BoloStar™
The Ultimate Bolo Environment Editor

Copyright © 1993
K&D Software

Last Updated April 22, 1993
for Version 1.5.0

I. Overview of Bolo

In the beginning, there was Bolo. And then the people realized that BBC Micro 6502's were not God's gift to mankind. Then came Macintosh, and, following in superiority, Stuart Cheshire. Mr. Cheshire realized the great potential of Bolo, and, in the process, implemented one of the most intense real-time multi-user networking games ever designed for the Macintosh. The popularity of Bolo at educational institutions (and a certain unnamed computer manufacturer in California whose logo is deliciously edible) has proved its worth in a very short time. The authors of BoloStar™ would like to caution anyone who intends to "work" not to play Bolo due to the serious nature of addiction.

II. Prelude to BoloStar™

Within a few months of fierce battle, Everard Island became a bit boring, with most players knowing every strength and weakness of the map. As we became more and more frustrated with the limitations of Everard Island, we began dissecting the 'BMAP' resource, changing several of the confusing hex numbers to see what would happen. Realizing a map editor was necessary, I began putting an interface together while Keith hacked apart the map format. Within a week, Keith had the 'BMAP' resource completely figured, and we began to put together our first compilation of BoloStar™. And then Mr. Cheshire released the BMAP format, indicating subtly that maps larger than the standard 52x104 could be built. Quickly, BoloStar™ was fitted with new "multiple map size" capabilities. Since that day, we've been adding tools left and right, trying to make sure that as many functionalities are present as possible. At the time of this writing, K&D Software has worked well over 1300 man-hours on this project.

SHAREWARE AGREEMENT AND COPYRIGHT NOTICE

BOLOSTAR™ IS DISTRIBUTED STRICTLY ON A SHAREWARE BASIS. YOU ARE ENCOURAGED TO PASS IT ALONG, BUT YOU MUST KEEP THE APPLICATION TOGETHER WITH THIS DOCUMENTATION AND ALL RELATED DATA FILES WHEN DOING SO. MODIFICATION OF THIS APPLICATION IS DISCOURAGED AS WELL, AND IS CONSIDERED A VIOLATION OF THE SHAREWARE AGREEMENT.

K&D SOFTWARE TAKES NO RESPONSIBILITY FOR ANY DAMAGE, EXPLICIT OR OTHERWISE, WHICH MAY OCCUR FROM USE OF BOLOSTAR™ OR ANY OF THE FILES IT CREATES.

Please support ShareWare: it is one of the best methods the computing community can use to keep the cost of software down. By pirating you are hurting more than just the programmers.

By paying the ShareWare fee, you are entitled to the following:

• REMOVAL OF THAT *REALLY* ANNOYING REGISTRATION SPLASH SCREEN.
• IMMEDIATE RECEIPT OF ANY FUTURE BUG FIXES OR UPGRADES.

- YOUR NAME CAN BE ATTACHED TO ANY SAVED MAP.
- A VERY CLEAR CONSCIENCE.

System Requirements

BoloStar™ requires a Macintosh running System 7.0 or higher and at least 900K of memory available for the application to run in. It is 32-bit compatible and runs on both color and black-and-white machines. **Please note that we now run on 68000 machines!** Slowly, but surely...

Map Formats

BoloStar™ reads maps from Bolo 0.95d and higher, but only writes files compatible with Bolo 0.97 and higher. This allows editing and conversion of old maps to the new format. Since the designer of the game prefers using the new format, BoloStar™ does not support writing in the old file format. Bolo 0.97 has a virtual map size of 256 x 256. However, the designer would like to limit the map sizes to 216 x 216. This means that there is a 20 cell border around the entire map in which Bolo will simply remove when the game is played. BoloStar™ displays all 256 x 256 cells and will allow you to edit these cells, but only cells inside 20, 20 and 235,235 will actually be displayed by Bolo. BoloStar™ has two features to help deal with this problem. First, you can use the *Show Limits* command to see where the border lies. Secondly, saving a map which contains objects in the border area will cause an alert to appear notifying you and asking if you'd really like to save it (which will truncate your map in Bolo, but not in BoloStar™).
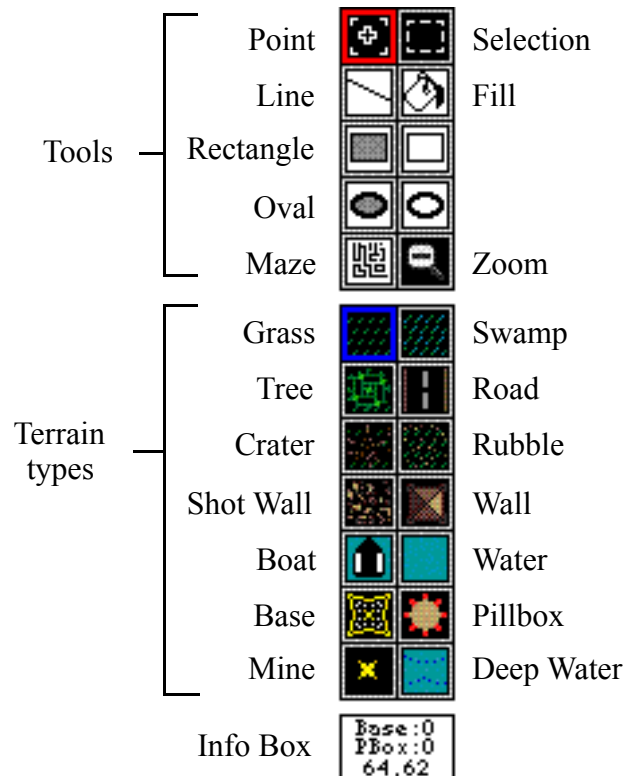
Getting Started

Launching BoloStar™ can be accomplished by either double-clicking the application or by dragging files containing maps (of any format) onto the application. Once initialized, BoloStar™ will display a splash box asking you whether or not you would like to register your copy with K&D Software. By registering your copy, you will never again have to look at this splash box, nor will you have any trouble attaching your name to maps (*See Map Info*). More importantly, registration gets you any future updates free of charge. To register, just send a check for $10.00 to the address below. Make checks out to Keith Fry:

<div align="center">

K&D Software
2262 South Thrush Court SE
Grand Rapids, MI 49546

</div>

The Tool Bar

The Tool Bar rests on the left side of every map window and consists of three separate sections: Drawing Tools, which work like the tools typical painting programs; Terrain Types, which act like the patterns in typical painting programs; and the Info Box, which displays critical information about the map.

	Point		Selection
	Line		Fill
Tools	Rectangle		
	Oval		
	Maze		Zoom
	Grass		Swamp
	Tree		Road
Terrain types	Crater		Rubble
	Shot Wall		Wall
	Boat		Water
	Base		Pillbox
	Mine		Deep Water
Info Box		Base:0 PBox:0 64,62	

Drawing Tools:

Point
Draws single points of the currently selected land type. When the option key is held down while in the point tool, the eyedropper tool is active (*See Eyedropper Tool below*).

Eyedropper
Activated when option-clicking with the point tool selected, the eyedropper tool will automatically select the land type in the tool bar corresponding to the land type on which you clicked.

Selection
Allows selecting of a rectangular area of the screen for editing operations. Holding down the shift key constrains the rectangle to a square. The selection can be dragged by clicking inside the selection rectangle and dragging the selection. Several editing commands will also become available in the Edit menu.

Line
Draws a line in the selected land type. When the shift key is held down while dragging, the line is constrained to angles of 45°.

Fill (Bucket)
Fills an adjoining area of the same type with the selected type (for those of you new to this type of tool, it works just like pouring the selected land

type into the map, with other land types acting as solid retaining walls).

Rectangle	Draws a rectangle with the given land type. The left rectangle tool draws a filled rectangle, and the right rectangle tool draws only the outline of the selected land type. When the shift key is held down while dragging the rectangle, the rectangle is constrained to a square.
Oval	Draws an oval with the given land type. The left oval tool draws a filled oval, and the right oval tool draws only the outline of the selected land type. When the shift key is held down while dragging the oval, the oval is constrained to a circle.
Maze	Draws a random maze with exactly one entrance and one exit. After dragging a rectangle to be used for the maze, a dialog box will appear asking you to choose the maze exterior and interior land types. Clicking OK will cause generation of the maze. Note that large mazes can sometimes take over 20 seconds on a slow machine.
Zoom (Magnify)	Zooms in and out of the map. Clicking on a point in the map will make the map zoom in or out with the chosen point at the center of the screen.

Terrain Types:

The grass, swamp, tree, road, crater, rubble, shot wall, wall, mine and deep water terrain types are used in conjunction with the tools mentioned above. The pillbox and base types can only be used with the point tool. Therefore, when any of the other tools are highlighted, the base and pillbox types are grayed and you will not able to see them again until the point tool is selected.

Mines cannot be placed on walls, rubble, water, deep water, bases, or pillboxes. Also, they will not show up in zoomed out black and white mode.

> **WARNING**: WE <u>STRONGLY</u> <u>DISCOURAGE</u> PLACING MINES ON YOUR MAP. MINES WILL BE INVISIBLE TO ALL PLAYERS AT STARTUP AND DO NOT USUALLY ADD ANY EXCITEMENT TO THE MAP. WHILE WE HAVE ADDED THIS FUNCTIONALITY, WE BELIEVE IT TO DETRACT FROM THE TRUE ESSENCE OF THE GAME.

Bolo currently has a limit of 16 pillboxes and 16 bases on a map simultaneously When you have placed this many on your map, BoloStar™ will not continue to add them to your map, and will force the disabling of the base tool, pillbox tool, or both depending on which has reached its limit. Check the info box (*see The Info Box*) to see how many bases and pillboxes you have placed on your map. Alternatively, the Map Info command (*see Menus*) can also provide base and pillbox information, as well as information about the number of starting locations on the map.

The Info Box

The info box is located under the land types in the tool bar. It functions to show the following information:

- The number of bases on the map
- The number of pillboxes on the map

• The current position of the cursor in map-cell coordinates (visible if mouse is in map)

The Menus

File Menu

The File menu allows you to create a new map, open an old map, save the current map, change the preferences, and change information about the map.

Open…
Allows you to open Bolo map files of any kind. Only files which could contain a map are shown. Not all files shown will necessarily contain maps.

Save
Saves the map in the current window. If the current window contains a newly created map (i.e., untitled) then you will be asked to name the map. Subsequent saves will not ask for the name of the map. This command can also be used to convert an "old-format" map (i.e., maps with 'BMAP' resources in them, like from Bolo 0.95d, Bolo 0.95e, etc.) into the new format supported by Bolo 0.96.

Save As…
Allows you to save the map in the current window to a map file other than the one it presently resides in. This is useful when opening a map which you wish to use as a basis for a new map, but which you do not want to destroy by saving over. This command can also be used to convert an "old-format" map (i.e., maps with 'BMAP' resources in them, like from Bolo 0.95d, Bolo 0.95e, etc.) into the new format supported by Bolo 0.96.

Save Scrap…
Allows you to save the currently selected terrain as a Scrap. IN ORDER FOR THIS SCRAP TO WORK PROPERLY, YOU SHOULD SAVE IT IN YOUR SCRAPS FOLDER!

Map Info...
Allows you to view specific details about the current map. You may also add or change the author name here. When getting information on new maps, the default author name (set via the Preferences…, below) is used; if you are not the default author, you should change the author name.

Preferences...
Allows you to change BoloStar™'s preference settings. Settings include:

Set what to do when BoloStar™ is launched. Make a new untitled window, display the open dialog box, or do nothing.

Set what to do when a new window is opened. Open maps in zoomed out mode, zoom windows to their maximum size, open maps from the center, and open maps in a particular level of zoom.

Set the default land type. This options is currently useless, and it may be removed altogether in a later revision. It has only minor implications at this time.

Set the default author name. The author name is specific to BoloStar™ only and has no effect on other editors or Bolo. By saving the author of the map, we allow credit where credit is due.

The name of the map's creator, if set, appears in the title of the window.

<u>Set the default draw mode.</u> Choose either BlockMode, which is a very fast drawing method, or SmartMode, which is a slower but prettier drawing method. On slower machines, we recommend always remaining in BlockMode unless printing.

Edit Menu

The Edit menu allows you to perform operations on the current selection.

Undo   Reverses an undesired action. Note that Undo currently uses a one-operation buffer; this means that hitting Undo once will undo the last operation, and hitting it again will undo the undo, leaving the original map in place. Undo may not be available for some operations.

Cut   Removes the selected terrain from the map and places it in the editing buffer. It will then be available for pasting or other editing operations. Note that Cut leaves deep water in place of the removed land in order to give the physical appearance of having removed land.

Copy   Places the selected terrain in the editing buffer without removing it from the map. It will then be available for pasting or other editing operations.

Paste   Places the terrain in the editing buffer onto the map. The pasted terrain will remain selected so that you can move it to any desired position.

Clear   Removes the selected terrain from the map without placing it in the editing buffer.   Note that Clear leaves deep water in place of the removed land in order to give the physical appearance of having removed land. Whatever was in the editing buffer before Clear was selected will still be there.

Select All   Selects the entire map.

Flip Horiz.   Makes a copy of the selected terrain and then mirrors the copy around a vertical axis. DOES NOT PRESERVE PILLBOX, BASE, AND START CHARACTERISTICS.

Flip Vertical   Makes a copy of the selected terrain and then mirrors the copy around a horizontal axis. DOES NOT PRESERVE PILLBOX, BASE, AND START CHARACTERISTICS.

Remove all Starts Removes all starting positions from the map. This is a much quicker way to remove starting positions than doing so by hand.

Reset Pillboxes Resets the changeable parameters of all pillboxes to their default values.

Reset Bases   Resets the changeable parameters of all bases to their default values.

Special Menu

The Special menu provides some of the more useful and interesting functionalities of BoloStar™.

Wind. Zoom	Allows you to grow the window to maximum size. Choosing Window Zoom again will return the window to its previous state.
Zoom In/Out	Allows you to incrementally zoom in or out one level of zoom.
Map Zoom	Hierarchical menu allowing direct access to any of the four levels of zoom: 100%, 50%, 25%, or 12.5%. Note that some levels of zoom will cause loss of detail, especially on black and white machines. The actual usefullness of these zoom levels will depend on the hardware you have.
BlockMap	Causes the current window to use the BlockMode method of drawing. This method is extremely efficient and quick, yet doesn't look as good as SmartMap will. We recommend this mode for almost all drawing operations.
SmartMap	Causes the current window to use the SmartMode method of drawing. This method is inefficient and slow, yet looks extremely nice in almost all levels of zoom. We recommend this mode for final modes of display, such as printing or "showing off".
Show Ranges	Allows you to see the firing range of any pillbox on the map. This can be very useful when determining where other key objects (such as bases) should go in relation to pillboxes. Detection range will be slightly smaller, and may be shown in later versions of BoloStar™ if demand is high enough.
Show Limits	Displays a rectangle defining the 20-cell border. Objects outside of this border will be truncated by Bolo!

Extensions Menu

Items in this menu come from the Extensions folder and are read in when the application is initialized. When you make a selection rectangle, the Extensions menu will become available. Extensions are external code modules developed by Slot Machines, Ltd, K&D Software, and other developers. For information on how to develop your own code modules, see *Developing Extensions*. You may upload and download other extensions from the BoloStar™ FTP site (see *BoloStar™ FTP Site*).

Note that if you put a new extension into the Extensions folder while still running BoloStar™, you won't see it in the Extensions menu until you restart the program.

Scraps Menu

Items in this menu come from the Scraps folder and are read in when the application is initialized. Whenever you make a selection, the Save Scrap… option becomes available under the File menu. **If you save a scrap, make sure you save it to the Scraps folder!** Doing so will cause it to be displayed in the Scraps menu immediately. Simply selecting a scrap from this menu will put the scrap on the map for further editing. To place the scrap simply click off the selection rectangle! You may download or upload scraps to the BoloStart™ FTP site (see *BoloStar™ FTP Site*).

Windows Menu

Allows you to quickly choose a window or stack them for easy viewing. Stacking the windows stacks them back to front with the title bars visible so that they are easy to select.

Suggestions for Drawing Maps

Try to avoid past restrictions. Bolo allows map sizes up to 256x256 (216x216 usable), and it does not require the map to be rectangular! The author of Bolo has registered some disgust for the number of rectangular 52x104 maps coming out recently. We strongly urge you to make use of BoloStar™ to generate more realistic maps. Of course, K&D Software finds nothing wrong with the rectangular map, nor does it particularly dislike the 52x104 (even though it is totally unnecessary)... we realize that these maps are better for games which are played by only a handfull of people. But it should be noted that if you regularly play with more then seven or eight players, you should consider making larger maps. Also, if you distribute your maps, you're taking the chance that they will not be liked by people who DO play in large games.

Avoid excessive mining. While mines on a map are typically undesirable, many of our users find mines an exciting evil. We encourage the use of all tools in BoloStar™, including mines. However, we would like you to be aware that mines are invisible to everyone, and they serve to slow the game down. Mining large strips of land so that one touch starts something like a Michigan Marching Band beat, then you are misusing the tool!

Go for functionality rather than artistry. By far, the best maps in Bolo to date have been those which take into account the fact that Bolo is a functional game. By placing terrain *strategically* instead of trying to make beautiful art, the map designed creates a game situation worthy of play. K&D Software encourages artistic design, but we'd like to caution you about it: When designing maps using BoloStar™, it is **very** easy to get caught up in the drawing aspect of the map... put yourself in check and ask if this map is strategically playable, i.e., does it have a purpose?

Developing Extensions

Registered users may request developer status from K&D Software by physical mail, electronic mail, or via the newsgroup alt.netgames.bolo. Developing code modules for BoloStar™ is quite simple, but requires some programming knowledge of the Macintosh. There is little stipulation on the language you use (although we will be furnishing you with a "C" header file -- you'll have to rearrange it for Pascal or other languages). The code modules are done via callbacks, which allow us to provide you with a large number of codes which correspond to commands. Basically, you call a function and give it the command code, pass it whatever arguments it needs, and then extract the results. For more information, please feel free to write us or email us. We're also quite active on the newsgroup mentioned earlier.

BoloStar™ FTP Site

BoloStar™ now has a public FTP site available for your use 24 hours a day. The site is mondo.engin.umich.edu, or if nameservice is unavailable, 141.212.68.14. The following directories are available:

Directory	Contents	Access
/pub/bolo/bolomaps	Download maps here	Rd
/pub/bolo/bolomaps/incoming/	Upload maps here	Rd/Wr
/pub/bolo/bolostar/	Latest BoloStar™ builds	Rd
/pub/bolo/bolostar/extensions/	Download extensions here	Rd
/pub/bolo/bolostar/scraps/	Upload/download scraps here	Rd/Wr
/pub/bolo/bolostar/tracker/	Latest BoloTracker builds	Rd

We encourage you to upload whatever you think is interesting! We've gotten a lot of maps now, and we're quite pleased... we'd really like to see some more functional and non-rectangular maps. We'll be posting our new favorites often, so keep checking for new stuff! Also, BoloTracker is property of Slot Machines, Ltd., and all comments and such should be directed to fprefect@engin.umich.edu and NOT to K&D Software.

BoloStar™ Future Plans

K&D Software is still working hard to bring you the best in map editing abilities. Among our future plans are the following:

o Real floating windows for easier pallete selection and more working map area
o Pen size control.. so you'll be able to draw more cells at one time and save yourself some ache
o DirectDraw, a new technique in screen drawing.. this should speed draws by up to 200%
o Player View will allow you to see what the map looks like from a player's viewpoint

There's much more, too. We really appreciate all the suggestions and feedback we've been getting from our users, and we hope we'll be able to implement everything you've asked for! Until then, keep on Boloin'!

Feedback

You may send any comments, questions, suggestions, or complaints to the authors (assuming they still have accounts at the University of Michigan)

Author	BoloName	Email Address
Dan Rudman	Red Square	rudman@engin.umich.edu
Keith Fry	Luxembourg™	keithfry@engin.umich.edu

We are also available daily on the newsgroup alt.netgames.bolo