

| Command or Action                                                                                                                                     | Purpose                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 15</b> <code>end</code><br><br><b>Example:</b><br><code>Router(config-if)# end</code>                                                         | Exits interface configuration mode and resets the ADSL subsystem.                                                                                        |
| <b>Step 16</b> <code>enable</code><br><br><b>Example:</b><br><code>Router&gt; enable</code>                                                           | Enables privileged EXEC mode. <ul style="list-style-type: none"> <li>• Enter your password if prompted.</li> </ul>                                       |
| <b>Step 17</b> <code>configure terminal</code><br><br><b>Example:</b><br><code>Router# configure terminal</code>                                      | Enters global configuration mode.                                                                                                                        |
| <b>Step 18</b> <code>interface atm0</code><br><br><b>Example:</b><br><code>Router(config)# interface atm0</code>                                      | Enters interface configuration mode.                                                                                                                     |
| <b>Step 19</b> <code>dsl gain-setting rx-offset decimal</code><br><br><b>Example:</b><br><code>Router(config-if)# dsl gain-setting rx-offset 1</code> | Sets the receive gain offset. <ul style="list-style-type: none"> <li>• <i>Decimal</i> ranges from -5 dB to 3 dB with a granularity of 0.5 dB.</li> </ul> |
| <b>Step 20</b> <code>end</code><br><br><b>Example:</b><br><code>Router(config-if)# end</code>                                                         | Ends the configuration mode.                                                                                                                             |

## Configuration Example for Configuring the DSL Settings

```

interface atm0
no ip address
dsl noise-margin 0
dsl max-tone-bits 14
dsl gain-setting tx-offset 0
dsl gain-setting rx-offset 1

```

# Additional References

## Related Documents

| Related Topic           | Document Title                                                                                                               |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Configuring Dial Backup | <i>Cisco 826, 827, 828, 831, 836, and 837 and Cisco SOHO 76, 77, 78, 91, 96, and 97 Routers Software Configuration Guide</i> |

## Standards

| Standards <sup>1</sup>                                                                                                            | Title |
|-----------------------------------------------------------------------------------------------------------------------------------|-------|
| No new or modified standards are supported by this feature. Support for existing standards has not been modified by this feature. |       |

## MIBs

| MIBs <sup>2</sup>                                                                                                       | MIBs Link                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No new or modified MIBs are supported by this feature. Support for existing MIBs has not been modified by this feature. | To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator available at the following URL:<br><a href="#">h</a> <a href="#">/go/mibs</a> |

## RFCs

| RFCs <sup>3</sup>                                                                                                       | Title |
|-------------------------------------------------------------------------------------------------------------------------|-------|
| No new or modified RFCs are supported by this feature. Support for existing RFCs has not been modified by this feature. |       |

<sup>1</sup> Not all supported standards are listed.

<sup>2</sup> Not all supported MIBs are listed.

<sup>3</sup> Not all supported RFCs are listed.

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