Basics of Off-Camera Flash

* What is it & why do we use it?
* Bouncing on-camera flash to emulate off-camera light
* True off-camera flash
* Basic examples
* Trigger mechanisms
* Controlling the amount of light
* Light modifiers
What & Why

What is it?

Making the light hit your subject from any direction other than the camera viewing angle.

Why use it?

* Control
  * Amon's lighting styles can be created artificially regardless of time of day or weather conditions.
  * Selectively light parts of the scene.
  * Position lights to emphasize form and texture.

* Freedom
  * You're no longer a slave to available light.
Bouncing On-Camera Flash

* Point the flash at a wall/ceiling and let the light bounce back from there to light your subject.

* Creates a large, soft light source.

* Works well with TTL automatic exposure setting.

* The farther away or darker your bounce surface is, the more power is required from your flash to light your subject.

* Results are limited by the surfaces available for bouncing and the angle at which you can aim your flash head from a particular camera position.

* Doesn't work outdoors, in auditoriums, or with colorful walls.
True Off-Camera Flash

* Locate the flash and point it wherever you like. Use as many flashes as you like.

* Allows more flexibility and control.

* Easier to selectively light certain portions of the scene.

* Numerous ways to trigger the flashes from the camera (more later).

* This is what www.Strobist.com is all about.
Examples

Silhouettes

Environmental
Without & With
Flash

One-light shots
Examples

Party room lighting

Two-light shots
Trigger Mechanisms

* Wired extension cords
  * Hot shoe extension or PC cable
  * Provide full electronic TTL control of the flash
  * Off-brands are reportedly unreliable. Canon OC-E3 ($70).

* Audio triggers
  * Fires flash when it hears a sharp sound like a balloon popping or glass shattering.
  * The flash is fast enough to stop motion even though the shutter speed isn't.
Trigger Mechanisms

* “Dumb” radio triggers
  * Use RF signal like cordless phone or WiFi network.
  * Range of hundreds of feet – no line of sight necessary.
  * One transmitter at camera + receiver at each flash.
  * Different brands of TXM/RCV not interchangeable.
  * Yongnuo RF-602 ($25/pair) will also work as a wireless shutter release.
  * Flash must be setup manually – trigger merely fires flash.

* “Smart” radio triggers
  * Also transmits TTL info between camera & flashes for automatic control via camera body.
  * PocketWizards cost $400/pair.
* “Dumb” optical triggers
  * Fires its flash when it sees another flash (limited range).
  * No communication with camera, so settings are controlled manually on the flash itself.
  * Fine if working alone. Bad if other photographers are using flashes in the same room.
  * Easily confused by TTL pre-flash from modern flashes.
  * Cheapest option ($15).

* “Smart” optical triggers
  * Use rapid light flashes (pre-flash) to communicate between body & flash.
  * Full TTL support for automatic exposure setting.
  * Nikon/Canon use this method on their own equipment (Nikon is more friendly).
Controlling the Amount of Light

* Manual power setting on flash (usually in full-stop increments).

* Diffusers between flash & subject (soft box or plastic bag).

* Distance from flash to subject – increasing distance by 40% cuts amount of light in half (square of the distance).

* Aperture (amount of light entering through lens) and ISO (sensor's sensitivity to light).

* Shutter speed has NO bearing on flash power – use it to control exposure of ambient (non-flash) lighting like sky or room lights. Be sure to stay slower than your camera's max sync speed (~1/200s).
* Soft boxes and umbrellas diffuse the light for a larger, softer light source at the expense of flash power.

* Snoots and grids direct light for a more concentrated beam.

* Household items like plastic bags and construction paper can be used as modifiers.

* Gels apply a color cast to the light. Used to correct the flash's white balance to match the ambient light (orange for incandescent) or can be used for creative effect.