



CH Throttle Quadrant **USB** REVIEW

By Dean Bielanowski

Flight controllers are an integral part of flight simulation. I mean, if we are going to simulate flight, we might as well make it as realistic as possible right? I recall the days of FS4 and FS5 where I often flew using the keyboard alone. I got pretty good at it after a while, but trying to control any aircraft on approach in less than ideal conditions was extremely difficult. I used a joystick as well, although it was only a cheap model back then and a little temperamental.

Today we are somewhat spoiled with an array of flight controllers from joysticks, yokes, pedals to desktop avionics units. Even full simulation flight decks are available to those with plenty of money to throw at the hobby.

It has only been in recent years that we have had the opportunity to buy decent quality throttle controllers at affordable prices. Previous to that, some joysticks featured a throttle wheel, like the *Microsoft*

Sidewinder series for example, but they lacked that realistic feel and operation. *CH Products* released their Pro Throttle several years back, however it was only a single axis throttle controller with many buttons incorporated into the design. There are the high-end, higher priced throttles from companies like *Precision Flight Controls* that cater for the professional market. More recently, *GoFlight Inc* released a 6-axis throttle quadrant to add to its existing line of modular desktop avionics and flight systems, and these have proved popular among flight sim fanatics.

The long awaited 6-axis throttle quadrant from *CH Products* has finally arrived. After many delays in production, which at one time saw the project momentarily cancelled, *CH Products* released their newest flight controller in late October, with delivery to major suppliers early November 2004. Today we will take a look at this product in more detail, find out what it can do, its feature list and how well it performs in the simulators.

Packaging & Installation

The CH Throttle Quadrant USB (TQU) ships in a standard square box and includes the quadrant itself, a small 4-page printed manual and some advertising material for other CH Products controllers. The manual covers the following topics:

1. Introduction
2. Windows 9e/ME installation
3. Windows XP/2000 installation
4. MAC Installation
5. PC Trouble shooting
6. MAC Troubleshooting
7. Technical Support contacts
8. Warranty Information

In the box are the table clamps you use to secure the TQU to your desktop. It works best if you have a table with a good overhanging lip and table top thickness up to around two inches. It should fit to most tabletops, however, depending on the table design, you might need a few blocks of wood or make some minor modification or additions to get it to clamp securely. This is usually no problem. If you have existing CH Products controllers, the clamp design is the same on the TQU.

Installation is easy. Under Windows 2000 and XP, all you should need to do is plug it into the USB port and you are ready to go. No drivers are needed as it uses native Windows drivers. Drivers may be needed for Windows 98 users, and your Win 98 CD may be called for after you plug the controller in. It's always a good idea to go to the Gaming Options (or Game Controllers) section of the Windows Control Panel to check the TQU has installed fine and check its calibration and settings. If needed, re-calibrate the controller.

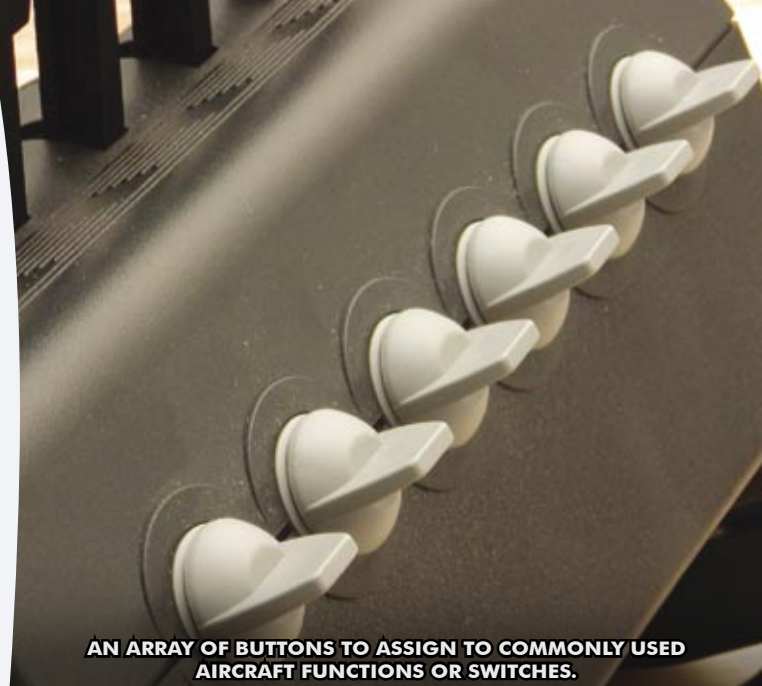
Interestingly, the TQU is not shipped with their Control Manager software. This software is generally not needed to use the product, however, advanced users with multiple control setups or those who wish to further tweak the TQU may wish to use it. In this case, you can download it freely from the CH Products website at www.chproducts.com

Once installed however, it does provide more advanced calibration and settings options via the Gaming Options configuring screens from Windows Control Panel, so might be worth looking at if you are having trouble. Additionally, it offers easier calibration than the standard Windows interface.

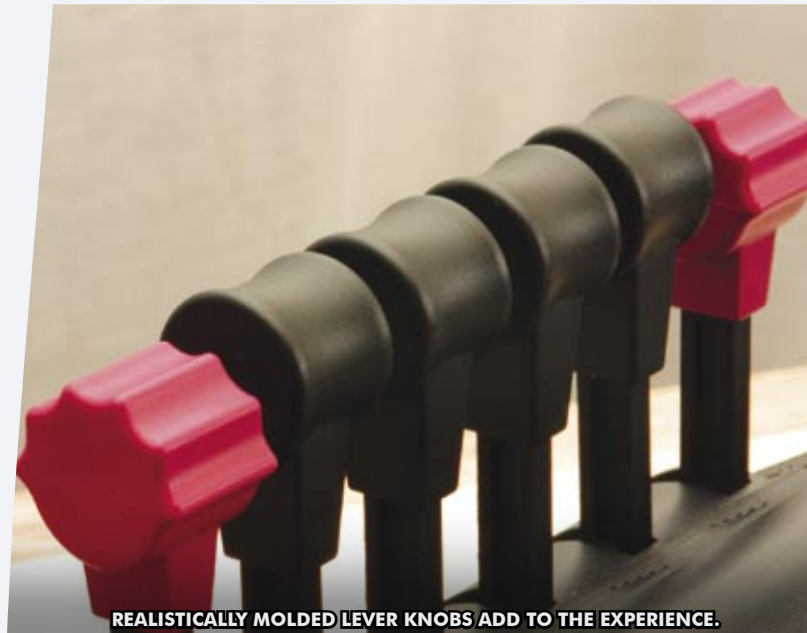
The TQU

As mentioned above, the TQU is a 6-axis throttle quadrant. It also features 6 flip switch buttons (up/down) good for 12 functions (or more with the Control manager software). It is constructed of the same dark grey hardened plastic as other CH Products controllers. Since this product will most likely to be used in the GA/Commercial sims – Microsoft Flight Simulator / X-Plane – the buttons can be configured within the sim to whatever functions you desire. These could include flap settings, gears, lights, whatever you like really. They are the same designed buttons as found on the base of the *CH Flight Sim Yoke USB*.

Because most newer sims allow you to assign functions and control axes to your hardware, the TQU can be readily configured for any aircraft up to six engines, although some simulators, like Microsoft's Flight Simulator only allow you to configure up to four engines.



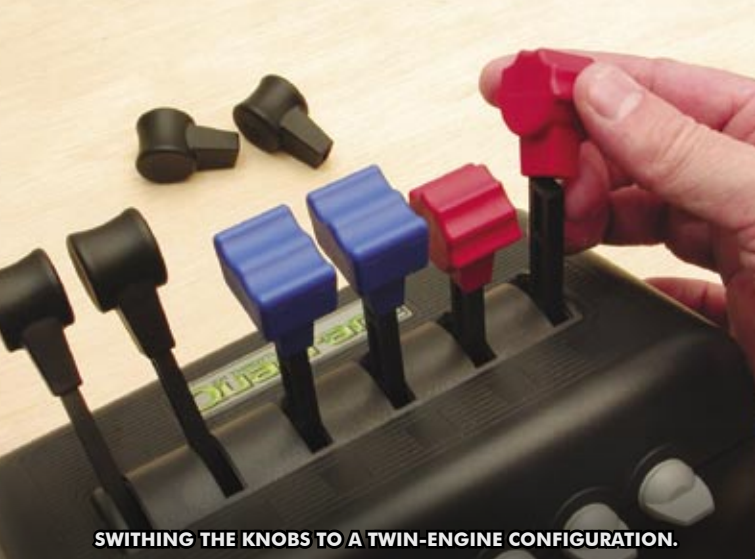
AN ARRAY OF BUTTONS TO ASSIGN TO COMMONLY USED AIRCRAFT FUNCTIONS OR SWITCHES.



REALISTICALLY MOLDED LEVER KNOBS ADD TO THE EXPERIENCE.



THE TABLE CLAMP'S DESIGN SECURES YOUR THROTTLE DOWN WELL TO THE DESK TOP.



SWITCHING THE KNOBS TO A TWIN-ENGINE CONFIGURATION.



THE HEAVY JET CONFIGURATION WITH PRINTED INSTRUCTION SHEET SHOWN.



The TQU comes configured with four black engine knobs and two red mixture knobs, so it's initially set up for a four-engined aircraft, however, the colored knobs are interchangeable, and two blue prop knobs are also included so you can readily convert to a twin engine setup easily, and have it look realistic.

The TQU features six axis detents, i.e. one per axis, not six detents per axis. The detent is at the lower idle section of each axis and, naturally, acts as the idle thrust position, providing further range 'below' this for reverse thrust capabilities. Note however that Microsoft's simulator does not provide mapping of reverse thrust to an axis, so reverse thrust is not readily available for this sim out of the box. Programs like Peter Dowson's *FSUIPC* – www.schiratti.com/dowson.html - do allow you to reconfigure controllers to allow reverse thrust to be implemented (it's payware for the full registered version).

At the bottom of the unit are the two clamps which hold the TQU to your desk. These are basically nut and screw design but work remarkably well. CH has not changed their basic design on these for a very long time. Why change something if it isn't broken? Combined with the rubber pads on the bottom of the unit you should not have any problems with slippage in use. The last thing you want is your throttle assembly falling off the table during final approach!

In Use

Firstly, I spent enough time as necessary to configure and calibrate the TQU to a level I was happy with. This saved me a lot of time and 'downed' flights I might have experienced had I not done this. I use the throttle mostly in Flight Simulator 2004, but it works equally well in X-Plane and combat simulators. In fact, it will work with just about any Windows game that implements standard Windows or DirectX control interfaces.

When I first loaded into FS2004 to test the TQU, it was very erratic. Engines 1 and 3 would not go through the full range and engine 4 appeared dead! It seems FS2004 defaulted the sensitivities for these controls to odd numbers. If you suffer the same problem, firstly make sure you have correctly assigned the functions to the axes on the TQU via Options > Controls > Assignments... i.e. Engine 1 Throttle Axis, Engine 2 Throttle Axis etc. Once that is done, go to Options > Controls > Sensitivities. Set all axis sensitivities to 100% (all the way to the right). Set the null zone for each axis to about 1/5 of the way from the left. I found these settings worked well for me.









Once that was fixed up, I loaded up the 747. Taxiing is made easier because you can now control thrust on each engine individually, allowing you to throttle up the right engines only to help make a left turn. This is a great aid if you do not have a set of rudder pedals available. Once on the runway I was pretty much ready to go and I throttled up. The levers offer little resistance to movement and glide smoothly throughout the entire range. The detents have a rubbery-type feel, rather than a hard metal 'clunking' action as you pass over them. This allows you to pass over them easily and smoothly. Advancing the four throttles slowly to max, I could see from the engine readouts that my movements were slightly asynchronous, showing that the TQU was performing accurately and each engine was acting in accordance with its individual throttle movement. A few flights later and I felt I had a good lick on the TQU's performance and capabilities.

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Switching to a twin-prop or twin-engine setup only takes a few minutes. You can add on the blue prop lever knobs to the TQU by removing and replacing the existing ones accordingly. No tools are required, it's simply a friction-fit, just pull them off and push the new one on. It does take a little muscle to get them off initially however. The most time between conversions will be taken up by switching lever assignments around as needed within your simulator software. Flying the 441 Conquest was much more enjoyable with full and fast control over all settings for each engine. Feathering a prop quickly with lever action was very useful for practicing emergency procedures.

Setting flaps to an axis (possible in FS2004) is a fast and easy way to raise and lower them during takeoff or on approach, and means you can keep your hands on the throttles for maximum speed control. I often set a lever to control spoilers on the heavies as well.

Conclusion

The CH Products Throttle Quadrant USB will set you back US\$199.95 if ordered direct from the manufacturer. Their dedicated retailers will sell it to you cheaper, at around the US\$169.95 mark, so look for them first. CH Products have earned a reputation for quality products that are also durable. They offer a 2 year warranty on the TQU unit.

The TQU does make a big difference to the realism and handling of aircraft in flight simulation programs. The ability to manage engine configurations individually not only offers enhanced control, but also more challenge, and when your pilot skills are challenged, you end up having a lot more fun... in the sim at least.

I feel the TQU offers good value for money. →