CW_Player Help Contents

Click the underlined text to learn more about the items of   CW_Player Help.

StartUp defines default or selected parameters when starting.

Menu describes the Menu .

Tools provides tools to clear and to save the MemoRandom window, to clear or save the Monitoring window, to generate a quick random serial of characters, to create a Wave sound file from a text, to create, modify or delete local characters, to modify the lesson definition. It also provides a Quit command.

Options provides options for Random character choice, spacing values, weight values, Text utilisation and random word structure.

Language describes how to choose the language.

Port defines how to switch a transmitter in transmit mode.

Controls describes the control buttons and settings.

Speed describes the Up/Down speed control.

Sound Level describes the Up/Down sound level control.

Enter Text describes the Text box.

Replay Text describes the Replay Text button.

Play File describes the Play File button.

Resume File describes the Resume File button.

Choice describes the choice buttons.

Alphabet describes the Alphabet window.

Q Codes describes the Q codes window.

Abbreviations describes the Abbreviations window.

Random describes how to choose random characters to be played.

File describes the file choice.

Quiz tests your knowledge.

Monitoring monitors your keying.

On Air defines the LED status.

Keyboard Shortcuts defines how to surf in CW_Player from the keyboard.

How to learn gives an example of lessons to learn the Morse code.

StartUp

When starting CW_Player, the *default settings* are :

- Speed = 12 words per minute
- Sound Level = -9 dB
- Character Spacing = one space
- Port = none
- TX Delay = 100 ms
- Language = english
- Dash/Dot Weight = normal (3/1)
- Window = Alphabet
- Random characters = All or Chosen characters if any, no leading Vs, mixed characters inside a same word
- Local characters = those defined in previous sessions
- Enter Text = Immediate play
- Text replay = Single loop
- Quiz delay to answer = 3 seconds
- Monitoring decodes the left channel and displays lower case characters.

Preselected settings may be chosen in the *command line* for Language, COM Port and Speed:

/f   to start in French language

/d   to start in german language

/e   to start in english language

/i   to start in italian language

/COMx (x=1..4) to select COM port n#x

/=x   to select a speed of x wpm (x is an integer in the range 5…50). If the speed value is outside the range 5..50, the nearest value will be applied. If the speed value is not an integer, a system error message is generated.

Either or all parameters may be typed at end of the *command line.*

Example : CW_Player.exe   /=10   /COM2   /f   starts CW_Player with a 10 wpm speed, in French and COM2 port is selected for transmitting.

Most of the parameters are saved when closing CW_Player in the *cwplayer.dat* file and restored when starting CW_Player : speed, language, level, last choice, COM port, local character definition, lesson definition etc. Then, it is not necessary to add parameters in the command line as far as your configuration will be saved. Nevertheless, if you do add this parameters in the command line, they will have priority on the saved ones.

Menu

The **Menu** bar supports the *Tools, Options, Language, Port and Help* menus.

Tools menu includes :

- Clear MemoRandom window
- Save MemoRandom as Text window
- Save MemoRandom as Wave window
- Generate a quick MemoRandom window
- Save Monitoring window
- Clear Monitoring window
- Record Text as Wave file creates a Wave sound file with the text window characters.
- Local lessons allows you to modify the lesson definition.
- Quit command without confirmation..

Options menu includes :

- Random characters selection
- Characters Spacing selection
- Dash/Dot Weight selection
- *Immediate* or *Delayed play* selection
- *Single loop* or *Continuous Replay* selection
- Definition of   the *Masked   text* delimitors

Language menu includes :

- *Language* selection (english or french)

Port menu includes :

- *COM Port* selection to command the transceiver in transmit mode

? menu allows the display of this *Help* file or general information about CW_Player.

Note that the Help file must be closed before changing language.

Controls

The **Controls** Panel includes the following *buttons* or *settings* :

⊞   <u>Replay Text</u> : to replay the text which has been entered manually in the above text box

⊞   <u>Play File</u> : to play an ASCII file that has been opened by clicking the File button

Note that this button toggles with the Resume File button

⊞   <u>Resume File</u> : to resume playing an ASCII file was stopped playing before the end

Note that this button toggles with the Play File button

⊞   *Quit* : to exit CW_Player

Note that this button toggles with the Stop button

⊞   *Stop* : to stop playing a text or a file or random series or Quiz mode

Note that this button toggles with the Quit button

⊞   <u>Speed</u> : to set the speed

⊞   <u>SoundLevel</u> : to set the sound level

Speed

Speed is set with the *Up/Down* button in the Controls panel.

It can be set between 5 and 50 *words per minute (wpm).*

The default value is 12 wpm. It can be preselected at start up with the /=x parameter where x is the speed value to start with (see StartUp).

One definition of the speed is : *number of words "PARIS " to be sent during one minute.* Another definition is : *number of dots per minute divided by 25.* The two definitions lead to the same speed.

As an example, a speed of 10 wpm means 50 letters H sent in a minute : 50x4 dots (letter H) + 50 dots (each separator equals one dot) = 250 dots per min divided by 25 = 10 wpm.

The speed is computed on the basis of *simple* spacing between characters and *standard* weight between dash and dot (3/1). This speed is the speed used to generate a character.

If the spacing is longer, the actual mean speed will be lower. This actual mean speed value is displayed in the panel SPACING. The mean speed cannot be lower than 5 wpm in CW_Player. If you set the character speed to a value that induces a mean speed lower than 5 wpm, then the spacing will be automatically ajusted by CW_Player so that this mean speed remains greater or equal to 5 wpm.

For example, a 10wpm character speed and a spacing multiplied by 4 result in an actual mean speed equal to 5 wpm. If you lower this character speed, the spacing will be automatically reduced so that the mean speed remains greater than 5 wpm. Consequently note that a character speed equals to 5 wpm is automatically associated to a standard spacing (no possibility to increase the spacing for such a speed).

Speed can be modified when playing characters but the new speed will apply to the next character. The current character is ended with the previous speed.

Sound level

Sound Level is set with the *Up/Down* button in the <u>Controls</u> panel.

The *sound frequency* is 800 Hz.

The sound level can be set between 0 dB and -15 dB. The same value is applied to both sound card outputs (right and left). The default value is -9 dB*.*

The 0 dB value stands for a 16bits peak to peak sine amplitude.

Sound level can be modified when playing characters but the new level will apply to the next character. The current character is ended with the previous level.

Note that the CW_Player sound level has to be combined with your system sound level setting. For example, if a -6dB attenuation is already set at system level, it must be added to the CW_Player setting to get the actual sound level i.e. -15 dB when starting.

Replay Text

The **Replay Text** button in the <u>Controls</u> panel allows replaying a text that has been entered manually or copied in the *Text box* above the Controls panel.

The Replay Text button is *disabled* when the Text box is *empty* or when sound is being played.

None-Morse characters in the Text box will not be played.

When played, characters are set in *brilliancy*. That allows an immediate follow-up of the playing process.

Text replay can be *stopped* with the <u>Stop</u> *button*.

Text replay always starts at the *beginning* of the text, even when previously stopped before the end.

By default, text replay is performed one time (*single loop*) unless the <u>Options/Text/Continuous replay</u> is checked. To stop a *continuous replay*, use the Stop button.

Note that **continuous replay** adds a separator between two consecutive texts.

The Text box supports all *Windows actions* (delete, add, copy, paste …) if not being played. While playing, the only valid action is *Stop*.

Masked Text

The option Masked text allows you to mask or ignore a part of a text when playing.

This option applies to a **text file only.**

The text zone to be ignored must be delimited by two **different** characters, a *starting* character and an *ending* character, that must defined with the *Options/Text/Masked Text* menu.

These two characters could be for example (…) or […] or {…} or <…> etc.

If a non-null starting character has been defined, the menu 'Masked text' is checked.

If the starting character is not defined, all the text will be played, whatever the ending character.

If the starting character is defined without any ending character definition, all the text following the starting character will be masked.

Note that the delimitors definition is saved in the CWPLAYER.DAT file and restored when restarting CW_Player.

Enter Text

The *Text box* allows playing characters from the *keyboard*.

Characters are played when typed if the Options/Text/Delayed text is NOT checked. If it is, characters are not played when typed but only when the Replay Text button is depressed. This allows to enter a sentence "off line" and to play it later.

Playing is *non case-sensitive*.

The *space* is a sound in CW_Player (silence in musical terminology). Its length is equivalent to 3 dots.

Non Morse characters are inserted in the text box but not played. See the Alphabet list to get the valid Morse characters.

The whole text is *ONE record* which length is limited by the system. If an ASCII text is pasted in the Text box from an ASCII file, only the *first record* will be entered in the text box (a record is generally terminated with a *Carriage Return*).

It is possible to save the text into a morse Wave sound file that may be played with any media player software.

Click Record Text as Wave file in the Tools menu for that.

Actual speed and sound level apply to the created Wave file.

Recording as Wave file

The content of the *Text box* or the *MemoRandom window* may be recorded as a Wave sound file (*.wav) that can be replayed by any media player software.

Click *Record Text as Wave file*   or *Record MemoRandom as Wave file* in the Tools menu to run the process.

Actual speed and sound level settings apply to the Wave file. The audio note of the morse dots and dashes will be 800 Hz, same as that one played by CWPlayer.

Only morse characters will be coded in the Wave file.

The Wave format tag is **PCM**.

The sampling rate may be **11025 ou 22050 samples/second**. Any other value is rejected.

The Wave output may be **mono or stereo**. Note that the mono mode induces a lower sound level than the stereo mode

The number of bits in a sample may be **8 or 16**.

The best audio quality is obtained with stereo, 16 bits, 22050 samples/sec (these are the CWPlayer parameters when playing). It requires the largest file size.

The lowest audio quality is mono, 8 bits, 11025 samples/sec. It requires the smallest size file.

According to your choice, CWPlayer tells you the approximate expected size (bytes) of the Wave sound file to be created. One must be aware that a long text - i.e. more than 10 characters - may generate a quite large file when using the best audio quality ! In addittion to that, setting a slow CW speed will increase the recording duration and increase the file size !

It is possible to generate quickly a random serial of characters without playing them. Click menu **Tools/Generate a quick memorandom** for that. It will be asked you the number of characters and then the MemoRandom window will be filled. This tool allows to quickly create lessons in Text or Wave format without playing the characters.

Note that :

The tool cannot be used while morse characters are being played

The tool cannot be opened if the Text window is empty

The Text window is frozen when the tool is opened (no text change is allowed during recording)

Playing the morse Wave file with a media player software requires at first to close CWPlayer because the sound card may generally not be used simultaneously by two different programs.

Local characters

CW_Player allows you to create, delete or modify your own local characters. These local characters are played in all modes like any standard characters.

Local Characters must be different from the standard characters i.e. the 26 letters, the 10 figures and the 8 stops that are displayed in the <u>Alphabet</u>.

Attempting to create, to delete or to modify one these 44 standard characters will be rejected.

Local characters must be printable characters. Upper case characters are aumatically transformed into lower case characters. That means that you cannot assign different morse codes to the same character when capital or small letter.

When clicking the <u>Tools/Local characters</u>, the relevant window is opened.

The "character" field and the "code" field are mandatory. The "Comment" field is optional.

The *"character" field* accepts one printable character except standard ones.

The *"code" field* accepts a combination of maximum 10 dot/dash signs. If the "character" field is filled with an already existing local character, the "code" field is automatically filled with the relevant code. It then can be modified.

Be cautious that redefining a local character with the same Morse code as a standard character will be confusing when using the random or quiz mode. You will never be sure which of the standard or the local character has been played by the machine !

The *field "comment"* allows you to insert a comment for your local character. It will be displayed in the local character page of the <u>Alphabet</u>.

Once both "character" field and "code" field are filled, you can choose an action and validate it with the ***Enter*** button (or depress the Enter key). Then, the focus is returned to the "character" field waiting for another action. Click the ***Exit*** button (or depress the Esc key) to close the window and to return in the main program.

If the "character" field contains an already existing local character, only *Delete* and *Modify* actions are available. If that same field contains a non-existing local code, you can just *create* this new local code.

<u>*A maximum of 27 local codes*</u> can be created. When the local character page is full, a warning appears in the window and no more local character can be created.

Important : Remember that an action is effective only when the Enter button has been clicked.

When leaving CW_Player, the local characters are saved in the back-up file named *cwplayer.dat* at the same time as the choosen characters and the lesson definition.

When restarting CW_Player, the local characters will be restored.

Trying to modify the cwplayer.dat file with utility programs could lead to hazardous errors when running CW_Player. The author could not be responsible for such errors !

Local Lessons

CW_Player allows you to modify the original definition of the 20 preset lessons as described in the <u>How to learn</u> chapter.

When clicking the <u>Tools/Local lessons</u>, the relevant window is opened.

The *"lesson number" field* accepts a number between 1 and 20.

The *"character" field* displays the actual content of the chosen lesson.

This *"character" field* accepts up to 50 characters. Upper case characters are automatically transformed to lower case characters. Non-morse characters will not be played.

Once both "number" field and "character" field are filled, click the ***Enter*** button (or depress the Enter key) to make the modification effective. The focus is then returned to the "number" field waiting for another modification. When all modifications have been **entered,** click the ***Exit*** button (or depress the Esc key) to close the window and to return to the main program.

Invalid inputs such as invalid number generate a beep sound.

Important : Remember that a modification is effective only when the Enter button has been clicked.

When exiting CW_Player, the lesson definition is saved in the back-up file named *cwplayer.dat* at the same time as the choosen characters and the local characters if any.

When restarting CW_Player, the lesson definition will be restored.

Trying to modify the cwplayer.dat file with utility programs could lead to hazardous errors when running CW_Player. The author could not be responsible for such errors !

Play File

The **Play File** *button* in the Controls panel starts playing an *ASCII file* that has been opened with the File choice button.

If no ASCII file is opened, the Play File button is *disabled*.

If an ASCII file is partly played, the Play File button is *not visible* (masked by the Resume File button).

If a sound is being played (text or random for example), the Play File button is disabled. Depress the Stop button to enable the Play File button.

When playing a file, the ASCII file appears in the relevant window with its *name* and *path* at the top.

Characters are set *brilliant* as they are played to allow an easy follow-up of the playing process.

Characters may be hidden during play such as in random mode by clicking the **Hide** button. This will allow the user to train on a saved random serial in the same conditions as in the random mode.

Playing is *non-case sensitive*.

Playing a file can be *stopped* before the end and resumed later. The Play File button then toggles with the Resume File button.

By default, a file is played one time (*single loop*) unless the Options/Text/Continuous replay is checked. To stop a *continuous replay*, use the Stop button.

Note that **continuous replay** adds a separator between two consecutive files.

When stopped before the end, a file cannot be modified. It must be reopened with the File choice button for further modifications. It will then be played as a new file, starting from the beginning.

Parts of text in a text file may be ignored and not played when delimited by two specific characters that you can define in the Options/Text/Masked Text menu.

Resume File

The **Resume File** *button* in the Controls panel resume playing an *ASCII file* which has been opened with the File choice button and partly played with the Play File button.

If no ASCII file is partly played, the Resume File button is not visible. The Play File button masks it.

If a sound is being played (text or random for example), the Resume File button is disabled. Depress the Stop button to enable the Resume File button, assuming an ASCII is already opened and partly played.

When resuming a file, the ASCII file appears in the relevant window with its *name* and *path* at the top. The playing resumes where it has been stopped.

Characters are set *brilliant* as they are played to allow an easy follow-up of the playing process.

Playing is *non-case sensitive*.

Playing a file can be *stopped* before the end and resumed later. The Resume File button is then enabled.

By default, the file is resumed until the end and stops (*single loop*) unless the Options/Text/Continuous replay is checked. To stop a *continuous replay*, use the Stop button.

Note that **continuous replay** adds a separator between two consecutive files.

When stopped before the end, a file cannot be modified. It must be reopened with the File choice button for further modifications. It will then be played as a new file, starting from the beginning.

Choice

The **Choice** *Panel* includes several *buttons* to choose different items to be played :

Alphabet : list of Morse characters (letters, figures, stops, special characters and local characters)

Q codes : list of the Q codes that are used by radioamateurs

Abbreviations : list of the common abbreviations that are used by radioamateurs

Random : generation of random groups of 5 characters

File : to open and load an ASCII file to be played.

Quiz : to test your knowledge

Monitoring : to monitor your keying

When clicking on the relevant button, the corresponding window appears.

Only one window appears at a time.

When a sound is being played, all choices are disabled. Click on Stop button or wait until the end of playing to get the buttons enabled.

Alphabet

When clicking the **Alphabet** *button* in the Choice panel, the Alphabet window appears.

The list includes the *26 letters* (first page), the *10 figures* and 8 *most usual stops* (2nd page), *4 special characters* (3rd page) and your *local characters* (4th page).

When clicking on a character line, it is played.

Clicking a second character while a first one is being played is acceptable. Following characters are queued. A *separator* is automatically added at the end of each character (3 dots delay).

Stressed or extended characters are played only if they are defined as *local characters.*

Q Codes

When clicking the **Q Codes** *button* in the Choice panel, the Q codes window appears.

The list includes the *most usual Q codes* in radioamateur telegraphy communication.

When clicking on a Q code line, it is played.

Clicking a second Q code while a first one is being played is acceptable. Following Q codes are queued.
A *space* is automatically added at the end of each Q code to avoid pasting two consecutive Q codes.

Abbreviations

When clicking the **Abbreviations** *button* in the Choice panel, the Abbreviations window appears.

The list includes the *most usual Abbreviations* in radioamateur telegraphy communication.

The top list refers to english abbreviations. A french translation is given between brackets.

The bottom list refers to a few common french abbreviations. An english translation is given between brackets.

When clicking on an abbreviation line, it is played.

Clicking a second abbreviation while a first one is being played is acceptable. Following abbreviations are queued. A *space* is automatically added at the end of each abbreviation to avoid pasting two consecutive abbreviations.

Random

When clicking the **Random** *button* in the Choice panel, The Random window is displayed.

It allows the opeartor to choose the number of characters to generate, to modify the lesson and to hide the solution.

Click the button **Play** to start generation.

To stop it, click the *Stop* button in the Control panel or button **Stop** in the Random window.

Types of random characters to be played are chosen through the *Options/Random characters* sub-menu or just click inside the MemoRandom window to choose another lesson.

At startup, *All* is selected by default unless *Chosen characters* have been chosen during a previous session.

The different choices are :

> *Letters*
>
> *Figures*
>
> *Stops*
>
> *Local*
>
> *Letters + Figures*
>
> *All*
>
> *Chosen characters*
>
> *Add VVVVV*
>
> *Word options*

If the "Chosen characters" option is chosen, a dialog window opens and asks either for 50 characters maximum or a lesson choice. Repeating twice a character in the character box will make it played twice more time than the others in Random or Quiz mode.

When clicking a lesson line, its content is moved into the character box.

Click the *OK* button to make the choice effective or the *Cancel* button to return in the main program withou any change.

If the character box matches (case sensitive !) with a lesson line, the lesson number will be displayed in the MemoRandom window and in the Quiz window. If not, the text "Chosen characters" will be displayed.

When leaving CW_Player, the Chosen characters and the lesson list are saved in the back-up file *cwplayer.dat* at the same time as the local characters, if any. They are restored when restarting CW_Player and the option for Random and Quiz is set to "Chosen Characters" and the last lesson number .

Note that only Morse characters will be played. If no Morse character is entered, a *warning message* appears when trying to generate random series.

Repeating characters will create some sort of "weight" in the random occurence as far as the relevant characters will be played twice more time if they are repeated twice.

Random characters are displayed in the *MemoRandom* window as they are played. They are grouped either in *fixed length words* *(2 to 8 characters according to your choice)* or in *random length words* (2 to 8 characters) in the **Options/Word options** menu. Each word is separated by a *space*.

The content of each word may be made of the same type of characters by clicking the menu **Options/Word options/Non-mixed characters**. In this case, each word will made of either letters, or figures, or stops and local characters.

If the **Add VVVVV** option is checked, a leading group of letters V is played when starting the Random

mode. This acts as some sort of synchronization between the computer and the user. If using a fixed word length, the leading group will have this chosen length. If using a random word length, the leading will be a 5-character length.

Resuming random characters generation after a Stop action does not clear the MemoRandom window.

To clear the MemoRandom window, use the _Clear MemoRandom_ command in the Tools menu.

To save the MemoRandom window as text file, use the _Save MemoRandom_ command in the Tools menu. The back-up file can then be played later by using the File choice and the Play File button.

To save the MemoRandom window as a wave file, use the _Record MemoRandom as Wave_ file command in the Tools menu. This wave file should be played by any other Media software.

While playing random characters, all other choices are disabled. The only possible actions while playing are those of the menu (options, language and port) and speed and sound level in the Controls panel. To enable other choice, click the Stop button in the Control panel.

The lesson definition may be modified by using the Tools/Local lessons menu.

The button "**HIDE**" masks the displayed characters. Click the same button again to see the solution.

File

When clicking the File button in the Choice panel, the standard Windows dialog box appears to select an ASCII file.

The authorized file extensions are *.txt, .wri; .rtf and .cwp* (for CW_Player). Other files may be opened if they are renamed with one of the above extensions or by typing directly their path and name but, if played, the result may be *hazardous* in they are not ASCII files.

When opened, an ASCII file is loaded in the *file window*. The file *title and path* are displayed at the top of the window.

To play the file, click the "Play File" button in the Controls Panel.

After being loaded, an ASCII may be temporarily modified and played. The original file is never modified. A file in *progress* cannot be modified any more until fully completion.

Quiz

Clicking the **Quiz** pushbutton pops up the Quiz window.

Quiz plays random characters and asks you to type what you have heard. According to your answer, a mark is computed and CW_Player tells you which characters should be revised.

The *time delay to answer* can be set from 1 to 9 seconds by using the double arrow button in the upper right part of the window. By default, the time delay is 3 seconds. The time delay starts at the end of the execution of each character.

The upper left part of the window reminds you which random characters are chosen at that time (these characters will be played during Quiz). You can modify this choice by using the *menu Options/Random Characters* or just click inside the lesson number window.

The Quiz actually starts when depressing the OK button which confirm the choice of characters to be played and the time delay to answer. You can change these parameters during Quiz. However, note that the option "Choose characters" will stop the Quiz mode to let you enter the new characters.

Your answer may be *modified* at any time inside the time delay to answer. Just type the new character. ***Using the "Suppr" key is not necessary***. Characters are automatically displayed in **lower case**, whatever your keyboard setting.

At completion of the time delay, your answer is controlled, your mark is computed and displayed and the answer window is reset for the next character. According to your answer, the CW_Player fellow will express his satisfaction or his disappointment during the playing of the next character.

Remind concentrated on the sound at that time !

To quit the **Quiz mode**, use the *"Stop"* sign in the Quiz panel or the <u>*Stop*</u> button in the Controls panel.

At that time only, CW_Player will display the list of the characters that were wrongly answered and that you should revise. This list is displayed in the "*CW_Player report*" panel.

Note that this list is never updated during Quiz because it could then influence your next answers !

Resuming the Quiz mode after a temporary pause does not reset the CW_Player report but you have the opportunity to *clear mark and error list* by depressing the *"Clear report" button*.

Note : As Quiz mode requires a dialog between the PC and a trainee, it does not support COM port switching.

Monitoring

When clicking the **Monitoring** *button* in the Choice panel, the Monitoring window appears.

This function aims to help you to get a good keying before starting on the air.

Here, you are required to input your own Morse audio signals into the MIC or LINE input of your sound card. CW_Player will then try to decode what your are keying. This assumes :

   - first, that you know well the Morse alphabet - if you want to send a C and you code it like a Y, CW_Player will display a Y and you will be aware that you have to revise the letter C !

   - second, that your keying is correct : sending a C (-.-.) with a too long spacing between the first dot and the second dash will be displayed by CW_Player like a double N (-.   -.). You have to paste the dots and dashes a little more ! On the other way, pasting too much two characters will lead to erroneous decoding : for example, pasting the abbreviation TU (-   ..-) will be decoded as an X by CW_Player. You have to make a greater spacing between the letter T and the letter U (what experimented CW operators seem to forget more and more !).

CW_Player will displayed all the characters that are defined in the Alphabet list, including your own local characters if you have created any. Special characters are displayed as a combination of two standard uppercase characters between square brackets :

   End of work (…-.-) appears as [VA]

   Wait (.-…) appears as [AS]

   Transmit only (-.--.) appears as [KN]

   Error (……..) appears as [HH]

Spaces are added in the display to make words when at least a 6-dot time duration separates two characters.

The display will appears in upper case characters if the relevant box is checked in the Monitoring window.

A new line starts when depressing the Enter key.

To clear the Monitoring window, click Menu/Tools/Clear Monitoring.

To save the Monitoring window, click Menu/Tools/Save Monitoring.as text file

CHANNEL CHOICE AND DECODER THRESHOLD :

The decoding is based on a simple envelope detector. The bar graphs show the peak values of the inputted signals. The time constant of these bar graphs is quite long (about 100 milliseconds) and will not follow a fast keying. They are just an aid to set the input gain of your sound card.

The above track bars set the decoding thresholds of the decoder. By default, they are set half way of full scale but you may move them manually if your inputted signals do not deflect beyond mid scale. Normally, the gain of your sound card should be easily set so that the bar graphs deflect beyond mid scale. The decoder threshold must be set half-way between minimum and maximum of the inputted signal.

The frequency of the inputted signal is not critical. Any frequency between 500 Hz and 2000 KHz is acceptable. A simple audio generator circuit is proposed in the PC-TX.BMP file. Its frequency is about 1 KHz. Keying the audio signal output will do the job.

SOUND CARD INPUTS :

You may choose either the MIC input or the LINE input of the sound card.

The MIC input is usually used for small signals such as those of a microphone (less than 500 millivolts peak to peak). The MIC input is mono signal and the two bar graphs show the same deviation. The

decoding will display the same characters whatever the selected channel.

The LINE input requires rather strong signals (greater than one volt rms). This input is stereo. So, the two bar graphs should display different deviations depending on which channel you have connected your audio morse signals. The tip contact of the 3.5" stereo jack is the left channel; the middle one is the right channel.

The input has to be selected with the Windows tools. It can be done while CW_Player is running.

- On the Windows Task Bar (where the Start button is), double-click the small speaker icon next to the clock display. The Windows Play Control window is displayed.

- In the Options menu, choose Properties. The Properties window is displayed.

- In the "Adjust volume for" panel, select the Recording button. Then, the list of recording volume controls should be displayed. Put a checkmark in front of Microphone and LINE-IN. Click the OK button. The Record control window is displayed.

- Put a checkmark in the Select box of Line-in or Microphone control volume according to the input that you want to select. At that time, if the Monitoring function of CW_Player is running and an audio signal is inputted, you should see the relevant bar graph of the Windows Record Control and the bar graphs of CW_Player deflect quite the same way. Set the Volume control of the selected input (Mic or Line) so that the deviation is between 75% and full scale. Using the audio generator that is described in the PC-TX.BMP file and connecting its output to the MIC input of the sound card will give a full deviation of the bar graph with a volume control being set at mid scale. When connecting the same signal to the Line-in input of the sound card, you might get a 50% deviation of the bar graph with a volume control being set at full scale.

- Now you should be ready to monitor your keying, but, if you don't have an individual speaker on your audio source, probably you want to hear your audio signal. For this, return to the Properties window, select Playback, put a checkmark in the Microphone and Line-in boxes in the Volume control list and click the OK button. The Play Control window should be displayed. Verify that the Mute box of your selected input is **NOT MUTED** and set the level volume for a nice listening.

- Now you are ready to key ...

KEYING RECOMMANDATIONS :

First of all, remember that a dash is normally equal to 3 dots, that an interval between signs is normally equal to a dot and that a spacing between two characters should be at least equal to 3 basic intervals or a dash.

Novices will have to train hard to obtain such an ideal timing with a straight key. So, using an electronic double contact keyer will highly help them as far as the keyer with the right timing automatically does dots, dashes and intervals. Note that dots are usually made when moving the hand to the right and dashes are made when moving the hand to the left (but this is not mandatory !).

As said before, respect the timing between characters : at least 3 basic intervals, otherwise, CW_Player may try to decode something which is the concatenation of two consecutive characters.

Also, paste all the signs of a same character, otherwise CW_Player may split your character into two or more different characters.

Do not key at a speed faster than the speed your are able to copy, otherwise, you correspondent will key at the same speed as you and you won't be able to understand him.

MISCELLANEOUS :

It is not possible to play and to monitor simultaneously with CW_Player. Playing has got priority over monitoring. If you enter characters or replay characters in the " Enter Text " window, monitoring is disabled until the entire text has been played. As well, if you play or resume a file, monitoring is disabled until the file is completed or stopped.

__WARNING :__ Probably that you are impatient to decode CW signals coming from your receiver. You may be very disappointed as far as CW_Player includes a very simple envelope detector with no DSP, no FFT, no filtering and so on. It requires a well-shaped signal, with a good signal to noise ratio and no interference, such as the one issued from an audio generator (or from the CW monitoring of a transceiver).

If your receive such signals, CW_Player will probably decodes speeds as high as 40 wpm. Trying to decode in a busy CW band is non-sense with CW_Player (unless your transceiver includes very efficient filters and DSP !).

__Remember that the Monitoring function of CW_Player is to control your keying, not to replace your ears__ !

Port

Selecting the **Port** menu offers the ability to *switch* a transceiver in *Transmit mode* when playing characters *except in Quiz mode*.

When a *COM port* is selected, CW_Player raises *DTR* and *RTS* signals of the corresponding serial port when characters are played. When the last character is completed, both signals are released.

A *TX delay* between the PTT command and the beginning of the first character is adjustable between 50 and 250 ms. Default value is 100 ms.

The On Air led lights on and switches off in synchronism with the COM port signals.

The default value is *NO COM PORT*.

This default value may be modified at startup with the adequate parameter at the end of the command line :

> **/COMx**   with x=[1..4]

If the selected port is not assigned to a serial port in your *SETUP* system, a *warning "error COM"* message appears and no port is selected.

When selecting a COM port, be sure that the rear *serial connector* is really assigned to the chosen *COM port number*. Some PC offers the ability to have to COM ports (COM1 & COM2) but only ONE serial connector. See in your SETUP, which COM is assigned to this unique serial connector.

If selected, the serial connector supplies a +12 volts voltage on DTR and RTS signals when enabled and -12 volts when disabled.

The *PC_TX .bmp file* shows an example of connection between a PC and the transmitter PTT line. The example assumes a positive stand-by voltage and grounding for transmit.

Don't forget that the SPACE character is a sound. If a text ends with a space (for example Q codes or abbreviations), it is played and the transmit mode will release after the end of the space !

WARNING : no binary signal appears on the data lines of a COM port when selected. To modulate a transmitter, it must be used the audio signal at sound card outputs (right or left). CW_Player is not an electronic keyer and does not key a transmitter. To key a transmitter with CW_Player, it should be required a fast VOX circuit between the sound card output and the transmitter KEY terminal.

Language

The following **languages** are available : *english*, *french, german and italian*.

This can be chosen from the **Language** *sub-menu*.

Default language is English.

The language can be chosen at startup by adding the adequate parameter at the end of the command line :

/f   for starting in french

/e   for starting in english (not necessary because english is default value)

/d for starting in german

/i for starting in italian.

The Help file also toggles from one language to another when changing the language but this must be done *without* the Help on screen. So close Help before changing language.

Be sure that both help files *CWPenglish.hlp*, *CWPfrench.hlp*, *CWPdeutsch.hlp and CWPitalian.hlp* are in the same directory as CW_Player.exe for a good working.

Note that the CWPdeutsch.hlp file is just a renamed copy of the english help file. I could not find a translator at the moment. If you are aware of Help file generation, you may create your own german help file. Just name it CWPdeutsch.hlp and it will be displayed when clicking the help menu of CW_Player.

Spacing

The *spacing* between characters can be set in the **Option/Spacing** *sub-menu*.

The *default value* is a standard space (=3 dots length).

This value may be increased with a limitation such that the actual mean speed always remains greater or equal to 5wpm.

For example, the spacing associated to a 10 wpm character speed cannot be greater than 4. This corresponds to an actual mean speed of 5wpm. Also, the spacing associated to a 5wpm character speed can only be the standard one.

The actual mean speed value is displayed in the SPACING panel.

Note that the spacing setting does not applies to the QUIZ mode. In QUIZ mode, the spacing between characters is equal to the delay to answer.

Weight

The **weight** (or *ratio*) between dash and dot can be set in the **Option/Weight** *sub-menu*.

The *default value* is 3 to 1 (dash length = 3 dot length). This is the standard value.

Three values are settable : *3/1, 4/1 and 5/1*.

Modifying the initial value does not alter the dash length. It *reduces* the dot length to obtain the right *ratio*

It must be noticed that modifying the weight also modify the spacing between characters as it is equal to 3 dots length. A *trade-off* between spacing and weight will then have to be experimented in order to obtain a nice telegraphy.

It must be noticed that modifying the weight also *modifies* the actual speed that is computed on the basis of a standard 3/1 weight. The speed of the character itself is altered as well as the overall speed. Increasing the weight will *increase* the speed. *Trade-off* between spacing and weight will allow matching the actual speed to the displayed speed.

On Air

The ON Air led offers a visual copy of the <u>DTR</u> and <u>RTS</u> serial port state.

It lights on and switches off in synchronism with the transmit command which is sent to the transceiver via the selected <u>COM port</u>.

If no COM port is selected, the led remains OFF.

Keyboard Shortcuts

Following is the list of the keyboard shortcuts to use CW_Player from the keyboard. Sometimes they are faster than a mouse pointing (Esc for example) but they are also mandatory for people who cannot use a mouse such as blind people.

All controls and choices have a shortcut from the keyboard.

Only list items need the TAB key to be accessible from the keyboard.

Control Panel

Replay text	: Alt T
Play File	: Alt I
Resume File	: Alt I
Quit	: Esc + Enter to confirm or Esc to return in CW_Player
Stop	: Esc
Speed	: CTRL+U to increase / CTRL+D to decrease (or Tabulations + Vertical arrows)
Sound level	: ALT+U to increase / ALT+D to decrease (or Tabulations + Vertical arrows)

Choice Panel

Alphabet	: Alt A
Q Codes	: Alt C
Abbreviation	: Alt B
Random	: Alt R
File	: Alt F
Quiz	: Alt Q
Monitoring	: Alt M

Text Box

Tabulations.

By default, the Text box has the focus. Horizontal arrows move the cursor inside the text. Vertical arrows give the focus to the displayed list.

Lists

Vertical or Horizontal arrows + Enter to play.

The list must be visible.

Note that the focus returns automatically to the Text box when a sound ends. When a vertical arrow is typed, the focus is automatically returned to the visible list. When the focus is in the list, horizontal arrows and page up & down may be used to move in the list.

Quiz Window

Delay	: CTRL+ALT+U to increase / CTRL+ALT+D to decrease (or Tabulations + Vertical arrows)
Clear report	: ALT+P

OK button   : Enter

Stop button   : Esc

Mark   : Alt M *The Quiz mode must be in stand-by. The current mark is played in*
                     Morse. This shortcut is for blind people.

Menu

Sub-menus can be opened with the following shortcuts :

Tools   : Alt T

Options   : Alt O

Language   : Alt L

Port   : Alt P

?   : Alt ?

All sub-menu choices can then be selected by depressing the relevant underlined letter without
depressing the ALT key or use the verticals arrows and enter..

Sub-menus

More faster than the former solution but requiring a good memory, all sub-menu choices can be
directly selected with their associated shortcuts without opening the sub-menu window :

F1 :   Help

F2 :   About

F3 :   Word length

F5 :   Random letters

F6 :   Random figures

F7 :   Random stops

F8 :   Random local

F9 :   Random letters and figures

F10 :   Random all characters

F11 :   Random choosen characters

CTRL F1 :   Spacing

CTRL F5 :   3/1 weight

CTRL F6 :   4/1 weight

CTRL F7 :   5/1 weight

CTRL F9 :   Italian language

CTRL F10 :   German language

CTRL F11 :   English language

CTRL F12 :   French language

SHIFT F1 :   COM1

SHIFT F2 :   COM2

SHIFT F3 :   COM3

SHIFT F4 :   COM4

SHIFT F5 :   50 ms TX delay
SHIFT F6 :   100 ms TX delay
SHIFT F7 :   150 ms TX delay
SHIFT F8 :   200 ms TX delay
SHIFT F9 :   250 ms TX delay
SHIFT+CTRL F1 : Clear MemoRandom
SHIFT+CTRL F2 : Save MemoRandom as Text file
SHIFT+CTRL F3 : Local characters
SHIFT+CTRL F4 : Local lessons
SHIFT+CTRL F5 : Clear Monitoring
SHIFT+CTRL F6 : Record Text as Wave file
SHIFT+CTRL F7 : Delayed text
SHIFT+CTRL F8 : Continuous replay
SHIFT+CTRL F9 : Masked text
SHIFT+CTRL F10 : Record MemoRandom as Wave file
SHIFT+CTRL F11 : Generate a quick MemoRandom
SHIFT+CTRL F12 : Save Monitoring as Text file

Random character choice
Lesson : Vertical arrows
OK button : Enter
Cancel button : Escape

Text recording
Yes : Enter
No : Escape
Buttons, sampling rate and format choice can be reached through the Tabulation key.

Local character processing
Enter button : Enter
Exit button : Escape
Fields and actions can be reached through the Tabulation key.

Local lesson processing
Enter button : Enter
Exit button : Escape
Fields can be reached through the Tabulation key.

Masked text delimitors
OK button : Enter

Cancel button : Escape

Fields can be reached through the Tabulation key.

Here is the **Tabulation order** : (normally, the Text box has the focus)
- Text box
- List or file(if visible)
- Quiz delay (if Quiz window visible)
- Choice checked (if any)
- Speed control
- Sound level
- Dialog box (if visible)

and again.

How to learn

For autodidacts, following is an example of lessons to learn the morse code.

0   Each lesson characters shall be selected by using the Options/Random characters/Choose characters menu.

1   After getting familiar with the music by typing the characters in the Text box or clicking them in the Alphabet window, you can start testing yourself with the Quiz mode.

2   When you get a mark better than 95% for 500 characters, switch to Random mode for handwritten copy. If again, in that mode, the correcting gives a similar mark, start the next lesson.

n   Lesson n# 1 : **E N D X 0**

n   Lesson n# 2 :**T A W P 1**

n   Lesson n# 3 : revision lessons 1 & 2

n   Lesson n# 4 : **M G Z Q 2**

n   Lesson n# 5 : **I U V H 3**

n   Lesson n# 6 : revision lessons 4 & 5

n   Lesson n# 7 : revision lessons 1, 2, 4 & 5

n   Lesson n# 8 : **O K Y C 4**

n   Lesson n# 9 : **R L F 5 6**

n   Lesson n# 10 : revision lessons 8 & 9

n   Lesson n# 11 : **S B J 7 8**

n   Lesson n# 12 : **+ = ? / 9**

n   Lesson n# 13 : revision lessons 11 & 12

n   Lesson n# 14 : revision lessons 8, 9, 11 & 12

n   Lesson n# 15 : revision lessons 1, 2, 4 & 5

n   Lesson n# 16 : the 26 letters

n   Lesson n# 17 : the 10 figures

n   Lesson n# 18 : the 26 letters & 10 figures

n   Lesson n# 19 : the 8 stops **+ = ? / ' - , .**

n   Lesson n# 20 : All characters

And don't forget the 4 special characters, often used by hams !