

## Condition-Controlled Netlists (IF-ELSE)

You can use the IF-ELSE structure to change the circuit topology, expand the circuit, set parameter values for each device instance, select different model cards, reference subcircuits, or define subcircuits in each IF-ELSE block.

```
.if (condition1) <statement_block1>
# The following statement block in {braces} is # optional, and you can
repeat it multiple times:
{ .elseif (condition2) <statement_block2>}

# The following statement block in [brackets] # is optional, and you
cannot repeat it:
[ .else <statement_block3> .endif]
```

### Chapter 3: Input Netlist and Data Entry

#### Input Netlist File Composition

In an .IF, .ELSEIF, or .ELSE condition statement, complex Boolean expressions must not be ambiguous. For example, change (a==b && c>=d) to ( (a==b) && (c>=d) ).

In an IF, ELSEIF, or ELSE statement block, you can include most valid HSPICE or HSPICE RF analysis and output statements. The exceptions are:

- .END, .ALTER, .GLOBAL, .DEL LIB, .MALIAS, .ALIAS, .LIST, .NOLIST, and .CONNECT statements.
- search, d\_ibis, d\_imic, d\_lv56, biasfi, modsrh, cmiflag, nxx, and brief options.

You can include IF-ELSEIF-ELSE statements in subcircuits and subcircuits in IF-ELSEIF-ELSE statements.

You can use IF-ELSEIF-ELSE blocks to select different submodules to structure the netlist (using .INC, .LIB, and .VEC statements).

If two or more models in an IF-ELSE block have the same model name and model type, they must also be the same revision level.

Parameters in an IF-ELSE block do not affect the parameter value within the condition expression. HSPICE or HSPICE RF updates the parameter value only after it selects the IF-ELSE block.

You can nest IF-ELSE blocks. You can include .SUBCKT and .MACRO statements within an IF-ELSE block.

You can include an unlimited number of ELSEIF statements within an IF-ELSE block.

**You cannot include sweep parameters or simulation results within an IF-ELSE block.**

You cannot use an IF-ELSE block within another statement. In the following example, HSPICE or HSPICE RF does not recognize the IF-ELSE block as part of the resistor definition:

```
r10 .if (r_val>10k) + 10k .else + r_val .endif
```