



Release notes

20.6.0 (released 09/Jun/2020)

- (improvement) KbdEdit binaries and the MSI installer are now [digitally signed](#) to guarantee authenticity and prevent corruption and malicious tampering. This also eliminates the [Corrupt or invalid signature](#) error when downloading MSI installers from the IE and Edge browsers.
- (improvement) significantly increased the maximum payload size limit of [layout DLLs](#). This reduces the incidence of the "Layout saving failed" and "Layout too complex" errors for complex layouts (extremely big [dead tables](#) and/or lot of [ligatures](#) and [active modifier combinations](#)).
- (update) Unicode character metadata upgraded to [Unicode 13.0.0](#) (affects [Unicode Search](#), [character names](#), [upper/lower equivalents](#), [subranges](#)).
- (update) Dropped support for Windows XP and Windows Server 2003.

19.11.0 (released 30/Nov/2019)

- (feature) [Unicode subrange dialog](#) now supports user-defined [named subranges](#).
- (feature) [Options dialog](#): new option [Auto-reset Unicode palette](#), to control whether the palette's Unicode coverage is auto-adjusted each time a layout is opened.
- (feature) current [Unicode subrange](#) is preserved on the next invocation (only if [Auto-reset Unicode palette](#) is turned off).
- (bugfix) [Save As](#), [Register layout DLL file](#) dialogs: added missing language ids/names to the "Language list" drop-down:
 - 0c00 Custom
 - 0c1a Serbian (Cyrillic, Serbia and Montenegro (Former))
 - 081a Serbian (Latin, Serbia and Montenegro (Former))
- (performance improvement) [High level](#), [Stickers](#): fixed very slow rendering of Unicode characters in the UI (regression from 19.8.0).
- (bugfix): [High level](#), [Stickers](#): two-line keycap text (eg long ligatures) not rendered correctly (regression from 19.8.0).
- (minor bugfix) [Unicode palette](#): when using [Locate](#) to reveal a character that is already the current character, but is not currently visible (not on the current page), the scroll position was not being adjusted to make it visible; this also affected the [flashing preview on drag/drop](#) mode.

19.8.0 (released 24/Aug/2019)

- (Win10 compatibility) KbdEdit can now [detect and restore](#) custom layouts that have been lost after a major Windows 10 update.
- (Win10 compatibility) fix for error message "Cannot open file KdEdit_<name>.dll for writing" when [saving](#) changes to an existing layout. More details at this [FAQ](#) entry.
- (Win10 compatibility) improved reliability of the [Manage Language Bar](#) dialog; the system [language bar](#) list is now being synced more accurately with the changes made in the dialog, reducing inconsistencies such as leftover layouts in the language bar after the user has chosen to remove them.
- (improvement) When [saving](#) an existing layout, a new warning is being shown, informing the user that the changes may not become active until the next log off / log on.
- (improvement) [KLC](#) and [KLD](#) file import now supports files in UTF8 and UTF16 BE encodings; previously, only UTF16 LE was supported.
- (improvement) New [standard dead char](#) *Turned* (contributed by John Wilkes).
- (bugfix) [High level](#), [Sticker map editor](#): UTF16 surrogate pair boundaries were not being respected when splitting a long [ligature](#) in two lines
- (bugfix) some zero-width characters, like [1CE1](#), [1CF2](#) and [1CF3](#) from the [Vedic Extensions](#) Unicode block, were shown as a blank square in the UI even if supported by the current font.
Thanks to *Kevin Brown* for reporting this issue, and helping with validating the fix.
- (improvement): better horizontal centering of zero-width characters in the UI.
- (Improvement) improved visibility of non-BMP (>0xFFFF) characters in the virtual keyboard UI - now using a bigger font.
- (minor bugfix) In the [High level](#) view, [Unicode palette](#) no longer accepts the dropping of an "empty" high level mapping

19.5.0 (released 18/May/2019)

- (feature) [Low-level editor](#) now supports [editing](#) of special [NLS functions](#), including [alternative VK codes](#).
- New examples:
 - [Using NLS functions to simulate the "Context menu" key](#)
 - [Using NLS functions to make Caps Lock and Alt Gr share the same key](#)
- (update) Unicode character metadata upgraded to [Unicode 12.1.0](#) (affects [Unicode Search](#), [character names](#), [upper/lower equivalents](#), [subranges](#)).
- (improvement) [Dead key editor](#) now allows the NUL character in [dead transformations](#)' "from" and "to" fields.
- (bugfix) [Google "Noto" fonts](#) (and probably others) are now rendered correctly, previously display was falling back on the generic "Arial" font.
- (bugfix) Instability and potential crash when pasting text from clipboard ("incorrect argument" popup).

- (bugfix) [Preview](#) view not refreshing when entering keys via the "Param VK" [NLS function type](#) (eg Shift+Caps, Ctrl+Caps in Japanese keyboards, or [alternative VK code](#) mappings).

- (bugfix) [Dead key editor](#) layout bug: "Transformation pairs" label was becoming mis-aligned (creeping to the right) when increasing the main window's horizontal size.

18.9.0 (released 24/Sep/2018)

- (feature) Improved Far-Eastern (FE) support: KbdEdit now preserves any [special NLS functions](#) and [mouse key](#) customisations found in the original layout.
Thanks to this, the user is now able to customise FE layouts like Japanese KBDJPN.DLL and Korean KBDKOR.DLL, without losing special FE functions from the original layout, such as using **Ctrl+Shift+CapsLock** to switch between the Kana-ON and Kana-OFF modes.

- (update) Unicode character metadata upgraded to [Unicode 11.0.0](#) (affects [Unicode Search](#), [character names](#), [upper/lower equivalents](#), [subranges](#)).

- (bugfix) [Options dialog](#): when exiting with "Esc", the original keyboard type was not being restored if the "Abnt" or "Typematrix 2030" combo had the keyboard focus.

18.3.0 (released 11/Mar/2018)

- (feature) Support for [Typematrix 2030](#) keyboard type through a new option in the [Options](#) dialog.

- (feature) [High level](#) view: colour-coded [markers](#) showing the state of [CapsLock](#), [CAPLOCKALTGR](#) and [KANALOK](#) for each mappable key.

- (feature) [High level](#) view: the [KANALOK](#) and [CAPLOCKALTGR](#) flags can now be cleared/set/auto-set in one go for all mappable VKs

- (feature) non-BMP character entry via keyboard now works properly: UTF32 codepoints above FFFF are correctly reconstructed from consecutive surrogate pairs. Previously, each surrogate character was being treated as an individual character.

The fix applies to all UI elements that accept character entry via keyboard: [Unicode Palette](#), [mappings for current key](#), [current mapping](#) mini popup, [ligature editor](#), and [dead character](#) from/transforms/to fields.

18.1.0 (released 29/Jan/2018)

- (Win10 compatibility) [Preview mode](#):

- (bugfix) no longer triggering bogus error message "*Falling back to US English*".
- (bugfix) temporary files *KbdXYZ.tmp* were not being cleaned up from *C:\Windows\system32* system directory due to interference from system process **ctfmon.exe**. Fixed by implementing a more robust "delayed retry" cleanup mechanism.

Thanks to *Mike Grant* for numerous [Unicode palette](#)-related suggestions and early feedback, which has resulted in the following new features/improvements:

- (features, improvements) [Unicode palette](#) general:

- The palette now responds to text entry by navigating directly to any character(s) entered via [keyboard](#), clipboard [Paste](#), or [drag/drop](#).
- **Drag-drop visual feedback**: the dragged character is temporarily selected and shown as flashing.
- Added **row/column headers** showing hex Unicode codes.
- **Subset boundaries** now highlighted by a red divider line, alternating row header colours.
- Palette window is now **easier to activate** via a mouse click (no longer necessary to hold the mouse perfectly still before releasing the left button).
- **bugfix**: when switching between [High level](#) and [Dead char](#) views, palette's current char was not being restored in certain cases (eg no dead characters defined).

- (features, bugfixes) [Unicode palette](#) context menu:

- The menu now contains **Web links** to the character's page on [unicode.org](#), [compart.com](#), [fileformat.info](#) and [unicode-table.com](#).
- New item **"Search"** for opening the [Unicode Search](#) dialog.
- bugfix: **"mapped to"** popup menu showing duplicate entries if the character appears more than once in the same [ligature](#).
- bugfix: **"mapped to"** popup menu not showing the ampersand "&" character properly.

- (features, improvements) [Unicode palette](#) navigation:

- When dragging the scroll bar, currently visible subset is now shown in a [tooltip](#).
- Scroll position no longer being reset to the top row if current character's subset has been [deactivated](#); moving to the nearest active subset instead.
- Active character now retains its "on screen" position on palette reload; previously it could randomly scroll to the top/bottom of the palette.
- New buttons for moving to the [previous / next mapped character](#).
- New button [go to subset](#), showing a popup menu for quickly locating a specific subset.
- [Next/previous subset buttons](#) moved to the right of the palette, next to the scroll bar, now in a more logical vertical layout.
- The "Filter" button renamed to **"Manage Palette"**, moved to the right of the palette.
- New **keyboard shortcuts** for navigation, Unicode search etc (Ctrl+ left/right, Ctrl+ up/down, Ctrl+ space, Ctrl+ F).

- (features, improvements) [Unicode search](#):

- In addition to characters' names, the search string now matches [verbatim characters and hex Unicode values](#).
- Right-click popup menu has new options to [copy](#) the character's **Hex code**, **character name** and **subset name**.
- Ensuring the results list always has a current selection; this keeps the "OK" button enabled, allowing a quick exit using **Enter**, without having to explicitly select a character first.

- (improvements) [Unicode subrange](#) dialog:

- Initially selecting the subset that is active in the [Unicode palette](#) when the dialog was launched.
- Better preservation of the lists' scroll position when moving subsets between active/inactive lists.
- Improved performance, especially when multiple subsets are being (de)activated at once.
- Avoiding redundant reload of the [Unicode palette](#) if the dialog is exited with no change to the current subrange.

- (layout cleanup) [Options dialog](#): the three "ABNT" keyboard subtypes now represented by a single radio button, with the subtype chosen via a new combo drop-down.

17.11.0 (released 27/Nov/2017)

- (bugfix) Loss of [ligatures](#) mapped to the BASE modifier position when adding/removing a [modifier combination](#) in the [Low-level](#) editor.
- (bugfix) [Unicode palette](#) instability and potential crash when [deactivating](#) a subset containing the currently active character.
- (bugfix) [Key mapping editor popup dialog](#): character entry [via keyboard](#) is now suspended when a UI button has focus. This enables normal use of the "space bar" UI keyboard shortcut for pressing the button, without misinterpreting it as entering the "space" character.
- (bugfix) error message "No apps are installed to open this type of link (file)" when attempting to bring up [online help](#).
- (Win10 compatibility) If layout file [Save](#) or [Save As](#) fails due to sharing violation, the error message now includes a list of process(es) (EXE path and PID) that are keeping the target DLL file locked. This feature addresses a Windows 10-specific issue with certain system process(es), such as **taskhostw.exe**, interfering with layout file saving.
- (improvement) an "are you sure?" prompt with a detailed explanation is now shown when [Save](#) needs to fall back to [Save As](#). This can happen eg due to existing file having the read-only flag set, or attempting to overwrite a built-in system file.
- New example: [Mac Boot Camp: fixed positions of Alt, Windows and Ctrl keys](#).

17.9.0 (released 30/Sep/2017)

- (feature) [Unicode search](#) by character name, reachable from [Unicode Palette](#) and the [Key mapping editor](#) popup.
- New version numbering scheme <year>.<month>.<minor>

1.5.2 (released 06/Aug/2017)

- (update) Unicode character metadata upgraded to [Unicode 10.0.0](#) (affects [character names](#), [upper/lower equivalents](#), [subranges](#)).
- These dialogs now have resizable layout: [Open](#), [Save As](#), [Delete Keyboard Layout](#), [Manage Language Bar List](#), [Ligature editor](#), [Add standard dead chars](#), [Import dead char table from layout](#), [Unicode Subrange](#).
- [Dead char](#) editor: the right-click context menu for "Current", "Transforms" and "Into" fields is now accessible via the keyboard (VK_APPS ie "popup menu" key).
- bugfix: [Dead char](#) editor crashing if the "Dead characters" or "Transformation pairs" list has no selection.
- (bugfix, Win10-only) [Preview](#) mode occasionally triggering bogus error message "Falling back to US English"

1.5.1 (released 01/May/2017)

- (bugfix) [High-level](#) editor: [dropping](#) / [pasting](#) strings from Word 2016 could create ligatures with invalid trailing NUL character, which resulted in an unreadable damaged layout DLL file.
- (improvement) [High-level](#) editor: "Shift" positions are now editable for numpad keys when ["Caps Lock same as shift"](#) and/or [CAPLOKALTGR](#) is used. This functionality is documented on the new [Numeric keypad](#) manual page.
- (improvement) [High-level](#) editor: [KANALOK](#) checkbox now hidden if there are no active modifier positions involving Kana (eg if [Roya/Loya](#) positions are used, but not [Kana](#))
- (bugfix) [Ligature editor](#) text edit fields did not allow the entry of 6-digit characters codes ("Supplementary Private Use Area-B" Unicode subrange)
- (improvement) [Low-level](#) editor: a [modifier combination](#) can now be (de)activated by double-clicking it in one of the modifier combination lists (either active or inactive).
- (improvement) [Preview](#) now correctly reflects the [CAPLOKALTGR](#) effect on all positions including AltGr and Shift (eg AltGr+Shift+Kana, AltGr+Shift+Loya+Roya): previously was limited to only AltGr and AltGr+Shift.
- (bugfix) [Preview](#): if [toggable KANA](#) is enabled, but there are no [active modifier combinations](#) involving Kana, the preview incorrectly shows all keys as empty when Kana is toggled.
- (bugfix) [Preview](#) crashing when resolving Kanalok / AltGr / CapsLock positions.
- (bugfix) [Unicode Palette](#): [Copy to clipboard](#) not working properly for the NUL (0000) character
- (improvement) More detailed error message on [Save](#) when an existing layout DLL file cannot be opened for writing.

1.5.0 (released 26/Feb/2017)

- (feature) Main window's layout is now [resizable](#), with the keyboard display and other UI elements dynamically adjusting their layout to utilise the available screen space.
- (bugfix) [Preview](#) screen failing with error "KbdEdit Preview dll relocation address differs from 0x5fff0000".
- (improvement) reduced visual flicker when reloading contents of list controls on various views (list of [keyboard layouts](#), [Unicode subranges](#), [dead key / transformation pair](#) lists, [Standard dead chars](#))

1.4.0 (released 27/Aug/2016)

- (update) Unicode character metadata upgraded to [Unicode 9.0.0](#) (affects [character names](#), [upper/lower equivalents](#), [subranges](#)).
- (feature) [High/low-level](#) editors now support up to [15 modifier positions](#) (old limit was 10).
- (feature) [High level](#): drag/drop of [all VKs' mappings](#) between modifier positions as a single operation.

- (feature) clipboard Cut/Copy/Paste support added in a number of places:

- [High level](#) editor, including the ["Mappings for current key"](#) popup and the [Ligature editor](#)
- [Low level](#) editor
- [Dead char](#) editor
- [Preview mode](#), in the test edit box
- [Unicode palette](#)
- [Character magnifier](#) widget

- (feature) added keyboard shortcuts for common File/Edit/Clipboard operations:

- **File New/Open/Save:** Ctrl+N, Ctrl+O, Ctrl+S
- **Clipboard Copy/Cut/Paste:** Ctrl+C, Ctrl+X, Ctrl+V, Ctrl+Insert, Shift+Del, Shift+Insert
- **Undo/Redo:** Ctrl+Z, Ctrl+Y, Alt-Bksp, Alt-Shift-Bksp

- (bugfix) [Dead char](#) editor: ["Import dead table from another layout"](#) failing with *"Attempted an unsupported operation."*

- (bugfix) [Generate Layout Install Package](#) failing with *"Cannot generate installation package - keyboard layout too complex."* for otherwise valid layouts.

- (bugfix) ["Save As"](#) dialog: incorrect default values for fields "Layout text", "Register as" and "Layout file" if "Show only custom layouts" is checked, .

- (bugfix) [High level](#) editor: it was possible to enter mappings [via keyboard](#) for shifted numpad keys, even though they should be non-editable.

- (bugfix) [High level](#) editor: string [drop](#) popup menu no longer treating ampersand (&) as an escape for underlining the next character.

- (bugfix) [Preview](#): unmapped keys (VK__none_) can sometimes be erroneously drawn as pressed.

- (improvement) [Low-level](#) editor: right click popup now being shown for non-editable keys as well.

- (layout fix) [Low level](#) editor: increased size of the Active/disabled modifier combination lists, to prevent truncation of very long modifier combinations (eg SHIFT+ALT+CTRL+KANA+ROYA+LOYA)

1.3.9 (released 06/Aug/2016)

- (bugfix, Win10-only) fix for recent Windows 10 update breaking the [Manage Language Bar](#) dialog, causing it to fail with *"Error: cannot retrieve Language Bar list"*.

1.3.8 (released 10/Apr/2016)

- (Win10 compatibility) Fixed a bug that was causing the layouts generated by [Personal](#), [Lite](#) or [Player](#) edition to occasionally revert to generic US-English. For this fix to take effect, layouts saved with pre-1.3.8 versions must be [opened](#) and [saved](#) back using 1.3.8.

(thanks to Brian Meidell and Marek Lutonský for help with troubleshooting this issue)

- (Win10/8 compatibility) [Personal/Lite/Player](#)-generated layouts can now be used at the login screen in Windows 8.x/10

1.3.7 (released 13/Feb/2016)

- (feature) [High-level editor](#), [Key mapping editor popup](#), [Ligature editor](#), [Dead char editor](#) : Unicode character mappings can now be entered **via keyboard** when the corresponding UI field has keyboard focus.
(the old methods of [drag/drop](#) and entering Unicode numerical values are still supported).

- (feature) [Key mapping editor popup](#) dialog: when switching between Normal/Ligature/Dead mapping types, the old character mapping is now retained intelligently; previously, the new mapping always defaulted to the '?' character (normal, ligature) or the first dead char list entry (dead key).

- (feature) [Key mapping editor popup](#) dialog: when choosing the "Dead key" mapping type, a new dead key can now be created "on the fly", instead of being restricted to the list of pre-existing dead keys.

- (feature) [Dead char editor](#): when changing the current transformation type from "Final character" to "Chained dead char", the editor now offers to automatically create a new dead char for the old "Final character" char if one does not already exist; previously one could only choose from the list of pre-existing dead keys.

- (improvement) [Dead char editor](#): when creating a new dead transformation pair by dropping a new char to the "Trans. pairs" list, the editor now chooses intelligently whether to map the dropped char as the "From" or "To" char, or both; previously the dropped char always defaulted to "From".
(thanks to Mike Grant for this and several other usability suggestions)

- (improvement) [Ligature editor](#), [character magnifier](#): non-BMP (>FFFF) characters are now consistently shown as a single 5-digit Unicode entry; the underlying surrogate pairs are completely hidden from user's view.

- (improvement) [Ligature editor](#): ligatures can now contain up to 9 non-BMP (**UTF32**) characters; the old limit was 9 **UTF16** characters, which couldn't accomodate more than 4 non-BMPs.

- (Improvement) [About box](#) now reports the supported Unicode version.

- (layout fix) [Dead char editor](#): "transformed character" controls (edit box, static label) no longer overlap with the "Chained dead char" radio-box on some Windows versions.

- (bugfix) Crash when switching from [Dead char editor](#) view to another view after last dead char has been deleted.

- (bugfix) [Preview](#): chained dead key preview incorrectly showed the "from" character instead of the chained "to" dead char.

- (bugfix) [Low-level editor](#): [Kana](#) modifier reverting from "normal" to "togglable" when enabling/disabling the [Roya/Loya](#) modifiers.
(thanks to Anton Vyatkin for reporting this bug)

- (bugfix) [High-level editor](#) and [Klc file import](#) no longer allow the mapping of special-purpose codepoints F000, F001, F002; these characters are used internally as placeholders for empty, dead and ligature mapping, and cannot be used for other purposes.

1.3.6 (released 01/Nov/2015)

- (feature) Support for [ROYA](#) and [LOYA](#) modifier keys.

- (update) KbdEdit now uses [Unicode 8.0.0](#) for its character metadata ([character names](#), [upper/lower equivalents](#), [subranges](#)).

- (feature) Improved handling of layouts with inconsistent dead key tables and ligatures: instead of generic "*ligatures and/or dead chars are not consistent*", a detailed error message is now being reported, naming specific bad dead keys / ligatures. This is helpful in troubleshooting issues with custom layouts produced by tools with less rigorous consistency checking.

- (feature) Improved robustness against inconsistent layouts: KbdEdit no longer crashes when encountering layouts with mappings to undefined dead keys.

1.3.5 (released 13/Sep/2015)

- (feature) Checkbox **Show only custom layouts** added to [Open](#), [Save As](#), [Delete keyboard layout](#) and [Manage language bar list](#) dialogs

- (Windows 8/8.1/10 compatibility) Workaround for buggy system keyboard **Tamil KBDINTAM.DLL 00000449**. In Windows 8 and later, this layout contains a bad ligature entry, which caused KbdEdit to fail with an "inconsistent ligature mapping" error when attempting to open it. The layout now opens successfully

- the bad entry is recognised and silently fixed "on the fly".

- (bugfix) [KLC file import](#) crashing when encountering a NUL (0000) character mapping.

1.3.4 (released 09/May/2015)

- (update) Character metadata ([character names](#), [upper/lower equivalents](#), [subranges](#)) upgraded to [Unicode 7.0.0](#).

- (Windows 8/8.1 compatibility) Windows 8 language list now kept in sync with the [language bar](#) list changes.

- (Windows 8/8.1 bugfix): [Preview](#) mode not reflecting the layout's current state, activates an older obsolete version instead.

- (bugfix) [High-level editor](#): drag-drop not working correctly for the NUL (0) character, misinterpreted as empty mapping.

- (improvement) when using [Register layout DLL file](#) under x64, a warning is now shown if a matching 32-bit DLL is not found under `C:\Windows\SysWOW64\`.

- (UI improvement) [Delete keyboard layout](#) dialog now no longer disappears after a layout was deleted, making it easier to delete multiple layouts.

- (UI layout improvement) [Delete keyboard layout](#) dialog: checkbox "also delete DLL" made bigger so it can fit longer filenames.

1.3.3 (released 09/Aug/2014)

- (Improved 64-bit compatibility) under 64-bit Windows systems, a special "Wow64" 32-bit layout DLL version is saved under the `c:\Windows\SysWOW64\` system directory (in addition to saving proper 64-bit version under `c:\Windows\System32\`)
(thanks to Anton Vyatkin for help with troubleshooting various 64-bit specific issues)

- (Improved stability) layout DLL files now correctly handling relocation when loaded to an address different from the preferred load address. This improves compatibility with certain 3rd party tools that tend to keep layout DLL files open for extended periods of time.

- For the fixes from this release to take effect, layouts saved with pre-1.3.3 versions must be [opened](#) and [saved](#) back using 1.3.3.

1.3.2 (released 20/Oct/2013)

- (bugfix) Under Windows 8, custom layouts created with KbdEdit [Personal](#), [Lite](#) or [Player](#) edition causing long delays followed by "KbdEditServer not running" error message. For this fix to take effect, layouts saved with pre-1.3.2 versions must be [opened](#) and [saved](#) back using 1.3.2.

1.3.1 (released 17/Feb/2013)

- (new feature) [Unicode palette](#)'s display is now [color-coded](#) to visually distinguish mapped and unmapped code points. For mapped code points, a distinct marker is shown for each role the code point appears in (normal mapping / dead mapping / part of ligature / transformed by dead key / produced by dead key).

- (new feature) [Unicode palette](#) now supports a [right-click popup menu](#) outlining all mappings the clicked-on code point appears in (key combinations, dead chars).

- (bugfix) [Low-level](#) editor crashes when attempting to activate a key (i.e. scan code) that is not accessible through the GUI by pressing it on the physical keyboard (reported by Daniel Rossbach).

- (bugfix) [Ligature editor](#): locating a code point in the Unicode palette through [middle click / right click popup](#) does not work correctly if "Right to left Reading order" is active.

1.3.0 (released 01/Sep/2012)

- (new feature) new edition KbdEdit [Premium](#) supporting new feature [Generate Layout Install Package](#).

- (improvement) all [examples](#) are now published as [stand-alone installer EXE](#) files, making them fully usable on computers without KbdEdit installed..

- KbdEdit edition previously known as "KbdEdit Full" renamed to [KbdEdit Personal](#).

- (bugfix) importing a [KLC](#) file was triggering unwanted [auto-complete](#) operations, i.e. KbdEdit was filling empty mappings with lower/uppercase equivalents of any letters mapped to (un)shifted positions of the same key.

1.2.4 (released 10/Jun/2012)

- (Improvement) [preview](#) screen now offers improved dead key assistance: if a dead key is pressed, the view changes to show combined characters produced by the affected keys.

- (feature) support for Japanese 106/109 key keyboards - new option "Japanese 109" in the [Options dialog](#).

1.2.3 (released 15/Apr/2012)

- (Improvement) KbdEdit now supports [chained dead keys](#).
- (Improvement) dead keys shown in a distinct grey-blue shade in [high level](#), [preview](#) and [sticker](#) screens.
- (Improvement) [preview](#) screen: tooltips for dead keys show a detailed list of transformation pairs.
- (Improvement) [high-level](#) editor: keyboard button tooltips now show the mapping summary, including mapping type (normal/dead key/ligature/empty), mapped character numerical value and Unicode name.
- (Improvement) Layout of the [key mapping editor popup](#) changed to make dead char combo box bigger; the combo is now sorted on dead char name.
- (bugfix) [Key mapping editor popup](#) crashes if exited by clicking on a tab other than "[High level editor](#)".
- New example: [Emulating Compose key using chained dead keys](#).
- New example: [US English keyboard with all Latin accents using chained dead keys](#).

1.2.2 (released 03/Mar/2012)

- (feature) KbdEdit now supports non-BMP Unicode characters (i.e. those with numerical value >0xFFFF).
- (feature) support for new ABNT keyboard type - new option "ABNT Small Return Big Backspace" in the [Options dialog](#).
(suggested by Henrique Peron)
- (update) internal support for [character names](#) and [upper/lower equivalents](#) upgraded to [Unicode](#) 6.1.

1.2.1 (released 16/Jan/2012)

- (bugfix) [Sticker Map](#) screen freezes if "Big Return small Backspace" [keyboard type](#) is chosen.

1.2.00 (released 15/Jan/2012)

- New feature: [Sticker map generator](#).
- (bugfix) [KLC import](#) now correctly handles non-BMP (>0xFFFF) characters, i.e. they are converted to a ligature of surrogate pair characters.
- (bugfix) Column headings "Name" and "Language" were swapped in "[Open](#)", "[Save As](#)", "[Delete Layout](#)", "[Import Dead Char Table From Layout](#)" and "[Manage Language Bar](#)" dialogs

1.1.11 (released 22/May/2011)

- [Dead key editor](#): list of [standard dead characters](#) expanded to encompass nearly 100 diacritics defined by Unicode 6.0
(thanks to Henrique Peron for help with preparing the new standard dead characters list)
- [Dead key editor](#): UI improvements - dead character lists can be sorted on any column, adjustable column widths.
- [Add standard dead char dialog](#): UI improvements - filtering by dead character name, showing preview of a current dead characters.
- (bugfix) KbdEdit hangs when changing font in the [Options](#) dialog.
- (improvement) Glyphs (NBSP, LRM etc) are drawn using the system font, ensuring their consistent appearance regardless of the current font chosen.

1.1.10 (released 23/Nov/2010)

- (update) internal support for [character names](#) and [upper/lower equivalents](#) upgraded to [Unicode](#) standard version 6.0.

1.1.9 (released 30/Jan/2010)

- (feature) support for [BigKeys](#) keyboard model [BigKeys LX](#) - new option "Big keys" in the [Options dialog](#).
- (update) internal support for [character names](#) and [upper/lower equivalents](#) upgraded to [Unicode](#) standard version 5.20.
- (improvement) special white and non-printable characters are now displayed as glyphs instead of whatever representation they have in the current font (e.g. 0020 (Space) is displayed as **SP**, 00A0 (No-Break Space) as **NBSP**, etc).
- (update) "[Standard dead char](#)" list of common dead characters was refreshed. It now includes dead characters from keyboard layouts that appeared in recent Windows versions (Vista, Windows 7).
(thanks to Henrique Peron for help with dead characters lists and suggestions on the character glyph representation)

1.1.8 (released 19/Jul/2009)

- (bugfix) crash when assigning "empty" to all modifier positions of a key in a layout that contains a Shift+AltGr position, or a KANA position mapped to VK_KANA.

1.1.7 (released 29/Mar/2009)

- (improvement) eliminated long delays at Windows safe mode startup if the [Language Bar](#) list contains a KbdEdit custom layout. For this change to take effect, custom layouts created with pre-1.1.7 versions must be [opened](#) and [saved](#) back using 1.1.7.

- (bugfix) when using multiple monitor setup, certain pop-ups (e.g. [Key mapping](#), [Options](#)) are shown on a wrong monitor.

- (improvement) [Character names](#) no longer shown in ALL CAPS, resulting in improved readability and better use of screen real estate.

- (Website/help) new example: [French multilingual](#) (contributed by Gilbert Galeron).

1.1.6 (released 28/Sep/2008)

- (feature) KbdEdit now implements its own Unicode 5.1 support for [character names](#) and [upper/lower equivalents](#). Previously, the Unicode version supported was dependent on the Windows version.

- (improvement) Unicode subsets in the [Unicode Subrange](#) dialog can be sorted on either numeric value or name.

- (improvement) Various file Open/Save dialogs are now resizable (KBE [import/export](#), KLC [import](#), dead char table [import/export](#)).

- (Website/help): new [example](#): [Multi-lingual Hebrew / US English keyboard](#).

- (Website/help): updated example [French improved keyboard](#) - added [sticker map](#) Excel document.

1.1.5 (released 02/Jun/2008)

- (improvement) eliminated long delays at XP startup if KbdEdit custom layout is added to the [Language Bar](#) list.

- (improvement) better support for Brazilian ABNT keyboards: new layout type "ABNT - big Backspace" added to the [Options dialog](#); support for extra numpad key ABNT_C2 (*thanks to Henrique Peron and Joaquim Pedro for help with Brazilian keyboards*).

- (improvement) new subsets added to the [Unicode Subrange](#) dialog:

(1B80-1BBF) Sundanese	(A490-A4CF) Yi Radicals	(A900-A92F) Kayah Li
(1C00-1C4F) Lepcha	(A500-A59F) Vai	(A930-A95F) Rejang
(1C50-1C7F) Ol Chiki	(A640-A69F) Cyrillic Extended-B	(AA00-AA5F) Cham
(2D30-2D7F) Tifinagh	(A720-A7FF) Latin Extended-D	(D800-DBFF) High Surrogate Area
(2DE0-2DFF) Cyrillic Extended-A	(A880-A8DF) Saurashtra	(DC00-DFFF) Low Surrogate Area

1.1.4 (released 15/Mar/2008)

- (feature): [Auto-complete and pop-up hints](#) for lower/upper-case equivalents.

- (feature) [Options dialog](#) opened automatically when starting KbdEdit for the first time.

- (feature) [Options dialog](#) shows [keyboard type](#) visual preview.

- (bugfix) [High-level](#): setting all mod positions of a key to "empty" resets the "Effect of Caps Lock" to "Unaffected", clears KANALOK and CAPLOKALTGR.

- (Website/help): new [examples](#): [Tri-lingual Serbian Cyrillic / Latin / Greek keyboard](#) and [Replacing AltGR with KANA](#)

- (Website/help): improved [high level drag/drop](#) page - screenshots added.

- (Website/help): new page [Right-click key popup menu](#).

1.1.3 (released 03/Feb/2008)

- (feature) support for Brazilian ABNT keyboards - new option "Medium Return Small Backspace (ABNT)" in the [Options dialog](#).

- (Website/help) new [FAQ](#) page.

1.1.2 (released 16/Dec/2007)

- (Website/help) new [example](#) layout: [multi-lingual Hindi-English keyboard](#) (contributed by Barun Kumar).

- (improvement) tooltips added to modal dialogs.

- (improvement) [Unicode subrange](#) dialog: enabled and hidden subsets are now shown in two side-by-side lists (previously a single check-box list was used).

- (bugfix) [Unicode subrange](#) dialog: removed duplicate Unicode subsets (3130-318F) and (3190-319F).

- (bugfix) [dead char table import](#) / [KLC file import](#): it was possible to import empty dead chars (no actual transformation pairs), which resulted in a corrupt layout DLL. Fixed by ensuring all imported dead chars have at least one transformation pair.

- (improvement) [Enter dead key name](#) dialog now allows empty strings.

- (improvement) increased maximum payload size of [layout DLLs](#) generated by KbdEdit. Eliminates the "Layout saving failed" error when saving complex layouts with extremely big [dead tables](#) and/or lot of [ligatures](#).

- (improvement) displaying a detailed error message on a layout DLL [save](#) failure (previously a generic "Layout saving failed" was shown).

1.1.1 (released 02/Dec/2007)

- (feature) [Dead char editor](#): dead char table [import](#) / [export](#) to text file.

- (improvement) [Low-level editor](#): VK code [popup menu](#) shows free and used VKs in separate lists, making it easy to assign unique mappable VKs.

- (bugfix) when new instance is started while another one is open in [preview](#) mode, the new instance issues false warning about leftover preview layout and tries to clean it up.

1.1.0 (released 17/Nov/2007)

- New licensing model: KbdEdit now available in three [editions](#): [Full](#), [Lite](#) and [Player](#).
- (improvement) [Installation](#): both 32 and 64 bit versions are now included in a single MSI file, reducing the package size by 20% (no longer duplicating online help files common to both versions)
- (Website/help) new [example](#) layouts: [Russian phonetic](#), [Bulgarian phonetic](#) and [Colemak](#); the huge examples page split into one page per example + one 'examples list' page.
- (Website/help) improved navigation banner at the top

1.0.69 (released 28/July/2007)

- (bugfix) [Preview](#): error message "An invalid argument was encountered." popping up when a modifier key is pressed
- (bugfix) [Low-level editor](#): if the list of unused modifier combinations is empty, the 'Enable combination' button displays a meaningless tooltip.

1.0.68 (released 27/July/2007)

- (improvement) [High-level editor](#): numpad keys are not mappable in SHIFT states to reflect the fact that they act as cursor keys/home/pgup/etc when SHIFT is down
- (improvement) [Preview](#): display of numpad keys changes dynamically between mapped characters and cursor keys depending on Numlock and Shift state
- (bugfix) [Preview](#): numpad keys producing incorrect results when clicked by mouse in "numlock on" mode
- (improvement) [Preview](#): right Shift correctly drawn as pressed when clicked on by mouse
- (improvement) [Online help](#): online help files are installed locally to enable using help without Internet connection
- (improvement) [Installation](#): an older version is automatically removed during setup, eliminating the need to manually uninstall it before installing a more recent version
- (feature) Context-sensitive tool tips for all controls on main views (high-level etc)

1.0.67 (released 01/July/2007)

- (improvement) [Online help](#): new menu item "Help | Examples" for easy access to the [Examples](#) manual page.
- (improvement) [Low-level editor](#): "mappable" and "non-mappable" VK codes shown in two separate columns in the VK codes popup menu.
- (improvement) [Low-level editor](#): "non-mappable" VK codes visually distinguished by darker color.
- (improvement) List of "mappable" VK codes expanded to include all "exotic" VKs which behave normally when given a Unicode mapping (see new manual page [List of Virtual Key Codes](#)).
- (bugfix) [Preview](#) not working properly if more than one instance of KbdEdit is running.
- (bugfix) When KbdEdit is opened by double-clicking a KBE or KLC file from Explorer, the user's default layout is still opened after importing the file (instead of keeping the imported layout).

1.0.66 (released 08/Jun/2007)

- (feature) keyboard buttons drawn with a smooth 3D shade in High level, Low level and Preview.
- (feature) added check-box "don't show this window in the future" to the [registration details window](#) which shows up when a custom layout is activated.
- (bugfix) strange behavior in x64 version when opening layout through a MRU list menu item ("save as" dialog popping up, cannot save modified layout etc).

1.0.65 (released 28/Apr/2007)

- (feature) User's default layout is automatically opened at startup. This is the new default behavior which can be overridden through the new [Options dialog](#) setting "Open default layout at startup".
- (improvement) [Open dialog](#) initially selects user's default layout if no layout is currently open (i.e. "Untitled" is active).
- (improvement) [Save As](#) and [Register Layout DLL file](#) dialogs: "Add to Language Bar" radio is checked by default.
- (feature) [Save As](#) dialog: if "Add to Language Bar" is checked, and the original layout is in the language bar list, user can choose whether to replace the original layout with the customized version in the language bar list, or to keep them both.
- (improvement) [Manage Language Bar list](#) dialog: if the currently opened layout is also a member of the language bar list, it is initially selected in the dialog's language bar list tree.
- (improvement) [Manage Language Bar list](#) dialog: double-clicking a layout in the language bar list tree opens it for editing (same as clicking the "Open in editor" button).

1.0.64 (released 19/Apr/2007)

- (feature) [Dead char editor](#): the field "Current dead char" is now [editable](#). A list of transformation pairs can be easily assigned to another dead char without having to manually recreate its mappings.

- (feature) [Dead char editor](#): dead char table can be [imported](#) from another layout.

1.0.63 (released 24/Mar/2007)

- (update) enabling import of KLC files generated by MSKLC 1.4 (recognizing new blocks LOCALENAME, DESCRIPTIONS and LANGUAGE NAMES)
- (bugfix) when importing KBE/KLC files, dialog "Save changes to 'XYZ'?" shows up again if "No" is chosen the first time

1.0.62 (released 23/Feb/2007)

- (improvement) Locale list for the "Register as" combo in [Save As](#) dialog modified to display only locales supported by the target OS version
- (improvement) Automatic order fulfillment system put in place, shipment delays further reduced.

1.0.61 (released 05/Feb/2007)

- (improvement) Enabling non-ANSI strings in all user registration details (except e-mail):
- (improvement) Improved semi-automatic order fulfillment system.

1.0.60 (released 26/Jan/2007)

- (improvement) [Installation](#): KbdEdit registered with Windows as KBE and KLC file type handler

1.0.59 (released 20/Dec/2006)

- (improvement) [Installation](#): shortcut to online manual index added to KbdEdit start menu group
- (bugfix) crash on [KLC import](#) if file uses a VK code that does not appear in standard US English layout

1.0.58 (released 13/Dec/2006)

- (UI improvement) Toolbar buttons for KBE [import/export](#) and [KLC import](#)
- (UI improvement) Using dedicated tab control instead of toolbar buttons for high level / low level / dead char / preview navigation