# Radar Comp — Lesson 12 – Final Project

pages 282–283

(This is the 2nd element of 4 elements to be used as building blocks for a pair of main comps)

1. 1200 x 1200 Square Pixels {GRID FLOOR comp was 1st element}
   Radar 29.97 10:00 Duration
   Dark Blue

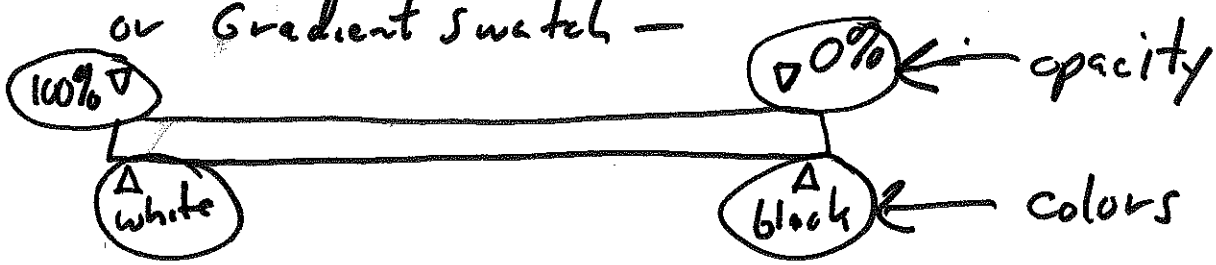
2. Double click on Rectangle tool — creates a Shape layer —

3. Fill: in tools panel (word Fill:, not the icon)
   Fill Options
   Radial Gradient is 4th icon, last choice.
   Normal Mode popup
   Opacity: 100%

4. Stroke: — choose ☐ for no stroke

5. Shape Layer 1 > Contents > Rectangle 1 > Gradient Fill 1
   End Point x = 550 y = 0.0
   Highlight Length 100%

6. Colors Edit Gradient...
   or Gradient swatch —

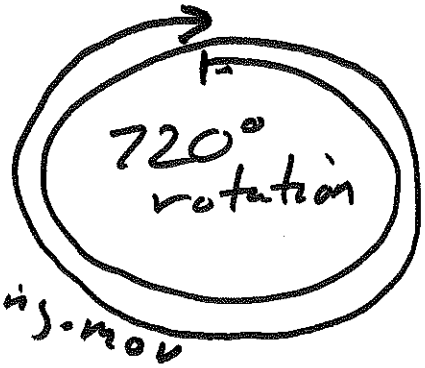



Location 0%

Location 100%

7 R for Rotation

0x+0.0°
0.00s




2x+0.0°
10.00s

8 Add Curly Lightning.mov
to the Radar comp, as new top layer.
Layer > Transform > Fit to Comp

9 Effect > Color Correction > Tritone
R=90 G=85 B=70 for midtone color

10 Use F4 to Toggle Switches/Modes
Mode choice for Curly Lightning.mov
Blending Mode: Screen
— projects it on top of shape layer —

11 Set the T (preserve underlying transparency)
switch — SHAPE Layers transparency
is preserved —

Mixing images together using BLENDING MODES is one of most creative tools AE offers.

What is the method behind mode madness?

modes — different methods for combining images together

## Two images —

take some properties of one image and combine them with some properties of the underlying image —
result: a new combination image

## Screen Mode

1. The opposite of multiply mode —
2. Color values of selected layer are scaled above their original values based on color values of layer underneath —
3. Less intense version of Add mode.

multiply mode scales down the colors of selected layer.

## How do modes work?

AE calculates the final image in a comp by starting with the bottommost layer
(in 2D mode — at bottom of the stack)
(in 3D mode — layer farthest from the camera)

AE calculates → masks, → Effects, → Transformations — applied to that layer

Then AE goes to next layer up —
calculates that layer's $M_S$, $E_S$, and $T_S$ —
Looks at that current layers Alpha channel —
sees what parts of layer stack underneath are revealed — what parts are covered up —

AE then combines the two layers — temporarily saves off that composite — then goes to next layer up from bottom — repeats process.

Blending modes —

Important concept #1:

(Instead of straightforward mix of pixels from current layer and underlying stack (when alpha is < 100%), blending modes say: before we mix, look at properties of corresponding pixels, change color values according to what we find, then mix current layer and underneath.)

Important Concept #2:

Blending modes alter color values of layer they are applied to, based on image from stack of layers underneath. Each mode has a different set of rules (algorithm)

Important Concept #3:

Blending modes do not replace or obliterate the normal

- Ma
- Ea
- Ts

Its differences in colors that alter the final effect —

Do not normally change transparency of a layer either —

Screen

$$O = 1 - [(1-A) \times (1-B)]$$

invert the result

invert image A

invert image B

Screen is actually another multiplicative operator — but additional step of inverting both images before the multiply, and inverting the result — causes SCREEN to add light to a portion of the image.

What is Multiply?

$$O = A \times B$$

What is Add?

$$O = A + B \qquad \text{Note: } A+B = B+A$$

What is Subtract?

$$O = A - B$$

Note: $A - B \neq B - A$

# Creating the Skater Comp — page 284–286

Lesson 12

1. 650 x 450 size
   05:00 duration  Name: Skater
2. Add Skater.mov to the Skater comp.
3. Ctrl+Y (Layer > New > Solid)
   Make Comp Size  name it movie grid
   Color black
4. Effect > Generate > Grid
   Anchor 0.0
   Size From ▼ Width Slider
   Width 50
   Blending Mode ▼ Stencil Alpha
   Border 2.0
   Twirl down Feather Width 1
   and Feather Height 1
5. Layer > New > Adjustment Layer  name it AL Black Dissolve
   Effect > Transition > Black Dissolve
   Scrub Transition Completion to 50%
   in effect controls panel.
6. Change Black Width
   and Black Height both to 50.
7. Toggle off Soft Edges option.

At 00:00 turn on KF for Transition Completion —
Set it to 100%
At 1:12, set KF to 9%

8 Drag AL Block Dissolve layer below the Movie Grid layer.

9 Select Skater.mov layer —
Apply the Cartoon effect —
(its under Stylize group)

10 Apply Effect > Channel > CC Composite
Set Composite Original to Color Dodge.
Reduce CC composite's Opacity value to tame the bright, saturated result.

## Creating the Dial Comp — page 287–290 Lesson 12

1 File > Import File
Select Dial.ai, Open it
Import Kind: Composition
Footage Dimensions: Layer Size

2 Open dial comp —
Change background color of comp to white
Delete guides layer —

3 Composition settings — 600x600
29.97 fps
05:00 Duration

4 Adobe Illustrator is vector based graphics, not pixel based.
Vectors get rasterized to pixels when crossed border from AI to AE.
Dial comp — select inner ring layer —
Edit > Edit Original

5 AI — window > Layers panel needs to be open.

inner ring has 11 paths —
10 lines, 1 circle

i Alt + Click on inner ring layer to select all 11 paths.

ii Edit > Copy

iii Back in AE, with inner ring layer still selected, do Ctrl + V or Edit > Paste

iv Type M to see the 11 mask paths —

v Find Mask & Shape Path visibility switch at bottom of comp panel —

6 Effect > Generate > Stroke
Applies 2 pixel wide white stroke to 1st mask it finds —

i Change color to bright red.

ii Check the All Masks check box.

iii To hide original pixels, change the Paint Style ▼ to On Transparent

7 End parameter KF at 00:00 will be 0%
Set it to 100% at 02:00

— RAM preview it —

8 Now follow same steps with outer ring layer

**28** That was so much fun, you're going to do it all over again!

- Select the **outer ring** layer, then choose Edit > Edit Original to open it in Illustrator.
- In Illustrator, locate **outer ring** in its Layers panel. Press (Alt) and click on **outer ring** to select all its paths. Choose Edit > Copy.
- Return to After Effects, and with **outer ring** still selected, Edit > Paste.
- You don't need to re-create the Stroke effects – you can copy and paste that too! Select the **inner ring** layer, select the Stroke effect in either the Timeline or Effect Controls panel, and Edit > Copy.
- Remember that keyframes paste starting at the current time. Make sure you are at 00:00, select **outer ring**, and Edit > Paste.

RAM Preview, and both dials will now draw on over time. Don't worry about the red color; you'll change the color of the strokes after you nest this comp into the main comp you're about to build. That way, you can select colors in context with their surroundings.

## Coloring the Event Names Ring

*If you did not have access to Adobe Illustrator for the previous steps, open* ***Comps > MyPrecomps > Dial*starter*** *and pick up this lesson with the next step.*

**29** The **event names** layer is black and white. You can change both of these colors at once by using the Tint effect:

- Select the **event names** layer and apply Effect > Color Correction > Tint.
- The Effect Controls panel will open. Click on the Map Black To color swatch to open a color picker, and choose a pale orange. The previously black ring will change color. Don't sweat it too much; you can change the color later.
- Change the Map White To color to black, and the previously white text will change to black.

## Animating the Dials

10

Time to make the dial components move. You can manually keyframe them, or you can take advantage of expressions to have them animate automatically.

30 To animate these three layers in 3D, toggle on their 3D layer switches in the Timeline panel. (We'll add a camera and a light later in the main comp.)

**31** Select all three layers, and press R to view their Rotation and Orientation controls. Move to a point later in time where the dials are visible.

- For layer 1 (**inner ring**), scrub the Y rotation to +60 degrees, or to taste.
- For layer 2 (**outer ring**), scrub the X rotation to –60 degrees, or to taste.

This should start the rings with an interesting relationship to each other.

32 Next, we'll use a popular expression to animate the rings for us:

Alt + click to add an expression

- For **inner ring**, press S (Alt) and click on the stopwatch for its Orientation property (which includes X, Y and Z values). An expression field will open in the timeline, and the Comp viewer display will be blank as it awaits your instructions.

wiggle(1,25)

freq

magnitude

- Type "`wiggle(1,25)`" and press Enter (not Return). This replaces the default expression with the wiggle expression (covered in detail in Lesson 7).

Remember that the first value is the frequency (1 = once per second) and the second value is the magnitude (the maximum number of degrees the layer will rotate). RAM Preview and watch the **inner ring** layer rotate on its own! Since you applied it to Orientation and not a singular rotation property, the wiggle affects X, Y, and Z Orientation.

VIP

30 Enable the 3D Layer switches for the three dial layers. (Toggle Switches/Modes if you can't see these switches.)

3D = x, y, z

2D = x, y

**33** Repeat the above step for the **outer ring**, then RAM Preview to see both rings gyrate. Feel free to edit the wiggle values or initial rotation values to taste; you can also animate the **event names** ring to slowly rotate around their Z axis.

**33** Apply the same expression to the **outer ring** layer, and both rings animate as if responding to constant streams of data.

32 Add a "wiggle" expression to Orientation for the **inner ring** layer to make the rings animate automatically (above).