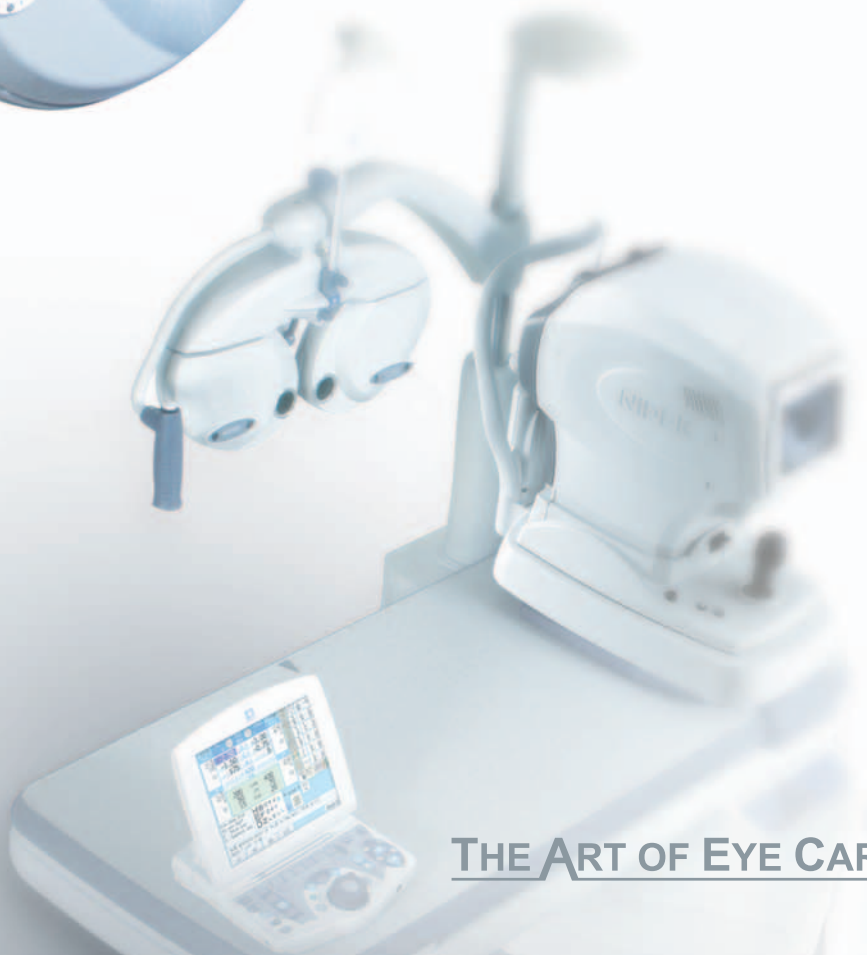




Smart Refractor RT-5100



THE ART OF EYE CARE

Smart Refractor RT-5100

Patient-Friendly

- **Smart, ergonomic design for patient comfort**
- **Wide visual field (40°)**
- **R/L-independent PD adjustment for improved precision**
Right and left PD can be adjusted independently for more accurate and reliable measurements.
- **Smooth, quiet lens selection for faster examination**
- **Built-in clear and safe illumination (white LED)**
World's First --- Bright, heat-free and energy efficient white LED for near chart illumination provides a clear and safe examination environment.



Easy Maintenance & Upgrades

- **Easy-to-clean :** detachable forehead rest, face shields, and protective glasses with antifouling coating
Easy-to-clean parts provide easy maintenance.
- **Quick & easy future upgrades with CompactFlash* card**
*CompactFlash is a trademark of SanDisk Corporation.



User-Friendly

Unique operator "assist" function for easier operation

- Forehead position detector (blue LED) for reliable measurement

- Advanced dial with S/C/A mode keys

The dial on the control panel provides operation with great ease. S/C/A mode keys on top of the dial allow the operator to quickly change sphere, cylinder and axis powers with one hand, offering smart and reliable examination.

- Large color TFT LCD touch panel

- *Final Fit* Function for the best prescription

The RT-5100 incorporates the Final Fit (adjusted power calculation program) to help find the best and the most comfortable prescription for each patient.

- World's first - flip display

- High speed line printer



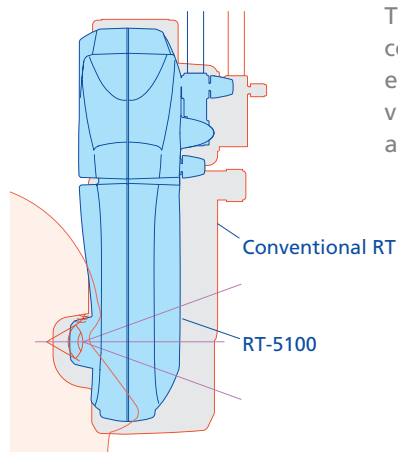
Eye Care card system*

The RT-5100 control box incorporates the card slot for Eye Care card system, which provides quick and easy wireless data transfer from auto refractometers and lensmeters.

*The card is optional.

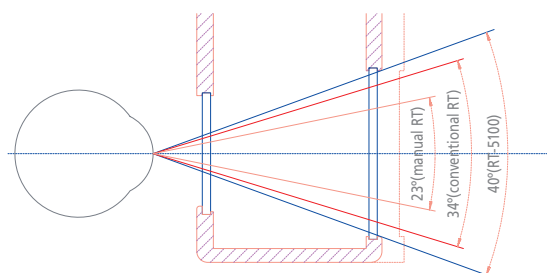
Smart Refractor RT-5100

■ Ergonomic design & wide visual field (40°)



Width comparison

The RT-5100's compact and ergonomic design does not cover the patient's entire face, offering comfortable examination. Wide visual field of 40° also provides a natural view environment for the patient, enabling more realistic and accurate measurements.

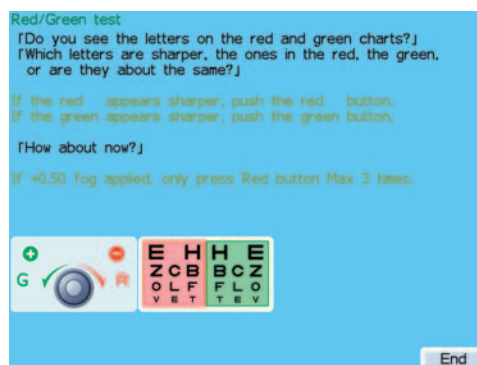


Visual field comparison

■ Operator "assist" function (operation & question guidance)

The RT-5100's unique "assist" function offers operation & question guidance to help operators with examination proceedings. With the RT-5100, anyone can provide smooth optometry examinations. Extended help and question guide displays also provide better operability.

The question guide display is programmable, and shown in different colors for better readability.



Question guide display

■ Smart forehead position detector (blue LED) for reliable measurement

The RT-5100 incorporates a forehead position detector. The clear and easy-to-recognize blue LED on the main body goes out when the patient's forehead is set in the right position for measurement, allowing operators to proceed under the optimum conditions.



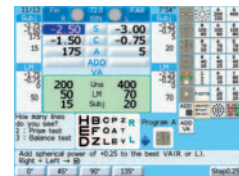
When in the right position,
the blue LED goes OUT.



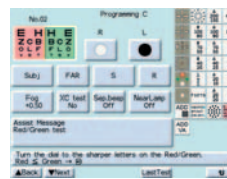
■ 8.4-inch color LCD touch panel

Enhanced informative color LCD touch panel can display a great deal of information including near vision charts and program / operation messages. With the help of the operation guide, anyone can easily, smoothly and accurately select the appropriate chart using chart marks on the touch panel.

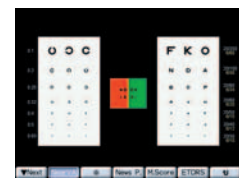
The RT-5100 offers an enhanced number of programmable optometry items, and shows the list of contents for easy programming.



Measurement screen



Optometry programming



Near vision chart

■ Convenient tiltable / flip display

The RT-5100's tiltable LCD offers easy operation in both sitting and standing positions. Also, the operator can turn over the screen to the patient's side and use the display as a simple near vision chart for visibility check. When the screen is reversed, the displayed contents will automatically be switched upside down.



■ Clear Vision Range Check



"Clear Vision Range Check" presents the clear vision range under correction in a graphical form based on measured values. Complicated explanations to patients are now incorporated as visual aids to make explanations and conversations easy to understand. Both patients and operators can easily communicate and be satisfied with the results.



■ RT-5100 The 21-point Exams Plus Package (option)

This optional software enables to easily work out the 21-point exams, which needed operator's high knowledge and much experience. On the control box screen, the complicated graph of visual function analysis is illustrated automatically and the comparison with Morgan standard value is also displayed as a list. These are very effective to analyze the visual function.



Optometric Workstation COS-5100

■ Optometric workstation

Highly advanced and space saving NIDEK COS-5100 - the optometric workstation incorporating a refractor, auto ref/keratometer, slit lamp, space saving chart, lensmeter, etc. - is also available. Various system configurations are available to fit each customer's needs.



Vertical movement of the motorized main table can be controlled with the limit switch (downward movement of the table stops when the table touches the customer) for higher customer safety.

System configuration :

- RT-5100 Smart Refractor
- TONOREF II Auto Ref/Kerato/Tonometer
- LM-1800PD/1800P Auto Lensmeter
- SSC-350CG Space Saving Chart
- ST-5100 (Motorized Main Table & Side Table)

Above configuration is just an example. Please contact NIDEK for further information.

■ RT-5100S

RT-5100 with stand is also available. Compact stand for control box incorporates a printer that provides easy loading.



Stand

System Configurations

| | RT-5100S / U | | COS-5100 | |
|-----------------------|---|------------------------------|---|--|
| | Item | Product code # | Item | Product code # |
| MAIN BODY CONTROL BOX | RT-5100S(including stand) RT-5100U | + 34085-0S20 + 34085-0U20 | RT-5100 | + 34085-0A20 |
| TABLE / STAND | Stand (RT-5100S) (including printer & relay box) | Included in RT-5100S | ST-5100 (motorized main table & side table including printer & relay box) | + 120V : 36301-0R20 + 220/230V : 36301-0R40 |
| Connectable Equipment | | | | Product code # |
| AR/ARK | <ul style="list-style-type: none"> • AR-600/600A/610/630A/660A (Tray 1) • ARK-700/700A/710A/730A/760A (Tray 1) • AR-360A/330A/310A, ARK-560A/530A/510A, RKT-7700, TONOREF II (Tray 2) • ARK-9000/10000(OPD) (Tray 3) • OPD-Scan III (Tray 5) | | | / |
| SL | SL-1800 (Tray 4) | | | |
| LM | LM-500/600PD/600P/600/970/990A/1000(P)/1200/1800PD/1800P | | | |
| CHART | CP-690/690ADVANCED/770, SSC-330/350/350CG/370, SC-1600 Pola/1600/1700 Pola/2000 | | | |
| | | | | |

Optional Accessories

| | RT-5100S/U | COS-5100 | Product code # |
|----------------------------|---|----------|--|
| TRAY | / | | <ul style="list-style-type: none"> • Tray 1 (for AR/ARK) OT18TR-1 36330-0A00 • Tray 2 (for AR/ARK,RKT) OT18TR-2 36330-0B00 • Tray 3 (for OPD) OT18TR-4 36330-0D00 • Tray 4 (for SL) OT18TR-3 36330-0C00 • Tray 5 (for OPD-Scan III) OT18TR-7 36330-0G00 |
| MEMORY BOX | MEM-100 : 1 Auto Refractometer is capable of communication with 7 other RT (6 when a Lensmeter is connected). | | 34080-06B0 (200V) 34080-06C0 (100V) |
| IC CARD UNIT | RW unit for AR/LM : EyeCa-RW2 (Excluding AR with built-in IC card slot) IC Card : Eye Care card (5pcs/set) | | 34085-06A2 (200V) 34085-06A1 (100V) 34056-1000, 34056-1001 |
| CHART PROJECTOR OPTIONS | <ul style="list-style-type: none"> • Floor stand : CP3B-4 • Screen stand : CP3OP-3 • Screen angle fixing set : CP3OP-2 for UK • Screen angle fixing set : CP6OP-2 for others • Screen angle fixing unit for UK • Screen angle fixing unit for others • Table stand • Red/Green glasses • Wall bracket • Reflection mirror : LC2OP-8 | | 33384-0620 (200V) 33384-0600 (100V) 33413 33412 33152 34801-5200 34801-5300 34801-5000 34801-6000 34801-5100 33488 |
| SPACE SAVING CHART OPTIONS | <ul style="list-style-type: none"> • Remote control for SSC-330 : SSC3RC-1 • Remote control for SSC-350 : SSC3RC-2 • Remote control for SSC-350CG : SSC3RC-3 • Remote control for SSC-370 • Stand : SSC3ST-1 • Red/Green glasses : CP-8 | | 33328-0040 (Type UK) 33328-0060 (Type T) 33328-0080 (Type U) 33329-0060 (Type T) 33329-0M80 (Type M) 33330-0060 (Type T) 33330-0M80 (Type M) 33292-6300 (Type UK) 33292-6500 (Type T) 33292-6600 (Type M) 33333-0000 34801-6000 |
| SC (LCD CHART) OPTIONS | <ul style="list-style-type: none"> • Remote control for SC-1600 Pola/1600 • Infrared communication unit • Floor stand • Table stand for SC-2000 • Table stand for SC-1600 Pola/1600 • Prism glasses • Red/Green glasses • Reflection mirror : LC2OP-8 | | 34605-6300 (Type UK) 34605-6400 (Type P) 34605-6500 (Type T) 34605-6600 (Type M) 34605-6700 (Type PhM) 34605-6800 (Type G)* 34085-2950 34603-2300 34603-2500 34605-2540 34603-8250 34801-6000 33488 |
| INTERFACE CABLES | <ul style="list-style-type: none"> • Cable 1 <5M> : OPIF-6 ⑧RT-5100 ↓ ⑧AR-600/600A/610/630A/660A/860/820/800, ARK-730A/710A/700A/700/900/9000/10000, LM-1800PD/1800P/990A/820A/820/770/500, RKT-7700, Memory box MEM-100 • Cable 2 <5M> : OPIF-14 ⑧RT-5100 ↓ ⑧AR-360A/330A/310A, ARK-560A/530A/510A, TONOREF II • Cable 3 <5M> : CP3OP-1 ⑦RT-5100 ↓ ⑦CP-670/690/690ADVANCED/770, SSC-330/350/350CG/370 • Cable 4 <10M> for SC ⑦RT-5100 ↓ ⑦SC-1600 Pola/1600 • Cable 5 <15M> for SC ⑦RT-5100 ↓ ⑦SC-1600 Pola/1600 | | 35699-EA01 35374-EA01 is also available. 35374-EA01 33411 34603-EA51 34603-EA52 |
| OTHER | Chair : CH-100B, CH-500G | | 35777-00A0, 35770-0000 |

(*only for the SC-1600 Pola)

RT-5100 Specifications

| | |
|--|--|
| Measurable range | |
| Sphere | -29.00 to +26.75 D (0.12 / 0.25 / 0.50 to 3.00 D increments) -19.00 to +16.75 D (cross cylinder test, prism test) |
| Cylinder | 0.00 to ± 8.75 D (0.25 / 1.00 / 2.00 / 3.00 D increments) |
| Axis | 0 to 180° (1 / 5 / 15° increments) |
| PD | 48 to 80 mm (far mode) 50 to 74 mm (near working distance of 35 cm) 54 to 80 mm (far PD possible for 100% convergence) |
| Prism | 0 to 20 Δ (0.1 / 0.5 / 2 Δ increments) |
| Auxiliary lenses | |
| Cross cylinder lens | ± 0.25 , ± 0.50 , ± 0.25 D Auto-cross |
| Occluder | Available |
| Pinhole plate | $\phi 2$ mm |
| Red maddox rod | Right eye: horizontal, Left eye: vertical |
| Red / Green filter | Right eye: red, Left eye: green |
| PD check lens | Available |
| Polarizing filters | Right eye: 135° / Left eye: 45°, Right eye: 45° / Left eye: 135° |
| Fixed cross cylinder lens | ± 0.50 D (fixed with the Axis set at 90°) |
| Spherical lenses for retinoscope | +1.5 D / +2.0 D |
| Dispersion prism | Right eye: 6 Δ BU / Left eye: 10 Δ BI, Right eye: 3 Δ BD / Left eye: 3 Δ BU |
| Dispersion prism for binocular balance* | Right eye: 3 to 10 Δ BD / Left eye: 3 to 10 Δ BU |
| Dispersion prism for horizontal phoria* | Right eye: 3 to 10 Δ BU / Left eye: 3 to 10 Δ BD |
| Dispersion prism for vertical phoria* | Right eye: 5 to 15 Δ BI / Left eye: 5 to 15 Δ BI |
| Fixed cross cylinder & dispersion prism for horizontal phoria* | Right eye: 3 to 10 Δ BU / Left eye: 3 to 10 Δ BD (only for RT-5100 The 21-point Exams Plus Package) |
| Fog function with both eye open | 0.0 to 9.0 D |
| Refraction distance for near vision | 350 to 700 mm (50 mm increments) |
| Visual field | 40° (VD = 12 mm), 39° (VD = 13.75 mm) |
| Forehead rest adjustment | 14 \pm 2 mm |
| VD scale | 12, 14 (partially 13.75), 16, 18, 20 mm |
| Horizontal level adjustment | $\pm 2.5^\circ$ |
| Display | 8.4-inch color LCD |
| Printer | High speed line printer |
| Interface | RS-232C |
| Power supply | AC 100 to 240 V, 50 / 60 Hz |
| Power consumption | 80 VA |
| Dimensions / Mass | |
| Refractor head | 405 (W) x 102 (D) x 276 / 325 with bracket (H) mm / 3.5 kg 15.9 (W) x 4.0 (D) x 10.9 / 12.8 with bracket (H) " / 7.7 lbs. |
| Control box | 220 (W) x 206 (D) x 200 (H) mm / 1.9 kg 8.7 (W) x 8.1 (D) x 7.9 (H) " / 4.2 lbs. |
| Relay box | 194 (W) x 227 (D) x 72 (H) mm / 2.2 kg 7.6 (W) x 8.9 (D) x 2.8 (H) " / 4.9 lbs. |
| Printer | 102 (W) x 86 (D) x 121 (H) mm / 0.3 kg 4.0 (W) x 3.4 (D) x 4.8 (H) " / 0.7 lbs. |
| Standard accessories | Near point chart, Near point rod, Forehead rest, Face shield, Stylus pen, Dust cover, Communication cable, Printer paper, Power cord, Ferrite core (only unit and stand types) |

*changeable 0.5 Δ step in monocular measurement

COS-5100 Table (ST-5100) Specifications

| | |
|--------------------------|--|
| RT Arm | Electromagnetic lock |
| Up-and-down of RT arm | Stroke 310 mm |
| Back-and-forth of RT arm | Stroke to patient side 230 mm |
| Power supply | AC 100 to 240 V, 50 / 60 Hz |
| Power consumption | 600 VA (max, including RT and other optometry equipment) |
| Dimensions / Mass | |
| Motorized main table | Table top: 1025 (W) x 500 (D) x 680 to 860 (H) mm (stroke 180 mm) 40.4 (W) x 19.7 (D) x 26.8 to 33.9 (H) " (stroke 7.1 ") |
| Fixed side table | Table top: 1080 (W) x 723 (D) x 760 (H) mm 42.5 (W) x 28.5 (D) x 29.9 (H) " |
| Overall | 1080 (W) x 1542 (D) x 1360 to 1850 (H) mm / 160 kg 42.5 (W) x 60.7 (D) x 61.2 to 72.8 (H) " / 352.7 lbs. |

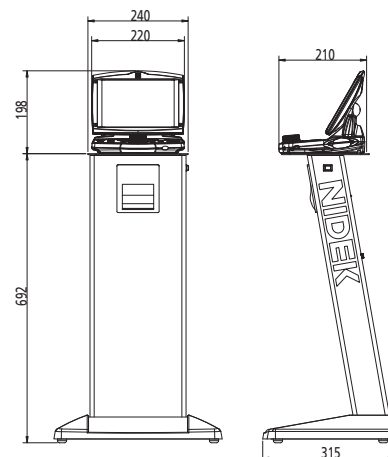
All LCD images are simulated.

Caution : U.S. Federal Law restricts this device to sale, distribution, and use by or on the order of a physician or other licensed eye care practitioner.

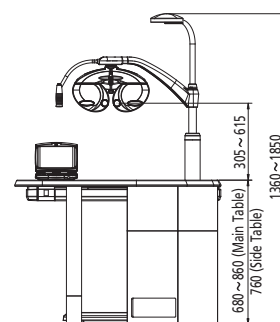
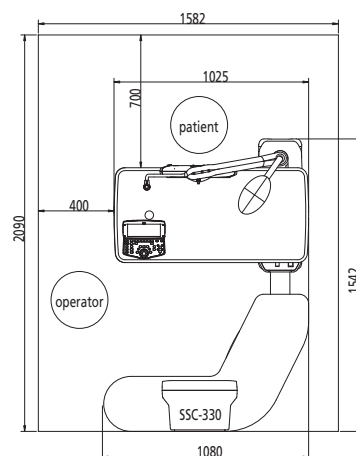
Specifications and design are subject to change without notice.

Dimensions (mm)

RT-5100S



COS-5100



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