

TRS-6100 field guide

# TRS + Pretest

Revision TRS-R37 · September 28, 2026

Controller settings, MEM/EHR, pretest transfer, device support, proof, and closeout.

Open TRS SETTINGS for the interactive guide

# Set up this install

## 1. Is MEM / EHR being configured today?

- Configure now Set up the MEM, shared folder, and access test.
- Not used Do not change MEM or network settings today.
- Set up later Keep MEM/EHR steps available for reference; coordinate a Marco Connect remote install with the customer and Tier 3.

## 2. How will pretest data reach the TRS?

- 8 to 8 (purple) cable transfer Selected pretest devices connect to the master MEM.
- Eye Care card Use the correct Eye Care reader or the RT's built-in card slot.
- No pretest transfer No cable or card-reader workflow is required.

## 3. Which pretest devices are being connected?

- LM-7 lensmeter Its own setup and data transfer proof.
- TonoRef II / ARK Its own communication setup and transfer proof.

Select the path on the live guide to run the interactive checklist. The PDF includes all routes for offline reference.

# Enter TRS parameter settings at the controller (CB)

## CONTROLLER PATH

### Open the parameter screens

- Open the side menu, then select Setting.
- Select Parameters.
- Use Back / Next to reach the correct page. Tap a setting field to change it.
- After the setting pass, press End twice to leave Settings. Complete the return-to-page-7 final pass before leaving the controller.

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Field-guide targets: these parameters have been developed from the most commonly changed settings to create the best user experience. They are not an all-encompassing list of every available change option. Open the full manual reference below

before changing a setting that is not shown as a field-guide target.

## Full RT-6100 parameter reference • manual pp. 219-230

This is the complete parameter-page reference in the RT-6100 manual: option names, available choices, and what each controls. It is reference material only; use the visible field-guide target when one is provided.

### Page 1/10 • Sphere / cylinder / axis

- SPH step — Selects the regular sphere increment. Options: 0.12 D, 0.25 D
- SPH step (Shift) — Selects the sphere increment used while Shift is held. Options: 0.50 D to 3.00 D
- CYL mode — Sets the cylinder sign convention. Options: +, –
- CYL step (Shift) — Selects the cylinder increment used while Shift is held. Options: 1.00 D, 2.00 D, 3.00 D
- AXIS step — Selects the regular axis increment. Options: 1°, 5°
- AXIS step (Shift) — Sets the alternate axis increment when the normal axis step is 5°. Options: 1°→5° / 5°→15°, or 1°→5° / 5°→1°
- AXIS auto step — Sets when cross-cylinder axis refinement shifts between 5° and 1° steps. Options: 0.00 D to 4.00 D in 0.25 D increments
- Indication of Axis 0° — Sets the horizontal-axis display convention. Options: 0°, 180°

RT-6100 Operation Manual pp. 219-220

### Page 2/10 • Visual acuity

- VA format — Sets how near and distance visual acuity is notated. Options: Normal, 5-mark record
- ADD VA format — Sets the notation for near vision with addition. Option: Normal (fixed)
- Preset VA — Controls whether estimated visual-acuity charts are presented at the start of unaided or glasses-corrected VA. Options: 1 letter, H. line, No

RT-6100 Operation Manual pp. 220-221

### Page 3/10 • Cross cylinder / prism

- Cross cylinder (XC) test — Selects the lens behavior used for the cross-cylinder test. Options: Auto,  $\pm 0.25$  D,  $\pm 0.50$  D,  $\pm 0.25$  D/○
- XC lens-switch button — Shows or hides the  $\pm 0.25$ /○ function button used during XC testing. Options: Yes, No
- XC mode S.E. fix — Controls whether sphere automatically changes to retain spherical equivalent during XC refinement. Options: Yes, No

- CYL mode S.E. fix — Controls whether sphere automatically changes to retain spherical equivalent during normal cylinder refinement. Options: Yes, No
- XC mode AXIS 90° auto change — Controls automatic 90° axis rotation after a plus response at  $-0.00$  D. Options: Yes, No
- Prism display format — Sets the prism coordinate notation. Options: X/Y,  $r\theta$
- Prism speed — Sets the continuous  $0.1\Delta$  increment speed while a prism button is held. Options: 1.0 s, 0.7 s, 0.5 s, 0.2 s
- Prism step (convergence/divergence) — Sets the prism increment for convergence and divergence tests. Options:  $0.20\Delta$ ,  $1.00\Delta$
- Input prism from LM — Controls whether lensmeter prism values are imported. Options: Yes, No

RT-6100 Operation Manual pp. 221-222

## Page 4/10 • Auxiliary lenses

- Binocular open fogging — Sets the fog amount used during binocular-open measurement. Options: 0.00 D to 9.00 D, Auto
- Dispersion prism for binocular balance — Sets the dissociation prism for binocular balance. Options:  $3.0\Delta$  BD (BU) to  $10.0\Delta$  BD (BU)
- Dispersion prism for horizontal phoria — Sets the dissociation prism for horizontal phoria. Options:  $3.0\Delta$  BU (BD) to  $10.0\Delta$  BU (BD)
- Dispersion prism for vertical phoria — Sets the dissociation prism for vertical phoria. Options:  $5.0\Delta$  BI to  $15.0\Delta$  BI
- Lens for Retino — Selects the spherical lens for retinoscopy based on working distance. Options: 0.00 D, +1.50 D, +2.00 D

RT-6100 Operation Manual pp. 222-223

## Page 5/10 • Near vision test

- Preset ADD — Controls age-based estimated ADD entry. Options: Setting1 (Low), Setting2 (High), No
- SPH Far→Near — Controls whether Near begins with distance sphere alone or sphere plus ADD. Options: SPH, SPH+ADD
- (–) ADD — Controls whether minus data can be entered as addition. Options: Yes, No
- Working distance — Sets the working-distance value used for near testing. Options: 35 cm to 70 cm
- NPC calculation — Selects the calculation method for near point of convergence. Options: Detail, Simple
- Near lamp link — Controls automatic near-point lamp behavior with ADD/Near modes. Options: Yes, No, Other than grid

RT-6100 Operation Manual pp. 223-224

## Page 6/10 • Printing / output

- Print CL data — Controls printing of contact-lens conversion values. Options: Yes, No
- Print TL data — Controls printing of trial-lens data based on prescription data. Options: Yes, No
- Clear after output — Controls automatic clearing of measurement data after print or data output. Options: Yes, No
- Print — Controls whether measurement data prints when Print is used. Options: Yes, No
- Print format — Selects the content sent to the printer. Options: All data, w/o AR, Unaided/Subj/Final
- Date format for print — Sets the printed date format. Options: yyyy/mm/dd, mm/dd/yyyy, dd/mm/yyyy
- QR code — Controls QR-code printing and its data content. Options: QR 1, QR 2, Off
- Data list at output — Controls whether the data list appears before data output or print. Options: Yes, No

RT-6100 Operation Manual pp. 224–225

## Page 7/10 • Refraction program

- Fog for binocular balance — Controls automatic fogging in binocular balance. Options: Yes, No
- Program A / Program B — Selects the built-in or user-rewritten program for each program slot. Options: Fix1, Fix2, User
- Additional program / Program MF — Selects built-in or user-rewritten behavior for other installed program slots. Options: Fix, User
- Skip confirmation of program test — Controls the warning shown before advancing without performing a test. Options: Yes, No
- Intelligent XC — Controls automated cross-cylinder sequence behavior during a refraction program. Options: Yes, No
- Program for imported WF, AR, or Night data — Selects the program automatically chosen when those data types are entered. Options: A, B, C, D, E, MF, No switching

RT-6100 Operation Manual pp. 225–227

## Page 8/10 • Other 1

- Accommod. power for Range of Clear Vision — Selects the accommodation source used for range-of-clear-vision calculation. Options: ADD, NPA, Age, Manual
- Near indication link — Controls automatic distance/near indication switching during clear-vision-range checks. Options: Yes, No
- Adjust ADD Subj→Final — Controls automatic ADD adjustment when Subjective data is sent to Final. Options: Yes, No

- Shift+Final — Selects what Shift + Final does. Options: Final Fit, Copy the data
- Preset power of Subj 1 / 2 — Sets the initial AR/LM source and how it is carried into Subjective. Options: AR or LM; All data, CYL=0, Clear
- Day→Night copy AR/LM — Controls copying of day AR/LM values when Night mode is selected. Options: Yes, No
- Display at entry list opening — Sets the first data type shown when the import list opens. Options: AR/ARK, LM, RT

RT-6100 Operation Manual pp. 227–228

## Page 9/10 • Other 2

- Clear confirmation at ID entry — Controls whether the device asks before clearing current data when an ID is entered or changed. Options: Yes, No
- Clear at ID entry — Controls whether current data clears when an ID is entered or changed. Options: Yes, No, Only when changed
- ID import from AR/LM — Controls import of patient ID with AR or LM data. Options: Yes, No
- Eye Care card insert clear confirmation — Controls the confirmation message before data clears when Eye Care card data enters. Options: Yes, No
- Write to Eye Care Card — Controls writing one person's refraction data to an Eye Care card during print or data export. Options: Yes, No
- Brightness — Sets the control-box touchscreen brightness. Options: 1 to 7

RT-6100 Operation Manual p. 229

## Page 10/10 • Other 3

- Clear confirmation — Controls the confirmation dialog before data is cleared. Options: Yes, No
- Operating timer — Controls measurement and printout of refraction time. Options: Subj, Prog., No
- Data copying from Subj to Final — Selects what moves from Subjective to Final. Options: S/C/A, S/C/A/VA/ADD, S/C/A/VA/ADD/Prism, All data
- Dial switch — Sets the order in which the dial cycles through refraction controls. Options: S→C→A, S→C→A→VA, S→A→C, S→A→C→VA
- Auto lamp off — Sets whether and when the device enters auto light-off mode while idle. Options: Off, 5 min, 15 min, 30 min
- Beep sound — Sets the control-box button tone. Options: High, Low, Off
- Chart link — Sets chart communication for non-SC or SC series charts. Options: Yes/No for non-SC; Cable, Wireless 1–8, No for SC

series

- Display Day/Night switching button — Controls whether the Day/Night button is displayed. Options: Yes, No
- System No. — Assigns an identifier when multiple RT-6100s are used. Options: Off, 1 to 10

RT-6100 Operation Manual p. 230

PARAMETER PAGE 1/10

Manual options · Sphere / cylinder / axis

Page 1 has no standard field-guide changes, but the manual provides these adjustable controls when an approved account preference calls for them.

- SPH step / SPH step (Shift) — Sphere increments for normal and Shift operation. 0.12 D or 0.25 D; Shift 0.50 D to 3.00 D
- CYL mode / CYL step (Shift) — Cylinder sign convention and Shift cylinder increment. +, -; Shift 1.00 D, 2.00 D, 3.00 D
- AXIS step / AXIS step (Shift) — Normal and Shift axis increments. 1° or 5°; two Shift patterns when standard is 5°
- AXIS auto step — Threshold that switches axis refinement between 5° and 1° increments. 0.00 D to 4.00 D
- Indication of Axis 0° — Horizontal-axis display convention. 0°, 180°

RT-6100 Operation Manual pp. 219-220

PARAMETER PAGE 2/10

Visual acuity

- Preset VA = No

Do not automatically change the chart when comparing old Rx to new SUBJ.

Manual excerpt · RT-6100 p. 221

What it controls: estimated visual-acuity chart presentation. No does not present it; the estimate uses AR or LM data at the start of unaided or glasses-corrected VA.

RT-6100 Operation Manual p. 221

Manual options · Visual acuity

The field-guide target above is the standard setup. Open this only when the site needs another approved Page 2 setting.

- VA format — Sets how near and distance visual acuity is notated. Options: Normal, 5-mark record

- **ADD VA format** — Sets the notation for near vision with addition. Option: Normal (fixed)
- **Preset VA** — Controls whether estimated visual-acuity charts appear at the start of unaided or glasses-corrected VA. Options: 1 letter, H, line, No

RT-6100 Operation Manual pp. 220–221

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## PARAMETER PAGE 3/10

### Cross cylinder / prism

- **XC Mode Axis 90 auto change = No**

Do not flip axis by 90 degrees when cylinder is removed.

#### Manual excerpt · RT-6100 p. 222

Controls automatic 90-degree axis rotation after a plus response at -0.00 D during cross-cylinder refinement.

RT-6100 Operation Manual p. 222

- **Prism step = 1.00**

#### Manual excerpt · RT-6100 p. 222

Selects the prism increment for convergence/divergence testing; the value applies to both eyes.

RT-6100 Operation Manual p. 222

- **CYL mode S.E. fix = Yes**

Use only if the doctor wants spherical equivalent retained while working in CYL.

#### Account decision · RT-6100 p. 221

Automatically changes sphere to retain spherical equivalent when cylinder changes during normal cylinder refinement.

RT-6100 Operation Manual p. 221

### Manual options · Cross cylinder / prism

The targets above are the standard setup. The complete Page 3 controls are available here when an approved account preference requires a different setting.

- **Cross cylinder (XC) test** — Selects the lens behavior used for the cross-cylinder test. Options: Auto,  $\pm 0.25$  D,  $\pm 0.50$  D,  $\pm 0.25$  D/○
- **XC lens-switch button** — Shows or hides the  $\pm 0.25$ /○ function button used during XC testing. Options: Yes, No
- **XC mode S.E. fix** — Controls whether sphere automatically changes to retain spherical equivalent during XC refinement. Options: Yes, No

- CYL mode S.E. fix — Controls whether sphere automatically changes to retain spherical equivalent during normal cylinder refinement. Options: Yes, No
- XC mode AXIS 90° auto change — Controls automatic 90° axis rotation after a plus response at  $-0.00$  D. Options: Yes, No
- Prism display format — Sets the prism coordinate notation. Options: X/Y,  $r\theta$
- Prism speed — Sets the continuous  $0.1\Delta$  increment speed while a prism button is held. Options: 1.0 s, 0.7 s, 0.5 s, 0.2 s
- Prism step (convergence/divergence) — Sets the prism increment for convergence and divergence tests. Options:  $0.20\Delta$ ,  $1.00\Delta$
- Input prism from LM — Controls whether lensmeter prism values are imported. Options: Yes, No

RT-6100 Operation Manual pp. 221–222

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## PARAMETER PAGE 4/10

### Auxiliary lenses

#### Manual options · Auxiliary lenses

Page 4 has no standard field-guide changes, but these controls are available when an approved account preference calls for one.

- Binocular open fogging — Sets the fog amount used during binocular-open measurement. Options: 0.00 D to 9.00 D, Auto
- Dispersion prism for binocular balance — Sets the dissociation prism for binocular balance. Options:  $3.0\Delta$  BD (BU) to  $10.0\Delta$  BD (BU)
- Dispersion prism for horizontal phoria — Sets the dissociation prism for horizontal phoria. Options:  $3.0\Delta$  BU (BD) to  $10.0\Delta$  BU (BD)
- Dispersion prism for vertical phoria — Sets the dissociation prism for vertical phoria. Options:  $5.0\Delta$  BI to  $15.0\Delta$  BI
- Lens for Retino — Selects the spherical lens for retinoscopy based on working distance. Options: 0.00 D, +1.50 D, +2.00 D

RT-6100 Operation Manual pp. 222–223

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## PARAMETER PAGE 5/10

### Near measurement

#### • Preset ADD = Setting2 (High)

Inserts anticipated add for age entered.

#### Manual excerpt · RT-6100 p. 223

Presets estimated addition by patient age; Setting2 (High) enters the higher estimate.

RT-6100 Operation Manual p. 223

- **Near lamp link = Other than grid**

Near-point light auto-illuminates in ADD or NEAR, but not in the grid test.

**Manual excerpt · RT-6100 p. 224**

Automatically illuminates the near lamp in ADD or Near mode, except with the Grid near chart. This setting is not supported with SSC-100.

RT-6100 Operation Manual p. 224

**Manual options · Near measurement**

The targets above are the standard setup. Use these complete Page 5 options only when the site needs an approved alternative.

- Preset ADD — Controls age-based estimated ADD entry. Options: Setting1 (Low), Setting2 (High), No
- SPH Far→Near — Controls whether Near begins with distance sphere alone or sphere plus ADD. Options: SPH, SPH+ADD
- (–) ADD — Controls whether minus data can be entered as addition. Options: Yes, No
- Working distance — Sets the working-distance value used for near testing. Options: 35 cm to 70 cm
- NPC calculation — Selects the calculation method for near point of convergence. Options: Detail, Simple
- Near lamp link — Controls automatic near-point lamp behavior with ADD/Near modes. Options: Yes, No, Other than grid

RT-6100 Operation Manual pp. 223–224

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**PARAMETER PAGE 6/10**

**Print**

- **Print = No at EHR-only clinics**

Confirm whether the doctor wants a physical ticket. Keep the printer connected so it can be toggled if desired.

**Account decision · RT-6100 p. 224**

Controls whether measurement data prints when Print is pressed.

RT-6100 Operation Manual p. 224

• **Print format = All data**

May be shortened to UNA/SUBJ/Final if the doctor prefers.

**Account decision · RT-6100 p. 225**

All data prints all data; the reduced option is Unaided, SUBJ, Final.

RT-6100 Operation Manual p. 225

• **Data list at output = No**

Avoids two Output presses. Leave as Yes when the site EHR workflow or doctor requires review first.

**Account decision · RT-6100 p. 225**

With Yes, the data-list screen appears before output/printing and requires a second Output press.

RT-6100 Operation Manual p. 225

**Manual options · Printing / output**

The targets above are the standard setup. Use these complete Page 6 options only when the site needs an approved alternative.

• Print CL data — Controls printing of contact-lens conversion values. Options: Yes, No

• Print TL data — Controls printing of trial-lens data based on prescription data. Options: Yes, No

• Clear after output — Controls automatic clearing of measurement data after print or data output. Options: Yes, No

• Print — Controls whether measurement data prints when Print is used. Options: Yes, No

• Print format — Selects the content sent to the printer. Options: All data, w/o AR, Unaided/Subj/Final

• Date format for print — Sets the printed date format. Options: yyyy/mm/dd, mm/dd/yyyy, dd/mm/yyyy

• QR code — Controls QR-code printing and its data content. Options: QR 1, QR 2, Off

• Data list at output — Controls whether the data list appears before data output or print. Options: Yes, No

RT-6100 Operation Manual pp. 224-225

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**PARAMETER PAGE 7/10 · INITIAL PASS**

**Programs**

• **Program A = Fix 2**

Fix 2 is the Marco program doctors in the U.S. will recognize.

### **Manual excerpt • RT-6100 p. 226**

Fix2 is the pre-written Program A Standard 2; User is the user-rewritten program.

RT-6100 Operation Manual p. 226

- **Program B = Fix 2**

Both programs are changed again in the final pass.

### **Manual excerpt • RT-6100 p. 226**

Fix2 is the pre-written Program B Standard 2; User is the user-rewritten program.

RT-6100 Operation Manual p. 226

### **Manual options • Refraction program**

The targets above set up the initial pass. The complete Page 7 controls are here; return to this page later for the required final Program A and B pass.

- Fog for binocular balance — Controls automatic fogging in binocular balance. Options: Yes, No
- Program A / Program B — Selects the built-in or user-rewritten program for each program slot. Options: Fix1, Fix2, User
- Additional program / Program MF — Selects built-in or user-rewritten behavior for other installed program slots. Options: Fix, User
- Skip confirmation of program test — Controls the warning shown before advancing without performing a test. Options: Yes, No
- Intelligent XC — Controls automated cross-cylinder sequence behavior during a refraction program. Options: Yes, No
- Program for imported WF, AR, or Night data — Selects the program automatically chosen when those data types are entered. Options: A, B, C, D, E, MF, No switching

RT-6100 Operation Manual pp. 225–227

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## **PARAMETER PAGE 8/10**

### **Other**

- **Accomm. power for Range of Clear Vision = Age**

Accommodation is calculated from age.

### **Manual excerpt • RT-6100 p. 227**

Selects the accommodation value used for clear-vision range calculation. Age calculates it from age.

RT-6100 Operation Manual p. 227

**• Shift + Final = Copy the data**

Will not change SUBJ when Shift + Final is selected.

**Manual excerpt · RT-6100 p. 228**

Copies displayed numeric values into the prescription field, regardless of whether Final data is present.

RT-6100 Operation Manual p. 228

**Manual options · Other 1**

The targets above are the standard setup. Use these complete Page 8 options only when the site needs an approved alternative.

- Accommod. power for Range of Clear Vision — Selects the accommodation source used for range-of-clear-vision calculation. Options: ADD, NPA, Age, Manual
- Near indication link — Controls automatic distance/near indication switching during clear-vision-range checks. Options: Yes, No
- Adjust ADD Subj→Final — Controls automatic ADD adjustment when Subjective data is sent to Final. Options: Yes, No
- Shift+Final — Selects what Shift + Final does. Options: Final Fit, Copy the data
- Preset power of Subj 1 / 2 — Sets the initial AR/LM source and how it is carried into Subjective. Options: AR or LM; All data, CYL=0, Clear
- Day→Night copy AR/LM — Controls copying of day AR/LM values when Night mode is selected. Options: Yes, No
- Display at entry list opening — Sets the first data type shown when the import list opens. Options: AR/ARK, LM, RT

RT-6100 Operation Manual pp. 227-228

**PARAMETER PAGE 9/10****Other****• ID import from AR/LM = Yes**

Imports patient ID from AR/LM.

**Manual excerpt · RT-6100 p. 229**

Selects whether to import the patient ID from AR or LM data.

RT-6100 Operation Manual p. 229

**Manual options · Other 2**

The target above is the standard setup. Use these complete Page 9 options only when the site needs an approved alternative.

- Clear confirmation at ID entry — Controls whether the device asks before clearing current data when an ID is entered or changed. Options: Yes, No
- Clear at ID entry — Controls whether current data clears when an ID is entered or changed. Options: Yes, No, Only when changed
- ID import from AR/LM — Controls import of patient ID with AR or LM data. Options: Yes, No
- Eye Care card insert clear confirmation — Controls the confirmation message before data clears when Eye Care card data enters. Options: Yes, No
- Write to Eye Care Card — Controls writing one person’s refraction data to an Eye Care card during print or data export. Options: Yes, No
- Brightness — Sets the control-box touchscreen brightness. Options: 1 to 7

RT-6100 Operation Manual p. 229

PARAMETER PAGE 10/10

Other

• **Data copying from SUBJ to Final = All data**

All data moves if the doctor touches Final. Confirm the account preference with the area sales rep.

**Account decision • RT-6100 p. 230**

Available choices include S/C/A, S/C/A/VA/ADD, S/C/A/VA/ADD/Prism, and All data.

RT-6100 Operation Manual p. 230

**Manual options • Other 3**

The target above is the standard setup. Use these complete Page 10 options only when the site needs an approved alternative.

- Clear confirmation — Controls the confirmation dialog before data is cleared. Options: Yes, No
- Operating timer — Controls measurement and printout of refraction time. Options: Subj, Prog., No
- Data copying from Subj to Final — Selects what moves from Subjective to Final. Options: S/C/A, S/C/A/VA/ADD, S/C/A/VA/ADD/Prism, All data
- Dial switch — Sets the order in which the dial cycles through refraction controls. Options: S→C→A, S→C→A→VA, S→A→C, S→A→C→VA
- Auto lamp off — Sets whether and when the device enters auto light-off mode while idle. Options: Off, 5 min, 15 min, 30 min

- Beep sound — Sets the control-box button tone. Options: High, Low, Off
- Chart link — Sets chart communication for non-SC or SC series charts. Options: Yes/No for non-SC; Cable, Wireless 1-8, No for SC series
- Display Day/Night switching button — Controls whether the Day/Night button is displayed. Options: Yes, No
- System No. — Assigns an identifier when multiple RT-6100s are used. Options: Off, 1 to 10

RT-6100 Operation Manual p. 230

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## REQUIRED BREAK · AFTER PAGE 10/10

### Exit settings and soft reset

- Exit the Parameter settings menu completely and return to the normal controller screen.
  - Press Shift + Output on the controller to perform a soft reset.
  - After the controller restarts, open Parameter settings again and return to page 7/10 for the final Program A and B pass below.
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## RETURN TO PARAMETER PAGE 7/10 · FINAL PASS

### Programs

- **Program A = User**

Allows program modification if desired after the standard pass.

#### Manual excerpt · RT-6100 p. 226

User is a user-rewritten program.

RT-6100 Operation Manual p. 226

- **Program B = User**

The doctor can now see and edit program steps.

#### Manual excerpt · RT-6100 pp. 173-174, 226

Set a program to User before editing: Settings → Programming → select A/B → Edit.

RT-6100 Operation Manual pp. 173-174, 226

VERIFY: Before leaving parameter settings, Program A and Program B both read User.

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## MEM / EHR setup

Configure this section only when the site is setting up MEM/EHR today. Choosing No EHR does not cancel the separate pretest-transfer path.

MEM-200 HARDWARE

Connect the TRS serial path

Round serial cable → MEM-200 Port 4

Connect Ethernet to the MEM (any LAN port) and Relay Box (any LAN port), then go to Parameters → Network → Others.

VERIFY: Port and cable are confirmed before moving or reconnecting any MEM cables.

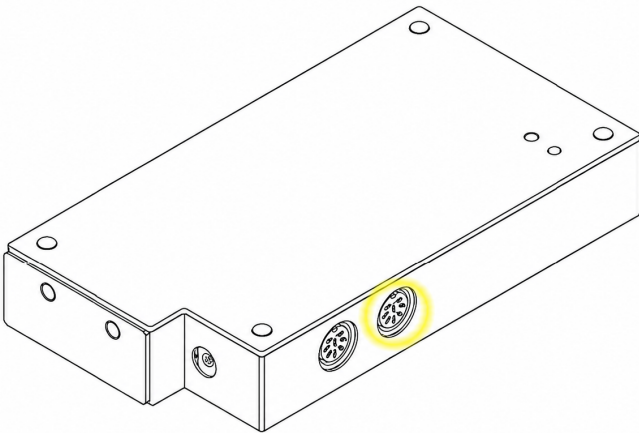
SAFETY: Disconnect AC power before attaching or removing MEM cables.

Manual excerpt • MEM-200 pp. 5-6, 16

Disconnect the AC adapter from the outlet before attaching/removing cables. Use the supplied adapter and cable clamp; do not move the unit with cables connected.

MEM-200 Operators Manual pp. 5-6, 16

View Port 4 location



MEM-200 Port 4 location shown here.

SHARED FOLDER • 1 OF 2

Enter values below

Parameters → Network → Other → Shared folder

- Shared folder location = 192.168.0.120

Enter this only as the shared-folder location; leave the MEM network address at its factory or existing site setting.

- **Folder name = DATA**
- **Input folder type = MEM-200**
- **Input of serial communications computer data = Master port 4**

Use the applicable slave port only when the approved site design uses a slave MEM.

IF THIS IS A FIRST-TIME DAISY CHAIN: Confirm the approved topology with your service manager and schedule technical support when needed.

Do not enter passwords here. Use only site-approved credentials; factory examples are not account settings.

### Manual excerpt · MEM-200 p. 99

The RT-6100 Shared folder area lists the master computer name/IP, folder name DATA, Input folder type MEM-200, and the serial-computer-data input port.

MEM-200 Operators Manual p. 99

## ACCESS CHECK · 2 OF 2

### Prove the shared-folder path

TEST: On the master MEM-200 Network settings screen, run the access check after entering approved computer/share information.

PASS: Access OK is shown beside RKT, LM, and RT; missing folders are created.

FAIL: Access NG means the share was not found. Confirm site-approved credentials, computer/share information, MEM power, and cable seating.

HARD POWER RESET THEN RETEST: Power down the RB and MEM. Power the MEM back up first, then restore RB power and rerun the access check.

### Manual + field guide · MEM access test and reset

Access OK beside RKT, LM, and RT means the share is accessible and missing folders are created; Access NG means the share was not found. For this TRS install workflow, hard power reset the RB and MEM, powering the MEM back up first, then retest.

MEM-200 Operators Manual p. 26; Digital Refraction for Field Engineers p. 9

# Cable transfer: Pretest to exam room

Use this route only when pretest data travels through the master MEM-200. Keep the alternate one-cable topology closed unless it matches the approved site design.

## CABLE ROUTE · MASTER LANE

### Choose the master lane

#### Exam lane closest to the pretest room = Master Lane

Run each selected device's 8-pin cable to that lane. Label both ends of each cable LM or AR as applicable.

## Installation reference · Connection guide p. 2

The supplied connection guide uses the closest lane for the shortest cable run; a one-lane site uses the same setup.

Connecting LM-7 and TonoRef2 with TRS-6100 p. 2

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## CABLE ROUTE · PHYSICAL CONNECTION

### Connect safely and secure the LM-7

- Power off each source device before attaching or removing its 8-pin communication cable.
- For an LM-7, connect the cable at communication port 12, reinstall the rear cover, and secure it with the Phillips #2 screw.
- Run the selected LM and AR/TonoRef cables together to the Master Lane, keeping strain off each connection.

## Manual excerpt · LM-7 pp. 75, 80

Power off connected equipment before attaching the communication cable. The LM-7 communication connector sits behind the rear cover; secure the cover after the cable is installed.

LM-7 Operation Manual pp. 75, 80; Connecting LM-7 and TonoRef2 with TRS-6100 p. 2

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## CABLE ROUTE · MEM PORTS

### Connect to the master MEM-200

#### Connection map

- TonoRef II / ARK Data-output RS-232C (OUT) → MEM-200 Port 1
- LM-7 Communication port #12 → MEM-200 Port 2

Confirm the connections shown match the installed site design.

**Alternate one-cable topology · only if installed this way**

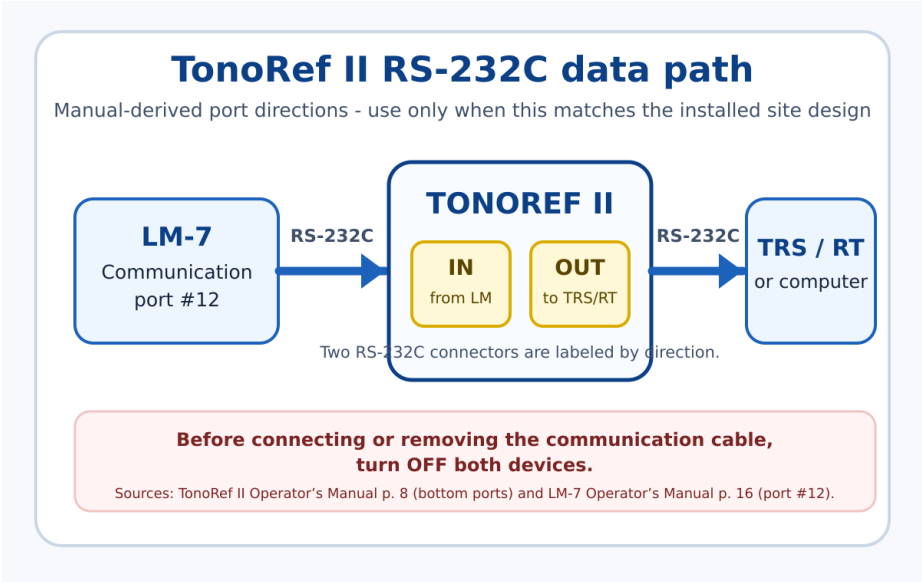
Path: LM-7 → TonoRef / ARK → master MEM-200. Use it only when the approved site design calls for the daisy chain.

SET BOTH DEVICES: The cable path alone is not sufficient. Complete the LM-7 and TonoRef communication values below before testing.

- LM-7 — Printer = AR print · Com mode = NIDEK · Baud rate = 9600 · Parity = Odd · Data bits = 8 bit · Stop bits = 1 bit.
- TonoRef II / ARK — Set the LM input to NIDEK; I/F mode = NIDEK · I/F format = ALL · Baud rate = 9600 · Bit length = 8 · CR code = No · LM data print = Yes.

AR print sends the LM-7 data and prints it through the connected TonoRef / ARK. The direct dual-cable MEM route uses the normal LM-7 printer choice described below instead.

Connecting LM-7 and TonoRef2 with TRS-6100 pp. 3, 5; LM-7 Operation Manual pp. 82, 85; TonoRef II Operators Manual p. 94



Alternate daisy-chain path only; it is not the default direct dual-cable MEM plan.

**CABLE ROUTE · LM-7**

**LM-7 setup**

**Parameter 6 → Auto R/L = On Parameter 13 → Single state = Off Parameter 44 → Com mode = NIDEK**

The current LM-7 manual numbers Com mode as 44. Older field guides may call it 43; follow the setting name Com mode if the installed software differs.

SET PRINTER FOR THE ROUTE: Off sends only to the external device. On prints locally and sends data. Use AR print only for the alternate LM → TonoRef / ARK chain.

VERIFY: Use the LM-7 Print action as the send trigger, then prove the TRS receives the data.

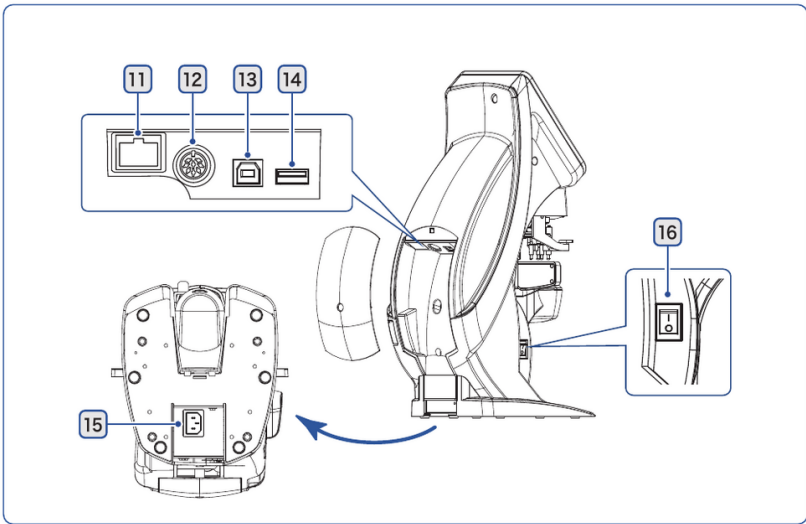
IF FAILED: Check Com mode, the Port 12 cable, printer setting, and the approved site topology before moving cables.

**Manual excerpt · LM-7 pp. 81-85**

Auto R/L changes to the opposite lens side when the locked lens is removed. With Single state off, Clear sets R rather than the single-lens state. Printer off transmits without local printing; On transmits and prints; AR print transmits and prints through the connected AR, ARK, or RKT.

LM-7 Operation Manual pp. 81-85

**View LM-7 Port 12 diagram**



Use LM-7 communication port #12 for the pretest cable route.

**CABLE ROUTE · TONOREF II**

**TonoRef II / ARK setup**

**I/F mode = NIDEK · I/F format = ALL Baud rate = 9600 · Bit length = 8 · CR code = No**

- From the measurement screen, use R4 to reach Page 3, then hold the Parameter button for about one second.
- Select COMMUNICATION, then set the values above.
- Press the running-man Exit button twice to return to measurement and save the setting.

Set date/time and use the data-output (OUT) RS-232C connector—the right-hand port closest to the patient—for the cable path.

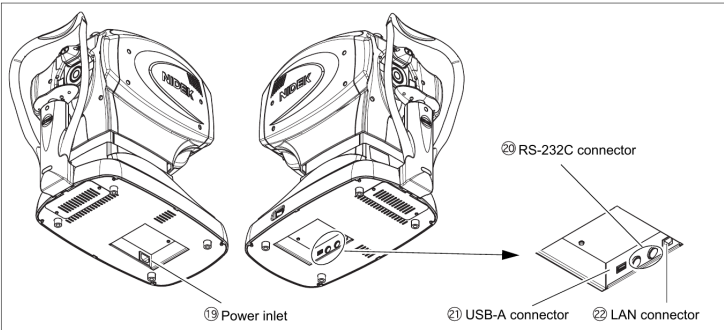
Manual excerpt · TonoRef II pp. 81-82, 94

The COMMUNICATION page sets I/F Mode, I/F Format, baud rate, bit length, and CR code. ALL transfers all data. The values are saved after Exit returns to the measurement screen.

TonoRef II Operators Manual pp. 81-82, 94; MEM-200 Operators Manual p. 59; Connection guide p. 2

View OUT-port and communication diagrams

○ Bottom view



19 Power inlet

Used to connect the detachable power cord.

20 RS-232C connector

Connect an interface cable to send/receive the measured data to/from a diagnostic device or such.

Target device

RT-2100 series, RT-5100  
LM-970, LM-990/990A, LM-1000/1000P, LM-1200

|                                                                                           |                                                                                                                           |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
|  (OUT) | To export the measured data to the refractor (RT), an external computer or such, connect an interface cable to this side. |
|  (IN)  | To import the measured data to from a NIDEK lensmeter, connect an interface cable to a lensmeter.                         |

Connecting the lensmeter to the  side and the RT-2100/RT-5100 to the  side allows data transmission to the connected refractor via the TONOREF II.  
When connecting a cable, be sure to turn OFF power to both devices. (See "Before Use" (page II), "During Use" (page IV), and "3 OPERATION WHEN PERIPHERAL DEVICES ARE CONNECTED" (page 105).)

21 USB-A connector

For the cable path, use the RS-232C data-output (OUT) connector.

[COMMUNICATION (Communication function)]

Sets communication for RS232C connection with the PC.

\* Underlined options indicate factory setting:

| No. | Parameter     | Settings                         |
|-----|---------------|----------------------------------|
| 81  | I/F MODE      | <u>NIDEK</u> / NIDEK2 / NCP10    |
| 82  | I/F FORMAT    | ALL / <u>SHORT</u>               |
| 83  | BAUD-RATE     | 1200 / 2400 / 4800 / <u>9600</u> |
| 84  | BIT LENGTH    | 7 / <u>8</u>                     |
| 85  | CR CODE       | YES / <u>NO</u>                  |
| 86  | LM DATA PRINT | YES / <u>NO</u>                  |

81 : I/F MODE (communication mode)

Selects the device to communicate with.

|        |                                                                                                                                                                       |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NIDEK  | Communication with a NIDEK-brand device                                                                                                                               |
| NIDEK2 | "NIDEK2" offers the same settings as "NIDEK" with a longer time-out limit. If the time-out occurs with "NIDEK" due to the communication environment, select "NIDEK2". |
| NCP10  | NCP10-compliant device                                                                                                                                                |

82 : I/F FORMAT (communication format)

Selects the format of data to be transmitted.

|       |                                 |
|-------|---------------------------------|
| ALL   | All data are transferred.       |
| SHORT | Restricted data is transmitted. |

83 : BAUD-RATE

Selects the baud-rate (bit transmission speed) for communication.

84 : BIT LENGTH

Communication-setting reference from the TonoRef II operator manual.

CABLE TRANSFER PROOF

Prove each selected source

TEST: Use an approved test record. Make a pretest measurement, send it from the source device, then go to the correct TRS.

PASS: The correct data type arrives at the intended TRS with the expected record details. Confirm AR/ARK and LM paths separately when both are installed.

IF FAILED: Start with source-device communication setting, port/cable path, and master-lane topology. Do not move cables until the site design is confirmed.

- ☐ LM-7 cable transfer passed Lensmeter data reached the intended TRS.
- ☐ TonoRef II cable transfer passed AR/K data reached the intended TRS.

Card Reader Data Transfer

The LM-7 has a built-in Eye Care card slot. TonoRef II uses a source reader that must match its label. At the TRS, use the built-in slot unless an external reader is actually installed.

READER MODEL CHECK

Do not use “one down” DIP instructions

The setting depends on the reader model and the connected device. EyeCa-RW and EyeCa-RW2 manuals use different instructions. Do not merge them.

Manual excerpt · identify reader before setting DIP

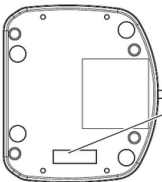
EyeCa-RW2: its DIP chart uses a device-specific row. Older EyeCa-RW: the TonoRef II manual gives a different instruction. Read the label, then use only the matching manual.

EyeCa-RW2 Operator’s Manual p. 5; TonoRef II Operator’s Manual p. 114

View EyeCa-RW2 DIP chart

4. Setting EyeCa-RW2 DIP Switches

The DIP switches located on the underside of the EyeCa-RW2 must be set in accordance with the connecting devices as shown in the table below.



ON

1

2

3

4

5

6

7

8

ON

OFF

|                           | 1   | 2   | 3   | 4   | 5 | 6 | 7 | 8 |
|---------------------------|-----|-----|-----|-----|---|---|---|---|
| Auto refractometer        | ON  | OFF | OFF | OFF |   |   |   |   |
| Lensmeter                 | OFF | ON  | OFF | OFF |   |   |   |   |
| Auto ref/keratometer*3    | OFF | OFF | ON  | OFF |   |   |   |   |
| Refractor                 | OFF | OFF | OFF | ON  |   |   |   |   |
| Auto ref/kerato/tonometer | OFF | OFF | OFF | OFF |   |   |   |   |

\*3 When using the EyeCa-RW2 with the ARK-10000, set DIP switches 3 and 5 to the ON position only if the check box for either “Send HD Exam data” or “Send 30sec Refraction” is checked.

Use the EyeCa-RW2 row only if the reader label confirms RW2. Switch 8 is a separate beep setting.

LM-7 · EYE CARE CARD

Write LM data with the built-in card slot

- Insert an Eye Care card in the LM-7 while no measurement data is locked. The card icon changes from white to blue.
- Measure the right and left lenses, then press Print.
- Wait for the card icon to return from green to blue before removing the card.

Specify R/L; data is not written in the single-lens state. The LM-7 stores one pair of frames per card.

Manual excerpt · LM-7 p. 67

The LM-7 saves sphere, cylinder, axis, add, and prism for right and left lenses through its built-in Eye Care card slot. Green indicates card access; blue indicates it is ready to remove. Data

is not written if the lens side remains in single state.

LM-7 Operation Manual p. 67

TONOREF II · EYE CARE CARD

Set up the source reader

Auto ref / kerato / tonometer row: 1-7 = OFF

For an older EyeCa-RW reader, stop and follow the matching EyeCa-RW/TonoRef procedure instead. Switch 8 is only the beep choice: on an RW2, ON disables the reader beep.

Manual excerpt · RW2 p. 5; TonoRef II pp. 114-115

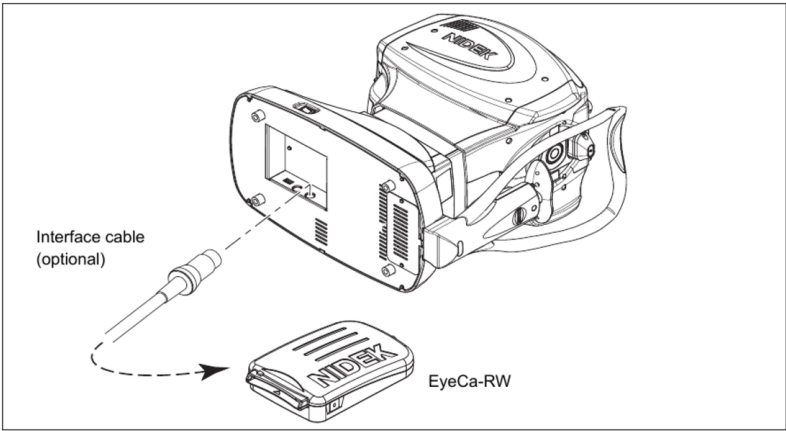
On an EyeCa-RW2 connected to an auto-ref/kerato/tonometer, use the Auto ref/kerato/tonometer row. At the source reader, orange means access/writing; flashing green means complete. Do not remove the card while orange.

EyeCa-RW2 Operator’s Manual p. 5; TonoRef II Operator’s Manual pp. 114-115

View legacy EyeCa-RW connection illustration

3.4.2 Method of connection

- 1 Connect the interface cable of the EyeCa-RW to the data output port (⊖➤).



Legacy EyeCa-RW connection illustration. It is not the source for EyeCa-RW2 DIP settings.

EYE CARE CARD · RECEIVING END

Receiving reader at the TRS

Insert the Eye Care card — AR/LM data imports automatically and the card is cleared.

A standard RT-6100 does not require an external RW2 reader or external reader DIP configuration at the refractor.

### **Conditional: external EyeCa-RW2 physically installed at refractor**

Only when an external reader is actually installed and its label says EyeCa-RW2, use the RW2 Refractor row: 1-3 = OFF, 4 = ON, 5-7 = OFF. Switch 8 is the separate beep/mute choice.

EyeCa-RW2 Operator's Manual p. 5

### **Manual excerpt · RT-6100 pp. 24, 48**

The RT-6100's Eye Care card reader imports AR/LM data automatically when the card is inserted and clears the card after reading.

RT-6100 Operation Manual pp. 24, 48

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## **EYE CARE CARD · TRANSFER**

### **Read each source at the TRS**

- Write an Eye Care card using each selected source workflow above.
- Wait for the source device to finish accessing the card before removing it.
- Insert the card into the RT-6100's built-in slot and confirm the matching AR or LM data imports.

LM-7 built-in reader: wait for the icon to return to blue before removal.  
LM-7 Manual p. 67

TonoRef II with EyeCa-RW2: wait for slow/flashing green before removal; do not remove the card while the reader is orange.

EyeCa-RW2 Manual pp. 2-3

PASS: Each selected source completes card access, then the intended RT displays its AR or LM data.

IF FAILED: Confirm the source workflow, card/contact condition, and the RT receiving slot. For an external reader, check its model and matching device row.

### **Manual excerpt · LM-7 p. 67; EyeCa-RW2 pp. 2-3; RT-6100 p. 48**

On the LM-7, wait for the built-in card icon to change from green back to blue. On an EyeCa-RW2 source reader, do not remove the card while orange; wait for slow green. The RT-6100 built-in slot imports AR/LM data and clears the card.

LM-7 Operation Manual p. 67; EyeCa-RW2 Operator's Manual pp. 2-3;  
RT-6100 Operation Manual p. 48

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### EYE CARE CARD · PROOF

## Prove each selected source

TEST: Use an approved test record: write source data to the card, read it at the intended TRS, and watch the source state.

PASS: The intended AR/LM data appears at the TRS. The selected source indicated completion before card removal.

IF FAILED: Recheck model-specific reader instructions, data source, card/contact condition, and the receiving slot/reader design before retrying.

☐ LM-7 Eye Care card transfer passed LM data appeared at the intended TRS.

☐ TonoRef II Eye Care card transfer passed AR/K data appeared at the intended TRS.

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## Pretest device setup and manual reference

Use the route cards for required install values. Open the matching manual reference only when a site needs a different approved setting.

### TONOREF II · CARD ROUTE

## Set communication before card transfer

**I/F Mode = NIDEK · I/F Format = ALL · date/time correct  
· use OUT port**

Set all four items whenever a TonoRef II is included in the installation. If any are missed, K readings will not transfer to the EHR. Also complete the source-reader setup in the Card Reader route.

### Manual excerpt · TonoRef II pp. 8, 94

Communication settings are on the COMMUNICATION page. ALL transfers all data.

TonoRef II Operators Manual pp. 8, 94

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### LM-7

## Cable communication check

## **Parameter 44 → Com mode = NIDEK · use Port 12 · Print sends data**

The current LM-7 manual numbers Com mode as 44. On earlier software, locate the setting by name if a different number is displayed.

### **Manual excerpt · LM-7 pp. 75, 84-85**

Power down before connecting. Parameter → page arrows → setting → Exit saves the change; Print transmits measured data.

LM-7 Operation Manual pp. 75, 84-85

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## **LM-7 · COMPLETE MANUAL REFERENCE**

### **All parameter settings**

#### **Manual options · LM-7 parameters 1-74**

These are the complete LM-7 manual settings. The cable-route target stays: Auto R/L = On, Single state = Off, and Com mode = NIDEK. Use another value only for an approved site need.

#### **Measurement and display · 1-15**

- 1. Step — 0.25, 0.12, 0.06, 0.01 D
- 2. Cylinder — +, ±, -
- 3. Prism — Off, P-B, BU/D BI/O
- 4. Abbe select — A, B, C, Com
- 5. Wavelength — e-line, d-line
- 6. Auto R/L — Off, On
- 7. Auto read S — Off; normal or large-cross auto-read threshold
- 8. Auto read R/L — Off; normal or large-cross auto-read threshold
- 9. Distance auto read — Off, On
- 10. Near auto read — Off, On
- 11. Contact auto read — Off, On
- 12. Indicator — Off, On
- 13. Single state — Off, On
- 14. Near — Near Sph, Add
- 15. Contact measurement — Off, On, Only

#### **Print settings · 16-28**

- 16. Printer — Off, On, AR print; LM-7P uses On
- 17. Print format — Right & Left, Left & Right
- 18. Print density — 60, 80, 100, 120, 140%
- 19. Print number — Off, On; 0001-9999

- 20. Paper cut — Partial, Full
- 21. Auto cutter — Off, On; LM-7P only
- 22. Economy print — Off, On
- 23. Auto print S — Off, On
- 24. Auto print R/L — Off, On
- 25. Print & Clear — Off, On
- 26. Print date format — Off, Y.M.D, M/D/Y, D/M/Y
- 27. QR code — Off, On; LM-7P only
- 28. PD layout — Off, On; LM-7P only

## **Device functions • 29-40**

- 29. Initial screen — Auto, Normal, Progressive, Contact
- 30. Target — Normal target, Prism target
- 31. Guide — Off, On
- 32. Beep — Off, Low, Middle, High
- 33. Auto off — Off, 1, 3, 5, 10, 15, 30, 60 minutes
- 34. Contrast — Low, Middle, High
- 35. Color — Standard, Change: 300
- 36. Transmittance — Off, On, With
- 37. Transmittance step — 1, 5%
- 38. Transmittance display — Compare, Simple
- 39. Auto correct — Off, On, Silent
- 40. USB — Host, Device

## **Reader and serial communication • 41-57**

- 41. Read beginning of reader — Operator 1-255; Patient 1-255
- 42. Read length of reader — Operator 1-16; Patient 1-16
- 43. ID mode — Off, PAT, OPE/PAT
- 44. Com mode — Off, NIDEK, NIDEK2, PC, NCP10, NCP20
- 45. Baud rate — 1200, 2400, 4800, 9600, 19200 bps
- 46. Parity — Off, Odd, Even
- 47. Data bits — 7 bit, 8 bit
- 48. Stop bits — 1 bit, 2 bit
- 49. CR code — Off, On
- 50. Prism Tx — Off, On, Display
- 51. Source — Numeric address; default 1
- 52. Destination — Numeric address; default 0
- 53. Request — Timeout seconds; default 2.0

- 54. Reception — Timeout seconds; default 10
- 55. Response — Timeout seconds; default 2.0
- 56. Re-request — Timeout seconds; default 2.0
- 57. Retry — Retry count; default 3

**Network and wireless LAN • 58-74**

- 58. LAN — Off, LAN, WLAN
- 59. MAC address — Displayed hardware address
- 60. Network — Off, On
- 61. File format — NIDEK\_V1.00, NIDEK\_V1.01
- 62. DHCP — Off, On
- 63. IP address — Numeric network address
- 64. Subnet mask — Numeric subnet mask
- 65. Default gateway — Numeric gateway address
- 66. User name — Network user name
- 67. Password — Network password
- 68. Domain — Network domain or workgroup
- 69. PC name — Destination computer name
- 70. Folder — Shared folder name
- 71. Network timeout — Off, On; timeout value
- 72. SSID — Wireless network name
- 73. Security mode — Open, WEP 128 ASCII/HEX, WEP 64 ASCII/HEX, WPA/WPA2 modes
- 74. Security key — Wireless network key

Network names, passwords, and keys are reference fields only. Enter only approved site values directly on the LM-7; do not put credentials in this guide.

LM-7 Operation Manual pp. 80-96

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**TONOREF II • COMPLETE MANUAL REFERENCE**

**All parameter settings**

**Manual options • TonoRef II parameters 1-108**

These are the complete TonoRef II manual settings. For this TRS workflow, use the route-specific Communication values: I/F mode = NIDEK, I/F format = ALL, baud rate = 9600, bit length = 8, and CR code = No.

**AR and KM • 1-14**

- 1. Step — 0.01 D, 0.12 D, 0.25 D
- 2. Vertex D. — 0.00, 10.50, 12.00, 13.75, 15.00, 16.50 mm
- 3. Axis step — 1°, 5°
- 4. Meas mode — CON., NOR.
- 5. AI mode — Yes, No
- 6. AR continue — 3-10; factory setting 3
- 7. AR thumbnail — Yes, No, Low Conf
- 11. KM unit — mm, D
- 12. KM display — R1/R2, Ave/Cyl
- 13. Ref. index — 1.3320, 1.3360, 1.3375
- 14. KM continue — 3-10; factory setting 3

### **Non-contact tonometry • 21-30**

- 21. Set low conf — Yes, No
- 22. Low conf lv. — Yes, No
- 23. Low conf alarm — Yes, No
- 24. Fix LED blink — Yes, No
- 25. NT continue — 1-10; factory setting 3
- 26. Decimal digit — Yes, No
- 27. ASHOT timing — Normal, Fast
- 28. Meas interval — Short, Normal, Long
- 29. NT AI mode — Yes, No
- 30. Delete select — Time, Data

### **Print 1-3 • 31-56**

- 31. Print — Manual, Auto, No
- 32. Econo. print — Yes, No
- 33. Print & Clear — Yes, No
- 34. Print density — Low, Middle, High
- 35. Patient no. — Yes, No
- 36. Set patient no. — 0001-9999
- 37. Name print — Yes, No
- 38. Date format — Y/M/D, M/D/Y, D/M/Y, No
- 39. Print comment — Yes, No
- 41. AR print — All, Short
- 42. KM print — All, Short, All (KM)
- 43. Conf. index — Yes, No
- 44. Error data — Yes, No

- 45. CAT mark — Yes, No
- 46. Error print — Yes, No
- 47. NT print — V, H, No
- 48. Print format — R→L, AR→KM
- 49. AR/NT cut — Yes, No
- 51. SE print — Yes, No
- 52. Eye print — Yes, No
- 53. TL print — Yes, No
- 54. CL print — Yes, No
- 55. Near PD print — Yes, No
- 56. Working D. — 14-28 inches, in 2-inch increments

## **Functions • 61-75**

- 61. Window check — Yes, No, Day
- 62. Tracking SW — TRC/ASHT, ASHT On, ASHT Off
- 63. Auto PD — Yes, No
- 64. Sleep — 5 min, 10 min, 15 min, No
- 65. Beep — Low, High, No
- 66. AR brightness — Normal, Light
- 67. NT brightness — Normal, Light
- 68. Icon off — Yes, No
- 71. Pressure check — Yes, No, Day
- 72. Change mode — Auto, Manual
- 73. Change speed — Low, High
- 74. Target type — RKT, AR/NT
- 75. Too close beep — Yes, No

## **Communication and reader • 81-92**

- 81. I/F mode — NIDEK, NIDEK2, NCP10
- 82. I/F format — All, Short
- 83. Baud-rate — 1200, 2400, 4800, 9600
- 84. Bit length — 7, 8
- 85. CR code — Yes, No
- 86. LM data print — Yes, No
- 91. Reader start — 1-250
- 92. Reader length — 1-14

## **Network • 101-108**

- 101. Network — Yes, No, ACK

- 102. DHCP — Yes, No
- IP / Mask / Gate — IP address, subnet mask, default gateway
- 103. User — User name up to 17 characters
- 104. Password — Password up to 17 characters
- 105. Domain — Network domain
- 106. PC name — Computer name up to 17 characters
- 107. Folder — Shared-folder name up to 17 characters
- 108. Image send — Yes, No, Low Conf

Network user and password fields are reference fields only. Use approved site credentials directly at the instrument; do not record credentials in this guide.

TonoRef II Operators Manual pp. 81–100

ONLY IF M3 IS INSTALLED

Measurement / aiming quick note

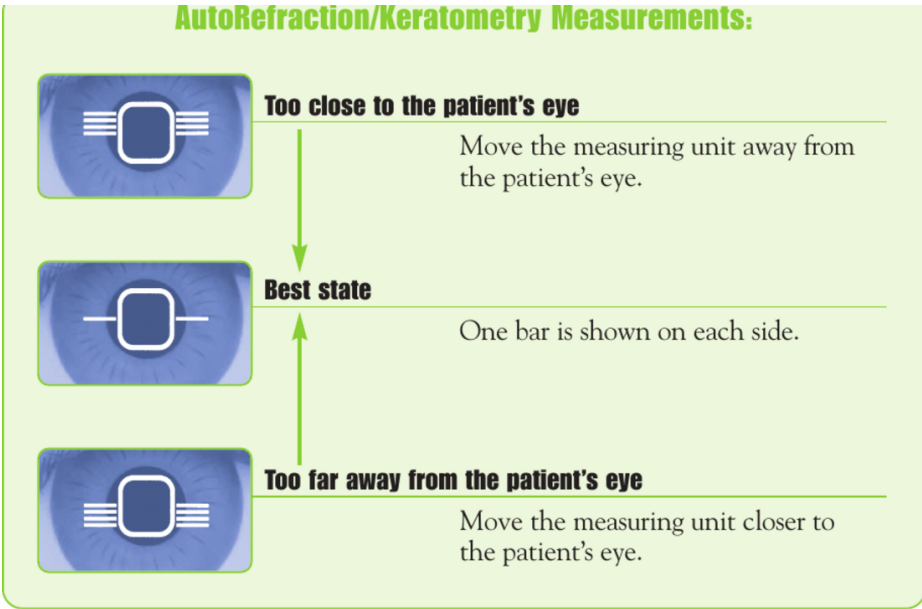
One bar on each side = best AR/K aiming state

The M3 takes three K and AR readings and displays FINISH when complete. If KM appears, have the patient blink and press the top joystick button again; if PD err appears, clean the chinrest PD sensors.

Manual excerpt · M3 User Guide p. 1

M3 User Guide p. 1

View M3 alignment diagram



M3 AR/K alignment reference.

## SC-1600 chart and IR emitter

Set the chart at its underside buttons, then match the TRS controller to the emitter installed in the room.

### SC-1600 · AT THE CHART

#### Enter the menu and set the room

- Hold any one of the four buttons under the SC-1600 for about 3 seconds. The setting screen appears.
- Use 1 ↑ and 2 ↓ to move through items, 3 ↔ to move between fields, and 4 CHANGE to change a value.
- Set Chart type to the installed Marco refractor choice. The selected choice must end in M for Marco.
- Set Distance to the actual path from the patient's eye to the LCD. With a mirror, measure the reflected path.
- Set Mirror = ON for a mirrored throw; set OFF for a straight throw.
- Set Beep sound = Off.
- Move to EXIT with 2 ↓, then press 4 END to finish.

#### • SC-1600 chart type = installed Marco refractor choice ending in M

The M suffix identifies Marco.

#### • Distance = actual eye-to-LCD path

Selecting a chart type sets 5 m by default. Measure the room and change it; the manual recommends at least 3 m.

#### • Mirror = ON for a mirrored throw · OFF for straight throw

#### • Beep sound = Off

### Manual excerpt · SC-1600 pp. 55-57, 116-118, 122

Hold an underside function button for three seconds. Buttons 1/2 move up/down, 3 moves between fields, and 4 changes a setting. At EXIT, button 4 becomes END. The Distance setting follows the patient's eye-to-display path; mirror installations use Mirror ON to reverse the chart image.

SC-1600 Operators Manual pp. 55-57, 116-118, 122

#### View the four-button map

Underside buttons: 1 ↑ (far left) · 2 ↓ (second) · 3 ↔ (third) · 4 CHANGE (far right · END at exit)

Function buttons under the SC-1600, viewed left to right. SC-1600 Manual p. 55.

## Manual options · SC-1600 chart settings

- Chart type — Select the installed Marco refractor choice. The choice must end in M, which identifies Marco. T, M, P, UK, PhM
- Distance — Eye-to-LCD path, 1 cm increments. 2.50–6.00 m; up to 7.00 m in Type M
- Mirror — Reverse the chart image for a mirrored optical path. ON, OFF
- Beep sound — Volume for chart operation. High, Low, Off
- Remote — OFF when the chart is connected to a motorized refractor; I when the optional remote is used. I, OFF
- Remote channel — Match the optional chart remote when used. 1ch–8ch

SC-1600 Operators Manual pp. 56–57, 116–119

## TRS CONTROLLER · CHART LINK

### Set the link for the installed IR emitter

**Side menu → Setting → Parameters → page 10/10 (Other 3) → Chart link (SC series)**

BLACK M&S IR EMITTER: Set the TRS to Wired (the controller/manual Cable choice).

WHITE NIDEK IR EMITTER: Set the TRS to Wireless 8.

These are the field setup targets for an SC-1600 with the corresponding emitter. Match the hardware in this room, then prove the chart changes from the controller.

## Manual excerpt · RT-6100 p. 230

The RT-6100 lists Chart link for SC series under Parameter: Other 3. The manual labels its choices Cable, Wireless 1–8, and No.

RT-6100 Operation Manual p. 230

## Manual options · Chart link (SC series)

- Cable — The manual's wired choice. Use this field target with the black M&S IR emitter.
- Wireless 1–8 — The manual's wireless-channel choices. Use Wireless 8 with the white Nidek IR emitter.
- No — Chart communication disabled; not the field target for either emitter above.

RT-6100 Operation Manual p. 230; field setup targets supplied for M&S and Nidek emitters

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## CHART PROOF

### Test from controller to chart

TEST: Call a chart from the controller and confirm it changes at the expected display.

PASS: The expected chart appears, brightness is even, orientation matches straight or mirrored throw, distance matches the room, the selected chart type ends in M for Marco, and the chart beep is off.

IF FAILED: Confirm chart type, Chart link setting for the installed emitter, power, and installed path before changing other settings.

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## Final verification

Mark checks only after observing the result. The progress count follows the selected route.

### ALWAYS REQUIRED

#### Room-ready checks

- ☐ Programs A and B show User Final page-7 pass is complete; controller was not left at Fix 2.
  - ☐ Pink bag items are installed Forehead rest is on the phoropter head (MB); stylus is in the back of the controller (CB).
  - ☐ Cables are neat and strain-free CB has usable movement; drawer-mounted MEM/RB cables do not unplug when extended.
  - ☐ Clinic knows how to secure power Explain power to both the TRS and acuity chart.
- 

## MEM / EHR PROOF

### Confirm the path beyond the access check

TEST: Use an approved non-patient test record. Use the site's configured Output behavior (one or two presses), then check the intended destination.

PASS: Confirm the expected destination receives the record. Do not store patient data in this guide.

IF FAILED: Return to Access check, hard power reset RB/MEM with MEM first, then correct approved network/share details before retrying.

## Field guide · Data-output proof

Use random test values to confirm transfer. The configured Data list at output setting determines whether Output requires one or two presses. If Marco Connect is installed and connected to MEM Port 4, verify the file populates there; otherwise verify the appropriate approved test destination.

Digital Refraction for Field Engineers p. 10

## Example of MEM connection



Example of MEM connection. A photo records the cabinet layout; use the data-output test to prove transfer.

Return to MEM access check

## ROUTE PROOF RECAP

## Review completed transfer and chart tests

## TRAINING HANDOFF

## Leave the clinic ready

☐ Training owner and timing are understood Coordinate with the sales rep or clinical trainer; involve the salesperson if unsure.

☐ Clinic knows about marcotraining.com If not, involve the sales rep to help set up the clinic account.

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## Copy settings to lanes or a loaner CB

Use this only for approved multi-lane or loaner-controller work. It is not part of a normal first install.

### Export / import TRS settings · rare / manager-approved

#### Export from the source controller

- Open Parameter settings.
- Select Export at the bottom of the screen.
- Select OK.
- Press End twice, then remove the SD card from the source CB.

#### Import to the receiving controller

- Insert the copied SD card into the receiving TRS CB.
- Select Import at the bottom of the CB screen.
- Select OK.
- Press End twice to exit Settings, then perform the approved hard reset/power cycle.
- Return the original SD card to the source CB.

**IMPORTANT:** Import replaces the receiving TRS's parameter settings. If both units are on the same network, delete RT015CB\_NETWORK.dat from RT015CB\_BACKUP on the SD card before importing. (This is rare.)

**VERIFY:** Open the receiving controller, confirm the intended parameter targets, then complete the appropriate route-specific proof test.

Base TRS-6100 Total Refraction System Optimal Settings guide · Export / Import settings section

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# Optional closeout email

Optionally enter the practice and exam lane(s), then open an email draft for the sales rep, yourself, or another recipient.

The guide adds the selected install path and completed/open checks automatically.

The email button opens a draft; it does not send automatically.

## Offline closeout notes

Practice name: \_\_\_\_\_

Exam lane(s): \_\_\_\_\_

Email recipient (optional): \_\_\_\_\_

[Open the live guide to create the email draft.](#)

Revision TRS-R37. Manual page references and targets are drawn from the same page as the live guide.