# AT-MicroHAM Station Master & SIX SWITCH

## These units from MicroHam in Slovakia are a very comprehensive way to control almost all of an amateur station from a computer.


PHOTO 5: The complete set up.

PHOTO 1: Matching the Station Master to your rig entails removing the top case and setting a series of jumpers as explained in the manual to get them talking to each other.

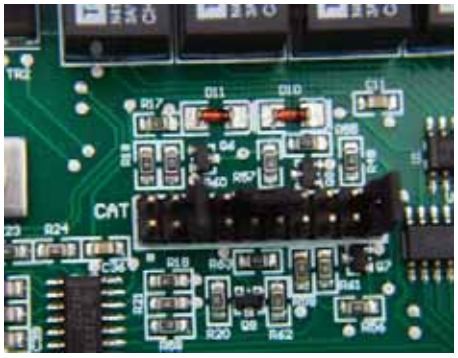


PHOTO 2: The CAT links are to the front left of the PCB with the pot pointing to your body.

ON REVIEW. Three black boxes arrived at G0BPS for evaluation. These were the main Station Master unit, the Antenna switch unit (micro SIX SWITCH) and the third box with the CAT cable for my rig.

EQUIPMENT ON REVIEW. The MicroHam SIX SWITCH is a high performing, high power rated and rugged remotely controlled antenna switch. This switch can handle six antennas from one exciter – or rig. It can be fitted inside the shack or outside on the tower. It is provided with SO239 ports (standard 'N' type are an extra €56).

But first the MicroHam Station Master, the manufacturers claim that it, "Provides radio control, antenna switch control, band pass filters switching, selective SteppIR tuning, computer controlled rotator interface, automatic power amplifiers interface, sequencer for receiving antennas and many additional features". After unpacking the units, it became clear that they were very well built and finished with care. The manual was supplied on CD, which was loaded onto my main computer as I wanted to use the laptop as the main controller for the units. The software includes the MicroHAM USB Device Router software and full, and I mean full, instructions on how to set it all up.

Let me start by saying when I first opened the instructions I was flabbergasted and dreaded the thought of putting it all together, it looked so complex, all 66 pages of it. But after a couple of days reading the instructions it all started falling into place.

It is essential to read the instructions before trying to get started as, if like most hams, you jump in and try to second guess where you are going, you will fail, believe me! This is most definitely a RTFM situation

With temperatures dropping close to freezing, the heaters in the shack were struggling so everything came into my conservatory where it is much more comfortable. Eventually, late on Boxing Day I managed to get the whole thing working.

The period between Boxing Day and New Year's Day is the traditional G QRP Club's winter sports, where many QRPers get on the air to rag-chew. It is not a contest, just a way of getting more people on the bands. It was an ideal way to check out all of the features of the MicroHam equipment.

MATCHING. After loading the software and reading the instructions you will be told to match the Station Master to your rig. This entails removing the top case and setting a series of jumpers as explained in the manual to get them talking to each other. (See **Photo 1** and **2**). The CAT links are to the front left of the PCB with the pot pointing to your body.

Having set these jumpers, all connections to the rig Station Master and Computer must be made. This is not as complex as it sounds. I couldn't understand why, at switch-on, the band data on the Station Master wouldn't show. RTFM again and again to discover that it had to be set for each antenna in the software. This then linked to the antenna port you wanted to use.

The software for the device router needs setting up for each antenna used, the radio in use and the bands to be used with the instructions followed closely to do this. The three **Photos 6**, **7** and **8** are screen shots of the software in actual use but Photo 8 shows the optional keyboard that can be used. (Not supplied for this review).

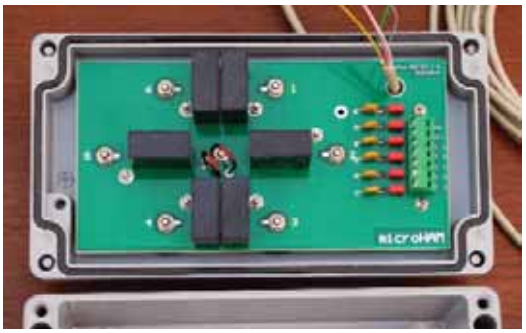

PHOTO 3: The internal PCB of the SIX Switch unit.


PHOTO 4: Each SO239 is numbered and the antenna connected to that port must relate to the same antenna port in the software.

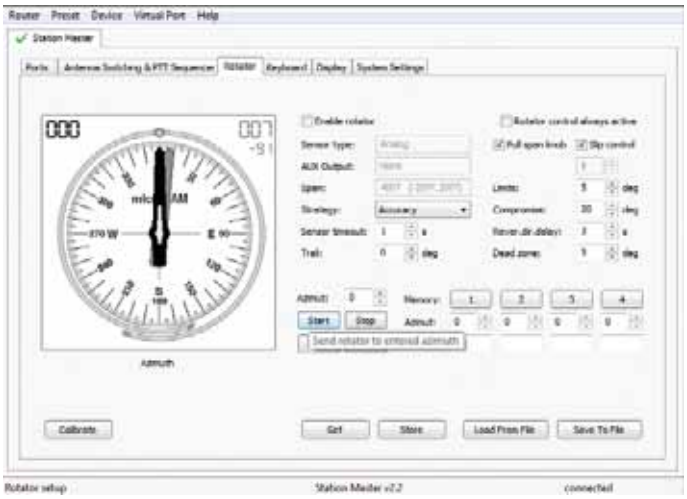

PHOTO 6: Screen shot of the software in actual use.

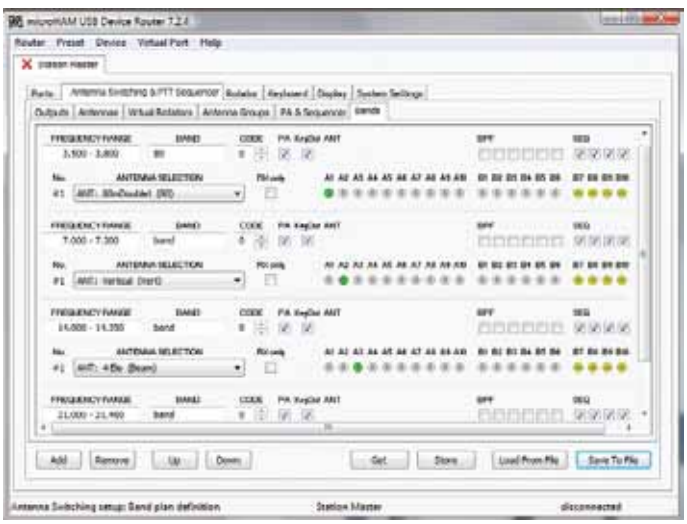

PHOTO 7: Screen shot of the software in actual use.

The pot on the front of the unit enabled me to turn the rotator, the software also provided control for a sequencer for my amplifier to ensure smooth switching.

The SIX SWITCH antenna controller is another piece of equipment that I was asked to try. It is built extremely well and designed to be used in the shack or outside. Covers and brackets are included for the switch box to be mounted on a 50mm pole above a rotator or on an external wall if required.

Here at my QTH, I use a variety of antennas that quite often change as I just love trying out various configurations. My strangest recollection is of reading an antenna article and deciding to build it and try it out. As time passed, I realised that I had used it once before so checked the magazine again, guess who wrote the article?

My current set up is a four element Cushcraft A4S at about 8m AGL, an 80m doublet with the feed point just below the beam, a vertical based around the DK9SQ mast fed against ground and finally a small loop at eaves level on my bungalow. The radio used in the review was my Yaesu FT847.

Before you start using the SIX SWITCH antenna controller you will also need to take the lid off and feed the cable through the jamming sleeve and connect it to the PCB, (see **Photo 3**). The cable supplied is only 2m long and, if the unit is mounted at the top of a tower, a longer cable will be required.

In use, you just remove the small plastic protective covers and connect your antenna feeder to the SO239s. Each SO239 is numbered and the antenna connected to that port must relate to the same antenna port in the software. The feed from the rig or ATU is fitted to the centre SO239 (**Photo 4** and **Photo 5** show the complete set up).

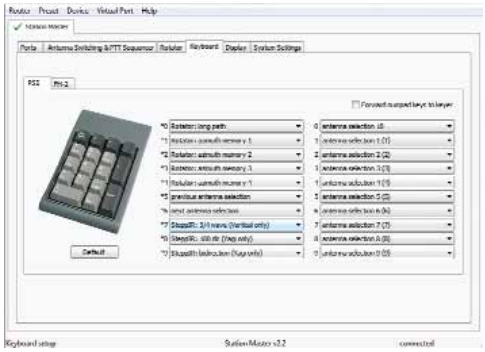

PHOTO 8: The optional keyboard that can be used.

Although I don't have the equipment or high power permit to confirm the assertions, the manufacturer's website (www.microham.com) includes impressive specs for the SIX SWITCH including a 5kW rating, SWR better than 1.07:1 at 28MHz (1.12:1 at 50MHz), insertion loss better than 0.05dB and isolation between ports of better than 50dB on all bands.

So; as I sit here on New Year's Day – and yes after taking a couple of aspirin. Did I like the equipment? The answer is not as simple as you might think. If you always have several antennas available and you want to control everything from a single unit and computer, it is superb. The build quality is excellent and the comprehensive instructions great. When I had a query, I got an answer within 8 hours over the Christmas holiday.

Would I buy these units, probably not as I am a 'hands on' type that loves to twiddle knobs and push buttons but I would highly recommend them to those who love to run equipment from their computers.

The Station Master cost €250, the CAT Cables are €13. The six way switch is €300 and with the Euro almost the same as the Pound as I write this makes these cost over £550. Only you can decide if it is worth it to you. But, be aware if buying from Slovenia; all prices quoted here are exclusive of 19% VAT, which is automatically added for all EU customers during checkout bringing the final price to over £650.

Visit the MicroHam web pages for lots more information including downloadable instructions where you can check all the comprehensive details and decide for yourself if these are for you.

A last minute e-mail from Jozef, OM7ZZ tells me that they have high hopes to make Station Master a standard for antennas and other shack peripherals control.

The next software step is to make Station Master also remote controllable (via desktop applications and through the internet) to enable operators to work with remote control as if they sat in their shacks next to their rigs.

Many thanks to Jozef, OM7ZZ from MicroHam for the loan of the equipment, which performed excellently. www.microham.com.