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PROGRAMMING SECTION

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Programming

This section describes the MMC programming related to the wireless LAN.



NOTE

Programming by MMC List

This section describes only the MMC programming related to the wireless LAN. For programming in accordance with the entire MMC lists of the system, refer to the programming description of each system.

1 Before Programming

Before programming, this section explains the brief introduction to the MMC programming, button and precaution of the digital phone used when programming.

1.1 Introduction to Programming

MMC is a program used to change the settings of the OfficeServ system by using a digital phone. For reference, PCMMC is a program used to set the system in the notebook or PC connected to the OfficeServ system. The MMC program is categorized into three levels i.e. technician, operator and subscriber. For technician programming and operator programming, a password is required respectively, however, the subscriber program does not require a password.

1.2 Program Button

The table below lists the function of the program buttons used by the digital phone when programming MMC:

Table 4.1 Program Button

Button	Function
▼ Volume▲	Moves the screen
Dial key	Status confirmation
Soft key	Moves the cursor
Keypad	Selects an item
SPK key	Saves data or moves to the next menu
HOLD key	Deletes the previous entries
TRSF key	Program input

1.3 Precautions

- Programming is enabled from any ITP phone.
- Programming is enabled from any digital phone.
- Programming is disabled in the general Single Line phone.
- In the digital phone without the LCD display, program the subscriber program only.
In the digital phone without the LCD display, press the number in the user guide with dial, instead of the [▼ Volume▲] button. However, there may be an impossible program because of no soft button.
- If the 'INVALID DATA' message appears on the LCD display while programming, it means wrong data has been entered. Thus, enter correct data again.
- If any key is not pressed for a certain period of time(key program stop time, default is 60 seconds) while programming, the programming state is changed to the idle state.
- If the handset is picked up while programming, the programming state is changed to the idle state.
- If you press the [SPK], [TRSF] key while you do not confirm your entries(press 'Left', 'Right' key of the soft button) after changing data, and if the mode is in the idle state with the handset picked up, and the digital phone is unplugged, the entered data and data on the LCD display are changed and automatically saved.

1.4 Programming Steps

Select the program number for MMC programming as follows:

Programming Steps

LCD Display

- 1) Press the [TRSF] button and enter [800].
- 2) Enter a passcode (operator or technician passcode).
- 3) Press the dial button [1] or [▼ Volume▲] to move to MMC, and set to the 'ENABLE' state.
- 4) Enter the MMC number to be programmed.
Select the program number using the [▼ Volume▲] button and press [SPK] button.
Or press the [TRSF] button in the idle state, and enter the program number.
- 5) Program the corresponding program.

PROGRAMMING MODE
ENTER PGM ID:

ENABLE TECH. PROG
PASSCODE: ****

ENABLE TECH. PROG
DISABLE TENANT: 1

2 Programming Steps by MMC

This section describes the MMC programming used to change the WLI and SMT-R2000 AP parameters. The table below lists MMC related to the change of the WLI and SMT-R2000 AP parameters:

Table 4.2 Wireless LAN-related MMC

Related Function	MMC No.	Description
Registration and Setting of WIP/SMT-R2000 AP/Wireless Terminal	845	Sets WLAN Switch AP channel limitation
	846	Checks WIP-5000M information
	848	Sets WIP-5000M IP
	849	Select AP type, de-registers handset
WIP Station Subscriber Function	100	Selects the station lock function of WIP-5000M in the system
	101	Sets the station passcode of WIP-5000M
	102	Selects the Call Forward function of WIP-5000M in the system
	104	Enters the name of WIP-5000M
	115	Selects the Absent Message of WIP-5000M in the system
Supplementary Function	701	Enables WIP-5000M to use the Call Forward, Absent Message, and Call Reject function

[845] WLAN Parameter Setting

This program provides detail parameters for WLAN settings.

<WLAN Parameter>

No.	Parameter	Description
01	CODEC LIST	CODEC used in a VoIP call between SMT-R2000 AP and WIP-5000M. Currently, it is possible to set G.729A only
02	VERSION	Indicates the WLAN module version
03	MAX AP CH	Maximum channel per AP
04	WLAN SWITCH	Enables or disables the use of WLAN switch
05	RE-TRANS T1	When using Unreliable transmission protocol such as UDP, retransmission is performed if there is no response after transmission. RE-TRANS.T1 TIME is the Initial Retransmission Interval defined in RFC2543.
06	RE-TRANS T2	Maximum Retransmission Interval defined in RFC 2543.
07	RE-TRANS T4	Available for multiple purposes in RFC 2543. This parameter is used as time when User Agent Server(UAS) receives the ACK message and waits in the Unreliable transmission protocol.
08	GEN RING TM	In the Unreliable transmission protocol, it is not sure that the client receives a response after the server sends the last response. At this time, the server should retransmit a response during this time until it receives the requested retransmission. For example, it is the time to send INFO 200 OK and wait.
09	INV RING TM	In the Unreliable transmission protocol, it is not sure that the server receives the ACK message after the client sends INVITE Final Response ACK. It is the waiting time after the client sends Final Response ACK.
1	GEN NO RESP	Waiting time before canceling the SIP Request.
2	INV NO RESP	Waiting time before canceling the SIP INVITE Request.
3	REQ RETRY	Waiting time before the final response to the SIP Request is received.
4	PROVISIONAL	When receiving the Provision Response, User Agent should wait during this time before Timeout expires.

Precondition

None

Default

<WLAN Parameter>

No.	Parameter	Settings
1	CODEC LIST	CODEC 1: G.729A
2	VERSION	-
3	MAX AP CH	00 (No limitation)
4	WLAN SWITCH	Disable
18	WBS TX PWR	DEFAULT

<SIP Option>

Parameter	Settings
RE-TRANS T1	000500 ms
RE-TRANS T2	004000 ms
RE-TRANS T4	005000 ms
GEN LING TM	006000 ms
INV LING TM	001000 ms
GEN NO RESP	005000 ms
INV NO RESP	006000 ms
REQ RETRY	005000 ms
PROVISIONAL	180000 ms

Programming Steps

1. Select the MMC number [845].
 - Select RF Channels for AP.
 - Select a voice CODEC to be used while busy. For CODEC, only G.729A can be selected.
 - Assign RF channel for the system.
 - The version information of the WLAN.

LCD Display

845: WLAN PARA
SELECT PROG ID

WLAN: RF CHANNEL
USE C41: 01

WLAN : CODEC LI ST
CODEC 1: G. 729A

WLAN : RF CHANNEL
USE CH 1: 01

WLAN : VERSI ON
2005. 08. 31 2. 00

- Concurrent voice conversation per AP. The quality of voice and data may suffer if more than 8 is used per AP.

```
WLAN : MAX AP CH.  
00 (00: NO LI MI T)
```

- Enable or disable the use of WLAN switch.

```
WLAN : WLAN SWI TCH  
DI SABLE
```

5. Set the following items in the SIP menu:

- Set GEN NO RESP to be used in SIP.

```
SIP : GEN NO RESP  
005000 MS
```

- Set INV NO RESP to be used in SIP.

```
SIP : INV NO RESP  
006000 MS
```

- Set REQ RETRY to be used in SIP.

```
SIP : REQ RETRY  
005000 MS
```

- Set PROVISIONAL TIME to be used in SIP.

```
SIP : PROVI SIONAL  
180000MS
```

- Set RETRANS T1 to be used in SIP.

```
SIP : RE-TRANS T1  
000500 MS
```

- Set RETRANS T2 to be used in SIP.

```
SIP : RE-TRANS T2  
004000 MS
```

- Set RETRANS T4 to be used in SIP.

```
SIP : RE-TRANS T4  
05000 MS
```

- Set GEN LINGER TM to be used in SIP.

```
SIP : GEN LING TM  
00600 MS
```

- Set INV LINGER TM to be used in SIP.

```
SIP : INV LING TM  
001000 MS
```

Related Programs

[MMC 846 WIP INFO](#)

[MMC 848 WLAN IP](#)

[846] WIP Information Setting

[MMC846] is used to display the WIP-5000M information and set some parameters.
You can change USER ID, PASSWORD, and INSERT DGT.

No.	Parameter	Description
0	REGISTERED	Indicates whether the corresponding WIP-5000M is registered
1	LOCATED	Indicates whether the corresponding WIP-5000M is currently connected to the system
2	PHONE TYPE	Indicates the type of the corresponding WIP-5000M phone
3	WLI NUMBER	Number of WLI connected to SMT-R2000 AP in service in the section where WIP-5000M is being used
4	WBS NUMBER	Number of SMT-R2000 AP in service in the section where WIP-5000M is being used
5	IP OFFSET	Location of the IP pool where the IP assigned to WIP-5000M is located
6	IP ADDRESS	IP address assigned to the registered WIP-5000M
7	MAC ADDR	MAC address of the registered WIP-5000M
8	USER ID	Sets ID by the WIP-5000M user
9	PASSWORD	Sets password by the WIP-5000M user
10	INSERT DGT	If the number of digits you pressed when originating a call in WIP-5000M is more than 5, the set INSERT DGT is inserted before the number you pressed. However, the number you pressed should not be C.O. Line number, C.O. Line group number, LCR, network LCR, or number starting with the function code

Programming Steps

1. Select the MMC number [846].
2. Select a desired WIP-5000M number.
Or select a desired WIP-5000M number using the [▼Volume▲] button, and press [RIGHT] soft button to move the cursor.
3. Enter a desired item number.
Or select a desired item using the [▼Volume▲] button, and press [RIGHT] soft button to move the cursor.

LCD Display

[3301] REGI STERED
NO

[3301] REGI STERED
NO

[3301] LOCATED
DETACH

4.	Display handset phone type.	[3301] PHONE TYPE
5.	Display handset associate WLI number.	[3301] WLI NUMBER
6.	Display handset associate WBS number.	[3301] WBS NUMBER
7.	Display handset IP offset from the first one.	[3201] IP OFFSET
8.	Display handset IP address.	[3201] IP ADDRESS 0. 0. 0. 0.
9.	Display handset MAC address.	[3201] MAC ADDRESS 0000 0000 0000
10.	Handset registration ID can be viewed and changed.	[3201] USER ID 1212
11.	Handset registration password can be viewed and changed.	[3201] PASSWORD 0000

Related Programs

[MMC 845 WLAN PARA](#)

[MMC 848 WLAN IP/MAC](#)

[MMC 849 WLAN CONFIG](#)

[848] WLAN IP/MAC Setting

[MMC848] is used to view a list of IP assigned to WLI or set a new IP. The IP list can be entered up to 100. In addition, [MMC848] is used to set the MAC address of the wireless data terminal in order to use the wireless LAN.

Programming Steps

1. Select the MMC number [848].
2. If you select the IP address entry, select the index number of the mobile phone.
Or select a desired index using the [▼Volume▲] button, and press [RIGHT] soft button to move the cursor.
3. Enter the IP address to be used in the wireless terminal.
4. If an IP is entered in the wireless terminal and registered in the system, the station number is displayed.
5. Press the [TRSF] button to save date and exit the program, or press the [SPK] button to save data.

LCD Display

```
848: WLAN I P/MAC  
SELECT PROG I D
```

```
I P: 002 USED  
0. 0. 0. 0
```

```
I P: 002 USED  
165. 213. 145. 002
```

```
I P: 002 USED: 3301  
165. 213. 145. 002
```

Related Programs

[MMC 846 WIP INFO](#)

[MMC 849 WLAN CONFIG](#)

[849] WLAN CONFIG Setting

Parameter	Description
REGISTER VoWLAN	Sets whether to permit the new registration of WIP-5000M. If this parameter is disabled, it is impossible to assign and register the WIP-5000M IP.
WIP REGIST CLEAR	Clears the registration according to WIP-5000M. The De-registration mode includes 'FORCED' and 'NORAML'. The FORCED mode is used to clear the system-related DB in order to register a new WIP-5000M due to the damage of WIP-5000M. The NORMAL mode is used to clear both the system DB and WIP-5000M DB by exchanging messages between the system and WIP-5000M.
STATIC WIP IP	Sets whether to use a static IP in WIP-5000M. This value should be set in advance before registering WIP-5000M.
SELECT AP TYPE	Selects the AP type to be used if only one type of AP is simultaneously available in one system. When changing the AP type, restart the system (Mandatory option item). This value should be set first when setting WLAN. Select "DUAL AP" for SMT-R2000.

Programming Steps

1. Select the MMC number [849].
2. Press the [SPK] key to move to the Select menu.
To activate registration, enter passcode first.
Default is 0000.
3. Select whether to enable or disable WIP-5000M registration.
4. Clear the registration of the handset.
5. Select whether to use a Static WIP IP.
6. Select the type of AP to be installed. BASIC type is not available to North America market.

LCD Display

849: WLAN CONFIG
SELECT PROG ID

ENTER PASSWORD

REGISTER VoWLAN
ENABLE

WIP REGIST CLEAR
3301: FORCED

STATIC WIP IP
DISABLE

SELECT AP TYPE
DUAL AP

Related Programs

[MMC 846 WIP INFO](#)

[MMC 848 WLAN IP/MAC](#)

[104] Station Name Setting

This MMC is used to enter the station name of WIP-5000M.

Programming Steps

1. Select the MMC number [104].
2. Select the station number using the [▼Volume▲] button, and press the [Right] soft button to move the cursor.
3. Enter the station name of the corresponding phone number, and press the [Right] soft button to save data.
4. Press the [TRSF] button to save data and exit the program, or press the [SPK] button to save data, and program the next program.

LCD Display

104: STATION NAME
SELECT PROG I D

[2001] STN NAME

[2001] STN NAME
TOM

[101] Station Passcode Setting

This MMC is used to change the WIP-5000M passcode to the default '1234'.

Programming Steps

1. Select the MMC number [101].
2. Enter a new passcode of the corresponding phone number.
Or select the station number using the [▼Volume▲] button, and press the [Right] soft button to move the cursor.
3. Press the [HOLD] button to initialize the passcode.
4. Press the [TRSF] button to save data and exit the program, or press the [SPK] button to save data, and program the next program.

LCD Display

101: STN PASSCODE
SELECT PROG I D

[2001] PASSCODE
PASSCODE: ****

[3301] PASSCODE
PASSCODE: 1234

[102] Call Forward Setting

This program allows you to use the call forward function of WIP-5000M in the system. Before using this program, this function should be already set in [MMC701].

Table 4.5 Selectable Call Forward Type of MMC102

Serial No.	Parameter	Description
0	FORWARD CANCEL	Call forward cancel
1	FWD ALL	Call forward of all calls
2	BUSY	Call forward while busy
3	NO ANS	Call forward if there is no answer
4	BUSY/NO ANSWER	Call forward while busy or if there is no answer
5	FWD DND	Call forward if Do Not Disturb (DND) is set

Program Steps

1. Select the MMC number [102].
2. Select the station using the [▼ Volume ▲] button.
3. Press the [Right] soft button to move the cursor, and move to the Call Forward menu to set.
4. Press the [Right] soft button to save data.
5. Press the [TRSF] button to save data and exit the program, or press the [SPK] button to save data, and program the next program.

LCD Display

102: CALL FORWARD
SELECT PROG ID

[2001] FORWARD
0. FORWARD CANCEL

[2001] FORWARD
0. FORWARD CANCEL

[115] Absent Message Setting

This program is used to set an absent message of WIP-5000M in the system.

Before using this program, this function should be already set in [MMC701].

Table 4.6 Selectable Message Type of MMC115

Serial No.	Message Type
0	CANCEL PGM MSG
1	IN A MEETING
2	OUT ON A CALL
3	OUT TO LUNCH
4	LEAVE A MESSAGE
5	PAGE ME
6	OUT OF TOWN
7	IN TOMORROW
8	RETURN AFTERNOON
9	ON VACATION
10	GONE HOME

Programming Steps

1. Select the MMC number [115].
2. Select the station number using the [▼ Volume▲] button.
3. Press the [RIGHT] soft button to move the cursor, and move to the Call Forward menu to be set.
4. Press the [Right] soft button to save data.
5. Press the [TRSF] button to save data and exit the program, or press the [SPK] button to save data, and program the next program.

LCD Display

115: PGM. MSG NO.
SELECT PROG ID

[2001] PGMMMSG (00)
CANCEL PGM MSG

[2001] PGMMMSG (00)
CANCEL PGM MSG

[100] Station Lock Setting

This program is used to set the station lock of WIP-5000M in the system.

Table 4.7 Selectable Station Lock Type of MMC100

Serial No.	Parameter	Description
0	UNLOCKED	Station unlocked
1	LOCKED OUT	Lock station for outside call
2	LOCKED ALL	Lock station for all calls

Programming Steps

1. Select the MMC number [100].
2. Select the station number using the [▼Volume▲] button.
3. Press the [Right] soft button to move the cursor, and move to the Station Lock menu to be set.
4. Press the [Right] soft button to save data.
5. Press the [TRSF] button to save data and exit the program, or press the [SPK] button to save data, and program the next program.

LCD Display

100: STATION LOCK
SELECT PROG ID

[3301] STN LOCK
UNLOCKED

[3301] STN LOCK
LOCKED OUTGOING

[701] Service Grade Setting

This program is used to set the Call Forward, Call Reject function of WIP-5000M in the system.

Programming Steps

1. Select the MMC number [701].
2. Press the [Right] soft button to move the cursor, and move to the USABLE FEATURE menu using the [▼Volume▲].
3. Press the [Right] soft button to select the USABLE FEATURE menu.

LCD Display

701: COS CONTENTS
SELECT PROG ID

COS CONTENTS(01)
USABLE FEATURE

COS CONTENTS(01)
00: AA CALER : YES

<Call Forward Setting>

4. While the [▼Volume▲] button, move to No. 23 FORWARD.
5. Press the [Right] soft button to move the cursor, and move to YES using the [▼Volume▲] button, and press the [Right] soft button.
(Default is set to YES)

COS CONTENTS(01)
23: FORWARD : YES

COS CONTENTS(01)
23: FORWARD : YES

<Call Reject Setting>

6. While the [▼Volume▲] button, move to No. 12 DND.
7. Press the [Right] soft button to move the cursor, and move to YES using the [▼Volume▲] button, and press the [Right] soft button.
(Default is set to YES)

COS CONTENTS(01)
50: PGM MSG : NO

COS CONTENTS(01)
12: DND : YES