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Driver's Aid  
DAD Controller  
TM-5000(Type.00)

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**SPECIFICATIONS**

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Specifications are subject to change without prior notice.

D	2017.8.22	Correction to the latest content.				kumeki
Rev.	DATE	Revision history			ChangeNo.	Rep.
Create		August 20, 2008			<b>PANTOS CO., LTD.</b>	
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Text	7 pages	Writing	Check	Approve	Document number	
Figure	1 sheets	Okuyama	Miura	Miura	TM5000-00-0001	
Cover	1 sheet					
						D

## 1. Outline

The TM-5000 is the driver's aid that can be easily connected to the vehicle measuring system, such as emission gas measuring system for satisfying strict regulation for emission gas or fuel evaporation. Driver can run the specified drive mode easily, while monitoring the display. Since TM-5000 can constitute a system using LCD of various sizes compatible with VGA, it is applicable also to the test line or research and development. By using a rack-mounted panel(option), it can also install in a 19inch rack.

### Features

- ① LCD compatible with VGA of general - purpose can be used.
- ② Built-in vehicle speed input circuit of analog and pulse.
- ③ Displays the gear shift position and indicates with the guide sound.
- ④ Run distance displaying function.
- ⑤ Drive pattern registering function.

## 2. System configuration figure

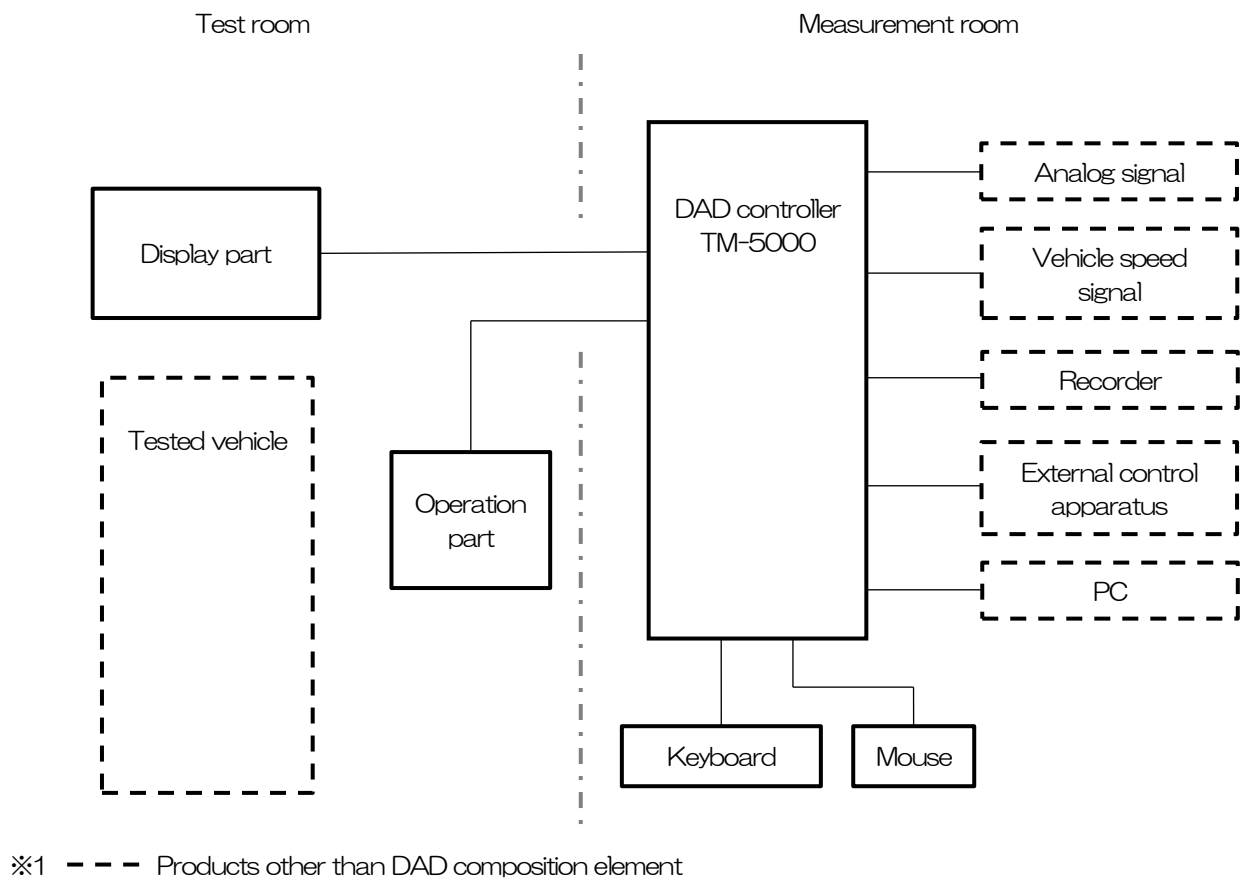


Fig2. 1 System configuration

### 3. Hardware specifications

#### 3. 1 General Specifications

Item	Specifications
Model	TM-5000(Type.00)
Power supply	AC100V 50/60Hz Approx. 200VA
Environmental conditions	Temperature 0~40°C Humidity 20~80%RH (No dew condensation)
External dimensions	W414×H131×D453mm Refer to appearance figure (eng_TM5000-03-0011)
Mass	Approx. 12.5kg
Accessories	Power supply code 1 Fuse 5A 2 (Mounted in AC inlet)

#### 3. 2 Functional specifications

Item	Specifications
Display part	1024×768dots(XGA)/1920×1080dots(FHD) LCD compatible with analog RGB of general - purpose can be used. DVI compatibility is optional.
Operation part	Wired, wireless, and portable type remote control unit to selection is possible.
Analog vehicle speed input	Maximum vehicle speed 200km/h Input voltage 0.5/1/2/5/10/20/50V (selected by software) Zero point and Full-scale adjustment are possible (soft processing). Input isolation
Analog output	Full-scale 10V×6 channels(Actual vehicle speed, Indicating vehicle speed, Upper and Lower limit of vehicle speed etc.)
Auxiliary memory storage	2.5" SSD (Approx. 200GB)
Standard interface	USB×2(for keyboard, mouse) USB×1 (for maintenance)
Pulse input of vehiclespeed	Input frequency Less than 80kHz Pulse width More than 5μs L : Less than 0.2V H : More than 2V Input impedance Approx.10kΩ
Digital Input/Output	Output 24bits MOS FET relay (isolation) 150V 100mA Input 8bits Photo coupler (isolation)
Warning sound	The driver is notified detection Error and Shift gear position by sound. (When using the receiver RC-441 for an operation part)
Auxiliary analog input	2 channels Input voltage 0.5/1/2/5/10/20/50V (selected by software) Input isolation
Auxiliary interface	LAN 10/100BASE-T

## 4. Pin assignment table of input and output connector

(1) SPEED PULSE(Connector model name : 31-10T)

Vehicle speed signal(Pulse) is connected.

(2) ANALOG INPUT(Connector model name : 31-10T)

- ① CH1~2 Auxiliary analog input signal (Engine revolution, Pressure)is connected.
- ② CH3 Reserve
- ③ CH4 Analog vehicle speed signal is connected.

(3) ANALOG OUTPUT(Connector model name : DE-9S-N)

Pin number	Signal name	Note
1	DA-1	Six kinds of signals can be chosen from "Analog input(2ch)", "Actual vehicle speed", "Indicated vehicle speed", "Error", "Upper limit vehicle speed" and "Lower limit vehicle speed" and they can be arbitrarily assigned to DA-1 to DA-6. Scaling of the signal of ANALOG INPUT can be carried out, and it can be outputted.
2	DA-2	
3	DA-3	
4	DA-4	
5	DA-5	
6	DA-6	
7	COM	Common for DA-1 to DA-6 signal
8	COM	
9	COM	

(4) DIGITAL INPUT(Connector model name : DB-25P-N)

Pin number	Signal name	Pin number	Signal name
1	STATUS1	14	
2	STATUS2	15	
3	STATUS3	16	
4	STATUS4	17	
5	RMT_STOP	18	
6	RMT_START	19	
7	RMT_E/G	20	
8	RMT_EMERG	21	
9	COM	22	
10	COM	23	
11		24	
12		25	
13			

(5) DIGITAL OUTPUT(Connector model name : DC-37S-N)

Pin number	Signal name	Pin number	Signal name
1	W.START	20	USER2
2	W.STOP	21	USER3(Reserve)
3	READY	22	USER4
4	START	23	USER5(Reserve)
5	STOP	24	USER6(Reserve)
6	PAUSE	25	GND1-8
7	OPTION	26	GND9-16
8	RESET	27	GND17-24
9	BAG1-START	28	
10	BAG1-STOP	29	
11	BAG2-START	30	
12	BAG2-STOP	31	
13	BAG3-START	32	
14	BAG3-STOP	33	
15	BAG4-START	34	
16	BAG4-STOP	35	
17	km/mile	36	
18	ERROR	37	
19	USER1		

## 5. Software specifications

### 5.1 Storage function of drive data

By registering into a menu the drive data file (Comma Separated Value) created using commercial software, such as a memo pad or Excel, it is enabled to display the drive pattern.

The number of the modes	Max	100
The number of shifts	Max	40

### 5.2 System setup function

ON/OFF of PAUSE function

Selection of the form of MARKER

Change of standard of vehicle speed

A thickness change of a pattern line

Selection of tolerance of vehicle speed (range setup, band display / bar display change)

ON/OFF of error detection

Data monitor (2channel, Selection of the display method —analog/digital/bar graph)

A display of an external status signal

Setting of input of vehicle speed (Analog / Pulse, Input range, Vehicle speed for calibration)

Distance setup (Analog/Pulse)

Display color setup

Analog output setup (ON/OFF, Channel assignment)

Alarm sound setup (ON/OFF, Shift sound, Message sound)

### 5.3 Drive function

Change of standard of vehicle speed

Change of unit of vehicle speed (km/h mph)

Speaker volume adjustment

Calibration

Selection of mode and shift

Ready

Start

Stop

Fast forward (only forward)

Skip (When the cycle number is set in drive data, it skips to a cycle number.)

Warming up

Control output for external apparatus

Control input for external apparatus

## 5.4 Screen specifications

### ① Initial screen (Mode menu)

PANTOS Driver's Aid System <TM-5000>

**PANTOS** PANTOS Driver's Aid System <TM-5000>

**CONDITIONs**

MODE PAT.	JC08_Hot	SHIFT PAT.	AT
MODE No.	26	SHIFT No.	5
FULL SCALE	90 km/h	TOLERANCE	2.00km/h(A)-1.0sec(A)
		SCROLL	TIME

**DRIVING MODE/SHIFT**

EDIT MENU	00:	01: 10MODE	02: 11MODE	03: 1015MOD	04:
DELETE	05: LA505	06: LA4-C	07: LA4-CH	08: US06	09: SC03
REGISTER	10:	11: HWY1	12: HWY2	13:	14:
CREATE	15: EC15MT	16: EC15AT	17:	18:	19:
	20: EC90MT	21: EC90AT	22: EC120MT	23: EC120AT	24:
	25: JC08C	26: JC08H	27:	28:	29:
	30:	31:	32:	33:	34:
	35:	36:	37:	38:	39:
	40:	41:	42:	43:	44:
	45:	46:	47:	48:	49:
	50:	51:	52:	53:	54:
	55:	56:	57:	58:	59:
	60:	61:	62:	63:	64:
	65:	66:	67:	68:	69:

**RESULTs**

DRV. TIME	0.0 s	ERROR TIME	0.0 s:0	Vehicle Speed	0.00 km/h
DISTANCE	0 m	ERROR RATE	0.00 %	Analog1	0.0 kPa
SOAK TIME	0m00s			Analog2	0 rpm

READY MENU SEL-> <- SEL. ENTRY UNIT SETUP  
READY MENU UP INCR DECR ENTRY km/mile CAL

### ② Initial screen (Shift menu)

PANTOS Driver's Aid System <TM-5000>

**PANTOS** PANTOS Driver's Aid System <TM-5000>

**CONDITIONs**

MODE PAT.	JC08_Hot	SHIFT PAT.	AT
MODE No.	26	SHIFT No.	5
FULL SCALE	90 km/h	TOLERANCE	2.00km/h(A)-1.0sec(A)
		SCROLL	TIME

**DRIVING MODE/SHIFT**

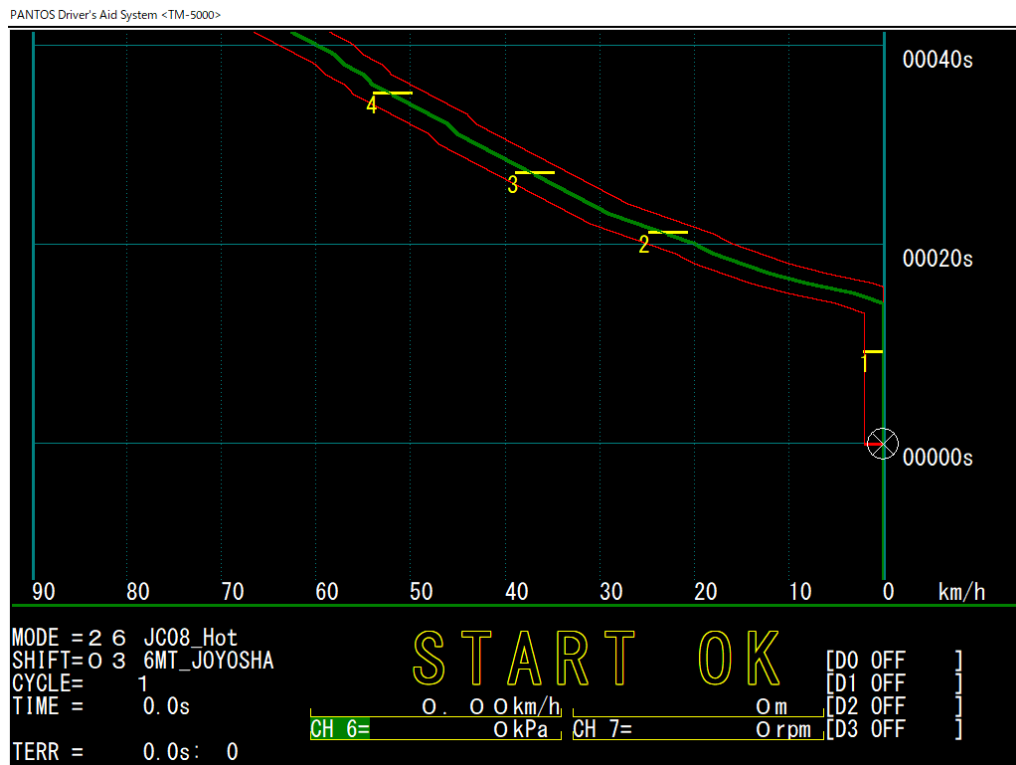
EDIT MENU	00: 30D	01: 5MA	02: 5MB	03: 6MA	04: 6MB
DELETE	05: AT	06:	07:	08:	09:
REGISTER	10:	11:	12:	13:	14:
NEW	15:	16:	17:	18:	19:
CREATE	20:	21:	22:	23:	24:
	25:	26:	27:	28:	29:
	30:	31:	32:	33:	34:
	35:	36:	37:	38:	39:

**RESULTs**

DRV. TIME	0.0 s	ERROR TIME	0.0 s:0	Vehicle Speed	0.00 km/h
DISTANCE	0 m	ERROR RATE	0.00 %	Analog1	0.0 kPa
SOAK TIME	0m00s			Analog2	0 rpm

READY MENU SEL-> <- SEL. ENTRY UNIT SETUP  
READY MENU UP INCR DECR ENTRY km/mile CAL

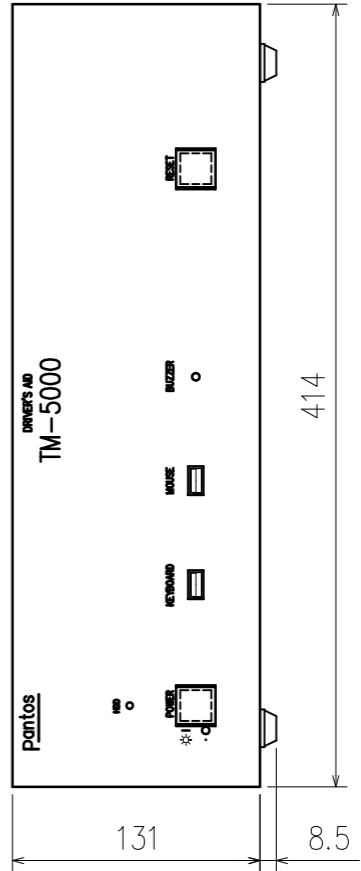
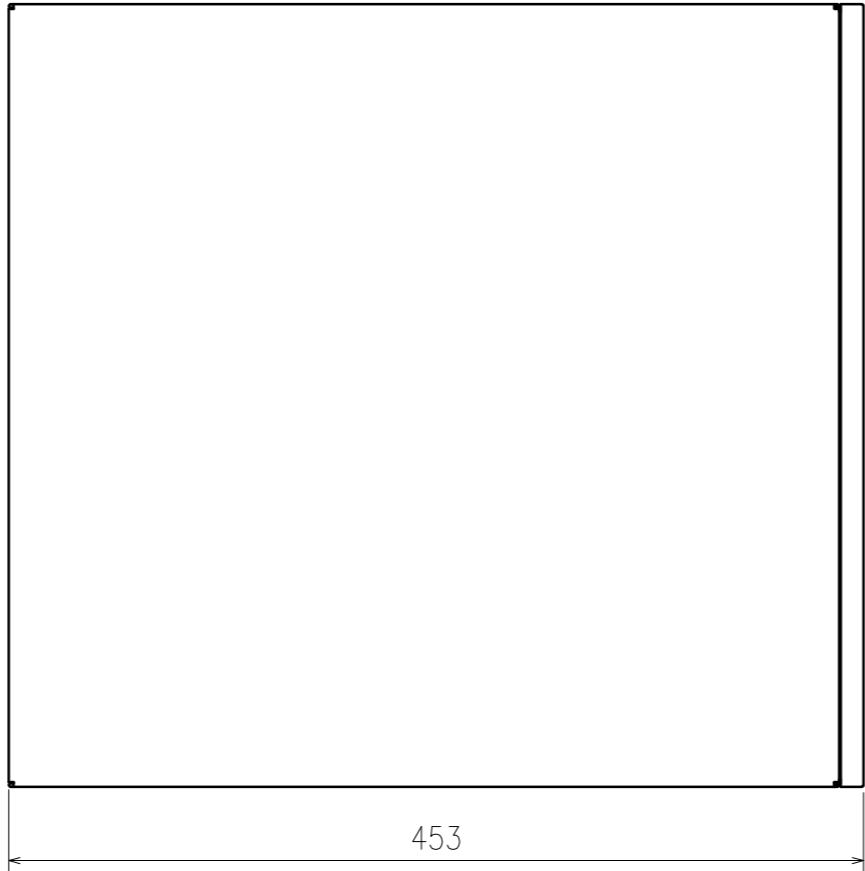
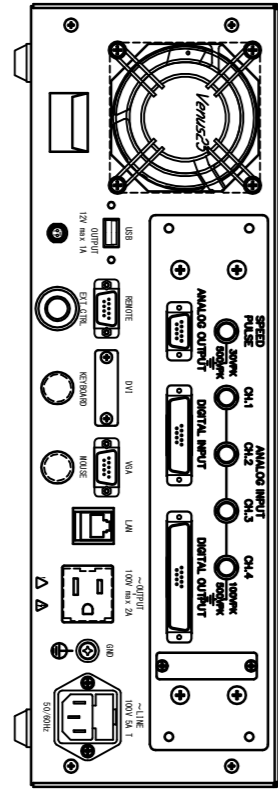
③ Waiting screen for start



④ The screen in driving







REVISION				SIGN	SCALE	CREATED DATE	3RD ANGLE PROJ DIM in mm	PRODUCT NAME	TITLE
REVISION				SIGN	1:2.5	'17/08/23		Driver's AID TM-5000	Appearance figure of TM-5000
REVISION				SIGN	DESIGN	DRAWING	CHECK	APPROVAL	DWG No.
REVISION				SIGN	MIURA	KUMEKI	MIURA	MIURA	REV
REVISION				SIGN				<b>PANTOS CO., LTD.</b>	TM5000-03-0011