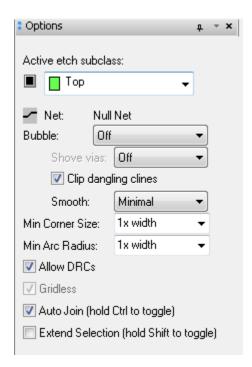
New Slide

Summary – The *New Slide* command utilizes a move-intersect algorithm that delivers smoother, more predictable and localized edits. This change has allowed for simplifying the use model, integrating sliding of off-angle and arc routing, and providing new options to improve efficiency.

Command – The *New Slide* command is invoked from the Route – Unsupported Prototypes Menu

- New Slide Command Invokes the new slide command without changing the way that slide works when it is invoked with other methods (toolbar, application mode...)
- ➤ New Slide Replaces Old Slide This option allows the user to replace the existing functionality of Slide in Allegro so that new slide can be invoked by any method (toolbar, application mode...). This allows users to easily evaluate the New Slide during normal etch edit processes, without having to remember to execute the New Slide command. This behavior can be turned on/off from the Route Unsupported Prototypes Menu. ***This setting is not saved between Allegro sessions.

Options Form - The following options are available while running the New Slide command. User entered values are saved in the database between runs of Allegro (unless noted below).



The following options have been removed (previously in Allegro Slide command):

- > Corners
- Max 45 len
- > Add at max
- > Vias with segments
- > Ts with segments
- > Arcs with segments
- ➤ The Enhanced Arc Editing mode has been removed as a RMB option. New Slide always runs in Enhanced Arc mode when arcs are involved in the slide operation.

The following options are the same as the current Allegro Slide command:

- **Bubble**
- > Shove Vias
- **➤** Clip Dangling clines
- > Smooth
- > Allow DRCs
- **≻** Gridless

The following options are new:

- ➤ Min Corner Size: A fill-in field for minimum 45 degree corner size allowed between two non-parallel cline segments. This field also supports "[N] x width" values. This value prevents corners from collapsing too small during slide operations.
 - o Default Setting = 1x width
 - Setting this value to 0 (zero) allows the user to slide corners as small as possible, even into a 90 degree corner.
 - Changes to this value are not currently saved in the database (will be in 16.6 version).
- ➤ Min Arc Radius: A fill-in field for minimum arc size allowed between two cline segments. This field also supports "[N] x width" values. This value prevents arcs from completely collapsing during slide operations.
 - o Default Setting = 1x width
 - Setting this value to 0 (zero) allows the user to slide arcs as small as possible.
 - Changes to this value are not currently saved in the database (will be in 16.6 version).
- ➤ Auto Join: This option controls the behavior when parallel cline segments meet during a slide operation. The ON behavior of this option causes parallel cline segments to join as they meet during the slide operation, allowing the user to continue the current operation on larger sections of the cline. The OFF behavior

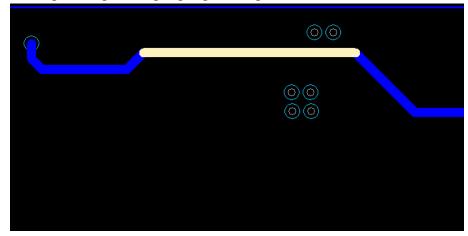
Functional Specification

of this option does not join parallel cline segments when they meet (unless a click is made), but instead creates new segments to connect the parallel cline segments.

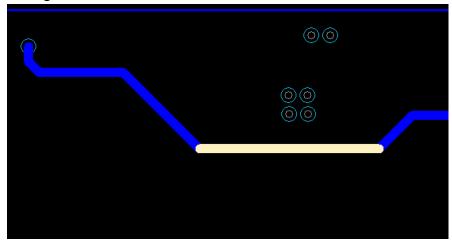
- o Default Setting = On
- Holding CTRL key during the slide operation will give the opposite behavior of the current setting on the Options form. This is useful to get the alternate behavior for Auto Join during a single edit, without having to switch the option setting.

Auto Join Example

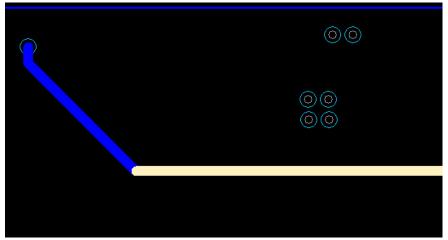
Starting routing, sliding highlighted segment down



Sliding with Auto Join OFF



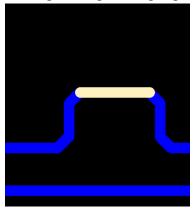
Sliding with Auto Join ON



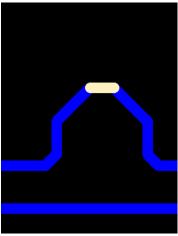
- ➤ Extend Selection: This option makes it easier for the user to preserve the connective pattern of multiple cline segments during a slide operation. The ON behavior of this option extends the original selection made in the slide operation to include the two cline segments adjacent to the selection (additional segment on each side). The OFF behavior has no affect on the original selection
 - Default Setting = Off (it is recommended to use SHIFT for the ON behavior during specific slide operations)
 - Holding SHIFT key during the slide operation will give the opposite behavior of the current setting on the Options form. This is useful to get the alternate behavior for Extend Selection during a single edit, without having to switch the option setting.
 - This option is very efficient for sliding tuning patterns or other multisegment structures when it is desired to keep the basic shape of the cline segments, without having to do a window selection on the segments.
 - Arc corners Extend Selection can be used when sliding a 45/90 degree segment that has arc corners and the user wants to maintain the arcs while the selected segment slides (similar to previous "arcs with segments" option)

Extend Selection Example

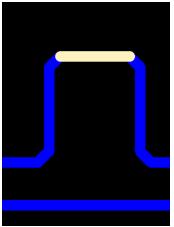
Starting routing, sliding highlighted segment up



Sliding with Extend Selection OFF (selected segment gets smaller, corners grow)



Sliding with Extend Selection ON (or holding SHIFT) – (relationship of selected segment and corners is preserved)



Key Concepts

- 1. **Odd-angle routing** *New Slide* has integrated support for odd-angle routing. There is no special mode. Slide operations on odd-angle segments will maintain the existing angle.
- 2. **Arc routing** *New Slide* has integrated support for arc routing. There is no special mode. Slide operations on arc segments will allow the user to manipulate the arc similar to the current Enhanced Arc Editing mode in Slide.
- 3. **Recornering** *New Slide* no longer recorners existing routing during the slide operations. Instead, it attempts to localize changes based on the cursor movement of the user and preserve the existing routing as much as possible. This change gives the user much more control over the slide operations.
 - a. Because of this, *New Slide* will not automatically remove (clean-up) acute or 90 degree angles. This can still be accomplished, but requires directed slide edits on the segments involved with the undesired angle and sometimes the use of Auto Join.
- 4. **Diff Pair Slide** *New Slide* now supports group slide of diff pairs (sliding multiple diff pairs at the same time).