



TrangoLINK GigaPlus

Software v1.3.2 Release Notes & Upgrade Instructions

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TrangoLINK GigaPlus v1.3.2 Release

The release consists of the following software images

| | |
|--------------------|--|
| FPGA version: | 0027040B |
| OS version | 2p6r22b0D092711 |
| FW version | 1p3r2D092711 |
| PIC version | 62 |
| Modem Version | 1 |
| SP ODU FW version | 27 *Only SP-ODU with HW RSSI detector are supported, no 18E support |
| HP ODU FW version | 150410 |
| HP1 ODU FW version | 060211 |
| HP2 ODU FW version | 142 |

Bold typeface indicates new images for this release.

Supported Modulation/Symbol rate combination in this release

| BW | Sym Rate | QPSK | QAM16 | QAM32 | QAM64 | QAM128 | QAM256 |
|----------|----------|------|-------|-------|-------|--------|--------|
| 4 | 3 | 4 | 9 | 12 | 15 | 18 | 20 |
| 7 | 5.6 | 9 | 19 | 24 | 30 | 35 | 39 |
| 10 | 8.3228 | 14 | 29 | 36 | 45 | 52 | 59 |
| 14 | 12.2 | 21 | 44 | 54 | 66 | 78 | 88 |
| 20 | 17.4228 | 31 | 63 | 78 | 96 | 111 | 126 |
| 28/30 | 26 | 47 | 95 | 118 | 142 | 166 | 190 |
| 40 | 34.825 | 63 | 128 | 158 | 192 | 225 | 256 |
| 50 | 43 | 78 | 157 | 195 | 238 | 277 | 318 |
| 55/56/80 | 49.5 | 90 | 181 | 225 | 275 | 320 | 365* |

**375 Mbps support available on speed 80 qam256 [Ethernet Only, Non-ACM Mode]*

Bug Fixes

1. Update internal vlan mapping for hardware revision two IDUs.

Known Limitations

1. BER is based on CRC errors and might not reflect the accurate BER on live data. WA: Use External test equipment to measure accurate BER for testing
2. No current detect for HP2 ODU to indicate loss of communication, so software based mechanism has been implemented.
3. In 1+1 mode with ports off, the ge1 and ge2 interfaces may not come up after reboot due to an issue with the switch. A command reset phy may be used to manually reset the switch on soft reboot, a power cycle or turning off failover mode and a soft reboot will all resolve the problem.

Software Image Upgrade Procedure from v1.3.x to v1.3.2, FTP

If you are upgrading from a version prior to 1.3, please see the separate instructions for upgrading in the following pages. The upgrade process has been simplified starting with 1.3.

Please review these instructions before starting to ensure that you have adequate time scheduled to perform the upgrade as well as fully understand the implications of the process. While all software is tested by Trango Systems on current hardware before being released, it is strongly suggested that you initially perform this upgrade on your lab equipment and not initially in a production environment and test for any and all needed functionality before deploying.

Image upgrade for IDU will be copied to flash during image upgrade (bootimage upgrade idu) and will not affect the working link until the system is rebooted / power cycled.

To perform the firmware upgrade using FTP, use the *ftp* command to load the images into memory, then the *bootimage upgrade* commands. The FTP method is much faster and has built in error checking than TFTP. If you prefer to use the TFTP method, instructions can be found in the user's manual or you may follow the tftp instructions provided in the subsequent upgrade paths to copy the necessary files.

All that is needed is the IP address of the ftp server, a username/password, and the filename to be uploaded. The new file to be uploaded should be placed on the server. The ftp server will prompt for the password before allowing access.

If the GigaPlus is configured with a route to the Internet, you can even pull the new software images directly from our ftp server. If you would rather load them into a local server, please change the IP addresses and directory structure in the examples below as needed. You will need an appropriate default gateway setup in the GigaPlus as well as a route to the Internet through management or IBM. Trango suggests checking connectivity with ping from debug prompt before attempting the ftp upgrade. To do that, login to the CLI view node, then config node and then debug node. Ping 74.62.177.9 to test for connectivity to our FTP server.

1. Plan to use the file directly from Trango's FTP server or copy it to your own local FTP server. We recommend verifying the file name and path to ensure that nothing has changed since this document was prepared.
2. Note down the current version of the firmware loaded in the radio (CLI version).
3. Connect Management Ethernet port to PC.
4. Configure an IP address in unit if not already done.

5. Start a Telnet or SSH session. Log into the GigaPlus, go to config node, and then debug node to test connectivity to your ftp server.

```
Debug> ping 74.62.177.9
PING 74.62.177.9 (74.62.177.9): 56 data bytes
64 bytes from 74.62.177.9: seq=0 ttl=127 time=0.965 ms
64 bytes from 74.62.177.9: seq=1 ttl=127 time=10.009 ms
```

Press ctrl+c to stop the ping.

```
--- 74.62.177.9 ping statistics ---
2 packets transmitted, 2 packets received, 0% packet loss
round-trip min/avg/max = 0.965/5.487/10.009 ms
```

If the ping test is not successful, check your IP address and default gateway to ensure that those are addresses that will reach the Internet through your firewall.

6. After verifying connectivity, return to config node and save your config if not already done so:

```
Debug> cli
```

```
Trango System: TrangoLINK GigaPlus Command Line Interface v1.3.0
```

```
(CLI-view)# config
Password: trango
(CLI-config)# config save
New configuration saved
```

```
SUCCESS
```

7. Run the *ftp* command from the command line as follows to open access to the server:

```
(CLI-config)# ftp 74.62.177.9 giga
password: giga4773
```

If prompted for the password multiple times, check the connectivity to the server by pinging the FTP server IP address from the debug prompt. You may also test the ftp credentials from a laptop or other computer on the same network subnet.

8. Next, get the file from the FTP server by typing the get command from the ftp prompt.

```
ftp> get TL-GigaPlus/idu_GigaPlus_v1.3.2.tar.gz
#####
```

```
Get operation successful with passive mode
```

9. Logout of the ftp session

```
ftp> logout
```

10. Process the upgrade using the bootimage upgrade idu command.

```
(CLI-config)# bootimage upgrade idu
```

```
.....
.....
.....
```

```
SUCCESS
```

11. After the process returns success, reboot the radio for the new image to be loaded into active memory.

(CLI-config)# reboot

12. Check the new version on the system with CLI command “version”. It should match with the versions listed below. **In case of mismatch version, please perform the upgrade again from step 1.**

| | |
|--------------------|------------------------|
| FPGA version: | 0027040B |
| OS version | 2p6r22b0D092711 |
| FW version | 1p3r2D092711 |
| PIC version | 62 |
| Modem Version | 1 |
| SP ODU FW version | 27 |
| HP ODU FW version | 150410 |
| HP1 ODU FW version | 060211 |
| HP2 ODU FW version | 142 |

Please follow all the instructions as listed above in the upgrade instructions. In the case of version mismatch on the system (local/remote/system) the system is NOT guaranteed to work. In the event of a power failure during the upgrade process or any mismatch conflict, please contact technical support <techsupport@trangosys.com> for further assistance. Serial console remote access to the IDUs might be required in the event of such failure. It is suggested that all customers have at least one serial/console cable available at each site.

**Please don't make any implicit assumptions.
In case of any doubt please contact technical support for clarification.**

Software Image Upgrade Procedure from v1.2.x to v1.3, TFTP

If you are upgrading from a version prior to 1.2.x, please see the separate instructions for upgrading in the following pages. There is an additional step required to ensure a reliable upgrade.

Please review these instructions before starting to ensure that you have adequate time scheduled to perform the upgrade as well as fully understand the implications of the process. While all software is tested by Trango Systems on current hardware before being released, it is strongly suggested that you initially perform this upgrade on your lab equipment and not initially in a production environment and test for any and all needed functionality before deploying.

Image upgrade for IDU will be copied to flash during image upgrade (bootimage upgrade idu) and will not affect the working link until the system is rebooted / power cycled.

1. Note down the current version of the firmware loaded in the radio (CLI version).
2. Connect Management Ethernet port to PC.
3. Configure an IP address in unit if not already done.
4. Start a Telnet session.
5. Turn TFTPd service on the Radio ON with commands:
(cli-config)tftpd on
6. Send New Firmware Image to target Radio.

In DOS window, type command:

```
dos> tftp -i [ip address] put idu_GigaPlus_v1.3.2.tar.gz  
ip address          IP Address of the Radio.
```

In Mac/Linux window, type commands:

```
# tftp  
tftp> mode binary  
tftp> connect [radio ip address]  
tftp> put idu_GigaPlus_v1.3.2.tar.gz  
tftp> quit
```

7. After the files are transferred on the Radio. Use the “bootimage upgrade idu” command from the config mode on the radio.

The command prompt will return with SUCCESS/ERROR once the image is copied to flash.

```
(cli-config) bootimage upgrade idu // for all idu image upgrade
(cli-config) bootimage upgrade odu // for odu firmware upgrade *if needed*
(ODU upgrade is not required from 1.2 to 1.3, but may be required if your firmware does not
match the version below.)
```

Image upgrade for ODU will cause a link loss as it will power cycle during the upgrade process.

The new image will take effect once the radio is rebooted.

8. Reboot the radio:
(cli-config) reboot
9. Check the new version on the system with CLI command “version”. It should match with the versions listed below. **In case of mismatch version, please perform the upgrade again from step 1.**

| | |
|--------------------|------------------------|
| FPGA version: | 0027040B |
| OS version | 2p6r22b0D092711 |
| FW version | 1p3r2D092711 |
| PIC version | 62 |
| Modem Version | 1 |
| SP ODU FW version | 27 |
| HP ODU FW version | 150410 |
| HP1 ODU FW version | 060211 |
| HP2 ODU FW version | 142 |

Image upgrade for ODU will cause a link loss since its need to be powered cycle during the image upgrade process

Please follow all the instructions as listed above in the upgrade instructions. In the case of version mismatch on the system (local/remote/system) the system is NOT guaranteed to work. In the event of a power failure during the upgrade process or any mismatch conflict, please contact technical support <techsupport@trangosys.com> for further assistance. Serial console remote access to the IDUs might be required in the event of such failure. It is suggested that all customers have at least one serial/console cable available at each site.

**Please do not make any implicit assumptions.
In case of any doubt please contact technical support for clarification.**

Software Image Upgrade Procedure from v1.1.x to v1.3, TFTP

Please review these instructions before starting to ensure that you have adequate time scheduled to perform the upgrade as well as fully understand the implications of the process. While all software is tested by Trango Systems on current hardware before being released, it is strongly suggested that you initially perform this upgrade on your lab equipment and not initially in a production environment and test for any and all needed functionality before deploying.

This upgrade will require two-step process as it is required to go to 1.2 before going to 1.3.

Image upgrade for IDU will be copied to flash during image upgrade (bootimage upgrade idu) and will not affect the working link until the system is rebooted / power cycled.

Release v1.2 is not down-gradable. If a downgrade is absolutely required, please contact Trango support to perform the downgrade process.

1. Note down the current version of the firmware loaded in the radio (CLI version).
2. Connect Management Ethernet port to PC.
3. Configure an IP address in unit if not already done.
4. Start a Telnet session.
5. Turn TFTPd service on the Radio ON with commands:
(cli-config)tftpd on
6. Send New Firmware Image to target Radio.

In DOS window, type command:

```
dos> tftp -i [ip address] put idu_GigaPlus_v1.2_inter.tar.gz  
ip address          IP Address of the Radio.
```

In Mac/Linux terminal window, type commands:

```
# tftp  
tftp> mode binary  
tftp> connect [radio ip address]  
tftp> put idu_GigaPlus_v1.2_inter.tar.gz  
tftp> quit
```

7. After the files are transferred on the Radio. Use the “bootimage upgrade idu” command from the config mode on the radio.

```
(cli-config) bootimage upgrade idu
```

```
.....
.....
.....
```

SUCCESS

8. Reboot the radio:
(cli-config) reboot
9. Check the new version on the system with CLI command “version”. It should match with the versions listed below. **PIC version could display any random version with this intermediate upgrade process. Ignore the PIC image and proceed to the next upgrade process.**

| | |
|-------------------------|-----------------|
| IDU FPGA version: | 0006040A |
| IDU OS version: | 2p6r22b0D092810 |
| IDU FW version: | 1p1r1D092810 |
| IDU PIC version: | 116 |
| IDU Modem version: | 1 |
| ODU FW version: | N/A |
10. Turn TFTPd service on the Radio ON with commands:
(cli-config)tftpd on
11. Transfer the final image file “idu_GigaPlus_v1.3.2.tar.gz” with the same command instruction in step 6.
12. After the files are transferred on the Radio, the images need to be burned on the flash in the system to the appropriate flash partition. Use the “bootimage” command from the config node on the radio.

The command prompt will return with SUCCESS/ERROR once the image is copied to flash.

```
(cli-config) bootimage upgrade idu // for all idu image upgrade
(cli-config) bootimage upgrade odu // for odu firmware upgrade
(ODU upgrade is not required from 1.1.1 to 1.3, but may be required if your firmware does not
match the version below.)
```

Image upgrade for ODU will cause a link loss as it will power cycle during the upgrade process.

The new image will take effect once the radio is rebooted.

13. Reboot the radio:
(cli-config) reboot

14. Check the new version on the system with CLI command “version”. It should match with the versions listed below. **In case of mismatch version, please perform the upgrade again from step 1.**

| | |
|--------------------|------------------------|
| FPGA version: | 0027040B |
| OS version | 2p6r22b0D092711 |
| FW version | 1p3r2D092711 |
| PIC version | 62 |
| Modem Version | 1 |
| SP ODU FW version | 27 |
| HP ODU FW version | 150410 |
| HP1 ODU FW version | 060211 |
| HP2 ODU FW version | 142 |

Please follow all the instructions as listed above in the upgrade instructions. In the case of version mismatch on the system (local/remote/system) the system is NOT guaranteed to work. In the event of a power failure during the upgrade process or any mismatch conflict, please contact technical support <techsupport@trangosys.com> for further assistance. Serial console remote access to the IDUs might be required in the event of such failure. It is suggested that all customers have at least one serial/console cable available at each site.

**Please do not make any implicit assumptions.
In case of any doubt please contact technical support for clarification.**

GigaPlus Software Change History

Software Version 1.3.1

| | |
|--------------------|------------------------|
| FPGA version: | 0027040B |
| OS version | 2p6r22b0D091911 |
| FW version | 1p3r1D091911 |
| PIC version | 62 |
| Modem Version | 1 |
| SP ODU FW version | 27 |
| HP ODU FW version | 150410 |
| HP1 ODU FW version | 060211 |
| HP2 ODU FW version | 142 |

New Features

1. Support for HP1 ODU.
2. Remove support for SP 18E ODU.
3. Support for new hardware revision IDU.
4. Ethernet internal vlan IDs to standardize ports with ApexPlus.
5. Enhanced support against management unresponsiveness.

Bug Fixes

1. HP2 bandwidth setting was mapped incorrectly and has been enhanced.
2. SP 18 tx PLL update.

Software Version 1.3.0 PIC 62

| | |
|--------------------|-----------------|
| FPGA version: | 0027040B |
| OS version | 2p6r22b0D042811 |
| FW version | 1p3r0D042811 |
| PIC version | 62 |
| Modem Version | 1 |
| SP ODU FW version | 27 |
| HP ODU FW version | 150410 |
| HP2 ODU FW version | 142 |

New Features

1. Enhanced protection against short circuit on IF/N connector.

Software Version 1.3.0

| | |
|--------------------|------------------------|
| FPGA version: | 0027040B |
| OS version | 2p6r22b0D042811 |
| FW version | 1p3r0D042811 |
| PIC version | 60 |
| Modem Version | 1 |
| SP ODU FW version | 27 |
| HP ODU FW version | 150410 |
| HP2 ODU FW version | 142 |

New Features

1. HP2 ODU Support allows expanded frequency range coverage.
2. FTP file transfer enables easier software upgrade and transfer of diagnostic files.
3. Additional diagnostic information provided in siglevel command.
4. New MIB OID's to display float values as integers for greater SNMP manager compatibility.
5. Mode long/short push button support to reset values. Short push will reset IP and all passwords and snmp community strings to default values. Long push resets all other configuration parameters to default.
6. Update Loopback command to reflect current hardware features.
7. Show internal port counters in status port for additional debugging.
8. Updates to 1+1 Hot Standby implementation.
9. Web Interface/snmp timeout extended to stop false timeout messages for items like odupower on.
10. Alignment mode renamed alignment_sp to indicate that it is functional for SP ODU's only.
11. Display ODU model and serial as N/A if not connected after reboot instead of storing previously connected information.

Bug Fixes

1. ATPC timing improvements when link up/down is triggered.
2. Loglevel implementation.
3. TDM ports default to ON after system initialization.
4. Erroneous reporting of errors in status TDM for port 8.
5. Display ODU Serial ID.
6. SP ODU filter selection.
7. Hardware alarm setting enabled.
8. Guard time range for 1+1 Hot Standby.
9. Improvement of 1+1 Hot Standby functionality and reliability.
10. Modified SNMP OID for IP Address fields from string to IPAddress for improved reliability.
11. Threshold display and setting actions.

Software Version 1.2.0

| | |
|-------------------|------------------------|
| FPGA version | 0014100A |
| OS version | 2p6r22b0D010611 |
| FW version | 1p2r0D010611 |
| PIC version | 59 |
| Modem Version | 1 |
| SP ODU FW version | 27 |
| HP ODU FW version | 150410 |

New Features

1. 1+1 Failover mode
To support 1+1 failover feature with 4 IDU and 4 ODU setup. Active and Standby units are synchronized at all times and whenever Active unit has met the failure condition, the Standby will take over to resume the data transfer. This feature is to give the system more robustness and reduce downtime.
2. New “freq_duplex” command for configure the Tx Rx duplex value. This is valid only for HP ODUs.
3. Add new OID to display some system parameter in integer support certain SNMP manager that does not display OID in float val.
4. Threshold action can be configured as more than one action. Allows users to have more than one action executed when the threshold values violets the configured settings. The actions to be allowed are alarm1, alarm2, snmptrap and switchover and they can all be configured as part of the actions.
5. New debugging CLI “siglevel” to better diagnostic the link condition.

Software Version 1.1.2

| | |
|-------------------|------------------------|
| FPGA version: | 0006040A |
| OS version | 2p6r22b0D121410 |
| FW version | 1p1r2D121410 |
| PIC version | 5 |
| Modem Version | 1 |
| SP ODU FW version | 27 |
| HP ODU FW version | 150410 |

New Feature

- 1 New “freq_duplex” command for configure the Tx Rx duplex value. This is valid only for HP ODUs.

Software Version 1.1.1

| | |
|-------------------|------------------------|
| FPGA version: | 0006040A |
| OS version | 2p6r22b0D092810 |
| FW version | 1p1r1D092810 |
| PIC version | 5 |
| Modem Version | 1 |
| SP ODU FW version | 27 |
| HP ODU FW version | 150410 |

Bug Fixes

1. Ghost packet fix. Modem counters increment unreasonably when radio loses link with bad MSE values.
 2. Rare IDU hang issue after system boot-up on IDU. No access to the IDU until power cycle.
-

Software Version 1.1

| | |
|-------------------|------------------------|
| FPGA version: | 0006040A |
| OS version | 2p6r22b0D080610 |
| FW version | 1p1r0D080610 |
| PIC version | 5 |
| Modem Version | 1 |
| SP ODU FW version | 27 |
| HP ODU FW version | 150410 |

New Features

1. 56Mhz channel support for 11G. No more speed validation.
2. Channel width (filter) setting to ODU at speed command based on new hardware Idu of 0x08, 0x09, 0x0a.
3. ODU RX AGC loop disable for new ODU HWID of 0x08, 0x09, 0x0a.
4. Web interface: Version section moved to "System Status" tab.
5. HP ODU modulation option 7 support (QAM256) with fall back to option 6 (QAM128) if fails.
6. HP ODU upgrade stability improvement.
7. Add ODU model prefix of "SP" for all SP ODUs and display HW ID.
8. Add HP model # for HP if model # is not pre-programmed.
9. Base license key 1 update to throughput 118 Mbps.
10. New siglevel debug command to track attn./idu sign levels from config node.
11. Port Utilization duration changed from 1min to 20sec.
12. No automatic ODU power off in case of ODU communication failure.

Bug Fixes

1. Web interface: IP format configuration fix from web interface
2. Web interface: Diagnostic spelling error on the page.
3. Display datapath in "text" instead of the numeric representation from config view.
4. 18G boundary frequency fix (18135 for Band 1, 19265 for Band 2. IF fixed to 315 instead of special values)
5. Gateway setting re-issue after IP / IBM configuration change
6. Retrieving Serial ID after system init to resolve timing issue with IDU serial #
7. Fixed power setting at system bootup with ATPC enable.
8. Fix for jumbo packet counter display.