Trango StrataLINK 24

**Software v1.0.6
Release Notes &
Upgrade Instructions**

25 March 2013

Table of Contents

Trango StrataLINK 24 v1.0.6 Release

The release consists of the following software images

FPGA version:	**0014030D**
OS version	**2p6r22b0D032513**
FW version	**1p0r6D032513**
Modem Version	6201.4.4

Bold typeface indicates new images for this release.

Supported Modulation/Symbol rate combination in this release – uncompressed

BW (MHz)	Sym Rate (Msps)	QPSK	8PSK	16 QAM	32 QAM	64 QAM	128 QAM	256 QAM	512 QAM	1024 QAM
10	8.32	15	23	30	37	46	53	60	68	NA
14	12.2	22	34	45	55	67	78	88	100	113
20	17.42	31	47	63	78	96	111	126	143	162
25	21.8	39	60	80	99	120	140	160	182	206
30	26	47	71	95	118	142	167	192	218	247
40	34.82	63	96	128	159	192	225	256	291	329
50	43	78	118	157	195	238	277	318	361	407
60	49.5	94	141	189	234	287	333	391	431	490

New Features/Enhancements
1. ACM: Corrected ACM threshold values.
2. Counters: Display In Discards, Out Discards, CRC Errors and Collision Errors in port counters via CLI and web interface.
3. Frequency: Validate the user input frequency according to current bandwidth.
4. IBM: Switch the data port when enabling IBM to maintain management connectivity.
5. IBM: Web interface warning message when switching IBM settings.
6. Siglevel: Display both instantaneous and accumulative FER counters in siglevel.
7. Syslog: Provide the ability to update the timer for logging the STAT messages. This allows the user more or less frequency status updates to be logged.
8. Tx Power: Adjust power level immediately after freq or opmode command instead of waiting for tx power maintenance to adjust for temperature changes.

Bug fixes
1. Counters: BER calculation based on air frames and current link speed.
2. Counters: Calculate the RF port rate based on the rx profile speed, not the tx profile speed.

3. Counters: Change RF total drop error frame to RF total dropped air frames.
4. IBM: Enable MAC address learning in the internal switch to allow natural filtering of known destination unicast traffic from the IBM port. This removes the previous limitation of 100 Mbps for traffic with IBM enabled. Broadcast traffic and multicast traffic will be limited to 100 Mbps with IBM enabled.
5. IBM: Management interface fixed with IBM tagging on to properly configure it with correct vlan ID at system power up.
6. Loopback: Display the correct number of iterations of loopback_auto via CLI.
7. Survey: Recalculate the average and max RSSI when running through the survey.

Notes

1. Use config as the username for the config login on web interface.

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. Including a space in a password field can cause management unresponsiveness. Ensure that no spaces are used in passwords. If spaces are included, please provide remote access to Trango Support for assistance or request RMA for repair.
3. Refreshing the webpage after selecting reboot may cause the radio to reboot again.
   WA: Type in the IP address or hostname again instead of using the refresh button.
4. With IBM enabled, broadcast and multicast traffic is limited to 100 Mbps.
5. RSSI reads 2-3 dB higher than actual for channels over 30 MHz wide.
6. RF in/out counters read slightly lower than actual number of packets going over the air. GE1 and GE2 port counters are always accurate.
7. Port priority is not functional at this time.
8. Pause on/off is not functional at this time.

Software Image Upgrade Procedure

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 SL24 will be copied to flash during image upgrade (bootimage upgrade) 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.

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 SL-24 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 SL-24 as well as a route to the Internet through out of band 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 SL-24, 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: Trango StrataLink 24 Command Line Interface v1.0.4

   (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-StrataLink/SL24_v1.0.6.tar.gz
   ##########

   Get operation successful with passive mode

9. Logout of the ftp session

   ftp> logout

10. Process the upgrade using the bootimage upgrade command.

    (CLI-config)# bootimage upgrade

    ...
    ...
    ..

    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 earlier. **In case of mismatch version, please perform the upgrade again from step 1.**

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 open a support request at support.trangosys.com for further assistance. Serial console remote access to the OMUs 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.

StrataLINK 24 Software Change History

Software Version 1.0.5

FPGA version: **0001030D**
OS version   **2p6r22b0D030113**
FW version   **1p0r5D030113**
Modem Version   6201.4.4

New Features/Enhancements
1. Improved power/RSSI values.

Software Version 1.0.4

FPGA version: 0002010D
OS version   **2p6r22b0D022613**
FW version   **1p0r4D022613**
Modem Version   6201.4.4

Bug fixes
1. Configure the modem port with proper tx rx pause setting.
2. Changing IBM VLAN ID with tagging off previously caused gateway to be lost, now the setting will not change until tagging is enabled.
3. Remove in/out discard counters from CLI and web interface as they were showing erroneous data.
4. Optimize internal buffer size.
5. Improved ACS reliability through radio to radio messaging.
6. Receive maintenance loop.
7. Added ACS up and down MSE restriction, requires 10 dB.

Software Version 1.0.2

FPGA version: 0002010D
OS version   **2p6r22b0D021113**
FW version   **1p0r2D021113**
Modem Version   6201.4.4

Bug fixes
1. Ignore white space at beginning of unit_id and gps_info as a space was being added on each reboot.

Software Version 1.0.1

FPGA version: 0002010D
OS version   **2p6r22b0D020113**
FW version   **1p0r1D020113**
Modem Version   6201.4.4

New Features
1. Egress margin for 200, 300 & 400 Mbps license caps fixed at 25%.
2. Pop-up message to inform user what has been done and what the next steps are when doing a diagnostic export or config export via web interface.

Bug fixes
1. Broadcasting default MAC as opposed to assigned MAC on bootup.
2. Egress and burst rate setting at startup.
3. Delay management access until system and all applications are ready for operation.
4. Loglevel updated for specific actions: egress margin and throughput capping as well as power offset message when executed with display as a 0 [SET].
5. License key setting on the web interface.
6. Error checking message for snmp read/write string. Both strings may not be configured to be the same value.
7. Loopback auto to display RSSI and turn off the internal modem data port to prevent traffic loopback.

Software Version 1.0.0

FPGA version: **0002010D**
OS version   **2p6r22b0D122512**
FW version   **1p0r1D122512**
Modem Version   **6201.4.4**

Key Features
1. Automatic Channel Selection
2. Hitless Adaptive Modulation for all modulations.
3. Native Ethernet support.
4. Packet QoS based on 802.1p
5. GigE supports configurable speed, duplex, rate limiting and jumbo packets.
6. Rapid Port Shutdown
7. CLI access via serial console/SSH/telnet.
8. SNMPv2 support (Trango MIB)
9. Web access supports both secure (HTTPS) and regular (HTTP).
10. Threshold monitoring.
11. In Band Management with tagging options.
12. Reliable image transfer using FTP, also support TFTP.