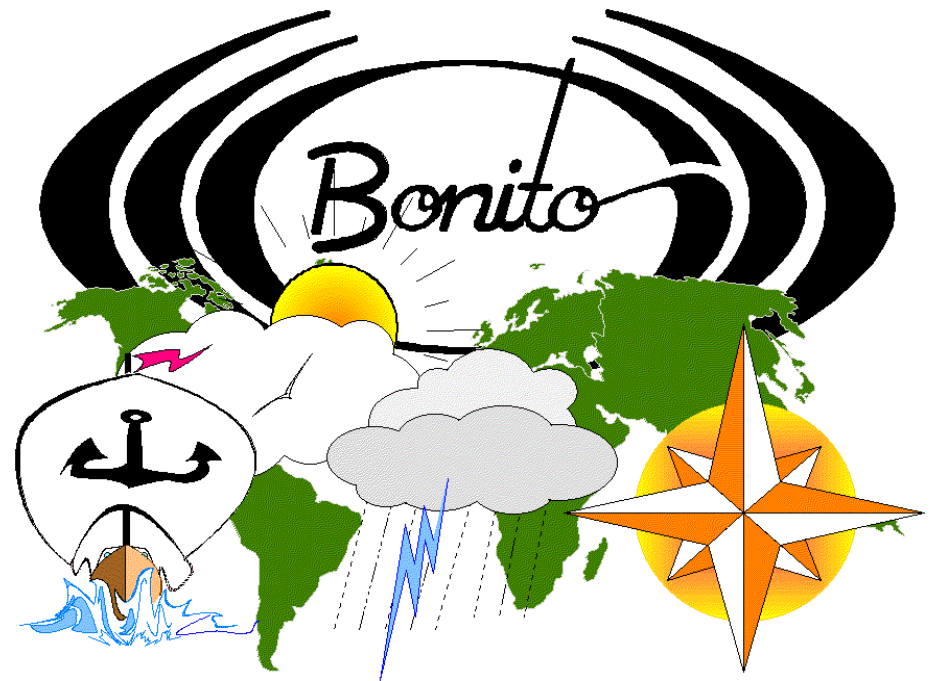# ProMeteo

**a Bonito-compatible nautical terminal**
**Weather-Receiving and NMEA-Controler**



# Operating-Instructions

# CONTENTS

# ProMeteo - A NAUTICAL TERMINAL

## FIRST STEPS

This programme is a bonito-compatible programme to receive nautical, meteorological informations out of the radio. It`s a Windows` 95/NT using, which is using in the sport-navigation.

**Basic conditions:**

> A receiver ICOM-PCR 1000
> Windows-95 or Windows-NT System
> with intel-pentium-CPU  > 100 MHz
> Soundcard 16 Bit Stereo with Line-In plug-jack.

Other basic-conditions would give to you by windows.

The programme is working in the background very intensive and is burding the system extremly. Every using only works with the speed of the remained idle of the CPU.

**Install**:

> Click on the field "start" (on the task-strip).
> Choose the adjustments, system-control and the software.
> Put the first disk into the disk drive and start the installation.
> Choose your receiver.

> Then you get a directory BoardTerminal '98.

**SWITCHBOX(modul) Installation:**
To the software belongs a little modul **PCR-SWITCHBOX**. This you put in a free comport  from the computer. The connection to the PCR 1000 is usually a jack-jack-cable and has to put into the loudspeaker-otput from the receiver and in the line-in input from the soundcard of the computer. To control the receiver you need a connection from the 9-pol plug-connection of the switchbox.

## COMPUTER SYSTEM-ADJUSTMENTS
Basic condition of the BONITO-compatible software is, it must be a soundcard in your computer. So your computer got a line-in or microphone-input to hear income tones from outside.  Every receiver got an output, from where the receiving signal is coming. Usually therefore you use the remote-, headspeaker or speaker-outputs. These outputs you have to connect with the line-in or microphone-input from the soundcard.

## SOUNDSYSTEM, CONNECTION OF A RADIO
Control, if your windows-system has installed the soundcard-driver. Otherwise you have to install the soundsystem now. The soundcard is installed right, when you hear soundtones after turning on your windows-system. Check then, if your soundsystem is turned on. The basic usings are discribed in windows-help-system under soundcard, audio, multimedia, volume control . So here only some catchwords:

working area (choose with the right mouse-key)
> choose attributes, tool-driver
>> choose audio, video (soundcards adjustments controling)

or start, programmes, utilitys, multimedia, volume-control:
> options, attributes

| | |
|---|---|
| play: | volume control, line-in, speakers on |
| record: | ine-in or microphone-inputs on |

> *ATTENTION !!  included microphone turn off as possible*

Adjust the volume that way, that you can listenon the radio too und pay attention, that the recording -adjustment-display didn`t work in the red area. On the task-fillet (down, right side. start) you can see a small speaker-symbol. If you click on it, you can adjust the volume from the listening-tone. If you click on it with a double-click, the whole sound-menu is on the screen.

*Included microphones (often to find by note-books) which "listen refused" often produce jammings by receiving the radio-signals.*

**No listening-in tone ?**

If you hear nothing out of the speaker, then it might be, that the tone-out-put is turn off or the connection from the radio to line-in or microphone isn`t correct. Also it could be, that the in-puts from the soundsystem aren`t adjust correctly in the sound-menu or they could be turn off too.

**No listening-in-tone after turn on the receiving programme ?**

In some recording-menus you find extended adjustments, in which you should turn on the recording-display.

## THE PROGRAMM

**Programm start**:

The receiver must be connected and ready to work before.

Click on the Icon ▲ on the Desktop.

### ProMeteo

- After start pay attention that the receiver with it`s Vol-controler is in the middle, to hear something. After produce the basic for a good receive and test the programme. Then adjust the windows and lists of the programme-parts and correct the slant in the FAX-programme.

It got following assignments:

| | |
|---|---|
| **Dialog plane** | ;control receiver and programme |
| **Station** | ;to organize frequency-lists |
| **Timer** | ;to organize timer-lists |
| **Data** | ;to organize messages-lists |
| **System** | ;adjust the system |
| **FAX** | ;adjust and control FAX |
| **RTTY** | ;adjust and control RTTY |
| **CW** | ;adjust and control CW |

If a timer was loaded and activated, the programme is working for you in the background. In doing so it controls the radio and is choosing the receiving-programmes. Also it controls, if messages are older than 48 hours and kill them. Are there new messages, it put them in the message-list to keep them ready.

If everything is adjusted optimal, the frequency-list, the timerlist and the receiving-programmes aren`t very interesting. The nautical terminal should be seen always with the message-list on the screen. Now you could click on the desired message-icon with a double-click and the whole message is on the screen.

To reach this working condition of the programme, a few adjustments are necessary before. It`s also good to understand some context, that there is no trouble in the programme- or termin-due.

## DIALOG-WINDOWS AND FREQUENCY-MANAGER
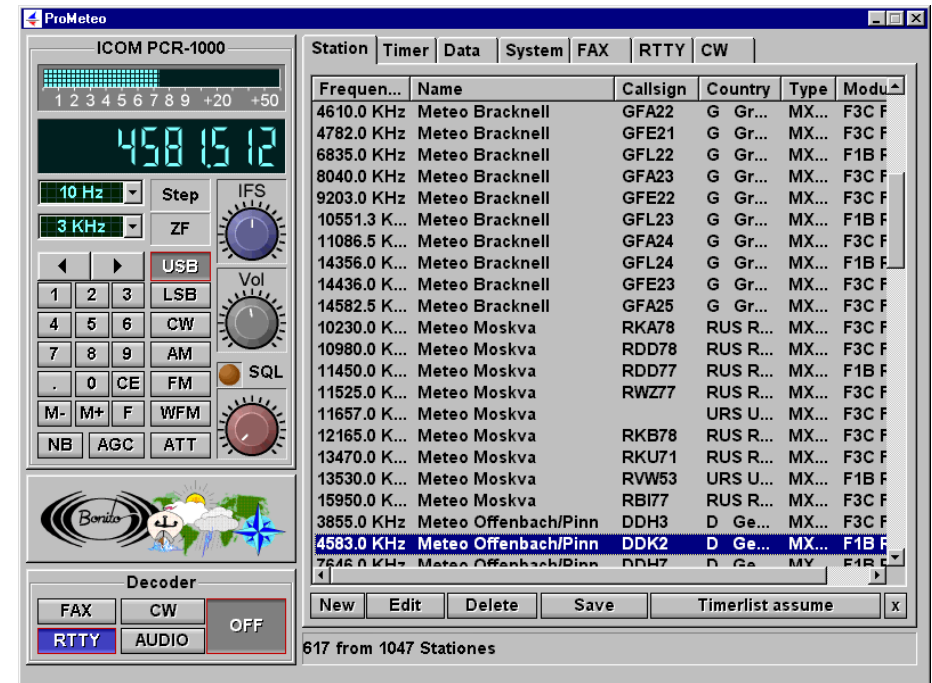


Is the timer not activated, the programme only can be operate manuel. Otherwise the receiving-options are blocked. The nautical terminal got a dialog-window for the operating-fields and one for the lists.

**Decoder:**
The receiving of RTTY, FAX and CW can be started manuel. With AUDIO the signal can be recorded. Choosing OUT, no background-programme disturb the running of the computer.

**Keyboard, receiver-Ccontroling**:
For the manuel frequency-controling of the IC-PCR1000 you got following functions:

The numberfield to adjust the frequencies. With F you set the frequency. The fields USB, LSB, CW, AM, FM, WFM are modes. By normally weather-receiving you choose USB with a band-widthe of 3KHz ZF. AM will be used for normal radio-channels on short-wave, here you adjust 6KHz ZF. WMF will be used with 50KHz ZF for UKW-radio on the frequencies 87 - 106 MHz. It`s called steps, with them you control the frequencies by using the fields > or <.

**CONTROLER:**

The controler will be control to the left with the left mouse-key and to the right with the right mouse-key. Press STRG too, then it works faster. The controler IF controls the SHIFT. SQL suppressed the noises, if no station is sending. VOL controls the volume, which never should be control to low, because no signal goes into the computer. It`s better to turn off the speaker under "SYSTEM".

The field NB is for supressing noises. AGC controls the signal, when there are interferences. The signal can be controls with the scale. Is a signal over 7, then you can use ATN. It controls the antenna, when the signal is to strong and the receiver can be overmodulate.

**TAB-TOOL WINDOW**

The right side of the window got fields, with them you can choose different modes. There are following windows:

| | |
|---|---|
| **Station** | ; controling with a frequency-list |
| **Timer** | ;Time/Freq.-list and time-controling |
| **Data** | ;watch incoming weather-messages |
| **System** | ;adjust system-parametres |
| **FAX** | ;adjust and control FAX-receiving |
| **RTTY** | ;adjust and control RTTY-receiving |
| **CW** | ;adjust and control CW-receiving |

## STATION AND FREQUENCY-MANAGER

This is a list, which contens the necessary dates to receive weather-messages. With a double-klick on the left frequency the station will be controled on the receiver and the corresponding receiving-programme with the necessary parametres will be turn on.

This window got following possibilities:

New   Edit   Delete   Save   Timerlist assume

You can edit new inputs or change or delete old ones. The whole list can be saved and you can copy an input into the timer-list for the timer. With X you can delete special dates of the list.

**New:**
a window appears with some inputs. It can be build up new dates, which is decribe in the next paragraph.

**Edit:**
To adjust dates in the right way you have to start the corresponding receiving-programme first and after adjust the frequency with receiver-control. After the parametre of the receiving-programme will be adjusted so, that there is a good receive.



Then you put in the station-name, the call-sign etc. After you choose the land, stations-type and modulation-type. Then you type in the frequency, which should be shown in the list. This don`t must be the frequency, which the radio is controling. The real controled frequency is minus mark and minus shift /2. It can be control a different frequency, if it was reading from the receiver-controling first.

**read from the receiver:** (pay attention here)
Here the dates will be read from the FAX or RTTY-parametre and from the receiver-control. There it will be read in the just adjusted frequency and by FAX the slant. The working-condition will be taken so how the dates are found momentary. If you save the whole list, the adjust-frequency and the slant are put in forever. This way you set up individual deviations from the adjust-frequency and may be a slant correction from the fax-stations. The slant from a fax-picture and the controled radio-frequency can`t be understand later, because this dates are unvisible.

**Delete:**

The selected Frequency will be deleted in the list.

**Save:**

The whole list can be saved. If you changed something in the list, it`s better to save them too.

**Timer:**

A selected input, will be take over into the timer-list. Change to time-manager, there you find the input.

### Lists- arrangement, selection und reducing:

If you put the mouse on the lines between the upper beam of the list, a cross appears. If you catch it now with the left mousekey and pull on the right or the left, you can determine the broad of the screen. If you click on the first three rubrics, the list will assort corresponding. Select the list with "STRG" (CTRL) and click simultaneous the desired line, then a multiple choosing is possible. Individuel selected lists reduce the quantity of the injure, which come in the frequency-list on the screen.

### Frequency-choosing:

If you selected a frequency-injure and touch the space-type only the frequency on the radio will be turn on. This you do, to watch, if something useful is on the frequency. The receiving-programme isn`t choose and not ready too. If yet, then it must be accidentally.

If you push the enter-type, set with a double-click on a list-injure then the frequency will be adjusted, the receiving-programme is reading to work and the necessary set of parametres for receiving is given. The receiving-programme is ready for work now.

### X = settle list:

Like described under "Edit and read from receiver" you can saved frequency-differences and a FAX-picture-slant too. If you want to have a "clean list", without individuel, unvisible inputs, you have to type the sign "$". then all inputs for frequencies and slants are killed. Only if you save the list now, this change will be saved. Otherwise you can test the problem now. May be the problem was only a senseless input. If it wasn`the problem leave the programme - <u>without saving</u>.

### TIME-MANAGER

The time-manager controls what and how you want to receive. If you press the field "timerlist assume" under "STATION" you get an input in the timerlist. You get a copy of the just selected frequency.

**Edit:**

Now you have to change the start- and stop-time, after the timerlist is working. You can get the function "change" also, when you set a double-click on an list-input.

**Active:**

The timer must be activatet to do everything what`s in the list. You have to push the field "active".

**Load and save:**

You can save the list with any name. So you get your own list for every usings. Therefore you can save a list. A list, which was activated by saving, will be activated after loading.

**Delete:**

Also you can remove an input of the list, by killing the input with this function. The screen in the lowest line shows the time in UTC. This is the time, on which the station applies and the timer is working. Pay attention, that your clock is setting right. Notice too, that you had choose the correct time-zone. If you got problems with incorrect summer-time changes read the appendix..

## MESSAGE-MANAGER
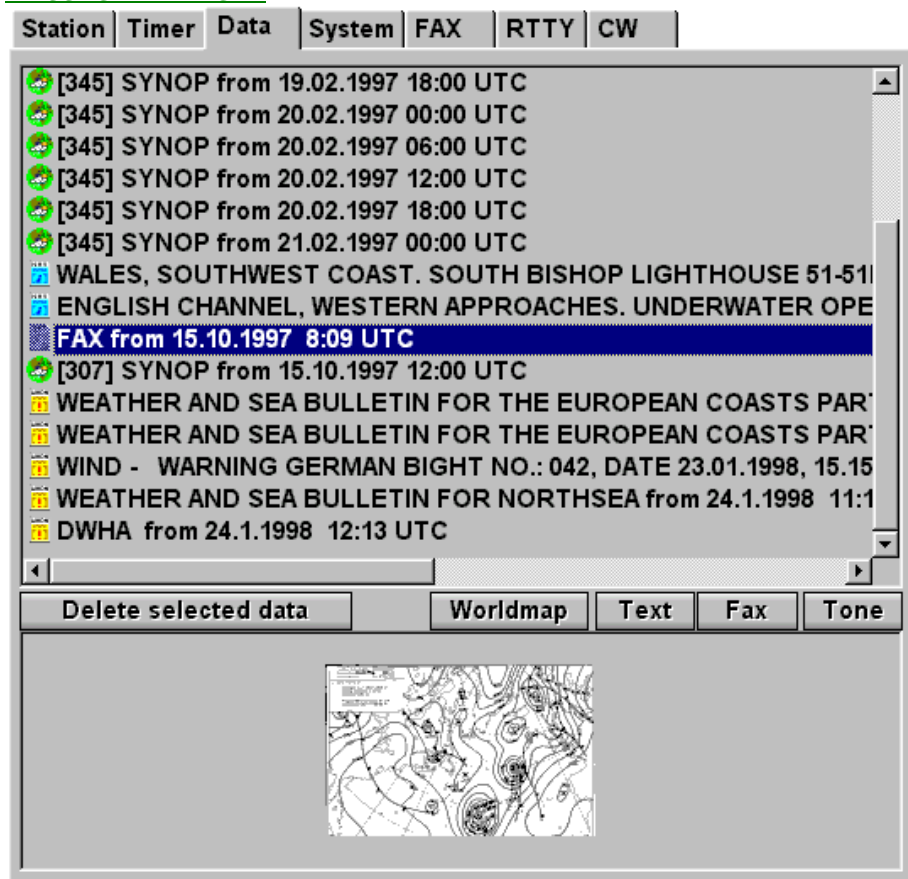


### VIEW: (also listen too)
Every message will be shown on the screen. With a double-click on the list-input the corresponding diagram-programme shows the message. If you click with the right mouse-key you get a preview in the lowest window.

### CHOOSE DIRECTLY
The dates will be load with the disc-requester. ( The different descriptions you`ll find on the following pages)

| | |
|---|---|
| **Tone** | ;inputs with the audio-icon will be make hearable |
| **Text** | ;you can read RTTY and NAVTEX-messages |
| **Picture** | ;FAX will be load for arrangements |

### WORLD-MAP = SYNOP
Weather-informations in 5`er number-groups will be received with RTTY.
With this field you can reach them directly.

**A little tip:**

If you got a bi-directional sound-card, you can take an audio-record for doing experiments or demonstrations as a tone-source for the receiving-programmes.

The reproduction of sounds demands, that in window-system under "record" from the volume-control the wave-function is turned on too.

**Delete marked dates:**
If you didn`t need a message after watching it, you can delete the message with the field "del.". Otherwise the inputs will be delete automatically after a time or not. This time is been determined in the system-adjustment-menue.

### SYSTEM-ADJUSTMENTS
By leaving the programme fundamentally an INIT-Data will be produced, which will be load again after reset. Different adjustments will be saved this way.
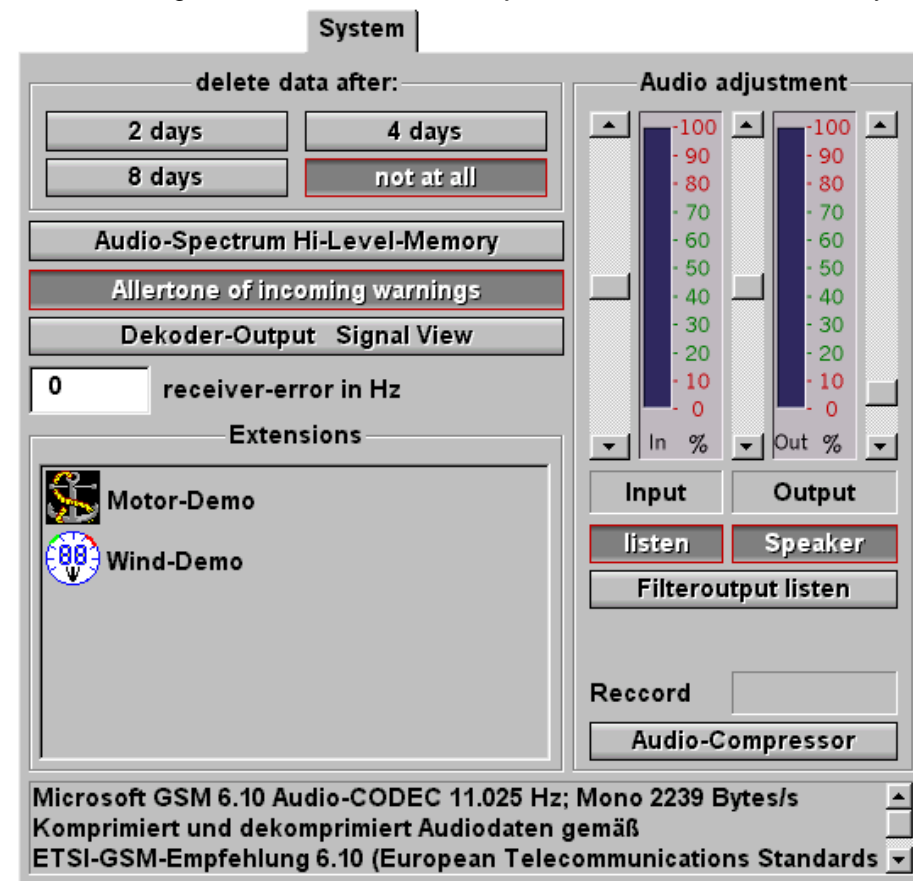
Sometimes you have deformed an using that way, that it would be better, to got a reset-function. Such a reset-function we didn`t make available, because it didn`t get every possibilities which are necessary. Here now a solution for it:

In the index \PROGRAMME\BONITO you find the init-data.
These dates always ends with INI. like     Prome.ini

If you delete these dates, then by starting the using the inputs for this init-data will be reset new on standard-worth. By delete normally don`t forget, that the init-data goes into the wastepaper-basket and from there it could be restored.

You can also try, to manipulate the init-data with text-programme by hand to correct some adjustments.

Important dates can be changed with the following **SYSTEM-**Menue.


**AUDIO:**
Normally you can reach this option with system-sound-volume-control. Here you try to reach the sound-driver. The system tries to find the components. But it didn`t work everytime. Here now a solution: Click with the right mouse-key on the controler, buttom or modulation-display. After a list with the different possibilities appears. In the appendix, page 31 - 34 you find some examples. Choose a component or try something until it works. Pay attention not everything is reachable and not every element is available. By note-books the soundcards aren`t bi-directional sometimes (simultaneous recording- and repeating-possibilities)

It`s important that the controler is adjust right, that no overmodulation (red area) can happend. By our receiver the volume always is controled, and it can be disturbable to hear the speaker the whole day. To turn off the tone use the switch "listening". Now only the receiving-signal is turned off. Other tones from he system are hearable. If you turn off the speaker, no tone comes out of the **Speaker** - no sound-system-message too !!

**Hear filtre-tones**
This is the option to make the signals more hearable. Don`t turn on this option by receiving, only if you want to listen to very low signals. If you don`t want to "listen", don`t turn on this option.

Basic condition of the sound card-adjustment is, the WAVE-output has to turn on. The correct adjustment is LINE-IN tone off and WAVE turn on. LINE-IN tone off, only if you want to listen to the filtre-output - otherwise LINE-IN tone on.

Pay attention, that the speaker is turn on too. Soundcards, which are not bi-directional didn`t give out mistake-messages, if the receiving-programme is working. A sound-card, which can work to both directions (bi-directional) is necessary, if you want to hear an AUDI-recording during the receiving-programme is working. A lot of note-books can`t do this.

**AUDIO-Reproducing**
Here you can reproduce tone-recordings. Such recordings will be recorded in the dialog-field of the receiver under Decoder-Audio. The selection Audio-compression give the possible compressions, which your system is able to do. We recommend GSM. Other types only have to choose, if you really know what to do.

The **DECODER-SIGNAL DISPLAY** shall help the profi to analyse the signal-quality.

**DATA-DELETE-AUTOMATC - delete data after:**
With this fields you determine the delete of messages after an appointed time, the bleeping by warnings and the frequency-correction of a receiver.

The option **Audio-Spectrum Hi-Level Memory** slows down the spectrum-displays, to perceive the point-peaks better.


CORRECT GENERELLY RECEIVER-DEVIATION
A lot of receiver got a difference between screen and actual frequency. For a safty work with an adjusted frequency-list an exactness of the frequency is necessary. If you notice, that a frequency always got the same difference, then here you injure the difference. (f. e. 30 or -100 Hz). After the receiver will add or deduct this difference on principle.

Frequencies, which were read in the frequency-list in "change" are always individuel frequency-adjustments and weren`t be allude from the general deviation-difference.

## RECEIVING AND ANTENNA

Everything is being attached by the quality of the receiving. Decisive is the antenna. But it`s not so difficult to build the best antenna. Take an exactly 6 metre simple wire and connect it with the core of a coaxial-wire. Then take a next 6 metre simple wire and connect it with the screen. Then tighten all horizontal like a T. 12 or 18 metres are a little bit better. Any other lenght for weather-frequencies are not avisable. The simple wire-antenna from BONITO is still the reference-antenna, which is been compared with others.

The result is:

*"Nobody offer us an antenna, which were better"*

It`s usual to use the stern-post like an antenna. There a different compromises, if you don`t can connect the wire on your boat. Activa-antenna used on board are very difficult to handle. They amplify the jammings more than the signal. We offer a special antenna, but we never say, that our antenna is better than a perfect tightend wire. Our antenna only is better than all other compromises, when a wire-antenna can`t be tightend.

The first try always should be started with a good receive. If you didn`t get a clear signal, you have to optimate the antenna or have to wait until the signal is become better. If you ignore this rule and you try it with a senseless signal it`s difficult to interpret the parts of adjustment and the function of it. But it doesn`t mean, it doesn`t work. Because a profi can get something from a senseless signal.

*How to adjust something, what you can`t see and hear ?*

If you had adjust a signal by good receiving-conditions perfectly, you can decode it by worth conditions too. Because the adjustment and the parametres are saved in the frequency-list and you can call them later. It`s not necessary to adjust again. In doing so we will see, what the decoder can do. In every case he is working well, because the decoder didn`t "hear" the jammings like you. The electronity filtered a lot. On the other hand the speaker is repeating everything like it comes in. And so there is something to "hear" but your ears can`t check, if there is a good signal or not.

## SIGNAL-ADJUSTMENT- WATH IS A USEFUL SIGNAL?

Before you adjust a signal it`s necessary to perceive the tone-signals. After you can start the receiving-programme. If you didn`t know the difference between morsing, fax, rtty etc. it`s useful to acquaint youself with the tone-demos (CW, FAX, RTTY etc) in the nautical terminal. If you got a bi-directionale sound-card you can use such signals as tone-sources for your frist tries.

A signal is being composed of, that there are different arts of tones (pitches), which will be interpret (decoded) different. The distance between the first and the last tone-condition you call band-width. There are a lot of different tones in the radio. One thing real decoded signals have common. If you have doubts, if there is a real and senseful signal, then there is no signal. Senseful signals always are very different to senseless signals. Now you only have to perceive which kind of signal it is: morsing, rtty or fax.

These things you will learn soon. Only by the different types of rtty it`s a little bit difficult. We only evaluate NAVTEX and RTTY. But there are a lot of types, which we didn`t evaluate, but the radio is still sending it. Therefore not every senseful signal is a useful signal. There are signals, which we are decoding correctly, but the letters are very senseless. Maybe it was an arabian, who was writing letters with a telex, which are very senseless in our latin alphabet.

If you receive correct synoptical number-codes, it can happen, that a user think, this are senseless dates.

To adjust a signal that way, that the receiving-programme works exactly now, you need a adjust-help. These adjust-helps shows, where the signal is and how jammed the surrounding is. The rtty-programme got two possibilities, the fax-programme got only one, which is the same like the rtty-adjust-helps.

## ADJUST-DISPLAY AND TUNING

 In the different programme-parts the necessary adjustment-helps appear. The adjustment-displays generally repeat the incomming tones of the radio, that you can watch the adjustment-conduction from the radio. These displays should help to make the adjustment transparent. By your first tries you only should turn the adjustment button of the radio to see, how everything works.

## FREQUENCY-SPECTRUM

This is a display, in which all tone-frequencies up to 2500 Hz will be marked from left to right. The high is according to more volume (amplitude). By doing the adjustment you can see how the amplitude is dependent on the pitch. Here is to say, that you always should try to find the pitch, which devoted the biggest amplitude. There are excact instructions by which pitch is adjusted right, but the practise is dependent on the filter-curves of the radio and they are not always so, they should be. The unfinished frequency-list always is a theoretical and isn`t adjusted to your individuel radio.
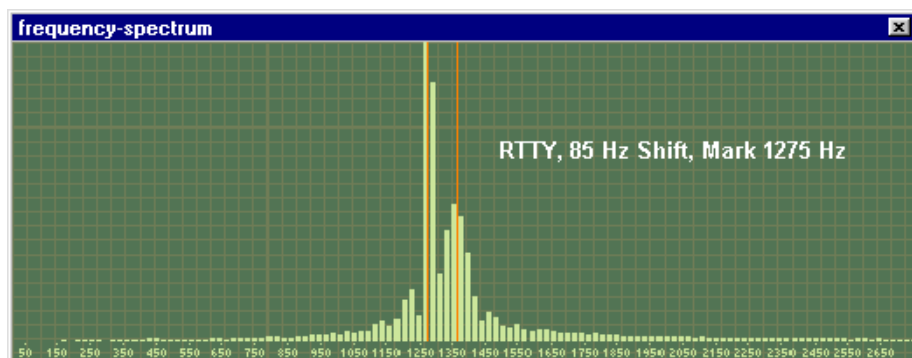


You should take care, that the signal exactly is between the red lines. The difference between the lines is being connected with the band-width (shift). The position on the scale is the pitch. The pitch is the amplitude. This picture is the reproduction of a rtty-signal with two different tones. One for mark and one for space. Both tones should be placed on the red line. By a fax-signal usually the band-width is bigger (the red lines have a bigger distance). Usually you only see one beam on the right red line. The adjustment-process will be explain in the respectively programme-sections.

## X/Y ADJUSTMENT-DISPLAY (ADJUSTMENT-CROSS)

On the page before is an example with an rtty-signal, which excact adjustment-possibilities here with an X/Y-display will be realized. This adjustment-help only will be used by rtty. First you have to take care that you are between the red lines with the shift. This you do with the frequency-spectrum. With an exactly adjustment after you try to build a cross. If it didn`t work, try to play with the shift. Is the shift exact, the beams in the cross are really right-angled. Now you have to watch and to take care, that the cross exactly is in raise.
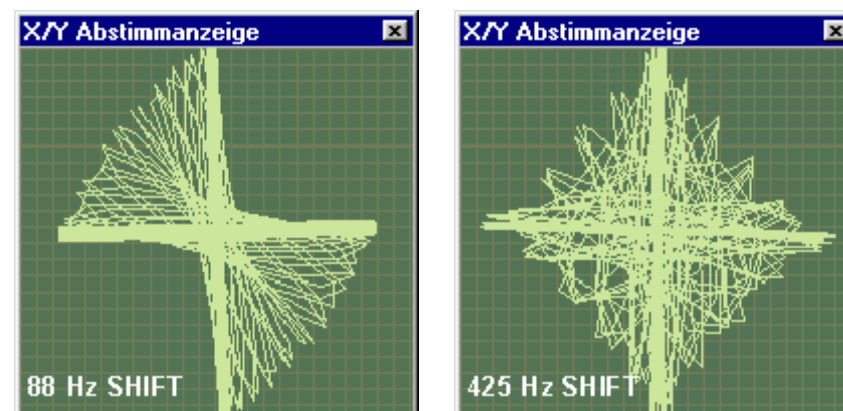


## SPEED-PROBLEMS OF THE ADJUSTMENT-DISPLAY

The adjustment-displays used the CPU very often. If you consider now, that the receiving-programme is working, a lot of windows are open and a lot of different things are working too, then very quickly a computer with low measure-frequency can`t work anymore. The only help now is:

### CTRL + ALT + DEL

Stop the task with rtty or fax and retain when and by what kind of doing you overtax your computer. In the future only turn on one adjustment-window. Use the CPU-option in the receiving-programme. This one shows, how wide you have overtax your computer and if you can risk to open a next window. BONITO-programmes are very active and shows what multitasking is and what it means to use multitasking and Pentium.

**P.S**. If you click with the mouse into the adjustmen-display, then it`s turn off or turn on.

RTTY

**Filter-Output**

**Audio-Spectrum**

| Pol | Stop | Shift + Mark |
|-----|------|--------------|
| Inv | 1 | 85 |
| LE | 1,5 | 170 |
| FI | 2 | 425 |
| | | 850 |

synchron

425

1275

| Baudot | synchron Baudot | Sitor-B |
|--------|-----------------|---------|
| Save | Font | Print |

**Baudrate**

| | |
|---|---|
| | 45 |
| | 50 |
| | 57 |
| | 75 |
| | 100 |
| | 110 |
| | 150 |
| 50 | 200 |

```
8/8 Stratocumulus (Sc) 600 m

Wind speed measured, 3.1 m/s, 6.0 knots from 330°
Horisontal sight distance on the ground: 5 km
Present weather:
light snowfall without pauses

NNNN

SCSC 003
FXGW44 EGRR 241500
STRONGWIND GALE STORMWARNINGS FOR GERMAN BIGHT
GALE - WARNING GERMAN BIGHT NO.:44, DATE 24.
```

In the text-window you always see the lowest line, which is writing live. If you want to read the unvisible text, you have to click into the text. If you want to go back to the lowest line, you have to click on the window-edge or on RTTY.

### SAVE TEXT
The whole text is in the text-memory. Here the received text will be inquire, if he got message-format and if need be saved as a message. Also you get the possibility to save a marked text-part.

### PRINT
Here you can mark and print the text.

### STOPBITS
By baudot there a only 1,5 stopbits. But it can happen, that a station is sending 2 stopbits. Therefore this adjustment-possibility. By sitor it`s not neccessary to adjust something, because this utility got no stopbits.

### FONTS
The text can get a different character and size. Choose an unproportional character (courier), only then the weather list become a good arrangement.

### RTTY-MODE
**Baudot:** This utility refers to the rtty-text and is an asynchrone mode. This type will be used by press- and weather-messages. Synop-messages will be send too.

**Sync. baudot:** You can assume, that the dates will be send from automatically machines. If there are interferences the programme proceed, that start- and stop-bits come to the expected position. This contribute too, that the result got less mistakes.

**Sitor-B:** This is an synchrone utility, which is build up different to baudot, but it`s using the logic of baudot. It got peculiarities, which are essential undisturbed. Sitor is been used by NAVTEX and always got 100 baud.

### ADJUST BAUTRATE
The speed of the different bits we call baudrate. The most used baudrates are nearly always 50 baud, sometimes it happens that a message is been sended with 75 baud (Meteo Bracknell). Seldom 100 baud will be used (Meteo Grengel). NAVTEX always got 100 baud, but this type is called Sitor-B.

### SHIFT+MARKFREQUENCY
Shift is the distance of both bleeping tones, which are signalize the bitcondition of rtty-bytes. They will be marked with two red lines in the frequency-analyser. The mark-frequency determine the position of both marks. 85 Hz Shift will be send from Meteo Offenbach 147,3. 170 Hz Shift will be used from NAVTEX. 425 Hz will be used from Meteo Offenbach on short-wave >3 Mhz . 850 Hz will be used from Meteo Moskau or Meteo Roma.

### POLARITY
If by good conditions the letters might be complete senseless, you should try, if the conditions of readable become better. NAVTEX always is sending invers. But there can be different things, why it`s unreadable. It might be, that the text got an erroneous sign and the decoder only is writing number and signs now. In such case you could try, if in LE-mode the letters become readable. FL you only take, when the reverse happend, namely synop-5èr-number-groups become letter-groups.

### TUNING
If you can hear a clear RTTY-signal, you can percept the shift too. Adjust the radio so, that both signal-amplitudes come exactly on the red lines or the adjustment-cross is standing exactly vertical upon (read page 15/16).

## RECEIVE WEATHERFAX
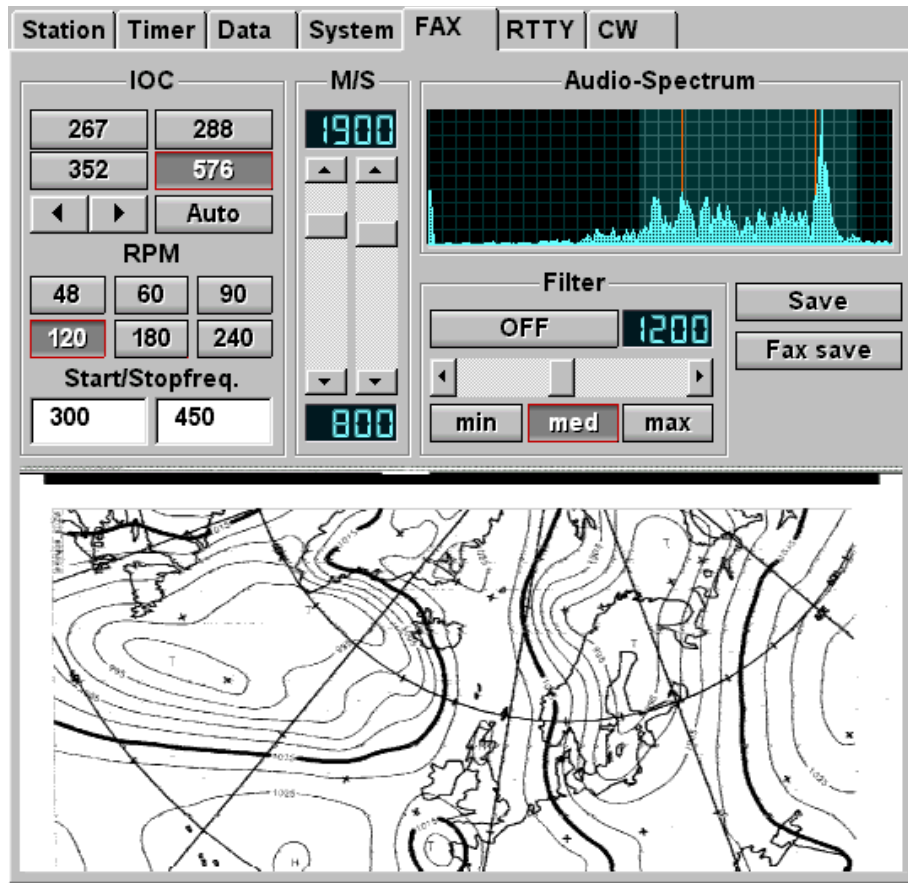


Such a window you see, when you activate the FAX-programm. You see the reduced overview-picture of the fax-receiving.

Click with the mouse into the faxpicture, then a bigger window will be opened.The screen now is 1:1. So you didn`t see the whole picture, if the window-size is smaller than the icon-resolution. The reproducing of 1:1 is necessary, to realize the smallest details by recording. You can hold the picture with the left mouse-key to turn to the left, the right, up or down.

### SAVE
If you activate this field, from this moment the picture will be recorded. Normally a picture will do this automatically by receiving the starttone from its own. But if you had turn on just in the middle of a fax-picture, you can activate the saving manuel. But it will be saved only from that moment you had turn on "saving". The next stopsignal will saved the momentary picture.

Not only the recording isn`t activated by starting the programme, the left screenmargine isn`t synchron too. Press the right mouse-key, then the picture will become left-synchron.

### SAVE FAX-BUFFER
If you want to save the fax-picture manuel, the whole picture-memory will be saved with this function. This picture can be revised and sized with fax-view subsequent.

### SLANT CORRECTION
Here you can adjust all parametres of a fax-picture and correct the slant of a fax-picture. Trying the first time the picture will come in in a slant. In this case you can equalize with both fields "<>" (with "Auto") the picture to the left or to the right. Press the small angel so long, until you see an effect. Then type so long, until the picture is running straight. After press "auto", with that you convert all moduls to this equalize. If you didn`t do that, you have to adjust every slant for every U/min and every modul yourself.

The frequency-list got an unvisible data-field, in which the slant-correction will be hold. Usually it`s on "ZERO". After the list is change in the FAX-MODE and the dates are load in with "READ RECEIVER" the slant-correction will be take and saved into the list. If there is a zero in the list-input for a fax-station the slant from the usual FAX-INIT-file will be used. If there were "reading" a slant-correction, then this is giving to the FAX-programme.

Not every Fax-station got an exactly progress of the picture-frequency. It might be, that a picture from a station is running in a slant. If you correct the slant now, then all pictures from all other stations will running in a slant.

What to do now? Correct the slant for this picture individuel and save it in the frequency-list under "Change and read receiver". Then search for a different fax-station and correct the slant exactly. With this, the FAX-INIT-file is on that worth, which normally station should be adjusted with, which got no individuel input for slant in the list.

### IOC
IOC are different picture-sizes, which can be there by normally fax-receiving. By our wanted weatherfaxes we regularly used the IOC 576, sometimes 288'er too.

| | |
|---|---|
| IOC 267 | ;directly receiving of Meteosat-pictures |
| IOC 288 | ;Small weathermap-IOCl, ca. 800 pixel width |
| IOC 352 | ;Press-pictures, ca 1100 pixelwidth |
| IOC 576 | ;Big weathermap-IOCl, ca 1800 pixel width |

## RPM

The number of revolutions of a fax is named with rpm. A normal weatherfax everytime used 120 rpm. Seawathermaps from Russia come in with different rpm like 60, 90 or 120. Otherones they didn`t use.

## SHIFT & CENTER

There a several reasons to slide the adjustment from the normally higher ton-area into a deeper tone-area, to didn`t get any interferences. That means, you slide both red lines from the frequency-spectrum-display horizontal on the scale.

## FILTER, BAND-WIDTH

The band-width is the distance, which constitute a signal from the first tone-frequency until to the last tone-frequency. That`s the distance between both red lines in the spectrum-display. The filter should have the same broad. But smaller or wider filter-adjustments will give improvements too. Otherwise you have to try, when and how a wrecked fax becomes better conditions.

## START/STOP-FREQUENCY

Start- and stop-frequencies are tones, which will be sended at the beginning and at the end of a picture. Usually there is 450 for start and 300 for stop. A 288'er IOC everytime comes with 675 Hz. The start-tone turn the programme on recording and the stop-tone would be save the picture.

## SPECTRUM-ANALYSER

This is the display to adjust the tone-frequency (see page 15 too). Using USB usually the fax-picture got more signal-beams on the right, which deflect nearly unvisible left to the end (left red line) of the band-width.To get clear, white pictures, the main-beam always will be before the red line. If there are interferences you can slide the center-frequency to the left or to the right, reduce the band-width or change the filter. To see what you do, you can turn on this window.
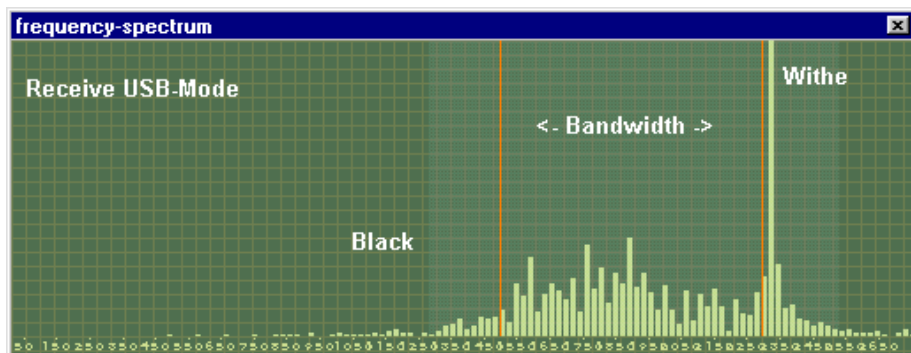


## VIEW OR REVISE WEATHERFAX
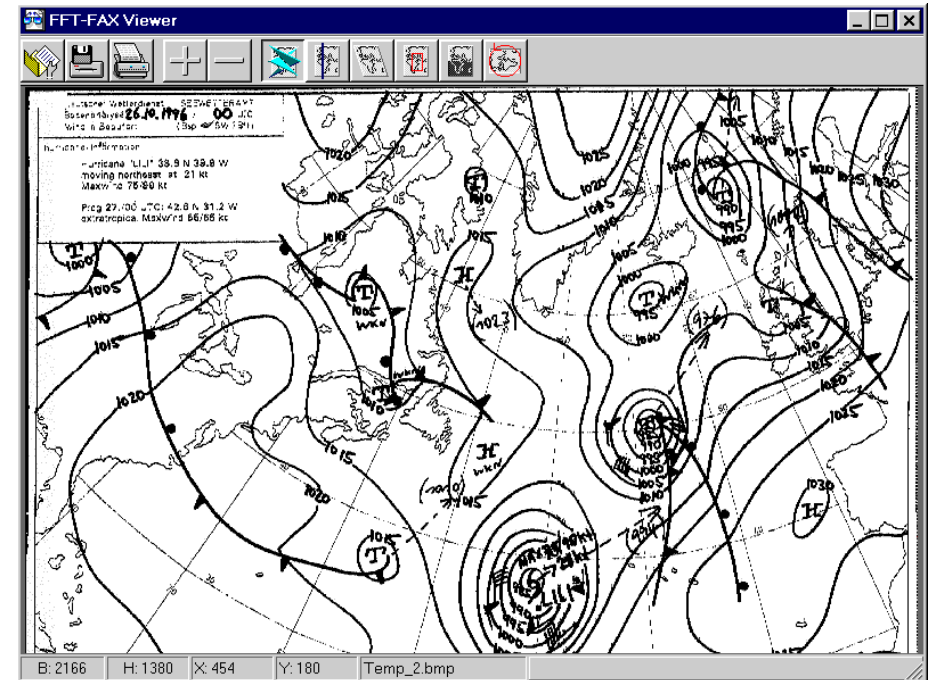


A received weathermap is a BMB-picture, which can be revised with the usual window-programmes. Sometimes you miss special tools, to change or revise the problems of a fax-receiving. With this programme now, you can turn, synchronize etc. fax-pictures much faster, because it`s special for our usings.

### FAX LOAD

With the usual disk-requester you load a picture. In the lower part of the disk-requester you find a field, in which received pictures will be shown, if they were selected in the list above. In the index these pictures are named BBM. If there are no preview-pictures , you have to turn off in windos-explorer under view, options the display-option "No MS-DOS options ....", because we need the display from such MS-DOS options (extensions)

### FAX SAVE AND PRINT

The picture can be saved or print. The usual windows appear without special attributes.

 **+/- ZOOM IN / OUT**

The picture can be zoom in or zoom out with plus or minus. In the general-view-mode it`s possible to choose a section with the mouse. That means too, only one time.

 **FAX-OVERVIEW AND EDIT PICTURE**

If this field is pressed down, then the whole picture is on the screen. In this mode the following fields on the right are activated and the picture can be manipulate like follows..

 **SYNCHRONIOZISE**

If you received a picture, which got the left margine in the center of the picture, use this function to synchronozise. Click the field and click on the place, where you want to have the left margine the next time.

 **SLANT-CORRECTION**

If a picture got a slant, use this function. After click on the picture-margine on the top and drwa a line along the slant of the picture. With a next click the picture will be corrected.

 **CUT A PICTURE**

Click on the field and draw a rectangle with the left mouse-key. The rectangle will be on the screen blinking, until you press the right mouse-key, to edit the picture. You can also slide the margins additional with the mouse. Click on the margine with the left mouse-key and draw with pressed key the blinking line to the desired position.

 **INVERT PICTURE**

With LSB you can receive a picture revers. This you do, to get a better picture-quality. The picture becomes negative and with this function you can invert the picture, to become white.

 **ROTATE PICTURE**

Is the picture placed wrong, you can rotate it, until it`s in the right position.
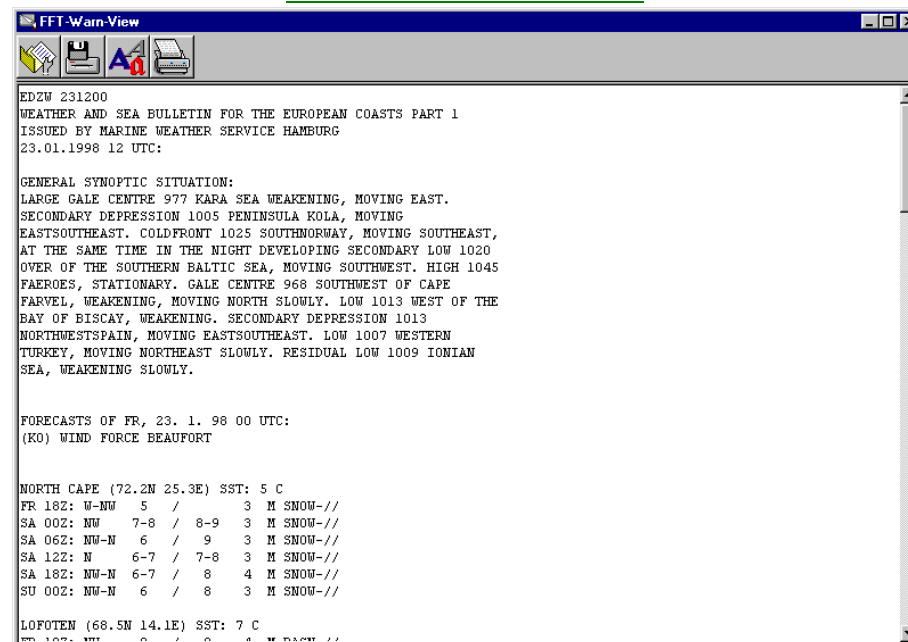
This is a simple programme to watch, print and save the received text-messages. Usually the text can be edit with any other programmes too.

**Mark text**
Mark with the pressed left mouse-key and draw down.

**Slide text**
Click on the marked text with the left mouse-key and slide it to the right position.

**Delete text**
With the key DEL a sign can be killed. If a text is been marked, the whole passage will be killed.

 **LOAD TEXT**

With a disk-requester a text will be load, which you can watch and edit.

 **SAVE AND PRINT**

The text can be saved or print. If a text is marked, only this text will be saved or print.

## VIEW SYNOP MESSAGES
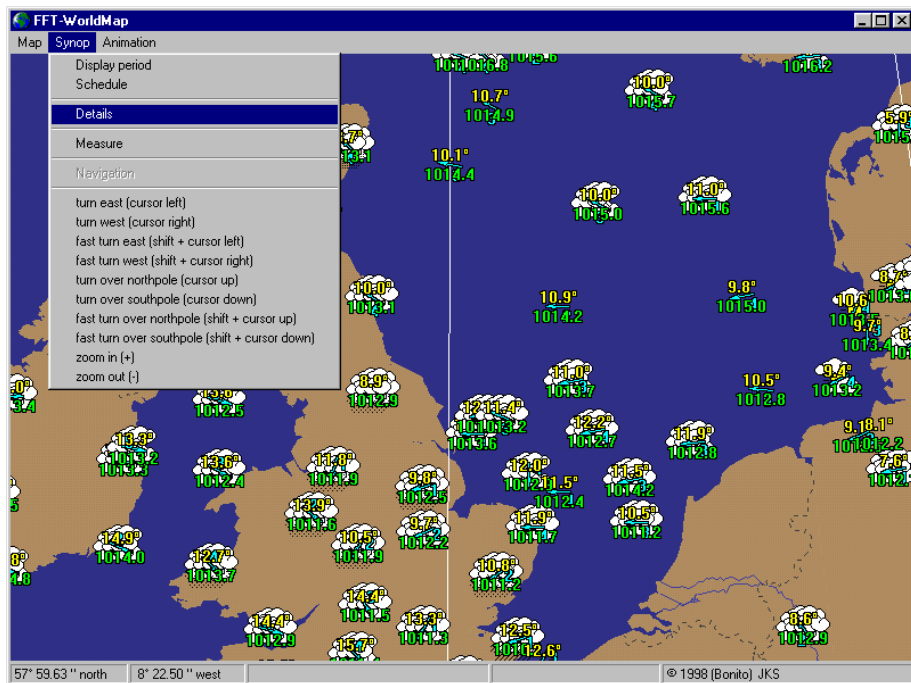


This programme shows received synop-dates as weather-symbols on a world-map. With a simple click on such symbols a window appears with the informations. Every new station-message will be shown, so it`s in the choosed period. The messages can be shown only from one term too. If you click with the right mouse-key, then you can kill a senseless message too.

The globe can be rotate with the cursor-keys left, right, above and down. If you press the shift-key then everything works faster. The keys plus and minus of the number-keys (Attention with notebooks) zoom in or zoom out the section. You can choose some functions with the menue-list.

## MAP

### WHOLE WORLD
The whole globe is on the screen

### RASTER / GRID
The geography should be shown with coordinate-grid or without.

### SYNOP-STATIONS
You can show the stationpoints or not.

### SYNOP-DATA
Maybe you want to see the synop-dates - or not

## DISPLAY-PERIODE
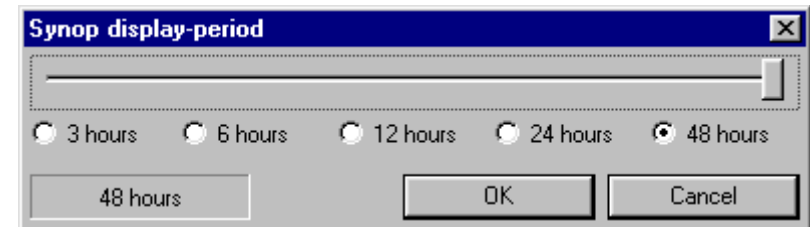


The station-messages usually will be shown from a determined period without choosing a term. This you can determine with this function.

## SCHEDULE
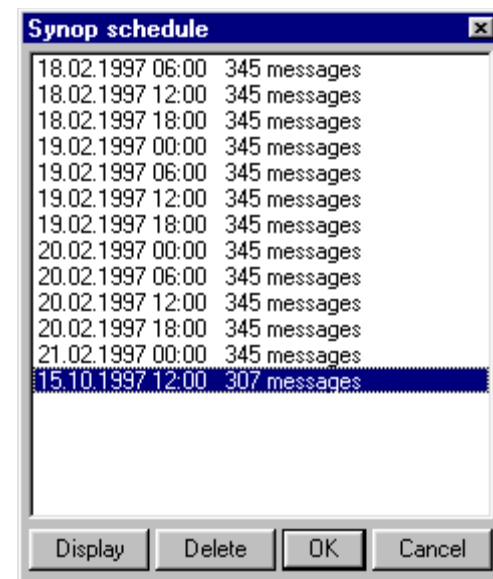


Everytime, when you receive synop-dates, these dates will be write into the memory and a term-list will be keep.

Station-messages even by choosing can be shown only from a choosed term. Several choosing with Strg (CTRL) is possible. This terms must be choosed by raster-date-views and animation.

You can kill a term or bring to view at once.

## SYMBOL VIEW
The dates will be shown als small picture-symbols. You can choose clouds, wind, pressure and temperature. Maybe you only want to see wind or clouds or temperature.

## VIEWDATA RASTERED

You can supply the picture with a wind- or pressure-raster, which calculated the average worth. Wind will be shown as a small arrow, pressure and temperature als color-raster. The combination from different views and raster is possible.
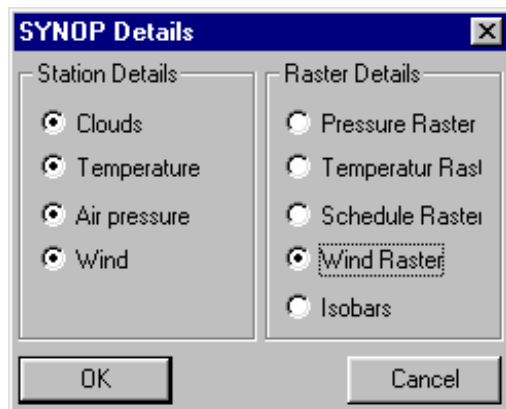


## DETAILS

The details can be shown mixed too. The schedule-raster applies to the left dates, like clouds, temperatures etc. and put a symbol-field over the present picture. In connection with a schedule-raster the given worth are average-worths.

## MEASURE

This is a help-function for calculating distances. Click on the edge and a line is created. Another click lays down the point and down in the picture the distance will be shown. If you click with the right mouse-key, the function is turned off.
.

## ANIMATION
### CREATE

As you seen by "raster dates" you can also create such picture as an animation, to realize the movements. The choosed terms determines, from which period the pictures will be create. If you select an area in the term-list with the pressed mouse-key, this pictures will be animated with this terms.

### PLAY

With this function you can see the created animation.

## RECEIVE CW-SIGNAL
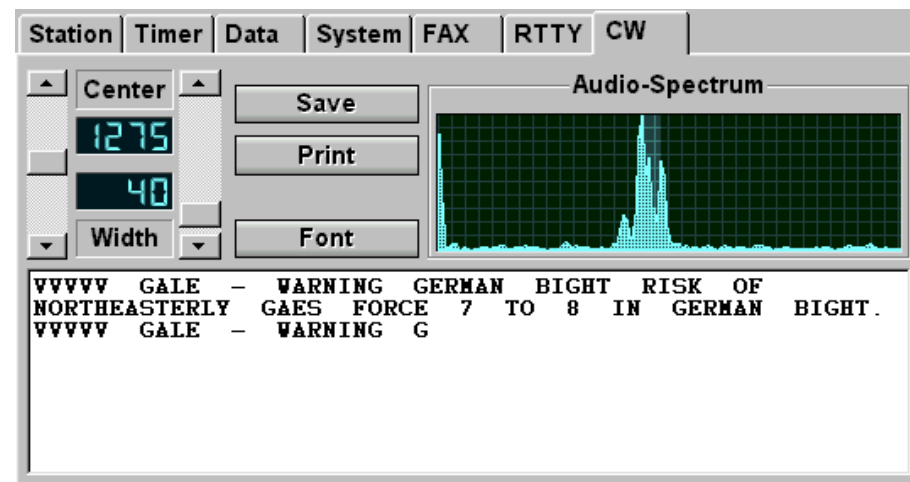


As by RTTY, it`s a receiving-programme for CW, because the adjustment-peculiarities by CW-signals are different.

## SAVE AND PRINTING

As usual you can print or save the received text. If a text is marked, only this one will be saved or printed.

## FONTS

You can change the font of the visible text

## ADJUST-DISPLAY

The signal must be adjusted with receiver-control so, that the signal-flank exactly is on the line. Then you have to determine in the frequency-list under "Change and read receiver" the frequency, with it the adjustment can be repeat very exactly.

**Center:**

With this slide you can change the red line horizontal. This determines the center-frequency, this only should be done in exception cases.

**Width**

The band-width of the filtre will be determined with this slide.

Options are different programmes, which were determine from a list. You search a file, named EXTENS.LST and call it. The inputs in this list will be create with an usual text-programme and got following inputs:

Programme, disk-drive, index, name
then seperated with one SPACE the name, which should be appear in the list.

**C:\PROGRAMME\BONITO\WIND.EXE Wind-Demo**
**C:\PROGRAMME\BONITO\ENGINE.EXE Motor-Demo**
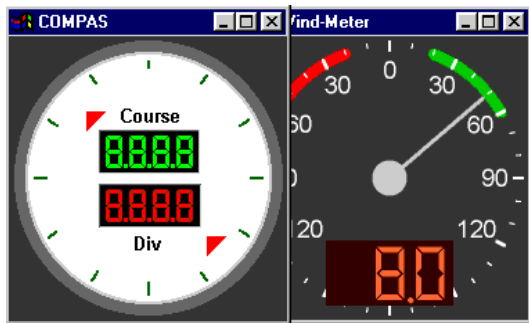


You also can click and hold with drag & drop an EXE-File, to draw it into a option-window. Now there are only demos in this list. This only should show, what you are able to do. The instrumental-displays for your tools will be delivered from several producer. Ask your dealer for BONITO-compatible instrumental-drivers. You can get a lot of different BONITO-compatible programmes for sea-maps,speed, deep, GPS-waypoint, radar etc. Soon we will offer you a chart-programme for nautical navigation.
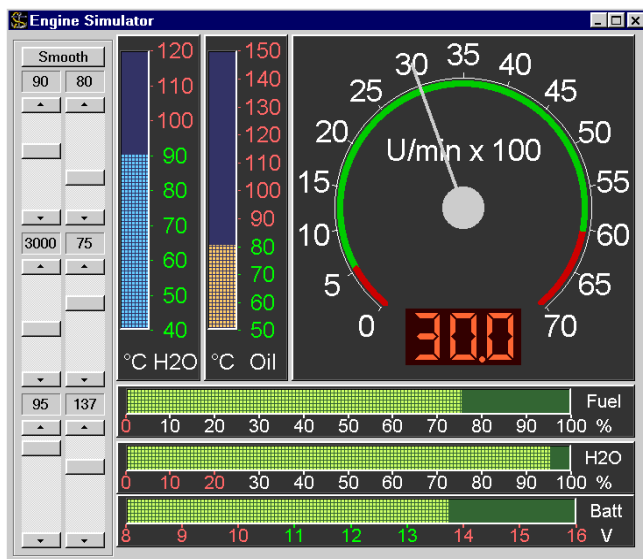
### SUMMERTIME - ADJUSTMENT PROLEMS

Older window-versions got problems with the summertime The changing-date isn`t correct - it change to early to wintertime. So the time changed in september, but it has to change in october. So you got problems with an incorrect time-manager. The right solution is a windows 95 update. But there is another solution too:

Choose **START** and Programm direct running.
Type REGEDIT
   HKEY_LOCAL_MASCHINE,
   SYSTEM,
   CurretControlSet,
   control,
   TimeZoneInformation.

Then click on Standartstart change the worth 09 to 0A. The small picture contents a correct adjustment.

-- **00 00 0a 00 00 00 05 00 03 00 00 00 00 00 00** --

## Window 1 (top-left)

**Audio-Mischer Komponenten** ✕

```
⊞ MIXERLINE_COMPONENTTYPE_DST_SPEAKERS (Master Ausgang [Master]) ID:-65536
⊟ MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Wave Eingang [WaveIn]) ID:-65535
      MIXERCONTROL_CONTROLTYPE_VOLUME (Master Lautstärke [Master]) ID:2050
      MIXERCONTROL_CONTROLTYPE_PEAKMETER (VU-Anzeige [VU-Anz.]) ID:2051
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_WAVEOUT (Wave [Wave]) ID:1
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_SYNTHESIZER (Synth [Synth]) ID:65537
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_COMPACTDISC (CD [CD]) ID:131073
   ⊟ MIXERLINE_COMPONENTTYPE_SRC_AUXILIARY (Eingangs Leitung [EingLeitung]) ID:1
         MIXERCONTROL_CONTROLTYPE_VOLUME (Aux  Lautstärke [Aux 1]) ID:2066
         MIXERCONTROL_CONTROLTYPE_MUTE (Null [Null]) ID:2069
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_MICROPHONE (Mikrophon [Mikr]) ID:262145
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_DIGITAL (Seriell In [Ser.]) ID:327681
   MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Neben-Eingang [Neben-Ein]) ID:-65534
```

**VOLUME LINE-IN**

Einstellung übernehmen — Einstellung speichern — Abbruch

## Window 2 (top-right)

**Audio-Mischer Komponenten** ✕

```
⊞ MIXERLINE_COMPONENTTYPE_DST_SPEAKERS (Master Ausgang [Master]) ID:-65536
⊟ MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Wave Eingang [WaveIn]) ID:-65535
      MIXERCONTROL_CONTROLTYPE_VOLUME (Master Lautstärke [Master]) ID:2050
      MIXERCONTROL_CONTROLTYPE_PEAKMETER (VU-Anzeige [VU-Anz.]) ID:2051
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_WAVEOUT (Wave [Wave]) ID:1
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_SYNTHESIZER (Synth [Synth]) ID:65537
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_COMPACTDISC (CD [CD]) ID:131073
   ⊟ MIXERLINE_COMPONENTTYPE_SRC_AUXILIARY (Eingangs Leitung [EingLeitung]) ID:1
         MIXERCONTROL_CONTROLTYPE_VOLUME (Aux  Lautstärke [Aux 1]) ID:2066
         MIXERCONTROL_CONTROLTYPE_MUTE (Null [Null]) ID:2069
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_MICROPHONE (Mikrophon [Mikr]) ID:262145
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_DIGITAL (Seriell In [Ser.]) ID:327681
   MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Neben-Eingang [Neben-Ein]) ID:-65534
```

**MUTE LINE-IN**

Einstellung übernehmen — Einstellung speichern — Abbruch

## Window 3 (bottom-left)

**Audio-Mischer Komponenten** ✕

```
⊞ MIXERLINE_COMPONENTTYPE_DST_SPEAKERS (Master Ausgang [Master]) ID:-65536
⊟ MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Wave Eingang [WaveIn]) ID:-65535
      MIXERCONTROL_CONTROLTYPE_VOLUME (Master Lautstärke [Master]) ID:2050
      MIXERCONTROL_CONTROLTYPE_PEAKMETER (VU-Anzeige [VU-Anz.]) ID:2051
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_WAVEOUT (Wave [Wave]) ID:1
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_SYNTHESIZER (Synth [Synth]) ID:65537
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_COMPACTDISC (CD [CD]) ID:131073
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_AUXILIARY (Eingangs Leitung [EingLeitung]) ID:1
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_MICROPHONE (Mikrophon [Mikr]) ID:262145
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_DIGITAL (Seriell In [Ser.]) ID:327681
   MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Neben-Eingang [Neben-Ein]) ID:-65534
```

**PEAKMETER LINE-IN**

Einstellung übernehmen — Einstellung speichern — Abbruch

## Window 4 (bottom-right)

**Audio-Mischer Komponenten** ✕

```
⊟ MIXERLINE_COMPONENTTYPE_DST_SPEAKERS (Master Ausgang [Master]) ID:-65536
      MIXERCONTROL_CONTROLTYPE_VOLUME (System Laut. [System LS]) ID:2048
      MIXERCONTROL_CONTROLTYPE_MUTE (Wiedergabe Null [Null]) ID:2049
      MIXERCONTROL_CONTROLTYPE_ONOFF (PC-Lautspr. Null [MonoOut Null]) ID:2084
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_WAVEOUT (Wave [Wave]) ID:0
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_SYNTHESIZER (Synth [Synth]) ID:65536
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_COMPACTDISC (CD [CD]) ID:131072
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_AUXILIARY (Eingangs Leitung [EingLeitung]) ID:1
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_MICROPHONE (Mikrophon [Mikr]) ID:262144
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_PCSPEAKER (PC-Lautsprecher [PC-Lautspr]) ID:3
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_DIGITAL (SRS [SRS]) ID:393216
   ⊞ MIXERLINE_COMPONENTTYPE_SRC_DIGITAL (Seriell In [Ser.]) ID:458752
⊞ MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Wave Eingang [WaveIn]) ID:-65535
   MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Neben-Eingang [Neben-Ein]) ID:-65534
```

**MUTE SPEAKER**

Einstellung übernehmen — Einstellung speichern — Abbruch

## Audio-Mischer Komponenten

```
MIXERLINE_COMPONENTTYPE_DST_SPEAKERS (Master Ausgang [Master]) ID:-65536
    MIXERCONTROL_CONTROLTYPE_VOLUME (System Laut. [System LS]) ID:2048
    MIXERCONTROL_CONTROLTYPE_MUTE (Wiedergabe Null [Null]) ID:2049
    MIXERCONTROL_CONTROLTYPE_ONOFF (PC-Lautspr. Null [MonoOut Null]) ID:2084
    MIXERLINE_COMPONENTTYPE_SRC_WAVEOUT (Wave [Wave]) ID:0
        MIXERCONTROL_CONTROLTYPE_VOLUME (SRC Lautstärke [SRC-LS]) ID:2054
        MIXERCONTROL_CONTROLTYPE_PEAKMETER (VU-Anzeige [VU-Anz.]) ID:2051
        MIXERCONTROL_CONTROLTYPE_MUTE (Null []) ID:2057
    MIXERLINE_COMPONENTTYPE_SRC_SYNTHESIZER (Synth [Synth]) ID:65536
    MIXERLINE_COMPONENTTYPE_SRC_COMPACTDISC (CD [CD]) ID:131072
    MIXERLINE_COMPONENTTYPE_SRC_AUXILIARY (Eingangs Leitung [EingLeitung]) ID:1
    MIXERLINE_COMPONENTTYPE_SRC_MICROPHONE (Mikrophon [Mikr]) ID:262144
    MIXERLINE_COMPONENTTYPE_SRC_PCSPEAKER (PC-Lautsprecher [PC-Lautspr]) ID:3
    MIXERLINE_COMPONENTTYPE_SRC_DIGITAL (SRS [SRS]) ID:393216
    MIXERLINE_COMPONENTTYPE_SRC_DIGITAL (Seriell In [Ser.]) ID:458752
MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Wave Eingang [WaveIn]) ID:-65535
```

**PEAKMETER WAVE-OUT**

Einstellung übernehmen    Einstellung speichern    Abbruch

## Audio-Mischer Komponenten

```
MIXERLINE_COMPONENTTYPE_DST_SPEAKERS (Master Ausgang [Master]) ID:-65536
    MIXERCONTROL_CONTROLTYPE_VOLUME (System Laut. [System LS]) ID:2048
    MIXERCONTROL_CONTROLTYPE_MUTE (Wiedergabe Null [Null]) ID:2049
    MIXERCONTROL_CONTROLTYPE_ONOFF (PC-Lautspr. Null [MonoOut Null]) ID:2084
    MIXERLINE_COMPONENTTYPE_SRC_WAVEOUT (Wave [Wave]) ID:0
        MIXERCONTROL_CONTROLTYPE_VOLUME (SRC Lautstärke [SRC-LS]) ID:2054
        MIXERCONTROL_CONTROLTYPE_MUTE (Null []) ID:2057
    MIXERLINE_COMPONENTTYPE_SRC_SYNTHESIZER (Synth [Synth]) ID:65536
    MIXERLINE_COMPONENTTYPE_SRC_COMPACTDISC (CD [CD]) ID:131072
    MIXERLINE_COMPONENTTYPE_SRC_AUXILIARY (Eingangs Leitung [EingLeitung]) ID:1
    MIXERLINE_COMPONENTTYPE_SRC_MICROPHONE (Mikrophon [Mikr]) ID:262144
    MIXERLINE_COMPONENTTYPE_SRC_PCSPEAKER (PC-Lautsprecher [PC-Lautspr]) ID:3
    MIXERLINE_COMPONENTTYPE_SRC_DIGITAL (SRS [SRS]) ID:393216
    MIXERLINE_COMPONENTTYPE_SRC_DIGITAL (Seriell In [Ser.]) ID:458752
MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Wave Eingang [WaveIn]) ID:-65535
MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Neben-Eingang [Neben-Ein]) ID:-65534
```

**VOLUME WAVE-OUT**

Einstellung übernehmen    Einstellung speichern    Abbruch

## Audio-Mischer Komponenten

```
MIXERLINE_COMPONENTTYPE_DST_SPEAKERS (Master Ausgang [Master]) ID:-65536
    MIXERCONTROL_CONTROLTYPE_VOLUME (System Laut. [System LS]) ID:2048
    MIXERCONTROL_CONTROLTYPE_MUTE (Wiedergabe Null [Null]) ID:2049
    MIXERCONTROL_CONTROLTYPE_ONOFF (PC-Lautspr. Null [MonoOut Null]) ID:2084
    MIXERLINE_COMPONENTTYPE_SRC_WAVEOUT (Wave [Wave]) ID:0
    MIXERLINE_COMPONENTTYPE_SRC_SYNTHESIZER (Synth [Synth]) ID:65536
    MIXERLINE_COMPONENTTYPE_SRC_COMPACTDISC (CD [CD]) ID:131072
    MIXERLINE_COMPONENTTYPE_SRC_AUXILIARY (Eingangs Leitung [EingLeitung]) ID:1
    MIXERLINE_COMPONENTTYPE_SRC_MICROPHONE (Mikrophon [Mikr]) ID:262144
    MIXERLINE_COMPONENTTYPE_SRC_PCSPEAKER (PC-Lautsprecher [PC-Lautspr]) ID:3
    MIXERLINE_COMPONENTTYPE_SRC_DIGITAL (SRS [SRS]) ID:393216
    MIXERLINE_COMPONENTTYPE_SRC_DIGITAL (Seriell In [Ser.]) ID:458752
MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Wave Eingang [WaveIn]) ID:-65535
MIXERLINE_COMPONENTTYPE_DST_WAVEIN (Neben-Eingang [Neben-Ein]) ID:-65534
```

**VOLUME SPEAKER**

Einstellung übernehmen    Einstellung speichern    Abbruch

**PEAKMETER LINE-IN**   **PEAKMETER WAVE-OUT**

Audio adjustment

In %    Out %

Input    Output

listen    Speaker

**VOLUME LINE-IN**

**VOLUME WAVE-OUT**

**VOLUME SPEAKER**