

User's Manual

SKALA Scales designing software version 3.06

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1. Installation

1.1 System requirements for SKALA program installation

System requirements are:

- an IBM compatible computer with an Intel Pentium 100 or better
- at least 30MB of free space on your hard disk
- a 1024 x 768 resolution and 256-color video card
- a 17" monitor
- Windows 95 or greather versions

1.2 Installing program SKALA

To install SKALA,

- start Windows
- insert the Skala CD-ROM into the CD-ROM drive
- find and run file "X:install\setup.exe" (where "X" is the letter of the CD-ROM drive)
- follow the instructions
- after installation restart computer
- open and close windows fonts folder (...windows\fonts), in this way windows
 operating system recognize new installed fonts
- recommended screen resolution is 1024x768, 256-colors and Large Fonts
- install printer driver for HP23200L, when installation program ask for a driver select PS (postscript) not PCL6 because only PS driver is able to print mirror image
- after installation printer driver, set mirror function : (Start – Settings – Printers and faxes – HP laser 2300L PS – Properties- Printing Preferences – Advanced – Document Options – PostScript Options – Mirrored Output - Yes).
- create the shortcut of SKALA on the desktop

1.3 Installing data base

To install data base,

- insert the Skala CD-ROM into the CD-ROM drive
- copy directories "X:Skala\data" (where "X" is the letter of the CD-ROM drive) to c:\Skala\data
- Attention: The copied files from CD have Read only attribute. It means that you can
 not modify. To disable Read only attribute select desired files and with right click on
 mouse select properties and remark Read only option.

2. SKALA concept

- Dials in a **Main** window are designed and viewed. On the top and on the left margin of the **Main** window icons for quick access are placed.
- Cursor position in the bottom margin of the Main window is displayed. The text boxes Abs. X and Y (30) contains cursor position from the bottom-right corner of the dial. The text boxes Rel. X and Y (32) display cursor position from the relative origin defined in the text box Rel. Origin (31). To change the relative origin, set the new origin in the text box Rel. Origin (31) or move cursor on the dial and click left mouse button and key O on keybord.
- To enlarged the drawing, click **ZOOM** icon (26) and select desired detail on the drawing. Scroll bars (33) move drawing view in all directions.
- SKALA uses five groups of objects: lines, arcs, symbols, picture and dial outline dimensions.
- Lines group contains lines, small crosses and marks on scales. Lines properties are: length, width, colour, drawing angle. To select line on the drawing click into the area shown in Picture 1.
- **Symbols** group contains text, units, logotypes Symbols use Windows TrueType fonts. Symbols properties are: Font name, Font size, text, colour and angle. To select symbol click it into the area shown in Picture 1. Contents of fonts are in Appendix B. Program uses fonts defined in file "c:\skala\system\fonts.txt".
- Arcs group contains circles, dot and arcs. Arcs properties are: radius, start point, angle, length and colour. To select arc click it into the area shown in Picture 1.



- **Picture** is in Windows bitmap (.bmp) black-white format. Picture group for logotypes is used. Maximal image dimension is 1200x1200 pixels.
- **Dial outline** dimensions contains: dial dimensions, position of units, position of symbols, position of logotypes and scales outline. Dial can contains up to six scales. Every scale outline on dial have its own colour and number.



- SKALA uses the following data files (8.3 file name format):
 - .skl files for dial data
 - .kar files for scales characteristic data. Data in file are in two columns separated by commas. First column contains values in percent started with 0. Second column contains angle value. In Appendix A is an example of scale characteristic file.
 - .ost files contains numbering rules. Each row in file describes one range. Row contains: range, number of marks, medium marks skipping, main marks skipping and number skipping. In Appendix A is an numbering file example.

3. Short description of the SKALA program

3.1 MAIN window



3.1.1 Menus

- 1. File menu:
 - **Load** opens the Load window for loading dials.

Save - saves current drawing. **Save As** - opens New dial window for new dial saving.

Delete - opens New dial window for deleting dials.

Exit - closes program.

- 2. Data
- 3. Output menu:

Print - opens Print window for dial printing.

Characteristic - shows main scale data.

Nr. Dial - counts created dials.

4. Design - menu

Dimensions - opens the Dimensions window for creating dial dimensions.

Division

Automatic - creates standard scales.

Half-automatic - creates nonstandard scales.

Manual - draws marks.

Symbol - draws symbols and texts.

Logo - draws images.

Arc - draws arcs and circles.

Point - draws small cross.

Comment 5. Erase menu

Scale - erases selected scale.

All - erases all objects.

Symbols - erases all characters.

Dots erases all dots.

Picture erase selected picture.

3.1.2 Icons

- 6. **Open** icon shows load dial window.
- 7. Save icon saves drawing.
- 8. Undo icon cancels some last actions (deleting, changing, moving).
- 9. **Print** icon prints current dial.
- 10. Table icon shows table window.
- 11. Line icon enables drawing lines.
- 12. Arc icon enables drawing arcs.
- 13. Logo icon place image.
- 14. Symbol icon writes symbols and text.
- 15. Erase scale icon erases scale with number 1.
- 16. Automatic icon automates drawing of divisions.
- 17. Half automatic icon draws non-standard scales.
- 18. Manual icon draws divisions one by one.
- 19. Dot icon places dot under mark.
- 20. Dimension icon enables changing dial dimension.
- 21. Select icon enables selecting objects.
- 22. Text icon enables text and symbols selection.
- 23. Arc icon enables arc selection.
- 24. Line select icon enables line selection.
- 25. Move text icon quick moves selected text.
- 26. Zoom icon enlarges selected drawing area.
- 27. Guide line icon draws horizontal and vertical guide lines.
- 28. Copy icon copies selected objects.
- 29. **Paste** icon pastes objects.

3.1.3 Positions

- 30. Cursor's x & y Absolute co-ordinate in mm.
- 31. **Relative** origin in mm.
- 32. Cursor's x & y **Relative** co-ordinate in mm.
- 33. **Horizontal** scroll bar moves drawing up and down. **Vertical** scroll bar moves drawing left and right.
- 34. Drawing area.

3.2 LOAD DIAL window

LOAD DIAL	X
Code: 022544732001	
File Nam 2 Search by co	de
100viskr.skl	
100viskr.skl 20_0iskr.skl a_sim_in.skl bq2401ss.skl um4_20.skl v_sim_in.skl	
Directory:	
C:\ → skala → data → centrax	
<u><u> </u></u>	
e: [MS-DOS_6] 5	•

- 1. **Code** text box is used to write 12-characters code number.
- 2. Search button searches dials by code.
- 3. By clicking on the file name in **File** list box new dial is loaded.
- 4. Directory list box.
- 5. Drive list box.

3.3 SAVE DIAL window

SAVE DIAL		X		
	SAVEN			
File name :	New code :			
7053_3m	2	022500634003		
File :	Dire	ectory :		
_v1.skl _v2.skl 100500in.skl 100500in.skl 2kajq is.skl 2kajq is.skl 480agec.skl 7053_3m.skl 7056_0.skl bi048.skl valib.skl test1.skl test2.skl tri.skl	4	C: [MS-DOS_6] 5 ▼ C: \		
7 DELETE DIAL E	BY NAME	8 DELETE DIAL BY CODE		
CREATE NEW D	IRECTORY	CANCEL 10		

- 1. Save new dial command saves current dial with new name and new code.
- 2. File name box contains name of dial.
- 3. New code box contains 12-characters code of dial.
- 4. File list box contains list of file names.
- 5. Drive list box.
- 6. Directory list box.
- 7. Delete dial by name command deletes dial with name defined in the File name box (2).
- 8. Delete dial by code command deletes dial with code defined in the New code box (3).
- 9. Create new directory command creates new directory with name defined in the File name box (2) and set it on the place defined in the **Directory** list box (6).
- 10. Cancel command leaves SAVE DIAL window .

3.4 AUTOMATIC NUMBERING window

AUTOMATIC NUMBERI	NG	×		
Scale colour:	1 2 3 4 5 6			
Scale number :		Font name :		
Value at 0 % : 2	0	_D_LIGHT_ 14 💌		
Value at 100% : 3	240			
Extend				
5		6		
□ Scale characteristic fro	m TABLE 7			
Scale characteristic file	C:\SKALA\CHARA	CT\M4_96_6A.KAR(_8_)		
Numbering file:	C:\SKALA\NUM\DE	ENSE.OST 9		
	width heigh	t		
□ Rectangle	6 3.6			
□ Without marks	3 degi	ree		
□ Arc 12				
□ Rotate number 13				
DRAW (15	CANCEL 16		

- 1. Scale number box defines scale.
- 2. Value at 0% must be always 0.
- 3. Value at 100% is the number at 100% of scale.
- 4. **Extend** check box enables numbering extended scale (15/30, 10/12, 100/600).
- 5. **Extend intermediate value** is the number between 100% and extend end value.
- 6. Extend final value is the number at the end of extended scale.
- 7. Checked **Scale characteristic from Table** reads characteristic data from table created in Table window.
- 8. By clicking on the **Scale characteristic file** box you change characteristic file path.
- 9. By clicking on the **Numbering file** box you change numbering file name.
- 10. Checked **Rectangle** draws rectangle at the beginning of the scale. Rectangle dimension is defined in width and height box.
- 11. Checked **Without marks** omits the marks. Text box defines area without marks at the beginning of the scale.
- 12. Checked Arc draws arc from start to the end of the scale.
- 13. Checked Rotate number draws numbers right-angled to the marks.
- 14. Font name list box defines font style of the number on the scale.
- 15. Draw command draws scale.
- 16. Cancel command leaves Automatic numbering window without draw new scale.

3.5 HALF-AUTOMATIC NUMBERING window

Scale colour :1 2 3 4 5 6Scale characteristic file :Scale number11Value at 0 % :20Origin value:30Value at 100%440
Every55-th short line is MEDIUM LINEEvery610-th short line is MAIN LINEEvery710-th short line is NUMBERDevision value81
width height Rectangle 9 6 2 Without mar 10 7 ° Electric zer 16 3 ° Arc 11 Rotate number 17 Minus 12 DRAW 18 CANCEL 19

- 1. Scale number box defines scale.
- 2. Value at 0% must be smaller then end value.
- 3. Origin value must be one of the main mark on the scale. The value must be between Value at 0% and Value at 100%.
- 4. Value at 100% must be greater then Value at 0%.
- 5. Number in text box defines number of marks before Medium line.
- 6. Number in text box defines number of marks before Main line.
- 7. Number in text box defines number of marks before the number is drawn.
- 8. Division value defines value of marks.
- 9. Checked **Rectangle** draws rectangle at the beginning of the scale. Rectangle dimension is defined in width and height box.
- 10. Checked **Without marks** omits the marks. Text box defines area without marks at the beginning of the scale.
- 11. Checked Arc draws arc from start to the end of the scale.
- 12. Checked **Minus** box writes minus at negative numbers.
- 13. In Scale characteristic file the characteristic file path can be changed.
- 14. Checked **Scale characteristic from Table** reads scale characteristic data from table created in Table window.
- 15. Font name list box defines font style of the number on the scale.
- 16. Checked Electric zero compresses scale for a degree written in text box.
- 17. Checked Rotate number draws numbers right-angled to the marks.
- 18. Draw command draws scale.
- 19. **Cancel** command leaves Half-automatic numbering window without drawing the new scale

3.6 MANUAL NUMBERING window

MANULAL NUMBERING 🔀
1 2 3 4 5 6
Scale number : 1 1
□ Sca 2 ar. from TABLE
Scale characteristic file :
C:ISKALAICHARACTICEN2
Points
Main O Medium
O Short
Number
□ Number 5 0
Percent 6 0
O Angle 8 0
ADD 9 0
□ Rotate numbe 10
Colour BLACK 11 -
Font _D_LIGHT_12 -

- 1. Scale number box defines scale.
- 2. Checked **Scale characteristic from Table** reads characteristic data from table created in Table window.
- 3. In the **Scale characteristic file** the characteristic file path can be changed.
- 4. Selected option defines type of Mark.
- 5. Checked **Number** draws number written in text box.
- 6. Selected **Percent** option calculates division as percent.
- 7. Add adds value from text box to **Percent** text box.
- 8. Selected **Angle** option calculates division as angle.
- 9. Add adds value from text box to Angle text box.
- 10. Checked **Rotate number** draws numbers rightangled to the marks.
- 11. **Colour** list box defines colour of mark and number.
- 12. **Font name** list box defines font style of the number on the scale.
- 13. Draw command draws mark and number.
- 14. Cancel command leaves Manual numbering window.

3.7 NEW SYMBOL window

NEW	SYM	IBOL		×
Font Name: _D_SYMB0(1) ▼				
Font Size:				
Sym.	ACI	Sym.	ACI	l Sym.
(3)	65	ŧ	78	☆
<u> </u>	66	A	79	仚
	67	Ģ (80	畲
	68	Ð	81	Δ
	69	0	82	CE
Ą	70		83	1,5
Ĩ	71		84	*
	72	~	85	
	73		86	Ω
6	74	$\overline{\sim}$	87	<u>¥</u>
ок	75	≈	88	0,5
	76	≈	89	L
	77	≈	90	E
7 OString				
8				
CANCEL				

- 1. Font name list box defines symbols font name.
- 2. Font size text box defines symbol size in millimetres.
- 3. Selected **Sym.** option takes symbol from the table (4).
- 4. **Table** shows 26 symbols with ASCII code. Selected symbol in the table is red.
- 5. With **Up** and **Down** arrows shows other symbols.
- 6. **OK** command draws selected symbol or string of the symbols on the dial.
- 7. Selected **String** option uses string symbols from text box (8).
- 8. **String** text box contains string of the symbols.
- 9. Cancel command leaves New symbol window.

3.8 CHANGE TEXT window

CHANGE TEXT
Font name : 1
_D_LIGHT_
Text: 2
Colour: 3
Font size :
8 mm
ROTATE: x1 x5
6 7
CHANGE DELETE
CANCEL

- 1. Checked **Font name** changes font style of selected symbols with selected font below.
- 2. Checked **Text** changes symbols with symbol or text below.
- 3. Checked **Colour** changes colour of selected symbols with below defined colour.
- 4. Checked **Font size** changes size of selected symbols with below defined size.
- 5. Rotate text box shows angle of rotated symbol
- 6. **Change** command changes selected symbols.
- 7. Delete command deletes selected symbols.
- 8. **Cancel** command does not change selected symbols.

3.9 LINE window

LINE	X
Angle X.Y	
2 Press key "P" for the start.	
Pos. X 3 041.51 mm ADD 4 0	
Pos. Y 5 052.84 mm ADD 6 0	
Absolute C Relative S 9	
Press key "K" för mé end.	
Length 20 mm	
Angle 11 0 degree	es
Width 12 .1 mm	
Colour 13 BLACK	•
DRAW CANCE	_

- 1. Picture explains line's required data.
- When key »P« is pressed in drawing area, x and y position of cursor in (3) and (5) text boxes are copied.
- 3. **Pos. X** defines position X of the line's start in mm.
- 4. Add adds up value from the text box to the **Pos.** X text box (3).
- 5. **Pos. Y** text box defines position Y of line's start in mm.
- 6. Add text box adds up value from text box (6) to the **Pos. Y** text box (5).
- 7. Selected **Absolute** option draws line from the absolute origin.
- 8. Selected **Relative** option draws line from the relative origin.
- 9. When **key** »**K**« is pressed in drawing area line length and angle are calculated.
- 10. Length defines line length in mm.
- 11. **Angle** defines line angle from the X axis in degrees.
- 12. Width defines line width in mm.
- 13. Colour defines line colour.
- 14. Draw button draws line.
- 15. Cancel button leaves Line window.

3.10 CHANGE LINE window

CHANGE TEXT
Font name : 1
_D_LIGHT_
Text: 2 □
Font size : 🚺 🗆
8 mm
ROTATE: x 1 x 5
0 5
6 7
CHANGE DELETE

- 1. Value shows mark value.
- 2. Angle shows mark angle in degrees.
- 3. Checked **Colour** changes colour of selected lines with colour defined.
- 4. Checked **Length** changes selected lines length.
- 5. Checked Width changes selected lines width.
- 6. Rotate shows angle of selected line.
- 7. Spin command rotates selected line up and down by 1 or 5 degrees.
- 8. Checked **Marks** uses selected line as marks from scale.
- 9. **Change** command makes changes of selected lines.
- 10. **Delete** command deletes selected lines.
- 11. **Cancel** command does not change selected lines.

3.11 ARC window



- Copy from scale command copies scale dimension in to the Centre X (2),Y (3), and to the Radius (4). Scale is defined in text box (1).
- 2. Centre X arc centre X in mm.
- 3. Centre Y arc centre Y in mm.
- 4. Radius arc radius in mm.
- 5. Picture explains arc's required data. The latter in quotation defines keys.

By pressing key **C** in Main window program transfers the cursor co-ordinates into Centre X,Y(3,4).

By pressing key **R** in Main window program calculates the Radius from Centre X,Y(3,4) to cursor and writes in Radius (4).

By pressing key **S** in Main window program calculates the Start angle and writes in Start (6). By pressing key **L** in Main window program calculates the Length of arc in degrees and writes in Length (7).

- 6. Start defines start of the angle in degrees.
- 7. Length defines arc angle length in degrees.
- 8. Width defines arc line width in mm.
- 9. Colour defines arc colour.
- 10. Draw button draws arc.
- 11. Cancel button leaves ARC window.

12. CHANGE ARC window

CHANGE ARC	X
Radius : 🚺 🗖	
30 mm	
Start: 2	
0 degrees	
Length : 3	
Width: 4	
mm	
Colour : 🧿 🗖	
BLACK -	
CHANGE DELET	F
CANCEL	

- 1. Checked Radius changes arc radius.
- 2. Checked **Start** changes start the arc angle.
- 3. Checked Length changes arc length angle.
- 4. Checked Width changes arc width.
- 5. Checked **Colour** changes arc colour.
- 6. **Change** command changes selected arc.
- 7. **Delete** command delete selected arc.
- 8. **Cancel** command does not change selected arc.

3.12 SHOW DOT POSITION window



- 1. Dot diameter in mm.
- 2. **Distance** between number and mark in mm.
- 3. Selected option shows position of **Dot**.
- 4. Draw command draws dot.
- 5. Cancel does not draw dot.

3.13 GUIDE LINE window

GUIDE L.	2
Ver. I	hor
DEL	ETE

- 1. ver.l command draws vertical guide lines.
- 2. hor.- command draws vertical guide lines.
- 3. Delete command deletes all guide lines.

3.14 LOGO window



- 1. By clicking on the Logo name file box new logo image can be selected.
- 2. Height defines image height in mm.
- 3. Ratio shows ratio between width and height of picture.
- 4. Shows selected image.
- 5. **Draw** command draws selected image.
- 6. Cancel command does not draw logo image.

3.15 SMALL CROSS window

SMALL CROSS
Height : 3 Thickness : 0.05 2 3 Press key "P" for cord. transf.
X ()41.51 (A)
Y 052.84 5
• AB REL
Colour : 7
BLACK -
8 9 DRAW CANCEL

- 1. **Height** defines cross height.
- 2. Thickness defines cross thickness.
- 3. When **key** »**P**« is pressed in drawing area, cursor x and y co-ordinates in to (4) and (5) are copied.
- 4. X defines X position of cross.
- 5. Y defines Y position of cross.
- 6. Selected **Absolute** option draws cross from the absolute origin. **Relative** option draws cross from the relative origin.
- 7. **Colour** defines cross colour.
- 8. **Draw** button draws cross.
- 9. Cancel button leaves Cross window.

3.16 PRINT window



- 1. Portrait command rotates paper in to portrait position.
- 2. Landscape command rotates paper in to landscape position.
- 3. Set up printer command opens printer driver window.
- 4. Set printer driver changes printer driver.
- 5. **Printer driver** shows selected printer driver.
- 6. Printer correction defines dial size by X and Y axis correction.
- 7. Checked Dimension prints dial dimension.
- 8. Checked **Comment** prints comment below the dial.
- 9. Checked **Colour separation** check box prints only coloured objects with selected colour (10).
- 10. Selected colour.
- 11. Width shows paper width in mm.
- 12. Height shows paper width in mm.
- 13. X shows position of left dial edge on the paper.
- 14. Y shows position of left dial edge on the paper.
- 15. Zoom defines magnification factor of the printed dial.
- 16. Copies defines number of copies.
- 17. Centre button moves dial to the centre of the paper.
- 18. Dial frame enables moving dial on the paper.
- 19. **Print** prints dial.
- 20. Save as BMP saves dial as picture on disk.
- 21. **Corel export** command exports dial in Postscript format on disk (this command is disabled).
- 22. Cancel button leaves Print window without printing.

3.17 DIMENSIONS window

DIMENSIONS	CURRENT SCALE = 1 29
Dial width :1129.6Dial height :2128.5Scale centre X / Y :329.8Distance to 2nd centre 40Radius :591.5Strart of Scale angle :60	X Y Unit position : 29.9 Symbol position : Logo position : Large number font size: 6 19
Scale length : 7 90	Small number font size : 3 20
length	width
Short line : 4	8 .3 Scale characteristic file : C:\SK/21_CHARACT\M4_96_5A
Long line : 8	9 .3 Numbering file : C:\SK/22_NUM\DENSE.OST
Medium line : 6	0.3
Main thin line : 4 1	1 .3 Number of scales : 2(23
Main thick line : 4 1	2.8
Distance between number and line : 13 1.5 Dot diameter : 14 .8 Numbering direction : 15 -1 Copy from scale 24 1 25	5) Next Previous 26 27) Save Cancel 28

- 1. **Dial width** dimension in mm.
- 2. Dial height dimension in mm.
- 3. Scale centre in mm.
- 4. **Distance** to the stretched scale centre in mm (multimeter scales).
- 5. Scale radius in mm.
- 6. Start of Scale angle in degrees.
- 7. Scale length in degrees.
- 8. **Short marks** length and width dimension in mm.
- 9. Long marks length and width dimension in mm.
- 10. **Medium marks** length and width dimension in mm.
- 11. Thick main marks length and width dimension in mm.
- 12. Thin main marks length and width dimension in mm.
- 13. Distance between number and line in mm.
- 14. Dot diameter in mm.
- 15. The negative value -1 draws number between marks and scale centre. The positive value 1 draw number out from the scale centre.

- 16. **Unit position** defines left-bottom corner of Unit.
- 17. **Symbols position** defines left-bottom corner of Symbols.
- 18. Logo position defines right -bottom corner of logo.
- 19. Large number font size in mm.
- 20. Small number font size in mm.
- 21. Name of the Scale characteristic file.
- 22. Name of the Scale numbering file.
- 23. Number of scales on dial.
- 24. **Copy from scale** copies data from scale, defined in the text box, in to the current scale.
- 25. **Next** replaces current scale values with next scale values.
- 26. **Previous** replaces current scale values with previous scale values.
- 27. Save saves data in current dial file.
- 28. **Cancel** leaves dimension window without save data.
- 29. Tittle of **DIMENSIONS** window shows **CURRENT SCALE** number.

3.18 COMMENT window

COMMENT		×
Date: 12-11-99 1	Dial : 2	022500634002
Constructor : Emil K. 4	File : c:\skala\data\test2.skl 5	
CHANGE 6	CANCE 7	iL

- 1. Date text box contains current date.
- 2. Dial text box with dial comment.
- 3. Code text box contains dial code.
- 4. Constructor list box identifies dial constructor (c:\skala\system\creators.txt).
- 5. File box shows dial file name.
- 6. **Change** command changes dial comment.
- 7. Cancel command leaves Comment window.

3.19 TABLE window

7	Tabl	e			×
		Val	ue	Angle	
	1.	-3.5		-1	
	2.	-1		33	
	З.	0		46	
	4.	1.5		75	
	5.	2.5		80	
	6.	3.5_		91	
	7.	0	<u>-</u> 7		
	8.	0		0	
	9.	0		0	
	10.	0		0	
	11.	0		0	
	12.	0		0	
	13.	0		0	
	14.	0		0	
	15.	0		0	
	(3)		4	
	۹Li	near	· · · ·	Cubic	
	Last	poin	it :	5]
			Start	End	
	Perc	ent	0	60	
	Valu	е	-3.5	75]
	Angl	е	0	8]
	ŞA	Æ A	S	TABLE	
	- 9				_
			11	55	

- 1. Fifteen **Value** text boxes are used to write scale values. Scale values have to increase.
- 2. Fifteen **Angle** text boxes are used to write scale angles. Scale angle have to increase.
- 3. Selected **Linear** option uses linear interpolation method for scale characteristic calculation.
- 4. Selected **Cubic** option uses cubic interpolation method for scale data calculation.
- 5. **Last point** defines number of scale points.
- 6. **Percent** defines reference start and end percent of scale.
- 7. **Value** defines reference start and end value.
- 8. Angle defines reference start and end angle.
- 9. **Save as** command saves table data under new file name.
- 10. Table command saves table data.
- 11. **Cancel** command leaves TABLE window.

4. Examples of scale creating by SKALA

4.1 Loading dial

- 1. Click the icon (6, page 7) in the Main window to open LOAD DIAL window.
- 2. Type the dial **Code** and press **Search by code** to find dial or find the dial file name in the **File name** box.

4.2 Creating scale with AUTOMATIC NUMBERING method

Example A shows how the normal scale with range 0...15 and linear characteristic is designed.

- 1. Load dial C:\SKALA\EXAMP\1.SKL.
- 2. Erase the current scale by clicking icon (15, page 7) in the Main window.
- 3. To open the **AUTOMATIC NUMBERING** window, click on the icon (16, page 7) in the **Main** window.
- 4. Write the data to the AUTOMATIC NUMBERING window:

AUTOMATIC NUMBERIN	١G		×
Scale colour:	123 456		
Scale number :	1	Font name :	
Value at 0 % :	0	_D_LIGHT_	
Value at 100% :	15		
⊓ Extend			
□ Scale characteristic fro	m TABLE		
Scale characteristic file	C:ISKALAICHARACT	RLIN90.KAR]
Numbering file:	C:ISKALAINUMINOR	MAL.OST	1
	width height		
☐ Rectangle	6 3.6]	
Without line first	3 degree	•	
□ Arc			
□ Rotate number			
DRAW]	CANCEL	

- 5. Click **DRAW** button (15, page 11).
- 6. The new scale will be displayed in the main window as Picture 3.



Example B shows how scale with extended range 0...1.6/3.2 and F6 characteristic is designed.

- 1. Load dial C:\SKALA\EXAMP\2.SKL.
- 2. Erase the current scale by clicking icon (15, page 7) in the main window.
- 3. To open the AUTOMATIC NUMBERING window, click icon (16, page 7) in the **Main** window.
- 4. Write the data to the AUTOMATIC NUMBERING window:

AUTOMATIC NUMBERI	NG	×
Scale colour:	123 456	
Scale number :	1	Font name :
Value at 0 % :	0	_D_LIGHT_
Value at 100% :	1.6	
⊯ Extend		
Extend intermediate value :	2.4 Extend	final value : 3.2
□ Scale characteristic fro	m TABLE	
Scale characteristic file	C:ISKALAICHARAC	T\F6_1-2.KAR
Numbering file:	C:\SKALA\NUM\NOF	RMAL.OST
	width height	
☐ Rectangle	6 3.6	
🗷 Without line first	4 • degree	e
☐ Arc		
□ Rotate number		
DRAW		CANCEL

- 5. Click **DRAW** (15, page 11).
- 6. The new scale will be displayed in the main window as Picture 4.



Example C shows how scale for bimetal instrument with range 0...720 and bimetal 5A characteristic is designed.

- 1. Load dial C:\SKALA\EXAMP\3.SKL.
- 2. Erase the current scale by clicking icon (15, page 7) in the Main window.
- 3. To open the AUTOMATIC NUMBERING window, click icon (16, page 7) in the Main window.
- 4. Write the data to the AUTOMATIC NUMBERING window:

AUTOMATIC NUMBERIN	IG		X
Scale colour:	1 2 3 4 5 6		
Scale number :	1	Font name :	
Value at 0 % :	0	_D_LIGHT_	
Value at 100% :	720		
⊏ Extend			
□ Scale characteristic from	m TABLE		
Scale characteristic file	C:ISKALAICHARAC	T\M4_96_5A.KAR]
Numbering file:	C:ISKALAINUMINOF	MAL.OST	1
			-
	width height		
🗷 Rectangle	6 3.6]	
IN Without line first	5 degree	•	
☐ Arc			
□ Rotate number			
DRAW		CANCEL	

- 5. Click command DRAW (15, page 11).
- 6. The new scale will be displayed in the Main window as Picture 5.



4.3 Creating scale with HALFAUTOMATIC NUMBERING method

Example A shows how scale with range -10...15 and linear characteristic is designed.

- 1. Load dial C:\SKALA\EXAMP\4.SKL.
- 2. Erase the current scale by clicking icon (15, page 7) in the Main window.
- 3. Open the **HALFAUTOMATIC NUMBERING** window, by clicking icon (17, page 7) in the **Main** window.
- 4. Write the data to the HALFAUTOMATIC NUMBERING window:

HALFAUTOMATIC	NUMBERING		>
Scale colour : Scale number :	1 2 3 4 5 6 1	Scale characteristic file : : C:\SKALA\CHARACT\CEN240.KAR	
Value at 0 % :	-10	□ Scale characteristic from the TABLE	
Origin value: Value at 100% :	0	Font name : _D_LIGHT	
Every	2 -th s	hort line is MEDIUM LINE	
Every		hort line is MAIN LINE	
Every		hort line is NUMBER	
Devision value :	.5		
□ Rectangle	width heig	ght	
☐ Without line first	· 7 °	⊂ Electric zero 24 °	
□ Arc		r Rotate number :	
🗆 Minus			
D	RAW	CANCEL	

- 5. Click the command **DRAW** (18, page 12).
- 6. The new scale will be displayed in the Main window as Picture 6.



Example B shows how scale with range 54...66 electric zero at 5 degrees and linear characteristic is designed.

- 1. Load dial C:\SKALA\EXAMP\5.SKL.
- 2. Erase the current scale by clicking icon (15, page 7) in the **Main** window.
- 3. Open the **HALFAUTOMATIC NUMBERING** window, by clicking icon (17, page 7) in the **Main** window.
- 4. Write the data to the HALFAUTOMATIC NUMBERING window:

HALFAUTOMATIC I	NUMBER	RING	X
Scale colour : Scale number : Value at 0 % : Origin value: Value at 100% :	1 2 3 4 5 6 1 54 6 60 66 66	Scale characteristic file : : C:\SKALA\CHARACT\LIN90.KAR Cale characteristic from the TABLE Font name : _D_LIGHT	
Every Every Every Devision value :	2 10 10 .5	-th short line is MEDIUM LINE -th short line is MAIN LINE -th short line is NUMBER	
 □ Rectangle □ Without line first □ Arc □ Minus 	width 6 7	height 2 ° ⊠ Electric zero 5 ⊂ Rotate number :	
DI	RAW	CANCEL	

- 5. Click command **DRAW** (18, page 12).
- 6. The new scale will be displayed in the Main window as Picture 7.



Example C shows how scale with characteristics shown on the Picture (8) is designed.

- 1. Load dial C:\SKALA\EXAMP\4.SKL.
- 2. Erase the current scale by clicking icon (15, page 7) in the Main window.
- 3. Open the **HALFAUTOMATIC NUMBERING** window, by clicking icon (17, page 7) in the **Main** window.
- 4. Write the data to the HALFAUTOMATIC NUMBERING window:

HALFAUTOMATIC NU	JMBERING	>
Scale colour : 4 Scale number :	2 3 5 6 1 C:\SKALA\CHARACT\CEN240.KAR	
Value at 0 % :	-14.5 Cale characteristic from the TABLE	
Origin value:	0 Font name : 114.5 _D_LIGHT	
Every	1000 -th short line is MEDIUM LINE	
Every	10 -th short line is MAIN LINE	
Every	10 -th short line is NUMBER	
Devision value :	2	
w □ Rectangle	vidth height 6 2	
Without line first	7 CElectric zero	
🗷 Arc	Rotate number :	
🗵 Minus		
DR	AW CANCEL	

- 5. Click command **DRAW** (18, page 12).
- 6. The new scale will be displayed in the Main window.



4.4 Adding marks on the scale with MANUAL NUMBERING method

Example A shows numbered black mark on the scale with 67 degrees angle is placed.

MANULAL NUMBE	RING 🗙		
12345	6		
Scale number :	1		
□ Scale char. from 1	TABLE		
Scale characterist	ic file :		
C:\SKALA\CHARAC	TLIN90.		
Points			
⊖ Main	_		
O Medium O Short	1		
• Long			
Number			
Number 62	27		
⊖ Percent 0			
ADD 0			
Angle 6	57		
	D		
□ Rotate number			
Colour BLACK			
Font _D_LIGHT			
DRAW CA			

percent value of the scale.

MANULAL NU	IMBERING 🗙
123	4 5 6
Scale number :	1
C Scale char. 1	from TABLE
Scale charac	teristic file :
C:\SKALA\CHA	ARACTILIN90.
Points	
O M	ain
0 SI	hort
• Le	ong
Number	
□Number	0
	70
Percent	
ADD	0
C. America	
OAngle	U
ADD	0
□ Rotate numb	per
Colour GRE	EN 💌
Font _D_L	IGHT_
DRAW	CANCEL

- 1. Load dial C:\SKALA\EXAMP\5.SKL.
- 2. Open the **MANUAL NUMBERING** window, by clicking icon (18, page 7) in the **Main** window.
- 3. Write the data to the **MANUAL NUMBERING** window.
- 4. Click the command **DRAW** (13, page 13).
- 5. The new mark will be added on the scale as shown on the Picture 9.



Picture 9

Example B shows placing green mark at 70

- 1. Load dial C:\SKALA\EXAMP\5.SKL.
- 2. Open the **MANUAL NUMBERING** window, by clicking icon (18, page 7) in the **Main** window.
- 3. Write the data to the MANUAL NUMBERING window:
- 4. Click command **DRAW** (13, page 13).
- 5. The new mark will be added on the scale as shown on the Picture 10.



4.5 Saving dial with new name

- 1. Load dial C:\SKALA\EXAMP\3.SKL.
- 2. Select Save As from the File menu (1, page 7).
- 3. In the **SAVE DIAL** window, select directory C:\SKALA\TEST\ from the Directory list box (6, page 10)
- 4. In the File name text box, type »TEST1«.
- 5. In the New code text box, type »TEST0000001«.
- 6. Click command SAVE NEW DIAL to save dial.

4.6 Deleting dial from hard disk

Example A shows deleting dial by using dial name.

- 1. Choose **Save As** from the **File** (1, page 7) menu.
- 2. In the SAVE DIAL window, select dial in the File list (4, page 10).
- 3. To delete dial, click **DELETE DIAL BY NAME** (7, page 10).

Example B shows deleting dial using dial code.

- 1. Choose Save As from the File (1) menu.
- 2. In the SAVE DIAL window type dial code in the New code text box (3, page 10).
- 3. To delete selected dial, click **DELETE DIAL BY CODE** (8, page 10).

4.7 Printing dial

Example A shows procedure for mirror dial printing in three copies.

- 1. Load dial C:\SKALA\EXAMP\3.SKL.
- 2. Open the **PRINT** window, by clicking icon (9, page 7) in the **Main** window.
- 3. In the **PRINT** window, printer which is able to print mirror image have to be selected.
- 4. Type number 3 in the **Copies** text box (16, page 22).
- 5. To print dial, click **PRINT** button (19, page 22).

Example B shows zoomed dial printing.

- 1. Load dial C:\SKALA\EXAMP\3.SKL.
- 2. Open the **PRINT** window, by clicking icon (9, page 7) in the **Main** window.
- 3. In the **PRINT** window select non-mirror type printer.
- 4. Type number 2 in the **Zoom** text box (15, page 22).
- 5. To print the dial, click **PRINT** (19, page 22).

4.8 Symbols

- 4.8.1 Inserting new symbol
 - 1. Load dial C:\SKALA\EXAMP\5.SKL.
 - 2. Open the NEW SYMBOL window, by clicking icon (14, page 7) in the Main window.
 - 3. In the **NEW SYMBOL** window set "_D_SYMBOL" in the **Font Name** list box.
 - 4. Set **Font size** (2, page 14) to 3.
 - 5. Select option Sym. (3, page 14) and choose the symbol from the table (4, page 14).
 - 6. Click **OK** button (6, page 14).
 - 7. Move the cursor to the drawing area.
 - 8. Click the mouse to put the symbol on the dial.

4.8.2 Inserting text

- 1. Load dial C:\SKALA\EXAMP\5.SKL.
- 2. Open the **NEW SYMBOL** window with icon (14, page 7) in the **Main** window.
- 3. In the **NEW SYMBOL** window set "_H_CON_B_" in the **Font Name** list box (1, page 14).
- 9. Set Font size (2, page 14) to 5.
- 4. Select option String (7, page 14) and type text "AMPER" in the text box (8, page 14).
- 5. Click OK Button (6, page 14).
- 6. Move the cursor in the drawing area.
- 7. Click the mouse to put text on the dial.

4.8.3 Moving symbols

- 1. Load dial C:\SKALA\EXAMP\3.SKL.
- 2. To select symbols click icons (21, page 7) and (22, page 7) in the Main window.
- 3. Find the symbol "A" on the dial.
- 4. Move cursor to the left-top corner of the symbol (see Picture 1) and click. Selected symbol becomes dark green.
- 5. To move symbol, press the cursor key on the keyboard.
- 6. Combination of keys (cursor key + Shift or cursor key + Ctrl) moves selected symbol faster.
- 7. To deselect symbol on the dial, click the right mouse key or click icon (21, page 7) on the **Main** window or click **CANCEL** in the **CHANGE TEXT** window.

4.8.4 Deleting symbols

- 1. Load dial C:\SKALA\EXAMP\3.SKL.
- 2. To select symbols click icons (21, page 7) and (22, page 7) in the Main window.
- 3. Set the symbols "A", " \perp " and "600" on the dial.
- 4. Move cursor to the left-top corner of the first symbol and click.
- 5. Likewise select the other two symbols.
- 6. To delete symbols, click command **DELETE** (7, page 15) in the **CHANGE TEXT** window.
- 7. Action can be undone by UNDO icon (8, page 7) in the Main window.

4.8.5 Changing symbols properties

- 1. Load dial C:\SKALA\EXAMP\3.SKL.
- 2. To select symbol, click icons (21, page 7) and (22, page 7) in the Main window.
- 3. Set symbol "A".
- 4. Move cursor to the left-top corner of the symbol and click.
- 5. The **CHANGE TEXT** window will be opened on the right side.
- 6. To change a colour of the symbol, set RED colour in the **COLOUR** list box (3, page 15) and set check box.
- 7. Click **CHANGE** (6, page 15) button and symbol will be coloured to red.
- 8. Action can be undone by UNDO icon (8, page 7) in the Main window.

4.9 Lines

4.9.1 Drawing lines

LINE		X
	Length	<u>×.</u> ч
Press key "	P'' for th	ie start.
Pos. X	30	mm
ADD	0	
Pos. Y	40	mm
ADD	0	
Absolute	O Rela	ative
Press key "	K'' for th	ie end.
Length :	10	mm
Angle :	90	degrees
Width :	.2	mm
Colour :	BLACK	
DRAW	<u> </u>	ANCEL

Example A shows drawing line with manual method.

- 1. Load dial C:\SKALA\EXAMP\6.SKL.
- 2. Open the **LINE** window by icon (11, page 7) in the **Main** window.
- 3. In the LINE window type the data.
- 4. Click **DRAW** button and the new line will be placed on the dial.

Example B shows drawing line by transferring cursor's co-ordinates

- 1. Load dial C:\SKALA\EXAMP\6.SKL.
- 2. Open the **LINE** window by icon (11, page 7) in the **Main** window.
- 3. Place the cursor to the left-top of the green rectangle of the drawing.
- Click mouse to make main window active and then press key "P" on the keyboard. The cursor's co-ordinates will be transferred in to the **Pos. X** (3, page 16) and **Pos. Y** (5, page 16).
- 5. Place the cursor to the right-bottom of the green rectangle of the drawing.
- 6. Click mouse to make **Main** window active and click "K" on the keyboard. The length and angle of the line will be written in to the **Length** text box (10, page 16) and **Angle** text box (11, page 16).
- 7. Click DRAW button (14, page 16) and the new line will be placed on the dial.

4.9.2 Moving lines

- 1. Load dial C:\SKALA\EXAMP\6.SKL.
- 2. To select line click icons (21, page 7) and (24, page 7) in the Main window.
- 3. Find the thick blue line on the dial.
- 4. Move cursor near to the end of the line (see Picture 1) and click. Selected line becomes dark green.
- 5. To move line press the cursor key on the keyboard.
- Combination of keys (cursor key + Shift or cursor key + Ctrl) moves selected line faster.
- 7. To deselect line on the dial click the right mouse key or icon (21, page 7) in the **Main** window or **CANCEL** button in the **CHANGE LINE** window.
- 8. Action can be undone by UNDO icon (8, page 7) in the Main window.

4.9.3 Deleting lines

- 1. Load dial C:\SKALA\EXAMP\6.SKL.
- 2. To select line click icons (21, page 7) and (24, page 7) in the Main window.
- 3. Find the thick blue line on the dial.
- 4. Move cursor near to the end of line (see Picture 1) and click. Selected line becomes dark green.
- 5. To delete line click **DELETE** in the **CHANGE LINE** window.
- 6. Action can be undone by UNDO icon (8, page 7) in the Main window.

4.9.4 Changing lines properties

- 1. Load dial C:\SKALA\EXAMP\6.SKL.
- 2. To select line click icons (21, page 7) and (24, page 7) in the Main window.
- 3. Find the thick blue line on the dial.
- 4. Move cursor near to the end of the line (see Picture 1) and click. The **CHANGE LINE** window will be opened on the right side.
- 5. To change colour of the line select RED colour in the **COLOUR** list box (3, page 17) and set check box.
- 6. Click **CHANGE** button (9, page 17) and selected line will be coloured to red.
- 7. Action can be undone by UNDO icon (8, page 7) in the Main window.

4.10 Arcs

4.10.1 Drawing arcs

Example A shows drawing arc manually.

Copy from scale 1
Press key "P" for cord. trans.
Centre X: 50 mm
Centre Y: 45 mm
Radius : 5 mm
Length
Start
Start : 270 degrees
Start : 270 degrees Length : 180 degrees
Start : 270 degrees Length : 180 degrees Width : .1 mm
Start : 270 degrees Length : 180 degrees Width : .1 mm Colour : GREEN

- 1. Load dial C:\SKALA\EXAMP\6.SKL.
- 2. Open the **ARC** window by icon (12, page 7) in the **Main** window.
- 3. In the **ARC** window type data.
- 4. Click **DRAW** (11, page 18) and the new arc will be placed on the dial.

Example B shows drawing arc by COPY FROM SCALE procedure.

ARC		×
Copy fro	m scale	
Press key	"P" for c	ord. trans.
Centre X:	40	mm
Centre Y:	40	mm
Radius :	23	mm
L	ength	Radius
Sta	ength art	Radius
Start :	ength art	Radius
Start : Length :	ength art 0 90	Radius degrees degrees
Start : Length : Width :	ength art 90	Radius degrees degrees mm
Start : Length : Width : Colour :	ength art 90 .1 BLACK	Radius degrees degrees mm

- 1. Load dial C:\SKALA\EXAMP\6.SKL.
- 2. Open the **ARC** window by icon (12, page 7) in the **Main** window.
- 3. Set number 1 in text box (1, page 18) and click **COPY FROM SCALE** button.
- 4. The **Centre X**, **Y** and **Radius** data from the scale are transferred.
- 5. Type the data in the **ARC** window.
- 6. Click **DRAW** (11, page 18) and the new arc will be added on the dial.

Example C shows drawing arc by transferring cursor's co-ordinates

ARC X
Copy from scale 1
Press key "P" for cord. trans.
Centre X: 041.00 mm
Centre Y: 043.77 mm
Radius : 40 mm
Start
Start : 120 degrees
Length : 30 degrees
Width : 4 mm
Colour : RED 💌
DRAW CANCEL

- 1. Load dial C:\SKALA\EXAMP\6.SKL.
- 2. Open the **ARC** window by icon (12, page 7) in the **Main** window.
- 3. Place the cursor to the centre of the arc click.
- 4. The cursor's co-ordinates will be transferred in to the **Centre X** and **Centre Y** by pressing "P" key.
- 5. Type the data on the **ARC** window.
- 6. Click **DRAW** (11, page 18) and the new arc will be added to the dial.

4.10.2 Moving arcs

- 1. Load dial C:\SKALA\EXAMP\6.SKL.
- 2. To select arc click icons (23, page 7) and (21, page 7) in the Main window.
- 3. Find the thick green arc on the dial.
- 4. Move cursor into the arc's line (see Picture 1) and click. Selected arc becomes dark green.
- 5. To move arc, press the cursor key on the keyboard.
- 6. Combination of keys (cursor key + Shift or cursor key + Ctrl) moves selected arc faster.
- 7. To deselect arc on the dial, click the right mouse key or click icon (21, page 7) in the **Main** window or **CANCEL** in the **CHANGE ARC** window.
- 8. Action can be undone by **UNDO** icon (8, page 7) in the **Main** window.

4.10.3 Deleting arcs

- 1. Load dial C:\SKALA\EXAMP\6.SKL.
- 2. To select arc click icon (23, page 7) and (21, page 7) in the Main window.
- 3. Find the thick blue arc in the dial.
- 4. Move cursor into the arc's line (see Picture 1) and click. Selected arc becomes dark green.
- 5. To delete arc click **DELETE** in the **CHANGE ARC** window.
- 6. Action can be undone by **UNDO** icon (8, page 7) in the **Main** window.

4.10.4 Changing arcs properties

- 1. Load dial C:\SKALA\EXAMP\6.SKL.
- 2. To select arc click icon (23, page 7) and (21, page 7) in the Main window.
- 3. Find the thick blue arc in the dial.
- 4. Move cursor into the arc's line (see Picture 1) and click.
- 5. The CHANGE ARC window will be opened on the right side.
- 6. To change the radius of the arc type new value in the **Radius** text box (1, page 19) and set check box.
- 7. Click **CHANGE** (6, page 19) and arc will change radius.
- 8. Action can be undone by **UNDO** icon (8, page 7) in the **Main** window.

4.11 Logotypes

- 4.11.1 Inserting logotype
 - 1. Load dial C:\SKALA\EXAMP\6.SKL.
 - 2. Click LOGO icon (13, page 7) in the Main window,.
 - 3. In the File dialogue box select logo file "instnew.log" and click OK. The **LOGO** window will be opened.
 - 4. Type number 5 in the Height text box (2, page 20) and click OK.
 - 5. The logotype image will be added on the dial.
 - 6. To move logo image, click inside the image and drag it.

4.11.2 Moving logotype

- 1. Load dial C:\SKALA\EXAMP\7.SKL.
- 2. To move a logotype image, click inside the image and drag it.

4.11.3 Deleting logotype

- 1. Load dial C:\SKALA\EXAMP\7.SKL.
- 2. To delete a logotype image choose **PICTURE** in the **ERASE** (5, page 7) menu. With mouse select desire logotype.

4.12 Adding new scale on the dial

The Picture 2 shows dimensions that could be changed in **DIMENSIONS** window.

Example A shows adding new scale on the dial.

- 1. Load dial C:\SKALA\EXAMP\8.SKL.
- 2. Open the **DIMENSION** window by icon (20, page 7) in the **Main** window.
- 3. Type number 2 in the Number of scales text box (23, page 23).
- 4. Click **Next** (25, page 23) button. The **DIMENSIONS** window has no values for scale number 2.
- 5. Click **Copy from scale** = 1 (24, page 23) to fill empty text boxes with data from scale 1.
- 6. Set the data.

		CURRENT	SCALE = 2			_ 🗆 🗙
Dial width :	84.7			х	Y	
Dial height :	84.1		Unit position :	26.35	73.1	
Scale centre X / Y :	66.05	66.25	Symbol position :	69.7	7	
Distance to 2nd centre :	0		Logo position :	31	7	
Radius :	33					
Strart of Scale angle :	270		Large number font size:	3		
Scale length :	-90		Small number font size :	2		
	length	width			1	
Short line :	2	.16	Scale characteristic file :	C:\SKAL	A\CHARAC	T\F6_1-1.KA
Long line :	4	.16	Numbering file :	C:\SKAL	A\NUM\NO	RMAL.OST
Medium line :	3	.16				
Main thin line :	2	.16	Number of scales :	2		
Main thick line :	2	.4	1			
Distance between number and line :	.8		-			
Dot diameter :	.4					
Numbering direction :	-1					
Copy from scale 1		Next	Back	Save	Cance	1

7. Save new scale by SAVE (27, page 23) button.

4.13 How to use scale data from the Table window

Table	e				×	
	Val	ue	,	Angle		
1.	-3	8.5	Γ	-1		
2.	-	1	F	90		
3.		0	F	125		
4.	1	.5	F	160		
5.	2	.5	F	200		
6.	3	.5		239		
7.		0		0		
8.		0		0		
9.		0		0		
10.		0		0		
11.		0	Г	0		
12.		0		0		
13.		0	L	0		
14.		0		0		
15.		0		0		
© Linear C Kubic Last point : 6						
		Start		End	-	
Perc	ent	0		100]	
Valu	е	-3.5	5	3.5	1	
Angl	е	0		240]	
SAVE AS TABLE						
CANCEL						

- 1. Load dial C:\SKALA\EXAMP\4.SKL.
- 2. In the Main window click TABLE icon (10, page 7).
- 3. Type the data in it.
- 4. Click **TABLE** (10, page 24) button and the data will be saved.

- 5. To draw scale with new data, delete current scale by icon (15, page 7) in the **Main** window first.
- 7. Click icon (16, page 7) to open **AUTOMATIC NUMBERING** window and write the data in it.

HALFAUTOMATIC	NUMBER	ING	×
Scale colour : Scale number : Value at 0 % : Origin value: Value at 100% :	1 2 3 4 5 6 1 -3.5 0 3.5	Scale characteristic file : : C:\SKALA\CHARACT\CEN240.KAR I Scale characteristic from the TABLE Font name : _D_LIGHT	
Every Every	2 10	-th short line is MEDIUM LINE -th short line is MAIN LINE	
Every	10	-th short line is NUMBER	
Devision value :	.1		
☐ Rectangle ☐ Without line first	width 6 7	height 2 ° ⊏ Electric zero 24_ °	
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	RAW	CANCEL	

8. To draw scale with data from the Table click DRAW button.

4.14 Placing dot mark

- 1. Load dial C:\SKALA\EXAMP\3.SKL.
- 2. In the Main window click DOT icon (19, page 7) and select blue mark on the scale.
- 3. In the SHOW DOT POSITION window set dot position (3, page 20).
- 4. To draw dot click **DRAW** (4, page 20) button.

4.15 Copying and pasting objects

All selected objects could be copied on the dial except logotype image.

- 1. Load dial C:\SKALA\EXAMP\6.SKL.
- 2. First select green lines (see **Moving lines**), then green symbols (see **Moving symbol**) and green arcs (see **Moving arc**).
- 3. Click **COPY** icon (28, page 7) in the **Main** window and select the origin of the objects.
- 4. Click **PASTE** icon (29, page 7) and click to paste objects to the new position.
- 5. Pasted objects are dark green and can be moved by cursor keys.
- 6. To deselect pasted objects click right mouse button or click icon (21, page 7).

5. Appendix A

Scale points file "LIN-90.kar" example: 0,0 50,45 100,90 Scale points file "Tabela.kar" example: 0,-1 35.71429,90 50,125 71.42857,160 85.71429,200 100,239

6. Appendix B

FontName = _D_LIGHT_

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