

YOU ALWAYS FORGET SOMETHING

Planning my first ever /A operation.

The arrival of a TS480SAT at chateau ZPF early this year marked the beginning of plans to operate /A from our holiday rental in Kingussie, near Aviemore. I'd never taken a rig on holiday before but the few occasions in my life helping out with exhibition stations at public events had taught me to expect to have forgotten something important, so I made a conscious effort to think things through.

The rig was sorted, which left the aerial, morse key, 12v PSU, and headphones. I had already set the ambitious target that everything should fit inside the box that the TS480 was delivered in.



The TS480 is supplied with numerous items I would not be taking (mobile mount, extra leads, manuals etc).

In addition since I would be handling it very carefully I could replace the generous packaging with less bulky bubble-wrap to give lots of spare space inside the box without any risk of damage.

Power Supply

Once you start thinking about 12v high current PSU in conjunction with compact size, you have to be looking at switch-mode PSU. Normally I wouldn't touch one with a bargepole but I in this situation I decided to see if an RF-quiet one was realistic.



The MyDel 8230 s/ PSU is very, very, small. It has a tiny fan inside (I really dislike fans with a passion) which I expected to kick in when running the TS480 at 100w CW, along with the TS480 own fan.

But I'd be using headphones so it probably wouldn't be objectionable, just as long as it was RF quiet.

Martin Lynch have two MyDel PSU on offer (20a and 30a), one of which I'd picked up from an SK sale on the usual premise that "it'll come in useful". I powered it up in the shack & listened for RF nasties on

the main station rig. My qth has a fairly high local noise level but I couldn't detect anything obvious from this PSU. I expected the tiny fan to come on immediately, but it didn't.

Morse Key

My regular key is a Junkers which I bought new in 1980 and have loved using ever since. Quite heavy though. Trouble is, light keys tend to wander around the desk in use. Except if they have a cover on them. I find myself often resting my left hand on the cover of the Junkers while sending with the right, and that reminded me about the Czech morse key.



The Czech morse key is currently on offer for £20 incl carriage. Even less if you opt for a not-in-mint-condition one, or if you are a FISTS member.

They are brand new, never been used.

It has a cover over the mechanism so the fact that it doesn't have a heavy base is not a liability. For /A use the light weight is a bonus.

The key has an unusual mechanism. The spring you see in the photo is not the tension spring, it is a means of taking out any slack that develops in the bearings with use.

I still prefer my Junkers but you'll not get anything else close to this quality for the price. With a bit of care in setting up, and a bit of lubrication to the pivot (they've been in storage for years remember) this is actually a very nice key to use.

Full details are on internet at www.czechmorsekeys.co.uk



The key was duly ordered and arrived very quickly. Still in the original wrapping it went into storage with, all those years ago. Email contact with the vendor Mike (M0CVZ) produced a fascinating (and slightly scary) story about how he came to purchase hundreds of these keys after a chance meeting with an east european trader at Friedrichshaven. He has apparently sold over 1500 already, but still has quite a few left.

Headphones

The TS480 has a miniature jack socket for the headphones. I toyed with the idea of making an adapter for the 'quarter-inch' jack plug on my shack headphones but then remembered I had a headset intended for computer use that folded flat into a sturdy carry-case. Bonus! No work required. A brief check with the 480 proved the audio output to be most acceptable. The headset does include a microphone but I have not tried that as yet. Apparently some people use voice rather than CW. It'll never catch on.



Logitech PC headset which turned out to be highly satisfactory for use with the TS480.

The headband goes around the back of head, not over it, so no 'bad hair' days ☺

The Aerial

What I needed was something unobtrusive that could be 'thrown up' and be useable on several bands. I consulted Dave (G3JKB). A regular /A operator who recommended a wire doublet plus the small MFJ ATU. I thought about this for a while & looked into a number of alternatives before settling on the G-Whip 'widebander'. This is basically 42metres of wire with a 9:1 UnUn slightly offset from centre.



The G-Whip 'widebander' is a 22m radiator + 20m counterpoise, fed via a 9:1 UnUn. The VSWR is 3:1 or so in most places, but the TS480 internal ATU quite happily matched it on 80 thru 10 metres.

Full details here : www.gwhip.co.uk/widebander.htm

I'm a deeply sceptical guy when it comes to 'magic' aerials and/or matching boxes but Geoff (G4ICD) does work to mil spec and has an enviable reputation in the ham community. The price of the aerial was low enough for me to consider taking a chance. Especially as it used the £1/metre green kevlar wire currently finding favour amongst the ham community in windy QTH because it has a breaking strain of 2 tons. Yes, two tons! Apparently the military fold it up double to tow landrovers out of the mud.

The UnUn was considerably less bulky than a *decent* atu and I was intending to get everything into the one box remember.

The VSWR is only so-so, in the specs, but the TS480 has an internal ATU so maybe it would be able to cope. An email to Geoff produced a ‘probably will’ response. I suppose he had to ‘play a safety’ really, so I took a chance & ordered one. It arrived fairly quickly.

A quick read through the manual presented a puzzle. The matching box is an UnUn. There should be a ‘hot’ terminal and an ‘earthy’ one. The manual stated one side was coloured red. Mine didn’t have that.

I emailed Geoff and was surprised to receive a reply stating that it worked equally well either way around, which conflicted with my understanding of how an UnUn was constructed. Out of curiosity I queried if it actually was a Balun, not an UnUn, which produced an unexpectedly ‘frosty’ response with an offer of a full refund (including carriage) if I wasn’t happy. Maybe I caught Geoff on a bad day. He was out on site at the time he replied, and a subsequent email provided the information as to which terminal was the ‘live’ one.

By then I’d determined that it most decidedly did NOT work equally well either way around (with the aerial set up as inv L plus counterpoise), and had worked out which was the ‘hot’ terminal for the main radiator by the simple expedient of attaching the UnUn to the coax and putting my finger on each terminal in turn. One of them produced faint signals & aerial noise in the receiver. The other didn’t. A local member (G4VZO) who already used one for JOTA work confirmed that one side on his unit did have a red terminal, as per the manual.

In case there is any doubt at this point I’m still delighted with the wideband aerial & its UnUn. It is very easy to make an ‘Untenna’ (the generic term for aerials that make use of a 9:1 UnUn) that has a reasonable VSWR. It is NOT easy to make an UnUN with low loss throughout its range. You need the right (invariably expensive) grade of ferrite. You need the right number of turns. You need good physical construction AND, quite often, some extra components to get low loss over a broad range.

The test run

To simulate the probable /A setup I (literally) threw the radiator wire out of my bedroom window, to a tree at the bottom of the garden. Dropped the counterpoise down the wall and across the patio & fired up the rig.

There were a number of things I needed to determine here.

- (1) Would the internal ATU of the 480 cope, and was the aerial any good or just a dummy load?
TS480 loaded aerial on all bands 80 thru 10m no bother. Aerial worked well.
- (2) Would I be able to handle the 480 without having the bulky manual to hand?
It’s a decidedly more complex rig than my TS930, and I do not suffer menus gladly. Yes I could. Eventually. I did need to read the manual once, but as soon as I realised the rationale behind menu operation on the 480 I had no need of the manual for basic operation. Great. One less item to pack.
- (3) Would the MyDel PSU be able to cope with 100w CW from the 480?
Yes it could. Amazingly that tiny box didn’t even need its fan running for the half hour or so of testing, or the 480 either.
- (4) The clincher. Would all of this fit into the box with enough packaging to prevent damage.



Amazingly all this fitted inside the box that the TS480 is supplied in, with sufficient bubble-wrap to prevent damage during careful handling.

YES, it did.

I'd now done as much testing/planning that I could. Well, almost. The eagle eyed amongst you will have spotted a small cluster of items in the above picture that I have not mentioned yet.

As well as being a cynic I'm also cautious. Throwing a line up a convenient tree to support the wire aerial is all well and good, but I wanted to make sure that what I used for a weight didn't break something expensive on the way down. Especially since my aim was never that good.



5 metres of 'super 8 mini' coax plus my 'aerial erection kit' completed the line up....and this fitted in the box too, and still (just) left room for the logbook.

I opted for two (bound to lose one of them) of 'jet balls'. Very bouncy small silicon balls. Drilled a hole through each & threaded some tying wire through. A large spool of strong fishing line (another junkbox item that finally found a use after many years waiting), plus a couple of dogbone insulators completes the setup.

On location

'Virtual visits' to Kingussie were made using google earth & streeview. They indicated plenty of handy trees so I already had an idea of aerial location. On arrival I waited until dusk and laid out the aerial. That's when I realised how 'invisible' the green Kevlar wire is under low light conditions when lying on a lawn. Even so, 15 mins later and I was ready to rock & roll. Rig came up on a busy 40m.

All signals and no local QRN. Oh my, what a treat. A quick call raised GI4CFQ at 599+, who was taking me at the same strength. I didn't know until later that Fred (G4VHH), a RAOTA member in Lincoln, was waiting in the wings, and taking me equally well. The setup was really performing rather well, although my brain was struggling to remember to sign as GM3ZPF/A

But.....This is the precise point where I realised what I had forgotten.



Should have taken these with me

Her ladyship came rushing into the kitchen where I'd set up the gear. The TV in the holiday let did not like 100w RF at all. Locked up the digital tuner on every key-down.

I hope my tale has provided entertainment & food for thought.....along with reviews of 3 pieces of gear for good measure.

David G3ZPF