Smart Operation Panel 2nd Generation (New Type)

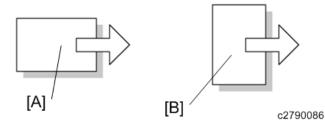
> Field Service Manual Ver 1.0

> > Initial Release: Nov, 2016 Copyright (c) 2016 Ricoh Co.,Ltd.

Symbols, Abbreviations

This manual uses several symbols and abbreviations. The meaning of those symbols and abbreviations are as follows:

Symbol	What it means
Ŵ	Clip ring
SF .	Screw
S.	Connector
§	Clamp
B	E-ring
	Flat Flexible Cable
\bigcirc	Timing Belt
SEF	Short Edge Feed
LEF	Long Edge Feed
к	Black
С	Cyan
Μ	Magenta
Υ	Yellow
B/W, BW	Black and White
FC	Full color



[A] Short Edge Feed (SEF)

[B] Long Edge Feed (LEF)

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Smart Operation Panel (10 Inch Model)

Operation Panel Unit

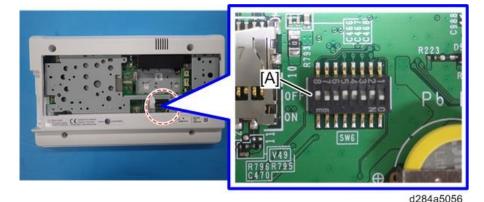
😭 Important 🌖

- Turn off the main power switch of the MFP and disconnect the power cord.
- After replacing, make sure that all disconnected harnesses are connected up again and secured in their clamps.
- 1. Remove the operation panel unit from the MFP.
 - Note
 - For details about how to remove the operation panel unit, refer to the service manual for the MFP.
- 2. Remove the hinges [A] [B] from the operation panel.



Vote

• By factory default, the following switches of the DIP switch [A] on the micro computer board are set to ON: No.1, No.3, No.6 and No.7. When installing the operation panel unit, make sure that the DIP switch setting is correct for the MFP on which you are installing the panel.



The correct DIP switch setting depends on the MFP. Note the DIP switch settings of the old

operation panel unit before replacing, and apply the same settings to the new Smart Operation Panel. Below is example for DIP switch settings when the following switches are set to ON: No.1, No.3, No.6 and No.7 (This is the factory default setting of a service part)

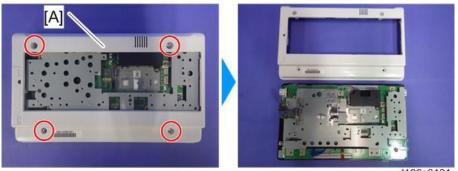


If the DIP switch setting is wrong, SC672 will be displayed.

- The DIP switch No.1 turns ON/OFF the SC reduction function. Change the setting when needed.
 - 0 (OFF): The SC is displayed on the operation panel when SC672/SC673 occur.
 - 1 (ON): If the error is caused by the software defect when SC672/SC673 occur, automatically reboot is performed and the SC is reset. If the error is caused by the hardware defect when SC672/SC673 occur, the SC is displayed on the operation panel.
- After replacing the operation panel unit, make sure that the latest version of the firmware is installed on the Smart Operation Panel. Update it if necessary (Updating the Smart Operation Panel).

Micro Computer Board

- 1. Operation panel unit (Operation Panel Unit)
- 2. Bottom cover [A] (*4)





Vote

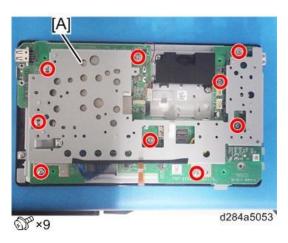
• There are four hooks inside the operation panel unit. Before removing the operation panel

bottom cover, check the photos below.

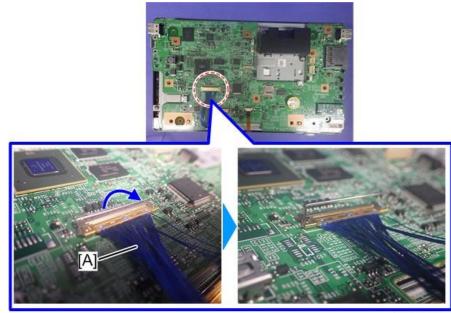


d196z0138

3. Base bracket [A]



4. Lift the fastener of the LCD I/F cable [A] on the micro computer board side.



d284a5060

- 1.Replacement and Adjustment
- 5. Remove the LCD I/F cable [A] from the micro computer board.



d284a5061

<u>6.</u> Remove the FFC [A] from the micro computer board.



Vote

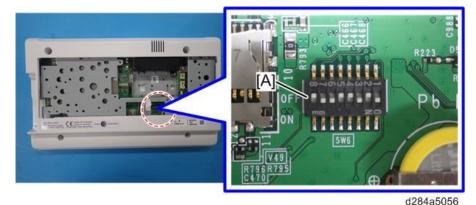
- Pull out the black part to unlock the connector, and then remove the FFC.
- <u>7.</u> Micro computer board [A]



Vote

• By factory default, the following switches of the DIP switch [A] on the micro computer board are set to ON: No.1, No.3, No.6 and No.7. When installing the operation panel unit, make sure

that the DIP switch setting is correct for the MFP on which you are installing the panel.



 The correct DIP switch setting depends on the MFP. Note the DIP switch settings of the old operation panel unit before replacing, and apply the same settings to the new Smart Operation Panel.

Below is example for DIP switch settings when the following switches are set to ON: No.1, No.3, No.6 and No.7 (This is the factory default setting of a service part)



- If the DIP switch setting is wrong, SC672 will be displayed.
- The DIP switch No.1 turns ON/OFF the SC reduction function. Change the setting when needed.
 - 0 (OFF): The SC is displayed on the operation panel when SC672/SC673 occur.
 - 1 (ON): If the error is caused by the software defect when SC672/SC673 occur, automatically reboot is performed and the SC is reset. If the error is caused by the hardware defect when SC672/SC673 occur, the SC is displayed on the operation panel.
- After replacing the micro computer board, perform the following checks:
 - LED Check (LED Check)
 - Key Check (Key Check)

Wi-Fi Module

1. Operation panel unit (Operation Panel Unit)

<u>2.</u> Bottom cover [A] (𝒱×4)



3. Wi-Fi module [A]



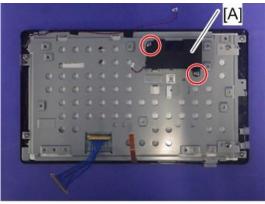
Note

- After replacing the Wi-Fi module, perform the following checks:
 - Wireless LAN Check (Wireless LAN Check)
 - Bluetooth Check (Bluetooth Check)

LCD

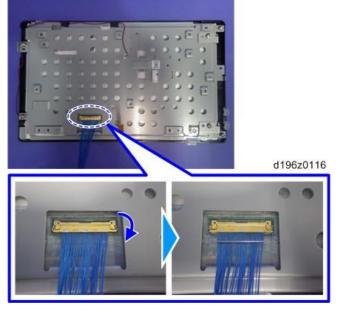
- 1. Operation panel unit (Operation Panel Unit)
- 2. Micro computer board (Micro Computer Board)

<u>3.</u> Speaker [A] (🕬×2)

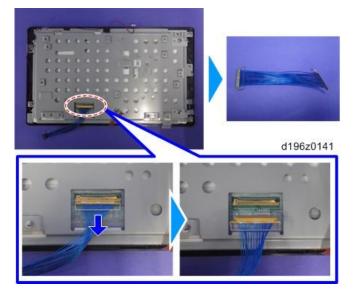


d196z0109

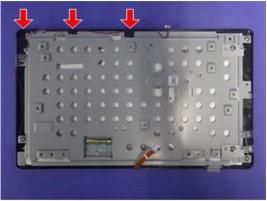
4. Lift the fastener of the LCD I/F cable.



5. LCD I/F cable (cable ×1)

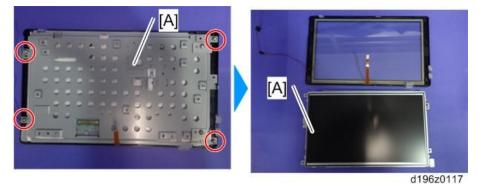


<u>6.</u> Remove the tapes for fixing the microphone harness (tape ×3).



d196z0142

<u>7.</u> LCD [A] (⋰×4)

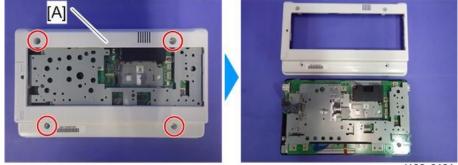


Vote

- After replacing the LCD, perform the following checks.
 - LCD Check (LCD Check)
 - TouchPanel Check (TouchPanel Check)
- Perform "TouchPanel Calibration" (TouchPanel Calibration) and "MultiTouch Calibration" (MultiTouch Calibration) of the Self Check function.

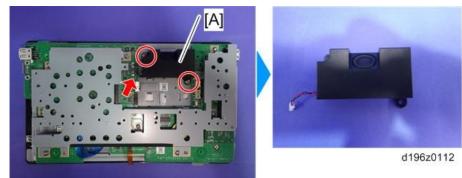
Speaker

- 1. Operation panel unit (Operation Panel Unit)
- **<u>2.</u>** Bottom cover [A] (🕮×4)



d196z0101

<u>3.</u> Speaker [A] (𝔐×2, 𝒴×1)

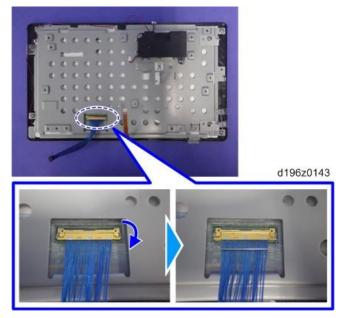


Note

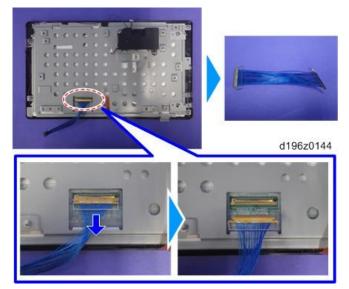
- After replacing the speaker, perform the following check.
 - Speaker Check (Speaker Check)

Microphone

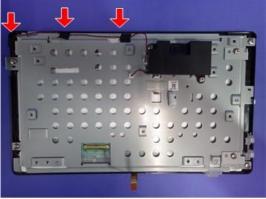
- 1. Operation panel unit (Operation Panel Unit)
- 2. Micro computer board (Micro Computer Board)
- **<u>3.</u>** Lift up the securing wire of the LCD I/F cable.



4. LCD I/F cable (cable ×1)

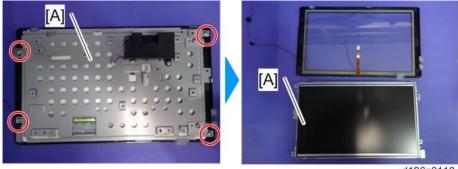


<u>5.</u> Remove the tapes for fixing the microphone harness (tape ×3).



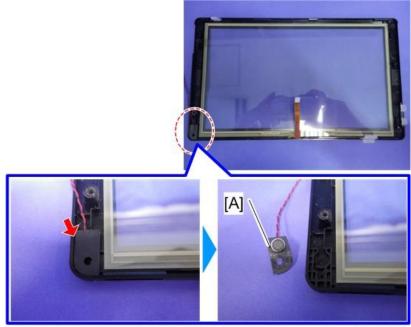
d196z0114

<u>6.</u> LCD [A] (ℬ×4)



d196z0118

<u>7.</u> Microphone [A] (cushioning ×1)



d196z0111

Smart Operation Panel (7 Inch Model)

Vote

M2 screws are used for assembling the 7 inch model.

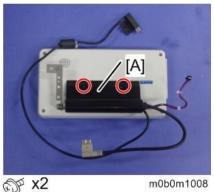
Operation Panel Unit

😭 Important 🔵

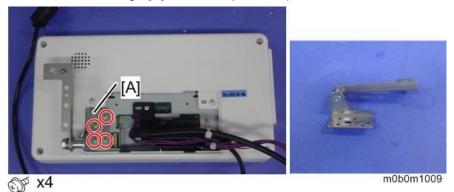
- Turn off the main power switch of the MFP and disconnect the power cord.
- After replacing, make sure that all disconnected harnesses are connected up again and secured in their clamps.
- 1. Remove the operation panel unit from the MFP.

Note

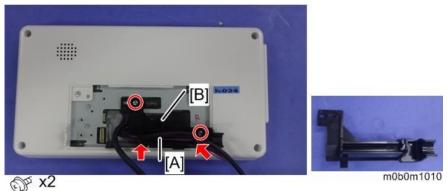
- For details about how to remove the operation panel unit, refer to the service manual for the MFP.
- **<u>2.</u>** Remove the cover [A].



<u>3.</u> Remove the left hinge [A] from the operation panel.



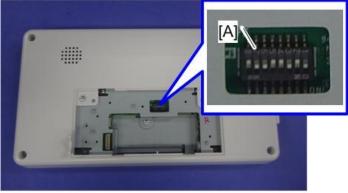
4. Release the harness [A] and remove the cable guide [B].



5. Disconnect the 3 connectors.



• By factory default, the following switches of the DIP switch [A] on the micro computer board are set to ON: No.1, No.3, No.6 and No.7. When installing the operation panel unit, make sure that the DIP switch setting is correct for the MFP on which you are installing the panel.



m0b0m1012b

• The correct DIP switch setting depends on the MFP. Note the DIP switch settings of the old operation panel unit before replacing, and apply the same settings to the new Smart Operation Panel. Below is example for DIP switch settings when the following switches are set to ON:

No.1, No.3, No.6 and No.7 (This is the factory default setting of a service part)

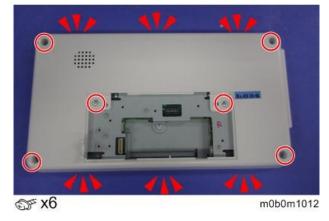


- If the DIP switch setting is wrong, SC672 will be displayed.
- The DIP switch No.1 turns ON/OFF the SC reduction function. Change the setting when needed.
 - 0 (OFF): The SC is displayed on the operation panel when SC672/SC673 occur.
 - 1 (ON): If the error is caused by the software defect when SC672/SC673 occur, automatically reboot is performed and the SC is reset. If the error is caused by the hardware defect when SC672/SC673 occur, the SC is displayed on the operation panel.
- After replacing the operation panel unit, make sure that the latest version of the firmware is installed on the Smart Operation Panel. Update it if necessary (Updating the Smart Operation Panel).

Exterior Covers

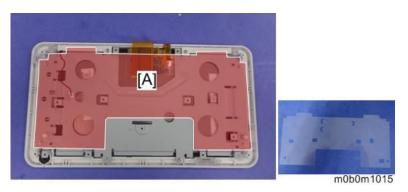
Rear Cover

- 1. Operation panel unit (Operation Panel Unit)
- 2. Remove the rear cover [A].



Front Cover Assembly

- 1. Remove the micro computer board (Micro Computer Board)
- 2. Remove the protection sheet [A].



USB Cover

- 1. Operation panel unit (Operation Panel Unit)
- 2. Remove the USB cover [A].

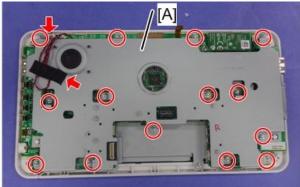


Boards

Micro Computer Board

<u>1.</u> Remove the rear cover (Rear Cover).

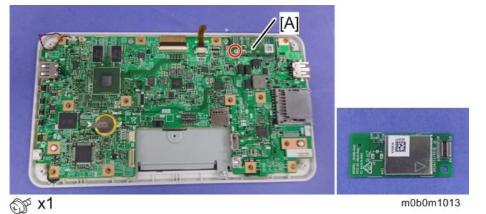
2. Remove the base bracket [A]



☞ x14, ☞ x1

m0b0m1012a

3. Remove the Wi-Fi module [A]



4. Remove the micro computer board [A].



[☞] x1,‱x2

• By factory default, the following switches of the DIP switch [A] on the micro computer board are set to ON: No.1, No.3, No.6 and No.7. When installing the operation panel unit, make sure

Note

 Image: Provide state st

that the DIP switch setting is correct for the MFP on which you are installing the panel.

• The correct DIP switch setting depends on the MFP. Note the DIP switch settings of the old operation panel unit before replacing, and apply the same settings to the new Smart Operation Panel.

Below is example for DIP switch settings when the following switches are set to ON: No.1, No.3, No.6 and No.7 (This is the factory default setting of a service part)

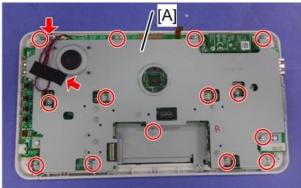


- If the DIP switch setting is wrong, SC672 will be displayed.
- The DIP switch No.1 turns ON/OFF the SC reduction function. Change the setting when needed.
 - 0 (OFF): The SC is displayed on the operation panel when SC672/SC673 occur.
 - 1 (ON): If the error is caused by the software defect when SC672/SC673 occur, automatically reboot is performed and the SC is reset. If the error is caused by the hardware defect when SC672/SC673 occur, the SC is displayed on the operation panel.
- After replacing the micro computer board, perform the following checks:
 - LED Check (LED Check)
 - Key Check (Key Check)

Wi-Fi Module

<u>1.</u> Remove the rear cover (Rear Cover).

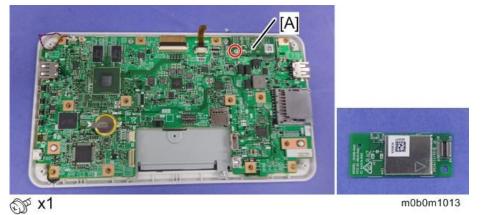
2. Remove the base bracket [A]



☞ x14, ☞ x1

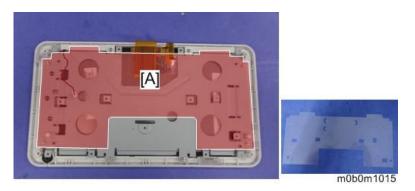
m0b0m1012a

3. Remove the Wi-Fi module [A]

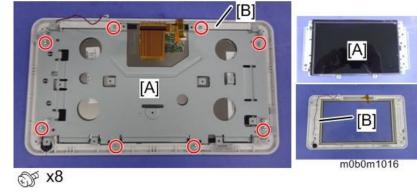


LCD

- 1. Remove the micro computer board (Micro Computer Board)
- **<u>2.</u>** Remove the protection sheet [A].



3. Separate the the LCD unit [A] from the front cover assembly [B].



Note

- After replacing the LCD, perform the following checks.
 - LCD Check (LCD Check)
 - TouchPanel Check (TouchPanel Check)
- Perform "TouchPanel Calibration" (TouchPanel Calibration) and "MultiTouch Calibration" (MultiTouch Calibration) of the Self Check function.

2. Mechanism

Overview

System Components

Hardware Specifications (10 Inch Model)

Components



No.	Name	No.	Name
1	Speaker	13	[Check Status] indicator
2	[Login/Logout] key	14	[Check Status] key
3	Main power indicator	15	Data In indicator (facsimile and printer modes)
4	[Energy Saver] key	16	Fax indicator
5	USB slot for digital cameras	17	Extended Feature key (EX3)
6	HDMI slot	18	Extended Feature key (EX2)
7	USB slot for NFC card readers	19	Extended Feature key (EX1)
8	Microphone	20	Control panel reboot key
9	[Stop] key	21	SD card slot
10	[Menu] key	22	Media access lamp
11	[Home] key	23	USB slot
12	[Back] key		

Basic Specifications

Category	Specification
LCD panel	• Size
22	

Category	Specification		
	10.1 inch panel		
	Resolution		
	WSVGA (1024x600)		
	Bit width		
	RGB666 (18 bit color)		
	Brightness		
	200cd/m ² (typ.)		
	Backlight		
	LED Backlight (life: 15,000 hours)		
CPU	ARM Cortex-A9 Dual Core 1GHz (SoC: MCIMX6D5EYM10AC)		
Touch panel	Low load touch panel (recognizes touches to two points)		
Memory	Volatile Memory		
	RAM (DDR3-1066), 2G		
	Non-Volatile Memory		
	eMMC NAND, 8GB		
	♦ Note		
	Uses a 16GB product in SLC Mode.		
	Program area and data area for the operating system and		
	applications.		
External interfaces	USB Memory		
	USB2.0 Host Type-A		
	SD Card		
	SD card slot 1ch (SD* ¹ /SDHC* ²)		
	*1 Up to 2GB		
	*2 Up to 32GB		
	USB expansion		
	USB2.0 Host Type-A		
	(for camera, USB keyboard, USB card reader)		
	USB expansion		
	USB2.0 Host Type-miniB		
	(for NFC expansion)		
	• HDMI		
	HDMI 1.4		
	(for large screens available as custom order)		
Internal interfaces	Extended Features		
	microSD card slot		
	♦ Note		
	When a media is inserted in the microSD card slot, its capacity is		

Category	Specification		
	shown in the control panel service mode (Screen Features >		
	Device > microSD card) and the SMC (in the report for the Smart		
	Operation Panel).		
Network	Wireless LAN		
	802.11b/g/n		
	Bluetooth		
	Bluetooth4.0		
Audio input/output	Monaural speaker 1ch (output: 1 to 2 W), Microphone		
RTC accuracy	±52.56 seconds per month (using external crystal oscillator, 20 ppm)		
Hard keys	Extended Feature keys (EX1, EX2, and EX3)		
	Use for startup in extended mode etc.		
	Control panel reboot key		
	Use to reboot the control panel when it freezes.		
LED types	Main power indicator (blue)		
	Lights when the power is on. Flashes slowly in Sleep mode.		
	[Check Status] indicator lamp (red/blue)		
	Lights when an error occurs.		
	Data In indicator (blue)		
	Flashes when the machine receives data from a printer driver or LAN-Fax		
	driver.		
	Fax indicator (blue)		
	Flashes while sending or receiving a fax. Lights when there is a received		
	fax document in the fax memory.		
	Media access lamp (blue)		
	Lights when there is an SD card inserted in the SD card slot.		
Maximum power	4 W or less		
consumption	(excluding external interfaces and internal feature expansions)		
Power	0.35 W or less		
consumption in	(When in Sleep mode, power is not supplied to USB devices connected to the		
Sleep mode	USB slots.)		

Specification comparison with the previous model

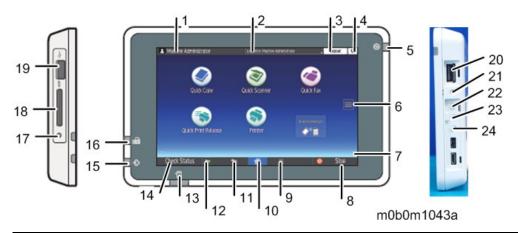
Item	This model	Previous model
Appearance	d196a2016	d196a2017
Control panel size	267 × 160 mm	345 × 161 mm

Item	This model	Previous model
(Width × Height)		
CPU operating frequency	1 GHz	533 MHz
RAM size	2 GB	1 GB
LCD panel size	10.1 inch	10.1 inch
Android OS	Version. 4.2	Version. 2.3
Types of the following keys	Soft keys	Hard keys
• [Home] key		
• [Stop] key		
[Check Status] key		
• [Back] key		
• [Menu] key		
LED types	Four types	Seven types
	Main power indicator	Main power indicator
	 [Check Status] indicator 	[Check Status] indicator
	Data In indicator	Data In indicator
	Media access lamp	Media access lamp
		• [Home] key
		• [Menu] key
		• [Back] key
Wireless LAN interface	IEEE802.11bgn	IEEE802.11bgn
Types of external interfaces	USB port (type A/mini)	USB port (mini)
	USB media slot	USB media slot
	SD card slot	SD card slot
Bluetooth	Available	Not available

Available languages

Japanese, English, French, German, Italian, Spanish, Dutch, Norwegian, Danish, Swedish, Polish, Portuguese, Hungarian, Czech, Finnish, Simplified Chinese, Traditional Chinese, Russian, Greek, Korean, Catalan, Turkish, Brazilian Portuguese

Components



No.	Name	No.	Name	
1	Logged in user icon	14	[Check Status] indicator	
2	System message indicator	15	Data In indicator (facsimile and printer modes)	
3	[Login/Logout] key	16	Fax indicator	
4	[Energy Saver] key	17	Media access lamp	
5	Main power indicator	18	SD card slot	
6	Application list icon	19	USB slot	
7	Icons to switch between screens	20	USB slot for digital cameras	
8	[Stop] key	21	Control panel reboot key	
9	[Menu] key	22	Extended Feature key (EX1)	
10	[Home] key	23	Extended Feature key (EX2)	
11	[Return] key	24	Extended Feature key (EX3)	
12	[Media Information]			
13	Status indicator			

Basic Specifications

Category	Specification		
LCD panel	• Size		
	7 inch panel		
	Resolution		
	WSVGA (1024x600)		
	Bit width		
	RGB666 (18 bit color)		
	Brightness		
	200cd/m ² (typ.)		
	Backlight		

Category	Specification		
	LED Backlight (life: 15,000 hours)		
CPU	ARM Cortex-A9 Dual Core 1GHz (SoC: MCIMX6D5EYM10AC)		
Touch panel	Low load touch panel (recognizes touches to two points)		
Memory	Volatile Memory		
	RAM (DDR3-1066), 2G		
	Non-Volatile Memory		
	eMMC NAND, 8GB		
	♦ Note		
	Uses a 16GB product in SLC Mode.		
	 Program area and data area for the operating system and 		
	applications.		
External interfaces	USB Memory		
	USB2.0 Host Type-A		
	SD Card		
	SD card slot 1ch (SD* ¹ /SDHC* ²)		
	*1 Up to 2GB		
	*2 Up to 32GB		
	USB expansion		
	USB2.0 Host Type-A		
	(for camera, USB keyboard, USB card reader)		
Internal interfaces	Extended Features		
	microSD card slot		
	When a media is inserted in the microSD card slot, its capacity is		
	shown in the control panel service mode (Screen Features >		
	Device > microSD card) and the SMC (in the report for the Smart		
Notwork	Operation Panel).		
Network	Wireless LAN		
	802.11b/g/n		
	Bluetooth		
Audio input/output	Bluetooth4.0 Monaural speaker 1ch (output: 1 to 2 W), Microphone		
RTC accuracy	±52.56 seconds per month (using external crystal oscillator, 20 ppm)		
Hard keys	 Extended Feature keys (EX1, EX2, and EX3) 		
	Use for startup in extended mode etc.		
	 Control panel reboot key 		
	Use to reboot the control panel when it freezes.		
LED types	Main power indicator (blue)		
	······· Perior ······· (-·····)		

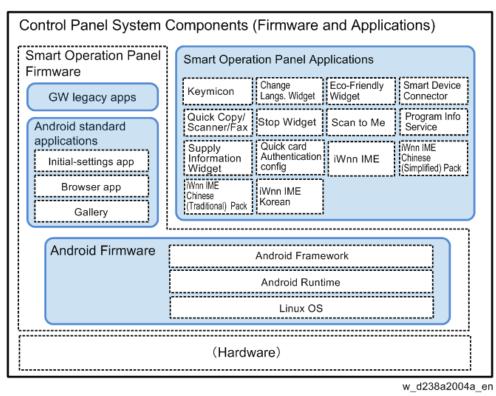
Category	Specification
	Lights when the power is on. Flashes slowly in Sleep mode.
	[Check Status] indicator lamp (red/blue)
	Lights when an error occurs.
	Data In indicator (blue)
	Flashes when the machine receives data from a printer driver or LAN-Fax
	driver.
	Fax indicator (blue)
	Flashes while sending or receiving a fax. Lights when there is a received
	fax document in the fax memory.
	Media access lamp (blue)
	Lights when there is an SD card inserted in the SD card slot.
Maximum power	4 W or less
consumption	(excluding external interfaces and internal feature expansions)
Power	0.35 W or less
consumption in	(When in Sleep mode, power is not supplied to USB devices connected to the
Sleep mode	USB slots.)

Available languages

Japanese, English, French, German, Italian, Spanish, Dutch, Norwegian, Danish, Swedish, Polish, Portuguese, Hungarian, Czech, Finnish, Simplified Chinese, Traditional Chinese, Russian, Greek, Korean, Catalan, Turkish, Brazilian Portuguese

Software Specifications

A software package consisting of the Android Firmware and the manufacturer's own pre-installed applications is installed on the Smart Operation Panel.



The following three types of software are installed on the Smart Operation Panel.

- 1. Android Firmware (Android OS)
- 2. Pre-installed applications
- 3. Applications that can be installed additionally

Android Firmware (Android OS)

The Android Firmware (Android OS) consists of the following modules that are called "stacks".

- Linux kernel
- Android Runtime
- Library
- Application Framework

Pre-installed applications

On the Smart Operation Panel, applications such as the GW applications (Copy/Printer/Document Server/Scanner/Fax), Control Panel Browser, the standard keyboard, Installer, Gallery, Self Check are pre-installed. Unlike those installed on the controller board of the MFP, GW applications that are installed on the Smart Operation Panel are for controlling operation and display of the Smart Operation Panel.

Pre-installed applications are provided as part of the control panel firmware (Cheetah System) together with the Android firmware. When you update the control panel firmware using the recovery mode or another method, the pre-installed applications will also be updated.

Applications that can be installed

On the Smart Operation Panel, applications can be installed in addition to the pre-installed applications.

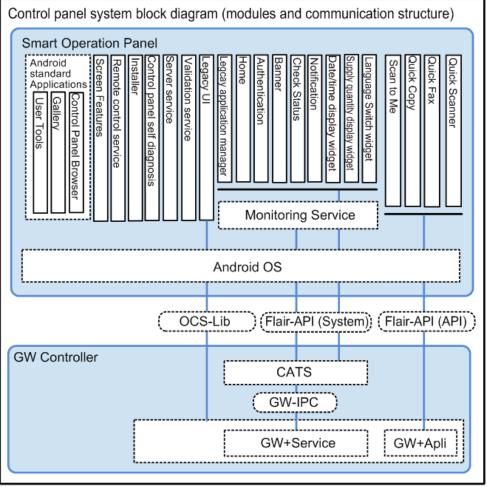
2.Mechanism

Applications that can be installed include optional applications that customers can purchase, applications that are installed only on machines sold in specific regions, and custom-made applications. On an MFP, applications such as Simple UI applications (Quick Copy, Quick Fax, and Quick Scanner) and Scan to Me are installed.

Communication Specifications

The Smart Operation Panel and the GW controller are connected by a USB 2.0 cable. They communicate with each other via the Android OS on the Smart Operation Panel, using protocols called "OCS Library" and "Flair-API (System/Application)".

System block diagram



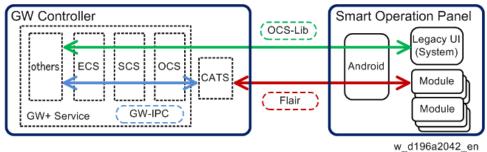
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Overview of Components

Communication	Details
module/signal name	
OCS Library	OSC stands for Operating Control Service. It is a module that controls the
	control panel. The set of signals used by this module to control the control
	panel are called the OCS Library.
	It is used during communication between the Legacy UI (system) module

2.Mechanism

Communication	Details
module/signal name	
	on the Smart Operation Panel and the GW module for the following
	processes.
	Deciding on the display format suitable for a particular model of the
	control panel, so that the intended image data can be converted to
	actual image data.
	Converting touch panel operations to commands.
Flair-API	Flair is the manufacturer's own communication interface between software
(System/Application)	modules. The interface uses a generic WebAPI.
	It is divided into two parts: a part that communicates directly with
	applications such as the application manager, Home, Authentication,
	Banner, Check Status, and Widgets, and a part that monitors applications.
	It communicates with the GW controller via the CATS module.
CATS	CATS stands for Cheetah Application Total System. It is a module in the
	GW controller.
	Because the Smart Operation Panel uses the Android OS, the contents
	and protocols of communication are not the same as those of the
	conventional control panel. CATS serves as an intermediary between the
	GW controller and the Smart Operation Panel.
	It also controls the power status of the control panel.
	CATS communicates with the Smart Operation Panel using the Flair-API,
	and communicates with the GW module using the GW-API.
GW-IPC	The name of the interface used among modules in the GW controller. The
	role is the same as that of the Flair-API.



Note

• API stands for Application Programming Interface. An API is an interface that software modules use in order to communicate with each other.

Application Specifications

The pre-installed applications and applications that can be additionally installed on the Smart Operation Panel can be classified into the following 3 categories.

2.Mechanism

• System applications

Applications that operate in conjunction with multiple functions (operating regardless of the application)

• Program applications

Applications that provide a single additional function

• Widget applications

Applications that provide a widget

The following table explains the function of each application.

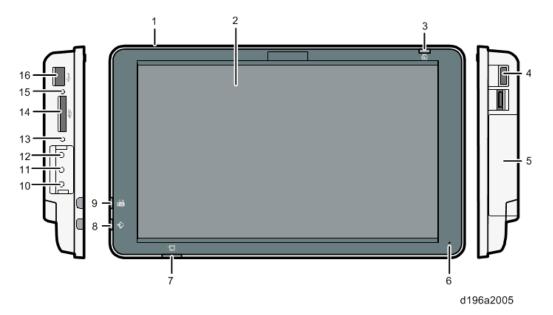
Application	Functions
Settings	Provides the Android OS's standard settings.
Screen Features	Provides the manufacturer's own settings.
Authentication	Monitors login to/logout from the MFP, and transmits authentication
	information to other services and applications.
Monitoring service	Monitors the status of the MFP. This service is used by widgets and
	applications including Banner, Check Status, Authentication, and Home.
Launcher (Legacy	This application provides an application switching function when there is
Application Manager)	no Home application.
Installer	Provides the installer UI. Internal operation is controlled by the Package
	Installer application.
Server service	Provides server functions for application installation.
Remote control	Works together with the server service and provides the functions and
	displays of RFU and import/export of settings, including the UI.
Manual	Provides connection to the server where manuals are stored (HTTP
	server). Manuals are displayed using the Web Browser application.
Splash screen	Provides the image that is displayed immediately after the MFP is turned
	ON.
Startup animation	Provides the startup animation for the operation screen.
Validation	Performs validation when the machine is started in CC certified mode.
	* CC stands for Common Criteria. It is the evaluation criteria for IT
	security (ISO15408).
LUI system	LUI stands for Legacy User Interface. The conventional control panel
	display is displayed by this application. Model-specific settings are
	included in this application
Package Installer	Provides installation and update functions for applications.
	Also provides the screen for uninstallation.
Self Check	Provides a self-check function for the control panel hardware.
	See Panel Self Check for contents of the self-check.
Initialization	Initializes settings of the MFP or the control panel.

	Functions			
Web Browser	Android OS's standard Browser application			
Gallery	Reads images from SD cards or other media, and sets them as wallpaper			
	or live wallpaper.			
Standard keyboard	Android OS's standard operation panel that is called up when the user			
	enters characters or numbers.			
Home screen	Provides the Home screen. Also provides screen customization and			
	application switching.			
Banner	Displays balloon messages in the banner area at the bottom of the panel			
	display.			
OCS emulator	This application serves as an intermediary between the control panel and			
	the controller board. (The emulator allows the controller board to work the			
	same way regardless of the type of control panel.)			
Simple UI applications	Simple (Quick) applications.			
	Quick Copy			
	Provides the Quick Copy function.			
	Quick Fax			
	Provides the Quick Fax function.			
	Quick Scanner			
	Provides the Quick Scanner function.			
Widgets	Resident applications that display information on the screen as			
	configured.			
	Date/time indicator			
	Displays the date and time.			
	Supply information			
	Displays toner status.			
	Change Languages			
	Provides the language switching function.			
	Eco-friendly			
	Displays detailed information about the eco functions.			
	Fax Received File			
	Displays the fax reception status.			
	• Stop			
	Provides a [Stop] key on the application screen. Used by functions			
	such as Quick Copy and Scan to Me.			
	System Message			
	Displays system messages.			
IME (excluding the	Multiple settings can be configured (the user can select one when using			
standard keyboard)	the keyboard).			

Application	Functions	
	iWnn IME Chinese (Simplified) Pack	
	Chinese (simplified) language pack for iWnnIME	
	iWnn IME Chinese (Traditional) Pack	
	Chinese (traditional) language pack for iWnnIME	
	iWnn IME Korean Pack	
	Korean language pack for iWnnIME	
ICCardDispatcher	Host application for NFC (Near Field Communication). Transmits card	
	information to authentication applications.	
Quick Card	Provides simple authentication using an IC card.	
Authentication		
Standard IC card plugin	A plugin for using IC cards. Examples of IC cards are the FeliCa (Lite)	
	and Mifare card systems.	
Bluetooth Service	Provides configurations for standard Bluetooth on the Android OS.	
Bluetooth Authentication	This plugin is required to use Bluetooth authentication.	
Plugin		
Сору	Copy application with a new UI.	
	This application is not available for MP C 306Z/406Z series.	
Fax	Fax application with a new UI.	
	This application is not available for MP C 306Z/406Z series.	
Scan	Scan application with a new UI.	
	This application is not available for MP C 306Z/406Z series.	
Printer	Printer application with a new UI.	
	This application is not available for MP C 306Z/406Z series.	
Quick Print Release	Ability to view and print stored documents.	
	This application is not available for MP C 306Z/406Z series.	
Print/Scan (Memory	"Media Print" and "Scan to Media" have been integrated into this	
Storage Device)	application.	
	This application is not available for MP C 306Z/406Z series.	
Web Browser NX	Provides an operating environment for solution applications' functions and	
	configuration.	
Proximity Card Reader	Provides support for USB card readers.	
Support Plugin		

Panel Components/Screen Layout

Components of the Control Panel (10 Inch Model)

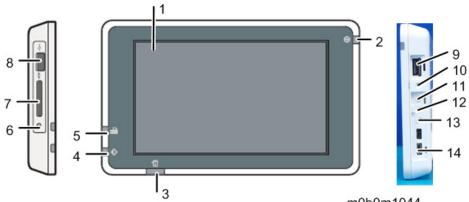


No.	Name	Description
1	Speaker	There is currently no function that uses this.
2	Display panel	Displays icons for functions and applications. Displays the operation
		screens, operation keys and other information.
3	Main power indicator	Indicates power OFF/ON status.
4	USB slot for digital	A digital camera can be connected here.
	cameras	
5	USB slot for NFC	A near field communication (NFC) device can be connected here.
	card readers	
6	Microphone	There is currently no function that uses this.
7	[Check Status]	Indicates system status.
	indicator	
8	Data In indicator	Flashes when the machine receives data from a printer driver or LAN-
		Fax driver.
9	Fax indicator	Indicates fax status.
		During communication: Flashes
		When fax documents have been received using Substitute
		Reception: Lights
		• When the machine has received a confidential fax document:
		Lights
10	Extended Feature	Used for system maintenance, such as control panel self-check.
	key (EX3)	

2.Mechanism

No.	Name	Description
11	Extended Feature	Used for system maintenance, such as control panel self-check.
	key (EX2)	
12	Extended Feature	Used for system maintenance, such as control panel self-check.
	key (EX1)	
13	Control panel reboot	Used when rebooting the control panel.
	key	
14	SD card slot	Insert an SD card here.
15	Media access lamp	Lights when an external media is inserted into the SD card slot or the
		USB slot.
16	USB slot	Insert a USB memory device here.

Components of the Control Panel (7 Inch Model)



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No.	Name	Description			
1	Display panel	Displays icons for functions and applications. Displays the operation			
		screens, operation keys and other information.			
2	Main power indicator	Indicates power OFF/ON status.			
3	[Check Status]	Indicates system status.			
	indicator				
4	Data In indicator	Flashes when the machine receives data from a printer driver or LAN-			
		Fax driver.			
5	Fax indicator	Indicates fax status.			
		During communication: Flashes			
		When fax documents have been received using Substitute			
		Reception: Lights			
		• When the machine has received a confidential fax document:			
		Lights			
6	Media access lamp	Lights when an external media is inserted into the SD card slot or the			
		USB slot.			
7	SD card slot	Insert an SD card here.			

No.	Name	Description			
8	USB slot	Insert a USB memory device here.			
9	USB slot for digital	A digital camera can be connected here.			
	cameras				
10	Control panel reboot	Used when rebooting the control panel.			
	key				
11	Extended Feature	Used for system maintenance, such as control panel self-check.			
	key (EX1)				
12	Extended Feature	Used for system maintenance, such as control panel self-check.			
	key (EX2)				
13	Extended Feature	Used for system maintenance, such as control panel self-check.			
	key (EX3)				
14	USB slot for NFC	A near field communication (NFC) device can be connected here.			
	card readers				

Panel Display

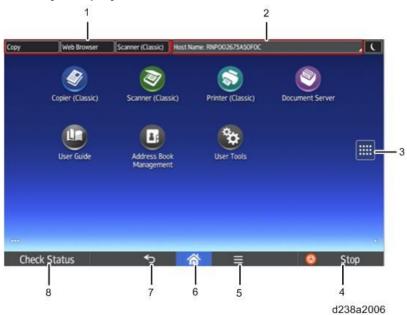
Screen Layout



No.	Name	Description
1	Login	Login information is displayed.
	information area	
2	[Login/Logout]	Displayed when authentication is enabled. The login screen appears if you
	key	press [Login]. [Logout] is displayed if you have already logged in. You will
		be logged out when you press [Logout].
3	[Energy Saver]	Enters Sleep mode.

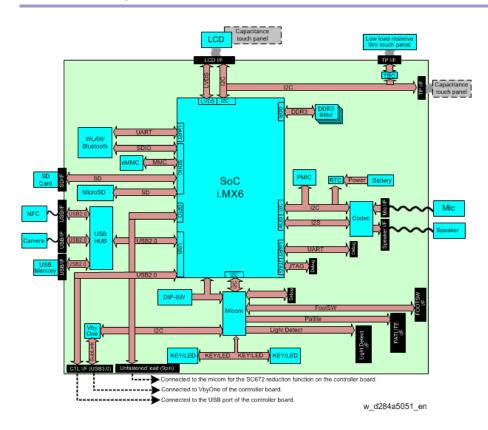
No.	Name	Description			
	key				
4	Icon display area	Application icons, widgets, and system messages are displayed.			

Soft keys displayed on the screen



No.	Name	Description	
1	Function keys	Users can assign shortcuts for each application. Up to three applications can	
		be assigned as shortcuts. When an application is assigned as a function key,	
		users can call the application from any screen. The function keys are disabled	
		by default. Users must enable this function to be able to allocate applications	
		to function keys.	
2	System	System messages are displayed in this area. If there are multiple messages to	
	messages	be displayed, they are displayed in rotation. Tapping the message opens a	
	key	dialog which shows all the messages.	
3	[Application	Displays the list of installed applications.	
	List] key		
4	[Stop] key	Stops the scanning of a document, fax transmission, or printing to paper.	
5	[Menu] key	Displays the menu screen of the application in use. May not be available	
		depending on the application.	
6	[Home] key	Displays the Home screen.	
7	[Back] key	Use this to go back to the previous screen when the Screen Features screen	
		or the screen of an application is displayed.	
8	[Check	You can check the status of the MFP, each function, and the current job. You	
	Status] key	can also check the job history and maintenance information of the MFP.	

Electrical Components



Touch Panel

The touch panel of this machine uses a 4-wire resistive film method (low load resistive film analog 4wire method). It can detect two points for flick/drag/pinch-in/pinch-out operations. Resistive touch panel has been adopted in order to allow operation with a prosthetic hand.

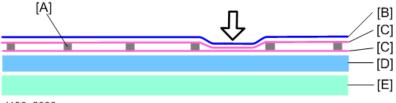
Basic Structure

An analog 4-wire resistive film touch panel has 2 layers. Two materials (mainly film or glass) with transparent conductive film (ITO) are attached such that the transparent conductive film layers face each other.

When the film is pressed with a finger or a pen, the transparent conductive films contact each other and the touch panel operation is recognized.

Insulators (spacing dots) secure space between the two transparent conductive film layers to prevent short-circuiting.

Because the transparent conductive film has a uniform resistance characteristic, the resistance value reflects the distance of contact.



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- [A]: Spacing dot
- [B]: PET film
- [C]: Transparent conductive film
- [D]: Base glass
- [E]: LCD panel

Self-Check (multi-touch calibration) mechanism

With the Multi-touch calibration in the self-check function, the touch panel is automatically calibrated using the results of touches to the top left and bottom right positions.

The values of "EVR_X", "EVR_Y", "X_MAX", and "Y_MAX" are used for internal processing. They do not indicate the positions or distance of the touched points. There is no problem unless there is a huge difference between the values of the first calibration and the second calibration.

Service	Logout 🕻		Service				Logout	
Multi Touch Calibration(1st)			Mu	lti Touch Calit	ration			
Current 1st 2nd				Current	1st	2nd		
EVR_X : 223		.	EVR_X :	223	217	218		
EVR_Y: 75			EVR_Y:	75	76	76		
X_MAX: 36			X_MAX :	36	855	898		
Y_MAX : 26		/	Y_MAX :	26	230	229		
Left-Top : Please touch on Left-Top screen			Ret	try : Press Bac	k Key			
			ОК	: Press Menu	Key			\perp
Check Status 🕤 🔗	Stop		Check Status		5 <a>a	þ	8	Stop
							d196	a2025

Controlling the Power Supply

Exiting Energy Saving Modes

Because this model of Smart Operation Panel has no hardware keys, the MFP exits from energy saving mode when the user does one of the following:

- Touches the display panel
- Lifts the ADF
- Sets an original in the ADF

Screen Startup Mode

Startup Modes

There are two screen startup modes. The factory default setting is Normal.

1. Normal

This is the standard startup mode. When the main power of the MFP is turned ON, the control panel starts up using less power compared to Quick mode.

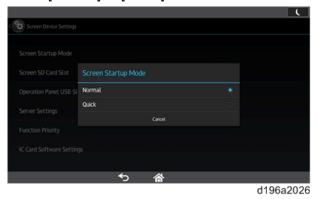
2. Quick

By preparing for the next startup when the machine shuts down, the control panel starts up faster than in Normal mode.

Changing the Screen Startup Mode

Screen Startup Mode can be changed in Screen Features.

Select [Screen Features] > [SYSTEM] > [Screen Device Settings] > [Screen Startup Mode], and then select [Normal] or [Quick].



Note

- In the following cases, the control panel starts up in Normal mode even if [Quick] is selected.
- The power cord has been disconnected from the power outlet after the last shutdown.
- The MFP is turned ON after being turned OFF due to reasons such as a power failure.
- The MFP was not properly shut down the last time it was turned OFF.

2.Mechanism

How the Control Panel Starts Up

In Normal mode

The startup screen is displayed on the display panel, followed by the startup animation.

Startup screen Startup animation



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In Quick mode

The [Home] screen is displayed immediately after the main power of the MFP is turned ON. The startup screen displayed when starting in Normal mode is not displayed.

How the Screen Shuts Down When Quick mode Is Selected

When Quick mode is selected, the MFP prepares for the next startup when it shuts down The main power indicator flashes during preparation for the next startup. The indicator turns off when preparation is completed.



If the MFP is turned ON during shutdown, the preparation for the next startup continues. When preparation for the next startup is completed, the control panel starts up in Quick mode.

Note

• When Quick mode is selected, the control panel starts up faster than in Normal mode but shutdown takes longer than in Normal mode.

Shutdown Functions

Shutdown mode	Use	Operation		
Normal	Same as shutdown by users.	Turn the main power		
Shutdown		switch off.		
Forced shutdown	When normal shutdown does not complete even	Hold the main power		

The shutdown functions and their uses are as follows.

	though you waited a long time.	switch 6 seconds or
		longer.
Shutdown for	• When you have to disconnect the power cord from	Turn the main power
parts	the power outlet, such as when replacing parts.	switch off while holding
replacement	• When you want to start the machine normally and	down [Stop].
	then enter recovery mode, without changing the	
	Startup mode in Screen Features. (For updating	
	control panel firmware)	
Shutdown for	When you are going to turn on the MFP within 5	Turn the main power
software update	minutes for updating the MFP firmware or package.	switch off while holding
	(Use shutdown for parts replacement if you are	down the [EX1] key.
	updating the control panel firmware.)	

Normal Shutdown

The MFP is equipped with a function to shut down safely in order to:

- Prevent damage to the file systems in the HDD and the NAND flash memory.
- Prevent paper from being left inside the body of the MFP (except when paper is jammed).

If the main power switch is a rocker switch, the shutdown process begins when the rocker switch is moved to the OFF position.

If the main power switch is a push switch, the shutdown process begins when the switch is pressed. To make a forced shutdown, press and hold the push switch for 6 seconds. However, if you force a shutdown during the shutdown process, data being processed may be lost. Forced shutdown is to be used to shut down the MFP without disconnecting the power cord when the shutdown process cannot be completed.

Other Shutdown Functions

This MFP has two additional shutdown functions to facilitate maintenance.

Shutting down the MFP for parts replacement (Starting up in Normal mode when Quick mode is selected)

When Quick mode is selected, the MFP prepares for the next startup when it shuts down. This causes the shutdown process to take longer than when Normal mode is selected.

If you need to disconnect the power cord after shutdown in order to replace parts or for other reasons, you can use the following procedure to shut down the MFP just like you do in Normal mode. This shortens the time it takes to shut down the MFP.

Procedure

Turn the main power switch OFF while holding down the [Stop] key on the control panel. Continue to hold down the [Stop] key until the shutdown screen is displayed.

Shutting down the MFP for software updates (Shutting down the MFP with the control panel

in Sleep mode)

If you are going to turn ON the MFP within 5 minutes, you can use the following procedure to shut down the MFP with the control panel in Sleep mode.

• Procedure

Turn the main power switch OFF while holding down the [EX1] key. Continue to hold down the [EX1] key until the shutdown screen is displayed.

Note

- You must turn ON the MFP within 5 minutes.
- If more than 5 minutes has elapsed after shutting down the MFP using the above procedure, the machine starts up in Normal mode even if Quick mode is selected.

System Maintenance

Maintenance Modes

Service program (SP) modes for the Smart Operation Panel are as follows:

Mode	Use	Notes
SP Mode (MFP)	SP modes for the MFP	The numeric keys are required to enter this
	(controller, engine)	mode. Display the soft keys of the GW
		application or of the SP mode.
Service mode	SP modes for the Smart	Same as above
(operation panel)	Operation Panel.	
	Changing SP mode settings	
	in the Screen Features	
	menu.	
	 Installing and updating 	
	applications that can be	
	installed	
Recovery mode	Maintenance modes for the	-
	Android OS	
	Updating firmware	
	Initializing all data	

Login to/Logout from Control Panel Service Mode

Login

In the same way as you log in to the SP Mode on the MFP, you use the soft keys to enter a combination of numbers in order to login to the service mode of the control panel.

Note

- You cannot log in to the service mode of the control panel when one of the following screens is displayed.
- Stop All Jobs
- User Tools
- Address Book Management

Use the numeric keys on one of the following screens.

- Soft keys on the GW application screen
- Soft keys for the control panel's service mode (displayed by pressing both the [EX3] key and [Check Status] at the same time)

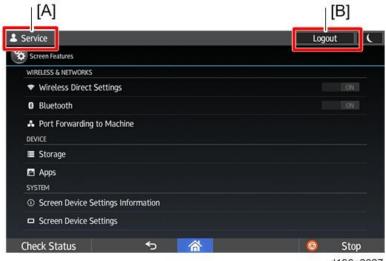
Note

• To exit the soft keys, press [EXIT] on the screen.

Login Status Indicator

When you log in to the control panel's service mode, the Screen Features screen is displayed.

- "Service" is displayed in the login information area [A].
- [Logout] is displayed in the Login key area [B] to allow logout from the service mode.



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Logout

Press [Logout] to log out from the control panel's service mode.

Note

• You need to logout manually because the Auto Logout function does not work.

Depending on the authentication settings of the MFP, the following screen is displayed after you log out.

	Authentication settings	
Administrator authentication: OFF	Administrator authentication: ON	Administrator
User authentication: OFF	User authentication: OFF	authentication: ON
		User authentication: ON
Screen of the function selected in	Screen of the function selected in	[Home] screen
[Function Priority]	[Function Priority]	

When Entry to Service Mode Is Prohibited by the Administrator

The administrator of the MFP can prohibit entry into the control panel's service mode by enabling [Service Mode Lock] in [System Settings].

When [Service Mode Lock] is enabled, the machine does not enter the service mode even if you enter the number combination for the control panel's service mode. There will be no error messages or beeping sounds to indicate login failure.

Note

• The machine can enter the recovery mode even if [Service Mode Lock] is enabled.

Service Mode Menu

There are three menus of settings.

- WIRELESS & NETWORKS
- DEVICE

• SYSTEM

Service			Logo	ut (
Screen Features				
WIRELESS & NETWORKS				
 Wireless Direct Setti 	ngs			ON
Bluetooth				ON
A Port Forwarding to M	achine			
DEVICE				
Storage				
🖪 Apps				
SYSTEM				
③ Screen Device Setting	gs Information			
Screen Device Setting	gs			
Check Status	€	合	0	Stop
		and the second	c	196a2028

WIRELESS & NETWORKS

Menu level		Description	
1st level	2nd level	3rd level	
Wireless	Group Owner Mode		You can only view the setting.
Direct			
Settings			
	Connection Password		You can only view the setting.
	DHCP Server IP Address		You can only view the setting.
	DHCP IP Address Range		You can only view the setting.
	Select Channel		You can only view the setting.
	Fix SSID		You can only view the setting.
	PEER DEVICES		View and configure devices that can be
			connected.
	REMEMBERED		Displays groups that have been
	GROUPS		previously connected.
Bluetooth	ON/OFF		You can only view the setting.
	SEARCH FOR DEVICES		Scans for Bluetooth devices in the
			vicinity.
	(name of this device)		You can only view the setting.
	PAIRED DEVICES		View and configure paired devices.
	AVAILABLE DEVICES		View and configure available devices.
Port	Port Forwarding Settings	Port	Requests sent to the wireless LAN unit

	Menu level		Description
1st level	2nd level	3rd level	
Forwarding		Forwarding	of the Smart Operation Panel can be
to Machine		Config 1-20	forwarded to the controller of the MFP.
			You can enable or disable ports to
			forward these requests.
MTU Settings	PathMTU(Enable/Disable)		Enables/disables the PathMTU size set
			in [MTU Size]. When you change this
			setting, the control panel restarts.
	MTU Size		Sets the size of PathMTU. Default:
			1500.

DEVICE

Menu level			Description
1st level	2nd level	3rd level	
Storage	INTERNAL	Total space	Displays the total size of the internal storage.
	STORAGE		
		Available	Displays the available space of the internal
			storage.
		Apps (app data	Displays the size of applications in the internal
		& media	storage.
		content)	
	SD CARD *1	Total space	Displays the total size of the SD card.
		Available	Displays the available space of the SD card.
		Apps (app data	Displays the size of applications in the SD card.
		& media	
		content)	
		Erase SD card	Erase data written to the SD card.
	USB STORAGE ^{*2}	Total space	Displays the total size of the USB stroage device.
		Available	Displays the available space of the USB stroage
			device.
Apps	Install	Install from SD	Install or update applications from an SD card.
		Card	
		Install from	Enter a product key to install or update
		Server	applications from the server.
		Activate	Activate applications that have been installed from
		Applications	the server.

	Menu level		Description
1st level	2nd level	3rd level	
		Update	Update applications that have been installed.
		Applications	
		Uninstall	Uninstall applications.
		Check Server	Check if you can connect to the Server.
		Connect	
Lauguage	Registration	-	When using the machine with the external
& Input	Keyboard		keyboard (via USB or Bluetooth), register the
			keyboards to be linked in advance so that the
			software keyboard does not close automatically.
			You can register up to ten keyboards, five of which
			are preset (and cannot be changed or deleted).

*1 Displayed only when an SD card is inserted into the SD card slot of the operation panel.

*2 Displayed only when an USB storage device is inserted into the USB slot of the operation panel.

SYSTEM

	Menu level		Description
1st level	2nd level	3rd level	
Screen	Status		Displays the following:
Device			Wi-Fi MAC address
Settings			Bluetooth address
Information			Interface Settings
			Wi-Fi settings (ON/OFF)
			IP Address (displayed when "Wi-Fi
			settings" is set to ON.)
	Legal information	Open source	Displays the open source license
		licenses	information.
	Software Version		Displays the versions of operation panel
	List		firmware and installed applications.
			When saving the software version list on
			an SD card, insert an SD card into the SD
			card slot of the operation panel, and then
			press [Save to SD Card].
	Hardware		Displays the hardware information of the
	Version		operation panel with a 4-digit code.
			1st digit: LCD size
			• 1: 10.1"
			• 2: 7"

	Menu level		Description
1st level	2nd level	3rd level	
			• 3: 17"
			2nd digit: LCD vendor
			• 0: AUO
			• 1: INNOLUX
			• 2: Dongbond
			• 5: AUO
			• 6: Giantplus
			3rd digit: eMMC version
			• 5: Version 4.41
			• 7: Version 5.00
			• 8: Version 5.10
			4th digit: PCB vendor
			• N: NEC
			R: RICOH
Screen	Server Settings	Port number	Input a port number for communication
Device			with the import/export and RFU server.
Settings			The input number is used for both HTTP
			and HTTPS connections.
			(Normally, input a number within 55101-
			55111.)
	Application		Displays a list of installed applications.
	Settings		If you press [Settings] for an application,
			the setting screen for the CE is displayed.
			The screen does not change if the
			application has no setting items.
	Authentication	Authentication	This setting gives priority to the recovery
	priority mode	priority mode	time from energy saving modes when an
			IC card authentication device is
			connected.
			When this setting is selected, the MFP
			does not enter Engine OFF mode, and
			always recovers from Silent mode.
		Start time(hhmm)	You can specify the start time of
			Authentication priority mode.
			Note: This can be changed only when
			[Authentication priority mode] is
			deselected.

	Menu level		Description
1st level	2nd level	3rd level	
		Expiration	You can specify the period of validity of
		time(hours)	Authentication priority mode.
			Note: This can be changed only when
			[Authentication priority mode] is
			deselected.
	Home key	Home key settings	You can change the transition destination
	settings		except for the Home screen when
			pushing the [Home] icon.
		Home Key	Normal mode:
		Assignment Mode	In addition to pressing the [Home] icon, in
			all statuses such as logout and restoring
			from lower power display mode, the
			screen transitions to the destination which
			the user set with [Home Key Application].
			UI change mode:
			The screen transitions to the destination
			which the user set with [Home Key
			Application] only when you press the
			[Home] icon.
		Home Key	You can set the application of
		Application	the transition destination when pressing
			the [Home] icon.
		Show default Home	You can specify whether the guest user
		for unauthenticated	can access the application selected in
		user	[Home Key Application] when user
			authentication is set to ON.
		System Home Key	You can use this setting only when [Home
		Icon Settings	Key Assignment Mode] is [ON] and [UI
			Change Mode] is selected in [Home Key
			Assignment Mode].
			You cannot set other than the above
			because of high brightness.
	Screen device		This setting prevents the operation panel
	always-		from entering Sleep mode, so that
	connection		Bluetooth and other communication
	Setting		devices remain connected.
			When this setting is selected, the

	Menu level		Description
1st level	2nd level	3rd level	
			operation panel does not enter Sleep
			mode. Only the LCD (display panel) turns
			OFF.
	Panel Self Check		Starts self-diagnosis of the operation
			panel.
			(Panel Self Check)

Panel Self Check

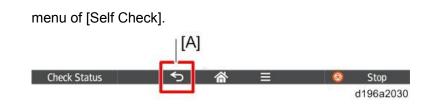
The following are available as self-diagnostics functions of the control panel:

- LED Check
- Key Check
- LCD Check
- Speaker Check
- TouchPanel Check
- TouchPanel Calibration
- MultiTouch Calibration
- Wireless LAN Check
- Bluetooth Check

LED Check	Speaker Check
Key Check	TouchPanel Check
LCD Check	Wireless LAN Check
TouchPanel Calibration	MultiTouch Calibration
Bluetooth Check	2

Vote

- The [Self Check] menu is displayed in either English or Japanese. The language can be changed using [Change Language] in the Home screen.
- If an unavailable language is selected, English will be displayed.
- With some diagnostic items, press [Back] [A] at the bottom of the screen to return to the top



LED Check

Select the [All Light On] check box, and make sure the following LEDs light:

- Data In indicator (facsimile and printer modes)
- Fax indicator
- [Check Status] indicator (flashes in red and orange alternately)

Service			Logo	ut 🕻
LED Check				
All Light On				~
ordeningedematic oc				
Check Status	∽	睂	0	Stop
				d196a2031

When the check is completed, press [Back] to return to the top menu of [Self Check].

Key Check

Check if the Extended Feature keys on the left side of the control panel (EX1, EX2, EX3 from top to bottom) are functioning normally. If they are functioning normally, the key will turn green when pressed. [FOOT SW] is not used.

	La Service			Lo	gout 🕻
	Key Check				
EX1	EX1	C		FOOT SW	
	EX2	C			
	EX3				
			End		
	Check Status	∽	谷	0	Stop
					d196a2032

When the check is completed, press [End] to return to the top menu of [Self Check].

LCD Check

Visually inspect the color of the LCD. The displayed colors are white/black/red/green/blue. The LCD

changes to the next color when you press it.



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The check is completed when all colors have been displayed. The screen returns to the top menu of [Self Check].

Speaker Check

Tests the speaker by playing the reference sound.

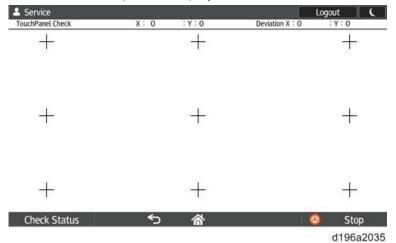
- **<u>1.</u>** Select the frequency (220Hz, 440Hz, 880Hz, 1760Hz, or 2000Hz).
- **<u>2.</u>** Press [START/STOP] to play the sound.
- 3. Touch the volume bar, and play the sound at minimum and maximum volumes.
- **<u>4.</u>** Press [START/STOP] to stop the sound.

La Service		Logout	C
Speaker Check			_
220Hz			۲
440Hz			٢
880Hz			۲
1760Hz			0
2000Hz			۲
Volume	START/STOP	0	
Check Status 🕤 🗥		🙆 Sto	p
Service		Logout	(
Speaker Check			
220Hz			\odot
440Hz			۲
880Hz			0
1760Hz			0
2000Hz			0
Volume	START/STOP		
Check Status 🕤 🗥		💿 Sto	p
		d196	a203

When the check is completed, press [Back] to return to the top menu of [Self Check].

TouchPanel Check

For each of the nine reference points on the screen, the distance between the detected position and the nearest reference point is displayed.



When the check is completed, press [Back] to return to the top menu of [Self Check].

TouchPanel Calibration

Calibrate the touch panel by touching the center of each of the five "+" signs.

The five "+" signs are displayed in the order of top left, bottom right, bottom left, center, and top right. After you have touched the five "+" signs, the display switches to the [Retry/OK] screen.

- If you want to calibrate again, press [EX1].
- If you want to confirm that the calibration results are OK, press the [EX3] key to return to the top menu of [Self Check].

5	
Retry : Press EX1 key OK : Press EX3 key	
ታ 💦 d1	96a2036

MultiTouch Calibration

Calibrate the touch panel for multi-tap input methods such as pinch-in/pinch-out.

Touch the center of both "+" signs. The two "+" signs are displayed in the order of top left and bottom right. Repeat the procedure. The touch panel will be calibrated.

- If you want to adjust it again, press the [EX1] key.
- If you want to confirm that the calibration results are OK, press the [EX3] key to return to the top menu of [Self Check].

L Service		10. Dan 12		Logout (
Mu	ulti Touch Calib	ration(1st)		
4	Current	1st	2nd	
EVR_X :	223			
EVR_Y:	75			
X_MAX :	36			
Y_MAX :	26			

Left-Top : Please touch on Left-Top screen

Check Status		5 8		🔕 Stop
L Service	ılti Touch Calib	oration		Logout 🕻
I'II.				
	Current	1st	2nd	
EVR_X :	223	217	218	
EVR_Y:	75	76	76	
X_MAX :	36	855	898	
Y_MAX :	26	230	229	
Re	try : Press Bac	k Key		
OK	: Press Menu	Key		
Check Status		<u>ት</u> ሸ	•	🞯 Stop
				d196a2037

The "Back Key" in the message is actually the [EX1] key and the "Menu Key" in the message is actually the [EX3] key.

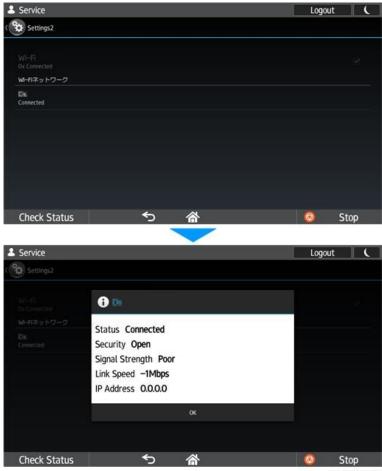
Note

• The values of "EVR_X", "EVR_Y", "X_MAX", and "Y_MAX" are for internal processing and do not indicate the positions or distance of the points touched. There is no problem unless there is a huge difference between the values of the first calibration and the second calibration.

Wireless LAN Check

Checks the condition of the wireless LAN connection.

When you select the connected access point, the signal strength, IP address and other information are displayed.



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When the check is completed, press [Back] to return to the top menu of [Self Check].

Bluetooth Check

Check and configure the Bluetooth device connection.

Logout 🤇
ON SEARCH FOR DEVICES

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When the check is completed, press [Back] to return to the top menu of [Self Check].

Note

 You cannot switch Bluetooth to [ON] or [OFF] from the [Self Check] menu. Before checking the Bluetooth device connection, specify [ON] for [Bluetooth] in [Screen Features] > [WIRELESS & NETWORKS] > [Bluetooth].

Recovery Mode

The recovery mode menu is as follows. Ask your manager for details on how to enter Recovery mode.

Menu	Description
reboot system	Reboots the Android OS.
now	
apply update from	Updates the Cheetah System firmware by specifying the folder path.
sdcard	
wipe data/factory	Deletes all installed applications and all settings on the Cheetah.
reset	
wipe cache	Deletes all data that is stored on the cache partition. Currently, Cheetah does
partition	not use the cache partition, so nothing happens when this menu item is
	accessed.
wipe free area	Deletes all data that is stored on the free partition. Cheetah stores the version
partition	history on the free partition. When this menu item is selected, it will then
	disappear.
wipe LegacyUI	Deletes Legacy UI.
area	
micon update	Updates Keymicon by specifying the folder path.
from sdcard	

Vote

- If [Update Firmware] is set to [Prohibit] in [System Settings] of the MFP, the control panel cannot enter the recovery mode.
- Ask your manager for information on how to enter the recovery Mode.

Special Key Combinations

This section describes special key combinations for operations which required combinations of hardware keys on the previous models.

Function	Operation for previous models	Operation for Smart Operation Panel	
SSP (Super	Login to SP mode, and then press an	Login to SP mode, and then press an	
Service) mode login	SP mode item while holding down the	SP mode item while holding down the	
	[#] key.	EX3 key.	
Resetting User	In the User Tools screen, press a	In the User Tools screen, press a	
Tools	User Tools category while holding	User Tools category while holding	
	down the [#] key.	down the EX3 key.	
	Available for: System Settings,	Available for: System Settings,	
	Copier/Document Server Features,	Copier/Document Server Features,	
	and Scanner Features.	and Scanner Features.	

Function	Operation for previous models	Operation for Smart Operation Panel	
System Reset	Hold down the [*] and [#] keys	Hold down the EX3 key and [#]	
	simultaneously for 10 seconds.	simultaneously for 10 seconds.	
	Resets the controller software.	Resets the controller software of the	
		main machine.	
Application Reset	Hold down the [7] and [9] keys	Hold down the EX3 key and [9]	
	simultaneously for 10 seconds.	simultaneously for 10 seconds.	
	Resets a single application.	Resets a single application.	
Resetting User	Press the [Reset] key and [Clear] key	Hold down [Reset] for 2 seconds.	
Code Authentication	simultaneously.	Returns to the User Code entry	
	Returns to the User Code entry	screen.	
	screen.		

Software Update

Updating the Smart Operation Panel

There are four methods to update the Smart Operation Panel. The method is different depending on what you want to update.

- 1. Installation/update from an SD card
- 2. Package update
- 3. Installation/update from the eDC Server
- 4. Installation/update from Application Site

Update method	Features	Control	Applications
		panel	
		firmware	
Installation/update	Update using an SD card.	Yes	Yes
from an SD card	 This is the only method to install an older 		
	version of currently installed software.		
	Enter the recovery mode to update the control		
	panel firmware.		
	Use the installation screen in the control		
	panel's service mode to update applications.		
	• You can install or update multiple applications		
	at once.		
	• You can also uninstall an application.		
Package update	Uses the Package update function of the GW+	Yes	Yes
	controller to update the software.		
	• The software is updated in the following order:		
	controller firmware, applications, and then the		
	control panel firmware.		
	• The procedure for updating the control panel		
	firmware is the same as when updating from		
	an SD card using Recovery mode.		
Installation/update	Downloads applications from the eDC Server for	No	Yes
from the eDC Server	installation or update.		
	This method is mainly for paid applications. A		
	product key is required when an application is		
	installed for the first time.		
Installation/update	Installation and Updating of applications and	Yes*1	Yes
from Application Site	firmware update can be done from Application		
	Site. When administrator authentication is		

Update method	Features	Control	Applications
		panel	
		firmware	
	enabled, an administrator privilege is required to		
	start Application Site. If you log in to the operation		
	panel service mode, however, you can use it with		
	CE privilege.		

*1 Update can only be done by using a package file.

The following three methods can be used for updating the firmware.

- Update from an SD card (recovery mode)
- Package update
- Installation/update from Application Site

The following four methods can be used for updating an application.

- Installation/update from an SD card
- Package update
- Installation/update from the eDC Server
- Installation/update from Application Site

Installation/Update from an SD Card

Updating the Smart Operation Panel Firmware

Enter the recovery mode to update the firmware of the Smart Operation Panel.

Note

- When [Quick] is selected for [Screen Startup Mode], the control panel cannot enter the recovery mode. Change the startup mode to [Normal]. When update is completed, restore the startup mode setting because the setting affects startup time.
- Shut down the MFP with [Normal] selected for [Screen Startup Mode], or shut it down using the special shutdown procedure used for maintenance.
- If [Prohibit] is selected for [Update Firmware] in [System Settings], the machine cannot enter Recovery mode. Ask the administrator of the MFP to change the setting.

Creating an SD card for firmware update

- 1. Download the update module "Cheetah System" from the Firmware Download Center.
- 2. Execute the downloaded file.

A file named "part number + suffix.zip" will be created.

Note

- Do not unzip the created file.
- **<u>3.</u>** Copy the "part number + suffix.zip" file to the root directory of the SD card.

Updating the firmware (for the Cheetah System)

1. Turn OFF the MFP.

Note

- Shut down the MFP with [Normal] selected for [Screen Startup Mode], or shut it down using the special shutdown procedure used for maintenance.
- **<u>2.</u>** Insert the SD card into the SD card slot of the control panel and start up the MFP in Recovery mode.

Note

- Ask your manager for details on how to enter the recovery mode.
- In the recovery mode, key functions are shown on the screen. However, the key functions for moving/selecting directories are different for executing an update. Check the key functions while operating.
- Keys

When moving/selecting directories

Cancels updating.

[EX3]

Selects the item.

<u>3.</u> Select "apply update from sdcard" in the "Android system recovery" screen, and then press the [EX3] key.

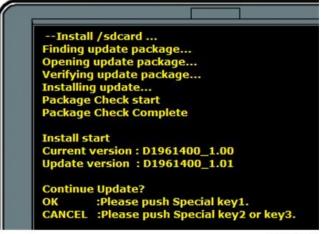


<u>4.</u> The contents of the SD card is displayed. Select "part number + suffix.zip" with the [EX1] or [EX2] key, and then press the [EX3] key.
 Example: "D1961400A.zip"



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5. The installation screen is displayed.



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- **<u>6.</u>** The version of the firmware installed in the control panel is displayed as "Current version" and the version of the firmware saved on the SD card is displayed as "Update version". Make sure that you have the correct version.
- <u>7.</u> When "Continue Update?" is displayed, press [OK] ([EX1] key). The update process starts.

Vote

- To cancel the firmware update, press the [EX2] or [EX3] key.
- 8. When "Install from sdcard complete." is displayed, select "reboot system now" and then press the

[EX1] key to reboot the system.



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Installing/Updating an Application

Creating an SD card for update

- **<u>1.</u>** Download the update modules from the Firmware Download Center.
- **<u>2.</u>** Unzip the downloaded file.
- 3. Create a folder named "romdata" in the root directory of the SD card.
- 4. Put the unzipped file in the "romdata" folder.

Update procedure

- **<u>1.</u>** Log in to the control panel in service mode.
- 2. Insert the SD card into the SD card slot of the control panel.
- 3. Select [Apps] > [Install] > [Install from SD Card].
- 4. Select the application you want to install or update, and then press [Install]
- 5. The installation or update results are displayed.
- 6. Check that the application is correctly installed or updated, and then press [reboot operation panel].

Package Update

This method uses the package update function to update the control panel firmware and/or

applications. The package update function is provided by the controller.

Update is done in the following order:

- 1. Controller firmware
- 2. Applications
- 3. Control panel firmware

If the control panel firmware has to be updated, the control panel starts in the recovery mode and the firmware is automatically updated.

The control panel restarts when updating is completed. The result notification is processed after the control panel restarts.

When Installation/Update Is Prohibited

If [Prohibit] is selected for [Update Firmware] in [System Settings], the execution key is grayed out and installation/update cannot be executed.

When trying to update from a PC, updating fails and the result is recorded as "Failed".

Installation/Update from the eDC Server

Downloads applications from the eDC Server, and installs or updates them.

This method is mainly for paid applications. A product key is required when an application is installed for the first time.

Vote

• Installation/activation/update of applications from the server can only be done in the service mode.

Check Server Connect

- **<u>1.</u>** Log in to the control panel's service mode.
- 2. Select [Apps] > [Install].
- 3. Press [Check Server Connect] and make sure that "Connect Server Succeeded!" is displayed.

Service		Logout	
Install			:
Install from SD Card			
Install from Server			
Application Site			
Activate Applications			
Update Applications			
Uninstall			
Check Server Connect			
	Connect Server Succeeded		
Check Status	ち 斎	0	Stop
		d	238a2007

Note

- The server address is stored in the firmware of the Smart Operation Panel.
- To connect to the server, the network settings of the MFP must be configured correctly. For the required configuration, see the Field Service Manual of the MFP.
- If server connection fails, see Troubleshooting for error codes.

Installation

- **<u>1.</u>** Log in to the control panel's service mode.
- 2. Select [Apps] > [Install].
- 3. Select [Install from Server].

4. Enter the product key and press [Execute].

👗 Service			Logou	t 🕻
Install from Server				
				Select all
	Property Revealed a large			Select Only Updtd Ones
	Enter Product Key			Remove check
	1			
		Execute		- Mistall
		100200200		
Check Status	5	睂	0	Stop
			c	196a2041

5. Follow the instructions shown on the screen.

Note

• An application cannot be installed unless it is digitally signed by Ricoh.

Activation

- **<u>1.</u>** Log in to the control panel's service mode.
- 2. Select [Apps] > [Install].
- 3. Select [Activate Applications].
- 4. Select the application to be activated, and then enter the activation key and press [Execute].

Service				Logout	(
Activate Applications					
サプライ残量表示ウィジェット					
	er Product Key				
	L				
CSPF		Execute			
		LACUNE			
Check Status	¢	合		Sto	р
			1.000	d106	-20

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5. Follow the instructions shown on the screen.

Note

• Only charged applications have to be activated.

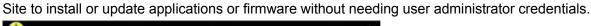
Update

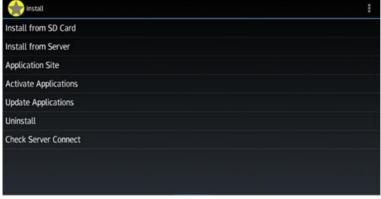
- **<u>1.</u>** Log in to the control panel's service mode.
- <u>2.</u> Select [Apps] > [Install].
- 3. Select [Update Applications].
- 4. Select the application to be updated, and then press [Check Update Status].

5. Follow the instructions shown on the screen.

Application Site

"Application Site" has been added to Screen Service mode. Field engineers can start up Application





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This menu item opens Application Site by using the Web Browser NX app.

Troubleshooting

Software Update Errors

Errors that occur during application update from an SD card

Error message / screen	Explanation	Solution
display		
Insert a correct SD card.	-	 Remove the SD card and insert it again. Make sure that the directory of the SD card is correct. You must create the "app" folder in the root directory of the SD card and put the zip file in the "app" folder.
You are trying to install the same application with a different part number. Is	Displayed when you attempt to update an application that is the same but has a different	Check the file, and select [OK] or [Cancel].
it OK to continue?	part number.	
Some applications could not be installed.	 Displayed in the following cases. You attempted to update a module (application) in use. The application is corrupted. 	Restart the control panel and repeat the update procedure.
- (The application you want to update is not displayed in the list of applications.)	-	 Make sure that the directory of the SD card is correct. You must create the "app" folder in the root directory of the SD card and put the zip file in the "app" folder. Check the application file in the SD card.

Errors that occur during update from the eDC Server

Error	Explanation		
code			
101	Server connection error		
102	Signature verification error		
103	License error (for example, the product key was keyed in wrongly)		
215	Dependency check error		
	Displayed when the control panel firmware version does not meet the installation		
	requirement of the application.		
	Example: The firmware version of the control panel is 1.02 and you attempted to install an		
	application that requires firmware version 1.03.		
20X	Other errors		

Example of an error code display

La Service				Logo	ut	(
Update Applications						
サブライ残量表示ウィジェット						
かんたんカード認証設定	Error101					
CSPF		ОК				
フォルダー宛先設定ナビ						
	1.00					
Check Status	€	斎		0	Sto	р
					d196a	204

Note

• An additional 3-digit code may be displayed to indicate the details. Example: 101-805

Errors that occur during remote (batch file) update

When the update is completed, a result report file (install_result_yyyymmddhhmm.txt) is created in the same folder as the batch file.

The result report file shows the IP address of the MFP and whether the update process was successful or not. "yyyymmddhhmm" shows the date and time according to the clock of the MFP.

Result	Explanation	
Succeed	Jpdated the machine successfully.	
Failed	ailed to update the machine. An error code follows.	
Not connected	Failed to connect to the machine.	
Can't get result	Failed to obtain the result (occurs only with firmware updates).	

Example of a result report file

- Name: install_result_201512041005.txt
- Contents:
 - 192.168.0.100: Successful 192.168.0.102: Failed error:XX (XX indicates an error code.) 192.168.0.103: Not connected

Error codes

The meanings of error codes recorded after "error:" in the result file are as follows:

Error codes recorded during firmware update

Error code	Explanation	Access Log
-2	Invalid file	Recorded
-3	The target application cannot be found.	Recorded
-501	Installation has already been requested.	Recorded (*1)
-602	Invalid signature	Recorded
-603	Updating is prohibited.	Recorded
-604	Failed to put the application offline.	Not recorded
-610	Authentication failed.	Not recorded
-699	Unknown error	Recorded (*2)
-701	Version of the micro computer firmware is invalid.	Recorded
-709	File structure error (invalid file)	Recorded
-710	Writing failure	Recorded

Error codes recorded during application update

Error code	Explanation	Access Log	
-2	Invalid file	Recorded	
-3	The target application cannot be found.	Recorded	
-4	The storage capacity is not enough.	Recorded	
-12	The version of the Android application cannot be installed.	Recorded	
-602	Invalid signature	Recorded	
-603	Updating is prohibited.	Recorded	
-604	Failed to put the application offline.	Not recorded	
-610	Authentication failed.	Not recorded	
-699	Unknown error	Recorded (*2)	

*1 The error code recorded in the Access Log will be "223: machine-busy".

*2 If the error occurs during preparation for configuration change, it will not be recorded in the Access Log.

Note

• If the preparation for configuration change (putting the application offline, authentication, file size check) cannot be carried out, an error code is displayed on the screen. However, it is not recorded in the Access Log as a firmware update/installation error.

Error code	Error name	Explanation	Solution
49	fwu-prohibit	Firmware update is prohibited.	Enable firmware update, and repeat the procedure.
60	other:E60	The HDD cannot be used.	 Turn the main power OFF and ON, and then repeat the procedure. If the HDD is damaged, replace it.
62	other:E62	The structure of the application or control panel firmware in the package is invalid.	Prepare a valid package file.
221	terminate-fail	Failed to terminate an application when attempting to update or uninstall it.	 If a job is under way in the target application, wait until the job is finished, and then repeat the procedure. Turn the main power OFF and ON, and then repeat the procedure.
222	signature- invalid	Failed to verify the signature attached to the application or firmware.	Repeat the procedure using a valid signature.
223	machine-busy	Failed to execute installation because another function was being used on the MFP.	 Wait a while and repeat the procedure. Turn the main power OFF and ON, and then repeat the procedure.
224	capacity-lack	The storage capacity is not enough.	 Reduce the number of applications to be installed. Uninstall unnecessary applications.
225	download-fail	The product ID is incorrect.	Use a correct product key.
226	dependency-	The control panel does not meet the	Check the installation requirements

code installation requirements of the of the application	
	on. Update the
application. control panel a	is necessary.
227 license-invalid There are no remaining licenses. Use an unused	d product key to
The product key that you are trying activate the ap	plication.
to use has already been activated	
for another device.	
An invalid product key was used to Update the app	olication using an
issue the license. activated produ	uct key.
The number of licenses issued has Deactivate the	application, and then
exceeded the limit. activate it again	n.
The license has expired. The Use an unused	d product key to
product key being used is no longer activate the ap	plication.
valid.	
The license contract is invalid. Use a valid pro	oduct key to activate
the application.	
228 file-not-found * The target firmware file cannot be • Turn the m	nain power OFF and
found. ON, and the	nen repeat the
procedure	
Check the	file in the SD card.
Check the	SD card slot. If there
is a proble	em with the hardware,
replace the	e control panel PCB.
229 file-invalid * The target update file is invalid. Repeat the pro	ocedure using a valid
Occurs in the following cases. file.	
Failed to decompress the file.	
Failed to obtain application	
information.	
Failed to read the public key for	
signature verification.	
230 wrong-folder- The folder directory of the control Repeat the pro	ocedure using a valid
structure * panel firmware is invalid. directory.	
231 write-fail * • Failed to write data when Turn the main pairs	power OFF and ON,
updating the control panel and then repea	at the procedure. If
firmware. updating fails a	again, replace the
There is a problem with the control panel.	
hardware.	
232 deactivate-fail The application could not be • Check whe	ether the network is

Error code	Error name	Explanation	Solution
		 uninstalled because deactivation failed. Failed to connect to the server. The license has not been issued. 	 configured correctly. If the server is under maintenance, wait a while and repeat the procedure. Check the activation status of the application. If it has not been activated, activate it.
233	uninstall-fail	Failed to uninstall an application.	Turn the main power OFF and ON, and then repeat the procedure. If updating fails again, replace the control panel.
234	fixed-app	You attempted to uninstall an application that cannot be uninstalled.	Cancel uninstallation.
235	install-fail	The target file is invalid, and the Android OS returns an error.	 Repeat the procedure using a valid file. If the same application has already been installed, uninstall it and then repeat the procedure.
236	sdk- incompatible	The Android SDK version required by the application is not installed on the control panel.	Check that the Android SDK version required by the application is installed on the control panel.
237	server- disconnect	Failed to connect to the eDC server.	 Check the network connection (SSL) settings. Check the proxy settings. If the server is under maintenance, wait a while and repeat the procedure.
255	panel-system *	Software malfunction.	Turn the main power OFF and ON, and then repeat the procedure.

* These errors are not expected to occur.

Errors That Occur When the Control Panel Downloads Data from the Controller at Startup

Some of the graphic data used in the control panel display is model-specific. Model-specific components are stored in the controller board of the MFP.

During startup, the control panel checks if it is necessary to update the model-specific data. If it is necessary, the control panel downloads the data from the MFP controller board and installs it in the control panel.

During update, a dialog appears to inform you that the settings are being changed. When the update process is completed, a dialog indicates whether update was successful or not.

Error code	Explanation	
E1	An error has occurred when downloading data from the controller board of the MFP.	
E2	An error has occurred when installing data on the control panel.	
	An additional error code is displayed after "E2".	