Series 5000
ADSL Modem / Router

Firmware Release Notes

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Version: 1.4 (01 August, 2012)

Firmware Version: v1.54

CYBERTEC

Dcoumentation Control

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1 Introduction

This document provides a summary of the firmware changes and details the firmware upgrade procedure for the Cybertec Series 5000 ADSL Modem / Routers.

2 Version

The latest version of the Series 5000 firmware is: v1.54.

The firmware file for the current release is: S5000-v154.upg

3 Applicability

The firmware described in this document is applicable for all Series 5000 models

4   Version 1.54 (24/07/2012)

4.1   General

- This release includes new features, several enhancements and bug fixes.

4.2   New Features

- No new features.

4.3   Enhancements

- Serial Server

  ○ Added the ability for the Raw UDP mode to send data to the last IP address from which data was received.

- IPsec

  ○ Added an option to allow the routing information to be added to the routing table only once the tunnel has been established.

4.4   Bug Fixes

- SNMP

  ○ Interface status is correctly reported. Previously all interfaces were reported as down.

  ○ Default contact email address is no longer set.

  ○ Warning messages are no longer generated when some configuration fields are left blank. Note that the warning messages did not affect SNMP operation.

- VRRP

  ○ The Routing ▷ VRRP page did not allow the DSL interface to be selected. Fixed.

- Serial Server

  ○ When Raw UDP mode send IP address is set to 0.0.0.0 any data received is dropped.

- SSL VPN

  ○ MDEX Certificate failed to be read. Fixed.

- Ethernet

  ○ The interface did not always power off correctly. Fixed.

- User Management

  ○ The default configuration incorrectly included a valid guest password. Fixed.

  ○ When upgrading devices if the guest password is the default, the guest user will be disabled. No other passwords will be affected.

  ○ To enable the guest user click on "Edit users and passwords" on System ▷ Administration page and and set a password for the "guest" user.

4.5   Known Issues

- No known issues.

5   Version 1.49 (24/01/2012)

5.1   General

- This is a bug fix release.

5.2   New Features

- Loopback Interface

  ○ The interface is a virtual interface which may be assigned an IP address that is independant of the physical interface addresses.

  ○ This interface allows applications to send or receive data using the address assigned to the virtual interface as opposed to the address on the physical interface through which the traffic passes.

  ○ The Loopback Interface configuration can be found in the Network ▷ Loopback page.

5.3   Enhancements

- Routing Type & Metric

  ○ The route type and metric can be set when configuring a route.

- IPsec

  ○ If IPsec is configured to terminate at the LAN interface and the LAN address is changed IPsec will re-start.

- MAC Address Filters

  ○ Two actions now provided:

    - Local is for restricting or allowing access to router services based on source MAC address.
    - Passthrough is for restricting or allowing access to the WAN port based on source MAC address.

- Connection Management

  ○ When connection management terminates a connection the reason for the termination is written to the log.

5.4   Bug Fixes

- LAN IP Address

  ○ When changing the LAN IP address the user is only redirected to the new address if connected via the LAN interface. Previously the user was redirected to the new address irrespective of the connected interface.

  ○ When accessing via HTTPS the redirect page is returned HTTPS. Previously the redirect page was returned HTTP.

- Serial Server

  ○ When all serial ports are set to disabled the status page lists the Serial Server as Disabled. Previously it indicated No Fault which was ambiguous. The fault status of the Serial Server will only be indicated when at least one port is configured.

  ○ Fully Qualified Domain Names (FQDN) can now be configured rather than fixed IP Addresses.

- IPsec

- ○ The web server response time for an IPsec configuration has been reduced.

- ○ Issue with loading certificates resolved.

- DNS Lookup

  - ○ When Fully Qualified Domain Names (FQDN) are entered in IP address fields the FQDN is stored and DNS lookup occurs are time of connection.

  - ○ Previous behaviour was DNS loopup occured at time of configuration and the returned IP address was stored.

  - ○ Using FQDN and DNS lookup allows for dynamic IP address connections.

- NAT

  - ○ Configuration issue of 1:1 NAT resolved.

  - ○ Cache flush on firewall rule change.

  - ○ Custom NAT protocol setting error resolved.

- Telnet Client

  - ○ Extended characters including arrows keys work correctly.

- SSL VPN

  - ○ Issue with loading P12 certificates resolved.

5.5 Known Issues

- No known issues.

6   Version 1.48 (16/08/2011)

6.1   General

- This is a bug fix release.

6.2   New Features

- Telnet client

  ○ The command telnet has been added to command line interface.

6.3   Enhancements

- AT Commands

  ○ Allow white space between the tokens of an AT command.

- VRRP

  ○ Introduced the concept of a Keep-alive Condition. This allows VRRP to respond quickly to the loss of the remote host.

6.4   Bug Fixes

- Route Command

  ○ The route function in craft does not always output the full result. Fixed

- Serial Server

  ○ The serial server does not recover when telnet is closed before the device is connected to the associated serial port. Fixed.

- IPsec

  ○ IPsec modified so that large changes in the time/date can be handled correctly.

6.5   Known Issues

- No known issues.

7   Version 1.46 (11/05/2011)

7.1   General

- This is a bug fix release.

7.2   New Features

- No new features.

7.3   Enhancements

- No enhancements.

7.4   Bug Fixes

- L2TP/IPsec

  ○ An L2TP/IPsec tunnel was not correctly established. Fixed.
  ○ L2TP connection was requesting mppe encryption incorrectly. Fixed

7.5   Known Issues

- No known issues.

8 Version 1.45 (14/04/2011)

8.1 General

- This is an enhancement release.

8.2 New Features

- Parse Astaro Generated OpenVPN configurations.

  ○ Added the ability to read Astaro OpenVPN configuration files & automatically configure an OpenVPN tunnel. Certificates included in the Astarto configuration will also be read and uploaded into the Certificate management system.

8.3 Enhancements

- AT Commands

  ○ AT Commands - Added

    - +IPR
      - ○ Set the serial port speed
      - ○ AT+IPR=?
        AT+IPR: (0),(300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400)
    - +GMM
      - ○ Return the product information
    - +GMI
      - ○ request manufacturer identification
    - +GMR
      - ○ request revision identification
    - +GCAP
      - ○ overall capabilities
    - +GSN
      - ○ serial number
    - +CGMM
      - ○ model identification
    - +FCLASS?
      - ○ modem mode (Only data mode accepted)
    - #CLS?
      - ○ modem mode (Only data mode accepted)
    - +GCI
      - ○ country code (Command accepted, but ignored) The set command accepts any 2 digit hex value, but ignores it
    - Ix
      - ○ Identification information.
        Where x is a digit in the range 0..9.
      - ○ All commands return the string "Serial Modem"

8.4 Bug Fixes

- GRE

  ○ Keep-alive to be sent at start-up. Fixed.

8.5　Known Issues

- No known issues.

9 Version 1.44 (03/02/2011)

9.1 General

- This is a bug fix release.

9.2 New Features

- No new features.

9.3 Enhancements

- No enhancements.

9.4 Bug Fixes

- Fixed issue where IPsec could not correctly identify required interfaces and would fail on start-up.

- GRE - A keepalive reply is no longer sent on start-up, it now waits for the first keep alive request.

- VRRP page now shows a blank option if the GRE tunnel previously used has been deleted.

- The dyndns password now accepts standard character set.

- Resolved residual error messages seen when the ADSL interface was disabled on boot.

- Added PPPoE connection attempt re-try after timeout.

9.5 Known Issues

- No known issues.

10 Version 1.43 (23/11/2010)

10.1 General

- This is a bug fix release.

10.2 New Features

- No new features.

10.3 Enhancements

- No enhancements.

10.4 Bug Fixes

- DHCP Server

  ○ The DHCP server now includes the DNS search domain (DSN Suffix) in its DHCP information.

- VRRP

  ○ Configuration changes not correctly applied. Fixed.

- GRE

  ○ tunnels do not bring up static routes correctly. Fixed.
  ○ tunnels may change interface id when the device is rebooted. Fixed

10.5 Known Issues

- No known issues.

11 Version 1.42 (25/10/2010)

11.1 General

- This release includes several enhancements and bug fixes.

11.2 New Features

- No new features.

11.3 Enhancements

- GRE Tunnels

  ○ Support for keep-alives added.

- VRRP and GRE integration

  ○ GRE tunnel status integrated with VRRP to allow for tunnel switch-over.

- Serial server

  ○ Enable TCP No Delay option has been added to the Serial Server.

11.4 Bug Fixes

- Time change reboot.

  ○ A change in the system time of more than 100 seconds causes the unit to reboot. Fixed.

- Negative temperatures displayed incorrectly.

  ○ Negative temperature incorrectly displayed, eg -1.4C was displayed as -1.-40. Fixed.

- Web server

  ○ The IPsec configuration page is slow to update. Fixed.
  ○ Web pages do not display correctly on webkit browsers. Fixed.

11.5 Known Issues

- No known issues.

12 Version 1.41 (25/06/2010)

12.1 General

- This release is a bug fix release.

12.2 New Features

- No new features.

12.3 Enhancements

- Power on/off sequence improved

  ○ The power on/off sequence has been enhanced.

  ○ Power on sequence changes improves boot time.

  ○ Improved power off sequence allows for faster network connection on next boot.

- IPsec

  ○ Allow IPSec to be configured with XAUTH and rekeying at the same time.

12.4 Bug Fixes

- Serial Server

  ○ The pulldown options for Serial Server's (config/serial-server.asp) Immediate send character matching field were incorrect. The options presented:

    - Override
    - Follow carrier

      changed to:

    - Off
    - Match any character
    - Match all characters

12.5 Known Issues

- No known issues.

13   Version 1.40 (23/04/2010)

13.1   General

- This release includes new features, several enhancements and bug fixes.

13.2   New Features

- Capability to establish a PPP connection using an external modem added to Serial Server.

  ○ This feature allows a unit to establish a PPP connection using an external modem connected to a serial port.

- Ethernet MAC Address filter.

  ○ Filter allows MAC addresses to be accepted or rejected.
  ○ Default policy can be set to allow or deny.

- Alias IP address can be enabled using configuration reset switch.

  ○ Pressing the configuration reset switch for approximately 2 seconds will enable an aliased IP at the default IP address setting.
  ○ This feature enables access to the unit when the IP is not known.
  ○ The Ethernet ports must be enabled for this feature to work.

- Unit can be powered down using configuration reset switch.

  ○ Pressing and holding the configuration reset switch will cause the unit to disconnect from the network and power down.
  ○ This feature is provided to shutdown the network connection prior to removing power.
  ○ If the power is not removed from the unit it will power on again after 60 seconds. This provides a recovery mechanism should the power down be accidentally activated.

- Generic Routing Encapsulation (GRE) support added.

  ○ Up to 5 GRE tunnels can be configured.

13.3   Enhancements

- Power controller power off maximum offset added.

  ○ An off time offset has been added to the power controller. This value only has meaning if the unit has been powered off by the power controller and then during the off time the power to the unit is removed and then re-applied. When the power is re-applied the unit will re-boot and then check if the current time indicates the unit should be off. The previous behaviour was to shutdown if the current time was prior to the "on" time. The option adds an offset time which be default is 5 minutes. If the "on" time will be within the offset time then the modem will not turn off but will remain on.

- Web Pages

  ○ Status alarms for non active services are now shown in the background colour. The previous colour was to display the background in green which could indicate the service was active thus causing confusion.

- System log automatically scrolls to last entry.

  ○ The system log web page now automatically scrolls to the last entry. It is common for a user to be interested in the last file entries. This saves the user from scrolling to the end of the log each time it is selected.

- Serial Server

    ○ PPP Dial-out client added.

- IPsec Virtual Private Network (VPN) improvements.

    ○ The IPsec "tab" on the web page is now the first tab so it is the default VPN page.

    ○ The name of the IPsec tab has been changed from "IPsec VPN" to "IPsec".

    ○ The default for IPsec was changed from Enabled to Disabled.

    ○ Check-box added to overwrite MTU on General Configuration page.

    ○ General IPsec Configuration defaults set to the following:

        • NAT traversal enabled
        • Overwrite MTU disabled.

    ○ "General Configuration" page added.

    ○ Tunnel can now be configured to be either an Initiator or Responder.

    ○ Phase 1 Encryption - IKE proposal defaults set to AES(128) SHA1 DH Group 2.

    ○ Phase 2 Configuration - Phase 2 Encryption defaults set to the following:

        • ESP proposal: AES(128)-SHA1
        • Perfect forward secrecy & group : Enabled with DH Group 2.
        • Key lifetime: 480 mins.

    ○ Dead Peer Detection (DPD) moved to "Tunnel options" configuration page.

    ○ Dead Peer Detection (DPD) action on failure supports the following:

        • None
        • Hold
        • Clear (Default for Responder)
        • Restart (Default for Initiator)
        • Restart by peer

    ○ Default to not use shared certificates. Previously the default was to use shared certificates.

    ○ Tunnel Network configuration moved from Phase 2 page to a separate page.

    ○ Tunnel Networks - Network option "None (Host only)" removed and replaced by 2 more explicit options:

        • Host only (WAN IP)
        • Host only (LAN IP)

    ○ Support for Xauth.

        • XAUTH provides an additional level of authentication by allowing the IPSec responder to request extended authentication from remote users. Before being allowed access to the VPN remote users are require respond with their credentials.

    ○ VPN log automatically scrolls to last entry.

        • The VPN log web page now automatically scrolls to the last entry. It is common for a user to be interested in the last file entries. This saves the user from scrolling to the end of the log each time it is selected. This feature works in the same way as the System log scroll and was added for consistency.

- Firewall

    ○ Custom NAT - Added check box to "Drop traffic to original target".

13.4 Bug Fixes

- IPsec

  ○ Traffic destined to be sent over the tunnel could block if a transmission attempt was made prior to the tunnel initalisation. This has been fixed for both Initiator and Responder modes.

  ○ Timeout problems when using Greenbow client have been resolved.

- Web Server

  ○ Web Server fails to respond. The Web Server was found to block under certain conditions, this has been fixed.

13.5 Known Issues

- No known issues.

14   Version 1.32 (24/08/2009)

14.1   General

- First Series 5000 production release.

14.2   New Features

- No new features.

14.3   Enhancements

- No enhancements.

14.4   Bug Fixes

- No Bug fixes

14.5   Known Issues

- No known issues.

15 Firmware Upgrade Procedure

The firmware upgrade procedure for the /ctpfullname / is described. The same procedure can be used for all models in the product range.

15.1 Connect to the Web interface

- Connect to the Web interface of the modem either via the Ethernet interface or the wireless interface if web access is enabled.

- If connecting via the Ethernet interface:

  ○ Connect an Ethernet cable between the modem and the PC which will be used for the upgrade.

  ○ Open a web browser on the PC and enter the IP address of the LAN address of the modem. Note: The IP address of the modem may be configured differently for each installation. The default IP address is 10.10.10.10

- If connecting via the wireless interface:

  ○ Open a web browser on the PC and enter the IP address of the wireless interface.

- When prompted supply the username and password.

- The main status page should now be displayed.

- If the main page is not shown check:

  ○ If using the Ethernet interface:
    - The Ethernet cable is connected correctly to the modem and the PC.
    - The IP address of the modem is correct.
    - The Ethernet ports are enabled.

  ○ If using the wireless interface:
    - The wireless IP address is correct and is publicly accessible.
    - The firewall rules have been set to allow wireless web access.

15.2 System Backup and Upgrade

- Select System ▷ Backup & Upgrade. The System Backup & Upgrade page will be displayed as shown in Figure 1.

Figure 1: The System Backup & Upgrade page.

15.2.1 Backup Configuration

- It is recommended to save the current configuration file.

- The configuration of the modem is forward compatible. This means the configuration of the modem will still be correct after a firmware upgrade to a later version even though the format used to store the configuration may be changed.

- The configuration of the modem is not always backward compatible. This means that if the modem firmware is replaced with an earlier version the configuration file may not be readable by the earlier version of firmware and so the configuration will revert to the default settings. If the configuration file from the earlier version was saved prior to the upgrade then this configuration can be loaded into the modem to restore the previous settings after reverting to the earlier revision of firmware.

- To save the configuration click the link in the section titled "Backup current configuration" as shown in Figure 2and save the file to the local machine.

Figure 2: System configuration backup.

- To restore a configuration click the Browse button in the section title "Restore a saved configuration" as shown in Figure 3 then click the Upload button.

Figure 3: System configuration restore.

15.2.2   Firmware Upgrade

- In the section titled "UpgradeSeries 5000 firmware" click the Browse button and navigate to and select the upgrade file appropriate for the series of modem being upgraded as shown in Figure 4. The firmware file for the current release is: S5000-v154.upg

- If the incorrect file is selected the upload will fail and report an error.

Figure 4: Select the upgrade file.

- Click the Upload button. The file will now be transferred to the modem.

- When the upload is complete the Upgrade section of the page will change to be similar to that shown in Figure 5.

Figure 5: File has been uploaded to the modem.

- Check that the information shown is correct.

- If the data is correct click the "Upgrade" button.

Once the Upgrade has started power must be maintained to the modem to prevent corruption of the Flash memory.

- The Upgrade section of the page will now show a message as shown in Figure 6.

Upgrade Series 5000 firmware
The Series 5000 is now starting the upgrade.
The upgrade will take several minutes to complete and the modem will be offline during this time.
The modem will reboot once the upgrade is complete.

Figure 6: The Upgrade page.

- During the upgrade:

  - the top two front panel LEDs will flash alternatively Red then Green.
  - the modem will disconnect from the wireless network.
  - the modem will not respond to any network traffic.
  - the modem will re-boot when the upgrade has completed

- When the Upgrade has completed and the modem has re-booted the new firmware version can be checked in the System Information page. Figure 7 is an example of the System Information page after the upgrade has completed. Note only the Application Version is shown.

System Information

Series 5000 Information	
Model	5100
Serial Number	
Application Version	1.44
Bootloader Version	
Hardware Addresses	
LAN MAC	
DSL Software Version	

Figure 7: The System Information page after the upgrade.