

Service guide

MAINTENANCE SYSTEM FOR ELECTRIC BICYCLES

Centre driving unit ENGLISH For Dealers



Before use, please read this Service guide carefully. © Panasonic Cycle Technology Co., Ltd. 2014

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Before starting use

Caution

Keep the USB authentication key out of reach of infants.

- Accidentally swallowing it may cause injuries.
- Seek the advice of a doctor immediately if it has been swallowed.

Precautions for use

Operation cannot be guaranteed under the following usage scenarios as there is the possibility of malfunction.

- If multiple Micro USB cables are connected to a single PC
- If the USB authentication key or Micro USB cable are handled with wet hands
- If a cable other than the dedicated Micro USB cable is used
- If a damaged USB authentication key or Micro USB cable is used

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Outline

Introduction

The MAINTENANCE SYSTEM FOR ELECTRIC BICYCLES application runs on a PC connected to the electric bicycles to diagnose the drive unit, update the firmware, and perform other operations.

This application can be used by connecting the PC to the console on the electric bicycles by the Micro USB cable (Type B plug -Standard A plug) (supplied) and connecting the USB authentication key (supplied) to the PC.

• Pages to be referred to are shown as $(\rightarrow 00)$.

Compatible model

Centre driving unit (with USB port type) Front hub driving unit (with USB port type)

Operating environment

(current as of July 2014)

	,,,,,,,
CPU	Recommend Intel [®] Core™2 Duo or above
OS	Microsoft® Windows Vista® SP2 (32/64 bit) Microsoft® Windows® 7 SP1 (32/64 bit) Microsoft® Windows® 8 (32/64bit)
Memory	OS 32 bit: 1 GB or more, OS 64 bit: 2 GB or more
Interface	IBM® PC/AT compatible machine with USB2.0 port
HDD	At least 10 GB of free space
Display	Colour: 32 bit Resolution: XGA (1024 x 768) or more Multi-monitor: Only primary monitor supported
User account	Administrator privileges required
Name of software	MAINTENANCE SYSTEM FOR ELECTRIC BICYCLES
Authentication key	Dedicated USB authentication key (supplied)
Connection Cable	Dedicated Micro USB cable (Type B plug - Standard A plug) (supplied)

- Even if the system requirements mentioned in these operating instructions are fulfilled, some PCs cannot be used.
- Operation cannot be guaranteed under an OS that the application is not compatible with.
- Operation on an upgraded OS is not guaranteed.
- Operation cannot be guaranteed on a PC that a customer has assembled by themselves.



Installing the Application

1 Insert the CD-ROM (supplied) into the computer drive, and open Explorer.

2 Click [Maintenance].

Double click [setup.exe].

 In some operating systems, the "User Account Control" screen is sometimes displayed. If it is displayed, select [Yes].

					x
🕞 🕘 🗸 🕨 Maintena	nce 🕨	- 4 ₇	Search Maintenance Sys	tem	P
Organize 👻 🖻 Open	New folder		5	• 🗊	0
🛉 🛉 Favorites	Name	Date modified	Туре	Size	
📃 Desktop	DotNetFX40Client	2013/09/25 10:07	File folder		
Downloads	WindowsInstaller3_1	2013/09/25 10:07	File folder		
🔛 Recent Places	🕮 MaintenanceSystem.msi	2013/09/20 15:31	Windows Installer	7,587 Ki	В
	🔂 setup.exe	2013/09/20 15:30	Application	420 Ki	В
📜 Libraries 🗸					
Setup.exe Dat Application	te modified: 2013/09/20 15:30 Size: 419 KB	Date created: 2013/09/25 10:07			

Click [Next].



Click [Next] (A).

• To change the installation directory, click [Browse] (B) and select the directory.



Click [Next].



Installing the Application

Click [Next].



8 When accepting the licensing agreement for the first time, select [I accept this agreement] (), and click [Next] ().



O Click [Finish].



This completes installation. When the following screen is displayed, click [Close].



Flow of operations





Tips

- The console screen, control unit screen (motor unit) and battery screen run by starting up diagnostics.
- The Maintenance System update is run automatically when the application is started up.

Connection Method

Centre LCD type connection method

1

Install with the display unit aligned with the concave and convex sections of the cradle.



2 Open the rubber cap on the bottom of the display unit.



3 Connect the PC to the display unit by the Micro USB cable (supplied), and press the power button on the display unit.



Requests

Always close the cap of the USB authentication key and rubber cap of the display unit after exiting the application.

Side LCD type connection method

Open the rubber cap on the right side of the console.



2 Connect the PC to the console by the Micro USB cable (supplied), and press the power button on the console.





Requests

Always close the cap of the USB authentication key and rubber cap of the console after exiting the application.

- Side LED type connection method
- 1 Open the rubber cap on the right side of the console.



2 Connect the PC to the console by the Micro USB cable (supplied), and press the power button on the console.





Requests

Always close the cap of the USB authentication key and rubber cap of the console after exiting the application.

Start-up method

1 Double click the [Maintenance System] icon on the desktop.



Tips

 Before starting the application, check the connection between the PC and the console.

2 Connect the USB authentication key (supplied), and click [OK].



Display when authentication fails

MAINTENANCE SYSTEM FOR ELECTRIC BICYCLES	×
Connect the USB authentication key	
MAINTENANCE SYSTEM FOR ELECTRIC BICYCLES	
The USB authentication key cannot be recognised. Check the connection	
ОК	
OK Cancel	

Tips

• If the USB authentication key is not recognized, reconnect the USB, wait for a few moments and then restart.

If this screen is displayed

Click [Yes] and perform updates.

For the update method, refer to "Maintenance System update $(\rightarrow 18)$ ".

MAINTEN	ANCE SYSTEM FOR ELECTRIC BICYCLES
?	A newer version of the maintenance application is available Update now?
	Yes No



• To turn off the automatic update confirmation function when starting up the application, refer to "Start-up update confirmation (\rightarrow 21)".

Explanation of main screen

In this screen, compensation decision and failure diagnosis can be saved and read after trouble is diagnosed.

	STEM FOR ELEC	TRIC BICYCLES					l	
File(E) Connect(C)	Update(<u>U</u>)	Tools(T) Help(H)						
	A Diagnasi	B						
-	Diagnosis	5) K			
Console Serial number Software version Perimeter	123 1ED6 2200 mm	Controller Serial number Gear (F/ R/ Ratio) Software version	98 41/ 11/ 1 22-04-0	7654 Power ON count 615 Distance travelled 1-8252-0100-0000-0000	24 1 765432.1	times km Rer	Battery tery pack numbe maining capacity	r 4660 85
Main								
Data of diamonia	00/06/2	014 14-10						
Stop1: Diagnosis	09/06/2	014 14:18						
A1 St	tart diagnosis		S A2					
Diagnosis	is complete							
Diagnosis PCT information Console part number	is complete r			Mo	or unit part number		NUA130RA	
Diagnosis PCT information Console part number Battery part number	is complete r			Mo -	or unit part number		NUA130RA]
Diagnosis PCT information Console part number Battery part number Manutacturer information	is complete r			Mo -	or unit part number		NUA130RA	
Diagnosis PCT information Console part number Battery part number Manufacturer informa	is complete r			Mo - -	or unit part number		NUA130RA	
Diagnosis PCT information Console part number Battery part number Manufacturer information	is complete r ation			Mo - -	or unit part number		NUA130RA	
Diagnosis PCT information Console part number Battery part number Manutacturer information Customer information Customer name	is complete r ation			Ho - - Rej	or unit part number		NUA130RA	
Diagnosis PCT information Console part number Battery part number Manutacturer information Customer information Customer name Console part number	is complete r atton			Mo - - Rei Mot	or unit part number port number or unit part number		NUA130RA	
Diagnosis PCT information Console part number Battery part number Manufacturer information Customer name Console part number Battery part number Battery part number	is complete r ation			Mo - - Rej Mot	or unit part number		NUA130RA	
Diagnosis PCT information Console part number Battery part number Manutacturer information Customer information Customer name Console part number Battery part number Memo	is complete r attion			Mo - - Rej Mot	or unit part number		NUA130RA	
Diagnosis PCT information Console part number Manufacturer information Customer information Customer name Console part number Battery part number Memo	is complete r atton			Mo - Rej Mol	or unit part number bort number or unit part number		NUA130RA	
Diagnosis PCT information Console part number Battery part number Unter information Customer information Customer name Console part number Battery part number Memo	is complete r ation r			Mo - Re Mot	or unit part number		NUA130RA	

А [Main screen] icon $(\rightarrow 12)$ В [Console] icon (\rightarrow 22) [Control unit (Motor unit)] icon $(\rightarrow 27)$ С D [Battery] icon $(\rightarrow 29)$ [Console] device information Е F [Control unit (Motor unit)] device information [Battery] device information G [Start diagnosis] button $(\rightarrow 13)$ A1 [Diagnostic results redisplay] button A2 Maker information A3 A4 Manufacturer information (not displayed for 2013 model) A5 Customer information input field [Clear] button (\rightarrow 15) A6 [Save diagnostic results] button (\rightarrow 15) A7 [Read diagnostic results] button (\rightarrow 15) A8 A9 [Print] button $(\rightarrow 16)$ A10 [Mail] button $(\rightarrow 17)$ Bicycle update button (\rightarrow 17) A11 A12 Application update button $(\rightarrow 18)$ [Update] button $(\rightarrow 18)$ A13 [Settings] button $(\rightarrow 19)$ A14

Tips

• The numbers of the icons are used in later descriptions.

Diagnosing the drive unit

Diagnose trouble on the drive unit.

Click the [Start diagnosis](A1) button.

- Diagnosis can also be performed by selecting [Tools] \rightarrow [Diagnosis] on the menu.
- Failure diagnosis results can be checked again by clicking the [[] (A2).

Diagnosis result

- [OK] is displayed if the diagnostic result is normal.
- [ERROR], [CHECK] or [WARNING] is displayed if judgment ends in error.

For details, refer to "Diagnostic results list $(\rightarrow 31)$ ".

If the power is turned off before pressing the start diagnosis button, or the Micro USB cable is removed, [An error occurred during diagnosis] is displayed.

If this happens, check the Micro USB cable connection or the console power, and perform "Updating the connection to the electric bicycles (\rightarrow 18)".

	Update(j)	Toolo@ Hel	p(<u>H</u>)							
			<u> </u>	-	~	-	-	-	U	
Cansole lanual number loftware version versioner	123 1ED5 2200 mm	Coraster Sasa number Gear (F) Ri Ra Software versi	1 (0)	98765 41/11/1.51 22-04-01-8	4 Power ON cos 5 Distance trave 52 0100-0000-00	int Red 00	24 765432.1	ines (R	Battery attery pack number emaining capacity	4560 85 9
Unio	1									
Step1 Diagnosis	tet damosis		Details							
A& 1011 0	courred during	dagrosis								
PCT and any o	ccurred during	dagrosis								
Console patnumbe	ccurred during	Sayson a				Motor unit (sait number		MJASJORA	
An error o PCT and a pathwarder Dathery pathwarder	ccurred during	dagroot a				Motor unit (satt number		MUKSSORA	
An error o Donsole partnumber Datery partnumber Manufacturer mismo	ccurred during atom	dagrosis				Motor unit) -	saft Rumber		NUASJORA	
An error o PCT Console part number Datery part number Manufacturer informatio	ccurred during # ation n	dagross				Motor unit ; -	sat rumber		NUKSJORA	
An error o PET Console part number Datlery part number Manolacturer informatio Customer informatio Customer name	r r ation	dagroos				Motor unit) - - Report nur	sat sumber		NUKSJORA	
As error o PCT acies part number Delety part number Manufacturer informatio Customer informatio Customer name Cossole part number Battery part number	r ation r	60900S				Motor unit ; Report nur Motor unit ;	ster ster sef number		MJANJORA	
An error of PCT antenness Dester part number Nandlectures inform Customer informatio Customer name Cossole part number Name part number Nerro	ccurred during # ation n f	áayosis)				Motor unit ; Report nur Motor unit ;	nber nationnber		MJAX30RA	

Delete error

If ERROR, CHECK or WARNING is displayed in the Diagnostic results, the error can be deleted using [A15].

A15 [Delete error] button

🔀 Diagnosis	check			— ×
Console			A15	Clearing of errors
Decision	Symptom	Countermeasure		
ок	14.The console is normal	Continuation is available		
Motor unit				Clearing of errors
Decision	Symptom	Countermeasure		-
ок	40.The motor unit is normal	Continuation is available		
Battany				
Decision	Symptom	Countermoseure		
OK	25.The battery is normal	Continuation is available		
				Close

Tips

• On certain models, it will not be possible to delete errors.

• It is not possible to delete fatal operation-related errors.

Saving diagnostic results

Click [] (A7).

 Diagnostic results can also be saved by selecting [File] → [Save diagnostic results] on the menu.

7 Click [OK] to save.

 To change the save directory, refer to "Setting the diagnostic results save directory (→20)".

Clearing diagnostic results

Click [[]] (A6) to clear the entire display.

Reading diagnostic results



● Diagnostic results can also be read by selecting [File] → [Read diagnostic results] on the menu.

2 Select the file (1) to read, and click [Open] (2).

Select the diagnostic	results	file				×	
🕒 🕑 - 🕌 « User	s 🕨 N	ly Documents 🔸 Maintenance System 🔸		👻 🍫 Search Ma	intenance Syst	tem 🔎	
Organize 👻 New	folder				80 -	1 0	
🔆 Favorites	-	Name	Date modified	Туре	Size		
E Desktop		🕌 Log	2013/09/09 8:48	File folder			
🐞 Downloads		00000123-987654-NUA018AA-130902.dat	2013/09/02 12:10	DAT File	1) KB	
Recent Places	-	00000123-987654-NUA018AA-130902 2.dat	2013/09/02 13:55	DAT File	1) KB	
		00000123-987654-NUA018AA-130909.dat					(1
Libraries							
Documents							
iii Git							
J Music							
Pictures							
Subversion	-						
wideos							
	ne nan	ne: 00000123-987654-NUA018AA-130909.dat		 DAT file(".d 	at)	•	
				Open	-		-(2
	_					ai.	

Printing diagnostic results

- Click [듲] (A9).
 - Diagnostic results can also be printed by selecting [File] → [Print] on the menu.
- 2 When the print details screen is displayed, set the print format, and click [OK].
- **3** Details will be printed as follows. Entered details will be printed in positions with the same

Entered details will be printed in positions with the same corresponding number.

Customer details entry box at bottom of main screen

PCT information			
Console part number	(1) XXX	Motor unit part number	NUA001RA
Battery part number	(2) XXX	-	
Manufacturer information			
		-	
Customer information			
Customer name	(3) x00000000x	Report number	(4) xxx
Console part number	(5) xxx	Motor unit part number	6 xxx
Battery part number	(7) XXX		
Memo	x00000000x		*
	000000000000000000000000000000000000000		-

Settings screen (Print)

📧 Settings		×
Diagnosis Print Network Languages	Corporary name	
	OK. Cancel	

Printed results (shared)

				Version 3.0.0.0
Elect	ric Bicycle Inspecti	0P	Result	(4) No.XXX
Liecti	to bicycle mapecti		Result	2014/06/09
			(INXXXX)	
			0000	m xxxxxxxxxx
Measured Date	2014/06/09 9:38			U
Console	Result : OK			
-	Symptom 14.	Th	e console is normal	
22	Countermeasure Co	ntir	nuation is available	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
Million .	the second second second			1.00
Parts Number :			PCT Parts Number :	
XXX		1	XXX	
Product Date :			Serial Number :	
2015/06/05			123	IN STREET, STRE
Result : OK	10.77		Station States	Motor Unit
Symptom	40. The motor unit is r	hlo	nal	
Countermeasure	Continuation is availa	DIE		
				7
Parts Number :			PCT Parts Number :	
) XXX			NUA130RA	
			Serial Number :	the walk and the little
Product Date :				
Product Date : 2012/10/22			987654	
Product Date : 2012/10/22 Total Distance :			987654 Power ON Times :	
Product Date : 2012/10/22 Total Distance : 765432.1 km			987654 Power ON Times : 24 times	
Product Date : 2012/10/22 Total Distance : 765432.1 km			987654 Power ON Times : 24 times	
Product Date : 2012/10/22 Total Distance : 765432.1 km Battery	Result : OK		987654 Power ON Times : 24 times	
Product Date : 2012/10/22 Total Distance : 765432.1 km Battery	Result : OK Symptom 25	Th	987654 Power ON Times : 24 times e battery is normal	
Product Date : 2012/10/22 Total Distance : 765432.1 km Battery	Result : OK Symptom 25. Countermeasure Co	Th	987654 Power ON Times : 24 times e battery is normal mation is available	
Product Date : 2012/10/22 Total Distance : 765432.1 km Battery	Result : OK Symptom 25. Countermeasure Co	Th	987654 Power ON Times : 24 times e battery is normal nuation is available	
Product Date : 2012/10/22 Total Distance : 765432.1 km Battery	Result : OK Symptom 25. Countermeasure Co	. Th ntir	987654 Power ON Times : 24 times e battery is normal nuation is available	
Product Date : 2012/10/22 Total Distance : 765432.1 km Battery Difference Parts Number :	Result : OK Symptom 25 Countermeasure Co	.Th ntir	987654 Power ON Times : [24 times e battery is normal huation is available PCT Parts Number :	
Product Date : 2012/10/22 Total Distance : 765432.1 km Battery Parts Number : XXX	Result : OK Symptom 25 Countermeasure Co	.Th ntir	987654 Power ON Times : 24 times e battery is normal uation is available PCT Parts Number : XXX	
Product Date : 2012/10/22 Total Distance : 765432.1 km Battery Parts Number : XXX Design Capacity	Result : OK Symptom 25 Countermeasure Co	. Th ntir	987654 Power ON Times : 24 times e battery is normal uation is available PCT Parts Number : XXX Number of full charges	
Product Date : 2012/10/22 Total Distance : 765432.1 km Battery Parts Number : XXX Design Capacity 39 mAh	Result : OK Symptom 25 Countermeasure Co	.Th ntir	987654 Power ON Times : 24 times e battery is normal uation is available PCT Parts Number : XXX Number of full charges 3333 times	
Product Date : 2012/10/22 Total Distance : 765432.1 km Battery V Parts Number : XXX Design Capacity 38 mAh	Result : OK Symptom 25 Countermeasure Co	.Th ntir	987654 Power ON Times : 24 times e battery is normal uuation is available PCT Parts Number : XXX Number of full charges 33333 times	
Product Date : 1 2012/10/22 Total Distance : 765432.1 km Battery Distance : 2002/10/22 Parts Number : 2002/2002/2002/2002/2002/2002/2002/200	Result : OK Symptom 25 Countermeasure Co	.Th ntir	987654 Power ON Times : 24 times e battery is normal uation is available PCT Parts Number : XXX Number of full charges 33333 times	
Product Date : 2012/10/22 Total Distance : 765432.1 km Battery J Parts Number : XXX Design Capacity 38 mAh Maker's Commer	Result : OK Symptom 25 Countermeasure Co	.Th ntir	997654 Power ON Times : 24 times e battery is normal uuation is available PCT Parts Number : XXX Number of full charges 33333 times	
Product Date : 2012/10/2: Total Distance : [76432.1 km] Battery J XXXX Parts Number : XXXX Design Capacity 38 mAh Maker's Commer XXXXXXXXXX	Result: OK Symptom 25 Countermeasure Co	.Th ntir	987654 Power ON Times : 24 times te battery is normal auation is available PCT Parts Number : XXX Number of full charges 33333 times	
Product Date : 1 2012/10/22 Total Distance : 765432.1 km Battery U Distance : 0 XXXX Design Capacity 38 mAh Maker's Commer XXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Result : OK Symptom 25 Countermeasure Co	.Th ntir	987654 Power ON Times : 24 times e battery is normal uation is available PCT Parts Number : XXX Number of full charges 33333 times	
Product Date : 2012/10/22 Total Distance : 765432.1 km Battery Variation : XXX Design Capacity 38 mAh XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Result : OK Symptom 25 Countermeasure Co	.Th ntir	997654 Power ON Times : [24 times e battery is normal uuation is available PCT Parts Number : [XXX Number of full charges 33333 times	

Starting up the mailer

This function starts up the mailer.

Click [8] (A10).

 \bullet The screen can also be displayed by selecting [Tools] \rightarrow [Mail] on the menu.

If the diagnostic results are displayed at "Reading diagnostic results (\rightarrow 15)", those diagnostic results are attached to a mail.

Electric bicycles system update

This function keeps the software being used by your electric bicycle updated to the latest version.

Click [] (A11) when there are communications between the PC and the electric bicycle.

• The screen can also be displayed by selecting [Update] \rightarrow [Update to the latest bicycle conditions] on the menu.

Requests

Do not remove the USB cable or press the console buttons during the update.

Tips

• The update will take several minutes.

Methods to deal with update failures

The control unit (motor unit) may not operate correctly if there is a failure while updating due to the console power turning off or the Micro USB cable being removed when performing "Electric bicycles system update".

If this happens, use the following methods to deal with the failure.

1 Check the Micro USB cable connection and the console power, and click [((A13).

- If the console update fails
- **7** The [Upgrade the console switch
- software] dialogue box is displayed.

If the control unit (motor unit) update fails

- 2 The [Upgrade the motor unit software] dialogue box is displayed.
- 3 Click [🛃 (A11).

Maintenance System update

This function connects to the internet and keeps the application updated to the latest version.

1 Click [🚱] (A12).

 Updates can also be checked by selecting [Update] → [Diagnosis software update] from the menu bar.



Click [Yes] if updates can be performed.



3 The update is started.

Tips

• Use a PC in an area where the internet can be used.

Updating the connection to the electric bicycles

This function is for performing failure diagnosis continuously.

Connect the console to be failure-diagnosed next to the PC, and click [(13).

• The connection can also be made by selecting [Connect] \rightarrow [Reconnect] on the menu.

Tips

- Do not connect the console of two or more bicycles to the PC.
- The screen can also be updated with the F5 key.

When the connection is successfully made, [----] is displayed. In this state, diagnostics and other various functions can be used.

File() Conned(()	Update(U)	Tools(T) Help040				
(I →∕-		•	- 10	
Console Becul number Software version Perimeter	123 1ED6 2200 mm	Senal number Gear (F/R/Rate) Software version	982654 Power ON 41/11/1.615 Distance to 22/04/01/8252/0100/0000	count 24 tmea aveiled 765432.1 km 0000	Battery pack number Remaining capacity	4560 85
Date of diagnosis Shep1 Diagnosis St	09/06 Lart diagnosis	2014 14 19 Details				
Press the	Stat dagrosi	s button and perform dia	gnosis			
PCT information Console part number Battery part number				Noter unit part number	NUATSORA	
Customer information Customer name				Report number		
Console part number Battery part number Nerrio				Motor unit part number		
						*

Settings

Flow of operations

Diagram - Flow of operations in setting screen



Starting up the setting screen

Click [🚳] (A14).

• The screen can also be displayed by selecting [Tools] \rightarrow [Settings] on the menu.



- A16 Diagnosis (→20)
- A17 Print (→21)
- A18 Network (→21)
- A19 Languages (→21)
- A20 [Browse] button



• The numbers of the icons are used in later descriptions.

Settings

Setting the diagnostic results save directory

Click [A16 Diagnosis] and click [A20/___].

Specify the save destination folder, and 5 click [OK].

Browse For Folder	x
Specify the save destination folder for the diagnostic results	
🕨 🏪 Desktop	*
🐌 Downloads	
Favorites	E
🍺 Links	
Iccal Settings	
4 🧊 My Documents	
> 퉲 001	
Daintenance	
Maintenance System	T
Make New Folder OK Cance	

Click [OK].This completes setting of the save directory.

Settings

Print settings

Click [A17 Print].

• Only single-byte alphanumeric characters can be entered.

Network settings

Proxy settings

Click [A18 Network] to change the proxy settings.

Requests

- Change this setting only if a proxy server is used.
- This should be run by the system administrator.

Start-up update confirmation

Deselect the [A21 Check for software updates on startup] checkbox if you do not want Maintenance System updates to be checked when the system starts up.

🚳 Settings	
Diagnosis Print Bottouris Languages	Proxy settings Use Internet Explorer proxy settings Manually conflicte the settings Do not use a proxy server Secify a proxy server Address Port
A	Software update Software updates on startup (Enabled only when connected to the internet) OK Cancel

Language settings

- Click [A19 Languages].
- **7** Select a language from the list on the right.

Diagnosis Print Network	Application languages	
	District Armen Spanish Frinch Haten Joganere Dutch Newgah Sweich Horsen	
		OX Cancel

Click [OK].

• Restarting the application completes setting of the language.

[Console] screen

Flow of operations



Tips

- Before entering the console screen, perform failure diagnosis.
- The [Settings] tab is not displayed for the side LED switch.

[Console] screen

In this screen, the console can be updated, the settings changed and the operation checked.

MAINTENANCE SYSTEM FO	R ELECTRIC BICY					-	• ×
File(E) Connect(C) Upda	te(U) Tools(T)	Help(H)					
			╞	<u> </u>	<u> </u>	U	
D	lagnosis	ок		OK	_	ок	
Console Serial number 123 Softwar B1 1206 Perimet B1 2200	Controlly Serial num mm B2 ^{/R}	er nber I/ Ratio) version B3	987654 11.615 01-8252	Power ON count Distance travelled 76543 -0100-0000-0000	24 times i2.1 km	Battery Battery pack number Remaining capacity	4660 85 %
Device information	Settings	Operation check					
			_				
Manufacture date		05/06/2015		Serial number		123	
Hardware version		0000		Software version		1ED6	
Odometer (ODO)		23456.7	km	Trip meter (TRIP)		54674.7	km
Average speed (AVE)		3644.6	km/h	Maximum speed (MAX)		1245.7	km / h
Tyre perimeter		2200	mm	Time		19:15	
Setting data							
Contrast		4		Brightness (Night mode / Normal)		1/2	
Displayed items		Average speed		Units		km	
Languages		English					
Connection detection							
Operation unit recognition		Yes		Cradle recognition		Yes	
							0=0
<u>×</u> B4	_					TH I	

- B [Console] icon
- B1 [Device info] tab
- B2 [Settings] tab
- B3 [Operation check] tab
- B4 [Console firmware update] button

Tips

• The displayed content may differ depending on the model.

• The numbers of the icons are used in later descriptions.

[Console] screen

Firmware update



browse screen.

• The screen can also be displayed by selecting [Update] \rightarrow [Firmware update] \rightarrow [Console] on the menu.

2 Select the folder containing the firmware, and click [OK].

Browse For Folder	
Select a folder with an existing console update file	
🛛 📜 Desktop 🖍	
🖟 Downloads	
Favorites	
🚺 Links 💷	
Local Settings	
4 📗 My Documents	
Þ 퉬 001	
Distance Maintenance	
De Maintenance System	
OK Cancel	
	ļ

[Settings] tab

The [Settings] tab is not displayed for the side LED switch.

Click [B2 Settings].

Console Controlli Serial number 123 Software version 1ED6 Perimeter 2200 mm	r 987654 Power ON count ber 987654 Power ON count Ratio) 41/11/1.615 Distance travelled rision 22-04-01-8252-0100-0000-0100	24 times 765432.1 km	4660 85 %
Device information Settings	Operation check		
Rewrite selection			
Reset measurement data Clear all measurement data	Rewrite user data	B5	
Odometer (ODO)	23456.7 km	Bu	
Trip meter (TRIP)	54674.7 km		
Average speed (A/E)	3644.6 km / h		
Maximum speed (MAX)	1245.7 km / h		
Tyre perimeter	2200 🔅 mm		
Brightness (Night mode)	1 *		
Brightness	2 *		
Contrast	4 ~		
Languages	English +		
Units	km +		
Displayed items	Average speed +		
Time	19 👾 : 15 🜩		
📳 В7		8 <i>(</i>) ()	\$

- B5 Selection of rewrite item
- B6 Setup parameters
- B7 [Write] button

How to rewrite console data

Select the item to rewrite from the [B5 Selection of rewrite item], set a value using [B6 Setup parameters], and click [B7 Write].

Tips

- The rewritable portion is displayed in red.
- The numbers of the icons are used in later descriptions.

[Console] screen

[Operation check] tab

Click [B3 Operation check].

Switch test

Test to see if there are any abnormalities in console buttons and display.

Click [Switch test].

Press the switch on the main unit corresponding to the switch that is flashing in orange.

• If the switch is successfully recognised, the switch test item is displayed in green. If it is not successfully recognised, the item lights up in red.

Console Serial number 123 Software version 1ED6 Perimeter 2200 mm	Controller Serial number Gear (F/ R/ Ratio) Software version	987654 Power ON count 41/ 11/ 1.615 Distance travelle 22-04-01-0152-0100-0000-0000	24 tmes rd 765432.1 km 0	Battery Battery pack number Remaining capacity	4650 85 %
Device information Setting	s Operatio	on check			
Console part number Hardware version Manufacture date		- Serial number 0000 Software versi 05/06/2015	r Ion	123 1ED6	
Stop switch test	Top O	Night (Light)	Mode	Power	
Diagnostic results	Bottom	co were ම	Reset		
Battery level	Speed	Power bar	Mark, Time		
0	9	9	9		
Dot, Display	Contrast	Backlight			
9	9	0			
			C	6)	<u>ې</u>

In the following cases, the item lights up in red and the system moves on to the next test.

- The wrong switch is pressed 3 times
- No switch is pressed for 5 seconds

Check items currently displayed in the dialogue box in the console screen.





If the Diagnostic results are normal the lamp lights up in green.



If the Diagnostic results are abnormal the lamp lights up in red.



[Control unit (Motor unit)] screen

Flow of operations



Tips

- Before entering the control unit (motor unit) screen, perform failure diagnosis.
- The displayed content may differ depending on the model.

[Control unit (Motor unit)] screen

In this screen, the control unit (motor unit) can be updated and the travel log can be deleted.

MAINTENANCE SYSTEM FOR ELECTRIC BICYCLES					
File(<u>F</u>) Connect(<u>C</u>) Update(<u>U</u>) Tools(<u>T</u>) Help	(<u>H</u>)	C			
<u> </u>	-			U	
Diagnosis	ОК	ОК		ОК	
Console Controller Serial number 123 Software version 1ED6 Perimetei C1 2200 mm) 41/1 22-04	987654 Power ON count 1/ 1.615 Distance travelled -01-8252-0100-0000-0000	24 times 765432.1 km	Battery attery pack number emaining capacity	4660 85 %
Device information					
Manufacture date	22/10/2012	Software version	22-04-01-82	52-0100-0000-0000	
Unit number	NUA130RA	Serial number		987654	
Perimeter	2200	mm Gear (F/ R/ Ratio)		41/ 11/ 1.615	
Power ON count	24	times			
Operating time	617283.5	min			
Travel distance	765432.1	km			
FET3 maximum temperature	69	C FET6 maximum temperature		54	°C
Motor maximum temperature	97	°C			
			۲	45	
C2 C3 C4 C	5				

- C [Motor unit (Control unit)] icon
- C1 [Device info] tab
- C2 [Write in parameter] button
- C3 [Motor unit firmware update] button
- C4 [Deauthorising] button
- C5 [Delete travel log] button

Tips

- The displayed content may differ depending on the model.
- The numbers of the icons are used in later descriptions.

How to rewrite control unit (motor unit) parameters Click [200] (C2), select an frm file, and click [Open].

Select the firmware file for th	Select the firmware file for the motor unit								
🔾 🖓 - 🕌 « My Docume	nts 🕨	Maintenance System 🕨	• 47	Search Maintenance	System 🔎				
Organize 👻 New folder				≣ ▼					
Downloads	^	Name		Date modified	Туре				
Recent Places		鷆 Log		06/06/2014 14:54	File folder				
😂 Libraries		NUA001RA001.frm		09/06/2014 09:13	FRM File				
Documents									
👌 Music	Ε								
Pictures									
Videos									
📜 Computer									
🏭 Windows7_OS (C:)									
👝 Removable Disk (D:)	*	•	m		•				
File <u>n</u> am	e: NI	JA001RA001.frm	•	FRM file(*.frm)	-				
				Open 🔻	Cancel				
L									

How to update the control unit (motor unit) Click [3] (C3), and select the folder containing the firmware and click [OK].



How to deauthorise the console and control unit (motor unit)

Click []] (C4).

- This function is not currently available.
- Delete travel log

Click [**1**] (C5).

Restore travel log to factory default settings.

[Battery] screen

Flow of operations



Tips

• Before entering the battery screen, perform failure diagnosis.

[Battery] screen

MAINTENANCE SYST	EM FOR ELE	CTRIC BIC	CLES					D	_	• ×
File(E) Connect(C)	Update(U)	Tools()	Help(<u>H</u>)							
		_	-			- 🐢				
	Diagnos	is		ок		ОК		ОК		
Console Serial number Software version Perimeter	123 1ED6 2200 mm	Control Serial nu Gear (F/ I Software	ler mber V Ratio) version	41/ 1 22-0	987654 1/ 1.615 4-01-825	Power ON count Distance travelled 52-0100-0000-0000	24 times 765432.1 km	Battery Battery pa Remaining	k number a capacity	4660 85 %
Device information										
Remaining capacity				85 4660	%	Design capacity			39	mAh
Cell temperature #1				20	•c	Cell temperature #2			21	°C
Battery pack voltage				12345	mV					
Operating time				11111	h	Number of full charges			33333	times
							C		Þ	
D2										

- D [Battery] icon
- D1 [Device info] tab
- D2 [The battery LED lights up] button



• The numbers of the icons are used in later descriptions.

[Battery] screen

[Device info] tab

Click the [D1 Device info] tab.

• In this screen, the battery device information can be viewed.

How to light the battery LED

Click []] (D2).

Other

Version information display

Click [Help] \rightarrow [About] on the menu.

How to exit the application

Click [File] \rightarrow [Exit] on the menu.

This is a detailed list of diagnostic results displayed at "Diagnosing the drive unit (\rightarrow 13)".

[Console] diagnostic results list

Judgment	Symptom	Countermeasure
ERROR	1. Failed to update the firmware	 Update the console software again using the maintenance application Replace the console
ERROR	2. An internal failure has occurred in the console	Replace the console
ERROR	3. A past internal failure has been detected in the console	Replace the console
ERROR	 An authentication error has occurred between the console and the motor unit (Centre LCD switch) 	 Check the motor unit for a malfunction Check the connection cable between the console and the motor unit Check for dirt on the cradle contact or the display unit contact Check the combination of the display unit and the motor unit (If the display unit has been replaced, perform the authentication reset process) Replace the console
ERROR	 An authentication error has occurred between the console and the motor unit (Other than centre LCD switch) 	 Check the motor unit for a malfunction Check the connection cable between the console and the motor unit Replace the console
ERROR	5. A communication error has occurred between the console and the motor unit (Centre LCD switch)	 Check the connection cable between the console and the motor unit Check for dirt on the cradle contact or the display unit contact Replace the console
ERROR	5. A communication error has occurred between the console and the motor unit (Other than centre LCD switch)	 Check the connection cable between the console and the motor unit Replace the console
ERROR	6. The DD switch button is pushed or there is a short circuit in the DD switch	 Check that the DD switch is not pushed, and cycle the power Replace the console
CHECK	7. The button battery is dead	 Replace the button battery, and configure the clock settings Replace the console
CHECK	8. Average speed calculation has failed	Reset the odometer

Judgment	Symptom	Countermeasure
CHECK	9. There is evidence that the software update process has failed in the past	Continuation is available
CHECK	10.A past connection error for an unsupported USB device has been detected	Continuation is available
CHECK	11.A past authentication error between the console and the motor unit has been detected	Continuation is available
CHECK	12.A past communication error between the console and the motor unit has been detected (Centre LCD switch)	 Check the connection cable between the console and the motor unit Check for dirt on the cradle contact or the display unit contact
CHECK	12.A past communication error between the console and the motor unit has been detected (Other than centre LCD switch)	Check the connection cable between the console and the motor unit
CHECK	13. There is past evidence that power has been supplied with the DD button pushed	Continuation is available
OK	14. The console is normal	Continuation is available

[Control unit (Motor unit)] diagnostic results list

Judgment	Symptom	Countermeasure
ERROR	1. A communication failure with the motor unit has occurred	 Check the connection cable between the console and the motor unit Replace the motor unit or the console
ERROR	2. There is a problem with the firmware	 Update the firmware again Replace the motor unit
WARNING	2. There is a problem with the firmware	1. Update the firmware again
WARNING	2. There is a problem with the firmware	1. Update the firmware again
ERROR	3. Abnormalities in the setting values of the motor unit have occurred	Replace the motor unit
ERROR	4. Abnormalities in the setting values of the motor unit have occurred	Replace the motor unit
ERROR	5. Torque sensor failure has occurred	Replace the motor unit
ERROR	6. Torque sensor failure has occurred	Replace the motor unit
ERROR	7. Torque sensor failure has occurred	Replace the motor unit
ERROR	8. Failure of the motor unit rotation sensor has occurred	Replace the motor unit
ERROR	9. A circuit failure has occurred	Replace the motor unit
ERROR	10.A circuit failure has occurred	Replace the motor unit
ERROR	11. A failure has occurred in the temperature detection component	Replace the motor unit
ERROR	12.A failure has occurred in the temperature detection component	Replace the motor unit
ERROR	13.Abnormalities in the setting values of the motor unit have occurred	Replace the motor unit
ERROR	14. Torque sensor failure has occurred	Replace the motor unit
ERROR	15. Torque sensor failure has occurred	Replace the motor unit
ERROR	16. Torque sensor failure has occurred	Replace the motor unit
ERROR	17.Failure of the motor unit rotation sensor has occurred	Replace the motor unit
ERROR	18.A circuit failure has occurred	Replace the motor unit

Judgment	Symptom	Countermeasure
ERROR	19.A circuit failure has occurred	Replace the motor unit
ERROR	20.A circuit failure has occurred	Replace the motor unit
CHECK	21. Torque sensor failure has occurred	 Do not step on the pedal when turning the power ON Replace the motor unit
CHECK	22. Torque sensor failure has occurred	 Do not step on the pedal when turning the power ON Replace the motor unit
CHECK	23.An authentication error has occurred between the battery and the motor unit	 Check the battery connection cable Replace the battery Replace the motor unit
CHECK	24.An communication error has occurred between the battery and the motor unit	 Check the battery connection cable Replace the battery Replace the motor unit
CHECK	25.A communication error has occurred between the console and the motor unit	1. Check the console connection cable 2. Replace the console
CHECK	26.A communication error has occurred between the speed sensor and the motor unit	 Check the speed sensor connection cable Replace the speed sensor
CHECK	27.A past authentication error between the battery and the motor unit has been detected	Continuation is available
CHECK	28.A past communication error between the battery and the motor unit has been detected	Continuation is available
CHECK	29.The motor unit has reached the temperature limit in the past	Continuation is available
CHECK	30.The motor unit has reached the temperature limit in the past	Continuation is available
CHECK	31.The battery has reached the temperature limit in the past	Continuation is available
CHECK	32. The battery has reached the temperature limit in the past	Continuation is available
CHECK	33.A past communication error between the console and the motor unit has been detected	Continuation is available

Judgment	Symptom	Countermeasure
CHECK	34.A past communication error between the speed sensor and the motor unit has been detected	Continuation is available
WARNING	35.A past short circuit in the switch wiring has been detected	Continuation is available
WARNING	36.A past malfunction in the crank rotation sensor has been detected	Continuation is available
WARNING	37. The battery voltage is low	Continuation is available
WARNING	38. The battery voltage is low	Continuation is available
WARNING	39. There is evidence that the power has been turned ON while the pedal was being stepped on in the past	Without stepping on the pedal, push the power button and supply power
OK	40. The motor unit is normal	Continuation is available
WARNING	44. Failed to process the vehicle settings	Process the manufacturer's vehicle settings again

[Battery] diagnostic results list

Judgment	Symptom	Countermeasure
ERROR	 Information cannot be obtained because of an interruption between the console and the motor unit 	 Check the connection cable between the console and the motor unit Replace the motor unit or the console
ERROR	2. Communication between the motor unit and the battery is not established	 Rewrite if there is a problem with the motor unit firmware Check the connection cable between the motor unit and the battery Replace the battery Replace the motor unit
ERROR	3. There is a malfunction in the battery circuit board	Replace the battery
ERROR	4. There is a malfunction in the battery circuit board	Replace the battery
ERROR	5. There is a malfunction in the battery circuit board	Replace the battery
ERROR	6. There is a malfunction in the battery circuit board	Replace the battery
ERROR	7. There is a malfunction in the battery circuit board	Replace the battery
ERROR	8. There is a malfunction in the battery circuit board	Replace the battery
ERROR	9. Normal charging is impossible due to degradation of the cell	Replace the battery
ERROR	10.Normal charging is impossible due to degradation of the cell	Replace the battery
ERROR	11. There is a malfunction in the battery circuit board	Replace the battery
ERROR	12. There is a malfunction in the battery circuit board	Replace the battery
CHECK	13.A past abnormal current during discharge has been detected	Continuation is available
CHECK	14.A past abnormal current during discharge has been detected	Continuation is available
CHECK	15.A past abnormal current during charging has been detected	Continuation is available
CHECK	16.A past abnormal current during charging has been detected	Continuation is available
CHECK	17.A past abnormal current during charging has been detected	Continuation is available
CHECK	18.There is evidence of high-temperature usage in the past	Continuation is available

Judgment	Symptom	Countermeasure
CHECK	19.There is evidence of high-temperature usage in the past	Continuation is available
CHECK	20.There is evidence of high-temperature usage in the past	Continuation is available
CHECK	21.A past authentication failure with the charger has been detected	Continuation is available
CHECK	22. There is evidence of high-temperature (low-temperature) usage in the past	Continuation is available
OK	23. The battery is normal	Continuation is available
OK	24. The battery is normal	Continuation is available
OK	25. The battery is normal	Continuation is available