//This OpenSCAD model uses MCAD functions

use<MCAD/nuts\_and\_bolts.scad>

module base()

{

intersection()

{

$fa=3

;//3 to print, 20 otherwise

//cylinder(r1=80, r2=40, h=50,$fn=4);

scale([1,1,0.4])

sphere(d=200);

cube([180,200,55], center=true);

cylinder(h=55,d=196,center=true);

}

}

module lid()

{

difference()

{

base();

translate([0,0,-45])

cube([210,210,100],center=true);

for(x=[150,-150])

translate([x,0,0])

scale([1,1,0.4])

sphere(d=150, $fa=2);//2 to print, 20 otherwise

for(y=[80,-80])

translate([0,y,1.5])

cylinder(d=5.2,h=51,$fn=12);

difference()

{

scale([0.9,0.9,0.9])

base();

for(y=[80,-80])

translate([0,y,1.5])

difference()

{

cylinder(d=10,h=50,center=true);

cylinder(d=5.2,h=51,center=true,$fn=12);

}

}

difference()

{

scale([0.91,0.91,0.91])

base();

translate([0,0,29])

cube([200,200,42],center=true);

}

}

}

module toplid()

{ difference(){

scale([1.01,1.01,1.01])

lid();

translate([-50,0,-5])

rotate([90,0,0])

cylinder(h=200,d=40,center=true);

}

batteryhold();

translate([0,0,23])

cylinder(r=70,h=6,center=true);

}

module botlid()

{

difference()

{

union()

{

scale([1.01,1.01,1.01])

difference(){

lid();

translate([-50,0,5])

rotate([90,0,0])

cylinder(h=200,d=40,center=true);

}

translate([15,0,25])

cube([50,100,5.5],center=true);

for(rot=[0,120,240])

rotate([0,0,rot])

translate([-78,0,21])

rotate([0,-30,0])

scale([1,1,0.8])

\*sphere(r=7);

}

rotate([0,0,-90])

scale([1,1,1.1]){

translate([-42.5,+10,20])

nutHole(3, units=MM, tolerance = +0.05, proj = -1);

translate([42.5,+10,20])

nutHole(3, units=MM, tolerance = +0.05, proj = -1);

}

for(y=[80.8,-80.8])

translate([0,y,+26.5])

cylinder(r=5.1,h=10,center=true);

}

}

module middle()

{

difference()

{

base();

toplid();

rotate([180,0,0])

botlid();

scale([0.91,0.91,0.91])

base();

translate([-50,0,-5])

rotate([90,0,0])

cylinder(h=200,d=29,center=true);

rotate([0,0,-58])

translate([8,0,6])

charger();

#translate([88.5,-21 , 8])

rotate([90,0,90])

linear\_extrude(height = 2, center = false,convexity = 10)

text("Consair V3", size =5);

rotate([0,0,-40])

translate([91,0,0])

#switch();

translate([80,20,0])//antenna hole

rotate([0,90,0])

cylinder(d=14.5,h=20,center=true,$fn=30);

translate([82,-11.5,-0])

rotate([0,0,180])

screen();

}

\*handle();

intersection()

{

difference()

{

union()

{

translate([-50,0,-5])

rotate([90,0,0])

cylinder(h=200,d=40,center=true);

translate([-75,0,-8])

cube([20,10,6],center=true);

for(y2=[20,-20])

translate([-38,y2,-10.51])

cube([20,9.5,5],center=true);

}

translate([-50,0,-5])

rotate([90,0,0])

cylinder(h=200,d=29,center=true);

for(y1=[39,-39])

translate([-45,y1,-5])

cube([40,7,30.1],center=true);

translate([-50,0,3.5])

cube([45,50,23],center=true);

translate([-68,0,-10.5])

rotate([0,0,30])

scale([1,1,1.1]){

#nutHole(3

, units=MM, tolerance = +0.05, proj = -1);

#cylinder(d=3.5,h=30,$fn=15,center=true);

}

for(y2=[20,-20])

translate([-32,y2,-10.5])

rotate([0,0,30])

scale([1,1,1.1])

{

#nutHole(3

, units=MM, tolerance = +0.05, proj = -1);

#cylinder(d=3.5,h=30,$fn=15,center=true);

}

}

base();

}

intersection()

{

toisto = 6;//ritilän siivekkeiden lukumäärä + 1,

rotate([0,90,90])

{

for(x=[75,-75])

translate([0,54,x])

for(h = [1:toisto-1])

{

translate([5,-18 + h\*28/toisto, -3])

cube([32, 1.8,30], center = true);

}

}

base();

}

translate([68,20,-1])

radiohold();

rotate([0,0,-58])

translate([8,0,6])

difference()

{

translate([75,0,-8])

cube([20,20,5],center=true);

charger();

}

}

module batteryhold()

{

intersection()

{

translate([0,0,20])

rotate([0,180,90])

difference()

{

cube([110,120,8], center = true);

translate([0,0,3])

cube([96,117,3], center = true);

for(x=[51.5,-51.5])

translate([x,0,1.5])

rotate([0,0,30])

scale([1,1,1.1])

nutHole(3, units=MM, tolerance = +0.05, proj = -1);

}

scale([1,0.8,1])

cylinder(r=84,h=40,center=true);

}

}

module digifan()

{

cube([35.5,46,20.5], center = true);

translate([20,-9,2.5])

cube([10,16,5],center=true);

digifanin();

digifanout();

}

module handle()

{ ra = 30;

he = 14.5;

translate([-89,0])

difference()

{

rotate\_extrude($fn=80)

translate([ra,0])

scale([0.7,1.])

union()

{

circle(d = he);

translate([he/4,0])

square([he/2,he], center=true);

}

translate([0,-1.5\*ra,-2\*he])

cube([ra\*3,ra\*3,he\*3]);

}

}

module digifanin()

{

color("Blue")

translate([-18,8.5,5.8])

cube([1,9,4], center=true);

}

module digifanout()

{

color("Blue")

translate([17.5,12.8,0])

rotate([0,90,0])

cylinder(r = 9.5,h = 2 );

translate([17.5,20.5,-8])

rotate([0,90,0])

cylinder(d= 4.5,h = 1.2,$fn=10 );

}

module radiohold()

{ rotate([0,0,-90])

difference()

{

cube([22,40,13], center=true);

cube([15.6,46,16], center=true);

translate([0,0,5])

union(){

cube([17,46,1.5],center=true);

translate([2,19,-5.5])

{

cube([7,7,10],center=true);

translate([0,3,-1.5])

rotate([-90,0,0])

cylinder(d=6, h=10);

}

}

}

}

module screen()

{

union()//näyttö

{

cube([1,39,12], center = true);

translate([-2.3,-3.9,0])

cube([10,33,13.5], center=true);

translate([-3.1,-3.9,0])

cube([10,31,11.5], center=true);

translate([2.8,17.9,0])

cube([12,3,10], center=true);

}

}

module onoff()

{ translate([39,-74.55,2])

{

cube([1,1,6], center = true);

translate([-20,0,0])

rotate([90,0,0])

difference()

{

cylinder(r=4,h = 1,center = true);

cylinder(r=3,h = 2,center = true);

}

}

}

module charger()

{ translate([77.5,0,-6])

rotate([0,0,180])

{

cube([23.88,17.67,4],center=true);

translate([-9,0,0.5])

cube([10,9,4],center=true);

}

}

module middleback()

{

intersection()

{

difference()

{

middle();

translate([-24,0,0])

rotate([90,0,0])

cylinder(h=210,d=8,center=true);

translate([-12,0,0])

cube([20,200,20],center=true);

}

translate([-75,0,0])

#cube([110,200,60],center=true);

}

}

module middlefront()

{

intersection()

{

difference()

{

middle();

middleback();

}

union()

{

cube([200,200,28],center=true);

translate([90,0,0])

cube([60,60,60],center=true);

}

}

}

module switch()

{

rotate([0,0,90])

union()

{

cube([19.3,11,8], center=true);//liukukytkin, kytkin itsessään tarvitsee n. 10\*4 kolon ja on n.5mm korkea

translate([0,-6.2,0,])

cube([10,5,4], center=true);

}

}

module sensorhold()

{

difference()

{

union()

{

intersection()

{

translate([-50,0,3.5])

cube([45,49.8,23],center=true);

translate([-50,0,-5])

rotate([90,0,0])

cylinder(h=200,d=40,center=true);

}

translate([-30,0,10])

cube([42,10,9.778],center=true);

translate([-68,0,-5])

cube([8,8,6],center=true);

translate([-32,20,-5])

cube([8,8,6],center=true);

}

translate([-50,0,-5])

rotate([90,0,0])

cylinder(h=200,d=29,center=true);

translate([-68,0,3])

rotate([0,0,30])

scale([1,1,1.1]){

cylinder(d=5,h=10,center=true,$fn=20);

#cylinder(d=3.5,h=50,$fn=15,center=true);

}

for(y2=[20])

translate([-32,y2,3])

rotate([0,0,30])

scale([1,1,1.2])

{

cylinder(d=5,h=10,center=true,$fn=20);

#cylinder(d=3.5,h=50,$fn=15,center=true);

}

translate([-34,-2,2.2])

rotate([0,180,90])

#digifan();

for(h1=[15,17.5,20,22.5])

translate([-35,23,h1-15])

rotate([90,0,90])

#cylinder(d=1.5,h=20,center=true,$fn=10);

}

}

\*cube([96,117,3], center = true);

\*cube([30,7,30], center = true);

rotate([180,0,0])

difference(){

rotate([180,0,0])

toplid();

translate([0,0,-30])

\*cube([100,100,70]);

}

translate([0,200,0])

screen();

rotate([180,0,0])

sensorhold();

digifan();

rotate([180,0,0])

translate([0,0,1])

botlid();

union(){

for(x = [0,103])

translate([x,0,0])

difference(){

cylinder(d=14.5,h=3,center=true,$fn=30);

translate([3,0,0])

cylinder(d=11,h=4,center=true,$fn=20);

}

translate([51.5,4,0])

cube([105,5,2],center=true);

}

!rotate([0,-90,0])

scale([0.8,1,0.93])

difference()

{switch();

#translate([-4.5,8,-0])

cube([20,20,20],center=true);

translate([0,9.5,0])

cube([20,20,20],center=true);

}