

Program window

It has a fixed size and is divided from top to bottom into the following 5 sections:

1. Title bar
2. Menu bar
3. Six buttons to change the working form
4. One of six working forms
Morse code, Morse trainer, Keying, Settings, Setup, Run
6. Status bar

Title bar

It belongs to each window and forms the top edge. The title bar shows the icon and the name of the window on the left. On the right-hand side are the three buttons for minimizing, maximizing and closing the window.

As the window has a fixed size, the maximize button is deactivated.

Menu bar

It has the following seven main menus:

Text file, Import, Export, Hilfe, Help, Aide, About.

The **Text file** menu has the following six submenus:

- New (Setup)
- Save as
- Save
- Open and edit (Setup)
- Open and play (Run)
- Open and transmit (Keying)

Use the **New (Setup)** menu to switch to the **Setup** form. You can now enter any text in the upper text field or paste it from the clipboard and save it. The file name then appears in the status bar.

The text may contain all characters supported by the program. Others are automatically replaced or removed during playback. Prosigns are also permitted, as well as macros that control the duration of pauses between characters and words or the speed of the transmission. Macros can also be used to automatically change the speed during playback. Details on macros can be found in the help document [Macros.pdf](#).

The program automatically generates so-called timing data during the recording of practice exercises and the preparation of listening exercises. Timing data is a sequence of whole numbers with alternating positive and negative signs, e.g. +1500-500+500 etc.

The positive numbers are the duration of a sound emission and the negative numbers are the duration of a pause in milliseconds. Timing data can be played back directly and saved in a file, i.e. exported.

The **Export** menu contains two submenus for exporting the timing data in the two formats **Timing (*.cw1)** and **Timing (*.csv)**. In CW1 format they are encrypted, in CSV format they are not.

You can import and play them again using the **Import** menu.

Timing files in CSV format can also be opened and analyzed in a spreadsheet program or a text editor.

Timing data can be exported as an audio file. The program supports three formats, the uncompressed **WAV** and the two compressed **MP3** and **OGG**. The desired format can be selected in the **Export** menu.

Details on exporting timing files and audio files can be found in the help document Extras.pdf.

In the **Import** menu, there is now the **Text collection** menu. This allows you to import your own text collection

Details on text collections can be found in the help document Extras.pdf.

The three menus **Hilfe**, **Help** and **Aide** allow access to the help documents (*.pdf) in German, English and French. These documents are located in subdirectories of the **HB9HQX Morse 7** folder (in the user's home directory) and can be opened and printed out at any time.

Morse code

This form is intended for learning the Morse code of all letters, numbers and a selection of other characters.

Important: The Morse code of each individual character must be memorized acoustically. The phonetic representation of the Morse code with the syllables Di and Dah helps with this.

Buttons for playing certain groups of characters are placed on the two upper panels **Several characters** and **Learning method Koch**.

On the panel **Single characters**, there is a white field on the left-hand side for displaying the phonetic Morse code of the selected character.

With the help of a spinner, you can select the character you want to learn from a list of all characters. This contains all the letters of the alphabet and the letters ä, ö, ü, é, è, à. This is followed by the numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 0. At the end of the list are the following 13 characters: Question mark, slash, plus, equals, period, comma, colon, minus, left and right parenthesis, apostrophe, the at-sign and the semicolon.

To play a character, click on the button above the spinner.

Important: All characters that you want to play are first copied into the lower multi-line text field and then played immediately.

There are two buttons below the text field:

The left (or the **Enter key**) can be used to repeat the characters in the text input field.

The right button (or the **Delete key**) can be used to stop playback and delete the text field.

Details on learning Morse code can be found in the help document [Learning tips.pdf](#) and the phonetic Morse code of all characters in the help document [Morsecode.pdf](#).

Keyboard Morse:

You can also use the keyboard to type individual characters, words or entire sentences into the text field. Playback starts automatically after the first character has been entered.

Morse trainer

This form is used for interactive practice of Morse code characters learned on the **Morse code** form, according to the **Learning method Koch**.

You start with 2 or 3 characters and practise them until you can distinguish them with confidence. Then you add another character and continue learning.

Note: The number and sequence of the characters to be learned must be defined in the **Settings** form.

You have a largely free hand here. Simply type the selected characters into the upper text input field (font color = blue). The character set is displayed in such a way that the characters to be learned are separated from the others by two spaces. (You can use a spin box to move the two spaces).

The Morse trainer is easy to use. You type the character you hear into the small text input field. It is briefly displayed there. If you type the wrong character from the character list, the small field turns red and it is played again. If another character is entered, the field remains white, as if nothing had happened.

There is now an alternative to typing. If the pool is smaller than 9 characters, buttons are displayed. Clicking on one of the buttons has the same effect as typing in the corresponding character. The order of the buttons changes after each click if desired.

If you type in the correct character, you will hear the next randomly selected character. As soon as you feel confident, you can move the next character from the right-hand side to the left. This can also happen automatically after practicing for a while.

Note: New characters are played more often than those already learned.

You can repeat the playback of a character (even several times) at any time using the **space bar**. There is no time limit.

The speed and pitch can be set separately on the Morse trainer. Yes, you can even set a change of speed and/or pitch, which takes place automatically after a certain time. Anyone who wants to can experiment with this.

The Morse trainer also has a sophisticated error evaluation function. The error rate is even displayed graphically with a colored bar.

Details on the Learning method Koch can be found in the help document [learning tips.pdf](#).

Keying

This form fulfills a double function, on the one hand you can perform keying practises and on the other hand you can transmit a Morse code Exercise Broadcast (MEB).

The right-hand side of the form is dominated by two large text fields arranged one above the other. The upper one displays a suitable keying template and the lower one displays the decoded text or, if graphical analysis is selected, a column chart of the timing of the keying. Right-click on this diagram to open a context menu for deleting the graphic. After 990 columns, it is automatically deleted to free up memory.

If a text file with the text of an MEB is opened, this is displayed in the upper field instead of a key template. Any existing macros are not required and are therefore not displayed. However, they do have the desired effect during transmission.

At the top of the left-hand side, there is a combo box for selecting the mode for keying practises. There are three modes:

1. No decoding
2. Automatic decoding
3. Graphical analysis

Directly below the combo box there is a panel with a yellow background and the label **Click here to keying**. The two mouse buttons have the same effect as a straight key or a paddle. When keying is activated via the RS232 interface, this panel is invisible.

Next, there is a panel for activating and controlling the built-in **Iambic Keyer**. Long and short sound pulses are generated alternately when the left and right paddles are pressed simultaneously). Because the paddles are pressed together, this is also referred to as the squeeze technique. All modern transceivers support this technique. The Di and Dah memory mode can be selected using a combo box. When the memory is switched on, the corresponding paddle must be released early when squeezing.

Important: If you use an electronic keyer, you must deactivate the internal iambic keyer. The same also applies to keying practises with a straight key.

You can also record, decode and save the timing of your keying practices (menu: **Export > Timing**). Export as an audio file is also possible.

The bottom panel is used to control the playback of a recorded practice or MEB.

Settings

This form contains many panels with setting options.

There are the so-called **User profiles** (bottom right). Normally, a program only has one user profile and automatically saves all settings under this profile. This program, however, has 10 user profiles, which you can switch between during operation. For the first 5 profiles, the settings are saved automatically; for the second 5, you have to save them yourself by clicking on the button **Save settings**. (Otherwise the changes will be lost).

If you always work with the same profile (e.g. 1, 2, 3, 4 or 5), you do not need to worry about this feature. The settings are preserved.

The panel **RS232** (bottom left) is only of interest to users who have a serial interface available on their PC and want to key an external synthesiser or a CW transmitter via this interface. A straight key, a paddle and even an electronic keyer can also be connected to the PC via this interface. The settings on this panel are described in detail in the help document RS232.pdf.

The two small panels **Character** and **Transmission** (bottom center) are used to set the speed at which the Morse code should play. If the checkbox **= Transmission** is marked on the panel **Character**, the two speeds are the same. If the marker is removed, the character speed can be increased (so-called Farnsworth timing). To achieve this, the pause between the characters is simply extended.

The wide panel **Audio** at the top of the form offers setting options for the internal sound generation. A sine tone of approx. 800 Hz can be heard on the CW receiver. Whether you prefer a tone rich in harmonics or a pure sine tone for practicing is a matter of taste.

The setting **Sound envelope**, i.e. the hardness of the keying, is somewhat special. With a soft keying, the clicking noises are suppressed when the sound is switched on and off.

The **Audio** checkbox is important. It controls the switching on and off of the internal sound generator.

At the center of the form are the panels with settings for listening and keying practices with characters and texts. Characters are played or displayed in groups and texts word by word. The program requires a selection of characters to compile groups. You can compile this selection yourself, i.e. type it into the desired text input field.

Please note: There are two variants for character listening exercises. If the Learning method Koch is activated, the characters are taken from the upper panel, if it is deactivated, from the lower panel.

The character set in the lower text field can contain any characters. The order is irrelevant. Duplicates are also possible. (They are simply played twice as often).

You can set how many characters are combined into a group. Small groups are ideal, e.g. groups of 2, 3 or 4.

You need a short pause between the groups so that you can write down or type in the characters and compare them with the template. The duration of this pause can also be set.

Important: Instead of a fixed pause duration, you can also activate the **Stop after each word** option. The playback of character groups or words is then automatically stopped and only restarted after pressing the space bar.

Once you have learned the 26 letters, exercises with texts are the order of the day. The program already has a large number of text collections in its database, including words of different lengths in all three languages. These are very suitable as a supplement to exercises with character groups.

Exercises with callsigns of different lengths are particularly practical. In addition to letters, they also contain numbers and often one or two slashes, e.g. F/HB9HTC/P

Setup

The following 5 panels are located on the left-hand side:

Text in the upper right field

Groups of characters

Texts from collections

Display errors

HTC Morse Code exam

The remaining area of the form is occupied by two equally sized, multi-line text input fields. The upper one is a simple, somewhat idiosyncratic text editor. It does not respond to the Enter key. (Line breaks cannot be Morse code.) It also does not accept several spaces in a succession. (There is a special macro for longer pauses.)

However, texts can be pasted into this text field via the clipboard. There is a context menu for this (right mouse button). An existing text file can be opened and further edited in this editor.

The text in this field can be played directly or used as a template for keying practices (panel **Text in the upper right field**).

After a listening exercise, the lower multi-line text field displays the typed text so that it can be compared with the template in the upper field. This is useful, for example, for a Morse code exam (after saving the exam).

The panel **Groups of characters** has two spin boxes. The left-hand box is used to set the number of groups per run. The one on the right determines how often the same group should be played. If the option **Stop after each word** is activated (**Settings** form), the text **Stop** also appears in red.

The panel **Texts from collections** also has two spin boxes. The left-hand box is used to set the number of texts per run. The one on the right determines how often the same word should be played. You can use the combo box to select a different text collection without having to switch to the Settings form.

The **Show now** button on the **Show errors** panel opens a separate form and shows in a table which words or groups do not match. For this to work, the texts in the two text fields must contain the same number of words. (The error display is carried out word by word).

There are only two buttons on the panel **Morse code exam**, the left one for starting a check and the right one for examining a previously performed and saved check. Details on the HTC Morse code check can be found in the Extras.pdf help document.

Run

Here, too, we find two large, multi-line text fields on the right. The words or groups played are displayed in the upper one, and the recorded characters can be typed into the lower one.

The 4 panels are located on the left-hand side:

Words and groups

Stop after each word

HTC Morse code exam

Play

On the panel **Words and groups**, there is a spin box **Delay** and a checkbox **Show**. If this is checked, each word or group played is displayed in the upper text field after a short delay. If the pause between the words is long enough, you can check whether you have made a mistake or not during a practice run.

Note: If the same group or the same word is played several times, it will still only be displayed once.

The panel **Stop after each word** is only visible if this option has been selected in the **Settings** form (checkbox **Stop**).

If the checkbox **Show errors in red** is still selected on the **Settings** form, the message **Indicate errors in green/red** appears on this panel.

The effect of this option is somewhat special. If you make a mistake when typing a word, the background of the lower text field then turns light red (light green if you enter the word correctly).

You can now add to or correct the last word. The color of the background adapts to the new situation after each keystroke.

Important: The key combination **[Shift]+[Space]** causes the last word to be repeated. The space bar alone plays the next word or the next group.

This also works for the last word. For this reason, although there is no further word, you still have to press the space bar to end the practice run.

For advanced users:

Instead of typing the Morse code characters you hear into the text field below, you can key them with an electronic keyer. However, this must have its own sidetone. It is connected to a serial interface. The keyed characters are decoded and displayed in the lower text field. The speed of the keyer (i.e. the decoded speed) must be indicated to the program using the spin box **Speed**. Details on connecting an external keyer and configuring the serial interface can be found in the help document RS232.pdf.

The panel **HTC Morse code exam** has only two buttons, **Save** and **Analyze**.

Note: After a Morse code exam, you have enough time to type in and correct the text. There is no time limit.

All data is encrypted when it is saved. Information on the HTC Morse code exam can be found on the website of the Helvetia Telegraphy Club (hb9htc.ch).

Of course, you can also analyze your own exam yourself. To do this, you must open it (button **Analyze**). The analysis takes place on a separate form. If desired, the program will create a PDF document with the result of the exam after the analysis.

The most important panel **Play** is located at the bottom left.

The three play buttons can be used to start, pause or prematurely end playback. If the play button has the focus, simply press the Enter button.

The **New [Enter]** button (or the Enter key) can be used to start a new practice run without having to switch back to the **Setup** form.

Note: After each practice run, you can start the error display with the key combination **[Ctrl]+[Enter]** without having to switch to the **Setup** form.