

Panasonic

ideas for life

PAL

2006/4

3CCD Convertible Cameras
Pan-tilt Systems
Compact Live Switcher



3CCD
Convertible Camera Systems

Panasonic's camera systems offer production

Panasonic's high quality 3-CCD convertible cameras and peripherals make flexible systems for professional camera uses in virtually shooting circumstance.

It's wide range of advanced camera technology assumes a high quality image with high resolution, high sensitivity and high signal to noise ratio.



Convertible Camera

Convertible cameras use a 3CCD prism block optics for creating high quality image in professional and broadcast use. By using half pitch spatial offset technology of a RGB CCD, 850 lines horizontal resolution is achieved.



Excellent image quality with high resolution

- Panasonic's spatial offset technology offers 850 lines horizontal resolution.
- Newly developed 12 bit A/D DSP creates excellent image quality and minimum illumination is 0.00005 lx(AW-E750,E655 and E650).
- Panasonic's exclusive clean DNR (Digital Noise Reduction) technology produces super crisp images.
- 12 vector colour matrix masking for fine colour adjustment
- Digital signal processing offers precise adjustments such as chroma detail and dark detail correction.

A full line of peripherals for various types of applications

- Many peripherals and feature cards make the camera compatible for a wide range of use.

Precise camera adjustment by camera menu and wide product range for fitting with your shooting purpose

- Fine camera adjustment such as various types of detail correction and colour compensation can be made via the camera menu.
- Four types of camera (2/3", 1/2", 1/3" 3 CCD) are available for shooting objects in various conditions.

Switcher



Images of five video sources can be creatively switched.

- Compact size 5-input live switcher
- All inputs equipped with frame synchronizer
- Frame capture function for mixing still image

3CCD Convertible

quality video for your application.

Indoor and outdoor pan-tilt heads for your application.

Pan-tilt Head



- Super quiet motion for using at any location
- Smooth and high speed pan-tilt motion
- Accurate preset and many preset positions
- Both indoor and outdoor pan-tilt heads available

Cameras and pan-tilt heads can be controlled by various types of ergonomically designed controllers.

Controller



- Excellent operability by ergonomic design
- Five types of controllers for various application
- Full camera control by camera menu

e camera systems

3CCD Convertible Camera

Panasonic's high-quality 3-CCD convertible cameras offer excellent system expandability for various camera shootings.

16:9/4:3 Switchable Wide Image Shooting Camera

2/3-INCH
BAYONET MOUNT

AW-E860



- 2/3" 3-CCD high image quality
- Switchable 16:9/4:3 aspect ratios
- Horizontal resolution: 850 lines
- Signal to noise ratio: 63 dB (DNR on)
- High sensitivity: 2 000 lx, F11
- Minimum illumination: 0.4 lx, (F1.7, Night Eye H)
- Wide dynamic range: 600 %
- Compact size, light weight and low power consumption

Power supply	DC12 V
Power consumption	Approx.15.4 W
Dimensions	84(W) X 95(H) X 192(D) mm
Weight	Approx.1.15 Kg

High Sensitivity, Wide Dynamic Range Camera

2/3-INCH
BAYONET MOUNT

AW-E750



- 2/3" 3-CCD high image quality
- Horizontal resolution: 850 lines
- Signal to noise ratio: 65 dB (DNR on)
- High sensitivity: 2 000 lx, F14
- Minimum illumination: 0.005 lx, 0.00005 lx (2 seconds CCD charge accumulation)
- Wide dynamic range: 600 %
- Compact size, light weight and low power consumption

Power supply	DC12 V
Power consumption	Approx.12.6 W
Dimensions	84(W) X 95(H) X 192(D) mm
Weight	Approx.1.1 Kg

Camera Equipped with Motor-driven Optical Filter

1/2-INCH
BAYONET MOUNT

AW-E655



- 1/2" 3-CCD high sensitivity
- Horizontal resolution: 850 lines
- Signal to noise ratio: 65 dB (DNR on)
- High sensitivity: 2 000 lx, F14
- Minimum illumination: 0.005 lx, 0.00005 lx (2 seconds CCD charge accumulation)
- Motor-driven optical filter (3 200 K, 1/16ND, 1/64ND, IR through) The AW-E655's optical filter rotates for facilitating its use as an infrared camera capable of completely dark scenes from a distance.

Power supply	DC12 V
Power consumption	Approx.12 W
Dimensions	84(W) X 114(H) X 182(D) mm
Weight	Approx.1.2 Kg

High Sensitivity, High Image Quality Camera

1/2-INCH
BAYONET MOUNT

AW-E650



- 1/2" 3-CCD high image quality
- Horizontal resolution: 850lines
- Signal to noise ratio: 65 dB (DNR on)
- High sensitivity: 2 000 lx, F14
- Minimum illumination: 0.005 lx, 0.00005 lx (2 seconds CCD charge accumulation)
- Compact size, light weight and low power consumption

Power supply	DC12 V
Power consumption	Approx.11.8 W
Dimensions	84(W) X 77(H) X 177(D) mm
Weight	Approx.0.92 Kg

Cost Effective C-Mount Lens Camera

1/3-INCH
C-MOUNT

AW-E350



- 1/3" 3-CCD C-mount lens camera
- Horizontal resolution: 850lines
- Signal to noise ratio: 63 dB (DNR on)
- High sensitivity: 2 000 lx, F9.5
- Minimum illumination: 0.015 lx, 0.00015 lx (2 seconds CCD charge accumulation)
- Compact size, light weight and low power consumption

Power supply	DC12 V
Power consumption	Approx.11.3 W
Dimensions	84(W) X 77(H) X 156(D) mm
Weight	Approx.0.7 Kg

Feature Cards



- Studio camera system card**
- Output: RGB, Y/Pr/Pb, Y/C, VBS
 - 5-inch EVF (Zebra, safety zone, and centre marker included), and intercom input and output, and tally output compatible
 - EVF interface bracket included



- Digital connecting card for video equipment with SDI input jack**
- Output: Serial digital interface (SMPT259M [4:2:2 SDI])
 - Zoom/focus of MD lens can be controlled by the contact closure type or the controller without pan-tilt head.
- Note: The lens control is not servo type control.



- Studio and SDI Cards integrated into one.**
- SDI Output: SMPT259M compatible
 - Viewfinder connector mounted
 - Intercom jack and intercom audio volume mounted on the EVF interface bracket
 - EVF interface bracket included

Multi-format, Multi-Purpose Camera

Compact HD/SD multi-format camera with an advanced 14 bit A/D

SD HD

2/3-INCH
BAYONET MOUNT

AK-HC1500



- 14-bit A/D and new DSP provide outstanding functions and image quality.
- Multi-format capability with new 2/3-inch CCD in a new-standard HD camera.
1080/60i,59.94i,50i,30p,25p,24p 720/60p,59.94p,50p
- Features variable frame rate and a cine gamma curve
- Low power consumption(18 W) and compact size design(1.6 Kg)
- Option slot for expansion such as Down Conversion Card
- Indoor or outdoor pan-tilt control system can be used with AK-HC1500.

Please refer to AK-HC1500 brochure for detail information.

Pan-tilt Heads

Three types of pan-tilt heads are available for flexible camera operation in indoor and outdoor use.

Indoor

A compact pan-tilt head with a wide pan-tilt range

A compact pan-tilt head with a wide pan-tilt range and high speed control

Indoor Pan-tilt Head

AW-PH360



- Pan angle:300 ° Tilt angle:190 °
- High performance: Quiet (Under NC30)
Pan speed:(30 ° /sec) / Tilt speed:(25 °/sec)
Accuracy(+3minutes) (0.05 degrees)
- Smooth starts and stops with soft landing function
- 50 preset memories
- Maximum load:4 Kg
- Maximum control distance:
500 m(from 500 m(from AW-RP400)*)
1 000 m(from AW-RP655/RP555)
- RS232C interface

*AW-PH360 requires AC adapter, AW-PS300A

Power supply	12 V DC
Power consumption	Approx. 36 W (Include camera power)
Dimensions	130(W) X 244(H) X 192(D) mm
Weight	Approx. 3.5 Kg
Accessories	Pan-tilt cable (Approx.0.4 m)

AC Adapter

AW-PS300A



Power supply	AC230 V 2.6 A AC220 V 2.7 A
Dimensions	210(W) X 51(H) X 275(D) mm
Weight	Approx.2.2 Kg

Indoor

A high speed and quiet pan-tilt head

High Performance Pan-tilt Head

AW-PH400



- Pan range:400 ° Tilt range:190 °
- Maximum pan/tilt speed:90 ° /sec(variable speed)
- Stop accuracy:Maximum 30 seconds (Approx.0.008 degrees)
- Noise: Under NC30(at 30 ° /sec)
- Maximum load:8 Kg
- 10 tracing memories(Maximum time:600 seconds)
- RS-232C controllable (Through AW-RP400)
- Tally light available
- Maximum control distance:500 m from AW-RP400(Maximum 1 000 m by using protocol converter AW-IF400)
- Memory of last position
- Diagonal motion possible
- Optional camera rolling unit(AW-RL400) available
- Tele-prompter output
- Both broadcast and industrial motor driven lenses are acceptable.
- AC adapter(standard accessory) can be installed in pan-tilt head.

Power supply	AC220 V-240 V
Power consumption	Approx.145 W
Maximum load	Approx.8 Kg
Maximum speed	90 °/s (30 °/s w/Tele prompter)
Weight	Approx.10.2 Kg
Dimensions	315(W) X 534(H) X 188(D) mm

Camera Rolling Unit

AW-RL400

* AW-RL400 with AW-PH400



- Power is supplied from AW-PH400.
- Convertible cameras mountable
- Controlled by AW-RP400.

Power supply	DC24 V, Approx.24 W
Maximum load	4 Kg
Rotation range	380 °(+/-190 °)
Maximum speed	60 °/s
Weight	Approx.3.9 Kg
Dimensions	205(W) X 198(H) X 260(D) mm

Outdoor

For stable shooting despite the rain with a waterproof design.

Outdoor Pan-tilt Head

AW-PH650



- Pan angle:320 ° (+-160 °) Tilt angle:+50 ° -90 °
- High performance: Quiet (Under NC40)
Pan speed(20 ° /sec)
Tilt speed(20 ° /sec)
- In addition to zooming, panning and tilting functions, heater, wiper and defroster functions for the housing can also be controlled by the controller.
- 50 preset memories
- Maximum load:10 Kg
- Maximum control distance:1 000 m
- Camera housing, power supply and cables are included in AW-PH650.



Power Supply

Dimensions	200(W) X 121(H) X 280(D) mm
Weight	Approx.4.5 Kg

Housing	
Dimensions	685(W) X 265(H) X 245(D) mm
Weight	Approx.16.5 Kg

Power supply	AC220 V to 240 V
Power consumption	Approx.120 W

Pan-tilt Head	
Dimensions	237(W) X 506(H) X 213(D) mm
Weight	18.5 Kg
Accessories	Power cable:Approx.30 m Control cable:Approx.10 m Camera cable:Approx.0.4 m (for C-CAM/HC910/HC1500)

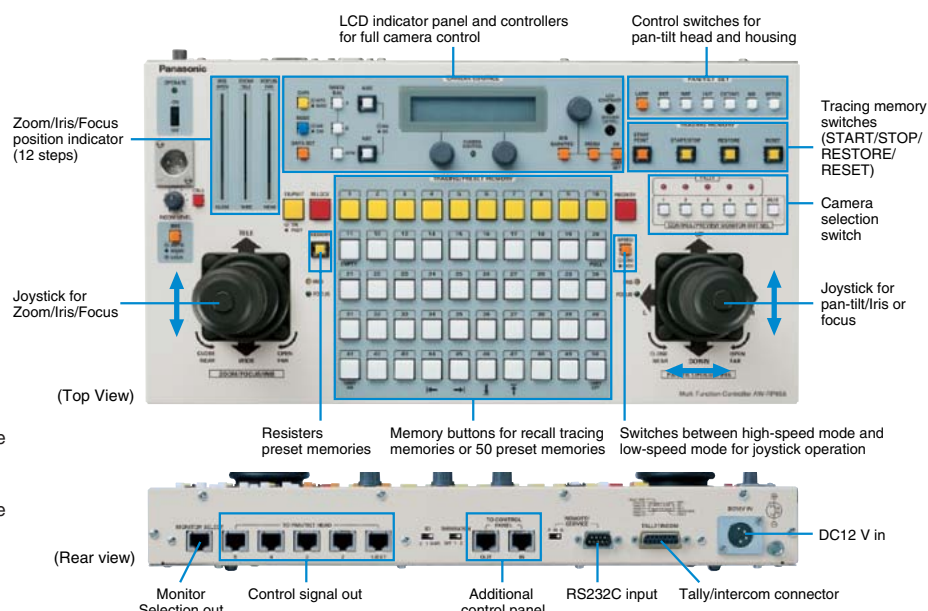
Control Panels

Smooth camera pan-tilt head control system

High performance multi-function controller with full camera control function

Multi-function Controller **AW-RP655**

- Controls maximum five cameras and five pan-tilt heads without hub unit.
 - Full camera control by LCD menu.
 - Control speed can be adjusted by the angle of the operation lever and high speed and low speed mode can be switched.
 - 50 pre-set memories per camera.
 - Ergonomically designed joystick controller.
 - Maximum 300 seconds tracing memory.
 - Maximum control distance from controller to pan-tilt head: 1 000 m, (AW-PH360, AW-PH650)
- This controller can control AW-PH400 by using protocol converter (AW-IF400).
- The motion direction of the operation lever can be reversed.
 - Two additional controllers can be connected.
 - This controller can put on the desk or mount in the rack.
 - AC adaptor AW-PS505A is required.



Full control of camera setting and picture quality **Full Camera Control**

This control unit AW-RP655 can control full functions and picture quality of the camera in addition to lens and pan-tilt head motion. Maximum five cameras can be controlled by one AW-RP655 controller and it is relatively easy to match pictures of each camera and camera conditions.

Camera Control	Setting by menu.
Switch	Gain: AUTO/MANU Bar/Cam White Balance: ATW/A/B AWC start ABC start
Controls	R/B gain, R/B pedestal

Record/playback of pan-tilt head movement and camera condition **Tracing Memory**

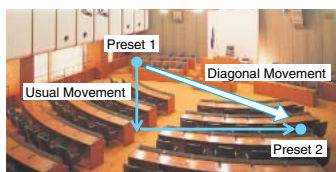
Tracing memory allows the operator to program his critical path moves into the system for easy and repeatable moves at a later time. Up to 10 can be programmed per camera. A total of 300 secs. is allowed.

Memory operation	Recording time
10 operations	30 seconds
5 operations	60 seconds
2 operations	150 seconds
1 operations	300 seconds



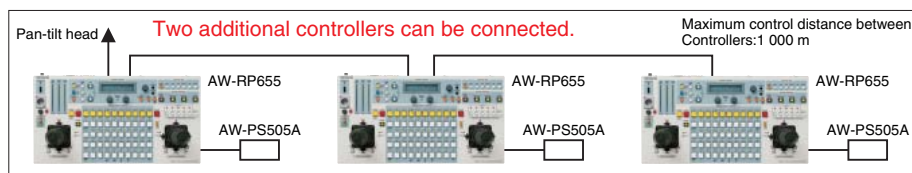
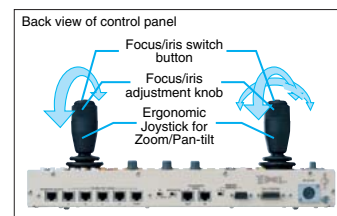
Recall of 50 preset camera positions and conditions **Preset Memory**

By setting camera position in advance, the preset memory buttons allow you to recall any position instantly. The system is capable of memorizing a maximum 250 positions for five camera pan-tilt head systems, up to 50 positions per camera. And also, when moving between the two preset positions, pan-tilt head delivers natural and smooth camera operation with diagonal movement. The contents of preset memories are pan/tilt/zoom/focus/iris and white balance control.



Flexible speed control of camera/ pan-tilt head motion **Joystick Control**

This joystick controls camera/pan-tilt head from very delicate motion to high speed movements. The ergonomically designed grip and servo speed control, activated by tilting the joystick offers superb operability. This results in smooth motion of lens zoom/focus and pan-tilt head. In addition, this system is equipped with a button to switch between high speed and low speed, which offers more delicate movements for the camera/pan-tilt head.



Power	DC10.8 to 16 V
Power Consumption	Approx. 9.0 W
Dimensions	420(W) X 52(H) X 220(D) mm
Weight	Approx. 3.5 Kg
Accessory	Rack mounting adapters (5U) X 2 Mounting screws (M4 X 8 mm) X 4

Compact size controller with full camera control function

Compact size controller **AW-RP555**



(Top View)



(Rear view)

- Controls maximum five cameras and five pan-tilt heads.
- Full camera control by camera menu.
- Speed of controls can be adjusted by the angle of the operation lever.
- 10 pre-set memories per camera.
- Maximum control distance from pan-tilt head to controller: 1 000 m. (AW-PH360, AW-PH650)
- By using protocol converter (AW-IF400), this controller can control AW-PH400.
- The motion direction of the operation lever can be reversed or changed.
- This controller can put on the desk or mount in the rack. (The position of input and output connectors can be changed by 90 degrees)
- AC adaptor AW-PS505A is required.

Power	DC10.8 V to DC16 V
Power Consumption	9.0 W
Dimensions	210(W) X 58(H) X 177(D) mm
Weight	1.4 Kg
Accessory	Rack mounting adapters (5U) X 2 Mounting screws (M4 X 8 mm) X 4

High performance controller for professional or broadcast use

Pan-tilt Controller **AW-RP400**

Joystick controller can be changed for seesaw controller. (standard accessory)

(Top view)



Seesaw controller



(Rear view)



- Changeable zoom/focus controller (joystick/seesaw)
- Joystick with camera roll control
- 50 preset positions
- 5 pan-tilt heads control
- Zoom/Focus/Pan/Tilt speed control
- Tally/Intercom function
- 10 minutes tracing memory (60 seconds x 10 positions)
- RS232C interface
- Maximum control distance:500 m*
- Cross control by two controllers
- Camera control inputs (AW-CB400)
- +DC12 V operation (AC adapter, AW-PS505A is required.)

*Maximum 1 000 m by using protocol converter AW-IF400.

Power	DC12 V
Power consumption	Approx.13 W
Weight	Approx.3.8 Kg
Dimensions	210(W) X 88(H) X 177(D) mm
Accessories	Rack mounting plate X 2 Mounting screws(M4X8) X 4 Seesaw controller

Protocol converter for connecting to any pan-tilt head

Protocol Converter **AW-IF400**

AC adaptor AW-PS505A is required.



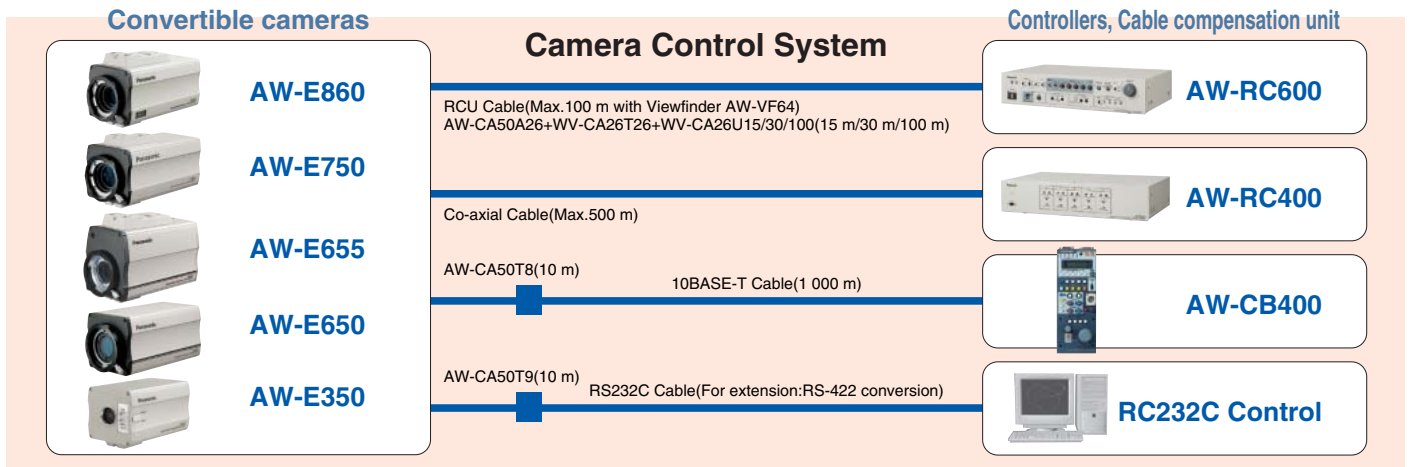
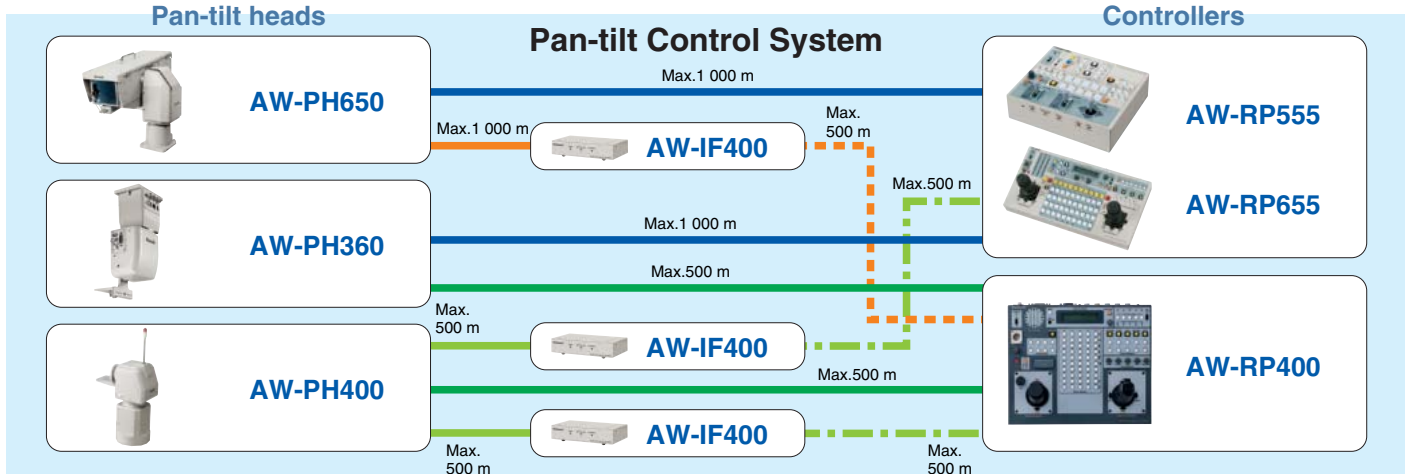
(Front view)



(Rear view)

- High performance pan-tilt head (AW-PH400) can be controlled by controllers (AW-RP555, AW-RP655) by using this protocol converter (AW-IF400). (Max.control distance:1 500 m)
- Outdoor pan-tilt head (AW-PH650) can be controlled by high performance controller(AW-RP400) by using this protocol converter (AW-IF400). (Max.control distance:1 500 m)
- By using protocol converter AW-IF400, control distance between AW-PH400 & AW-RP400 can be extended maximum 1 000 m.

Power supply	DC12 V
Power consumption	Approx.1.5 W
Dimensions	145(W) X 30(H) X 85(D) mm
Weight	Approx.0.4 Kg



Camera Controllers/Switcher

Remote Control Unit (RCU)

Remote Control Unit AW-RC600



(Front View)



(Rear View)

- Composite, Y/C and component (Y/Pb/Pr, R/G/B) outputs
- Basic camera controls on the front panel and full camera control by camera menu
- By using RCU cable (AW-CA50T26) and extension cables (WV-CA26T26, WV-CA26U/15/30/100), this unit can control a camera at the distance of maximum 100 m. (with viewfinder AW-VF64)
- Camera power can be supplied by this RCU.
- Equipped with tally/intercom, AUX (for line view) inputs, and contact-closure type pan-tilt head control input terminal (15-pin D-sub)

Power supply	DC12 V
Power consumption	Approx. 67 W
Dimensions	420(W) X 88(H) X 250(D) mm
Weight	Approx. 5.6 Kg
Accessories	4P connector for tally/intercom, Display panel, Mounting bracket, Rack mount screw X 4

Remote Operation Unit

Remote Operation Panel AW-CB400



(Rear View)



(Top View)

- Five cameras control
- Full camera control
- +DC12 V operation
- Tally/Intercom function

*Power is supplied from AW-RP400.
Power supply, AW-PS505A is required for controlling camera directly (Maximum control distance : 1 000 m.)

Power supply	DC12 V, Approx. 3.8 W
Weight	Approx. 1.4 Kg
Dimensions	100(W) X 85(H) X 266(D) mm
Accessories	Pan-tilt controller connection cable(10 m)

Cable Compensation Unit

Cable Compensation Unit AW-RC400



(Front View)



(Rear View)

- Five channels compensation
- Composite, Y/C, Y/Pb/Pr, R/G/B
- +DC12 V operation (AC adapter AW-PS505A is required.)

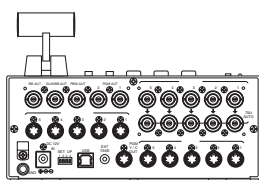
Power supply	DC12 V, Approx. 9 W
Weight	Approx. 3.7 Kg
Dimensions	420(W) X 88(H) X 250(D) mm
Accessories	Screw(M4X8) X 3

Live Switcher

Compact Live Switcher AW-SW350



(Front view)



(Rear View)

- 5 inputs (composite and YC) in compact body (half rack size)
- Three program outputs and one preview output
- Selectable bus switching system
- 10 bit, 5-channel frame synchronizer/genlock system switchable
- Frame capture, soft wipe and linear key
- DC12 V operation
- Tally and intercom function
- NTSC/PAL switchable
- AC adapter AW-PS505A is required.

Power supply	12 V DC
Power consumption	Approx. 1.35 A (16 W)
Dimensions	210(W) X 86(H) X 176(D) mm
Weight	Approx. 2.2 Kg
Accessories	Tally/Intercom connector X 5, Rack mounting clamp X 2, Connection bracket, Screw kit, Image transfer setup CD

Lenses/Cables




Cables

Name	Number	Connection apparatus		Length	Note
Cable joint adapter	WV-CA26T26	AW-E750 etc.	AW-CA26U15 etc.		Connects AW-CA50A26 to longer lengths
Studio cable (26P-26P)	WV-CA26U15 / 30 / 100	AW-E750 etc.	AW-RC600	15 m, 30 m, 100 m	
Lens extension cable	AW-CA12T12A		AW-E750 etc.	0.15 m	12P-12P
RCU cable	AW-CA50A26	AW-E750 etc.	AW-RC600	15 m	
RGB cable	AW-CA50T6	AW-E750 etc.	Monitor, VTR etc.	5 m	BNCx5 + S terminal
RS-232C pan-tilt cable	AW-CA28T9	AW-PH360	PC.	5 m	Pan-tilt head is controlled by PC.
RS-232C camera control cable	AW-CA50T9	AW-E750 etc.	PC.	10 m	Camera is controlled by PC.
Camera control cable	AW-CA50T8	AW-E750 etc.	AW-CB400	10 m	

Lenses

Camera	Lens	Description	Focal length(Max.aperture)		
AW-E350	AW-LZ16MD55	16X MD Zoom Lens	5.5—88 mm (F1.4)		
	AW-LZ16ST55	16X Studio Zoom Lens	5.5—88 mm (F1.4—1.8)		
AW-E650 AW-E655	AW-LZ16AF7	16X Auto Focus MD Lens	7—122 mm (F1.9—2.0)		
		<ul style="list-style-type: none"> ● Work saving by automatic focusing from wide angle to zoom up image (Application example: Parking lot, Dam/river watching, Airport watching, Race track, Harbor surveillance, etc.) ● Work saving for camera operators in operation of several cameras by one man operator (Application example: Parliament, Distance learning, Religious production, Shopping mall surveillance, etc.) <p><The Image of Auto Focus operation></p> 			
	AW-LZ16MD73	16X MD Zoom Lens	7.3—117 mm (F1.9—2.3)		
	AW-LZ17ST66	17X Studio Zoom Lens	6.6—114 mm (F1.5—1.9)		
	AW-LZ17MD9A	17X MD Zoom Lens	9—153 mm (F1.9—2.6)		
AW-E750 AW-E860	AW-LZ17MD9A	17X MD Zoom Lens	9—153 mm (F1.9—2.6)		
	AW-LZ17ST9A	17X Studio Zoom Lens	9—153 mm (F1.9—2.6)		
Lens Control Kit AW-LK30 For MD (Motor Drive) Lenses Cable Length : 190 cm 		Lens Control Kit WV-LK36 For Studio Zoom Lens AW-LZ17ST9A AW-LZ17ST66 Lens Control Kit WV-LK35 For Canon Zoom Lens 		Lens Control Kit AW-LK50 For Studio Zoom Lens AW-LZ16ST55 	

Other Peripherals

Public Telephone Line Connecting Adapter/RS232C Distribution Adapter AW-DU600 Enables remote control of camera and pan-tilt head  <ul style="list-style-type: none"> ● AW-PS505A is required. ● With use of a public telephone line, remote control of camera and pan-tilt head can be done through AW-RP555/RP655 series and PC. ● Up to 5 sets of camera and pan-tilt heads can be controlled with distribution function. ● Directly controllable pan-tilt and zoom/focus. * Not available in some areas. * Modem required.	AC Adapter AW-PS505A  <p>DC Cable included. For Convertible cameras, live switcher, AW-RP555, AW-DU600 and more.</p> <table border="1"> <tr> <td>Power supply</td> <td>AC230 V 0.73A AC240 V 0.75A</td> </tr> <tr> <td>Power consumption</td> <td>Approx.76 W</td> </tr> <tr> <td>Dimensions</td> <td>132(W) X 51(H) X 275(D) mm</td> </tr> <tr> <td>Weight</td> <td>Approx.1.6 Kg</td> </tr> <tr> <td>Accessories</td> <td>DC cable with 4-pin Canon connector(for AW-RP400 etc.);Approx.2 m DC cable with ø5.5 plug(for AW-RC400 etc.);Approx.3 m DC cable with ø6.5 plug(for convertible cameras);Approx.3 m</td> </tr> </table>	Power supply	AC230 V 0.73A AC240 V 0.75A	Power consumption	Approx.76 W	Dimensions	132(W) X 51(H) X 275(D) mm	Weight	Approx.1.6 Kg	Accessories	DC cable with 4-pin Canon connector(for AW-RP400 etc.);Approx.2 m DC cable with ø5.5 plug(for AW-RC400 etc.);Approx.3 m DC cable with ø6.5 plug(for convertible cameras);Approx.3 m	4" B/W Viewfinder AW-VF64 
Power supply	AC230 V 0.73A AC240 V 0.75A											
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Dimensions	132(W) X 51(H) X 275(D) mm											
Weight	Approx.1.6 Kg											
Accessories	DC cable with 4-pin Canon connector(for AW-RP400 etc.);Approx.2 m DC cable with ø5.5 plug(for AW-RC400 etc.);Approx.3 m DC cable with ø6.5 plug(for convertible cameras);Approx.3 m											

Event Shooting System

Quite, accurate and high speed pan-tilt motion for event shooting

Parliament/Sports Relay/
Shopping Mall/Hall

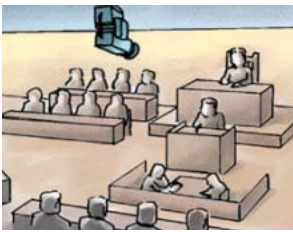
Key Points

- Compact size camera and pan-tilt head
- Quiet, accurate and high speed pan-tilt head
- Pre-set memory function
- Multi-function control
- Maximum control distance: 1 000 m



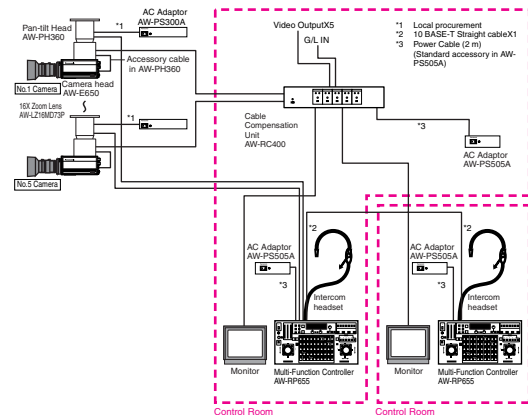
Parliament/Hall

Many cameras and quiet pan/tilt-heads can be controlled from several control rooms.



Convertible cameras(AW-E750/E655/E650) can shoot in dark room such as parliament, hall or theater thanks to high sensitivity (Minimum illumination: 0.005 lx).

Total 250 pre-set memories (50 presets per camera) can memorize 250 seats in a conference hall when 5 cameras are used.



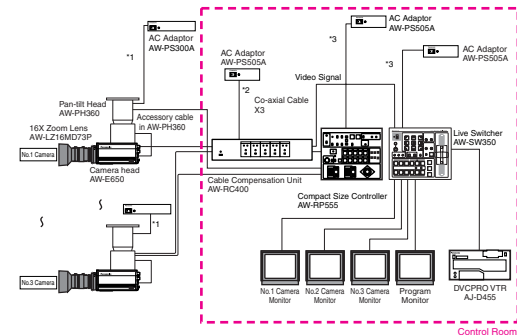
Camera Head AW-E650	5
16X Zoom Lens AW-LZ16MD73	5
Pan-tilt Head AW-PH360	5
AC Adaptor AW-PS300A	5
Multi-function Controller AW-RP655	2
Power Supply AW-PS505A	3
Cable Compensation Unit AW-RC400	1

Religious Production/Sports Relay

Compact size camera and pan-tilt head can be controlled in small event shooting space.



Quiet indoor pan-tilt system with no disturbing noise. The pan-tilt head and camera are compact, as well as extremely quiet. The videographer does not need to move around the hall, and is able to shoot without disturbing the scene. Perfect for wedding ceremonies or churches in which the atmosphere and mood are very important.



Camera Head AW-E650	3
16X Zoom Lens AW-LZ16MD73	3
Pan-tilt Head AW-PH360	3
AC Adaptor AW-PS300A	3
Multi-function Controller AW-RP555	1
Power Supply AW-PS505A	3
Cable Compensation Unit AW-RC400	1
Compact Live Switcher AW-SW350	1
DVCPRO VTR AJD455	1

Remote Studio System

Contents production at small, cost effective studio

Key Points

- Many cameras can be used in a small studio.
- SDI video system by SDI card (AW-PB504)
- One operator can control many cameras and pan-tilt heads.
- Quiet pan-tilt motion for shooting in quiet studio

Remote Studio

One camera operator can control No.1 camera to No.3 camera in the quiet studio.



One control panel controls three cameras and pan-tilt heads in the studio.

By using compact pan-tilt head, many cameras can be controlled in the small studio.

And also, by using compact live Switcher (AW-SW350), only one operator can produce creative image with wipe and special effects.

CATV Studio

High quality image SDI recording system for minimizing deterioration of video image



High quality picture SDI system that records video with little degradation.

Inserting SDI card(AW-PB504) into the camera for SDI output, along with connection to digital equipment, allows video recording without loss of picture quality. Perfect for CATV stations and professional studios that place importance on picture quality.

Remote Studio CATV Studio



Studio system can be configured by optional studio card.

Production Studio College Studio

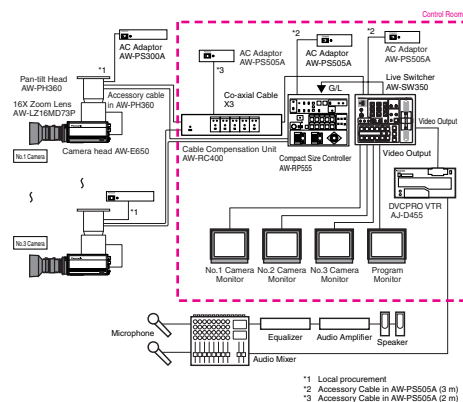


Key Points

- 3 CCD (2/3", 1/2" or 1/3") high quality camera
Resolution: 850 lines, S/N: 65 dB (DNR)
- Two types of studio card:
Analogue (Composite, Component)
SDI output card
- Intercom, viewfinder, lens control kit and RCU (remote control kit) can be used for studio system.

Production Studio

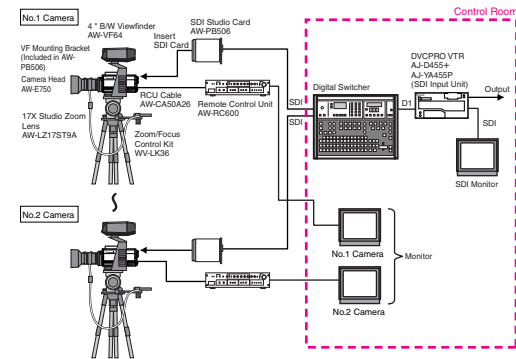
Convertible camera can be used for production studio camera by inserting SDI studio card.



Camera Head AW-E650	3
16X Zoom Lens AW-LZ16MD73	3
Pan-tilt Head AW-PH360	3
AC Adaptor AW-PS300A	3
Multi-function Controller AW-RP555	3
Power Supply AW-PS505A	3
Cable Compensation Unit AW-RC400	1
Compact Live Switcher AW-SW350	1
DVCPRO VTR AJD455	1



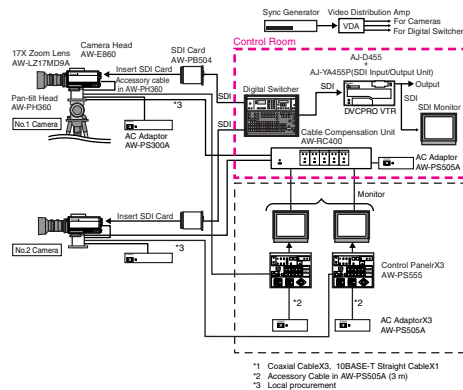
2/3" high quality camera AW-E860 or AW-E750 with SDI studio card AW-PB506 (with two SDI outputs) can be used for high quality studio camera in production house or broadcast station.



Camera Head AW-E750	2
17X Studio Zoom Lens AW-LZ17ST9A	2
Studio SDI Card AW-PB506	2
4" B/W Viewfinder AW-VF64	2
Lens Control Kit WW-LK36	2
Remote Control Unit AW-RC600	2
RCU Cable AW-CA50A26	2
DVCPRO VTR AJ-D455	1
SDI Input Unit for DVCPRO VTR	1

College Studio

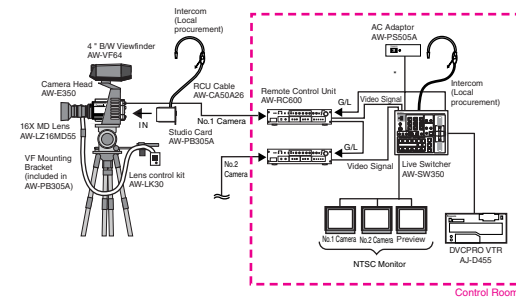
Simple and cost effective studio system can be configured by inserting Studio Card.



Camera Head AW-E860	2
SDI Card AW-PB504	2
16X Zoom Lens AW-LZ17MD9	2
Pan-tilt Head AW-PH360	2
AC Adaptor AW-PS300A	2
Multi-function Controller AW-RP555	2
Power Supply AW-PS505A	3
Cable Compensation Unit AW-RC400	1
SDI Input Unit for DVCPRO VTR AJ-YA455	1
DVCPRO VTR AJD455	1



A compact, easy to operate, and low-cost system can be set up by inserting Studio Card into the camera. Perfect for small size studios in schools, companies, etc.



Camera Head AW-E350	2
16X MD Zoom Lens AW-LZ16MD55	2
Studio Card AW-PB305A	2
4" B/W Viewfinder AW-VF64	2
Lens Control Kit AW-LK30	2
Remote Control Unit AW-RC600	2
RCU Cable AW-CA50A26	2
DVCPRO VTR AJ-D455	1
Live Switcher AW-SW350	1
AC Adaptor AW-PS505A	1

Multi-Purpose System

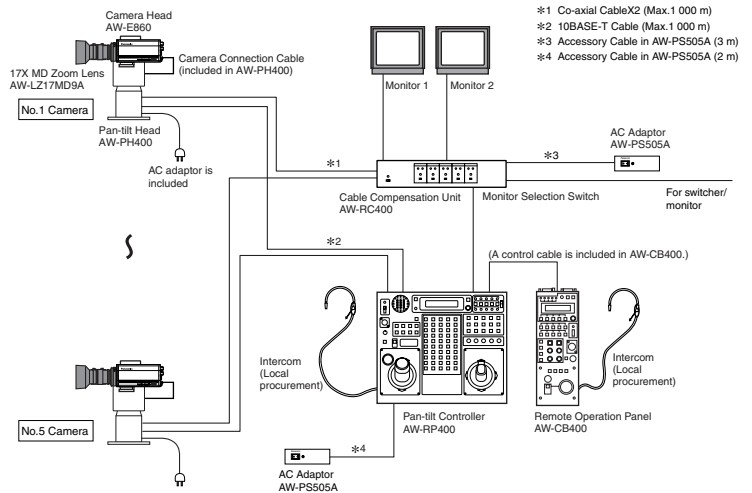
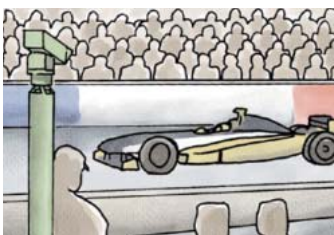
High Speed Pan-tilt System
All Weather Type Pan-tilt System
HD Multi-format Production

High Speed/High Performance Camera/Pan-tilt System

High speed and accurate camera operation can be achieved.



By using high speed(90 degree/ s) pan-tilt head AW-PH400 and high quality controller AW-RP400, high level camera operation such as sports relay or music video production can be achieved.



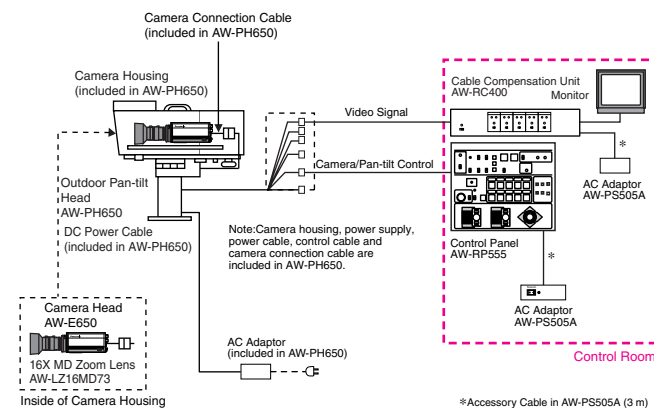
Camera Head AW-E860	2
17X MD Zoom Lens AW-LZ17MD9	2
Pan-tilt Head AW-PH400	2
Remote Control Unit AW-RP400	1
Remote Operation Panel AW-CB400	1
AC Adaptor AW-PS505A	2
Cable Compensation Unit AW-RC400	1

Weather Information Camera

High quality image can be supplied in any weather condition.



Weather camera system with use of waterproof, outdoor pan-tilt head. As the camera can be operated from remote a location via PC connection, faraway situations are projected on the monitor.



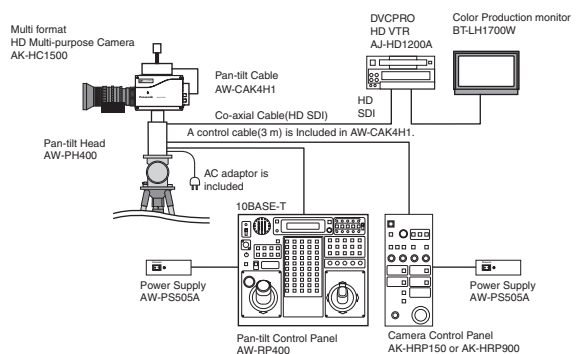
Camera Head AW-E650	1
16X MD Zoom Lens AW-LZ16MD73	1
Outdoor Pan-tilt Head AW-PH650	1
Remote Control Unit AW-RP555	1
AC Adaptor AW-PS505A	2
Cable Compensation Unit AW-RC400	1

HD Multi-format Production

HD multi-format high quality image can be recorded.



By using HD multi-format camera AK-HC1500 and high quality pan-tilt head AW-PH400, HD broadcast quality image can be recorded in production studio, outdoor production van, etc.



Camera Head AK-HC1500	1
HD MD Zoom Lens	1
Indoor Pan-tilt Head AW-PH400	1
Pan-tilt Control Unit AW-RP400	1
Camera Control Unit AK-HRP150	1
AC Adaptor AW-PS505A	2
Pan-tilt control cable AW-CAK4H1	1
DVCPRO HD VTR AJ-HD1200A	1
Color Production Monitor BT-LH1700U	1

■ Ratings

	AW-E860	AW-E750	AW-E655	AW-E650	AW-E350
Image elements	2/3" IT type 3-CCD		1/2" IT type 3-CCD		1/3" IT type 3-CCD
Pixels	Total elements	Approx. 595 728	Approx. 470 000		
	Effective elements	Approx. 538 200	Approx. 440 000		
Imaging area	9.6 HX5.4 V(mm) (2/3" 16:9) (16:9/4:3 switchable)	8.8 HX6.6 V(mm) (equivalent to 2/3")	6.4 HX4.8 V(mm) (equivalent to 1/2")		4.8 HX3.6 V(mm) (equivalent to 1/3")
Scanning System	2:1 interlaced PAL system				
Scanning Frequency	Horizontal=15.625 kHz, Vertical=50 Hz				
Lens mount	2/3" Bayonet Mount		1/2" Bayonet Mount		1/3" C Mount *1
Optical Filter	None		1/16ND, 1/64ND, 3 200 K, IR Through		None
Synchronize system	Internal/external synchronization				
Standard Illumination	2 000 lx, F11	2 000 lx, F14			2 000 lx, F9.5
Minimum Illumination	0.4 lx (F1.7, Night Eye H)	0.005 lx (F1.4) 0.00005 lx (F1.4) (2sec. CCD accumulation)			0.015 lx (F1.4) 0.00015 lx (F1.4) *2
Signal-to-noise Ratio	63 dB (DNR on)	65 dB (DNR on)			63 dB (DNR on)
Horizontal Resolution	850lines				
Registration	0.05 %				
Image Enhancer	Horizontal/vertical				
White Balance	A/B 2 memory AWC, ATW				
Black Balance	Self-adjusting				
Colour Bar	EBU colour bar				
Shutter Speed	OFF, 1/120, 1/250, 1/500, 1/1 000, 1/2 000, 1/4 000, 1/10 000 Synchro-scan ELC				
Gain	Manual: max. 42 dB (0-30 dB in steps, Night Eye H/L) Auto: max. 42 dB (AGC 0- 30 dB, Night Eye/H)	Manual: max. 72 dB (0-30 dB in steps, Night Eye/H, Digital Gain 0-30 dB in 6 dB steps) Auto: max. 42 dB (AGC 0-30 dB, Night Eye/H)			
Iris	Auto (Manual by RCU control)				
Video Output	Composite: 1 Vp-p/75 Ω (BNC, 50P connector) YC: Y 1 Vp-p, C 0.3 Vp-p (50P connector) Component: Y 1.0 Vp-p, Pr/Pb 0.7 Vp-p, RGB 0.7 Vp-p/75 Ω (50P connector)				
Power	DC12 V				
Power Consumption	Approx. 15.4 W	Approx. 12.6 W	Approx. 12 W	Approx. 11.8 W	Approx. 11.3 W
Operating Temperature	-10 °C ~ +45 °C				
Weight	Approx. 1.15 Kg	Approx. 1.1 Kg	Approx. 2.6 lbs (1.2 Kg)	Approx. 0.92 Kg	Approx. 0.7 Kg
Dimensions	84(W) X 95(H) X 192(D)mm	84(W) X 95(H) X 192(D)mm	84(W) X 114(H) X 182(D)mm	84(W) X 77(H) X 177(D)mm	84(W) X 77(H) X 156(D)mm

*Note 1 = The lens should be within 4.3 mm from the lens mount face. Otherwise, there is a risk of damaging the camera unit.

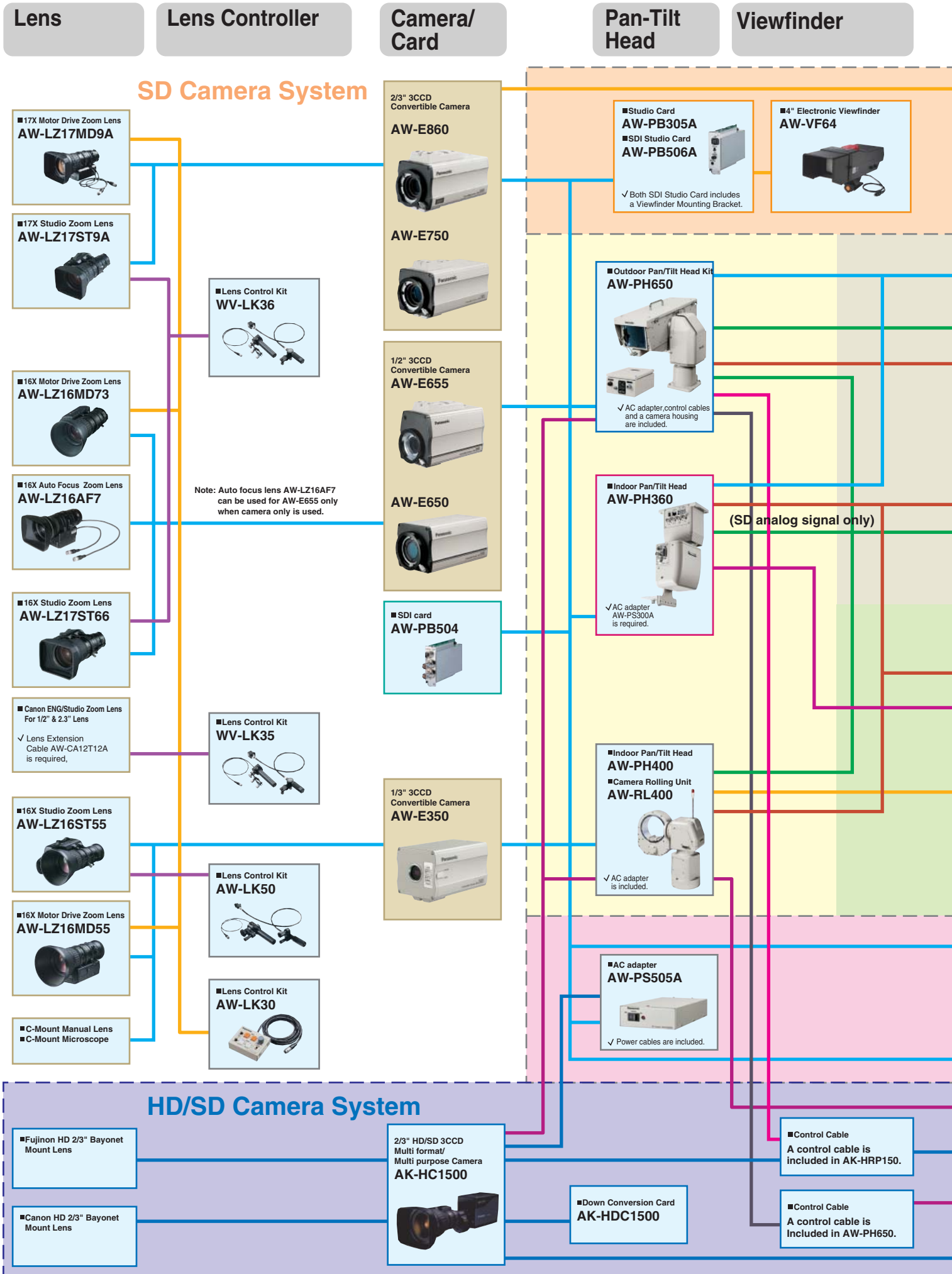
*Note 2 = 2 sec. CCD charge accumulation. *Weight and dimensions shown are approximate.

*Features and Specifications are subject to change without notice. *These products may be subjects to export regulations.

■ Dimensions

<p>■ AW-E860</p> <p>(mm)</p>	<p>■ AW-E750</p> <p>(mm)</p>	<p>■ AW-E665</p> <p>(mm)</p>
<p>■ AW-E650</p> <p>(mm)</p>	<p>■ AW-E350</p> <p>(mm)</p>	<p>■ AK-HC1500</p> <p>(mm)</p>

Product configuration diagram



Control Cable

Control Unit

Switcher

Studio System

- RCU Cable
AW-CA50A26(15m)
- RCU Cable Joint Adapter
WV-CA26T26
- Studio Extension Cable
WV-CA26U15(15m)
WV-CA26U30(30m)
WV-CA26U100(100m)

■Remote Control Unit
AW-RC600



- Camera & Pan/Tilt Control Cable
Ethernet Cable

P/T Control System

■Protocol Converter
AW-IF400




✓ AC adapter AW-PS505A is required.

■Compact Size Control Panel
AW-RP555

✓ AC adapter AW-PS505A is required.

■Multi-Function Control Panel
AW-RP655


✓ AC adapter AW-PS505A is required.



- Camera & Pan/Tilt Control Cable
Ethernet Cable

■Pan/Tilt Control Panel
AW-RP400


✓ AC adapter AW-PS505A is required.



- Video Cable
Coaxial Cable

■Cable Compensation Unit
AW-RC400

✓ AC adapter AW-PS505A is required.



■Protocol Converter
AW-IF400



✓ AC adapter AW-PS505A is required.

(For extension)

(Direct Control)

- Camera & Pan/Tilt Control Cable
Ethernet Cable
- RS232C Control Cable
AW-CA28T9

■Dial-up Adapter
(Public Telephone Line Connecting Box/
RS232C Distribution Box)
AW-DU600

✓ AC adapter AW-PS505A is required.




■Compact Size Control Panel
AW-RP555

✓ AC adapter AW-PS505A is required.

■Multi-Function Control Panel
AW-RP655

✓ AC adapter AW-PS505A is required.



■Modem

✓ Use an approved modem by factory.

(Telephone Line)

■Modem

✓ Use an approved modem by factory.

Dial-up Adapter Control System

■Dial-up Adapter
(Public Telephone Line Connecting Box/
RS232C Distribution Box)
AW-DU600

✓ AC adapter AW-PS505A is required.



- PC Control Cable
AW-CA50T9(D-Sub 9Pin 10m)

■Personal Computer




Camera Control System

- Camera Control Cable
AW-CA50T8

■Camera Control Unit
AW-CB400


✓ AC adapter AW-PS505A is required for connecting with cameras directly.



- Control Cable
AW-CAK4H1 (3m)

■Camera Control Unit
AK-HRP150


✓ AC adapter AW-PS505A is required .



- Control Cable
Local procurement

■Camera Control Unit
AK-HRP900

✓ AC adapter AW-PS505A is required .



**With an advanced 14-bit A/D and new digital signal processor
A high new standard in compact HD cameras**



Multi-purpose HD Box Camera

AK-HC1500



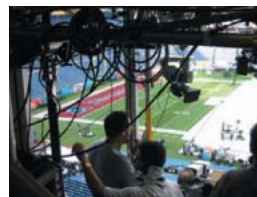
Remote studio camera
■ Panasonic indoor pan-tilt head (AW-PH400) available



Image analysis camera
■ Progressive scan (720p)



Weather information camera
■ Panasonic outdoor pan-tilt head (AW-PH650) available



Sports event camera
■ Panasonic high speed pan-tilt head (AW-PH400) available



Film like image shooting camera
■ Variable frame
■ Cine Gamma

Panasonic

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