

Panasonic
ideas for life



Conference Microphone System

From the Audio Pros at Panasonic, A Conference Microphone System That Delivers Real Quality

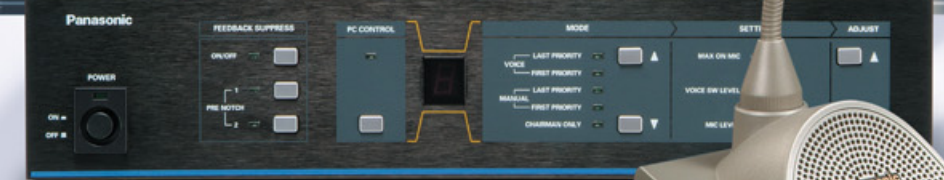
What single element is most important for ensuring smoothly run meetings?

The answer is clear — an audio system that allows everyone to speak and be heard effortlessly.

This new Conference Microphone System from the audio professionals at Panasonic uses proprietary know-how to combine unprecedented audio quality with the industry's most precise voice switching to enable every participant to exchange ideas and opinions smoothly.

Developed from a user perspective, it combines easy setup, a host of convenient features, and elegant, functional design.

The champagne gold microphone unit adds a delicious, high-status feeling to every occasion, while the system is easy to upgrade with camera or wireless device capabilities.



Controller
WM-KC20N



Delegate Microphone Unit
WM-KM22E



Chairman Microphone Unit
WM-KM21E

For high reliability and high quality,
you can't go wrong with this
Panasonic Conference Microphone System.

Setting New Standards in Clear, High-Quality Voice Transmission.

Our primary objective was to allow everyone to speak and hear clearly, the single most essential element in smooth meeting operation. To which we then added unprecedented ease of use, with simple set up, a wealth of convenient features, and an elegant, functional design.

Ultra sensitive voice switch

Incorporating an original F-R comparison method, this system compares the speaker voice level with the noise level of ambient sound. Using the industry's most precise technology, it ensures that the microphone transmits only the speaker's voice.

Adjusts automatically to noise level

Sensing changes in ambient noise level, this system automatically controls Thresh Level, adjusting to noisy rooms with unbelievable smoothness.

Double feedback suppression effect

Clear noise-free voice transmission is ensured by an ultra unidirectional Microphone Unit. Plus, the Controller's built-in Feedback Suppressor combines Dynamic Notch with Pre-notch to anticipate and eliminate obnoxious feedback effects.

Simple Set-up and Easy Operation

Cascading connections minimize the cabling requirements and reduce set-up time when multiple Microphone Units are used. A wealth of features can be set directly from the Controller's front panel. Individual microphone settings can be adjusted from a personal computer using free setting support software.

Setting Support Software

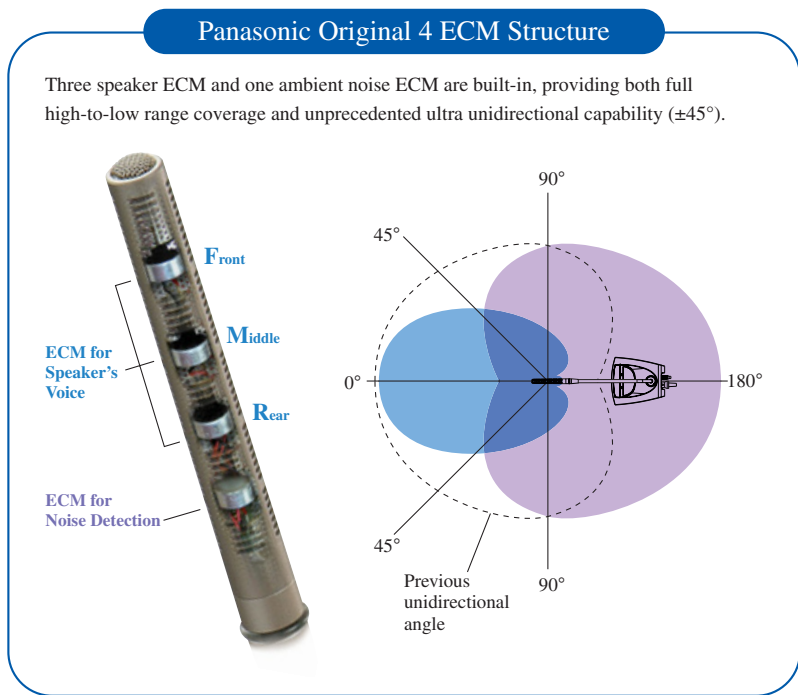
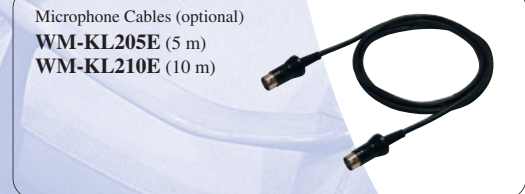
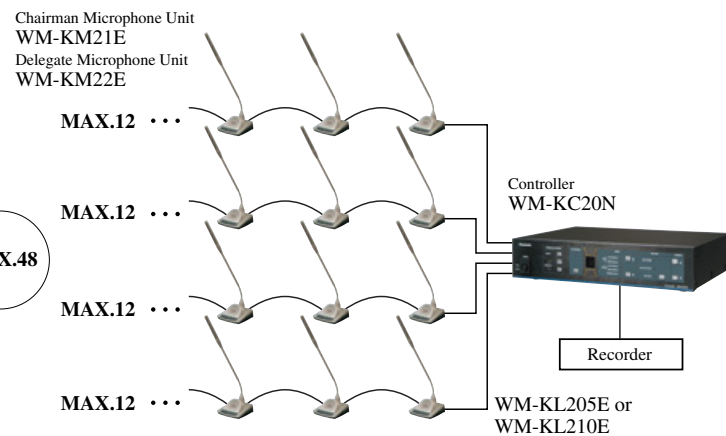
English version is available.



The above screen menu is a sample for the purpose of explanation, actual menu may differ.

Basic System Construction

A system can be configured with up to 48 (12 microphones x 4 lines) Microphone Units, including two Chairman Microphone Units.



Loaded with Convenient Features

The "Max. on Mic." Feature lets up to eight Microphone Units be used simultaneously, the Last/First Priority feature controls who is allowed to speak when, microphones automatically turn themselves OFF when not in use, and Chairman Priority determines which of two chairmen or moderators has priority.

Functional Design

The Microphone Unit's built-in speaker is set at the optimal angle for listening. With its flexible shaft and two Earphone Jacks, it can be shared by two individuals to lower costs. The Earphone Jack allows the attachment of an IC recorder or other recording device, to create an aural log of meeting events.

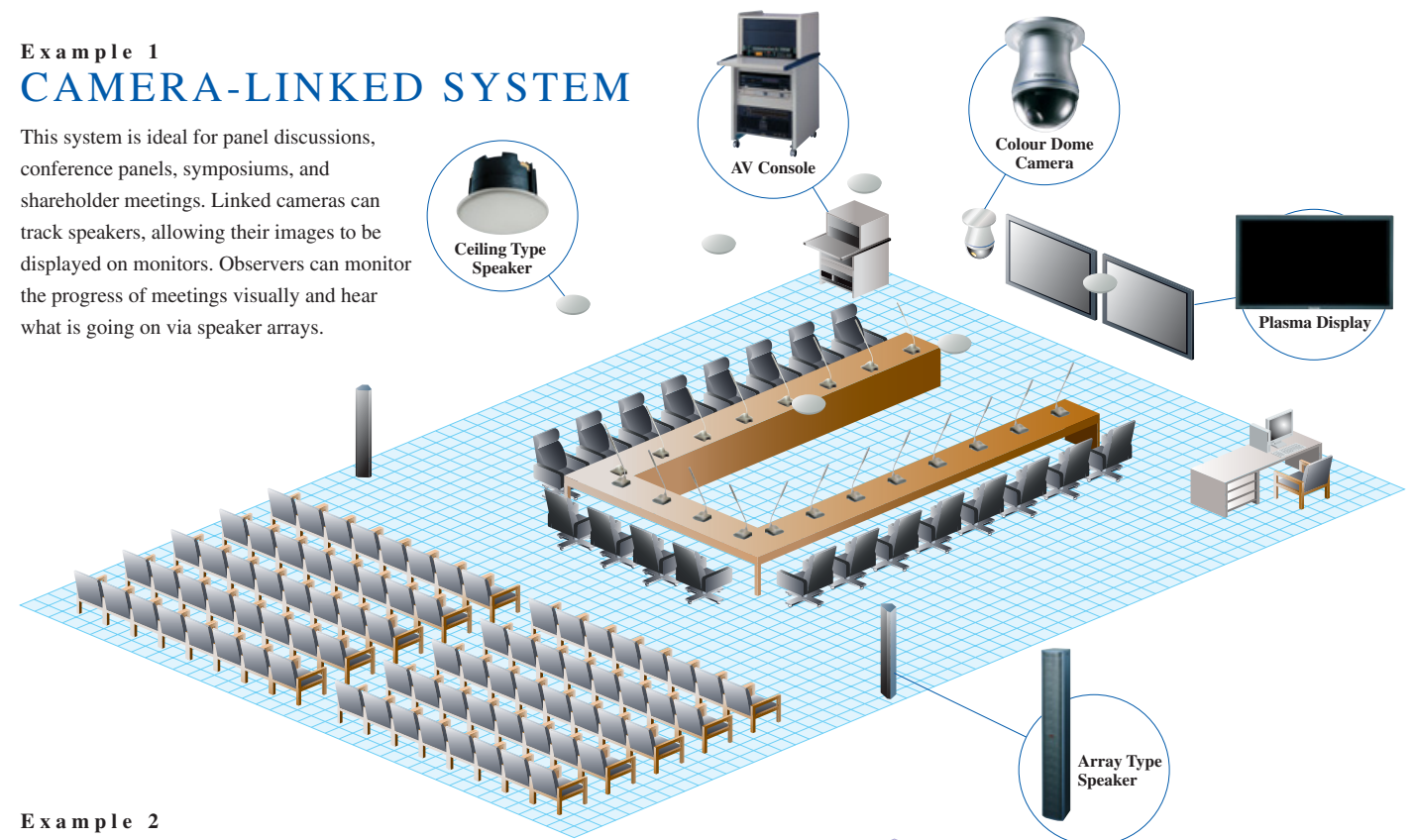


The Flexibility to Meet a Wide Range of Needs

In addition to standard meeting systems, video, external PA system-linked, and wireless device-linked systems can be constructed to meeting different meeting objectives.

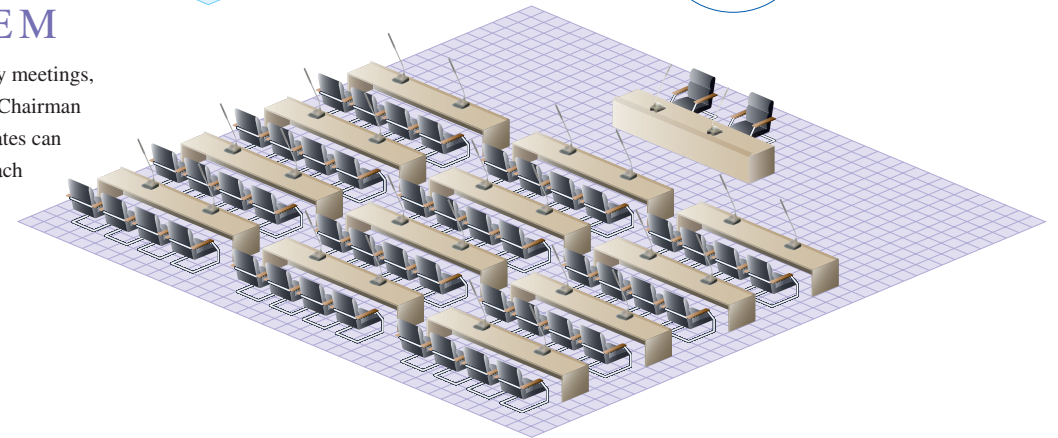
Example 1 CAMERA-LINKED SYSTEM

This system is ideal for panel discussions, conference panels, symposiums, and shareholder meetings. Linked cameras can track speakers, allowing their images to be displayed on monitors. Observers can monitor the progress of meetings visually and hear what is going on via speaker arrays.



Example 2 SIMPLE SYSTEM

This simple system is perfect for ordinary meetings, discussions and presentations. With two Chairman Microphone Units in use, up to 92 delegates can participate, with two delegates sharing each Delegate Microphone Unit.



Controller Back Equipped with Wide Range of Connectors

Two recording devices and an amplifier can be linked to the same conference system.

Two IC recorders or cassette recorders can be attached to the Recording Output RCA Ports to provide a clear audio record of meetings. Output can be routed through mixers or amplifiers to ceiling mounted speakers or external speaker arrays using the Recording Output XLR Port.



Sound Quality Compensation Insertion Connector

The Insertion (SEND/RETURN) connectors allow the attachment of External Audio Processors, to further improve audio quality. The RETURN connector can be used to broadcast background music from CD or other audio sources. Attaching a wireless reception unit allows use of wireless microphones.



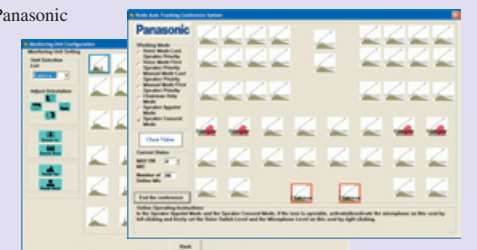
RS-232C PC Connector

This connector allows the use of a personal computer to adjust system settings or provide centralized system management. Besides the free Setting Support Software bundled with the system, optional Operation Support Software for camera control is also available. Since Open Protocols are supported, users can also develop their own software.



Operation Support Software: WM-KAS20E (optional)

Designed for use with Panasonic dome cameras or other compatible cameras, this software makes it simple to construct a camera-linked system for screening an image of the person speaking.



The above screen menu is a sample for the purpose of explanation, actual menu may differ.

Simple, Basic Model 3 System

This system makes it simple to set up a high-quality Conference Microphone System with superb voice quality without using a PC. It also offers the flexibility to be tailored to user needs.

KEY FEATURES

- Controller: WM-KC20N
- Cascade method trying to save line.
- Up to 48 microphone units can be connectable (12 microphone units x 4 output lines).
- Up to 2 Chairman Microphone Units.
- Built-in feedback suppressor.
- Detailed set can be made without computer.
- Setting Support Software and Operation Support Software (option) are available.
- Input/output terminals used to regulate the audio/video system simply.
- High-scalable RS-232C terminal.

Chairman Microphone Unit: WM-KM21E

- Voice switch with super high accuracy.
- Narrow-directional microphone able to suppress feedback.
- Built-in speaker at the best angle for hearing.
- In elegant champagne gold, the profile is designed maneuverable and stylish.
- Head-first function.

Delegate Microphone Unit: WM-KM22E

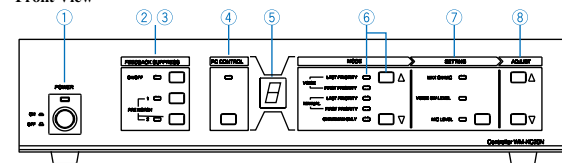
- With all functions of the Chairman Microphone Unit except head-first function.



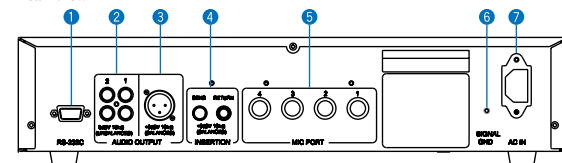
Controller
WM-KC20N

MAJOR OPERATING CONTROLS & TERMINALS

Front View

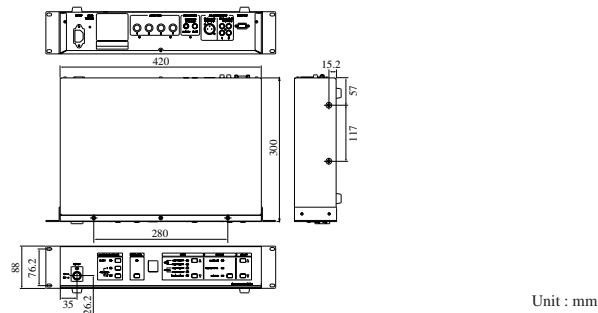


Rear View



- Power Button and Indicator
- Feedback Suppressor Button and Indicator
- Feedback Control Wave Trap Button and Indicator
- PC Control Switch and Indicator
- LED Screen
- Mode Button and Indicator
- Setting Button and Indicator
- Adjust Button
- External Serial Communication Port
- Recording Output RCA Port
- Recording Output XLR Port
- Audio Equalizer Input/Output Port
- Microphone Ports 1/2/3/4
- Ground Terminal
- AC Power Cord Inlet

DIMENSIONS



Unit : mm

SPECIFICATIONS

• General Specifications	
Power Supply	AC 110 V - 240 V [50 Hz/60 Hz]
Power Consumption	Approx. 65 W
Operating Environment	-10 °C - +45 °C
Dimensions	420 mm (W) x 88 mm (H) x 300 mm (D) (excluding rubber feet and projections)
Weight	Approx. 5 kg
Colour Material	Panel: Black [N2] Aluminum Cover: Black [N2] Environmentally friendly zinc coating steel
• Electronic Specification (Audio Input/Output)	
Microphone Audio Input (Mixed audio signals from microphones in use)	Input format: 8-port circular connector [TCS5074-48-4051] x 4 lines, balanced (electronic balance) Input level: 6 dBV Input impedance: 10 kΩ
Microphone Audio Output (Audio signals for microphone speakers)	Output format: 8-port circular connector [TCS5074-48-4051] x 4 lines, balanced (electronic balance) Output level: 6 dBV Output impedance: 10 kΩ
Output from XLR Connector (Mixed audio signals from microphones in use)	Output format: XLR-3-32 pin connector, 1 line, balanced (electronic balance) Output level: 6 dBV Output impedance: Over 10 kΩ
Output from RCA Connectors 1 and 2 (Mixed audio signals from microphones in use)	Output format: RCA connector, 2 lines, unbalanced Output level: 0 dBV Output impedance: Over 10 kΩ
Audio Input/Output Terminals (used for audio quality compensation or background music broadcasting)	Output terminal SEND Output format: ø6.5 stereo jack, balanced (electronic balance) Output level: 6 dBV Output impedance: Over 10 kΩ Input terminal RETURN Input format: ø6.5 stereo jack, balanced (electronic balance) Input level: 6 dBV Input impedance: 10 kΩ
• Electronic Specification (Communications)	
Communications between the Controller and Microphones	Communications method: RS485/422, 2-lines Synchronization method: Unsynchronized Data transmission rate: 19.2 kbps
• Electronic Specification (DC Output)	
Microphone DC Power Supply	Supply voltage: DC 24 V, 4 lines Maximum current consumption: 1.2 A x 4 lines

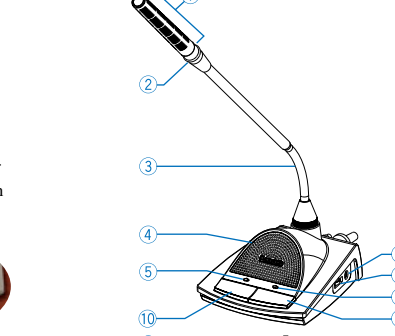


Chairman Microphone Unit
WM-KM21E

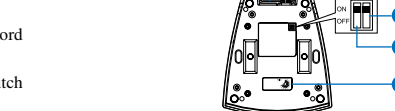
MAJOR OPERATING CONTROLS & TERMINALS

- ECM Microphone
- Microphone Indicator
- Flexible Stem
- Speaker
- Power Indicator
- Earphone Jack
- Volume Control Knob
- Microphone-Status Indicator
- Microphone ON/OFF Button
- Chairman Priority Button

External View

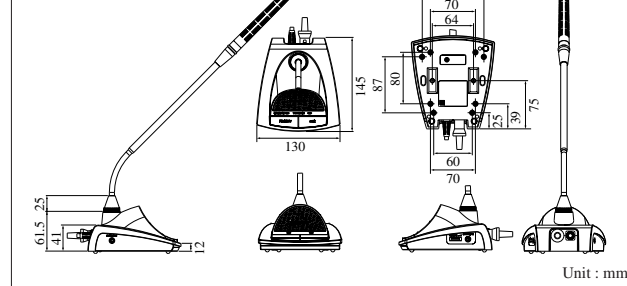


Bottom View



- Microphone Cascade Port
- Microphone Cascade Plug Cord
- CHIME Switch
- Chairman Priority Level Switch
- Address Setting Switch

DIMENSIONS



Unit : mm

SPECIFICATIONS

• General Specifications	
Power Supply	DC 24 V [power supplied through controller]
Power Consumption	Approx. 37 mA
Operating Environment	-10 °C - +40 °C
Dimensions	Microphone arm: Approx. 450 mm Speaker: 130 mm (W) x 66 mm (H) x 145 mm (D)
Weight	Approx. 660 g
Exterior Colour	Champagne
• Electronic Specification (Audio Input/Output)	
Multi-Directional Microphone for Audio Input	Microphone format: Capacitive electret (ECM x 3 pcs.) Frontal sensitivity: -50 dB (0 dB = 1 V/Pa, 1 kHz) Microphone directional characteristics: Multi-directionality: Angle: = ±45° Maximum acoustic pressure for input: 108 dB SPL (distortion: 3 %, 1 kHz)
Fixed Directional Microphone for Background Noise Input	Microphone format: Capacitive electret (ECM x 1) (Rear) Frontal sensitivity: -53 dB (0 dB = 1 V/Pa, 1 kHz) Microphone's directional characteristics: Uni-directionality
Audio Input for Speaker [cascade connector]	Input format: 8-port circular connector (TCS5074-48-4051), 1 line, balanced (electronic balance) Input level: 6 dBV Input impedance: 10 kΩ
Microphone Audio Output [mixed audio signals from microphones in use]	Output format: 8-port circular connector (TCS5074-48-4051), 1 line, balanced (electronic balance) Output level: 6 dBV Output impedance: Over 10 kΩ
Earphone Output	Output format: Small ø3.5 stereo jack, 2 lines, unbalanced Output level: 20 dBV Output impedance: Over 8 Ω With speaker: ø5.7 cm, 8 Ω Output's acoustic pressure level: Maximum 80 dB SPL [0.5 m/0.5 W]
Speaker	Output's acoustic pressure level: Maximum 80 dB SPL [0.5 m/0.5 W]
• Electronic Specification (Communication)	
Same as controller	

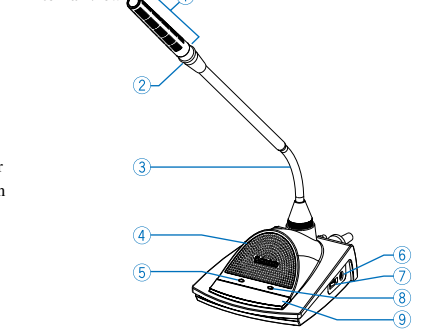


Delegate Microphone Unit
WM-KM22E

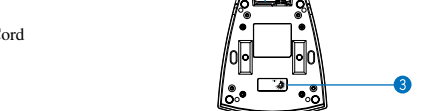
MAJOR OPERATING CONTROLS & TERMINALS

- ECM Microphone
- Microphone Indicator
- Flexible Stem
- Speaker
- Power Indicator
- Earphone Jack
- Volume Control Knob
- Microphone-Status Indicator
- Microphone ON/OFF Button

External View

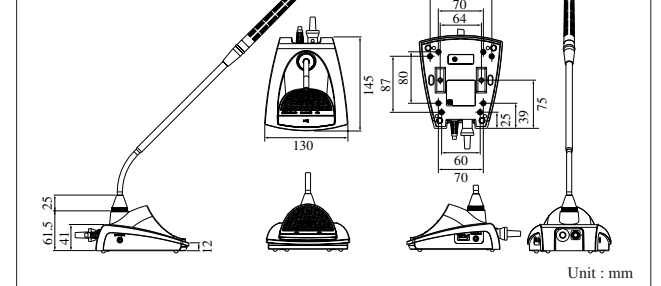


Bottom View



- Microphone Cascade Port
- Microphone Cascade Plug Cord
- Address Setting Switch

DIMENSIONS



Unit : mm

SPECIFICATIONS

• General Specifications	
Power Supply	DC 24 V [power supplied through controller]
Power Consumption	Approx. 37 mA
Operating Environment	-10 °C - +40 °C
Dimensions	Microphone arm: Approx. 450 mm Speaker: 130 mm (W) x 66 mm (H) x 145 mm (D)
Weight	Approx. 660 g
Exterior Colour	Champagne
• Electronic Specification (Audio Input/Output)	
Multi-Directional Microphone for Audio Input	Microphone format: Capacitive electret (ECM x 3 pcs.) Frontal sensitivity: -50 dB (0 dB = 1 V/Pa, 1 kHz) Microphone directional characteristics: Uni-directionality
Fixed Directional Microphone for Background Noise Input	Microphone format: Capacitive electret (ECM x 1) (Rear) Frontal sensitivity: -53 dB (0 dB = 1 V/Pa, 1 kHz) Microphone's directional characteristics: Uni-directionality
Audio Input for Speaker [cascade connector]	Input format: 8-port circular connector (TCS5074-48-4051), 1 line, balanced (electronic balance) Input level: 6 dBV Input impedance: 10 kΩ
Microphone Audio Output [mixed audio signals from microphones in use]	Output format: 8-port circular connector (TCS5074-48-4051), 1 line, balanced (electronic balance) Output level: 6 dBV Output impedance: Over 10 kΩ
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Speaker	Output's acoustic pressure level: Maximum 80 dB SPL [0.5 m/0.5 W]
• Electronic Specification (Communication)	
Same as controller	

Totally Reliable, Only-from-Panasonic System Integration

Take advantage of Panasonic expertise in every aspect of audio and video integration to create total solutions customized to user needs.

Audio Component Systems

Compact Audio Mixer
WR-XS3/G



The space-saving integrated unit handles two volumes and selection from among three modes.

Power Amplifiers
WP-1200B/G
(200W + 200W)
WP-1400B/G
(400W + 400W)



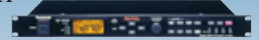
Reliable, durable power amplifiers with the sound quality you want.

Mixing Power Amplifiers
WA-MA120N_(120W)
WA-MA240N_(240W)



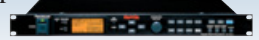
All-in one mixer and amplifier.

Digital Multi Processor
WZ-DM35NH



2ch input/4ch output.

Digital Multi Equalizer
WZ-DE45NH



2ch input/2ch output.

Speaker Systems

Full Range Ceiling Type Speakers
WS-A12E
WS-A12TE



The 12cm full range speaker with the bass reflex system.

Array Type Speakers
WS-LA100E
WS-LA50E



With advanced array technology for clear, uniform sound throughout the meeting venue.

High-Power Speakers
WS-AT300E
WS-AT200E
WS-AT80E
WS-AT75E-K



Smooth response with high power handling capacity.

Wireless Microphone Systems

Diversity Wireless Receiver
WX-R800F1



Single frequency compact receiver for easy wireless broadcasting.

Pen Type Wireless Microphones
WX-4800F1
WX-4800F2



Wireless microphones light and slim enough to put high quality sound in your pocket.

Hand Held Type Wireless Microphones
WX-4100F1
WX-4100F2



Electret condenser microphones that deliver superb clarity.

Visual Component Systems

Super Dynamic III Colour Dome Cameras
WV-CS950 Series



30x optical zoom lens with auto focus.

3 CCD Convertible Camera System
AW-E860
AW-E750
AW-E655
AW-E650
AW-E350



Precise and sensitive, just what you need for high-end applications.

Plasma Display

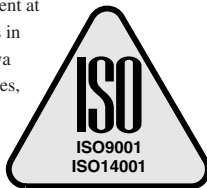


The industry's best contrast, brightness and gray scale ensure stunning image quality.

Panasonic has a hand in preserving the environment.

ISO14001 Certification

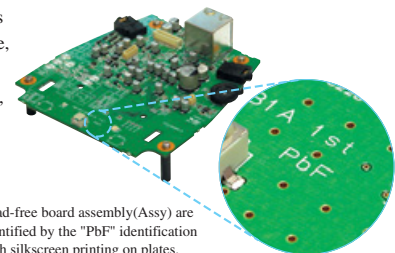
Starting with our research and development division, Panasonic has achieved ISO14001 certification for environmental management at our manufacturing plants in Yokohama and Shirakawa in Japan, in the Philippines, and in Suzhou China.



Lead-free Solder production

From the 1980s attention has been called to the hazardous effects of lead solder used as a joinder in electric appliances. In response, Panasonic began to develop joinder technology to produce lead-free solder and in October of 1998, for the first time in the world, released a portable MD player that uses lead-free solder in the printed circuit board (PCB).

After this, Panasonic announced that the company would phase out the use of lead solder in all its products and is encouraging to do the same.



Lead-free board assembly (Assy) are identified by the "PbF" identification with silkscreen printing on plates.

Trademarks and registered trademarks

– Microsoft, and Windows are registered trademarks of Microsoft Corporation in the U.S. and other countries.

Important

– Safety Precaution: carefully read the operating instructions and installation manual before using this product.

- All TV pictures are simulated.
- Weights and dimensions are approximate.
- Specifications are subject to change without notice.
- These products may be subject to export control regulations.

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Printed in Japan (1N-756C)