**Syntax**

```
twoway rcap y1var y2var xvar [if] [in] [, options]
```

<table>
<thead>
<tr>
<th>options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>vertical</code></td>
<td>vertical spikes; the default</td>
</tr>
<tr>
<td><code>horizontal</code></td>
<td>horizontal spikes</td>
</tr>
<tr>
<td><code>line_options</code></td>
<td>change look of spike and cap lines</td>
</tr>
<tr>
<td><code>msize(markersizestyle)</code></td>
<td>width of cap</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>


**Menu**

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

**Description**

A range plot has two `y` variables, such as high and low daily stock prices or upper and lower 95% confidence limits.

`twoway rcap` plots a range, using capped spikes (I-beams) to connect the high and low values.

**Options**

`vertical` and `horizontal` specify whether the high and low `y` values are to be presented vertically (the default) or horizontally.

In the default `vertical` case, `y1var` and `y2var` record the minimum and maximum (or maximum and minimum) `y` values to be graphed against each `xvar` value.

If `horizontal` is specified, the values recorded in `y1var` and `y2var` are plotted in the `x` direction, and `xvar` is treated as the `y` value.

`line_options` specify the look of the lines used to draw the spikes and their caps, including pattern, width, and color; see [G-3] `line_options`. 
m`size()` specifies the width of the cap. Option m`size()` is in fact t`w`oway s`c`atter’s m`arker_option` that sets the size of the marker symbol, but here m`sym`bol() is borrowed to set the cap width. See [G-4] m`arker_style` for a list of size choices.

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

`t`w`ow`ay_options` are a set of common options supported by all `t`w`ow`ay 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] `t`w`ow`ay_options`.

Remarks and examples

Remarks are presented under the following headings:

- Typical use
- Advanced use
- Advanced use 2

Typical use

We have daily data recording the values for the S&P 500 in 2001:

. `u`se http://www.stata-press.com/data/r13/sp500
(S&P 500)

. list date high low close in 1/5

<table>
<thead>
<tr>
<th>date</th>
<th>high</th>
<th>low</th>
<th>close</th>
</tr>
</thead>
<tbody>
<tr>
<td>02jan2001</td>
<td>1320.28</td>
<td>1276.05</td>
<td>1283.27</td>
</tr>
<tr>
<td>03jan2001</td>
<td>1347.76</td>
<td>1274.62</td>
<td>1347.56</td>
</tr>
<tr>
<td>04jan2001</td>
<td>1350.24</td>
<td>1329.14</td>
<td>1333.34</td>
</tr>
<tr>
<td>05jan2001</td>
<td>1334.77</td>
<td>1294.95</td>
<td>1298.35</td>
</tr>
<tr>
<td>08jan2001</td>
<td>1298.35</td>
<td>1276.29</td>
<td>1295.86</td>
</tr>
</tbody>
</table>

We will use the first 37 observations from these data:

. twoway rcap high low date in 1/37
Advanced use

twoway rcap works well when combined with a horizontal line representing a base value:

```stata
. use http://www.stata-press.com/data/r13/sp500, clear
(S&P 500)
. generate month = month(date)
. sort month
. by month: egen lo = min(volume)
. by month: egen hi = max(volume)
. format lo hi %10.0gc
. summarize volume
```

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>volume</td>
<td>248</td>
<td>12320.68</td>
<td>2585.929</td>
<td>4103</td>
<td>23308.3</td>
</tr>
</tbody>
</table>

```stata
. by month: keep if _n==_N
(236 observations deleted)
. twoway rcap lo hi month,
xlabel(1 "J" 2 "F" 3 "M" 4 "A" 5 "M" 6 "J"
  7 "J" 8 "A" 9 "S" 10 "O" 11 "N" 12 "D")
xtitle("Month of 2001")
ytitle("High and Low Volume")
yaxis(1 2) ylabel(12321 "12,321 (mean)", axis(2) angle(0))
ytitle("", axis(2))
yline(12321, lstyle(foreground))
msize(*2)
title("Volume of the S&P 500", margin(b+2.5))
note("Source: Yahoo!Finance and Commodity Systems Inc.")
```

Advanced use 2

twoway rcap also works well when combined with a scatterplot to produce hi-lo-middle graphs. Returning to the first 37 observations of the S&P 500 used in the first example, we add a scatterplot of the closing value:
. use http://www.stata-press.com/data/r13/sp500, clear
(S&P 500)
. keep in 1/37
(211 observations deleted)
. twoway rcap high low date || scatter close date

Also see

[G-2] graph twoway rarea — Range plot with area shading
[G-2] graph twoway rbar — Range plot with bars
[G-2] graph twoway rcapsym — Range plot with spikes capped with marker symbols
[G-2] graph twoway rconnected — Range plot with connected lines
[G-2] graph twoway rline — Range plot with lines
[G-2] graph twoway rscatter — Range plot with markers
[G-2] graph twoway rspike — Range plot with spikes