Wireless Process Control System

PEGASUS SEWING MACHINE MFG. CO., LTD.

Catalog   Ver.107

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English   English   English   English   English   English

Feature of System

・The measure of progress for each process can be monitored in real time with Wireless switches (counter switches), and the delay in production line can be grasped immediately.

The maximum interval for receivable signal between wireless switches and receiver is 1 km.
＊Subject to the environment or obstructions to install.

・One software can be workable with maximum 160 sets of wireless switches.

・An in-company network is used and progress can be checked also away from production lines, such as an office.

・Wireless switches can accumulate the interval (pitch) of the button which operators push, and it deduces actual pitch time.

・Output prospect function can deduce daily output within working hours, and we can realize the delay points in advance.

　・In order to achieve target quantity, closing time prospection function and overtime work prospection function can deduce the required working hours, it is easy to make rescheduling and delivery date management.

・Variety of Progress management

a. Per operators monitoring 　： 　Monitor the details of each operation(Output, closing time, overtime work, etc.)
b. Per production monitoring ： 　Monitor the progress each 30 min or 1 hour per production line.
c. Total monitoring 　　　　　： 　Monitor the wireless switches (all operations) all together.

Summary of System

1. Monitoring/OP

Manage per operations (per operators), and monitor the present pitch time, output and delay of operation.

Although pitch time was conventionally measured using the stopwatch, but in WPC, wireless switch records the interval (pitch) of the button which an operator pushes, and it deduces actual pitch time.

Since all the data of pitch time is stored, these data can be as property and is useful for discovery of a future improvement points, and a line design (layout).

By grasping the realistic pitch time of the company, it can realize to shorten the time of from the putting the products into production line to manufacture the production smoothly, and this leads to a cost cut.

2. Monitoring/LINE

It is possible to monitor per line as each 30 min or 1 hour. Thanks to this function, it is easy to find out the delay operation immediately.

In addition, it has a function to display the graph of progress each 30 min or 1 hour. Thanks to this function, it is possible to grasp when delay has started as well as searching for the source of delay.

3. Monitoring/A OP

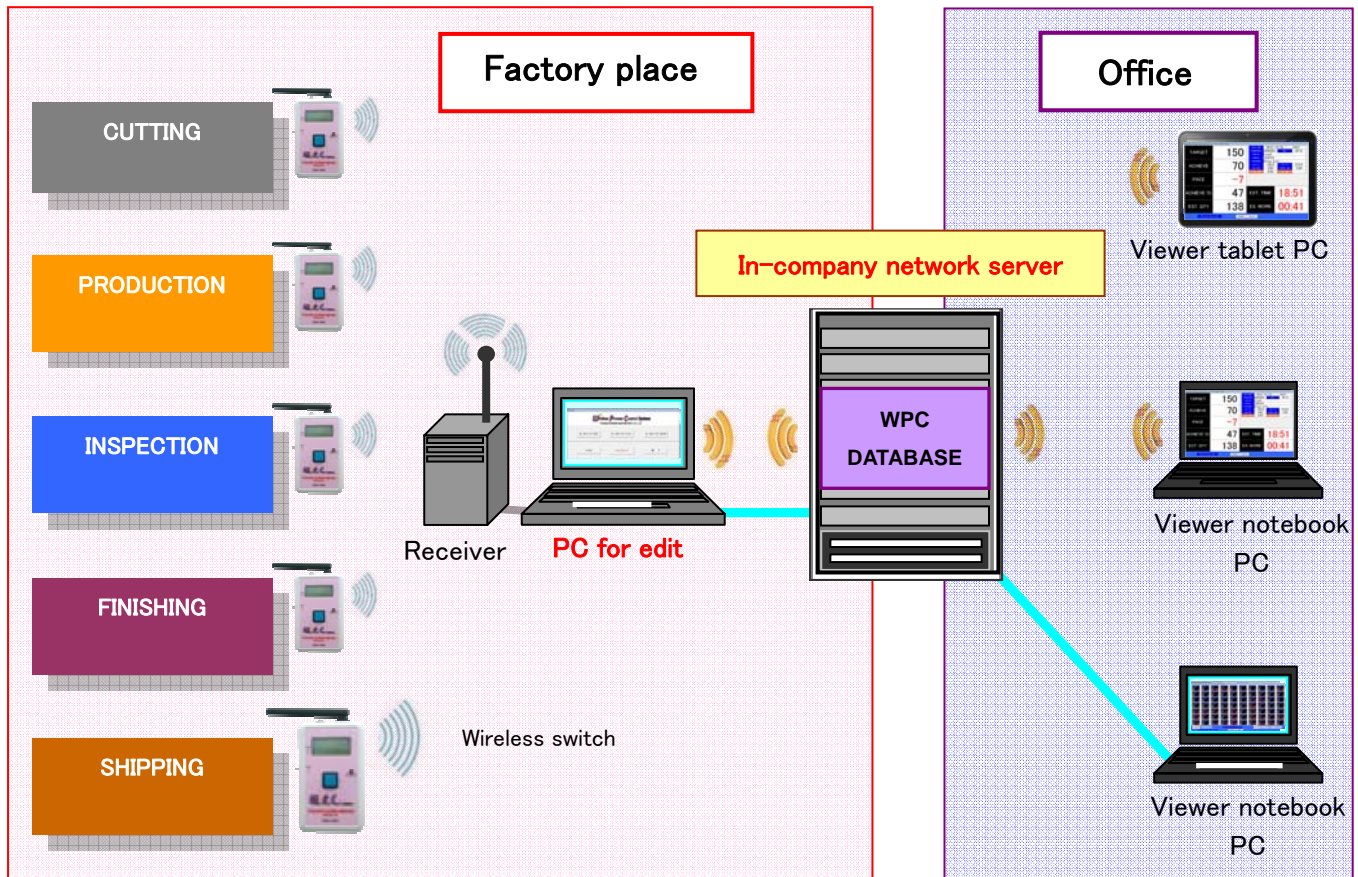All wireless switches disposed at each operation can be monitored.

In addition, remaining battery power also can be monitored.

Flow of System

PC which has connection with receiver can manage all data from wireless switches.

An in-company network (LAN or Wi-Fi) is used and all data can be monitored away from production lines, such as an office.

Set up System

One software can be workable maximum 160 sets of wireless switches. In the case of disposing wireless switches at different floor, the signal from wireless switches is not achievable. Due to this reason, software is requested at each floor.
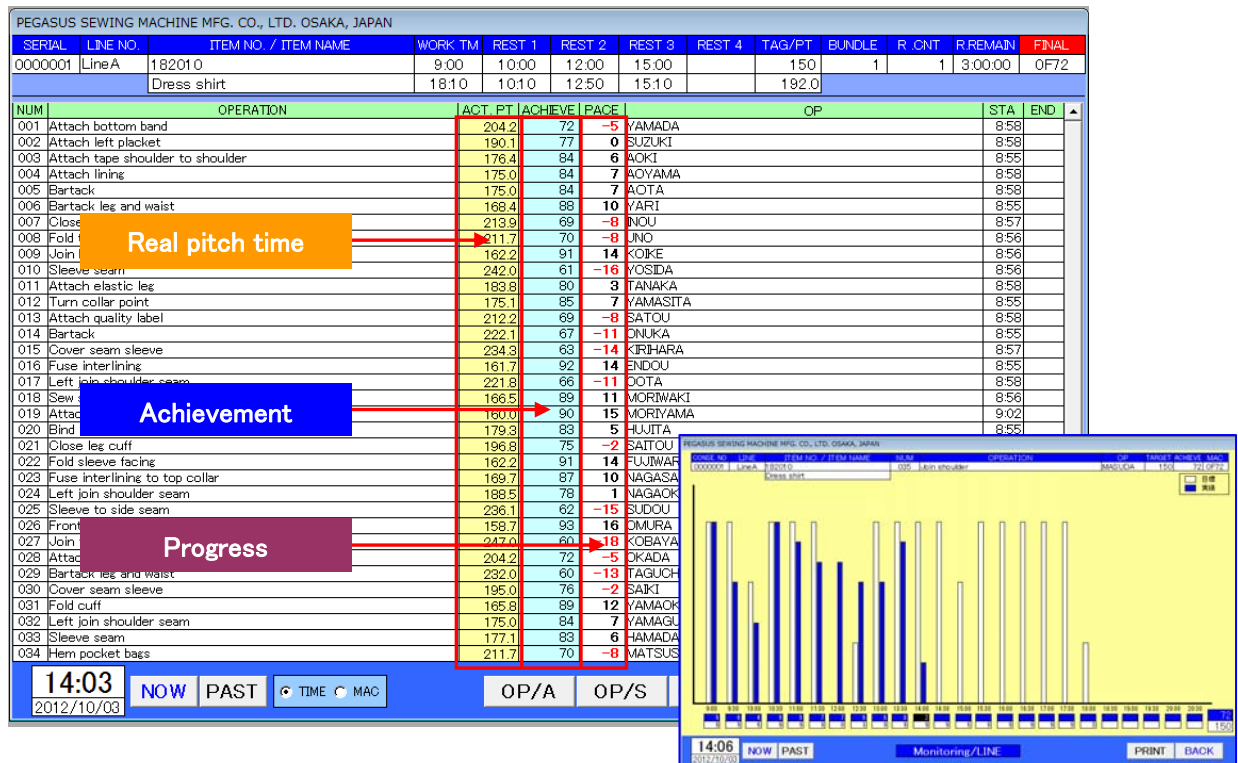
By sharing the database at in-company network, all progress date can be grasped.
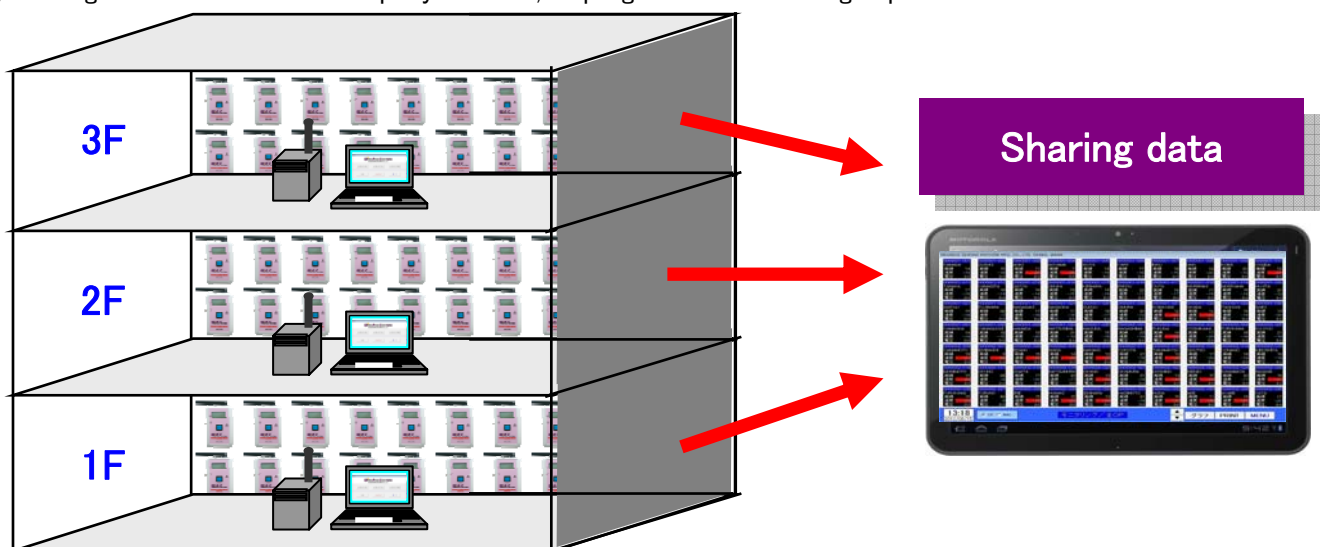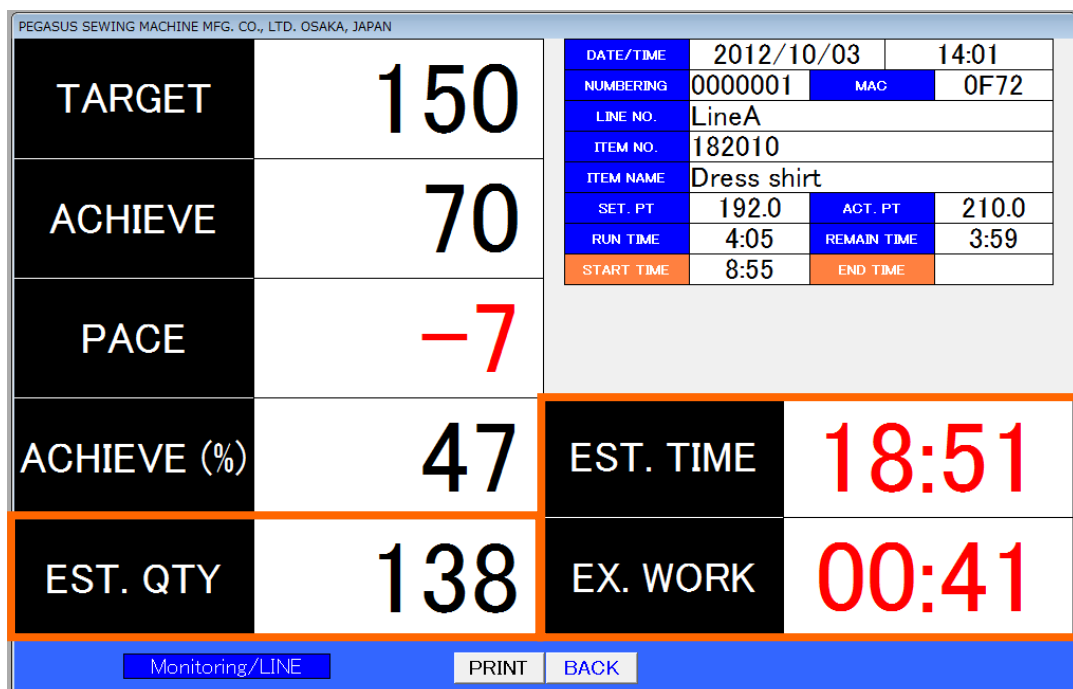
～ *Wireless management makes revolution of "Progress"*

POINT 1 : "OP（Monitoring/OP）" Monitoring per operations and operators

● Monitor the present pitch time, output and delay of operation per operations and operators.
By checking the flow of the order of production items, stagnation of item flow can be distinguished easily, and make the points clear to be improved.

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SERIAL	LINE NO.	ITEM NO. / ITEM NAME	WORK TM	REST 1	REST 2	REST 3	REST 4	TAG/PT	BUNDLE	R .CNT	R REMAIN	FINAL
0000001	Line A	182010	9:00	10:00	12:00	15:00		150	1	1	3:00:00	0F72
		Dress shirt	18:10	10:10	12:50	15:10		192.0				

NUM	OPERATION	ACT. PT	ACHIEVE	PACE	OP	STA	END
001	Attach bottom band	204.2	72	−5	YAMADA	8:58	
002	Attach left placket	190.1	77	0	SUZUKI	8:58	
003	Attach tape shoulder to shoulder	176.4	84	6	AOKI	8:55	
004	Attach lining	175.0	84	7	AOYAMA	8:58	
005	Bartack	175.0	84	7	AOTA	8:58	
006	Bartack leg and waist	168.4	88	10	YARI	8:55	
007	Close	213.9	69	−8	INOU	8:57	
008	Fold	211.7	70	−8	UNO	8:56	
009	Join	162.2	91	14	KOIKE	8:56	
010	Sleeve seam	242.0	61	−16	YOSIDA	8:56	
011	Attach elastic leg	183.8	80	3	TANAKA	8:58	
012	Turn collar point	175.1	85	7	YAMASITA	8:55	
013	Attach quality label	212.2	69	−8	SATOU	8:58	
014	Bartack	222.1	67	−11	ONUKA	8:55	
015	Cover seam sleeve	234.3	63	−14	KIRIHARA	8:57	
016	Fuse interlining	161.7	92	14	ENDOU	8:55	
017	Left join shoulder seam	221.8	66	−11	OOTA	8:58	
018	Sew	166.5	89	11	MORIWAKI	8:56	
019	Attac	160.0	90	15	MORIYAMA	9:02	
020	Bind	179.3	83	5	HUJITA	8:55	
021	Close leg cuff	196.8	75	−2	SAITOU		
022	Fold sleeve facing	162.2	91	14	FUJIWAR		
023	Fuse interlining to top collar	169.7	87	10	NAGASA		
024	Left join shoulder seam	188.5	78	1	NAGAOK		
025	Sleeve to side seam	236.1	62	−15	SUDOU		
026	Front	158.7	93	16	OMURA		
027	Join	247.0	60	18	KOBAYA		
028	Attac	204.2	72	−5	OKADA		
029	Bartack leg and waist	232.0	60	−13	TAGUCH		
030	Cover seam sleeve	195.0	76	−2	SAIKI		
031	Fold cuff	165.8	89	12	YAMAOK		
032	Left join shoulder seam	175.0	84	7	YAMAGU		
033	Sleeve seam	177.1	83	6	HAMADA		
034	Hem pocket bags	211.7	70	−8	MATSUS		

Real pitch time →
Achievement →
Progress →

14:03 2012/10/03 | NOW | PAST | ⦿ TIME ○ MAC | OP/A | OP/S

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14:06 2012/10/03 | NOW | PAST | Monitoring/LINE | PRINT | BACK

● Various "Prospection" function like "closing time", "Output" and "Overtime work".
Individually each operation which is allocated wireless switch can be checked details, and prospect the daily output within working hours by setting in advance. In addition, it prospects the necessary overtime work and closing time in order to achieve the target quantity.

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TARGET	150		
ACHIEVE	70		
PACE	−7		
ACHIEVE (%)	47	EST. TIME	18:51
EST. QTY	138	EX. WORK	00:41

DATE/TIME	2012/10/03	14:01
NUMBERING	0000001 MAC	0F72
LINE NO.	LineA	
ITEM NO.	182010	
ITEM NAME	Dress shirt	
SET. PT	192.0	ACT. PT 210.0
RUN TIME	4:05	REMAIN TIME 3:59
START TIME	8:55	END TIME

Monitoring/LINE | PRINT | BACK

## POINT 2 : "Monitoring/LINE" Monitoring of production line per 30 min or 1 hour

● Based on the target of daily output, target quantity per 30 min or 1 hour can be calculated per production line automatically, and latest progress can be checked.

　Since the progress can be checked per 30 min or 1 hour by the graph as well, it catches the timing from which delay began in an instant, and an immediate action is possible for it.

Progress per 30 min or 1 hour

Per line
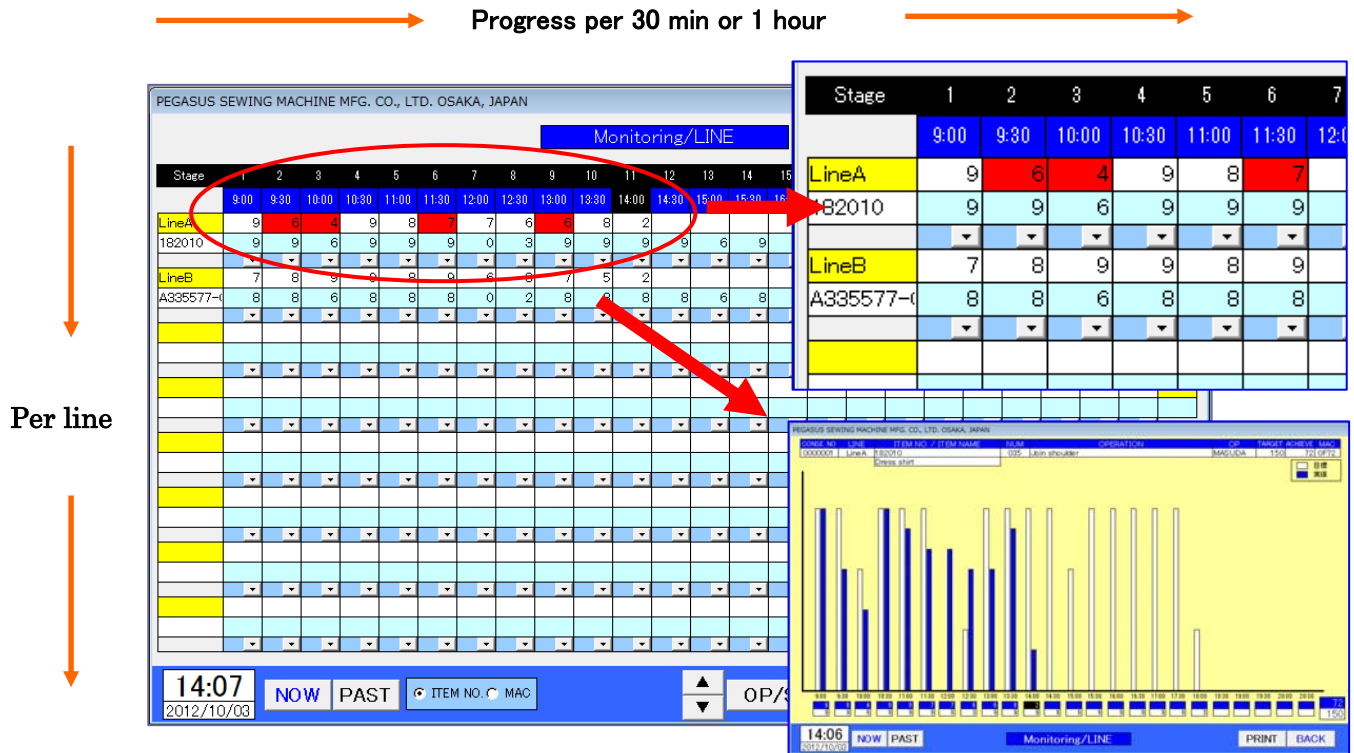
POINT 3 : "Monitoring/A OP" All operations can be "Visualization".

● Display all operators that are operating, and delay operator is with red mark.
　In addition, details of each operations can be checked.
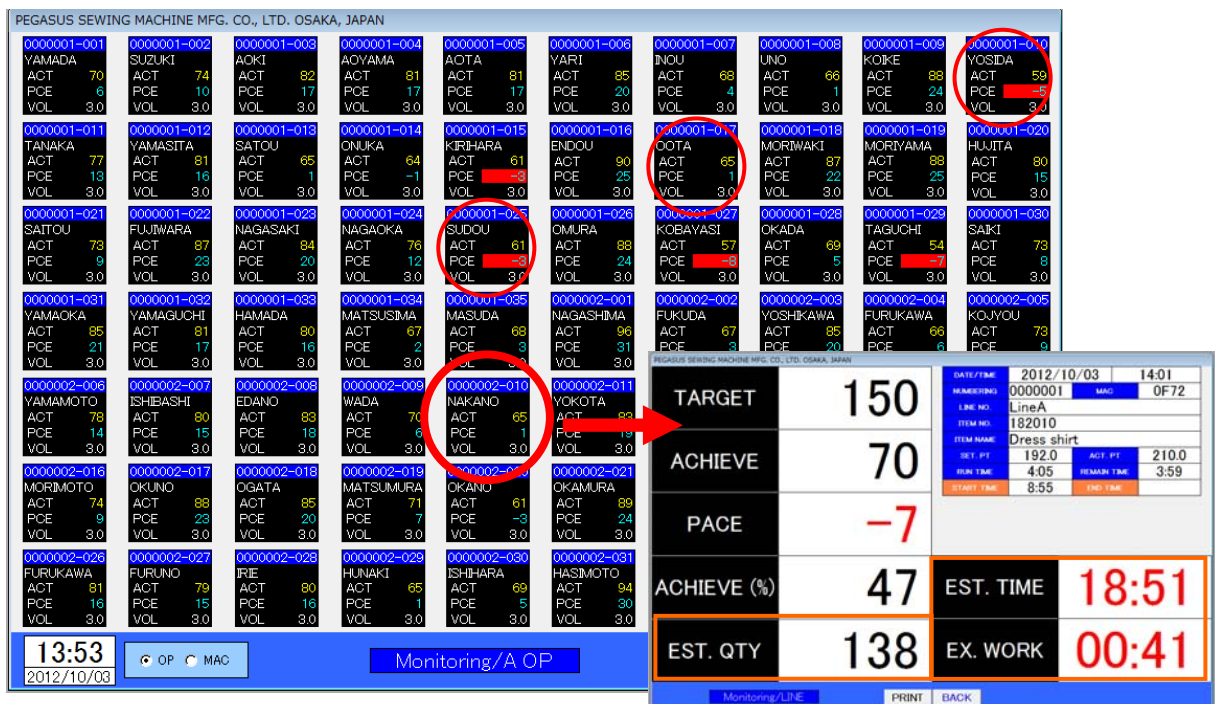
〜 *Never missing delay points by Wireless monitoring* 〜

Commodity composition

● **Full package of the WPC System components**

- Base unit <WPCO-001>　　　　　　　　　　: 1 set
- Communication cable <RS422>　　　　　　　: 1 set
- Barcode scanner <PS-800-P>　　　　　　　: 1 set
- Producer function software <Ver.107PUJ>　: 1 license
- DVD-ROM for installation　　　　　　　　: 1 set
- SD card key for authentication　　　　　　: 1 set

Barcode scanner

● **Option**

- Viewer function software <Ver. 107VUJ>
- Wireless switch <WPCK-002>
- Extension switch cable <WPCK-003>

Specification of each units

Left: Extension switch cord
Right: Wireless switch

Base unit (Main receiver) <WPCO-001>

Main power supply 100V 〜 240V

Communication cable <RS422>

Length of cable: 3m

Wireless switch <WPCK-002>

Main power supply 2 x size AA battery, Alkaline battery or nickel-metal-hydride rechargeable battery

＊ Battery life may around 2 month

（Operating hours: 8hours / Pushing switch: 3600 times/day （8sec/each））

＊ A battery life may change with operating conditions.

Extension switch cable <WPCK-003>

Length of extension: 3m

Personal computer speck and environment

● **Recommended hardware requirements.**　＊ Check the following items for the personal computer.

- Corresponding OS　　: Windows XP / Windows7 （32bit、64bit)
- CPU　　　　　　　　: Dual-Core / Core i3
- HDD　　　　　　　　: Built-in HDD more than 50GB
- Memory　　　　　　: 512MB ˜ 1GB / 4GB ˜ 8GB
- Chipset　　　　　　: 1024 x 768 ・ 1280 x 1024 ・ 1280 x 800 ・ 1366 x 768
- Microsoft Office　　: Version 2000 ・ 2003 ・ 2007 ・ 2010 either one 《Essential》
- Network server　　　: in-company network LAN with or without cable 《Essential》

※ The WPC system can be operated by using other hardware with performance below requirements in description above, but some trouble may occur according to the condition of personal computer.

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