



Firmware Version: v 2.50.015 Prom Code Version: v 2.00.003 Published: Apr. 06, 2012

These release notes include important information about D-Link switch firmware revisions. Please verify that these release notes are correct for your switch:

- If you are installing a new switch, please check the hardware version on the device label; make sure that your switch meets the system requirement of this firmware version. Please refer to <u>Revision History and System Requirement</u> for detailed firmware and hardware matrix.
- If the switch is powered on, you can check the hardware version by typing "show switch" command or by checking the device information page on the web graphic user interface.
- If you plan to upgrade to the new firmware release, please refer to the <u>Upgrade</u>
 <u>Instructions</u> for the correct firmware upgrade procedure.

For more detailed information regarding our switch products, please refer to <u>Related Documentation</u>.

You can also download the switch firmware, D-View modules and technical documentation from http://tsd.dlink.com.tw.

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Revision History and System Requirement:

Firmware Version	Date	Model	Hardware Version
	6-Apr-12	DGS-3120-24TC	A1, A2
		DGS-3120-24SC	A1, A2
Runtime: v2.50.015		DGS-3120-24SC-DC	A1, A2
PROM: v2.00.003		DGS-3120-48TC	A1, A2
		DGS-3120-24PC	A1, A2
		DGS-3120-48PC	A1, A2
		DGS-3120-24TC	A1, A2
		DGS-3120-24SC	A1, A2
Runtime: v2.00.010	20 Jun 11	DGS-3120-24SC-DC	A1, A2
PROM: v2.00.003	20-Jun-11	DGS-3120-48TC	A1, A2
		DGS-3120-24PC	A1, A2
		DGS-3120-48PC	A1, A2
		DGS-3120-24TC	A1
		DGS-3120-24SC	A1
Runtime: v1.02.013	20-Jan-11	DGS-3120-24SC-DC	A1
PROM: v1.00.010		DGS-3120-48TC	A1
		DGS-3120-24PC	A1
		DGS-3120-48PC	A1
		DGS-3120-24TC	A1
Runtime: v1.01.027 PROM: v1.00.009	31-Dec-10	DGS-3120-24SC	A1
	31-Dec-10	DGS-3120-24SC-DC	A1
		DGS-3120-48TC	A1
Runtime: v1.00.028 PROM: v1.00.007	29-Sep-10	DGS-3120-24TC	A1

Upgrade Instructions:

Note: EI & SI features are all included in the firmware. While upgrading, system will automatically distinguish it and enable the associated features only.

D-Link switches support firmware upgrade via TFTP server. You can download the firmware from D-Link web site http://tsd.dlink.com.tw, and copy the downloaded firmware to the TFTP server folder. Please make sure that the TFTP server is accessible from the switch via networks.

Upgrade firmware by CLI (serial port)

Connect a workstation to the switch console port and run any terminal program that can emulate a VT-100 terminal. The switch serial port default settings are as follows:

Baud rate: 115200

Data bits: 8Parity: NoneStop bits: 1

The switch will prompt the user to enter his/her username and password. It should be noted that upon the initial connection, there is no username and password by default.

To upgrade the switch firmware, execute the following commands:

Command	Function	
download [firmware_fromTFTP [<ipaddr> </ipaddr>	Download firmware file from the TFTP	





<pre><ipv6addr>] src_file <path_filename 64=""> {[unit <unit_id> all]} {dest_file <pathname 64="">}</pathname></unit_id></path_filename></ipv6addr></pre>	server to the switch.
<pre>config firmware image {unit <unit_id>} <path_filename 64=""> boot_up</path_filename></unit_id></pre>	Change the boot up image file.
<pre>dir {{unit <unit_id>} <drive_id>} {<pathname 64="">}</pathname></drive_id></unit_id></pre>	Display the information of current boot image and configuration.
reboot	Reboot the switch.

Example:

 DGS-3120-24TC:admin#download firmware_fromTFTP 172.17.5.48 src_file Run100028.had dest_file Run100028.had

 ${\tt Command: download\ firmware_from TFTP\ 172.\ 17.\ 5.\ 48\ src_file\ Run100028.\ had\ dest_file\ Run100028.\ h$

Connecting to server..... Done.

Download firmware...... Done. Do not power off!

Please wait, programming flash..... Done.

2. DGS-3120-24TC:admin#config firmware image Run100028.had boot_up

Command: config firmware image Run100028.had boot_up

Success.

3. DGS-3120-24TC#dir

Command: dir

Directory of /c:

Idx	Info	Attr Size	Update Time	9	Name
1	RUN(*)	-rw- 4881912	2000/03/17	05:27:04	Run100028. had
2	RUN(b)	-rw-4880456	2000/02/02	04:39:04	Run100026. had
3	CFG(*)	-rw-23851	2000/02/04	04:30:10	config.cfg
4		d 0	2000/03/17	05:14:23	system
			- \		
2961	l8 KB to	tal (19963 KB	free)		

(b) -with backup info

4. DGS-3120-24TC:admin#reboot

(*) -with boot up info

Command: reboot

Are you sure you want to proceed with the system reboot?(y/n) y Please wait, the switch is rebooting...

Boot Procedure	V1. 00. 007
Power On Self Test	100 %
MAC Address : 00-40-05-31-20-00 H/W Version : A1	
Please Wait, Loading V1.00.028 Runtime Image UART init Starting runtime image	
Device Discovery	100 %



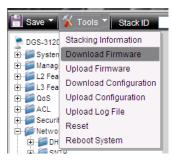


Configuration init

Upgrade firmware by Web-UI

D-Link

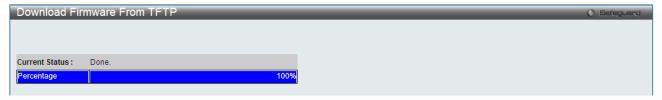
- Connect a workstation installed with java SE runtime environment to any switch port of the 1. device.
- 2. Open the web browser from the workstation and enter the IP address of the switch. The switch's default IP address is 10.90.90.90.
- 3. Enter administrator's username and password when prompted. It should be noted that the username and password are blank by default.
- 4. To update switch's firmware or configuration file, select **Tools > Download Firmware** from the banner.



- Enter the TFTP Server IP address.
- Enter the name of the firmware file located on the TFTP server.
- Enter the destination path and the desired file name. 7.
- Click **Download** button. 8.



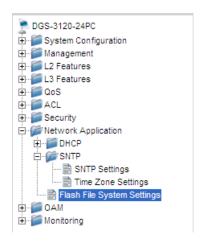
9. Wait until the Current Status displays **Done** and the Percentage shows **100%**.

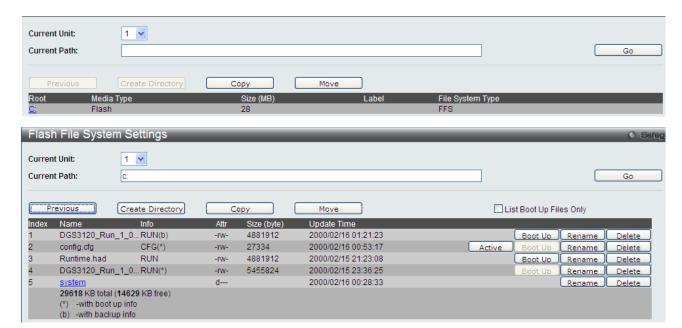


10. To select the boot up image used for next reboot, click **Network Application** > **Flash File System Settings** in the function tree and then click the **C**: drive name. When you see the files list, click corresponding **Boot Up** button to specify the firmware that will be used for next and subsequent boot up.

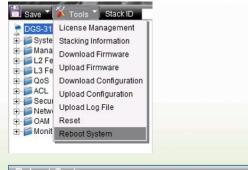


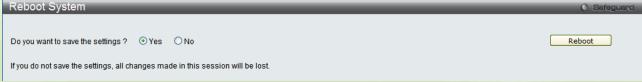






- 11. To reboot the switch, select **Tools > Reboot System** from the banner.
- 12. Select **Yes** and click **Reboot** button to reboot the switch.









DLMS Instructions:

Some D-Link switches support DLMS (D-Link License Management System) feature. With DLMS, you can upgrade your switches to more enhanced edition to get more sophisticated features.

DLMS License Activation by CLI

Command	Function
<pre>install dlms activation_code <string 25=""> {unit <unit_id 1-6="">}</unit_id></string></pre>	This command is used to install an activation code to activate or unlock function on the applicance.
show dlms license {unit <unit_id 1-6="">}</unit_id>	This command is used to display license information.

Example:

1. DGS-3120-24TC:admin#install dlms activation_code DF244A4E4BC640C6394510206

Command: install dlms activation_code DF244A4E4BC640C6394510206 Success.

Please reboot the device to active the license.

DGS-3120-24TC:admin#

2. DGS-3120-24TC:admin#reboot

Command: reboot

Are you sure you want to proceed with the system reboot?(y/n) y Please wait, the switch is rebooting...

Boot Procedure V	/1. 00. 007
Power On Self Test	100 %
MAC Address : 00-40-05-31-20-00 H/W Version : A1	
Please Wait, Loading V1.00.028 Runtime Image UART init Starting runtime image	
Device Discovery	

3. DGS-3120-24TC:admin#show dlms license

Command: show dlms license

 ${\tt Device\ Default\ License\ :\ SI}$

License Model	Activation Code	Time Remaining
DGS-3120-24TC-SE-LIC	DF244A4E4BC640C6394510206	No Limited

* expired





DLMS License Activation by Web-UI

- 1. Connect a workstation installed with java SE runtime environment to any switch port of the device.
- 2. Open the web browser from the workstation and enter the IP address of the switch. The switch's default IP address is **10.90.90.90**.
- 3. Enter administrator's username and password when prompted. It should be noted that the username and password are blank by default.
- 4. To update switch's firmware or configuration file, select **Tool->License Management** from the banner.

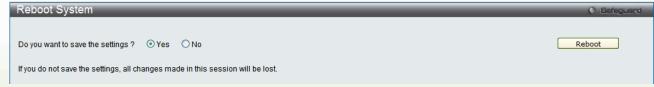


5. Enter the Activation Code and select unit of stack then click **Install** to activate the assigned switch.



- 6. To reboot the switch, select **Tools > Reboot System** from the banner.
- 7. Select **Yes** and click **Reboot** button to reboot the switch.









New Features:

Firmware Version	New Features			
v2.50.015	 D-Link Auto Surveillance VLAN WRED (Weighted Random Early Detection) SNTP for IPv6 UDP Helper MAC authentication enhancement (using MAC address as a username/password) Password Encryption Enhancement Per packet type threshold for traffic control Support activation code input for DLMS (D-Link License Management System) Support WAC/JWAC authentication page for iOS/Android devices Support download config increment Support the Intermediate CA Certificates and 2048 bits key for JWAC Support Mac Access Control (MAC) and JWAC combination of compound authentication Support Framed-IP-Address Attribute in RADIUS Accounting packets Support customized default VLAN naming Change the shutdown default stat of DDM module from alarm to none 			
v2.00.010	1. L3 control packet filtering 2. 802.1ax 3. LLDP-MED 4. Customized WAC page 5. L2 protocol Tunneling (STP BPDU, GVRP PDU, Cisco Protocols PDU) 6. Support configuring drop threshold of L2 Protocol Tunneling 7. IGMP Authentication 8. SMTP 9. D-Link Voice VLAN 2.1 10. Time-based POE 11. Enable / Disable DHCP per VLAN 12. Extended password length to 32 characters 13. IMPB V3.91 (EI) 14. WAC/JWAC forIPv6 (EI) 15. Circuit-Id insertion for PPPoE (EI) 16. 802.3ah (DULD, D-Link Unidirectional Link Detection) (EI) 17. Optical Transceiver DDM (Digital Diagnostic Monitoring) (EI) 18. DHCPv6 Client (EI) 19. DHCPv6 Relay Agent (EI) 20. Unicast NLB (EI)			
v1.02.013	1. Support new models: DGS-3120-24PC, DGS-3120-48PC			
v1.01.027	 Support new models: DGS-3120-24SC, DGS-3120-24SD-DC, DGS-3120-48TC Support enable/disable stacking mode of stacking ports (Port S1 and S2). When disabling stacking mode, these 2 ports can run as normal 10GE ports. 802.1ag Y.1731 Ethernet Ring Protection Switching (EI) Q in Q (EI) 			
v1.00.028	First release. For supported features, please refer to the product specification and manuals for details.			





Changes of MIB & D-View Module:

The new features of MIB file are also included in the corresponding D-View module. Please download the D-View module from http://tsd.dlink.com.tw. For detailed changes of MIB content,

please refer to the modification history in each MIB file.		
MIB File	New Features	
SSL.mib	Support the Intermediate CA Certificates and 2048 bits key for JWAC	
AUTH.mib	Support compound authentication for MBA and JWAC	
DLMS.mib	Support DLMS (D-Link License Management System)	
Surveillance_VLAN.MIB	Support D-Link Auto Surveillance VLAN	
wred.mib	Support WRED (Weighted Random Early Detection)	
Time.mib	Support SNTP for IPv6	
UDPHelper.mib	Support UDP Helper	
mba.mib	MAC authentication enhancement (MAC authentication using MAC address as a username/password)	
Q-Bridge.mib	Support customized default VLAN naming	
Genmgmt.mib	 Download config increment Password Encryption Enhancement 	
DDM.mib	Change the shutdown default state of DDM module from alarm to none.	
PktStormCtrl.mib	Per packet type threshold for traffic control	
NLB.mib	Support unicast NLB	
IEEE8023-LAG-MIB.mib	Support 802.1ax	
L2mgmt.mib	Disable a VLAN trunk member port	
LLDP-MED.MIB	Add LLDP-MED	
lldp.mib	To take system IP address into LLDP management IP interface configuration	
L2ProtocolTunnel.mib	 Support tunneling STP BPDU Support tunneling GVRP PDU Support tunneling Cisco Protocols PDU across provider network Support configuring drop threshold of L2 Protocol Tunneling 	
VoiceVLAN.mib	Support configuring port join voice VLAN as tag or untag member	
Filter.mib	Support RPC port mapper filter Support L3 control packet filter	
L2mgmtDgs3120-24PC.mib L2mgmtDgs3120-24SC.mib L2mgmtDgs3120-24SC-DC.mib	Support IGMP Authentication	
	MIB File SSL.mib AUTH.mib DLMS.mib Surveillance_VLAN.MIB wred.mib Time.mib UDPHelper.mib mba.mib Q-Bridge.mib Genmgmt.mib DDM.mib PktStormCtrl.mib NLB.mib IEEE8023-LAG-MIB.mib L2mgmt.mib LDP-MED.MIB Ildp.mib L2ProtocolTunnel.mib VoiceVLAN.mib Filter.mib L2mgmtDgs3120-24PC.mib L2mgmtDgs3120-24SC.mib	





	L2mgmtDgs3120-24TC.mib L2mgmtDgs3120-48PC.mib L2mgmtDgs3120-48TC.mib		
	Auth.mib	Support VLAN-based authentication for JWAC	
	Jwac.mib	Add IPv6 JWAC support for EI	
	wac.mib	 Support customized pages Support dynamic ACL assignment Add IPv6 WAC support for EI 	
	AAC.mib	Support user authentication & authorization by TACACS+	
	smtp.mib	Add SMTP support	
	I3mgmt.mib	 Add DHCPv6 Client for EI Support enable/disable DHCP Relay per VLAN Support DHCP Relay Option 12 	
	DHCPv6Relay.mib	Add DHCPv6 Relay Agent for EI	
	PPPoEmgmt.mib	Support Circuit-Id insertion	
	DDM.mib	Add DDM for EI	
	Duld.mib	 Support DULD based on 802.3ah OAM Support following dying gasp PDUs and traps: Device reboot, All fan fail 	
	Equipment.mib	Support scheduled on/off LED	
	PoE.mib	Support scheduled on/off POE	
v1.02.013	ie8023ah.mib	Add 802.3ah for EI	
V1.U2.U13	PoE.mib	Add PoE feature	
v1.01.027	DHCPRelay.mib	Add DHCP relay VLAN table for SI	
v1.00.028	First release. Please refer to datasheet for supported SNMP MIB files.		



Changes of Command Line Interface:

The section below only shows command line changes that may bring backward compatibility issues with configuration settings for previous version of firmware.

Any new feature commands that do not have backward compatibility issues are not included in the below section.

Firmware	Changes	
Version		
v2.50.015	None	
v2.00.010	<pre>1. config igmp_snooping [vlan_name <vlan_name 32=""> vlanid</vlan_name></pre>	
v1.02.013	None	
v1.01.027	 config dhcp_relay add ipif <ipif_name 12=""> <ipaddr> config dhcp_relay delete ipif <ipif_name 12=""> <ipaddr> changes to config dhcp_relay add vlanid <vlan_id_list> <ipaddr> config dhcp_relay delete vlanid <vlan_id_list> <ipaddr> Note: These commands are changed only in SI, and stay unchanged in EI.</ipaddr></vlan_id_list></ipaddr></vlan_id_list></ipaddr></ipif_name></ipaddr></ipif_name> create access_profile profile_id <value 1-768=""> delete access_profile profile_id <value 1-768=""> config access_profile [profile_id <value 1-768="">] [add access_id [auto_assign <value 1-1536="">] changes to create access_profile profile_id <value 1-6=""> deletete access_profile profile_id <value 1-6=""> config access_profile [profile_id <value 1-6="">] [add access_id [auto_assign <value 1-256="">]</value></value></value></value></value></value></value></value> create egress_access_profile profile_id <value 1-256=""> delete egress_access_profile [profile_id <value 1-256="">] [add access_id [auto_assign <value 1-512="">] changes to create egress_access_profile profile_id <value 1-4=""> delete egress_access_profile [profile_id <value 1-4=""> delete egress_access_access_access_access_access_access_access_access_access_access_acces</value></value></value></value></value></value></value></value></value></value></value></value></value></value></value></value></value></value></value></value></value>	
v1 00 030	[auto_assign <value 1-128="">] First release</value>	
v1.00.028	FIISL TELEASE	





Problem Fixed:

Firmware Version	Problems Fixed		
v2.50.015	 The command "clear mac_based_access_control auth_state ports all" may cause LCAP link unstable, due to DGS-3120 doesn't send LACPDU for 5 seconds during clear 1,000 MBA auth_entry. (DI20110615000008) The command "clear wac auth_state ports *" may cause LCAP link unstable due to DGS-3120 doesn't receive/send the LACPDU during clear 1,000 MAC in WAC authentication and WAC compound authentication. (DI20110705000009, DI20110705000010) 		
v2.00.010	 In a DGS-3120 stack, the loop condition will happen on some VLAN though it should be blocked by MST, when Master unit cold restart. When reboot member unit of stack, it will show a lot of error messages like following: "snp_stk_process_tx_drop_counter> fatal error, index: 1 , vid = 2020". (DI20110225000002) When issued "show ipv6 neighbor_cache ipif" command, DGS-3120 incorrectly displayed many entries. (DI20110420000011) When LACP function has been configured or modified, and then issue command "show config effective" or "show config modify", the output is empty. DGS-3120 member unit entered exception mode in a few days after Link down & up several times within a short period. (DI20110124000003) The MAC address of LLDP per port is incorrect. (DRU20110512000003) DGS-3120 supports temperature MIB, but swEquipmentCapacity incorrectly returned "no capacity". (DI20110411000001) When stacking mode was enabled and then disabled, SNMPWALK swUnitMgmtModuleName incorrectly return value of stacking mode. (DI20110411000001) DGS-3120 incorrectly sends MLD general query with source MAC of all zero after link up. (DI20110466000008) DGS-3120 cannot communicate to IPv6 client by IPv6 link local address. (DI20110399000008) DGS-3120 cannot communicate to IPv6 client by IPv6 link local address. (DI20110399000008) DGS-3120 do not forward multicast stream to client on non-stp ports when STP is enabled. (DI20110228000007) The STP role is always "NoSTP" when the port enable STP and LACP. (DI20110322000002) In stacking mode with configured LACP, the LACP active ports will be incorrect show turn-off, when turn on/off the master/member units. (DRU20110128000003) Stacking status is not synchronous when ERPS sub-ring was changed. (DI20110401000012) When switch enable stacking and configured ERPS, packet loop happened after reboot (DI2		



v1.02.013

v1.01.027

- 1. When configuring the multicast filtering mode on filter_unregistered_groups, the IPv6 clients cannot get link local IP correctly.
- DGS-3120 does not converge after CIST priority was changed. (DI20101228000001)
- In a DGS-3120 stack, if there are over 4,000 active VLANs and also a cross-stack trunk is connected, the switch will not send BPDU and LACP control packets through the cross-stack trunk ports within a few seconds when executing some commands such as "save", "show config current_config", or "show tech_support". (DI20100525000005)
- In a DGS-3120 stack, if there are over 4,000 active VLANs and also a cross-stack trunk is connected, the switch will not send BPDU and LACP control packets through the cross-stack trunk ports within a few seconds when one of the stacking member is rebooting or the stacking master is suddenly powered off. (DI20101109000004), (DI20101109000009), (DI20101109000005)
- 3. In a DGS-3120 stack, if there are over 4,000 active VLANs and also a cross-stack trunk is connected, the switch will send a duplicate TCN through cross-stack trunk ports for about 30 seconds after topology stabilized.
- 4. When there are over 50 WAC clients keeping login/logout for few hours, some clients may fail to login. (DI20101119000005)
- 5. If there are a lot of WAC clients keeping login/logout and WAC function is suddenly disabled, the switch will get into exception mode.
- 6. DGS-3120 failed to operate the SD card with FAT16 file system. (DI20101112000001)
- 7. It takes over 30 seconds to change the STP port status from discarding to forwarding if the received BPDU is with CIST remaining hop count = 0. (DI20101111000004)
- 8. Some counter values in IF-MIB are not correct. (DI20101110000009)
- 9. When flash memory is full, all the file names in file system will be garbled (DI20101112000003)
- 10. When disabling SSL setting for switch Web UI, SSL WAC clients cannot correctly access the WAC login page via https.
- 11. The storm control settings does not take effect if the port is STP enabled and also connects to a looped network.
- 12. If failing to copy a file to SD card and rebooting the switch right after that, the switch enters exception mode. (DI20101125000010)
- 13. Error spelling in DHCP Snooping Entry setting page of Web UI. (DI20101202000009)
- 14. DHCP relay function does not work in SI. (DRU20101130000004)
- 15. When continuously executing "show wac auth_state ports" or "show arpentry" command for a period of time, the screen of console will hang up. (DI20101210000005)
- If authenticating consecutive MAC addresses via Mac Access Control (MAC) and RADIUS database, DGS-3120 will have 5 seconds delay sending every authentication packet to RADIUS. (DI20101208000008)
- 17. If executing "reset config" command when the switch is undertaking Mac Access Control (MAC) authentication against clients, the switch will enter exception mode.
- 18. When over 1,000 clients are authenticated through WAC in Compound Authentication, some clients will be blocked by the switch. (DI20101208000005)
- 19. When authenticating over 120 clients using Compound Authentication at the same time, some clients failed to authenticate. (DI20101207000009)
- 20. DGS-3120 does not mirror BPDU TX packet if setting the mirror target port on different units of the stack. (**DI20101130000010**)

* D-Link tracking number is enclosed in ()



13



Known Issues:

F :	T	Mandagus and
Firmware Version	Issues	Workaround
v2.50.015	It cannot upgrade to v2.50 from v1.02 or earlier firmware	Please upgrade to v2.00 first before upgrading to v2.50
	2. Switches do not limit EI/SI devices put in the same stack. However, if the master is EI and some slaves are SI, the slave switch will return error messages for some EI commands.	Only put the devices with the same edition (SI/EI) into the stack.
v2.00.010	None	None
v1.02.013	None	None
v1.01.027	1. The number of ingress ACL profile changes from 768 to 6 and egress ACL profile changes from 256 to 4. However, the total number of ACL rules remains the same.	In order to save profile usage, use longer ACL profile to cover the same type of ACL rules. For example, rules inspecting MAC address, VLAN, or 802.1p respectively, which all belong to MAC ACL, can make use of only one profile that masks MAC address, VLAN, and 802.1p.
	2. In previous firmware release, the ACL sequence is MAC ACL > IP ACL > IPv6 ACL > User Defined ACL. After v1.01.027, the ACL sequence will depend on the ACL profile ID. ACL rules with Lower profile ID will get higher priority.	Please review the profile ID settings before upgrading F/W from v1.00.xxx to v1.01.027 or later version.

Related Documentation:

- DGS-3120 Series Web UI Reference Guide Release 2.50
- DGS-3120 Series CLI Reference Guide Release 2.50
- DGS-3120 Series Hardware Installation Guide Release 2.50