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Generation type recorder  
Application software  
P-1650

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Specifications

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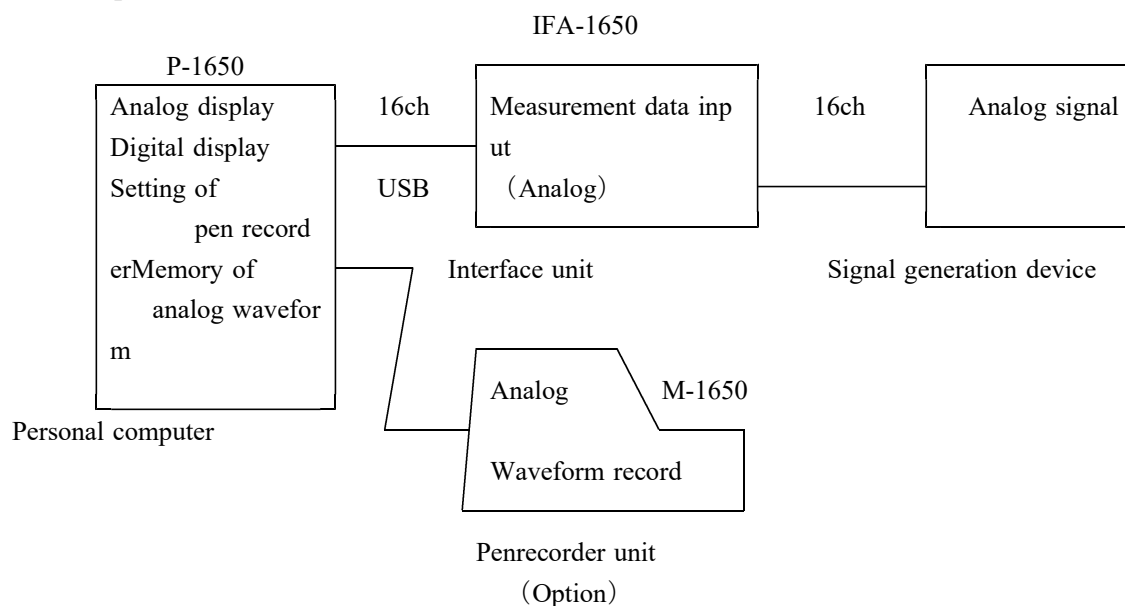
Specifications are subject to change without notice.

PANTOS CO. , LTD.	Drawing number	Amendment
	P1650-00-0001	

## 1 . Outline

It is a unit that receives the input signal converted from the interface unit IFA-1650, and displays the input signal as a waveform on the PC screen like the paper recorder using application software.

## 2 . Composition



## 3 . Specifications

### 3 . 1 Basic specification

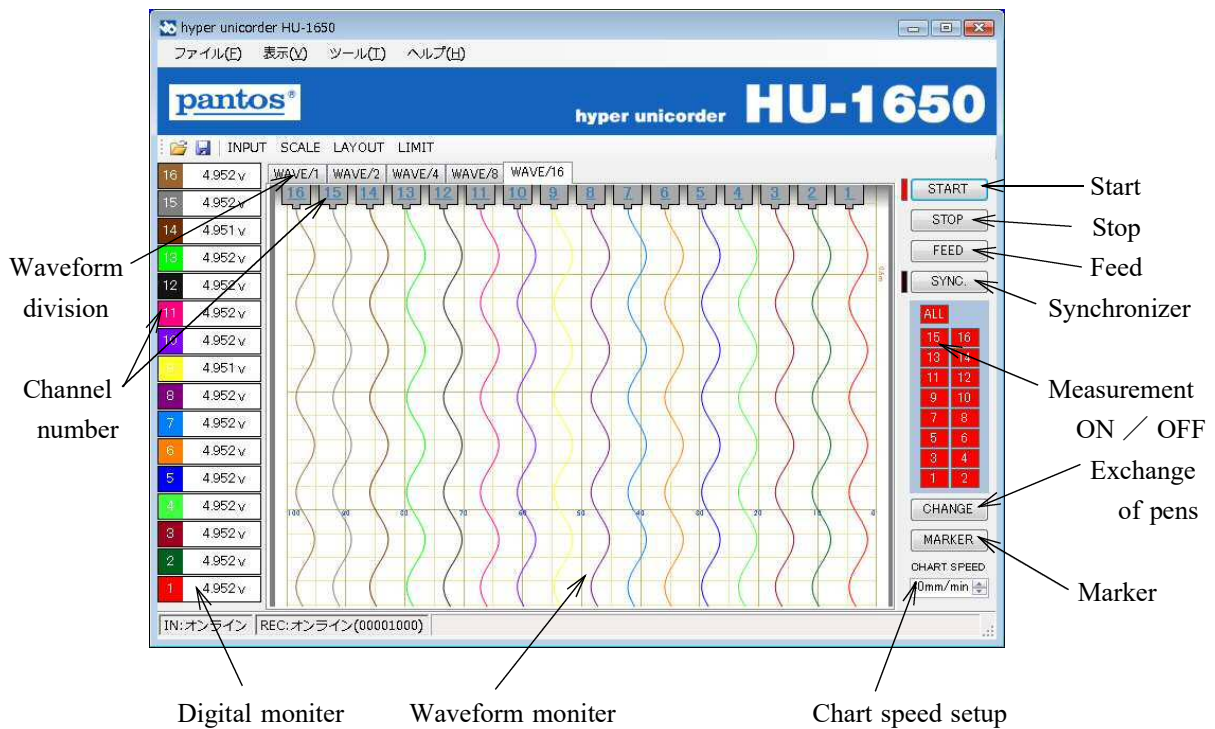
Model	P-1650		
Name	HU-1650 Application software		
Media	CD-R		
Operating environment			
OS	Microsoft	Windows	7 Japanese version(32bit)
	Microsoft	Windows	10 Japanese version(32bit)
Memory	2GB or more		
Hard disk	Free space more than 500MB is necessary to install P-1650.		
Display	Windows compatible and Resolution 800 x 600 or more.		

### 3. 2 Functional specification

#### Main display

- Waveform monitor : The analog waveform and digital value is displayed.
- Waveform division : The indication screen is made 16 division from 1 division. Division table.
- Channel number : Pen, Data value, Majors on/off is displayed,  
Setting of color, It synchronizes with the waveform monitor.
- Start : Record start · stop (The synchronized data is output and it stops. )
- Stop : Record stop (stop at once)
- Feed : Record feed
- Synchronizer : Record synchronizer
- Measurement ON / OFF : Record Measurement ON / OFF. All. Setting of each channel.
- Change : When pens are exchanged, it uses it.
- Marker : Superimposed marker, It inputs it to all pens.
- Chart speed : Chart speed setup

Main display



#### Waveform division

WAVE / 1	[16,15,14,13,12,11,10,9,8,7,6,5,4,3,2,1]
WAVE / 2	[16,14,12,10,8,6,4,2] [15,13,11,9,7,5,3,1]
WAVE / 4	[16,12,8,4] [15,11,7,3] [14,10,6,2] [13,9,5,1]
WAVE / 8	[16,8] [15,7] [14,6] [13,5] [12,4] [11,3] [10,2] [9,1]
WAVE / 16	[16] [15] [14] [13] [12] [11] [10] [9] [8] [7] [6] [5] [4] [3] [2] [1]

#### Chart speed setup

40mm, 20mm, 10mm, 5mm, 2mm, 1mm/sec/min  
40mm, 20mm, 10mm/h

## Subscreen display

Input device selection menu  
 Selection of input device : INPUT, LAYOUT, SCALE, LIMIT  
 ce : "INPUT"  
 Scaling : "SCALE"  
 Selection of output form : "LAYOUT"  
 Limiter : "LIMIT"

### Input setting screen

"INPUT" Menu : Setting of analog input  
 Range : 1, 2, 5, 10 V

CH	RANGE	RANGE HIGH	RANGE LOW	UNIT
16	10 V	10.000	-10.000	V
15	10 V	10.000	-10.000	V
14	10 V	10.000	-10.000	V
13	10 V	10.000	-10.000	V
12	10 V	10.000	-10.000	V
11	10 V	10.000	-10.000	V
10	10 V	10.000	-10.000	V
9	10 V	10.000	-10.000	V
8	10 V	10.000	-10.000	V
7	10 V	10.000	-10.000	V
6	10 V	10.000	-10.000	V
5	10 V	10.000	-10.000	V
4	10 V	10.000	-10.000	V
3	10 V	10.000	-10.000	V
2	10 V	10.000	-10.000	V
1	10 V	10.000	-10.000	V

### Scaling screen

"SCALE" Menu : Setting of scale value, Setting of unit, Setting of physical value,  
 Setting of tag name

CH	NAME	USE	RANGE HIGH	RANGE LOW	UNIT	SOURCE
16		<input type="checkbox"/>	100.00	-100.00	%	ANI-16
15		<input type="checkbox"/>	100.00	-100.00	%	ANI-15
14		<input type="checkbox"/>	100.00	-100.00	%	ANI-14
13		<input type="checkbox"/>	100.00	-100.00	%	ANI-13
12		<input checked="" type="checkbox"/>	100.00	-100.00	%	ANI-12
11		<input type="checkbox"/>	100.00	-100.00	%	ANI-11
10		<input type="checkbox"/>	100.00	-100.00	%	ANI-10
9		<input type="checkbox"/>	100.00	-100.00	%	ANI-9
8		<input type="checkbox"/>	100.00	-100.00	%	ANI-8
7		<input type="checkbox"/>	100.00	-100.00	%	ANI-7
6		<input type="checkbox"/>	100.00	-100.00	%	ANI-6
5		<input type="checkbox"/>	100.00	-100.00	%	ANI-5
4		<input type="checkbox"/>	100.00	-100.00	%	ANI-4
3		<input type="checkbox"/>	100.00	-100.00	%	ANI-3
2		<input type="checkbox"/>	100.00	-100.00	%	ANI-2
1		<input type="checkbox"/>	100.00	-100.00	%	ANI-1

Output setting screen  
 “LAYOUT” Menu

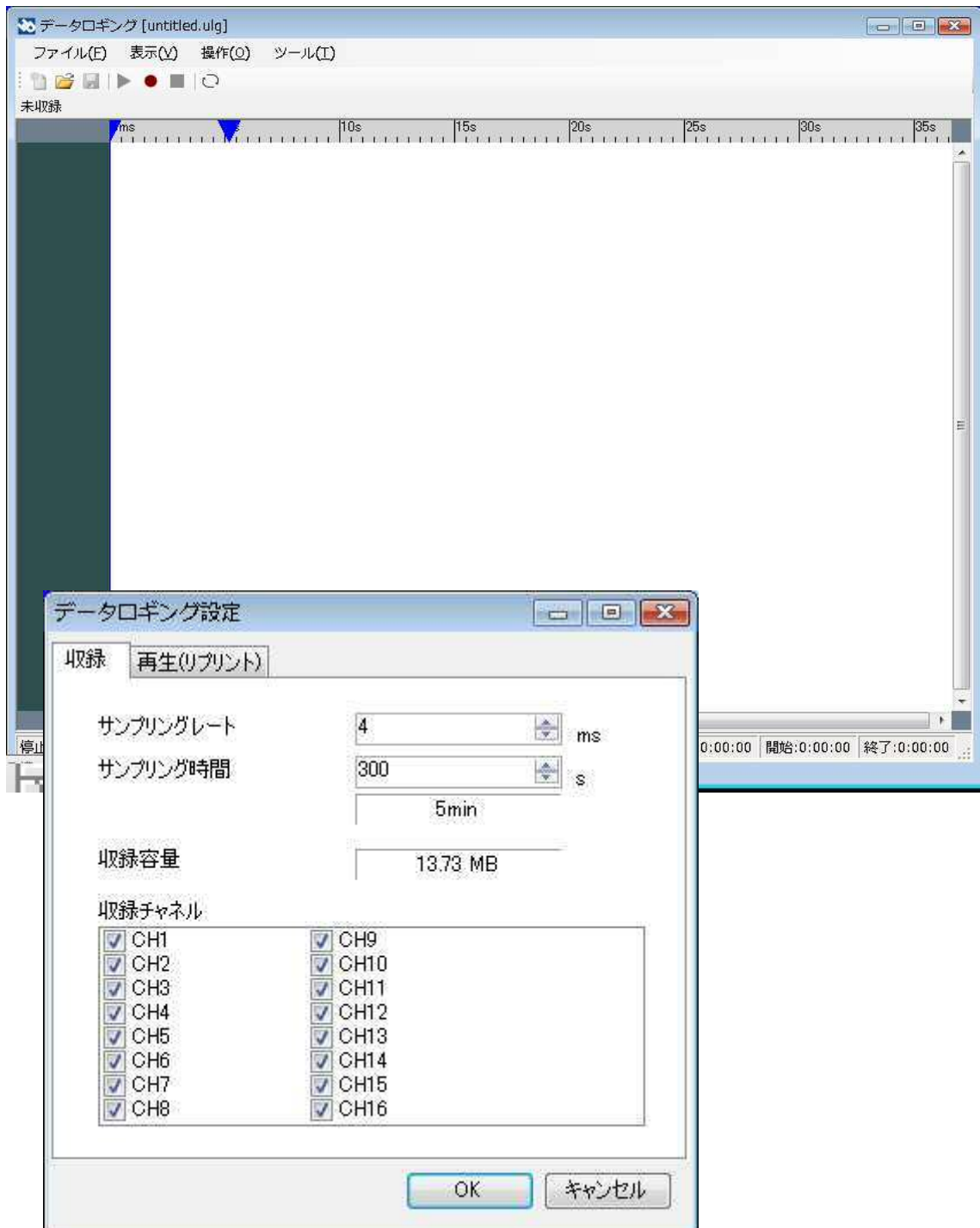
CH	USE	LEFT	RIGHT	UNIT
16	<input checked="" type="checkbox"/>	10.000	-10.000	V
15	<input checked="" type="checkbox"/>	10.000	-10.000	V
14	<input checked="" type="checkbox"/>	10.000	-10.000	V
13	<input type="checkbox"/>	10.000	-10.000	V
12	<input type="checkbox"/>	10.000	-10.000	V
11	<input type="checkbox"/>	10.000	-10.000	V
10	<input type="checkbox"/>	10.000	-10.000	V
9	<input type="checkbox"/>	10.000	-10.000	V
8	<input type="checkbox"/>	10.000	-10.000	V
7	<input type="checkbox"/>	10.000	-10.000	V
6	<input type="checkbox"/>	10.000	-10.000	V
5	<input type="checkbox"/>	10.000	-10.000	V
4	<input type="checkbox"/>	10.000	-10.000	V
3	<input type="checkbox"/>	10.000	-10.000	V
2	<input type="checkbox"/>	10.000	-10.000	V
1	<input type="checkbox"/>	10.000	-10.000	V

Limiter setting screen  
 “LIMIT” Menu : Setting of warning value.

CH	USE	UPPER	LOWER	UNIT	BUZZER	INDICATION
16	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	<input type="checkbox"/>	10.000	-10.000	V	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Rogging date window

- Rogging : Sampling rate (A minimum of 1ms)  
Record time Max 30days  
(It is based on the capacity of the hard disk of a personal computer)
- Waveform preview : It is a convenient display as for the shape of waves of the entire roggingsdata.
- Reprint : Playback speed, Reprint area
- Rogging : Reading. It preserves it giving a name.  
The range is preserved giving a name.  
Data is preserved in a file by a CSV format.  
The specified range of the data is preserved in a file by a CSV format.



### **3. 3 Control of unit**

#### **3. 3. 1 Pen recorder unit (M I - 1 6 5 0)**

##### ( 1 ) Operation

- Start / Stop
- Feed
- Synchronizer
- Measure ON / OFF
- Pen change
- Marker

##### ( 2 ) Setting

- Setting of pen adjustment
- Setting of recording paper feed speed

##### ( 3 ) Behavior

- Output of recording waveform
- Paper out notification

#### **3. 3. 2 Analog interface unit ( I F A - 1 6 5 0 )**

##### ( 1 ) Setting

- Setting of sampling rate
- Setting of range

##### ( 2 ) Behavior

- Acquisition of measurement data