



Freshness Control System Instruction Manual



Ishino Seisakusho Co., Ltd.

Kitanihon Kakoh Co., Ltd.

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Introduction

Thank you for purchasing our freshness control system.

In order to maximize the functions of the system fully and operate it in a safe and correct manner, it is important to learn how to use this system correctly.

- Read the contents of this Manual to fully understand the procedures for operation and handling before starting this system.
- Never use the system in other manners than described in this Manual.
- Always keep this Manual in a designated place.

* If any question or doubt arises concerning the contents of this Manual, contact Ishino immediately.

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1 How to Read this Manual

1-1 Structure

This Manual describes items required for safe and correct handling of the freshness control system.

This Manual is composed of the following 12 chapters:

- 1 . How to Read this Manual
- 2 . Product Specifications
- 3 . Precautions for Use
- 4 . System Outline
- 5 . Before Using the System
- 6 . Preparation for Setting
- 7 . Your Restaurant Data Set-Up
- 8 . Freshness Time Set-Up
- 9 . Target Dish Quantity Set-Up
- 1 0 . Operation
- 1 1 . Special Setting
- 1 2 . Handling of Errors

1-2 Symbol Marks Related to Safety

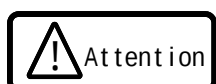
This Manual describes safety precautions with symbol marks

such as  Warning and  .

Always observe the contents.



- Ignoring these precautions could cause death or serious injuries.



- Ignoring these precautions may cause minor or moderate injuries and property damage.

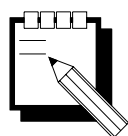
1 How to Read this Manual

1-3 Other Symbol Marks

This Manual uses the following symbol marks in addition to those related to safety.



Indicates a point to give heed to Ignoring this notice may damage the system entirely or partially.



Indicates supplementary explanation



Indicates an item or page to refer to

1-4 Related Manuals

In addition to this Manual, refer to the Sushi Conveyor Instruction Manual.

2 Product Specifications

2-1 Specifications

Name: Freshness Control System

Power supply: Single phase, 115-120Vac, 1A (100W)

Operation display: 12.1-flat panel computer

Applicable conveyor

Shape: Standard conveyor (former 2-row conveyor)

Unit: Bypass unit and selector unit

Kind of dishes: Max. 10 kinds

Regulatory approval: FCC(Class A)

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTICE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Properly shielded a grounded cables and connectors must be used for connection to PC in order to meet FCC emission limits.

Antenna cable with ferrite core must be used for RF interference suppression.

3 Precautions for Use

3-1 Precautions

- Do not splash water on the operation display, control panel or antenna. Do not handle them with wet hands.
- If you spilled soy sauce, etc. by mistake, wipe it off with a dry towel or cloth as soon as possible.
- Using a radio, TV, PC or kitchen instruments (inverter, microwave oven, IH equipment, etc.) may obstruct the reading of dishes due to noise.
- Precautions for using sushi dishes (with tag)
 - * Do not put them in a microwave oven.
 - * Do not put them in a refrigerator.
 - * Do not use them on IH equipment.
 - * Do not heat them.
 - * Do not apply any chemicals.
 - * Do not give an excessive shock to the tag.
 - * Do not disassemble the tag.

4 System Outline

4-1 Outline

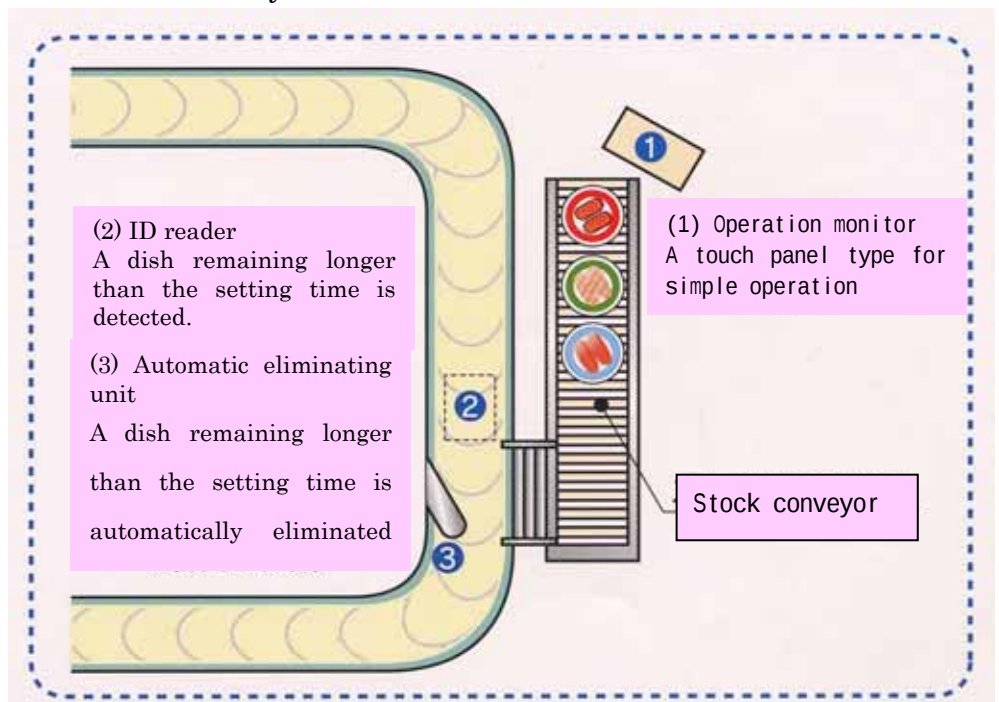
- This system uses dishes attached with an ID tag for controlling the freshness of sushi.



4-2 Description of Operation

Register the setting time on the operation monitor (1) in advance.

When dishes are moved around on the conveyor, the ID reader (2) reads data on each dish. If the read data proved that a certain dish remains longer than the setting time, the automatic eliminating unit (3) eliminates such a dish onto the stock conveyor.



5 Before Using the System

5-1 Setting

Before using this system, simple setting is required.

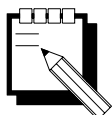


5-2 Kinds of Setting

There are the following kinds of setting.

1. Setting of data for each restaurant

Kinds of dishes used for each restaurant are selected and data for each dish is controlled.



- Control using the kinds of sushi items is not possible.

2. Setting of freshness time

Data is read from the ID tag attached to each dish, and a dish that remains longer than the setting time is automatically eliminated from the conveyor.

3. Setting of target number of dishes

Register the target number of dishes to move around in order to check if a condition of such dishes has reached the target number. For details of setting, refer to relative pages.



6. Preparation for Setting (Page 10)

6 Preparation for Setting

6-1 Various Settings

Setting should be done after the application is started up completely. Set the freshness time and the target number of dishes to move before starting operation. Once these settings are done, they are not required any longer when the business is started following days.

6-2 Setting Method

Follow the procedure below:

- (1) Turn ON the switch of the freshness control system.



[Control panel]
Turn the switch to ON.



[Monitor]
The POWER lamp lights up in green.
The DISK lamp blinks.



[Monitor screen]
Windows XP starts up.
The freshness control system application automatically starts up.

6 Preparation for Setting



[Screen 1]
MENU OPTION
INDICATION screen



[Screen 2]
CONDITION OF MOBILE
DISH screen



[Screen 3]
CONDITION OF
ELIMINATED DISH
screen



[Screen 4]
CONDITION OF NEW
REGISTERED DISH
screen

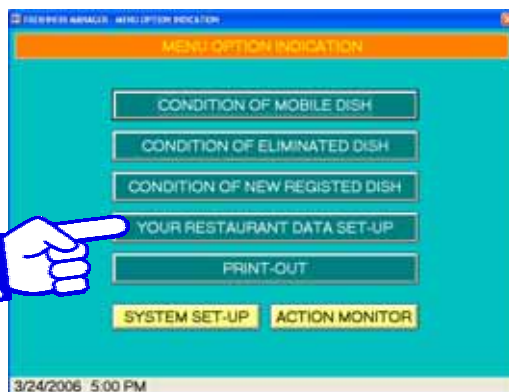
(2) [Screen 1] The MENU OPTION INDICATION screen is displayed.



Pressing [MENU] on the upper right of [Screen 2] through [Screen 4] displays [Screen 1].

7 Your Restaurant Data Set-Up

When preparation for setting is finished, the following MENU OPTION INDICATION screen is displayed.



[Screen 1]
MENU OPTION
INDICATION screen

7-1 Your Restaurant Data Set-Up

Select kinds of dishes to use in the restaurant.



A maximum of 10 kinds of dishes can be input.

7-2 Setting Method

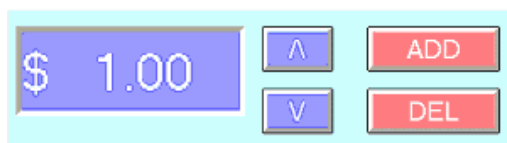
(1) Press [YOUR RESTAURANT DATA SET-UP]. [Screen 1]



[Screen 5]
YOUR RESTAURANT
DATA SET-UP screen

(2) Press ▲ and ▼ to change characters displayed in the window.

Specified characters and sample characters are available.



(3) Press **ADD** to display it in the list.



Press **DEL** to delete the kind displayed in the window.

8 Freshness Time Set-Up

Display the YOUR RESTAURANT DATA SET-UP screen.

PRICE	TAG	TIME
\$ 1.00		60 min
\$ 2.00		60 min
\$ 3.00		60 min
\$ 4.00		60 min
\$ 5.00		60 min

[Screen 5]
YOUR RESTAURANT
DATA SET-UP screen

8-1 Freshness Time Set-Up

Set the tag code and freshness time for each kind of dishes.

PRICE	TAG	TIME
\$ 1.00	10	60 min
\$ 2.00	20	60 min
\$ 3.00	30	60 min
\$ 4.00	40	60 min
\$ 5.00	50	60 min

[Screen 6]
FRESHNESS TIME
SET-UP screen

Freshness time: Maximum time of dish to be moved on the conveyor

Input a value within 1 999 minutes.

Tag code: ID tag code attached to the dish for dish identification

Specified characters are indicated by 01 – 10.

8-2 Setting Method

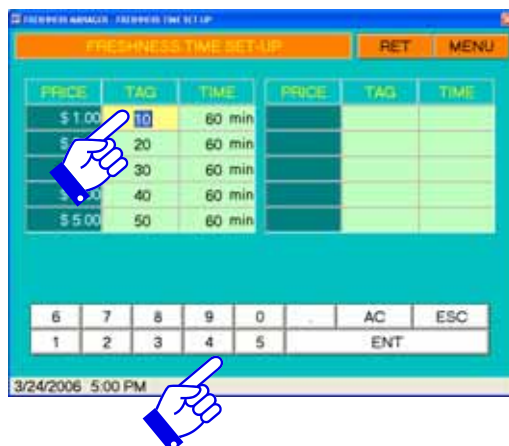
(1) Press FRESHNESS TIME SET-UP.



[Screen 6]

8 Freshness Time Set-Up

(2) Press a section to input or change with a finger.



[Screen 6]

TARGET DISH

QUANT SET screen

A pressed section changes in color.

(3) Press a number to change using ten keys.

(4) Press the ENT key to finish entering the data.

The setting time is changed as desired.



The tag value can be changed in the same way as above.

9 Target Dish Quantity Setting

Display the YOUR RESTAURANT DATA SET-UP screen.



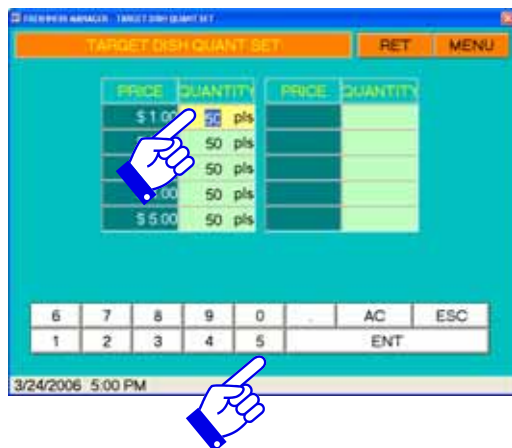
[Screen 5]
YOUR RESTAURANT
DATA SET-UP screen

9-1 Target Dish Quantity Setting

Set the target quantity of dishes for each kind.

9-2 Setting Method

(1) Press TARGET DISH QUANT SET-UP. [Screen 7]



[Screen 7]
TARGET DISH
QUANT SET-UP
screen

(2) Press a section to input or change.

The display changes accordingly.

(3) Press a number to change using ten keys.

(4) Press the ENT key to finish entering the data.

10 Operation

10-1 Operation

This section describes an operating procedure to follow daily before opening the restaurant.



When using dishes newly or changing the setting of dishes, start from the setting procedure.



6. Preparation for Setting (Page 10)

10-2 Preparation for Operation

- (1) Turn ON the switch to operate the sushi conveyor and rotate the conveyor.



Turn the switch to ON.

- (2) Turn ON the switch to operate the freshness control system.



Turn the switch to ON.
Windows XP starts up
and the freshness control
system application
automatically starts up.

- (3) Place dishes on the conveyor to start the business.



Do not turn OFF the switch of the freshness control system while the sushi conveyor is operating.

10 Operation

10-3 Precautions for Operation



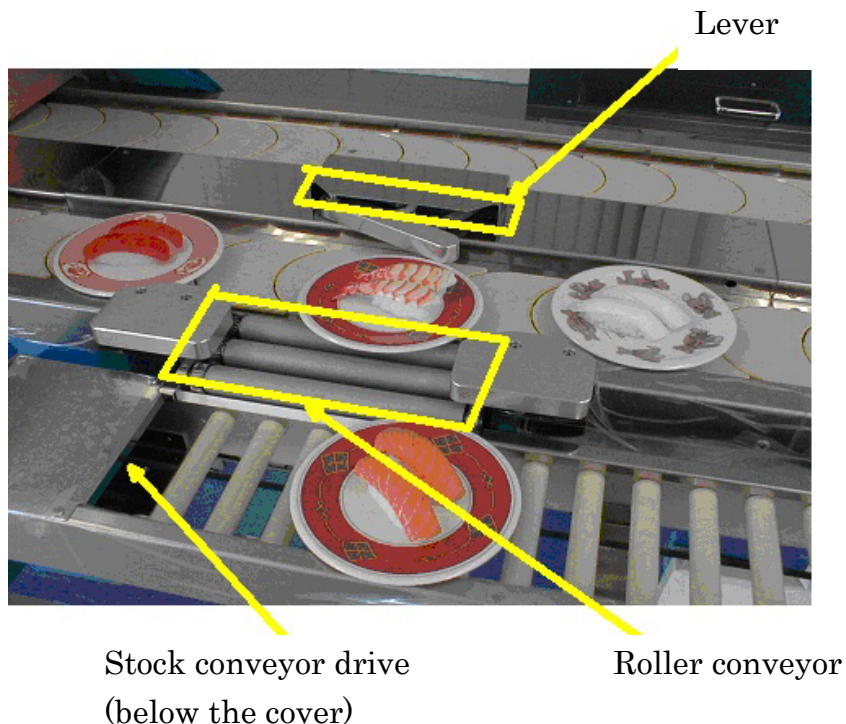
This system contains rotating sections and swing sections. Never touch such movable sections during operation. Otherwise, you may be caught in or pinched by the drive.

When touching such sections is indispensable for maintenance and cleaning purposes, make sure to turn OFF the switch to operate the freshness control system first.



10-12 Stopping and Shutting Down Operation (Page 23)

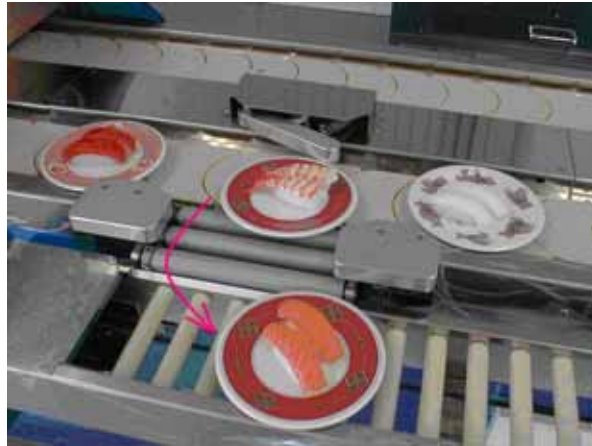
- Movable sections
- Lever
 - Roller conveyor
 - Stock conveyor drive



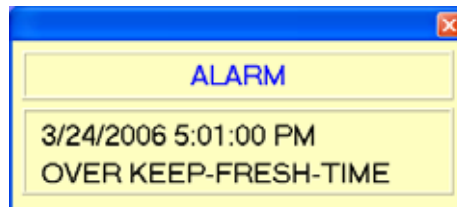
10 Operation

10-4 Stock Conveyor

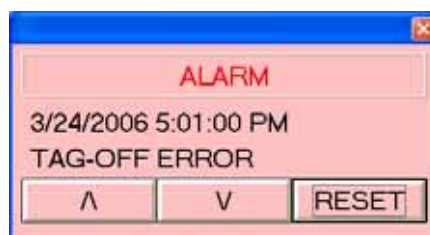
If any dish remains longer than the freshness keeping time, the lever of the automatic eliminating unit swings to eliminate such a dish to the stock conveyor.



As soon as the dish is eliminated, the message “OVER KEEP-FRESH-TIME” is displayed on the monitor for 3 seconds.



Even if any failure occurs to the tag, the dish is eliminated to the stock conveyor. As soon as the dish is eliminated, a message such as “TAG-OFF ERROR” (cancelled by setting), “TAG DATA ABNORM ERR” or “TAG WIRELESS COM ERR” can be displayed on the monitor.



Remove the faulty dish and press the RESET key to delete the error display.

10 Operation

As soon as dishes accumulate up to the stock conveyor full photo cell, " STOCK CONVEYOR FILLED " is displayed on the monitor.



Remove the dish and delete the error display.



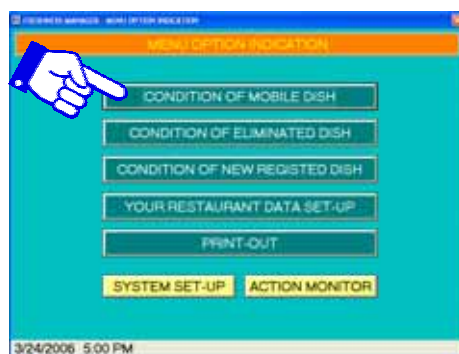
When the eliminated dish is placed on the conveyor again, the following two settings are available.

- (1) The dish is eliminated after moving around once (within a designated time).
- (2) The dish is regarded a new dish.

When the setting needs to be changed, contact Ishino.

10-5 Condition Check

When checking a condition of mobile dishes or eliminated dishes, display the MENU OPTION INDICATION screen and select a necessary screen.



10-6 Condition of Mobile Dish (Page 20)

10-8 Condition of Eliminated Dish (Page 21)

10-10 Condition of New Registered Dish (Page 22)

10 Operation

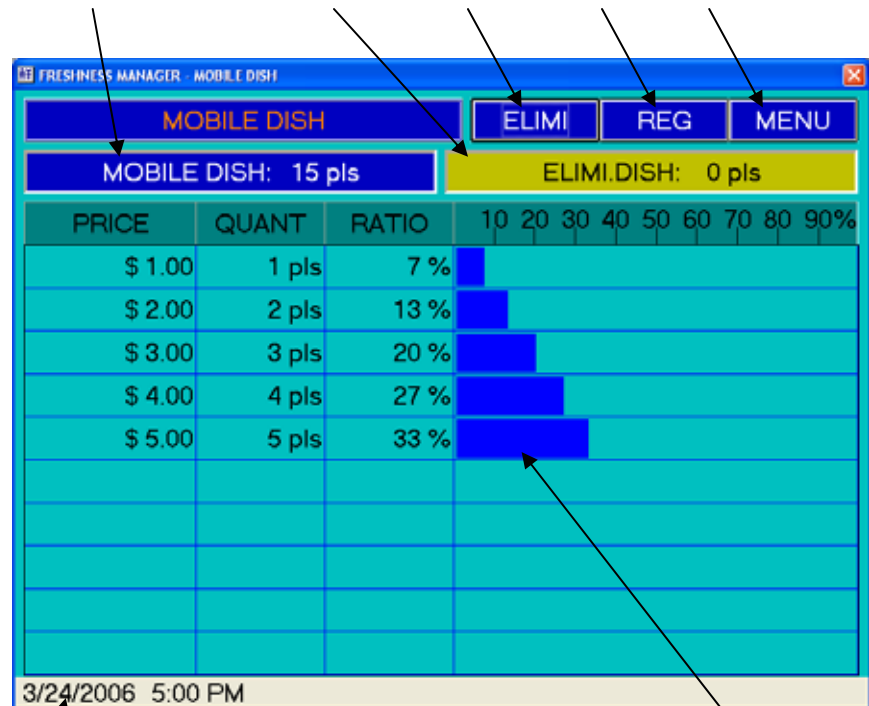
10-6 Condition of Mobile Dish

The number of mobile dishes on the conveyor can be checked on the monitor of this system.

The CONDITION OF MOBILE DISH screen displays the number of currently moving dishes on the conveyor for each kind, ratio (%) and each graph.

10-7 Display Method

Press [CONDITION OF MOBILE DISH] on the menu screen.



[Screen 2] CONDITION OF MOBILE DISH

Explanation of display

- (1) Current time display
- (2) Press to display [Screen 3].
- (3) Press to display [Screen 4]
- (4) Press to display the MENU OPTION INDICATION screen.
- (5) Display of total number of eliminated dishes
- (6) Display of total number of mobile dishes on the conveyor
- (7) The number of 5-dollars dishes moving on the conveyor, ratio to the total dishes and each graph. The graph changes to red when the target number of dishes is reached.

10 Operation

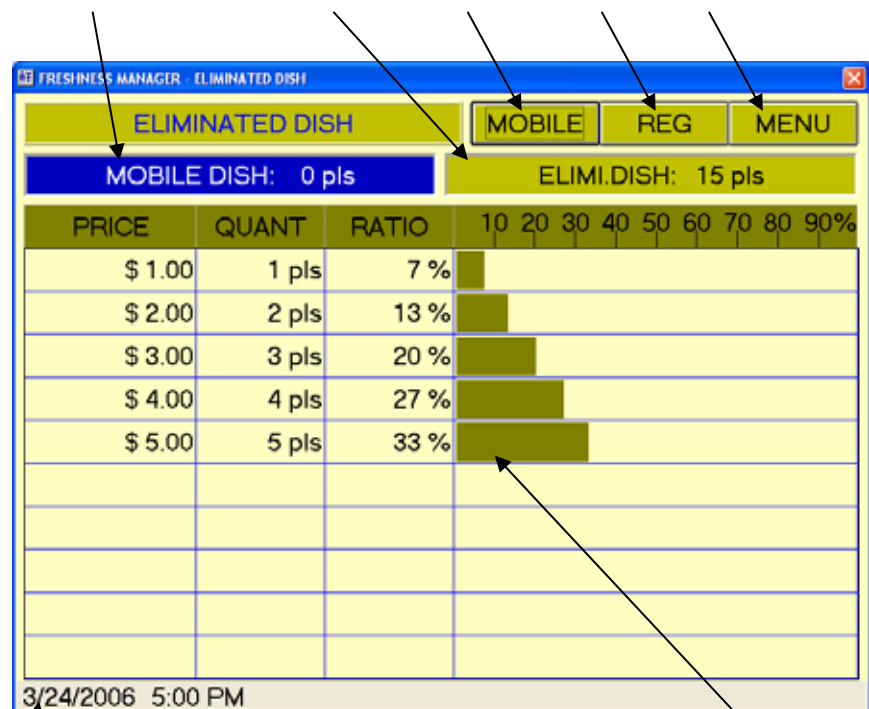
10-8 Condition of Eliminated Dishes

The number of dishes eliminated due to expiration of freshness keeping time after the business is started up to this time can be checked on the monitor of this system.

The CONDITION OF ELIMINATED DISH screen displays the number of dishes eliminated due to expiration of freshness keeping time for each kind, ratio (%) and each graph.

10-9 Display Method

Press [CONDITION OF ELIMINATED DISH] on the MENU OPTION INDICATION screen.



[Screen 3] CONDITION OF ELIMINATED DISH

Explanation of display

- (1) Current time display
- (2) Press to display [Screen 2].
- (3) Press to display [Screen 4]
- (4) Press to display the MENU OPTION INDICATION screen.
- (5) Display of total number of eliminated dishes
- (6) Display of total number of mobile dishes on the conveyor
- (7) The number of 5-dollars dishes eliminated this day, ratio to the total dishes eliminated and each graph.

10 Operation

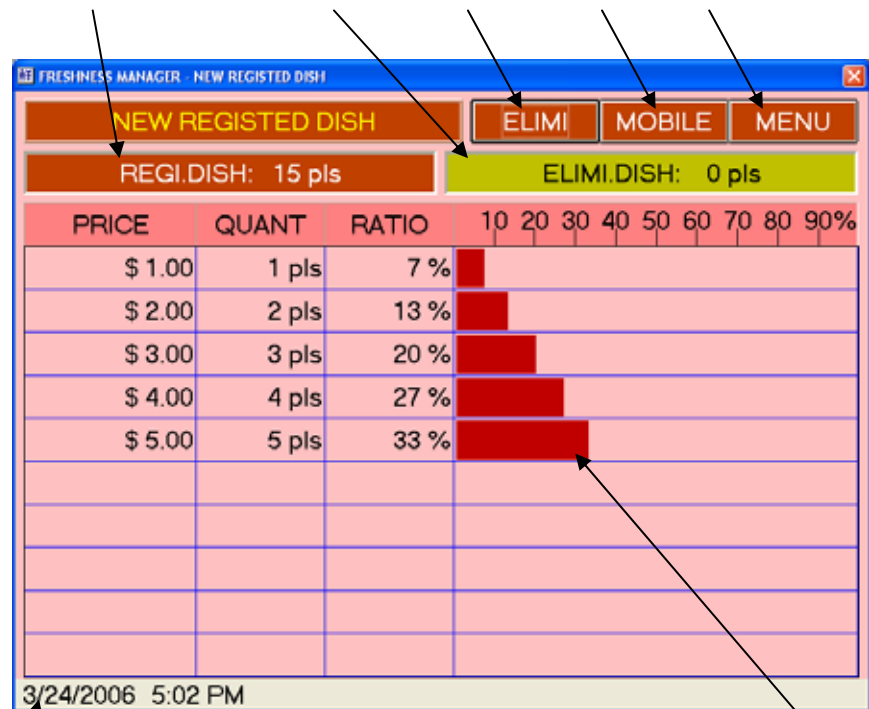
10-10 Condition of New Registered Dish

The number of dishes circulated on the conveyor after the business is started up to this time can be checked on the monitor of this system

The **CONDITION OF NEW REGISTERED DISH** screen displays the number of newly registered dishes for each kind, ratio (%) and each graph.

10-11 Display Method

Press [**CONDITION OF NEW REGISTERED DISH**] on the **MENU OPTION INDICATION** screen.



[Screen 4] **CONDITION OF NEW REGISTERED DISH**

Explanation of display

- (1) Current time display
- (2) Press to display [Screen 3].
- (3) Press to display [Screen 2]
- (4) Press to display the **MENU OPTION INDICATION** screen.
- (5) Display of total number of eliminated dishes
- (6) Display of total number of newly registered dishes
- (7) The number of 5-dollars dishes newly registered this day, ratio to the total dishes newly registered and each graph.

10 Operation

10-12 Stopping and Shutting Down Operation

Turn OFF the switch of the freshness control system.

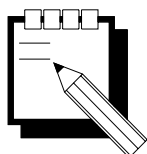


[Control panel]

Only operation is to turn the switch to OFF.



The system is not shut down immediately after the switch operation.



The switch is shut down in the stopping procedure below:

About 3 minutes after the switch is turned to OFF, the freshness control system application is shut down automatically and Windows XP is shut down accordingly.



The POWER lamp on the monitor changes to blink in green from a lit status in green as soon as Windows XP is shut down. The lamp keeps blinking in green for about 2 minutes, and then lights out. The power is shut OFF and operation is finished completely.

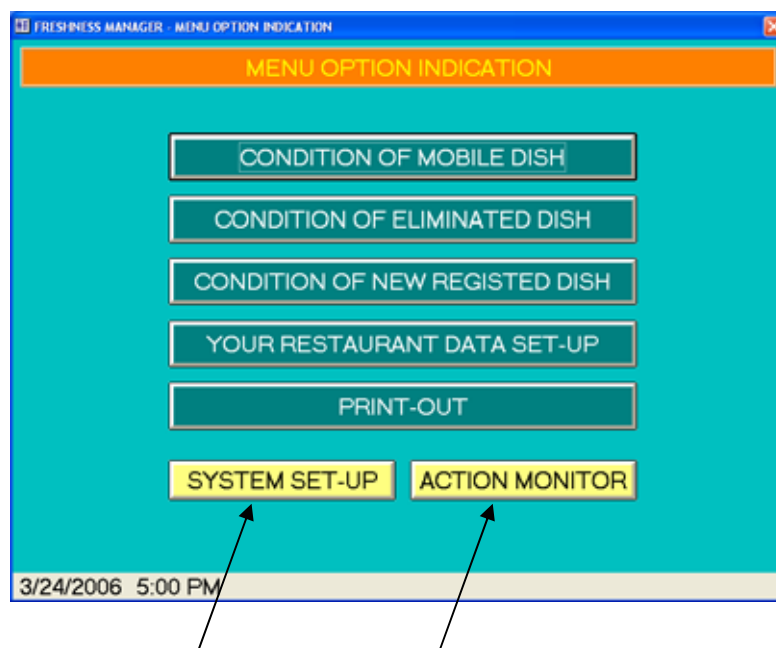
11 Special Setting

11-1 Shipment from
Factory

Special settings are finished upon shipment from the factory according to the conveyor overall length and conveyor speed.

11-2 Special Setting

For special setting, contact our Service Department.



(1) System data set-up

- Change of new dish distinction time, conveyor speed and conveyor length
- Effective/ineffective of dish full sensor, tag-off sensor and eliminated dish re-supply
- Initialization of freshness control system
- Read/write of tag data
- Display of alarm record screen

(2) Action state monitor

- Condition display of freshness control
- Effective/ineffective of automatic dish elimination
- Dish detection by forcible manual operation/forcible elimination

12 Handling of Errors

12-1 Occurrence of Errors

If any trouble occurs, the monitor displays an error. Immediately locate the cause and take appropriate measures.



If the original condition cannot be restored even after measures are taken, contact Ishino.

12-2 Handling of Errors

As soon as any error occurs, the error is displayed on the monitor.



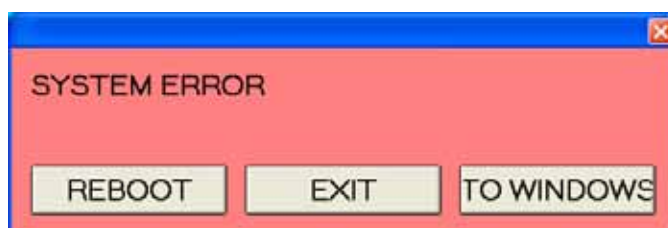
List of Errors

Display	Cause	Resetting
TAG-OFF ERROR	The tag is separated from the dish or the tag is faulty.	Press RESET.
TAG DATA ABNORM ERR	The tag code is other than the dish identification code set for each restaurant.	Press RESET.
RS232C COM ERROR	RS232C communication between the PC and the tag is faulty.	Press RESET.
OVER KEEP-FRESH-TIME	The dish remains longer than the freshness keeping time.	Auto reset
STOCK CONVEYOR FILLED	The stock conveyor is full of eliminated dishes.	Eliminate the dishes.
EJECTION LEVER ERROR	The ejection lever does not return to the home position and is inoperative.	Press RESET.
PLC ERROR	The PLC stops or is faulty.	Check the PLC.
SYSTEM ERROR	An unexpected error occurs during processing.	Refer to Page 26.

12 Handling of Errors

12-3 Handling of System Errors

If an unexpected error occurs in the freshness control system application, the following error message is displayed.



[Operate only in the following procedure in general.](#)

Press the REBOOT key to restart the PC.

[Other than Ishino service personnel must not conduct the following operation.](#)

Press the EXIT key to finish the shut-down operation.
(The freshness control application is shut down and Windows XP is shut down accordingly.)

Press the TO WINDOWS key to finish the freshness control system application and return to the Windows XP screen.