



**2.4GHz Digital Wireless
Conference System**

Ver 2.0

Installer Compliance Responsibility

1. This device requires controlled installation by professional installers, and it is the professional installer's responsibility to make sure the device is operated within local country regulatory requirements.
2. Since our device can be paired with a variety of antennas and cables, the specific Antenna, Cable, and Output Power fields are provided to the professional installer to meet regulatory requirements.
3. This device is generally for industry/commercial use, so this device will not be sold to the general public directly, if required, please contact local dealer in your region.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and**
- (2) This device must accept any interference received, including interference that may cause undesired operation.**

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

The antenna(s) used for this device must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.**
- Increase the separation between the equipment and receiver.**
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.**
- Consult the dealer or an experienced radio/TV technician for help.**

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※ Safety Instructions

1. Only a certified service technician should perform repairs on this equipment.
2. In case of maintenance, examination or repair, please contact the store you purchased or our customer service team.
3. Never touch the equipment or appliance with wet hands.
4. protect the equipment from liquids and foreign substances.
5. To prevent fire or shock hazard, do not expose your equipments to rain or moisture.
6. Never install the equipment nearby the heat source as a radiator or etc.
7. Turn off the power, unplug your equipments and contact the store you purchased or our customer service team if any signs of smoke or burning.
8. Handle the appliance and equipment with care.
9. Use the device and accessories the manufacturer specified.

System Configurations



**Main controller
KMC-200**



**Chairman Stand
unit KSM-200C**



**Member Stand
unit KSM-200D**



**Microphone
KVM-480D**



**Omni-Antenna
HDA-240G**



**battery-pack
BP-240G**



**battery-charger
KCH-200**



**ANT extension
coaxial cable
HAC-240G/xx**



Adaptor



**PC - OS (optional)
(HMC-SW)**

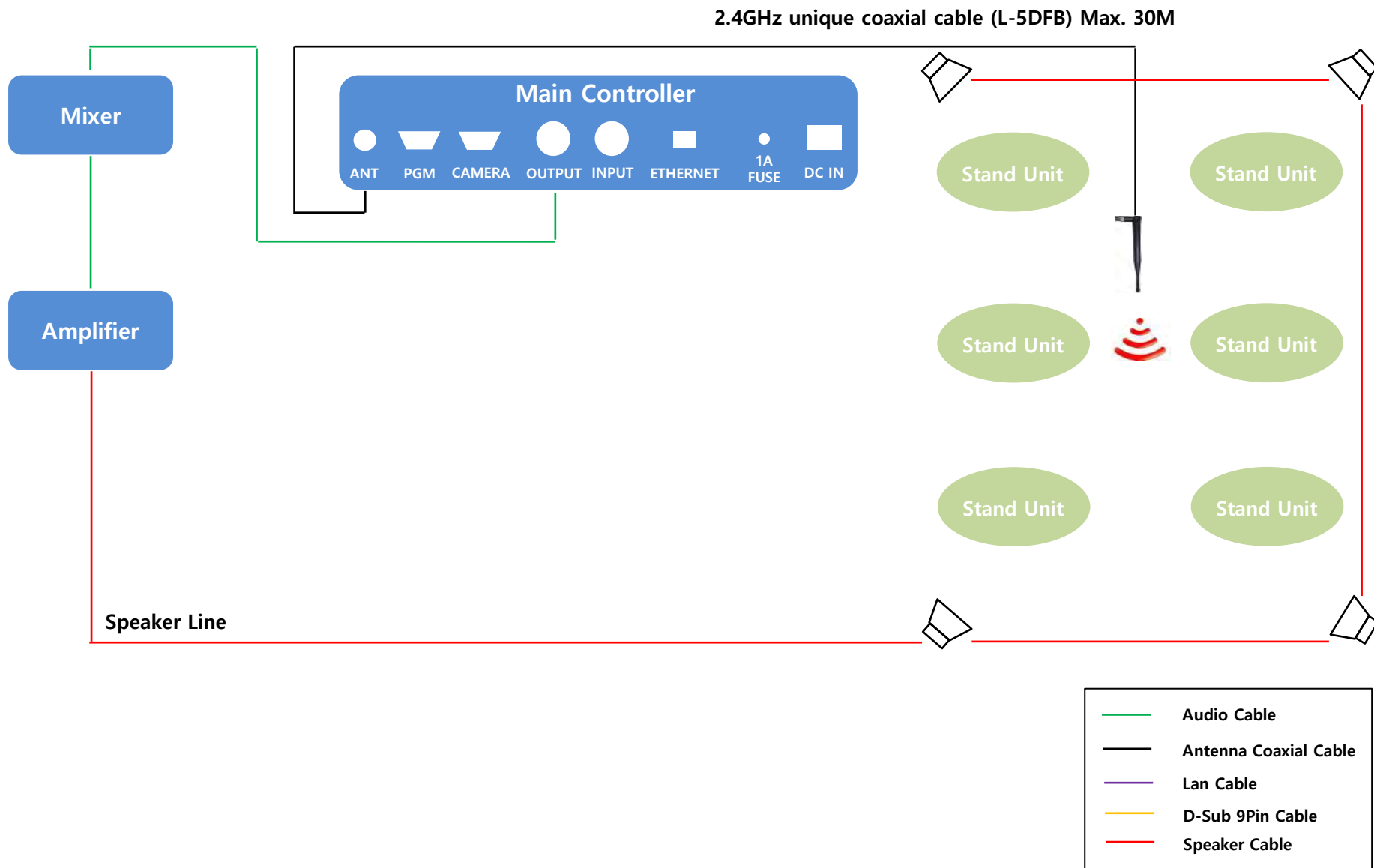
● basic setup method I

- Using main controller, connecting general conference system

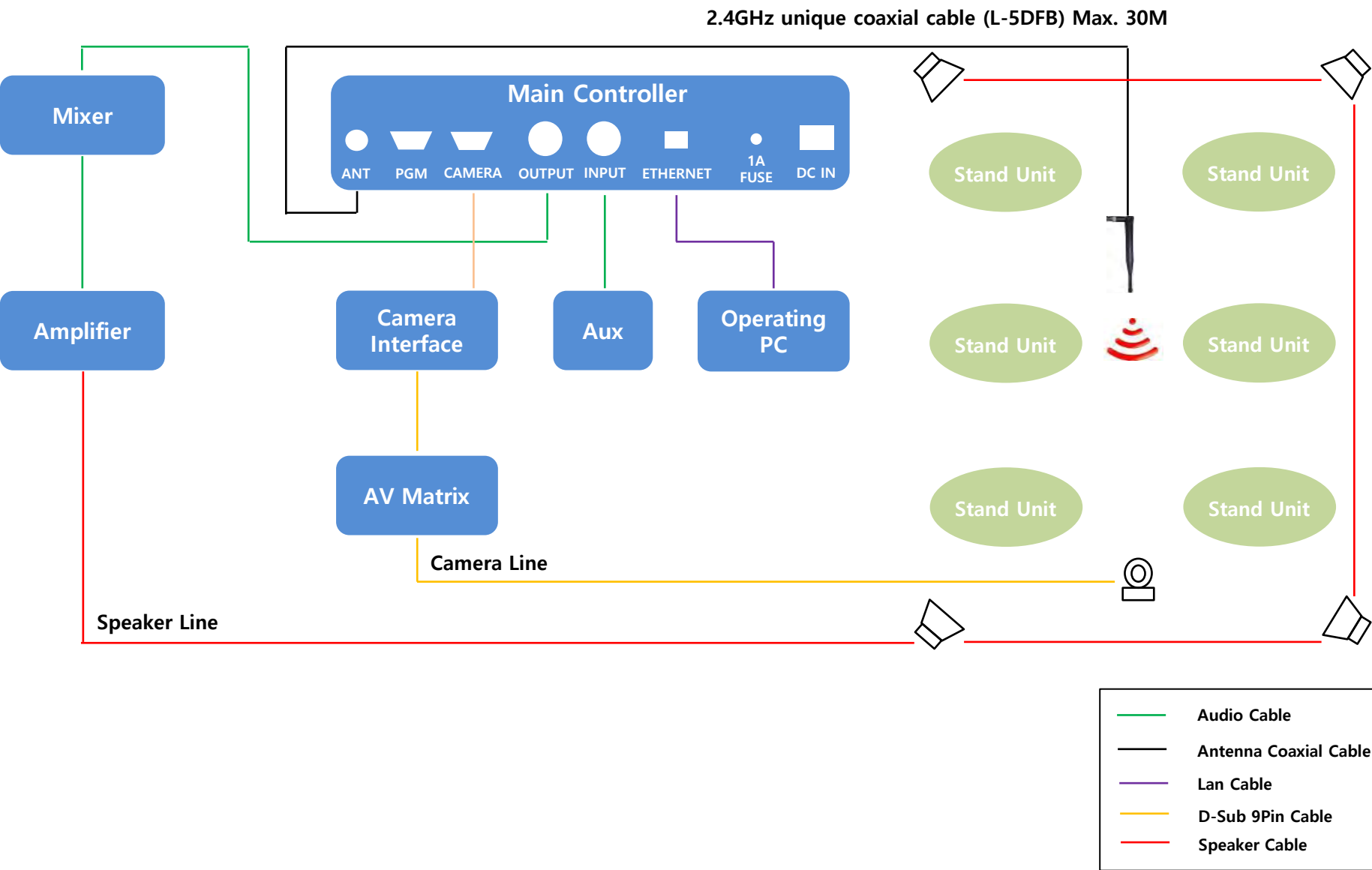
- setting procedure

1. Place Main controller KMC-200 to proper place location (; Install to Rack Cabinet)
2. Connect power adaptor cable to power port in rear side
3. Connect external audio device to Audio Out terminal in rear side (external speaker output)
4. Connect Antenna to ANT terminal in rear side
5. Power on pressing power switch in front side (Front LCD screen shows initial status)
6. Locate stand-unit to conference place (embed folding-Mike and battery-pack)
7. Power on each Stand unit pressing front-TALK-button by 2~3 seconds
8. Check synchronization between Main controller and Stand unit (Antenna icon appears in the LCD of Stand unit)
9. Touch Stand unit-TALK-button, then the Mike goes to ON status
10. Considering conference management type, change Main controller and Stand unit setting

system connection (basic conference system)



system connection (video conference system and PC-OS)



● basic setup method II

- Without Main controller, wiring conference system simply using Stand unit only (Stand Alone Mode)

- setting procedure

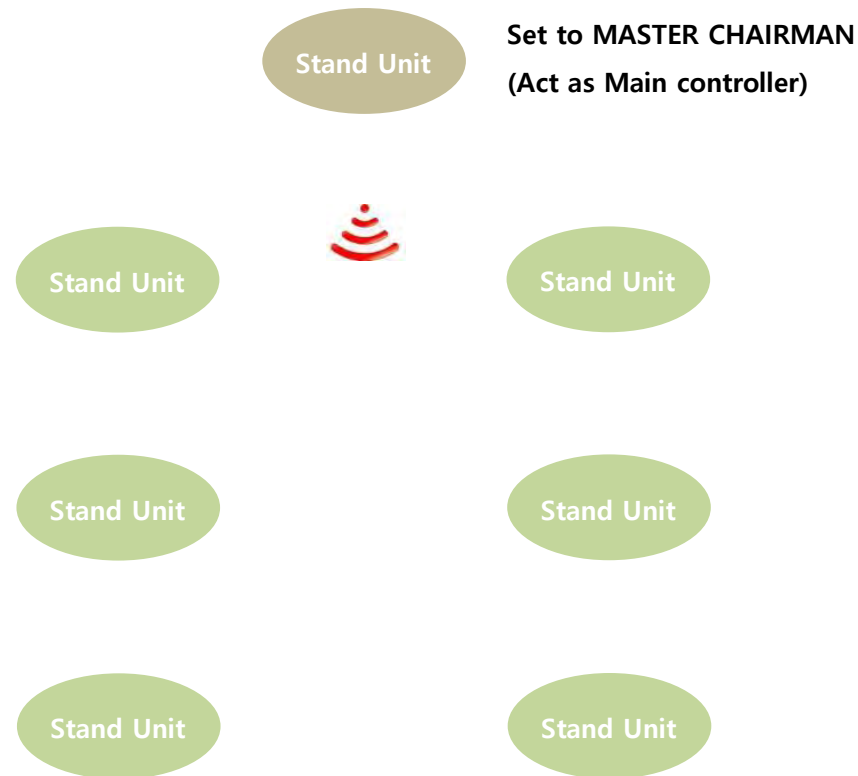
1. Place Stand unit to conference location (embed folding-Mike and battery-pack)
2. Setting Chairman Stand unit to MASTER
3. Power on each Stand unit pressing front-TALK-button by 2~3 seconds
4. Check synchronization between MASTER stand unit and member stand unit (Antenna icon appears in the LCD of Stand unit)
5. Touch Stand unit-TALK-button, then the Mike goes to ON status
6. Considering conference management type, change Main controller and Stand unit setting

※ Reference

- Hear Audio output of conference system through internal-speaker of each Stand unit

system connection (Stand Alone Mode conference system)

- Without Main controller, wiring conference system simply using Stand unit only
- Shall need to set Chairman Stand unit to MASTER CHAIRMAN
- Hear Audio output of conference system through internal-speaker of each Stand unit
- If required to external audio system connection, connect to Headphone-jack of stand unit



system operation quantity

- Can connect max 255 EA of stand unit to 1 Main controller system
- Can connect max 10 EA of Chairman stand unit and max 245 EA of member stand unit
- For stable conference system, can set multiple controller system
(If there occur error on Main controller, it changed to Sub-controller automatically)



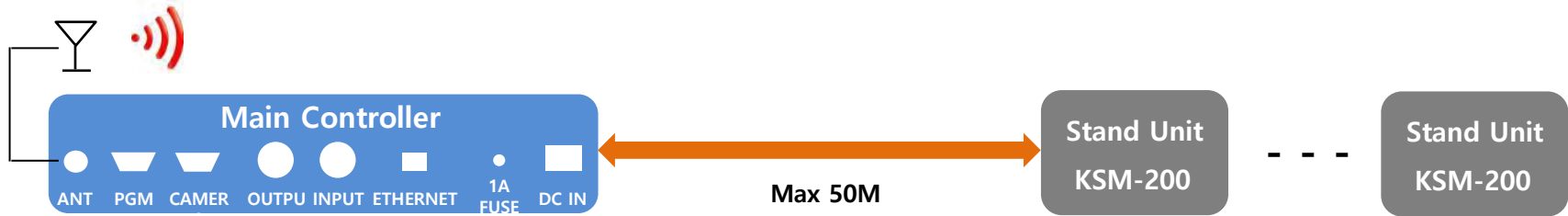
system extension

- At one place, by grouping setting, can construct max 4 EA of real-time conference system (Main controller 4EA, stand unit 1020EA)



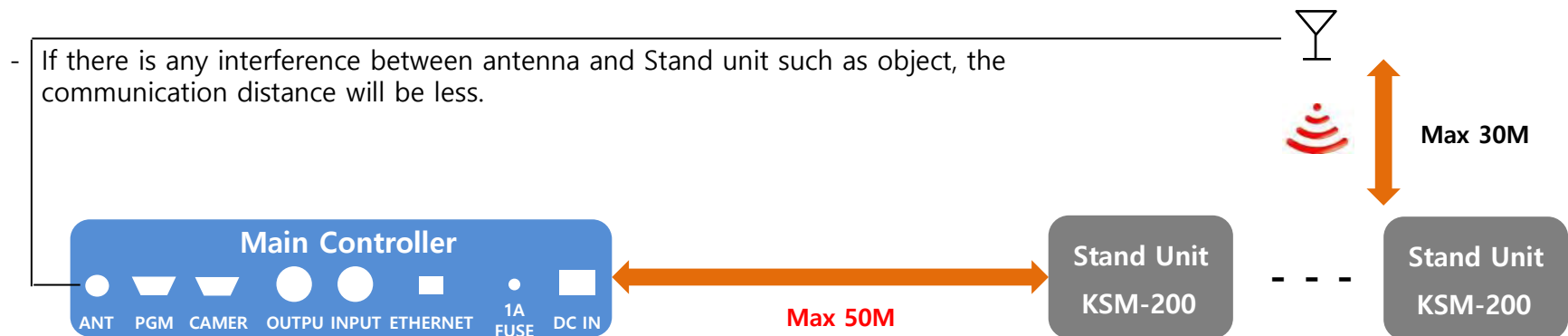
antenna connection I (direct connection to rear antenna port of Main controller)

- In case that Controller and Stand unit is near (distance between antenna and Stand unit is less than about 50M)
- If there is any interference between antenna and Stand unit such as object, the communication distance will be less



antenna connection II (antenna cable extension connection)

- In case that Controller and Stand unit is far (distance between antenna and Stand unit is less than 30m)
- The length of antenna extension cable can be extended max 50M (The usage of 2.4GHz unique 50Ω coaxial cable is mandatory : Canare 5DFB)



antenna installation method

- Omni-direction Antenna (Dipole antenna) usage type (possible to install only 1 EA of antenna)
- Depending on the Stand unit location method, it is better to install the antenna in the center of the place

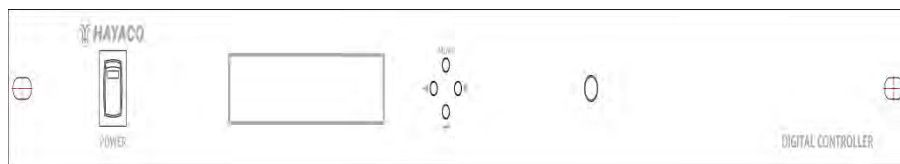


Main Controller

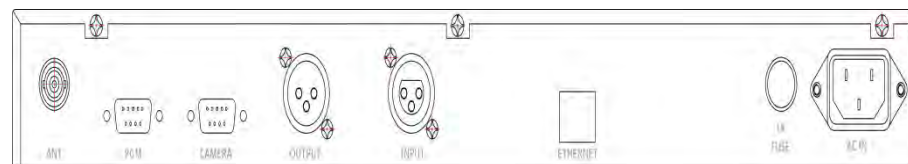
(KMC-200)

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Product details

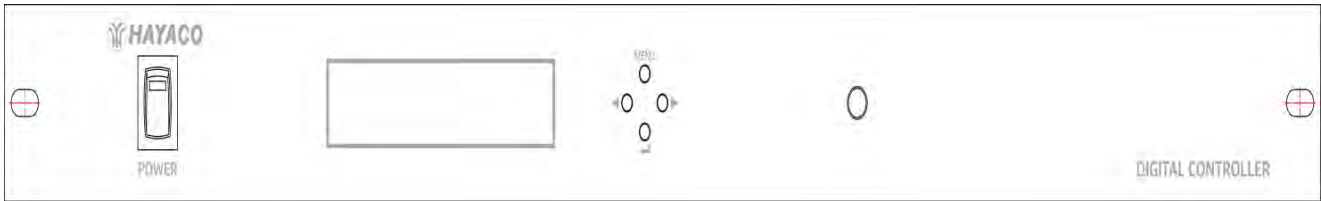
**● Main controller
KMC-200****1****2****3****4**

1. power ON/OFF button
2. LCD screen
3. setting menu/selection button
4. 3.5mm Headphone output terminal

**5****6****7****8****9****10****11****12**

- | | |
|--------------------------|----------------------------|
| 5. ANT connector | 9. AUX input terminal |
| 6. RS-232 port (PGM) | 10. Ethernet port (PC) |
| 7. RS-232 port (CAMERA) | 11. FUSE (1A) |
| 8. audio output terminal | 12. DC (5V) input terminal |

system start



2.4GHz Digital
Conference System

symbol	description
booting screen when power ON	setting for system stabilization

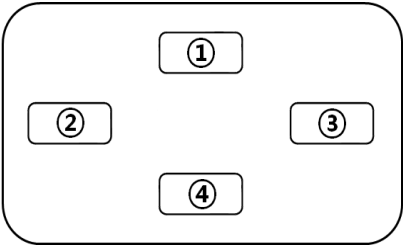
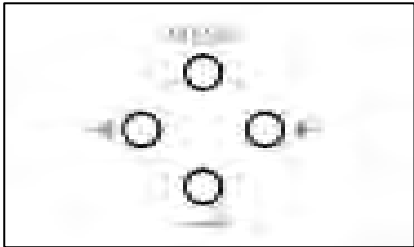
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Ver 2.00

symbol	description
booting screen when power ON	setting for system stabilization firmware version marking

System Rx On
Audio LV :

symbol	description
initial screen	real-time indication of audio level for audio output

Menu setup button guide



button	menu	control setting	remarks
1	Setup Mode	Setup Mode entrance setting menu move / initial screen return	user setting
2 , 3		setting value change	
4		setting value save	
1	Service Mode	-	setting change impossible
2 , 3		setting menu move	
4		Service Mode entrance / initial screen return	
1	Engineer Mode	setting menu move / initial screen return	Maintenance setting by manufacturer
2 , 3		Engineer Mode entrance / setting value change	
4		setting value save	

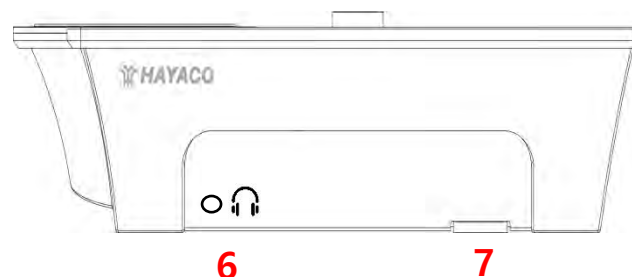
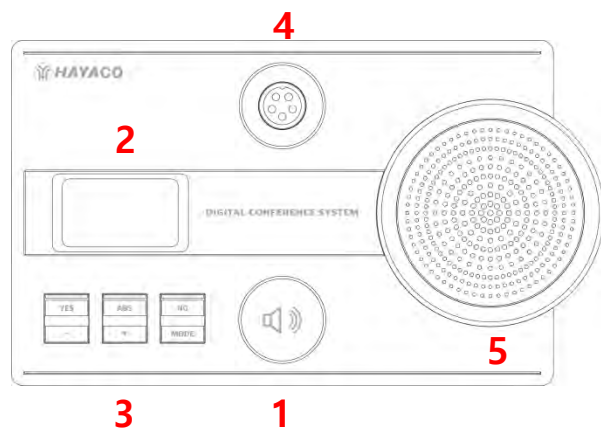
Stand Unit

(KSM-200C / KSM-200D)

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Product details

● Stand unit KSM-200 (each Chairman / Member)



1. TALK ON/OFF button

2. LCD screen

3. menu setting button

4. Microphone connection terminal

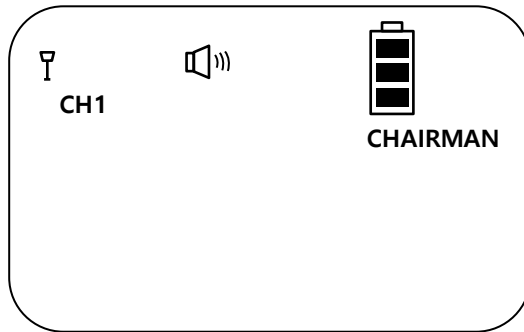
5. Internal speaker

6. Headphone connection terminal (3.5mm)

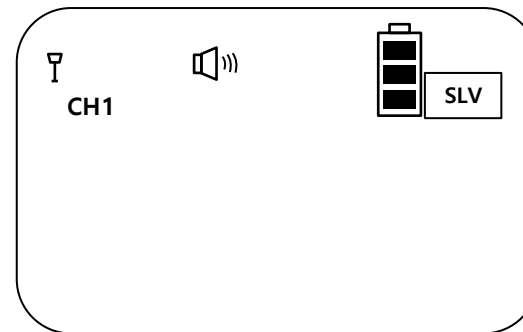
7. charging battery

system initialization

- Step to communication setting synchronization between Main controller and Stand unit - icon blink



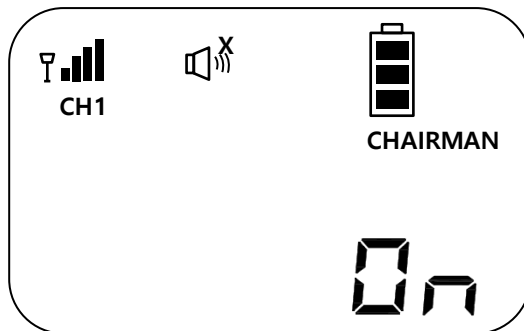
Chairman Stand unit



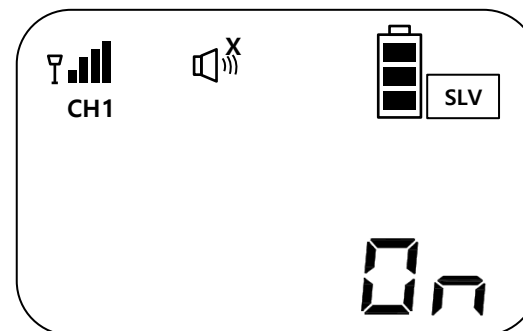
Member Stand unit

system stabilization

- completion of communication setting synchronization between Main controller and Stand unit, normal system operation is possible



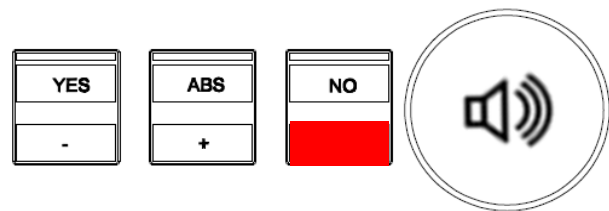
Chairman Stand unit



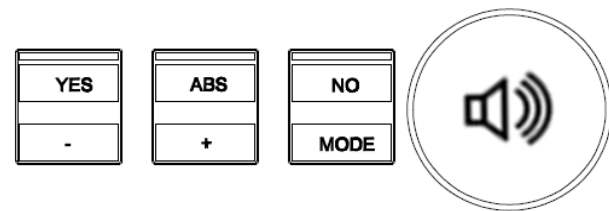
Member Stand unit

Menu setup button guide

- When menu setting button active, Stand Unit LCD Back Light - 2 seconds ON

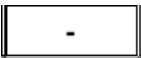
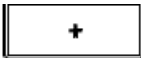


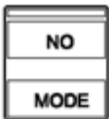
Chairman Stand unit



Member Stand unit

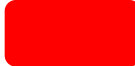
symbol	menu	control setting	remarks
	Stand unit Talk button	Stand unit power ON / OFF setting	consist during 2~3 seconds
		Stand Unit Mike speaking and speaking finishing function	

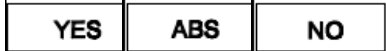
symbol	menu	control setting	remarks
 	Stand Unit Button (+ -)	Stand Unit Speaker Volume increase and decrease	
		Stand Unit Headphone Volume increase and decrease	
		Setup Mode - Address and Talk Level change When Chairman setting, MASTER / Chairman / SLV change	

symbol	menu	control setting	remarks
	Stand Unit Button MODE + NO	Delegate Unit Setup Mode entrance function	consist during 1~2 seconds

symbol	menu	control setting	remarks
	Stand Unit Button PRIO + NO	Chairman Unit Setup Mode entrance function	consist during 1~2 seconds

symbol	menu	mode	control setting	remarks
	Stand Unit Button MODE	Setup Mode	Setup selection item move	
			Setup Mode save and finish	consist during 1~2 seconds

symbol	menu	mode	control setting	remarks
	Stand Unit Button PRIO	Priority	Chairman Unit dedicated function (control delegate Unit Mike speaking)	Mute / Off
		Setup Mode	Setup selection item move	
			Setup Mode save and finish	consist during 1~2 seconds

symbol	menu	mode	control setting	remarks
	Stand Unit Button YES, ABS, NO	Vote Mode action (when use PC operation program)	Vote attention and Vote item selection function	

Specification

Main controller KMC-200

general characteristic

symbol	details
device type	Rack Mounting 1U Type
Indication method	Display LCD & Back Light
conference management mode	Open / Override / PTT / VOX
conference group mode	1 ~ 99 Group
real-time speaking quantity	6 EA, Max
speaking standby quantity	10 EA, Max
operation quantity	255 EA, Max
antenna type	Omni-Antenna BNC coaxial cable (50 Ω)
Receiving distance	30 x 30 (M)

symbol	details
product specials	2.4 GHz ISM band digital type
	Possible Mike Stand unit control (basic 255 EA)
	Group change type to prevent interference
	Can proceed max 4 conferences at same place
	Frequency band selection setting function depending on circumstance
	Various conference management mode (including Stand Alone Mode)
	audio output self-EQ adjustment function
	speaking time control and Stand unit auto-OFF function
	Assist PC operation program related vote function
	3-level security function for communication security

Specification

Main controller KMC-200

electrical characteristic

	details
frequency band	2.4GHz ISM BAND
frequency stability	±20ppm
frequency modulation	FSK
data speed	2Mbps
RF output	< 100 mW
Impedance	50 Ω
Sensitivity	-87 dB
Distortion rate (THD)	0.1 %

symbol	details
Sampling rate	24 kHz Mono
Headphone output	0.5 W
audio output	-15 ~ +5 dB
audio input	-20 ~ -5 dB
wight	2.1 kg
size	484 x 204 x 45 (mm)
Input powe	DC 5V (Power adaptor)
Operating temperature	-10 °C ~ +50 °C

Specification

Stand unit KSM-200

general characteristic

symbol	details
device type	Microphone attached, for desk-top installation type
Indication method	LCD Type
device type	Chairman / Member Stand unit
device setting	Setup Mode setting
operation quantity	Max 255 EA per system
	Chairman 10 EA / Member 245 EA, MAX
battery	DC 3.7V Li-ion / unique charger

symbol	details
product specials	Max 6 member's real-time speaking, max 10 members speaking standby
	Stand Alone Mode function w/o Main controller
	Audio hearing possible via speaker and Headphone terminal
	Detachable folding Mike connection type
	conference proceeding by priority of speaking-right
	Member Stand unit control by PRIO button
	Assist vote function (vote button embedded)
	battery usage time max 48 hours

Specification

Stand unit KSM-200

electrical characteristic

symbol	details
frequency band	2.4GHz ISM BAND
frequency stability	±20ppm
frequency modulation	FSK
data speed	2Mbps
RF impedance	50 Ω
receiving sensitivity	-87 dB
S/N	73dB (A-Weighted)
Distortion rate (THD)	0.1 %

symbol	details
Sampling rate	24 kHz Mono
speaker output	0.5 W
color	Dark Grey
weight	575 g
size	236 x 138 x 61 (mm)
input power	DC 3.7V (Lithium-Polymer Battery)
operation time	24 hour (operation) / 48 hour (standby)

Specification

Microphone KVM-480D

electrical characteristic

symbol	details
Mike type	Electret
Mike pattern	Uni-directional
sensitivity	-45dB+/-2dB (1kHz, 0dB=1V/Pa)
frequency response	50Hz ~ 20kHz
S/N	>66dB
max input level	120dB SPL
impedance	1.0kΩ
rated current	Max.0.5mA

symbol	details
rated voltage	1.5V
max voltage	10V
folder color	Dark Grey
Ring color	RED
weight	120g
size	484 x 26 x 26 (mm)
Operating temperature	-10 °C ~ +50 °C

Specification

battery-charger KCH-200

electrical characteristic

symbol	details
charging possible quantity	battery 8 EA real-time charging possible
charging voltage	DC 5V
charging current	500mA
charging time	6 hour
LED operation	charging - red / charging completion - green

symbol	details
color	BLACK
size	307 x 82 x 94mm
weight	510g
rated power	SMPS 5V, 6A Adaptor
Operating temperature	- 10 ~ + 50°C