

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

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

[illegible]

new packages:

[illegible]

user.inc

DT6

http://svnmios.midibox.org/filedetails.php?repname=svn.mios&path=/playground/Jack/Eagle3D_MIDIBox_User_Pack/DT6.png

```
/*
*****
//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

http://svnmios.midibox.org/filedetails.php?repname=svn.mios&path=/playground/Jack/Eagle3D_MIDIBox_User_Pack/Encoder.png

```
/******
*****
//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, -
Y2, H-1.65> texture { T_Chrome_2B }}
    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,
Y1+0.1, H> }
    box { <-(X1-2.5), Y1-2.5, >, <-
(X1+0.1), Y1+0.1, H> }

    box { <X1-1, -(Y2-1), >, <X1+0.1, -
(Y2+0.1), H> }
    box { <-(X1-1), -(Y2-1), >, <-
(X1+0.1), -(Y2+0.1), H> }

    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

```

/*****
*****
//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
```

LED RING 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
}
```

```
#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
```

From:

<http://wiki.midibox.org/> - **MIDIbox**

Permanent link:

http://wiki.midibox.org/doku.php?id=eagle3d_midibox_user_pack&rev=1234725583



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