

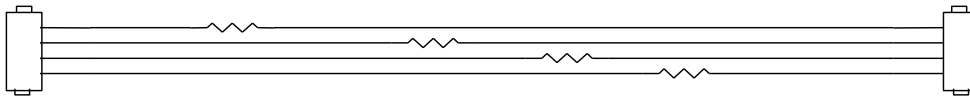
Designs sometimes require that a common PCB be stuffed differently to create different assemblies. This demo illustrates a method used with OrCAD to document the different BOMs required for the different assemblies.

Any parts that are to be stuffed differently for the various assemblies must have an additional property added for each additional assembly. The example has two assemblies, Rev A and Rev B, and so the four resistors have the Rev_A and Rev_B properties added to them (See Figure 1 below).

	Source Part	Value	Implementation Type	Primitive	Color	Rev_A	Rev_B	PCB Footprint
1	R.Normal	1K	<none>	DEFAL	Default	DNI	DNI	1206
2	R.Normal	1K	<none>	DEFAL	Default		DNI	1206
3	R.Normal	10K	<none>	DEFAL	Default	DNI		1206
4	R.Normal	10K	<none>	DEFAL	Default		20K	1206

Figure 1: Additional Properties Added to Parts That Are Stuffed Differently

Additionally, on the schematic, the properties are configured to display both the name and value if a value is present (See Figure 2 below).



Rev A: Install R2, R4
 Rev B: Install R3, R4 (20K)

R1 is a spare resistor not used in either Rev A or Rev B

Figure 2: Schematic Showing Different Revision Part Values

Each part value requires an entry in the Include file for the part and an additional entry for the Do Not Install (DNI) placeholder on the BOM. Alternately, a value may be used instead of the DNI so a different part value may be installed. The additional entries require the part values to be combined into a single part value, i.e. 10KDNI for the Do Not Install entry for a 10K resistor. Please examine the Multi_BOM_INCL.txt file for more examples.

Each BOM revision also needs to be set up properly when generating the BOM. Figure 3 illustrates the setup for the Rev A BOM while Figure 4 illustrates the setup for the Rev B BOM. The change in the header definition allows the designer to determine which BOM they are looking at. The change in the Include File Combined Property String is what actually creates the BOM. The change in the name allows the designer to save multiple BOMs in the same directory by having different names.

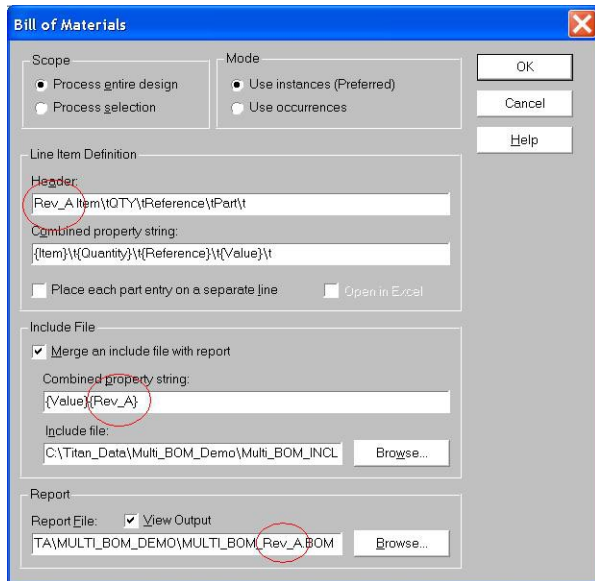


Figure 3: Rev A BOM Setup

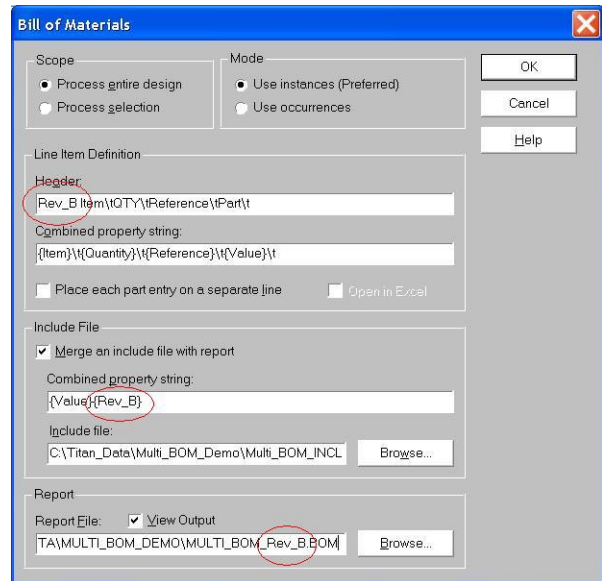


Figure 4: Rev B BOM Setup

See the Appendix for the Include file and the two generated BOM's. Note the different part numbers for R4 in the two BOMs. The DNI's move to the bottom of the BOM; it's easy to either zero them out or delete them in the final BOM (especially when importing to a spreadsheet like Excel). If you have multiple ways to stuff the same assembly (i.e. various DNI combinations for additional options), it's easy to add additional Rev_ columns to the Part Properties. If you need more than two different values for a part (i.e. R5 = 10K/20K/30K/40K) for multiple assembly types, it would probably be easiest to have a separate include file for each.

Appendix:

Example Multiple BOM Include File (tab separates columns, except first gap is all spaces):

```
' '          PART NO.   DESCRIPTION   MANUFACTURER   PART NUMBER
'1K'        140-000xxxx-001  RES, 1K OHM, 1%, 1206 Panasonic        ERJ-8ENF1001V
'10K'       140-0002160-001  RES, 10K OHM, 1%, 1206 Panasonic        ERJ-8ENF1002V
'10K20K'    140-000zzzz-001  RES, 20K OHM, 1%, 1206 Panasonic        ERJ-8ENF2002V
'4 HEADER'  180-000xxxx-001  HEADER, 4 PIN (1 x 4), SOLDER Samtec  SLW-104-01-G-S
'1KDNI'     140-000xxxx-001  DO NOT INSTALL, 1206
'10KDNI'    140-0002160-001  DO NOT INSTALL, 1206
```

Example Multiple BOM for Rev_A (tab formatting can be corrected in spreadsheet import):

Multi BOM Demo Revised: Wednesday, June 01, 2005
Revision: -

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Rev_A Item	QTY	Reference Part	PART NO.	DESCRIPTION	MANUFACTURER	PART NUMBER
1	1	R2	1K	140-000xxxx-001	Panasonic	ERJ-8ENF1001V
2	1	R4	10K	140-0002160-001	Panasonic	ERJ-8ENF1002V
3	2	J1,J2	4 HEADER	180-000xxxx-001	Samtec	SLW-104-01-G-S
4	1	R1	1K	140-000xxxx-001		DO NOT INSTALL, 1206
5	1	R3	10K	140-0002160-001		DO NOT INSTALL, 1206

Example Multiple BOM for Rev_B (tab formatting can be corrected in spreadsheet import):

Multi BOM Demo Revised: Wednesday, June 01, 2005
Revision: -

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Rev_B Item	QTY	Reference Part	PART NO.	DESCRIPTION	MANUFACTURER	PART NUMBER
1	1	R3	10K	140-0002160-001	Panasonic	ERJ-8ENF1002V
2	1	R4	10K	140-000zzzz-001	Panasonic	ERJ-8ENF2002V
3	2	J1,J2	4 HEADER	180-000xxxx-001	Samtec	SLW-104-01-G-S
4	2	R1,R2	1K	140-000xxxx-001		DO NOT INSTALL, 1206