"Eco-driving" means easy to improve fuel consumption efficiency and reduce CO2 emissions.

Eco-Driving Support Monitor

e-drive
Economy Drive Support Monitor

Thank you for purchasing **PIVOT e-drive**. Please read these instructions carefully before installing or using this device.
Please do not lose this user's guide, as you will held liable for the cost of reissuing it.

By installing this product the user agrees that Pivot Corporation is in no way whatsoever responsible nor liable for any damage to the product or automobile or for any accident that is the result of improper installation or use of the product including any disregard by the user to the various Cautions or Warnings.

Before installing !

⚠ **CAUTION**
- ●Installation cannot be carried out on some car models; please check your car model with the Compatible Car Model List before installing.
- ●Please be sure to check that "e-drive" operates properly before installing it in the car or drilling holes for installation.

⚠ **WARNING** Improper use in disregard of this display may result in the injury or death of people.

- ●Installing or using "e-drive" in places where ventilation is poor may result in an to humans due to vehicle exhaust emission poisoning or fire.
- ●During installation be sure to remove the minus cable from the battery so as to prevent fire and damage resulting from the shorting of circuits, etc···.
- ●Please be careful that the cable does not get crushed by the seat rail or car door steel plate. Trying to do these operations while the car is moving, my cause trouble and damage.
- ●Because, it is very dangerous if, while in use, the product falls off and interferes with braking, please securely fasten it to a stable place.
- ●It is very dangerous to pull tangled wires by force or allow tangled wires to interfere with driving. So, please be sure to store bundle away all wires with tape, etc···.
- ●Operating or checking the display during driving may cause an accident; please use with the utmost consideration for safety.
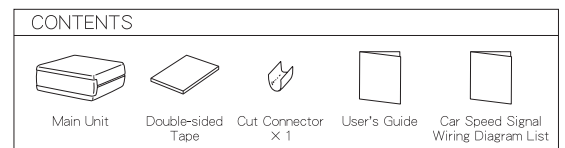
⚠ **CAUTION** Improper use in disregard of this display may cause injury to persons, damage the product and / or other things.

- ●When installing this product, we recommend that if technical knowledge becomes necessary please consult a qualified mechanic.
- ●This product is for DC12V cars; installation cannot be carried out on cars with other voltage batteries.
- ●Wiring should be carried out using the attached "cut connector" or by soldering, make sure to securely insulate all wiring parts with insulation tape, and confirm that no wires are sticking out.
- ●Do not, in any manner, process, take apart, or make changes to this product.
- ●Do not install "e-drive" in any place subject to high temperature or any place where water may be splashed.
- ●Do not install "e-drive" in any place subject to high temperature or any place where water may be splashed.
- ●When double-sided tape is used for an installation be warned that when hot the tape temporarily losses adhesiveness so no strong pressure should be applied.
- ●Make sure to replace all screws and parts that were removed during installation to their original place.

CONTENTS

| Main Unit | Double-sided Tape | Cut Connector ×1 | User's Guide | Car Speed Signal Wiring Diagram List |

●Eco-Driving Monitor　●Driving Monitor　●Sectionalized Driving Scoring　●Overall Driving Scoring
●Gasoline Consumption　●Gasoline Cost　●Speed　●Trip Meter　●Driving Time

Pivot

FEATURES

Easy-to-grasp Eco-Driving

This product allows you to view G's upon rapid acceleration, rapid deceleration and under normal driving, necessary information for eco-driving, and with its warning function allows you easily grasp the optimum driving method.

It is possible to see Acceleration G's with eyes

Small G's below 0.4G, also necessary for eco-driving but is impossible to sense, are shown in a level display.

Scoring Your Driving

By showing your score for each section from start to stop, it becomes easy to understand your driving habits.

Gasoline Cost for the distance you have driven

The conversion display shows the gasoline cost for each distance; making it easy to see cost and benefits. (Gasoline Cost = Driving Distance ÷ Input Mileage × Input Gasoline Price)

Gasoline consumption for the distance you have driven

The conversion display of gas consumption for each distance makes it easy to see the amount consumed for the distance. (Gasoline Consumption = Driving Distance ÷ Input Mileage)

※ Gasoline Consumption are displayed by converting it from the driving distance and the entered values for gas mileage; therefore the displayed values may differ from actual amounts.

Speed, Driving Distance, Driving Time

Digital display of the speed, driving distance and driving time.

Easy-to-wiring and installation

Because wiring only consists of inserting the power plug into the cigarette lighter socket and wiring to the car speed (specified place) such as ECU, and due to the compact body size, installation can be carried out almost anywhere.

※ By cutting off the cigarette lighter plug it possible to wire to other place.

APPLICATIONS

Support Eco-driving support

Recognize Recognize acceleration and deceleration G's

Score Understand your driving by getting scored

Cost Recognize the cost of driving

Efficiency Judge your consumption efficiency by selecting your driving distance such as by choice of route

Accurate Speed display in units of 1km/hr

Eco-Driving Monitor **Support**

Easy-to-grasp display the most efficient acceleration and deceleration.

Light up the display during eco-driving.
Blinking display and alarm warning unnecessary acceleration and braking.
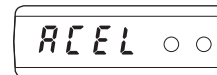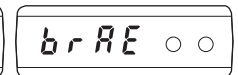
ACEL — Acceleration
brAE — Deceleration

Driving Monitor **Recognize**

G's associated with acceleration and deceleration are shown in the level display.
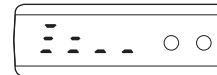
Ex: Acceleration 0.15G
Ex: Deceleration 0.15G
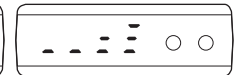
Sectionalized Driving Scoring **Score**

Driving scoring for each section of driving from start to stop.

Departure → Stop
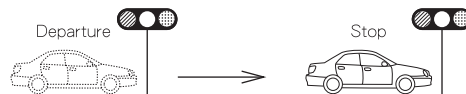
bAd   16
Ex: bad (uneconomical) 16points
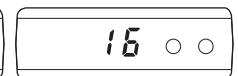
Overall Driving Scoring **Score**

Driving scoring after engine has been started.
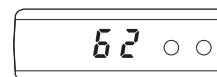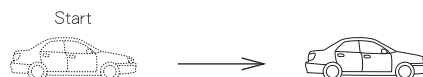
Start →

62
Ex: Average score 62points

Gasoline Cost※ **Cost**

The conversion display shows the gasoline cost for each distance after engine has been started.
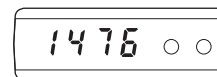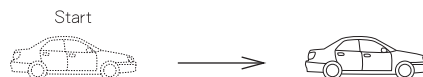
Start →

1476
Ex: Gasoline Cost 1476yen

Gasoline Consumption※ **Efficiency**

The conversion display shows the gasoline consumption for each distance after engine has been started.
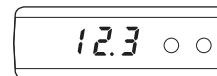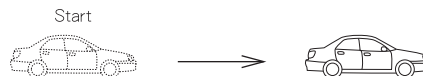
Start →

12.3
Ex: Gasoline Consumption 12.3L

Speed **Accurate**

Speed display.
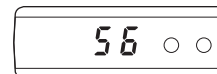
56
Ex: Speed 56km/hr

Trip Meter

Display the driving distance after engine has been started.
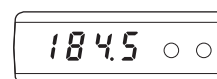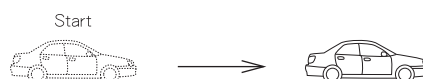
Start →

184.5
Ex: Driving Distance 184.5km

Driving Time

Display the driving time after engine has been started.

Start →
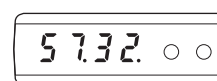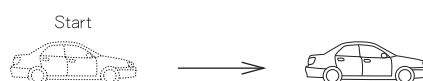
57.32.
Ex: Driving Time 57min 32sec

※ This display only shows the estimated consumption calculated from the entered mileage and driving distance; it may vary from actual consumption.
Gasoline Cost = Driving Distance ÷ Input Mileage × Input Gasoline Price
Gasoline Consumption = Driving Distance ÷ Input Mileage

If you want to measure actual fuel consumption, please purchase our product "e-nenpi".

ABOUT ECO-DRIVING SUPPORT MONITOR

What has eco-driving meant until now?

Until now, it has generally been thought that eco-driving meant simply driving slowly. But, for real eco-driving or in other words the most effective way to improve mileage and lower costs, we must understand the optimum and efficient use of G's. However, because these G's are very small, below 0.2G, it has been impossible to sense them.

What the Eco Driving Support Monitor?

"e-drive" is a revolutionary product that is capable of measuring small G's below 0.2G accurately, without the use of sensors which can be influenced by vibration, to allow for the rapid calculation of changes in speed. Moreover it allows you to view the optimum G's for efficient consumption at each speed range, so there is no need to rely just on intuition for eco-driving. "e-drive" makes eco-driving possible without having to drive slow.

Does eco-driving improve fuel consumption efficiency?

The following shows the results of a fuel consumption comparison test between eco-driving with "e-drive" and normal driving without "e-drive".

■ The optimum G range for acceleration and deceleration

G (acceleration)   Acceleration side   Hi / Lo
0.15, 0.1, 0.05 — 20 40 60 80 km/hr (speed)

0.2, 0.15, 0.1, 0.05   Deceleration side — 20 40 60 80 km/hr (speed)

HONDA ODYSSEY (RB1)	DAIHATSU MOVE (L610S) Turbo	TOYOTA Vitz (SCP10)	HONDA CIVIC (EG6)
5.7 → 11 km/L	7.2 → 16.2 km/L	10.3 → 16.4 km/L	7.6 → 18.2 km/L

○ Mileage — Eco 11km / 5.7km
Score — Eco 98points / 22points
○ Gasoline Consumption — Eco 0.91L / 1.76L
○ Gasoline Cost — Eco 122yen / 236yen

Mileage — Eco 16.2km / 7.2km
Score — Eco 94points / 23points
Gasoline Consumption — Eco 0.585L / 1.329L
Gasoline Cost — Eco 78yen / 178yen

Mileage — Eco 16.4km / 10.3km
Score — Eco 100points / 39points
Gasoline Consumption — Eco 0.59L / 0.94L
Gasoline Cost — Eco 79yen / 126yen

Mileage — Eco 18.2km / 7.6km
Score — Eco 97points / 20points
Gasoline Consumption — Eco 0.532L / 1.276L
Gasoline Cost — Eco 71yen / 171yen

○ The results for Mileage / Gasoline Consumption / Gasoline Cost measured using our Multi-mileage meter : "e-nenpi".

HOW TO USE "e-drive" FOR ECO-DRIVING

Comparing Gasoline Consumption Amounts

■ Example of Economical Driving

Departure — 10km — Stop
Smooth Takeoff   Early deceleration start
Even Speed
Gasoline Consumption   Gasoline Consumption 0
Inertia deceleration by using extended engine braking
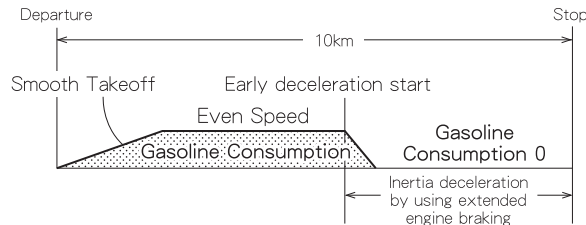
■ Example of Uneconomical Driving

Departure — 10km — Stop
Rapid Acceleration   Uneven Speed   Late deceleration start
Gasoline Consumption
Rapid Deceleration
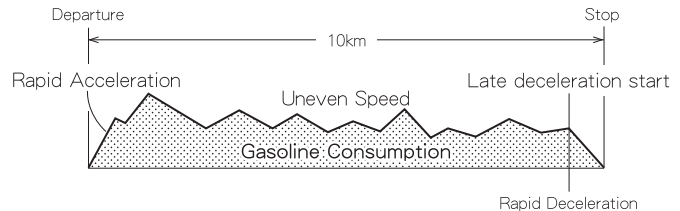
Eco-Driving Monitor

Easy-to-grasp support for eco-driving! While lamp is lit up it is OK to accelerate and decelerate, but when lamp is blinking it shows uneconomical driving.

Departure and Acceleration — Point
The point right before *ACEL* begins to give a warning by blinking is the most efficient condition, but until you get used to this point you may set often off the warning. Continually check for that point and try to get used to it as soon as possible.

● During economical acceleration = Acceleration while *ACEL* is lit up.
● During uneconomical acceleration = When the *ACEL* is begins to blink, step off the accelerator pedal.

Even Driving — Point
After having reached the desired speed, operate the accelerator with few speed changes.

● During economical driving = Display *- - - -*.
● During uneconomical driving = *ACEL* or *brAE* lamp blinks.

Deceleration and Stop — Point
Predict the deceleration / stop point as soon as possible. Step completely off the accelerator. Decelerate with extended engine braking (inertia driving). As much as possible do not sudden braking as it has less inertia deceleration.

● During economical deceleration = Display *brAE*.
● During uneconomical deceleration = When the *brAE* lamp blinks it means there was sudden braking. Try to decelerate as soon as possible, using inertia deceleration from an extended engine braking.

⚠ **WARNING** For safety reasons, please use sudden braking as necessary.

Driving Monitor

G's associated with acceleration and deceleration are shown in the level display. Use this to get an even more detailed understanding of the eco-run monitor. During uneconomical driving, the under bar will blink as a warning.

PART NAMES AND BASIC WIRING

① Connect the WHITE cable to the specified place depending on your model of car.

② Insert the cigarette lighter plug into the cigarette lighter socket.

③ Fasten the main unit to an easy-to-see place with the double-sided tape.

Main Unit

Cigarette Lighter Plug

Into Cigarette Lighter Socket

Engine Computer, etc

WHITE Cable (For wiring your car's speed signal)
※Possible to take the speed signal from the cars navigation system.

SP
(Speed Signal)
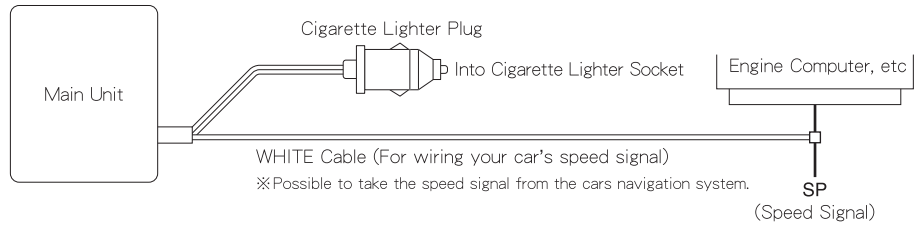
When Not Using the Cigarette Lighter Plug

① Pull it out from cigarette lighter socket.

② Cut cables to the desired length.

③ Connect the WHITE Striped side to the ACC or IG ⊕12V and the BLACK side to the body earth.

WHITE Striped Side

BLACK Side

ACC or
IG ⊕12V

Earth Ground
(GND)

MONITOR INSTALLATION   ※When affixing with the double-sided tape.

Monitor

Double-sided Tape
(Included)

Clean to remove
oil and dust.
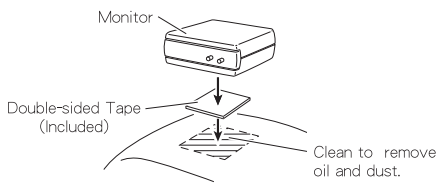
① Clean oil and dust from the monitor and from the area where you wish to affix it.
② Make sure to securely affix it with the double-sided tape provided in the kit.

⚠ Do not reuse the tape; it will lose adhesiveness.

HOW TO USE THE CUT CONNECTORS   ※If soldering is possible, please do so.

Method 1 Connecting a new wire to the middle of another wire.	Method 2 Connecting two wires at their ends.	※Use a crushing tool to press the cut connector, if you do not have such a tool, use pliers or such to fold and crush the connector together for a secure contact.

1 Peel off about 10mm of the vinyl cover at connection.
2 Peel off about 10mm of the vinyl cover at the end of the product's wire.
3 Twist the uncovered wires.
4 Close tightly with cut connector.

1 Peel off about 10mm of the vinyl covers at the end of the wires to be connected.
2 Twist the uncovered wires.
3 Close tightly with cut connector.

※After covering, make sure to insulate properly with vinyl tape.

TROUBLESHOOTING   ※Please make the following checks before seeking repair.

Trouble	Possible Causes	Possible Solutions
The display does not work when the key is turned ON or to ACC.	Poor connection of Cigarette Lighter Plug.	Check the Cigarette Lighter Plug connection or conditions.
	Poor connection of BLACK wire or WHITE Striped wire.	Check the BLACK wire or WHITE Striped wire connection or conditions.
While driving, the speed is not displayed.	Improper SP wiring connection.	●Check the WHITE wire connection or conditions. ●Check to make sure of a proper connection to the SP.
The displayed speed is very different from my regular speedometer. (2 times or half of the speed.)	The Car Speed Pulse Setting is wrong.	●Make sure the pulse setting is according to the [Car Speed Pulse Setting]. ※Many minor changes can cause the pulse to change; if necessary change the pulse setting so that the displayed speed matches your regular meter.
There is a small difference between the displayed speed and my regular meter.	It is a difference of precision between the two meters. Small variances may occur between your regular meter, but this is not a failure of the main unit.	

SWITCH OPERATIONS

8.8.8.8. SET MODE

SET Switch
- Switching the Gasoline Price, Mileage, Alarm, Level and Scale Setting display.
- Decrease by unit in the Gasoline Price and Mileage Setting.
- The decimal point moves right.

MODE Switch
- Switching the display between Car Speed Pulse and Decimal Point Setting.
- Increase by unit in the Gasoline Price and Mileage Setting.
- The decimal point moves left.

⚠ **NOTE**
- When setting, if the key is turned off before returning to the main display, the settings will not be recorded correctly.
- If the wiring has been connected directly to the IG ⊕12V, start by the turning key ON.

Change Main Display
e-drive Display

1 Key Switch ACC — Acc — Demo Display

2 Change the mode by pressing in on the MODE Switch, after 3 seconds displays each values — MODE Push

```
drıv → ECO → SPEd → trıP
```
Driving Monitor / Eco-Driving Monitor / Speed Meter / Trip Meter
G Level Display / Easy-to-grasp eco-driving display

```
CLOC ← AvE ← FUEL ← CoSt
```
Driving Time / Overall Driving Scoring / Gasoline Consumption※ / Gasoline Cost※
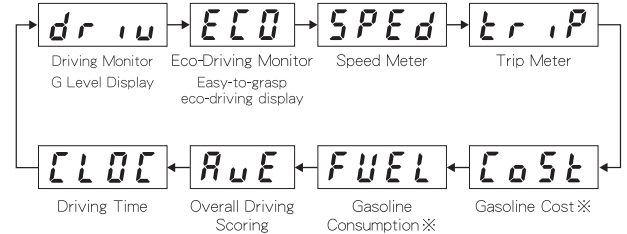
※Converted from the driving distance and the entered values for gas mileage.

EXPLANATION OF EACH DISPLAY

Display Order	Title Display → Display Example	Explanation of Example
1. Driving Monitor	drıv → ‐‐‐‐	0G When stopped or during even driving
Display Example	Acceleration side 0.1G (0.05G when at Lo setting) / 0.25G (0.125G)	
	Deceleration side 0.15G (0.075G) / 0.35G (0.175G)	

G's associated with acceleration and deceleration are shown in the Level Display.
Hi = 0G～0.4G (in units of 0.05G) ／ Lo = 0G～0.2G (in units of 0.025G)
Gives a warning by blinking display and alarm if beyond optimum G's range.

Acceleration side: Hi 0.1 0.2 0.3 0.4 / Lo (0.05) (0.1) (0.15) (0.2)
Deceleration side: Hi 0.4 0.3 0.2 0.1 / Lo (0.2) (0.15) (0.1) (0.05)

2. Eco-Driving Monitor	ECO → ACEL	During Acceleration
	→ ‐‐‐‐	During Even Driving
	→ brAE	During Braking

Display Order	Title Display → Display Example	Explanation of Example
3. Speed Meter	SPEd → 125	125km/hr
4. Trip Meter	trıP → 16.0	16km
5. Gasoline Cost ※	CoSt → 1355	1355yen
6. Gasoline Consumption ※	FUEL → 28.0	28L
7. Overall Driving Scoring	AvE → 83	83point
8. Driving Time Display	CLOC → 57.32.	57min 32sec

※Converted from the driving distance and the entered values for gas mileage.

⚠ **NOTE**
Gasoline Costs and Gasoline Consumption are displayed by converting them from the driving distance and the entered values for gas mileage; therefore the displayed values may differ from actual amounts.

When your car stops, Sectionalized Driving Scoring Display usually scrolls three times in the display.

When your car stops, the set display changes into a Sectionalized Driving Scoring Display. (The display usually scrolls three times, but when a stop is very short, it may scroll just one or two times.)

※1 Sectionalized Driving Scoring is only performed when driving at a speed of over 30km/hr. Driving at a speed of under 30km/hr can't be scored.
※2 Points are taken off scores by a set index each time the optimum G's range is exceeded during acceleration and deceleration.
※3 Remember that this scoring simply provides a rough idea.

Display	Display Example	Explanation of Example
Sectionalized Driving Scoring	100～90points (Optimum Driving) Good 93	Good 93points
	89～30points (Normal Driving) nor 62	Normal 62points
	29～0points (Uneconomical Driving) bAd 16	Bad 16points

About the Alarm Warning
Unless the alarm is turned off, it will be sounded in any of the displays if the optimum G range has been exceeded.

About Data Reset
Turning the key off resets five sets of data: Trip, Gasoline Cost, Gasoline Consumption, Overall Driving Scoring and Driving Time.

Car Speed Pulse／Dot Setting

Car Speed Pulse Setting Car speed pulse by car model

Dot Setting This setting is only necessary when matching the decimal point to the unit price in a foreign currency.
(This is not necessary when setting in Japanese yen.)

1 Key Switch OFF
OFF

e-drive Display
Lamp OFF

2 When pushing in on the MODE Switch, turn the key to ACC
MODE + **Acc**

PULS

3 With no operation for 2 seconds

Current Pulse Setting Display
P2 ～ P16

4 Car Speed Pulse Setting

Push SET or MODE Switch
SET   MODE
Down   Up

P2 ↔ P4 ↔ P6
Each press of switch will change back and forth
P16 ← → P8

5 With no operation for 3 seconds

dot

6 With no operation for 2 seconds

The dot will blink to show the current setting position.
(Default setting is the first digit = Japanese yen)

7 Dot Setting

The Dot (Decimal Point) Setting is for adjusting the price of gas per liter to the currency being used. **For Japanese yen use the first digit.**

Push SET Switch
= The dicimal point moves right
Push MODE Switch
= The dicimal point moves left

SET   MODE
To Right To Left

8 With no operation for 3 seconds

Main Display

Demo Mode Setting

This mode is for demonstration of the Eco-Driving Monitor and Sectionalized Driving Scoring.

1 Key Switch OFF
OFF

e-drive Display
Lamp OFF

2 While pushing in on the MODE Switch and SET Switch, turn the key to ACC

SET + MODE + **Acc**
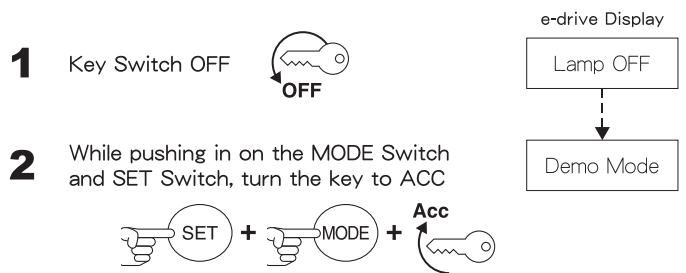
Demo Mode

Canceling the Demo Operation
If while setting Demo Mode, the same operation is performed twice, Demo Mode will be cancelled.

Reference Examples of settings by country and type of currency.

Country Name	Example of Gasoline Cost (per liter)	Price Unit	Input Example	Decimal Point Position
Singapore	1.34	Singapore Dollar	1.34	after first digit
Malaysia	1.38	Ringgit	1.38	after first digit
Thailand	19.79	Baht	19.8	after second digit
Philippines	26.56	Peso	26.6	after second digit
HongKong	11.93	Hong Kong Dollar	11.9	after second digit
Taiwan	19.8	New Taiwan Dollar	19.8	after second digit
Korea	1392	Won	1.39※	after first digit

Because in the USA, the unit of speed and distance is miles, a special model compatible with miles is necessary.
※Input at 1/1000

Gasoline Price／Mileage／Alarm／Level／Scale Setting

Gasoline Price Setting Gasoline price per liter

Alarm Setting Select the alarm ON ／ OFF when warning

Scale Setting Select the display's range of Driving Monitor (0G～0.4G／0G～0.2G)

Mileage Setting Input Current Mileage (Driving Distance ÷ Refueling Amount)

Level Setting Setting Select ideal G's range (warning point) by engine displacement

e-drive Display

1 Main Display — Main Display

2 Push SET Switch — SET Push — **GAS** → With no operation for 2 seconds → ✗ | e-drive Display — Current Gas Price Setting Display

Gasoline Price Setting
Push SET or MODE Switch — SET (Down) MODE (Up)

Setting Range :
2～999 (No decimal points)
0.2～99.9 (Decimal to the tenths place)
0.02～9.99 (Decimal to the hundredths place)

3 Push SET Switch — SET Push — **run** → With no operation for 2 seconds → ✗ | Current Mileage Setting Display

Mileage Setting
Push SET or MODE Switch — SET (Down) MODE (Up)

Setting Range :
2.0km/L～49.9km/L

4 Push SET Switch — SET Push — **ALAr** → With no operation for 2 seconds → ✗ | **On** or **OFF**

Alarm Setting
Push SET or MODE Switch — SET MODE

Alarm ON ⇒ **On**
Alarm OFF ⇒ **OFF**

With no operation for 3 seconds → ✗

5 Push SET Switch — SET Push — **LEuL** → With no operation for 2 seconds → ✗ | **Hi** or **Lo**

Level Setting
Push SET or MODE Switch — SET MODE

Cars over 1500cc ⇒ **Hi**
Cars under 1500cc ⇒ **Lo**

Select ideal G's range. (See the graph of page 3)
The G range is larger when at **Hi** setting, and is smaller when at **Lo** setting.

6 Push SET Switch — SET Push — **SCLE** → With no operation for 2 seconds → ✗ | **Hi** or **Lo**

Scale Setting
Push SET or MODE Switch — SET MODE

Hi ＝0G～0.4G (In units of 0.05G)
Lo ＝0G～0.2G (In units of 0.025G)

Select the display's range of Driving Monitor.
(See [EXPLANATION OF EACH DISPLAY "Driving Monitor"] of page 5)

7 Push SET Switch — SET Push

List of the Compatible Car Models
(Car Speed Signal Wiring List for some model of cars)   As of March. 2006

e-drive
Economy Drive Support Monitor

The following is a list of compatible car models that have car speed wiring data.

> The unit cannot be installed in other car models, which are not on this list, because details are uncertain.

※1 There are some other model cars for which installation is possible but a diagram is not included; please consult your local dealer for details.
※2 Compatibility may vary due to differences in car model changes.

TOYOTA

Vehicle	Model Year	Model	E/G Model
Isis	'04.9~	ANM10/15G,W	1AZ-FSE
		ZNM10G,W	1ZZ-FE
ALTEZZA	'98.10~	SXE10	3S-GE
ALPHARD	'02.5~	MNH10/15W	1MZ-FE
		ANH10/15W	2AZ-FE
ist	'02.5~	NCP61/65	1NZ-FE
		NCP60	2NZ-FE
IPSUM	'03.10~	ACM21/26W	2AZ-FSE
	'01.5~	ACM21/26W	2AZ-FSE
WISH	'03.4~	ANE10G/11W	1AZ-FSE
	'03.1~	ZNE10/14G	1ZZ-FE
Vitz	'05.2~	NCP91	1NZ-FE
		NCP95	2NZ-FE
		SCP90	2SZ-FE
		KSP90	1KR-FE
	'02.12~	SCP13	2SZ-FE
	'02.8~	NCP13	1NZ-FE
		NCP10/15	2NZ-FE
		SCP10	1SZ-FE
	'01.12~	NCP13	1NZ-FE
		NCP10/15	2NZ-FE
		SCP10	1SZ-FE
	'00.10~	NCP13	1NZ-FE
	'99.10~	NCP10	2NZ-FE
	'99.8~	NCP15	2NZ-FE
	'99.1~	SCP10	1SZ-FE
ESTIMA	'00.1~	MCR30/40W	1MZ-FE
		ACR30/40W	2AZ-FE
CALDINA	'02.9~	ST246W	3S-GTE
		ZZT241W	1ZZ-FE
		AZT241/246W	1AZ-FSE
	'97.9~	ST215W	3S-GTE
		ST215G	3S-GE
COROLLA SPACIO	'03.4~	ZZE122/124N	1ZZ-FE
		NZE121N	1NZ-FE
	'01.5~	ZZE122/124N	1ZZ-FE
		NZE121N	1NZ-FE
COROLLA FIELDER	'04.4~	ZZE123G	2ZZ-GE
		ZZE122/124G	1ZZ-FE
		NZE121/124G	1NZ-FE
	'02.9~	ZZE123G	2ZZ-GE
		ZZE122/124G	1ZZ-FE
		NZE121/124G	1NZ-FE
	'00.8~	ZZE123G	2ZZ-GE
		ZZE122/124G	1ZZ-FE
		NZE121/124G	1NZ-FE
COROLLA RUNX・ALLEX	'04.4~	ZZE123	2ZZ-GE
		ZZE122/124	1ZZ-FE
		NZE121/124	1NZ-FE
	'02.9~	ZZE123	2ZZ-GE
		ZZE122/124	1ZZ-FE
		NZE121/124	1NZ-FE
	'01.1~	ZZE123	2ZZ-GE
		NZE121/124	1NZ-FE
SUCCEED・Probox	'02.7~	NCP51/55V,58/59G	1NZ-FE
		NCP50V	2NZ-FE
SUPRA	'97.8~	JZA80	2JZ-GTE
			2JZ-GE
CELICA	'99.9~	ZZT231	2ZZ-GE
		ZZT230	1ZZ-FE
	'97.12~	ST202	3S-GE
NOAH・VOXY	'04.8~	AZR60/65G	1AZ-FSE
	'01.11~	AZR60/65G	1AZ-FSE
HIACE WAGON/VAN	'05.1~	TRH224/229W	2TR-FE
	'04.8~	TRH214/219W	2TR-FE
		TRH200V,K	1TR-FE
PASSO	'04.6~	QNC10	K3-VE
		KGC10/15	1KR-FE
FUNCARGO	'02.8~	NCP21/25	1NZ-FE
		NCP20	2NZ-FE
	'99.8~	NCP21/25	1NZ-FE
		NCP20	2NZ-FE
MARK II・CRESTA・CHASER	'00.10~	JZX110	1JZ-GTE
	'98.8~	JZX100	1JZ-GTE
			1JZ-GE
	'96.9~	JZX100	1JZ-GTE
			1JZ-GE
LITEACE NOAH・TOWNACE NOAH	'98.12~	SR40/50G	3S-FE
	'96.10~	SR40/50G	3S-FE
bB	'02.8~	NCP31/35	1NZ-FE
		NCP30	2NZ-FE
	'00.2~	NCP31/35	1NZ-FE
		NCP30	2NZ-FE
MR-S	'99.10~	ZZW30	1ZZ-FE
MR2	'97.12~	SW20	3S-GE
	'93.11~	SW20	3S-GE

NISSAN

Vehicle	Model Year	Model	E/G Model
AVENIR Salut	'98.8~	W11	SR20DET
			SR20DE
	'95.8~	W10	SR20DET
	'93.11~	W10	SR20DE
WINGROAD	'01.10~	Y11	QR20DE
	'99.5~	Y11	SR20VE
			QG18DE
			QG15DE
ELGRAND	'04.12~	E51	VQ25DE
	'02.5~	E51	VQ35DE
	'00.8~	E50	VQ35DE
	'99.8~	E50	VG33E
CUBE	'02.10~	Z11	CR14DE
	'99.11~	Z10	CGA3DE
	'98.2~	Z10	CG13DE
SUNNY	'98.10~	B15	QG15DE
			QG13DE
NOTE	'05.1~	E11	HR15DE
SILVIA	'99.1~	S15	SR20DET
			SR20DE
	'96.6~	S14	SR20DET
			SR20DE
	'93.10~	S14	SR20DET
			SR20DE
	'91.1~	S13	SR20DET
			SR20DE
SKYLINE GT-R	'99.1~	R34	RB26DETT
	'95.1~	R33	RB26DETT
	'89.8~	R32	RB26DETT
SKYLINE	'02.2~	V35	VQ35DE
	'01.6~	V35	VQ30DD
			VQ25DD
	'98.5~	R34	RB25DET
			RB25DE
	'93.8~	R33	RB25DET
			RB25DE
	'91.8~	R32	RB25DE
	'89.5~	R32	RB20DET
			RB20DE
STAGEA	'97.10~	C34	RB26DETT
	'96.9~	C34	RB25DET
			RB25DE
SERENA	'01.12~	C24	QR25DE
			QR20DE
	'99.6~	C24	SR20DE
FAIRLADY Z	'02.7~	Z33	VQ35DE
	'89.7~	Z32	VG30DETT
			VG30DE
MARCH	'02.3~	K12	CR14DE
			CR12DE
			CR10DE
	'99.11~	K11	CGA3DE
	'92.1~	K11	CG13DE
			CG10DE
X-TRAIL	'01.2~	T30	SR20VET
			QR20DE
180SX	'96.8~	S13	SR20DET
			SR20DE
	'91.1~	S13	SR20DET

SUZUKI

Vehicle	Model Year	Model	E/G Model
ALTO	'00.12~	HA23S	K6A
	'98.10~	HA12S	F6A
		HA22S	K6A
ALTO WORKS	'98.10~	HA12S	F6A
		HA22S	K6A
	'97.4~	HA/HB11S	F6A
		HA/HB21S	K6A
ALTO LAPIN	'02.10~	HE21S	K6A
	'02.1~	HE21S	K6A
WAGON R	'03.9~	MH21S	K6A
	'02.9~	MC22S	K6A
	'00.12~	MC12S	F6A
		MC22S	K6A
	'98.10~	MC11S	F6A
		MC21S	K6A
	'97.4~	CT/CV51S	K6A
Kei	'02.11~	HN22S	K6A
	'01.4~	HN12S	F6A
		HN22S	K6A
	'98.10~	HN11S	F6A
		HN21S	K6A
MR WAGON	'01.12~	MF21S	K6A

HONDA

Vehicle	Model Year	Model	E/G Model
ACCORD	'02.10~	CL7/8	K20A
		CL9	K24A
	'00.6~	CL1	H22A
ACCORD WAGON	'02.11~	CM2/3	K24A
	'99.1~	CH9	H23A
	'97.10~	CF6/7	F23A
INTEGRA	'01.7~	DC5	K20A
	'93.5~	DC2,DB8	B18C
ELYSION	'04.5~	RR3/4	J30A
		RR1/2	K24A
ODYSSEY	'03.10~	RB1/2	K24A
	'99.12~	RA8/9	J30A
		RA6/7	F23A
	'97.10~	RA5	J30A
	'97.8~	RA3/4	F23A
	'95.2~	RA1/2	F22B
That Is	'02.2~	JD1/2	E07Z
CIVIC	'01.12~	EP3	K20A
	'00.9~	ES3,EU3/4	D17A
		ES1/2,EU1/2	D15B
	'98.9~	EK9	B16B
	'97.4~	EK9	B16B
	'95.9~	EK4	B16A
	'91.9~	EG6/9	B16A
STEPWGN	'05.5~	RG3/4	K24A
		RG1/2	K20A
	'03.6~	RF7/8	K24A
		RF3/4/5/6	K20A
	'01.4~	RF3/4	K20A
	'99.5~	RF1/2	B20B
STREAM	'03.12~	RN5	K20B
	'03.9~	RN3	K20A
	'00.10~	RN3/4	K20A
		RN1/2	D17A
VAMOS	'99.6~	HM1/2	E07Z
BEAT	'91.5~	PP1	E07A
Fit	'02.8~	GD3/4	L15A
	'01.6~	GD1/2	L13A
MOBILIO	'01.12~	GB1/2	L15A
MOBILIO Spike	'02.9~	GK1/2	L15A
LIFE・LIFE Dunk	'03.9~	JB5/6/7/8	P07A
	'00.12~	JB3/4	E07Z
	'98.10~	JB1/2	E07Z
S2000	'99.4~	AP1	F20C

DAIHATSU

Vehicle	Model Year	Model	E/G Model
COPEN	'02.7~	L880K	JB-DET
TANTO	'03.11~	L350/360S	EF-VE
			EF-DET
BOON	'04.6~	M300/310S	1KR-FE
		M301S	K3-VE
MIRA AVY	'02.12~	L250/260S	EF-VE
			EF-SE
			EF-DET
MIRA GINO	'98.10~	L700/710S	EF-VE
			EF-SE
			EF-DET
	'97.8~	L500/510S	EF-RL
	'95.10~	L500S	EF-RL
		L510S	EF-ZL
	'94.9~	L500/510S	EF-JL
			EF-EL
			EF-KL
		L502/512S	JB-JL
		L502S	JB-EL
MOVE	'02.10~	L150/160S	EF-VE
			EF-DET
		L152S	JB-DET
	'01.10~	L912S	JB-DET
	'99.11~	L900S	EF-DET
	'98.10~	L900/910S	EF-VE
		L900S	EF-SE
		L900/910S	EF-DET
		L902S	JB-DET
	'96.5~	L600/610S	EF-RL
	'95.8~	L600/610S	EF-ZL
		L602S	JB-JL
MAX	'03.8~	L950/960S	EF-VE
			EF-DET
		L952/962S	JB-DET
	'01.11~	L950/960S	EF-VE
			EF-DET
		L952/962S	JB-DET

MITSUBISHI

Vehicle	Model Year	Model	E/G Model
GRANDIS	'03.5~	NA4W	4G69
CHARIOT GRANDIS	'00.6~	N86/96W	6G72
		N84/94W	4G64
COLT COLT PLUS	'04.10~	Z21/22A	4A90
		Z23/24A,W	4A91
		Z27A,W	4G15
	'02.11~	Z27/28A	4G15
		Z25/26A	4G19
LANCER Evolution	'05.3~	CT9A(IX)	4G63
	'03.1~	CT9A(VIII)	4G63
	'01.2~	CT9A(VII)	4G63
	'98.6~	CN/CP9A(IV~VI)	4G63
	'92.10~	CD/CE9A(I~III)	4G63
LANCER CEDIA	'00.5~	CS5A	4G93
		CS2A	4G15
LANCER CEDIA WAGON	'00.11~	CS5W	4G93
LANCER WAGON	'05.1~	CS2W	4G15
	'03.2~	CS5W	4G93
LIBERO	'96.10~	CB4W	4G92
	'92.5~	CD/CB5W	4G93
		CB2W	4G15
ek SPORT	'04.5~	H81W	3G83
	'03.2~	H81W	3G83
	'02.9~	H81W	3G83
ek WAGON	'04.5~	H81W	3G83
	'01.10~	H81W	3G83

SUBARU

Vehicle	Model Year	Model	E/G Model
IMPREZA	'02.11~	GDB	EJ20
		GDA,GGA	EJ20
	'00.10~	GDB,GGB	EJ20
	'00.8~	GD/GG9	EJ20
		GDA,GGA	EJ20
	'99.9~	GC/GF8	EJ20
	'96.9~	GC/GF8	EJ20
FORESTER	'04.2~	SG9	EJ25
	'02.2~	SG5	EJ20
	'98.9~	SF9	EJ25
	'97.2~	SF5	EJ20
LEGACY	'03.10~	BP9	EJ25
	'03.4~	BP/BL5	EJ20
		BPE/BLE	EZ30
	'02.1~	BE/BHE	EZ30
	'01.5~	BE9	EJ25
	'98.12~	BE5	EJ20
	'98.6~	BH5	EJ20
		BH9	EJ25

MAZDA

Vehicle	Model Year	Model	E/G Model
ATENZA	'02.5~	GG3S/3P	L3-VE
		GGES/EP	LF-DE
ATENZA SPORT WAGON	'02.6~	GY3W	L3-VE
		GYEW	LF-DE
CAPELLA WAGON	'01.2~	GW5R	KL-ZE
		GWER	FS-DE
		GW8W	FP-DE
		GWEW	FS-ZE
	'97.11~	GW5R	KL-ZE
		GWER	FS-ZE
		GWEW	FS-DE
		GW8W	FP-DE
DEMIO	'02.8~	DY5W	ZY-VE
		DY3W	ZJ-VE
	'99.12~	DW5W	B5E
		DW3W	B3E
	'96.8~	DW5W	B5-ME
		DW3W	B3-ME
PREMACY	'01.7~	CP8W	FP-DE
ROADSTER	'00.6~	NB8C	BP-VE
	'97.12~	NB8C	BP-ZE
		NB6C	B6-ZE
	'95.8~	NA8C	BP-ZE
	'93.9~	NA8C	BP-ZE
MPV	'02.4~	LWFW	AJ-DE
		LW3W	L3-DE
	'99.6~	LW5W	GY-DE
		LWEW	FS-DE
RX-7	'95.12~	FD3S	13B-REW
	'91.12~	FD3S	13B-REW
RX-8	'03.5~	SE3P	13B-MSP