

URI FAQs

Q: What is URI?

A: The USB Radio Interface is the easiest and least expensive way to connect a land or mobile radio to nearly any host computer. This allows remote connectivity and simple internet access.

Q: What type of radio can I use?

A: Virtually any type of radio may be used including, amateur, business, public service/safety radios, plus GMRS, citizens band, and many others.

Q: What types of applications is URI suitable for?

A: Radios are often placed in inaccessible locations requiring remote access. Audio signals and digital controls may be passed through any available channel including but not limited to VOIP and Ethernet.

Q: Can I use URI to make a repeater?

A: Radio controllers may be replaced with a URI based system. Since URI is full-duplex, only one URI is needed for both transmit and receive channels.

Q: How do I connect my radio to URI?

A: Many transceivers and radio systems provide an interface connector for interfacing to external equipment. It is usually very simple to make an interconnection cable between this and the 25-pin D-shell URI connector. If such a connector is not provided, internal modifications may be required to gain access to the required electrical signals.

Q: How does the URI work?

A: The URI contains a CM119A audio controller IC made by C-Media. (Older URIs used an equivalent CM108.) This is a high-quality full-duplex USB audio device with several general purpose I/O channels. The CM119A provides one channel of receive audio, and two channels of transmit audio. This allows support for many different radio configurations. The second audio output channel may be optionally used as a line monitor.

Q: What are the functions of the I/O pins?

A: The URI has two dedicated input pins intended for carrier CTCSS presence indications and one dedicated output pin for PTT. There are several other general purpose I/O pins that may be controlled by software.

Q: How is audio output processed?

A: Both audio output channels are fed through a low-pass filter. This helps eliminate potential spectral impurities, which is especially important for direct modulation. The filters are 3-pole Chebyshev with a cutoff frequency of 4KHz. The filter outputs are AC coupled through a 10uF non-polarized capacitor. This large coupling capacitor allows the low frequency CTCSS signals to be passed when driving a low impedance input.

Q: What is the +6dB gain amplifier used for?

A: If a radio requires high drive levels, a 6dB gain amplifier is provided. An external 12 volt power supply must be provided with positive connected to pin 25 and negative to pin 13 in order to use this circuit.

Q: What is the EEPROM used for?

A: Configuration and calibration data may optionally be stored in a 93C46 EEPROM. If the EEPROM is not present the software will automatically store that data in a configuration file on the hard drive. The EEPROM is useful in systems with multiple URIs. There is space on the board for a SOIC version of the EEPROM but it is typically not installed. Instead, the preferred method is to solder a DIP IC directly to the DB-25 connector pins. That way if a URI is swapped out, the stored data stays with the cable and therefore with the specific radio.

Q: What software is required?

A: You must install Asterisk and which runs under Linux. We recommend you use the latest versions of the app_rpt modules. The easiest way to get everything you need is to download the Allstar Centos Install Disk (ACID) ISO image from Allstar Link located at <http://dl.allstarlink.org/>.

Q: Do I need any other drivers?

A: No, not as long as you have the current ACID installation or equivalent dated 6/3/2011 or later. You may access source code from the SVN at <http://ohnosec.org/drupal/node/6>.

Q: How can I test my URI?

A: Download the uridiag program located at <http://svn.ohnosec.org/viewvc/projects/allstar/uridiag/trunk/?root=svn&view=tar>
Un-tar it and then 'make' it. Run ./uridiag and select option C. That will tell you how to make a loop-back connector for running the diagnostics. This is the same program we use to test each URI before it leaves the factory.

Q: How can I make a loop-back cable to test my URI?

A: Get a male DB-25 connector such as L717SDB25P from www.digikey.com. Then wire up the following connections:

Pin 1 to Pin 7

Pin 2 to Pin 3

Pin 4 to Pin 8

Pin 11 to Pin 24

10K Resistor between Pins 21 and 22

10K Resistor between Pins 21 and 23

For URIs (CM119) **only**, also include the following connections:

Pin 5 to Pin 10

Pin 6 to Pin 11



Q: How do I purchase URIs?

A: Go to our URI Order Page on our web site at <http://www.dmkeng.com> . If this is a commercial application, click the upper Add to Cart button. If you have an amateur license, click the lower button to get your 30% discount.

Q: How can I get technical support?

A: Please contact us by phone or email (see below), or sign up for the app_rpt mailing list at http://ohnosec.org/cgi-bin/mailman/listinfo/app_rpt-users and post your question. There are a great many knowledgeable and dedicated people who are ready to help.