Specifications

- **Basic Information**
  - Dimensions (approx.): 80 x 98 x 84.5 mm (3 1/2 x 3 7/8 x 3 1/4 inches)
  - Weight (approx.): 48g (1.7 oz) (only main unit)
  - Type: Auto electronic flash (31-pin type) with pin-flash mounting
  - Shoe type: Multi-interface Shoe
  - Maximum guide number: 26 (Flash coverage setting: 200mm/70° Flash broadcast distance, ISO 100, m)
  - Flash coverage: AUTO/MASTER (200mm/70°) (Angle of view at 50mm focal length is also covered with the side panel)

- **Flash Details**
  - Flash duration (approx.): Within 2.8ms
  - Color temperature (approx.): Approx. 5500K
  - Recycle time: 0.3-2.5 seconds (alkaline batteries)/0.3-1.7 seconds (Li-ION batteries)*
  - Number of flashes: More than 200 times (alkaline batteries)/More than 300 times (Li-ION batteries)*
  - Continuous flash performance: 42 flashes at 10 flashes per second

- **Accessory**
  - AF illuminator: Yes
  - Radio-controlled function: Yes
  - Optical controlled function: Yes
  - Radio-controlled wireless flash: Yes (Commander/receiver)*
  - Channels: 4 channels
  - Groups: 3 groups (FTL/MANUAL), 5 groups (group flash/photography)
  - Optical controlled wireless flash: Yes (Commander/receiver)*
  - Channels: 4 channels
  - Groups: 3 groups

- **Optical Information**
  - Center illuminator intensity (approx.): 12000-7500lx (300lux)
  - Lighting distance (approx.): 2m (for recording movies, set to ISO 1000 & T56)
  - Field length supported: 20mm (for minimum angle of viewing)
  - Continuous (lighting time) [approx.]: 1 hour (with Sony AA-size alkaline batteries)
  - Color temperature (approx.): 5500K

- **Other Functions**
  - Auto zoom control provided for image sensor size: Yes
  - Flash distribution setting: Yes
  - Auto Wi-Fi adjustment: Yes
  - Custom key settings: Yes
  - Memory settings: Yes
  - Remote release: Yes

- **Interface**
  - DC IN: Yes (DC IN-300)
  - External connection: Yes (X, D-T1)
  - Multi/Micro USB terminal: Yes
  - Power source: Power source

- **Other Features**
  - Dust and moisture resistant design: Yes

- **What’s in the Box**
  - Multi/Micro USB cable
  - Dedicated adapter 1 (2 mini clips), 1 (large), 2 (small)

*1 Sony’s test conditions: *2 Normal Flash, power level 1/2, 100mm, No battery. *3 Depending on the camera. This function is not available. For details, see support page: http://support.sony.net/camera/sonys/accessories/ N1. *4 While a 50mm lens, with the aperture set at F5.6, is attached and 2AF LED LIVES of the flash unit is specified as 0/0 (8). *5 While a 50mm lens, with the aperture set at f/5.6, is attached and 2AF LED LIVES of the flash unit is specified as 0/0 (8). *6 Requires Radio Control Wireless Flash (sold separately) or Wireless Radio-Reciver FA-WRR1 (sold separately) or Wireless Radio Commander FA-WRR1TM (sold separately). *7 May vary according to conditions. *8 Requires Optical Control Wireless Flash (sold separately). *9 Requires DSR-A100. *10 Not guaranteed to be 100% dust and moisture proof. *11 Warranty and Operating Instruction are excluded.

Refer to the Sony support page for camera compatibility information. [http://www.sony.net/flash/H60RM/](http://www.sony.net/flash/H60RM/)
**HVL-F60RM**

**Powerful guide number 60 (GN60) flash with high-speed continuous shooting capability and radio control**

**High output and high-speed continuous shooting**

**GN60 power and wide range lens focal-lengths supported**

The high GN60\(^*\) output of this clip-on flash unit provides plenty of power for a wide range of shooting situations, 20mm to 200mm (M64mm with wide panel) lens focal lengths are supported with flash coverage.

**Continuous shooting support**

Heat-resistant materials and advanced algorithms boosts maximum continuous shooting capability to approximately four times that of the previous Sony HVL-F60M\(^*\). The HVL-F60RM resists overheating even when continuously cycled for extended periods. Number of flashes is 220 times\(^*\) with one set of batteries (four batteries). Battery life is no more than 1.7 sec.\(^*\) or just 0.6 sec.\(^*\) with the optional External Battery Adaptor (FA-EB9). Proper flash synchronization is maintained during continuous shooting, minimising flash misfires and ruined shots.

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**Sony's original Quick Shift Bounce**

**Quick Shift Bounce allows fast flash position changes**

Quickly shift from horizontal to vertical orientation, 90° left or right, upward by up to 150° and downward by 8° for flexible positioning and optimum lighting when quickly switching composition between vertical and horizontal.

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**Flash set-up**

Wireless control of multiple flashes is an ideal solution for small studios where large lights cannot be used or when time is limited.

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\(^*\) 200mm at ISO/100 in studio. \(^*\) Sony test conditions. \(^*\) When using AA size batteries. Sony test conditions.
Refined controls for extra operability and convenience

Direct output adjustment
An independent output level button (LEVEL / + button) allows direct control of output for efficient workflow. A comprehensive display facilitates adjustments and flash output level confirmation, and also provides intuitive access to flash output settings for paired wireless flashes.

Custom keys and TTL flash memory
Functions can be freely assigned to the unit’s four-way controller, center button, and control wheel for easy access when required. What’s more, TTL flash output can be monitored and recalled when needed for immediate use or slow after minor adjustment. This is another feature that can simplify manual workflow and save time.

Comprehensive optical and wireless radio flash control

Stable wireless radio communication
Both optical remote flash triggering and wireless radio triggering are supported. One HVL-F60RM mounted on a compatible camera paired with off-camera units provides reliable, interference-free radio communication in conditions that would make optical communication difficult. Slow sync, rear-curtain sync, and multi flash are supported.

Multi flash ratio control
Up to 16 flash units can be assigned to up to 5 groups for wireless flash control at distances of up to 30 meters. Optional Wireless Radio Commander (FA-WRC1M) and Wireless Radio Receiver (FA-WRR1) units allow the HVL-F60RM to be used with Sony flash units that do not have built-in radio wireless capability, as well as the radio-capable HVL-F45RM.

Flash set-up
Wireless operation allows triggering at a distance from the camera, or when the subject blocks line-of-sight communication. The use of a pairing line-of-sight means that interference from other radio sources won’t affect operation.
Features for versatile flash shooting

Professional reliability in challenging environments
A metal Multi Interface shoe contributes to reliability. A dust and moisture resistant design ensures reliable operation in harsh environments. An optional Rain Guard (FA-RG1) provides even further protection and reliability. All of these features support comfortable shooting.

Bounce adaptor
The supplied bounce adapter can be attached for extra diffusion that will illuminate a wider area than the bare flash and also create softer shadows. Use the bounce adaptor with the wide panel to enhance the effect even further.

Color filters
In addition to an auto white balance function that automatically adjusts for light color in scenes being photographed, supplied color filters can be used to match or complement existing lighting or in order to achieve natural white balance or create a specific atmosphere.

Sync terminal (IN/OUT)
The sync terminal can function as either an input or an output. As an input it can receive the trigger signal from a flash meter when determining exposure, for example. As an output it can relay the flash trigger to an external monolight flash or similar for expanded multi-flash versatility.

Remote release
The remote release function can be used to remotely release the shutter in synchronization with one or more flash units, making it possible to simultaneously shoot a single subject from multiple angles, for example.

Multi/Micro USB terminal
The flash unit can be connected to a computer via its Multi/Micro USB terminal for convenient software updating when available.

The expanding Sony’s lighting system

Flash
HVL-F45RM
Compact and lightweight clip-on flash with C-Mount.
Built-in wireless radio control in multi-flash settings and conventional optical wireless communication.

Flash
HVL-F32M
Slim, compact, and lightweight flash. Optical controlled wireless flash.

Flash
HVL-F20M
Compact, easy-to-use flash for advanced lighting. Optical controlled wireless flash.

Wireless Radio Commander
FA-WRC1M
Wireless radio commander (FA-WRC1M) and wireless radio receiver (FA-WRR1) units allow Sony flash units that do not have built-in radio wireless capability, such as the HVL-F32M to be used as radio wireless flash.

External Battery Adaptor for Flash
FA-EB9A
External battery power for sub-second cycle times and continuous shooting. The supplied battery magazine can be inverted in either orientation for fast battery changes. The magazine holds eight AA batteries, but can be used with just four batteries if required.

Rain Guard
FA-RG1
Rain Guard to minimize ingress of water dripping into the flash and the camera.

LED light and AF illuminator
Not only for studio, but also for outdoor shooting, a built-in LED light can provide extra illumination. It also functions as an AF assist light to ensure accurate autofocus operation in dim lighting. The LED can make manual focus easier in dark situations too.