CC series

Computerised chart systems

TOPCON Healthcare
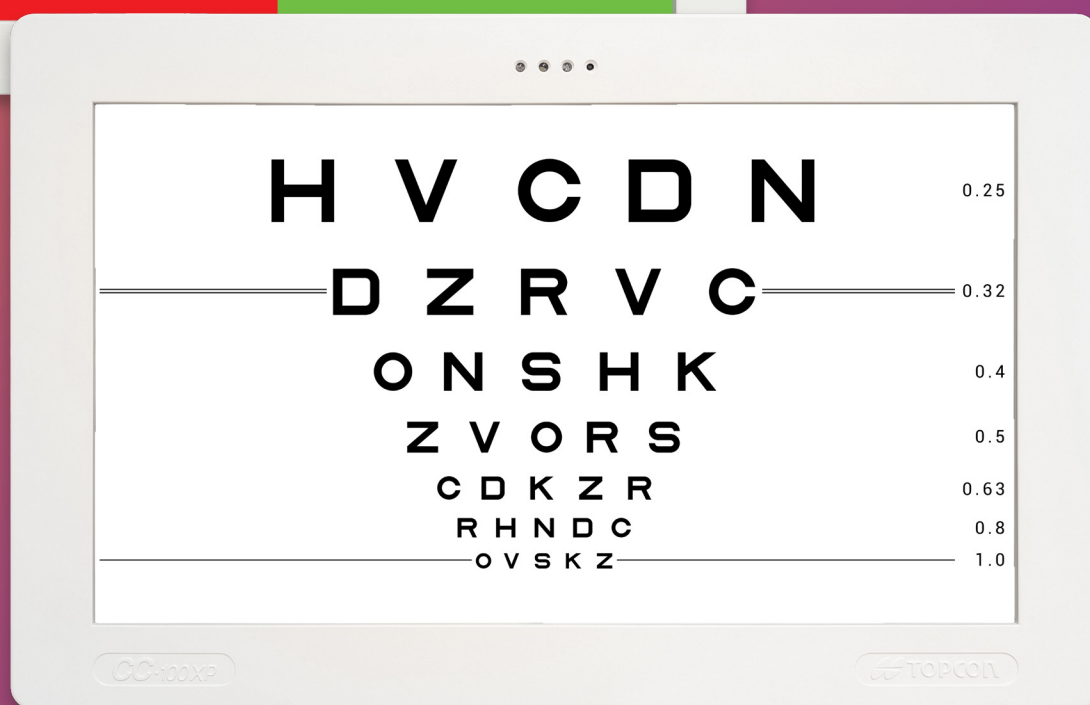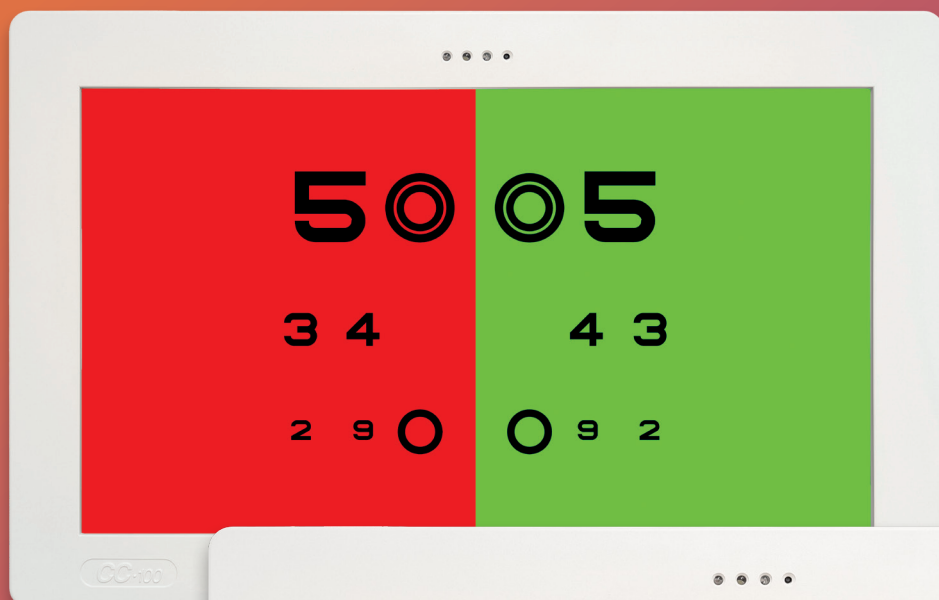
Computerised chart systems

The Topcon CC series Computerised Chart Systems are designed to elevate your visual acuity testing experience. Built on Topcon's long-standing expertise in optical software development, these systems deliver efficient and validated algorithms for precise visual acuity measurements. Whether used as a standalone unit or seamlessly integrated into the Topcon CV-5000 refraction lane, the CC series ensures exceptional accuracy and versatility in eye care diagnostics.

CC-100XP: Elevating Ophthalmic Precision with Advanced LCD Test Charts

Discover the capabilities of the Topcon's CC-100XP. The high-tech LCD test charts offer cutting-edge LED technology and a comprehensive suite of visual acuity tests, binocular tests, colour vision tests, and contrast sensitivity tests.

Circular Polarisation

The CC-100XP utilises advanced circular polarisation technology to achieve superior image separation for binocular testing. Unlike conventional linear polarisation systems, circular polarisation ensures consistent and complete separation of images for the left and right eye, even when the user tilts their head. This minimises ghosting, enhances viewer comfort, and provides a uniform background colour for accurate testing results.

To further optimise visual clarity, the CC-100XP integrates cutting-edge LED screen technology. Features include a white Maddox LED light source and a built-in light sensor that adjusts for environmental illumination, ensuring optimal contrast and brightness settings in any testing condition.

CC-100

The Topcon CC-100 shares functionalities with the CC-100XP, providing a reliable platform for visual acuity tests. Where the CC-100XP uses circular polarisation, the CC-100 utilises a red and green technique for image separation.

The high-resolution, 21.5-inch LED screen delivers a clear and bright chart display for visual acuity testing. All commonly used visual acuity tests, including the ETDRS test, are available on the CC-100, and like the CC-100XP, it displays reports of the colour vision tests and contrast tests.

Operate the CC-100 as a stand-alone system with an infrared remote control or seamlessly integrate it into the Topcon CV-5000 refraction lane for enhanced efficiency.

Key features

- Image separation through red and green filters

- Testing distance: 2.0-9.0 m

- Varied optotypes

- Spatial frequency contrast sensitivity test

- Pseudoisochromatic Colour Vision Test

- MKH Test Sequence according to Haase

- White Maddox LED Light Source
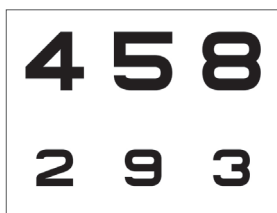
- Integration with CV-5000 Refraction Lane

Visual acuity charts provided by CC-100 series

The Topcon CC series chart systems provide a comprehensive selection of widely used visual acuity optotypes, including letters, numbers, tumbling E, Landolt C, and up to five different children's charts. Supporting 20 diverse menu languages, the CC-100 series is also equipped to display Cyrillic optotypes for enhanced flexibility.
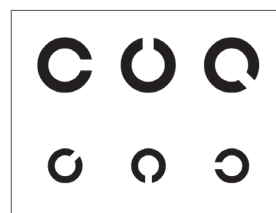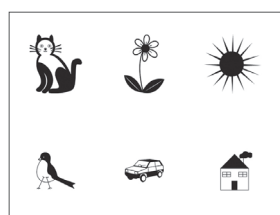

Letters

Numbers

Tumbling E

Landolt C

Illiterates and children charts
(6 different chart types)

Cyrillic optotypes

Resolution

Optotypes are rendered as vectorial graphics, keeping crisp and high resolution of low visual acuity optotypes.
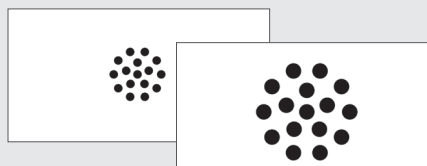

Masking / Randomise

Masking is available for horizontal (row), vertical (column) and single characters. When masking is active, the system visualises only the non-masked optotypes. All optotypes can be randomised and the initial optotype at start up can be programmed.

Scaling

Dots chart used for Cross Cylinder testing can be scaled according to the patients visual acuity independent from working distance setting.

ETDRS test

ETDRS acuity testing is the worldwide standard for visual acuity testing in diabetic retinopathy studies. The ETDRS test is designed to eliminate inaccuracies in the Snellen and Sloan tests.
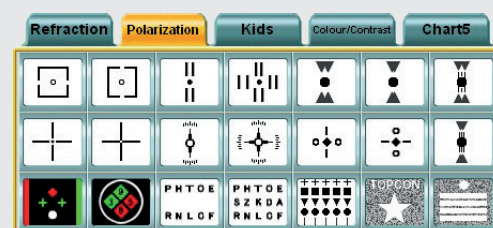
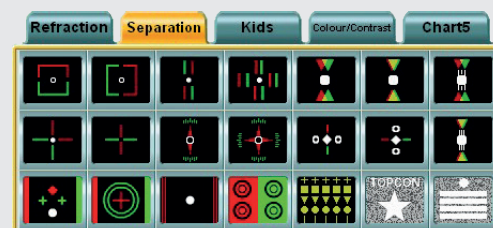# Additional tests provided by CC-100 series

Measuring phoria compliant to MKH - Haase

The MKH-Haase method has been considered a reliable method for prescribing prisms to symptomatic binocular vision patients. The MKH test measures associated phoria at distance and near using a sequence of different polarised test charts.

MKH test sequence is available in the CC-100 series for testing phoria due to the variety of stereo separation tests available.

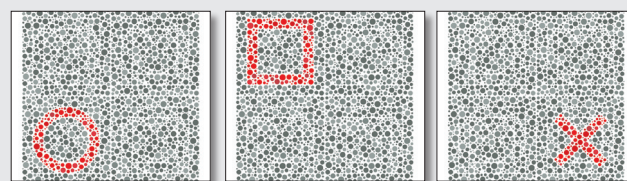Circular polarization separation tests of CC-100XP
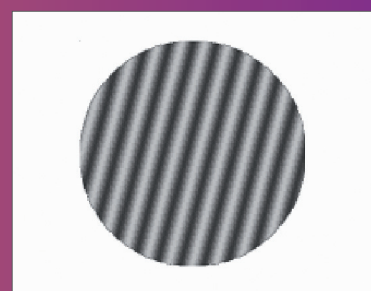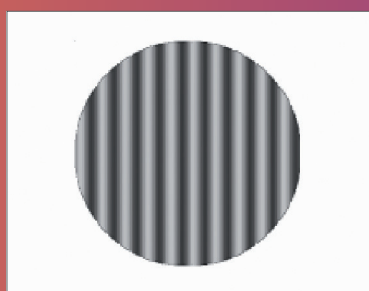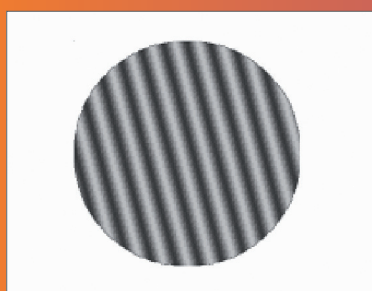

Red/Green separation tests of CC-100

Pseudoisochromatic Colour Vision Testing

The CC-100 series includes the renowned HRR (Hardy-Rand-Rittler) colour vision test, offering a comprehensive assessment of colour perception deficiencies. This test not only identifies red-green deficiencies but also detects blue-yellow anomalies, providing a broader evaluation than conventional methods. Additionally, the HRR test enables grading of deficiency severity, from mild to severe, ensuring detailed and actionable results.

Featuring multiple plates with distinct dot patterns, each plate incorporates different-shaped symbols to evaluate colour discrimination. The CC-100 series delivers precise and thorough reports, making it an indispensable tool for both clinical and occupational applications requiring advanced colour vision testing.
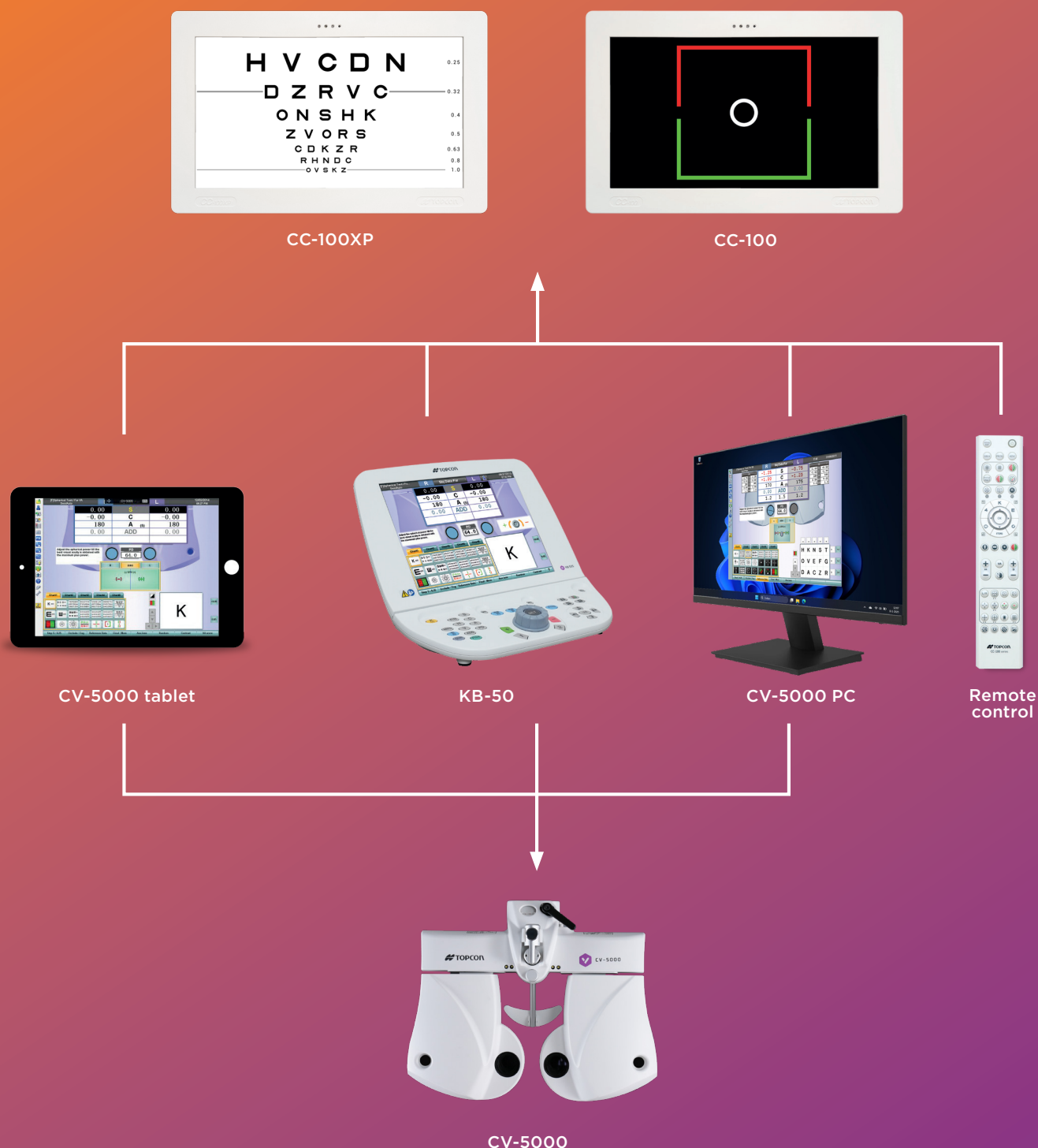

Spatial frequency contrast sensitivity test

Customise the spatial frequency contrast sensitivity test on the CC-100 series by adjusting spatial frequencies and contrast levels. This feature provides valuable insights into patients' contrast visual acuity. The results are presented in a user-friendly graph, facilitating easy interpretation to help optimise the visual assessment process.

Your choice of operational options

CC-100XP

CC-100

CV-5000 tablet

KB-50

CV-5000 PC

Remote control

CV-5000

The Topcon CC-100 series chart systems provide the operator with flexibility by offering various operational options. Operate independently using the remote control, the KB-50 controller, or seamlessly integrate with the CV-5000 PC controller software alongside Topcon's dedicated CV-5000 automated phoropter. For added convenience, the CC-100 series can also be wirelessly controlled using the CV-5000 tablet controller.

Testing Distance: 2.0 – 9.0 m (step size 0.1 m)

Visual Acuity:

	Decimal	LogMAR	Snellen (m)	Snellen (f)	Monoyer
Notation:					
Range:	0.05 to 2.0	1.3 to -0.30	120 to 3	400 to 10	0.5 to 20.0

Optotypes:

Letters	Numbers	Tumbling E	Landolt C	Cyrillic[1]

Children's charts:

A	B1	C	DK	R	L

Test charts:

ETDRS	Clock	Half Clock	Cross-lines	Fan Block[1]	Spherical Balance	Astigmatism Dots

Separation tests:

Schober	Worth	Cross	Cross (fix)	Coincidence H	Coincidence V	Zieger
Double Zeiger	Stereo Test	Stereo Test	Stereo Test	Stereo Test	Ostenberg	Letter Stripes
Letter Stripes	Differential Stereo	Random Dot	Random Dot	Cowen	Fixation Disparity H	Fixation Disparity V

Other tests and functionalities:

Optotype Masking, Randomisation, Inversion, Mirror, Maddox LED (white), Amsler Grids, Pseudoisochromatic Colour Vision, Contrast Sensitivity, Sinewave Contrast Sensitivity, Single letter scoring (LogMAR scoring), MKH sequence (12-step)[1], Fixation Targets (images and movies).

[1] Only available with remote control

Note: The screenshots above represent the CC-100XP version. The CC-100 may display charts differently, particularly for separation tests.

Specifications CC series

Electrical specifications	CC-100 series
Power supply	AC 100 – 240 V – 50 – 60 Hz
Power input	60 VA
Mechanical specifications	
Width	60 mm
Height	360 mm
Length	560 mm
Weight	4.2 kg
Controllers	
CV-5000	Infrared remote control
	KB-50
	CV-5000 PC
	CV-5000 tablet
Operation	
Temperature	10°C to 40°C
Relative humidity	8% to 75% (no condensate)
Atmospheric pressure	700 hPa to 1060 hPa
Integrated PC components	
Operation system	Linux Custom Image
Processor	Freescale Cortex A9
RAM	512 MB
Hard disk	512 MB SSD
External connections	2 USB
	1 Ethernet
Screen dimensions	21.5 inch LED screen

IMPORTANT   In order to obtain the best results with this instrument, please be sure to review all user instructions prior to operation.

Not all products, services or offers are approved or offered in every market, and products vary from one country to another.
Contact your local distributor for country-specific information and availability.

TOPCON Healthcare