VISTEC
Vision Technologies

Specification

Interface Description Vistec App

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Vistec AG – Vision Technologies					

Change List

Change			Changed Chapter	Change Description	Author
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1	01.04.2018	1.0	All	Created	Alexander Mayer
2	28.04.2018	1.1	2, 3, 4	Changes	Oliver Blieblau
3	16.05.2018	1.2	2.4.2	Expansion	Oliver Blieblau
4	01.10.2018	1.3	2.4.2.3	Expansion	Oliver Blieblau

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Inhalt

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1 General Information

The Vistec App commands the following interfaces:

- GDT-interface, with PDF and/or XML-file option
- XML-interface for importing/exporting of examinations
- CSV-interface for importing/exporting test persons
- data bank

1.1 Starting the Vistec App with – selection parameters

When calling up the Vistec App software, an XML or GDT file can be transferred with or without file path information. If no path is indicated for the file which is to be imported, the standard file is searched for this file name.
Standard indices: (freely definable):

- GDT: Vistec App-*Install-file*\gdt
- XML: Vistec App-*Install-file*\Examinations

GDT Example:
With path indication:

- “ Vistec App.exe C:\GDT\EDVOPT.gdt"

Without path indication:

- " Vistec App.exe EDVOPT.gdt"

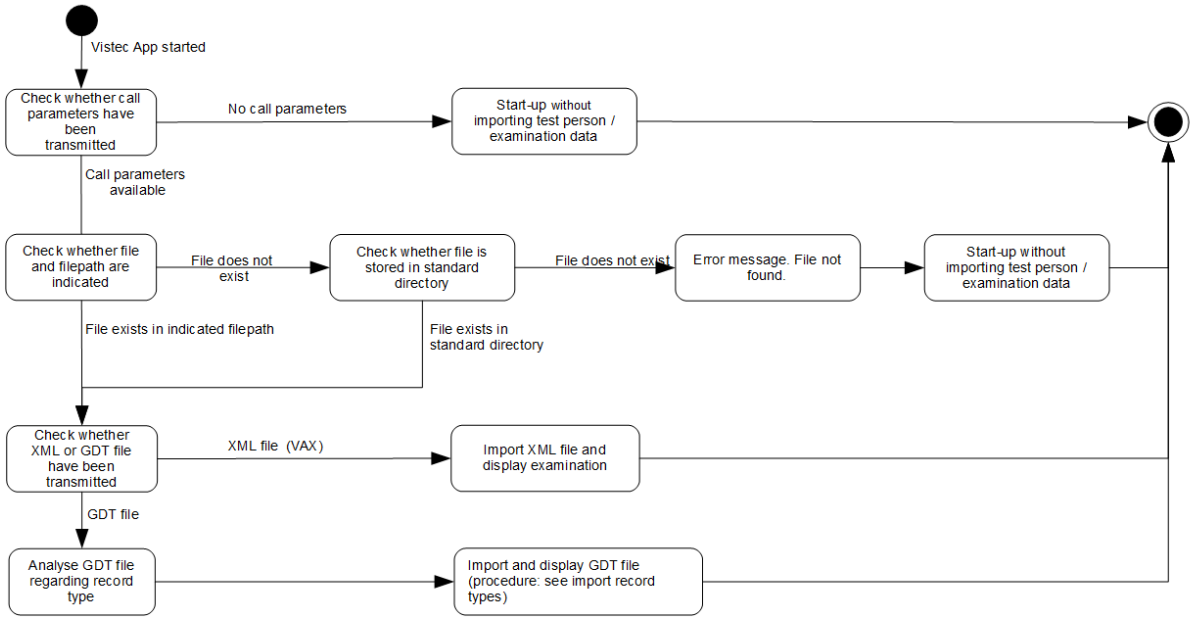
XML Example:
With path indication:

- “ Vistec App.exe C:\Exam\Testexam.vax"

Without path indication:

- " Vistec App.exe Testexam.vax"

The following steps apply:



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2 GDT Interface

2.1 Data Exchange

Data exchange is based on the GDT interface of the „Quality Medical Software“ (QMS).

2.1.1 Application Possibilities

Please note that the Vistec App “always” saves all results redundantly in its own data bank, regardless of which of the following options are used.

Recording of Computing Results:

- Directly reading examination results out of the GDT file and displaying them in a separate mask.
- Importing examination results as a PDF file and displaying as needed.
- Importing examination results as an XML file and returning this XML file back to the Vistec App as needed; the Vistec App downloads all result exclusively from this XML file.
    - Options for returning the XML file
        - The XML file can be transferred within the GDT file, see Chapter 2.2.2
        - The XML file can be transferred via parameter selection, see Chapter 1.1. The XML file can be started with the Vistec App via double click directly in Windows. To do this, the XML ending (.vax) must be linked to Windows with the Vistec App programme.
- Importing examination results as a GDT file, i.e. store the complete GDT file similarly to a PDF or XML file, and re-loading this GDT file to the Vistec App when needed. The Vistec App re-loads all results exclusively from this GDT file.
    - The GDT file can be transferred via parameter call up, see Chapter 1.1
    - The GDT file can be started directly in Windows with the Vistec App with a double click. To do this, the GDT ending (.gdt) must be linked to Windows with the Vistec App programme.
- Examination results are not imported, only the test person and date as well as the time of the examination as an option. If desired, a GDT file can be returned to the Vistec App with test person, date, and, optionally, also the time of the examination. Based on this data, the Vistec App automatically reloads the examination from its data bank.

2.1.2 File Naming Convention

Transfer of patient data from/to the data processing is carried out via 2 files, whose naming conventions can be freely assigned in the Vistec App under Settings / GDT-transfer. The standard values can be found in Chapters 2.3.1 and 2.4.1.1.

- <receiver abbreviation><sender abbreviation> . GDT

or

- <receiver abbreviation><sender abbreviation>. <upwards counting number> (e.g. *.005)

2.1.3 File Ending

The standard ending for the generated GDT files is „.gdt“. Should a file with the same name already exist in the GDT file, it will be deleted and replaced by the new file. In order to successively file several examinations in the GDT file, the Vistec App can be configured so that the file name extension for *“transferring examination data”* (*.001 to *.999) is automatically generated.

2.1.4 Index Structure

GDT files are stored in freely definable transfer indices. The standard index can be found in Chapters 2.3.1 and 2.4.1.1. The transfer path for Import and Export can be changed separately in Settings / GDT-Transfer. It also supports UNC addresses.

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2.1.5 Computer – MG (Requirements File)

Commented Example (with blanks for better readability):

013 8000	6302	Record type: request new examination
014 8100	00159	Record length
014 9218	02.10	GDT version
015 8402	OPTO00	Equipment and process-specific grid
009 3000	1234	Patient No. / ID
019 3101	Maier	Surname
015 3102	Monika	Given name
017 3103	01061997	Birthdate TTMMJJJJ
022 3106	82140 Olching	Town
024 3107	Max Otto Str. 7	Street
010 3110	2	Gender (1 = male, 2 = female)
013 8410	*Examination name*	Test name
012 8411	*optional examination name*	*optional test name*

The test name indicates the examination which is to be carried out.

2.1.6 Result – Export

The Vistec App can be configured so that PDF documents and/or an XML file containing examination results can be exported in addition to the GDT examination results.

2.1.7 Data Transfer - Procedure

The import file is generated by data processing prior to starting the Vistec App programme (record type “request new examination”). It contains test person data (at least surname and given name) and the examination which is to be carried out.
When starting the Vistec App, this test person data is read into the Vistec App from the GDT file and integrated into the Vistec App data bank. The GDT file is deleted by the Vistec App after importing it.
The export file is generated immediately by the Vistec App when storing the examination (record type “transfer examination data”). It contains the test person, the examination date and time. If pre-set in the Vistec App, a PDF and/or XML file is generated in addition containing the examination results.

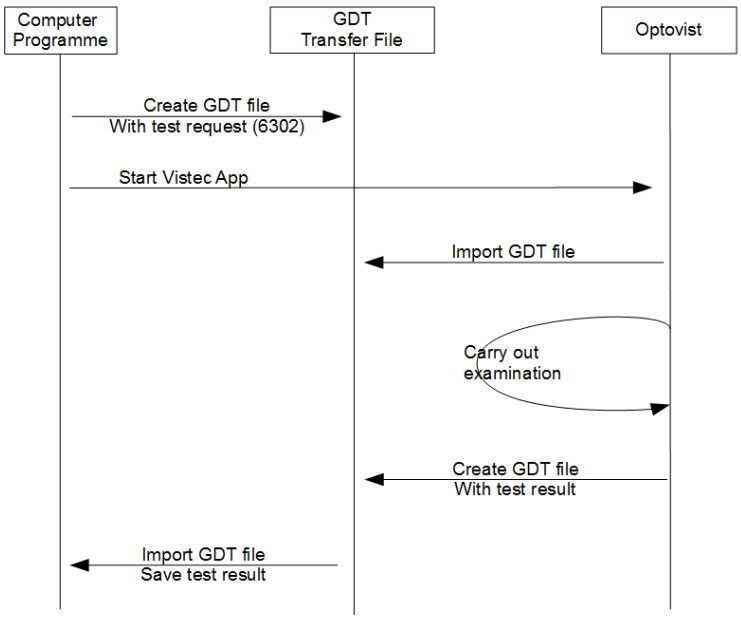

Figure 1: GDT – Data Transfer Process

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2.1.7.1 Display of Examination

An already completed examination can be re-sent to the Vistec App, re-loaded there and displayed. The import file is generated by the computer programme (record type “display examination data”) prior to starting the Vistec App Programme. It contains test person data, date and time of the examination.

Only Test Person Data

- If only the test person but no time of the examination is to be uploaded, the Vistec App opens a selection window with all examinations of the test person in question.

Test Person Data and Date

- If the test person and date are to be uploaded, but not the time, the Vistec App opens a selection window with all examinations of the test person on the selected date.

2.2 GDT Record Type Specification

2.2.1 Supporting Record Types

- *Request master file data "6300"* - *(not supported by Vistec App)*
- Transmit master file data "6301" - Import
- Request new examination "6302" - Import
- Transmit examination data "6310" - Export and Import *(needs XML file)*
- Display examination data "6311" - Import

2.2.2 Import of Computer Information

The following record types with their application information can be uploaded. The sequence of information in the GDT file doesn´t matter.

Required Data:

- GDT version
- Device code
- Test person surname and given name

6301 – Transmission of Master File Data

- 9218 - GDT Version
- 8402 - Device code field
- 0132 - Databank Password *(optional)*
- 3000 - Patient No. / ID
- 3101 - Surname
- 3102 - Given name
- 3103 - Birthdate
- 3106 - Location
- 3111 - Birthplace
- 3107 - Street
- 3110 - Gender

6302 - Request New Examination

- 9218 - GDT Version
- 8402 - Device code field
- 0132 - Databank Password *(optional)*
- 3000 - Patient No. / ID
- 3101 - Surname
- 3102 - Given name
- 3103 - Birthdate
- 3106 - Location
- 3111 - Birthplace
- 3107 - Street
- 3110 - Gender
- 8990 - Examiner
- 8410 - Examination Type
- 8411 - optional: Examination Type

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6310 - Transmitting Examination Data
- 9218 - GDT Version
- 8402 - Device Code Field
- 0132 - Databank Password (optional)
- 8411 - additional ID
- 3000 - Patient No. / ID
- 6303 - File Format
- 6305 - File Reference
    - optional: Examination Results

6311 - Display Examination
- 9218 - GDT Version
- 8402 - Device code field
- 0132 - Databank Password (optional)
- 3000 - Patient No. / ID
- 3101 - Surname
- 3102 - Given name
- 3103 - Birthdate
- 3106 - Location
- 3111 - Birthplace
- 3107 - Street
- 3110 - Gender
- 8990 - Examiner
- 6200 - Examination Date
- 6201 - Examination Time
- 8432 - optional: Examination Date
- 8439 - optional: Examination Time

2.2.3 Export to Data Processing

6310 - Transmit Examination Data
- 9218 - GDT Version
- 9206 - Font (ISO 8859-1)
- 8402 - Device Code Field
- 8411 - additional ID
- 3000 - Patient No. / ID
- 3101 - Surname
- 3102 - Given name
- 3103 - Birthdate
- 3106 - Location
- 3107 - Street
- 3110 - Gender
- 8990 - Examiner
- 8470 - Remark
- 6200 - Examination Date
- 6201 - Examination Time
- 8432 - Examination Date
- 8439 - Examination Time
- 8410 - Test ID
- 8420 - Value (result)
- 8438 - Data flow (details)

6310 – options (for PDF or/and XML)
- 6303 00000x - FileArchiveID
- 6303 - File format ("VAX" or "PDF")
- 6304 - Data contents ("designation")
- 6305 - Data reference (file path)
- optional: Examination results see Chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**

2.2.4 Attachment - PDF/XML

The Vistec App can transmit the examination as a PDF and/or as XML file to the computer programme, if desired.

Example:

0156302000001
0126303VAX
0276304Examinationdata
0766305file:///C:/Program Files/Vistec/Vistec App/gdt/EDVOPT_examination.vax
0156302000002
0126303PDF
0376304Examinationsummary
0726305file:///C:/Program Files/Vistec/Vistec App/gdt/EDVOPT_summary.pdf

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2.3 One Interface for All Products

The Vistec App can tie in all Vistec products via GDT and via an interface. Thereby, result data is transmitted only in attachment form. The GDT field 8402 (device code field) is thereby read dynamically according to device type or can be adjusted as a fixed value, for example ALLG00.

2.3.1 Interface Characteristics for Collective Interfaces

One interface for all products.

GDT Version	2.10
Device Code	Device-specific or fix *ALLG00* (adjustable)
Naming convention from data processing to MG	VIDPVS (adjustable)
Naming convention from MG to data processing	PVSVID (adjustable)
File ending	.gdt (optionally .001 - .999)
Additional export	PDF, XML file
Standard GDT Transfer Index	"C:\Program Files (x86)\Vistec\Vistec App\GDT“

Table 1: One GDT – Interface for all Devices

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2.4 Product – Optovist

2.4.1 Optovist I & II

2.4.1.1 Interface Characteristics for Eye Test Device

For Eye Test Devices Optovist I and Optovist II

GDT Version	2.10
Device Code	Opto00 (Opto00 – Opto09) / (changed name)
Naming convention from data processing to MG	OPTEDV (adjustable)
Naming convention from MG to data processing	EDVOPT (adjustable)
File ending	.gdt (optionally .001 - .999)
Additional export	PDF, XML file
Standard GDT Transfer Index	"C:\Program Files (x86)\Vistec\Vistec App\GDT\Optovist"

Table 2: Optovist GDT – Interface Characteristics

2.4.1.2 Result Export MG - EDV

Examination Results
An examination consists of individual test steps (visual acuity, colour test …). With each test step (e.g. visual acuity) several eyes can be tested. The individual test steps are filed in GDT as one test block for each eye successively. Each test detail is stored separately with an individual test ID. The first two letters of the test ID characterize the test type, then one letter for the eye, the last two characterize the tested value.
Example:
CVRDS: CV = colour test; R = right; DS = distance

Structure of a Test Block

014 8410	VFRDS	- test type, eye, distance	(example: vision far range, right eye, distance)
010 8420	6	- distance value in metres	(example: 6m)
014 8410	VFRGL	- test type, eye, visual correction	(example: vision far range, right eye, visual correction)
013 8420	0	- see Chapter 2.4.1.3 *Visual Corr.*	(example: no visual correction)
014 8410	VFRVA	- test type, eye, result value	(example: vision far range, right eye, vision)
011 8420	0.80	- tested vision	(example: vision 0.80)
010 8438	1	- index of test step	(example: 1 = first test within the examination)
014 8410	VFRRS	- test type, eye, result	(example: vision far range, right eye, result)
011 8420	1	- see Chapter 2.4.1.3 *Result*	(example: identified)
010 8438	0	- see Chapter 2.4.1.3 *Data Flow*	(example: no data provided

Test Types

VN = Visual acuity at Distance Near	SE = Long Stereoscopic Test 1 documentation (without device, with tables)
VM = Visual acuity at Distance Intermediate	SZ = Long Stereoscopic Test 2 documentations (without device, with tables)
VF = Vision at Distance Far	SO = TNO Stereoscopic Test documentation (without device, with tables)
VA = Vision at all Distance ranges	RT = Recovery Test (rest after glare)
CV = Colour Test (Device)	AT = Astigmatism Test
CL = Colour Test manual with Velhagen Tables	DC = Duochrome Test
CH = Colour Test manual with Ishihara Tables	
PR = Visual Field / Perimetrics	
ST = Stereo Test	

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PH = Phoria Test HY = Hyperopia CT = Contrast (with "LT = 0") **/** glare (with "LT = 1") AK = Accommodation Test AM = Amsler Test manual NT = Night Vision Test TW = Twilight Vision Test with and without glare	FT = Fusion Test DO = DOG Test PL = Phoria Horizontal Letter Test PT = Phoria Horizontal Notes Test PV = Phoria Vertical Notes Test PN = Phoria Vertical Numbers Test TM = Titmus Stereoscopic Test Documentation PD = Perimetric Documentation MA = Colour Test Matsubara (manual with tables) ME = Colour Test Waggoner „made easy"(manual with tables)

Eye Mode
R = right eye
L = left eye
B = both / binocular

Zusätzliche Angaben
DS = distance
CT = contrast value
LT = lighting (glare)
GL = Glasses (visual aids)
VA = value, data flow contains details of individual test type
RS = test status, data flow contains details

Manual tests (e.g. colour or Amsler test) are only included as extensions of the eye test. They can also be retrieved from and stored directly in the administration software, if contained in the masks.

Test ID (8410), result value (8420) and data flow (8438) form a composite data group and are repeated in different tests.
For each test type, only the necessary information items are transmitted: e.g. contrast and glare may be omitted for the normal eye test, the result value would be filled in only for the visual and stereoscopic test.

2.4.1.3 Detail Meanings

Distance (*DS)
Field 8420
unit: meter
scope:
0,25 – 20 Meter
"U" = endless

Corrective Lenses (*GL) :

Optovist II – Interface
Corrective lenses are transmitted in plain text
Field 8420
„long distance lenses" - plain text – name of corrective lenses

Optovist I - Interface
Corrective lenses are usually transmitted in plain text. In order to ensure compatibility to the older Optovist I interface, the software can be set up to transmit only index numbers for fixed, pre-defined corrective lenses.
Field 8420
„long distance lenses" - plain text – name of corrective lenses

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Optovist I interface:

0 = without *(no corrective lenses)*
1 = reading lenses
2 = bifocal lenses
3 = trifocal lenses
4 = varifocal lenses
5 = VDU (visual display unit) lenses
6 = contact lenses
7 = long distance lenses
8 = children's lenses
9 = contact lenses and reading lenses
10 = contact lenses and VDU
11 = Lasik
12 = IOL
13 = varifocal contact lenses
14 = CL + reading lenses

Tested Visual (*VA)

Field 8420

0.00 = no visual used
-1 = no visual tested
0.05 – 2.0 = tested visual

Result (*RS):

Field 8420

-1 = incomplete / not executed
0 = not identified / not conform / conspicuous
1 = recognised / conform
2 = questionable / partly executed

Field 8438

Details: test type specific, see Chapter **Fehler! Verweisquelle konnte nicht gefunden werden.** Structure of Test Types

Contrast Value (*CT):

Field 8420

- contrast value of picture in percent 0-100%
- In the Twilight Vision Test, contrast is indicated in relation to the ambient luminosity, not in percent, e.g.: 1 : 2,7

Glare (*LT):

Field 8420

0 = glare light source off
1 = glare light source on

2.4.1.4 Structure of Test Types

Visual Acuity – Visual Test

014	8410	VNLDS	visual close-up range left eye distance
010	8420	6	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	VNLGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	VNLVA	tested visual acuity
011	8420	0.7	visual, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination

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014	8410	VNLRS	result
011	8420	-1	1 = recognised, 0 = not recognised -1 = incomplete
010	8438	0	details are not used, always "0"

Stereoscopic Test

014	8410	STBDS	stereoscopic binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	STBGL	corrective lenses
019	8420	reading glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	STBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	STBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	96	value: -1 = no value recognised
			value: between 0 – 800 recognised angle seconds
			Test executed but no results:
			8420 - 0 not conform
			8438 - -1 no result

Colour Test (Device)

014	8410	CVBDS	colour test binocular distance
013	8420	0.67	Distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	CVBGL	corrective lenses
019	8420	reading glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	CVBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	5	index of test step within the examination
014	8410	CVBRS	result
011	8420	-1	1 = conform, 0 = not conform, -1 = incomplete
010	8438	0	details are not used, always "0"

Hyperopia

014	8410	HYRDS	hyperopia right eye distance
010	8420	U	Distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	HYRGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	HYRVA	visual acuity
013	8420	*suspicion of hyperopia*	- result text
010	8438	1	index of test step within the examination
014	8410	HYRRS	result
010	8420	0	1 = conform, 0 = not conform, -1 = incomplete /not evaluated
020	8438	1,0,1	sequence: 0.5dpt, 1dpt, 1.5dpt
			value: -1 = no measurement / incomplete
			value: 0 = worse
			value: 1 = better / same
			example: 1,0,1
			0.5dpt = better / same

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1dpt = worse
1.5dpt = better / same

Contrast Test without Glare

014	8410	CTRDS	contrast right eye distance
010	8420	U	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	CTRGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	CTRVA	used visual acuity
013	8420	0.16	visual, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	2	index of test step within the examination
014	8410	CTRRS	result
010	8420	0	1 = recognised, 0 = not recognised -1 = incomplete
010	8438	0	details are not used, always "0"
014	8410	CTRCT	contrast in percent
013	8420	80.0	contrast value (example: 80%), see Chapter 2.4.1.3 detail meaning *(*CT)*
014	8410	CTRLT	glare
010	8420	0	glare source always = 0, see Chapter 2.4.1.3 detail meaning *(*LT)*

Contrast Test with Glare (Glare Test)

014	8410	CTRDS	contrast right eye distance
010	8420	U	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	CTRGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	CTRVA	used visual acuity
013	8420	0.16	visual, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	6	index of test step within the examination
014	8410	CTRRS	result
010	8420	0	1 = recognised, 0 = not recognised -1 = incomplete
010	8438	0	details are not used, always "0"
014	8410	CTRCT	contrast in percent
013	84208	0.0	contrast value (example: 80%), see Chapter 2.4.1.3 detail meaning *(*CT)*
014	8410	CTRLT	glare
010	8420	1	glare source always = 1, see Chapter 2.4.1.3 detail meaning *(*LT)*

Twilight Vision Test

014	8410	TWRDS	twilight vision test right eye distance
010	8420	U	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	TWRGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning (*GL)
014	8410	TWRVA	used visual acuity
013	8420	0.10	visual, see Chapter 2.4.1.3 detail meaning (*VA)
010	8438	2	index of test step within the examination
014	8410	TWRRS	result
010	8420	0	1 = recognised, 0 = not recognised -1 = incomplete
010	8438	0	details are not used, always "0"
014	8410	TWRCT	contrast value
013	8420	1:2.70	contrast value, see Chapter 2.4.1.3 detail meaning *(*CT)*

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014	8410	TWRLT	glare
010	8420	0	glare source always = 0, see Chapter 2.4.1.3 detail meaning (*LT)

Twilight Vision Test with Glare

014	8410	TWRDS	twilight vision test right eye distance
010	8420	U	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	TWRGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning (*GL)
014	8410	TWRVA	used visual acuity
013	8420	0.10	visual, see Chapter 2.4.1.3 detail meaning (*VA)
010	8438	2	index of test step within the examination
014	8410	TWRRS	result
010	8420	0	1 = recognised, 0 = not recognised -1 = incomplete
010	8438	0	details are not used, always "0"
014	8410	TWRCT	contrast value
013	8420	1 : 2.70	contrast value, see Chapter 2.4.1.3 detail meaning *(*CT)*
014	8410	TWRLT	glare
010	8420	1	glare source always = 1, see Chapter 2.4.1.3 detail meaning (*LT)

Night Vision Test - Scotopic Vision Acuity – Visual Test

014	8410	NTBDS	scotopic vision acuity binocular distance
010	8420	6	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	NTBGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	NTBVA	tested visual acuity
011	8420	0.7	visual, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	NTBRS	result
011	8420	-1	1 = recognised, 0 = not recognised -1 = incomplete
010	8438	0	details are not used, always "0"

Phoria Test

014	8410	PHBDS	phoria binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	PHBGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	PHBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	3	index of test step within the examination
014	8410	PHBRS	result
011	8420	-1	1 = conform, 0 = not confirm, -1 = incomplete
011	8438	0,0,1,0,1	sequence: orthophoria, hypophoria, hyperphoria, esophoria, exophoria value: 0 = not recognised, 1 = recognised example: 0,0,1,0,1 = hyperphoria and exophoria recognised meaning: conform = orthophoria not conform = hyperphoria, hypophoria, esophoria, exophoria incomplete = test not executed

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Example – test executed but no results:
8420 - 0 – not conform
8438 - 0,0,0,0,0 none recognised

Accommodation Test

014	8410	AKRDS	accommodation right eye distance
012	8420	0.8	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	AKRGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	AKRVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	8	index of test step within the examination
014	8410	AKRRS	result
010	8420	0	details are not used, always "0"
027	8438	0.7,1.5,0.4,2.5	

sequence: max. accommodation, clear distance, actual accommodation, clear distance
value: -1 = no measurement taken
value: 0 – 20 dioptre or meter value, according to position
units:

max. accommodation	= 0 - 20 dioptre (dpt)
clear distance	= 0 - 20 meter (m)
used accommodation	= 0 - 20 dioptre (dpt)
clear distance	= 0 - 20 meter (m)

example: 0.7,1.5,0.4,2.5

max. accommodation	= 0.7 dpt
clear distance	= 1.5 m
actual accommodation	= 0.4 dpt
clear distance	= 2.5 m

Note:
If the accommodation test has been executed, all values are always visible; if the test has not been carried out, all values (-1,-1,-1,-1) are always missing. It cannot happen that values are only partially shown in the accommodation test.

Perimetric Test – Orientational Visual Field Test

014	8410	PRBDS	perimetry binocular distance
010	8420	6	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	PRBGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	PRBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	PRBRS	result
010	8420	0	1 = conform, 0 = not conform, -1 = incomplete
010	8438	0	details are not used, always "0"

Amsler Test (without device, with table)

014	8410	AMRDS	Amsler right eye distance
012	8420	0.4	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*

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014	8410	AMRGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	AMRVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	7	index of test step within the examination
014	8410	AMRRS	result
011	8420	-1	1 = conform, 0 = suspicion of retina damage, -1 = incomplete
023	8438	1,0,1	sequence: question-1, question-2, question-3 value: 0 = no, 1 = yes question-1: white dot in the centre of the square recognised? question-2: grid square completely visible? question-3: all lines within grid square parallel?

Ishihara Test (without device, with tables)

014	8410	CHRDS	Ishihara right eye distance
012	8420	0.4	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	CHRGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	CHRVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	CHRRS	result
011	8420	-1	1 = conform, 0 = not conform, -1 = incomplete
023	8438	0	details are not used, always "0"

Velhagen Test (without device, with tables)

014	8410	CLRDS	Velhagen right eye distance
012	8420	0.4	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	CLRGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	CLRVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	CLRRS	result
011	8420	-1	1 = conform, 0 = not conform, -1 = incomplete
023	8438	0	details are not used, always "0"

Lang Stereoscopic Test 1 (without device, with tables)

014	8410	SEBDS	Lang stereoscopic test 1 binocular distance
012	8420	0.4	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	SEBGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	SEBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	SEBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
023	8438	1,0,1	recognised angular seconds: Pos-1, Pos-2, Pos-3

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values: 0 = not recognised, 1 = recognised, -1 = not executed
Pos-1: 550“
Pos-2: 600”
Pos-3: 1200”

Lang Stereoscopic Test 2 (without device, with tables)

014	8410	SZBDS	Lang stereoscopic test 2 binocular distance
012	8420	0.4	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	SZBGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	SZBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	SZBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
023	8438	1,0,1	recognised angular seconds: Pos-1, Pos-2, Pos-3

values: 0 = not recognised, 1 = recognised, -1 = not executed
Pos-1: 200”
Pos-2: 400”
Pos-3: 600”

TNO Stereoscopic Test (without device, with tables)

014	8410	SOBDS	TNO stereoscopic test binocular distance
012	8420	0.4	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	SOBGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	SOBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	SOBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
023	8438	0,0,0,0,1,30	recognised results

Pos-1, 2, 3, 4
values: 0 = not recognised, 1 = recognised, -1 = not executed
Pos-1: Table 1 – all butterflies recognised
Pos-2: Table 2 – largest circle recognised
Pos-3: Table 3 – all 4 symbols recognised
Pos-4: Table 4 – all 3 circles recognised
Pos-5: belongs to Table 4 of Pos-4
If Pos-4 = 1, then Pos-5 not used and Pos-5 = -1
If Pos-4 = 0, then Pos-5 is answer to question: *larger circle on right?* right = 1 or left = 0
Pos-6: recognised angular seconds (*30, 60, 120, 240, 480*)
values: 0 - 480

Titmus Stereoscope Test (without device, with tables)

014	8410	TMBDS	Titmus stereoscopic test binocular distance

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012	8420	0.4	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	TMBGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	TMBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	TMBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
023	8438	200,0,1,0,0,1,0,0,0,0,0,0,0	recognised results (Pos-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13) Pos-1 (final result – recognised angular seconds) values: 0 – 800 Pos-2,3,4 (cat, rabbit, monkey) values: 0 = not recognised, 1 = recognised, -1 = not executed Pos-2: 400” Pos-3: 200” Pos-4: 100” Pos-5,6,7,8,9,10,11,12,13 (circles) values: 0 = not recognised, 1 = recognised, -1 = not executed Pos-5: 800” Pos-6: 400” Pos-7: 200” Pos-8: 140” Pos-9: 110” Pos-10: 80” Pos-11: 60” Pos-12: 50” Pos-13: 40”

Recovery Test

014	8410	RTBDS	Recovery binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	RTBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	RTBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	RTBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	15	value: -1 = no value recognised value: between 0 – 8000 time in seconds

Astigmatism Test

014	8410	ATBDS	astigmatism test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	ATBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	ATBVA	visual acuity

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013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	ATBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	6	value: -1 = no position indicated value: between 1 – 7 = position of fat line 1-3 – right side, 4 - middle, 5-7 – left side

Duochrome Test

014	8410	DCBDS	duochrome test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	DCBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	DCBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	DCBRS	result
011	8420	0	1 = conform, 0 = not conform, -1 = incomplete
020	8438	relative myopia	results text: - „relative myopia“ - „relative hyperopia“

Fusion Test

014	8410	FTBDS	fusion test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	FTBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	FTBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	FTBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	0	not used

DOG Test

014	8410	DOBDS	DOG test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	DOBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	DOBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	DOBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	0	not used

Phoria Horizontal Letter Test

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014	8410	PLBDS	phoria horizontal letter test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	PLBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	PLBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	PLBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	0	not used

Phoria Vertical Numbers Test

014	8410	PNBDS	phoria vertical numbers test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	PNBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	PNBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	PNBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	0	not used

2.4.1.5 Commented Example (with blanks for better readability):

013 8000	6310	record type: transmit data of an examination	
014 8100	01729	record length	
014 9218	01.00	version GDT	
010 9206	3	symbol set 3 = ISO8859-1(ANSI) CP 1252	
015 8402	OPTO00	device code field	
014 3000	12345	patient number	
014 8410	VFRDS	distant visual acuity right	distance
014 8420	6		6.00m
014 8410	VFRGL		corrective lenses
013 8420	none		
014 8410	VFRVA		visual acuity
013 8420	0.50		
010 8417	1		
014 8410	VFRRS		result
010 8420	0		
018 8417	0		details
014 8410	VFLDS	distant visual acuity left	distance
014 8420	99.00		
014 8410	VFLGL		corrective lenses
013 8420	none		
014 8410	VFLVA		visual acuity
013 8420	0.63		
010 8417	1		
014 8410	VFLRS		result
010 8420	0		
019 8417	0		details
014 8410	VFBDS	distant visual acuity binocular	distance
014 8420	99.00		
014 8410	VFBGL		corrective lenses
013 8420	none		

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014 8410	VFBVA		visual acuity
013 8420	0.80		
010 8417	1		
014 8410	VFBRS		result
010 8420	1		
019 8417	0		details
014 8410	VMRDS	visual acuity intermediate distance right	distance
013 8420	0.55		
014 8410	VMRGL		corrective lenses
013 8420	none		
014 8410	VMRVA		visual acuity
013 8420	1.00		
010 8417	2		
014 8410	VMRRS		result
010 8420	1		
018 8417	0		details
014 8410	VMLDS	visual acuity intermediate distance left	distance
013 8420	0.55		
014 8410	VMLGL		corrective lenses
013 8420	none		
014 8410	VMLVA		visual acuity
013 8420	1.25		
010 8417	2		
014 8410	VMLRS		result
010 8420	1		
019 8417	0		details
014 8410	VMBDS	visual acuity interm. dist. binocular	distance
013 8420	0.55		
014 8410	VMBGL		corrective lenses
013 8420	none		
014 8410	VMBVA		visual acuity
013 8420	0.50		
010 8417	2		
014 8410	VMBRS		result
010 8420	0		
019 8417	0		details
014 8410	PHBDS	phoria binocular	distance
013 8420	0.55		
014 8410	PHBGL		corrective lenses
013 8420	none		
014 8410	PHBVA		visual acuity
013 8420	0.00		
010 8417	3		
014 8410	PHBRS		result
010 8420	1		
010 8417	1,0,0,0		Details
014 8410	STBDS	stereoscopic binocular	distance
013 8420	0.55		
014 8410	STBGL		corrective lenses
013 8420	none		
014 8410	STBVA		visual acuity
013 8420	0.00		
010 8417	4		
014 8410	STBRS		result
010 8420	1		
020 8417	40		details
014 8410	CVBDS	colour test binocular	distance
013 8420	0.55		
014 8410	CVBGL		corrective lenses
013 8420	none		
014 8410	CVBVA		visual acuity
013 8420	0.00		
018 8417	5		
014 8410	CVBRS		result
010 8420	1		
016 8417	0		details
014 8410	VNRDS	visual acuity near distance right	distance

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013 8420	0.33		
014 8410	VNRGL		corrective lenses
013 8420	none		
014 8410	VNRVA		visual acuity
013 8420	0.63		
010 8417	6		
014 8410	VNRRS		result
010 8420	0		
018 8417	0		details
014 8410	VNLDS	visual acuity near distance left	distance
013 8420	0.33		
014 8410	VNLGL		corrective lenses
013 8420	none		
014 8410	VNLVA		visual acuity
013 8420	0.80		
010 8417	6		
014 8410	VNLRS		result
010 8420	1		
019 8417	0		details
014 8410	VNBDS	visual acuity near distance binocular	distance
013 8420	0.33		
014 8410	VNBGL		corrective lenses
013 8420	none		
014 8410	VNBVA		visual acuity
013 8420	1.00		
010 8417	6		
014 8410	VNBRS		result
010 8420	1		
019 8417	0,0,0,28,0		details

2.4.2 Optovist II – Expanded GDT Interface

The Optovist II interface shows corrective lenses in plain text, see Chapter 2.4.1.3 detail meaning *(*GL).*
The Optovist II interface shows addition values in GDT, see following chapters.

2.4.2.1 Further Test Types

Perimetric Documentation

014	8410	PDRDS	perimetric right eye distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	PDRGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	PDRVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	5	index of test step within the examination
014	8410	PDRRS	result
011	8420	-1	1 = conform, 0 = not conform, -1 = incomplete
010	8438	0	details are not used, always "0"

Differentiated Colour Test (Device) for Determination of Red-Green Impairment

014	8410	CDBDS	differentiated colour test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	CDBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	CDBVA	visual acuity

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013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	5	index of test step within the examination
014	8410	CDBRS	result
011	8420	0	1 = conform, 0 = not conform, -1 = incomplete
010	8438	suspicion red deficiency	result in plain text

Phoria Horizontal Notes Test

014	8410	PTBDS	phoria horizontal notes test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	PTBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	PTBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	PTBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	0	not used

Phoria Vertical Notes Test

014	8410	PVBDS	phoria vertical notes test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	PVBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	PVBVA	vision value
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	PVBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	0	not used

Colour Test Matsubara (without device, with tables)

014	8410	MABDS	Matsubara test binocular distance
012	8420	0.4	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	MABGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	MABVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	MABRS	result
011	8420	-1	1 = conform, 0 = not conform, -1 = incomplete
023	8438	0	details are not used, always "0"

Colour Test Waggoner „made easy“ (without device, with tables)

014	8410	MEBDS	Waggoner test binocular distance
012	8420	0.4	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	MEBGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*

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014	8410	MEBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	MEBRS	result
011	8420	-1	1 = conform, 0 = not conform, -1 = incomplete
023	8438	0	details are not used, always "0"

Hyperopia Children's Eye Test

014	8410	HYRDS	hyperopia right eye distance
010	8420	U	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	HYRGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	HYRVA	visual acuity
013	8420	0.7	visual acuity, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	HYRRS	result visual acuity
010	8420	0	1 = conform, 0 = not conform, -1 = incomplete
020	8438	-1,-1,-1	not used

2.4.2.2 Dioptres (dpt) – Result Values

Additional dioptres can be prepended in the individual eye test for the patient, leading to an additional result "with Dpt" which is recorded and exported.

The following test types may contain dioptre results:

- visual acuity
- phoria
- twilight & twilight with glare
- contrast & contrast with glare
- scotopic visual acuity

Structure – Detail Meanings

Dioptres (*DP)

Field 8420

unit:	Dioptres (dpt)
scope:	4.5 to -3.5 dpt

Tested Visual Acuity (*DPVA)

Field 8420

0.00	= no visual acuity employed
-1	= no visual acuity tested
0.05 – 2.0	= tested visual acuity

Contrast Value (*DPCT):

Field 8420

- Contrast value in percent 0-100% or in proportion to surrounding luminosity, e.g..: 1 : 2,7

Result (*DPRS):

Field 8420

-1 = incomplete / not executed
0 = not recognised / not conform / conspicuous

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1 = recognised / conform
2 = questionable / partially completed

Field 8438

Details: test type specific, see Chapter **Fehler! Verweisquelle konnte nicht gefunden werden.** Structure Test Types

2.4.2.3 Structure Test Types with Dioptres - Result

Visual Acuity Test

014	8410	VNLDS	visual close-up left eye distance
010	8420	6	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	VNLGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	VNLVA	tested visual acuity
011	8420	0.7	visual, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	VNLRS	result
011	8420	-1	1 = recognised, 0 = not recognised, -1 = incomplete
010	8438	0	details are not used, always "0"
014	8410	VNLDP	prepended dioptres
013	8420	-1.5	dioptre value (dpt)
016	8410	VNLDPVA	tested visual acuity
013	8420	1.00	vision, see Chapter 2.4.1.3 detail meaning *(*VA)*
016	8410	VNLDPRS	result
010	8420	1	1 = recognised, 0 = not recognised, -1 = incomplete
010	8438	0	details are not used, always "0"

Phoria Test

014	8410	PHBDS	phoria binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	PHBGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	PHBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	3	index of test step within the examination
014	8410	PHBRS	result
011	8420	-1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	0,0,1,0,1	sequence: orthophoric, hypophoria, hyperphoria, esophoria, exophoria
014	8410	PHBDP	prepended dioptres
013	8420	-0.5	dioptre value (dpt)
016	8410	PHBDPVA	visual acuity
010	8420	0	not used, always "0"
016	8410	PHBDPRS	result
010	8420	1	1 = conform, 0 = not conform, -1 = incomplete
010	8438	0	details are not used, always "0"

Twilight Vision Test

014	8410	TWRDS	twilight vision test right eye distance

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010	8420	U	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	TWRGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning (*GL)
014	8410	TWRVA	employed visual acuity
013	8420	0.10	vision, see Chapter 2.4.1.3 detail meaning (*VA)
010	8438	2	index of test step within the examination
014	8410	TWRRS	result
010	8420	0	1 = recognised, 0 = not recognised, -1 = incomplete
010	8438	0	details are not used, always "0"
014	8410	TWRCT	contrast value
013	8420	1:2,70	contrast value, see Chapter 2.4.1.3 detail meaning *(*CT)*
014	8410	TWRLT	glare
010	8420	0	glare source always = 0, see Chapter 2.4.1.3 detail meaning (*LT)
014	8410	TWRDP	prepended dioptres
013	8420	+0.5	dioptre value (dpt)
016	8410	TWRDPCT	tested contrast
012	8420	1:2	contrast value, see Chapter 2.4.1.3 detail meaning *(*CT)*
016	8410	TWRDPRS	result
010	8420	1	1 = recognised, 0 = not recognised, -1 = incomplete
010	8438	0	details are not used, always "0"

Contrast Test with and without Glare

014	8410	CTRDS	contrast right eye distance
010	8420	U	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	CTRGL	corrective lenses
013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	CTRVA	employed visual acuity
013	8420	0.16	vision, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	2	index of test step within the examination
014	8410	CTRRS	result
010	8420	0	1 = recognised, 0 = not recognised, -1 = incomplete
010	8438	0	details are not used, always "0"
014	8410	CTRCT	contrast in percent
013	8420	80.0	contrast value (example: 80%), see Chapter 2.4.1.3 detail meaning *(*CT)*
014	8410	CTRLT	glare
010	8420	0	glare source always = 0, see Chapter 2.4.1.3 detail meaning *(*LT)*
014	8410	CTRDP	prepended dioptres
011	8420	+1	dioptre value (dpt)
016	8410	CTRDPCT	tested contrast
013	8420	10.0	contrast value, see Chapter 2.4.1.3 detail meaning *(*CT)*
016	8410	CTRDPRS	result
010	8420	1	1 = recognised, 0 = not recognised, -1 = incomplete
010	8438	0	details are not used, always "0"

Scotopic Visual Acuity Test

014	8410	NTBDS	scotopic visual acuity binocular distance
010	8420	6	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	NTBGL	corrective lenses

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013	8420	none	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	NTBVA	tested visual acuity
011	8420	0.7	vision, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	1	index of test step within the examination
014	8410	NTBRS	result
011	8420	-1	1 = recognised, 0 = not recognised, -1 = incomplete
010	8438	0	details are not used, always "0"
014	8410	NTBDP	prepended dioptres
013	8420	-1.5	dioptres value (dpt)
016	8410	NTBDPVA	tested visual acuity
013	8420	1.00	vision, see Chapter 2.4.1.3 detail meaning *(*VA)*
016	8410	NTBDPRS	result
010	8420	1	1 = recognised, 0 = not recognised, -1 = incomplete
010	8438	0	details are not used, always "0"

Astigmatism Test

014	8410	ATBDS	astigmatism test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	ATBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	ATBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	ATBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	6	value: -1 = no position indicated value: between 1 – 7 = position of fat line 1-3 – right side, 4 - middle, 5-7 – left side
014	8410	ATBDP	prepended dioptres
013	8420	-1.5	dioptre value (dpt)
014	8410	ATBDPVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
014	8410	ATBDPRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	6	value: -1 = no position indicated value: between 1 – 7 = position of fat line 1-3 – right side, 4 - middle, 5-7 – left side

Duochrome Test

014	8410	DCBDS	duochrome test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	DCBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	DCBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	DCBRS	result
011	8420	0	1 = conform, 0 = not conform, -1 = incomplete

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020	8438	relative myopia	result text: „relative myopia“, relative hyperopia“
014	8410	DCBDP	prepended dioptres
013	8420	-0.5	dioptre value (dpt)
014	8410	DCBDPVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
014	8410	DCBDPRS	result
011	8420	0	1 = conform, 0 = not conform, -1 = incomplete
020	8438	relative myopia	result text: - „relative myopia“ - „relative hyperopia“

DOG Test

014	8410	DOBDS	DOG test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	DOBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	DOBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	DOBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	0	not used
014	8410	DOBDP	prepended dioptres
013	8420	-0.5	dioptre value (dpt)
014	8410	DOBDPVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
014	8410	DOBDPRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	0	not used

Fusion Test

014	8410	FTBDS	fusion test binocular distance
013	8420	0.67	distance, see Chapter 2.4.1.3 detail meaning *(*DS)*
014	8410	FTBGL	corrective lenses
019	8420	eye glasses	corrective lenses, see Chapter 2.4.1.3 detail meaning *(*GL)*
014	8410	FTBVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
010	8438	4	index of test step within the examination
014	8410	FTBRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	0	not used
014	8410	FTBDP	prepended dioptres
013	8420	-0.5	dioptre value (dpt)
014	8410	FTBDPVA	visual acuity
013	8420	0.00	not used, see Chapter 2.4.1.3 detail meaning *(*VA)*
014	8410	FTBDPRS	result
011	8420	1	1 = conform, 0 = not conform, -1 = incomplete
011	8438	0	not used

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3 XML Interface

The Vistec App enables a complete examination to be exported as an XML file. These XML files have the ending "*.vax*". If this file ending is registered in Windows in the Vistec App programme, the XML file can be started and loaded directly in the Vistec App with a double click.

With the help of the XML file, it is possible to re-load the complete examination in the Vistec App without a data bank, thereby automatically importing the examination (if not already present). This option would be helpful in the following scenario, for example:

Initial situation:

- Vistec App data bank is not distributed over the network.
- PC-A has a local Vistec App installation and PVS (practice management software) network connection.
- PC-B has a local Vistec App installation and PVS network connection.

1. An examination is carried out in PC-A and transmitted to the PVS.
2. The examination in PC-A is to be re-displayed on PC-B with the help of the PVS.
   - PC-B – Vistec App data bank empty
   - The computing programme transmits the previously stored XML file from PC-A during the GDT transfer; Vistec App can upload and display the examination from the XML file.

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4 Data Bank

The data bank consists of a file and is normally located in the programme file. In addition, it is possible to configure the Vistec App so that the data bank can be externally stored in another file. In the process, UNC addresses are also supported.

Data bank characteristics:

- name of data bank: " db_vistec.vadb"
- type of data bank: SQLite Version 3.15.0

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5 CSV Interface

With the help of the CSV interface, it is possible to export test persons from the data bank into a CSV file, as well as to import test persons from a CSV file into the Vistec App data bank.

5.1.1 Exporting Test Persons

When exporting test persons, all selected test persons in a file with the ending .csv are exported.
In this process, test person data is transmitted line by line. The individual parameters are separated by semi-colons.

The file structure is as follows:

- given name
- surname
- birth date
- YYYY-MM-DD
- gender
- personnel ID number
- postal code
- town
- street
- house number
- state / province
- country
- company
- department
- GDT-ID

5.1.2 Importing Test Persons

When importing test person data, all test persons in a file with the ending .csv are imported. As in exporting, test person data is transmitted line by line. The individual parameters must be separated by semi-colons. The parameter sequence must be analogous to the export sequence in order to correctly import test person data.

Parameter sequence

- given name
- surname
- birth date
- YYYY-MM-DD
- gender
- personnel ID number
- postal code
- town
- street
- house number
- state / province
- country
- company
- department
- GDT-ID

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Vistec AG
Werner - von - Siemens - Str. 13
82140 Olching
Germany

Telephone: +49/8142/44 857-60
Telefax: +49/8142/44 857-70
Email: info@vistec-ag.de
Internet: www.vistec-ag.de
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