

Bernstein, Ko, et al., Figure 4

The image shows a MATLAB script editor with a script that generates an RML file for a base plate. The script defines parameters such as filename, trench depth, LED width, and alignment, then generates the RML file content. Two Notepad windows are open showing the generated RML file content for 'Base_Plate_01a.rml' and 'Base_Plate_01b.rml'.

```

1 %Drill LED sockets and alignment holes
2
3 %%%PARAMETERS TO INPUT
4 %Input the output file name
5 filename = 'Base_Plate_01';
6 %Determines the depth of the LED sockets
7 trench_depth = -9;
8 %Determines the depth of the alignment holes
9 top_depth = -55;
10 %Determines the width of the LED sockets
11 LED_width = 18;
12 %Input the coordinates of the bottom-left corner of the first base plate
13 offset=[850, 450];
14 %Input the number of base plates to mill
15 xreps=1;
16 %Input the spacing between base plates
17 xspace=355;
18 %Input the coordinates of the centers of the LEDs
19 LEDs=[80,95;80,125];
20 %Input the coordinates of the alignment holes
21 align=[0,0;40,260;80,0;80,220;0,220];
22
23 %%%CODE WHICH GENERATES .rml FILES
24
25 fid1 = fopen([filename,'a.rml'],'w');
26 fid2 = fopen([filename,'b.rml'],'w');
27 fprintf(fid1,'PA;PA;VS,3;|VZ,3;|MC1;|PZ,1,15;',trench_depth);
28 fprintf(fid2,'PA;PA;VS1;|VZ,3;|MC1;|PZ,1,15;',top_depth);
29 for i=1:xreps
30     offs=offset+(i-1)*[xspace,0];
31     L = LEDs + ones(size(LEDs))*[offs(1),0;0,offs(2)];
32     A = align + ones(size(align))*[offs(1),0;0,offs(2)];
33     for j=1:length(L)
34         fprintf(fid1,'PU,1,1;PD,1,1;PD,1,1;PD,1,1;PD,1,1;L(j,1)+[-LED_width/2,-LED_width/2],L(j,1)+[-LED_width/2,LED_width/2],L(j,1)+[LED_width/2,LED_width/2];');
35     end
36     for j=1:length(A)
37         fprintf(fid2,'PU,1,1;PD,1,1;A(j,1),A(j,1);');
38     end
39 end
40 %Avoid file buffer problems
41 for i=1:1500
42     fprintf(fid1,'|MC0;');
43     fprintf(fid2,'|MC0;');
44 end
45 fprintf(1,'all done \n');
46 fclose(fid1);
47 fclose(fid2);

```

The Notepad windows show the generated RML file content for 'Base_Plate_01a.rml' and 'Base_Plate_01b.rml'.

Base_Plate_01a - Notepad

```

PA;PA;VS,3;|VZ,3;|MC1;|PZ-9,15;PU921,536;PD921,554;PD939,554;PD939,536;PD921,536;
PU921,566;PD921,584;PD939,584;PD939,566;PD921,566;|MC0;|MC0;|MC0;|MC0;|MC0;|MC0;

```

Base_Plate_01b - Notepad

```

PA;PA;VS1;|VZ,3;|MC1;|PZ-55,15;PU850,450;PD850,450;PU890,710;PD890,710;
PU930,450;PD930,450;PU930,670;PD930,670;PU850,670;PD850,670;|MC0;|MC0;

```