

## On the Subject of The Ultracube

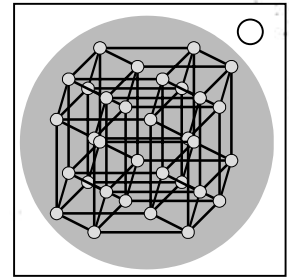
*Oh I know this one! Wait, it looks different... Why are there more lines now?*

Observe the sequence of five 5D rotations of the Ultracube. There is a brief pause when the sequence repeats.

From the first four rotations, obtain four Ultracube faces as listed in the Face column in the below table.

From the fifth rotation, obtain a sequence of colors as listed in the Order column in the below table.

The Ultracube is very similar to the Hypercube, the only difference is that there is a few more combinations and there is two 'weird' axes now, and a few more lines, but it's very likely that you noticed that by now.



Rot.	Face	Order
XY	pong-zag-front	RBYG
XZ	zag-top-left	YBGR
XW	top-front-right	GRBY
XV	ping-zag-back	GBYR
YZ	zig-front-right	BGYR
YW	zag-top-back	RBGY
YV	pong-top-left	BYRG
ZW	pong-top-right	BRGY
ZV	ping-zig-left	GYBR
WV	pong-zag-back	YRGB

Rot.	Face	Order
YX	pong-zag-right	YBRG
ZX	ping-zag-left	RYBG
WX	pong-front-right	BRYG
VX	ping-bottom-left	BGRY
ZY	ping-zag-top	GYRB
WY	pong-zig-bottom	YGRB
VY	pong-zig-front	GBRY
WZ	zag-top-front	YGBR
VZ	zig-front-left	GRYB
VW	ping-bottom-back	BYGR

The rotations are identified by observing a vertex and checking where it came from and where it moves to. Those two movements will give you an axis pair.

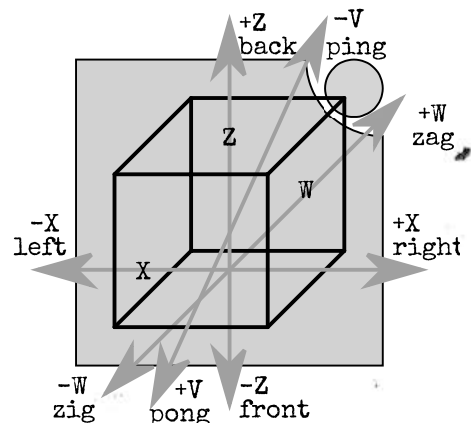
If you end up with a rotation pair like -X+W or +V-Z then you need to flip the letters and remove the minuses, resulting in WX and ZV. If there are two minuses then remove them both, so -X-Z would turn into XZ.

To begin, touch any vertex of the Ultracube. This will cause the rotations to cease.

On the face identified by the first rotation, touch the vertex of the color identified by the first color in the color order obtained earlier.

Repeat this with the remaining rotations and colors in the sequence.

A mistake will cause the rotations to resume and your progress to reset. But the sequence of rotations remains the same, although the vertices may be colored differently.



The Y axis not shown has +Y/top and -Y/bottom and is perpendicular to X and Z, meaning that it points out of the module, away from the bomb.