

Global Caché Release Notes

Flex Firmware and Webpages

Release Date: May 22, 2024
Firmware version: 26
Webpage version: 16.2
Part numbers: 710-3000-26, Firmware Flex IP/PoE (Flex IP/Flex IP-P)
710-2000-26, Firmware Flex WiFi (Flex WF)

Note: *The last external Flex update was firmware version -21. All features, firmware changes, bug fixes, and webpage changes since that version are included in this release, including versions 22, 23, and 25. Please review those release notes below for details.*

Firmware Changes

FEATURES

- Serial: Added Cable ID field to both TCP and HTTP APIs. Setting the Cable ID allows for configuring the Flex specifically for RS232/RS485. Previously, the Cable ID was set based on an auto-detect method which was determined to not be reliable in all situations.
- Serial: Added a Hexadecimal Interpretation feature to the HTTP API. When enabled, the feature allows for sending ASCII representations of Hex data by using the ``\x`` escape sequence (e.g. ``\x0A``).

BUG FIXES

- Relay/Sensor: Fixed a regression with the TCP `set_SENSORNOTIFY` command.
- Relay/Sensor: Implemented workaround for FLC-RS cable silicon issue (non-zero register values on power up) that could cause initialization of some cables to fail.
- Serial: Fixed an issue with returning to receive mode after transmitting in RS485 half duplex mode.
- Infrared: Fixed a memory leak with sending IR commands with no cable connected.
- Infrared: Fixed an issue with incorrect IR responses with no cable connected.
- Security: Addressed an authentication vulnerability.
- WiFi: Fixed an issue where too many Wireless APs could cause a buffer overflow. Unit now returns the first 12 APs. APs not included in the list can still be provisioned to through manual entry on the web interface.
- Beacon/UDP Notify: Fixed an issue where after changing networks, the amount of available UDP sockets could be exceeded resulting in some UDP services being unable to transmit.
- Filesystem: Fixed an issue where overwriting a larger file could result in trailing data remaining.
- Filesystem: Fixed a buffer overwrite issue that could occasionally cause a file write to fail.

Webpage Changes

- Relay Configuration: Addressed issue with SPDT/DPDT relay configuration not setting On1/On2 state correctly.
- Serial Configuration: Added Serial Cable type selection (RS232/RS485). See related FW feature above.
- Serial Configuration: Added Hex Interpretation selection. See related FW feature above.
- Security Configuration: Made various UI changes to prevent the user being able to set unintended Username/Password values.
- Network Configuration: Fixed issue where device hostname was not being set to the entered value when configuring a static address.
- WiFi Configuration: Added a note for provisioning unit if WiFi AP is not listed.

Release Date: May 15, 2023
Firmware version: 25
Webpage version: 16.1
Part numbers: 710-3000-25, Firmware Flex IP/PoE

Firmware Changes

FEATURES

- Implemented an ARP backoff feature for DNS and Gateway resolution ARPs. After each 3 non-successful ARP transmissions the transmit time will be doubled (up to a maximum of 128 seconds).
- Unit will reject firmware downgrades to firmware versions 21 and 19. Downgrading to these versions and then re-upgrading to a current version can result in the loss of factory-set data.

BUG FIXES

- MDNS: The MDNS server field (observable in network traffic) will now use the unit hostname for the server name instead of a static value.
- Updating: OEM units originally manufactured on version 21 or lower will now use the 'model' field value as the 'line' value when upgraded. This is necessary because the 'line' field did not exist on firmware 21 or lower.
- TCP: Fixed memory leak that could be created by repeatedly triggering certain TCP IR error responses.
- TCP: Fixed an issue with certain TCP IR error responses that would return additional (incorrect) data with the error response.
- TCP: Fixed an API regression. When the unit is configured for a single IR cable type, TCP IR commands directed at port 2 or 3 will once again be re-routed to port 1.
- Filesystem: Changes to the Relay/Sensor cable's sensor 'Port' or 'Timer' fields will now trigger the cable configuration to be saved to non-volatile memory. These fields were not being saved unless another configuration change triggered the non-volatile write.

Webpage Changes

- None
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Previous Release Notes

Release Date: March 13, 2023

Firmware version: 23

Webpage version: 16.1

Part numbers: 710-3000-23, Firmware Flex IP/PoE

Firmware Changes

FEATURE CHANGES

Networking:

- The auto IP feature (added in version 22) has been disabled. Flex devices assigned to static IP addresses will now take the assigned IP address even if there is a conflict. For initial setup modes where the 192.168.1.70 "setup IP address" is used, Flex devices will use the setup IP address even if it is currently used by another device on the network.

Webpage Changes

- None
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Beta Release Date: September 17, 2021

Firmware version: 22

Webpage version: 16.1

Part numbers: 710-3000-22, Firmware Flex IP/PoE

Firmware Changes

NEW FEATURES:

- WiFi:
 - SoftAP mode enables a standard WiFi AP which supports WiFi connection and provisioning using any modern device and operating system. (Adhoc mode is deprecated due to lack of support in Windows and Android).

· RESTful HTTP API:

- Fully implemented support for all Flex and Flex Link Cable functionality.
- Multi-level requests allow efficient get/set of multiple resources in a single request.
- Long poll requests with configurable timeout allow asynchronous notification of resource changes.
- Request payload JSON fields can occur in any order.
- IR codes in raw sendir format are supported as an alternative to JSON format.
- Serial bidirectional communications are supported via long poll or chunked transfer encoding.
- Serial raw binary payloads are now supported.
- Serial error counts are stored and can be retrieved (Framing, Parity, and Overrun).
- Relays now support momentary single pulse operation with adjustable pulse width.
- Device LEDs are user controllable with custom blink patterns.

· TCP API:

- Change notification feature supports client notification of I/O state changes.
- Relays now support momentary single-pulse operation with configurable pulsewidth.

· File system:

- Fault tolerance prevents file corruption and loss of configuration webpages, settings, and user files.
- Standard directory and file Create/Read/Update/Delete operations (via HTTP API) are now supported.

· Security:

- System Lock feature allows permanent lock of configuration settings, resettable only by physical device access (reset button).
- Configuration settings and webpages can be access restricted via username/password authentication.

· Networking:

- Multiple Flex devices on a non-DHCP network will assume unique default IP addresses.

· IR learn:

- Additional output formats are supported, including GC Compressed, GC JSON, GC JSON Compressed, and Hex.

BUG FIXES:

- Fixed - Serial communications errors occur under high throughput conditions and/or with hardware flow-control enabled. NOTE: hardware flow-control is now supported only for receive and not transmit.
- Fixed - No fallback to default IP address when Flex WiFi with DHCP enabled connects to AP without DHCP server.
- Fixed - Not backwards-compatible with GC-100 "getversion,1" command.

KNOWN ISSUES:

· RESTful HTTP API:

- Certain types of invalid JSON in the request payload can cause an exception and device reset. (e.g., missing comma after a primitive field value).

· File system:

- Uploading multiple files simultaneously can fail.

· DHCP:

- In certain unique environments the Flex WiFi may fail to receive a DHCP address. If this happens the unit will return to its fallback IP address (The first available IP from 192.168.1.70).
- If the subnet is changed in DHCP server mode the unit still issues IP addresses from its original subnet.

Webpage Changes

NEW FEATURES:

- Added reboot and factory reset functions.
- Added security page (System and API Lock).
- Relay/Sensor page optimized for faster operation.
- Added Serial error counters.
- Added support for SoftAP provisioning (WiFi only).
- Minor graphical changes.

Release Date: December 23, 2019

Firmware version: 21

Webpage version: 15.2

Part numbers: 710-3000-21, Firmware Flex IP/PoE

710-2000-21, Firmware Flex WiFi

Firmware Changes

BUG FIXES:

- Fixed sensor notify port/timer values not correctly applying.
 - Fixed issue where relay/sensor settings were not saving.
 - Resolved issue with TCP API IR Learner returning wrong module number.
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Release Date: August 27, 2018

Firmware version: 20

Webpage version: 15.2

Part numbers: 710-3000-20, Firmware Flex IP/PoE
710-2000-20, Firmware Flex WiFi

Firmware Changes

- * Bug fix: Resolved issue with Flex Link Serial RS485 cable (FLC-SL485) where the device could become unresponsive and require a power cycle.
 - * Enhancement: Support new flash component which replaces EOL part (used by filesystem).
 - * Enhancement: Improved button behavior to avoid accidental filesystem format when Resetting to defaults, as follows:
 - *Reset To Factory Defaults*
 - When attempting to reset to factory defaults, after pressing the button for 12+ seconds, the button must be *released* for at least 1 second for the reset to take effect.
(Releasing the button for less than 1 second is ignored, i.e. treated as if button is still pressed.)
 - *Filesystem Reset*
 - To perform a filesystem reset, the button must be pressed while applying power to the device, and held for at least 5 seconds. This causes a filesystem reformat, in a case where the filesystem has been corrupted.
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Release Date: August 5, 2016

Firmware version: 19

Webpage version: 15.2

Part number: 710-3000-19, Firmware Flex IP/PoE

This update applies to all Flex models when used with Flex Link Serial cables.

Firmware Changes

- * Bug fix: Fixed issue with Flex Link Serial cable mode where the Flex could become non-responsive and require a power cycle.
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Release Date: April 28, 2016

Firmware version: 18

Webpage version: 15.2

Part numbers: 710-3000-18, Firmware Flex Ethernet/PoE

This update applies to Flex Ethernet and PoE with PCB revisions -09 and newer.

Firmware Changes

- * Bug fix: Corrected lag issue with significant performance improvement (reduced response time) when sending IR codes.

Webpage Changes

- * Copyright updated to 2016.

As of December 16, 2015, Flex firmware release notes are now in two different documents: WiFi and IP/PoE.

Release Date: December 16, 2015
Firmware version: 17
Webpage version: 15.1
Part number: 710-3000-17, Firmware iTach Flex IP and PoE

This update will only work with iTach Flex IP (Ethernet) and Power over Ethernet units with PCB revisions -09 and newer. Effective changes include bug fixes only. For older units, please contact support@globalcache.com.

Firmware Changes

* Bug Fix: Corrected issue that could cause detection of incorrect board version, which may result in disabled power/status LEDs and filesystem. This could prevent configuration webpages from loading.

Webpage Changes

None

Release Date: October 26, 2015
Firmware version: 16
Webpage version: 15.1
Part numbers: 710-2000-16, Firmware iTach Flex WiFi
710-3000-16, Firmware iTach Flex Ethernet/PoE

This update applies to iTach Flex PCB revisions 09 and newer. Effective changes include new product features, enhancements, and bug fixes.

Firmware Changes

- * Bug Fix: Corrected issue where Flex WiFi hangs during frequent WiFi network disconnects/reconnects.
- * Bug Fix: Corrected issue where Flex units hang during heavy Zeroconf mDNS traffic.
- * Bug Fix: Corrected the device discovery UDP beacon destination MAC ID.
 - The destination MAC ID has been changed from FF:FF:FF:FF:FF:FF to 01:00:5E:7F:FA:FA.
- * New Feature: Full TCP API support for Flex Link Relay & Sensor cable
 - New commands for selecting Flex Link Relay & Sensor cable.
 - New commands for selecting all available relay types/modes.
 - New commands for selecting sensor and sensor notify modes, with customizable notify settings for each sensor port.
 - Backwards compatibility with GC-100 and iTach relays (supports use of existing partner drivers).
 - New iTach sensor compatibility mode supports backwards compatibility of iTach IR with all ports in sensor or sensor notify mode.
- * New Feature: Support for Flex Link RS485 Serial cable
 - Industry standard RS485 interface is now supported, in full-duplex or half-duplex operation, up to 115200 baud.
 - Flex Link RS485 Serial cables will be available later this year and are NOT AVAILABLE at this time.
- * New Feature: HTTP API support for Flex Link Serial cables
 - Serial configuration and data transmit is now supported by the HTTP/REST API.
 - New serial gender HTTP API setting consistent with the HTTP API v1 crossover setting. The gender setting should match the Flex Link cable DB9 connector. When no gender changer is used, the connector is male (crossover=false). When using a gender changer, the connector is female (crossover=true).
- * New Feature: Added 2 stop bits option for Flex Link Serial cables
 - Serial communication using 2 stop bits is now supported and can be configured via TCP or HTTP API.
- * Improvement: TCP-to-serial clean connect
 - TCP connections to port 4999 are now initiated cleanly (no cached/buffered data is sent).

Webpage Changes

- * Active cable setting is now set immediately when selected in the "Change Flex Link Cable" dropdown.
- * Configuration options added for Sensor Notify.
- * Dropdown added for selecting iTach Sensor Notify and iTach Sensor compatibility modes.
- * Serial configuration detects and shows cable type (RS232 or RS485).
- * Added RS485 duplex setting, and RS232 Stop bit=2 option for serial cable.
- * Changed "Crossover" setting to "Gender Changer." The "True/False" values remain the same. The user selects the appropriate setting based on whether a gender changer is used with the Flex Link Serial RS232 cable.
- * Bug fixes for compatibility with recent version of Chrome.

Release Notes

iTach Flex 710-XXXX-14 Release

This update applies to all iTach Flex versions. Effective changes include new product features, enhancements, and bug fixes.

NOTE: This version requires a one time wait of up to 4 minutes when updating to version -14.

- * New feature: Support for the new Flex Link Relay & Sensor cable, as follows:
 - TCP API commands are fully backwards compatible with iTach IP2CC and WF2CC.
 - New improved HTTP API, which currently supports only the Flex Link Relay & Sensor cable functions. (Flex Link IR and Serial cables are supported by existing HTTP commands, but not in the new HTTP API as of yet.)
 - For details on the new HTTP API, see the documentation at <http://globalcache.com/httpapi>
- * New feature: Support for iTach Flex IP PoE product.
- * Bug fix: Updated core filesystem libraries to address several filesystem bugs:
 - Files may be corrupted/truncated during upload.
 - Filesizes are sometimes displayed as incorrect or negative values.
- * Bug fix: WiFi network scan returns no results when more than ~10 WiFi networks are available.
- * Bug fix: Under certain WiFi environments, Flex WiFi may hang and require a power cycle to recover.
- * Bug fix: Flex sometimes acquires different IP address spontaneously, or after power cycle
 - To guarantee a consistent IP address with various DHCP servers, it is recommended to set an IP reservation on the router (routers often issue the same IP address based on MAC ID, but it is not required. Behavior varies among different routers).
- * Bug fix: Blaster may not initially pre-charge (and then requires sending an IR code to charge).
- * Enhancement: REST/HTTP IR learn abort - IR learn via HTTP request ("../api/v1/irlearn") is now cleanly terminated if the HTTP request/socket is closed.
- * Enhancement: Improved Blaster recharge rate and repeat capability.
- * Improved firmware update process:
 - Interrupted update is now fully recoverable.

Changes from Webpages release -10

- * Added support for Flex Link Relay and Sensor cable, including a configuration page which includes a basic control and monitoring interface. NOTE: This is intended to demonstrate basic functionality, but not serve as a full control interface.
 - automatic detection when relay cable is plugged/unplugged
- * Updates for compatibility with new RESTful HTTP API
- * The general cable type is now selected from a dropdown.
- * Both 1 and 3 port IR cables are on the same configuration page, with a setting to distinguish between them.
- * Added periodic "heartbeat" API call to check for unit presence and alert user if no response
- * Added automatic detection of serial cable
- * Added confirmation box when applying network configuration changes
- * Added signal strength indication in the WiFi network list
- * Firmware version is displayed on the main page, instead of on its own separate page.
- * Serial config web-page now supports higher baud-rates for v2 serial cable

Release Notes

iTach Flex 710-XXXX-10 Release

Changes from the iTach Flex 710-XXXX-09 Release

- Fixed an issue where a Flex will not reconnect after loss of power to the router.
- Fixed IR learning issue where extremely long commands were not learned properly due to their length.
- Added support for the upgraded Flex Link Serial Cable with baud rates up to 57600 and 115200.

Changes from the iTach Flex 710-XXXX-07 Release

- Fixed a WiFi drop off issue where units would not reassociate with certain routers or access points after a period of time.
- Fixed a DHCP interaction problem where units would not obtain an address and then not issue a repeated request.

- Fixed a bug in WEP encryption that prevented connection with some routers.
 - Implemented 8 concurrent TCP connections for the serial TCP port (4999).
 - Implemented IR over HTTP.
 - Implemented RS232 output over HTTP.
 - Implemented IR learning over HTTP.
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Release Notes

iTach 710-XXXX-07 Release

Changes from the iTach Flex 710-XXXX-04 Release

- Fixed rare issue with Flex Link Serial Cable where transmissions would not send properly or would send extraneous null characters
 - Fixed bug where an added line feed after the carriage return terminator caused subsequent commands to throw errors
 - Fixed bug where repeated commands would not stop, causing repeated transfer which affected some commands, such as volume and channel controls
 - Fixed bug that caused a file system corruption, preventing users from using the Flex web interface
 - Implemented compressed IR
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Release Notes

iTach 710-XXXX-04 Release

This update provides fixes for some minor bugs as well as the implementation of new capabilities as shown below.

Changes from the iTach Flex 710-XXXX-03 Release

- iTach Flex units now support the Flex Link Serial Cable, with the web configuration pages now containing all available serial settings.
 - Fixed bug related to IR learning as implemented in partner software.
 - Implemented Smooth Continuous IR.
 - Implemented the Flex Link Blaster for both the individual Flex Link Port as well as the Flex Link Tri-port.
 - Implemented iHelp automated update of iTach Flex firmware and webpages.
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Support and Documentation:

For assistance, contact our support team at support@globalcache.com or call us at +1 541-899-4800.

For detailed information on configuring and using the Flex and Flex Link Cables, consult the **User Guide: Flex and Flex Link Cables** at www.globalcache.com/docs.

