

# GENERAL FIRMWARE CHANGES

## Changes in 4.02

### UI:

- 1) Web browser's title bar now displays device name
- 2) Channel list and band refreshes dynamically with country selection
- 3) Information page will now correctly display TPC status
- 4) Minor Opera and Firefox layout fixes
- 5) Information Page will now display card chipset as well as card type.
- 6) AP station list will now show CPE statistics
- 7) WDS statistics are now available
- 8) Added Configuration Import/Export feature
- 9) Added TFTP configuration upload/download option
- 10) Added AP and PnP functionality for SL5

### Radio and Wireless:

- 1) Fixed automatic power reduction issue in TR-5aPlus
- 2) Fixed peerlist clearing
- 3) Add 5/10MHz support for card type 6B
- 4) Added option to restrict DFS channel jumps in CE domain  
**\*Note\*** This option is not available to FCC users as the FCC does not permit this feature

### Wireless Security:

- 1) Fixed an issue that disabled WPA-PSK after switching to CPE mode from AP mode with WPA Enterprise enabled.
- 2) Fixed a WPA key timeout issue that was causing wireless disconnects under continuous heavy traffic

### Regulatory:

- 1) Extend available frequencies in Chile band to 5850MHz
- 2) Extend available frequencies in Brazil band to 5850MHz
- 3) Enabled 5GHz band for Spain
- 4) Moved Channel 167 to "Band C" in the U.K

### Network:

- 1) Fixed PPOE connection recovery issue when session was lost unexpectedly
- 2) Fixed an PPOE mode issue when using locator to change the radios IP address

### Network Security:

- 1) Added VLAN Management support (*All Radios except FDD*). Does not support tagging/stripping of client traffic. **Radio will not respond to Locator unless PC has matching VLAN.**
- 2) Fixed a rare crash when accumulating signal statistics under heavy traffic

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## Changes in 3.6.7

### UI

- 1) Added UI warning to ensure operator selects correct country.

### Radio & Wireless

- 1) Improved compatibility with third-party vendors when using WPA2-Only Mode.
- 2) CPE now send a disassociation frame to the AP if rebooted from the web GUI.

### Network

- 1) Added stale PPPoE session detection.
- 2) Added PPPoE keep-alive function to keep sessions active.

### Regulatory

- 1) All countries with the exception of the USA and Puerto Rico are now in the new World Domain. The World Domain allows international operators to select the radios country of operation. US and Puerto Rican users stay within the American Domain.

## Changes in 3.6.0

### UI

- 1) Removed Radius from CPE mode as it is only operational when in AP mode.
- 2) UI will no longer show DFS/TPC as being enabled when a non-DFS channel is active.
- 3) Power cap setting on the Wireless Settings page is now changeable when DFS channels are enabled.

### Radio & Wireless

- 1) Fixed re-association issue with Smartbridge AP's caused by the AP sending incorrect timestamp information on management frames.

### Security

- 1) Improved Password reset function

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## Regulatory

- 2) Further updated regulatory/domain information for Iceland and Australia

## **Changes in 3.5.2**

### UI

- 4) Fixed an issue that caused an un-truncated hours value on DFS page.
- 5) Fixed an issue that caused the wrong channel to be displayed when using 11a mode on TR-Multi.
- 6) Fixed an issue which caused 5/10MHz disabled when the user turned off turbo mode.

### TR-900

- 1) Enable g-mode by default for 900M. (Does not affect current settings)

### TR-FDD

- 1) Enabled 5/10MHz bandwidth for TR-FDD.

### Radio & Wireless

- 1) Updated code to allow the beacon period to be overridden during channel switch.
- 2) Disable turbo mode for SL5 as card does not support that option.
- 3) Added 5/10MHz bandwidth for US, UK, Mexico, Ireland, Indonesia and Iceland extended bands.
- 4) Updated code to resolve a throughput issue reported in the Australian domain.
- 5) Updated code to enable G mode for 6600 series products.
- 6) Updated code to enable G mode for 2B cards.
- 7) Added a new card type, 4E.

### Network

- 1) Fix a bug that caused a memory leak when using PPPoE or DHCP client.
- 2) Fix a bug that caused Radius module to fail in some conditions on the AP.
- 3) Added code to block ARP queries on WAN side when in PPPoE mode.
- 4) Add infinity lease time for DHCP server .
- 5) Added a validation for DHCP server lease time.

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- 6) Change DNS and domain default to Wan-Assigned for DHCP server.

## Regulatory

- 3) Fixed an issue that caused units to be unable to associate when the number of channels scanned exceeded the pre-DFS/TPC limits.
- 4) Fixed an issue that caused DFS power control effects on power output of non-DFS channels when DFS was enabled.
- 5) Add a TPC patch to increase power output by 4-5dBm in some conditions.

## **Changes in 3.3.0**

## UI

- 1) Fixed an issue that caused the MAC address to appear as FFFFFFFF in the AP List.
- 2) Fixed an issue in the Interface that could cause the unit to falsely report link in PxP mode.
- 3) Fixed an issue where the IP address in the Station list was not updated if the device changed its IP due to DHCP or PPPoE.
- 4) Fixed an issue where the Station name in the Station list was not updated if the device changed identity in the administration screen.
- 5) Fixed an issue where the wrong noise and RSSI values were occasionally displayed.
- 6) Added a display value for radio card type.
- 7) Fixed an issue where G mode could not be disabled by checking off '802.11g Enabled' on the wireless settings screen.
- 8) Fixed an issue where the turbo mode could not be set by the wireless settings screen.
- 9) Added Channel Shield's name with channel number on wireless settings screen for TR-FDD.

## 802.11

- 1) Fixed an issue that caused the RX percent to always be 100% in the UMAC.
- 2) Enabled a single TX rate to be set.
- 3) Added G mode to the SL2.
- 4) Added 5/10/20 MHz channels for all radio cards in SL2/SL5.
- 5) Fixed an issue in the TR-900 where selecting B only caused station to be unable to associate with a B/G AP.
- 6) Made several changes to driver to improve throughput in 5MHz mode.
- 7) Added DFS/TPC detection code for Bin 5 signal Detection (FCC MODE ONLY).
- 8) Fixed an issue in the Interface that could cause the unit to falsely report link in PxP mode.
- 9) Added 5.745 to 5.805 without DFS/TPC to IS:Iceland Domain.

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10) Enabled G mode for radio card types 4D, 6B, 4C only.

11) Enabled 5/10MHz bandwidth for radio card types 4D and 4C only.

## SNMP

- 1) Fixed an issue that caused InterMapper to be unable to report SNMP. This issue only affected InterMapper probes.
- 2) Added Noise and RSSI info to Tranzeo Wireless Technologies Private MIB.

## **Changes in 3.1.6**

### Access Control List:

- 1) Removed 95% buffer warning from Information screen. This warning caused user confusion and system was rewritten.
- 2) Improve handling of Station addresses in Access Control List / Station List for hotspot applications:
  - a) Added code to expire and reuse oldest unlinked station slot when a new station requests association, if the list of station slots is full.
  - b) Added code to expire old unlinked stations after 1 week.
  - c) Fixed a bug which could cause crashes when sampling on CPE Wireless Performance screen. This bug was discovered internally and was extremely hard to create.
- 3) Fixed an issue where incorrect data could be displayed for PCI stack usage on System Performance screen.
- 4) Allow user override of antenna gain for 5.3GHz FCC to correct for lower gain from 5.8GHz antenna.
- 5) Fixed several bugs which could limit changes on Access Control screen.
- 6) Fix CGI DOS bug.
- 7) Fix display of scanned stations in ACL available list.

### PPPoE:

- 1) Changed operation to disconnect the PPPoE session and send PADT info before rebooting and/or upgrading, for better compatibility with some PPPoE servers.
- 2) Allowed for the use of PPPoE without NAT.

### Router:

- 1) Removed the need to turn on NAT to change MTU settings and MSS calculation.
- 2) Increase number of port forwarding rules to 32 in all products?
- 3) Fix bug that caused factory reset not to reset port forward and filtering rules.
- 4) Fixed an issue with the Ethernet port Speed options on Network Configuration screen not being set correctly.

### 802.11:

- 1) Add the ability to select multiple TX rates.



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- 2) Fixed several issues that could cause incorrect LMAC stats.
- 3) Improved the receiver filtering on half/quarter bandwidth channels for 900MHz.
- 4) Fixed a bug that could limit the number of WDS connections to 2.
- 5) Fixed a bug where the CPE-80 with WEP enabled could not associate to a 6000 series in AP mode.
- 6) Fixed a bug which caused an endless loop when accessing Wireless Setting page in TR-Multi.
- 7) Fixed un-initialized Ethernet stats causing occasional bizarre display.

## WPA:

- 1) Improved WPA compatibility by amending formatting of WPA handshake packets 3 and 4.
- 2) Adjust timing of TPC action frames and key timers to resolve WPA handshake failures in ETSI domains.

## SNMP:

- 1) Corrected an issue with data displayed in SNMP SysDescr value.
- 2) Fixed an issue with SNMP where a malformed request could cause the unit to crash.
- 3) Add 10/Auto and 100/Auto options to Network Configuration screen.

## **Changes in 3.0.4**

### *General Changes*

- This version fixes an issue on the Access Control page where sometimes only the first 50 MAC addresses entered would be added.
- Added the display of peerlist usage to the AP Information page.
- Given that there is a hard limit of 255 clients allowed, an alert was added to notify when the peerlist is 95% full.
- Fixed a rare bug where the CPE ceased to transmit to the AP in PxP mode.

## **Changes in 3.0.3**

### *General Changes*

- Added the display of peerlist usage to the AP Information page.
- Given that there is a hard limit of 255 clients allowed, an alert was added to notify when the peerlist is 95% full.

## **Changes in 3.0.2**

### *General Changes*

- Fixed a rare bug where the CPE ceased to transmit to the AP in PxP mode.

## **Changes in 3.0.1**

### *General Changes*

- Changed format of build\_date to improve release build process.

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## Changes in 3.0.0

### *General Changes*

- Firmware version upped to 3.0 due to the adaptation of a new SDK.
- This version includes a new implementation of WPA accompanied by a legacy WPA-PSK compatibility mode. **Note:** This compatibility mode may not be interoperable with some other manufactures' devices.
- This version adds support for new RF chipsets.

## Changes in 2.0.19

### *General Changes*

- This version fixes a CPQ issue, which occurs due to the CPQ code scanning a large number of APs and filling its internal scan list, causing the unit to become unresponsive.
- This version also fixes a CPQ issue, which occurs due to the CPQ code receiving fundamentally bad beacons causing the unit to become unresponsive while it attempts to process the beacon.
- Fixed an issue in the AP scanning mode where enabling WPA would sometimes prevent the Station from finding the primary AP after booting; this could cause the Station to link to the secondary AP even if the primary was active.
- Synchronized domain code to country, necessary for the revised regulatory data in 2.0.18.
- Remove DFS/TPC from Info screen for non-DFS/TPC bands
- Changed SNMP traffic counter control from dropdown box to radio buttons for appearance
- Improved performance of 11a Turbo mode
- Improved optimization of RTS and Frag Thresholds and Burst Window in Turbo mode
- Moved some code into faster RAM to improve speed
- Added a SNMP traffic format control to Admin Settings page. This was added to solve a problem where Cactii could not handle mixed V1 and V2 data.
- Updated SNMP traffic counters for improved response (ie, use life + curr counters)
- Fixed OFDM active bands SNMP value to reflect actually enabled bands
- Fixed an issue on the Port Forwarding page which prevented rule 0 being deleted
- Reduced impact of unauthorized WPA TKIP station attempting repeated association
- Reworked some UI pages to prevent timeouts when using QoS shaping
- Minor UI tweaks
- Fixed issue where DHCP lease renewal could result in the device not requesting a renewal

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- Add safety check to SSID length when processing beacons
- Fixed TX Rate list in Turbo mode
- Added additional checks on received beacon fields
- Add support for new high-power 2.4GHz radio



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## Changes in 2.0.11

### *General Changes*

- Fixed a bug which caused WDS mode to fail to link in some cases
- Fixed a bug which caused that CPE stations to not show up in station list for WDS mode when the above issue occurred.
- Fix a statistics bug which caused the Ethernet LED to not blink when traffic passed.
- Added a button on the firmware update results page. The button only shows up if the web upgrade fails, allowing the user to read the error message.
- Added a check to force the IP mask in the DHCP server settings to match the LAN port's subnet mask.
- Added a second storage location to protect settings during writes in case the power was lost during the write process
- Added a ESSID logic check filter to prevent a rare but possible case which might cause CPE to stop scanning or to associate with a false SSID.
- Since when using DFS/TPC client probes are not allowed under radar conditions, the invisible option is now disabled if 802.11h is enabled. Otherwise, if the ESSID is set to invisible, and a radar pulse is detected, the CPE will never find the AP on its new channel.
- Fixed a bug in multi-SSID that caused the secondary SSID to not associate with an AP with an invisible ESSID.
- Remove hyperlink for changing CPE ESSID in AP Scan list if the ESSID is blank. If you are using Invisible ESSID to must set the ESSID manually.
- Fixed a bug that broke several Monitoring programs that used the .js mechanism.
- Added a feature so that the device name/IP address of a WDS peer can be seen in the Client List

## Changes in 2.0.9

### *General Changes*

- Fixed a rare but critical bug that caused the unit to reset to factory defaults when power reset.
- Added a backup routine to create a secondary copy of the configuration. This slightly slows down application of data but ensures that the configuration is always saved.

## Changes in 2.0.8

### *General Changes*

- Added Fall Back ESSID. This ESSID will be used if the device can not find the primary ESSID.
- fix two SNMP bugs (ifEntry\_ipLastChange and \_ipSpeed)

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- Resolved issues created when radio is hit with a storm of small UDP packets
- Improved UDP throughput
- Increased Net Buffer size to improve stability

## Changes in 2.0.6

### *General Changes*

- Added code to set the routing table properly in the Fallback Gateway.
- Resolved issue with magnification of Spanning Tree packets.
- Clone MAC address made accessible in Bridge Mode.
- Added code to correct issue with Automatic MTU Detection with PPPoE on Windows 98 clients.

## Changes in 2.0.1

- Improved port forwarding to prevent user from locking themselves out from the WAN side.
- Modified the default filter rule for AP and CPE to allow access from either WAN or LAN side.
- Separated performance page into Wireless and System performance pages
- Added CPU information and more detail stack information in the System Performance page
- Added the ability to set a Fallback IP address for DHCP IP mode in case a DHCP server can't be found.
- Added the ability to allow user to enable or disable some of the stats based on user feedback.

### *Fixes:*

- Fixed an issue on the Network configuration page that caused some options to be disabled if PPPoE was checked.
- Fixed an issue in the beta version that caused the Radio to be inaccessible when using PPPoE without PPPoE server became unavailable
- Fixed an issue where that the last rule could not be deleted on both port forwarding and port filtering page.
- Changed SNMP MTU attribute to the real value instead of hard code value to be 1500.

## Changes in 2.0.0

### *New features or improvements:*

- When you change the LAN subnet, the firmware changes the DHCP range subnet to match
- Changed DHCP lease time units to minutes from seconds.
- Added MAC cloning feature

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- Added LONG/AUTO (SHORT) preamble
- Added PPPoE
- Added SNMP
- Added ARP table display
- Added UMAC/LMAC/Interrupt statistics
- Improved the operation of Performance Screen based on user feedback
- Added port filtering
- Added port forwarding
- Added noise floor and removed noise floor adjustment for true RSSI display

## Fixes:

- Fixed an issue UI bug preventing power cap from appearing when 11h inactive
- Fixed a problem that caused DHCP server to be turned off if NAT was disabled

## Changes in TR6Rt-99R

### **General Changes**

- Fixed a rare but critical memory leaks due to received dot11d or dot11h info
- Improve DHCP server operation
- Fixed Allow WAN ping code
- Added ability to import and export large numbers MAC addresses to the ACL

## Changes in Build 89

### **General Changes**

- Fixed a rare but critical memory leak caused when 802.11d or 802.11h AP's were seen
- Updated Irish Domain to add UK-style 5.8 channels
- Rearranged memory mapping to improve speed
- Increase AP scan list & Peer list size
- Adding validation to Antenna Gain and ACK tuning values
- Corrected issue causing QOS speed to be off by one in the list

## Changes in TrCPQ-88CPQ\_SDev99

### **General Changes**

- Added code to squelch Broadcast storms created by some Brands of Routers not being aware of L2.5 bridging.
- Added code to squelch excessive ARP requests by some brands of Routers
- Added Code to fix rare issue of CPQ's taking up to 30 seconds to associate to some brands of AP when the AP is on channel 8 or higher.

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## **Changes in Build 88**

### ***General Changes***

- Adjusted default power to 23 db
- Several changes to improve production process

## **Changes in Build 86**

### ***General Changes***

- Improved user interface based on customer feedback
- RTS value defaults to 3000
- Fragmentation threshold value defaults to 2346

## **Changes in Build 85**

### ***General Changes***

- Improved throughput.
- Improved signal strength reporting
- Adds ability to turn off the LEDs on the unit