

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 devices:

```

HEADER1X2:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:-90:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:PH_1
X2(:Stiftleiste 2,54mm Raster 2Pin 1Reihe (pinhead.lib):Header 2,54mm Grid
2Pin 1Row (jumper.lib)
HEADER1X3:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:-90:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:PH_1
X3(:Stiftleiste 2,54mm Raster 3Pin 1Reihe (pinhead.lib):Header 2,54mm Grid
3Pin 1Row (jumper.lib)
HEADER2X5:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:-90:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:CON_
DIS_WS10G(:Wannenstecker 10Pin:Shrouded Header 10Pin
HEADER2X8:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:-90:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:CON_
DIS_WS16G(:Wannenstecker 16Pin:Shrouded Header 16Pin
HEADER2X10:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:-90:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:CON
_DIS_WS20G(:Wannenstecker 20Pin:Shrouded Header 20Pin

```

new devices:

```

DT6:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:USER_DT6(:Ta
ster Switch-MISC:Tactile Switch-MISC
STEC16:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:USER_STEC
16(:STEC16 Encoder:STEC16 Encoder
3310LCD:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:USER_331
0LCD(:3310LCD Midibox:3310LCD Midibox

```

user.inc

DT6

```

/*****
*****
//DT6
//Created from Jack(forum.midibox.org) on 16-Jan-2006
//
*****
*****/
#macro USER_DT6()

```

```
union{
//DT6
  union{
    //button cover pushed
    difference {
      cylinder { <0, 0, 1.3>, <0, 0, 7.2>, 6.0 }
      union{
        box { <5.5, -6, 1.2>, <7, 6, 7.3> }
        difference {
          cylinder { <0, 0, 0>, <0, 0, 5.6>, 5.1 }
          box { <4.4, -5.2, -0.1>, <7, 5.2, 5.7> }
        }
      }
    }

    //button cover released
    cylinder { <0, 0, 7.2>, <0, 0, 14.0>, 4.5 }
    cylinder { <0, 0, 7.2>, <0, 0, 14.2>, 4.3 }
    union{
      torus { 4.3, 0.2 }
      rotate <90, 0, 0>
      translate <0, 0, 14.0>
    }

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

  //button body
  difference {
    cylinder { <0, 0, 0>, <0, 0, 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<-90,180,0> //correction
#end
```

ALPS STEC16B03-04

```

/*****
*****
//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 { <0, 0, H4>, <0, 0, H>,
                    box { <-2, -(Y2+3.5), H-0.35>, <2, -
                    Y2, H-1.65> texture { T_Chrome_2B }}
                    cylinder { <0, -Y2, H-0.35>, <0, -
                    Y2, H+1.65>, 1.5 texture { T_Chrome_2B }}

```

```
    }  
  
    union{  
        box { <X1-2.5, Y1-2.5, 0>, <X1+0.1,  
Y1+0.1, H> }  
        box { <-(X1-2.5), Y1-2.5, 0>, <-(  
(X1+0.1), Y1+0.1, H> }  
  
        box { <X1-1, -(Y2-1), 0>, <X1+0.1, -  
(Y2+0.1), H> }  
        box { <-(X1-1), -(Y2-1), 0>, <-(  
(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 { <0, 0, H+LB>, <0, 0, (H+L1)-1.5>, R6
pigment { Gray20 }}
        cone { <0, 0, H+L1>, 2.5, <0, 0, (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 { <0, 0, H>, <0, 0, 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, 0>
texture { T_Silver_5A }}
box { < -5.5, -10.3, -3>,                < -4.5, -10.7, 0>
texture { T_Silver_5A }}
box { < 5.5, -10.3, -3>,                 < 4.5, -10.7, 0>
texture { T_Silver_5A }}

box { < -1, -10.3, 0>,                   < 1, -10.7, 2>
texture { T_Silver_5A }}
box { < -6, -10.3, 0>,                   < -4, -10.7, 2>
texture { T_Silver_5A }}
box { < 6, -10.3, 0>,                    < 4, -10.7, 2>
texture { T_Silver_5A }}

box { < -1, 0, 1.8>,                      < 1, -10.7, 2.2>
texture { T_Silver_5A }}
box { < -6, 0, 1.8>,                      < -4, -10.7, 2.2>
texture { T_Silver_5A }}
box { < 6, 0, 1.8>,                       < 4, -10.7, 2.2>
texture { T_Silver_5A }}

box { < 7.62-0.25, -2.3, 0>,              < 7.62+0.25, 2.3, 1>
texture { T_Silver_5A }}
box { < 7.62-0.25, -1, -3.5>,            < 7.62+0.25, 1, 0>
texture { T_Silver_5A }}

box { < -(7.62-0.25), -2.3, 0>,           < -(7.62+0.25), 2.3, 1>
texture { T_Silver_5A }}
box { < -(7.62-0.25), -1, -3.5>,         < -(7.62+0.25), 1, 0>
texture { T_Silver_5A }}
}
rotate<-90,180,0>
#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, 0> 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 0 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 0 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,0>}
            #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<-90,180,0>
#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

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Last update: **2009/01/24 23:56**

