

- **addcomp: add component to a model**

Add a component to the model.

Syntax: **addcomp** [modelName:]n <comp>

where n is the component number *before* which the new component is to be inserted, and <comp> is the name of the new component. Components are numbered in sequence in order of appearance in the expression entered. The new component is regarded as an operator on the component added if it is not additive.

The optional modelName qualifier allows the user to address a named model.

The user is prompted for parameter values for the component. If there are m components in the current model, then acceptable values for the component number added are 1 to $m+1$.

XSPEC detects the type of the model (additive, multiplicative etc), checks the correctness of the syntax of the output model, and adds the component if the resulting models obeys the syntax rules documented in the **model** command.

Thus,

```
XSPEC12> mo wa(po)
```

Followed by

```
XSPEC12> addcomp 2 bb
```

Yields the model achieved by

```
XSPEC12> mo wa(bb + po)
```

See also [delcomp](#) (delete component by number).

Other Examples will serve to clarify addcomp's behavior.

Suppose that the current model specification is

```
ga+po
```

which using the **show** command would yield the description

```
model = gaussian[1] + powerlaw[2]
```

The comments give the model expression following the entry of **addcomp** and **delcomp** commands:

```
XSPEC12> addcomp 2 wab
//gaussian[1]+wabs[2](powerlaw[3])
XSPEC12> addcomp 4 pha
//((gaussian[1]+wabs[2](powerlaw[3]))phabs[4])
XSPEC12> delcomp 1
//((wabs[1](powerlaw[2]))phabs[3])
```

```
XSPEC12> addcomp 2 zg          //(wabs[1](zgauss[2]+powerlaw[3]))phabs[4]}
XSPEC12> delcomp 3
//(wabs[1](zgauss[2]))phabs[3]
```

```
XSPEC12> mo wa(po)
XSPEC12> addcomp 1 ga
// gauss[1] + wabs[2]*powerlaw[3]
XSPEC12> delcomp 1
XSPEC12> addcomp 1 pha
// phabs[1]*wabs[2]*powerlaw[3]
```

```
XSPEC12>mo wabs(po)
XSPEC12> addcomp 3 bb
// wabs[1]*powerlaw[2] + bbody[3]
XSPEC12> delcomp 1
XSPEC12> addcomp 3 pha
// wabs[1]*powerlaw[2]*pha[3]
XSPEC12> addcomp 3 po
// ERROR: po (additive) is interpreted as being added to the multiplicative
// model pha[3], which is a context error.
```

For multiply nested models...

```
XSPEC12> mo wa(po + pha(bb + ga))
XSPEC12> addcomp 6 po
// wabs[1](powerlaw[2] + phabs[3](bbody[4] + ga[5]) + powerlaw[6])
XSPEC12> addcomp 5 peg
// wabs[1](powerlaw[2] + phabs[3](bbody[4] + pegpwlw[5] ga[6]) + powerlaw[7])
XSPEC12> addcomp 7 wa
// wabs[1](powerlaw[2] + phabs[3](bbody[4] + pegpwlw[5] ga[6]) +
wabs[7]*powerlaw[8])
```

