

## JVCKENWOOD to Launch the NP-200, a New Model of the Gazefinder Gaze Tracking System

Broader applications with increased sampling rate and strengthened security

JVCKENWOOD Corporation (JVCKENWOOD) will roll out the NP-200 model of the Gazefinder gaze tracking system in the JVC brand in late May.

Gazefinder can measure and visualize the subject's line of sight, i.e. the points on the monitor screen that the subject is looking at, using our unique gaze tracking technology. As a successor model to the NP-100, the existing model launched in September 2016, the NP-200 has broader applications with increased sampling rate and strengthened security, and is equipped with new, more user-friendly functions.

Item name	Series name	Model name	Recommended retail price (tax excluded)	Release date
Gaze tracking system	Gazefinder	NP-200	Open price	Late May



### Project's intention

The eyes do not lie, as the saying goes. People unconsciously stare at what they like and what interests them and look away from what they do not like. Gaze measurement visualizes connections between people's interests and brain activity and makes them objectively and quantitatively assessable, offering a broad range of possible applications.

JVCKENWOOD was among the first to focus on gaze tracking and introduced the NP-100 Gazefinder gaze tracking system to the market in September 2016. JVCKENWOOD's unique and highly accurate gaze tracking technology and calibration function allowing the subject's shape of the eyes to be quickly measured were favorably received. Therefore, the NP-100 has been utilized in gaze tracking research at universities and research institutions.

The NP-200, the new model of Gazefinder, features enhanced functionality. For example, it has a greater sampling rate and a user account setting to improve security, while inheriting the gaze tracking technology from the existing model. The usability is also improved due to the thinner and lighter weight design. JVCKENWOOD will propose this model to universities and research institutions that conduct research in psychology, brain science, and education in order to contribute to research work that uses gaze measurement.

### Mechanism of gaze measurement

Gazefinder visualizes gaze points by presenting still images and videos created for measurement purposes to the subject. It then analyzes the subject's gaze points on the screen using videos taken from an infrared stereo camera and projects the trajectory of gaze points on the screen.

#### Key features

#### 1. Realizing non-invasive measurement using our unique and highly accurate gaze tracking technology

JVCKENWOOD's unique gaze tracking technology, developed by applying its existing visual and optical technologies, can visualize with high accuracy the gaze points of the subject—something that third parties are unable to detect. Gazefinder does not require the subject to have their head fixed in position or wear goggles for measurement. Thus, it enables non-invasive (without incurring a physical burden) gaze tracking measurement of subjects of a wide age range from babies and infants to the elderly, with minimum physical and psychological impacts.



Conceptual image of gaze measurement

#### 2. Equipped with our unique calibration function

Gazefinder is equipped with our unique calibration function that can measure the shape of the eyes of individual subjects and make the necessary adjustments in a short time. Calibration can be quickly performed even on babies and infants, with whom gaze measurement is difficult to achieve, without their realizing it.

#### 3. Adopting a new design that realizes a weight reduction of around 37%\* compared to the existing model and blends in with the installation environment

The new model achieved a weight reduction of around 37%\* compared to the existing model, while maintaining its compact design that realizes a portable system. This has been achieved by integrating an image-presenting monitor, an eye tracker equipped with an infrared stereo camera, and a computing unit in the product. The front surface has a flat design without a level difference between the monitor screen and the camera unit, and the back surface comes in greyish white to more easily blend in with the installation environment.



Back surface of the main unit

\*Comparison with the NP-100 (existing model)

#### 4. Easy installation and operation from measurement to displaying the results

This model is easy to install with no complicated setup for connection. In addition, the monitor and camera positions do not need to be corrected. This model has also adopted a simple user interface that supports intuitive and smooth operation even for a first-time operator. The measurement screen allows the operator to input information on the subject, set up the system for measurement, and start measuring on the same screen.



Conceptual image of measurement result screen

#### 5. Three different sampling rates to choose from

In addition to the sampling rate of the existing model (50 Hz), this model can work at another two rates, making for a total of three different sampling rates (50 Hz, 60 Hz and 120 Hz). Hence, different setups are available according to the purpose of research, such as gaze fixation testing, or checking gaze movement or eye movement.

## 6. Equipped with user account setup function to protect measurement data

In addition to the existing model's technology that encrypts measurement data, the new model introduces a user account setup function to strengthen security in order to prevent unauthorized logins and leakage of measurement data and personal information.

## 7. License pack is available for functional enhancement (optionally available)

Multiple license packs (optional) are available for functional enhancement according to the usage. Using the NP-F01 license pack, arbitrary videos and still images can be added to this model, enabling its applications to be expanded.

### Key specifications

Model name	NP-200
Sampling rate	50 Hz/ 60 Hz/ 120 Hz
Gaze tracking accuracy	1° or less
Recommended distance between monitor and eyes	60 cm (23.6 inch) is recommended Supported range is from 50 cm to 80 cm (19.7 inch to 31.5 inch)
Freedom of head movement	Height × width: 24.5 × 30.7 cm (9.6 x 12.1 inch) Distance between monitor and head is 60 cm (23.6 inch)
Data output	CSV file, measurement result in still image data (jpg), measurement result in video data (wmv), audio recorded data (wav)
Number of calibration points	5 points
Monitor size	19 inch
Resolution	1280 × 1024 pixels
Dimensions (W × H × D)	419.8 × 444.0 × 196.5 mm (165.3 x 174.8 x 77.4 inch)
Weight	8.0 kg (17.6 lb)
Input	AC100–240V 50/ 60 Hz
USB ports	USB 2.0 × 2, USB 3.0 × 1
Speakers	1W × 2
Input/ Output	VGA output, audio output (stereo mini Φ3.5 mm) Microphone input (stereo mini Φ3.5 mm)
Accessories	Keyboard, mouse, power cord, AC adapter, conversion adapter for power cord, instruction manual

### Trademarks

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NP-200

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