PDW – Paging Decoder for Windows



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Introduction

Combined with a suitable receiver, preferably with a <u>discriminator-tap</u>, PDW can be used for off-air decoding of POCSAG, FLEX, ACARS, MOBITEX or ERMES signals.

PDW offers the following options :

- Decoding of the following modes :
 - POCSAG baud rates 512, 1200 and 2400
 - FLEX baud rates 1600, 3200 and 6400
 - ERMES 6250 baud
 - ACARS (Aircraft Communications Addressing and Reporting System)
 - Mobitex 8000 baud
- Serial port input for 2- and 4-level FSK
- Soundcard input for 2-level FSK only
- Logging of :
 - All (monitored) messages
 - Filtered messages
 - Up to three separate filter files per filter
- Real time filtering (unlimited number of filters)
- Command file to activate an external program
- Signal indicator
- Statistics overview





The first thing to do is build (or purchase) either a 2 or 4-level serial interface, as described on http://www.discriminator.nl. If you are planning to use the soundcard input then you will need a cable to connect your receiver to the line-in socket of your soundcard. This cable should have a mono plug at one end which goes to your receiver and a stereo plug at the other end to connect to your soundcard. The mono plug should be wired to both the left and right audio channels of the stereo plug.

Before deciding which method of signal input to use, you might want to consult the following table :

_	Soundcard		2-level FSK slicer		4-level FS	SK slicer	2-level	RS232
Signal type	Disc-tap	No tap	Disc-tap	No tap	Disc-tap	No tap	Disc-tap	No tap
POCSAG 512	100%	100%	100%	100%	100%	100%	100%	100%
POCSAG 1200	100%	90%	100%	90%	100%	90%	100%	90%
POCSAG 2400	100%	75%	100%	75%	100%	75%	100%	75%
FLEX 1600	100%	50%	100%	50%	100%	50%	100%	50%
FLEX 3200	75%	25%	75%	25%	100%	25%	75%	25%
FLEX 6400	50%	-	50%	-	100%	-	50%	-
ACARS	-	100%	-	100%	-	100%	-	-
MOBITEX	-	75%	100%	-	75%	-	100%	-
ERMES	-	-	-	-	100%	-	-	-

Note : The percentages in above table are estimated indications of successfully decoded messages. Especially when not using a discriminator-tap, results may vary since the audio quality of the default audio output varies per receiver.

Example of a serial (RS232) interface :





Decoding via the serial port

When using a serial interface, connect it to one of your computers serial ports. Run PDW and go to the Interface menu and select <u>Setup</u>. Then select the serial port you have connected it to. Plug the earphone connector of your interface into your receivers' earphone (or discriminator-tap) socket. Switch on your receiver and turn up the volume to about a quarter. Now select the type of signal you want to decode from the <u>Monitor</u> <u>menu</u> (POCSAG/FLEX/ACARS/MOBITEX/ERMES) and tune into any random white noise. The signal indicator on the far right of the toolbar should now begin to move. If it doesn't, try increasing your receivers volume. Once the indicator is moving, tune in to a signal as selected in the <u>Monitor menu</u> and messages should start to appear. If you don't get any results after a few minutes, try different volume levels.

Using an FSK 2 or 4-level slicer

When using Windows 95 or 98, the driver **Comprt.vxd** should be loaded automatically. For newer operating systems (like XP, Vista) you will need to manually install the driver which can be found in the **xp_driver.zip** archive.

Using an RS232 interface

For this type of interface, no additional drivers are needed. In the <u>Interface Setup</u> dialog box you need to select the type of network (mode) you want to monitor.

More info on the new RS232 interfaces can be found on this website :

http://www.discriminator.nl/rs232/index-en.html

Decoding via the soundcard

After making the cable to connect your receiver to your computers line-in socket, follow these instructions :

- 1. Run PDW and select <u>Setup</u> in the <u>Interface Menu</u>.
- 2. Select the soundcard check box and also the configuration type : Discriminator / Earphone (default) / Speaker Out / Tape/Rec Out
- 3. Go back to the <u>Interface menu</u> and select <u>Volume</u>. Then go to the <u>Options menu</u> and select Properties/Recording and select Line-in. Close the Volume control.
- 4. Switch your radio on and turn up to volume to about a quarter, also set the squelch adjustment to its lowest. When using a discriminator tap, the volume and squelch settings are not important.
- 5. Select the type of signal you want to decode from the <u>Monitor menu</u> (POCSAG/FLEX/MOBITEX/ACARS)
- 6. Tune into any random white noise. The signal indicator on the far right of the toolbar should start to move. If it doesn't, try increasing your receivers volume.



- 7. Once the indicator is moving, tune in to a signal as selected in the <u>Monitor menu</u> and messages should start to appear. If you get nothing after a few minutes, try different volume levels.
- 8. If you've managed to get some messages to appear but can't seem to get good decoding results, then try all the configurations in the <u>Interface Setup</u> dialog box.
- 9. If you still don't get good decoding results, it might be worth to try the instructions for setting up a custom configuration on the next page.

How to set up a custom configuration

If you are reading this section, then you probably don't get good decoding results using default settings. Try these instructions :

- 1. Select the <u>Custom</u> configuration from the <u>Interface Setup</u> dialog box, then click the "Set Custom" button.
- 2. Change the "Threshold" setting for 1200 baud to 1.
- 3. Click OK to accept the change.
- 4. Try different volume levels until you get the best results. (Note: at this point, only POCSAG 1200 will be affected)
- 5. If you still don't get good results, then increase the 1200 threshold setting to 2 and try the above instructions again.
- 6. Once you have tried all the 1200 threshold settings and have found which one works best, then repeat all the instructions above again for the other baud rates, depending on the mode and baud rate you are planning to decode.
- 7. If the decoding results still aren't satisfying, then try all instructions above again for "Centering" and "Resync" settings.

NOTE: The custom configuration has no effect on ACARS signals.

Discriminator tap

If you have tried all instructions to improve decoding results for either the serial port interface or the soundcard and still get poor results, no matter what you do, then your only option is a discriminator tap. This involves opening your receiver and follow the instructions as described on <u>http://www.discriminator.nl</u>.

A discriminator tap always works, when done correctly. Another advantage of a discriminator tap is that the settings of volume and squelch don't matter anymore.



PDW consists of two window panes, the upper pane which is the main message pane and the lower pane which is used for displaying filtered messages. Both panes have the same message format as follows :

Address	Time	Date	Mode	Type	Bitrate	Message
1234567	14:13:33	17-08-09	POCSAG-1	ALPHA	1200	Please call ASAP
7654321	15:14:13	17-08-09	POCSAG-2	NUMERIC	512	0845-123456
1234567	14:13:33	17-08-09	FLEX-A	ALPHA	1600	Please call ASAP
7654321	15:14:13	17-08-09	FLEX-B	StNUM	3200	0845-123456
1234567	14:13:33	17-08-09	ERMES-2	ALPHA	6250	Please call ASAP

Address

The address field can be either seven or nine digits long and uniquely identifies the pager for which the message is being sent. You can filter out addresses into the filter pane, see Options menu → Filters.

Time/Date

Displays the current time and date based on your computers system time. On some FLEX networks you can use the so-called network FlexTIME, see Options → Flex.

Mode

This field shows the mode (POCSAG, FLEX or ERMES) and either the function number (1-4) or the phase letter (A-D).

Bitrate

The bitrate (speed) of the current paging signal.

Message

The message type can be one of the following :

POCSAG : Alphanumeric / Numeric / Tone-Only

- FLEX : Alphanumeric / Numeric / Tone-Only / Binary / Secure
- ERMES : Alphanumeric / Numeric / Tone-Only / Transparent

The message types (as well as faulty characters and filtered keywords) are indicated by their own colors and can be configured in the Display \rightarrow Colors dialog box.





PDW consists of two window panes, the upper pane which is the main message pane and the lower pane which is used for displaying filtered messages. Both panes have the same message format as follows :

Air.Reg	Time Date Msg.No DBI Mode	
D-ABIK	17:52:07 26-02-10 F18A 4 R	=>
Mode	Message	
R	Message Label : _•NO INFORMATION TO TRANSMIT (Up/Downlink Aircraft Reg : OE-LBF Country: AUSTRIA Aircraft Type : A321-211 1458 [Wien] Flight Number : OS458C Airline : *AUA* Austrian Airlines Ground Station: Brussels (BRU))
	DOWNLINK NAK	

Aircraft Reg.

The 7-digit aircraft registration.

Time/Date

Displays the current time and date based on your computers system time.

Msg.No.

Displays the 4 digit message sequence number (hexadecimal notation) which indicates the time in minutes and seconds past the hour that the message was sent.

DBI

Displays the Downlink Block Identifier, which is used for indicating the retransmission of previously sent messages.

Mode

Displays the Ground System Interface Configuration.

Message Label

Displays the 2 character message label followed by the meaning of the label. This label indicates the type of message sent. You can add or change labels in the "label.df" database file.

Country

The aircraft registrations prefix indicates the country of origin. Countries can be added or changed in the database file "country.df".



Aircraft Type

Displays the type of aircraft based on the aircraft registration and whether the aircraft type is found in the database file "aircraft.df". You can edit this file to change or add new aircraft registrations.

Flight Number

Displays the 6 digit flight number.

Airline

Displays the airline carrier, which is derived from the first two characters of the flight number.

Ground Station

Shows the ground station with which the aircraft is making contact.

DOWNLINK

Indicates whether the message was a downlink message. This field can also display UPLINK and GROUND-TO-GROUND.

NAK

Technical Acknowledgement NAK = Not Acknowledged ACK = Acknowledged



Mobitex Message Format

PDW consists of two window panes, the upper pane which is the main message pane and the lower pane which is used for displaying filtered messages. Both panes have the same message format as follows :

MAN	Time	Date	Sender	Туре	Bitrate	Message
1234567	14:13:33	17-08-09	2345678	DATA	8000	ASS 1=fG02tj:'i
7654321	15:14:13	17-08-09	8765432	HPDATA	8000	B+&(AB+&6 '@D03 B

MAN

The MAN field shows the seven digits Mobitex Access Number and uniquely identifies the Mobitex radio modem for which the message is being sent. You can filter out MAN's into the filter pane, see Options menu \rightarrow Filters.

Time/Date

Displays the current time and date based on your computers system time.

Sender

The Sender field identifies the seven digits sending MAN.

Туре

The Type field identifies the type of message being sent, this can be TEXT, DATA, HPDATA or STATUS.

Bitrate

The bitrate (speed), which for Mobitex is always 8000.

Message

The decoded messages contain raw 8-bits data. Most messages look like a random string. The data is not necessarily encrypted, but is sent efficiently as Mobitex is charged per byte. The end user application determines the meaning of the data; this can vary from user to user. Mobitex offers a transparent channel.



File Menu

Open/Close Logfile

Opens the PDW Logfile dialog box :

PDW Logfile		X
Enable logfile		
Browse 100228.log		
🔽 Use date as filename		
Columns to be logged		
🔽 Capcode 🔽 Time	🔽 Date	₩ Mode
🗌 Type 📄 Bitrate	Message	
ОК	Cancel	

Enable Logfile

Enables the PDW Logfile and the options below.

Browse

Lets you browse for a logfile, or you can just type in a filename directly.

Use date as filename

Lets PDW use the current date for the logfile name, and starts a new logfile each new day. The date format can be set in Options -> General.

Columns to be logged

Allows you to select which message columns to be shown in the logfile.

Exit

Will exit PDW.

File	Edit	Interface	Options
0	. Alt+L		
Exit		Alt+F4	



Edit Menu

Copy Selection

Copies the current selection to the clipboard.

Copy Monitor Window

Copies all messages in the upper (monitor) window to the clipboard.

Copy Filter Window

Copies all messages in the lower (filter) window to the clipboard.

Save

If one of the three options above has been selected, the content of the clipboard can be saved to a text file. Selecting this option will open a Save File dialog box.

Print

If one of the first three options above has been selected, the content of the clipboard can sent to the printer.

 Edit
 Interface
 Options
 Filters

 Copy Selection
 Ctrl+C

 Copy Monitor Window
 Ctrl+U

 Copy Filter Window
 Ctrl+L

 Save
 Print...
 Ctrl+P



Interface Menu

Setup

PDW Interface Setup
Serial Port
Port COM2 Mode Pocsag 2 Level
Slicer C RS232 Address N/A IRQ N/A
Soundcard
Configuration Discriminator 1 Set-Custom
Sample <u>R</u> ate 44100 Mumber of Channels
Soundcard 1. Microsoft LifeCam VX-1000.
OK Cancel

Interface	Options
Setup	Ctrl-S
Volume.	Alt-V

Serial Port

This check box lets you select the serial port for signal input.

Slicer / RS232

Lets you select the type of interface you are using.

Mode

When using an RS232 interface, you need to select the type of network you want to monitor, which can be :

- Pocsag (512/1200/2400bps)
- Flex (only 1600bps 2-level)
- Mobitex (8000bps)

2 or 4-level FSK

When using a serial (slicer) interface, select the type of interface.



Port

This option will be enabled in Windows 95/98/ME and lets you select the serial port you are using.

Address / IRQ

This option will be enabled in Windows 95/98/ME and allows you to enter the custom serial port address and IRQ.

Soundcard

This check box lets you select the soundcard for signal input.

Configuration

This drop down list lets you choose different audio input configurations. See <u>Getting Started -> Decoding via the Soundcard</u> for how to use this option.

Set Custom

When selected in "Configuration", this allows you to set up a custom configuration. For more info, see : <u>How to set up a custom configuration</u>.

Soundcard

If your computer has more than one soundcard, you can select one of them. When only one soundcard is present, this option is disabled.

Sample rate

This drop down list lets you choose different input sample rates. You should only change this value if you think your soundcard does not support the default 44100 sample rate or if your computer has a slow processor.

Volume

Opens the Windows volume control.

Options Menu

	Options Filters Display
Options	Options Ctrl-O General Ctrl-G
options	SMTP/Email Ctrl-M
PDW Options - Currently monitoring : Paging (Pocsag/Flex)	
POCSAG	
Image: Weight of the second secon	400
Decode function numbers always as default (1=Numeric 2=Tone 3=Tone 4=A	phanumeric)
🗌 If no accurate guess is possible, display message both as numeric and alphan	umeric
✓ Enable Flex Decoding ✓ 1600 ✓ 3200 ✓ 6400	
▼ Show Short Instructions ▼ Convert Short Instructions to Text □ Use F	exTIME (not detected)
MOBITEX	
Bit Sync Base - Bitrate 8000 - Frame Sync EB90 Min.	Characters 10
🔽 Bit Scrambler 🔽 Ramnet 🔽 Check Frame Sync	
🗖 Show Network Messages 🛛 Show TEXT 🔽 Show DATA 🗖 S	how HPDATA
🗖 Verbose (control messages) 🗖 Show Sweep Frames (BaseInfo) 🗖 S	how HPID
ACARS	
C Full Parity Checking 💿 No Parity Checking	
Optional information in title bar	
☐ FLEX / ERMES Cycles & Frames	
OK Capacal Capaci	1
Cancel Cancel	

POCSAG

When enabled, you can choose which bitrate you want to be shown. Unfortunately, POCSAG signals do not tell what type of message is being sent. In fact, only the network and the receiving pager know for sure. Luckily, some networks use the function bits as described in the protocol specifications, which makes decoding more accurate. On these networks, you can enable "Decode function numbers always as default". If you don't know for sure, just try what setting gives the best results. Otherwise, there are some cases in which PDW has to guess whether the message is (alpha)numeric. You can select the last option to show a message as well as numeric as alphanumeric. At least one of both should be correct ©



FLEX

When enabled, you can choose which bitrate you want to be shown. Unlike POCSAG, FLEX does provide type information, so no guessing is necessary. Some networks use dynamical groupcalls, in which so-called "short instructions" are being sent to the pagers which make the groupcall more efficient. You can choose whether to show these instructions and to convert them into a normal message. FLEX networks offer the ability to provide time/date information by sending FlexTIME. If detected, this option will be enabled and you can use this time information to correct your system time.

MOBITEX

📴 PDW v2.53 - MOBITEX - 8000 (base) - NetworkID: EB90 - BaseID: 0336 (Zoetermeer) 🔳 🗗 🔀

The bitsync can be set to Base or Mobile, depending on the type of signal you are monitoring (uplink or downlink). The bitrate has been locked to 8000bps and for best decoding results you need to enter the Frame Sync (Network ID) of the network you are monitoring. To obtain this information, you will have to start with "Check Frame Sync" unchecked and see what appears in the caption as in the image above. Since Mobitex offers transparent messaging, lots of unreadable data is being decoded. You can suppress short messages by entering a minimum number of characters. On some networks you might need to select Bit Scrambler and Ramnet, you'll have to try what gives the best results. You can enable/disable various message types like TEXT, DATA and HPDATA and choose whether to show the HPID, Sweep Frames (Base Station Information) and Controlling Messages (Verbose).

Optional, the file "base-ids.txt" can be used to label BaseID's (see caption above).

ACARS

Select whether you want to enable parity checking for ACARS signals. You can use this to prevent any garbage messages from being displayed.

Optional information in title bar

When enabled, additional information will be displayed in the title bar (caption), like FLEX/ERMES cycles and frames, and rejected/blocked messages.



General Options

PDW General Options
General Options
Block duplicate messages, if : Previous address(+function)+message is the same
Block duplicate messages if repeated within 0 minute(s) 🔽 Log to 'blocked.txt'
✓ Convert '>' character to linefeed ✓ Separate/group messages with empty line
Date format (as logfile name) : O 050324.LOG O 05mar24.LOG
Date format (on screen / in logfiles) DD-MM-YY 💌 🔽 Confirm Exit
Path for logfiles C:\pdw\Logfiles Default
OK Cancel

Block duplicate messages

Some messages are sent more than once, even by default on some networks. To hide these "duplicate messages", you can use this option in three ways :

- Previous address+message is the same (no timer)
- Previous message is the same (no timer)
- Previous address(+function)+message is the same

The first option compares the current capcode and message with the previous. The second only checks the message text. Due to some internal difficulties this option is not possible when using FlexGroupMode. The last option compares the address (and when monitoring pocsag, also the function number) as well as the message text. This last option also enables a timer (1-9 minutes). If a message is repeated within this period, it will be blocked.

Log to 'blocked.txt'

Messages which are blocked with the previous option can be logged to a separate file; blocked.txt. This can be usefull to determine whether the correct messages are being blocked and you don't miss any messages.

Convert '»' character to linefeed

On some networks, a message can contain linefeeds. By default, a linefeed will be shown as '»'. If you'd rather see the linefeed, enable this option.



Separate/group messages with empty line

By default, there is no spacing between messages. By enabling this option, an empty line will be added between messages with a different text. If the text is the same as the previous message, no empty line will appear. In this way, messages with the same text will be 'grouped'. Numeric/Tone messages will be ignored by this option, they will always be showed without empty lines.

Date format (logfile name)

Lets you select the date format for the logfile name :

- 050324.log
- 05mar24.log

Date format (on screen / in logfiles)

Lets you select the date format to be shown on the screen / in logfiles :

- DD-MM-YY (default)
- MM-DD-YY
- YY-MM-DD

Confirm Exit

If you want to exit PDW, a confirmation can be asked.

Path for logfiles

Lets you select the path where the logfiles will be saved. The browse button lets you select a path, the default button restores the default path (...\PDW\Logfiles).



SMTP (Email)

PDW offers the ability of sending out emails, containing message information.

SMTP / email s	ettings	
Setting	Selected filters only	Port 25
Mail Settings	smtp.server.nl	Username
To From	email@address.com "PDW" <pdw@paging.msg></pdw@paging.msg>	Password Charset windows-1252 (Western Europ 💌
Mail options	Time Date Mode	☐ Type ☐ Bitrate 🔽 Message 🔽 Label
Monitor:		Statistics Sessions : 3067 Emails : 3066 Errors : 3 Last Error : 0
Test]	OK Cancel

You can select whether you want to send all messages, or specific (filtered) messages. You can set a custom SMTP port number, which by default is 25. Fill in the host name, to which address(es) you want to send the emails. Multiple addresses can be separated with; or, in between. Select which messages items you want to be emailed and if they have to be placed in the body and/or the subject field.

Note: SMTP is a complex protocol. PDW only supports "basic" SMTP. If PDW has to support all possible servers like a real SMTP-client, it would become more an email program than a real time paging decoder. So if it doesn't work, sorry...

Filters Menu

Filter List

Will open the Filters Dialog. Filters are a means of separating pager messages into the filter message pane. This is done by matching the pager address to one of your filter addresses or

Filters Display Monitor Filter List... Ctrl-F Filter Options... Reload Filters Reset ALL Hitcounters...

Filter File Output
 Filter Command File

through matching a word or phrase within a paged message to a word or phrase of one of your filters. After defining some filters, the dialog can look like this :

PDW Filters (24) - 0303011 BRW Friesland (HOvD Noord)	
FIEX 0100105 PEW Arstordar-Arstolland (OrD Swid)	
FLEX 0100105 ERW Amsterdam-Amsterland (OvD Zuid)	
FLEX 0120087 CPA Amsterdam (OvD-G Noord)	
FLEX 0120088 CPA Amsterdam (OVD-G Zuid)	
FLEX 013000? POL Amsterdam-Amsterland (Programmi) 5700	
FLEX 0201005 BRW NOORd-Holland-Noord (Alkmaar - Commandant)	
FLEX 0203700 GEM Noord-Holland-Noord (Alkmaar - Burgemeester)	
FLEX 0203703 GEM MOOTU-HOTTAHU-MOOTU (Arkmaar - AOV)	
FLEX 0303011 BEW Friesland (HOwD Noord)	Sort by Address
FLEX 0730000 POL Flevoland (Movishorcode)	Sort by Label
FLEX 0730001 POL Flevoland (Proefalarm)	Select All
FLEX 0730305 POL Flevoland (Persycorlichting)	Select All
FLEX 0730314 POL Flevoland (VOA)	Сору
FLEX 1005258 BRW Zuid-Limburg (Heerlen - TS)	Paste
FLEX 1005260 BRW Zuid-Limburg (Heerlen - HW)	Add
FLEX 1005262 BRW Zuid-Limburg (Heerlen - HV)	Edit
FLEX 1005264 BRW Zuid-Limburg (Heerlen - BvD)	Edition
FLEX 1005540 GEM Zuid-Limburg (Heerlen - Burgemeester)	Delete
FLEX 1005542 GEM Zuid-Limburg (Heerlen - AOV)	Reset Hitcounters
FLEX 1735192 KWC Den-Helder (Station Scheveningen - Schipper)	Find Filter
FLEX 1735193 KWC Den-Helder (Station Scheveningen - Vuurleider)	Charle for duplicate filters
FLEX 1735200 KWC Den-Helder (Station Scheveningen - KHV)	Check for duplicate filters
FLEX 20295?? GROEPSCODE	Filter Options
Add Edit Remove Options Find	ок

The caption tells you the number of filters and which one is currently selected. You can add, edit, remove and find specific filters.

Right clicking with your mouse will open the context menu as shown at the right.



Add/Edit Filter

When adding or editing a filter, more or less the same dialog will be opened :

PDW Edit Filter					
Reject					
Filter type FLEX Capcode 💌 Audio Monitor_only.wav 💌					
Address 0100000 Color Red					
Text Match EXACT message					
Label BRW Amsterdam-Amstelland (Proefalarm / Info)					
Show Filter Label					
Enable filter command file					
Hitcounter Number of hits: 341 Last hit: 24-02-10 18:27:30 Reset					
Clear BAM.txt Browse OK - Apply + Cancel					
Cancel					
Enter the capcode/riccode to filter. Use ? as wildcard.					

Reject

Checking the "Reject" option will prevent messages matching this filter from being displayed.

Filter Type

When adding a filter, you need to select the type of filter, which can be one of the types in this drop down box : The default type can be defined in Filters -> Options.



Address

The address(es) to be filtered. You can use ? as a wildcard to filter a range of addresses. For example, 12????? will filter all addresses starting with "12".





Function number

This drop down box will be shown when adding/editing a POCSAG filter. You can select whether you want to filter a specific function number, or all function numbers (default).

Address	1234567	1	•
		All	
Text		1	
		2	
Label		3	
	,	4	

Audio

When filtering a message, PDW can play a sound which gives you an audible alert. You can select one of the default sounds or use the so-called **capcode.wav** in which the WAV file can have the same name as the filtered capcode and/or text.

When filtering 1234567, PDW will look for 1234567.wav. If not found, the default sound will be played. When filtering 1234567 in combination with the text "fire", PDW will look for 1234567-fire.wav. If not found, 1234567.wav, if not found, the default sound will play.

When you have defined lots of WAV files, PDW may want to play one, when the previous WAV file is still playing. To decide whether to abort the currently playing WAV file, PDW will use priorities which can override a currently playing WAV file. These priorities are :

- 0. Complete capcode.wav
- 1. Capcode.wav with 1 wildcard (like 000000X.wav)
- 2. Capcode.wav with 2 wildcards (like 00000XX.wav)
- 3. Capcode.wav with 3 wildcards (like 0000XXX.wav)
- 4. Capcode.wav with 4 wildcards (like 000XXXX.wav)
- 5. Capcode.wav with 5 wildcards (like 00XXXXX.wav)
- 6. Capcode.wav with 6 wildcards (like 0XXXXX.wav)
- 7. Capcode.wav with 7 wildcards (like XXXXXX.wav)
- 8. SoundX.wav (filtered)
- 9. Monitor-only.wav

If the priorities are equal, the file sizes will decide whether the playing file will be stopped. A larger file gets a higher priority and will override a smaller file.

Color

When defined a label, and enabled "Show Filter Label", you can also define its color.

Text

This control lets you enter a word or phrase to be matched by the filter. Text matching is not case sensitive, so the word/phrase can be in lower or upper case. This word or phrase can be anywhere in the message. You can enter up to 10 strings for one single filter, separated with a '&', like "Call&Jones&ASAP".



Match EXACT message

When selected, messages will only be filtered if the filter text matches the message exactly. When filtering "Jones", a message like "Call Mr. Jones" will not be filtered.

RX / TX MAN

This option appears instead of Match EXACT when adding/editing a Mobitex filter. It allows you to filter only the RX (receiving) MAN, the TX (sending) MAN, or both MAN's.

Label

Lets you enter a filter description, which can be shown below the filtered message.

Show Filter Label

Shows the filter label together with the filtered message. If disabled, it will only be visible in the filters list

Monitor Only

Filters the message, but doesn't show it in the lower window pane. Can be useful to show labels only in the upper window pane and to play certain filter sounds without the message being shown in the filter pane.

Enable filter command file

Enable the filter command file for this filter. The command file itself can be configured in the <u>Filter Options</u> dialog.

Send email

If "selected filters only" is selected in the SMTP dialog, you can enable emailing for this filter when triggered.

Hitcounter

The hitcounter keeps track of the number of times this filter has been triggered, as well as the time and date of the last hit. If necessary, you can reset the hitcounter, so it will start counting over again.



Enable separate filter file

When enabled, lets you enter up to three separate filter files for this filter. Might be useful if you want to combine related addresses in the same logfile.

Browse / Clear

Lets you browse for a logfile, or you can just type in a filename directly. When you have selected a logfile, the button changes into "Clear", which allows you to remove the logfile.

Apply

Saves changes without closing the dialog.

+/-

Jumps to the next or previous filter.

Sort by address/label

Sorts the selected filters by address or label.

Reset hitcounters

Resets the hitcounters of all selected filters.

Check for duplicate filters

Opens a dialog which allows you to find and remove identical filters.

Find

Opens a small Find dialog in which you can enter a (partial) address, text or label and PDW will start searching when typing. After closing the dialog, the last search string will be remembered and you can use (SHIFT) F3 to find the next (or previous) filter.

Filter Options

Will open the Filter Options dialog :

PDW Filter Options
Enable filter file output
Browse 100302.flt Vse date as filename
Columns to be logged to filter/sepfiles
MAN Time Date Sender Type Bitrate Message
Show descriptions
▼ In monitor window & monitor logfile □ On a new line
Enable command file
Browse
General
Show Tone Only messages I Show filtered messages only in filter window / logfile(s)
Show Numeric messages 🔽 Filter Beep / Wavfiles (enabled)
Show FLEX Binary / Hex data Default filter type TEXT
Show label colors also in filter dialog 🔽 Show CMD/DESC/SEP etc in filter dialog
OK Cancel

Enable Filter File output

Enables the filtered logfile(s) and the options below.

Browse

Lets you browse for a filter file, or you can just type in a filename directly.

Use date as filename

Lets PDW use the current date for the filter file name, and starts a new filter file each new day. The date format can be set in Options -> General.

Columns to be logged

Allows you to select which message columns to be shown in the filter file.

Show descriptions

You can select if PDW has to show labels also in the monitor window (and logfile) and whether the labels has to be written on a new line (only in the logfile).



Command file

The command file lets you run an external program file (with optional arguments) when you receive a filter match and the filter has the "Enable filter command file" enabled. This program file can be any executable file or a ".BAT" or ".COM" file.

"Browse" lets you browse for a filename, or you can just type in a filename directly.

In the "arguments" control you can enter the arguments to be passed to the command file. These can be anything you like or any of these special character sequences :

- %1 Address
- %2 Time
- %3 Date
- %4 Mode
- %5 Type
- %6 Bitrate
- %7 Message
- %8 Label

For example : "%1" "%2" "%3" "%7" will expand to something like :

1234567 15:21:44 01-02-10 This is a TEST message

Show Tone Only / Numeric / Binary / Hex

If you don't want to see certain message types, you can simply disable them.

Show filtered messages only in filter window / logfile(s)

Select this option if you don't want to see filtered messages in the upper (monitor) window or the monitored logfile.

Filter Beep / WAV files

Allows you to enable or disable the filter sounds (or only for filtered messages).

Default filter type

Sets the default filter type for the Add Filter dialog.

Show CMD/DESC/SEP etc in filter dialog

Shows additional information in the filters dialog.



Display Menu

Clear Screen

PDW Clear Screen	×
✓ Monitor Window✓ Filter Window	
OK Cancel	

Display	Monitor		
Clear Screen		Ctrl-D	
Colors			
Font		Alt-F	
Screen Options			
Scrollback			
Systemtray Ctrl-T			

Allows you to clear the contents of the monitor and/or the filter window.

Colors

Opens the colors dialog for the current selected mode :

POCSAG/FLEX C	olors				×
Address Phase/Functio	Time/Date	Numeric/	Tone ge	Background Bit Errors	Filter Match Filter Label
1234567 14:13:33 17-08-00 POCSAG-1 512 TONE-ONLY / 0123456789 7654321 15:14:40 18-08-00 POCSAG-2 1200 Alphanumeric 1234567 16:15:20 19-08-00 POCSAG-3 2400 Biterrors 7654321 17:12:14 20-08-00 FLEX-A 1600 Text match 1234567 20:20:14 23-08-00 FLEX-B 3200 FLEX Binary 7654321 19:40:21 22-08-00 FLEX-C 6400 TEMPORARY ADDRESS: 2029568					
Sh. Instruction	s	Default C	olors	OK	Cancel

As you can see you can change the colors of all message items, as well as for characters which contain biterrors.

Font

Opens the windows Font dialog box for changing the message font (only nonproportional fonts are allowed), as well as the character size and font style.



Screen Options

In this dialog you can configure the screen layout :

PDW Screen Options
Columns to be shown on screen
Column 1 Column 2 Column 3 Column 4 Column 5 Column 6 Column 7
Time 💌 Date 💌 Address 💌 Message 💌 - 🔍 - 🔍 -
Enable "Flex Group Mode" Show consecutive individual messages as group (Time/Date/Address/Message)
Also log as "Flex Group Mode" Hide groupcodes within succesfully converted groupcalls
OK Cancel

You can define which columns to want to be shown and also in which order. Some FLEX networks use so-called "dynamic group messaging", for those networks you can enable the "Flex Group Mode", which will show something like this :

14:11:30 31-12-07	GROUP-1 1001706 1001707	1 BR CONTRINER SCHEPERSHEUVEL ST O MET846 BRW Limburg-Noord (Montfort - Blusgroep) BRW Limburg-Noord (Montfort - BvD)
14:11:32 31-12-07	GROUP-2 0107921 0107981 0108999	PRIO 2 WINKELCENTRUM DOKTER NIJESTRAAT SPAARNDAM BUITENBRAND BRW Kennemerland (Spaarndam - Vrijwilligers) BRW Kennemerland (Kalfweg - Lichtkrant) BRW Kennemerland (Monitorcode)
14:11:32 31-12-07	GROUP-3 0502050 0502068 0502726 0502999	PRIO 2 Buitenbrand KERKINGE ZUIDWOLDE DR BRW Drenthe (Zuidwolde - Groep-1) BRW Drenthe (Zuidwolde - Kazernetechniek) BRW Drenthe (Zuidwolde - TS) BRW Drenthe (Monitorcode)
14:11:34 31-12-07	CROUP-4 0100001 0100003 0100011 0100019 0102998	HV 3 Kleine inzet Kinderhof De Stempel GRAAF WILLEMLAAN 3 KDS BRW Amsterdam-eo (Ralsmeer - BvD) BRW Amsterdam-eo (Ralsmeer - Blusgroep) BRW Amsterdam-eo (Ralsmeer - TS 612) BRW Amsterdam-eo (Ralsmeer - Lichtkrant) BRW Amsterdam-eo (Monitorcode)

If enabled, you can select whether you want to log in the same (or the old) layout and if you want to combine consecutive individual messages into a group :

08:01:09 23-02-10	ALPHA 0120187 0120106 0120197	TEST: FIJNE DIENST CPA Amsterdam-Amstelland CPA Amsterdam-Amstelland CPA Amsterdam-Amstelland	(Ambu 13187) (Ambu 13106) (Ambu 13197)
19:10:45 22-02-10	SENUM 1420320 1420395 1420252 1420234 1420463 1420393	0104136302 MKA Rotterdam-Rijnmond MKA Rotterdam-Rijnmond MKA Rotterdam-Rijnmond MKA Rotterdam-Rijnmond MKA Rotterdam-Rijnmond MKA Rotterdam-Rijnmond	





Scrollback

PDW Scrollback/Pane Sizes
Scrollback
Scrollback lines for upper pane (min 1000) 1000
Scrollback lines for lower pane (min 200) 250
Mousewheel scrolling speed 5 Lines 💌
Pane Sizes
Size (in percentage) for monitor pane 60 %
Size (in percentage) for filter pane 40 %
OK Cancel

This dialog box lets you set the number of lines you can scroll back in either of the two message panes, the scrolling speed of the mousewheel and the pane sizes.

Systemtray

PDW can be minimized to the system tray and run in background and can manually or automatically be restored on specific events :





Monitor Menu

Lets you select one of the following modes to monitor :

- POCSAG / FLEX paging
- ACARS
- Mobitex
- ERMES

Statistics

Shows the statistics of the messages received over the last day and hour :

PDW Statistics					×	
the surface			Deile			
Houriy		Alaba	Dally	Numeria	Alaba	
N IN	umenc	Alpha		Numeric	Alpha	
POCSAG 512	4	6	POCSAG 512	4	6	
POCSAG 1200	19	1	POCSAG 1200	19	1	
POCSAG 2400	1	0	POCSAG 2400	1	0	
FLEX 1600	2	3	FLEX 1600	2	3	
FLEX 3200	144	146	FLEX 3200	144	146	
FLEX 6400	0	0	FLEX 6400	0	0	
ACARS 2400	11	2	ACARS 2400	11	2	
MOBITEX	0	9	MOBITEX	0	9	
ERMES	0	7	ERMES	0	7	
Browse						
Enable statistics output file 🛛 🗖 Use date for filename (YYMMMDD.ST)						
			1			
		ок	Cancel			





Character Set Menu

Lets you select a character set. Default will use basic ASCII. A few custom character sets are offered, like Hebrew, German, Skyper and Swedish.

You can add new character sets to PDW by editing the database file "language.df". New character sets will automatically be displayed in the Character Set menu after restarting PDW.

Signal Indicator

The signal indicator is located on the far right of the toolbar. Unfortunately, it's impossible to show the real signal strength, it just starts moving when random noise is detected and fully moves to the right when the current selected mode is decoded.

Below the signal indicator the RX-Quality is shown. In fact, this is the "decoding quality", but this value is highly dependent on signal quality.

Key Shortcuts

- ALT-L Open/Close Logfile
- ALT-S Show Statistics
- ALT-V Open Volume control
- CTRL-C Copy selection
- CTRL-U Copy upper (monitor) window
- CTRL-L Copy lower (filter) window
- CTRL-S Interface Setup
- CTRL-D Clear Display
- CTRL-O Options
- CTRL-F Filters dialog
- CTRL-X Exit
- F1 Opens this manual (if placed in the main PDW folder)
- F7 Opens LogBrowser (if placed in Logfiles folder)
- F11 Switch pane sizes





Toolbar Buttons

<u>⊳ ⊡ ⊡ ⊑ 🥝 ! ● 🔳 ● 🕫 Ø ⊕</u>

The buttons on the toolbar provide shortcuts to the following menus :

- 🦻 Open/Close Logfile
- Copy selection
- Copy monitor window
- Copy filter window
- Copy clipboard
- Print clipboard
- ! Options dialog
- Filters dialog
- Show statistics
- Pause PDW
- Display="block"/>
 Performance/performance/
- Clear Screen
- Change mode



Credits

Most of the credit goes to **Jason Petty**. He started the PDW project but unfortunately was unable to continue this wonderful software.

I'd like to thank :

Rutger Heunks	- Flex Group Messaging, and more
Andreas Verhoeven	- Lots of stuff
Herman Withaar	- Win2k driver, and more
All my beta testers	- For testing, and testing 🙂



Donations

At first, I didn't want to charge anything for PDW, as it is 100% hobby and I only took over an existing piece of software. I don't exactly remember, but before I took over PDW wasn't freeware. I made it freeware, but over the years, I really spend lots of time in several changes, new functions and (minor) bug fixes. Some people kept persisting on donations, so I made a PayPal account, especially for this.

PayPal

If you have a PayPal account, mine is : <u>pdw.hunt@gmail.com</u>, which is also my primary email address which can be used for any questions regarding PDW or LogBrowser.

IBAN

IBAN/SEPA: NL19INGB0006374227 BIC/SWIFT: INGBNL2A

The red numbers is the account number which can be used directly in Holland.

