PeriData LINK MODE: The interface to the Electronical Medical Record

Version 1.4.0

implemented in PeriData for Windows Version 1.4.0 and higher - 08. January 2000

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1. General remarks

In the LINK MODE, PeriData works as a server for a client. Typically, the client is a medical record program. PeriData works patient-related (separate data file for each patient) and needs patient information from the client. In the other direction, PeriData sends information to the client about the examination, enabling the client to update the patient record with this information.

Data exchange is handled with the parameters of the command line and with files. The specification is proprietory for PeriData.

2. Command line

The order of parameters on the command line is not important. The number of characters may not exceed 255 Bytes (including whitespaces). The parameters are not case sensitive except the parameter /ANSI:C or /ansi:c

Command line parameter	Meaning
/MODE: ONEPAT	ONEPAT: PeriData starts in the LINK MODE, related to one single patient
/CLIENT:<Clientname>	Clientname = Name of patient record program
/NAME:< Last Name >	Last name of patient
/FIRSTNAME:< First Name >	First name of patient (no titles)
/BORN:< Date of birth >	Date of birth = ISO format: YYYYMMDD without dots
/FILE:< Filename >	Filename = Filename with full path of the PeriData database (PHF-file) of this patient
/READONLY	Optional, locks the file (read-only)
/ANSI:F	The the message files use ANSI code (special characters are converted)
/ANSI:C	The the command line uses ANSI code (special characters are converted)

Parameter /MODE

The mode ONEPAT defines that the specified file is meant for one patient. All received data is stored into this patient file. The names in this patient file are overwritten. Other files (data bases) can be opened, e.g. to copy data (using copy and paste). If the specified patient file is closed incidently and data arrives via cable, the file is reopened automatically.

Parameter /CLIENT

The name of the client, meaning the name of the EMR software. This name appears in the PeriData program window in brackets.

Parameter /NAME

Last name of the patient. Spaces are not allowed. Underscores will be replaced by spaces after after the command line was analyzed. Titles should be added to the first name or ignored, all other name extends should be left with the last name.

Example (Monsignore Mario Di Caprio): /NAME:Di_Caprio

Parameter /FIRSTNAME

Title + first name of the patient. Spaces are not allowed. Underscores will be replaced by spaces after after the command line was analyzed. Titles belong to the first name.

Example (Monsignore Mario Di Caprio): /FIRSTNAME: Monsignore_Mario

Parameter /BORN

Date of birth using the ISO format without dots: YYYYMMDD

Example: 19670430

Parameter /FILE

String with the name of the data file (PeriData file format). Each patient has a separate data file. The path has to be present, the file may be missing (if there no visual field data have been stored for this patient). The file name may be a patient-related name containing the unique patient number of the patient record software.

Example A: / FILE: C: \ DATA \ EXTERN \ PERIDATA \ 004312.PHF

Or it may be a temporary file that was created by the client and filled with data from other sources, e.g. the client's own database.

Example B: / FILE: C: \ TEMP \ TEMP.PHF

Parameter /READONLY

This parameter is optional. The specified file in the /file parameter can be opened only for reading if the parameter /READONLY is used. Changes in the file are therefore not possible.

Please note: The specified file in the /file parameter can also be locked by PeriData without using the /READONLY parameter. This happens automaticaly if the file is allready in use by another process !

Parameter /ANSI:F

This parameter is optional. If this parameter is specified, the characters in the message files (*.MES) are assumed to be characters of the ANSI font. In this case, the characters are translated into the OEM font. This changes special characters (Umlaut) in patient names.

Parameter /ANSI:C (also allowed: /ansi:c)

This parameter is optional but it is case sensitive. Use one of the upper/lowercase variants above. If this parameter is specified, the characters of the command line are assumed to be characters of the ANSI font. In this case, the characters are translated into the OEM font before the commandline is parsed. This changes special characters (Umlaut) in patient names and file names.

Note concerning both /ANSI parameters

Instead of setting the parameters, you can switch on the option ' change Umlaut' in the menu Extra - Options - Tab General (Version 1.5 and higher). This option has the effect of both parameters together. In the special case of different code pages in the command line and the message files, the use of /ANSI parameters is necessary.

3. Behaviour of PeriData

Behaviour in case of multiple launch of PeriData on one PC

Peridata may be loaded by the client several times. There is always only one instance of PeriData in the memory. If the patient is changed in the patient record program, PeriData has to be called again with new command line parameters containing the new patient name etc. The new paramters are analyzed. Then, PeriData closes automatically all open files and opens the data file of the new patient.

Behaviour if the data file is missing

If the data file specified in the parameters is missing, PeriData creates a new file.

4. Error messages of PeriData after call

Error messages indicate an error of the call procedure, either with wrong parameters or file access problems.

Error 1

Parameter /MODE missing or unreadable. Only ONEPAT is accepted.

Error 2

Parameter /CLIENT missing or unreadable. A Client is always to be specified.

Error 3

Parameter /FIRSTNAME missing or unreadable.

Error 4

Parameter /NAME missing or unreadable.

Error 5

Parameter /BORN missing or unreadable. The date has to be given with 8 characters: YYYYMMTT. A year below 1800 is sureley an error.

Error 6

Parameters first name, name or date of birth not useful.

Error 7

Parameter /FILE missing or not useful. A complete path with all back slashes is necessary, like C:\Perimetry\Data\2456.phf

Error 10

Perimetry data file could not be opened. File is missing or access denied.

Error 11

Perimetry data file could not be created. Directory is missing or access denied.

Error 14

Directory of perimetry data file is missing or access denied.

Error 15

Message file could not be generated.

5. Contents of the MES file with examination information for the client (PeriData sending)

Each time when examination data is received from a perimeter or old examinations are copied from another file into the active patient file, PeriData sends a file message to the client (the directory has to be polled by the client). For each examination, a MES file is created. The directory is the same as the directory of the patient data file (parameter /FILE:).

The client is responsable for the deletion of these files after reading and analyzing them. Files older than 1 day are deleted by PeriData. If the client does not support the MES file analysis, PeriData cleans up the directory.

The names of the created fileds are continuous numbers (00000000.mes, 00000001.mes etc.) using the format 8.3. Existing files are not overwritten. The MES files contain only identifying data of the examination, not the examination results. Each of the following informations is a line with line feed and carriage return.

Line contents	Details
/PROGRAM: PERIDATA	Information about the source program
/NAME:< Last name >	Last name of the patient (as given by the client)
/FIRSTNAME:< First name >	Title + first name of the patient
/BORN:< Date of birth >	Date of birth *(ISO Format: YYYYMMDD without dots)*
/FILE:< Filename >	Name of PeriData data file (PHF file) WITHOUT path - may contain the patient number
/DATE:<Date of exam>	Date of the examination *(ISO format: YYYYMMDD without dots)*
/TIME:<Time of exam>	Time of exam *(Format: HHMM)*
/EYE:<Eye under exam>	the examined eye *(Latin format: OD / OS)*
/EXAM:<Examination info>	Information about the exam *(Format: <Eye>: <Instrumentt> <Examination program> [30-50 char])* *(Example OD: HFA2 CENTRAL 30-2 THRESHOLD TEST)*
/INDICES:	Exam result (Indices) *(Example: MD: -10.2 DB / FD: -77 % / PSD: 5.2 DB)*
/RELIABILITY:	Exam result (Reliability values) *(Example: FIXLOSS 0% / FPOS 6% / FNEG 0%)*

Example of a file:
/PROGRAM: PERIDATA
/NAME: Di_Caprio
/FIRSTNAME: Monsignore_Mario
/BORN: 19670430
/FILE: C:\TEMP\TEMP.PHF
/DATE: 19991127
/TIME: 1142
/EYE: OD
/EXAM: *OD: HFA2 CENTRAL 30-2 THRESHOLD TEST*
/INDICES: MD: -10.2 DB / FD: -77 % / PSD: 5.2 DB
/RELIABILITY: FIXLOSS 0% / FPOS 6% / FNEG 0%

6. Additional control commands

6.1 Control commands on the commandline

The behaviour of PeriData can be controled by a few commands on the commandline.To use this feature, PeriData has to be allready loaded into memory. If PeriData is not allready loaded into memory, a call with the parameter /command: has no effect, PeriData will also not be loaded. (->The first launch of PeriData must be done without the parameter /Command:)

6.1.1 Commands

All commands starts with the keyword /COMMAND: The parameter /COMMAND: superseeds all other commandline parameters. At this time, the following commands are implemented:

Line contents	Details
/COMMAND:CLOSE_APP	Terminates the application
/COMMAND:POPUP_APP	Put the main window in front of other windows
/COMMAND:CLOSE_WND	Closes all windows (except dialogs)
/COMMAND:CLOSE_PAT	Closes all windows and terminates the patient session

With the command 'CLOSE_WND' all open windows will be closed. If perimetric data is received on the serial port, the file of the last assigned patient is opened and the data is stored in this file. With the command 'CLOSE_PAT' all open windows will also be closed, additionally, the actual patient session will be terminated. If perimetric data is received on the serial port, only a signal is audible. The data will be stored in the first file which is opened (standard behaviour). This command 'CLOSE_PAT' can only be used from within a patient-file system, otherwise this command has no effect. The command 'CLOSE_APP' terminates PeriData. The command 'POPUP_APP' puts the main window in front of other application's windows.

6.2 Control commands with messages

PeriData has an invisible message window which is used as a receiver for external commands. This method does only work, if an instance of PeriData is allready loaded into the memory. A command to PeriData can be sent in three steps

1) Search the message window with the API function '**FindWindow**'.

2) Get the message number with the API function '**RegisterWindowMessage**

3) Send the message with the API function '**SendMessage**' to the message window.

6.2.1 Messages

The following table shows the messages which can be sent to PeriData. (These message behave similar to the corresponding commands on the commandline)

Registered message string	Details
MSG_CLOSE_APP	Terminates the application
MSG_POPUP_APP	Put the main window in front of other windows
MSG_CLOSE_WND	Closes all windows (except dialogs)
MSG_CLOSE_PAT	Closes all windows and terminates the patient session

To send a message to PeriData, the message window must first be found. This window has the caption „PeriData Shell" and has the desktop window as parent (it is a top level window). All messages above do not need any additionally parameters (wParam and lParam can be NULL).