

# Service Manual

**Model: ALTODRIVE2.3**

2-WAY STEREO DIGITAL X - OVER



[www.altoproaudio.com](http://www.altoproaudio.com)

Version: 1.1

# CONTENTS

|   |           |
|---|-----------|
| <b>1. Specification.....</b>                              | <b>1</b>  |
| <b>2. Block Diagram.....</b>                              | <b>0</b>  |
| <b>3. Schematic Diagram... ..</b>                         | <b>9</b>  |
| <b>4. Printed Circuit Board.....</b>                      | <b>19</b> |
| <b>5. Wiring Diagram.....</b>                             | <b>1</b>  |
| <b>6. Test Procedure.....</b>                             | <b>0</b>  |
| <b>7. Electrical Parts List.....</b>                      | <b>16</b> |
| <b>8. Exploded Views &amp; Mechanical Parts List.....</b> | <b>1</b>  |
| <b>9. Troubleshooting.....</b>                            | <b>0</b>  |
| <b>10. Notes.....</b>                                     | <b>0</b>  |

## 1. Specifications

### Input Channel

**Digital Input Gain**

- /+ 12 dB / step 0.5 dB

**4 Parametric Filters**

Gain - /+ 15 dB / step 0.5 dB

Freq 20 Hz - 20 KHz step 1/12 oct

BandWidth 0.05 oct - 3 oct / step 0.05 oct

**Delay line**

Up to 512 ms minimum step 21us

### Output Channel

**Digital Out Volume**

- /+ 12 dB / step 0.5 dB

**Delay line**

Up to 512 ms minimum step 21us

**5 Parametric Filters**

Gain - /+ 15 dB / step 0.5 dB

Freq 20 Hz - 20 KHz / step 1/12 oct

BandWidth 0.05 oct - 3 oct step 0.05 oct

**High Pass Filter Type Butterworth**

Freq: 20 Hz - 20 KHz / step 1/12 oct

Slope: Bypass, 1<sup>st</sup>ord, 2<sup>nd</sup>ord, 3<sup>rd</sup>ord, 4<sup>th</sup>ord

**Low Pass Filter Type Butterworth**

Freq: 20 Hz - 20 KHz / step 1/12 oct

Slope: Bypass, 1<sup>st</sup>ord, 2<sup>nd</sup>ord, 3<sup>rd</sup>ord, 4<sup>th</sup>ord

**Polarity**

Phase 0° or 180°

**Limiter**

Threshold - 29 dB up to 0 dB / step 1dB

Release Time 0.4 s, 0.5 s, 0.7 s, 1.4 s

Attack Time 0.05 s, 0.10 s, 0.20 s, 0.30 s

### The Whole Unit

**Memory**

1 Factory Preset

64 User Preset

**Analog**

Inputs

2 XLR - F (BAL)

Outputs

4 XLR - M (BAL)

Input Impedance

>40kΩ

Output Impedance

<200Ω

Input MAX Level

12dBv

Output MAX Level

12dBv

A/D Converter

20BITS Sigma-Delta

D/A Converter

24BITS Sigma-Delta

**Performance**

THD+N

0.02%(1KHz - 3dBFS)

Amplitude Response

20Hz - 20KHz

S/N Ratio

>97dBa

**Digital**

Processor speed

36 MIPS

DSP resolution

24 × 32 bits

Control

Microprocessor

**MIDI section**

Connections

Input/output/thru

Sockets

5 - poles DIN(female)

Mode

Photocoupled

**Power Supply**

|                         |  |
|-------------------------|--|
| Connector type          | 3 - poles DIN (female)                               |
| Type                    | Servo controlled, Switching                          |
| Fuse                    | 210 - 240V: T250mAL250VAC<br>95 - 120V: 500mAL250VAC |
| AC input                | 95 - 240V~60 - 50Hz                                  |
| Rated power consumption | 15W  |

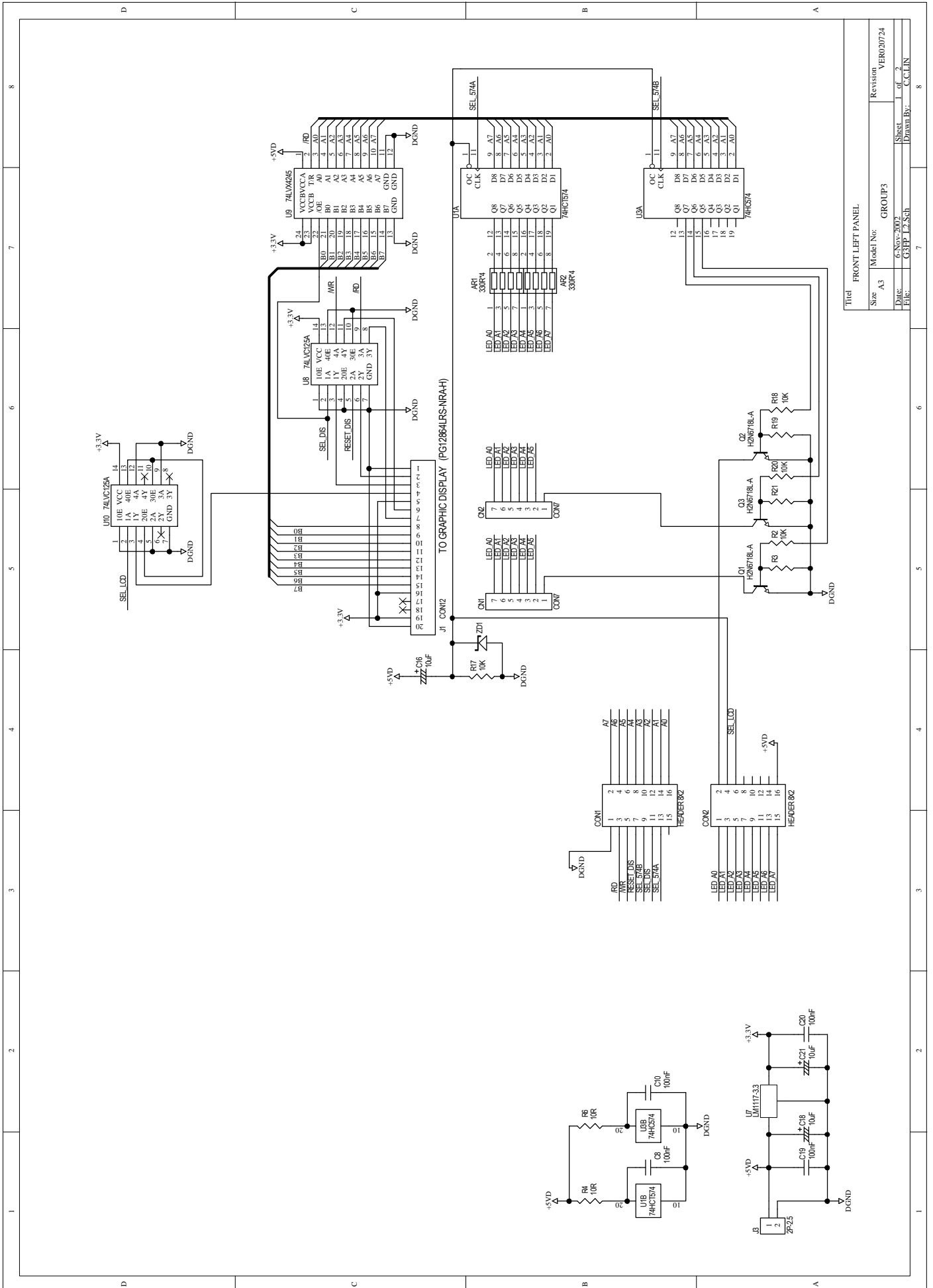
**User Interface**

|                 |                      |
|-----------------|----------------------|
| Graphic display | 128×64 dots          |
| Keyboard        | 6 LEDs/12user's keys |
| Vu meter        | 2×6 LEDs             |

**Physical**

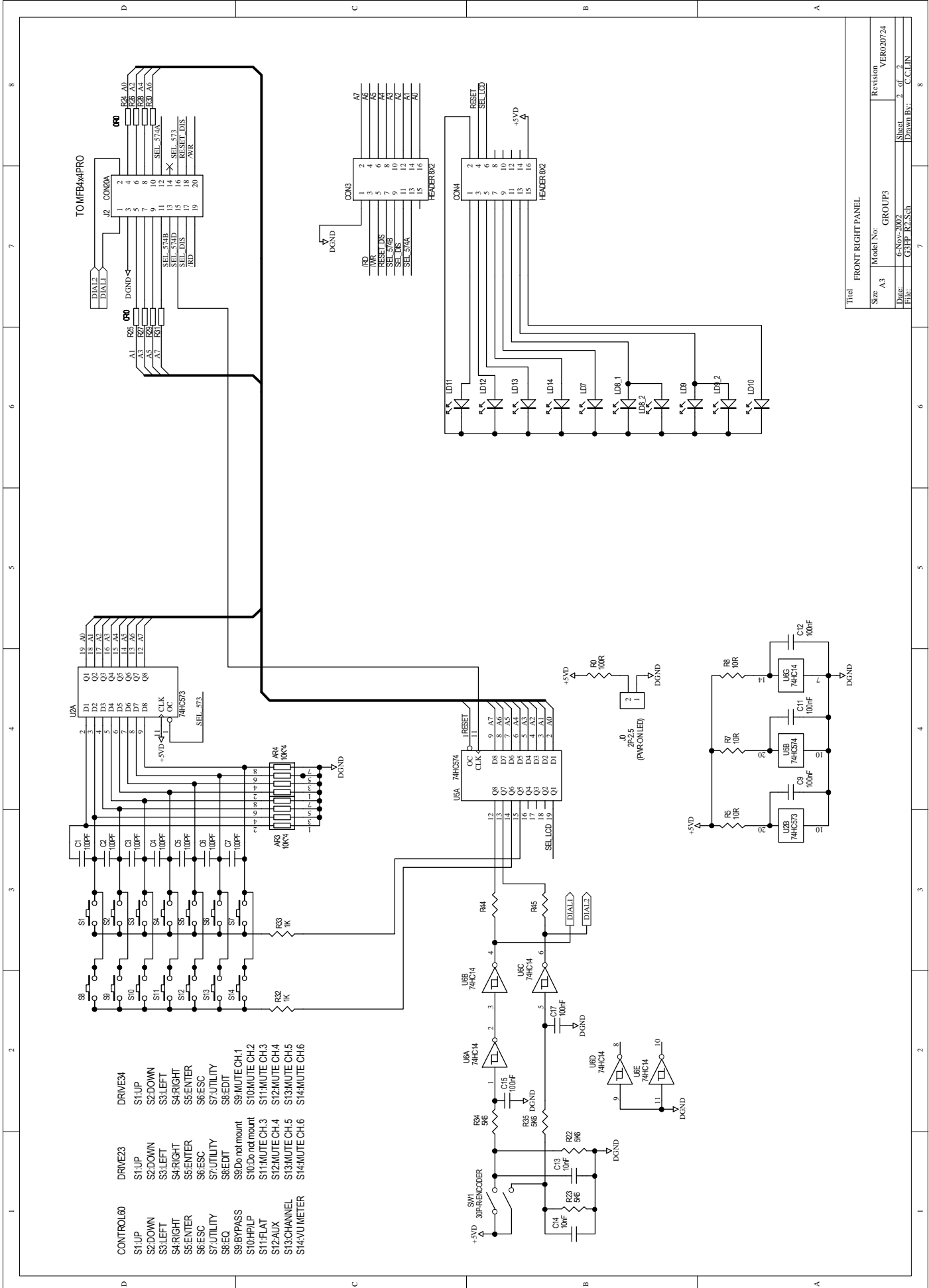
|            |  |
|------------|--|
| Size       | Standard 19"rack Mounting              |
| Dimensions | 483(W)×232.5(D)×44(H)mm(19"×9.3"×1.7") |
| weight     | 3.5Kg(7.72lb)                          |

# 3.Schematic Diagram



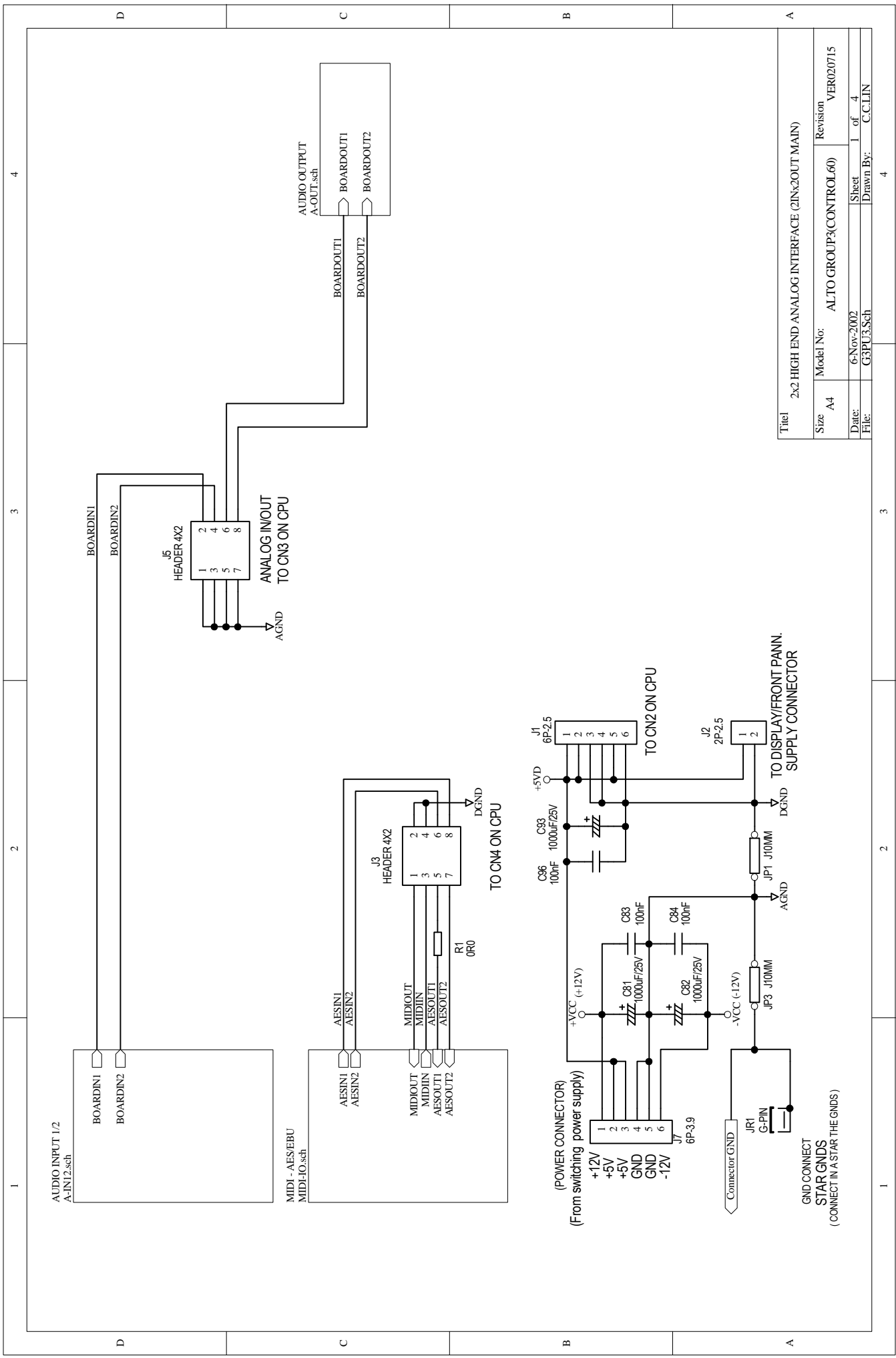
|       |             |                  |           |
|-------|-------------|------------------|-----------|
| Title |             | FRONT LEFT PANEL |           |
| Size  | A3          | Model No.        | GROUP3    |
| Date: | 06/05/2007  | Revision         | VER020724 |
| File: | 03FP-L2.Sch | Sheet            | 1 of 2    |
|       |             | Drawn By:        | C.C.LIN   |

1 2 3 4 5 6 7 8

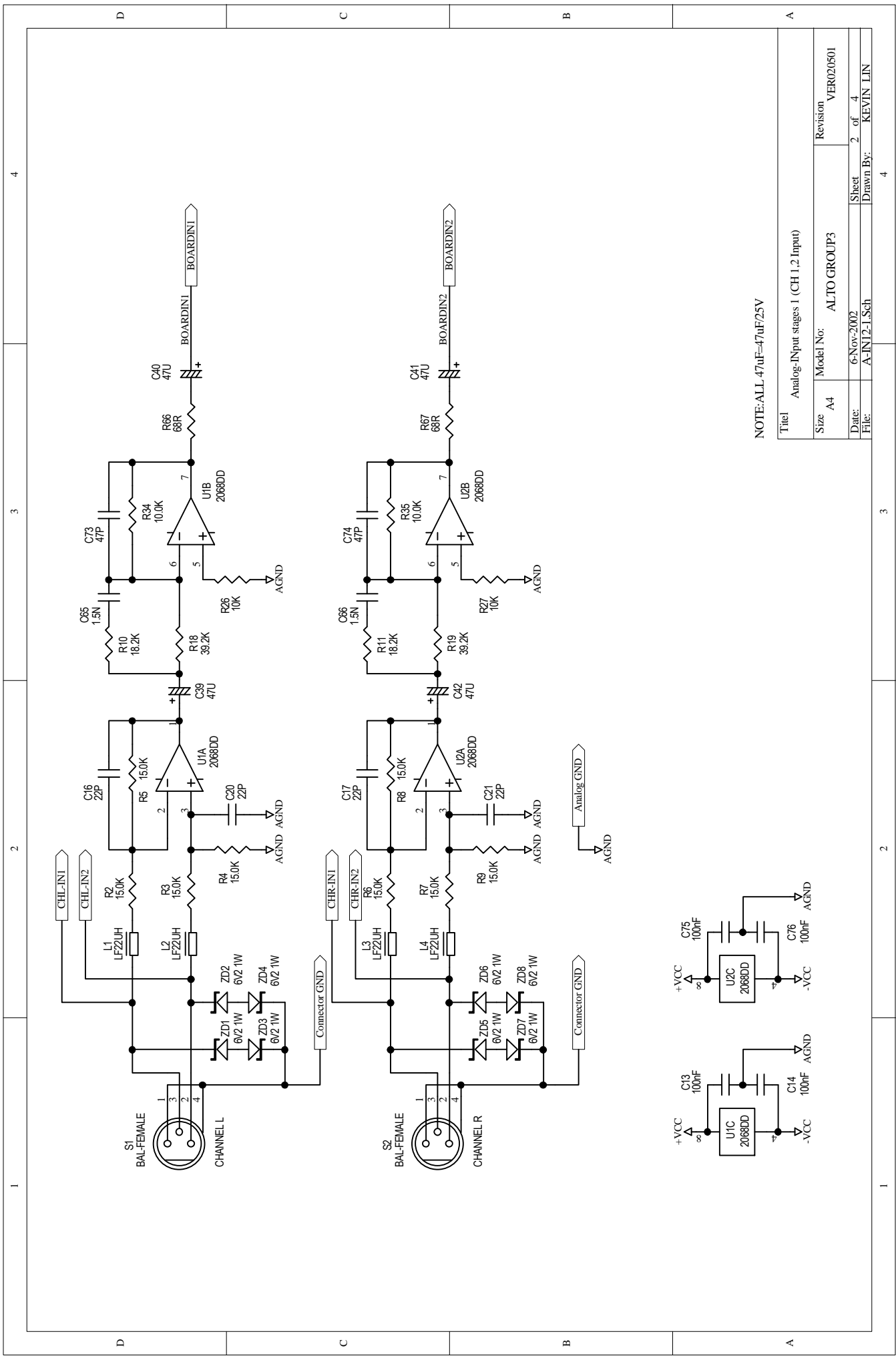


- DRIVE23
  - S1:UP
  - S2:DOWN
  - S3:LEFT
  - S4:RIGHT
  - S5:ENTER
  - S6:ESC
  - S7:UTILITY
  - S8:EDIT
  - S9:Do not mount
  - S10:Do not mount
  - S11:FLAT
  - S12:AUX
  - S13:CHANNEL
  - S14:VU METER
- DRIVE34
  - S1:UP
  - S2:DOWN
  - S3:LEFT
  - S4:RIGHT
  - S5:ENTER
  - S6:ESC
  - S7:UTILITY
  - S8:EDIT
  - S9:MUTE CH.1
  - S10:MUTE CH.2
  - S11:MUTE CH.3
  - S12:MUTE CH.4
  - S13:MUTE CH.5
  - S14:MUTE CH.6
- CONTROL60
  - S1:UP
  - S2:DOWN
  - S3:LEFT
  - S4:RIGHT
  - S5:ENTER
  - S6:ESC
  - S7:UTILITY
  - S8:EDIT
  - S9:Do not mount
  - S10:Do not mount
  - S11:MUTE CH.3
  - S12:MUTE CH.4
  - S13:MUTE CH.5
  - S14:MUTE CH.6

|       |             |                   |           |
|-------|-------------|-------------------|-----------|
| Title |             | FRONT RIGHT PANEL |           |
| Size  | A3          | Model No.         | GROUP3    |
| Date: | 06/05/2002  | Revision          | VER020724 |
| File: | CSFP-RA-Sub | Sheet             | 2 of 2    |
|       |             | Drawn By:         | C.C.LIN   |



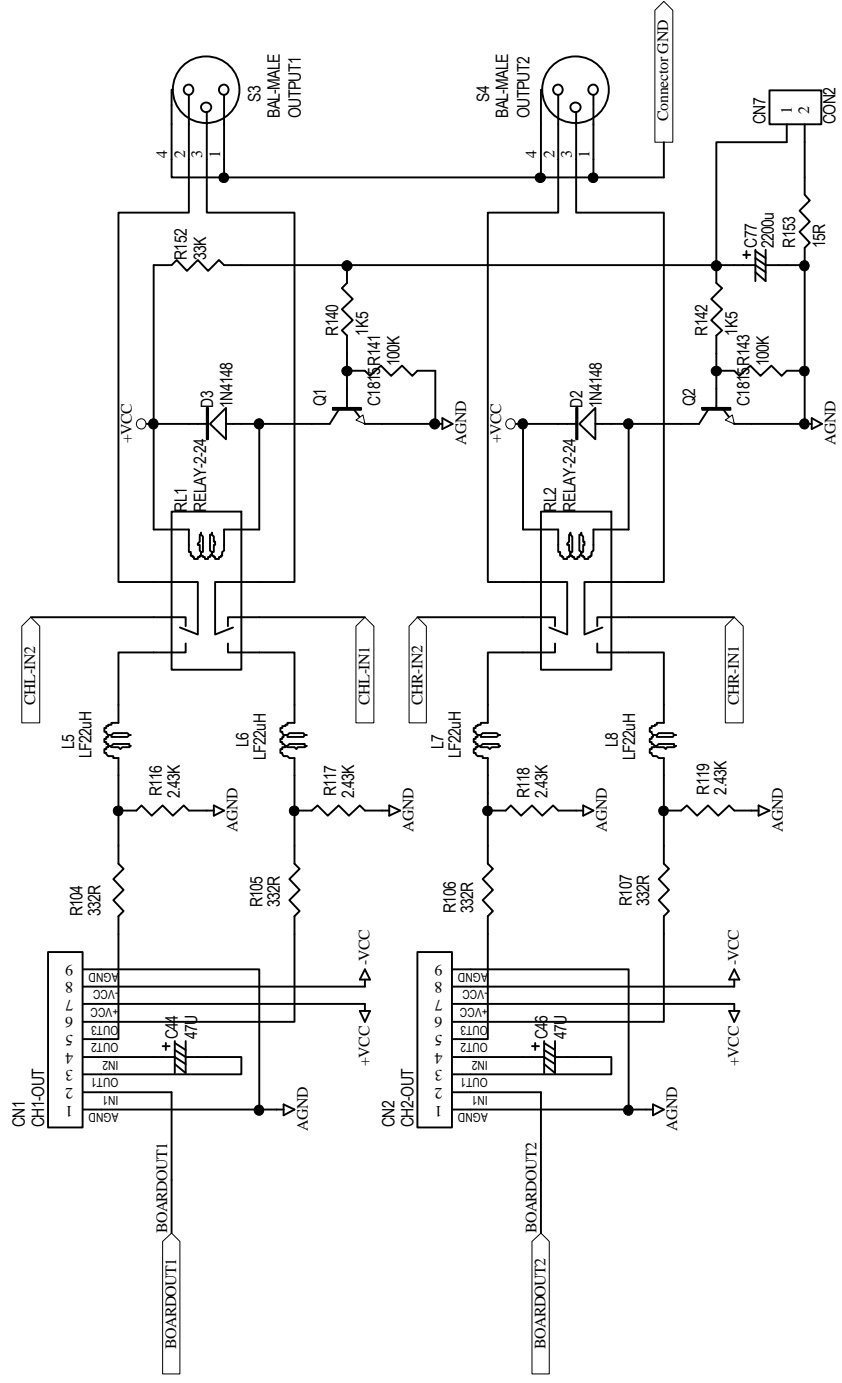
|       |            |   |                        |
|-------|------------|---|------------------------|
| Title |            | 2x2 HIGH END ANALOG INTERFACE (2INx2OUT MAIN) |                        |
| Size  | A4         | Model No:                                     | ALTO GROUP3(CONTROL60) |
| Date: | 6-Nov-2002 | Revision                                      | VER020715              |
| File: | G3PU3.Sch  | Sheet   | 1 of 4                 |
|       |            | Drawn By:                                     | C.CLIN                 |



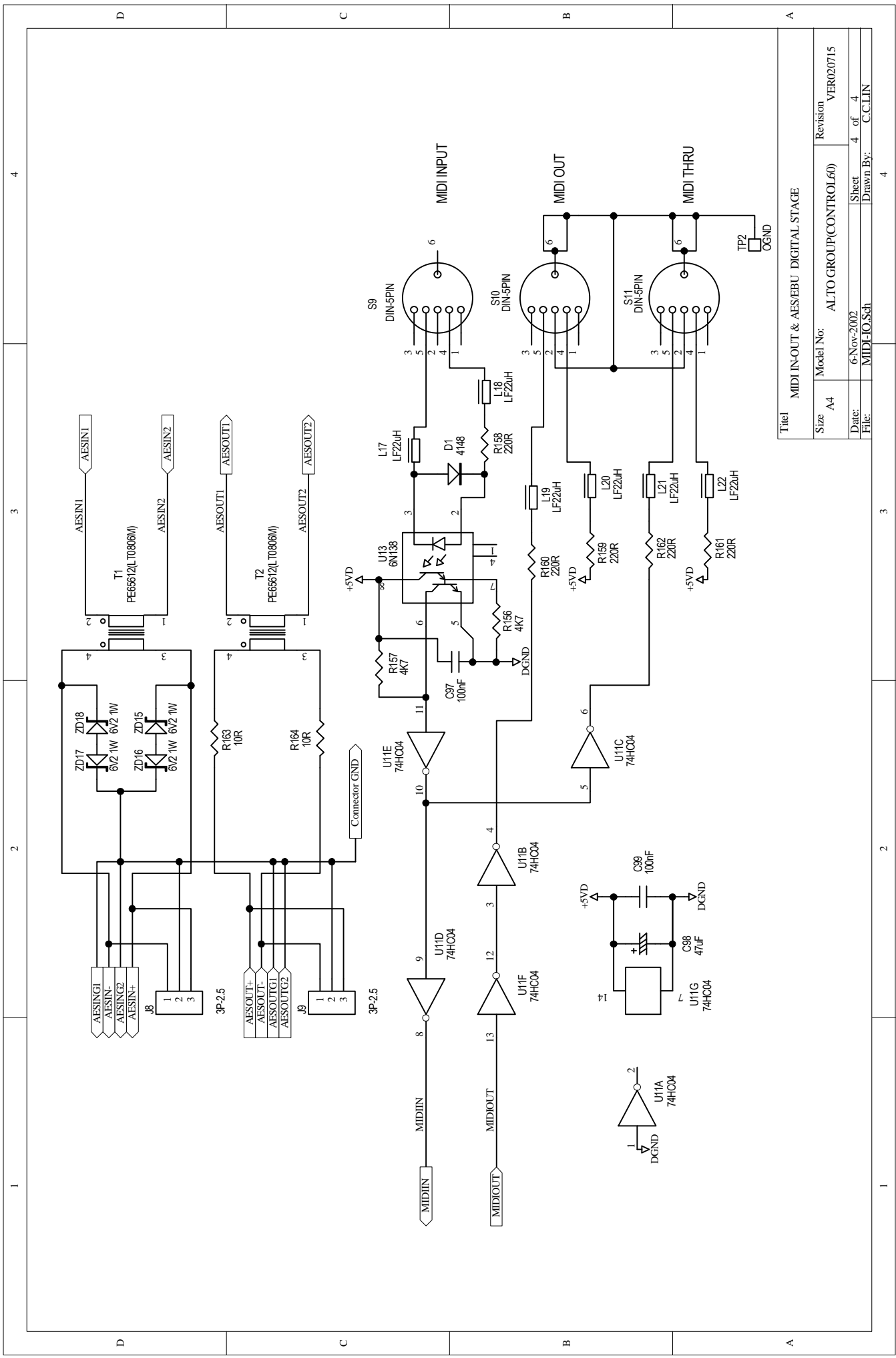
NOTE: ALL 47uF=47uF/25V

|       |              |                                      |             |
|-------|--------------|--------------------------------------|-------------|
| Title |              | Analog-Input stages 1 (CH 1,2 Input) |             |
| Size  | A4           | Model No:                            | ALTO GROUP3 |
| Date: | 6-Nov-2002   | Revision                             | VER020501   |
| File: | A-IN12-1.Sch | Sheet                                | 2 of 4      |
|       |              | Drawn By:                            | KEVIN LIN   |





|                      |                                  |
|----------------------|----------------------------------|
| Title: Analog-Output |                                  |
| Size: A4             | Model No: ALTO GROUP3(CONTROL60) |
| Date: 6-Nov-2002     | Revision: VER020715              |
| File: A-OUT1.Sch     | Sheet 3 of 4                     |
|                      | Drawn By: C.CLIN                 |



Title: MIDI IN-OUT & AES/EBU DIGITAL STAGE

|       |              |           |                       |          |           |
|-------|--------------|-----------|-----------------------|----------|-----------|
| Size  | A4           | Model No: | ALTO GROUP(CONTROL60) | Revision | VER020715 |
| Date: | 6-Nov-2002   | Sheet     | 4                     | of       | 4         |
| File: | MIDI-I/O.Sch | Drawn By: | C.CLIN                |          |           |

1

2

3

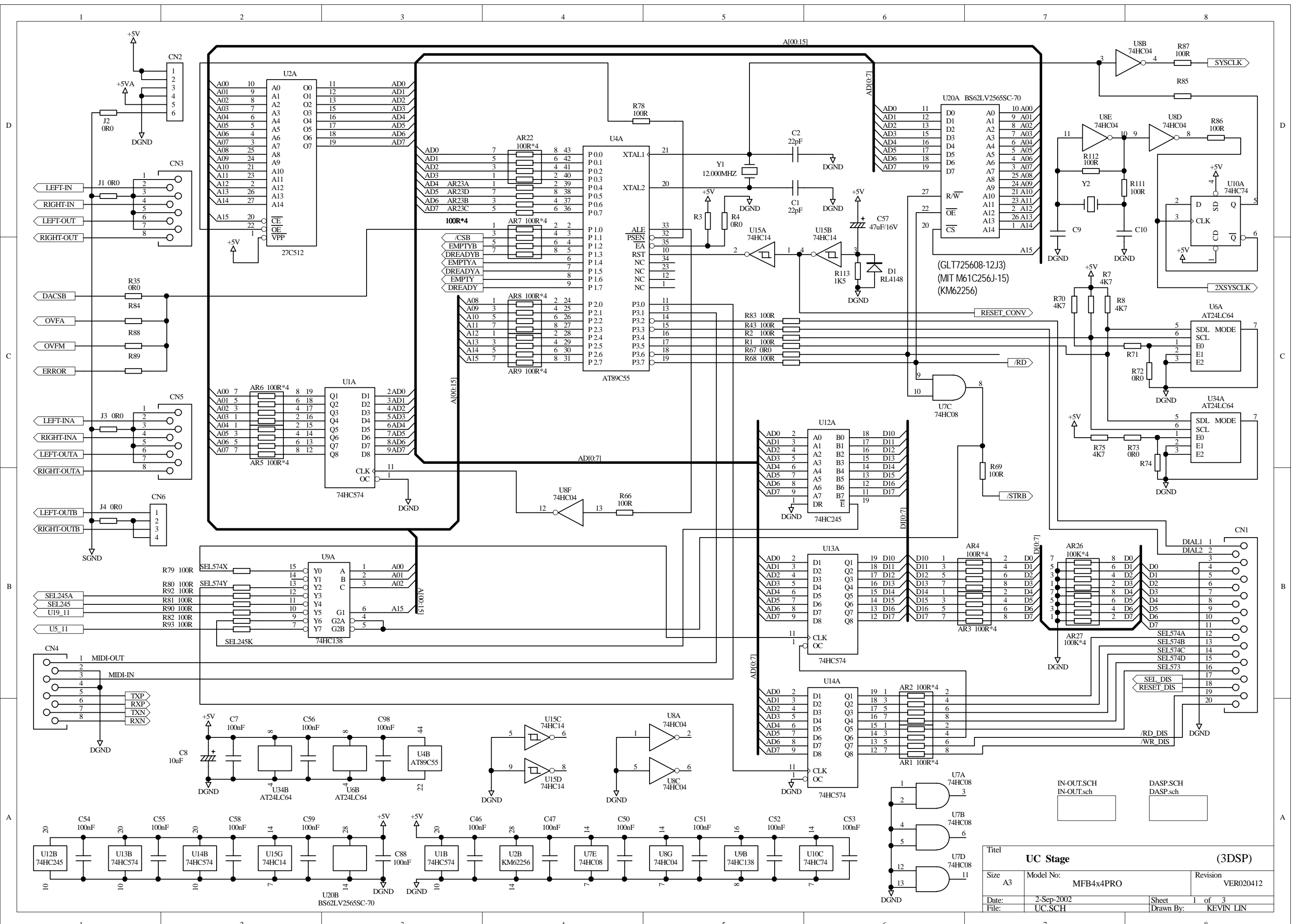
4

1

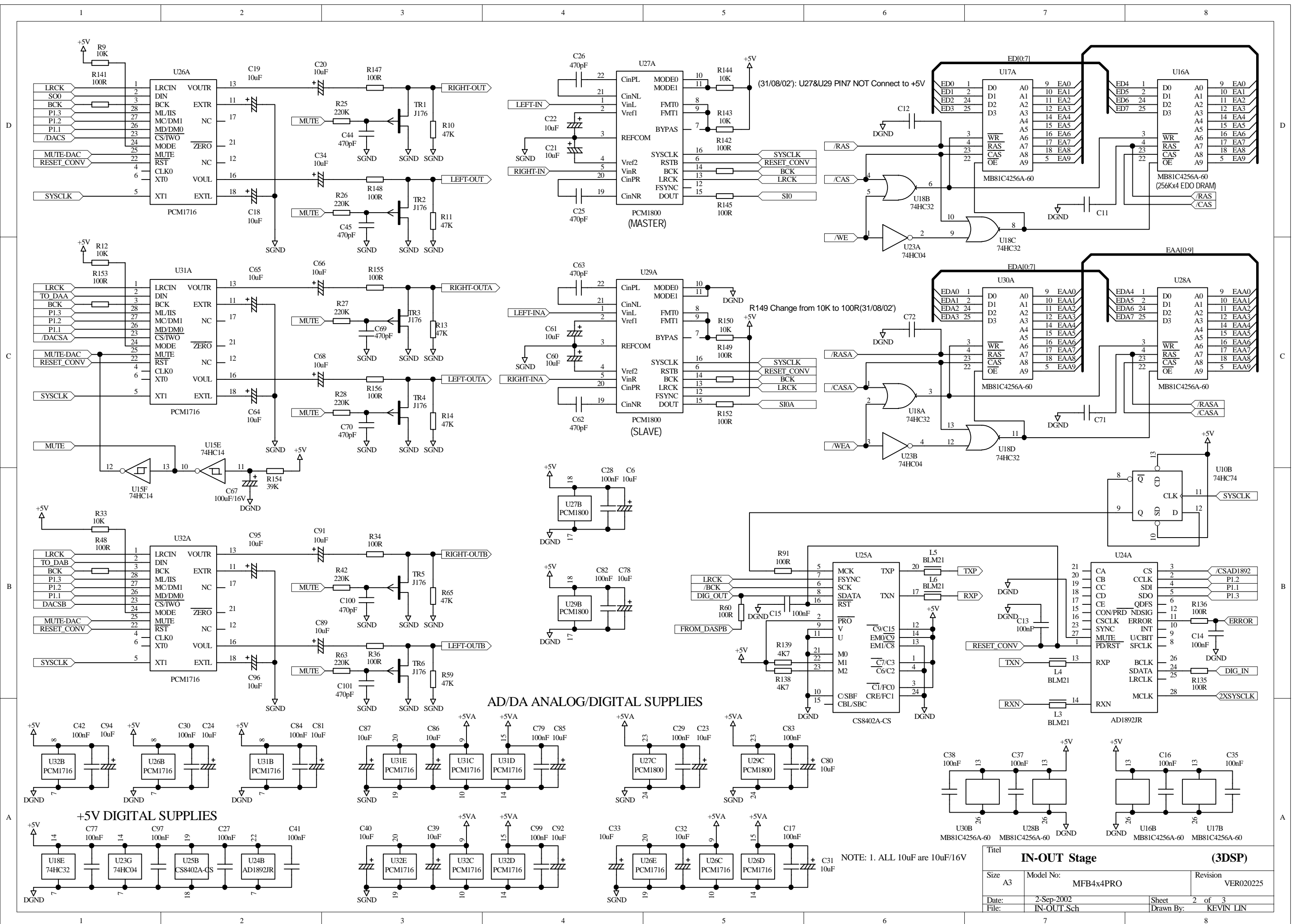
2

3

4

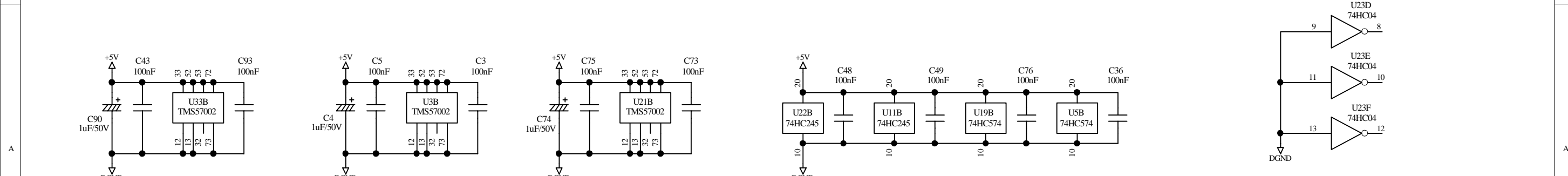
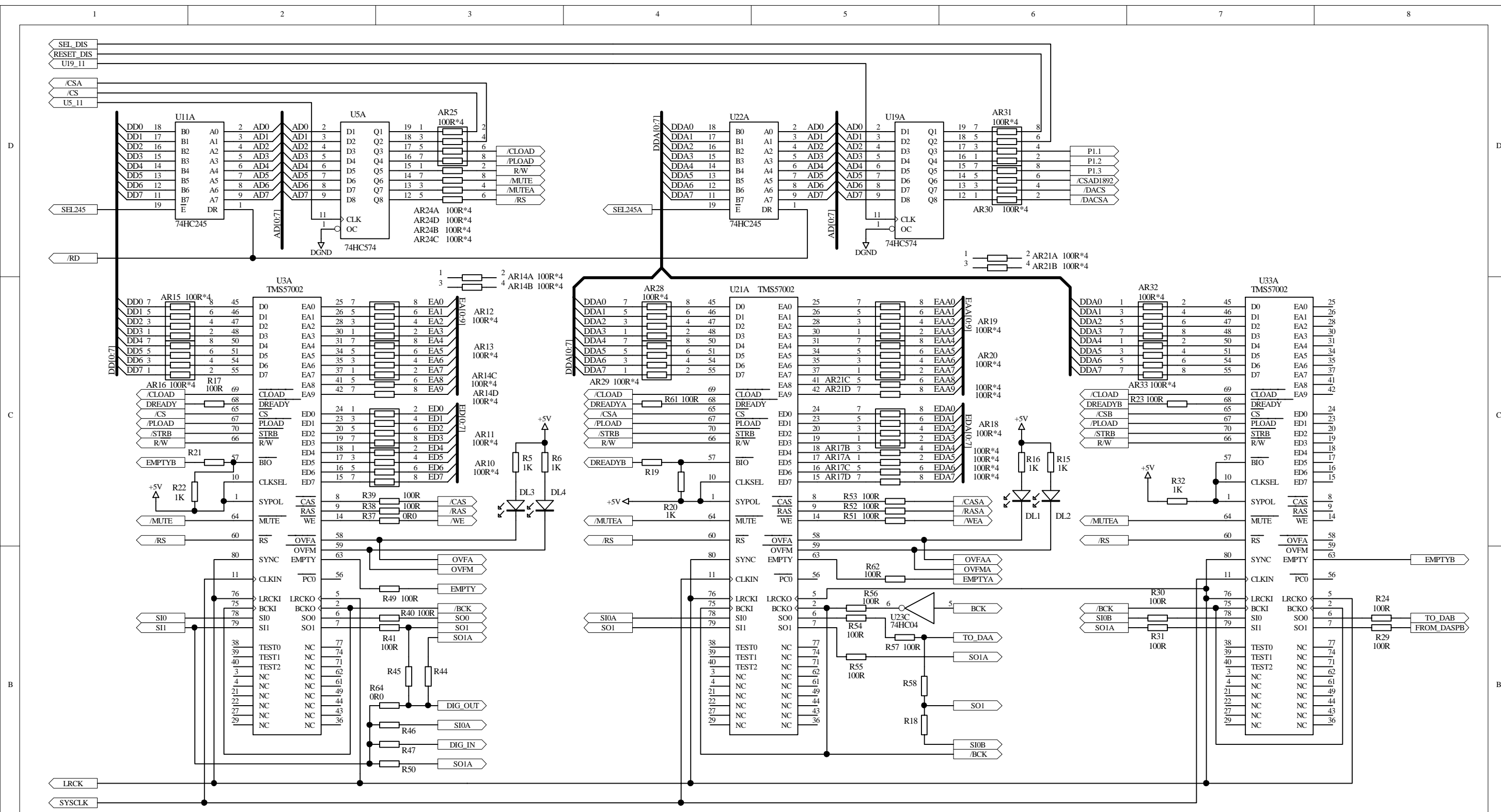


|       |            |                        |           |
|-------|------------|------------------------|-----------|
| Titel |            | <b>UC Stage (3DSP)</b> |           |
| Size  | A3         | Model No:              | MFB4x4PRO |
| Date: | 2-Sep-2002 | Revision:              | VER020412 |
| File: | UC.SCH     | Sheet:                 | 1 of 3    |
|       |            | Drawn By:              | KEVIN LIN |



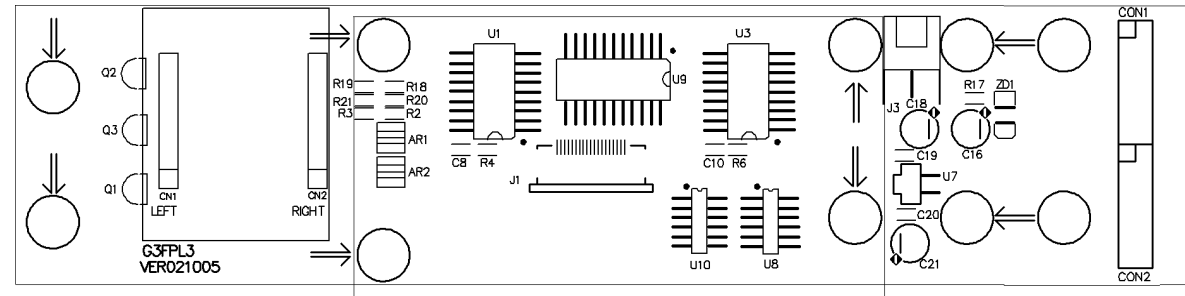
| IN-OUT Stage |            | (3DSP)    |           |
|--------------|------------|-----------|-----------|
| Size         | A3         | Model No: | MFB4x4PRO |
| Date:        | 2-Sep-2002 | Revision  | VER020225 |
| File:        | IN-OUT.Sch | Sheet     | 2 of 3    |
|              |            | Drawn By: | KEVIN LIN |

NOTE: 1. ALL 10uF are 10uF/16V

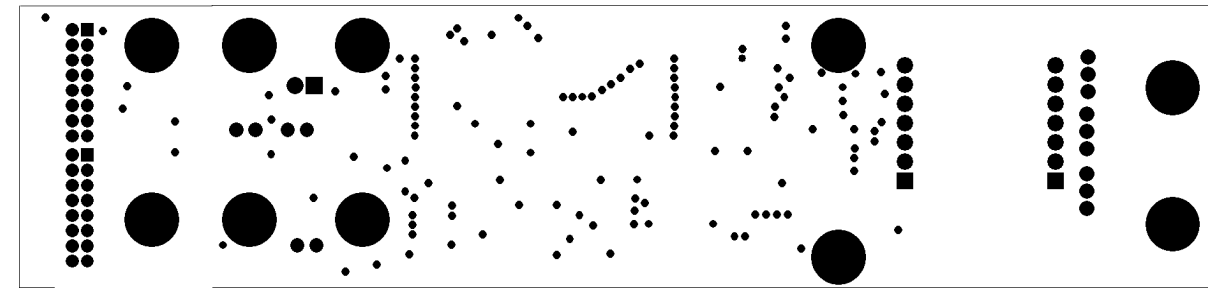


|       |            |                   |           |               |           |
|-------|------------|-------------------|-----------|---------------|-----------|
| Titel |            | <b>DASP Stage</b> |           | <b>(3DSP)</b> |           |
| Size  | A3         | Model No:         | MFB4x4PRO | Revision      | VER020225 |
| Date: | 2-Sep-2002 | Sheet             | 2 of 3    |               |           |
| File: | DASP.Sch   | Drawn By:         | KEVIN LIN |               |           |

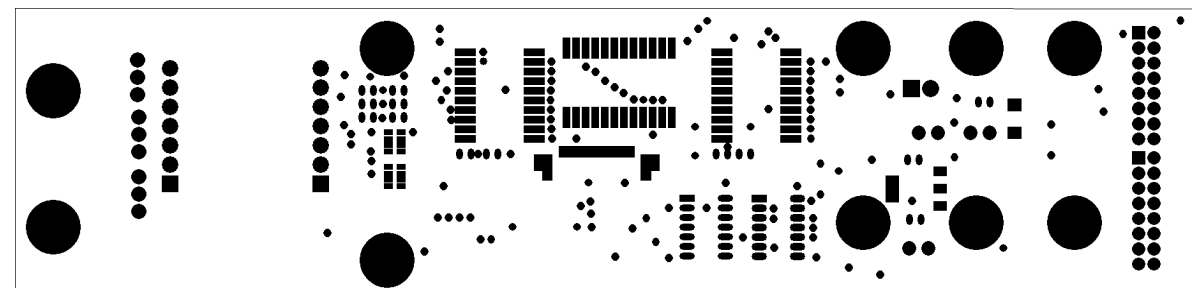
#### 4. Printed Circuit Diagram



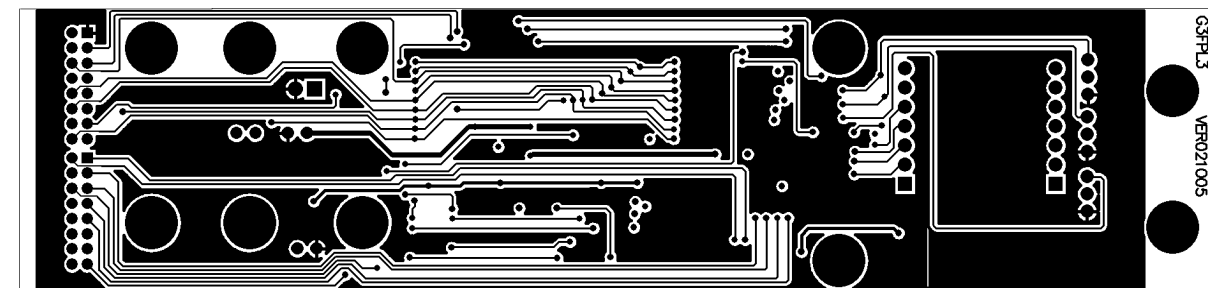
G3FPL3 Top Silkscreen



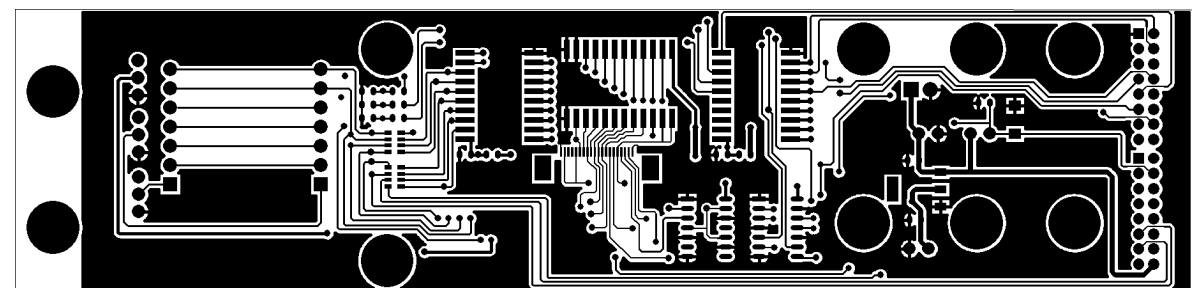
G3FPL3 Bottom Solder Mask



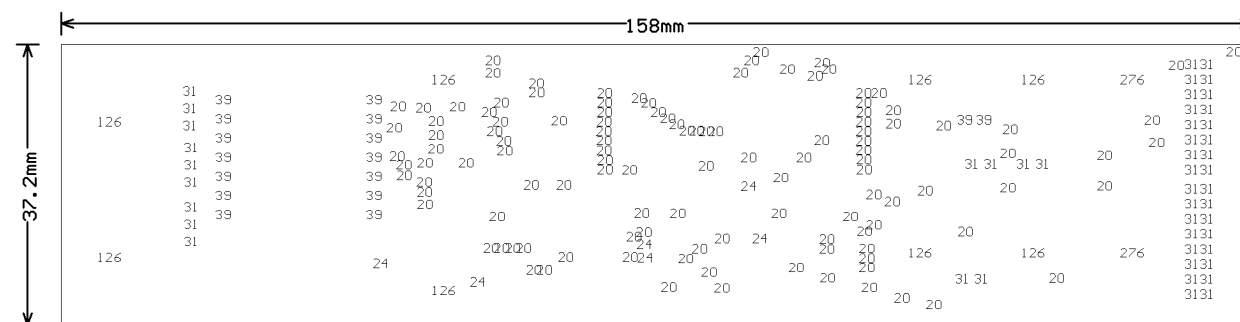
G3FPL3 Top Solder Mask



G3FPL3 Bottom Layer

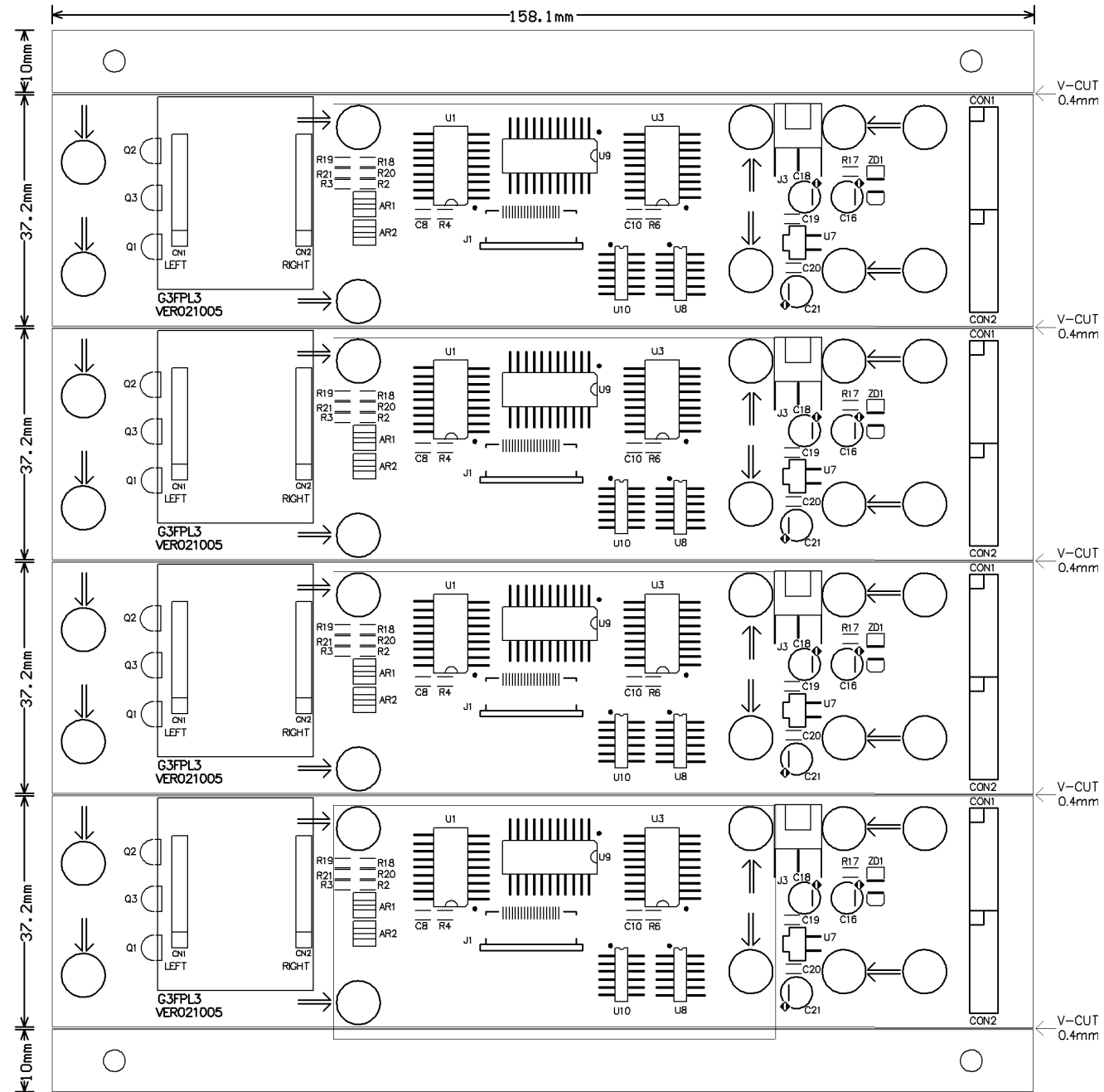


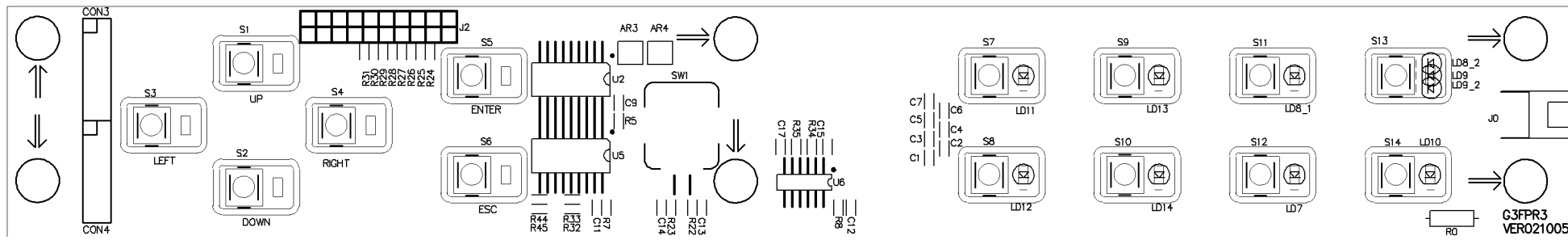
G3FPL3 Top Layer



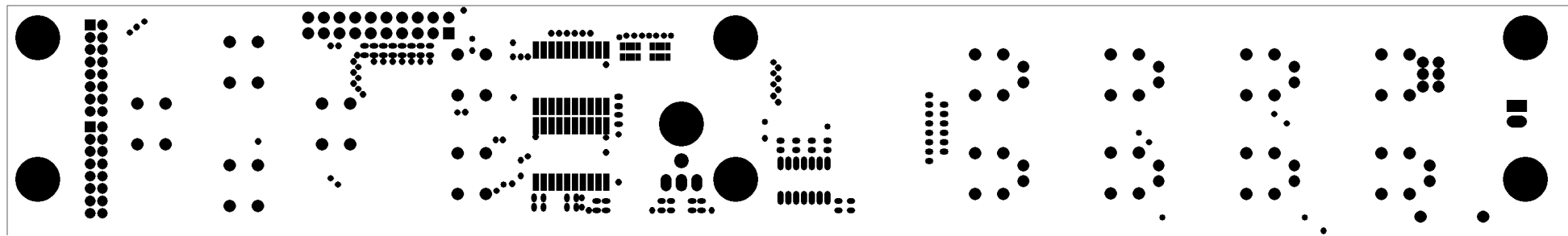
G3FPL3 Drill Drawing

| Tool          | Hole Size         | Hole Count Plated |      |
|---------------|-------------------|-------------------|------|
| T1            | 20mil (0.508mm)   | 119               |      |
| T2            | 24mil (0.6096mm)  | 7                 |      |
| T3            | 31mil (0.7874mm)  | 47                |      |
| T4            | 39mil (0.9906mm)  | 16                |      |
| T5            | 126mil (3.2004mm) | 8                 | NPTH |
| T6            | 276mil (7.0104mm) | 2                 | NPTH |
| <b>Totals</b> |                   | <b>198</b>        |      |

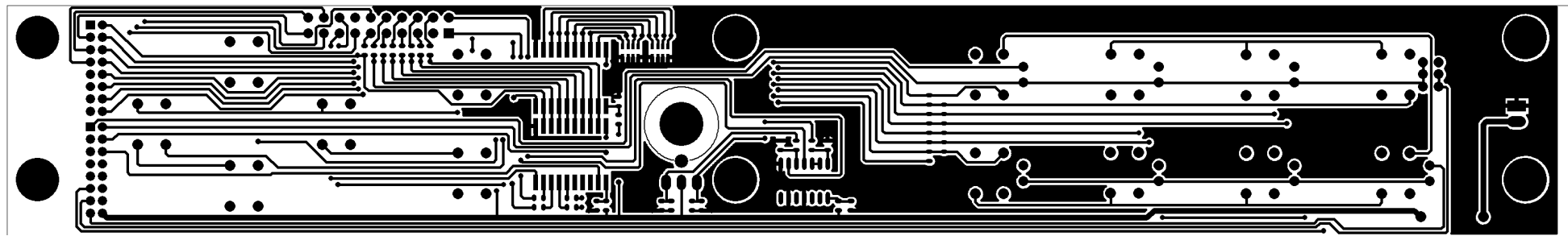




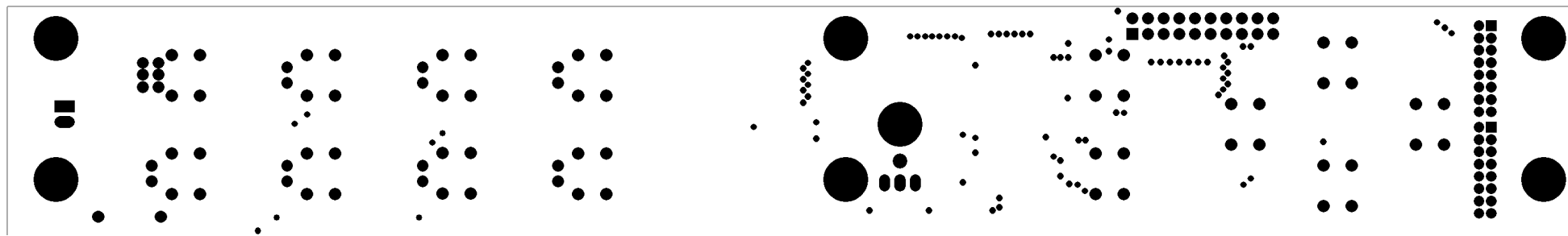
G3FPR3 Top Silkscreen



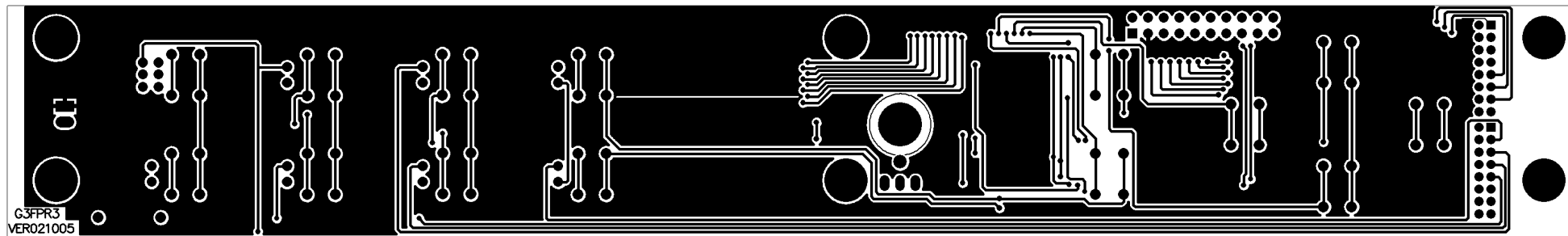
G3FPR3 Top Solder Mask



G3FPR3 Top Layer



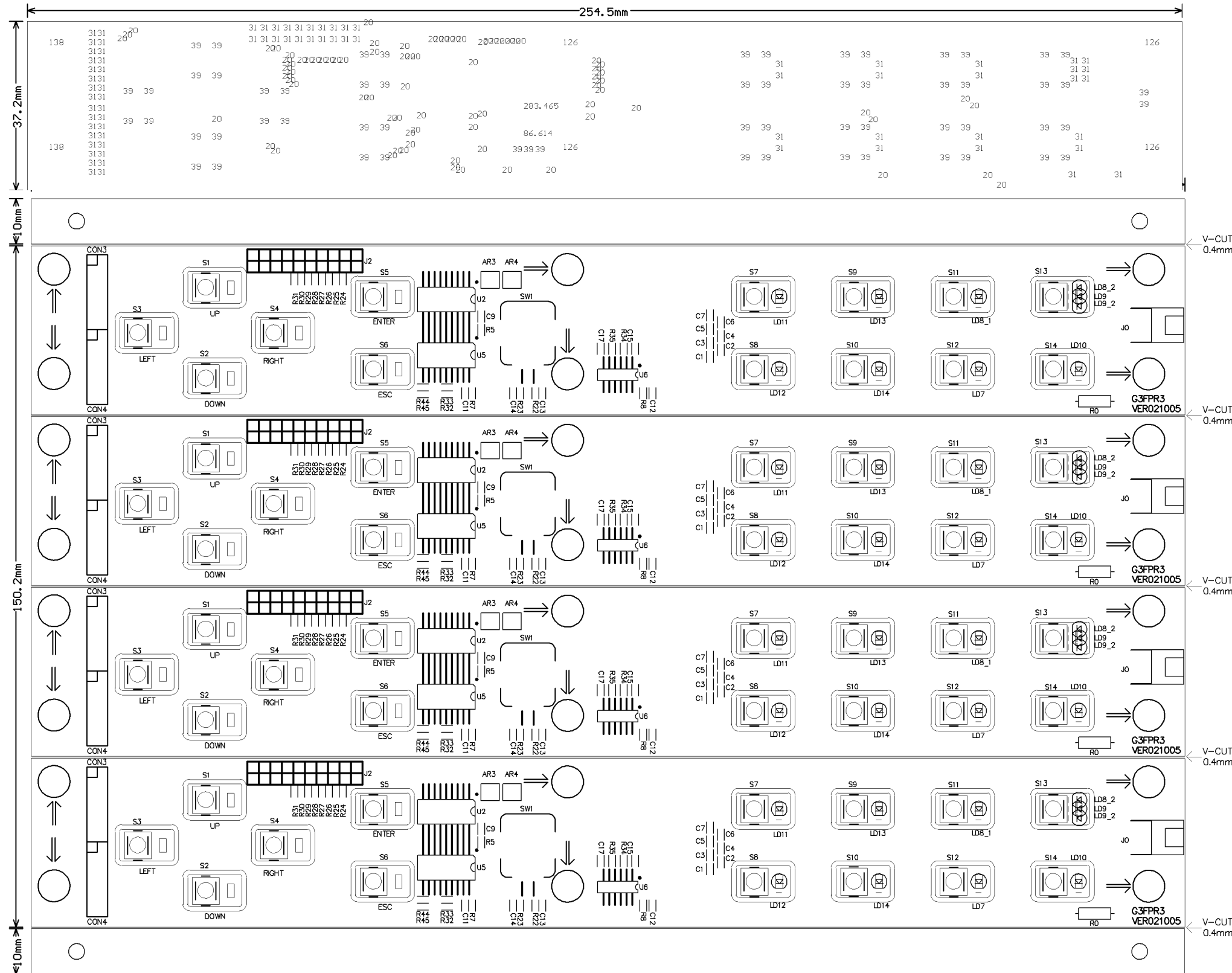
G3FPR3 Bottom Solder Mask



G3FPR3 Bottom Layer

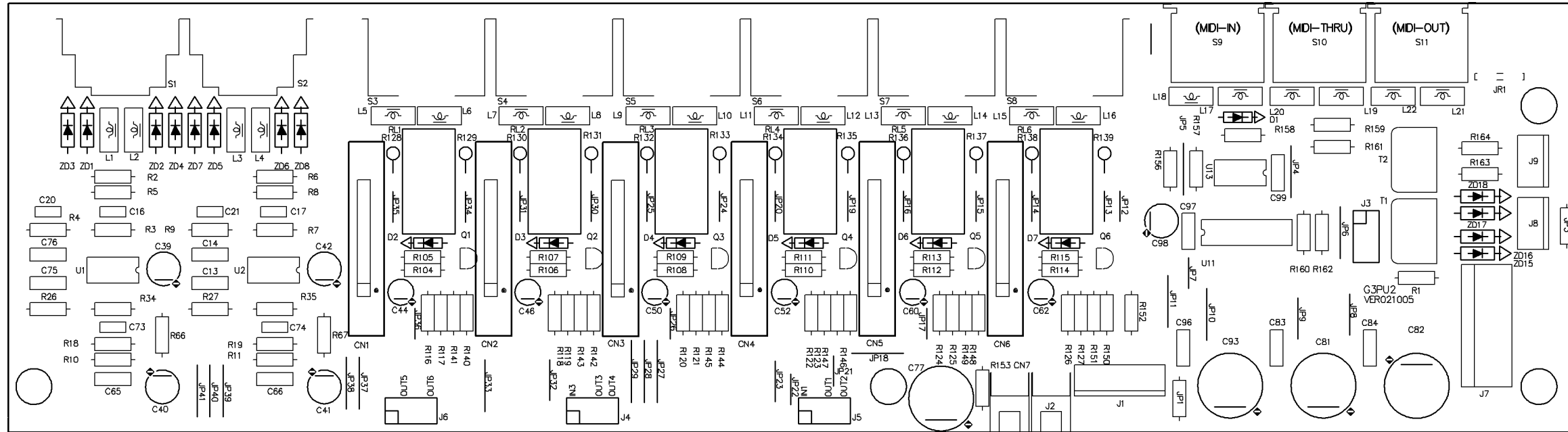
G3FPR3  
VERO21005



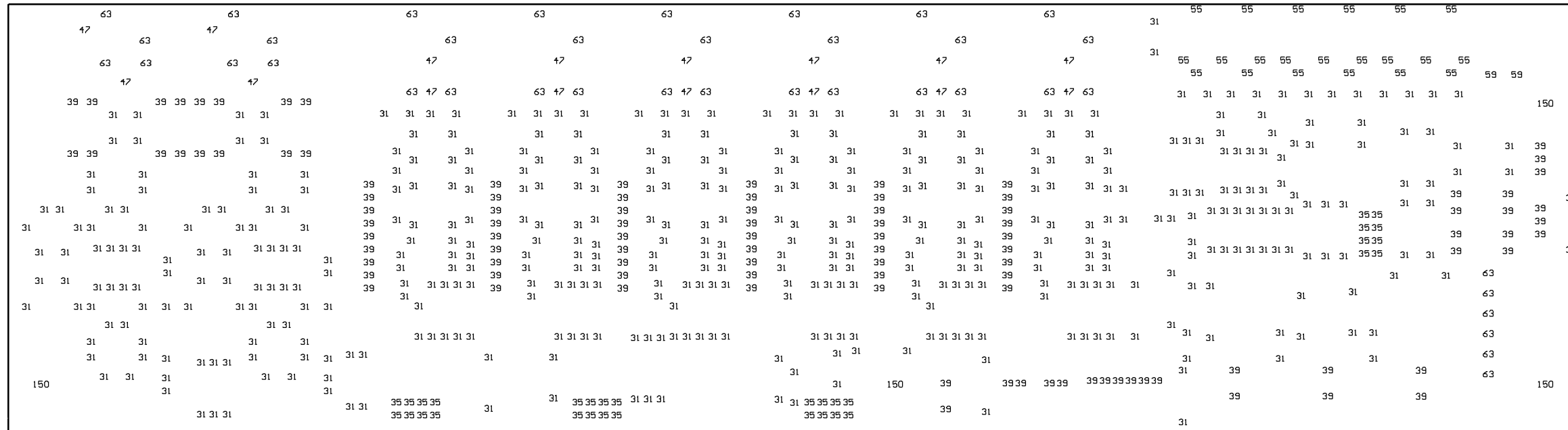


G3FPR3 Drill Drawing

| Tool   | Hole Size         | Hole Count Plated |      |
|--------|-------------------|-------------------|------|
| T1     | 20mil (0.508mm)   | 84                |      |
| T2     | 31mil (0.7874mm)  | 74                |      |
| T3     | 39mil (0.9906mm)  | 61                |      |
| T4     | 87mil (2.2098mm)  | 1                 |      |
| T5     |                   |                   |      |
| T6     | 280mil (7.112mm)  | 1                 |      |
| T8     | 126mil (3.2004mm) | 4                 | NPTH |
| T9     | 138mil (3.5052mm) | 2                 | NPTH |
| Totals |                   | 227               |      |



G3PU2 Top Scilkscreen



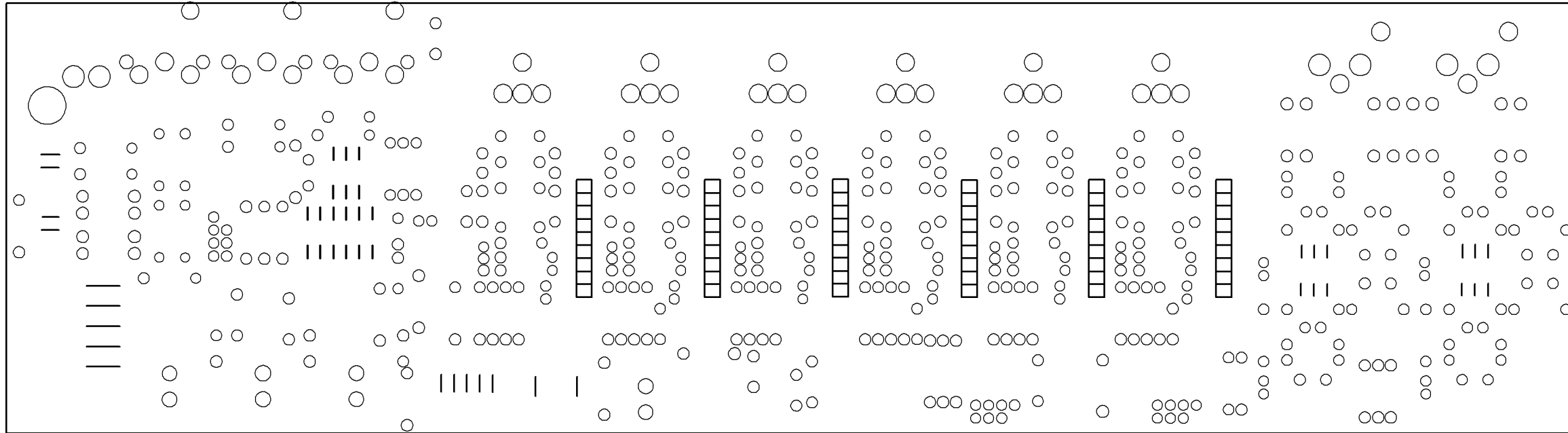
G3PU2 Drill Drawing

| Tool | Hole Size        | Hole Count Plated |
|------|------------------|-------------------|
| T1   | 31mil (0.7874mm) | 464               |
| T2   | 35mil (0.889mm)  | 32                |

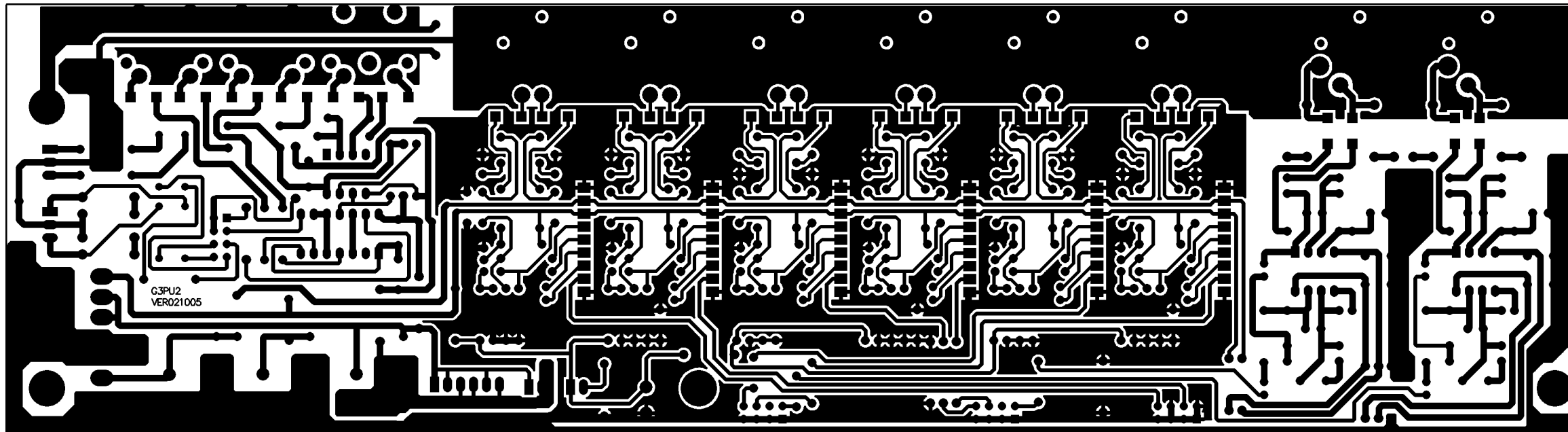
|    |                  |     |
|----|------------------|-----|
| T3 | 39mil (0.9906mm) | 102 |
| T4 | 47mil (1.1938mm) | 16  |
| T5 | 55mil (1.397mm)  | 21  |
| T6 | 59mil (1.4986mm) | 2   |

|        |                  |     |
|--------|------------------|-----|
| T7     | 63mil (1.6002mm) | 26  |
| T8     | 150mil (3.81mm)  | 4   |
| T9     | 63mil (1.6002mm) | 12  |
| Totals |                  | 679 |

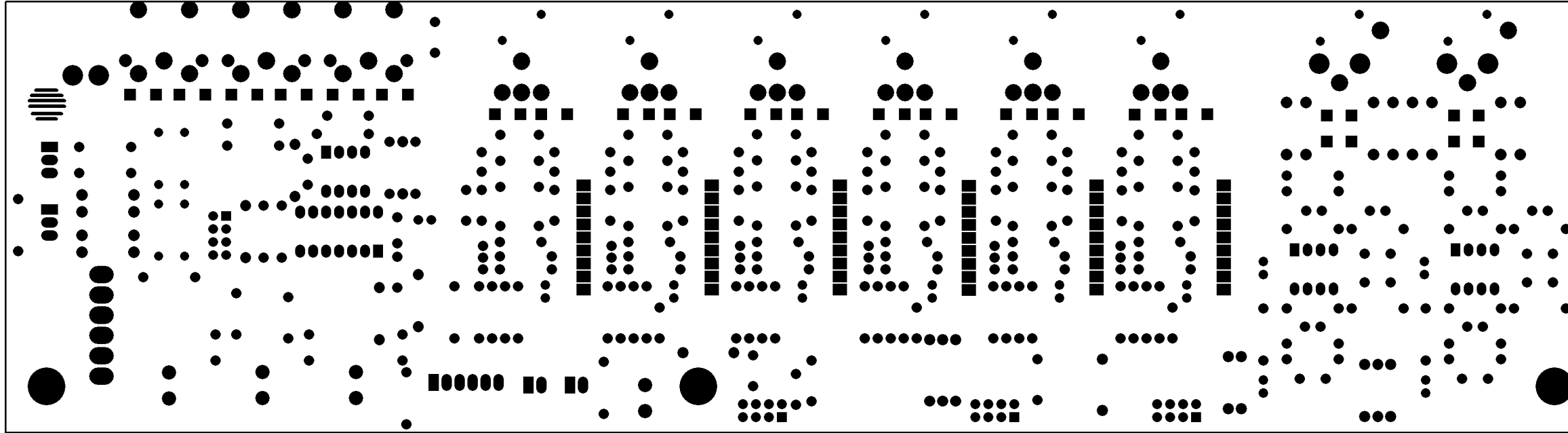
NPTH



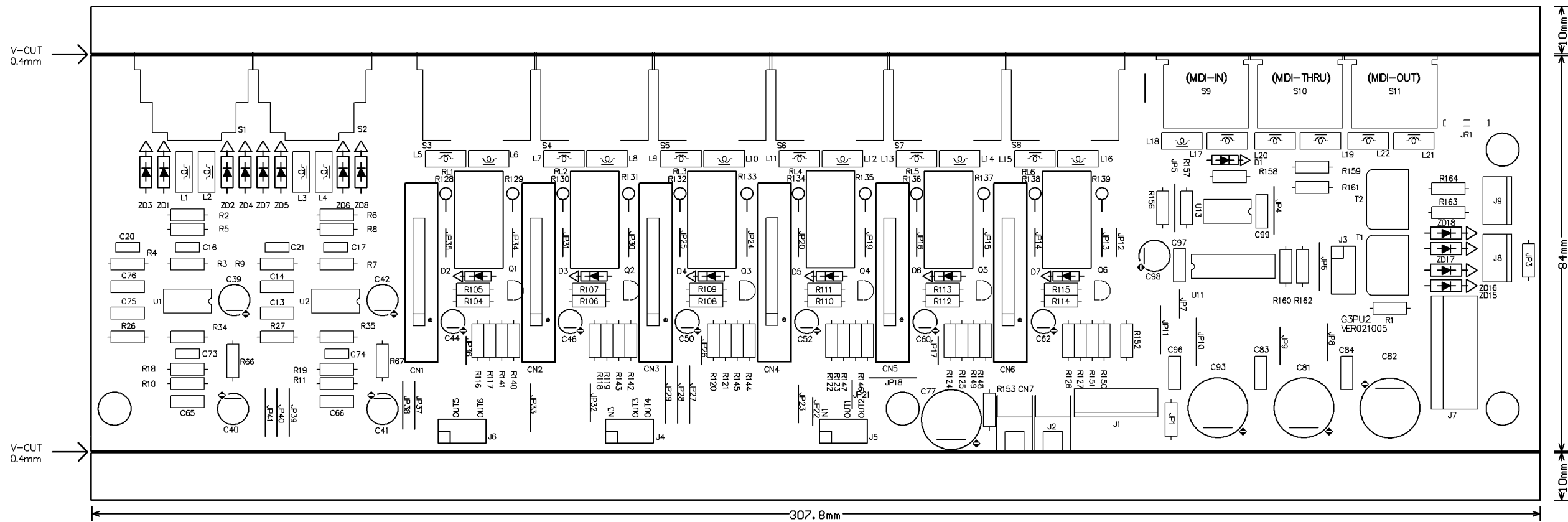
G3PU2 Bottom Scilkscreen

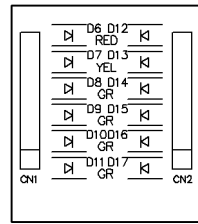


G3PU2 Bottom Layer

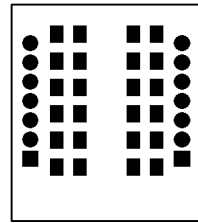


G3PU2 Bottom Solder Mask

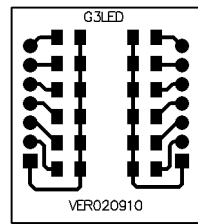




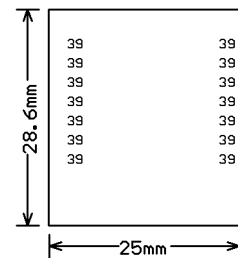
G3LED Top Silkscreen



G3LED Top Solder Mask

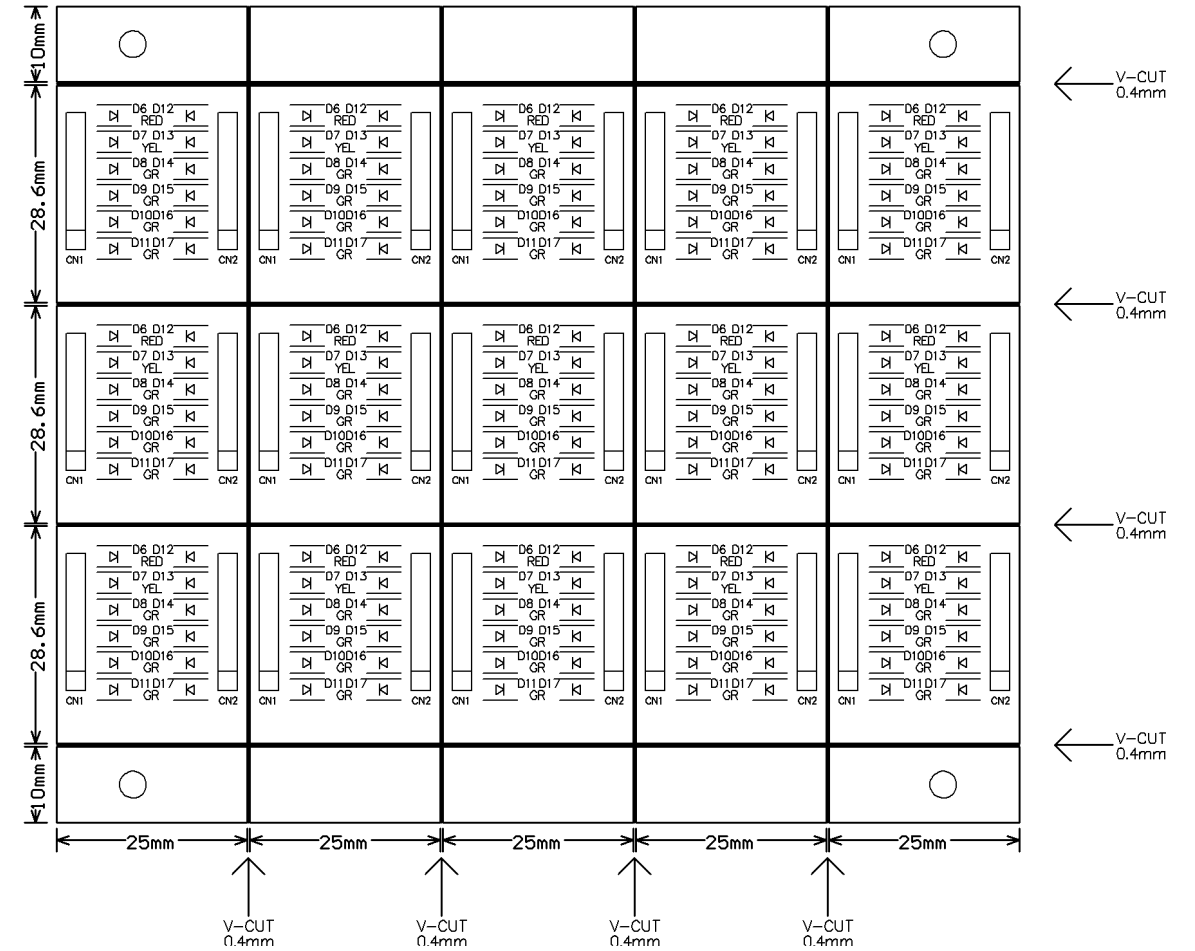


G3LED Top Layer

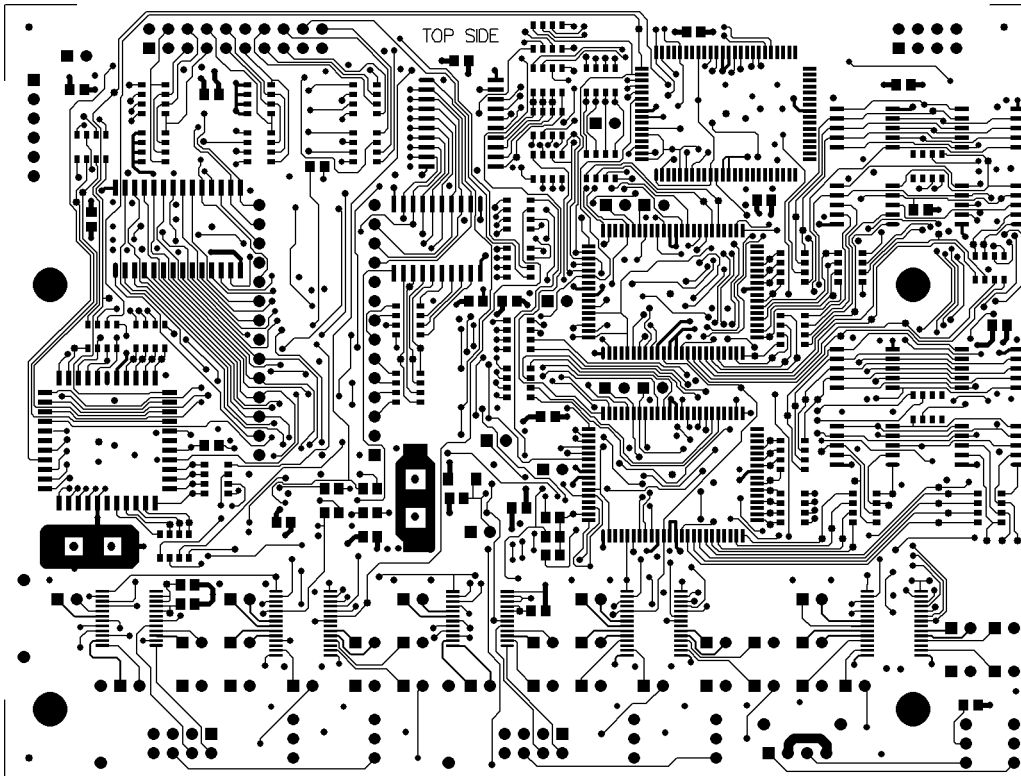


G3LED Drill Drawing

| Tool          | Hole Size        | Hole Count Plated |
|---------------|------------------|-------------------|
| T1            | 39mil (0.9906mm) | 14                |
| <b>Totals</b> |                  | <b>14</b>         |

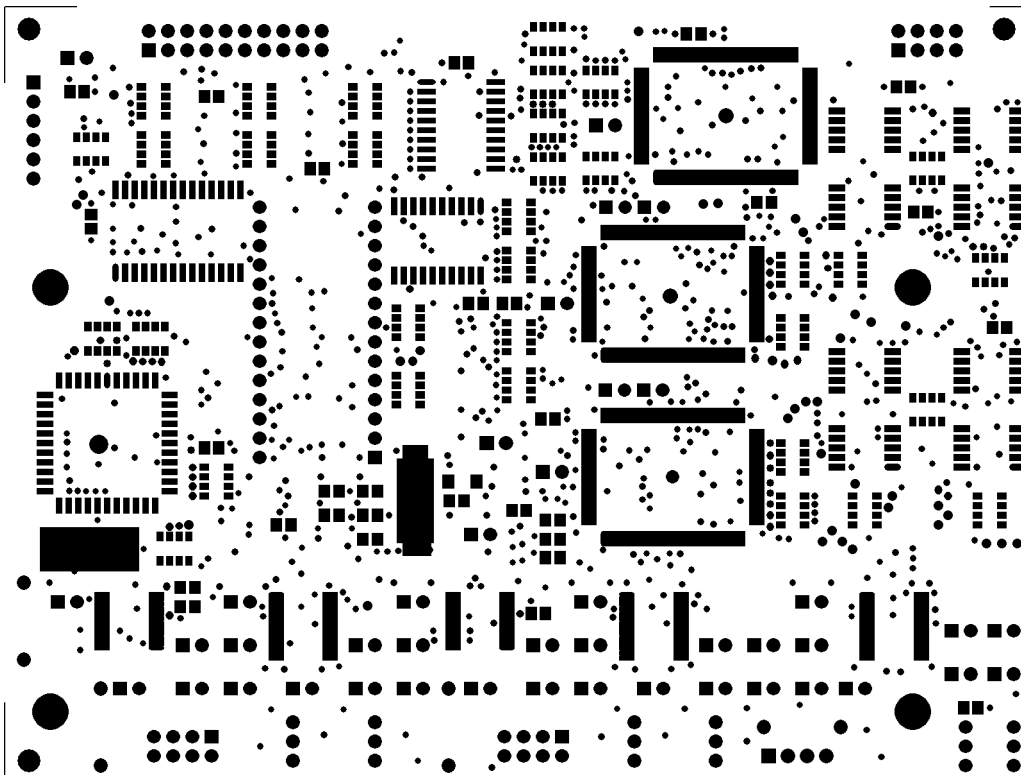


# PCB#MFB4x4PRO TOP LAYER

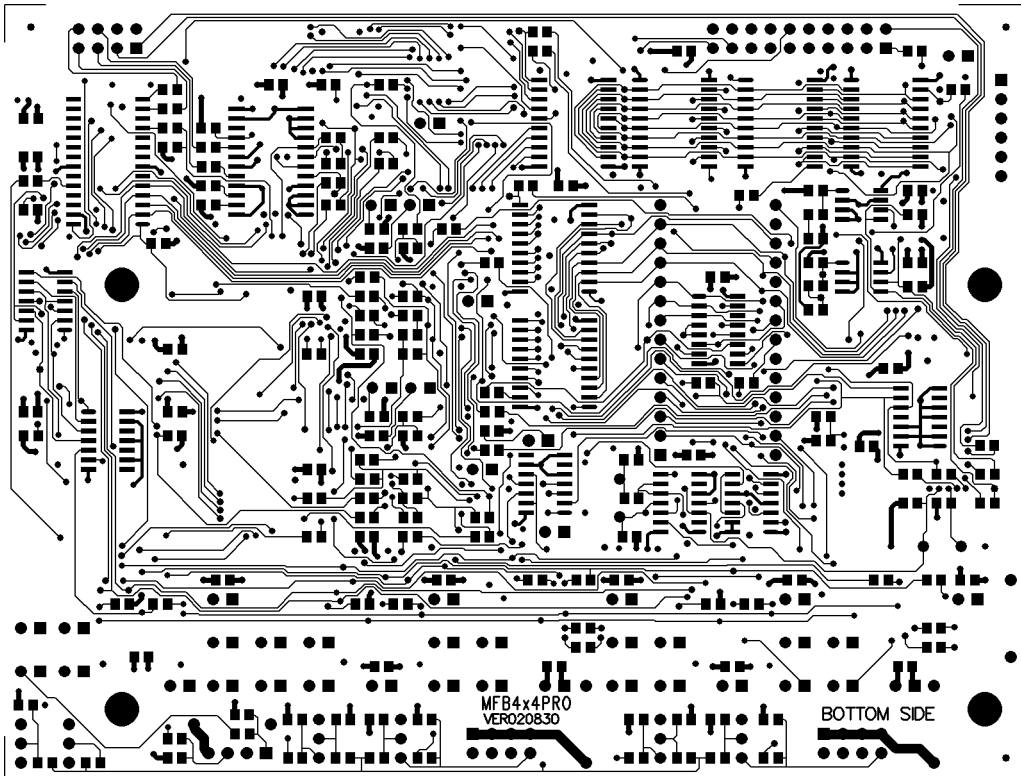


SEED-cod. MFB4x4PRO VER020830

# PCB#MFB4x4PRO TOP SOLDER MASK

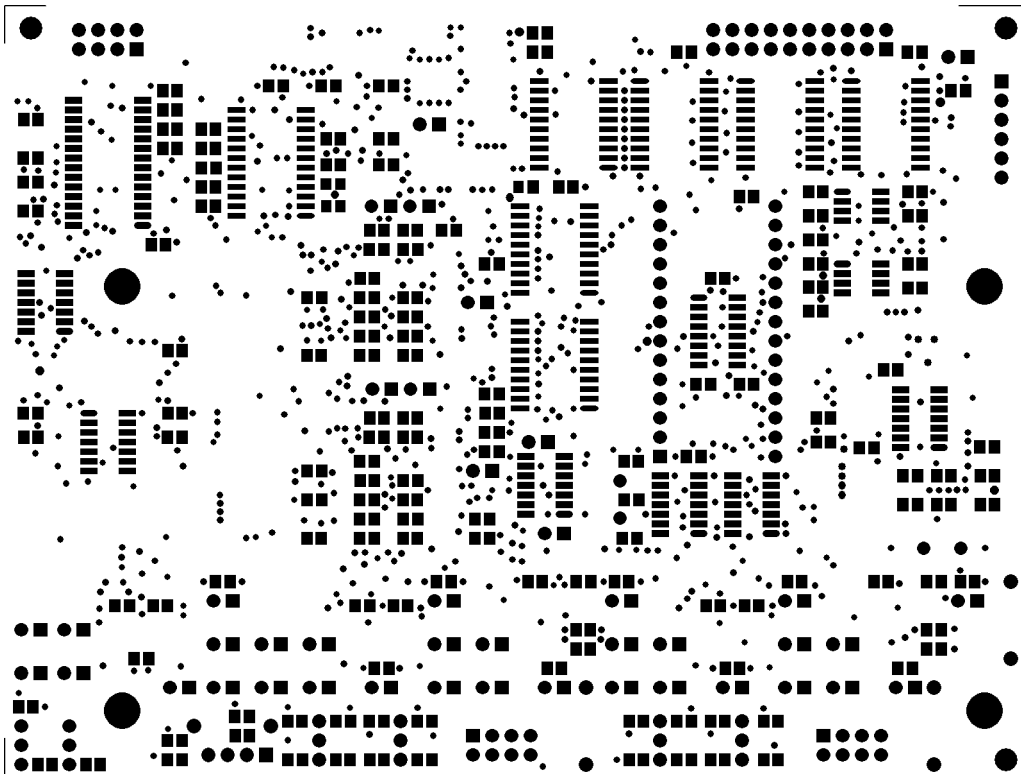


## PCB#MFB4x4PRO BOTTOM LAYER



SEED-cod. MFB4x4PRO VER020830

## PCB#MFB4x4PRO BOTTOM SOLDER MASK

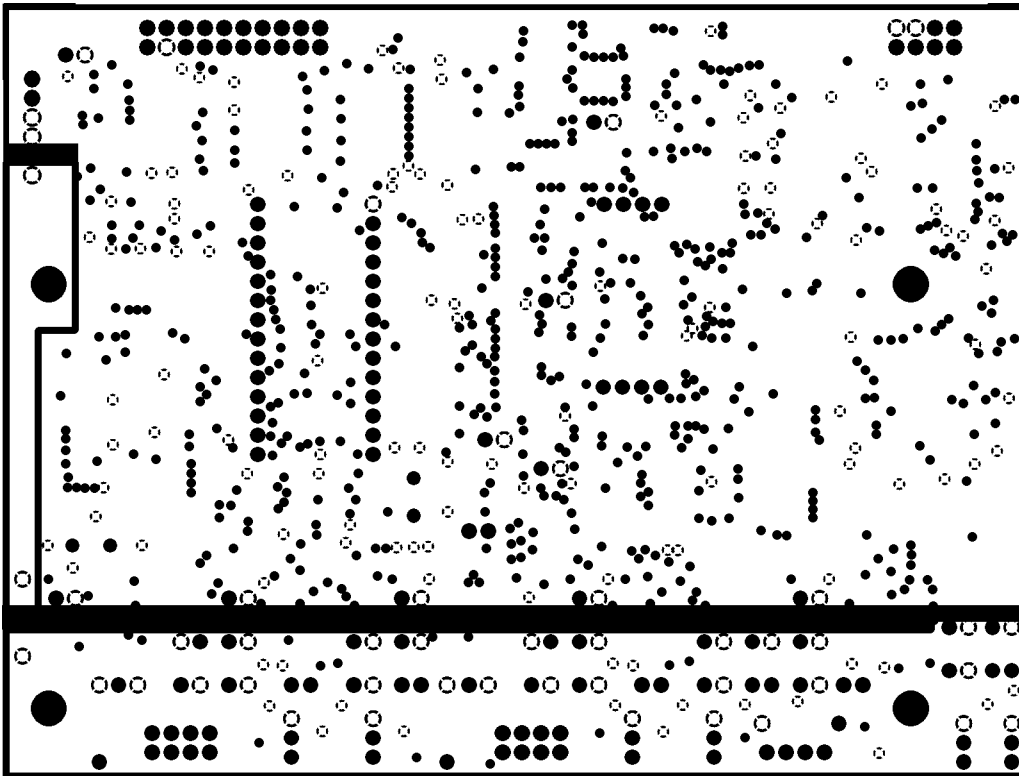


PCB#MFB4x4PRO INTERNAL PLANE1 (VCC)



INTERNAL PLANE1(VCC)

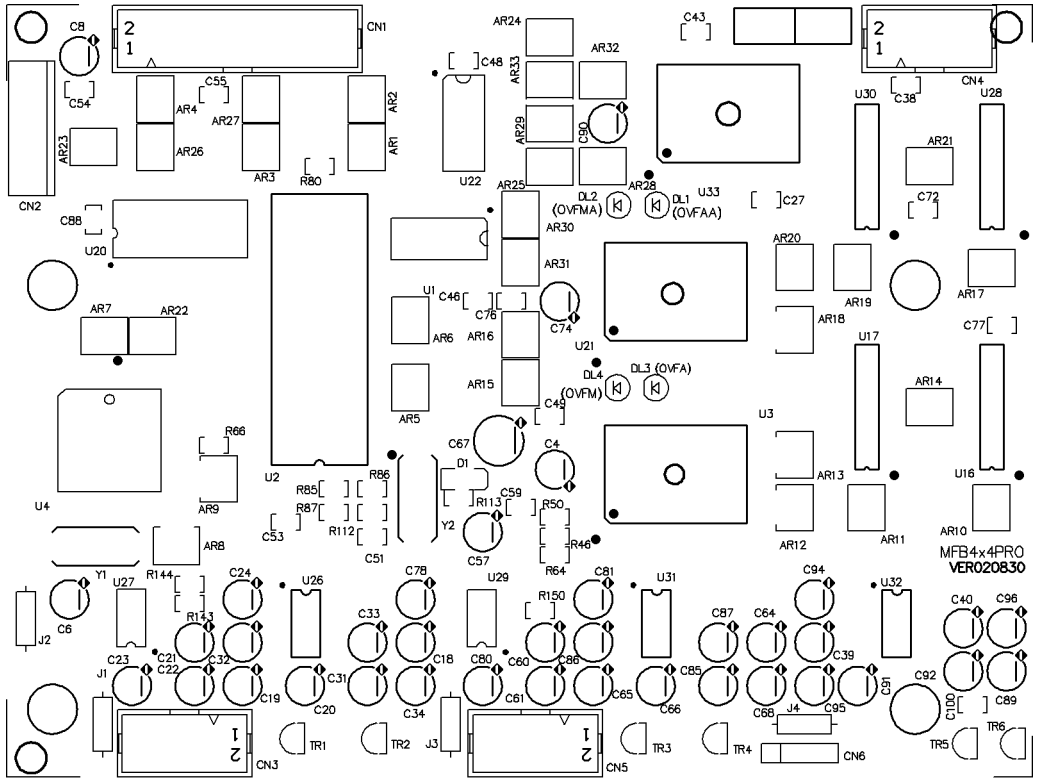
PCB#MFB4x4PRO INTERNAL PLANE2 (GND)



INTERNAL PLANE2(GND)

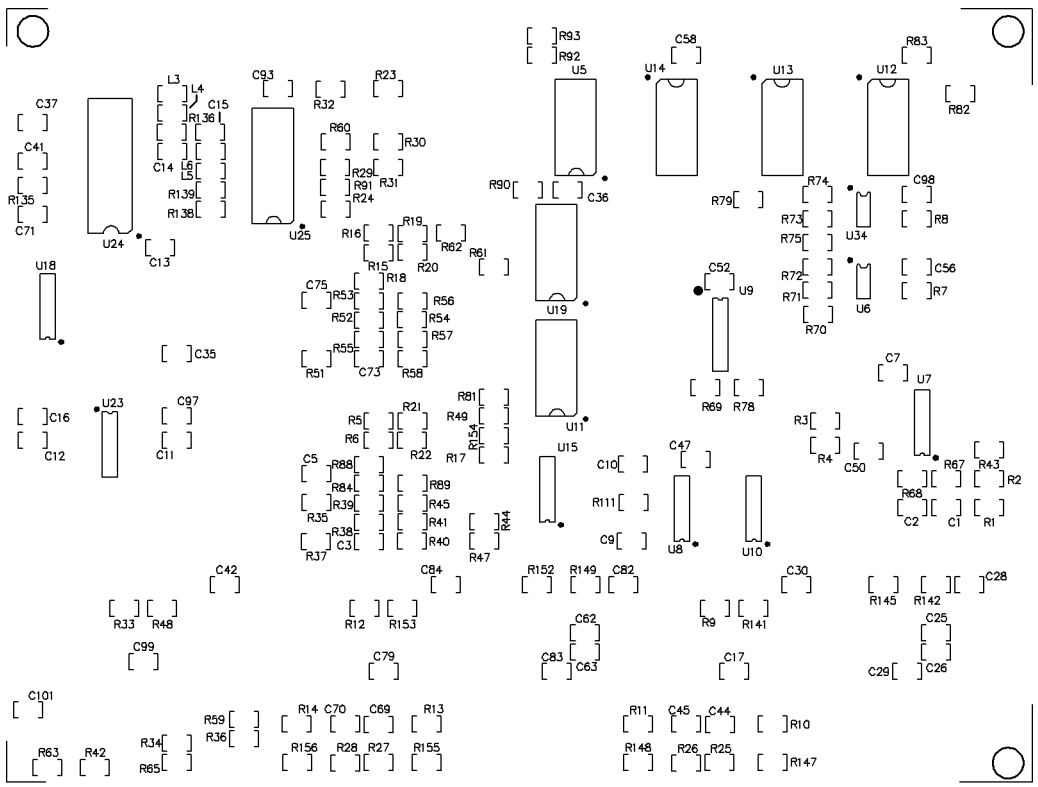


# PCB#MFB4x4PRO SILKSCREEN TOP LAYER



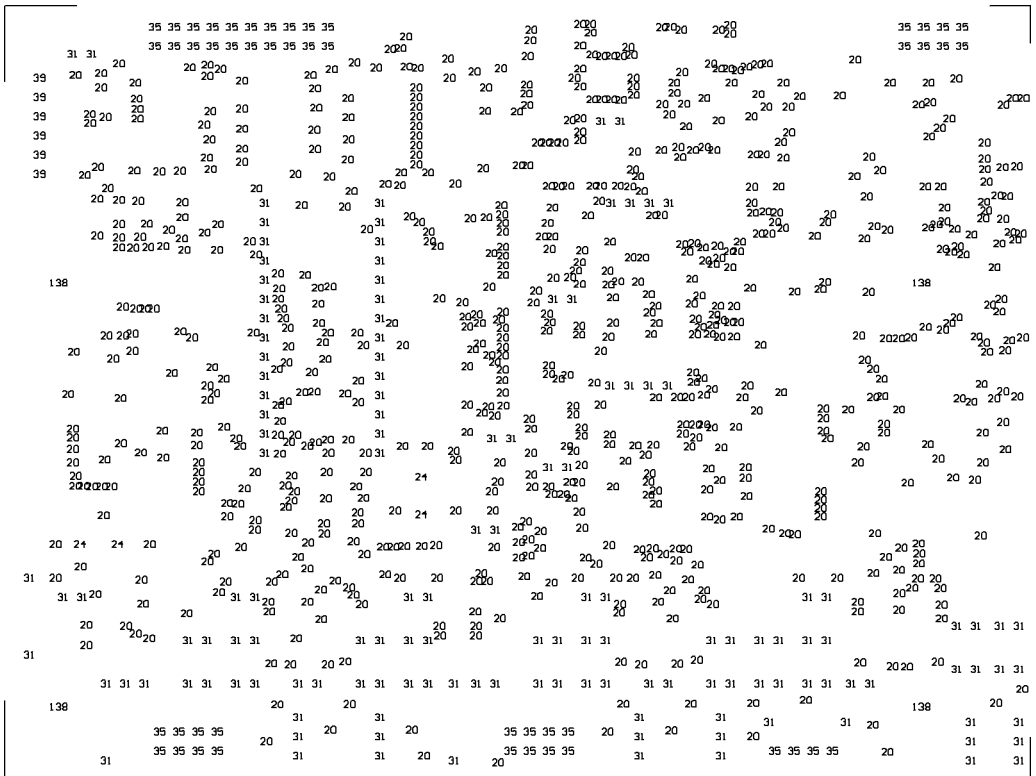
SILKSCREEN TOP

# PCB#MFB4x4PRO SILKSCREEN BOTTOM LAYER



SILKSCREEN BOTTOM

# PCB#MFB4x4PRO DRILL DRAWING

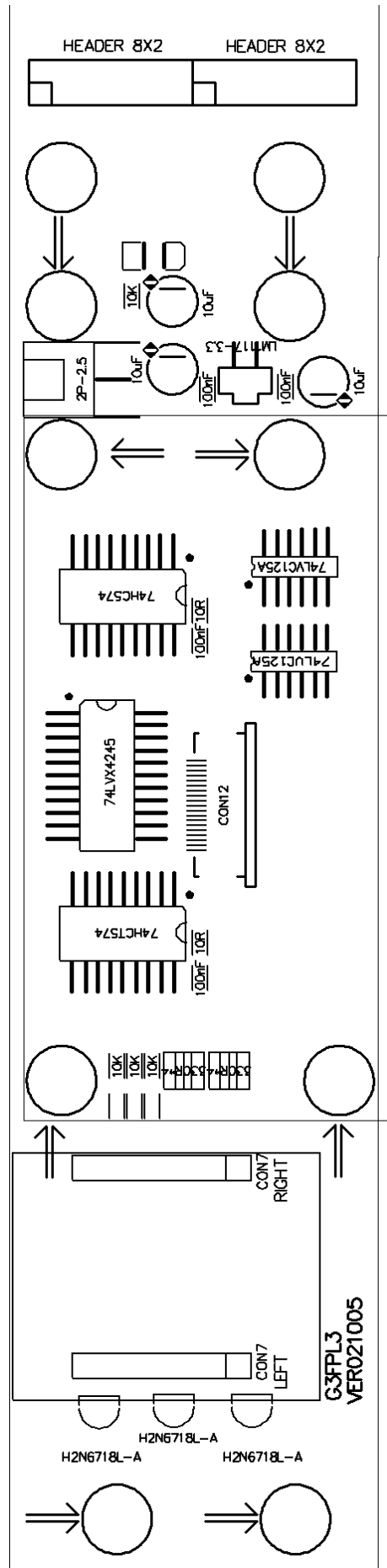
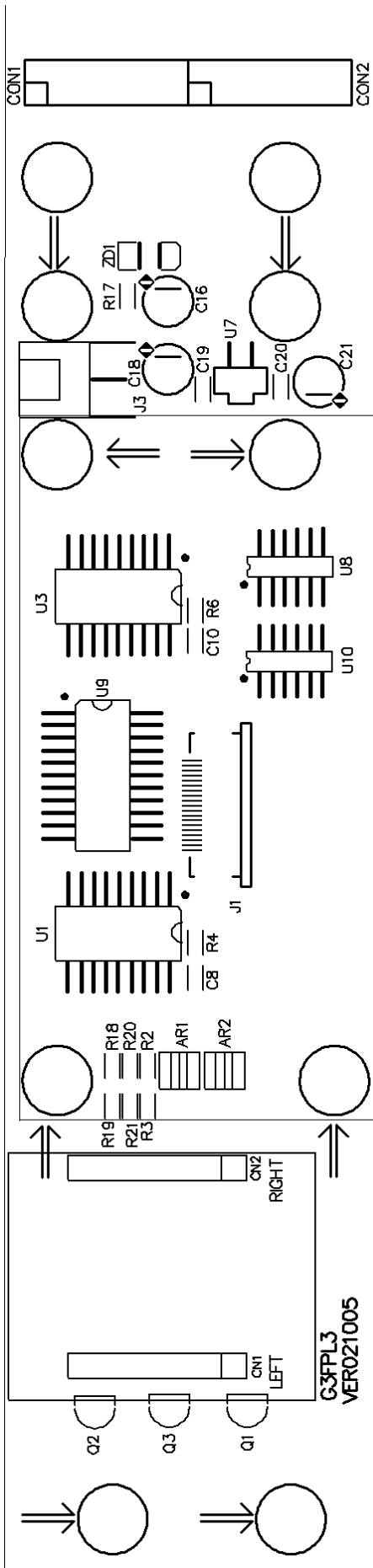


-----  
 NCDrill File Report For: MFB4x4PRO.PCB 31-Aug-2002  
 -----

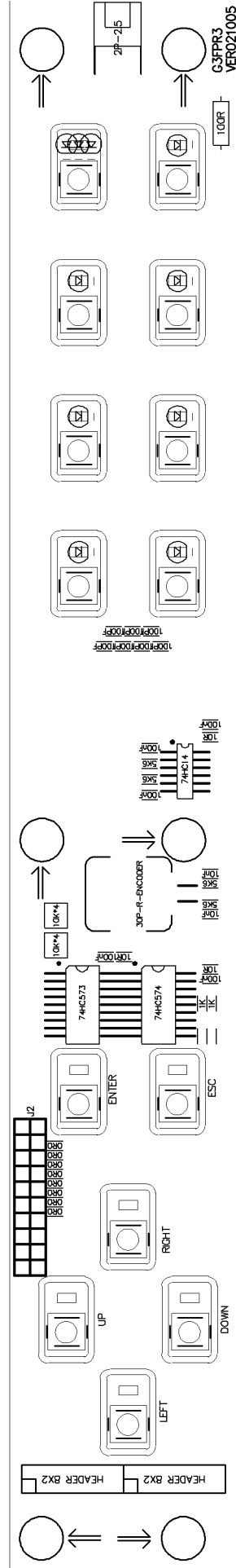
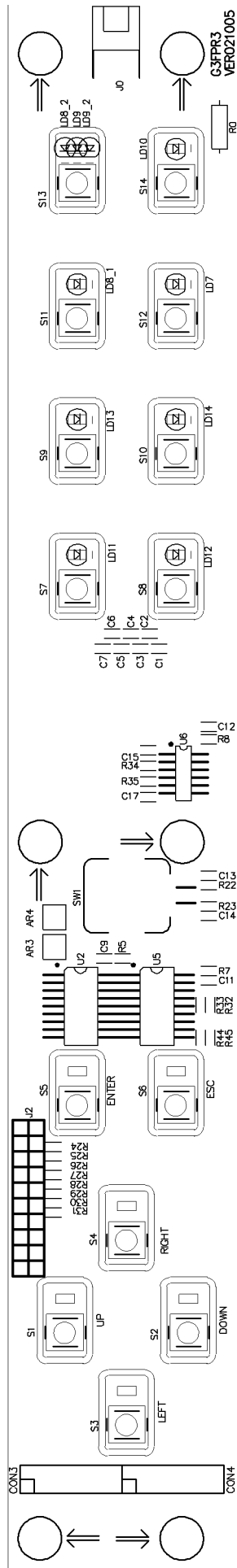
Layer Pair : TopLayer to BottomLayer  
 ASCII File : NCDrillOutput.TXT  
 EIA File : NCDrillOutput.DRL

| Tool   | Hole Size         | Hole Count | Plated |
|--------|-------------------|------------|--------|
| T1     | 20mil (0.508mm)   | 742        |        |
| T2     | 24mil (0.6096mm)  | 4          |        |
| T3     | 31mil (0.7874mm)  | 138        |        |
| T4     | 35mil (0.889mm)   | 48         |        |
| T5     | 39mil (0.9906mm)  | 6          |        |
| T6     | 138mil (3.5052mm) | 4          | NPTH   |
| Totals |                   | 942        |        |

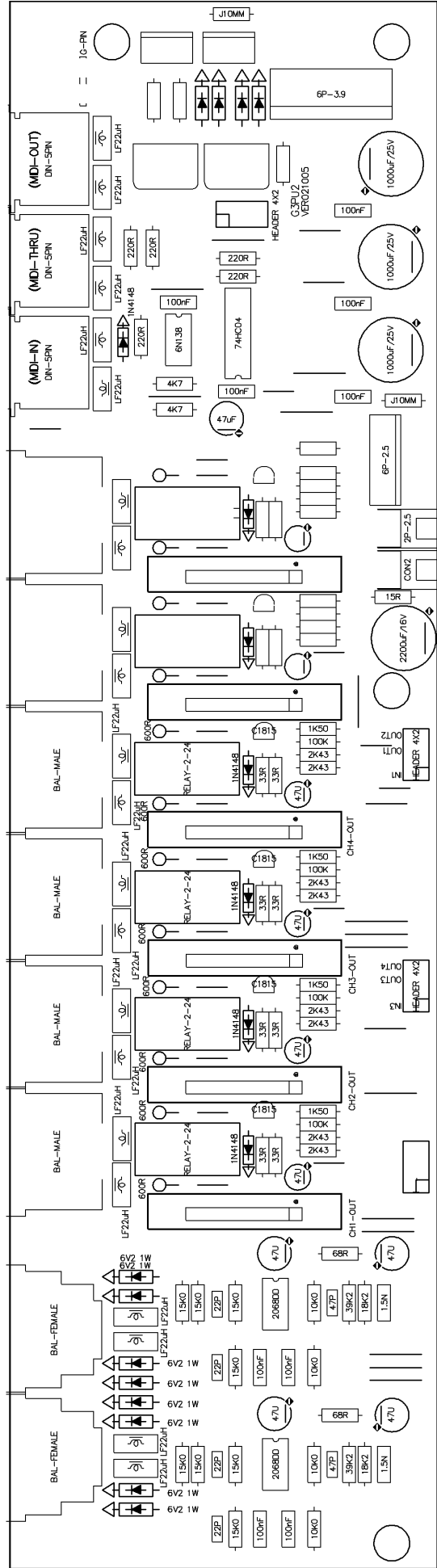
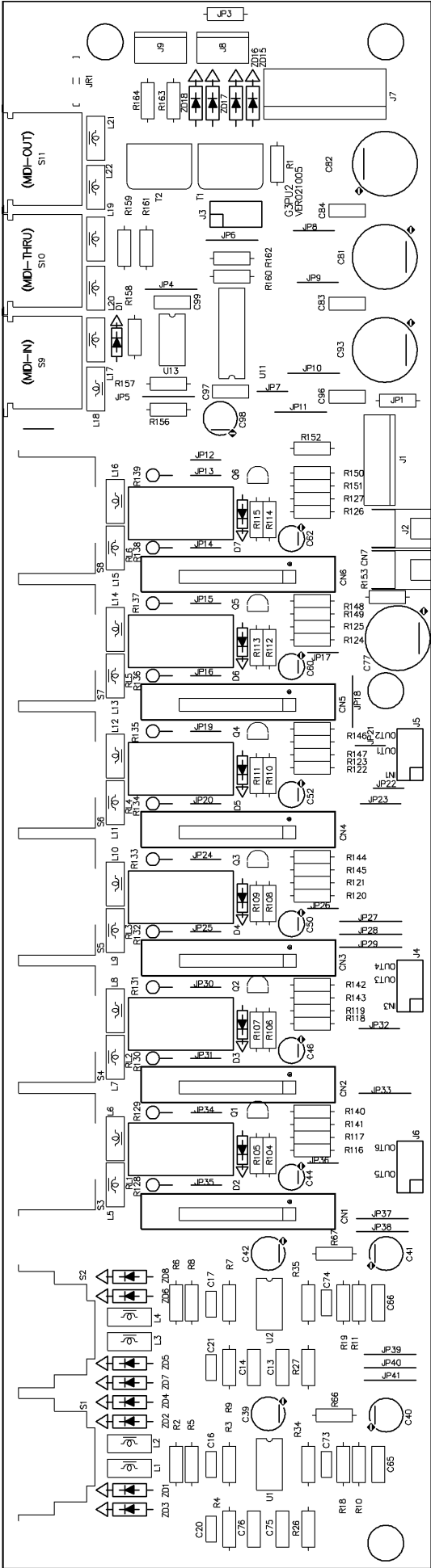
# G3FPL3 (VER021005)



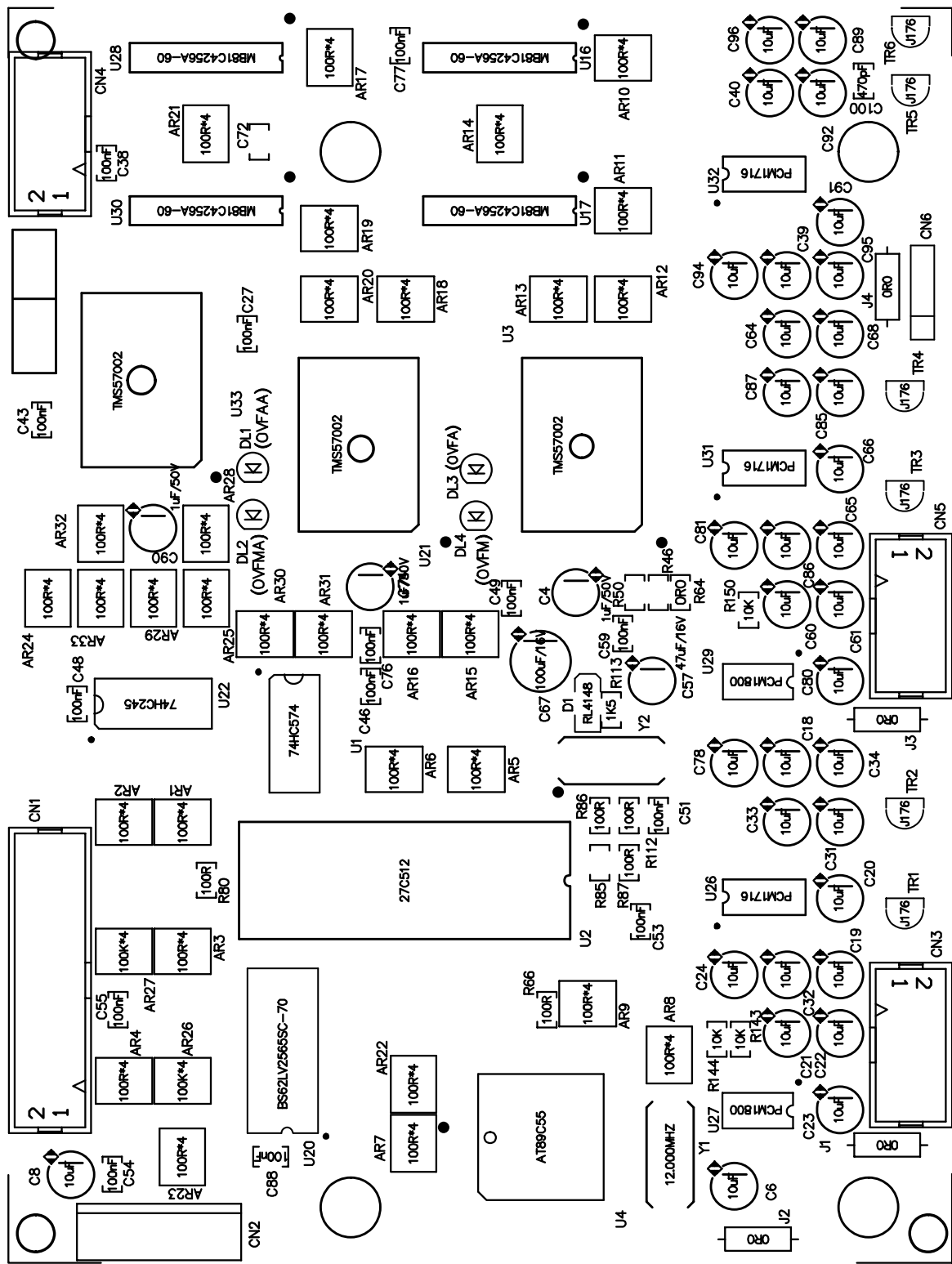
# G3FPR3 (VER021005)



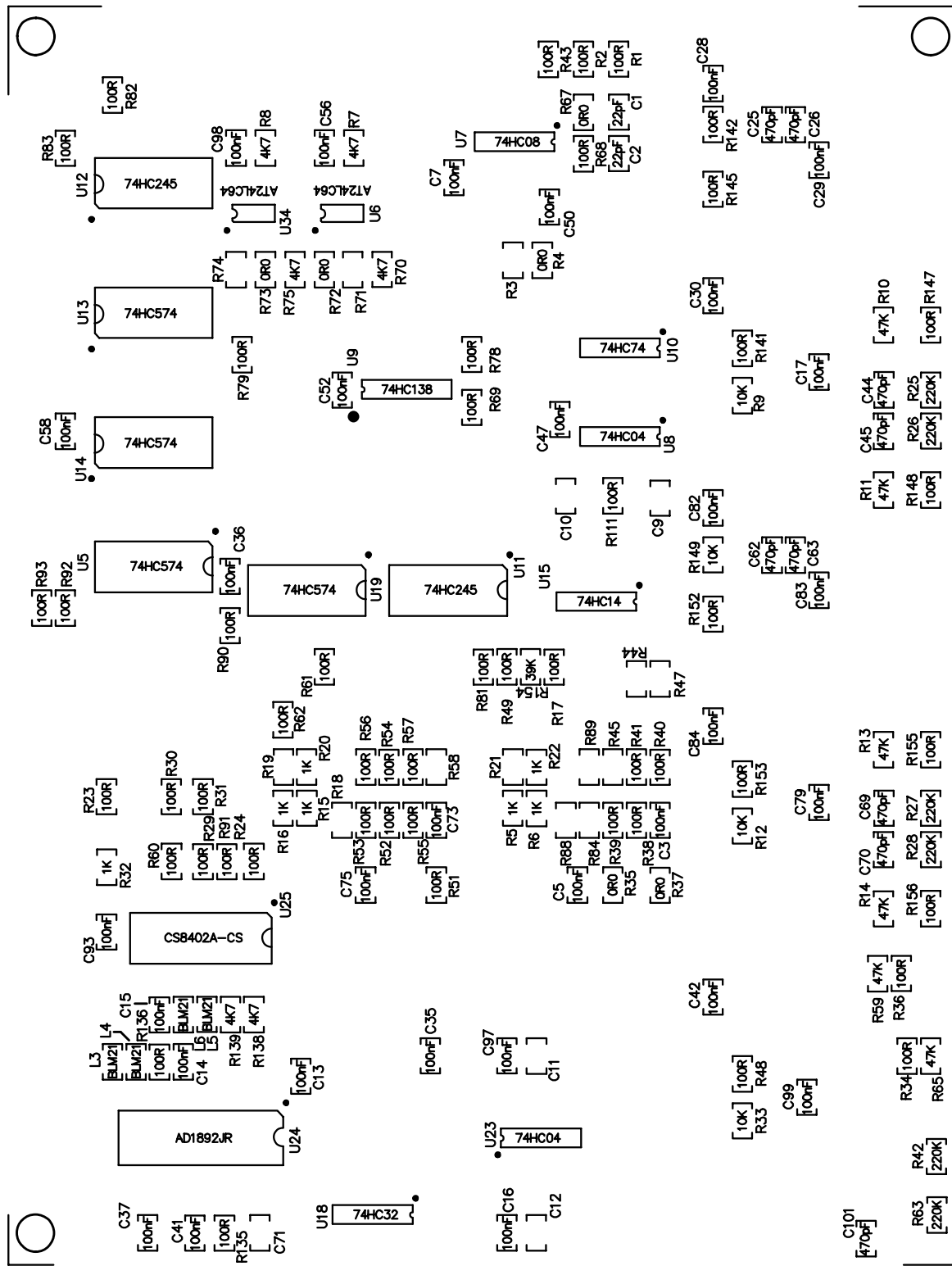
# G3PU2 (VER021005)







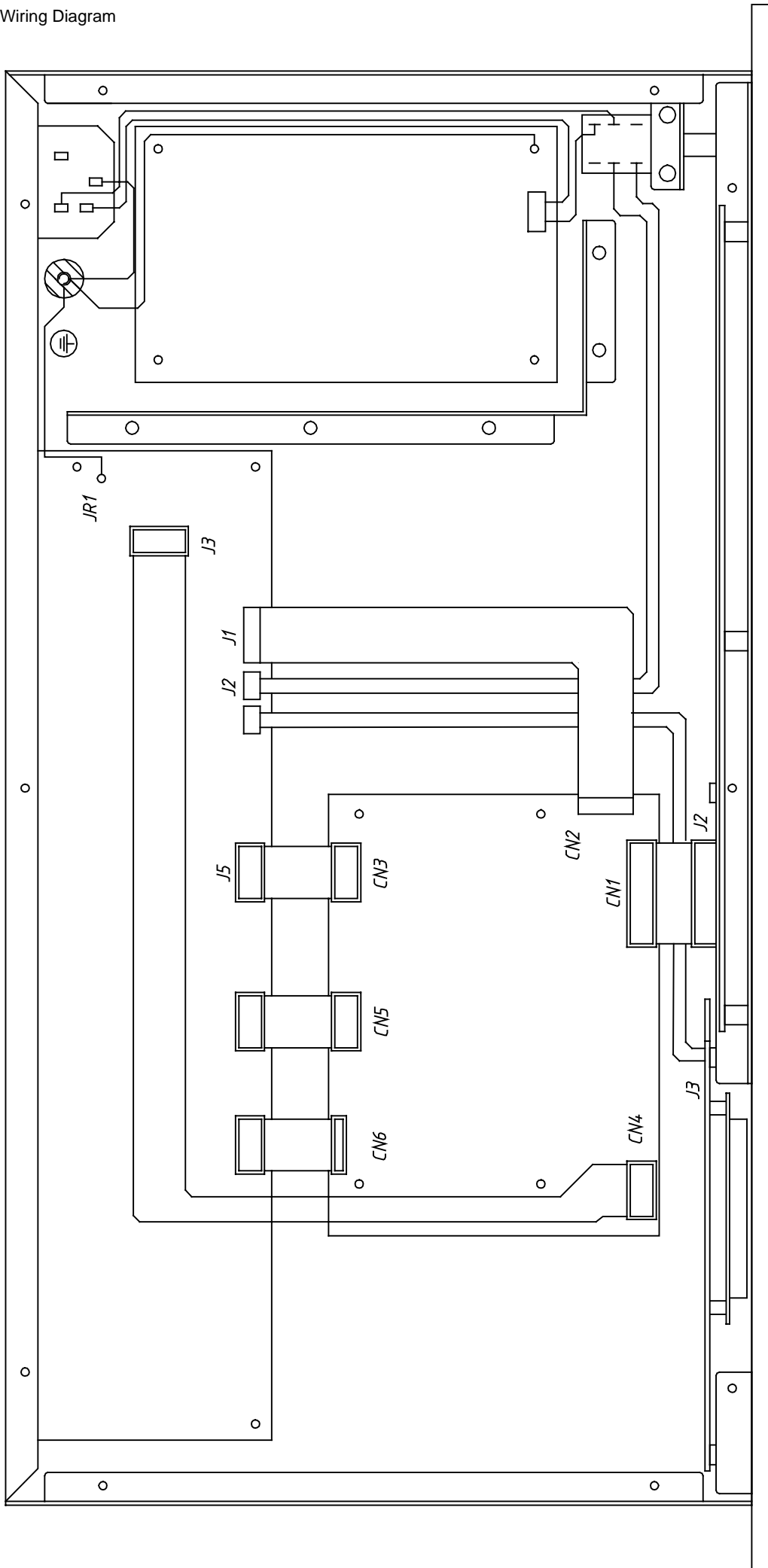
SILKSCREEN TOP



SILKSCREEN BOTTOM



Wiring Diagram



Multi-Level BOM Structure Listing

Report No.: IEB0\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 2 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85-264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No  | Loss % | Ver.  | Unit | Cardinal     | Effective Date                    |
|------------------|--|--------|-------|------|--------------|-----------------------------------|
| Component Remark | Item Descri  |        |       |      | Usage Rate   | @:Phantom Layer<br>Attrition Rate |
| 0010-----        | NI02249<br>caushion<br>TW-1(TO-220)                          |        | 00000 | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0011-----        | MG00281<br>screw<br>M3*6                                     |        |       | PCS  | 8.0000<br>1  | 2002/12/25<br>Y                   |
| 0012-----        | MG00025<br>screw<br>M3*6                                     |        |       | PCS  | 16.0000<br>1 | 2002/12/25<br>Y                   |
| 0013-----        | MG00061<br>screw<br>M3*10                                    |        |       | PCS  | 8.0000<br>1  | 2002/12/25<br>Y                   |
| 0014-----        | HA02242<br>wire<br>6P-6P 200mm UL1007 18AWG                  |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0015-----        | HA01696<br>header wiring IF:W40<br>3P 350                    |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0016-----        | HA01638<br>row-wire connector wiring<br>2P 280               |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0017-----        | HA01503<br>header wiring<br>2P-2P 250                        |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0018-----        | HA01590<br>row-wire connecting wiring<br>6P-6P 190           |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0019-----        | HA02077<br>header wiring<br>8P-8P 130mm PH=1.27mm            |        |       | PCS  | 2.0000<br>1  | 2002/12/25<br>Y                   |
| 0020-----        | HA02243<br>wire<br>8P-8P 320mm UL2651 28AWG PH1.27           |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0021-----        | HC00008<br>AC outlet<br>3515 A TYPE(RF-2004-C-4.8)           |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0022-----        | HA02191<br>wire<br>170mm                                     |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0023-----        | HA02190<br>wire<br>150mm                                     |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0024-----        | HA01174<br>signle terminal wiring CF:W146<br>80 green/yellow |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0025-----        | HA00861<br>power cord Europe 3P<br>LT-312+LT-501             |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0026-----        | HI00028<br>power switch<br>PWL-2P2T-T(WP-2-B1)               |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0027-----        | NI00307<br>key<br>15*12                                      |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0028-----        | NI01160<br>switch cap<br>14.5*10 YELLOW C                    |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0029-----        | SA00065<br>L.E.D<br>LG2043 green                             |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0030-----        | HA01388<br>row-wire connector wiring<br>2P 100               |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |
| 0031-----        | NI00217<br>insulator<br>CONTROL30                            |        |       | PCS  | 1.0000<br>1  | 2002/12/25<br>Y                   |

Multi-Level BOM Structure Listing

Report No.: IEB0\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 3 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85-264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No  | Loss % | Ver. | Unit | Cardinal               | Effective Date                    |
|------------------|--|--------|------|------|------------------------|-----------------------------------|
| Component Remark | Item Descri  |        |      |      | Usage Rate             | @:Phantom Layer<br>Attrition Rate |
| 0001-----        | NI00216<br>insulator<br>0.5*130*100                      |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2003/02/25<br>N                   |
| 0001-----        | NI00375<br>film<br>45*60.5*0.5mm                         |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/04/06<br>N                   |
| 0032-----        | NI00200<br>insulator<br>0.5*100*130(DX24)                |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
| 0001-----        | NI00375<br>film<br>45*60.5*0.5mm                         |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2003/02/25<br>N                   |
| 0033-----        | NI00828<br>knob<br>12*7*10.7 072C blue                   |        |      | PCS  | 12.0000<br>1<br>0.00 % | 2002/12/25<br>Y                   |
| 0034-----        | NI02223<br>light piller<br>9*5*2.5                       |        |      | PCS  | 6.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
| 0035-----        | NI02238<br>knob<br>3*W6*25.5 072C                        |        |      | PCS  | 6.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
| 0036-----        | NI02117<br>knob<br>30*12.5                               |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
| 0037-----        | NI02232<br>lacid plastic panel<br>CONTROL60              |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
| 0001-----        | NI00830<br>lacid plastic panel<br>3.5*106*33mm CONTROL60 |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/08/23<br>N                   |
| 0038-----        | TG00029<br>voltage transformer<br>SNP-9541 40W(AC-DC)    |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
| 0039-----        | NI02085<br>power switch<br>22*9.69                       |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
| 0040-----        | NI00501<br>foot cushion<br>12.7*9*3t(SF-004)             |        |      | PCS  | 4.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
| 0041-----        | NA00137<br>clip-chain bag<br>5*7                         |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
| 0042-----        | NA00123<br>PE bag<br>300*580*0.04                        |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
| 0043-----        | HJ00006<br>desiccant<br>30g                              |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
| 0044-----        | NF00061<br>assurance card<br>LTO                         |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
| 0045-----        | NB02168<br>box<br>ALTO DRIVE2.3                          |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2003/01/06<br>Y                   |
| 0046-----        | NB02165<br>barrier<br>ALTO DRIVE2.3                      |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2003/01/07<br>Y                   |
| 0047-----        | NB02166<br>barrier<br>ALTO DRIVE2.3                      |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2003/01/07<br>Y                   |
| 0048-----        | NB02088<br>box<br>(1H) ALTO 19"                          |        |      | PCS  | 1.0000<br>4<br>0.00 %  | 2003/01/07<br>Y                   |
| 0049-----        | NE05004<br>label<br>ALTO                                 |        |      | PCS  | 4.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |

Multi-Level BOM Structure Listing

Report No.: IEB0\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 4 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85~264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No   | Loss % | Ver. | Unit | Cardinal          | Effective Date                 |
|------------------|---|--------|------|------|-------------------|--------------------------------|
| Component Remark | Item Descri   |        |      |      | Usage Rate        | @:Phantom Layer Attrition Rate |
| 0050-----        | NE10445<br>label  |        |      | PCS  | 4.0000<br>1       | 2002/12/25<br>Y                |
| 0001-----        | ALTO DRIVE2.3<br>NH00090<br>paper                           |        |      | PCS  | 0.00<br>1         | %<br>N                         |
| 0001-----        | 30*11mm<br>NH00012<br>bond paper                            |        |      | M    | 330.0000<br>40000 | 2002/05/07<br>N                |
| 0051-----        | 0.04*1M<br>HD00006<br>fuse TSD                              |        |      | PCS  | 1.0000<br>1       | 2002/12/25<br>Y                |
| 0052-----        | 315mA 250V 5.2*20mm CSA/S/UL/VDE<br>MB01408<br>rear board   |        |      | PCS  | 1.0000<br>1       | 2002/12/25<br>Y                |
| 0001-----        | CONTROL60<br>MB01405<br>rear board                          |        |      | PCS  | 0.00<br>1         | %<br>N                         |
| 0001-----        | CONTROL60<br>MB01401<br>rear board                          |        |      | PCS  | 1.0000<br>1       | 2003/01/18<br>N                |
| 0001-----        | CONTROL<br>MJ00059<br>iron board                            |        |      | PCS  | 0.00<br>18        | %<br>N                         |
| 0002-----        | 1.2*2135*1220 24.54kg<br>ME00036<br>iron pillar             |        |      | KG   | 12.0000<br>1      | 2003/01/11<br>Y                |
| 0003-----        | hexagon6.35*M3*9.2<br>MI00009<br>partition                  |        |      | PCS  | 1.0000<br>1       | 2003/01/11<br>Y                |
| 0001-----        | CONTROL30<br>MJ00058<br>iron board                          |        |      | PCS  | 0.00<br>234       | %<br>N                         |
| 0004-----        | 1*2135*1220 20.45kg<br>ME00001<br>screw                     |        |      | KG   | 1.0000<br>1       | 2003/01/11<br>Y                |
| 0005-----        | M4*10*0.7PH<br>MI01357<br>fixed board                       |        |      | PCS  | 0.00<br>1         | %<br>Y                         |
| 0001-----        | CLE2.0<br>MJ00063<br>Zn-plated board                        |        |      | PCS  | 1.0000<br>2542    | 2002/04/14<br>N                |
| 0053-----        | 1.2*2135*1220 24.54kg<br>HK03324<br>K-PC board              |        |      | PCS  | 1.0000<br>1       | 2002/12/25<br>Y                |
| 0001-----        | P-G3FPL-DIP<br>HK03323<br>K-PC board                        |        |      | PCS  | 0.00<br>1         | %<br>Y                         |
| 0001-----        | P-G3FPL-SMD<br>HB00778<br>pc board                          |        |      | PCS  | 1.0000<br>1       | 2002/11/12<br>Y                |
| 0002-----        | G3FPL3(1*4)_VER021005<br>RD00061<br>SMDfixed resistor 1/10W |        |      | PCS  | 0.00<br>2.0000    | %<br>2002/11/28                |
|                  | 10 ±5% 0603<br>R4,R6  |        |      |      | 1<br>0.00         | Y<br>%                         |
| 0003-----        | RD00101<br>SMDfixed resistor 1/10W                          |        |      | PCS  | 4.0000<br>1       | 2002/11/12<br>Y                |
|                  | 10K ±5% 0603<br>R17,R18,R20,R2                              |        |      |      | 0.00              | %                              |
| 0004-----        | CI00075<br>SMDceramic capacitor0603                         |        |      | PCS  | 4.0000<br>1       | 2002/11/12<br>Y                |
|                  | 0.1uF/50V Y5V +80,-20%<br>C10,C19,C20,C8                    |        |      |      | 0.00              | %                              |

Multi-Level BOM Structure Listing

Report No.: IEB0\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 5 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85-264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No   | Loss % | Ver. | Unit | Cardinal              | Effective Date                    |
|------------------|---|--------|------|------|-----------------------|-----------------------------------|
| Component Remark | Item Descri   |        |      |      | Usage Rate            | @:Phantom Layer<br>Attrition Rate |
| 0005-----        | RE00009<br>resistor<br>330 *4 ±5% 8P 0603<br>AR1,AR2  |        |      | PCS  | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0006-----        | SG00072<br>SMD integrated circuit<br>74LVC125AD<br>U10,U8   |        |      | PCS  | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0007-----        | SG00078<br>SMD integrated circuit<br>SN74HC574DW<br>U1,U3   |        |      | PCS  | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0008-----        | SG00105<br>SMD integrated circuit<br>SN74LVX4245ADW(T1)<br>U9                                     |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0009-----        | SF00009<br>voltage stabilized transistor<br>LM1117MP-3.3 (3.3V, SOT223)<br>U7                     |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0010-----        | HC00332<br>SMD FPC<br>MOLEX 52745-2090<br>J1  |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0002-----        | HK03327<br>K-PC board<br>P-G3LED-SMD  |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/27<br>Y                   |
| 0001-----        | HB00781<br>PC board<br>G3LED(1*15)_VER020910  |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0002-----        | SE00002<br>SMD L.E.D<br>red 67-21SURC/S530-A2/TR8 1210  |        |      | PCS  | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0003-----        | SE00004<br>SMD L.E.D<br>yellow 67-21UYC/S530-A2/TR8 1210<br>LD13,LD7                              |        |      | PCS  | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0004-----        | SE00003<br>SMD L.E.D<br>green 67-21SYGC/S530-E1/TR8 1210<br>LD10,LD11,LD14,LD15,LD16,LD17,LD8,LD9 |        |      | PCS  | 8.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0003-----        | CB00024<br>electrotytic capacitor<br>10uF/16V 4*7<br>C16,C18,C21                                  |        |      | PCS  | 3.0000<br>1<br>0.00 % | 2002/11/27<br>Y                   |
| 0004-----        | SB00095<br>transistor<br>H2N6718L-A<br>Q1,Q2,Q3   |        |      | PCS  | 3.0000<br>1<br>0.00 % | 2002/11/27<br>Y                   |
| 0005-----        | HC00223<br>row pin<br>2.54 180° 7P 3/8/3mm<br>CN1,CN2   |        |      | PCS  | 2.0000<br>1<br>0.00 % | 2002/11/27<br>Y                   |
| 0006-----        | HC00263<br>row-wire header<br>2P 2.5mm 90°  |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/27<br>Y                   |

Multi-Level BOM Structure Listing

Report No.: IEBO\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 6 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85~264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No   | Loss % | Ver. | Unit      | Cardinal      | Effective Date                 |
|------------------|---|--------|------|-----------|---------------|--------------------------------|
| Component Remark | Item Descri   |        |      |           | Usage Rate    | @:Phantom Layer Attrition Rate |
| J3               |   |        |      |           |               |                                |
| 0007-----        | HE00015<br>LCD模組<br>LCD                             |        |      | PCS       | 1.0000<br>1   | 2002/11/27<br>Y                |
| 0008-----        | @MJ00890<br>fixed board<br>CONTROL60 LCD            |        |      | PCS       | 1.0000<br>1   | 2002/11/27<br>Y                |
| 0001-----        | MJ00889<br>iron boaed<br>1*71.2*39.8                |        |      | PCS       | 1.0000<br>1   | 2003/02/25<br>N                |
| 0001-----        | MJ00999<br>AL board<br>1*2000*1000 5.44kg           |        |      | PCS<br>KG | 1.0000<br>705 | 2002/06/09<br>N                |
| 0009-----        | MG00243<br>copper tube<br>M3-0.5PH*5single length11 |        |      | PCS       | 4.0000<br>1   | 2002/11/27<br>Y                |
| 0010-----        | MG00036<br>screw<br>M3*4                            |        |      | PCS       | 4.0000<br>1   | 2002/11/27<br>Y                |
| 0011-----        | ME00015<br>colour nut<br>3m/m                       |        |      | PCS       | 4.0000<br>1   | 2002/11/27<br>Y                |
| 0012-----        | MI00153<br>front board<br>37.5*41*11mm CONTROL60    |        |      | PCS       | 1.0000<br>1   | 2003/01/06<br>%                |
| 0001-----        | MJ00833<br>iron board<br>1.2*365*72                 |        |      | PCS       | 1.0000<br>1   | 2003/02/24<br>N                |
| 0001-----        | MJ00063<br>Zn-plated board<br>1.2*2135*1220 24.54kg |        |      | PCS<br>KG | 1.0000<br>99  | 2002/03/04<br>N                |
| 0013-----        | MI00876<br>front board<br>CONTROL60                 |        |      | PCS       | 1.0000<br>1   | 2003/01/06<br>%                |
| 0001-----        | MJ00063<br>Zn-plated board<br>1.2*2135*1220 24.54kg |        |      | PCS<br>KG | 1.0000<br>102 | 2003/02/25<br>N                |
| 0002-----        | ME00038<br>iron pillar<br>hexagon6.35*M3*8.4        |        |      | PCS       | 6.0000<br>1   | 2003/02/25<br>N                |
| 0003-----        | ME00043<br>iron pillar<br>hexagon6.35*M3*0.5PH*14   |        |      | PCS       | 2.0000<br>1   | 2003/02/25<br>N                |
| 0014-----        | MG00041<br>screw<br>M3*6                            |        |      | PCS       | 13.0000<br>1  | 2003/01/10<br>%                |
| 0054-----        | HK03334<br>K-PC board<br>P-G3FPR-2-DIP              |        |      | PCS       | 1.0000<br>1   | 2002/12/25<br>Y                |
| 0001-----        | HK03325<br>K-PC board<br>P-G3FPR-SMD                |        |      | PCS       | 1.0000<br>1   | 2002/11/12<br>Y                |
| 0001-----        | HB00780<br>pc board<br>G3FPR3(1*4)_VER021005        |        |      | PCS       | 1.0000<br>1   | 2002/11/12<br>Y                |
| 0002-----        | RD00059<br>SMDfixed resistor 1/10W<br>0 ±5% 0603    |        |      | PCS       | 8.0000<br>1   | 2002/11/12<br>Y                |
|                  | R24,R25,R26,R27,R28,R29,R30,R31                     |        |      |           | 0.00          | %                              |
| 0003-----        | RD00061<br>SMDfixed resistor 1/10W<br>10 ±5% 0603   |        |      | PCS       | 3.0000<br>1   | 2002/11/28<br>Y                |
|                  | R5,R7,R8  |        |      |           | 0.00          | %                              |

Multi-Level BOM Structure Listing

Report No.: IEB0\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 7 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85-264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No   | Loss % | Ver. | Unit | Cardinal              | Effective Date                 |
|------------------|---|--------|------|------|-----------------------|--------------------------------|
| Component Remark | Item Descri   |        |      |      | Usage Rate            | @:Phantom Layer Attrition Rate |
| 0004-----        | RD00083<br>SMDfixed resistor 1/10W<br>1.0K ±5% 0603<br>R32,R33                      |        |      | PCS  | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0005-----        | RD00095<br>SMDfixed resistor 1/10W<br>5.6K ±5% 0603<br>R22,R23,R34,R35              |        |      | PCS  | 4.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0006-----        | CI00059<br>SMDceramic capacitor0603<br>100PF/50V NPO ±5%<br>C1,C2,C3,C4,C5,C6,C7    |        |      | PCS  | 7.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0007-----        | CI00071<br>SMDceramic capacitor0603<br>0.01uF/50V X7R ±10%<br>C13,C14               |        |      | PCS  | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0008-----        | CI00075<br>SMDceramic capacitor0603<br>0.1uF/50V Y5V +80,-20%<br>C11,C12,C15,C17,C9 |        |      | PCS  | 5.0000<br>1<br>0.00 % | 2002/11/28<br>Y                |
| 0009-----        | RE00001<br>SMDrow resistor1/16W<br>10K *4 ±5% 8P 0603<br>AR3,AR4                    |        |      | PCS  | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0010-----        | SG00068<br>SMD integrated circuit<br>74HC14DT<br>U6                                 |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0011-----        | SG00103<br>SMD integrated circuit<br>74HC573DT<br>U2                                |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0012-----        | SG00078<br>SMD integrated circuit<br>SN74HC574DW<br>U5                              |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0002-----        | RA00184<br>fixed resistor 1/4W<br>100 M type  |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0003-----        | HI00107<br>switch<br>RE111-20B3-15F-15P<br>SW1                                      |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0004-----        | HC00065<br>row-wire header<br>2P 2.5mm 90°<br>J0                                    |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0005-----        | HC00161<br>row-pin(single)#5200<br>2.0 180° 2*8P(gold-plated) 4/8.5mm<br>CON3,CON4  |        |      | PCS  | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0006-----        | SA00072<br>L.E.D<br>3 red LI2340/A<br>LD10,LD11,LD12,LD7,LD8-1,LD9                  |        |      | PCS  | 6.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |

Multi-Level BOM Structure Listing

Report No.: IEBO\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 8 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85~264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No   | Loss % | Ver. | Unit | Cardinal               | Effective Date                    |
|------------------|---|--------|------|------|------------------------|-----------------------------------|
| Component Remark | Item Descri   |        |      |      | Usage Rate             | @:Phantom Layer<br>Attrition Rate |
| 0007-----        | HI00041<br>button swith<br>6*6*5  |        |      | PCS  | 12.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
|                  | S1, S11, S12, S13, S14, S2, S3, S4, S5, S6, S7, S8  |        |      |      |                        |                                   |
| 0008-----        | HA02167<br>wire   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2003/01/13                        |
|                  | 20P-20P 85mm 灰 PH=1.27mm  |        |      |      |                        |                                   |
| 0009-----        | HC00458<br>label  |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2003/03/04                        |
|                  | 2.54 180° 3P5/7.5mm   |        |      |      |                        |                                   |
| 0055-----        | HK03335<br>K-PC board   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/12/25<br>Y                   |
|                  | P-G3PU2-4-DIP   |        |      |      |                        |                                   |
| 0001-----        | HK03327<br>K-PC board   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                   |
|                  | P-G3LED-SMD   |        |      |      |                        |                                   |
| 0001-----        | HB00781<br>PC board   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                   |
|                  | G3LED(1*15)_VER020910   |        |      |      |                        |                                   |
| 0002-----        | SE00002<br>SMD L.E.D  |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                   |
|                  | red 67-21SURC/S530-A2/TR8 1210  |        |      |      |                        |                                   |
| 0003-----        | SE00004<br>SMD L.E.D  |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                   |
|                  | yellow 67-21UYC/S530-A2/TR8 1210<br>LD13, LD7   |        |      |      |                        |                                   |
| 0004-----        | SE00003<br>SMD L.E.D  |        |      | PCS  | 8.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                   |
|                  | green 67-21SYGC/S530-E1/TR8 1210<br>LD10, LD11, LD14, LD15, LD16, LD17, LD8, LD9  |        |      |      |                        |                                   |
| 0002-----        | HB00790<br>pc board   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/11/27<br>Y                   |
|                  | G3PU2_VER021005   |        |      |      |                        |                                   |
| 0003-----        | HA01920<br>jumper wire  |        |      | PCS  | 19.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
|                  | 6mm<br>JP12, JP13, JP14, JP15, JP16, JP17, JP19, JP20, JP21, JP22,<br>JP24, JP25, JP26, JP30, JP31, JP34, JP35, JP36, JP7 |        |      |      |                        |                                   |
| 0001-----        | HA02249<br>wire   |        |      | M    | 0.0160<br>1<br>0.00 %  | 2002/09/19<br>N                   |
|                  | 0.6   |        |      | KG   |                        |                                   |
| 0004-----        | HA01922<br>jumper wire  |        |      | PCS  | 4.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                   |
|                  | 8mm<br>JP23, JP32, JP8, JP9   |        |      |      |                        |                                   |
| 0001-----        | HA02249<br>wire   |        |      | M    | 0.0180<br>1<br>0.00 %  | 2002/09/19<br>N                   |
|                  | 0.6   |        |      | KG   |                        |                                   |
| 0005-----        | HA01925<br>jumper wire  |        |      | PCS  | 14.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
|                  | 10mm<br>JP1, JP10, JP11, JP18, JP3, JP33, JP37, JP38, JP39, JP4, JP40,<br>JP41, JP5, JP6                                  |        |      |      |                        |                                   |
| 0001-----        | HA02249<br>wire   |        |      | M    | 0.0200<br>1<br>0.00 %  | 2002/09/19<br>N                   |
|                  | 0.6   |        |      | KG   |                        |                                   |
| 0006-----        | HA01928<br>jumper wire  |        |      | PCS  | 3.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                   |
|                  | 12mm<br>JP27, JP28, JP29  |        |      |      |                        |                                   |



Multi-Level BOM Structure Listing

Report No.: IEBO\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 9 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85~264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No   | Loss % | Ver. | Unit    | Cardinal              | Effective Date                    |
|------------------|---|--------|------|---------|-----------------------|-----------------------------------|
| Component Remark | Item Descri   |        |      |         | Usage Rate            | @:Phantom Layer<br>Attrition Rate |
| 0001-----        | HA02249<br>wire<br>0.6  |        |      | M<br>KG | 0.0220<br>1<br>0.00 % | 2002/09/19<br>N                   |
| 0007-----        | RA00161<br>fixed resistor 1/4W<br>15 M type<br>R153   |        |      | PCS     | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0008-----        | RA00178<br>fixed resistor 1/4W<br>68 M type<br>R66,R67                                      |        |      | PCS     | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0009-----        | RA00194<br>fixed resistor 1/4W<br>220 M type<br>R158,R159,R160,R161,R162                    |        |      | PCS     | 5.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0010-----        | RA00206<br>fixed resistor 1/4W<br>560 F type<br>R128,R129,R130,R131,R132,R133,R134,R135     |        |      | PCS     | 8.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0011-----        | RA00231<br>fixed resistor 1/4W<br>4.7K M type<br>R156,R157                                  |        |      | PCS     | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0012-----        | RA00170<br>fixed resistor 1/4W<br>33 M type<br>R104,R105,R106,R107,R108,R109,R110,R111      |        |      | PCS     | 8.0000<br>1<br>0.00 % | 2002/12/19<br>Y                   |
| 0013-----        | RA00475<br>precise resistor 1/4W<br>1.50K M type<br>R140,R142,R144,R146                     |        |      | PCS     | 4.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0014-----        | RA00481<br>precise resistor 1/4W<br>2.43K M type<br>R116,R117,R118,R119,R120,R121,R122,R123 |        |      | PCS     | 8.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0015-----        | RA00515<br>precise resistor 1/4W<br>10.0K M type<br>R26,R27,R34,R35                         |        |      | PCS     | 4.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0016-----        | RA00524<br>precise resistor 1/4W<br>15.0k M type<br>R2,R3,R4,R5,R6,R7,R8,R9                 |        |      | PCS     | 8.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0017-----        | RA00530<br>precise resistor 1/4W<br>18.2K M type<br>R10,R11                                 |        |      | PCS     | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0018-----        | RA00544<br>precise resistor 1/4W<br>33.0K M type<br>R152                                    |        |      | PCS     | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |
| 0019-----        | RA00549<br>precise resistor 1/4W<br>39.2K M type  |        |      | PCS     | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                   |

Multi-Level BOM Structure Listing

Report No.: IEBO\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 10 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85~264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No   | Loss % | Ver. | Unit | Cardinal               | Effective Date                 |
|------------------|---|--------|------|------|------------------------|--------------------------------|
| Component Remark | Item Descri   |        |      |      | Usage Rate             | @:Phantom Layer Attrition Rate |
|                  | R18,R19   |        |      |      |                        |                                |
| 0020-----        | RA00567<br>precise resistor 1/4W<br>100K M type<br>R141,R143,R145,R147  |        |      | PCS  | 4.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                |
| 0021-----        | CA00008<br>ceramic capacitor<br>22PF NPO<br>C16,C17,C20,C21   |        |      | PCS  | 4.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                |
| 0022-----        | CA00015<br>ceramic capacitor<br>47PF NPO<br>C73,C74   |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                |
| 0023-----        | CF00070<br>capacitor<br>0.0015uF/63V 2.5%(PFR5 152H63J11L4)<br>C65,C66  |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                |
| 0024-----        | CH00017<br>heap-layer capacitor (stand)<br>0.1uF/50V Y5V PH5<br>C13,C14,C75,C76,C83,C84,C86,C97,C99                     |        |      | PCS  | 9.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                |
| 0025-----        | CB00039<br>electrotytic capacitor<br>47uF/25V<br>C39,C40,C41,C42,C44,C46,C50,C52,C98                                    |        |      | PCS  | 9.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                |
| 0026-----        | CB00071<br>electrotytic capacitor<br>1000uF/25V<br>C81,C82,C93  |        |      | PCS  | 3.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                |
| 0027-----        | CB00079<br>electrotytic capacitor<br>2200uF/25V 13*25<br>C77  |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2003/01/15<br>Y                |
| 0028-----        | SA00093<br>rectifier diode<br>1N4148 0.5A<br>D1,D2,D3,D4,D5   |        |      | PCS  | 5.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                |
| 0029-----        | SA00100<br>zener diode<br>1W 6.2V 1N4735<br>ZD1,ZD2,ZD3,ZD4,ZD5,ZD6,ZD7,ZD8   |        |      | PCS  | 8.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                |
| 0030-----        | SB00034<br>transistor<br>2SC1815GR<br>Q1,Q2,Q3,Q4   |        |      | PCS  | 4.0000<br>1<br>0.00 %  | 2002/11/12<br>Y                |
| 0031-----        | CG00018<br>filter-EMI FILTER<br>LF-22UH(WAH TAYI)<br>L1,L10,L11,L12,L17,L18,L19,L2,L20,L21,L22,L3,L4,L5,L6,<br>L7,L8,L9 |        |      | PCS  | 18.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0032-----        | SD00121<br>integrated circuit<br>JRC NJM2068DD<br>U1,U2   |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2003/01/15<br>Y                |

Multi-Level BOM Structure Listing

Report No.: IEBO\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 11 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85~264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No   | Loss % | Ver. | Unit | Cardinal              | Effective Date                 |
|------------------|---|--------|------|------|-----------------------|--------------------------------|
| Component Remark | Item Descri   |        |      |      | Usage Rate            | @:Phantom Layer Attrition Rate |
| 0033-----        | SB00013<br>light-electron transistor<br>6N138 (QTC)<br>U13                          |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0034-----        | SD00062<br>integrated circuit<br>74HC04N<br>U11                                     |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0035-----        | HI00008<br>raley<br>RY-12W-K 12V<br>RL1,RL2,RL3,RL4                                 |        |      | PCS  | 4.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0036-----        | HC00263<br>row-wire header<br>2P 2.5mm 90°<br>J2                                    |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0037-----        | HC00065<br>row-wire header<br>2P 2.5mm 90°<br>CN7                                   |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0038-----        | HC00080<br>row-wire header<br>6P 2.5mm 180°<br>J1                                   |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0039-----        | HC00437<br>row-wire stock<br>6P 3.96mm 180°<br>J7                                   |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0040-----        | HC00356<br>row-pin(double)#2200<br>2.54 180° 2*4P(gold-plated) 6/11.6mm<br>J3,J4,J5 |        |      | PCS  | 3.0000<br>1<br>0.00 % | 2003/01/15<br>Y                |
| 0041-----        | HC00219<br>DIN socket<br>5PIN(JY-5005)<br>S10,S11,S9                                |        |      | PCS  | 3.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0042-----        | HC00112<br>MIC jack for balance<br>99M-107SP-1-2 90° PUSH<br>S1,S2                  |        |      | PCS  | 2.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0043-----        | HC00111<br>MIC jack for balance<br>99M-108SP1<br>S3,S4,S5,S6                        |        |      | PCS  | 4.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0044-----        | HC00339<br>connect terminal<br>6.5m/m (PCF250)<br>JR1                               |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |
| 0056-----        | HK03330<br>K-PC board<br>P-BAL0216-DIP  |        |      | PCS  | 4.0000<br>1<br>0.00 % | 2002/12/25<br>Y                |
| 0001-----        | HK03329<br>K-PC board<br>P-BAL0216-SMD  |        |      | PCS  | 1.0000<br>1<br>0.00 % | 2002/11/12<br>Y                |

Multi-Level BOM Structure Listing

Report No.: IEBO\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 12 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3  
 ALTO DRIVE2.3 ALTO\_85-264V 歐規 CHINA

UNIT: PCS  
 Date: 2002/12/25

| Version          | Item No   | Loss % | Ver. | Unit | Cardinal            | Effective Date                 |
|------------------|---|--------|------|------|---------------------|--------------------------------|
| Component Remark | Item Descri   |        |      |      | Usage Rate          | @:Phantom Layer Attrition Rate |
| 0001-----        | HB00705<br>PCB  |        |      | PCS  | 1.0000<br>1         | 2002/11/12<br>Y                |
| 0002-----        | BAL0216(1*20)_VER020505<br>C100051<br>SMDceramic capacitor0603<br>22PF/50V NPO ±5%<br>C22,C24,C77 |        |      | PCS  | 0.00<br>3.0000<br>1 | %<br>2002/11/12<br>Y           |
| 0003-----        | C100128<br>capacitor<br>0.1uF/25V Y5V +80,-20%<br>C20,C21   |        |      | PCS  | 2.0000<br>1         | 2002/11/12<br>Y                |
| 0004-----        | RD00343<br>resistor<br>75 ±1% 0603<br>C92,C93   |        |      | PCS  | 2.0000<br>1         | 2002/11/12<br>Y                |
| 0005-----        | RD00214<br>SMDprecise resistor 1/10W<br>10.0K ±1% 0603<br>R28,R36,R37,R38,R39,R41                 |        |      | PCS  | 6.0000<br>1         | 2002/11/12<br>Y                |
| 0006-----        | RD00344<br>resistor<br>11.5K ±1% 0603<br>R68,R69,R70,R72  |        |      | PCS  | 4.0000<br>1         | 2002/11/12<br>Y                |
| 0007-----        | RD00358<br>resistor<br>18.2K ±1% 0603<br>R12  |        |      | PCS  | 1.0000<br>1         | 2002/11/12<br>Y                |
| 0008-----        | RD00317<br>resistor<br>39.2K ±1% 0603<br>R20  |        |      | PCS  | 1.0000<br>1         | 2002/11/12<br>Y                |
| 0009-----        | SG00118<br>SMD integrated circuit<br>MC33079DT(ST)MC33079D(ON)<br>U3                              |        |      | PCS  | 1.0000<br>1         | 2002/11/12<br>Y                |
| 0002-----        | CF00070<br>capacitor<br>0.0015uF/63V 2.5%(PFR5 152H63J11L4)<br>C67                                |        |      | PCS  | 1.0000<br>1         | 2002/11/12<br>Y                |
| 0003-----        | CB00037<br>electrotytic capacitor<br>47uF/16V 6.3*5<br>C43,C45                                    |        |      | PCS  | 2.0000<br>1         | 2002/11/12<br>Y                |
| 0004-----        | HC00406<br>row pin<br>2.54 90°9P 6/14mm 1.2mm<br>CN1  |        |      | PCS  | 1.0000<br>1         | 2002/11/12<br>Y                |
| 0057-----        | HK02966<br>K-PC board<br>P-MFB4*4PRO-DIP_AM/2DSP  |        |      | PCS  | 1.0000<br>1         | 2002/12/25<br>Y                |
| 0001-----        | HK02965<br>K-PC board<br>P-MFB4*4PRO-SMD_2DSP   |        |      | PCS  | 0.00<br>1.0000      | %<br>2002/10/06<br>Y           |
| 0001-----        | HB00627<br>PCB<br>MFB4x4PRO(1*2)_VRB020412  |        |      | PCS  | 0.00<br>1.0000<br>1 | %<br>2002/10/06<br>N           |

Multi-Level BOM Structure Listing

Report No.: IEBO\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 13 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85~264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No   | Loss % | Ver. | Unit | Cardinal Usage Rate    | Effective Date  |
|------------------|---|--------|------|------|------------------------|-----------------|
| Component Remark | Item Descri   |        |      |      | Attrition Rate         | @:Phantom Layer |
| 0002-----        | RD00002<br>SMDfixed resistor 1/10W<br>0 ±5% 0805<br>R35, R37, R3, R50, R67, R72, R73  |        |      | PCS  | 7.0000<br>1<br>0.00 %  | 2002/12/19<br>N |
| 0003-----        | RD00006<br>SMDfixed resistor 1/10W<br>100 ±5% 0805<br>R1, R111, R112, R135, R136, R141, R145, R147, R148, R149, R152, R153, R155, R156, R17, R2, R23, R24, R29, R30, R34, R36, R38, R39, R40, R41, R142, R43, R48, R49, R51, R52, R53, R54, R55, R56, R57, R60, R61, R62, R66, R68, R69, R78, R79, R80, R81, R82, R83, R86, R87, R90, R91, R92, R93 |        |      | PCS  | 55.0000<br>1<br>0.00 % | 2002/10/06<br>N |
| 0004-----        | RD00018<br>SMDfixed resistor 1/10W<br>1.0K ±5% 0805<br>R15, R16, R20, R22, R32, R5, R6  |        |      | PCS  | 7.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0005-----        | RD00020<br>SMDfixed resistor 1/10W<br>1.5K ±5% 0805<br>R113   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0006-----        | RD00027<br>SMDfixed resistor 1/10W<br>4.7K ±5% 0805<br>R138, R139, R7, R70, R75, R8   |        |      | PCS  | 6.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0007-----        | RD00032<br>SMDfixed resistor 1/10W<br>10K ±5% 0805<br>R12, R143, R144, R150, R33, R9  |        |      | PCS  | 6.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0008-----        | RD00043<br>SMDfixed resistor 1/10W<br>39K ±5% 0805<br>R154  |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0009-----        | RD00044<br>SMDfixed resistor 1/10W<br>47K ±5% 0805<br>R10, R11, R13, R14, R59, R65  |        |      | PCS  | 6.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0010-----        | RD00052<br>SMDfixed resistor 1/10W<br>220K ±5% 0805<br>R25, R26, R27, R28, R42, R63   |        |      | PCS  | 6.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0011-----        | RE00003<br>SMDrow resistor1/8W<br>100 *4 ±5% 8P YC-324<br>AR1, AR10, AR11, AR12, AR13, AR14, AR15, AR16, AR17, AR18, AR19, AR2, AR20, AR21, AR22, AR23, AR24, AR25, AR28, AR29, AR3, AR30, AR31, AR32, AR33, AR4, AR5, AR6, AR7, AR8, AR9   |        |      | PCS  | 31.0000<br>1<br>0.00 % | 2002/10/06<br>N |
| 0012-----        | RE00004<br>SMDrow resistor1/8W<br>100K *4 ±5% 8P YC-324<br>AR26, AR27   |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0013-----        | CI00007<br>SMDceramic capacitor0805<br>22PF/50V NPO<br>C1, C2   |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2002/10/06<br>N |

Multi-Level BOM Structure Listing

Report No.: IEB0\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 14 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85~264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No  | Loss % | Ver. | Unit | Cardinal               | Effective Date  |
|------------------|--|--------|------|------|------------------------|-----------------|
| Component Remark | Item Descri  |        |      |      | Usage Rate             | @:Phantom Layer |
|                  |  |        |      |      | Attrition              | Rate            |
| 0014-----        | CI00019<br>SMDceramic capacitor0805<br>470PF/50V NPO ±5%<br>C100,C101,C25,C26,C44,C45,C62,C63,C69,C70  |        |      | PCS  | 10.0000<br>1<br>0.00 % | 2002/10/06<br>N |
| 0015-----        | CI00029<br>SMDceramic capacitor0805<br>0.1uF/50V Y5V<br>C13,C14,C15,C16,C17,C27,C28,C29,C3,C30,C35,C36,C37,<br>C38,C41,C42,C43,C46,C47,C48,C49,C5,C50,C51,C52,C53,<br>C54,C55,C56,C58,C59,C7,C73,C75,C76,C77,C79,C82,C83,<br>C84,C88,C93,C97,C98,C99 |        |      | PCS  | 45.0000<br>1<br>0.00 % | 2002/10/06<br>N |
| 0016-----        | SE00011<br>SMD rectifier diode<br>RLS4148 0.5A (LL-34)<br>D1   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0017-----        | SG00067<br>SMD integrated circuit<br>74HC04DT<br>U23,U8  |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0018-----        | SG00073<br>SMD integrated circuit<br>74HC08DT<br>U7  |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0019-----        | SG00068<br>SMD integrated circuit<br>74HC14DT<br>U15   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0020-----        | SG00074<br>SMD integrated circuit<br>74HC32DT<br>U18   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0021-----        | SG00066<br>SMD integrated circuit<br>74HC74DT<br>U10   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0022-----        | SG00132<br>integrated circuit<br>74HC138DT<br>U9   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0023-----        | SG00093<br>SMD integrated circuit<br>74HC245DT<br>U11,U12,U22  |        |      | PCS  | 3.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0024-----        | SG00078<br>SMD integrated circuit<br>SN74HC574DW<br>U1,U13,U14,U19,U5  |        |      | PCS  | 5.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0025-----        | SG00025<br>SMD integratd circuit<br>24LC64I/SN<br>U34,U6   |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0026-----        | SG00102<br>SMD integrated circuit<br>BS62LV256SC-70<br>U20   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>N |

Multi-Level BOM Structure Listing

Report No.: IEBO\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 15 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85~264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No  | Loss % | Ver. | Unit | Cardinal               | Effective Date  |
|------------------|--|--------|------|------|------------------------|-----------------|
| Component Remark | Item Descri  |        |      |      | Usage Rate             | @:Phantom Layer |
|                  |  |        |      |      | Attrition              | Rate            |
| 0027-----        | SG00011<br>SMD integratd circuit<br>PCM1716E<br>U26,U31  |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0028-----        | SG00010<br>SMD integratd circuit<br>PCM1800E<br>U27,U29  |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0029-----        | SG00114<br>smd integrated circuit<br>TMS57002DPHA<br>U21,U3  |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0030-----        | SG00115<br>smd integrated circuit<br>MB81C4256A-60PJ<br>U16,U17,U28,U30  |        |      | PCS  | 4.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0031-----        | C000006<br>SMD inductor<br>BLM21A102SPT<br>L3,L4,L5,L6   |        |      | PCS  | 4.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0032-----        | HC00227<br>ICjack (SMD)<br>PLCC44 (D03-44T.A.4)  |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>N |
| 0002-----        | RA00158<br>fixed resistor 1/4W<br>0 M type<br>J1,J2,J3,J4  |        |      | PCS  | 4.0000<br>1<br>0.00 %  | 2002/10/06<br>Y |
| 0003-----        | CB00009<br>electrolytic capacitor<br>1uF/50V 4*7<br>C4,C74   |        |      | PCS  | 2.0000<br>1<br>0.00 %  | 2002/10/06<br>Y |
| 0004-----        | CB00024<br>electrotytic capacitor<br>10uF/16V 4*7<br>C18,C19,C20,C21,C22,C23,C24,C31,C32,C33,C34,C6,C60,<br>C61,C64,C65,C66,C68,C78,C8,C80,C81,C85,C86,C87 |        |      | PCS  | 25.0000<br>1<br>0.00 % | 2002/10/06<br>Y |
| 0005-----        | CB00036<br>electrolytic capacitor<br>47uF/16V 6.3*7<br>C57   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>Y |
| 0006-----        | CB00053<br>electrolytic capacitor<br>100uF/16V 6.3*7<br>C67  |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>Y |
| 0007-----        | SC00003<br>quartz crystalloid<br>12.000MHZ HC-49/US ±20PPM<br>Y1   |        |      | PCS  | 1.0000<br>1<br>0.00 %  | 2002/10/06<br>Y |
| 0008-----        | SA00053<br>L.E.D high intensity<br>3m/m round(red)long foot 26mm<br>DL1,DL2,DL3,DL4  |        |      | PCS  | 4.0000<br>1<br>0.00 %  | 2002/10/06<br>Y |

Multi-Level BOM Structure Listing

Report No.: IEB0\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 1 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85~264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No                | Loss % | Ver. | Unit | Cardinal   | Effective Date  |
|------------------|------------------------|--------|------|------|------------|-----------------|
| Component Remark | Item Descri            |        |      |      | Usage Rate | @:Phantom Layer |
|                  |                        |        |      |      | Attrition  | Rate            |
| 0001-----        | MA02930<br>panel       |        |      | PCS  | 1.0000     | 2002/12/25      |
|                  | ALTO DRIVER2.3 ALTO    |        |      |      | 1          | Y               |
| 0001-----        | MA02929<br>panel       |        |      | PCS  | 0.00       | %               |
|                  | ALTO DRIVER2.3         |        |      |      | 1.0000     | 2003/01/06      |
| 0001-----        | MA03528<br>panel       |        |      | PCS  | 0.00       | %               |
|                  | CONTROL60              |        |      |      | 1.0000     | 2003/01/03      |
| 0001-----        | MA03086<br>panel       |        |      | PCS  | 0.00       | %               |
|                  | CONTROL60              |        |      |      | 1.0000     | 2002/07/12      |
| 0001-----        | MI01380<br>panel       |        |      | PCS  | 0.00       | %               |
|                  | 44.2*6.5*483           |        |      |      | 1.0000     | 2003/04/11      |
| 0002-----        | MB02022<br>rear board  |        |      | PCS  | 0.00       | %               |
|                  | ALTO DRIVER2.3         |        |      |      | 1.0000     | 2002/12/25      |
| 0001-----        | MB02019<br>rear board  |        |      | PCS  | 0.00       | %               |
|                  | ALTO DRIVER2.3         |        |      |      | 1.0000     | 2002/03/05      |
| 0001-----        | MB02021<br>rear board  |        |      | PCS  | 0.00       | %               |
|                  | ALTO DRIVER2.3         |        |      |      | 1.0000     | 2002/03/05      |
| 0001-----        | MJ00831<br>iron board  |        |      | PCS  | 0.00       | %               |
|                  | 1*490*274              |        |      |      | 1.0000     | 2002/03/05      |
| 0001-----        | MJ00058<br>iron board  |        |      | PCS  | 0.00       | %               |
|                  | 1*2135*1220 20.45kg    |        |      | KG   | 19         | N               |
| 0003-----        | MC00388<br>top cover   |        |      | PCS  | 1.0000     | 2002/12/25      |
|                  | CONTROL60              |        |      |      | 1          | Y               |
| 0001-----        | MC00386<br>top cover   |        |      | PCS  | 0.00       | %               |
|                  | CONTROL60              |        |      |      | 1.0000     | 2003/01/20      |
| 0001-----        | MC00387<br>top cover   |        |      | PCS  | 0.00       | %               |
|                  | CONTROL60              |        |      |      | 1.0000     | 2002/03/06      |
| 0001-----        | MJ00059<br>iron board  |        |      | PCS  | 0.00       | %               |
|                  | 1.2*2135*1220 24.54kg  |        |      | KG   | 20         | N               |
| 0004-----        | ME00016<br>colour nut  |        |      | PCS  | 1.0000     | 2002/12/25      |
|                  | 4m/m                   |        |      |      | 1          | Y               |
| 0005-----        | MF00038<br>washer      |        |      | PCS  | 0.00       | %               |
|                  | 4* 7*1t                |        |      |      | 1.0000     | 2002/12/25      |
| 0006-----        | MF00048<br>washer      |        |      | PCS  | 0.00       | %               |
|                  | 4* 8*0.5t              |        |      |      | 2.0000     | 2002/12/25      |
| 0007-----        | MG00041<br>screw       |        |      | PCS  | 13.0000    | 2003/01/10      |
|                  | M3*6                   |        |      |      | 1          | Y               |
| 0008-----        | MG00166<br>screw       |        |      | PCS  | 0.00       | %               |
|                  | M3*10                  |        |      |      | 1.0000     | 2002/12/25      |
| 0009-----        | NC00089<br>wood washer |        |      | PCS  | 0.00       | %               |
|                  | 4* 10*1                |        |      |      | 1.0000     | 2002/12/25      |
| 0001-----        | NC00088<br>insulation  |        |      | KG   | 0.00       | %               |
|                  | 10*1                   |        |      |      | 1.0000     | 2003/02/25      |
| 0001-----        | NC00014<br>insulator   |        |      | KG   | 100.0000   | 2002/04/04      |
|                  | 0.65M*60M*1t           |        |      |      | 39000000   | N               |
|                  |                        |        |      |      | 0.00       | %               |



Multi-Level BOM Structure Listing

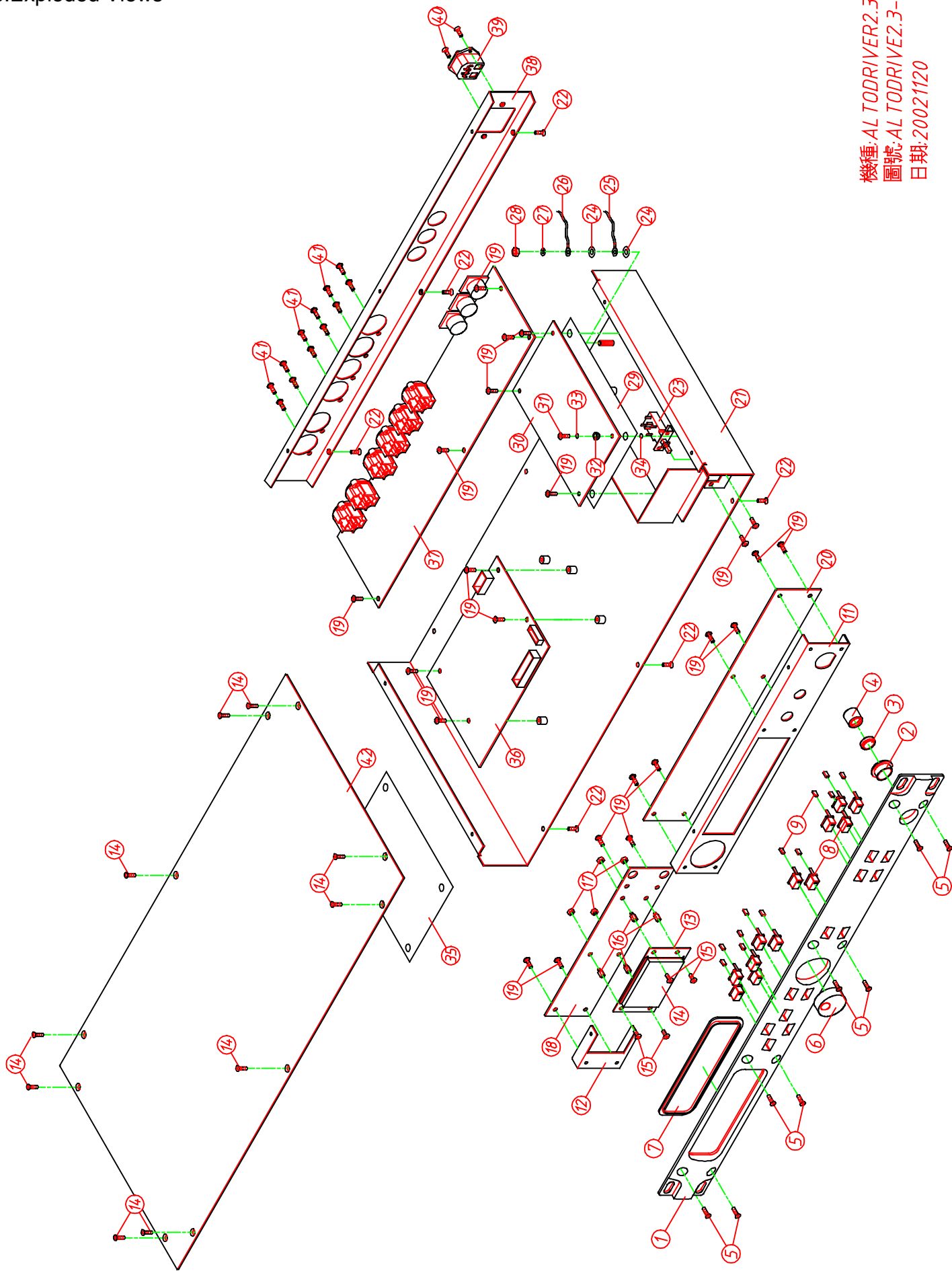
Report No.: IEBO\_P02  
 Prepared by 980029[廖芙蓉]

Date 2003/04/12  
 Page No.: 16 / 16

Item No. PF00711 Version  
 DESCRIPTION: ALTO DRIVE2.3 UNIT: PCS  
 ALTO DRIVE2.3 ALTO 85-264V 歐規 CHINA Date: 2002/12/25

| Version          | Item No  | Loss % | Ver. | Unit | Cardinal                | Effective Date  |
|------------------|--|--------|------|------|-------------------------|-----------------|
| Component Remark | Item Descri  |        |      |      | Usage Rate              | @:Phantom Layer |
|                  |  |        |      |      | Attrition Rate          |                 |
| 0009-----        | HC00356<br>row-pin(double)#2200<br>2.54 180° 2*4P(gold-plated) 6/11.6mm<br>CN3,CN4,CN5 |        |      | PCS  | 3.0000<br>1<br>0.00 %   | 2002/10/06<br>Y |
| 0010-----        | HC00154<br>row-pin(double)#2200<br>2.54 180° 2*10P(gold-plated) 6/11.6mm<br>CN1        |        |      | PCS  | 1.0000<br>1<br>0.00 %   | 2002/10/06<br>Y |
| 0011-----        | HC00080<br>row-wire header<br>6P 2.5mm 180°<br>CN2                                     |        |      | PCS  | 1.0000<br>1<br>0.00 %   | 2002/10/06<br>Y |
| 0012-----        | HC00359<br>row-pin(single)#1100<br>2.54 180° 4P(gold-plated) 6/11.6mm<br>CN6           |        |      | PCS  | 1.0000<br>1<br>0.00 %   | 2002/10/06<br>Y |
| 0013-----        | NI01779<br>LED spacer support<br>LEDS-1 1mm  |        |      | PCS  | 4.0000<br>1<br>0.00 %   | 2002/10/06<br>Y |
| 0014-----        | SG00125<br>integrated circuit<br>P89C51RD2HBA  |        |      | PCS  | 1.0000<br>1<br>0.00 %   | 2003/01/16      |
| 0015-----        | NE10567<br>label   |        |      | PCS  | 1.0000<br>1<br>0.00 %   | 2003/01/16      |
| 0001-----        | ALTO DRIVE2.3-MI<br>NH00035<br>bond paper<br>0.06*1M                                   |        |      | M    | 1.0000<br>410<br>0.00 % | 2003/02/16<br>N |
| 0002-----        | NI00017<br>membrane<br>0.055*1M  |        |      | M    | 1.0000<br>410<br>0.00 % | 2003/02/16<br>N |
| 0058-----        | NE05308<br>label   |        |      | PCS  | 1.0000<br>1<br>0.00 %   | 2002/12/25<br>Y |
| 0001-----        | ALTO DRIVE2.3<br>NH00012<br>bond paper<br>0.04*1M                                      |        |      | M    | 1.0000<br>80<br>0.00 %  | 2002/12/21<br>N |
| 0002-----        | NI00014<br>membrane<br>0.035*1M  |        |      | M    | 1.0000<br>80<br>0.00 %  | 2002/12/21<br>N |
| 0059-----        | NE02717<br>label   |        |      | PCS  | 2.0000<br>1<br>0.00 %   | 2002/12/25<br>Y |
| 0001-----        | MADE IN CHINA<br>NI00067<br>R-25#透明龍   |        |      | M    | 1.0000<br>700<br>0.00 % | 2003/01/30<br>N |
| 0002-----        | cellophane paper<br>NI00027<br>membrane<br>0.105*1M                                    |        |      | M    | 1.0000<br>700<br>0.00 % | 2003/01/30<br>N |
| 0060-----        | NF01200<br>instruction   |        |      | PCS  | 1.0000<br>1<br>0.00 %   | 2003/01/24      |
| 0001-----        | ALTO DRIVE2.3 ALTO<br>NH00149<br>paper<br>889*640mm                                    |        |      | 張令   | 1.5000<br>1<br>0.00 %   | 2003/02/07<br>Y |

# 8.Exploded Views



機種:AL TODRIVER2.3  
圖號:AL TODRIVER2.3-00  
日期:20021120