

I N T R O D U C I N G



PAGlink™

H I G H - P O W E R L I N K I N G B A T T E R I E S



- 1st button press each LED = 20% capacity
- 2nd button press on-load displays time
- The HRS LED flashes twice, then hours are indicated: each LED = 1 hour
- The MINS LED flashes twice, then minutes are indicated: each LED = 10 minutes

PL96e

A O N E - S Y S T E M P O W E R S O L U T I O N F O R A L L C A M E R A T Y P E S



PATENT APPLIED FOR



The only system that allows you to combine the capacities of more than two batteries

PAGlink is a new system of high-power linking batteries that has been designed to meet the specific demand of the industry for a battery system that will power the whole range of cameras used today.

- ★ **Smaller, lighter batteries with a higher energy density**
- ★ **High-capacity and long-life Li-Ion cells**
- ★ **Combine the capacities of 2, 3 or more batteries for longer run-times**
- ★ **Draw up to 12A when linked - designed for high load applications such as HD and 3D cameras**
- ★ **Compatible with the V-Mount system**
- ★ **Legally transportable on passenger aircraft without quantity restriction - UN Tested and IATA approved**
- ★ **Built-in run-time indication (numeric LCD or 5 LED options)**
- ★ **Auto-compatibility with all viewfinder capacity indication systems**
- ★ **Hot-swap the rear battery while linked for constant power**
- ★ **Charge batteries while linked using any reputable V-Mount Li-Ion charger**
- ★ **Improved low-temperature performance**
- ★ **Fail-safe electronic protection system with Parylene coated circuits**
- ★ **Future proof and externally programmable**
- ★ **2 year warranty**

Power for all Cameras

PAGlink has been designed to power the full range of equipment used by broadcast stations, hire facilities and production companies, such as HD DSLRs, handheld camcorders, broadcast cameras, high-end digital cinematography and 3D camera set-ups.

Smarter, Smaller, Lighter Batteries

PAGlink is a system of smarter, smaller and lighter V-Mount, Li-Ion batteries, with a greater energy density than other systems. PAGlink batteries link together to multiply capacity, and run-time, allowing a high-current draw of up to 12A. The individual batteries have capacities of 96 watt-hours, enabling them to be legally transported by passenger aircraft without quantity restriction.

Link Multiples of Batteries

PAGlink is the only system that allows you to link multiples of batteries - two, three or more - on your camera. Three linked batteries, weighing less than 2.2kg, create a single unit of nearly 20Ah (288 watt-hours), greatly extending run-time. PAGlink batteries incorporate heavy duty contacts, engineered for high-drain applications, enabling high-loads of up to 12A to be drawn.

Intelligent Battery Network

The PAGlink system creates an intelligent network, enabling the batteries to communicate with each other and operate seamlessly as one. The network automatically reports to the camera the total capacity and current capability of the batteries connected. It also controls the charging and discharging of the batteries whilst linked.

Charging Versatility

PAGlink batteries can be charged, whilst linked, on any V-Mount Li-Ion charger, such as the PAG Cube, or the equivalent IDX and Sony chargers. This enables you to top up all your batteries overnight on one four-channel charger, if necessary. When fully charged, batteries will stop accepting charge automatically and independently.

Run-Time Indication

All PAGlink batteries feature built-in run-time indication. You can choose between the numeric LCD of the PL96T Time Battery or the 5 LED display of the lower-cost e-series PL96e battery. Both displays also indicate battery capacity as a percentage. When the batteries are linked the individual displays provide capacity and run-time data for the batteries' combined

PAGlink Batteries can be charged individually and linked



PAGlink Batteries can be charged on most reputable Li-Ion chargers



capacities. The different battery versions can be mixed, enabling you to add the Time Battery display to the lower-cost e-series batteries.

Viewfinder Capacity Display

PAGlink batteries incorporate viewfinder display recognition software that supports all information systems. This enables multiple batteries, working as one, to communicate their collective state-of-charge for display in the camera viewfinder. The batteries adapt automatically to each viewfinder data system.

Electronic Protection

PAGlink batteries incorporate PAG's multi-level proprietary electronic protection system and have Parylene coated internal circuits to guard against the effects of electrolyte leakage.

Air Transportation

The PAGlink System comprises 96 watt-hour battery packs that are independently tested to United Nations standards, and are therefore fully compliant with IATA air shipping regulations. PAGlink batteries can be legally transported on passenger aircraft, to any location, without quantity restriction. Batteries that have capacities greater than 100 watt-hours, and batteries that have not been UN tested are restricted for air transportation.



Visit the PAG website for further information:

<https://www.paguk.com/content/air-transportation-li-ion-batteries-0>



PAGlink Battery Options:



PL96T Time Battery

- 14.8V 6.5Ah, 96 Watt-Hours
- V-Mount battery
- Max discharge 8A (12A when linked)
- Numeric LCD run-time indicator
- Compatible with all viewfinder capacity displays
- Chargers: Cube (9702V), RMC4X (9702VR), V2 (9613V) or Sony & IDX equivalents
- 133 x 84 x 50mm / 0.73kg

Model 9304



PL96e Battery

- 14.8V 6.5Ah, 96 Watt-Hours
- V-Mount battery
- Max discharge 8A (12A when linked)
- 5 LED run-time indicator
- Compatible with all viewfinder capacity displays
- Chargers: Cube (9702V), RMC4X (9702VR), V2 (9613V) or Sony & IDX equivalents
- 133 x 84 x 50mm / 0.73kg

Model 9303

Comparison of linking battery systems:

	IDX Powerlink HL9	PAGlink PL96e
Capacity	88Wh	96Wh
Current Draw	10A	12A
High-current pin contacts	No	Yes
Run-Time Indication	No	Yes
Viewfinder Display	IDX only	Sony, IDX, Anton-Bauer & Red
Number of batteries that can be linked	2	8
Weight	0.74kg	0.73kg
Dimensions	140 x 85 x 58mm	133 x 84 x 50mm
Charge linked	No	Yes
External linking latch	No	Yes

Numeric LCD Run-Time and Capacity Indicator

The PL96T Time Battery incorporates an accurate numeric LCD which, at the press of a button, shows run-time against load...



...in hours...



...followed by minutes.



Capacity is also displayed, in ampere-hours (0.1Ah increments)



...followed by percentage (1% increments).

5 LED Run-Time and Capacity Indicator

The PL96e battery displays capacity as a percentage (each LED = 20%)
1 LED flashing = less than 10% of capacity available.



Two button presses on-load activates the time display. The 'HRS' LED flashes twice.



The number of hours is indicated by the number of lit LEDs:
1 LED = 1 hour.



The 'MINS' LED then flashes twice.



The number of minutes is indicated: 1 LED = 10 mins.

S P E C I F I C A T I O N

Model No. 9303

PL96e: PAGlink, 96 watt-hours, e-series battery

Model No. 9304

PL96T: PAGlink, 96 watt-hours, Time Battery

Battery Connection

Both models are designed for use with the V-Mount battery connection system, common to Sony cameras.

Construction:

The casing for these models consists of high-impact polycarbonate injection mouldings, featuring an internal cradle designed to protect the cells from impact damage. The cells have welded interconnections of low-resistance nickel strap. The batteries are sealed and non user-serviceable.

Linking Mechanism

The battery to battery contact block and latching mechanism on the rear of the battery is external, and can be replaced if it becomes damaged.

Cells:

Premium grade, Lithium-Ion, sealed, rechargeable, cylindrical cells.

Voltage:

14.8V nominal. The battery contains 12 cells connected in series/parallel. Each cell has a nominal voltage of 3.7V.

Capacity:

Nominal 6.5 ampere-hours (96 watt-hours), with a charge voltage of 4.2V per cell.

Output Current:

The rated maximum continuous output current for individual batteries is 8 amperes.
The rated maximum continuous output current for linked batteries is 12 amperes.

Linking Batteries

It is recommended that no more than 3 batteries are linked for use on-camera, although it is possible to link up to 8.

Protection:

The battery incorporates the following safety shutdown systems:

- > 3 over-current shutdown systems.
- > 2 over-voltage shutdown systems.
- > 2 under-voltage shutdown systems.
- > 2 thermal shutdown systems, including a non resetting thermal fuse.
- > All protection circuits within the battery are coated with Parylene to withstand the effects of electrolyte leakage.

Charging

Batteries can be charged whilst linked using the PAG Cube Charger (Model 9702V), or any Sony and IDX equivalent Li-Ion charger. Charge times will vary depending on the condition and state-

of-charge of the batteries. Typically, 8 fully-discharged batteries could be fully-charged in 9 hours.

Operating Temperature Range:

PAGlink batteries incorporate precision temperature management, extending low-temperature performance down to -20°C. Optimum discharge efficiency is achieved within the temperature range +10°C to +40°C.

Viewfinder Information Display

PAGlink supports four battery status standards for the communication of capacity data to the camera viewfinder: SMB (Sony), I2C (IDX), reversed SMB (Red) and analogue 0V to 5V (Anton Bauer). The batteries adjust automatically when connected to the camera.

Dimensions (both models):

133mm (height) x 84mm (width) x 50mm (depth)

Weight (both models):

0.726kg