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Now Accepting KPA1500 Orders

Greetings from Elecraft headquarters, where we've been working hard to make the KPA1500 the best legal-limit amp you'll ever own. We've finally received FCC certification and are ready to take orders.



Ordering Information

The introductory price of the KPA1500, including internal ATU, is \$5,995.

Regular KPA1500 orders will be billed at time of shipment. However, if you wish to help us accelerate our production ramp-up and ship earlier, please consider one of the suggested deposit levels on the order page. Deposits are fully refundable at any time. (We greatly appreciate your deposits. They really help!) Deposit Preorders will be shipped in the order received, followed by non-deposit orders. We're ramping up production now and expect first deliveries to begin in October.

Extra savings option: If you place a deposit of \$5,995, you'll receive FREE shipping within the continental U.S. lower 48 states. Wayne and Eric will also autograph your KPA1500 owner's manual.

EU customers: *We anticipate completing our CE testing within the next 90 days.*

KPA1500 Details

The KPA1500 is a legal-limit, solid-state amplifier that won't take over your entire desktop: it's just 4.5 x 13.5 x 11.5" (HWD; 11.5 x 34 x 29 cm). The lightweight companion power supply can be placed on the floor or in any other convenient location.

The KPA1500 was designed with the serious operator in mind. Its no-nonsense front panel shows all important parameters at a glance, with a high-contrast 32-character LCD and fast, bright LED bar graphs. Band switching is instantaneous via control inputs or RF sensing. Protection and monitoring circuitry is extensive and foolproof, letting you focus on the job at hand — breaking pileups and overcoming the most difficult operating conditions...like low sunspot counts. And it wouldn't be an Elecraft amp without robust PIN-diode T/R switching. Like our KPA500, the KPA1500 offers fast QSK without a noisy relay.

The amplifier's rugged internal ATU can handle full power with load SWR of at least 3:1, while a wider matching range is allowed at lower power, including up to 10:1 in standby mode.

Features:

- 1500W
- Very compact design
- Fast, silent PIN diode T/R switching
- Built-in Antenna Tuner with dual antenna jacks
- Compatible with nearly any transceiver
- 160-6 meters

For additional information including photographs and a detailed FAQ, see:

<http://www.elecraft.com/KPA1500/KPA1500.htm>

To order your KPA1500, visit our [order form](#) .

Please Note The Following

Your order form will show all applicable charges, but we will only charge the selected deposit amount, if

any. We will charge any remaining balance, and applicable shipping cost, tax and options when we ship your order.

If for any reason you're unable to complete your transaction online, please email us at sales@elecraft.com with your phone number, and we will assist you with completing your transaction .

Free Shipping in Lower 48 Continental U.S. for \$5,995 deposits. Free Shipping will appear on your final invoice when shipped.

Thanks & 73,

Wayne, N6KR

Eric, WA6HHQ

KPA1500

Answers to Some of Your Questions

Q: Do you plan to offer a KPA1500 KIT?

A: Yes, we plan to release the kit version of the KPA1500 60-90 days after first product shipment.

Q: Will the KPA1500 connection to the K3 and K3S be identical to the KPA500?

A: Yes. As with the KPA500, the KPA1500 connects to the K3S via the KPAK3AUX cable for automatic operation as a 1500 W station.

Q: Will the KPA1500 work with other HF radios?

A: Yes. The KPA1500 only needs RF and an amp keying signal from any HF radio for automatic band switching and ATU operation via its built in frequency counter. It also has band data inputs for most Icom, Yaesu and Kenwood radios for band switching prior to TX.

Q: What A/C power connector is included with the KPA1500?

A: The KPA1500 ships with a 200-240 VAC attached power cable terminated by a NEMA 6-20P plug for U.S. and North American customers.

Q: How much power can I get if I drive the KPA1500 with a 8 W QRP rig?

A: You should expect 200-250 W out of the KPA1500 when you drive it with 8 W

Q: Is the KPA1500 MARS compatible?

A: Yes. Both the KPA1500 and KPA500 are MARS compatible.

Q: Will the KPA1500 support higher duty cycle digital modes like JT65 (60 secs on, 60 secs OFF) on 6M?

A: Yes, the KPA1500 is a high duty cycle amplifier compatible with most digital modes ranging from RTTY through JT65 etc.

Learn more about [KPA1500 here.](#)

Humongous Signals Compromising Your Direct-Sampling Radio?

Why That Won't Happen With a K3S

Wayne Burdick, N6KR

Many hams have, at one time or another, suffered from receiver degradation due to strong signals. You might have a neighboring ham's beam (and their KW) aimed right at your QTH. Or a ravenous pileup of big guns obliterating that rare DX. Or an AM broadcast station hundreds of miles away that pounds in at just the wrong time. Sometimes it can even be friendly fire: your fellow Field Day operators, making QSOs at your expense.

At such times, a poorly protected receiver may exhibit a range of symptoms. What do these sound like? The most general case is desense, where one or more receiver stages just can't handle the signals coming in. Desense may be obvious...you might hear the noise level come up when another station hits the key, masking weak signals. Unfortunately, less obvious but equally problematic side-effects may occur. Ghost signals can appear on the band that aren't really there. Or the receiver's firmware may decide to throw in the towel and automatically reduce sensitivity. You may not even know what you're missing.

We call these artifacts. All receivers exhibit them at some level. The trick is to move the level of susceptibility up so high that you're not impacted.

Direct Sampling Receivers

In recent years, a new class of rigs has entered the market: those with direct-sampling receivers. Such receivers forego traditional signal conversion stages and crystal filters. Instead, they place a fast-sampling analog-to-digital converter (ADC) as close to the antenna input as possible. They can then "digitize" the entire RF range—that is, render it in a form that can be directly consumed by a computer, either inside or outside the radio. The primary objectives are to lower cost by eliminating RF circuitry, and to allow the operator to view an entire band (or even multiple bands) all at once on a spectrum display.

Such receivers may be lower or higher in cost than a traditional superhet (i.e., a receiver that down converts to a lower frequency for sampling purposes, like the K3S). But the price often reflects the quality of the ADC itself.

The one thing most direct-sampling radios have in common is that their ADC is exposed to an entire band's worth of RF, typically 0.5 to 4 MHz or more. In some cases these receivers turn off their band-pass filtering entirely. This allows a broad look at the spectrum, which can be informative, even entertaining. But it does leave the receiver with reduced dynamic range, more susceptible to artifacts of all kinds.



Dynamic range (DR) measurements comes in several types. Two of the most important are blocking dynamic range (BDR) and intermodulation dynamic range (most often cited as IMDDR3, or third-order dynamic range). If the BDR is too low, the result can be desense and ADC overranging (clipping, or worse). If the IMDDR3 is too low, especially at narrow spacing (2 kHz or less between the interfering and desired signals), signals can combine to form those pesky ghosts. Some may originate from AM broadcast stations, leaving you with mystery carriers all over a favorite band segment.

An inexpensive direct-sampling radio is more likely to suffer from low BDR and IMD₃, for several reasons. To save cost, the ADC may have fewer bits and/or a lower clock speed. This generally reduces the signal-to-noise ratio that's achievable. Or the firmware may be quick to drop sensitivity. Further, receiver stages may be designed to be low in cost, rather than ruggedized as in a high-performance superhet/SDR hybrid.

Even the most expensive direct-sampling radios can exhibit these artifacts. The reason is simple: ADCs are not perfect. They all have small imperfections or nonlinearities in their finest-resolution bits. While tricks can be played to mitigate problems, they can't be completely eliminated. A single large signal, or signals that combine to create amplitude peaks, can still force the receiver to drop in extra attenuation—or not, meaning you won't know if a signal you can hear is the real thing. ADC imperfections can vary widely from one copy of the radio to the next, leaving you to guess where yours may fall.

On balance, direct-sampling radios are a fascinating addition to amateur radio, making our hobby yet another extension to the ubiquitous personal computer. Still, they sometimes present the operator with a dilemma when monster signals lurk nearby: do you turn off the preamp, and maybe even turn on attenuation, to keep the ADC in its operating range? Or, in the interest of hearing weak signals, do you leave the preamp on, allowing artifacts to occur?

The K3S: A Superhet/SDR Hybrid

This is where the K3S comes in. The architecture we use integrates a nearly bulletproof superhet downconverter with a software-defined radio (SDR) back end. This is why the K3S is preferred in high-signal environments, such as multi-operator contests, Field Day, and DXpedition stations. It's both flexible and resilient, at a fraction of the cost of other high-end radios in its class.

The K3S achieves this high performance in three ways. First, we use high-level signal stages throughout the receiver. Second, we protect the demodulation engine—the ADC and DSP—with narrowband filtering. Our crystal filters are available in bandwidths optimized for voice and data, or as tight as 200 Hz for those CW contests with wall-to-wall signals. Finally, we use very low low-noise oscillators to make the most of all that dynamic range. These techniques also produce one of the cleanest transmit signals of any transceiver.

This attention to detail has resulted in world-class ratings for the K3S. For example, see the receiver performance chart at www.sherweng.com, as well as the ARRL rankings.

You can see the bands as well as hear them by adding a P3 panadapter to your K3S station. The fast, full-color P3 allows you to view a span of 2 kHz to 200 kHz—plenty of range for nearly any operating scenario. The K3S has very high sensitivity even with the preamp off, so the P3, which taps into the K3S's receive strip, can achieve optimum signal resolution even in tough conditions.

The K3S has many other advantages. Despite its compact size, it has a large number of directly accessible controls, including high-quality optical encoders for both VFOs A and B. The interface was designed to be both easy to use and to suit the needs of demanding operators. It's easy to integrate the K3S with a computer, if required, since it provides a rich I/O complement and supports all contesting, logging, and data-communication software.

I hope this article has given you some insight into what you may have heard on the air with other transceivers. For further details on the K3S, P3, and other K-line accessories, please refer to our website, or contact us via email or phone. We'll help you determine the best solution for your operating needs.

August Specials

Additional Discounts on the [K3S Packages](#)
Plus Free Shipping

or
\$50 Discount on a [K3S](#) + get a Free Mic (\$59.95 Value)

\$75 Discount on a KPA500 & KAT500 [Power Combo](#)

or
\$25 Discount on a [KPA500](#)
and
\$25 Discount on a [KAT500](#)
(if purchased separately)

\$25 Discount on a [KX2](#) plus a
Free KX102 Real-Time Clock and
General-Purpose Outputs (\$69.95 Value)

\$25 Discount on a [KX3](#) plus a
Free KXBC3 Internal NiMH Charger/Real-Time Clock
(\$79.95 Value)

\$25 Discount on a [PX3](#) for the KX3

\$20 Discount on a [K-Pod Desktop Control Panel](#) for the
K3S/K3

Free UPS Ground Shipping within the Continental
U.S. on all August Specials*

Trade Show Schedule

Sept 8,9,10
New England
Division
Boxborough, MA

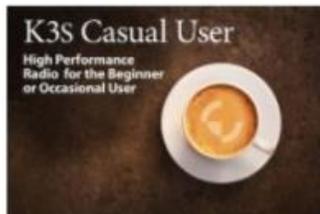
Sept 15-16
HamCon
Torrance, CA

Sept 15-16
W9DXCC
Schaumburg, IL

Sept 23-24
W4DXCC
Pigeon Forge, TN

Oct 20-22
Pacificon
San Ramon, CA

Our Most Popular K3S Configurations Packaged to Fit Your Operating Style!



*Free UPS Ground shipping with the Continental U.S. for August Specials. Discounts not retroactive for orders placed prior to receiving the offer. Not valid in combination with any other discounts. Offer ends August 31, 2017. Subject to change.

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