

SONY®

Power Supply Systems





Durable, Reliable, and Convenient Operation with Sony Professional Power Supply Systems

As a leading manufacturer in the professional A/V industry, Sony has offered a wide range of power supply products to best accommodate its professional product line.

The BP-L Series lithium-ion battery, introduced in 1994, set a milestone in the history of professional battery products with its large capacity and robustness packed into a compact and lightweight body. The use of Sony's V-mount mechanism in this battery series offered a new level of durability and reliability by providing direct-attachment to a range of Sony professional products, from camcorders and portable VTRs to video monitors. Building on this legacy, Sony continuously strives to enhance its professional line of power supply products for even greater convenience and reliability.

Four models are offered in Sony's professional battery line up to best accommodate different user needs depending on the battery capacity, price, and equipment they are used with.

These are the BP-L80S and BP-L60S, using Sony's unique battery technology, and the BP-GL95 and BP-GL65, large capacity BP-GL Series professional INFO batteries.

Three battery chargers dedicated to the BP-L/GL Series batteries, two AC adaptors and convenient accessories are also available for effective support in both field and studio applications.

Combining high reliability, convenient features, and a wide variety to choose from, Sony power supply systems support the demanding applications in professional A/V field operations.

ADVANTAGE OF SONY POWER SUPPLY SYSTEMS

Large Capacity and Lightweight Lithium-ion Batteries

The BP-L/GL Series lithium-ion batteries offer the benefits of large capacity and lightweight packed into a small, but very durable body. These factors make them very suitable for camera crews that have a critical need for long operating times and mobility. Users can choose from a wide range of batteries to meet their required capacity and the type of camcorder they are operating.

The BP-L80S and BP-L60S combine a lightweight design with a long life, by incorporating specially designed cells that are relatively tolerant to extreme operational and storage conditions. These batteries offer excellent life-cycle performance, and can be easily managed. The BP-GL95 and BP-GL65, BP-GL Series batteries,* boast high energy density in their compact and lightweight body. The BP-GL95 has the largest capacity of 95 Wh in the Sony professional battery lineup and weighs only 760 g (1 lb 10 oz).

*Lithium-ion batteries used for professional video applications typically provide more than 300 charge/discharge cycles, and a shelf life of one or two years. (The batteries tested were measured under controlled conditions. Actual battery life may vary based on different operating conditions and settings.) However, under certain conditions the battery may result in a significantly shortened life. In the case of the BP-GL95/GL65, the shelf life can be shortened to less than one year. To find out how to prolong the life of the battery, please refer to "INSTRUCTIONS FOR BATTERY USE".

High Durability, Reliability and Safety

The BP-L Series and BP-GL Series lithium-ion batteries have been designed to be highly durable and reliable, making them suitable for the harshest environments encountered in the most demanding ENG applications. All Sony batteries are equipped with a multiple protection circuit, which maintains a high level of safety. Moreover, all Sony batteries follow IATA (International Air Transport Association) transport regulations for regular aircraft transportation, and are confirmed in accordance with the Manual of Tests and Criteria of the UN Recommendations on the Transport of Dangerous Goods, Part III, sub-section 38.3.*

*The BP-L/GL Series batteries are also in compliance with U.S. Department of Transportation and FAA safety guidelines. Ultimately the decision to carry or not to carry is at the discretion of the carrier.

Intelligent "INFO" Function (BP-GL95/GL65)

The BP-GL95 and BP-GL65 are equipped with the professional INFO function that intelligently communicates battery status data to INFO-compatible equipment. This intelligent battery-management function allows operators to monitor the battery status easily and accurately. It allows highly efficient battery exchange and recharging by relieving operators from the risk of a power failure during a critical shoot. The professional INFO function also allows the indication of other important battery information such as remaining charging time and charge cycles for better and more efficient power management.

Battery Remaining Display on Viewfinder

The battery remaining capacity is automatically detected and transmitted to a compatible Sony camcorder. With the BP-GL95 and BP-GL65 professional INFO batteries, the remaining capacity is indicated on the camcorder viewfinder by either percentage in 10% steps or voltage. In the case of the BP-L80S or BP-L60S battery, the remaining capacity is indicated by voltage on the viewfinder of a compatible camcorder.



Four-step Remaining Capacity LED Display

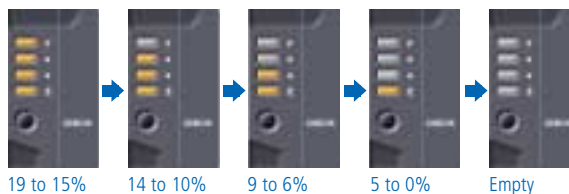
The four-step LED display on the side of the battery provides an accurate indication of remaining capacity at the touch of a button (more than 80%, 60%, 40%, or 20%). In addition, the BP-GL95/GL65 can indicate the remaining capacity in more detail when it falls below 20%.



BP-L80S/L60S/GL95/GL65



BP-GL95/GL65



Remaining Capacity Indicaion

Reliable and Durable V-mount Attaching Mechanism

All batteries offered in the BP-L/GL Series use Sony's V-mount mechanism, allowing quick and convenient attachment/detachment to Sony compatible equipment. This innovative mechanism offers extremely high durability and reliability, suitable for the harshest environments encountered in ENG operations. Since no external cable connections are required in this system, batteries can be attached and detached through one quick action. Sony V-mount batteries can be directly attached to most Sony professional camcorders including HDCAM™, Digital Betacam™, XDCAM™, MPEG IMX™, XDCAM HD, and DVCAM™ series, plus some portable VTRs and video monitors.



Quick Simultaneous Charging System (BC-L500/L70)

The BC-L500 desktop-type battery charger and BC-L70 portable battery charger employ a quick simultaneous charging system. Four batteries (BC-L500)/two batteries (BC-L70) can be charged at the same time.

The BC-L500 charger provides a very short charging time of only 145 minutes for four BP-GL95 batteries. The portable BC-L70 charger can charge two BP-GL95 batteries in 220 minutes.

Battery Status Display on Charger (BC-M150)

When the BP-GL95 and BP-GL65 professional INFO batteries are attached to a BC-M150 battery charger, a variety of information – including the remaining capacity, remaining charge time, and number of charge cycles – is indicated on the LCD display for easy recognition of each battery's condition.

BC-M150 LCD Indication



Battery Capacity (%)

Battery Capacity (Ah)



Remaining Charging Time (min.)

Charge Cycle

BATTERIES

BP-L80S Lithium-ion Battery



FEATURES

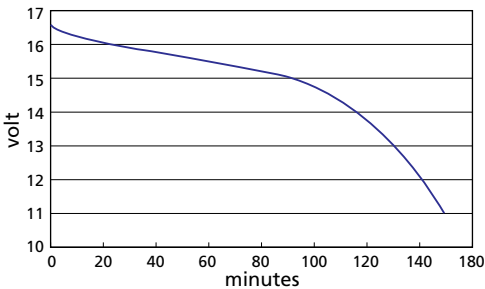
- High capacity: 83.5 Wh
- Long-life and easy-to-manage
- V-mount attaching mechanism
- Four-step LED display
 - Remaining capacity indication in 20% steps with green LED (more than 80%, 60%, 40%, 20%)

SPECIFICATIONS

Battery type	Lithium-ion rechargeable battery
Maximum voltage	DC 16.8 V
Nominal voltage	DC 14.4 V
Nominal capacity	83.5 Wh
Maximum discharge current	10 A at 23 °C (73 °F) (approx. 100 W load)
Normal discharge current	3 A or less (approx. 40 W load)
Operating temperature	-20 to +45 °C (-4 to +113 °F)
Dimensions (W x H x D)	101 x 169 x 52 mm (4 x 6 3/4 x 2 1/8 inches)
Mass	Approx. 1000 g (2 lb 3 oz)
Supplied accessory	Operation manual

TYPICAL DISCHARGE CURVE

(at 30 W load)



BP-L60S Lithium-ion Battery



FEATURES

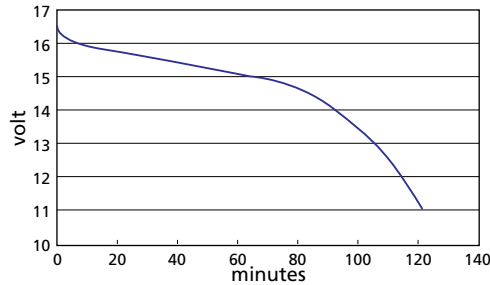
- 64.8 Wh capacity
- Long-life and easy-to-manage
- V-mount attaching mechanism
- Four-step LED display
 - Remaining capacity indication in 20% steps with green LED (more than 80%, 60%, 40%, 20%)

SPECIFICATIONS

Battery type	Lithium-ion rechargeable battery
Maximum voltage	DC 16.8 V
Nominal voltage	DC 14.4 V
Nominal capacity	64.8 Wh
Maximum discharge current	7.5 A at 23 °C (73 °F) (approx. 80 W load)
Normal discharge current	2 A or less (approx. 30 W load)
Operating temperature	-20 to +45 °C (-4 to +113 °F)
Dimensions (W x H x D)	101 x 169 x 37 mm (4 x 6 3/4 x 1 1/2 inches)
Mass	Approx. 800 g (1 lb 12 oz)
Supplied accessory	Operation manual

TYPICAL DISCHARGE CURVE

(at 30 W load)



BP-GL95 Lithium-ion Battery



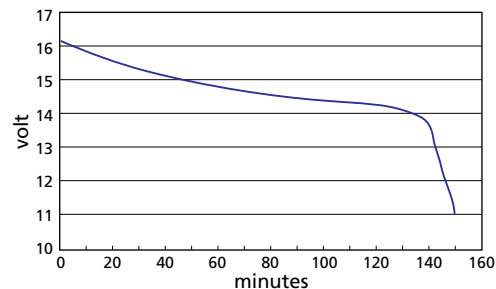
FEATURES

- High capacity battery: 95 Wh
- “INFO” function
 - Remaining capacity indication on viewfinder (in 10% steps)
 - Remaining capacity/remaining charge time/ battery life indication on LCD display of the BC-M150
- V-mount attaching mechanism
- Four-step LED display
 - Remaining capacity indication in 20% steps with green LED (more than 80%, 60%, 40%, 20%)
 - Remaining capacity indication in 5% steps with orange LED after capacity falls below 20%

SPECIFICATIONS

Battery type	Lithium-ion rechargeable battery
Maximum voltage	DC 16.8 V
Nominal voltage	DC 14.4 V
Nominal capacity	95 Wh
Maximum discharge current	10 A at 23 °C (73 °F) (approx. 100 W load)
Normal discharge current	3 A or less (approx. 40 W load)
Operating temperature	-20 to +45 °C (-4 to +113 °F)
Dimensions (W x H x D)	101 x 169 x 37 mm (4 x 6 3/4 x 1 1/2 inches)
Mass	Approx. 760 g (1 lb 10 oz)
Supplied accessory	Operation manual

TYPICAL DISCHARGE CURVE (at 40 W load)



BP-GL65 Lithium-ion Battery



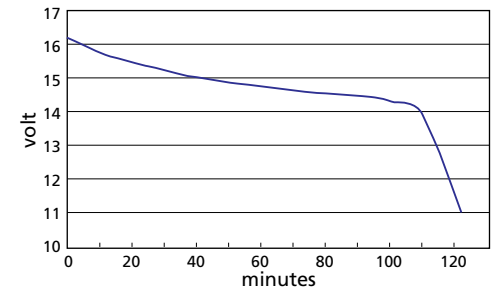
FEATURES

- High capacity and small size battery: 65 Wh
- “INFO” function
 - Remaining capacity indication on viewfinder (in 10% steps)
 - Remaining capacity/remaining charge time/ battery life indication on LCD display of the BC-M150
- V-mount attaching mechanism
- Four-step LED display
 - Remaining capacity indication in 20% steps with green LED (more than 80%, 60%, 40%, 20%)
 - Remaining capacity indication in 5% steps with orange LED after capacity falls below 20%

SPECIFICATIONS

Battery type	Lithium-ion rechargeable battery
Maximum voltage	DC 16.8 V
Nominal voltage	DC 14.4 V
Nominal capacity	65 Wh
Maximum discharge current	7.5 A at 23 °C (73 °F) (approx. 80 W load)
Normal discharge current	2 A or less (approx. 30 W load)
Operating temperature	-20 to +45 °C (-4 to +113 °F)
Dimensions (W x H x D)	92 x 138 x 41 mm (3 5/8 x 5 1/2 x 1 5/8 inches)
Mass	Approx. 550 g (1 lb 3 oz)
Supplied accessory	Operation manual

TYPICAL DISCHARGE CURVE (at 30 W load)



BATTERY SELECTION REFERENCE

Sony offers two different types of battery lines – the BP-L and BP-GL Series – to best accommodate users’ diverse needs such as the battery capacity, weight, load current of equipment they are used with, and shelf life. The following table shows the main characteristics of each battery, and the criteria for selecting the right battery for your applications.

Battery	BP-L Series		BP-GL Series	
	BP-L80S	BP-L60S	BP-GL95	BP-GL65
Capacity	Very good 83.5 Wh	Good 64.8 Wh	Excellent 95 Wh	Good 65 Wh
Maximum discharge current at 23 °C (73 °F)	Excellent 10 A (approx. 100 W load)	Good 7.5 A (approx. 80 W load)	Excellent 10 A (approx. 100 W load)	Very good 7.5 A (approx. 80 W load)
Normal discharge current	Excellent 3 A or less (approx. 40 W load)	Very good 2 A or less (approx. 30 W load)	Excellent 3 A or less (approx. 40 W load)	Very good 2 A or less (approx. 30 W load)
Battery life*	Excellent	Excellent	Good	Good
Dimensions (W x H x D)	101 x 169 x 52 mm (4 x 6 3/4 x 2 1/8 inches)	101 x 169 x 37 mm (4 x 6 3/4 x 1 1/2 inches)	101 x 169 x 37 mm (4 x 6 3/4 x 1 1/2 inches)	92 x 138 x 41 mm (3 5/8 x 5 1/2 x 1 5/8 inches)
Mass (approx.)	1000 g (2 lb 3 oz)	800 g (1 lb 12 oz)	760 g (1 lb 10 oz)	550 g (1 lb 3 oz)

*Lithium-ion batteries used for professional video applications typically provide more than 300 charge/discharge cycles, and a shelf life of one or two years. (The batteries tested were measured under controlled conditions. Actual battery life may vary based on different operating conditions and settings.) However, under certain conditions the battery may result in a significantly shortened life. In the case of the BP-GL95/GL65, the shelf life can be shortened to less than one year. To find out how to prolong the life of the battery, please refer to “INSTRUCTIONS FOR BATTERY USE”.

INSTRUCTIONS FOR BATTERY USE

General Notes on Batteries

- Charge the BP-L80S/L60S/GL95/GL65 battery only with the BC-L500/L70/M150 charger.
- The performance of a rechargeable battery is, by nature, greatly influenced by various factors such as operating, charging and storage temperature, and load current. For optimum battery performance, please refer to the following notes when you handle batteries.

Temperature

- The performance and operating time of the battery may drop under cold conditions. The BP-L/GL Series of lithium-ion batteries can be used at the wide operating temperature range between -20 °C to +45 °C (-4 °F to +113 °F). However, when the operating temperature drops to 5 °C (41 °F) or below, the internal impedance of the battery pack increases. This may result in a shorter operating time or the power failure of the connected equipment. In such a case, warm up the battery pack before use.
- Prevent exposing the battery pack to temperatures above 60 °C (140 °F).
- Charge the battery at 10 °C to 30 °C (50 °F to 86 °F) environment to optimize charging performance.
- Store the battery pack in a dry place at a temperature between 0 °C to 23 °C (32 °F to 73 °F).

Discharge Current

- Large discharge currents may accelerate the deterioration of a battery pack's internal cells.
- Continuous use at the maximum discharge current may cause an increase in the internal temperature of the battery. In such a case, the protection circuit built into the battery will shut off the current to protect its internal cells.

To Prolong the Battery Life

The BP-L Series and BP-GL Series batteries have different characteristics, and thus the appropriate condition to store these batteries are slightly different. Particularly, when the BP-GL95 and BP-GL65 batteries are stored, please keep in mind the following conditions to maintain optimum performance and prolong the battery life.

When the battery is not used for	Discharge the battery approximately to
More than one day and less than one month	90% of its full capacity
More than one month	50% of its full capacity

If the battery is not used for an extended period of time, charge it every six months until the capacity reaches 50%.

CHARGERS

BC-L500 Four-channel Simultaneous Charger



FEATURES

- Desktop-type four-channel quick charger
- Can charge Sony V-mount type lithium-ion battery:
BP-L80S/L60S/GL95/GL65/IL75/L90A/L60A/L40A
- Quick simultaneous charging
 - One BP-GL95 battery can be fully charged approximately 145 minutes
 - Four BP-GL95 batteries can also be fully charged approximately 145 minutes
- Space-saving design
 - 3U high, 19-inch rack mountable
 - Front slot mechanism
 - Two chargers stackable

SPECIFICATIONS

Power requirements	AC 100 to 240 V, 50/60 Hz
Power consumption	480 VA
Operating temperature	0 to +45 °C (32 to 113 °F)
Dimensions (W x H x D)	435 x 124 x 235 mm (17 1/4 x 5 x 9 3/8 inches)
Mass	Approx. 5.6 kg (12 lb 6 oz)
Supplied accessories	Operation manual, AC power cord, plug holder

CHARGE TIME

Model name (capacity)	Approximate charging time (minutes)	
	1 battery, 100%	4 batteries, 100%
BP-L80S (83.5 Wh)	180	180
BP-L60S (64.8 Wh)	150	150
BP-GL95 (95 Wh)	145	145
BP-GL65 (65 Wh)	155	155

BC-L70 Two-channel Simultaneous Charger



FEATURES

- Compact and lightweight two-channel portable charger
- Can charge Sony V-mount type lithium-ion battery:
BP-L80S/L60S/GL95/GL65/IL75/L90A/L60A/L40A
- Quick and efficient simultaneous charging
 - One BP-GL95 battery can be fully charged approximately 145 minutes
 - Two BP-GL95 batteries can be fully charged approximately 220 minutes
- Max. 100 W DC power supply (XLR-4-pin)

SPECIFICATIONS

Power requirements	AC 100 to 240 V, 50/60 Hz
Power consumption	Less than 168 VA
DC output	Max. 16.8 V, 6 A
Operating temperature	0 to +45 °C (32 to 113 °F)
Dimensions (W x H x D)	60 x 237 x 134 mm (2 3/8 x 9 3/8 x 5 3/8 inches)
Mass	Approx. 1.2 kg (2 lb 10 oz)
Supplied accessories	Operation manual, AC power cord, plug holder

CHARGE TIME

Model name (capacity)	Approximate charging time (minutes)	
	1 battery, 100%	2 batteries, 100%
BP-L80S (83.5 Wh)	180	220
BP-L60S (64.8 Wh)	150	170
BP-GL95 (95 Wh)	145	220
BP-GL65 (65 Wh)	155	170

BC-M150 Four-channel Sequential Charger



FEATURES

- Compact and lightweight four-channel portable charger
- Can charge any Sony V-mount type battery
 - Lithium-ion battery:
BP-L80S/L60S/GL95/GL65/IL75/L90A/L60A/L40A
 - Nickel metal-hydride battery:
BP-M100/M50
- Quick and efficient charging
 - One BP-GL95 battery can be fully charged approximately 145 minutes
 - Four BP-GL95 batteries can be fully charged approximately 345 minutes
- Battery information display on LCD*
 - Displays remaining capacity, remaining charge time, charge/discharge cycles
- Max. 100 W DC power supply (XLR-4-pin)

*Battery information display is only available for BP-GL95/GL65 batteries

SPECIFICATIONS

Power requirements	AC 120 V, 60 Hz (U.S.A. and Canada) AC 100 to 240 V, 50/60 Hz (except U.S.A. and Canada)
Power consumption	Approx. 160 W
DC output	Max. 16.8 V, 6 A
Operating temperature	0 to +40 °C (32 to 104 °F)
Dimensions (W x H x D)	120 x 155 x 330 mm (4 3/4 x 6 1/8 x 13 inches)
Mass	Approx. 3.5 kg (7 lb 11 oz)
Supplied accessories	Operation manual, AC power cord, plug holder

CHARGE TIME

Model name (capacity)	Approximate charging time (minutes)	
	1 battery, 100% (1 battery, 80%)	4 batteries, 100% (4 batteries, 80%)
BP-L80S (83.5 Wh)	185 (90)	440 (350)
BP-L60S (64.8 Wh)	155 (70)	365 (280)
BP-GL95 (95 Wh)	145 (65)	345 (260)
BP-GL65 (65 Wh)	155 (70)	365 (280)

AC ADAPTORS

AC-DN10 AC Adaptor/Charger



FEATURES

- Max. 100 W DC power supply
- V-mount mechanism for direct attachment to compatible camcorders
- XLR-4-pin output for attachment to other equipment
- Compact and lightweight
- Charging capability of Sony V-mount lithium-ion batteries (full charge)
 - BP-L80S/L60S/GL95/GL65/IL75/L90A/L60A/L40A
- Quick charging
 - The BP-GL95 can be fully charged approximately 145 minutes
- Can charge batteries while supplying AC power to other equipment

SPECIFICATIONS

Power requirements	AC 100 to 240 V, 50/60 Hz
DC output	16.8 V, 6 A
Operating temperature	0 to +45 °C (32 to 113 °F)
Dimensions (W x H x D)	101 x 169 x 48 mm (4 x 6 3/4 x 1 15/16 inches)
Mass	Approx. 850 g (1 lb 14 oz)
Supplied accessories	Operation manual, AC power cord

CHARGE TIME*

Model name (capacity)	Approximate charging time (minutes)
BP-L80S (83.5 Wh)	180
BP-L60S (64.8 Wh)	155
BP-GL95 (95 Wh)	145
BP-GL65 (65 Wh)	155

* when using the charging function only

AC-DN2B AC Adaptor/Charger



FEATURES

- Max. 150 W DC power supply
- V-mount mechanism for direct attachment to SRW-1 or camcorders
- XLR-4-pin output for attachment to other equipment
- Charging capability of Sony V-mount lithium-ion batteries by 85% capacity
 - BP-L80S/L60S/GL95/GL65/IL75/L90A/L60A/L40A

SPECIFICATIONS

Power requirements	AC 100 to 240 V, 50/60 Hz
DC output	16.7 V, 9 A
Operating temperature	0 to +40 °C (32 to 104 °F)
Dimensions (W x H x D)	101 x 169 x 70 mm (4 x 6 3/4 x 2 7/8 inches)
Mass	Approx. 950 g (2 lb 2 oz)
Supplied accessories	Operation manual, AC power cord

CHARGE TIME

Model name (capacity)	Approximate charging time by 85% (minutes)
BP-L80S (83.5 Wh)	140
BP-L60S (64.8 Wh)	100
BP-GL95 (95 Wh)	155
BP-GL65 (65 Wh)	100

ACCESSORIES

BKW-L601 V-mount Battery Adaptor



FEATURES

- Enables non V-mount camcorders to mount Sony V-mount batteries
- V-shoe attachment for quick and easy battery change

SPECIFICATIONS

Dimensions (W x H x D)	89 x 141.4 x 14.2 mm (3 5/8 x 5 5/8 x 9/16 inches)
Mass	Approx. 110 g (4 oz)
Supplied accessory	Operation guide

BKW-L404 Battery Adaptor



FEATURES

- Belt-type power supply adaptor
- Supplies power from Sony V-mount batteries to portable video equipment through an XLR-4-pin connector
- Max. 100 W DC power supply

SPECIFICATIONS

Dimensions (W x H x D)	173 x 89.9 x 35 mm (6 7/8 x 3 5/8 x 1 7/16 inches)
Mass	Approx. 465 g (16.5 oz) with carrying belt
Supplied accessories	Operation manual, carrying belt

BKP-L551 Battery Adaptor



FEATURES

- Enables Sony portable cameras to mount Sony V-mount batteries

SPECIFICATIONS

Dimensions (W x H x D)	98 x 143 x 23.5 mm (3 7/8 x 5 3/4 x 15/16 inches)
Mass	Approx. 200 g (7 oz)
Supplied accessories	Operation manual, hexagonal wrench, M4 x 16 screws (2), M4 x 6 screws (3)

REFERENCE CHART

Approximate Operating Time

Camcorders	Power consumption	INFO	Batteries (capacity)			
			BP-L805 (83.5 Wh)	BP-L605 (64.8 Wh)	BP-GL95 (95 Wh)	BP-GL65 (65 Wh)
HDW-F900R*1	38 W ²	•	100	80	110	80
HDW-750/750P*1	38 W ²	•	100	80	110	80
HDW-730S*1	37 W ²	•	100	80	110	80
DVW-970/970P	29 W ²	•	130	110	170	110
MSW-970/970P	27 W ²	•	140	120	180	120
PDW-530/530P/510/510P	32 W ²	•	130	100	150	100
PDW-F350L	32 W ³	•	130	110	160	110
PDW-F330L/F330K	31 W ⁴	•	130	110	160	110
DSR-400/400P/450WS/450WSP	19 W ²	•	210	170	250	170

- The above operating time may change according to operating conditions.

- When the BP-GL95/GL65 is used with camcorders other than those listed above, the battery alarm may not function properly. Please contact your local Sony office or authorized dealer for changing the battery alarm setting.

*1 When using an on-camera light, the BP-L805/GL95 batteries are recommended.

*2 REC mode with viewfinder

*3 REC mode with viewfinder, Color LCD ON

*4 REC mode with viewfinder, Color LCD ON, auto focus ON



BP-L805, BP-L605, BP-GL95, BP-GL65, BC-M150, BC-L500, BC-L70, AC-DN10
Lead-free solder is used for soldering.
Halogenated flame retardants are not used in the cabinets and the printed wiring boards.
AC-DN2B
Lead-free solder is used for soldering.

Distributed by

© 2007 Sony Corporation. All rights reserved.
Reproduction in whole or in part without written permission is prohibited.
Features and specifications are subject to change without notice.
All non-metric weights and measurements are approximate.
Sony, HDCAM, Digital Betacam, XDCAM HD, XDCAM, MPEG IMX, and DVCAM are trademarks of Sony Corporation.