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IP ADVANCED RADIO SYSTEM FAQ

PREFACE

Preface
This document is designed to answer common questions about the IP ADVANCED RADIO SYSTEM IP1000C, IP100H, and IP100FS. For further reference, also please refer to their Instruction manuals, catalogs or other related documents.

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QUESTIONS

QUESTIONS AND ANSWERS

Q1. How much bandwidth is required?
A1. About 150 (precisely 144) kbps for one voice path. This means in Simplex 150 kbps per radio in use, in Duplex 300 kbps per radio in use, nearly zero while in standby.

Q2. How many terminals (IP100H, IP100FS) can run in a system?
A2. 20 or 100 terminals per one IP1000C, depending on the version of the IP1000C. Up to a maximum of 1100 terminals can run in one system by connecting 11 IP1000Cs using the additional controller function. (The number of calls through the additional controller function is limited to 10 calls.)

Q3. How many IP100H can co-exist per AP (access point)?
A3. It is recommended that no more than twelve concurrent full-duplex calls be active on an AP. (APs running on 802.11b are not considered.)

Q4. Which encryption types on WLAN network are supported?
A4. The IP100H can handle WPA/WPA2 Personal (TKIP/AES) and WEP.

Q5. Which call types are supported?
A5. Individual call, Group call (Talkgroup call), All call and Telephone call. They can be prioritized (Priority call), localized by the APs (Area call).

Q6. How many call destinations (Individual, Group and Telephone) are configurable?
A6. A total of 990 call destinations can be defined on one IP1000C in its destination list (All call is available as a default.) One IP100H can have 50 destinations in its ID list (contact list). The usable ID range is 0 to 9999 for both Individual and Group calls.

Q7. What protocol is used?
A7. The protocol used between IP100H andIP1000C is Icom proprietary. The G.711 is used for voice codec.

Q8. Does the IP100H Support hidden SSID?
A8. Yes, on the 2.4 GHz band, but not on the 5 GHz band. (This is a limitation of the WLAN chip used in the IP100H.)

Q9. Is it possible to make the IP1000C act as a DHCP server?
A9. Yes, the IP1000C has a DHCP server function.

Q10. Is it possible to get priority for the IP100H traffic in a network?
A10. Yes, it is possible in a network that can handle ToS based QoS or WMM.

Q11. Does all traffic go through the IP1000C?
A11. Yes. The talker’s packets are sent to the IP1000C and the IP1000C delivers them to all destinations.

Q12. Can the IP1000C be connected to an existing network?
A12. Yes.

Q13. What happens if the bandwidth is reduced?
A13. Insufficient bandwidth will cause unstable communications like dropping audio, too much delay, failed calls, and so on.

Q14. Is an Emergency function like a PMR radio available?
A14. No, not as of May 2016.

Q15. Is it possible to limit a call by the area (APs)?
A15. Yes, it is possible using the Area Call function. The IP100H can make a Group call or All call only to the area the caller is currently located in. And the IP100FS can make a Group call or All call to a specific area. The area is formed by the coverage of each AP or predefined APs.

Q16. What are main features of the IP100FS?
A16. ・Desktop dispatcher with Windows® PCs
・Various types of call: Individual Call, Group Call, All Call
・Remote management of the IP1000H: STUN, KILL, REVIVE, REMOTE MONITOR
・Area Call to limit the Group or All call to specific APs
・Up to a 50 character free text message to IP100Hs
・Location display: Displays up to 100 locations, and 1 location can have 10 APs
・Manage a maximum of 16 IP-1000Cs
・The SM-26 desktop microphone can be used with the optional CT-23 PTT MICROPHONE ADAPTER
・120 programmable keys (buttons)

Q17. Does the IP100H support IEEE802.1x enterprise authentication?
A17. No.

Q18. Do the IP1000C and the IP100H need to be on the same network segment?
A18. The IP1000C and the IP100H can be on different network segments as long as they can communicate by the proper routing (Example: through a layer 3 switch). Using the IP Masquerade or NAT Network Address Translation is not recommended.

Q19. What type of network communication protocol is used for the IP100H system?
A19. UDP unicast RTP based original protocol.

Q20. What about the Security for the IP1000C?
A20. The IP10000C has the same level of security as the LAN side of general routers on the market. There is no security threat directly from the Internet since the IP1000C doesn’t have a WAN port.

Q21. What about the Password Level of the IP1000C?
A21. The IP1000C can have single password to login that can be composed of up to 31 characters (0–9, a–z, and A–Z).

Q22. What is the OS used on the IP1000C?
A22. The information is not disclosed.

Q23. What about the Load of the Network?
A23. See answer 1.

Q24. What about the Port Protection against DDoS attack?
A24. The IP1000C has an advantage against the DDoS attacks since most of the attacking methods target the weakness of other OSs.

Q25. What is the URL of the Update server and what about the Security?
A25. The URL is not open to the public. IP1000C firmly identities the original firmware and has a strong fake firmware proof function.

Q26. What about the type of Communication Protocol?
A26. See answer 19.

Q27. What about the Routing limits?
A27. See answer 18.

Q28. Are there any restrictions to set up a firewall?
A28. Neither IP Masquerade nor NAT Network Address Translation are recommended for an IP100H to IP1000C connection or an IP1000C to IP1000C (additional controller) connection.

Q29. What about the load of the network during communication, and in standby?
A29. See answer 1.

Q30. What is the maximum length for the password for the WLAN?
A30. Up to 5 ASCII characters, or 10 hexadecimal digits for the Encryption Type "WEP RC4 64 (40)."
Up to 13 ASCII characters, or 26 hexadecimal digits for the encryption Type "WEP RC4 128 (104)."
From 8 to 63 ASCII characters or 64 hexadecimal digits for the encryption Type "WPA-PSK/WPA2-PSK."

Q31. Is VoIP priority necessary for the system?
A31. It depends on your actual use. See answer 10.

Q32. Is special routing necessary?
A32. No. Special routing is not required as long as the system is used in a LAN.

Q33. What is the requirement for hand over or roaming?
A33. The operating area must be appropriately covered by the WLAN signal without gaps or blank spots with proper WLAN channel allocation. Fine tuning of the Roaming Threshold setting on the CS-IP100H may be required, depending on the actual WLAN condition.

Q34. What about the security of the IP100FS?
A34. A USB key is needed to run the IP100FS and the configuration files can be protected with a password.

Q35. What are the OS and hardware requirement for the IP100FS?
A35. A PC with a Speaker and a Microphone running on the OS listed below.
Microsoft® Windows® 8 (Except for Windows RT)
Microsoft® Windows® 7 (SP1 or later)
Microsoft® Windows Vista® (SP2 or later)

Q36. Is there any limitation on the number of the APs in the IP100H system?
A36. There is no limit on the number of APs.

Q37. Is there any way to have redundancy for the IP1000C?
A37. The IP1000C itself does not have such a function but it is possible for example by using a HSRP or VRRP capable network switch.

Q38. Can WLAN extenders or WLAN repeaters be used?
A38. There is no particular limit on the number of WLAN extenders or WLAN repeaters. However, the throughput of the network will be decreased by using such devices and it may cause degradation of the system performance like delayed voice or a longer gap while roaming.

Q39. Does the IP100H support both 2.4 GHz and 5 GHz WLAN?
A39. Yes.

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