Syntax

```
twoway mband yvar xvar [if] [in] [ , options ]
```

<table>
<thead>
<tr>
<th>Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>bands(#)</code></td>
<td>number of bands</td>
</tr>
<tr>
<td><code>cline_options</code></td>
<td>change look of the line</td>
</tr>
<tr>
<td><code>axis_choice_options</code></td>
<td>associate plot with alternative axis</td>
</tr>
<tr>
<td><code>twoway_options</code></td>
<td>titles, legends, axes, added lines and text, by, regions, name, aspect ratio, etc.</td>
</tr>
</tbody>
</table>


All options are rightmost; see [G-4] concept: repeated options.

Menu

Graphics > Twoway graph (scatter, line, etc.)

Description

`twoway mband` calculates cross medians and then graphs the cross medians as a line plot.

Options

`bands(#)` specifies the number of bands on which the calculation is to be based. The default is \( \max(10, \text{round}(10 \times \log_{10}(N))) \), where \( N \) is the number of observations.

In a median-band plot, the \( x \) axis is divided into \# equal-width intervals and then the median of \( y \) and the median of \( x \) are calculated in each interval. It is these cross medians that `mband` graphs as a line plot.

`cline_options` specify how the median-band line is rendered and its appearance; see [G-3] `cline_options`.

`axis_choice_options` associate the plot with a particular \( y \) or \( x \) axis on the graph; see [G-3] `axis_choice_options`.

`twoway_options` are a set of common options supported by all `twoway` graphs. These options allow you to title graphs, name graphs, control axes and legends, add lines and text, set aspect ratios, create graphs over `by()` groups, and change some advanced settings. See [G-3] `twoway_options`. 

1
Remarks and examples

Remarks are presented under the following headings:

Typical use
Use with by()

Typical use

Median bands provide a convenient but crude way to show the tendency in the relationship between \( y \) and \( x \):

```
. use http://www.stata-press.com/data/r13/auto
   (1978 Automobile Data)
. scatter mpg weight, msize(*.5) || mband mpg weight
```

The important part of the above is “mband mpg weight”. On the scatter, we specified msize(*.5) to make the marker symbols half their normal size; see [G-4] relativesize.
Use with by()

mband may be used with by() (as can all the twoway plot commands):

```
. scatter mpg weight, ms(oh) ||
  mband mpg weight ||, by(foreign, total row(1))
```

In the above graph, we specified ms(oh) so as to use hollow symbols; see [G-4] symbolstyle.

Also see

[G-2] graph twoway line — Twoway line plots
[G-2] graph twoway mspline — Twoway median-spline plots
[G-2] graph twoway lfit — Twoway linear prediction plots
[G-2] graph twoway qfit — Twoway quadratic prediction plots
[G-2] graph twoway fpfit — Twoway fractional-polynomial prediction plots