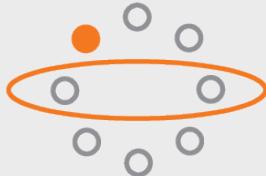


# RUCKUS® UNLEASHED

Enterprise Wi-Fi for small organizations



## BENEFITS

### BLAZING-FAST Wi-Fi PERFORMANCE

- Wi-Fi 6 bridges the performance gap from 'gigabit' Wi-Fi to 'multi-gigabit' Wi-Fi in support of the insatiable demand for better and faster Wi-Fi.
- Great user experience in the most challenging environments. BeamFlex™ adaptive antenna technology dynamically reconfigures antenna patterns choosing from more than 4,000 patterns to provide the best performance for every device.
- Lower costs, easier installation. SmartMesh™ wireless meshing technology can dynamically create self-forming, self-healing mesh networks by just checking a box—reducing the need for expensive cabling and complex mesh configurations.

### INSTALL AND MANAGE WITH EASE

- Up and running in under 5 minutes. With Zero-Touch Mesh, set up your entire Wi-Fi network in a few simple steps from a mobile device or browser with an intuitive, easy-to-understand user interface.
- Total control at your fingertips. Gain detailed insights about your network and perform all key administrative tasks from anywhere with the free Unleashed app for iPhone and Android.

### MORE THAN Wi-Fi

- Network loaded with features. Enhance your network with built-in features such as Wi-Fi Calling, Guest Services, DPSK security, Zero IT onboarding and Application Visibility.
- Switch management made easy. Manage your ICX switches from the Unleashed dashboard and mobile app. Gain insights about switch connectivity information. Perform software upgrade, configuration, backup and restore.
- Built-in resiliency. If the internet goes out—even if an AP fails—you can continue to access printers and other network devices.

### PROTECT YOUR INVESTMENT

- Scale up when you need to. Easily expand your Wi-Fi across across 10,000 locations with the Unleashed Multi-Site Manager. Growing even more? Move up to a controller-based or cloud-based deployment with your existing Unleashed APs.

Has your organization outgrown your Wi-Fi?

More devices than ever. Bandwidth-hungry video applications. Internet of Things (IoT). Constant demand for mobile connectivity. They add up to a perfect storm of technology trends—and your Wi-Fi better be ready for it. The days when a consumer-grade Wi-Fi device could meet most small business needs are over. Today, even smaller organizations need fast, reliable, always-on connectivity for dozens or even hundreds of devices. At the same time, small and midsize businesses don't have the time (or often, the in-house IT expertise) to wrestle with complex configurations and installations that require a PhD to get right.

Want blazing-fast Wi-Fi performance? Simple installation and management? Business-class security and resiliency? Enterprise-class features? And all at an affordable cost? Welcome to RUCKUS Unleashed. These access points (APs) use our patented technologies to deliver RUCKUS' industry-leading Wi-Fi performance, but in a package designed and priced for small and medium-size businesses (SMBs) and organizations.



High-performance, simple-to-setup, easy-to-manage and affordable Wi-Fi

# Introducing RUCKUS Unleashed

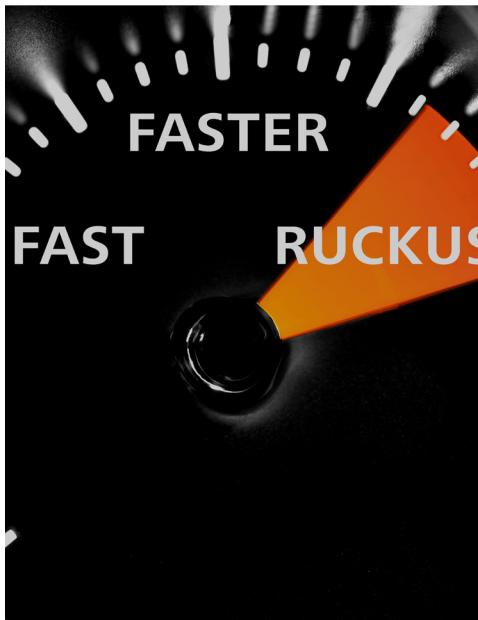
RUCKUS Unleashed is a high-performance, simple-to-setup, easy-to-manage and affordable portfolio of access points. With built-in controller functionality, there's no need to invest in a separate appliance. You can manage your entire network (APs and switches) from your phone or web browser. Deploying at multiple sites? Manage all your Wi-Fi networks from one place through the Unleashed Multi-Site Manager. You can get your network up and running in under 5 minutes—no complex configurations, and no expert installers required.

RUCKUS Unleashed APs make Wi-Fi easy for SMBs, and feature patented RUCKUS technologies that enable us to [consistently beat the competition](#). With patented RUCKUS innovations such as BeamFlex™, ChannelFly™ and SmartMesh™, Unleashed APs deliver higher speeds, better coverage and more reliable connections to every device, every time.

RUCKUS Unleashed APs also come packed with enterprise-class features that are easy to configure and manage. Wi-Fi Calling feature improves handling and overall quality of Wi-Fi Calling voice calls over Unleashed APs. Easily set up secure guest access with full-featured Guest Services. Monitor and optimize network performance for over 2,200 applications with Application Visibility and Control. Lock down access with enterprise-grade security—without the enterprise-scale complexity—using DPSK. And build a resilient Wi-Fi network that lets you continue to access printers and other devices even if the internet—or one of the APs—goes down.

RUCKUS Unleashed APs and switches deliver all of this and more at an affordable price. And if your business grows and you need to move to a controller- or cloud-based infrastructure, you can—without having to overhaul your infrastructure. Migrate to RUCKUS SmartZone™ Controllers or RUCKUS Cloud down the road—using the same Unleashed APs.

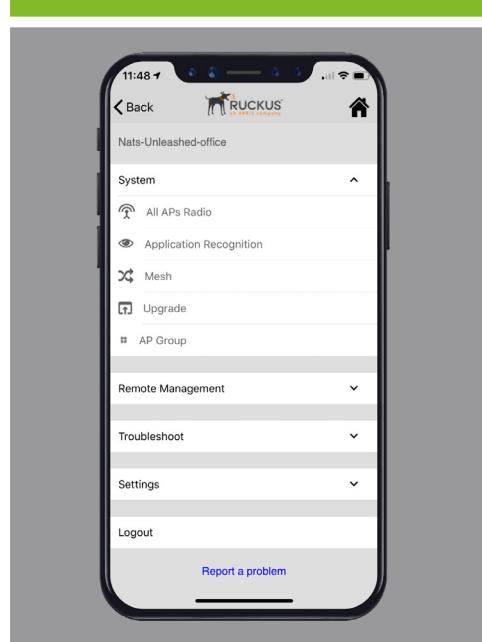
## PERFORMANCE



## SIMPLE AND EASY



## MORE THAN WI-FI



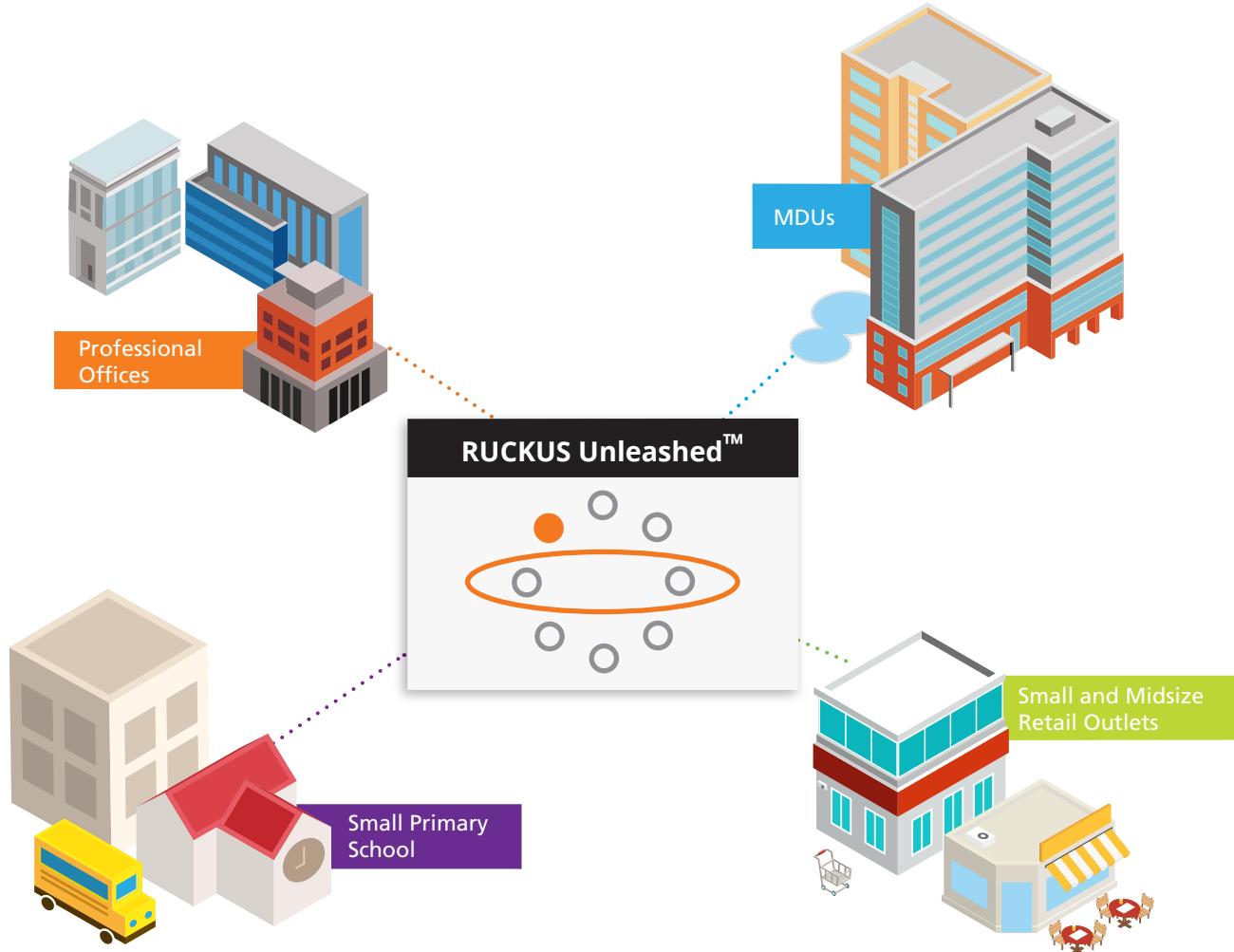
# Where can RUCKUS Unleashed deliver maximum value?

RUCKUS Unleashed APs and switches are designed for small and midsize businesses with a single location or multiple locations with up to 128 APs, 2048 clients and 8 switches per deployment. They're the perfect choice for smaller organizations that need to provide high-performing, enterprise Wi-Fi to employees, customers and guests without breaking the bank. Using the Unleashed mobile app, Unleashed APs can be managed by practically anyone—no specialized IT expertise required. And Unleashed APs are designed to easily scale up as the business grows—a key requirement for the 58% of SMBs that expect to grow within the next 6–12 months.

The RUCKUS Unleashed portfolio offers solutions for practically any SMB use case, at a wide range of price points. Choose from entry-level to ultra-high-performance APs, with both indoor and outdoor form

factors and a variety of mounting options. Choose from a variety of ICX switches. Use RUCKUS Unleashed for:

- Offices (law firms, health clinics, insurance agencies and others) that need enterprise-class performance, advanced security and guest access, built-in resiliency and easy onboarding
- Multi-dwelling units (MDUs) such as large homes, small apartments and housing structures that want pervasive coverage
- Small and midsize retail outlets (stores, restaurants, coffee shops) that want more in-depth Application Visibility and Control in a solution that's easy to manage
- Primary school classrooms and offices that want to unleash digital learning without compromising security



# Key benefits and features

## BEST-IN-CLASS PERFORMANCE

### BeamFlex+—Patented Adaptive Antenna Technology

RUCKUS Unleashed APs integrate our patented, software-controlled adaptive antennas. BeamFlex+ antennas adapt automatically to client locations and environmental conditions, continually optimizing RF signals for every connected device, on a per-packet basis. It's the "secret sauce" that lets our APs maintain stronger connections and deliver better performance than the competition.

### ChannelFly—Machine Learning Auto Channel Selection

Most APs can switch channels when the one they're using to connect with a given device gets congested. Only RUCKUS APs with ChannelFly technology, however, use machine learning and specialized algorithms to identify the best alternate channel *before* switching over. Combined with BeamFlex+ adaptive antenna technology, ChannelFly delivers substantially higher throughput than competing APs.

### SmartMesh—Self-Forming, Self-Healing Mesh

SmartMesh makes it simple to blanket every corner of your space with reliable Wi-Fi coverage—while eliminating the need for cumbersome radio planning and expensive cabling to every AP. Just check the "Zero Touch Mesh" box in the management app, and it automatically establishes wireless mesh connections between individual APs. RUCKUS Unleashed APs use our patented smart antenna technology to create strong, reliable mesh links. And if a link ever fails, the network heals itself automatically.

## THE SMARTER SMB SOLUTION

### Install in Minutes

RUCKUS Unleashed APs can be installed in under 5 minutes from a laptop browser (e.g., Chrome, Safari) or from iPhone and Android mobile devices. Configure just one "Master AP," and you can automatically push that configuration securely to all the other APs in the network with the "Zero Touch Mesh" features.

### Easy to Manage

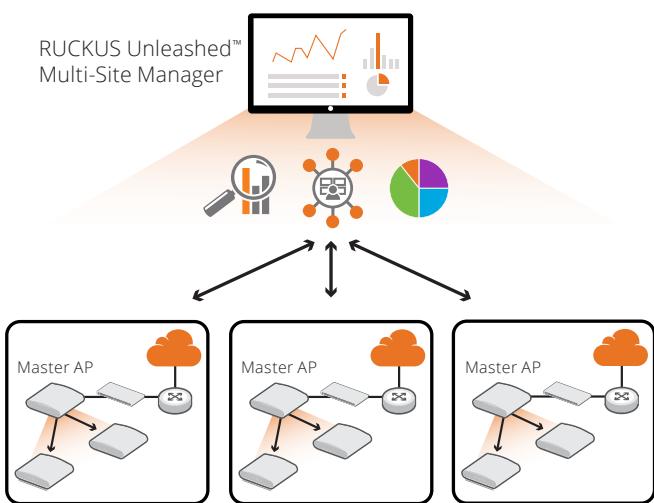
You can manage smaller Unleashed networks from anywhere in the world with the free Unleashed Mobile app. The app's dashboard puts all the essential information about your network, and provides access to all key administrative tasks and troubleshooting options, right at your fingertips.

### Lower Capital and Operational Costs

Unleashed APs come with controller functions built in. You don't need separate controller appliances or access point licenses, so the upfront costs are much lower than other business-class APs. Unleashed networks are also designed to be simple to deploy and manage—no specialized network or wireless expertise required.

### Network Investment Protection

When you deploy RUCKUS Unleashed APs and switches, you're making an investment that will continue to serve your business as you grow. Expand across across 10,000 locations with the Unleashed Multi-Site Manager. And if your business grows even more, you can move up to a controller-based or cloud-based solution using the same Unleashed APs you've already deployed.

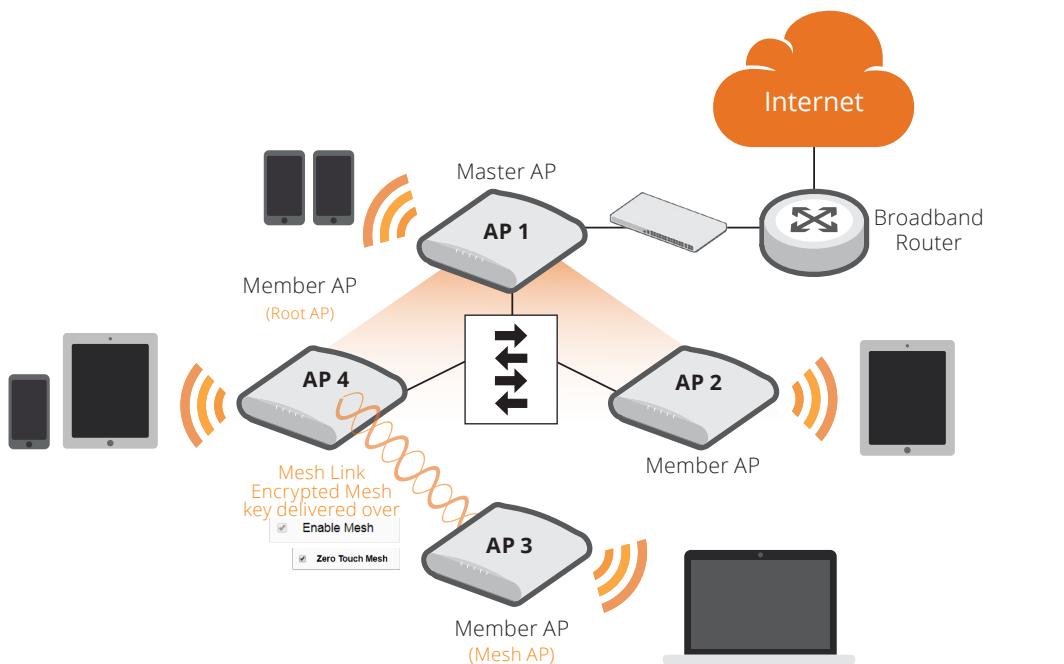


RUCKUS Unleashed™ Multi-Site Manager managing Unleashed™ networks at branches

# Enterprise-grade features

RUCKUS Unleashed APs and switches come loaded with enterprise-grade features to customize, optimize and secure your Wi-Fi networks and deliver great user experiences. Key features are highlighted below. A detailed list of features is available at the end of the data sheet.

FEATURE	BENEFIT
<b>Guest Services</b>	Give guests secure, high-performance Wi-Fi access, while isolating their traffic from the private business network easily. Customize your guest Wi-Fi portal with your logo, brand and messages. Provide Wi-Fi access through Guest Passes, or have guests authenticate using social media accounts such as Facebook to eliminate the hassle (and security holes) of sharing Wi-Fi passwords.
<b>Application Visibility and Control</b>	Monitor the network usage patterns of over 2,200 applications with Deep Packet Inspection, and find out which ones are consuming the most resources. You can define application-specific access rules (such as limiting access to YouTube or social media), or even limit Wi-Fi speeds for specific applications and/or SSIDs.
<b>Wi-Fi Calling</b>	Improves handling and overall quality of Wi-Fi Calling voice calls over Unleashed APs. When enabled, Unleashed performs additional identification, classification and marking of voice calls when Wi-Fi calling function is being used, and provides better voice quality by improving jitter, latency and roaming delays.
<b>Resiliency</b>	Continue to access printers and other network devices even if internet connectivity fails. Users stay connected to the Wi-Fi network even if one or several APs fail for any reason, as long as at least one AP in the network is online.
<b>Security</b>	Use DPSK to eliminate the risks of shared passwords and lock down access to the Wi-Fi network—without complex configurations. In addition, secure your network and protect your clients with WPA encryption, client isolation and 802.1x for RADIUS and Active Directory. Shared DPSK allows single user to share a single DPSK across multiple devices.
<b>Zero Touch Mesh</b>	Add new Unleashed APs to the existing network securely over the air. Dramatically speed up and simplify the installation of an Unleashed network.
<b>Multiple Language Support</b>	Create and manage your Wi-Fi network in your own language. RUCKUS Unleashed currently supports 13 languages.
<b>URL Filtering</b>	Define web access rules for your network users. Protect your network from malware and phishing sites.
<b>Social Login</b>	With the built-in Social Login feature, you can sign into the Unleashed mobile app using your Gmail, Facebook or Twitter account, and link your Unleashed Wi-Fi network. From that point on, you can manage your Unleashed network from anywhere in the world using your social login.
<b>Remote Management</b>	Need a quick answer or help troubleshooting a network issue? Just tap the “Invite for Remote Management” option on the mobile app, and send a text message or email with a link containing all the Unleashed network information to an expert.
<b>AP Groups</b>	Apply multiple configuration profiles to different groups of APs.
<b>Zero IT</b>	Easily onboard customers or employees onto your Wi-Fi network through a simple, self-service portal.
<b>SSID Rate-Limiting</b>	If you want to limit data speeds for a particular group of users (such as guest users), you can create a separate SSID with a data rate “speed limit” that you define.



Unleashed is a perfect fit for deployments with up to 128 APs/2,048 clients

# Unleashed access points

The tables below illustrate the complete portfolio of RUCKUS Unleashed APs, including indoor, outdoor and specialty form factors. Click the AP model number to review detailed features and specs.

Indoor	Model	Hardware Specs	MU-MIMO	Data Speed	Concurrent Users*	Antenna Patterns (Per Band)	Ethernet Ports
R350		Wi-Fi 6, 2x2:2	Yes	1200 Mbps (5GHz) 574 Mbps (2.4GHz)	256	64	1x1GbE
R550		Wi-Fi 6, 2x2:2	Yes	1200 Mbps (5GHz) 574 Mbps (2.4GHz)	512	64	2x1GbE
R650		Wi-Fi 6, 4x4:4	Yes	2400 Mbps (5GHz) 574 (2.4GHz)	512	128	1x1GbE 1x2.5GbE
R750		Wi-Fi 6, 4x4:4	Yes	2400 Mbps (5GHz) 1148 Mbps (2.4GHz)	1024	4,000+	1x1GbE 1x2.5GbE
R850		Wi-Fi 6, 8x8:8	Yes	4800 Mbps (5GHz) 1148 Mbps (2.4GHz)	1024	4,000+	1x 1/2.5/5 Gbps 1x 10/100/1000 Mbps

Outdoor	Model	Hardware Specs	MU-MIMO	Data Speed	Concurrent Users*	Antenna Patterns (Per Band)	Ethernet Ports
T350c/d/se		Wi-Fi 6, 2x2:2	Yes	1200 Mbps (5GHz) 574 Mbps (2.4GHz)	512	64	1x1GbE
T750		Wi-Fi 6, 4x4:4	Yes	2400 Mbps (5GHz) 1148 Mbps (2.4GHz)	1024	4,000+	1x1GbE 1x2.5GbE
T750SE		Wi-Fi 6, 4x4:4	Yes	2400 Mbps (5GHz) 1148 Mbps (2.4GHz)	1024	4,000+	1x1GbE 1x2.5GbE

Speciality	Model	Hardware Specs	MU-MIMO	Data Speed	Concurrent Users*	Antenna Patterns (Per Band)	Ethernet Ports
H350		Wi-Fi 6, 2x2:2	Yes	1200 Mbps (5GHz) 574 Mbps (2.4GHz)	512	16	3x1GbE
H550		Wi-Fi 6, 2x2:2	Yes	1200 Mbps (5GHz) 574 Mbps (2.4GHz)	512	16	5x1GbE

\* All access points operating as a Master AP will only support 100 clients.

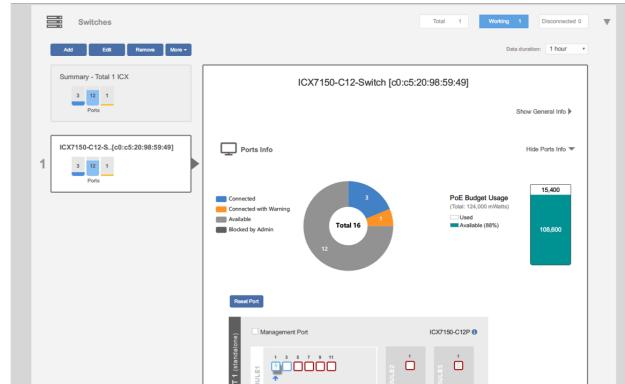
# Unleashed ICX switches

Manage ICX switches from RUCKUS Unleashed dashboard or mobile app. You can manage up to 8 ICX switches on an Unleashed network. ICX switches work seamlessly with RUCKUS Unleashed access points to deliver enterprise-class wired and wireless management for small organizations.

Gain insights into switch port connectivity, upgrade your switch and perform backup and restore from RUCKUS Unleashed dashboard or mobile app.



Unleashed dashboard (with APs and switches)



Ports view of a switch on Unleashed

RUCKUS Unleashed supports all ICX 7000 series switches\*. The table below provides a list of our recommended switches for RUCKUS Unleashed. Please find the detailed information about ICX switch portfolio [here](#).

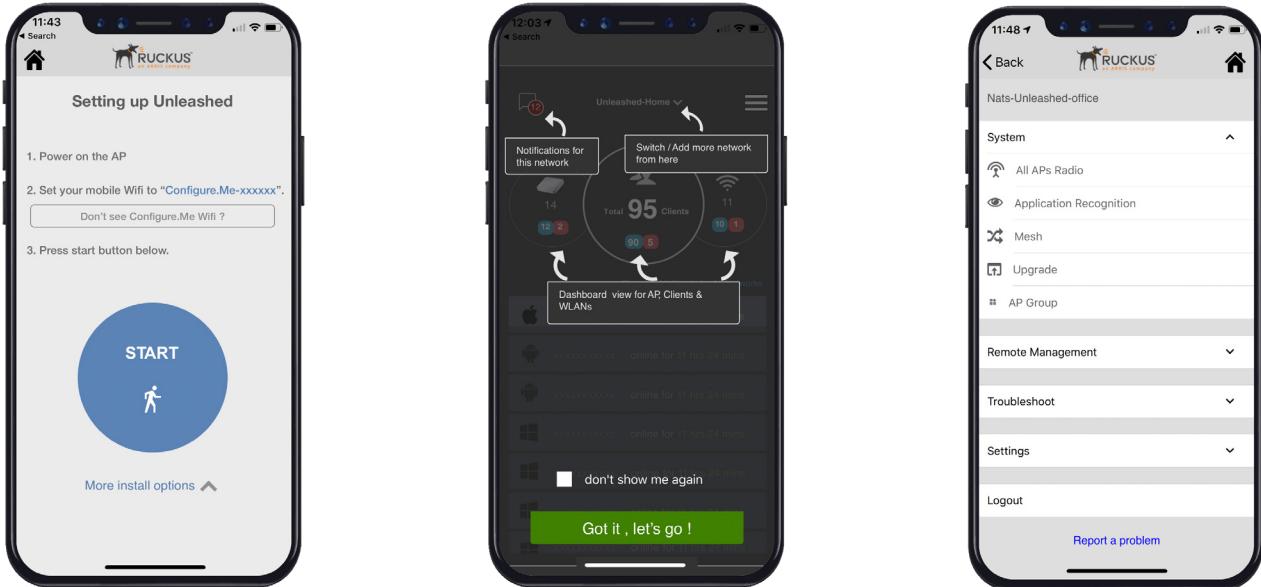
	SWITCH MODEL	ACCESS PORTS	PoE/PoE+	UP TO 90W PoE PER PORT	TOAL PoE BUDGET
<b>Gigabit switches</b>					
	 ICX-7150-C12P	12	✓		124W
	 ICX-7150-24P	24	✓		370W
	 ICX-7150-48PF	48	✓		740W
<b>Multigigabit switches (for Wi-Fi 6)</b>					
	 ICX7150-C10ZP	10	✓	✓	240W
	 ICX7150-48ZP	48	✓	✓	1440W

\* ICX FastIron firmware version 8.0.90d or later required.

# Unleashed mobile app

RUCKUS Unleashed networks are designed from the ground up to be easy to deploy and manage. The Unleashed mobile app makes things even simpler. Monitor, manage and upgrade your network from anywhere in the world. Everything you need to know, and all key administrative tasks, are always right at your fingertips.

Using the mobile app, you can install an Unleashed AP in under 5 minutes, and review all of the essential information about your network. See how many clients, APs and switches are connected, ongoing network traffic and any important alerts at a glance. Quickly and easily create a new Wireless LAN or edit an existing network. See which applications are using the most data on the network, and create rules to deny access to any website. Need help? Simply tap the “Invite for Remote Management” option, and send a text message or email with a link containing all of your Unleashed network information to an expert.



Install in under 5 minutes  
with a few taps

Perform key administrative tasks from  
anywhere in the world

See what's happening on your  
network at a glance

# Ordering information

MODEL	SKU	DESCRIPTION
R350	9U1-R350-XX02	Entry-level Wi-Fi 6 Indoor AP with BeamFlex+, 1xGbE
R550	9U1-R550-XX00	Mid-range Wi-Fi 6 Indoor AP with BeamFlex+, 2xGbE, 1xIoT
R650	9U1-R650-XX00	Mid-range Wi-Fi 6 Six Spatial Streams Indoor Access Point
R750	9U1-R750-XX00	High-end Wi-Fi 6 dual-concurrent AP with MU-MIMO, BeamFlex+ and 2.5Gbps backhaul
R850	9U1-R850-XX00	High-end Wi-Fi 6 Twelve Spatial Streams Indoor Access Point
T350c	9U1-T350-XX20	Entry-level Wi-Fi 6 outdoor AP with integrated BeamFlex+ omni-directional antennas, -20C
T350d	9U1-T350-XX40	Entry-level Wi-Fi 6 outdoor AP with integrated BeamFlex+ omni-directional antennas, -40C
T350se	9U1-T350-XX51	Entry-level Wi-Fi 6 outdoor AP with integrated BeamFlex+ 120 deg sectorized antennas, -40C
T750	9U1-T750-XX00	High-end Wi-Fi 6 outdoor AP with integrated BeamFlex+
T750se	9U1-T750-XX51	High-end Wi-Fi 6 outdoor AP with integrated BeamFlex+ 120 deg sectorized antennas, -40C
H350	9U1-H350-XX00	Entry-level Wi-Fi 6 wall-mount AP with BeamFlex+, 3xGbE, and 1xIoT
H550	9U1-H550-XX00	High-end Wi-Fi 6 wall-mount AP with BeamFlex+, 5xGbE, and 2xIoT

PLEASE NOTE: When ordering outdoor APs, you must specify the destination region by indicating -US, -WW, or -Z2 instead of XX. When ordering PoE injectors or power supplies, you must specify the destination region by indicating -US, -EU, -AU, -BR, -CN, -IN, -JP, -KR, -SA, -UK, or -UN instead of -XX.

For access points, -Z2 applies to the following countries: Algeria, Egypt, Israel, Morocco, Tunisia, and Vietnam.

For accessory ordering information, please visit the [Accessory Guide](#).

For RUCKUS ICX switch ordering information, see switch datasheets. Please visit [www.commscope.com/product-type/enterprise-networking/ethernet-switches/](http://www.commscope.com/product-type/enterprise-networking/ethernet-switches/).

# Features

Support up to 128 APs and 2,048 concurrent clients	Radio Frequency (RF) management features:
802.1X Authentication Caching	• BeamFlex+
802.1X EAP authentication using an external AAA server (RADIUS)	• ChannelFly
Access Control Lists	• Background Scanning
AP Groups	• Automatic Channel Selection based on ChannelFly or Background Scanning
Application Recognition and control. Application-based rate-limiting and QoS traffic shaping. The following pie charts are provided:	• Band Steering
<ul style="list-style-type: none"><li>• Top 10 clients by application</li><li>• Top 10 applications used in the networks</li><li>• Top 10 applications used by each client</li></ul>	• Client Load Balancing
Auto-Discovery (switches)	• Rogue AP detection
Automatic Master AP Selection: One RUCKUS Unleashed AP serves as the "Master AP," one of the member APs will take over controller functions if the Master is unreachable.	Same-WLAN support for multiple social media logins
Bonjour Gateway	Self-Service Guest Pass
CLI Setup Wizard	SmartMesh (on select models)
Client Renaming	SNMP
Client Isolation	Social Media login (Facebook, Google, LinkedIn, Microsoft and WeChat)
Client Fingerprinting and Device Access Policies	Switch reporting: port status; PoE utilization; Health; Events & Alarms
Configuration backup and restore (APs and switches)	The Unleashed Master AP can be configured in Gateway mode to provide routing, NAT and DHCP functions for all devices in a local area network, in addition to serving as the controller and serving clients.
DHCP server (configured manually from Unleashed Network Master AP)	Troubleshooting:
Disable WLAN Service on Master AP	<ul style="list-style-type: none"><li>• SpeedFlex</li><li>• Client Connectivity</li><li>• Internet Status</li><li>• AP Ethernet Port Status</li><li>• AP Reboot Cause Reporting</li></ul>
Dynamic Pre-Shared Key (DPSK)	Uniform Recovery SSID
Ethernet Port VLAN Support for H320 and H510	Unleashed Multi-Site Manager connectivity (up to 10,000 Unleashed networks)
Firmware updates (switch and AP)	Up to 512 local users supported (on the internal database)
Guest Access WLANs	Wi-Fi Calling and Troubleshooting
Hotspot (WISPr) WLANs	WLAN encryption/authentication options:
HTTP-based Captive Portal	<ul style="list-style-type: none"><li>• Open + None</li><li>• Open + None + MAC Auth</li><li>• Open + None + Web Auth</li><li>• Open + WPA2 + AES + PSK</li><li>• Open + WPA2 + AES + DPSK</li><li>• 802.1X + WPA2 + AES + AAA</li></ul>
HTTP/HTTPS redirect	WLAN Prioritization
Layer 2 roaming	WLAN per radio, up to 16 WLANs per network
Management IP Interface	Zero-IT support for automatic configuration of client Wi-Fi settings
Multi-language support	Zero Touch Mesh (Wi-Fi 6 supported)
One-step firmware upgrades of the entire network from a single interface	
Password Recovery	
Preferred Master - Admins can configure an AP to serve as the "preferred" Unleashed Master AP. If the preferred Master is offline, another member AP will become the Master. When the preferred Master comes back online, it will resume the Unleashed Master role.	

## About Ruckus Networks

Ruckus Networks builds and delivers purpose-driven networks that perform in the demanding environments of the industries we serve. Together with our network of trusted go-to-market partners, we empower our customers to deliver exceptional experiences to the guests, students, residents, citizens and employees who count on them.

[www.ruckusnetworks.com](http://www.ruckusnetworks.com)

Visit our website or contact your local RUCKUS representative for more information.

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