

Hamshack Hotline

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Hamshack Hotline is a free “Voice over Internet Protocol” (VoIP) private branch exchange (PBX) for ham radio operators. Go to <https://hamshackhotline.com/> for details and to register for an account. All you need is a *supported* Cisco multi-line VoIP phone, or the Cisco SPA112 two-port analog telephone adapter (ATA) and an inexpensive cordless phone. “Supported” means one of the four phones listed on the HH website! You log into your account on their website, click on the “HHOPS Helpdesk” button, select “HHUS (USA) New Line Request” in the drop-down, and provide your name, callsign, email, and the *exact* MAC address of the VoIP phone or ATA. The device-specific MAC address is always on the back/bottom of the device. It can take up to 24 hours for a response and you’ll then be provisioned onto the HHUS network and assigned a telephone number; N8IK is **4998**. There are also 3-digit numbers for conference bridges that work like a DMR talkgroup or a DSTAR reflector, and an experimental HHX network for *unsupported* phones where 5-digit numbers are assigned. The Alexandria Radio Club has a non-public conference bridge number **371** for club or ARES[®] use. N8IK can provide the “join” PIN on request.

I got a Cisco ATA at <https://smile.amazon.com/gp/product/B00684PN54/> (\$47), and a cordless phone like <https://smile.amazon.com/gp/product/B0036D7SOO/> (\$15) that plugs into Line 1 of the ATA. The ATA’s WAN port plugs into your home router with the supplied Ethernet cable and both devices come with a wallwart. You’ll also need to download the most recent ATA firmware at <https://software.cisco.com/download/home/283998771/type/282463187/release/> (version 1.4.1 SR5 is current). I chose the ATA since I don’t have space on my hamshack desk for a corded desk phone and my router is located across the room. If you have space on your desk for a corded phone and your router is conveniently close then one of the supported Cisco VoIP phones is going to be a little less expensive, particularly if used from eBay. Firmware for the supported Cisco VoIP phones can be found by searching on the appropriate model number at <https://software.cisco.com/download/home>. But be careful with older, used devices on eBay. Some might be passworded although there should be instructions on the internet for doing hard resets back to factory defaults. And early hardware versions of what appears to be a supported phone may not be able to take the latest firmware. Or you may have to install a prior firmware version first, as an upgrade bridge, before installing the latest version lest you brick the device - you’ve been warned. I got a refurbished Cisco SPA525G2 for W4HFH from Amazon for \$60 (plus \$13 for a power supply) that works fine on the latest firmware (version 7.6.2 SR5).

Next, you determine the Cisco device’s IP address by logging into your home router and looking at your router’s “Attached Devices” page. You then upload the new firmware by going to <http://192.168.x.y/> with a web browser, where 192.168.x.y is the IP address of your ATA or VoIP phone, and logging into the “Phone Adapter Configuration Utility” (or some similar interface) that is baked into the device’s firmware. After uploading the new firmware *and* waiting for a reboot, it is prudent to then cycle the AC power.

When you receive your HHUS phone number you’ll be provided a link with the provisioning instructions for your Cisco device. You simply paste a link that you edit with the device’s IP address to any browser and watch the device’s lights blink for about 60 seconds. You’re done -

now give N8IK a call to test your new phone! Note that any time you upload new firmware you *might* have to re-provision the HHUS phone number so save the provisioning instructions. It's useful to set up the free voicemail inbox as well; get into the voicemail inbox by dialing *97 and follow the voice prompts. Each phone number has its own voicemail inbox. Including your amateur call phonetically in the voicemail greetings is helpful by letting callers know they've reached the right ham, *e.g.*, "please leave a message for November Eight India Kilo". And be sure to post your new VoIP number(s) to the club reflector so folks can update their phone's address book. You can also test the HHUS system latency by dialing *43 to reach the echotest server; simply follow the prompts.

Once you have set up a hardphone (mandatory, but this policy may have changed), you can then open a second ticket and request an HHUS phone number for a *linked* softphone. Include in your request that the hardphone roll over to the softphone if unanswered ("follow-me" function). The softphone is simply a VoIP app on your iPhone or Android smartphone. I've tried the free Linphone app but the \$8.50 Groundwire app recommended by HH is *much* easier to configure and register on HHUS; N8IK is **5025** on a Samsung Galaxy. When someone dials *either* the hardphone or the softphone number and you don't answer the call, the caller is automatically transferred to the voice mailbox of the phone they called just like any other phone system. But now you'll get an email with a .wav file of the voicemail at the email address you used to register your HH account. If you have access to that email account on your smartphone then you can always get your voicemails - pretty slick. Current phone numbers of area hams and clubs are available at <http://apps.wizworks.net:9091/search.php> and include the following:

N8IK - 4998, 5025	N3EV - 5003, 5023	KF4MTV - 5102
KI4D - 5040, 5064	WC4J - 4652	WA4KFZ - 5429
KW4UJ - 5045, 5051	KA0SER - 5042, 5476	KN4YZY - 11012
K4LDW - 5073	KC5QCN - 5093, 5218	
KT3I - 5076	K4AF - 5094	
K4ZB - 5081	W4HFH - 5127	

These Cisco devices are multi-line phones. Thus, you could provision one line with the Hamshack Hotline PBX and a second line with an AREDN[®] PBX.¹ This could be a very resilient system to install at the Alexandria City EOC and Inova Alexandria Hospital since both locations have reliable internet and emergency power. But if the internet does go out for some reason, a pair of inexpensive AREDN-configured Ubiquiti NanoStations, Rockets, or PowerBeams at the top of the Masonic Temple that are joined as a simple device-to-device (DtD) bridge could easily link the EOC and the hospital; just point one towards each location. We already have a 2.4 GHz AREDN[®] node (W4HFH-BB2-OMNI-001) at the hospital. Also, ARES[®] members could be contacted on their softphones when they are outside the club repeater's coverage area or don't have an HT with them. Lots of potential here!

73, Ian N8IK

Latest clickable version of this doc is at <http://www.n8ik.net/classes.php>

¹ <https://www.arednmesh.org/>