



Where Automation Connects.



## RLX2-IHx Series

Industrial Hotspots

802.11a, b, g, n

May 1, 2017

**RELEASE NOTES**

## Your Feedback Please

We always want you to feel that you made the right decision to use our products. If you have suggestions, comments, compliments or complaints about our products, documentation, or support, please write or call us.

**ProSoft Technology, Inc.**  
9201 Camino Media, Suite 200  
Bakersfield, CA 93311  
+1 (661) 716-5100  
+1 (661) 716-5101 (Fax)  
[www.prosoft-technology.com](http://www.prosoft-technology.com)  
[support@prosoft-technology.com](mailto:support@prosoft-technology.com)

RLX2-IHx Release Notes

May 1, 2017

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# 1 Start Here

This document highlights the new features, fixes, enhancements and known issues for the RLX2-IHx radios.

## 1.1 Special Notes

This section contains information regarding special procedures and potential limitations that may be required for this release.

## 1.2 About the RLX2-IHx Industrial Hotspot™ Products

Model	Standards	Maximum Output Power
RLX2-IHA	IEEE 802.11a	24 dBm (250 mW)
RLX2-IHG	IEEE 802.11b/g	24 dBm (250 mW)
RLX2-IHNF	IEEE 802.11a/b/g/n	17 dBm (50 mW)
RLX2-IHNF-W	IEEE 802.11a/b/g/n	17 dBm (50 mW)
RLX2-IHNF-WC	IEEE 802.11a/b/g/n	17 dBm (50mW)
RLX2-IHW	IEEE 802.11a/b/g	20 dBm (100 mW)

The RLX2-IHx 802.11 Industrial Hotspots™ are high-speed wireless Ethernet radios, with Power over Ethernet (PoE) and Serial Encapsulation. All radios operate at speeds up to 54 Mbps, and the RLX2-IHNF operates at speeds up to 300 Mbps. Designed for industrial installations, the RLX2-IHx series offer many features including hazardous location certifications, IGMP Snooping, OFDM for noise immunity, repeater mode to extend range, QoS, VLANs, RADIUS Server, automatic parent selection for self-healing, OPC server diagnostics, extended temperature, high vibration/shock and DIN-rail mounting.

## 1.3 Release Enhancements

Release Version	Release Date	Description
RLX2_v0036H	28-Apr-2017	<b>New Features/Improvements:</b> <ul style="list-style-type: none"> <li>Adds the ability to extract the RLX2-IHx configuration via the web interface.</li> <li>Adds support for the –JP model for Japan.</li> <li>Now accepts the upload of a new “config” image type as part of a firmware combo image.</li> <li>Now supports “Fast” roaming while SSID is hidden on Masters.</li> </ul>
RLX2_v0036G_R	31-Jan-2017	<b>New Features/Improvements:</b> <ul style="list-style-type: none"> <li>Addition of new <i>Cable Break Detection</i> feature which allows Masters to detect a break in the Radiating cable between them, and report this event via an SNMP Trap.</li> <li>ROMAP.mib file has been updated with new parameters for the <i>Cable Break Detection</i> feature.</li> <li>New Cable Break Events are now output to the RLX2-IHx Event Log. <b>Note:</b> This requires IH Browser version 3.1.3.12.</li> <li>Input checking security improvements to web interface.</li> <li>Adds dynamic RTS/CTS and tweaks to Tx Rate Backoff mechanism to ensure high throughput levels can be maintained in a multi-Master radiating cable Fast Roam environment.</li> <li>Improve recovery time when connection to current Parent RLX2 is lost</li> <li>Improvements to ensure a fast roam when a Repeater roams from one Repeater to another.</li> </ul> <b>Resolved issues:</b> <ul style="list-style-type: none"> <li>Channel and Band values submitted via an SNMP write are now qualified before being adopted.</li> <li>Changes made to SNMP controls on web interface are now always saved.</li> <li>Changes made to 2 Serial App controls on web interface were not being saved.</li> <li>Removed WEP option when in 802.11n mode as WEP is disallowed in the 802.11 standard for 802.11n.</li> <li>Corrected operation of the MAC Filter Addresses feature. <ul style="list-style-type: none"> <li>Addresses in filter table are now cleared on a reset to Defaults.</li> <li>If Filter was disabled but client device had been previously added to table, would not let device Associate.</li> <li>Client that was in Filter table but associated to a peer RLX2-IHx of this unit (Ethernet or Radio) would not become active when client roamed to this unit.</li> </ul> </li> <li><b>CANCEL</b> button on web interface was not working on FireFox web browsers.</li> <li>Repeater would not roam between Masters that had a different setting for the <i>FT Disable</i> control.</li> <li>Clean up of Event IDs 66 and 94 and their usage.</li> <li>A 3<sup>rd</sup> Party wireless Client that manually disconnected from the RLX2-IHx was sometimes not able to reconnect to same unit</li> </ul>
RLX2_v0036E1_R	31-Oct-2016	<b>Resolved issues:</b> <ul style="list-style-type: none"> <li>Corrected an issue introduced in v0036 that could cause a Master to reset when simultaneously handling high data loads from multiple child Repeaters, while other child Repeaters are roaming to or away from it.</li> </ul>

RLX2_v0036E_R	23-Sep-2016	<p><b>Resolved issues:</b></p> <ul style="list-style-type: none"> <li>Improved performance of RLX2-IHx access point with 3rd party clients.</li> </ul>
RLX2_v0036D_R	12-Sep-2016	<p><b>New Features/Improvements:</b></p> <ul style="list-style-type: none"> <li>Improved roaming performance in non-FT Alt Channel roam applications.</li> </ul> <p><b>Resolved issues:</b></p> <ul style="list-style-type: none"> <li>Fixed issue related to Alt Roaming.</li> <li>Fixed issue with antenna diversity function to improve receive rates.</li> </ul>
RLX2_v0036C_R	19-Jul-2016	<p><b>New Features/Improvements:</b></p> <ul style="list-style-type: none"> <li> <b>Tabbed Web Interface</b> <ul style="list-style-type: none"> <li>Replaces all pop up configuration windows with tabs on main page.</li> <li>Allows all settings to be made prior to saving changes by clicking <b>APPLY CHANGES</b>.</li> </ul> </li> <li> <b>Bridging Client Mode</b> <ul style="list-style-type: none"> <li>New client mode allows the RLX2-IHx to associate to 3rd party Access Points and allow the bridging of multiple Ethernet devices on its Ethernet.</li> </ul> <p><b>Note:</b> Previous Client Mode only allowed one Ethernet device.</p> </li> <li> <b>Roam Time Improvements</b> <ul style="list-style-type: none"> <li>Reduces roam time to &lt; 10 msec under normal conditions when roaming on same channel.</li> <li>Roams are now near hitless without data loss. Data is buffered during a roam and delivered after roam is complete.</li> <li>Adds new Roam events to the Event Log.</li> </ul> </li> <li> <b>EtherNet/IP and Modbus Agent</b> <ul style="list-style-type: none"> <li>Adds EtherNet/IP and Modbus agent to allow read-only access to common parameters and status of the RLX2-IHx.</li> </ul> </li> <li> <b>Hardware Key Cache</b> <ul style="list-style-type: none"> <li>Hardware Key cache extended to 124 non-TKIP entries. TKIP entries are still limited to 28.</li> </ul> </li> <li> <b>VLAN Web Tab</b> <ul style="list-style-type: none"> <li>Increases number of VLAN IDs supported on web page from 10 to 15.</li> </ul> </li> </ul> <p><b>Resolved issues:</b></p> <ul style="list-style-type: none"> <li>Closes several data loss leaks that could occur during a fast roam.</li> <li>Improves the updating of IGMP consumers after a roam to ensure implicit data continues without interruption.</li> <li>Corrects the 802.11e AC parameters used for QoS to match the recommended defaults in the 802.11 standard.</li> <li>Improves handling of lost 802.11 Mgmt frames during and immediately after a roam in harsh environments. It was causing faults to occur ranging from radio Tx queues getting stuck, to excessive delays in re-establishing an Association to a parent Bridge.</li> <li>Corrects several web page interface anomalies; <b>CANCEL CHANGES</b> button, <b>CHANGE PASSWORD</b> input sanity checks, links in the Parent Tab for Roam Threshold and Parent Margin brought up incorrect on-line help page, operation on -W and -WC watertight models, S/N value on main Info page was incorrect.</li> <li>Now issues the correct Event ID to the event log for Re-Assocxxx type frames.</li> <li>Now handles an extended duration, loss of telnet communication to serial data log. If buffer is filled before telnet data could resume, the interface became inoperative.</li> </ul>

		<ul style="list-style-type: none"> <li>Reconfigures internal Ethernet switch to not process VLAN IDs 1, 2, 3 and 5. With the VLAN feature disabled, VLAN-tagged packets with these VLAN IDs were being filtered from the data stream.</li> <li>Sets debug prints in the EtherNetIP/Modbus module to OFF by default.</li> </ul>
RLX2_v0035J_R	25-May-2016	<p><b>Resolved Issues:</b></p> <ul style="list-style-type: none"> <li>Radar detected after initial CAC would cause the unit to reset, deferring the switching to an alternate channel by 30 to 90 seconds during next CAC period.</li> <li>Correct algorithm that picked an alternate channel on detecting radar, which was only picking channels that didn't support 40 MHz.</li> </ul>
RLX2_v0035H_R	15-Apr-2016	<p><b>New Features/Improvements:</b></p> <ul style="list-style-type: none"> <li><b>'Parent Selection'</b> - Now includes transmit failures as a factor in calculating the 'Best Parent' for roaming purposes.</li> <li><b>Repeater Link Failures</b> - Improvements on resolving link failures to the current Parent faster, and ensures that a new Parent is selected, if one is available.</li> <li><b>VLAN</b> - Increase the number of VLANs that can be configured via the RLX2-IHx web interface from 10 to 15.</li> </ul> <p><b>Resolved Issues:</b></p> <ul style="list-style-type: none"> <li>Now recovers properly from certain frame losses that could occur when roaming under poor RF conditions.</li> <li>Fixed an issue with a Telnet connection to the RLX2-IHx's serial log that could prevent a subsequent connection once the initial Telnet session was closed.</li> <li>Certain received Ethernet packet's priority values were incorrectly interpreted.</li> <li>Corrects the infrequent occurrence of an issue that was adding 1 second to the RLX2-IHx's roam's time.</li> </ul>
RLX2_v0035G_R	7-Oct-2015	<ul style="list-style-type: none"> <li>Changed beacon period to optimize 3rd party client support</li> <li>Fixes for the hardware key cache usage in the radio card and Authenticator for networks with more than 26 nodes</li> <li>Fixes issue where the Ethernet interface didn't start or was detected</li> <li>Fixes a Web Server bug where QoS default priority variable was not written to flash</li> </ul>
RLX2_v0035F_R	4-Jun-2015	<ul style="list-style-type: none"> <li>Ensures any permanent node is re-added to the Address Table if the entry is "Pre" deleted. This fixes an issue that was introduced in v0035A.</li> </ul>
RLX2_v0035E_R	26-May-2015	<ul style="list-style-type: none"> <li>Ignores very weak parent candidates after a full scan. Uses a threshold value that starts at -70 dBm. If no parent is selected, the threshold is decreased by 4 dB and a new scan is done. The threshold is reset to -70 on a transition from connected to scanning.</li> <li>Fixes an issue found in "alt channel" roaming where the RSSI of the new parent scan entry created had a very low value, just prior to the roam. Due to RSSI averaging, the RSSI was still below the roam threshold when the first 'roam check' occurred after the roam, and another roam would be triggered.</li> </ul>
RLX2_v0035D_R	12-Mar-2015	<ul style="list-style-type: none"> <li>Fixes an issue so it does not use the age of a scan list entry when not connected to a parent.</li> <li>Fixes an issue that was causing packets to go out at 11Mb/s when the Max Supported Data rate control was set to MCS2, 1 or 0.</li> </ul>
Previous Revisions	-	<ul style="list-style-type: none"> <li>Please contact ProSoft Technical Support for information on previous RLX2-IHx revisions</li> </ul>



## 2 Support, Service & Warranty

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### 2.1 Contacting Technical Support

ProSoft Technology, Inc. is committed to providing the most efficient and effective support possible. Before calling, please gather the following information to assist in expediting this process:

- 1 Product Version Number
- 2 System architecture
- 3 Network details

If the issue is hardware related, we will also need information regarding:

- 1 Module configuration and associated ladder files, if any
- 2 Module operation and any unusual behavior
- 3 Configuration/Debug status information
- 4 LED patterns
- 5 Details about the serial, Ethernet or Fieldbus devices interfaced to the module, if any.

**Note:** For technical support calls within the United States, an emergency after-hours answering system allows 24-hour/7-days-a-week pager access to one of our qualified Technical and/or Application Support Engineers. Detailed contact information for all our worldwide locations is available on the following page.

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<b>Internet</b>	Web Site: <a href="http://www.prosoft-technology.com/support">www.prosoft-technology.com/support</a> E-mail address: support@prosoft-technology.com
<b>Asia Pacific</b> (location in Malaysia)	Tel: +603.7724.2080 E-mail: asiapc@prosoft-technology.com Languages spoken include: Chinese, English
<b>Asia Pacific</b> (location in China)	Tel: +86.21.5187.7337 x888 E-mail: asiapc@prosoft-technology.com Languages spoken include: Chinese, English
<b>Europe</b> (location in Toulouse, France)	Tel: +33 (0) 5.34.36.87.20 E-mail: support.EMEA@prosoft-technology.com Languages spoken include: French, English
<b>Europe</b> (location in Dubai, UAE)	Tel: +971-4-214-6911 E-mail: mea@prosoft-technology.com Languages spoken include: English, Hindi
<b>North America</b> (location in California)	Tel: +1.661.716.5100 E-mail: support@prosoft-technology.com Languages spoken include: English, Spanish
<b>Latin America</b> (Oficina Regional)	Tel: +1-281-2989109 E-Mail: latinam@prosoft-technology.com Languages spoken include: Spanish, English
<b>Latin America</b> (location in Puebla, Mexico)	Tel: +52-222-3-99-6565 E-mail: soporte@prosoft-technology.com Languages spoken include: Spanish
<b>Brasil</b> (location in Sao Paulo)	Tel: +55-11-5083-3776 E-mail: brasil@prosoft-technology.com Languages spoken include: Portuguese, English

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## 2.2 Warranty Information

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