



Welcome to pH - Real-time Placeholders for GameMaker Studio



Prototype smarter and faster with real-time placeholders generated with pH by XGASOFT! pH behaves as real sprites, supporting all regular sprite functions so that swapping in final assets is a breeze. In *just one script*, sprites are generated with intelligent caching, saving memory and performance. Plus, all placeholders can be customized to better represent their intended purposes.

Get started prototyping with pH today **for free!**

In this reference guide, you'll learn...

- How to use each available function
- Individual script arguments and what they mean

To get started, choose a topic from the navigation menu to learn more.



Version History

1.0.2

- Updated to GameMaker Studio 2.3.1 standards
 - Now just a single script with no external dependencies!
- Fixed rare occurrences where placeholder cache would return a similar but incorrect placeholder
- Minor performance optimizations

1.0.0

- Initial release

pH Reference Guide

Tired of creating dozens of rough placeholders by hand, one by one by one? Wish you could just focus on programming now, and worry about art assets later? Enter pH, a fast and smart solution for creating placeholders in real-time! Placeholders created with pH are treated exactly like sprites, except they'll never clutter up your resource tree.



Creating placeholders is simple. All you need is a single function: `ph_create`. This script can be run directly within regular sprite functions (e.g. `draw_sprite`) or assigned to a variable so that the generated placeholder can be re-used later.

However, thanks to a smart caching system, pH always re-uses existing placeholders when available, regardless of whether a corresponding variable exists or not! Because of this, it's almost never necessary to clear generated sprites from memory, but in cases where large amounts of placeholders are used, it is also possible to purge them with the `ph_free` function. This ensures pH never interferes with performance or memory usage statistics.

In this reference guide, we'll examine each function in detail.



The "ph_create" Function

Syntax

```
ph_create(width, height, [shape], [label], [font], [col1], [col2],  
[xorig], [yorig]);
```

Argument	Type	Description
<code>width</code>	real	Sets the width of the placeholder, in pixels
<code>height</code>	real	Sets the height of the placeholder, in pixels
<code>[shape]</code>	integer/macro	<i>Optional:</i> Sets the placeholder shape to rectangle (0), roundrect (1), circle (2), or triangle (3)
<code>[label]</code>	string	<i>Optional:</i> Sets a custom string label to display in place of the placeholder resolution
<code>[font]</code>	font	<i>Optional:</i> Sets a custom font to display label in
<code>[col1]</code>	color	<i>Optional:</i> Sets a custom placeholder background color
<code>[col2]</code>	color	<i>Optional:</i> Sets a custom placeholder foreground (border and font) color
<code>[xorig]</code>	real	<i>Optional:</i> Sets a custom horizontal sprite origin point, relative to the top-left corner
<code>[yorig]</code>	real	<i>Optional:</i> Sets a custom vertical sprite origin point, relative to the top-left corner

Description

Creates a new placeholder which is stored in memory as a sprite asset, for use with regular sprite functions. This script may be run directly within sprite functions themselves (e.g. `draw_sprite`) or assigned to a variable for future use.

Generated placeholders are cached so that no two identical placeholders exist at the same time. If a placeholder with the same properties as another is referenced, it will be drawn from memory rather than generated anew. As such, while it is generally not necessary, if large numbers of unique placeholders are used, it may be a good idea to remove them from memory when they are no longer needed by running the `ph_free` function.

Although only width and height values are required to generate a new placeholder, other options may be added to customize drawing features as desired. To use the default values for any of these arguments, -1 may be supplied instead of a custom value. In the case of shapes, pH also provides macros which can be supplied in place of plain integers, including `ph_rect`, `ph_roundrect`, `ph_circ`, and `ph_tri`. It is generally recommended to use these macros for clarity and to ensure that generated shapes do not change with updates to pH itself.

Example

```
my_sprite = ph_create(320, 240);
draw_sprite(my_sprite, image_index, x, y);
draw_sprite_ext(ph_create(128, 256, ph_roundrect, "Hello, world!",
fnt_Arial, c_blue, c_aqua, 64, 128), image_index, x, y, 2, 1, 45,
c_red, 0.75);
```




The "ph_free" Function

Syntax

```
ph_free();
```

Argument	Type	Description
N/A	N/A	No arguments

Description

Frees all memory occupied by placeholders generated with `ph_create` .

As placeholders are cached and re-used, typically only a small amount of memory is occupied when using pH. However, if a large number of unique placeholders are no longer needed, it's a good idea to run this script when switching rooms or destroying the object which formerly used them.

Note that running this function will break any variables referencing placeholders.

On the other hand, running `ph_create` in sprite functions directly will simply regenerate sprites when they are needed, and `ph_free` will appear to have no

effect. As such, in both cases it is important only to run `ph_free` when placeholders will no longer be referenced.

Example

```
room_goto_next();  
ph_free();
```



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