

BCC Corner Pin Filter

The BCC Corner Pin filter allows you to map media to a specific area on a moving object in a media file. For example, your media includes a moving bus with an advertisement on its side. You could use Corner Pin to track and replace the advertisement with a logo.



The **Corner Pin Source** menu sets the track that you want to corner pin onto the filtered track. The choices are *None*, *Filter Layer*, *1st Below* or *2nd Below*. In general, the easiest method is to place the filtered track on a track above the corner pin image.

If the source image is opaque, selecting the **Opaque Source** checkbox can speed rendering and preview times. If your source is partially transparent, deselect this option for best results. You must deselect this checkbox to apply the filter to a matte.

Corner 1, Corner 2, Corner 3 and Corner 4 Parameter Groups

The **Corner 1**, **Corner 2**, **Corner 3** and **Corner 4** position controls define the four corner pin trackers. However, in general it is easier to position the onscreen controls and use the sliders for finetuning by selecting the **Track on the Fly** checkbox. The onscreen controls are color coded: Corner 1 is red, Corner 2 is green, Corner 3 is yellow, and Corner 4 is blue.

Crop Parameter Group

The Crop controls allow you to crop the edges of the media in the Corner Pin Source track. The **Crop Left**, **Crop Top**, **Crop Right**, and **Crop Bottom** settings determine the width, in pixels, of the cropped area on each edge of the image.



Scale and Offset Parameter Group

Scale X and **Scale Y** scale the rendered image after tracker data is applied on the X and Y axis respectively. When the **Lock Scale to X checkbox** is selected, Scale X sets the scale amount in both directions.

Master Offset X and **Master Offset Y** allow you to change the Offset X or Offset Y parameters for each of the four corners with one control.

The numbered **Corner Offset X** and **Corner Offset Y** parameters, allow you to offset the applied image on the X and Y axis for each of the four corners. This is useful if you want to track one area, then apply the effect to a different area. For example, you want to add a new advertisement next to an existing ad on the side of a moving bus. You would track the current ad, then offset the four corners to pin the new ad to the right of the existing ad.

The **Render menu** is a display control that includes the following options.

- **Pin Over Source** displays the corner pin image composited over the filtered track.
- **Corner Pin Only** displays the corner pin image composited over the full size corner pin image.
- **Punch Hole** displays the filtered track with an alpha channel where the corner pin image will appear. Tracks lower in the timeline are visible through the resulting "hole."
- **Show Corner Region** displays the full size corner pin track inside the corner pin region with an alpha channel outside where the corner pin image will be placed. Tracks lower in the timeline are visible through the resulting alpha channel.



Composite menu=Pin Over Source



Composite menu=Corner Pin Only



Composite menu=Punch Hole



Composite menu=Show Corner Region

Edge Width controls the width of the edge that is generated by choking the alpha channel of the corner pin image. Higher numbers result in a larger border. If Edge Width is set to a value of 0, Edge Softness and Edge Smoothness have no affect.

Edge Softness softens the edge of the corner pin image. A value of 0 creates a hard edge; increasing this value increasingly softens the edge of the image. If Edge Softness is set to a value of 0, Edge Smoothness has no affect.

Edge Smoothness controls the gradation of the edge.

Light Wrap Parameter Group

The Light Wrap parameters reflects the background image around the edges of the corner pin image to form a border. This creates the illusion that light from the background is reflected onto the foreground. This creates a more convincing composite by making it appear as if the images were shot in the same environment.

Wrap Lightness sets the lightness value of the reflected image. Negative values make the reflection darker and positive values make the reflection lighter

The **Wrap Softness** parameter softens the edges of the border that is reflected or wrapped.

Wrap Width controls the width of the reflection or wrap that is generated. Higher numbers result in a larger border.

The **Wrap Apply Mode menu** determines the method that is used to composite the border. For descriptions of all the possible Apply Modes, see “Apply Modes” on page 625.

Composite Parameter Group

Opacity scales the opacity of the corner pin image. At an Opacity value of 100, the image is completely opaque. At a value of 0, the image is completely transparent.

The **Apply Mode menu** controls how the source and corner pin images are composited. This filter is most useful with Apply Modes other than *Normal*. For descriptions of all the Apply Modes, see “Apply Modes” on page 625.

Apply Mix blends the Apply Mode setting with the **Normal** apply mode. The resulting mixed mode is used to composite the Corner Pin media over the filtered layer. For example, if Apply Mode is set to *Lighten*, then an Apply Mix value of 0 uses the Normal apply mode; an Apply Mix value of 100 uses the Lighten apply mode. An Apply Mix value of 50 blends the two apply modes equally.



You can use Apply Mix to soften the affect of a given apply mode.

Deselecting the **Use Motion Trackers checkbox** allows you to override the corner pin trackers and use the onscreen controls to manually place your corner pin image.

Motion Tracker Parameter Groups

The Motion Tracker parameter groups allows you to track the motion of an object, then use the motion path data to control another aspect of the effect. For example, track a detergent bottle and pin a new label to the bottle. Because the Corner Pin Tracker includes four trackers, it includes the following additional parameters. Because the Corner Pin Tracker includes four trackers, the following parameters appear in the **Tracker 1**, **Tracker 2**, **Tracker 3**

and **Tracker 4** parameter groups. In other filters, these parameters appear in the Motion Tracker parameter group. The parameters are **Start Tracking Frame**, **End Tracking Frame**, **Target Width**, **Search Width** and **Tracker Auto-Man**.

The **Track menu** determines which corner pin trackers are analyzed when you select the **Track on the Fly checkbox** and click **Play**. The options are *All*, *Corner 1*, *Corner 2*, *Corner 3* and *Corner 4*. Data is created for all currently selected trackers.

Selecting a **Lock Tracker checkbox** locks the specified Tracker. Tracking data is not generated for a locked Tracker, even if you track again. For example, set the **Track menu** to *All*, select the **Track on the Fly checkbox** and click **Play**. Trackers 1, 2 and 3 track correctly, but Tracker 4 has some issues. You could lock Trackers 1, 2 and 3, adjust Tracker 4 then track again. Even if you click the **Reset Tracker checkbox**, locked Trackers are not affected.

When the **Use Start -End 1 for All checkbox** is selected, the **Start Tracking Frame** and **End Tracking Frame** parameter values set in Tracker 1 apply to all trackers. Deselect this checkbox to set separate values for individual trackers.

When the **Use Width 1 for All checkbox** is selected, the **Target Width** and **Search Width** parameter values set in Tracker 1 apply to all trackers. Deselect this checkbox to set separate values for each tracker.

Overview of Using the Corner Pin Tracker

The steps below provide an overview of the Corner Pin Tracker process. The sections that follow provide detailed information on each step.

1. Apply the Corner Pin Tracker filter directly to a clip in the timeline containing the moving area that you want to replace.
2. Choose the track that you want to replace the moving area from the **Corner Pin Source menu**. The easiest method is to place the filtered track on a track above the corner pin image.
3. If necessary, select the **View Preprocessed Source checkbox** and adjust the Motion Tracker Preprocess parameters to make your source image easier to track. For example, you could increase the contrast for better results. For details, see “Working with the Motion Tracker Preprocess Parameter Group” on page 29. Make sure to deselect the **View Preprocessed Source checkbox** before you select the **Track On-the-Fly checkbox** and begin tracking.
4. Select the **Track On-the-Fly checkbox** and use the onscreen controls to position a motion tracker on each of the four corners of the region to replace.
5. Generate the tracker data using the parameters in the Motion Tracker parameter group. With the **Track On-the-Fly checkbox** still selected, press **Play**. The filter calculates the tracking data. When you select this checkbox, the chosen effect does not display. Once you finish tracking, deselect this checkbox to view the applied effect.



Final Cut Pro users need to choose **Mark > Play > Every Frame**. Premiere Pro users need to step through single frames.

The media in the Corner Pin Source track is automatically positioned in the region defined by the four corner trackers. The media distorts as necessary to fit the region as it moves and changes shape.

Correcting Corner Pinning Errors

If the Corner Pin Tracker cannot locate the Target region during analysis, errors can occur. You can use one of the following methods to finetune your results. Before finetuning, you should select the **Lock Tracker checkbox** for any Tracker that generated accurate data.

- Adjust the parameters in the Preprocess parameter group and track again. For details, see “Working with the Motion Tracker Preprocess Parameter Group” on page 29.
- If this still doesn’t correct the error, you can manually correct the tracker position by keyframing the **Tracker Center KE**. See “Correcting Motion Tracker Errors” on page 35 for more information.
- Alternatively, you can manually position the Corner Pin image in problem areas by using the **Tracker Auto-Man** parameter.