

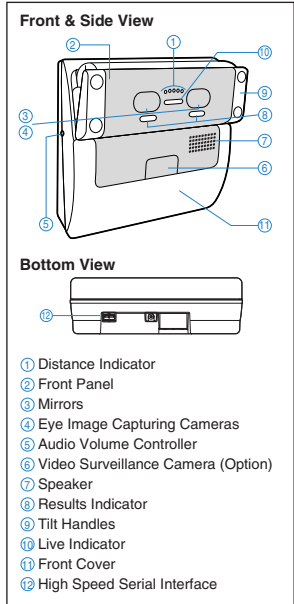
**Panasonic**  
ideas for life

Iris Reader  
**BM-ET20**

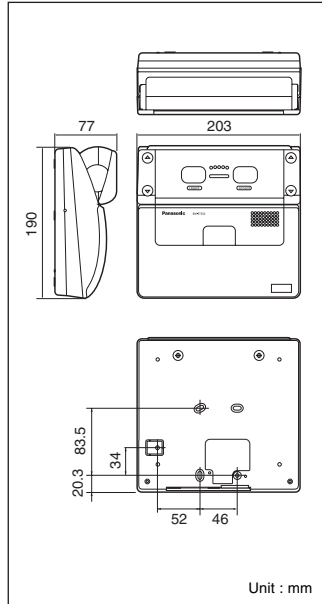


Combination high-speed capture engine  
and two mirrors for rapid,  
high-accuracy recognition.

## MAJOR OPERATING CONTROLS



## APPEARANCE






## RECOMMENDED SMART CARD READERS AND WRITERS

Applicable products	Manufacturer	Product / Product No.
Smart Card Writer	HID Corporation Ltd. RFIDeas, Inc.	RWK400 RW400 RFID1356i (USB and RS-232)
Smart Card	HID Corporation Ltd.	2001, 2011, 2021, 2031, 2041, 2051, 2061

### NOTE

- In regard to details of the Smart Card Writer and the Smart card, refer to the respective instruction manuals attached to merchandise.
- When a card writer is connected and a USB-RS-232C conversion connector is used, the system may not operate normally.
- The USB connections are applicable to Windows® XP only. Operation is impossible with Windows® 2000.

## PRODUCT CONFIGURATION

<b>Iris Reader</b> <b>BM-ET200</b> 	<b>Interface Board</b> <b>BM-ETA201</b> (optional) 	<b>Administration Software</b> <b>BM-ES200</b>  <b>User License Software</b> <b>BM-EU30100</b> (for 100 Users) <b>BM-EU31000</b> (for 1,000 Users) <b>BM-EU33000</b> (for 3,000 Users) <b>BM-EU35000</b> (for 5,000 Users)
	<b>Video Surveillance Camera</b> <b>BM-ETC202</b> (optional) 	

- Private ID, and KnoWho are trademarks of Iridian Technologies, Inc., USA.
- iCLASS is a registered trademark of HID Corporation.
- Windows® 2000 Professional, or Windows® XP Professional are registered trademarks of Microsoft Corporation in the USA and / or other countries.
- All other trademarks are the property of their respective copyright holders.



- Important** – Safety Precaution: carefully read the operating instructions and installation manual before using this product.  
 – Panasonic can not be responsible for network performance and/or other manufacturer products that reside on the network.
- All photographs and menu are simulated and shown for the purpose of explanation.
  - Weights and dimensions are approximate. • Specifications are subject to change without notice. • This product is subject to export control regulations.

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	 Panasonic is the brandname of Matsushita Electric. Printed in Japan <span style="float: right;">BM-JKET200C(2N-770)</span>		

## BM-ET200 SPECIFICATIONS [PAL]

General	
Power source *1	12 V DC/24 V DC
Power consumption	Max. 24 W
Ambient operating temperature	0 °C to +40 °C
Ambient operating humidity	30 % to 90 %
Dimensions	203 mm (W) x 190 mm (H) x 77 mm (D)
Weight	0.9 kg (this iris reader only)
Interface	Wiegand, RS-485
Network	10 Base-T/100 Base-TX (Auto negotiation)
Network protocol	TCP/IP
Available card reader for Iris on card system	RWK400 (Manufactured by HID Corporation)
Input/Output	
Iris Reader (BM-ET200)	
Recognition start trigger input	0 V to 5 V, 24 mA (Max), Active low, Pulse width: 200 ms or more
Recognition result output1 (ACCEPT)	make contact output, Normally Open, Pulse width: 0.1 s to 60 s, 24 V DC, 100 mA, ON-Resistance 6 Ω
Audio Output (Preamplifier)	Stereo mini plug (ø3.5 mm)(10 kΩ, 100 mV[P-P])
High speed serial interface	Numeric Key, External memory (*5)
Interface Board (BM-ETA201) (optional)	
Dimensions	65 mm (W) x 76 mm (H) x 31 mm (D)
Alarm output1 (tamper detection)	Open collector output, Normally Open, Active low, 24 V DC, 24 mA
Alarm output2 (power status)	Open collector output, Normally Close (Low level), 24 V DC, 24 mA
Recognition result output2 (REJECT)	Open collector output, Normally Open, Active low, Pulse width: 0.1 s to 60 s, 24 V DC, 24 mA
Buzzer input:	0 V to 5 V, 24 mA (Max.), Active low, Pulse width: 200 ms or more
Time adjust input	0 V to 5 V, 24 mA (Max.), Active low, Pulse width: 100 ms or more (*7)
Interface (card reader)	Wiegand, RS-485 (Either can be selected.)
Wiegand power output (card reader)	5 V DC, 100 mA max.
Wiegand DATA0 input(card reader)	0 V to 5 V DC, 25 mA max., Active low
Wiegand DATA1 input (card reader)	0 V to 5 V DC, 25 mA max., Active low
RS-485 (A), (B) (card reader)	Differential input: ± 0.2 V or more, Differential output: ± 2 V or more (When termination is ON) (*6)
Interface (access control panel)	Wiegand, RS-485 (Either can be selected.)
Wiegand power input (access control panel)	5 V DC (No connection available)
Wiegand DATA0 output (access control panel)	0 V to 5 V DC, 25 mA max., Active low
Wiegand DATA1 output (access control panel)	0 V to 5 V DC, 25 mA max., Active low
Wiegand ACCEPT-LED input (access control panel)	0 V to 5 V, 24 mA (Max.), Active low, Pulse width: 200 ms or more
Wiegand REJECT-LED input (access control panel)	0 V to 5 V, 24 mA (Max.), Active low, Pulse width: 200 ms or more
RS-485 (A), (B) (access control panel)	Differential input: ± 0.2 V or more, Differential output: ± 2 V or more (When termination is ON) (*6)
Video Surveillance Camera (BM-ETC202) (optional)	
Video Output	1 V [P-P] PAL composite 75 Ω BNC connector
Function	
Iris recognition time	Approx. 0.3 seconds (After iris image capturing until the recognition result is output) (*2)
Eye image capturing range	Approx. 5 seconds (Server certification. After iris image capturing until the recognition result is output) (*3)
Total number of users enrolled BM-ET200	Approx. 30 cm to 40 cm between the eyes and the mirror
Iris server	Stand alone mode : 50 users max. Network mode : 5,025 users max. (*4)
Voice guidance	10,025 users max. 14 languages supported (English, German, French, Spanish, Italian, Russian, Chinese, Korean, Portuguese, Turkish, Arabic, Dutch, Swedish, and Japanese) Mute, Simple (recognition result), and Full (voice guidance and recognition result) selectable
Distance indicator	Lighting of the lamp indicates the proper distance between the user and the main body.
Live indicator	Blinking, On, and Off selectable
Angular field view	Horizontal: 115° Vertical: 85° (Fixed)
Security function	Tamper detection switch, Iris data encryption

\*1 The third-party external power-supply should meet the following specifications, and must be a UL Listed access control power limited device.

Output voltage	Output current capacity
12 V DC ± 0.5 V	1.2 A or more
24 V DC ± 0.5 V	0.6 A or more

Rated ripple voltage/Ripple noise: 150 mV [P-P] or less  
 Overcurrent protection: Enabled (mandatory)

\*2 The recognition time may differ depending on recognition condition.

\*3 The recognition time may differ depending on capturing conditions, network conditions, or the total number of enrolled users.

\*4 User Licence Software BM-EU30000 Series (option) is required.

\*5 Refer to the dealer for available external devices.

\*6 Our exclusive protocol is employed.

\*7 Refer to the dealer for available external devices.

# Simple to configure and easy-to-use Iris Reader with recognition results in 0.3 seconds\*

\*Time required for recognition in a normal, ready-to-recognize condition after the eyes are aligned with the main unit mirrors.

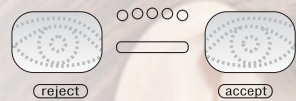
The BM-ET200 offers more-accurate, faster, non-contact entry/exit control utilizing biometric technology for iris recognition.

The system can be used to check IDs in a variety of applications, including airports and entry/exit control for many types of industries.

## Fast, high-speed capture engine developed to obtain recognition in only 0.3 seconds

Panasonic developed a unique high-speed capture engine that obtains recognition in only 0.3 seconds after eye position alignment with the mirrors. If recognition is not achieved the first time, the operation is automatically repeated at high prompting speeds.

## Dual-mirror configuration makes eye alignment easy



Two mirrors are mounted on the front panel. Eye position is less likely to be out of side to side alignment, making recognition easier. Positioning of either the left or right eye is simplified.

## A distance guide indicator informs the user of proper iris capture distance

To adjust the camera for the most optimal eye distance, both voice instructions and a distance indicator lamp guide provide user guidance so the correct capture position is achieved.

Distance	Number of lighting lamps	Voice guidance
Too close	○○○○●	Please move back a little
Suitable	●●●●●	
Too far	●●●○○	Please move a little closer



Iris Reader  
**BM-ET200**

## Voice guidance recognition procedure

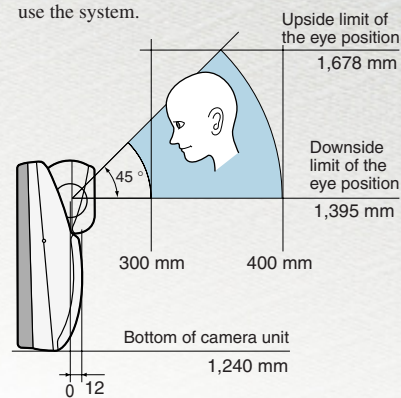
A speaker on the front cover offers voice guidance for operational assistance and recognition results. Fourteen languages can be selected for each iris reader. Supported languages: English, French, German, Spanish, Italian, Turkish, Arabic, Chinese, Korean, Russian, Portuguese, Dutch, Swedish, and Japanese.

## Three settings for voice guidance

- Simple** : Only recognition results are announced.
- F u l l** : Voice guidance such as "Please move a little closer" and "Please move back a little" and also recognition results are given.
- M u t e** : No voice guidance.

## The camera unit swivels up and down

The angle of the two embedded cameras can be adjusted to accommodate users from 152 cm to 180 cm. Taller users can simply bend over to use the system.



## Distance indicator

Lighting of the lamp indicates the proper capture distance between the user and the BM-ET200.

## Mirrors (Dual)

Adjusts the eye position when registering or recognizing eyes.

## Eye image capturing cameras

Located behind the mirrors, the camera captures images of the irises.

## Live indicator

The light indicates the current operating condition.

## Results indicator

The lamp lights when recognition is complete.

## Tamper Detection

The tamper protection feature prevents data from being extracted from the system. An audible alarm is triggered via the integrated tamper switches. Alarm signals are also transmitted to the access control system and Administration Server.

## 25 User License Included

Iris data for up to 25 users can be registered with the Base Administration Software BM-ES200 within the network mode. With additional (optional) user licenses, the system can register and manage iris data for up to 10,025 users. Contact Panasonic directly for systems requiring more than 10,025 users. Up to 50 user licenses included in the BM-ET200 in stand alone mode cannot be used in a network mode.

## Access log can be searched by time

Using the time of image capture stored in the camera, you can search the access log of a specific user for the specified time.

## APPLICATIONS

<b>Offices</b> Data centre, material storage, safes, executive offices, secure meeting rooms	<b>Laboratories and factories</b> Drug or dangerous materials storage rooms, night or holiday entry control	<b>Financial institutions</b> Safes, safety deposit box rooms	<b>Lifeline facilities</b> Power generator rooms, dam management offices, gas company control rooms	<b>Traffic control centers</b> Expressway administration centres, railroad dispatcher rooms	<b>Airport and harbor facilities</b> Staff gates, Immigration, workshops	<b>• Police</b> <b>• Prisons</b> <b>• Courts</b> <b>• Any and all security applications</b>
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## SYSTEM DIAGRAMS

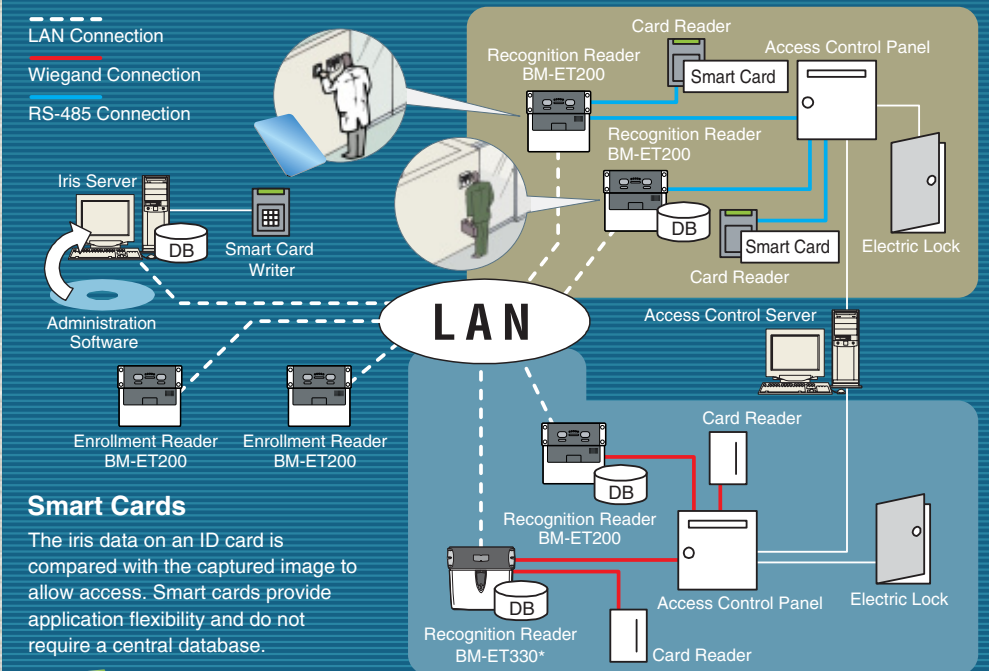
### Network system

#### Integrates with Wiegand-compatible Systems

Compatible with standard Wiegand interface protocol access control systems thus offering flexible system configuration. Legacy PROX cards are also supported.\*

\*Most card formats are supported-please check with your local Panasonic sales office.  
\*To handle the protocol, it is necessary to install the BM-ETA201 optional board (sold separately).

Maximum system specification	
Maximum number of iris readers	256 users
Number of users that can be registered	10,025 users
Local matching	5,025 users



## Smart Cards

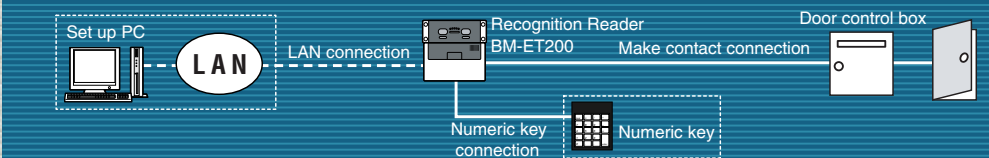
The iris data on an ID card is compared with the captured image to allow access. Smart cards provide application flexibility and do not require a central database.



\*To handle the protocol, it is necessary to install the BM-ETA201 optional board (sold separately).

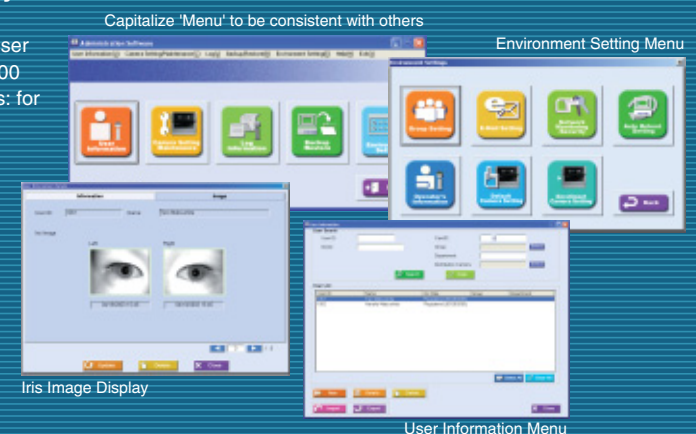
\*The existing BM-ET330 system can be connected to the BM-ET200 system after upgrading the management software to BM-ES200 without changing existing data.

### Stand alone system



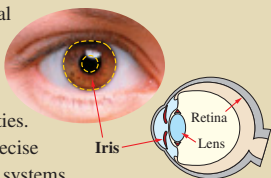
### For large and small systems

Flexible registration software supports incremental users. User License Software; BM-EU30000 Series comes in four key sizes: for 100 users, 1,000 users, 3,000 users, or 5,000 users. Easy operation and management from a iris server, all settings, registrations, updates, and information confirmation can be controlled from a PC display.



## High security, with false acceptance rate of 1 in 1.2 million\*

Iris recognition uses individual differences in the complex patterns found within the iris of the human eye to authenticate individual identities. Iris recognition is the most precise of all biometric identification systems. The false acceptance rate is so low that the probability of falsely identifying one individual as another is virtually zero.



## Iris Characteristics

- An extremely complex pattern that differs even between identical twins.
- Patterns stabilize between six months and two years of age and then remain unchanged for life.
- They are extremely difficult to imitate.

\*"RECOGNIZING PERSONS BY THEIR IRIS PATTERNS" by Dr. John Daugman, University of Cambridge.