

Cost:	Around £250
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It's A Classic!

The Kenwood TS-830S HF transceiver

In our occasional series where specialist authors look at older 'classic' equipment Rob Mannion G3XFD reports on his findings using the Kenwood (Trio) TS-830S. Rob suggests that someone taking up an M5 licence could find this transceiver very useful indeed.

When I found out that the **Shortwave Shop**, Christchurch had a Kenwood TS-830S available for testing I jumped at the idea as I thought it would be ideal for our 'It's A Classic' series. Especially in mind is the (very much appreciated) added activity on 7MHz - particularly - with the recently arrived M5 operators, many of whom will probably be very interested indeed in this popular transceiver.

Kenwood have produced some excellent transceivers over the years - the more recent TS-850 - along with the Yaesu FT-1000 - seem (from my log where I always record details of the equipment used by the other operator) to be the most preferred rigs for c.w. enthusiasts. However, the TS-850 really does seem to have found a niche with some people and you don't often see them for sale and this also applies to the earlier TS-830S!

So, after reading this article I hope you'll take a second look at any TS-830S you might see for sale. It could prove a good investment and also provide you with an excellent introduction to the h.f. bands.

What's On Offer?

So, what's on offer with the Kenwood TS-830S - what does it do and how does it perform? To answer your

questions I'll run through some of the main design points.

Firstly, it's an h.f. band only 100W transceiver, covering all (note it covers all the WARC bands too) the present h.f. allocations, and was originally introduced in the early 1980s. It provides c.w., and s.s.b. modes and for the c.w. operator provides semi-break in facilities.

Based around a double conversion superhet design the receiver is all solid state. The first intermediate frequency is 8.83MHz and the second is the standard 455kHz.

Only three valves are used in the TS-830S. The power amplifier (p.a.) valves are the easily obtainable, extremely reliable 6146B types. The driver stage uses a 12BY7A.

In use the built-in rear mounted cooling fan runs so silently that I had to check to see that it was working!

Other facilities included in the design are: VOX, built-in 25kHz calibrator, RIT, switch-selected r.f. attenuator (**and there's also a proper r.f. gain control**) and noise blanker. Switch selected automatic gain control (a.g.c.) is provided along with the just as important automatic level control (a.l.c.).

Speech compression is controlled from a front panel switch, and for the c.w. operator variable delay semi-automatic break-in is provided via the VOX circuitry used for s.s.b. operation.

Power output control is achieved by using the Carrier control (concentrically mounted with the microphone gain control). And, as a keen QRP operator I was pleased to see from my power meter that it could be smoothly adjusted from well below 5W up to the full output power of around 100W.

Front panel lay-out is excellent and the all-important antenna (50Ω) tuning is exceedingly easy to set up and use. In conjunction with a good antenna tuning unit (a.t.u.) even an inexperienced operator should have no problems whatsoever.

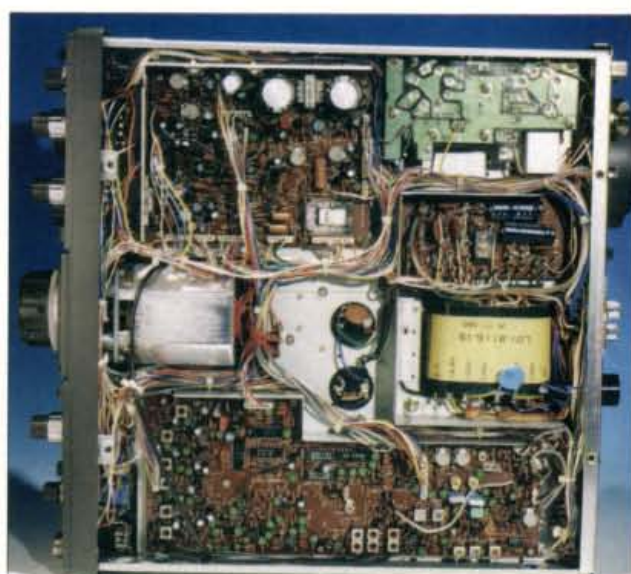
On The Air

The acid test for any transceiver must surely be 'on the air'. I suggest this because many of the reviews published nowadays are accompanied by reams of measurements which unless they're prepared from tests taken under the necessary (certificated) laboratory conditions - often don't mean very much.

- Underside view of the TS-830S showing main transformer (centre right) and main printed circuit boards. Note that although i.c.s are used, there are many discrete (and recognisable!) components, making user-servicing a possibility...provided replacements are available.



● Rear view of the upper side of the main chassis. Note the 6146B p.a. valves and the cooling fan which G3XFD says is extremely quiet when running (see text)





Product
The Kenwood TS-830S h.f. transceiver

Pros & Cons

Pros: Easy-to-use transceiver with built-in power supply, very reliable, and quiet in operation. Selective receiver with good characteristics despite relatively low first i.f. Good quality audio on transmit and receive. Stable oscillators and excellent brightly lit fluorescent digital frequency read-out.

Cons: Heavy power consumption for portable use because of valved p.a. stage. Noisy semi-automatic break in operation (somewhat alleviated by wearing headphones) on c.w. Easily knocked switch: When moving rig take care not to knock the neutralising slide switch.

The 'test results' are often only included 'as a guide' because to comply with European Union law they have to be accompanied by a statement that they have not been done by a certificated laboratory (A very expensive process indeed). Added to this problem is the fact that many manufacturers 'dress up' their specifications and present them in ways that many of us - even fully qualified electronic engineers can have difficulty interpreting!

Bearing in mind that the TS-830S has a relatively low first i.f. of less than 9MHz, I was expecting it not to perform as well as my Alinco DX-70 which has a first i.f. in the region of 70MHz (such is progress!). However, this was soon disproved and I found the TS-830S to be an excellent performer, especially with the help of the built in i.f. shift and 'notch' facilities. (Although the transceiver I had on loan was recorded as having a narrow c.w. filter fitted in 1986 this had subsequently been removed). A pity because I would have liked to have evaluated it on air

On 7MHz (my yardstick band as conditions can often be chaotic) the selectivity and general performance on the receiver was excellent. Adjacent channel performance was very good, and it was only when I was on c.w. - with other stations operating within a kilohertz or so - that problems appeared.

Although the receiver coped well with strong adjacent channel signal there was some 'pumping' of the a.g.c. In other words the adjacent channel transmissions - although not affecting my QSO - appeared on the S-meter. However, such 'pumping' is often seen on other rigs, and I've got no doubt that if a narrow crystal filter was fitted (for the keen c.w. operator) the problem could lessen.

On 7MHz (and other bands of course) the variable r.f. gain control also proved very useful - especially when very strong adjacent channel station 'splatter' appeared. Only once did I have to switch in the 'step' attenuator - and that was when I was working a station right up near to the band edge just below 7.1MHz.

Lack of sensitivity on older transceivers can often show up on the bands above 14MHz. Not so with the TS-830! Up on 28MHz I found some activity ('Ten' wasn't so good during the review period) and the receiver proved more than adequate. A pity though that the TS-830 is not equipped with narrow band f. m, as I could hear (on my Alinco DX-70) that there was some worthwhile activity on the band.

On My Operating Desk?

You may ask - would I, bearing in mind my experience with this transceiver and the many others which have come my way be happy to have this transceiver on my operating desk? The short answer is yes!

In fact, having never owned one of these lovely old rigs I wish I had! I say this even though some of the Amateur Radio dealers I spoke to on the telephone (to get an idea of the price you'd have to pay 'through the trade') say that they don't handle valved transceivers any more. Some of the traders also suggested that spares could be a real problem.

There are one or two annoying things with this transceiver. But to be fair the design is over 20 years old! The transmit-receive switching, for example, is especially annoying on c.w. However, wearing my Eugen Beyer studio

● It's a Classic! With rugged valves in the p.a. stage and a clear fluorescent frequency read-out the Kenwood TS-830S holds its own on the bands and G3XFD enjoyed using it on the air.



● Rear panel of the TS-830S. The slide switch immediately under the cooling fan is for adjustment of the neutralising on the p.a. stage. Inadvertently knocked to 'off' it can lead to the operator thinking that the p.a. stage has failed (see text).

headphones took the 'click-clack' of the relays (coming on and dropping out when the shortest delay for the semi-automatic 'break-in' is selected) reduced the level of the sound out of my hearing range.

Another point for potential TS-830 owners to remember is the famous neutralising switch. I'd heard that it was possible to inadvertently operate it with a finger when the unit was being carried. However, once caught out you'll not be caught again. You soon realise that the p.a. hasn't given up the ghost ... it's just 'finger trouble'!

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Summary

With everything considered, and if I were on a limited budget and had the chance of buying a TS-830S from another Amateur - I wouldn't hesitate. It's a good rig and remarkably (considering it's valved) not large at all - my old KW2000B dwarfs it!

So, take another look - don't leave the TS-830S on the shelf. It's a good 'first transceiver' and if you like a really good bright frequency read-out display and good old analogue metering - this is the 'classic' rig for you!

My thanks go to the **Shortwave Shop, 18 Fairmile Road, Christchurch, Dorset BH23 2LJ, Tel/FAX: (01202) 490099 for the loan of the TS-830S. (Actual loan transceiver already sold!).**

PLEASE MENTION THE PW REVIEW WHEN CONTACTING ADVERTISERS - THANK YOU!