



pH Reference Guide

by XGASOFT



1. Introduction	3
2. Buy Now	3
3. Download PDF	3
4. Changelog	3
5. Reference Guide	4
5.1. ph_create	4
5.2. ph_free	5
6. Special Thanks	6
7. EULA	7

1. 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 menu to the left above to learn more.

2. Buy Now(<https://xgasoft.itch.io/ph>)

3. Download PDF(<https://xga.one/wp-content/uploads/ph-reference-guide-18.pdf>)

4. Version History

1.0.0

- Initial release

5. VNgen 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.

5.1. The "ph_create" Function

Syntax:

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

Argument	Type	Description
width	real	Sets the width of the placeholder, in pixels
height	real	Sets the height of the placeholder, in



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

5.2. 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();
```

6. Special Thanks

Patreon Credits

This product is made possible by the generous support of XGASOFT patrons on [Patreon](#). Every contribution counts, no matter how big or small. To all fans and patrons around the globe, thanks for being a part of XGASOFT's story!

Very special thanks goes out to:

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Creative Credits

XGASOFT is also privileged to work with other creators from around the world, in some cases on the very developer tools used to make XGASOFT products possible.

Special credit goes out to the following talents for their contributions:

VNgen Demo Voiceover

Kanen (as Miki and Mei)

7. End-User License Agreement for XGASOFT Digital Assets and Services ("EULA")

LAST UPDATED: 08/19/2017

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5.3 By engaging in doing business with authorized third-party institutions, the Customer must agree to any separate End-User License Agreements (“EULAs”) required by the third-party. Furthermore, the Customer acknowledges and agrees that XGASOFT is not responsible for the practices, behaviors, or agreements of any third-party.

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6.3 By modifying the Property, the Customer acknowledges this and agrees to not hold responsible XGASOFT for any loss or damage incurred by the modified Property.

6.4 Furthermore, the Customer acknowledges and agrees that addition of modifications to the original Property in no way represents a change of ownership of the Property, and that XGASOFT shall retain ownership of all intellectual property rights associated to the Property, modified and unmodified.

6.5 XGASOFT makes no guarantee to offer technical support to the Customer for modified versions of XGASOFT Property.

7. RESTRICTIONS

As part of this licensing agreement, Customer agrees not to, and will not permit others to:

- license, sell, rent, lease, assign, distribute, transmit, host, outsource, disclose or otherwise commercially exploit XGASOFT Property in its original form as source code and assets or make the Property available to any third party in its original form, excluding collaborators on an individual product incorporating XGASOFT Property.
- in any way redistribute as source code and assets modified forms of XGASOFT Property, which are permitted exclusively for the Customer’s own use, excluding collaborators on an individual product incorporating XGASOFT Property.
- reverse engineer XGASOFT Property for the purpose of creating commercial electronic assets and services which may be in competition with XGASOFT.
- disable, circumvent, or otherwise interfere with security or content usage functionality (such as, but not limited to, digital rights management) in or related to XGASOFT Property.
- remove, alter, or otherwise attempt to obscure XGASOFT copyrights, trademarks, or other proprietary



notices in or related to XGASOFT Property.

8. OWNERSHIP

8.1 XGASOFT Property is licensed, not sold. This license is extended only to the Customer as an individual or legal entity via authorized means for authorized purposes. This license cannot be transferred or extended to additional recipients.

8.2 Multiple users may, however, have access to a single license of XGASOFT Property when acting as collaborators on an individual product incorporating XGASOFT Property. In this case, only the original licensee retains authorization to their license, and collaborators may not copy or otherwise redistribute the Property for their own uses unrelated to the original licensee.

8.3 All title and intellectual property rights in and relating to the Property (including but not limited to any copyright, trademarks, service marks, brand names, logos, software, images, animations, graphics, video, audio, music, performance rights, mechanical rights, synchronization rights, text, and tutorials), and any copies of the Property are owned by XGASOFT. All rights not expressly granted are reserved by XGASOFT.

9. CONFIDENTIALITY

As part of this agreement, both XGASOFT and the Customer agree to hold confidential and secure any sensitive information disclosed by either party, and to not disclose sensitive information with any third party except when required by law.

10. LIABILITY

10.1 The Customer acknowledges and agrees that XGASOFT will not be liable for any loss or damage arising out of or resulting from the Customer's usage of XGASOFT Property as outlined by this Agreement.

10.2 The Customer hereby agrees to indemnify and hold harmless XGASOFT, its employees, and agents from and against any and all claims (including third party claims), demands, actions, lawsuits, expenses (including attorney's fees) and damages (including indirect or consequential loss) resulting in any way from the Customer's use or reliance on XGASOFT Property, any breach of terms of this Agreement, or any other act of the Customer.

10.3 This limitation will survive and apply even in the event of termination of this Agreement.

11. WAIVER

Any failure or delay by either XGASOFT or the Customer to exercise any right, power or privilege, or to actively enforce or seek enforcement of the terms of this Agreement shall not be construed as a waiver for the other party to supersede the terms outlined in this Agreement.

12. TERM AND TERMINATION



12.1 This Agreement shall remain in effect until terminated by the Customer or XGASOFT.

12.2 XGASOFT may, in its sole discretion, at any time and for any or no reason, suspend or terminate this Agreement with or without prior notice.

12.3 This Agreement will terminate immediately, without prior notice from XGASOFT, in the event that the Customer fails to comply with any provision of this Agreement.

12.4 Upon termination of this Agreement, the Customer shall cease all use of the Property and delete all copies of the Property from their electronic devices.

12.5 In cases of force majeure (including, but not limited to, natural disasters, technological failures, acts of God, war or terrorist activity, civil unrest, or malicious damage), obligations to fulfill the Agreement outlined in this document shall be suspended until such time has passed and both parties are reasonably capable of fulfilling the Agreement.

13. CHANGES TO THIS AGREEMENT

XGASOFT reserves the right to modify, suspend or discontinue, temporarily or permanently, the Property or any service to which it connects, with or without notice and without liability to the Customer.

14. SEVERABILITY

If any provision of this Agreement is held to be unenforceable or invalid, such provision will be changed and interpreted to accomplish the objectives of such provision to the greatest extent possible under applicable law and the remaining provisions will continue in full force and effect.

15. GOVERNING LAW AND JURISDICTION

Both XGASOFT and the Customer agree that this Agreement shall be governed by and interpreted according to the laws of the United States of America and the State of Kansas, and that any dispute regarding this Agreement shall be heard by the courts thereof.

16. CONCLUSION

This document contains the whole agreement between XGASOFT and the Customer relating to the Property and licenses thereof and supersedes all prior Agreements, arrangements and understandings between both parties regarding XGASOFT Property and licenses.