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K4 Highlights

Wayne Burdick, N6KR

K4 Highlights #3: The Versatile KAT4 Automatic Antenna Tuner

The KAT4 is the most advanced built-in ATU we've ever offered. It also adds a powerful receive antenna switching matrix. Here's a brief overview its benefits for those considering adding one to their K4.

Matching and Memories
Like the KAT3, the KAT4 has a very wide matching range -- far wider than the "3:1 max" ATUs found in most desktop transceivers. On 80-10 meters it handles 10:1 SWR loads, and in many cases higher. On 160 and 6 meters, we conservatively specify it at 5:1.

The KAT4 also shares the KAT3's per-band L-C network memories. Settings are stored per-band, per-antenna, and per-band-segment (up to 32 segments per band). With most antennas, you'll only need to do an ATU TUNE in one to four places for each covered band. But having up to 32 segments is a real advantage with narrow-banded antennas, e.g. electrically short wire antennas used on the low bands.
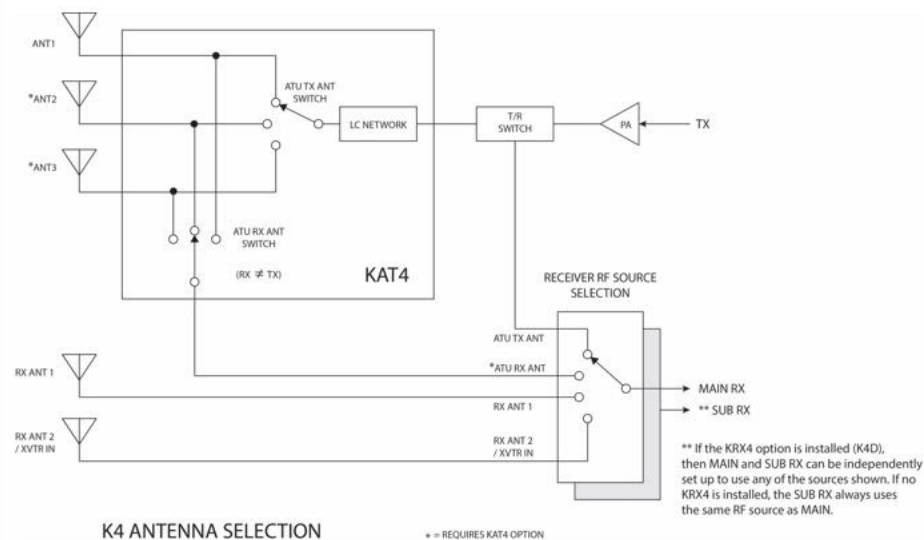
A unique feature of all Elecraft built-in ATUs is that you can tap the ATU TUNE switch a second time within five seconds to try a wider range of LC values. This is another useful tool when dealing with hard-to-match, high-Q antennas.

A side benefit of the KAT4's wide tuning range is that it can often match antennas on bands they weren't designed for. For example, a typical tri-band beam (20/15/10 m) can usually be loaded on one or more nearby WARC bands (30/17/12 meters). (Actual losses will vary with type of feed line used, whether there's a balun in the system, etc.; in some cases reduced power may be recommended.)

The KAT4's L network was optimized for low stray impedance, so it can even improve the match between the K4 and an external amplifier. This is especially true on the highest bands (10 and 6 meters). In many cases, this can allow the K4's 100 W PA to run more efficiently in the presence of a small mismatch.

Transit and Receive Antennas
The KAT4 represents a clear advance in antenna management. There are three transmit/receive antennas (ANT 1/2/3), with your selections stored on a per-band basis. In addition, a second relay switching matrix is provided to allow either of the two non-transmit antennas to be used as a receive antenna for the main receiver, sub receiver, or both. This configuration is shown in the block diagram below.

Let's say you've selected ANT 1 as the KAT4's transmit antenna, as shown in the diagram. This leaves both ANT 2 and ANT 3 as possible receive antennas. In this case, ANT 2 has been selected. Additional antenna choices are shown at the bottom of the diagram: RX ANT 1 and RX ANT 2. As indicated by the overlapping rectangles, there's a separate antenna selection matrix for each receiver.

Front panel controls are provided for independent selection of main and sub receiver antennas. One of the settings, "=TX ANT", simply locks that receiver's antenna to the transmit antenna. As with the transmit antenna, receive antenna settings are stored on a per-band basis.

Receive Signal Enhancement
The "=TX ANT" setting has another benefit. When a receiver is sharing the TX antenna path, its signal is also routed through the KAT4. In many cases, especially with non-resonant antennas, this can improve receive sensitivity and aid out-of-band rejection.

Field Installation
The basic steps: (1 Unplug the KANT4 module; (2 Attach the ANT 2 & 3 SO239 assemblies to the rear panel; (3 plug the KAT4 RX ANT coax cable into the RF board; (4) plug in the KAT4; (5) attach the ANT1/2/3 pin-plugs, as well as the RX ANT coax.

K4 Highlights #4: DX LIST mini-app

No doubt many K4 ops have an encyclopedic knowledge of DX entities -- every prefix, whether countries or territories still exist, whether you can get there without military or divine intervention, etc.

For the rest of us, there's the K4's built-in DX list. This is an Elecraft-curated list, cross-checked against several other reputable sources.

The next time you hear a "new one" on the air, try popping up the K4's DX list rather than scouring the internet or rooting through piles to find that ARRL reference you ordered in 1972. Ours is right there at your fingertips.

Steps:

1. Tap Fn.
2. Tap DX LIST.
3. Scroll the list with VFO A or the up/down arrows, or...tap the magnifying glass icon to do a text search.

If more than one hit is found during a text search, the up/down arrows go into hit-navigation mode, as indicated by the magnifying glass reversing colors. This allows you to jump from one match to the next quickly, without scrolling.

This navigation technique is used in other cases as well. In fact, the DX LIST feature is just one example of a mini-app running on the internal Linux module. Others include the software updater and the built-in owner's manual. With virtually unlimited code space, we'll be adding other mini-apps in future releases.

2022 Conventions

HamCation, Orlando, FL - Feb 11-13

Price Increases Coming in November

By now you may have seen and heard the numerous communications regarding the impact the global pandemic is having on supply chains, and what has in turn resulted in price increases of raw material, parts, and transportation costs. Unfortunately, we have also been affected by these increases. Given this situation, we will be increasing prices of products across all product lines on November 15, 2021. Any orders before November 15, 2021 will be honored at the lower prices.

We value your business and thank you for your patience as we navigate these challenging times.

KPA1500 Amplifiers Are Ready to Ship!

We know many of you have been waiting for the KPA1500 back-orders to be shipped before ordering your amplifier. We've shipped the last of the KPA1500 back-orders, and we are now shipping new orders. Order your amp today!

KPA100 Amplifier Kit Retired

We are sad to announce that due to obsolete parts issue, we will no longer offer the KPA100 internal amplifier kit that could be purchased with the K2 Transceiver Kit. We started offering the KPA100 in 2002 and have sold over 2500 kits. We are currently working on an alternative amplifier solution using our KXPA100 for K2 owners.

Elecraft Customer Support

A day doesn't go by when we don't hear or read about our Customer Support team – excellent service, knowledgeable, friendly, outstanding, and many, many "Thank Yous." During the last few months, we've also heard from some of you that it was taking longer than usual to get responses back from CS. If you know our CS guys, then you know that they spend the time needed to assist and troubleshoot problems with every customer. These past few months have included everything from lightning strikes to "How do I…" questions. Well, we're happy to let you know that they have caught up with all their emails and voicemails. They are now responding to support request the same day in most cases or within 24 hours during the workweek. Support requests can be emailed here or give us a call!

K4 Update

High-Performance Direct Sampling SDR

A Suggested VFO Parking Place

Whenever I'm not using the K4 for something in particular, I leave it parked at 14.060 MHz, with the AF gain just high enough to catch my attention if a signal appears. I use a medium bandwidth (1 kHz) to allow for signals a bit off-frequency.

For those who didn't know: this is the most common QRP CW watering hole. Even if the rest of the band seems dead, you'll still hear weak-to-moderate signals pop up near this frequency throughout the day. They'll often be calling CQ SOTA or CQ POTA (Summits and Parks on-the-air).

If you hear these stations, please give them a call. The ops often put in a huge amount of logistic effort to get to unique locations. Some do it every week, and some have "bagged" hundreds of peaks. Some wear packs, some use goats :)

Given that these are QRP frequencies, it's common courtesy to use low power, typically 5 or 10 watts.

73,
Wayne
N6KR

Eric Covers the Newest K4 Features

Michael Glauser, AI7MG, shares his new K4. With a designer's eye, Michael's wife made
sure he and his K4 had a prime spot and a custom maple bench to operate in style!

K4 Documentation

If you're interested in the capabilities of the K4 transceiver, you might want to take a look at two user documents that are now available for download. Visit our Manuals page and select the K4 section.

- **_Introduction to the Elecraft K4_**
- **_K4 Operating Manual_**

Additional documentation will be released soon, including the K4 Owner's Manual and the K4 Programmer's Reference.

K4 Shipping Update
(As of 11/1/21)

All K4 and K4D group 1 orders have been shipped.
Now Emailing for shipping confirmation Group 2 orders:

- K4D group 2 orders emailed through 12/11/19
- K4 group 2 order emailed through 2/24/20

You can see K4 shipping status update on our Shipping Status page.

How You Will Be Notified When Your K4 is Ready to Ship

A member of the Elecraft Sales Team will contact you by email when your K4 is ready to ship. They will verify your shipping address and provide you with any additional information regarding your order.

If your email address has changed, please complete the New Email Address Form here**.**

Learn more about the K4 and pre-order here**.**

**Listen for us on the air - We'll likely be on a K4!**