

"THE REPEATER"



Choosing the Right Coax: A Practical Guide for Amateur Radio Operators

PRODUCT REVIEW CORNER

ALLSCAN UC1120



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ALLSCAN UCI120

**ARE RADIOLESS NODES
THE FUTURE OF VOIP?**

The UCI120 was designed primarily for radio-less AllStar node applications, but its flexibility makes it useful far beyond that single role. At its core, the UCI120 is a high-quality USB communications interface that provides clean audio input and output for amateur and commercial radio microphones and speakers, without requiring a physical radio connection. This makes it ideal for AllStar, EchoLink, ROIP, VOIP, paging systems, and remote control applications where dependable audio quality and PTT signaling are essential.

AllScan's radio-less node concept pairs a compact MiniPC like the Raspberry Pi with the UCI120 to create a complete, efficient communications node. Early versions of the hardware were designed strictly for AllStar use, but it quickly became apparent that the interface could support a wide range of push-to-talk communication systems. In traditional AllStar terminology, USB audio interfaces are often called URIs (USB Radio Interfaces), but since the UCI120 does not interface directly with a radio, the term USB Communications Interface more accurately describes its role. The AllScan ANR100 platform now refers to an integrated MiniPC and UCI120, preconfigured and tested for reliable operation with ASL3.

Despite its small size and low cost, the UCI120 delivers excellent audio performance with wide dynamic range. As with any high-quality audio system, microphone selection plays a critical role in achieving the best results, and the use of a properly matched microphone is strongly recommended. The interface works well with a variety of computing platforms, including MiniPCs, thin clients, and Raspberry Pi systems, provided they meet basic memory and storage requirements.

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Low-power devices such as the Dell Wyse 3040 have proven especially effective, offering fanless operation, excellent thermal performance, minimal power consumption, and long-term reliability when left running continuously.

Because the UCI120 does not key a transmitter, it supports full-duplex audio by default, allowing simultaneous transmit and receive audio. This capability improves conversational flow,

reduces doubles, and enhances situational awareness—advantages that are especially noticeable in networked communications. The interface works with a wide range of software, including AllStar, EchoLink, and other VOIP applications. Many Windows and Linux applications can recognize the UCI120's PTT input through standard HID signaling, while others can use serial control, keyboard mapping, or software-based triggers to achieve the same result.

Building and operating an AllStar node has been made significantly easier by the documentation and community support provided by AllStarLink. The AllStar ecosystem is fully open-source and supported by a large, experienced amateur radio community. Modern distributions such as ASL3 bring AllStar up to date with current Linux and Asterisk releases, supporting both x64 systems and Raspberry Pi platforms while delivering improved audio quality and system stability compared to older node designs.

Radio-less AllStar nodes offer several practical advantages over traditional radio-based nodes. They are well suited for home offices, shacks, vehicles, RVs, hotels, and secondary locations where wired Ethernet or Wi-Fi is available and RF coverage is unnecessary. Eliminating the radio reduces complexity, lowers power consumption, and avoids unnecessary RF emissions in close-quarters environments. In addition, radio-less nodes are highly portable, energy efficient, and inherently quieter than systems that rely on multiple radios operating nearby.

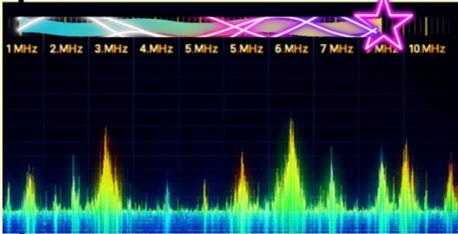
These nodes also integrate smoothly with other communications platforms. Digital voice nodes can be bridged using open-source solutions such as DVSwitch, and EchoLink compatibility is easily enabled with simple configuration changes. Compared to closed or proprietary systems, this open architecture provides higher audio quality, greater flexibility, and long-term sustainability. Combined with reliable hardware and thoughtful system design, the UCI120 and radio-less AllStar nodes represent a modern, efficient, and highly capable approach to networked amateur radio communications.

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THE BRASS TAX

All that is good and well, but how does this radioless node work, does it perform, does it make the cut in today's over-hyped and flooded market of shiny appliances with buttons and touchscreens. On a scale of 1 Mhz -10 Mhz, 10 Mhz being the best of the best, my spectrum analyzer reads a whopping 9.125Mhz!



MY EXPERIENCE, NO FRILLS, STRAIGHT TALK, NO INTERFERENCE!

Let me start by saying this up front: I bought my own UCI120, and I was not asked or compensated to review it. I'm sharing this purely based on experience and a genuine appreciation for how well it works. I've experimented with several devices that aim to do similar things, but this was my first radio-less AllStar node, and honestly, it set the bar very high. The ALLSCAN UCI120 is one of those rare pieces of gear that simply does what it's supposed to do. Setup is straightforward, operation is effortless, and once it's running, it just disappears into the background and lets you communicate. While I personally favor AllStar over EchoLink or digital voice systems, it's worth noting that the UCI120 supports a wide range of modern protocols, giving it plenty of flexibility.

One of the things I enjoy most about the UCI120 is how portable it can be. I built a small go-box that includes a DC-to-DC power bank, a backup 12-volt battery, the UCI120, and a Raspberry Pi running ASL3. I added a speaker and I use the Alinco EMS-57 hand microphone suggested by the vendor for transmit, which is honestly one of my favorite parts of the setup. Using a real hand mic gives it that familiar "radio feel," and the transmit audio quality is excellent—it feels very much like operating a mobile radio, just without the RF. Whether it's sitting on my desk at home or packed up for portable use, the UCI120 fits right in.

The one variable you do need to get right is internet connectivity—but thankfully, that part is easy. The UCI120 simply needs an internet connection to access the ASL3 (AllStarLink 3) network, and that connection can come from just about anywhere. Home Wi-Fi, a phone hotspot, a cellular hotspot device, or even Starlink all work just fine.

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There's no need for port forwarding, complicated firewall adjustments, or any special networking configurations. Simply connect it to the internet, and it's ready to go. For operators looking for a clean, reliable, and enjoyable way to run AllStar without a traditional radio, the UCI120 truly stands out. In addition, ALLSCAN offers a wide range of options and configurations to fit different operating styles and station needs.

If you're interested in learning more about the UCI120 or the other products offered by ALLSCAN, you can visit their website at <https://allscan.info/>.

As for technical support, it truly stands out. While I haven't experienced any issues with my own device, I have reached out with questions about the UCI120 and other products they offer. Each time, their responses have been prompt, professional, and highly knowledgeable.

ALSO CHECKOUT THE NEW ALLSCAN UCI200



My go-box setup

Suggested Microphone Alinco EMS-57