

DATA FORMAT

AXIAL

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DATA FORMAT : Examination data part AXIAL (version:1-01-07)

1. Definition of TAG and fields in CSV file

Tag Name	Explanation of the tag	Field following a tag						
		Number of appearance	Number of fields	Name of fields	Character type	Maximum number of the characters	Detail	Unit
[MAC_V]	Unit Software Version	-	6	MCPU software version	ASCII	6	Character string of MCPU software version Example: M.00	
				GCPU software version	ASCII	6	Character string of GCPU software version Example: G.00	
				LCA data version	ASCII	6	Character string of LCA data version Example: 00	
				INT data version	ASCII	6	Character string of INT data version Example: 00	
				POST data version	ASCII	6	Character string of POST data version Example: 00	
				NCPU software version	ASCII	6	Character string of NCPU software version Example: N.00	
[ETYP_R]	Eye Type (Right eye)	-	1	Eye Eype	ASCII	13	One of the character strings of [Normal], [Normal(S/V)], [Normal(M/V)], [Dense], [Aphakic] , [Pseudophakic1] , [Pseudophakic2] or [Pseudophakic3].	
[VEL_R]	Ultrasound velocity (Right eye)	-	4	Biometry Average	ASCII	4	Unsigned integer Biometry average ultrasound velocity (Normal, Dense, Aphakic)	m/s
				ACD	ASCII	4	Unsigned integer Biometry ACD ultrasound velocity (Normal, Dense)	m/s
				LENS	ASCII	4	Unsigned integer IOL ultrasound velocity (Pseudo)	m/s
				Vitreous	ASCII	4	Unsigned integer Biological ultrasound velocity (Pseudo)	m/s
[IOLT_R]	IOL thickness (Right eye)	-	1	IOL thickness	ASCII	4	Unsigned decimal	mm
[KI_R]	Keratometric Index (Right eye)	-	1	Keratometric Index	ASCII	9	Unsigned decimal	
[CI_R]	Contact or Immersion (Right eye)	-	1	Contact or Immersion	ASCII	9	One of the character strings of [Contact] or [Immersion]	
[MSR_R]	Measurement data (Right eye)	-	3	Axial Length	ASCII	5	Unsigned decimal	mm
				ACD	ASCII	5	Unsigned decimal	mm

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				Lens thickness	ASCII	5	Unsigned decimal	mm
[K12_R]	Corneal refractive power (Right eye)	-	2	K1	ASCII	5	Corneal refractive power or Corneal curvature, Unsigned decimal	D, mm
				K2	ASCII	5	Corneal refractive power or Corneal curvature, Unsigned decimal	D, mm
[POSTK_C H_R]	POSTK conversion (Clinical History)	-	8	K value of post refractive surgery	ASCII	6	Unsigned decimal	
				K1 value of pre refractive surgery	ASCII	6	Unsigned decimal	
				K2 value of pre refractive surgery	ASCII	6	Unsigned decimal	
				Spherical diopter of pre refractive surgery	ASCII	6	Unsigned decimal	
				Astigmatism diopter of pre refractive surgery	ASCII	6	Unsigned decimal	
				Spherical diopter of post refractive surgery	ASCII	6	Unsigned decimal	
				Astigmatism diopter of post refractive surgery	ASCII	6	Unsigned decimal	
				Vertex distance	ASCII	6	Unsigned decimal	

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[DREF_R]	Desired postoperative refraction (Right eye)	-	1	Desired refractive power	ASCII	6	Signed decimal														D		
[PRE_REF_R]	Preoperative refraction (Right eye)	-	1	Preoperative refraction power	ASCII	6	Signed decimal														D		
[IOL_RES_R]	IOL Calculation result (Right eye)	MAX 16	9	This TAG is repeated by the number of times of a calculation result.																			
				IOL Formula	ASCII	16		1	2	3	4	5	6	7	8	9	10	11	12	13	14		
							SRK II	'S'	'R'	'K'	space	'I'	'I'										
							SRK/T	'S'	'R'	'K'	'/'	'T'											
							HOLLA DAY	'H'	'O'	'L'	'L'	'A'	'D'	'A'	'Y'								
							Hoffer Q	'H'	'o'	'f'	'f'	'e'	'r'	space	'Q'								
							HAIGIS std	'H'	'A'	'I'	'G'	'I'	'S'	space	's'	't'	'd'						
							HAIGIS opt	'H'	'A'	'I'	'G'	'I'	'S'	space	'o'	'p'	't'						
							昭和SRK	'S'	'H'	'O'	'W'	'A'											
							SRK	'S'	'R'	'K'													
							HOLLA DAY II	'H'	'O'	'L'	'L'	'A'	'D'	'A'	'Y'	space	'2'						
							Binkhorst	'B'	'i'	'n'	'k'	'h'	'o'	'r'	's'	't'							
							Double K	'D'	'o'	u'	'b'	'l'	'e'	space	'K'	space	'S'	'R'	'K'	'/'	'T'		
							SRK/T																
Shamm as-PL	'S'	'h'	'a'	'm'	'm'	'a'	's'	'L'	'P'	'L'													
					</																		

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				Const 3	ASCII	6	<table><tr><td></td><td>Const1</td><td>Const2</td><td>Const3</td><td>Range</td></tr><tr><td>SRK II</td><td>A-Const</td><td>(Blank)</td><td>(Blank)</td><td>100.00~130.00</td></tr><tr><td>SRK/T</td><td>A-Const</td><td>(Blank)</td><td>(Blank)</td><td>100.00~130.00</td></tr><tr><td>HOLLADAY</td><td>SF</td><td>(Blank)</td><td>(Blank)</td><td>-5.00~10.00</td></tr><tr><td>Hoffer Q</td><td>ACD-Const</td><td>(Blank)</td><td>(Blank)</td><td>0.00~10.00</td></tr><tr><td>HAIGIS std</td><td>A-Const</td><td>a1</td><td>a2</td><td>A-Const: 100.00~130.00 a1: -0.999~0.999 a2: -0.999~0.999</td></tr><tr><td>HAIGIS opt</td><td>a0</td><td>a1</td><td>a2</td><td>a0: -9.999~9.999 a1: -0.999~0.999 a2: -0.999~0.999 a0, a1, and a2 are filling the following condition formation. 2< a0+a1 × 3.37+a2 × 23.39 <7 2< a0+a1 × 2.53+a2 × 20.00 <7 2< a0+a1 × 3.50+a2 × 27.00 <7</td></tr><tr><td>SHOWA-SRK</td><td>A-Const</td><td>(Blank)</td><td>(Blank)</td><td>100.00~130.00</td></tr><tr><td>SRK</td><td>A-Const</td><td>(Blank)</td><td>(Blank)</td><td>100.00~130.00</td></tr><tr><td>Binkhorst</td><td>ACD-Const</td><td>(Blank)</td><td>(Blank)</td><td>0.00~10.00</td></tr><tr><td>Double K SRK/T</td><td>A-Const</td><td>(Blank)</td><td>(Blank)</td><td>100.00~130.00</td></tr><tr><td>Shammas-PL</td><td>A-Const</td><td>(Blank)</td><td>(Blank)</td><td>100.00~130.00</td></tr></table>		Const1	Const2	Const3	Range	SRK II	A-Const	(Blank)	(Blank)	100.00~130.00	SRK/T	A-Const	(Blank)	(Blank)	100.00~130.00	HOLLADAY	SF	(Blank)	(Blank)	-5.00~10.00	Hoffer Q	ACD-Const	(Blank)	(Blank)	0.00~10.00	HAIGIS std	A-Const	a1	a2	A-Const: 100.00~130.00 a1: -0.999~0.999 a2: -0.999~0.999	HAIGIS opt	a0	a1	a2	a0: -9.999~9.999 a1: -0.999~0.999 a2: -0.999~0.999 a0, a1, and a2 are filling the following condition formation. 2< a0+a1 × 3.37+a2 × 23.39 <7 2< a0+a1 × 2.53+a2 × 20.00 <7 2< a0+a1 × 3.50+a2 × 27.00 <7	SHOWA-SRK	A-Const	(Blank)	(Blank)	100.00~130.00	SRK	A-Const	(Blank)	(Blank)	100.00~130.00	Binkhorst	ACD-Const	(Blank)	(Blank)	0.00~10.00	Double K SRK/T	A-Const	(Blank)	(Blank)	100.00~130.00	Shammas-PL	A-Const	(Blank)	(Blank)	100.00~130.00	
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IOL calculation result	ASCII	6	Signed decimal The Power value calculated from the IOL formula				D																																																													
IOL power	ASCII	6	Signed decimal The numerical value of the multiple of 0.5 nearest to a calculation result(Center value in IOL power list)				D																																																													
Refraction power expected	ASCII	6	Signed decimal Refraction power calculated from "IOL Power"				D																																																													
[IOL_RES_ARRAY_IOL_R]	Array of IOL power (Right eye)	MAX 16	-	Data size	ASCII	6	Size number of IOL power																																																													
				IOL power	ASCII	6	Refractive power of the IOL																																																													
[IOL_RES_ARRAY_REF_R]	Array of post op. ref. (Right eye)	MAX 16	-	Data size	ASCII	6	Size number of post op. ref.																																																													

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				Post op. ref.	ASCII	6	Post operated refractive power	
[IMP_IOL_R]	Implanted IOL (Right eye)	-	3	IOL manufactu rer name	ASCII	10	The manufacture name of the IOL Implanted into the patient's eye.	
				IOL Model name	ASCII	10	The model name of the IOL Implanted into the patient's eye.	
				IOL power	ASCII	6	Refractive power of the IOL Implanted into the patient's eye.	
[WAVE_FM _R]	Format of wave data (Right eye)	-	2	Infaticide	ASCII	3	Unsigned decimal AL-100 = "5.5" AL-3000,UD-6000 ="5"	
				Number of Data	ASCII	3	Unsigned integer AL-100 = "291" AL-3000,UD-6000 ="320"	
No-tag	Reference Wave Data (Right eye)	-	Numb er of Data	Value of waveform	ASCII	3	Unsigned integer A value is expressed with the decimal number of 0 to 255, and is changed into an ASCII code. When there is no data, it considers only as "tag name" + "," +CR+LF.	
[PO_REF_ R]	Postoperative power (Right eye)	-	1	Postopera tive refraction power	ASCII	6	Signed decimal	D
[ETYP_L]	Eye Type (Left eye)		1	Eye Eype	ASCII	13	One of the character strings of [Normal], [Normal(S/V)], [Normal(M/V)], [Dense], [Aphakic] , [Pseudophakic1] , [Pseudophakic2] or [Pseudophakic3].	
[VEL_L]	Ultrasound velocity (Left eye)	-	4	Biometry Average	ASCII	4	Unsigned integer Biometry average ultrasound velocity (Normal, Dense, Aphakic)	m/s
				ACD	ASCII	4	Unsigned integer Biometry ACD ultrasound velocity (Normal, Dense)	m/s
				LENS	ASCII	4	Unsigned integer IOL ultrasound velocity (Pseudo)	m/s
				Vitreous	ASCII	4	Unsigned integer Biological ultrasound velocity (Pseudo)	m/s
[IOLT_L]	IOL thickness (Left eye)	-	1	IOL thickness	ASCII	4	Unsigned decimal	mm
[KI_L]	Keratometri c Index (Left eye)	-	1	Keratomet ric Index	ASCII	9	Unsigned decimal	
[CI_L]	Contact or Immersion (Left eye)	-	1	Contact or Immersion	ASCII	9	One of the character strings of [Contact] or [Immersion]	
[MSR_L]	Measureme nt data (Left eye)	-	3	Axial Length	ASCII	5	Unsigned decimal	mm
				ACD	ASCII	5	Unsigned decimal	mm
				Lens thickness	ASCII	5	Unsigned decimal	mm
[K12_L]	Corneal refractive	-	2	K1	ASCII	5	Corneal refractive power or Corneal curvature, Unsigned decimal	D, mm

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	power (Left eye)			K2	ASCII	5	Corneal refractive power or Corneal curvature, Unsigned decimal	D, mm
[POSTK_C H_L]	POSTK conversion (Clinical History)	-	8	K value of post refractive surgery	ASCII	6	Unsigned decimal	
				K1 value of pre refractive surgery	ASCII	6	Unsigned decimal	
				K2 value of pre refractive surgery	ASCII	6	Unsigned decimal	
				Spherical diopter of pre refractive surgery	ASCII	6	Unsigned decimal	
				Astigmatism diopter of pre refractive surgery	ASCII	6	Unsigned decimal	
				Spherical diopter of post refractive surgery	ASCII	6	Unsigned decimal	
				Astigmatism diopter of post refractive surgery	ASCII	6	Unsigned decimal	
				Vertex distance	ASCII	6	Unsigned decimal	
[DREF_L]	Desired postoperative refraction (Left eye)	-	1	Desired refractive power	ASCII	6	Signed decimal	D
[PRE_REF_L]	Preoperative refraction (Left eye)	-	1	Preoperative refraction power	ASCII	6	Signed decimal	D

DATA FORMAT : Examination data part AXIAL (version:1-01-07)

[IOL_RES_L]	IOL Calculation result (Left eye)	MAX 16	9	This TAG is repeated by the number of times of a calculation result.				
				IOL Formula	ASCII	16	* : refer to [IOL_RES_R]	
				IOL Manufacture name	ASCII	10	The IOL manufacture name used for calculation	
				IOL model name	ASCII	10	The IOL model name used for calculation	
				Const 1	ASCII	6	Signed decimal The contents of each field change with formulas. * : refer to [IOL_RES_R]	
				Const 2	ASCII	6		
				Const 3	ASCII	6		
				IOL calculation result	ASCII	6	Signed decimal The Power value calculated from the IOL formula	D
				IOL power	ASCII	6	Signed decimal The numerical value of the multiple of 0.5 nearest to a calculation result(Center value in IOL power list)	D
				Refraction power expected	ASCII	6	Signed decimal Refraction power calculated from "IOL Power"	D
[IOL_RES_ARRAY_IOL_L]	Array of IOL power (Left eye)	MAX 16	-	Data size	ASCII	6	Size number of IOL power	
				IOL power	ASCII	6	Refractive power of the IOL	
[IOL_RES_ARRAY_REF_L]	Array of post op. ref. (Left eye)	MAX 16	-	Data size	ASCII	6	Size number of post op. ref.	
				Post op. ref.	ASCII	6	Post operated refractive power	
[IMP_IOL_L]	Implanted IOL (Left eye)	-	3	IOL manufacturer name	ASCII	10	The manufacture name of the IOL Implanted into the patient's eye.	
				IOL Model name	ASCII	10	The model name of the IOL Implanted into the patient's eye.	
				IOL power	ASCII	6	Refractive power of the IOL Implanted into the patient's eye.	
[WAVE_FM_L]	Format of wave data (Left eye)	-	2	Infaticide	ASCII	3	Unsigned decimal AL-100 = "5.5" AL-3000,UD-6000 ="5"	
				Number of Data	ASCII	3	Unsigned integer AL-100 = "291" AL-3000,UD-6000 ="320"	
No-tag	Reference Wave Data (Left eye)	-	Number of Data	Value of waveform	ASCII	3	Unsigned integer A value is expressed with the decimal number of 0 to 255, and is changed into an ASCII code. When there is no data, it considers only as "tag name" + "," +CR+LF.	

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[PO_REF_L]	Postoperative power (Left eye)	-	1	Postoperat ive refraction power	ASCII	6	Signed decimal	D
[FILES_N]	Attached file number	-	2	File number	-	3	Unsigned integer With capture screen of OA-2000 [2], without capture screen of OA-2000 [1] *2	
				presence or absence of encryption	ASCII		“Blank” : encrypted “no encryption” : not encrypted In some cases, the column is not attached	
[FILE] *1	File information	MAX 3	3	File name	ASCII	256 (one-byte character s)	Attached file name Waveform *****.JPG Image Including of Measurement information *****.jpg Capture image SCREENSHOT.JPG	
				File fucntion	ASCII	5	In the case of capture image only , “COPY” is attached. In some cases, the column is not attached	
				Functional classificati on code	ASCII	1	In the case of capture image only , Both eyes (R/L). In some cases, the column is not attached	
[FILE] *2	File information	MAX 3	3	Func	ASCII	15	In the case of Wave form, Character string (*****AXE,*****AXR) In the case of Capture image, SCREENSHOT.JPG Refer to [EXAM_USAXIAL.develop.doc]	
				File fucntion	ASCII	5	In the case of capture image only , “COPY” is attached. In some cases, the column is not attached	
				Functional classificati on code	ASCII	1	In the case of capture image only , Both eyes (R/L). In some cases, the column is not attached	
[CL_ID]	Clinic ID	-	1	Clinic ID	ASCII	64	Character string of all ASCII code	
[CL_ADRS]	Clinic address	-	1	Clinic address	ASCII	64	Character string of all ASCII code	
[EX_INFO]	Technical Information	-	1	Technical Informatio n	ASCII	128	Character string of all ASCII code	

*1 When the file which T-link/Data Transfer received from product is outputted. *2 When data is directly outputted from products

*2: Export from OA-2000

Note: “_R” and “_L” in the tag name mean “Right eye data” and “Left eye data” each other.

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2. Sample(The portion following a common header)

Sample	Explanation
[FM_IF],AXIAL,1-01-00	Version of AXIAL format is 1-01-00
[MAC_V],M.30 ,G.10 ,0e,00,1a,N.10	This is for UD-1000 / 6000. M CPU M.30 , G CPU G.10 , LCA 0e, INT 00, POST 1a, N CPU N.10
[ETYP_R],Normal(S/V)	Eye type is Normal (S/V)
[VEL_R],1548,1641,1532,1532	Average Velocity =1548 m/s, lens velocity =1641 m/s, ACD velocity =1532 m/s, vitreous velocity =1532m/s
[CI_R],Contact	Contact method
[MSR_R],26.41,5.08,4.21	Axial Length =26.41mm, ACD =5.08mm, Lens =4.21mm
[K12_R],44.00,45.00	K1 =44.00D K2 =45.00D
[DREF_R],-0.50	Desired ref. =-0.5D
[PRE_REF_R],-1.00	Preoperative refraction power =-1.00D
[IOL_RES_R],SHOWA SRK, ALCON,MA30BM,118.90,14.16,14.00,-0.37	Formula =SHOWA SRK, IOL manufacture =ALCON, Model =MA30BM, A-Constant =118.90, Result =14.16D, Power of IOL=14.00D, Refraction power expected = -0.37D
[IOL_RES_ARRAY_IOL_R],9,12.00,12.50,13.00,13.50,14.00,14.50,15.00,15.50,16.00	9 data of IOL power
[IOL_RES_ARRAY_IOL_R],9,1.23,0.83,0.43,0.03,-0.37,-0.77,-1.17,-1.57,-1.97	9 data of post op. ref.
[IMP_IOL_R],ALCON,MA30BM,14.25	implanted IOL manufacture =ALCON, Model =MA30BM, power =14.25D
[WAVE_FM_R],5,320	infaticide =5, number of wave data =320
127,	Wave data : repeat 320 times
...	
92,	End of wave data
[ETYP_L],Normal(S/V)	Eye type is Normal (S/V)
[VEL_L],1548,1641,1532,1532	Average Velocity =1548 m/s, lens velocity =1641 m/s, ACD velocity =1532 m/s, vitreous velocity =1532m/s
[CI_L],Contact	Contact method
[MSR_L],26.41,5.08,4.21	Axial Length =26.41mm, ACD =5.08mm, Lens =4.21mm
[K12_L],44.00,45.00	K1 =44.00D K2 =45.00D
[DREF_L],-0.50	Desired ref. =-0.5D
[PRE_REF_L],-1.00	Preoperative refraction power =-1.00D
[IOL_RES_L],SHOWA SRK, ALCON,MA30BM,118.90,14.16,14.00,-0.37	Formula =SHOWA SRK, IOL manufacture =ALCON, Model =MA30BM, A-Constant =118.90, Result =14.16D, Power of IOL=14.00D, Refraction power expected = -0.37D
[IOL_RES_ARRAY_IOL_L],9,12.00,12.50,13.00,13.50,14.00,14.50,15.00,15.50,16.00	9 data of IOL power
[IOL_RES_ARRAY_IOL_L],9,1.23,0.83,0.43,0.03,-0.37,-0.77,-1.17,-1.57,-1.97	9 data of post op. ref.
[IMP_IOL_L],ALCON,MA30BM,14.00	implanted IOL manufacture =ALCON, Model =MA30BM, power =14.00D
[WAVE_FM_L],5,320	infaticide =5, number of wave data =320

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127,	Wave data : repeat 320 times	
...		
92,	End of wave data	
[CL_ID],TOMEY CLINIC	Clinic ID or Clinic name	
[CL_ADRS],NAGOYA AICHI	Clinic Address	
[EX_INFO], Probe:Axial 10MHz/Frequency:10MHz/Measuring fault:0.1mm/Resolution:0.6mm/Time distance:0.1s/Running time:0.13us		Technical information
[FILES_N],20、no encryption	Attached file:20 no encryption	
[FILE],12012-12-11_17-54-34_074.AL-4000_CAL.R.1.JP	Attached file name:	
...		
[FILE],SCREENSHOT.JPG,COPY,R SCREENSHOT.JPG	Capture image of Right eye	

DATA FORMAT : Examination data part AXIAL (version:1-01-06)

3. Sample of layout

The diagram illustrates the layout of examination data for the Right Eye and Left Eye. The data is organized into sections for Right Eye and Left Eye, with corresponding labels for each field.

Right Eye Data:

- [IMP_IOL_R]**: Points to the IOL selection table.
- [MSR_R]**: Points to the AXL field.
- [K12_R]**: Points to the K1 and K2 fields.
- [DREF_R]**: Points to the D REF field.
- [CI_R]**: Points to the Condition field.
- [ETYP_R]**: Points to the Eye Type field.
- [VEL_R]**: Points to the Sonic field.
- [IOLT_R]**: Points to the Tins field.

Left Eye Data:

- [IMP_IOL_L]**: Points to the IOL selection table.
- [MSR_L]**: Points to the AXL field.
- [K12_L]**: Points to the K1 and K2 fields.
- [DREF_L]**: Points to the D REF field.
- [CI_L]**: Points to the Condition field.
- [ETYP_L]**: Points to the Eye Type field.
- [VEL_L]**: Points to the Sonic field.
- [IOLT_L]**: Points to the Tins field.

IOL Selection Table (Right Eye):

Power	IOL	Ref
-21.50	4.13	
-21.00	3.63	
-20.50	3.13	
-20.00	2.63	
-19.50	2.13	
-19.00	1.63	
-18.50	1.13	
-18.00	0.63	
-17.50	0.13	

Right Eye : [IOL_RES_R]
Left Eye : [IOL_RES_L]