

SB Pro PE 3.028 (Hotfix)

Version History and Release Notes

Version 3.028 is made available only as a hotfix (approximately 28 Mbyte) and requires that version 3.027 be installed first (which is a 2.4 GByte download in a five-part self-extracting archive):

www.eSimGames.com/Downloads.htm

3.027's full installer may be installed over previous versions of SB PRO PE 3.0 without prior uninstallation.

We strongly suggest **uninstalling pre-3.0 versions of STEEL BEASTS Pro PE and the CodeMeter runtime software before installing it!**

To make sure that there are no leftovers from "pre 3.0" installations, we recommend using the Windows Control Panel's "Add/Remove Programs" utility.

Note: This version will not run without an existing license for STEEL BEASTS Pro PE 3.0!

Licenses may be purchased from the eSim Games web store: <http://www.eSimGames.com/purchase.htm> (for details, see below)

Installation Step-by-Step

To install the hotfix, STEEL BEASTS PRO PE 3.027 must be installed first (see next page for detailed instructions).

- 1) Download the file SBProPEcm3_028.rar from our [Downloads page](#) into a temporary folder of your computer, e.g. your desktop. This archive file contains two executable program files, SBProPEcm.exe and SBProPEcm64.exe. If you have a 32 bit version of Windows installed, the following text refers only to SBProPEcm.exe. For users working with a 64-bit version of Windows, the text below means both files even when using the singular form.
- 2) Extract the executable program file from this archive. This may require a tool like WinRAR or other archival tools that can handle the RAR data format.
- 3) Open the Windows Explorer, and go to the Steel Beasts program folder. Typically this will be found in
C:\PROGRAMS\E-SIM GAMES\SB PRO PE\RELEASE\

- 4) Copy (or move) the executable program file into that target folder. This may require that you authenticate the action with an administrator's password.

You're done!

For the full installer of STEEL BEASTS PRO PE version 3.027 follow these instructions:

- 1) Download all parts of the multi-part archive on the [Downloads page](#) into a temporary folder of your computer, starting with ...part1.exe and ending with ...part5.rar (unless there are more than four parts).
(Each of the parts is made to fit one CD-ROM in case that you intend to make backups.)
- 2) Depending on how old your previous version of STEEL BEASTS is (before 3.0x, or after) it may be necessary to uninstall old versions (any 2.x version). The safest method to make sure that you are working from a clean slate is to go to the Windows Start menu | Control Panel | Add/Remove Programs.
Here, uninstall all entries reading "CodeMeter" or "STEEL BEASTS"
- 3) Run the ...part1.exe program, which will directly start the setup routine (after a possible delay for extraction and a possible virus scan).
If you get an error message in step 2 about a CRC checksum failure the likely reason is that the download process somehow corrupted one or more of the archive files. In this case they must be downloaded again. The most reliable method is to right-click the link on the [Downloads page](#) and to select "save target as..." from the context menu (the wording will differ from one web browser to the other)
- 4) The setup program will present various installation options, e.g. the SB Navmesh Builder. If you have DirectX 9.0c already installed you may skip its installation. Completing the CodeMeter runtime installation is recommended however as **version 5.22a contains important bug fixes**, particularly for WINDOWS 10.
- 5) After the installation is complete you may need to activate a license ticket (descriptions how to do that are in the ticket email from our web shop, including a link to a [help thread in the user forum](#))
- 6) If you own a previous STEEL BEASTS license (version 2.x) it may be necessary to perform a firmware upgrade of the CodeMeter USB stick. Skip this step if you purchased a time-based license for STEEL BEASTS. The procedure is described in [the forum help thread](#).
- 7) The installation is complete – go and have fun!



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Advice to system administrators:

Access privilege adjustments

STEEL BEASTS adjusts the security settings for the map folder on installation. This obviates the internet-floating recommendation to install SB PRO PE in the security context of an administrator account.

If however you do not want all users on your computer to gain access to the map folder (and with it, the ability to edit and save map files) you may need to revert the security properties of

C:\ProgramData\eSim Games\Steel Beasts\maps

so that normal user accounts may *not* have write access to it and its subdirectories.

Restarting the CodeMeter service

The installer no longer forces a **reboot** after the **CodeMeter** software update. However, you still may need to log off and on again in order to complete the installation of the CodeMeter runtime.

DirectX 9.0c

The installer no longer terminally aborts if the **DirectX 9.0c** update fails. The user may choose to continue with the installation. This needs not result in a later error, but if it happens, be prepared for error messages. You will then need to figure out how to install DirectX 9.0c independently. A separate Microsoft installer can be used:

Web Installer: <http://www.microsoft.com/en-us/download/details.aspx?id=35>

Full Installer: <http://www.microsoft.com/en-us/download/details.aspx?id=8109>

Registry settings

STEEL BEASTS may read its configuration from the registry. Any options configured through the registry can be overridden by the usual command line options (so if e.g. the '--loglevel' option is configured both in the registry and in the command line, the value from the command line will 'win').

The registry key inspected by the application is

HKEY_LOCAL_MACHINE\SOFTWARE\eSim Games\Configuration

Individual command line options can be added by using the command line option name as the key, and the option's argument (if any) as the key's value.

Only **REG_SZ** (aka 'strings') and **REG_DWORD** ('numerical values') are supported.

Leading dashes are to be omitted. So the command-line option



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--loglevel=TRACE

would be specified in the registry using a key named 'loglevel' using a 'TRACE' value.

Language Selection

STEEL BEASTS will present the SELECT LANGUAGE dialog immediately after start if

- a) no Options file exists (in case of a fresh installation without an Options file from a previous installation (remember, these are usually retained)), or
- b) it was started in "safe mode" (via command line, or the corresponding shortcut icon in the STEEL BEASTS program folder of the Windows Start Menu)

Default Options File

The default options file now sets a minimum window size of 1024x768. The language is left undefined.

CodeMeter

The CodeMeter runtime which is being installed with this version is 5.22a. This allows connecting to the WebDepot to activate license tickets *without* the use of proprietary web technologies like Java or ActiveX. It will still require that the browser security settings for these https connections are set to a "medium" level.

The error message for a missing license has been reworded:

"License Failure - please ensure that the CodeMeter Control Center is running, and that you have a valid software or USB-dongle license of the following type available: 'SB Pro PE'"

The installer does not force a reboot after the CodeMeter software update. However, this does not necessarily eliminate the need for one. You just may defer it until after finishing some other work. Remember the need to log off and on again in order to complete the installation of the CodeMeter runtime (if a restart of the CodeMeter service was necessary).

Hardware recommendations

The installer combines a 32 bit ("X86") and a 64 bit ("X64") version of the STEEL BEASTS executable. On a 32 bit Windows version, only the 32 bit STEEL BEASTS executable will get installed.

On a 64 bit Windows version, both the 32 bit and the 64 bit executable get installed into C:\Programs (and no longer into C:\Programs(X86) as you may be accustomed to from previous versions).

The 32 bit and the 64 bit version are not network compatible to each other. You will need to run possible multiplayer sessions on either version, probably the lowest common denominator. You probably want to settle the question before you start to host a network session.

Downloading, unpacking the self-extracting full installer archive, and immediate installation requires up to approximately 7.5GByte harddisk space temporarily. Of these, STEEL BEASTS will claim about three GByte free harddisk space permanently; the rest may be freed up through deletion and/or burning the installation files to DVD.

Compared to version 3.002 the hardware requirements remain unchanged: We recommend a 2.5GHz multi-core CPU (faster is better), 2GByte RAM (or up to four for 32 bit Windows versions; more is always possible on X64 Windows versions).

512MByte video RAM (1GByte or more *dedicated* video RAM necessary for the highest settings of shadowmapping), and generally a DirectX 9.0c graphics card supporting Shader Model 3.0. Mouse, keyboard, and monitor are mandatory. A sound card and internet connection are strongly recommended. Joysticks and selected control handle replicas are supported.

STEEL BEASTS requires Windows Vista™/Server 2008™ or later.

Online Support & Documentation

Visit the official fan site for the collective effort to maintain an online documentation, the **STEEL BEASTS Wiki**:

http://www.steelbeasts.com/sbwiki/index.php/Main_Page

The user manual has been updated. It may be ordered in print at the eSim Games web shop (www.eSimGames.com/purchase.htm) and gets installed as a PDF with this version – both in English and in German translation.

In this document, **highlighted text denotes changes since version 3.027** while regular black text describes all changes since version 3.011. If you are familiar with these previous versions you can safely skip over everything unless it's highlighted.

Known Issues

In the ASCOD PIZARRO the gunner currently controls the ballistic shield doors for both the commander's and the gunner's primary sight

For vehicles equipped with a coincidence rangefinder in some places (like the damage related text) the component will be referred to as "Laser range finder". They still can estimate ranges, albeit with reduced accuracy, and typically without ballistic computer support.

The LEOPARD 1A5-GE (cast turret) has the 3D interior of the LEOPARD 1A5-DK (welded turret). The LEOPARD 2A5A2 has the turret roof of the LEOPARD 2A5-DK. *Squint harder!*

The **Autosave** function is not recommended to be used when working with scenarios based on the **Terrastan** map. These scenarios tend to exceed 100MByte in size, and writing all that junk to disk while you are plotting a route for a unit especially in that area with the many walled fields in the northern part of the map can make it nearly impossible to get any meaningful work done because of the frequent and time-consuming disk accesses.

Bunkers are somewhat shiny despite having been given a stern warning and having been issued no polish.

Modeling & Simulation Changes

- Performed a complete reassessment of all large caliber KE ammunition types. As it turned out there was an undocumented (and erroneous) change of methodology in the performance assessment which was valid, but inconsistent with all other munition estimates. In other cases new data came to light, resulting in numerous performance changes, some of which are substantial. Performance changes exceeding 5% apply to the following rounds:
 - REDUCTION OF PERFORMANCE:
 - 105mm CMC105
 - 105mm DM33
 - 105mm M833
 - 115mm BM-4
 - 115mm BM-5
 - 115mm BM-6
 - 120mm CL3143
 - 120mm DM33 (L55)
 - 120mm DM53
 - 120mm DM53 (L55)
 - 120mm KE-W A2
 - 125mm BM-9
 - 125mm BM-12
 - 125mm BM-15
 - 125mm BM-22
 - 125mm BM-26
 - 125mm BM-29
 - 125mm BM-32
 - 125mm BM-42
 - INCREASE OF PERFORMANCE:
 - 100mm BM-8
 - 100mm BM-20
 - 100mm BM-25
 - 105mm DM23
 - 105mm DM63
 - 105mm L64A4
 - 105mm M111
 - 105mm M735
 - 105mm M735A1
 - 105mm PfeilPat78
 - 105mm PPTFS M/85
 - 115mm BM-21
 - 115mm BM-28
 - 120mm DM13
 - 120mm DM13A1
 - 120mm DM23
 - 120mm L23A1
 - 120mm L26A1
 - 120mm L27A1
 - 120mm L28A1
 - 125mm BM-42M
 - 125mm BM-4
- Previous changes in the **night time** scene rendering have been amended to preserve the view restrictions for computer-controlled units that were implemented prior to version 3.011.
The issue has been solved.

User Interface Changes

Added **limited TrackIR support**, enabling the user to control the view's yaw, pitch and roll axes using the headtracking device. While the user is zoomed into sights and panels the view will be fixed; while looking through vision blocks the roll axis will be disabled. Note that the view angles are limited to the same extent as mouse/keyboard/joystick input is. TrackIR input will be ignored if binoculars are active. Leaning forwards/backwards will 'zoom in'/'zoom out' while in the 3d interior (ie not while outside the hatch, or if looking through sights or vision blocks).

Moving the head upwards/downwards will move the viewpoint up and down. STEEL BEASTS will poll the input once per second, so moving from 'all the way down' to 'all the way up' will require the user to move his head upwards for 2 seconds. The threshold for up/down movement is 25% of the total axis movement; users are encouraged to tweak the Y axis' acceleration curve using the TrackIR UI to better fit this to their seating arrangement!

In the commander's position while outside the hatch, holding the arrow keys (up/down/left/right) will temporarily move the TrackIR's 'center point', simulating the TC turning his torso/neck. This should allow better observation towards the rear of the vehicle.

At the moment the default TrackIR hotkeys won't work in SB PRO because they are already taken. It is recommended that you create custom hotkey assignments until TrackIR releases a profile for STEEL BEASTS.

Tweaked the MISSION EDITOR, PLANNING and EXECUTION phase user interface somewhat so that popup-menus no longer automatically close whenever an option was selected (for example if a reference point was specified to be user-deployable).

Added '...' strings to a number of menu entries in order to indicate that clicking these items will lead to a dialog to be opened (and not to any immediate action).

Added the option to 'duplicate' fortifications (bunkers and vehicle emplacements) as well as abatis obstacles.

Removed a number of unnecessary/illogical options (like 'flip horizontal/vertical' for bunkers).

Improved the handling of incompatible scenario files. Should such a scenario be encountered, loading will be aborted, and the error message about incompatible scenario version be displayed.

Added basic touchscreen support for pressing buttons in the 3D world. So far, only "left mouse clicks" are implemented. SB Pro will 'automagically' detect suitable hardware. No configuration is required - or possible.

Network Sessions

While in the **ASSEMBLY HALL**, the host PC will now indicate that all players are 'ready' by flashing a red text message (similar to how it's done in the planning phase)

Port Numbers (Host)

The Host will use the UDP ports 2300-2399 (default) and 2400 (hard-coded). Port 2400 is the "Session Discovery" port and is used by clients to request available sessions. This port allows multiple instances of SB on a LAN or single computer to respond to client requests, thereby allowing the client to build a session list from several available hosts.

SB will choose the first available port in the range of 2300-2399 (default) to use as the "game port". All game networking traffic goes through this port. The game port can be changed in the network session setup screen.

It is required to forward UDP ports 2300 through 2400 in order for WAN clients to access a Host.

Port Numbers (Client)

There is no need for port forwarding!

Clients will use one UDP port in the range 2300-2399 by default.

Bandwidth Limiter (Host)

It is now possible to specify the maximum incoming and outgoing network bandwidth (in kBit/s) that STEEL BEASTS may use. Adjust your settings, if necessary, in the **NETWORK OPTIONS** screen. By default STEEL BEASTS will use as much bandwidth as is available (i.e. "unlimited"; 0). However, in order to have some "spare" bandwidth available for other network services like voice chat or similar, you can now restrict the maximum bandwidth usage.

Note: This is an individual setting for each machine. There is no need for clients to specify anything. If at all, only the host may need to apply this limiter as far as STEEL BEASTS specific requirements are concerned. Client might want to apply a limiter for other background activity, but be advised that there is no free lunch in network engineering: Unless you have a blazingly fast VDSL connection, running HD video streams parallel to a STEEL BEASTS session is probably not the greatest idea ever.

Network Connection Type

This window has been disabled. The new network stack supports "Internet UDP" type connections only.

- In the **Options | Network** menu are two fields to enter bandwidth limiter values. By default the limiter is OFF (value zero).
 - No bandwidth limitation works well for any computer with a truly fast broadband connection. In addition it offers the highest speed with which an unknown/new scenario is distributed to the clients
 - On the other hand, for regular DSL connections and slower having no limiter may result in unwelcome fluctuations of the network connection which may result in the dreaded "network overload" message and, in extreme cases, clients dropping from the session.
Our recommendations: Try out your *true* internet speed with www.Speedtest.org or some other suitable method. Then use 80..90% of that maximum value for your bandwidth limit. Notice that you must enter the values in kBit/sec even if your download bandwidth is given in Mbit/sec (multiply by one thousand).

Using less than the maximum leaves some room for occasional email polls in the background, and voice over IP transmissions.

- Added a 'search' field to the **Controls** (hotkey) dialog that lets the user do an incremental search in the descriptions of all available commands - only the descriptions which contain the search term will be displayed
- Fixed bugs #1006, 1007, 1623, 3368, 3376, 3383, 3420, 3499, 3505, 3514, 3529, 3557, 3558, 3562, 3579

Nav Meshes

- Improved the SB Navmesh Builder (V. 12)
 - Updated manual/help file
 - Fixed a bug where the spawned process's 'working directory' was not correctly set, so the STEEL BEASTS process did not find its required resources
 - Fixed cosmetic issues where 'forward' instead of the (native) 'backward' slashes were being shown in the process selection combobox
 - Slight adjustment of the filter algorithm that determines valid installation folders
 - Fixed problems if no input files were given, or the specified number of threads exceeded the number of input files
 - SB NMB will no longer prematurely report a completed conversion
 - The SB NMB window may now be resized
 - No longer installing unneeded files
- It is strongly recommended to use Navmesh compression when saving a scenario or terrain map file (see section "Known Issues")
- Exempted the wooden fence from routing around them. This requires a rebuild of the Navmesh in order to take effect

Local obstacle handling

- Vehicles heavier than 5t will no longer bother to avoid the wooden fences, collateral damage be damned
- Generally improved the infantry's ability to maintain formation in restrictive terrain; still not perfect, but every bit helps
- When crossing bridges they will now reliably form a column on the move and trail the lead character, then resume line formation after leaving the bridge
- Tanks will no longer drive around minor walls if their path is routed across them if the wall is weak enough to be crushed
- Reduced the resistance of the pine hedge allowing M113 and Piranha-III vehicles to pass through

Other User Interface Changes

- Fixed the session name being "stolen" from another host (if the client started a host session of his own)
- The 3D view status bar's **Platoon** menu entry is only enabled if the player is owning the platoon's highest ranking combatant

- Improved the timeout handling for lost packets. Clients should drop out of sessions only in severe cases of packet loss ("Network overload")
- Changed the implementation of the dialog showing the available command line options (brought up if the '--help' command line option is specified) to be sized independently of the user's display screen dimension
- Differentiated gunnery skills for computer-controlled opponents depending on the chosen **Difficulty** level:
 - **Easy** difficulty: OpFor gunnery rating is set to 35%
 - **Medium** difficulty: OpFor gunnery rating is 65%
 - **Hard** difficulty: OpFor gunnery rating is 95%
- The default log level is now set to 'TRACE' (the one providing the most detail)
- Added SpinKit support for Leo 1A5/2A4
- Improved scenario file loading time (about 10 sec less)
- Improved infantry squad ability to cross bridges (they will now automatically form a column)
- In (any) map screen the numerical readout of coordinates and time on the right hand side has been changed from red to white text (this fixes bug #3815)

3D Engine:

- Added memory usage info to the framerate counter: Underneath the usual frame rate counter display (toggled by default with **Alt+F12**), three additional lines have been added:
 - a) "Process": virtual (RAM and/or pagefile) memory the SB process can/does use;
 - b) "Physical": RAM memory that the whole PC can/does use;
 - c) "Pagefile": pagefile memory that the whole PC can/does use

For each type, the current usage (both in absolute numbers as well as in percentage of the total), the total available memory, the free memory, minimum and maximum usage during the SB session will be displayed

Infantry/3D Characters:

- Fixed the improper alignment of the 'team A' and 'team B' icons in the status bar if either of these teams took losses.
- With this change, the 3D view status bar's 'Platoon' menu entry is only enabled if the player owns the platoon's ranking combatant.

Map Editor:

- When creating a new blank map, SB Pro now checks that the chosen filename is not yet used. Both the '.hgt' as the (deprecated) '.raw' extensions are checked (this fixes bug #3773)
- Added entry **File | Save height map**, allowing the user to manually save a .hgt file without having to create a .ter file (as before). This allows to keep an existing terrain map while replacing the old height map with a better version (e.g. if elevation data with a higher resolution have become available). One can now just create a blank map, import the DTED and save the height map.
- In the object preview the MLC load bearing limit of bridges is now displayed (this fixes bug #3779)

- In the **Theme Editor** the selection behavior of “snow on roads” options has been made less erratic
- Fine-tuned the size of the “two-story cube” (building ID 65) to be as close to the pre 3.0 footprint size as possible
- It is now possible to split roads by holding down the **Alt** key Note that this complements the existing functionality of a node being added if a road is being clicked on while the **Shift** key is being pressed and a node being removed if the road is being clicked while the **Ctrl** key is pressed while clicking on the point of a selected road
- The mouse cursor will now indicate which mode is active
- Fixed a bug where clicked-on roads would vanish until some other road was selected

Mission Editor:

- Added condition option “Unit (x) is destroyed” (this fixes bug #3643)
- Added 15% option to setting fuel levels (this fixes bug #3791)
- Added a condition option *[Party xx] is [allied/neutral/enemy] to [Party yy]* (this fixes bug #3818)
- One can now change the orientation of multiple selected battlepositions in one go. This works for both units and waypoints (but not for both at the same time). Click and drag the battleposition bracket (not the LOS bubble!); the orientation will change to the same direction, not facing the same reference point. This fixes bug #3823
- In the **Support** menu the number of priority missions has been increased to 30 (this fixes bug #3860)
- Hold the **Shift** key when clicking on the **MISSION EDITOR** entry in the **MAIN MENU** to immediately select and load the desired scenario rather than loading the blank map first
- Scenario files may now be loaded for testing without having to go through the editor. Hold the **Alt** key while clicking on the '**MISSION EDITOR**' menu entry. A dialog will ask for the file to be tested. If all parties in the scenario are password protected, the user will be returned to the **MAIN MENU**, otherwise he will start testing the scenario as the first non-password protected party (note that it is possible to switch parties while testing, provided the party passwords are known). If the user presses 'quit' from the debrief phase, he will then load the **Mission Editor** just as usual
- Reduced minimum width/height for rectangle/oval graphics to 1m
- Reduced the **MISSION EDITOR** startup time thanks to more efficient resource handling
- Enabled the 'Set Mission Start Time' window to be enabled while in the **Mission Editor's** 3d preview mode. This allows the scenario designer to more quickly change the time of day in order to see its consequences on light level.
The window can be brought up by pressing the **Alt+S** key combination. In this mode the 'Apply' button updates the new time setting without closing the dialog
- Fixed a bug where map graphics featuring no text would offer the user text manipulation functionality via the graphic's property menu

- Fixed a bug where, when adding a new minefield, the obstacle would be created but the popup menu would not close, allowing the user to inadvertently create a number of obstacles in the same location
- Fixed bug #3799;
- Fixed bug #3922 (see bug list);

Network Sessions:

- Vehicle drivers may now turn off engines in network sessions. This fixes bug #3043:
 - Only commanders of ranking vehicles can command a (=their) formation to turn engines on/off
 - Such a 'formation-wide' command will be ignored by vehicles in the formation which have a human driver (these will hear the 'countdown' radio message but are free to ignore it)
 - For a vehicle with an AI driver, only its owner (typically its commander) is allowed to command to turn the engine on/off
 - For a vehicle with a human driver, only he is allowed to command to turn the engine on/off (so the human driver need not be the owner of the vehicle!)
 - If some vehicles in a formation have their engines off and others have it on, the 'platoon' menu in the status bar will now show both 'engine on' and 'engine off' commands (to allow the formation leader to force a given state)
 - In case some vehicles in a formation have their engines off and others have it on, pressing the 'engine toggle' key (as done by the formation leader) will take the formation leader's vehicle as a reference (i.e. if his vehicle has the engine on, he will command the platoon to turn their engines off, and vice versa).
- Fire missions called by a network player who left the session will be terminated upon him leaving the session (this fixes bug #3682)
- Fixed bug #3926 (see bug list);
- Fixed bug #3927 (see bug list);

Localization:

- Updated Danish strings
 - Updated English (UK) strings
 - Updated English (US) strings
 - Updated Finnish strings
 - Updated French strings
 - Updated German strings
 - Added PDF of ze German Endanwenderreferenzdokument für gesteigerte Benutzerfreundlichkeit und Panzerfahrvergnügen (it's located in the "Deutsch" subdirectory of "Other Documents")
 - Updated Russian strings, and added M1A1 and M2A2 tutorial files
 - Added Russian/Cyrillic keyboard layout chart
 - Updated Spanish strings
 - Updated Swedish strings
- STEEL BEASTS will now display a warning message box if a scenario is being loaded using a custom 'correlated' map that however is not installed on the local machine.
Note that the Mission Editor will just proceed, resulting in loading an empty mission. However, a message will be added to the logfile in any case



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- The **Formation** submenu of a unit's property menu will now be immediately refreshed upon assignment of a different tactic (since that may change the used formation)

Other Important Changes

- Enabled infantry to pass through all but the tallest wall objects to allow for less frustrating navigation through built up areas (infantry still intentionally cannot pass through the blast barriers and fortified walls)
One known limitation where infantry may fail to pass through however is when two wall segments meet.
- HESCO barriers and guard towers have a map footprint now; these are denoted as green lines, not black.
- Improved the behavior of ATGM equipped vehicles to either fire their missiles if a threat is in range, or to continue moving until they are rather than assuming a position and staring like a rabbit at the snake
- Updated the terrain rendering to better handle low light conditions. However, this means that it gets REALLY DARK now. Things look better during dusk and dawn, though.
Also, shadowmapping is now disabled while the sun is below the horizon.
- Improved the handling of autocannon ammo feed mechanisms so that when changing the feed one last round of the old ammo type must be fired. Previously this lead to ammo count divergences between the machine controlling the gunner and other participants in network sessions
- Unbuttoned mounted troops of PCs will now only shoot at targets within a 45° arc to both sides of where they're aiming
- Reduced scenario loading times by, on average, another ten seconds

Updated units/systems with crew positions

ASCOD PIZARRO:

- Corrected some ammo count inconsistencies
- Unity sight will now black out with ballistic shield doors closed
- Animated the manual gun elevation/traverse cranks
- Added an INSTANT ACTION scenario for it

ASCOD ULAN:

- Updated the LOD1 model
- Fixed bug #3775 (see bug list)

AT-3 SAGGER TEAMS:

- Increased the default missile count by one

BIBER AVLB:

- The rear arm will now return to its initial upright position after the bridge has been deployed
This reduces the total deployment time a little bit

BRDM-2:

- Added proper NVG functionality to the TC position
- Fixed the BRDM-2 "TANK RANGE" scenario
The TC hatch will now remain closed whenever the vehicle is 'combat ready', so the gun will not be elevated.

BTR-50:

- Added driver's position (F9)
- Added commander's position (F7)
- Added decal textures for CD, ER, ET, and ZA
- Added decal textures for DD, and CS

BTR-80:

- Added proper NVG functionality to the TC position
- Added option to damage the TC's "thermal viewer" (representing the TPK-3's IR mode)
- The TC hatch will now remain closed whenever the vehicle is 'combat ready', so the gun will not be elevated.
- Removed the thermal sight that the commander erroneously had

Biber

- Fixed bug #3750 (see bug list)
- Fixed bug #3776 (see bug list)
- Fixed bug #3777 (see bug list)

Bushmaster:

- The vehicle commander will stay unbuttoned if the vehicle was equipped with a manually operated MG
- The driver may now turn his head temporarily to full 90° left and right
- Updated the LOD1 model

CENTAURO:

- Leaning forward while being in the 3D interior will no longer toggle the thermal imager's magnification settings

- The loading position of the gun will now get canceled when the coax MG has been selected
- Fixed the inverted state of the smoke grenade launcher 'armed' indicator light
- Enabled the emergency fire button ("master blaster")
- Enabled the commander's turret position indicator gauge
- Reduced the maximum engagement range for computer-controlled units
- Animated the manual gun elevation/traverse cranks
- Fixed bug #3811 (see bug list); note that by default not all functions are mapped to hotkeys but joystick buttons only

CHALLENGER 2:

- Added new ammunition: L26 APFSDS ("CHARM1" ... the real one)
- Reduced the reflectivity of the antennas
- Updated the turret interior (plugged a hole in the mantlet region)
- Updated the vulnerability definition
- Removed the commander's MG that never was (but still produced damage reports)

Civilians:

- Made them less shiny
- Fixed bug #3485 (see bug list)

CV90 (all variants):

- Animated the manual gun elevation/traverse cranks

CV90/30-FI:

- Updated the turret interior
- Smokes the right grenades now
- Winterized the turret roof texture some more

CV90/35 (all variants):

- Reduced the main ammo dispersion for both open or closed bolt firing mode; closed bolt firing is now very accurate
- With 'turretclock' damage active the turret yaw indication in the various VIS and sight views is no longer updated (the turret will appear to just point forward)
- The commander's sight's ballistic door was (visually) controlled by the gunner; it is now operated by the TC's manual lever
- Improved some previously rather blurred VIS icons
- These vehicles may now burn and smoke when destroyed
- Adjusted the max quantity of stowed ammunition to better reflect reality
- Fixed bug #3814 (see bug list)

CV90/35-DK:

- Changed initial ballistic computer settings (air pressure, temperature, and wind bearing), also initial manual range
- Air pressure, air temperature, ammo temperature, ammo V0, and battlesight range may now only be changed by the commander (just as it is in the -NL version)
- some cosmetic changes to the \CALCULATION\ABM menu in the MFP

CV90/35- NL:

- Updated the vulnerability definition

ERCWS- M:

- Updated the 40mm AGS variant (reloading time)

FV510 Warrior IFV:

- Added a number of **OpFor** textures (BMP-2 vismod)
- Updated the vulnerability definition
- Corrected the default platoon strength from 3 to 4 vehicles
- Fixed bug #3732 (see bug list)

GTK Boxer (all variants):

- The driver may no longer unbutton
- Updated LOD3 model/vehicle vulnerability
- Updated the vehicle script

GTK Boxer Ambulance:

- Updated the vulnerability definition

Infantry (all variants):

- Made them less shiny
- While crawling, infantry will start swimming on water surfaces less than 1m deep
- Fixed bug #3497 (see bug list)

Infantry (ATGM teams):

- Fixed the sight reticle of the RBS-56 BILL 1 (the distance between the horizontal lines is now 3 mil rather than six)
- RBS-56 BILL 1: Adjusted the 'fly above LOS' distance from 0.75 to 0.9m
- RBS-56 BILL 1: Daysight is now at 3.4x magnification, thermal sight may toggle between 3.4x and 7x
- RBS-56 BILL 1: Can now toggle thermal image polarity
- SPIKE-LR: Fixed bug where the missile - if merely active but not yet fired - would fail to break lock if target LOS was lost
- Fixed bug #3107 (see bug list)
- Fixed bug #3420 (see bug list)
- Fixed bug #3854 (see bug list)
- Fixed bug #3923 (see bug list)
- Fixed bug #3934 (see bug list)

Infantry (LEMUR teams):

- Removed a confusing, duplicated "Lemur" entry from the unit's context menu. The corresponding settings can still be configured using the "Optional Weapon" submenu

Infantry (RPG gunners):

- Calmed down the RPG gunner to cure a nervous twitch that occurred immediately before firing

Infantry (UAV/UGV operators):

- Controlling unmanned aerial or ground vehicles will no longer change the chosen posture of the controlling unit (this fixes bug #3891)

- The quadcopter UAV no longer has a thermal imager
- Adjusted some view mode related issues, e.g. when picking up the device while still looking through their optics
- Fixed bug #3911 (see bug list)

JAVELIN ATGM

- The missile no longer defaults to direct attack mode

LEOPARD 1A5 (all variants):

- Corrected the engine startup delay
- Animated the manual gun elevation/traverse cranks

LEOPARD 1A5-DK:

- Added normal and specular texture
- Updated diffuse texture

LEOPARD AS1:

- Added normal and specular texture
- Corrected the engine startup delay
- Updated diffuse texture
- Updated the thermal **OpFor** texture
- Updated winter textures
- Fixed bug #3727 (see bug list)

LEOPARD 2A4:

- Updated the armor file to fix an error that could result in a kill if the idler wheel was hit from the front
- Fixed a render bug of the primary sight's reticule

LEOPARD 2A5 (all variants):

- Animated the emergency turret control joystick
- Fixed a render bug of the primary sight's reticule

LEOPARD 2A5-GE:

- Adjusted model geometry (alignment of pivot points across all LODs)

LEOPARD 2A5A1-DK:

- Is now equipped with 120mm DM11 HE-T

LEOPARD 2A5A2-DK:

- Slat cage armor will now protect against most RPG-7 as intended
- Updated thermal texture to blend better with the surrounding terrain's ambient brightness level

LEOPARDO 2E:

- Fixed the inverted position of the main gun/coax selector
- Animated the emergency turret control joystick
- Added a missing LOD2 track texture
- Updated the vulnerability definition

STRV 122:

- Fixed bug #3751 (see bug list)

M1 ABRAMS (all variants):

- Animated the manual gun elevation/traverse cranks
- Updated the vulnerability definition

M1(IP) ABRAMS:

- Corrected the power-to-weight ratio

M1A1 ABRAMS:

- Updated the desert tan texture
- Corrected the power-to-weight ratio
- Fixed bug #3388 (see bug list)

M1A1(HA) ABRAMS:

- Improved the stabilization quality of the fire control system
- The correct number of HEAT rounds may now be specified in the **MISSION EDITOR**
- Updated the desert tan texture
- Fixed bug #3388 (see bug list)

M1A2 SEP ABRAMS:

- The gunner's magnification knob will now reliably select the desired zoom level
- Updated the desert tan texture
- Updated some OpFor diffuse textures
- Updated a thermal texture
- Fixed bug #3513 (see bug list)
- Fixed bug #3595 (see bug list)
- Fixed bug #3623 (see bug list)
- Fixed bug #3745 (see bug list)
- Fixed bug #3747 (see bug list)

M2/M3 Bradley (all variants):

- Fixed the inverted normal maps on the gunner's hand crank
- Updated the (English) tutorial "05 TOW Missiles"
- Animated the manual gun elevation/traverse cranks
- Updated the desert tan texture
- Updated the missile launcher box animation
- Fixed a bug where the turret went into the ATGM reload position while the tank was travelling through woods (reloading of TOWs while on the move should not be possible).
- Fixed bug #3409 (see bug list)
- Fixed bug #3482 (see bug list)
- Fixed bug #3794 (see bug list)

M113G4-DK:

- Chain-link fence cage will now protect against most RPG-7 as intended
- Corrected some problems on the LOD3 model related to the shadow casting
- Fixed bug #3558 (see bug list)

M901:

- Updated a turret traverse sound
- Fixed a bug with the vulnerability definition

RWS (all models):

- Fixed bug #3802 (see bug list)

RWS LEMUR:

- Updated the 40mm AGS variant (reloading time)
- Slightly decreased the size of the icon in the lower left corner symbolizing the correct magnification so that it does not overlap with the surrounding text

RWS PROTECTOR (cal .50):

- Adjusted the ammo reload time
- Increased the max number of smoke grenades
- Fixed bug #3770 (see bug list)
- Fixed bug #3785 (see bug list)
- Fixed bug #3786 (see bug list)

T-62:

- Reduced the quality of the stabilization system
- Removed the 115mm BM-5 APFSDS round which is a two-piece design for T-64 prototypes that were fitted with the 115mm gun
- Updated the turret interior
- Updated **RU** and **OpFor** texture
- Fixed bug #3789 (see bug list)

T-72 (all variants):

- Fixed bug #3421 (see buglist #3650)
- Fixed bug #3828 (see bug list); the elevation lever will now toggle between manual and powered turret (and gun) movement

T-72M:

- Adjusted commander's NSVT gun field of view
- Removed the 3BM-42M as an optional ammunition (does not fit into the loader)
- Fixed bug disabling the 'stabilized observation' mode

T-72M1:

- Adjusted commander's NSVT gun field of view
- Updated the desert texture
- Removed the 3BM-42M as an optional ammunition (does not fit into the loader)

UAV:

- Fixed bug #3404 (see bug list)
- Fixed bug #3568 (see bug list)

WISENT ARV:

- Removed the smoke grenade launcher from the list of 'missing systems' so that you may now fire the previously
- Added smoke grenades

Changes for units/systems without crew positions

2S1:

- Updated the vulnerability definition

AH-64A APACHE gunship helicopter:

- Added AGM-114L missile to the ammo selection to approximate Longbow capabilities in scenarios. Use with consideration.
- Updated the cockpit glass' specular texture
- Updated normal map texture
- Adjusted vulnerability model

AMX-13:

- Adjusted the count of ready and stowed ammunition to reflect the revolver magazine autoloader (2x6 ready)

BMP-1 AMBULANCE:

- Reduced commander's hatch rotation limit

BMP-3 IFV:

- The default missile is now the 1990 model AT-5b

Centurion:

- Added a missing thermal track texture
- Added normal and specular textures
- Adjusted vulnerability model
- Corrected a track texture issue with the LOD1
- Corrected the coax MG and the main gun ammo count
- Corrected the turning radius and turn type
- Corrected the steering type
- Metrified vehicle mass, power-to-weight ratio, and max. speed
- Plugged a roadwheel hole in the LOD2 3D model

CH-146 GRIFFON transport helicopter:

- Adjusted vulnerability model

CIVILIAN VEHICLES:

- Improved mobility on "easy" off-road terrain like typical grass area (they got stuck too often)
- Fixed bug #3488 (see bug list)
- Fixed bug #3575 (see bug list)

Fennek LRV:

- Updated a thermal texture; cal .50 gun barrel is now hot

HELICOPTERS:

- Standardized vulnerability definitions and related AI control parameters; ground troops should no longer waste small arms fire on them unless they are extremely close
- Fixed bug #2870 (see bug list)
- Fixed bug #3404 (see bug list)
- Fixed bug #3439 (see bug list)
- Fixed bug #3568 (see bug list)

Mi-24 HIND-E gunship helicopter:

- Removed the S-8D rockets. Fuel-air-explosives aren't yet intended to be introduced, missing the underlying modeling & simulation work
- Added S-8 unguided rocket as optional armament
- Adjusted the textures around the canopy
- Adjusted vulnerability model
- Adjusted the LOD2 3D model

LEOPARD 1A2:

- Is now scripted to have a (coincidence) rangefinder but not a ballistic computer, reducing especially long range accuracy
- Corrected the engine startup delay
- Corrected the default coax ammunition
- Fixed bug #3163 (see bug list)

LEOPARD 1V:

- Is now scripted to have a (coincidence) rangefinder but not a ballistic computer, reducing especially long range accuracy
- Corrected the engine startup delay
- Fixed bug #3163 (see bug list)

MBOA3:

- Improved the stabilization quality for the fire control system

M88A2:

- Updated the TOWING tutorial

Marder 1A3:

- Updated thermal texture
- Updated the normal map texture
- Updated the diffuse texture
- Adjusted the specular map texture

MT-55:

- The vehicle will let go of its mobile bridge if the carrying arm is fully extended, even if the bridge's 'far' end is not actually resting on the ground or another bridge.
- Fixed bug #3750 (see bug list)
- Fixed bug #3776 (see bug list)
- Fixed bug #3777 (see bug list)

PRP-3:

- Covered some naughty holes that let you spy on its private parts

T-55:

- Reduced the quality of the "stabilization system"
- Updated **RU** and **OpFor** texture

T-64A:

- Is now scripted to have a (coincidence) rangefinder but not a ballistic computer, reducing especially long range accuracy
- Removed the 3BM-42M as an optional ammunition (does not fit into the loader)
- Fixed bug #2792 (see bug list)

T-64B:

- Updated the default ammo mix to better reflect operational reality (ATGMs go all into the carousel loader at the expense of HEAT grenades)
- Reduced the maximum ballistic computer and LRF ranges to a more realistic 3,000m.
Tube launched ATGMs may still be fired beyond the range limit
The fire control system may accept ranges beyond 3,000m as a manual input by the crew, but does not generate a firing solution for laser ranges exceeding this limit. Computer-controlled crews will roll with this default maximum range.
- Removed the 3BM-42M as an optional ammunition (does not fit into the loader)

T-72M4:

- Removed the 3BM-42M as an optional ammunition (does not fit into the loader)

T-72B (early):

- Updated the default ammo mix to better reflect operational reality (ATGMs go all into the carousel loader at the expense of HEAT grenades)
- Updated the max ballistic range and max LRF range to better reflect their real-life capabilities
- Reduced the ammo storage capacity by one

T-72B:

- Updated the default ammo mix to better reflect operational reality (ATGMs go all into the carousel loader at the expense of HEAT grenades)
- Updated the max ballistic range and max LRF range to better reflect their real-life capabilities
- Updated the desert texture
- Removed the 3BM-42M as an optional ammunition (does not fit into the loader)
- Reduced the ammo storage capacity by one

T-72BV:

- Updated the desert texture
- Removed the 3BM-42M as an optional ammunition (does not fit into the loader)

T-72M4:

- Replaced the BM-42M by the BM-42 as the -M's longer penetrator rod would not fit into the carousel loader

T-80U:

- Updated the default ammo mix to better reflect operational reality (ATGMs go all into the carousel loader at the expense of HEAT grenades)
- Removed the erroneously assigned 115mm OF-27 ammunition option
- Reduced the maximum ballistic computer and LRF ranges to a more realistic 3,000m.
Tube launched ATGMs may still be fired beyond the range limit

The fire control system may accept ranges beyond 3,000m as a manual input by the crew, but does not generate a firing solution for laser ranges exceeding this limit. Computer-controlled crews will roll with this default maximum range.

- Updated the main gun fire sound

T-90S:

- Updated the default ammo mix to better reflect operational reality (ATGMs go all into the carousel loader at the expense of HEAT grenades)
- Removed the erroneously assigned 115mm OF-27 ammunition option
- Reduced the maximum ballistic computer and LRF ranges to a more realistic 3,000m.
Tube launched ATGMs may still be fired beyond the range limit
The fire control system may accept ranges beyond 3,000m as a manual input by the crew, but does not generate a firing solution for laser ranges exceeding this limit. Computer-controlled crews will roll with this default maximum range.
- Updated the track 3D model and texture to fix a transparency issue with the center guides

Tiger ARH gunship helicopter:

- Adjusted vulnerability model
- Updated the CN texture

Technical - T 1.2t:

- Improved mobility on "easy" off-road terrain like typical grass area (they got stuck too often)
- Removed some odd and obsolete textures
- Fixed bug #3586 (see bug list)

TECHNICAL-F 4x4:

- Adjusted NSVT gun operator's field of view
- Improved a normal map texture

TECHNICAL-GAZ with ZU-23/2:

- Corrected the ammo count (stored and ready)

WESEL:

- Added a thermal track texture

Minor non-vehicle changes

- Improved the eucalyptus tree bark texture (a dark shadow of questionable character was showing through the trunk)
- Enabled mesh fogging for the thermal views so all vehicle parts will now blend into darkness with the environment
- Removed an extra tick in the DK style binocular view
- Bunkers blend better into the surrounding terrain
- Logging information about network messages will now only be written if there is actually any information to log (ie not in offline mode, or if no messages were sent at all)

- Possible object collisions are now resolved when moving combatants around in the **Planning Phase** (e.g. when changing a unit's orientation) or shifting its location within a deployment zone
- Rubble is less noisy now
- Updated a number of decal files; helicopters, ze Germans, Russkij
- Updated a dirt texture that was not dirty enough
- Normalized the normal textures for roads, rails, and water streams
- Reduced the overall brightness of some dirt paths and roads to better match the surrounding terrain
- Removed a road specular texture that was too unspecular
- Updated the **INSTANT ACTION** scenarios to prevent units piling up on top of each other, those filthy degenerates
- Adjusted the generic SB Pro PE callsign template to be even more generic
- Watered down two water textures
- Updated some more **INSTANT ACTION** scenarios for infantry consistency, the removal of *unfair!* enemies, and the addition of very few enemies that are real toughies
- Removed the useless and corrupted height map **OTW Beaudesert area.hgt**
- Removed the vampire gene from the **in_Factory02** building so that it remains visible from all directions, all the time, *even in mirrors*

Minor vehicle-related changes

- Updated the **MICLIC** model (beautified the tracks)
- Updated **MICLIC** related code so that the tracks not only *may* be animated, but actually *are*
- When dismounting units from APCs with troop hatches, only those hatches will close where no troops remain. (Previously, any remaining troops would be forced to button up as the hatches were closed upon any unit dismounting)

Bug fixes without database entry

- Reenabled the **Credits Slideshow** when shutting down
- Fixed **PNG screenshots** containing alpha channel on certain Windows versions
- Fixed **Assembly Hall** screenshot not honoring image format selection
- Changed the introduction date of the 120mm "DM33 APFSDS-T" round from 1985 to 1984
- Fixed a bug that made scenario files unreadable if the compression level was set to "off"
- Fixed **Biber** smoke going to wrong direction once bridge has been deployed.
- Fixed a problem in the 'select from list' widget (used for example in the 'region'/'strength' and 'gunnery' scores) that resulted in unselected items being moved from left to right (or vice versa) if the user double clicked them or used the '</>' buttons.
- Fixed a problem when setting 'ownership' of an **ISO container** - the 'more' unit selection would not work properly.
- SB Pro will no longer show the 'Troops' context menu entry for vehicles if there are not troops to mount/dismount.
- Fixed a bug where clicked-on roads would vanish from the **Map Editor** display (they'd only show up again if the user selected another road).
- Fixed a number of **Map Editor** bugs related to multi-selecting roads (by clicking and dragging the mouse cursor)
- Fixed a bug in the **Mission Editor** where map graphics featuring no text would offer the user text manipulation functionality via the graphic's property menu.
- Fixed a bug where SB Pro would attempt to save the AAR file multiple times, as however the original file would have been moved on the first attempt that would have resulted in an (unnecessary) error message in the debug log.
- Fixed a bug where, when adding a new minefield in the **Mission Editor** in the execution phase, the obstacle would be created but the popup menu would not close, allowing the user to inadvertently create a number of obstacles in identical locations.
- Fixed bug where the **Spike-LR** missile - if merely active but not yet fired - would fail to break lock if target LOS was lost.
- When creating a new blank map, SB Pro now checks that the chosen filename is not yet used. Both the '.hgt' as the (deprecated) '.raw' extensions are checked
- eNet network library update:
added multiple fixes from the enet source repository:
 - limit number of packets that can be received per iteration of protocol loop
 - limit number of packets that can be received per iteration of protocol loop
 - fix ENET_SOCKETOPT_NONBLOCK when value is 0
 - handle case in bandwidth limit protocol where either incoming or outgoing limits are disabled, but not both
 - fix window wrap check when sending reliable outgoing commands
- The hotkeys to control the sound volume (note that they are unmapped by default) will now also work on the map screen (but still only in the execution phase, since it is only then that we play sounds).
- The 'trigger' dialogue (allowing to name triggers and assign ownership) will now set the focus to the 'trigger name' text field on being activated.
- Fixed unwanted briefing text overlapping caused by external text editing with different types of linefeed symbols.
- Slightly repositioned the caption in the 'condition' dialogue
- RBS-56 BILL: corrected the 'fly above' distance from 0.75 to 0.9m.

- The heading/flight height/speed readout for air vehicles will be hidden if all 2d overlay text was disabled using the "Toggle HUD Overlay" command.
- Enabled the "Face gun", "Face left of gun", "Face right of gun" and "Face rear of gun" in various human-playable vehicles that were missing them (including the **CENTAURO**)
- Fixed a bug where the AI gunner in the M2/M3 would change the magnification of the daysight channel but not the thermal channel (something that's not possible in the real vehicle), which could then lead to TOW missiles to abort in case a human GNR took over and did not toggle view magnification at least once
- Fixed a bug in the Ulan's TIS UI rendering that could lead to the upper row of readouts (showing ammunition, range, etc.) not to be drawn
- Added code to guard against a possible access violation when reading a player profile file (*.ppf); 64-bit versions of SB Pro will no longer 'hang' when using old player profiles
- Fixed "a bug" that "broke" SB NAVMESH BUILDER
- Updated the ballistics data (changed introduction date of 'M735 APFSDS-T' and changed name of 'OE 105 F1 HE' (disabling tracers too)).
- Fixed a bug where sometimes the mouse scroll wheel would not function on application startup (the user would have to switch to another window then back to the application window to enable its functionality)
- The M2A2/Eng commander may now launch the MICLIC manually just like the M113/Eng.
Note that firing the MICLIC is a two-step process. Press the fire button/hotkey once to erect the launcher and, once ready, to immediately fire the rocket to pull the line charge across the obstacle. After a few seconds, hold the fire button for more than a second to actually detonate the charge
- Fixed a bug that prevented computer-controlled units with gun-launched missiles to employ them to their maximum tactical effect (standoff range)
- 105mm DM33 APFSDS-T date of introduction was updated
- Fixed the "road shadow" bug, see <http://www.steelbeasts.com/sbforums/showthread.php?t=20455>
- Fixed the WEATHER CONTROL screen's "Wind speed" slider and display to use matching values.
- Fixed a bug in the ballistic model for KE rounds - they were not properly slowed down when impacting an obstacle.
- The HUD overlay will now be re-enabled when starting a new mission
- Fixed a bug in the 'condition' window where a textbox showing a unit's callsign was not properly resized to accommodate long callsigns (see <http://www.steelbeasts.com/sbforums/showthread.php?p=256281>)
- Added a number of missing damages to the 'damage if' and 'repair if' menus in the Mission Editor (Laser warning receiver, missile launcher, autoloader, smoke grenades, and searchlight). Also made a further change to bug #1099 (the 'gunner' damage was missing from the 'repair if' menu)
- Fixed a bug where, in multiplayer sessions, troops could not mount a vehicle owned by another player (if this player was not the host)
- Fixed crash in "In Progress Session Join Wizard" caused by a combination of mouse wheel & key input
- Fixed a crash bug in "In Progress Session Join Wizard" caused by a combination of mouse wheel & key input
- Fixed a bug that could crash a session host if a client disconnected at just the wrong time
- Corrected the "Russian mil" width in the Russian binocular view
- Improved infantry ability to stay in formation in difficult terrain
- Fixed Challenger 2 SpinKit fire button support
- Fixed a bug where the TC would not scan along the gun in case a 'scan here' command was issued
- Generally improved the behavior of missile equipped vehicles, partially by addressing known bugs (see bug list in next chapter), partially by other means
- Generally improved the behavior of vehicles trying to reload preferred ammo in situations when they really should not, i.e. when facing an enemy and still having alternative ammo ready. The default behavior of NOT trying to reload when on a route has not been changed, except one special case: if a vehicle has NO ready ammo of any type left whatsoever, reloading is allowed (assuming all other criteria are met – like not facing an enemy, need to stop while reload etc.).

- Fixed a bug where the computer-controlled gunner in the M2/M3 BRADLEY would change the magnification of the daysight channel but not that of the thermal channel (impossible to do in the real vehicle), which could then lead to TOW missiles aborting if a human GNR took over and did not toggle view magnification at least once
- Fixed some render artifacts in the vision block view that affected various vehicles
- Contact reports by split formations will now be displayed to the user
- Fixed bug that could lead to enemy units not being reported as detected in network sessions - so other clients would not get to see their unit icons on the map
- Fixed a bug that could cause the AAR camera not attaching itself properly to the object (or rather combatant) an event was about
- Made the application return to the MAIN MENU if the user tried to open the MISSION EDITOR with the default tile map ('flat.ter') missing (this can happen if one of multiple SB version installed in parallel were uninstalled). Previously the MISSION EDITOR would still load but would be (mostly) non-functional, showing very strange behavior, and while an error entry would be generated in the log file the user would be quite likely to miss it
- Fixed a bug where the 'drive here' 'lase' etc. mouse cursor icon might have been slightly displaced from where it was actually pointing at (noticeable in the soldier's binocular view)
- Fixed a number of bugs with editing 'in-progress' saves (primarily in conjunction with attached troops). Also changed the behavior in the MISSION EDITOR so that manipulating a destroyed unit's 'status' flag, all its damages will be repaired.
Note that troop formations (as opposed to vehicle formations) will be recombined into their original formation when doing this
- Fixed a bug with editing 'in-progress' saves containing UAVs/UGVs
- Selecting 'load troops' or 'unload troops' in a multi-vehicle symbol's menu in the status bar will now cause all the unit's vehicles to load or unload their troops - previously only the lead vehicle would do this.
- Corrected the ATGM 114K Hellfire to be laser-guided (removed the incorrect 'fire-and-forget' capability)
- Fixed a bug where a complete vehicle formation was considered 'split' when it was carrying troops (so that the UI would offer the user to 'attach' the selected unit when this was actually not possible/needed)
- Set the input focus to the 'new unit' window's 'OK' button if the window is brought up (so that when using the mouse wheel the map is not zoomed in/out)
- Fixed M1A2 SEP gunner magnification knob, it was not always selecting the correct magnification level
- Fixed a possible issue with reference points in x64 builds
- Killing a boresight panel is no longer considered fratricide
- Fixed bug where the 3D view status bar's 'Vehicle' menu entry was grayed out if the player was in a vehicle's driving position, even if it would allow him to open said menu in order to fire smoke grenades
Note that it is now possible for the 'Vehicle' menu entry to be drawn in black font (= 'active') even if the vehicle in question cannot fire smoke grenades
- Fixed issue in the CV9035s where the TC's ballistic door was (visually) controlled by the gunner, and not by the TC's manual lever
- Fixed issue on the CV9030FI where the action of the first round being loaded was not correctly communicated to non-gun-controlling clients in a MP environment. Until the first 'real' shot was being fired, a divergence of one shot was shown in the ammo counts (only really noticeable if TC and GNR were sitting in the same vehicle).
- Fixed bug disabling the 'stabilized observation' mode in the T-72M
- Fixed a small memory leak.
- Fixed bug introduced a while earlier that hindered the creation of mixed vehicle formations.
- Fixed an (artillery) AI gunner calculation, which under some circumstances would break the 'rounds per minute' calculation (so the guns would always fire at their maximum ROF; about three shots per minute with the guns currently in SB).

- Fixed unchecked pointer access when loading artwork resources - meshes without any materials assigned to them would crash the application.
- Removed extra 'tick' in the 'DK-style' binoculars.
- Fixed bug where the temperature was not correctly recalculated while a mission was in progress.
- Fixed bug in all Leopard tanks that allowed TCs to enter ranges exceeding the nominal FCS maximum ranges (not to mention the limits of their input devices). Since this input is actually meant to simulate the Kommandantenanzeigergerät, which limits the range to 2000m, the code has been changed to reflect that restriction (the user may still input values exceeding that but the actually processed value will be clamped to the 900-2000m range).
- Fixed bug that caused a unit's combatants to be reset to face east when moving them around in MP sessions (using the instructor host functionality or while placing them in a deployment zone) if they were not on a route or did not have a battle position assigned.
- Addendum to bug #2234 ("Allow "Instructor Host" functionality in "Scenario Testing" mode")
Some vehicles displayed the 'overhead weapon station' and 'automatic fire' damage entries even if they were not actually equipped with these systems.
- Addendum to bug #2657 (Numpad-* controls need to be remapped). One consequence of the "Toggle TIS field of view" hotkey being remapped to 'N' was that in the CV9035 and CV9030 interiors 'leaning' in the gunner's position (which also by default is mapped to the 'N' key) produced an audible 'reticle change' sound. This had been fixed again
- Changed the introduction date of the 'RPG-22 Netto' weapon to 1980.
- Fixed a problem related to maps containing custom map objects (such as TerraTools generated); they will no longer crash SB Pro upon 'picking' a different map area or when replacing the map wholesale
- Fixed a bug where attached guns would not be rendered correctly while in the planning or AAR phase
- Fixed a TOW launcher sound issue (cut off up/down sound)

Resolved Bugzilla entries

Bug description is listed only if the bug status changed since version 3.011:

- Fixed bug #909; the network stack which has been in 'public beta' for a while, has now been officially implemented. Note that with this change, the minimum required operating system is 'Windows XP SP2' (for the 32 bit version) and Windows Vista (for the 64 bit version)
- Fixed bug #982; it is no longer problematic to delete the last node of a custom line, see <http://www.steelbeasts.com/sbforums/showthread.php?t=20556>
- Fixed bug #1006; In the Planning Phase, the Options menu is now enabled; all users may see and use the BP main attention sectors. This will be automatically disabled once the Execution Phase starts
- Fixed bug #1007 and #1623; changes to a formation's orientation and formation style (including spacing) done during a network session's Planning Phase will now be transmitted to other clients, so that the 3d preview and the battle position sectors of fire reflect the updated state. This also applies when moving units within a deployment zone.
Note however that if a formation is set to be in a battle position (i.e. if the battle position marker is being displayed), they will immediately change from the specified formation to 'line' formation (reset the tactics to 'None' after customizing their orientation to avoid that)
- **Extended the fix of bug #1459; in desert environments, knocked over palm trees will no longer spawn any random bush but one that suits the desert settings better**
- Fixed bug #1623; see #1007
- Bug #1648 - "Vehicles frequently get "stuck" near buildings"
Collision code now allows the vehicle to back out of the collision object's center if they intersect
- Fixed bug #1968; infantry may now walk under bridges
- Fixed bug #1811; (Priority) target reference points (TRPs) can now be given ownership just like other deployable objects (see #2242), not only a side's ranking combatant can manipulate them in a scenario's planning phase. Note that if no ownership was explicitly assigned by the scenario editor, it reverts to a party's highest ranking player (just like it used to).
In addition, if anyone moves such a reference point, this change will be automatically communicated to all network session participants (not only to the host as before), doing away with the need for the player to explicitly send this changed TRP to the others.
Finally, for bunkers, vehicle emplacements and regular TRPs, the ability to assign ownership has been removed since these items can be deployed by anyone in the planning phase (for bunkers and emplacements only if they have been indicated as being deployable by the Mission Editor).
- Fixed bug #2189; 40mm 3P rounds in proximity fuze mode will no longer explode immediately after leaving the muzzle
- Fixed bug #2207; the T-72M1's autoloader control unit's switch order is now correct
- Fixed bug #2386; missile equipped vehicles will no longer fiddle around with ATGM reloading procedures when facing enemy if they still have suitable main gun ammunition ready
- Fixed bug #2565; IFVs and APCs should no longer freeze in place
- Fixed bug #2792; For the T-64A, the return rollers will now properly roll;
- Fixed bug #2835; MICLIC trailer tracks (and wheels) are now animated
- Fixed bug #2870; on Assault routes, helicopters will no longer stop. They will no longer fire ATGMs when assaulting. They can and will fire unguided rockets however
- Fixed bug #2874; when nearing emplacements there should be no more shadow artifacts on the ground
- Fixed bug #3107; for ATGM infantry teams the F7 point of view will change to the leader's eye view while moving, rather than staying with the missile sight. As long as the gun is not "unpacked" (i.e. deployed) from now on use the POV of the carrying/crewing soldier will be used.
- Fixed bug #3131; added the "Unity Sight" to the View menu (and hotkey list) for the ASCOD ULAN

- Fixed bug #3163; Leopard 1V and 1A2 will now default to 105mm PheilPat78Lsp
- Bug #3181/#3457 - "Roads Overlap Buildings" / "'Line objects' should not be drawn on top of roads" Roads will now be drawn on top of everything but buildings.
- Bug #3278 - "AGM-114C Hellfire "
The missile now requires continuous line-of-sight during its flight time.
- Fixed bug #3283; computer-controlled vehicles owned by client players will now observe 'Hold Fire' orders
- Fixed bug #3299; the commander's hatch of BRDM-2s and BTR-80s will now remain closed while the vehicle is set to 'combat ready' status
- Partially fixed bug #3322; at least the radar-guided AA guns (ZSU-23/4, 2S6) will no longer pivot steer during air defense engagements
- Fixed bug #3324; infantry on Scout routes will now crouch-walk rather than crawl
- Fixed bug #3329; off-map artillery may no longer fire more than 15 rounds per tube (see also #3434).
The "rounds per tube" for off-map artillery is now limited to 8.
The "rounds per tube per minute" (fire rate) for off-map artillery is now limited to 4
The maximum duration for off-map artillery strikes is now limited to 2 min at maximum rate of fire.
Longer durations require a reduction in the ROF
- Fixed bug #3367; Javelin ATGM no longer defaults to direct attack mode
- Fixed bug #3368; if the session host quits during the Planning Phase, all clients are immediately transported back to the ASSEMBLY HALL rather than looking at the (potentially opposing) Blueforce map screen
- Fixed bug #3376; when clients Join in Progress the counter for user kills and losses is no longer reset to zero for everyone (which also could affect the mission score)
- Fixed bug #3379; all vehicle emplacements should now have the proper depth irrespective if a vehicle of the assigned type is actually present in the scenario; also added two new types (Leo 2A5 and M1A2SEP) to account for the raised periscope height
- Bug #3382 - "TOW missile launcher (infantry ATGM team) next to a building fires its missile skywards."
- Fixed bug #3383; after self-destruction, FASCAM type mine obstacles will now be removed from the network clients' map screens
- Fixed bug #3386; the 2D map LOS tool will now work again as intended (some obstacles were previously ignored)
- Fixed bug #3387; Antialiasing will now REALLY be disabled if the slider is set to zero
- Fixed bug #3388; transiting to the vision blocks in the M1A1 and M1A1(HA) works now (F4)
- Fixed bug #3393; repaired suspension damage will now also eliminate the wonky driving
- Fixed bug #3396; removed the entry "Set minimum light level" from the MISSION EDITOR's Options menu
- Fixed bug #3397;
- Fixed bug #3398; night combat works again (to the extent possible without battlefield illumination)
- Fixed bug #3399; you may now lase waypoints from inside a vehicle's driving cabin
- Fixed bug #3404; Beautified the HUD for helicopters and the UAV. The lower left corner of the HUD will now show "ROUTE" if the unit is on route. The lower right corner will show which height setting is selected (if active, i.e. GROUND, HOVER, TREE, NORM). Only UAVs will have the additional map coordinate output above the HUD
- Fixed bug #3408; M2/M3 Bradley driver's NVG is now rendered greenscale
- Fixed bug #3409; inside the M2/M3 Bradley vehicles the commander may now directly click on all buttons in the turret interior (select ammunition/rate of fire). Using the hotkeys the commander may only suggest the ammo type and ROF to be used, except in the case of overriding an AI gunner
- Fixed bug #3417; when selecting visibility: on/off for computer-owned routes and waypoints, the checkmark will now immediately update
- Fixed bug #3420; ATGM teams owned by clients in network sessions will now properly set up their launchers without a personal visit by the commanding player

- Fixed bug #3421, see #3652;
- Fixed bug #3426; the installer will now create a second shortcut (same name, but with (Debug) appended) featuring the additional command line parameter setting the log level to TRACE; it is best left ignored until asked by tech support to use it
- Fixed bug #3427; start STEEL BEASTS with the command line option --safemode to ignore (and reset!) the user's options.dat file. This can be used to recover from a wrong or invalid configuration file (for example if a screen resolution that is not supported by the current display (adapter) was specified). specifying this command line will make SB Pro ignore all other options (the log level will be set to TRACE)
- Fixed bug #3428;
- Fixed bug #3431; STEEL BEASTS should no longer crash in the assembly hall if the command line parameter --fullscreenwindow=TRUE
- Fixed bug #3432 (the behavior of Leopard 1A5 fire control system for laser ranges exceeding 3990m)
- Fixed bug #3434; off-map artillery may no longer fire for excessive durations (see also #3329)
The maximum duration for off-map artillery is now limited to 2 minutes at the maximum fire rate. One can still achieve longer durations by using a lower fire rate
- Fixed bug #3439; helicopters will now use unguided rockets against infantry targets
- Fixed bug #3448
- Bug #3456 - "Mission Editor: change the color of the text showing the current scenario name to black"
- Fixed bug #3459; Leopard 1A5 and later have now a uniform max laser range of 9990m
- Fixed bug #3465; in the MISSION EDITOR and in the MAP EDITOR, changed the display of the current mission (map) name to black text
- Bug #3469 - "Mission Editor: do not always move 'attached' troops with their PCs"
Dismounted attached troops that have tactics assigned will now no longer move along with their assigned PC if it is being moved by the scenario designer. Note that loading a troop formation into a vehicle will reset the tactics to 'None'.
- Fixed bug #3482; the M2/M3 BRADLEY commander may now toggle sight magnification while overriding
- Bug #3483 - "Leopard 2A4: Peri should black out during firing"
Firing via emergency trigger is not covered (so it will still black out under these circumstances)
- Fixed bug #3485; when following civilian characters in the external observer's view the camera will no longer bob up and down
- Fixed bug #3488; the Sedan-P has now a texture mapped to its windows
- Fixed bug #3497; infantry stamina limits can no longer be bypassed by holding hotkey C
- Fixed bug #3499; neutral parties can no longer see other parties' vehicles in the Planning Phase's 3D preview; only own and allied units will be shown during that time; this does not apply to UAV paths, they will always show "the truth"
- Fixed bug #3503; removed the discrepancy in the displayed dimensions of an artillery target area when planning the call for fire/waiting for splash, during the impact, and after the mission has been completed
- Fixed bug #3504; The 'condition test time' is now being reset if an "in-progress saved" scenario is being edited (and saved) in the MISSION EDITOR
Note that under these circumstances the 'mission time' is being reset to 0.
- Fixed bug #3505; VBIEDs will now visibly explode on client machines
- Fixed bug #3513; the M1A2SEP will no longer *appear* to calculate firing solutions beyond 5000m range
- Fixed bug #3514; the Give to... command will now also work on client machines
- Fixed bug #3515; the HTML reports will now correctly list CO and XO callsigns
- Fixed bug #3529; Host-controlled technical trucks with ZU-23/2 will now have the gun correctly oriented to the rear
- Fixed bug #3536; it is no longer possible to accidentally "click through" the black chat line and message box to activate an underlying button in the 3D interior of a vehicle
- Fixed bug #3537 which occasionally caused SB Pro to crash if a route was plotted across a bridge

- Fixed bug #3545; the countdown timers of on-map artillery units' fire missions are now listed in the Support drop-down menu
- Fixed bug #3549; mouse vector preferences are now properly stored in the Options.dat file
- Fixed bug #3557; when forced to abandon an (immobilized) vehicle in a network session, the player following the vehicle's troops will no longer continue to hear APC related looping sounds
- Fixed bug #3558; in network sessions, when starting in the vehicle commander's position the player will no longer be buttoned up but with binocular view magnification and reticule
- Fixed bug #3562; in network sessions ISO containers will no longer rapidly change their color when being pushed
- Fixed bug #3568; UAVs and helicopters will now maintain stabilized view mode while flying over forests
- Fixed bug #3575; motorcycle drivers will now adopt proper lighting settings at night
- Fixed bug #3576; the delay time for artillery units to repeat a fire mission is now extended 22 seconds
- Fixed bug #3579; The Online Join Wizard will now show the player's party name immediately after their player name, like so: 'John, [Blue], HQ 1/2/3'.
Note that the player is still required to click on a unit (he can only occupy the observer's position anyway, so there is no 'risk' in him doing that)
- Fixed bug #3581; with this change printing while a mission is being executed will only work if the scenario is paused. This extends to all print functions (ie briefing, reports etc). One consequence of this change is that, under some circumstances, the File toolbar menu might be without any entries, in which case the menu entry will be grayed out (like happens with other menus, eg the Support menu..)
- Fixed bug #3586; the crew of the 1.2T TECHNICAL-T will no longer have a squad MG if no "Armed, if..." condition has been set
- Fixed bug #3587; "Armed, if..." and "Discard weapon, if..." changes are now events in the AAR
- Fixed bug #3588;
- Fixed bug #3591; automatic pathfinding will now ignore assault bridges that are carried by an AVLB
- Fixed bug #3592; improved treatment of "tiny" Source and Drain regions
One of the conditions of the 'source/drain' feature is that SB Pro will only release actors from the pool through the Source if the desired coordinate of the route end within the Drain region is not blocked by an actor (like a tank parking in the same spot that the civilian unit selected as its target).
With very small drain regions this could have led to a noticeable blockade of the source
- Fixed bug #3593; fire team leaders will now immediately return to their ride when given the mount command, even if the player is in the external observer's position (previously they seemed to be too embarrassed to do it on camera)
- Fixed bug #3595; corrected the East/West orientation of vehicles displayed in the M1A2 SEP commander's tactical panel
- Fixed bug #3608; while 'map' damage occurs, the current time will be shown under the mission time display in the upper left corner of the screen
- Fixed bug #3612; rocket artillery fire missions will now properly terminate after one salvo even if the unit has its ammo count set to "unlimited" (not recommended to begin with, but...)
- Fixed bug #3615
- Fixed bug #3616; for scenarios that were saved "in-progress" the mission time count is set to zero
Clarification: If an 'in-progress' scenario is opened in the MISSION EDITOR
 - the mission time will be reset to 0
 - the mission start time will be set to the in-game time when the scenario was saved
 - conditions/events/scores that use 'mission time' will be adapted to account for the change in the mission time.
Eg if there was a condition that includes a 'if missiontime > 5:00' subcondition and the scenario was saved at mission time 3:30, then the condition will be automatically changed to state 'if missiontime > 1:30'.

- 'incremental time' subconditions will be not be changed, but internal timekeeping is updated so that any conditions should trigger correctly
- the 'h-hour' time will not be changed
- weather control points are adapted ('past ones' will be deleted and a new initial weather condition will be calculated)

These changes will not be automatically saved; the MISSION EDITOR will however show the usual 'scenario has changed' indication.

- Fixed bug #3623; the M1A2 SEP battlesight will now work as intended
- Fixed bug #3631; mineplows will no longer stop clearing mines after being lifted for the first time
- Fixed bug #3632;
- Fixed bug #3635;
- Fixed bug #3636; when replacing a scenario's map in the MISSION EDITOR the map selection frame will now default to the previous map dimensions
- Fixed bug #3643; added condition option "Unit (x) is destroyed". Note that if the unit in question is composed of multiple combatants, the condition will only be true if ALL the unit's members have been destroyed (this is opposed to the other conditions like 'low fuel', 'damaged engine' etc. where it is sufficient for a single member to feature the requires status).
- Fixed bug #3646 (duplicate of #3503; see there)
- Fixed bug #3650 (see also #3652); vehicles will now observe the maximum effective range of each ammunition type.

With this change combat vehicles will

- 1) only shoot if the target is in range of their current ammunition (ballistic computer limitations are also observed, as well as the practical limits of the ammunition (such as dictated by tracer burn-out range or dispersion) and
 - 2) actually drive up (and actually speed up slightly) until they're in range to engage a target instead of stopping right away
- Fixed bug #3651; multi-select commands are now consistent in the MAP and in the MISSION EDITORS. Hold down Shift and click to select multiple items, or to unselect one out of a group
 - Fixed bug #3652 (this also fixes bug #3421; see also #3650); vehicles will now observe the maximum effective range of each ammunition type when advancing on an Engage route
 - Unfixed bug 3652, as the cure turned out to be worse than the ailment. Other workarounds were implemented
 - Fixed bug #3653; HE grenades fired from combat vehicle smoke dischargers such as the LEOPARD 2 or M1 ABRAMS will no longer explode harmlessly too high and too far away from the firing tank. Instead they now have the proper range of approximately 50m
 - Fixed bug #3661; when entering a building, a Lemur team's weapon no longer turns invisible
 - Fixed bug #3662
 - Fixed bug #3665; dust in Winter themed scenarios will now assume a whitish grey color
 - Fixed bug #3673; artillery observers will now properly adopt a suitable posture to maintain observation while inside of buildings
 - Fixed bug #3681; 'Player, if...' conditions will now work as intended in network sessions
 - Fixed bug #3682; Fire missions called by a network client who left the session will be terminated upon the server detecting the client's absence, which may take a few seconds (less than a minute)
 - Fixed bug #3683; Deleting vertices from custom region map graphics will now resize the region to maintain a closed polygon
 - Fixed bug #3684; Helicopters may no longer unload troops at high altitude, and/or while flying at maximum speed
 - Fixed bug #3686; T-72M1s will in network sessions load their main guns without the requiring the human owner to jump into the gunner's position and to press 'V' once

- Fixed bug #3687; ATGM teams in network sessions will no longer abort their missiles right after launch
- Fixed bug #3689; Client-owned computer-controlled vehicles will no longer hesitate to enter vehicle emplacements
- Fixed bug #3690; removed a discrepancy between Client- and Host-controlled vehicles to knock over trees under certain circumstances
- Fixed bug #3708; the session host may no longer force the deployment of a mine plow if the vehicle is owned by a client; the command hierarchy is human player, human commander, human observer, finally script control (when embarking on a breach route)
- Fixed bug #3709; when using the Join in Progress option, the session host may now choose to play the same scenario immediately again without bad things™ happening to clients that participated from the start in the previous network session
- Fixed bug #3718; clients who dropped from a network session may now re-join with more reliability
- Fixed bug #3727; the **Leopard AS1** gunner's primary sight no longer changes to a strange hybrid thermal reticle when hit by maingun fire
- Fixed bug #3732; the **FV510 Warrior**'s primary sight no longer shows a weird binocular view after some arcane keypress combination
- Fixed bug #3745; in the **M1A2 SEP Abrams** 3D interior the breech lock is now moving correctly
- Fixed bug #3747; in the **M1A2 SEP Abrams** CITV sector limits are now correctly referencing the hull
- Fixed bug #3748; if **Realism** settings prevent the zoom in the external observer's position but the **SmartCam** is active the user may now switch back to 1:1 eye view
- Fixed bug #3750; vehicles driving over deployed **assault bridges** across destroyed bridge segments will no longer fall through those bridges into the holes that they were supposed to cover
- Fixed bug #3751; the **STRV-122** rear hull textures have been properly aligned
- Fixed bug #3770; the reloading procedure of the **RWS PROTECTOR** w/ cal .50 will no longer stop in the absence of a human player
- Fixed bug #3773; when trying to create a new blank map with an existing file name, SB Pro will now produce an error message informing the user that the heightmap file could not be saved
- Fixed bug #3774; adjusted heightmap creation process, see feature description in section "**Map Editor**"
- Fixed bug #3775; for the **ASCOD ULAN** IFV the unity sight will now also black out in the 'eye' view of the 3D interior if the vehicle's primary sight has been damaged
- Fixed bug #3776/3777; **bridgelayer** tanks may now use the **pillars of blown bridges** as supporting structures; in practice this requires a stone or rail bridge since the others can't support the weight of combat vehicles in the first place. Note that the 'far end' of the mobile bridges needs to be quite centered on the pillar, otherwise the bridge will not 'catch'.
In addition, all pillars of collapsed bridges will represent mobility obstacles now.
- Fixed bug #3779; in the object preview the MLC load bearing limit of bridges is now displayed
- Fixed bug #3785; the reloading procedure of the **RWS PROTECTOR** will no longer stop in the presence of a human player if the mounting vehicle has no hatch for the operator
- Fixed bug #3786; **RWS PROTECTOR** will now fire smoke grenade salvos 120° to the front
- Fixed bug #3789; subdued the turret brake sound in the **T-62** while the main gun is being loaded
- Fixed bug #3791; added 15% option to setting fuel levels in the **Mission Editor**
- Fixed bug #3794; in the **M2/M3A2 BRADLEY** the turret fan sound will now play correctly when jumping directly from the external observer's to the gunner's position
- Fixed bug #3799;
- Fixed bug #3802; all **RWS** models may now properly fire **multispectral smoke** grenades from their launchers
- Fixed bug #3811; for the **CENTAURO** it is now possible again to toggle the peri power by clicking on the button in the 3d environment.

Note: The 'estab' issue reported is not actually a bug; these buttons need to be **held clicked** for a while before the system reacts.

- Fixed bug #3814; non-combat ready **CV90/35s** with computer-controlled turret crew will now reset the turret safety button after about 9 seconds have elapsed
- Fixed bug #3815; the font color of numerical displays in the map screen (coordinates, time) is now white
- Fixed bug #3818; in the **Mission Editor**, added a condition option [Party xx] is [allied/neutral/enemy] to [Party yy]
- Fixed bug #3823; in the **Mission Editor**, for both units and waypoints (but not mixed selections) the orientation of battlepositions can now be changed simultaneously
- Fixed bug #3826; in the execution phase, the point to point 'line of sight' calculations (**Alt**+mouse click & drag) will now always be done from a height of 2 meters above the ground
- Fixed bug #3828; in **T-72s** with virtual 3D interior the EL lever will now toggle between manual and powered turret (and gun) movement
- Fixed bug #3854; while using binoculars from the crew position the **RBS56 BILL-1** launcher will no longer be rendered (this actually applies to all missile launchers, mortars etc)
- Fixed bug #3860; in the **Mission Editor's** Support menu the number of **priority fire missions** has been increased from 5 to 30
- Fixed bug #3867; selecting "snow on roads" options in the **Theme Editor** no longer behaves erratically
- Fixed bug #3868; (**deep**) snow will now obstruct line of sight calculations again as intended
- Fixed bug #3891; controlling unmanned aerial or ground vehicles will no longer change the chosen posture of the controlling infantry unit
- Fixed bug #3892; UAVs and UGVs belonging to spawned formations are no longer useless
- Fixed bug #3893; loading **PLN** files should no longer break region-related events in scenarios
- Fixed bug #3910; the collapse of **me_GuardTower1 (0x0EE)** will no longer keep (dead) infantry floating in the air
- Fixed bug #3911; at 80% max range progressively stronger white noise is being added to UAV/UGV video feeds to indicate that they are approaching the very edge of their practical range
- Fixed bug #3922; condition "Party [A] [is (X)] to Party [B]" will now yield more reliable results; note that by design each party can change its attitude towards other parties only once (except the Blue-Red dichotomy, which can never be resolved – like *Itchy and Scratchy*)
- Fixed bug #3923; **Spike-LR** will no longer produce multiple impact events
- Fixed bug #3926; trees run over by Client vehicles will now appear knocked down for the Host, too
- Fixed bug #3927; assigning ownership in network sessions works more reliably now
- Fixed bug #3934; **TOW-2B** missiles will now trigger when overflying exactly the middle of a target

3.011 (previous official release)