



# Release Notes for Firmware Release A2pv6C038h, B2pvC038h, and A2pv6C038k1

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**OL-29415-01**

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## Introduction

These release notes describe enhancements and requirements for firmware release A2pv6C038h, B2pvC038h, and A2pv6C038k1. This firmware release is not pre-installed in any IOS routers or modules. For detailed information on supported hardware and platforms, see the [“Hardware Supported” section on page 2](#). These release notes are updated as needed.



### Note

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The A2pv6C038h, B2pvC038h, and A2pv6C038k1 firmware supports only G.vector features on VDSL2 and can be used only for G.vector type of deployments.

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# System Requirements

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## Hardware Supported

The following are the hardware supported:

- Cisco 887VA Series VDSL2 Router platforms
- Cisco 887VA Series Multimode VDSL2/ADSL2/2+ DSL platforms

## Memory Requirements and IOS Software Requirements

The following tables list all platforms that support A2pv6C038h, B2pvC038h, and A2pv6C038k1 firmware.

[Table 1](#) lists the supported Cisco 886VA/887VA Series Multimode VDSL2/ADSL2/2+ DSL platforms and memory requirements.

**Table 1** *Supported Cisco 886VA/887VA Series Multimode VDSL2/ADSL2/2+ DSL and Memory Requirements*

Platform	Flash (MB)	DRAM (MB)
CISCO886VA-K9	128	256
CISCO886VA-SEC-K9		
CISCO886VA-J-K9		
CISCO887VA-K9		
CISCO887VA-SEC-K9		
CISCO887VA-M-K9		

[Table 2](#) lists the supported Cisco 887 Series Multimode VDSL2/ADSL2/2+ with WLAN platforms and memory requirements.

**Table 2** *Supported Cisco 886VA/887VA Series Multimode VDSL2/ADSL2/2+ with WLAN Platforms and Memory Requirements*

Platform	Flash (MB)	DRAM (MB)
CISCO886VA-W-E-K9	256	512
CISCO887VAM-W-E-K9		
CISCO887VA-W-A-K9		
CISCO887VA-W-E-K9		

Table 3 lists the supported Cisco 880 Series Multimode VDSL2/ADSL2/2+ with analog and ISDN voice platforms and memory requirements using firmware release A2pv6C038h, B2pvC038h, and A2pv6C038k1.

**Table 3 Supported Cisco 886VA/887VA Series Multimode VDSL/ADSL2/2+ with Analog ISDN Voice Platforms and Memory Requirements**

Platform	Flash (MB)	DRAM (MB)
CISCO887VA-K9	256	512
CISCO887VA-W-E-K9		
CISCO887VA-V-K9		
CISCO887VA-V-W-E-K9		

Table 4 lists the supported Cisco 880 Series Data ISR platforms and memory requirements using firmware release A2pv6C038h, B2pvC038h, and A2pv6C038k1.

**Table 4 Supported Cisco 886VA/887VA Series Data ISR Platforms and Memory Requirements**

Platform	Flash (MB)	DRAM (MB)
CISCO886VAG+7-K9	256	512
CISCO887VAG+7-K9		
CISCO887VAMG+7-K9		
CISCO887VAGW+7-A-K9		
CISCO887VAGW+7-E-K9		
CISCO887VA-WD-A-K9		
CISCO887VA-WD-E-K9		

Table 5 lists the supported Cisco 887 Series VDSL Routers and memory requirements using firmware release A2pv6C038h, B2pvC038h, and A2pv6C038k1.

**Table 5 Supported Cisco 887V Series Platforms and Memory Requirements**

Platform	Flash (MB)	DRAM (MB)
CISCO887V-K9	128	256
CISCO887V-SEC-K9		
CISCO887VW-GNA-K9		
CISCO887VW-GNE-K9		

## Determining the Firmware Version

To determine the version of firmware currently running on your router, issue the following IOS command and look for the output as shown below:

```
Router# show controllers vdsl 0
```

```
Firmware      Source      File Name (version)
-----      -
```

```
VDSL          user config  flash:VA_A_38h_B_38h_24g1.bin
```

```
Modem FW Version: 120224_1722-4.02L.03.A2pv6C038h and B2pvC038h
Modem PHY Version:A2pv6C038h and B2pvC038h
```

**Note**

For a Cisco EHWIC Multimode VDSL2/ADSL+ Multicard, use the *slot/subslot/port number* argument for the **show controllers vdsl** command.

## Upgrading to a New Firmware Release

Perform the following steps to upgrade to a new firmware release:

1. Download the new firmware from Cisco.com Software Center at <http://www.cisco.com/cisco/software/navigator.html>.

Choose **Products -> Routers -> Branch Routers -> Cisco 800 Series Routers -> Cisco 886VA/887VA Integrated Services Router -> Very High Bitrate DSL (VDSL) Firmware**

2. Copy the firmware to a designated location; for example, router flash or a TFTP server.
3. Configure the router to load the new firmware from a designated location.

```
Router# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
```

```
Router(config)# controller vdsl 0
Router(config-controller)# firmware filename ?
archive:  Download fw file name
cns:      Download fw file name
flash:    Download fw file name
ftp:      Download fw file name
http:     Download fw file name
https:    Download fw file name
null:     Download fw file name
nvram:    Download fw file name
rcp:      Download fw file name
scp:      Download fw file name
system:   Download fw file name
tar:      Download fw file name
tftp:     Download fw file name
tmpsys:   Download fw file name
xmodem:   Download fw file name
ymodem:   Download fw file name
```

```
Router(config-controller)# firmware filename flash:vdsl.bin.38hd23jds1fw
```

**Note**

Controller VDSL 0 should *not* be turned off.

4. Enter the **copy running-config startup-config** command to save your configuration.
5. Enter the **reload** command to restart the router.

## New and Changed Information

The following list contains improvements with firmware release A2pv6C038h, B2pvC038h, and A2pv6C038k1:

- Supports G.vector friendly mode (G.993.2 Annex Y, enabled by bit fgFlagsEnableG993p2AnnexY).
- Supports Ripolicy according to G.993.2 amendment 7.
- Supports G.998.4 amendment 2.
- Supports new INM format in G.993.2 (need CO FW 10.8.20 and later if used with BRCM CO).
- Optimizes US0 PSD in G.993.2.
- Fixes no-connect under certain conditions in G.993.2 when DS/US has mixed interleave and PhyR configuration.
- Fixes sub-optimal ds rate under some INP/delay configuration in G.993.2.
- Fixes invalid DS SoS requests when last tone in tone groups is loaded with 1bit in G.993.2.
- Fixes G.993.2 training issues for certain US over head rate configurations.
- Fixes invalid DS OLR requests in certain conditions of high DS rates in G.993.2.
- Fixes no connect issue in G.992.1 against LU STGR AD72 DSLAM.
- Fixes delay computation of PhyR in G.993.2 30a profile.
- Fixes over head channel corruption under certain framing parameter change in G.993.2 SRA.
- Fixes SRA stall under certain corner conditions in G.993.2 and G.992.5[3].
- Optimizes memory usage of PhyR in G.993.2.
- Improves ROC robustness in G.993.2.
- Improves DS rate in G.998.4.
- Improves G.992.5 DS rates against H563AEDF Ver B line card with CNXT CO.
- Improves G.993.2 IOP against Lantiq based DSLAMs.
- Improves T1.413 connectivity in presence of strong RFI on tone 64.
- Improves RDI detection in low DS rate in all modes.
- Improves SoS convergence speed in G.993.2.

#### Known Issues and Limitations

The following list contains known issues and limitations with firmware release A2pv6C038h, B2pvC038h, and A2pv6C038k1:

- G.INP supports DTU framing type 1 only.

## Modem Settings

New and existing modem commands are integrated to the release of the A2pv6C038h, B2pvC038h, and A2pv6C038k1 firmware and IOS release 15.x(x)x to allow custom configurations of DSL modem settings and to ensure DSL interoperability in different environments.

Modem settings are optional, depending on the DSLAM used. Please consult your Service Provider on required modem settings (if any) for the particular SP network configuration.

Before you enable the modem settings, execute the **service internal** command in configuration mode. For example:

```
Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)# service internal
```

The following list contains the modem settings:

#### Setting UK Annex M Flag

- Default—disabled
- Command—**modem customUKAnnexM** under **controller vdsl 0**
- Purpose—enabling UK specific Annex M mask
- Firmware/Driver dependency—starting from d23j driver and A2pv6C038h and B2pvC038h



#### Note

---

Reload the router after setting or unsetting this command.

---

- Verification:
  - When the command is configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bit 20 in adslAnnexAParam—ON
Bit 9 in adslDemodCap2Mask—ON
Bit 9 in adslDemodCap2Value—ON
adslAnnexAParam—00107985
adslDemodCap2Mask—00540200
adslDemodCap2Value—00540200
show controller vdsl 0 console—custom UK Annex M Mask SET
```
  - When the command is not configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bit 20 in adslAnnexAParam—OFF
Bit 9 in adslDemodCap2Mask—OFF
Bit 9 in adslDemodCap2Value—OFF
adslAnnexAParam—00007985
adslDemodCap2Mask—00540000
adslDemodCap2Value—00540000
show controller vdsl 0 console—custom UK Annex M Mask NOT SET
```

#### Setting C05 Flag

- Default—disabled
- Command—**modem co5** under **controller vdsl 0**
- Purpose—resolving performance related interoperability issues with Ikanos CO5 DSLAM
- Firmware/Driver dependency—starting from d23j driver and A2pv6C038h and B2pvC038h



#### Note

---

Reload the router after setting or unsetting this command.

---

- Verification:

- When the command is configured:
  - test vdsl 0 modem exec adsl info—cfg
  - Bit 4 vdslCfgFlagsMask—ON
  - Bit 4 vdslCfgFlagsValue—ON
  - Bit 5 vdslCfgFlagsMask—ON
  - Bit 5 vdslCfgFlagsValue—ON
  - vdslCfgFlagsMask—00000434
  - vdslCfgFlagsValue—00000434
  - show controller vdsl 0 console**—CO5 Flag SET
- When the command is not configured:
  - test vdsl 0 modem exec adsl info—cfg
  - Bit 4 vdslCfgFlagsMask—OFF
  - Bit 4 vdslCfgFlagsValue—OFF
  - Bit 5 vdslCfgFlagsMask—OFF
  - Bit 5 vdslCfgFlagsValue—OFF
  - vdslCfgFlagsMask—00000404
  - vdslCfgFlagsValue—00000404
  - show controller vdsl 0 console**—CO5 Flag NOT SET

#### Disabling V.43 Carrier Set

- Default—enabled
- Command—**modem disableV43** under **controller vdsl 0**
- Purpose—disabling V43 carrier set
- Firmware/Driver dependency—starting from d23b driver and A2pv6C038h and B2pvC038h



#### Note

---

Reload the router after setting or unsetting this command.

---

- Verification:
  - When the command is configured:
    - test vdsl 0 modem exec adsl info—cfg
    - Bit 16 vdslCfgFlagsMask—ON
    - Bit 16 vdslCfgFlagsValue—ON
    - vdslCfgFlagsMask—00010404
    - vdslCfgFlagsValue—00010404
    - show controller vdsl 0 console**—disable V43 SET
  - When the command is not configured:
    - test vdsl 0 modem exec adsl info—cfg
    - Bit 16 vdslCfgFlagsMask—OFF
    - Bit 16 vdslCfgFlagsValue—OFF

vdslCfgFlagsMask—00000404  
 vdslCfgFlagsValue—00000404  
**show controller vdsl 0 console**—disable V43 CLEAR

#### Disabling GinpDs Support Carrier Set

- Default—enabled
- Command—**modem disableGinpDsSupport** under **controller vdsl 0**
- Purpose—disabling G.INP feature bit
- Firmware/Driver dependency—starting from d23j driver and A2pv6C038h and B2pvC038h



#### Note

---

Reload the router after setting or unsetting this command.

---

- Verification:
  - When the command is configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bit 17 xdslAuxFeaturesMask—ON
Bit 17 xdslAuxFeaturesValue—ON
xdslAuxFeaturesMask—00040003
xdslAuxFeaturesValue—00040003
show controller vdsl 0 console—disable GinpDsSupport
```
  - When the command is not configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bit 17 xdslAuxFeaturesMask—OFF
Bit 17 xdslAuxFeaturesValue—OFF
xdslAuxFeaturesMask—00060003
xdslAuxFeaturesValue—00060003
show controller vdsl 0 console—enable GinpDsSupport
```

#### Disabling GinpUs Support Carrier Set

- Default—enabled
- Command—**modem disableGinpUsSupport** under **controller vdsl 0**
- Purpose—disabling GinpUs support
- Firmware/Driver dependency—starting from 23j driver and A2pv6C038h and B2pvC038h



#### Note

---

Reload the router after setting or unsetting this command.

---

- Verification:
  - When the command is configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bits 18 kDslGinpUsSupported—OFF
```



```
xdslAuxFeaturesValue—00024003
```

```
show controller vdsl 0 console—disable GinpUsSupport
```

- When the command is not configured:

```
test vdsl 0 modem exec adsl info—cfg
```

```
Bits 18 kDslGinpUsSupported—ON
```

```
xdslAuxFeaturesValue—00064003
```

```
show controller vdsl 0 console output—enable GinpUsSupport
```

#### Enabling HBI Feature

- Default—disabled
- Command—**modem hbifeature** under **controller vdsl 0**
- Purpose—enabling HBI specific feature bit
- Firmware/Driver dependency—starting from d23b driver and A2pv6C038h and B2pvC038h



#### Note

---

Reload the router after setting or unsetting this command.

---

- Verification:
  - When the command is configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bits 12 kDslG992FTFeatureBit—ON
xdslAuxFeaturesMask—00061003
xdslAuxFeaturesValue—00061003
show controller vdsl 0 console output—HBI Bit SET
```
  - When the command is not configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bits 12 kDslG992FTFeatureBit—OFF
xdslAuxFeaturesMask—00060003
xdslAuxFeaturesValue—00060003
show controller vdsl 0 console output—HBI Bit CLEAR
```

### Enabling Channel Policy 2

- Default—disabled
- Command—**modem chanpolicy2** under **controller vdsl 0**
- Purpose—enabling Channel Policy 2 specific feature bit
- Firmware/Driver dependency—starting from d23b driver and A2pv6C038h and B2pvC038h



#### Note

---

Reload the router after setting or unsetting this command.

---

- Verification:
  - When the command is configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bits 23 kDslAuxFeatureChanPolicy—ON
xdslAuxFeaturesMask—00860003
xdslAuxFeaturesValue—00860003
show controller vdsl 0 console—Chan Policy Bit SET
```
  - When the command is not configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bits 23 kDslAuxFeatureChanPolicy—OFF
xdslAuxFeaturesMask—00060003
xdslAuxFeaturesValue—00060003
show controller vdsl 0 console—Chan Policy Bit CLEAR
```

**Disabling FireDS Support**

- Default—enabled
- Command—**modem disableFireDsSupport** under **controller vdsl 0**
- Purpose—disabling FireDS support
- Firmware/Driver dependency—starting from d23j driver and A2pv6C038h and B2pvC038h

**Note**


---

Reload the router after setting or unsetting this command.

---

- Verification:
  - When the command is configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bits 22 kDslFireDsSupported—OFF
adslDemodCap2Value—00900000
show controller vdsl 0 console—disable FireDsSupport
```
  - When the command is not configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bits 22 kDslFireDsSupported—ON
adslDemodCap2Value—00d00000
show controller vdsl 0 console—enable FireDsSupport
```

**Disabling FireUs Support**

- Default—enabled
- Command—**modem disableFireUsSupport** under **controller vdsl 0**
- Purpose—Disabling FireUS support
- Firmware/Driver dependency—Starting from d23j driver and A2pv6C038h and B2pvC038h

**Note**


---

Reload the router after setting or unsetting this command.

---

- Verification:
  - When the command is configured.
 

```
test vdsl 0 modem exec adsl info—cfg
Bits 23 kDslFireUsSupported—Off
adslDemodCap2Value—00500000
show controller vdsl 0 console—disable FireUsSupport
```
  - When the command is not configured.
 

```
test vdsl 0 modem exec adsl info—cfg
Bits 23 kDslFireUsSupported—On
adslDemodCap2Value—00d00000
show controller vdsl 0 console—enable FireUsSupport
```

**Disabling MonitorTone**

- Default—enabled
- Command—**modem disableMonitorTone** under **controller vdsl 0**
- Purpose—disabling MonitorTone
- Firmware/Driver dependency—starting from d23j driver and A2pv6C038h and B2pvC038h

**Note**


---

Reload the router after setting or unsetting this command.

---

- Verification:
  - When the command is configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bits 14 kDslMonitorToneDisable—ON
xdslAuxFeaturesValue—00064003
show controller vdsl 0 console—disable MonitorTone
```
  - When the command is not configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bits 14 kDslMonitorToneDisable—OFF
xdslAuxFeaturesValue—00060003
show controller vdsl 0 console—enable MonitorTone
```

**Enabling UKfeature**

- Default—disabled
- Command—**modem UKfeature** under **controller vdsl 0**
- Purpose—enabling British Telecom specific feature bit
- Firmware/Driver dependency—starting from d23b driver and A2pv6C038h and B2pvC038h

**Note**


---

Reload the router after setting or unsetting this command.

---

- Verification:
  - When the command is configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bit 21 kDslG992BTFeatureBit—ON
xdslAuxFeaturesMask—00260003
xdslAuxFeaturesValue—00260003
show controller vdsl 0 console—UKFeatureBit SET
```
  - When the command is not configured:
 

```
test vdsl 0 modem exec adsl info—cfg
Bit 21 kDslG992BTFeatureBit—OFF
xdslAuxFeaturesMask—00060003
```

xdslAuxFeaturesValue—00060003

**show controller vdsl 0 console**—UKFeatureBit CLEAR

#### Enabling dsattn Flag

- Default—disabled
- Command—**modem dsattn** under **controller vdsl 0**
- Purpose—enabling dsattn



#### Note

---

Reload the router after setting or unsetting this command.

---

- Verification:
  - When the command is configured:
    - test vdsl 0 modem exec adsl info—cfg
    - Bit 13 in adslDemodCapMask—ON
    - Bit 13 in adslDemodCapValue—ON
    - adslDemodCapMask—0092607a
    - adslDemodCapValue—0010607a
    - show controller vdsl 0 console**—dsattn SET
  - When the command is not configured:
    - test vdsl 0 modem exec adsl info—cfg
    - Bit 13 in adslDemodCapMask—OFF
    - Bit 13 in adslDemodCapValue—OFF
    - adslDemodCapMask—0092407a
    - adslDemodCapValue—0010407a
    - show controller vdsl 0 console**—dsattn CLEAR

## Related Documentation

- [Release-Specific Documents, page 14](#)
- [Platform-Specific Documents, page 14](#)
- [Other Firmware Code, page 14](#)

## Release-Specific Documents

For detailed information about the release-specific platforms, see the following documentations:

- [Cisco Multimode VDSL2 and ADSL2/ADSL2+ High-Speed WAN Interface Card](#)
- [Cisco 860 Series, Cisco 880 Series, and Cisco 890 Series Integrated Services Routers Software Configuration Guide](#)
- [Cisco 860 Series, Cisco 880 Series, and Cisco 890 Series Integrated Services Routers Hardware Installation Guide](#)

## Platform-Specific Documents

For more information about the supported platforms, see the following documentations:

- [Cisco 880 Series Integrated Services Router Software Configuration Guide](#)
- [Cisco 860 Series, Cisco 880 Series, and Cisco 890 Series Integrated Services Routers Hardware Installation Guide](#)
- [Cisco 860 Series, Cisco 880 Series, and Cisco 890 Series Integrated Services Routers Software Configuration Guide](#)

## Other Firmware Code

See the following links for more information on firmware used prior to this release:

- [Release Notes for Cisco 880VA Series Multimode VDSL2/ADSL2/2+ DSL Router with firmware release A2pv6C032b.d23b](#)
- [Release Notes for Cisco 880VA Series Multimode VDSL2/ADSL2/2+ DSL Router with firmware release A2pv6C035d.d23j](#)
- [Release Notes for Cisco 880VA Series Multimode VDSL2/ADSL2/2+ DSL Router with Firmware Release ABpv6C035j](#)

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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