

Eagle3D MIDIBox User Pack

Eagle3D from Matthias Weißer <http://www.matwei.de/doku.php>

New parts tutorial from Félix Chénier

<http://felixchenier.homelinux.com/doku.php?id=pcb:eagle3dnewpart>

3dusrpac.dat

Just copy the code below to your 3dusrpac.dat and user.inc.

known packages (not assigned in the 3dpack.dat):

[illegible]

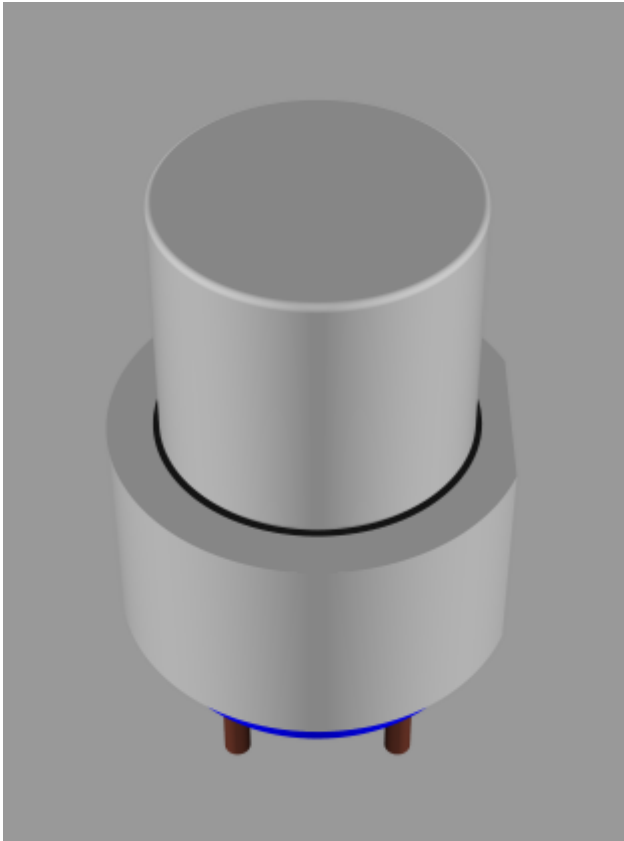
new packages:

[illegible]

[illegible]

user.inc

DT6



```

/*****
//Switch DT6
//Created from Jack(forum.midibox.org) on 16-Jan-2006
//
*****/
#macro USER_DT6()
union{
//DT6
    union{
        //button cover pushed
        difference {
            cylinder { <, , 1.3>, <, , 7.2>, 6.0 }
            union{
                box { <5.5, -6, 1.2>, <7, 6, 7.3> }
                difference {
                    cylinder { <, , >, <, , 5.6>, 5.1 }
                    box { <4.4, -5.2, -0.1>, <7, 5.2, 5.7> }
                }
            }
        }
    }
}

```

```

    }
}

//button cover released
cylinder { <, , 7.2>, <, , 14.0>, 4.5 }
cylinder { <, , 7.2>, <, , 14.2>, 4.3 }
union{
    torus { 4.3, 0.2 }
    rotate <90, , >
    translate <, , 14.0>
}

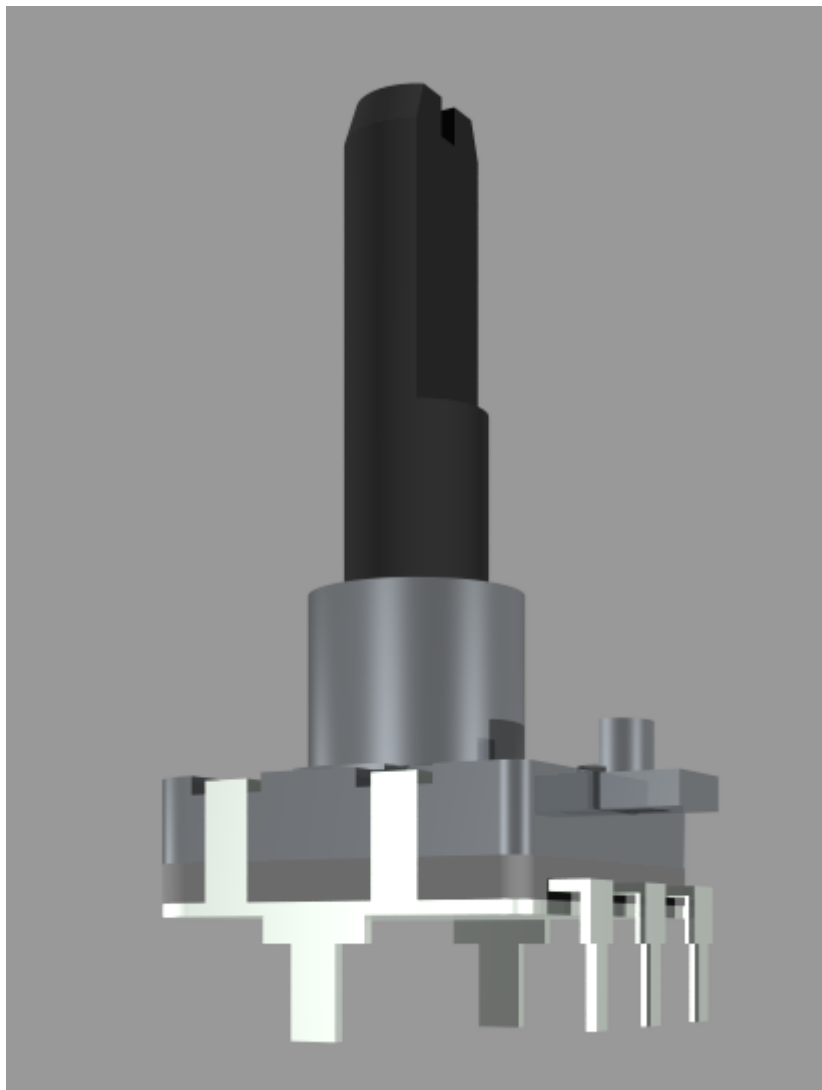
texture { pigment { color Grey } }
//translate <0, 0, -1.3> //clicked
}

//button body
difference {
    cylinder { <, , >, <, , 5.6>, 5.1 texture { pigment {
color Blue }}}
    box { <4.4, -5.2, -0.1>, <7, 5.2, 5.7> }
}

//pins
cylinder { <2.5, 2.5, -3.2>, <2.5, 2.5, 5.6>, 0.4 texture { pigment {
P_Copper1 }}}
cylinder { <2.5, -2.5, -3.2>, <2.5, -2.5, 5.6>, 0.4 texture { pigment {
P_Copper1 }}}
cylinder { <-2.5, 2.5, -3.2>, <-2.5, 2.5, 5.6>, 0.4 texture { pigment {
P_Copper1 }}}
cylinder { <-2.5, -2.5, -3.2>, <-2.5, -2.5, 5.6>, 0.4 texture { pigment {
P_Copper1 }}}
}
rotate<-90,180,> //correction
#end

```

ALPS STEC16B03-04



```

/*****
*****
//Encoder ALPS STEC16B03-04
//Created from Jack(forum.midibox.org) on 16-Jan-2006
//
*****
*****/
#macro USER_STEC16()
union{

    #declare L1 = 26;
    #declare LB = 7;
    #declare l1 = 12;
    #declare X1 = 16/2;
    #declare Y1 = 8.3;
    #declare Y2 = 9;
    #declare M9 = 4.5;
    #declare R6 = 3;
    #declare h2 = 0.5;
    #declare h3 = 1.5;
    #declare h4 = 3.2;
    #declare H = 6.5;

```

```

#declare H1 = 1;
#declare H2 = H1 + h2;
#declare H3 = H2 + h3;
#declare H4 = H3 + h4;

difference{
    union{
        difference{
            union{
                box { <-X1, -Y2, H3>, <X1, Y1, H4>
                box { <-X1, -Y2, H2>, <X1, Y1, H3>
                box { <-X1, -Y2, H1>, <X1, Y1, H2>

                cylinder { <, , H4>, <, , H>, 6.25

                box { <-2, -(Y2+3.5), H-0.35>, <2, -
                cylinder { <, -Y2, H-0.35>, <, -Y2,
                H+1.65>, 1.5 texture { T_Chrome_2B }}
            }
            union{
                box { <X1-2.5, Y1-2.5, >, <X1+0.1,
                box { <-(X1-2.5), Y1-2.5, >, <-
                box { <X1-1, -(Y2-1), >, <X1+0.1, -
                box { <-(X1-1), -(Y2-1), >, <-

                box { <3.1, -Y2, H>, <-3.1, -
                (Y2-1.6), H+2.1> texture { T_Chrome_2B }}
            }
        }
    }
    union{
        cylinder { <X1-2.5, Y1-2.5, H3>, <X1-2.5,
        Y1-2.5, H4>, 2.5 texture { T_Chrome_2B }}
        cylinder { <X1-2.5, Y1-2.5, H2>, <X1-2.5,

```

```

Y1-2.5, H3>,      2.5 pigment { Gray60 }}
                    cylinder { <X1-2.5, Y1-2.5, H1>,      <X1-2.5,
Y1-2.5, H2>,      2.5 texture { T_Silver_5A }}

                    cylinder { <-(X1-2.5), Y1-2.5, H3>, <-(
(X1-2.5), Y1-2.5, H4>, 2.5 texture { T_Chrome_2B }}
                    cylinder { <-(X1-2.5), Y1-2.5, H2>, <-(
(X1-2.5), Y1-2.5, H3>, 2.5 pigment { Gray60 }}
                    cylinder { <-(X1-2.5), Y1-2.5, H1>, <-(
(X1-2.5), Y1-2.5, H2>, 2.5 texture { T_Silver_5A }}

                    cylinder { <X1-1, -(Y2-1), H3>,      <X1-1, -
(Y2-1), H4>,      1 texture { T_Chrome_2B }}
                    cylinder { <X1-1, -(Y2-1), H2>,      <X1-1, -
(Y2-1), H3>,      1 pigment { Gray60 }}
                    cylinder { <X1-1, -(Y2-1), H1>,      <X1-1, -
(Y2-1), H2>,      1 texture { T_Silver_5A }}

                    cylinder { <-(X1-1), -(Y2-1), H3>, <-(X1-1),
-(Y2-1), H4>, 1 texture { T_Chrome_2B }}
                    cylinder { <-(X1-1), -(Y2-1), H2>, <-(X1-1),
-(Y2-1), H3>, 1 pigment { Gray60 }}
                    cylinder { <-(X1-1), -(Y2-1), H1>, <-(X1-1),
-(Y2-1), H2>, 1 texture { T_Silver_5A }}
                }
            }
        union{
            box { <X1-3.75, Y1-2.7, H+0.1>, <X1+0.1, Y1-6, 5.5>
texture { T_Chrome_2B }}
            box { <X1-0.5, Y1-3.35, H+0.1>, <X1+0.1, Y1-5.35,
-0.5>
                texture { T_Chrome_2B }}

            box { <-(X1-3.75), Y1-2.7, H+0.1>, <-(X1+0.1), Y1-6,
5.5> texture { T_Chrome_2B }}
            box { <-(X1-0.5), Y1-3.35, H+0.1>, <-(X1+0.1),
Y1-5.35, -0.5> texture { T_Chrome_2B }}

            box { <X1-3.75, -(Y2-3.7), H+0.1>, <X1+0.1, -(Y2-7),
5.5> texture { T_Chrome_2B }}
            box { <X1-0.5, -(Y2-4.35), H+0.1>, <X1+0.1, -
(Y2-6.35), -0.5> texture { T_Chrome_2B }}

            box { <-(X1-3.75), -(Y2-3.7), H+0.1>, <-(X1+0.1), -
(Y2-7), 5.5> texture { T_Chrome_2B }}
            box { <-(X1-0.5), -(Y2-4.35), H+0.1>, <-(X1+0.1), -
(Y2-6.35), -0.5> texture { T_Chrome_2B }}

        }
    }
    difference{
        union{

```

```

        cylinder { <, , H+LB>, <, , (H+L1)-1.5>, R6 pigment
{ Gray20 }}
        cone { <, , H+L1>, 2.5, <, , (H+L1)-1.5>, 3 pigment
{ Gray20 }}
    }
    union{
        box { <-3.1, -1.5, H+(L1-12)><3.1, -(R6+0.1),
H+L1+0.1> pigment { Gray20 }}
        box { <-0.55, -3, H+(L1-1.5)><0.55, 3, H+L1+0.1>
pigment { Gray20 }}

    }

}

    cylinder { <, , H>, <, , H+LB>, M9                texture
{ T_Chrome_2B }}
    box { <X1-0.5, Y1-3.35, H1>,                <X1, Y1-5.35, 6>
texture { T_Silver_5A }}
    box { <X1-2.3, Y1-3.35, 5.5>,                <X1, Y1-5.35, 6>
texture { T_Silver_5A }}

    box { <-(X1-0.5), Y1-3.35, H1>,                <-(X1), Y1-5.35, 6>
texture { T_Silver_5A }}
    box { <-(X1-2.3), Y1-3.35, 5.5>,                <-(X1), Y1-5.35, 6>
texture { T_Silver_5A }}

    box { <X1-0.5, -(Y2-4.35), H1>,                <X1, -(Y2-6.35), 6>
texture { T_Silver_5A }}
    box { <X1-2.3, -(Y2-4.35), 5.5>,                <X1, -(Y2-6.35), 6>
texture { T_Silver_5A }}

    box { <-(X1-0.5), -(Y2-4.35), H1>,                <-(X1), -(Y2-6.35), 6>
texture { T_Silver_5A }}
    box { <-(X1-2.3), -(Y2-4.35), 5.5>,                <-(X1), -(Y2-6.35), 6>
texture { T_Silver_5A }}

    //encoder pins
    box { <-0.5, -10.3, -3>,                <0.5, -10.7, >
texture { T_Silver_5A }}
    box { <-5.5, -10.3, -3>,                <-4.5, -10.7, >
texture { T_Silver_5A }}
    box { <5.5, -10.3, -3>,                <4.5, -10.7, >
texture { T_Silver_5A }}

    box { <-1, -10.3, >,                <1, -10.7, 2>                texture
{ T_Silver_5A }}
    box { <-6, -10.3, >,                <-4, -10.7, 2>                texture
{ T_Silver_5A }}
    box { <6, -10.3, >,                <4, -10.7, 2>                texture

```

```

{ T_Silver_5A }}

    box { < -1, , 1.8>, < 1, -10.7, 2.2>
texture { T_Silver_5A }}
    box { < -6, , 1.8>, < -4, -10.7, 2.2>
texture { T_Silver_5A }}
    box { < 6, , 1.8>, < 4, -10.7, 2.2>
texture { T_Silver_5A }}

    box { < 7.62-0.25, -2.3, >, < 7.62+0.25, 2.3, 1>
texture { T_Silver_5A }}
    box { < 7.62-0.25, -1, -3.5>, < 7.62+0.25, 1, >
texture { T_Silver_5A }}

    box { < -(7.62-0.25), -2.3, >, < -(7.62+0.25), 2.3, 1>
texture { T_Silver_5A }}
    box { < -(7.62-0.25), -1, -3.5>, < -(7.62+0.25), 1, >
texture { T_Silver_5A }}
}
rotate<-90,180,>
#end

```

Nokia 3310 LCD

```

/*****
*****
//Display Nokia 3310 LCD
//Created from Jack(forum.midibox.org) on 16-Jan-2006
//
*****
*****/
#macro USER_3310LCD()
union{
    //body
    box { <-19, -14.5, -0.7>, <19.5, 21, > pigment { Col_Glass_General }
}
    box { <-19, -14.5, -1.45>, <19.5, 21, -0.7> pigment {
Col_Glass_General } }
    box { <-19, -14.5, -1.7>, <19.5, 21, -1.45> pigment { Gray10 }
finish {ambient 1 diffuse phong_size 250} }

    //screen
    #declare PIXEL =
    box {<-0.125, -0.2, -0.7>, <0.125, 0.2, -0.9>

    texture{pigment{Col_Glass_Bluish} finish {ambient 1 diffuse phong
1}}}}
    #declare DistanceX = (119/332);
    #declare DistanceY = (108/235);
    #declare NrX = -14.875; // startX

```

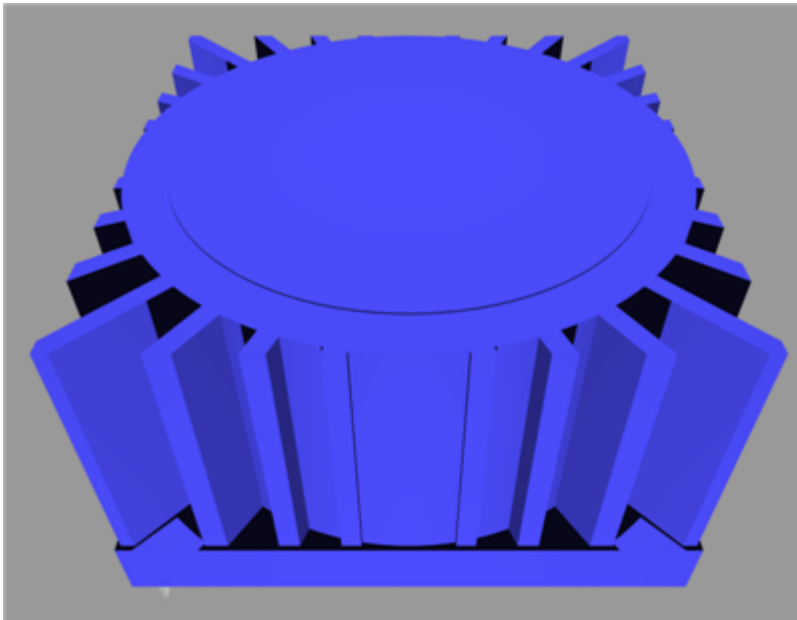


```

#declare EndNrX = NrX + 83 * DistanceX;    // endX
#while (NrX <= EndNrX) // <-loop X
  #declare NrY = -10.8;    // start
  #declare EndNrY = NrY + 47 * DistanceY;  // end
  #while (NrY <= EndNrY)//<- loop Z
    object{PIXEL translate<NrX,NrY,>}
  #declare NrY = NrY+(108/235); // next NrZ
  #end // ----- end of loop Z
  #declare NrX = NrX+(119/332); // next NrX
  #end // ----- end of loop X ---
}
rotate<-90,180,>
#end

```

Talema 70000K-25VA



```

/*****
*****
//Trafo Talema 70000K-25VA
//Created from Jack(forum.midibox.org) on 08-Mar-2009
//
*****
*****/
#macro USER_Talema_70000K_25VA()
union{

  box { <-30, , -30>, <30, 6.7, 30> }
  cylinder{<,6.7,>,<,32,>, 29.5 }
  cylinder{<,32,>,<,32.1,>, 25}

  intersection{
    union{
      box {<-1,6.7,-45>,<1,32,45> rotate<,,>}

```

```

        box {<-1,6.7,-45>,<1,32,45> rotate<,11.25,>}
        box {<-1,6.7,-45>,<1,32,45> rotate<,22.50,>}
        box {<-1,6.7,-45>,<1,32,45> rotate<,33.75,>}
        box {<-1,6.7,-45>,<1,32,45> rotate<,45.00,>}
        box {<-1,6.7,-45>,<1,32,45> rotate<,56.25,>}
        box {<-1,6.7,-45>,<1,32,45> rotate<,67.5,>}
        box {<-1,6.7,-45>,<1,32,45> rotate<,78.75,>}
        box {<-1,6.7,-45>,<1,32,45> rotate<,90,>}
        box {<-1,6.7,-45>,<1,32,45>

rotate<,101.25,>}

        box {<-1,6.7,-45>,<1,32,45>

rotate<,112.50,>}

        box {<-1,6.7,-45>,<1,32,45>

rotate<,123.75,>}

        box {<-1,6.7,-45>,<1,32,45>

rotate<,135.00,>}

        box {<-1,6.7,-45>,<1,32,45>

rotate<,146.25,>}

        box {<-1,6.7,-45>,<1,32,45> rotate<,157.5,>}
        box {<-1,6.7,-45>,<1,32,45>

}
        box {<-29.5, 6.7, -29.5>,<29.5, 32, 29.5> }
    }
    box {<-0.25, , -0.5>,<0.25, -5, 0.5> texture { T_Silver_5A }
translate< 27.94,, -25.4> rotate<,,>}
    box {<-0.25, , -0.5>,<0.25, -5, 0.5> texture { T_Silver_5A }
translate< 27.94,, -20.32> rotate<,,>}
    box {<-0.25, , -0.5>,<0.25, -5, 0.5> texture { T_Silver_5A }
translate< 27.94,, 20.32> rotate<,,>}
    box {<-0.25, , -0.5>,<0.25, -5, 0.5> texture { T_Silver_5A }
translate< 27.94,, 25.4> rotate<,,>}

    box {<-0.25, , -0.5>,<0.25, -5, 0.5> texture { T_Silver_5A }
translate< -27.94,, -27.94> rotate<,,>}
    box {<-0.25, , -0.5>,<0.25, -5, 0.5> texture { T_Silver_5A }
translate< -27.94,, -22.86> rotate<,,>}
    box {<-0.25, , -0.5>,<0.25, -5, 0.5> texture { T_Silver_5A }
translate< -27.94,, 22.86> rotate<,,>}
    box {<-0.25, , -0.5>,<0.25, -5, 0.5> texture { T_Silver_5A }
translate< -27.94,, 27.94> rotate<,,>}

    texture{ pigment{color NeonBlue} finish {ambient 0.1 diffuse 0.9
phong_size 40 roughness 0.05}}
}
rotate<,180,>
#end

```

LEDRING TEST

```

/*****
*****

//LED_RING_TEST
//Jack from forum.midibox.org
//
*****
*****/

#macro USER_LED_RING()
union{
    #declare X = 0.1;           //littlemore
    #declare H0 = 0;            //Body startpoint
    #declare H1 = 1.5;          //Body Height
    #declare H20 = H1+X;        //Glas startpoint
    #declare H2 = H20+0.5;       //Glas Height
    #declare H10 = H1-0.25;      //Glas Height
    #declare DF = 0.9;           //Diffuse
    #declare P1 = 0.5;           //Phong
    #declare C1 = Grey;          //Color (Grey)
    #declare R1 = 17.78;         //R.0700 outer radius
    #declare R2 = 10.16;         //R0.400 inner radius
    #declare R3 = 13.97;         //R.550 center radius
    #declare LW = 0.75;          //LED hole width / 2      (1,27)
    #declare LL = 2.00;          //LED hole length /2       (2,54)

    #declare AS = 15;           //angle steps
    #declare A0 = 0;            //angle 0
    #declare A1 = 75;           //start angle 1
    #declare A2 = A1+AS;         //angle 2
    #declare A3 = A2+AS;         //angle 3
    #declare A4 = A3+AS;         //angle 4
    #declare A5 = A4+AS;         //angle 5
    #declare A6 = A5+AS;         //angle 6
    #declare A7 = A6+AS;         //angle 7
    #declare A8 = A7+AS;         //angle 8
    #declare A9 = A8+AS;         //angle 9
    #declare A10 = A9+AS;        //angle 10
    #declare A11 = A10+AS;       //angle 11
    #declare A12 = A11+AS;       //angle 12
    #declare A13 = A12+AS;       //angle 13
    #declare A14 = A13+AS;       //angle 14
    #declare A15 = A14+AS;       //angle 15

    difference{
        union{
            cylinder {<,H0,>,<,H1,>, R1 texture{pigment{color
Black}finish {diffuse DF phong P1}}}}
        }
        union{

```

```

        cylinder {<,H0-X>,<,H1+X>, R2}
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A0,>} //1
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A1,>} //2
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A2,>} //3
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A3,>} //4
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A4,>} //5
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A5,>} //6
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A6,>} //7
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A7,>} //8
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A8,>} //9
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A9,>} //10
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A10,>} //11
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A11,>} //12
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A12,>} //13
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A13,>} //14
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A14,>} //15
        box {<-LW,H0-X,-LL>,<+LW,H1+X,LL> translate< ,R3>
rotate<,A15,>} //16
    }

}

/*      difference{
        cylinder {<0,H20,0>,<0,H2,0>, R1 texture{pigment{color C1 transmit
0.5} finish {diffuse DF phong P1}}}
        cylinder {<0,H20-X,0>,<0,H2+X>, R2}
    }
*/

        box {<-LW,H10,-LL>,<+LW,H1,LL> translate< ,R3> rotate<,A0,>
texture{pigment{color C1 transmit 0.5} finish {diffuse DF phong P1}}}
//1
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate< ,R3> rotate<,A1,>
texture{pigment{color C1 transmit 0.5} finish {diffuse DF phong P1}}}
//2
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate< ,R3> rotate<,A2,>
texture{pigment{color C1 transmit 0.5} finish {diffuse DF phong P1}}}
//3

```

```

        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3> rotate<,A3,>
texture{pigment{color C1 transmit 0.5} finish {diffuse DF phong P1}}}}
//4
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3> rotate<,A4,>
texture{pigment{color C1 transmit 0.5} finish {diffuse DF phong P1}}}}
//5
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3> rotate<,A5,>
texture{pigment{color C1 transmit 0.5} finish {diffuse DF phong P1}}}}
//6
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3> rotate<,A6,>
texture{pigment{color C1 transmit 0.5} finish {diffuse DF phong P1}}}}
//7
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3> rotate<,A7,>
texture{pigment{color C1 transmit 0.5} finish {diffuse DF phong P1}}}}
//8
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3> rotate<,A8,>
texture{pigment{color C1 transmit 0.5} finish {diffuse DF phong P1}}}}
//9
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3> rotate<,A9,>
texture{pigment{color C1 transmit 0.5} finish {diffuse DF phong P1}}}}
//10
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3>
rotate<,A10,> texture{pigment{color C1 transmit 0.5} finish {diffuse DF
phong P1}}}} //11
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3>
rotate<,A11,> texture{pigment{color C1 transmit 0.5} finish {diffuse DF
phong P1}}}} //12
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3>
rotate<,A12,> texture{pigment{color C1 transmit 0.5} finish {diffuse DF
phong P1}}}} //13
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3>
rotate<,A13,> texture{pigment{color C1 transmit 0.5} finish {diffuse DF
phong P1}}}} //14
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3>
rotate<,A14,> texture{pigment{color C1 transmit 0.5} finish {diffuse DF
phong P1}}}} //15
        box {<-LW,H10,-LL>,<+LW,H1,LL> translate<,,R3>
rotate<,A15,> texture{pigment{color C1 transmit 0.5} finish {diffuse DF
phong P1}}}} //16
    }
    rotate<,<180,>
#end

```

POV-Ray tweaks

For better image quality, change the file “quickres.ini” in “<POV-RAY directory>/renderer”:

```

[1280x1024, AA 20x0.3]
Width=1280

```

Height=1024
Antialias=on
Antialias_Threshold=0.1
Antialias_Depth=20

Wish List

- MEC_SWITCH_3FTL6
- MEC_CAP_1U
- EA_DOG-M
- EA_DOGL128-6
- EA_DOGM128-6
- EA_DOGM132-5
- EA_LED55X31
- EA_LED55X46
- EA_LED68X51
- EA_TOUCH128-1
- EA_TOUCH128-2
- EA_WF100-04S

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Last update: **2009/03/08 02:55**