

Dial-O-Mat

COLLABORATORS

	<i>TITLE :</i> Dial-O-Mat		
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Chapter 1

Dial-O-Mat

1.1 Dial-O-Mat user guide

Documentation for the Dial-O-Mat:

PLEASE READ THIS MANUAL OR YOU CANNOT USE ALL FEATURES! THERE ARE MORE THAN YOU WOULD IMAGINE!

Sorry for this bad and short instruction, but i really did not like to write that. WHO WANTS TO WRITE A COOL DOC???

Wanted: BETATESTER for testing all functions with this documentation.

NEW STUFF & Bugs

Copyright and Release

Intruduction

Archiv

Installation

the setup

Pulse and Hook controll

HIFI sound

Main Window

Setting Window

Timer Window

Scanner Window

Send String Window

Voice Scanner Window

Spectrum Analyser Window

Hotkeys

Arexx Commands

Quit and Iconify

If you like to send some bug reports or Ideas, write to

jolly@in-net.de

Also for new release look at

<http://jolly.in-net.de/>
or <ftp://jolly.in-net.de/>

1.2 System Conformity Bugs

Many things are still not system conform.

CHECK OUT THE NEW SPECTRUM ANALYSER!!

The program was developed under the guidelines of C*mmodore.
Only a few routines are not system conform:

The modem will be accessed by directly writing the transmit data to the serial register. The DTR & DSR will be set by poking into the CIA register. This ist usefull, because it will always work togeter with any other terminal program that uses the serial.device. The baudrate is defined by the last access to the serial.device. If no terminal program has run before, the rate ist defined by the preferences.

The pulse access to the serial port is also directly like the sound playback.

DO NOT RUN ENFORCER OR EQUIVALENT WHILE SAMPLING, THIS WILL PREVENT THE IRQ VECTOR FROM WRITING TO IT.

Try to use interlaced screen for better voice quality (i don't know why).

Fixed bugs and improvements:

Version 6.0

- the sample routine on voice-scanner exchanged with a better quality irq-sampling routine
- oversampling on playing and recording (irq-sampling routine)
- the irq-vector base register will be read before changing the irq
- some gui work
- 'write config' didn't work (the requester still came)

- On menu refresh were some long read from address 0.
- pinterport is configured for left or right sample input
- dialing through device is supported yet

Version 6.1 (no release)

- delay on non pulsing digits while pulse dialing. (for delay, use ',')
- new option for 0-99 pulses.
- send hangup string / DTR/hookflash works now on all modes
- you can also output the digits and frequencies as text for debugging
- tones with length 0 will be played correctly
- make dynamic number memory allocation
- sine on normal 4 channel mode will be played rectangular over 1333.3hz
- rectangular for hifi (from 444-3999hz)
- shift+key plays tones (numeric keypad) as long as the key is pressed
- checking preferences version
- overworked the exit routine

Version 6.2

- overworked prefrence structure
- for each setting, you can select an own setup
- more numbers in scanner and bigger window

Version 6.3

- a spectrum analyser (as show at the CCC congress in 1996)
- a adress window for each phone number
- width of digit list changed (no more number missing on F0-F9)

Bugs and Todo:

- autoscoll flag is not set correctly (have not tested yet)
- improve listen function (no system activity while listening)
- not all rexx commands will be supported
- no noise on hifisound
- no alphabetical sort on voice print
- no view unscanned on voice window
- no arexx call for each entry while scanning
- only p-4 swich can be selected
- no check if any other programm messed with the irq-vector
- when open on wb is selected, screen opens on front
- make left/right/both usage on hifi output (now it's always both!)
- alloc resources of audio, joystic and printer port
- make unlimited list structure for settings and numbers

New Functions, that might be done:

- make CX for iconify
 - no interruption while dialing pulse or tone
 - cypher prefs
 - guard tone on / tone off
 - play to disk (instead of output)
 - make samples iff
 - adpcm option for all save and load samples
 - phase check on hifi tones
 - make auto dialer
 - invoke term/ncomm
 - toccata, isdn, zyxel and midi is not supported
-

Please send any other bug reports.

1.3 Copyright and Release

You can find the latest release at:

`http://jolly.in-net.de/`
or `ftp://jolly.in-net.de/`

This dialer can be copied within its original archive with no additions or removes! Copyright 1993/1994/1995/1996 Jolly Roger.

If you like to send some bug reports or Ideas, write to

`jolly@in-net.de`

Thank to these people, who helped with ideas:

Klaus 'Professor Practical'
Icho Tolot 'Mr. Mathematics'
TRAX 'Mr. Troubble' and 'Mr. Contacts'

1.4 Introduction

DO NOT USE THIS DIALER FOR THE ILLEGAL STUFF IT WAS MADE FOR;-).
I just say this, because {ich mache damit keine Anstiftung zu Straftaten, ich bin sogar nett und will euch davon abhalten}.

Why should you use this dialer?

The most dialer are not system conform and crash (this one might be too). Some of them open on an own screen and others do not play eight tones at a time and do not even have some of the funktions mine has.

The only reason not to use this dialer, is because of requiering OS 2.0 or higher. But if you use 1.3.....&%ø¶£,ç°\textdegree{}

You just need any Amiga to run. If you have a Draco®, you can also use Toccata®. Draco and Toccata are trademarks of MacroSystems.

I suggest to user Cycle-To-Menu for the cycle gadgets. You can find it throughout the aminet.

The Dial-O-Mat is one of the most system compatible. It offers a large variety of funktions. Here are some:

- * this dialer replaces every phonebook of any programm
- * phonenumbers are setting, local and global independent
no more scripts in the phonebook like "*efga02125551212c"
- * up to 26 tones or special tones

- * digits can be made of a defined tone sequence
- * options for rectangle, sine, noise tones
- * settings separat saveable
- * 20 phonebook seperations
- * full modem controll with direct access to the serial port even while any other programm is using the serial.device
- * puls and tone for manual, semiautomatic and automatic dialing with pulse or tone.
- * dialup, global string, local string and park string for each setting (no more hotkeys on terminals to dialup)
- * a timer and a 2-mode-scanner will help you while testing and searching codes.
- * all numbers can be dialed directly with the modem
- * arexx support
- * a voice scanner to scann a list of phone numbers or codes or whatever
- * a realtime spectrum analyser with up to 10 channels
- * more..

1.5 The Archiv

This Package contains:

```
beavis&butthead the critics by them
Dial-O-Mat(.info)the main program (with 1:1 icon)
Dial-O-Mat.guide this documentation
libs/           the required asl-libraries for OS 2.x and higher
settings/      example settings for CCITT #5, DTMF....
```

1.6 Installing

To install the dialer, just copy the file "Dial-O-Mat" into any directory and all drawer contents into its right place. The Preferences will be saved and loaded as default "D:Dial-O-Mat.PRE". To start, you don't need a preference file. It will be created, when you write the prefs the first time. Be sure to assign D: or insert a prefs disk with D as volume name. You also can assign D: onto a crypsted device.

To run the dialer you need Kick 2.0 or higher and a front screen with 640*200 minimum to open its window. Also you need asl.library with version 38 or higher. The librariy is included in the package. If you do not have the asl.library V38 or higher, copy it into your libs: dir.

You can start the dialer by clicking on its icon. After short, the main window will open on the front screen.

Or you start it from the shell. Note that the dialer will not have its own task. So start it with "run dial-o-mat".

For setting up the dialer, refer to the setup.

1.7 setup

The first thing to do is to set up the dialer for your system. It will setup the dialer modes and dialup modes. For example, you can access the serial port by hardware, even while any other program is using the serial device. The program will directly access to the serial port without going through a device. The baud rate will be the same as the rate of your terminal. If there is no program accessing the serial device, the speed will be as defined in Preferences of Workbench.

After starting the dialer, go into the menu and select "Config/Default setup".

The setup window defines the default setup. You can also define a specific setup for each setting (see later).

Enter at "Pickup" the command to go off hook with your modem without connecting. This string will be sent only when the "PIC UP" button was pressed on the main screen. The default is "ath1".

Enter at "Hangup" the command to go on hook with your modem. If you enter "ath0" the modem will go on hook also, but not during a connect. This string will be sent only when the "HANGUP" button was pressed on the main screen. the default is "ath0"

Enter at "Originate" the command to wait for a carrier. This command will be sent only when the "Origin." button on the main window was pressed. The default is "atd".

Enter at "Answer" the command to send a carrier. This command will be sent only when the "Answer" button on the main window was pressed. The default is "ata".

Enter at "Dial Glob" the string to dial global from your setting. This is used to dial directly when the "Call Direct" button on the main window was pressed. For germany a recommend string would be "atdp00". So the computer will dial atdp00+cc+number. This string will only be used if your country code is different to the countrycode of the phonenumber when dialing directly. The default is "atdp00". If you use a pulse or a tone dialing (see later), you just enter "00".

The "Dial Loc." button is quite the same as the global one. If a phonenumber will be dialed directly, which is in the same country as you are, the dialer will use this prefix to call inside your setting. The default is here "atdp0".

The "Dial Area" button is also quite the same as the other two above. This is the dialup string for a number in your local area. Or any other number, where no country code is defined. The default is "atdp".

The next two gadgets contain the country code and area code you are dialing from. Please enter the area code or city code ("CC") without prefix for area access dialing. Just enter the area code as somebody would dial after dialing the your country code from another country. The defaults are "49" for Germany and "4841" as a city code where I live. DO NOT ADD DIGITS like space or other than numbers.

On the "Hangup" gadget you can select the hangup type to use. "Send Hangup" will send whatever set in the hangupstring to the selected dialer. "DTR/Hookflash" will release the DTR line or will hangup the relay at the printerport.

With "Dialer" you select between serial hack, tone, joy port 2, joy + tone, serial device, text and no dialer. On serial hack, you can just dial with the modem, even if any other program has opened the serial device. The hack routine will directly access the serial port. But until now there is no problem with "serial.device" and "BaudBandit.device". When joy port 2 is selected, the dialer will send pulse on the button pin. Low curent means the phone is off hook. For pulse refer to Pulse and Hook controll " link "pulse"} On text mode, the dialed number will be outputted to standard io. Use it for debugging.

"Wait" defines the time from picking up until start dialing, when joy port 2 is used. "Loose" defines the hangup time to get a new line or the DTR delay. Define "Break" and "Make", if you dial pulse. "Break" defines the offhook time and "Make" the delay for one pulse. "Delay" defines the space between two digits, for tone and pulse. "Duration" defines the digit length if tone is selected. "Volume" defines the volume in % for the tone digits.

The folowing table shows some examples to define:

	Wait	Loose	Break	Make	Vol.	Dur.	Delay
Modem+Hangup	-	-	-	-	-	-	-
Modem+DTR	-	1500	-	-	-	-	-
Tone Dialing	-	-	-	-	40	50	50
Pulse Joy 2	1000	1000	60	40	-	-	1000
Tone + Joy 2	1000	1000	-	-	40	50	50
No Dialer	-	-	-	-	-	-	-

Note that the dial prefixes for area, local and global and most other, are also used for tone and pulse dialing. Note that tones like "#*abcd" will be dialed. On pulse mode, 11 and 12 pulses will be dialed with "*" and "#". Digits a-d will send 13-16 pulses. If you have an entry like "atd00", always remember that "a" and "d" will be dialed also as pulses and tones. You can also dial a given number of pulses with the ':xx' command. For 56 pulses, just enter ":56" anywhere in the string. For waiting an extra digit delay, use ',,'.

The swich will output 5V on D0-D3 of the printer port. If you use the sampler, you can only use the upper 4 bits for sampling. Be sure that your sample is not connected with D0-D3. If you

select a line in the main menu 'Line', the equivalent port bit will be set to 0V. This is usefull for a hardware, which controlles up to 4 lines with one dialer.

On the Output gadget, you can choose between normal 4-channel dialing on amiga or realtime-high-quality-14-bit-8-channel dialing. On normal 4 channel mode, the output will be done like all dialers do. But if you use sine waves, you just have frequency steps of 5 at frequencies under 1333 hz. Over 1333 rectangle is used because the fonesystem will only transmit a clean sine wave. If you use the 8-channel version, set the sample rate to a value of 8000-10000 hertz. This means a bandwidth of 4000-5000 hertz which is higher than the phonesystem can handle. If you use higher rate, higer tones will have less disturbing noises. All 8 frequencies will be calculated online. The timings, the frequencies and the volumes are perfectly calculated. Only at the end of the complete dialstring, you hear a slim chick, which means that the irq-routine will be disabled. Just play with it. But if you get too high, the system will slow down and even the tone getts messed up. If you use a system with Toccata®, you can also select Toccata® for really high quality. Toccata is a trademark of MacroSystems. On text mode, the dialed tones will be outputted to standard io. Use it for debugging.

For sampling, use the Input gadget. Here you can select an printer port sampler or the Toccata®.

If you like to use Arexx, enter the rexx name at its gadget. Use capital letters, because all arexx text is translated to capital letters.

If you have selected "serial device" on the dialer cycle, you have to define the baudrate and the handshake type. You also have the ability to auto-dial. Therefore you have to define the modem's messages for connect, busy or no carrier. Also define the maximum time to wait for a connect and the maximum number of redials. Enter '0' on redials for infinite dialing. If you have any other serial device, you can enter it at the device box. Maybe you have an isdn-card or a network or even a serial io expander.

1.8 Pulse and Hook controll

This dialer has a feature to controll the status of your phone like. It is possible to pick up and hang up the line, even send pulse. If you use this device, be sure that it is not allowed to dial more than 10 pulses and use the standard pulse ratio.

You need just a few things, which are not valuable:

```
+5V -----+
          |
          |
Joy Port 2  _____  ||/
```


where ever samples are required. Also you must set the sample rate. Be sure, that you have at least twice of the rate of the band width. The phone system will not transmit tones above 4000 Hz, so set the rate to 8000 or higher to get a better quality on high tones. If you have a 68030-25, i would suggest to use a rate of 16000. It depends on the cpu power and the duration of tones. If you have a chain of short tones, the sound-routine needs more overhead. If the tones is interrupted, use a lower rate.

The quality of sound is 14 bit. On each audio-channel, 2 sound registers are used to produce a 14 bit sample. The lower 6 bits are produced by setting the volume of one register to 1/64 of the other register, which produces the upper 8 bit.

If you press a key or start a string of tones, all 8 channes will start at phase 0\textdegree{}. If you play two tones with same frequency, be sure that the phase is not dissorted by the tones before. The phase is also rotating, if you play a tone with 0 Volume.

AdLib® is a trade mark and shit stinks!

1.10 Main Window

The main window is divided in two parts. The left part contains the setting. The right part controls the phonebook.

The Phonebook Part

Here you can enter the phonenumber and name of the number.

First select the right phonebook by pressing the cycle gadget or by selecting from the menu "PhoneBook". You have 20 phonebooks. You can rename the active phonebook with "PhoneBook/Rename Phonebook". To search a number in ALL phonebooks, select all and all entries will be shown.

To add a phonenumber, select insert from the menu "Phone/Insert" or click on the small "Add" gadget. Enter the name of the phone below.

If you like to move an entry to another phonebook, select the phonenumber and change the phonebook by using menu or the cycle gadget. Now activate the Name Gadget under the listview and press enter. Then this number will be part of the selected phonebook and only displayed there.

If you enter a phone number on the "ALL" position, this number will be shown in every phonebook.

To delete a phonenumber, select "Phone/Delete".

Below the name enter the phonenumber. You can enter a number in two differen formats. The number-format is like +CC-AC-N-....-...

If you have a + at the beginning, this mode is selected. Now the number can be interpreted by the setting dial strings. Therefore the countrycode, the areacode (and the number) must be seperated by -.

If you do not have any international number, you can use all digits except the + at the beginning. This string will not be interpeted while dialing. It will just dial the digits as is.

If you like to have a printout of one or all phonebooks, select "Phone/Print Book" and define the destination on the filerequester. Use "PRT:" for printer.

The setting Part

The big listview gadget shows the settings. Select a setting to edit. The setting will be displayed below.

On the gadget below, you can edit the name of this setting. The setting will be sorted automaticly when changing the name. The setting can be edited by selecting "Windows/-> Setting" from the menu.

The buttons below are to controll the dialing process. You have the 'originate', 'answer', 'hangup', 'pickup', as you defined in the setup. 'direct' dials the number directly with pulse, tone, modem or whatever you defined in the setup. 'dialup' dials the number given in the current setting with local prefix as defined in the setup. 'break', 'seize', 'dial' and 'park' will play strings that are defined in the setting.

If you want to select a number and a setting quickly, you can press ctrl+F1 through ctrl+F10 to store the current selection. If you want to access the setting and phonenumber you stored with ctrl, just press shift and the F-key and you will get the setting and phonenumber selected as stored.

To insert a setting, select "Setting/Insert" or "Setting/Delete" from the menu to delete the present selected. "Setting/Load setting" or "Setting/Save setting" will load or save a setting. The file can be selected on a file requester. If you like to use a setting to design a new one, select "Setting/Duplicate".

1.11 Setting Window

The setting window can be selected from the main window with "windows/-> setting". It hast three parts. The tone part on the left, the digit part in the middle and the dialing part on the right.

The Tone Part

At the top, enter the country code and the areacode for the setting. You can leave them blank if they are not defined.

On the left listview, select a tone that is displayed. Enter at Frq1-Frq8 any frequency from 50 to 3999 hertz. If you have selected amiga-4-channels on the setup, you can only use Frq1-Frq4. On the right you have to select the volume for the frequency. Enter 0 up to 99 at Voll-Vol8. Use 50 as a normal volume to vary when testing the tones. You also can select the wave type, like sine, rectangle, noise and off. At least enter the length and delay at the bottom. You can vary from 0 ms up to 99999 (100 seconds).

To play a tone , just use the the numeric key pad like this:

```

+++ +++ +++ +++
|A| |B| |C| |D|
+++ +++ +++ +++

+++ +++ +++ +++
|7| |8| |9| |E|
+++ +++ +++ +++

+++ +++ +++ +++
|4| |5| |6| |F|
+++ +++ +++ +++

+++ +++ +++ +++
|1| |2| |3| | |
+++ +++ +++ | |
                | |
+-----+ +++ | |
|0   | |*| |#|
+-----+ +++ +++

```

If you want to play it until you release the key, use it with shift.

To change the delay or the volume of more than one digit, look at the menu, here you can change the volume or the length/delay of all numeric or of all digits. The new volume or length/delay will be the current.

The Digit Part

Here you can define which digits have which tones. On CCITT #4 you must enter more than one tone per digit.

The digit can be played by pressing the key on the keyboard. You cannot hold them with shift, because digits can have more than one tone.

The Dialing Part

At the top you can enter a short comment. This is only for self information and has no effect.

Right under the name you can enter at "Dlp" the dialup phonenumber as you would do when you pick up the phone "01300010" for example. The prefix is dialed before as specified in main setup.

On the 'Br1' you can define the break 1 string. This one can be played on main window and also by pressing the "Del" key.

On the 'Br2' you can define the break 2 string. This one can be played on main window and also by pressing shift+"Del" key.

On the 'Sz1' and 'Sz2' you can enter a seize string. You can play them on the main window.

On "Park" you can enter a string to park the line. Most the times it is a routing code, where you get a beep tone link "A0102C". But most times it is not possible, so leave it free. You also can enter any other string for this setting, like an operator or a calling card for a card setting. If you click "Park", this string will be played. Park can be also played by pressing the backspace key.

The next three gadgets "Glob" and "Loc" contain the string to dial local and global. An example for global would be "b CC 0 AC N c". The "CC" digit will insert the country code of the selected number. The "AC" digit will insert area code and "N" the number. An example for local would be "a 0 AC N C". When you press "dial", the dialer will automatically select the global, local or city dial string and plays it. The setting will be compared with the current number. If the country code is different, the global string will be played. If the countrycode is equal and the areacode is different, the local string is dialed. If both are equal, the city string is dialed.

If the number is not in the international format, it will be dialed as it is in the phonebook.

The following digits can be used: "F0" - "F9" for the special tones. "0-9,a,b...." for the digits. They must be in lowercase. The following must be uppercase: "P" for Park string, "B" for Break 1 string, "S" for Seize 1 string, "CC" for country code, "AC" for the area code, "N" for the number. ", " for 500ms delay. All other digits are ignored.

If you like to dial pulse instead of the setting tones, insert an open hyphen "(" at any position. From this position, all following digits will be pulsed! You can use it in the global and local string for example or even in the phonebook. If you like to send tones again after pulses, enter a close hyphen ")" and the dialing will continue dialing tones of the setting.

Digits 1-9 will be pulsed with 1-9 pulses. Digits 0, * and # will be pulsed with 10-12 pulses. Digits a-d will be pulsed with 13-16 pulses. And the string ":56" will pulse 56 pulses. For

waiting an extra digit delay, use ',,'.

The Setup selector:

The "Setup" cycle gadget defines if the default setup, like you defined on the main window or an individual setup will be used for THIS setting. Go to the menu of the setting window and edit specific 'setting setup'. The window title of the setup window will show the name of the setting. This setup will be used if the setup cycle gadget on the setting window shows 'specific'. This is usefull for different dial-modes (puls/tone or 4-channel/8-channel) in each setting.

1.12 Timer Window

Select "windows/-> Timer" and a timer window will open. The buttons are "<-", "->", "Stop" and "Reset". Press "->" and see what happens. The time will be shown in 1/100 of a second. To reset the timer to the preset on the right, press "Reset".

If you run a time backwards, it will flash when it is at 0. On the menu, you can select the alarm. You will hear a busy tone, if any timer reached 0.

1.13 Scanner Window

Select "windows/-> Scanner". This window has two functions. On the bottom part are three string gadgets with dial buttons. As you can imagine, you can enter a string of tones and dial them. You do not need to enter it in the phonebook if you like to dial a special number or to make a test.

On the upper part is a scanner. The upper string defines the prefix, the middle string the counter and the lower string the suffix. Press "Dial" on the right and these strings will be played.

After playing, you can press up or down to increase or decrease the counter. If you increase the counter and the overflow occurs, then all "9" digits will be erased. Press "ADD" to get a "0". This sounds a bit strange, but it is usefull to scan routing codes. Most times not all digits represent a valid code. It might be possible that you get an error when dialing the first digit. So it would be stupid to scan "200" up to "299" if you get an error on the first digit "2". If your last try was "199" and you press "ADD", you get just a "2" because the overflowing "9" will be erased. If you do not get an error on "2" then press "ADD" and a "0" will be added and played. If you still do not get an error, press "ADD" again and you get "200". With this feature you will only scan the digits that work. Select "Scan Mode" from the menu to switch off this feature.

1.14 Send String

Select "Windows/-> String to Dialer" and you will get a window, where you can enter a string. Enter "ath1" and press return. See what happens. If nothing happens, check the current prefs or the current loaded terminal. Press "Resend" for resend and "Hangup" for a hangup as defined in the dialer setup.

1.15 Voice Window

If you select "windows/-> Voice Scanner", you get a window with a very big listview. This one is very easy for scanning numbers.

First enter the prefix and the suffix of what you like to scan. While scanning, the three digit number will be inserted between.

Now select the first entry from the big list and press Start. Also select the last entry and press End. Now you have defined the range.

Enter the delay after dialing and the duration for the sample which will be recorded. (use seconds)

Select a sample dir from menu "Project/Select Sample Dir". This is where the samples will be saved.

Now before you can start the scanner, save the project "Project/Write List". The same name will be used as prefix for the samples.

If you go "Range/Scan" the scanner will start. A small window opens and showing you the current action. The irq sample routine will use 8000Hz. The system will not halt, while scanning. Try to use an interlaced screenmode, in case you have a buzzing noise.

After scanning each entry, two flags are added to the list: "VS". The V Means that there is a voice file (sample). The S Means that this entry is scanned.

Only entries without S will be scanned. In "List/View Scanned" you can only show the scanned numbers in the list. If you like to mark or unmark the current range, select "Range/Mark Scanned" or "Range/Mark New". If you like to kill the samples of the current range, select "Range/Kill".

Now you can listen to a scanned entry by selecting it from the big list and pressing the "Listen" button. You can kill that sample afterwards and write the comment in the string gadget right under the list. If you like to redial that number, just press dial and the number will be dialed without scanning. After that you can hangup again.

Now you have a cool list of what you scanned. Save the project

to store the list. Now you can print the list with "List/Print".

For arexx use (not implemented yet), just enter the rexx name at prefix and "rx" at the suffix. This will tell the scanner, not to scann, but just to call the rexx script. Now you must do all scanning from you script, which is called each entry.

1.16 Hotkeys

There are some funktions as hotkeys. They can be pressed at any window.

","	Dial Direct
"."	Dialup
"p"	PickUp
"h"	Hangup
backspace	dial park string
"Del"	break 1
sift+"Del"	break 2
"Help"	dial
"t"	play curent selected tone
"0"- "9"	play digits 0-9
"a"- "y"	play digits a-y
"F1-F10"	play digits F1-F0

On the numeric keypad, you can play the digits. With shift, the digits are played as long as the key is pressed.

Look into the menus. Most functions have hotkeys in connection with the right amiga button.

1.17 Arexx Commands

If you have defined the arexx port name at the dialer setup, you can now use the folowing commands:

*** ONLY SOME ARE IMPLEMENTED YET ***

FAIL ON|OFF

If any command fails, a requester appears and tells you the error. With FAIL you can turn on or off the requester.

DELAY time

This command will delay the given time in milli seconds.

DIALUP, HANGUP, PICKUP, ORIGINATE, ANSWER, DIRECT, BREAK, BREAK2, SEIZE, SEIZE2, DIAL, PARK, ICONIFY, QUIT.

This command will do the same as the buttons or the menu selection will do.

LINE 0-4

This command will select line 1-4 or no line (0). This is only interesting if a line switch is connected to the printer port.

SENDDIALER string

This command will do the same as the string to dialer window.

SENDTONES string

Here you can send a string of digits as you would in any break, seize, park string or whatever.

WAITNOISE duration volume

This command will wait until it gets a noise at the sampler with given volume 0-99. The maximum duration must be given in milliseconds. If there is a noise, the command will continue by returning a 1. Otherwise the return is 0.

SETTING name

This command will select the setting with the given name.

PHONE name

This command will select the phone number with the given name.

PHONEBOOK name

This command will select the phone book with the given name.

OPENWINDOW name

This command will open the window with the given name. (like in the Windows menu)

INSERTPHONE name number

This command will insert a new phonenumber with the given name and number.

DELETEPHONE

This command will delete the CURRENT selected number entry.

TIMERSTART timer
TIMERBACK timer
TIMERSTOP timer
TIMERRESET timer
TIMERPRESET timer value
TIMERASK timer

These commands will controll the timer. The timer can be 1-4.
The funktions are like the buttons pressed at the timer. Exept
TIMERASK will return the time value as 1/100 seconds.

SCANRESULT string

This command will set the string for the voice scanner. The
arexx script must be started from the voice scanner.

SCANPOS

This command will give the number of the current scan position.
The Value can be 0-999.

SCANRECORD length

This command will start recording for the voice scanner the given
length in seconds.

SCANSTOP

This command will interrupt the scanning.

SCANACTION

This command will set the string displayed at the scanning window
for current action.

DFTRECORD

This command will start recording of the spectrum analyser.

DFTPLAY

This command will start the play of the spectrum analyser

DFTGRAPH 0|1
DFTANALYSE 0|1

With these two commands, you can set the graph and the analyser start.

DFTRESULT

This function will give a string back, which contains the result of the analysed digits. After executing, the result line will be cleared. If no digit has been detected, this command returns with a NULL terminated string.

DFTLOAD filename
DFTSAVE filename

These two commands will save or load the setting of the spectrum analyser.

DFTVOL 0-60

Here you can set the volume of the output of the analyser.

Not all commands are implemented yet!

1.18 Quit

Before you quit the dialer, select "config/save" from menu of the main window. If you are unsatisfied or messed up with deleting too much, select "config/open" to reload the setting. These functions will load and save the prefs, the settings and the numbers. A requester will stop you, if you try to quit and you have not saved any modification. Don't worry.

To iconify, select "Config/Iconify" or click the close button on the main window. A small Icon window will open after a while on the front screen. You can also change the screen by pressing uniconify with the desired screen at front. You also can press rightamig+u.

1.19 Spectrum Analyser Window

Now i will show you something really special. Be sure that you have at least a 68020. You will be able to analyse multi frequency digits. In this example, i show you how to analyse the DTMF tones, like some modems do. You can also analyse any other digits like CCITT #5 or R2 or whatever. You can even detect clicks and find out what frequencies they have.

First of all, i need to explain, how the analyser works. A sample routine will record samples form the selected input at the

setup. The DFT routine will check within a given interval a given duration a given frequency. If you check with a large duration, you get the volume of a small frequency range. If you like to check a the volume of a wide frequency range, you need have a short duration. The relationship between the width and the duration is inverse proportional. Also you need to set a short interval, if the tone, you want to detect is short.

To get started, select Windows/Spectrum Analyser from the main menu. Be sure that you have selected the right input (use sampler on printerport). Also connect dtmf source to your sampler. First you need to enter the frequencies 697,770,852,941,1209,1336,1477,1633 at the 'Frq.' gadgets. You have a maximum of 10 frequencies, you can analyse at a time, you just need 8 for DTMF. Be sure that you have 'SA' selected from the listview on the right. Now you can select the first 8 'Tone' checkboxes. This will show, which channel will be active while analysing. Now you select the 0 from the listview on the right and klick the check boxes for the 941 and 1336 on. This will show, that a 0 is detected, when the frequency 941 and 1336 were detected, but only them. Tag the other digits as show in the following table:

Frq.	697	770	852	941	1209	1336	1477	1633	0	0	
				*		*					0
	*				*						1
	*					*					2
	*						*				3
		*			*						4
		*				*					5
		*					*				6
			*		*						7
			*			*					8
			*				*				9
	*							*			a
		*						*			b
			*					*			c
				*				*			d
				*	*						*
				*			*				#

All othe digits should be untagged.

Now enter the width of 50Hz for each channel. The duration of 20ms will be calculated automatically. If you analyse a sine curve with the volume of 100%, you get a volume of 100% when you analyse it with exactly the given frequency. If the frequency differs by the given width, that means in this case: 50Hz, you just get about 70% of the volume. If it differs twice the given width, that means in this case: 100Hz, you shout get about close to 0% volume. To differ between two frequencies, you should have not more than the half width of the frequencie distance. That means: If you have one frequency with 1000Hz and one with 1100Hz, you should not use a higher with of 50Hz, so that the frequency 1100Hz will be analysed with 0% if you check it with 1000Hz.

Now you can go ahead for a test: Enter a buffer size of 30 at the bottom. Set the volume to 60, the interval to 30, the sample rate to 4000 and the zoom to 2^6 . No klick the gcheckbox of the 'Graph' and klick on record. Now you show see the curve and hear what's on the input. You can now change the zoom. We have just tones under 2000 Hz, so you can just use a sample rate of 4000. Now apply some mfv tone to the input of your sampler. You should now see the curves of the tones on the graph, if you have it swiched on. Now stop the recording.

Until now you should not get any result. Now we will see the spectrum of what was recorded. Select at the range of the right a range from 600 to 1700. Enter at the width also 50. To see the spectrum, just klick at the beginning of the curve. If you did right, you see now two hills on the right. If you klick on one of the hills, you get it's frequencies. Change the width, klick again and see what happens to the hills.

You should also see the volume on the decessed boxes in the middle (right beside each volume slider). For each tone, you should have two channels with high peaks. Now set the volume to about half of the peaks, but not too low, so that disturbing frequencies will not be detected. If you klick again onto the curve, you should see all detected channels with a blue peak. All other peaks remains black, if they are lower than the given volume.

Also you should get the detected digit on the middle left. If nothing was detected, you see a '-'. Check if all tones you analysed will be detected when you klick on the curve. Now you can restart the recorder and turn on the analyser. If you apply a tone now, you should see it on the bottom. If tones are wrong, detected more than once or even disapper, stop the recording and check the tones' volume and spectrum.

If a requester appears: "Analyser too slow.", you should use a higher interval, or buy a faster processor. The regester appears, if the analyser is more than two second after the sampler.

You can also play, what you have recorded. Just klick on graph for the start and the buffer will be played and or analysed. On the menu, you can save and load a sample into the buffer.

NOTE: The buffer is a ringbuffer which ends, where you stopped recording or playing.

Before you quit, you can save the table. Select 'Save Table' from the menu. Next time you open the window, select 'Load Table'.

Now have phun with this feature.
