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# uln-amp\_PNP\_v1

*circuit board documentation*

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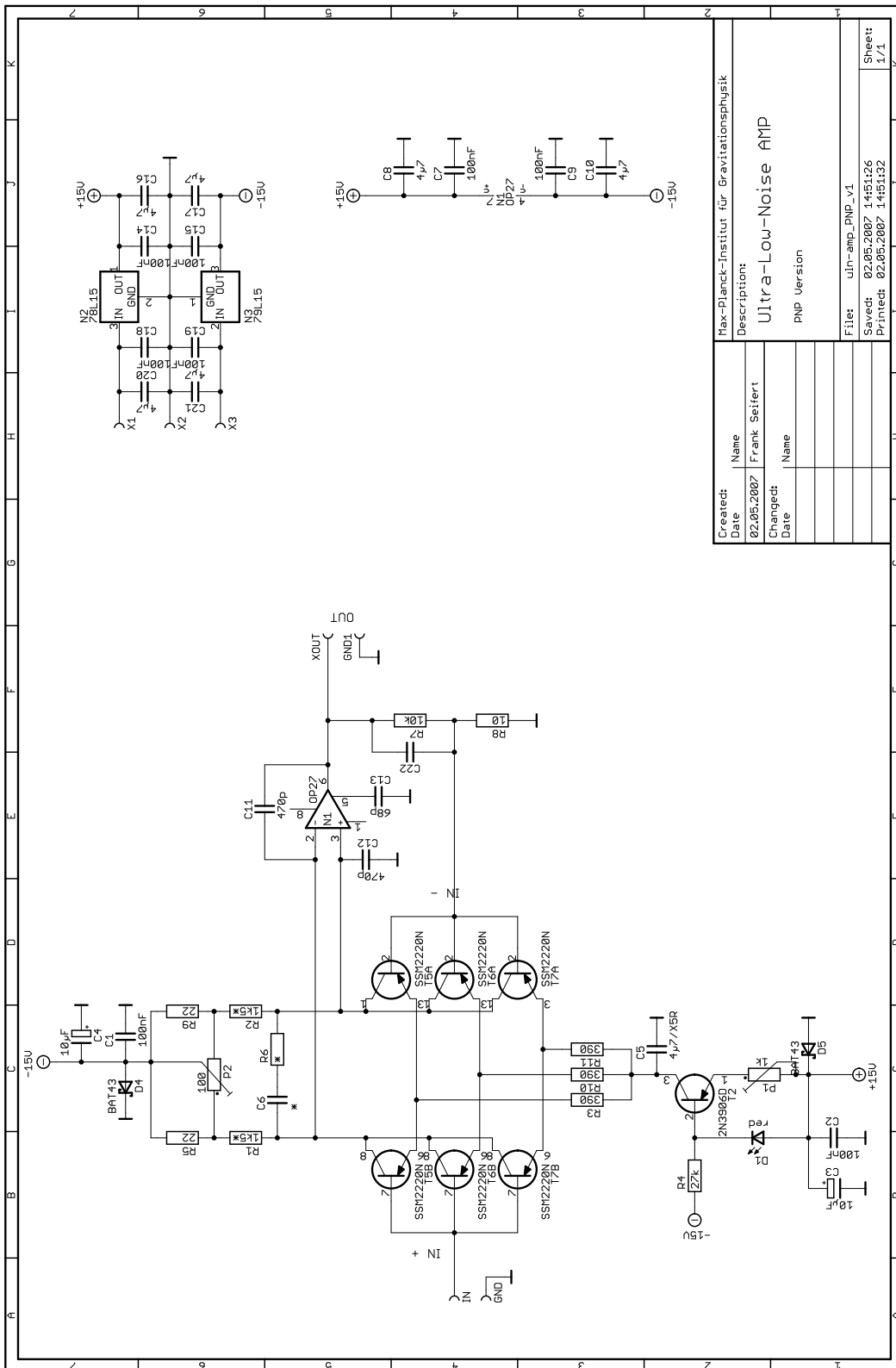
May 2, 2007

## Figures

- Figure 1 on the following page shows the project schematics.
- Figures 2 to 6 on pages 3–4 show various placeplan views of the circuit board to assist in populating it with components.
- Figures 7 to 8 on pages 4–5 show plans for manually drilling circuit board holes with the following diameters:

$\varnothing$ [ $\mu\text{m}$ ]	$\varnothing$ [mm]	$\varnothing$ [in]	Count
812	0.8	0.032	76
2692	2.7	0.106	4
Total			80

**Table 1:** *Drill diameters used in the board*



Max-Planck-Institut für Gravitationsphysik	
Created: Name	Frank Seifert
Date	02.05.2007
Changed: Name	
Date	
Description: Ultra-Low-Noise AMP PNP Version	
File:	uln-amp_PNP_v1
Saved:	02.05.2007 14:51:26
Printed:	02.05.2007 14:51:32
Sheet	1/1

Figure 1: Project circuit diagram

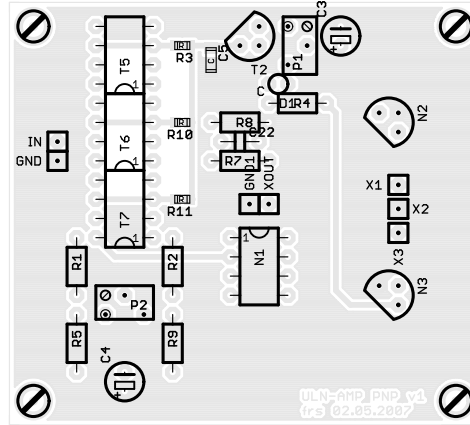


Figure 2: Board top view showing placeplan with component names

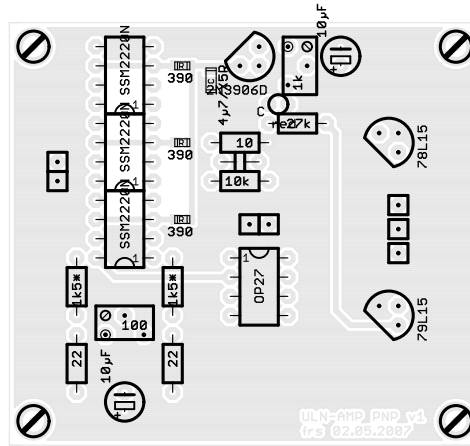


Figure 3: Board top view showing placeplan with component values

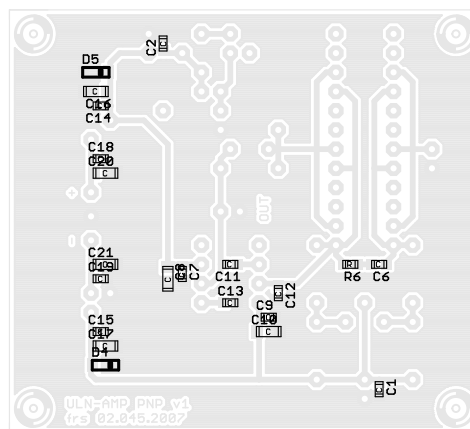
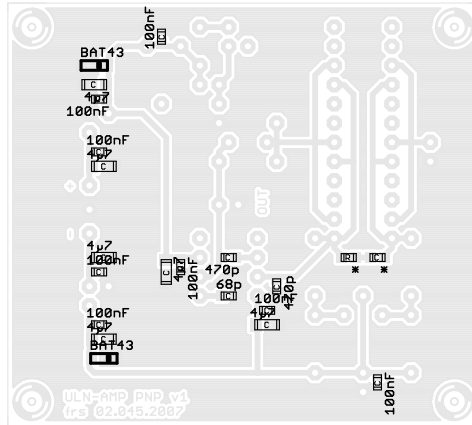
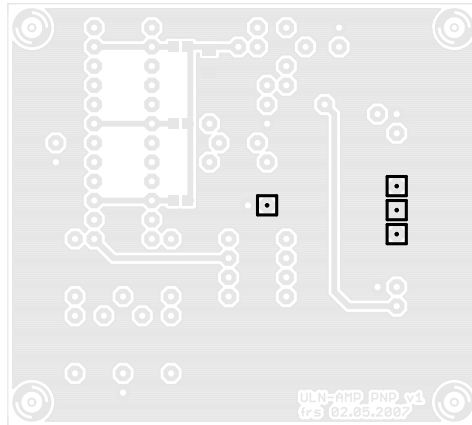


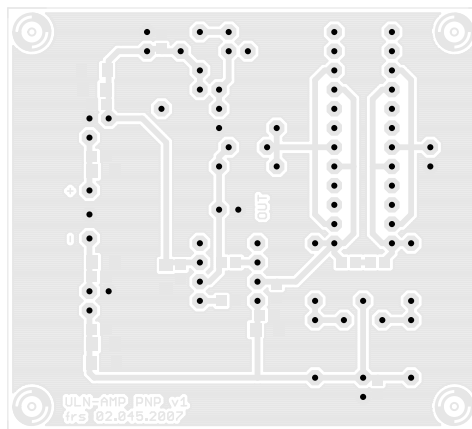
Figure 4: Board bottom view showing placeplan with component names



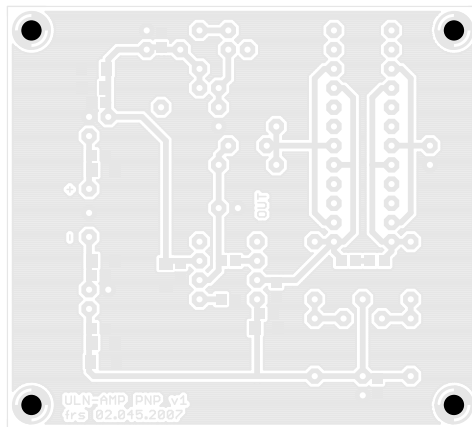
**Figure 5:** Board bottom view showing placeplan with component values



**Figure 6:** Board top view showing connectors, test points and wired components



**Figure 7:** Board bottom view showing drills with 0.8 mm (0.032 in) diameter



**Figure 8:** Board bottom view showing drills with 2.7 mm (0.106 in) diameter

## Circuit lists

**Value list:** The following list shows all components available on the board (sorted by part *values*) and can be used to quickly gather components. Additional information can possibly be found directly on board (or in the schematics).

```
1 EAGLE Version 4.16 Copyright (c) 1988-2005 CadSoft
2 Board value list of 'uIn-amp_PNP_v1.brd'
3 Exported at 2007-05-02 14:51
4 Created with macro 'plot.ulp' (c) Andreas Weidner
5 Shown are: Value,Package,Number,Names (Library)
6
7 ---C---
8         C02N         (1*)      C22 (DIVERS)
9 *        C0805        (1*)      C6 (DIVERS)
10 4u7      C1206        (6*)     C8,C10,C16,C17,C20,C21 (DIVERS)
11 4u7/X5R  C1206        (1*)     C5 (DIVERS)
12 10uF     CE01A         (2*)     C3,C4 (DIVERS)
13 68p      C0805        (1*)     C13 (DIVERS)
14 100nF    C0805        (8*)     C1,C2,C7,C9,C14,C15,C18,C19 (DIVERS)
15 470p     C0805        (2*)     C11,C12 (DIVERS)
16
17 ---D---
18 BAT43    DMINIMELF    (2*)     D4,D5 (DIVERS)
19 red      DL03N        (1*)     D1 (DIVERS)
20
21 ---GND---
22         XP01N         (2*)     GND,GND1 (connectors)
23
24 ---IN---(1*)      ,IN (connectors)
25
26 ---N---
27 78L15    T092D        (1*)     N2 (ic)
28 79L15    T092D        (1*)     N3 (ic)
29 OP27     DIP08N       (1*)     N1 (opamps)
30
31 ---P---
32 1k       PT01N        (1*)     P1 (DIVERS)
33 100      PT01N        (1*)     P2 (DIVERS)
34
35 ---R---
36 *        R0805        (1*)     R6 (DIVERS)
37 1k5*     R03N         (2*)     R1,R2 (DIVERS)
38 10       R03N         (1*)     R8 (DIVERS)
39 10k      R03N         (1*)     R7 (DIVERS)
40 22       R03N         (2*)     R5,R9 (DIVERS)
41 27k      R03N         (1*)     R4 (DIVERS)
42 390     R0805        (3*)     R3,R10,R11 (DIVERS)
43
44 ---T---
45 2N3906D  T092D        (1*)     T2 (transistors)
46 SSM2220N DIP08N       (3*)     T5,T6,T7 (transistors)
47
48 ---X---
49         XP01N         (3*)     X1,X2,X3 (connectors)
50
51 ---XOUT---(1*)    ,XOUT (connectors)
```