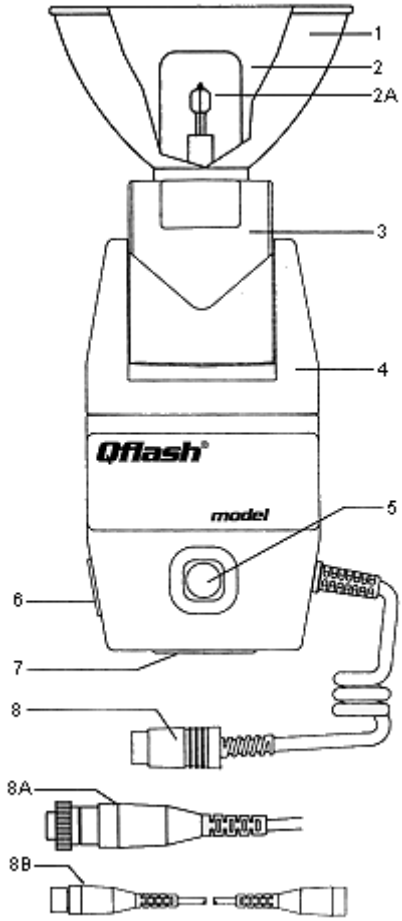
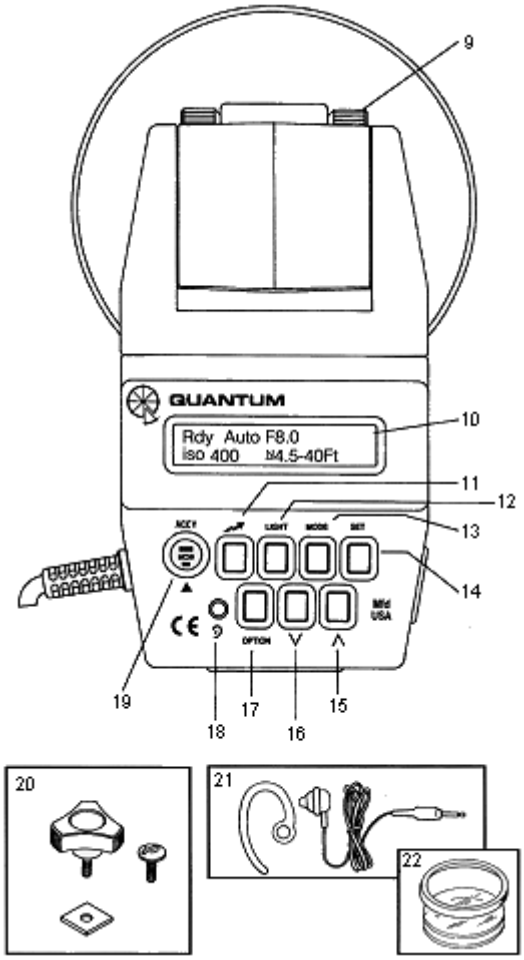
QUANTUM Qflash T2 / X2

OPERATING INSTRUCTIONS

1.0 DESIGNATIONS T2 AND X2

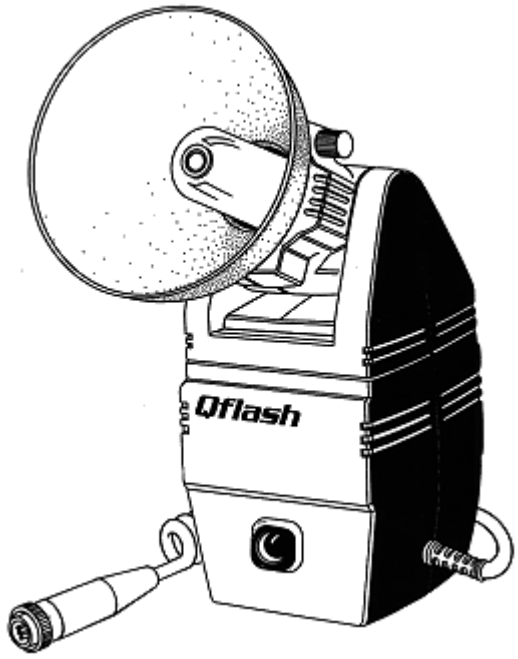


1.	Removable Reflector, two positions Normal and Wide angle.
2.	Flash-tube
2A.	Modeling Lamp (for Model X2 only)
3.	Bounce Head, Rotates 180º
4.	Swivel Head, Rotates ± 90º
5.	Sensor
6.	Sync Cord Socket (Sync cord purchased separately)
7.	Bracket and Tripod Socket (1/4-20 thread)
8.	Power Cable (for Model T2)
8A.	Power Cable (for Model X2)
8B.	Adapter, Power Cable (for Model X2 only, purchased separately)



9.	Reflector Locking Knob
10.	Display Panel
11.	Fire Button (Open Flash)
12.	Display Light Button for Model T2, Modeling Light Button for Model X2
13.	Mode Button
14.	Set Button
15.	Up Button
16.	Down Button
17.	Option Button
18.	Earphone Jack
19.	Accessory Jack
20.	Bracket Mounting Assembly: Knob, Screw and Mounting Pad
21.	Earphone
22.	Diffusing UV Filter Kit (QF64)

2.0 SPECIFICATIONS



	Angle of Illumination		Guide Number @ ISO 100			
Reflector Position	Horizontal	Vertical	Model T2 & X2 @ 200 WS		Model X2 only @ 400 WS	
Normal	55º	55º	160 ft.	50M	220 ft.	68M
Wideangle Position	70º	70º	130 ft.	40M	180 ft.	56M
Diffuser/Normal or Wideangle	90º	90º	90 ft.	27M	120 ft.	38M
Barebulb (no reflector)	360º	180º	-	-	-	-

Sensor: Acceptance Angle 25º

3.0 WARNINGS!

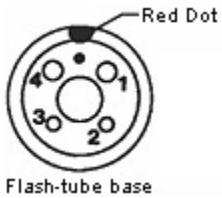
- **Operate only with a flash-tube in the socket.**
- **Disconnect external power before changing the flash-tube.**
- **DO NOT TOUCH THE FLASH-TUBE SOCKET WITH METAL OBJECTS.**
- **DO NOT ATTEMPT TO OPEN THE FLASH UNIT!**
  DANGEROUS HIGH VOLTAGE INSIDE.
- **Repairs can only be made by a qualified Quantum service representative.**

4.0 SETTING UP THE Qflash

COMPLETELY DISCONNECT THE POWER PACK BEFORE CHANGING THE FLASH-TUBE OR MODELING LAMP.

4.1 CONNECTING THE FLASH-TUBE FOR T2

Match the red dot on the flash-tube base (located between pins 1 and 4) with the red dot on the socket. Push flash-tube in until it is properly seated inside the flash socket.



NOTE: Replace the flash-tube only with Quantum types QF30 or QF30uv. Other types will not provide proper exposure, or may not work at all.

See: Warning

4.2 CONNECTING THE FLASH-TUBE AND MODELING LAMP FOR X2

Connecting the modeling lamp:

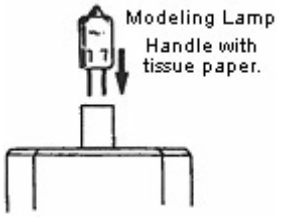
Note: the modeling lamp must be inserted before the flash-tube.

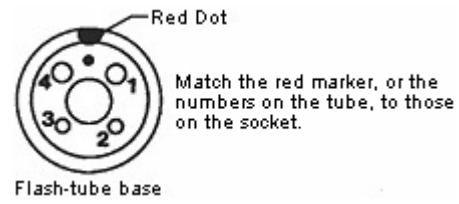
1. Remove lamp from box and plastic bag.
2. Do not touch the bulb surface with bare hands. Bulb can be handled with tissue paper.
3. If bulb surface shows signs of fingerprints or dirt, clean carefully with alcohol.

4. Handle with care during use as impact will severely shorten lamp life.
5. Insert the bulb into modeling lamp socket. The modeling lamp is not affected by polarity so orientation is not important.

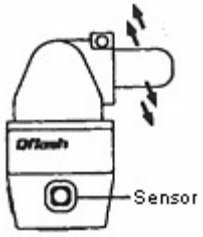
Connecting the flash-tube:
1. Match the red marker on the flash-tube base with the corresponding red marker on the flash-tube socket. The tube can also be aligned by matching pins 1, 2, 3, and 4 with those numbered on the socket.
2. Insert the flash-tube until it is fully seated inside the flash socket.

NOTE: Replace the flash-tube only with a Quantum type QF32 or QF32uv. Other types will not provide proper exposure or may not work at all.

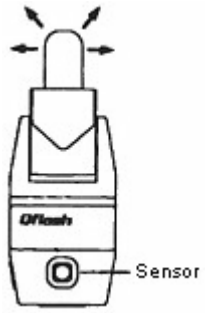




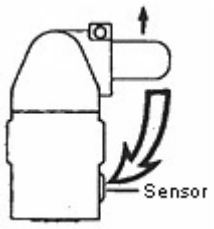
4.3 SHOOTING BARE BULB IN AUTO OR TTL MODE
When shooting "bare bulb" in Auto or TTL Mode, you must NOT illuminate the Qflash sensor or the camera lens with light directly from the flash-tube.



This orientation is very good for Macro (close-up).



This orientation for soft bounce light.



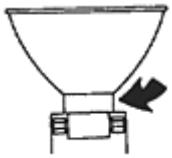
Do NOT use with bare bulb facing the front of the flash.

4.4 CONNECTING THE REFLECTOR
The Reflector can be mounted in two positions: Normal or Wide angle.

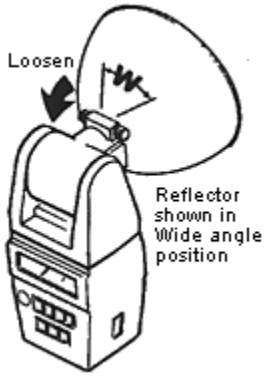
Loosen the reflector Locking Knob before connecting or when changing reflector positions.

Gently tighten the knob to secure the reflector in the desired position.

Wide angle: Line up the "W" on the reflector to the top of the flash housing. Slide the reflector in until it stops approximately 1/4" (6mm) further into the housing than when in the Normal Position.

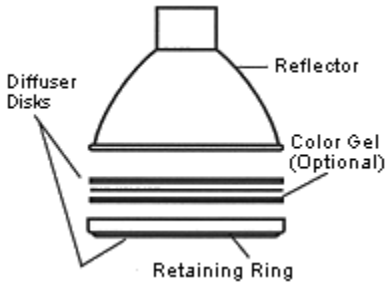


Normal angle: Turn the reflector to the right or left so that the "W" on the reflector does not line up with the top of the flash housing.



4.5 Qflash DIFFUSING UV FILTER KIT

The QF64 Diffusing Kit consists of a black retaining ring and two translucent diffusing disks.



For a softer lighting effect, use the two diffusing disks supplied. For special color lighting effects, a colored gel can be added.

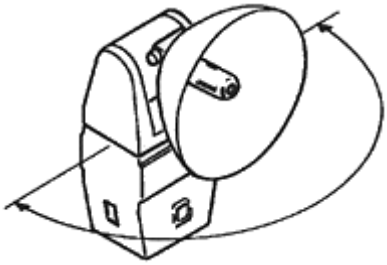
To add a colored gel, remove the two diffusing disks from the retaining ring. Cut the colored gel (not supplied) the same size as the diffusing disks.

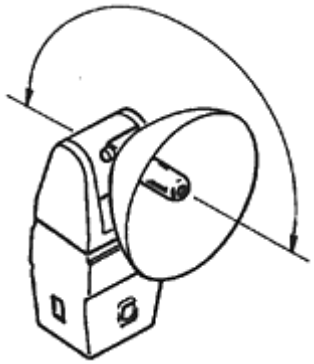
Insert the colored gel between the two diffusing disks. Insert the disk assembly into the retaining ring. Snap the diffuser onto the reflector.

There are also two options (sold separately) for adding color gels. QF65 Clear UV Filter Kit, can hold color gels to provide non-diffusing color. QF66 Color Gel Set, contains 7 pre-cut gels that fit QF64 or QF65.

4.6 BOUNCE AND SWIVEL HEAD

Rotates with a stop every 15º.



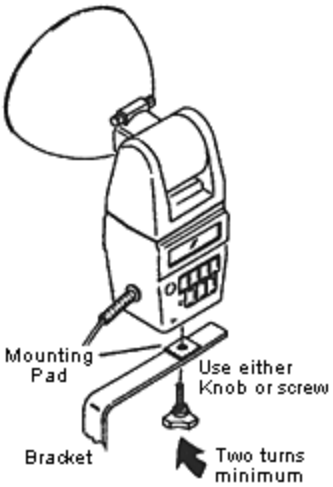


4.7 BRACKET MOUNTING

The Qflash can be mounted to a camera bracket using the knob provided. (If the knob interferes with your bracket, or you find that the threads are not long enough for your bracket, a longer 1/4-20 screw is also provided.)

Place the enclosed rubber mounting pad on the bracket as shown in the diagram. This will provide a stable mounting area for the Qflash.

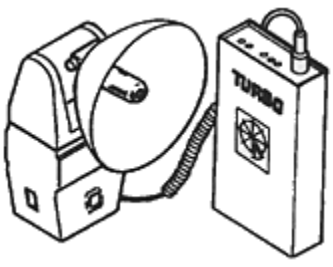
NOTE: Bracket designs vary between styles and the bracket material can vary in thickness. Always make sure that the mounting knob screws into the Qflash at least 2 complete turns.



4.8 POWERING THE Qflash T2

Plug the Qflash Turbo Cable into the output jack of a Turbo Battery (purchased separately).

Always turn the Turbo Battery OFF before connecting or disconnecting the Qflash.



1. "Check Turbo":

If the Turbo is not supplying power to the Qflash, the message "Check Turbo" will appear in the display, along with three warning beeps from the Qflash. If the Turbo is freshly charged, turn off the Turbo, wait one second, then turn the Turbo on again. Otherwise it may be time to recharge the Turbo.

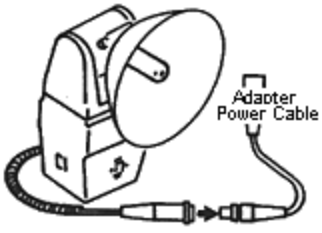
2. "Reset":
If the Qflash has to reset itself, the message "Reset" will appear in the display. To resume operation, press any button (except the fire button) and the Qflash will resume operation.

In the event that the Qflash starts behaving strangely, (i.e. it does not respond to the push buttons, the display blinks, or the display is incorrect) you can force a reset. Turn the Turbo off. Press and hold any button (except the fire button). Turn the Turbo on again.

NOTE: When any reset has occurred, the filmspeed and power setting that you have entered will be lost and must be entered again.

4.9 POWERING THE Qflash X2

TURN POWER PACK OFF WHEN CONNECTING OR DISCONNECTING POWER CABLES. USE ONLY QUANTUM ACCESSORIES AND ADAPTER CORDS.



Connect the Qflash X2 power cable to an Adapter power cable for your power pack. No adapter is needed for QPAQ-X.

1. Check Power
If the power pack is not supplying power to Qflash, the message "Check Power" will appear in the display and three warning beeps will sound. It may be necessary to switch to the "fast" recycle mode if your power pack has one. This can also mean it may be time to recharge the batteries.

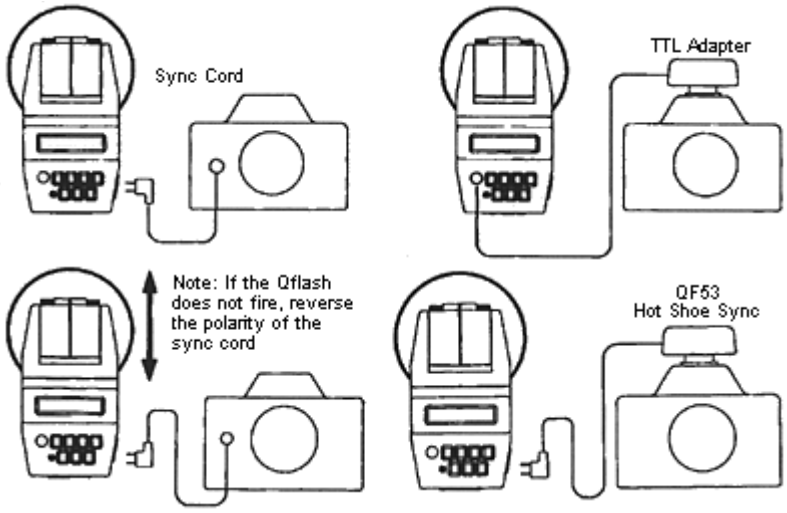
2. Reset
If the Qflash has to reset itself, the message "Reset" will appear in the display. To resume operation, press any button (except the Fire button) and the Qflash will resume operation.

In the event that the Qflash starts behaving strangely (i.e. does not respond to the push buttons, the display blinks, or the display is incorrect) you can force a reset. Turn the power pack off. Press and hold any button (except the Fire button) and turn the power pack on again.

NOTE: When any reset has occurred, the film speed and power settings that you have entered will be lost and must be entered again.

DO NOT CONNECT TO A POWER PACK RATED HIGHER THAN 400 WATT-SECONDS. OTHERWISE YOU WILL DAMAGE THE Qflash AND VOID THE WARRANTY.

4.10 SYNC CONNECTION
There are three ways to connect the Qflash to the camera sync.
1. Connect a standard household two-prong sync cord (not supplied with model QFT2US and QFX2US) to the sync connector on the Qflash.
2. TTL Adapter; the sync is provided by the adapter.
3. QF53 Hot Shoe Sync Adapter provides sync from hot shoe. It can be used as an alternative to the PC sync.



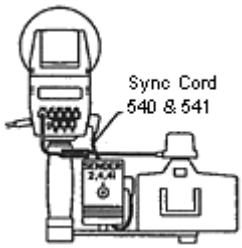
4.11 HOW TO CONNECT A RADIO SLAVE TO YOUR Qflash/TTL SETUP

1. Connect the Radio Slave Sender to the Qflash sync output.

   - For Radio Slave 4/4i, use Quantum Cord # 540
   - For Radio Slave 2, use Quantum Cord # 541
     These two cords are available from your Quantum Dealers.

2. The above setup will work with:

   - QFT/QFT2 serial numbers A6300 and above, and with all QA and QB serial numbers
   - QFX/QFX2 serial numbers A6325 and above, and with all QA and QB serial numbers

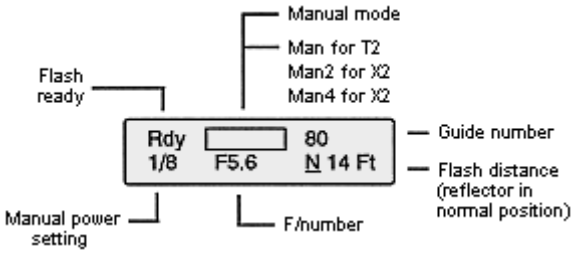


5.0 BASIC Qflash OPERATION

The following section explains the basic operation of the Qflash, when used as a single unit. Available modes are Manual, Automatic, TTL, Program, or Strobo. To change from one mode to another:

1. Press Mode button. Mode will blink.
2. Use Up (Λ) or Down (V) buttons to change the mode.

5.1 MANUAL MODE



Changing Manual Power Setting

1. Push Set button once. Manual power setting on display will blink.
2. Use Up/Down buttons until desired setting appears in the display. The manual power setting can be adjusted from 1/1 to 1/64 in 1/3 stop increments. Available power settings: 1/1, 1/1-, 1/2+, 1/2, 1/2 -, 1/4+, 1/4, 1/4-, 1/8+, 1/8, 1/8-, 1/16+, 1/16, 1/16-, 1/32+, 1/32, 1/32-, 1/64+, 1/64.

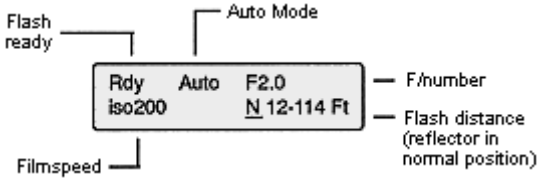
Changing F/number
1. Push Set button twice. The "F" in the f/number display will blink.
2. Use Up/Down buttons until desired f/number appears in the display. The f/number can be adjusted in 1/3 stop increments. Changing the filmspeed changes the available f/numbers.

The flash distance also changes depending on the reflector position of "N" (Normal), "W" (Wide) or "D" (Diffused) next to the Flash Distance. See Section 5.6, Option Button.

The Qflash will never let you choose an impossible setting (e.g. iso 12 f/32). The Qflash is self adjusting. Available f/numbers (iso 200) are: 2.0, 2.0+, 2.8-, 2.8, 2.8+, 4.0-, 4.0, 4.0 +, 5.6-, 5.6, 5.6+, 8.0-, 8.0, 8.0+, 11-, 11, 11+, 16-, 16, 16+, 22-, 22, 22+, 32-, 32 (+, - represent +1/3 or -1/3 stop increments).

Changing Filmspeed
1. Push the set button three times. The flash distance will be replaced by filmspeed. The filmspeed display will blink.
2. Use Up/Down buttons until desired filmspeed appears in the display. Note that flash distance changes as filmspeed changes. The f/number may also change to keep you in the allowable range of the Qflash.

5.2 AUTO MODE



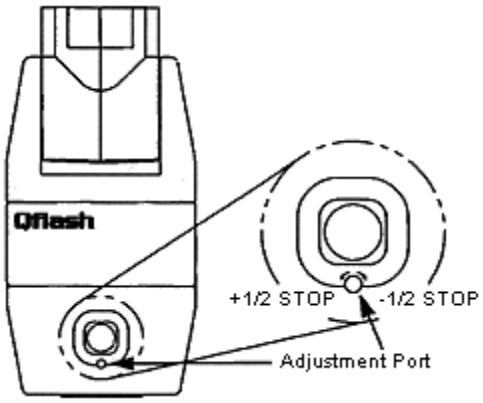
Changing F/number
1. Push Set button once. The "F" in the f/number display will blink.
2. Use the Up/Down buttons until desired f/number appears in the display. The f/number can be adjusted in 1/3 stop increments. Changing the filmspeed changes the available f/numbers.

The flash distance changes as the f/number changes, or by the setting of the reflector position (N, W or D). See Section 5.6, Option Button.

The Qflash will never let you choose an impossible setting (e.g. iso 12 f/32). The Qflash is self adjusting. Available f/numbers (iso 200) are: 2.0, 2.0+, 2.8-, 2.8, 2.8+, 4.0-, 4.0, 4.0+, 5.6-, 5.6, 5.6+, 8.0-, 8.0, 8.0+, 11-, 11, 11+, 16-, 16, 16+, 22-, 22, 22+, 32-, 32 (+, - represent +1/3 or -1/3 stop increments).

Changing Filmspeed
1. Push the Set button twice. The filmspeed display will blink.
2. Use Up/Down buttons until desired filmspeed appears in the display. Note that flash distance changes as filmspeed changes. The f/number may also change to keep you in the allowable range of the Qflash.

User Adjustment of Light Output on Qflash



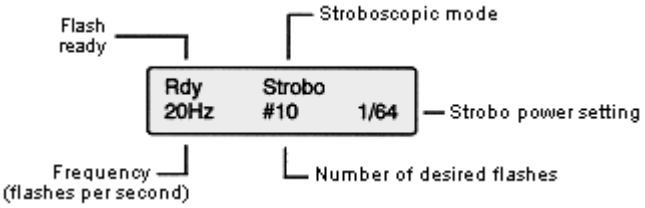
Your Qflash has been factory calibrated, however it is possible to only adjust the automatic mode light output.

Using a miniature screwdriver, reach into the adjusting port and turn the screw head to the left to increase light output or to the right to decrease light output.

5.3 TTL MODE

TTL mode is used with all of the Quantum TTL adapters. These optional adapters allow the Qflash to be used with many popular cameras in TTL mode. The TTL instruction booklet has additional details. For a list of available TTL adapters consult the latest Qflash literature, our web page, or your Quantum dealer.

5.4 STROBOSCOPIC MODE



Changing Strobo Frequency

1. Push the Set button once. Frequency setting on display will blink.
2. Use the Up/Down buttons until desired frequency appears in the display. Note the power setting and the number of flashes will change to display the maximum allowable settings.

Changing Number of Flashes

1. Push the Set button twice. The # in front of the count will blink.
2. Use the Up/Down buttons until the desired number of flashes appears in the display.

Changing Strobo Power Setting

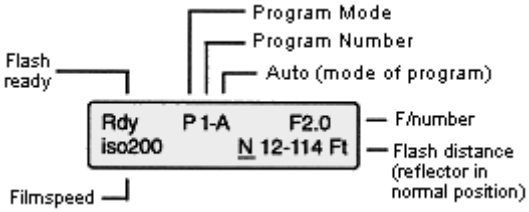
1. Push the Set button three times. The dash in front of the power setting will blink.
2. Use the Up/Down buttons until the desired power setting appears in the display.

NOTE: When using the Qflash in stroboscopic mode, the Turbo must be set to "Ultra-fast".

5.5 PROGRAM MODE

The Program Mode can save up to 4 Qflash set-ups of Manual, Auto, or TTL operation. Then you can quickly switch between your favorite or frequently used set-ups with one button.

PROGRAM MODE - AUTO



Changing Program Number

To select a Program set-up:
1. Push Up/Down buttons. Note that when using this method any Program number that has been cleared (?) will not appear on the display.

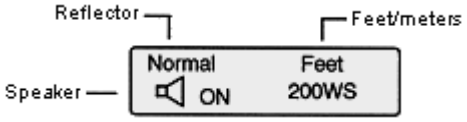
To set or change a program set up:
1, Push Set button once. The Program number display will blink.
2. Use the Up/Down buttons to change the Program number. When this method is used all program numbers will appear on the display.

Changing the Mode of a Program:
1. Push Set button twice. The Mode of the Program will blink.
2. Use the Up/Down buttons to change the mode of the program.

AVAILABLE MODE DISPLAYS				
Program number	M (manual)	A (auto)	TTL	? (clear)
1	P1-M	P1-A	P1-TTL	*
2	P2-M	P2-A	P2-TTL	P2-?
3	P3-M	P3-A	P3-TTL	P3-?
4	P4-M	P4-A	P4-TTL	P4-?
*Program 1 always displays				

Changing any setting within a program
1. Push Set button three times.
2. Change the program set-up as explained previously for Manual, Auto or TTL modes (sections 5.1, 5.2, 5.3).

5.6 OPTION BUTTON
1. Press Option button once to change to option menu.
2. Press Option button again to return to original display.



Turning the Speaker ON/OFF
1. Use the Up/Down buttons to turn the speaker on or off.

Changing the reflector position
1. Press Set button once.
2. Use the Up/Down buttons to change the reflector from Normal to Wide to Diffused.
Note: this does not actually change the reflector but will change the flash distances in the display to give a true indication.

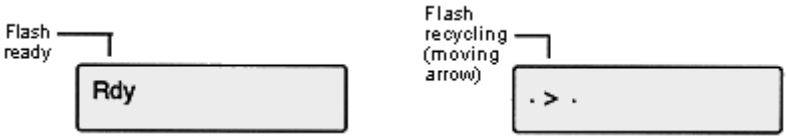
Changing Feet to Meters
1. Press Set button twice. 2. Use Up/Down buttons to change feet to meters or meters to feet.

Changing Power Pack Setting
1. Press Set button three times.
2. Use Up/Down buttons to choose between "2" = 200 watt-seconds and "4" = 400 watt-seconds.

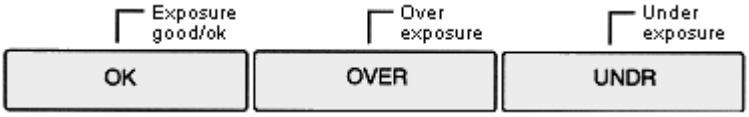
6.0 FEATURES OF THE Qflash

6.1 FLASH READY

One beep will sound if speaker ( ) is on.



6.2 EXPOSURE INDICATORS (Auto &TTL Mode)



The exposure indicators will come on and blink for approximately 3 seconds after a flash. If the speaker is turned on then a warning will sound three beeps if the exposure is Under or Over. If the exposure is good, one beep will sound when the flash is ready, and the OK will display.

If quiet operation is desired, plug in the earphone or turn the speaker off by using the Option Button.

6.3 BACKLIT DISPLAY

The Qflash is equipped with a lighted display for operation in dark areas. Whenever any of the push buttons are used, or when an Over, Under or OK exposure indicator appears, the display will light for a brief period.

6.4 MEMORY

The Qflash has a memory which retains your settings, even when the power pack has been turned off. The Qflash retains its memory indefinitely. It will "wake up" with the settings it had when last turned off.

6.5 MODELING LIGHT FOR X2

Push the the light button once to turn on the modeling light for 16 seconds, or push the light button twice for a 32 second duration. Push the light button a third time and the modeling light will turn off.

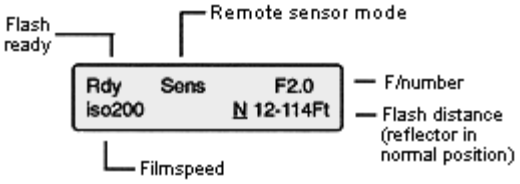
7.0 REMOTE SENSOR OPERATION

Quantum Instruments makes a Remote Sensor Module, QF21 (optional), for the Qflash. This module controls the light output of the Qflash from a remote location. This can be useful, for example, when aiming the Qflash into an umbrella. Once the Remote Sensor Module is connected to the Qflash the Auto mode disappears and is replaced by SENS mode. All other modes remain unaffected.

The Remote Sensor can be mounted to the camera's hot-shoe or to a bracket (bracket mounting requires a sync cord, sold separately).

The Remote Sensor comes with a 3 ft. (1m) cord, and can be extended using a 20 ft. (6m) long QF-51 control extension cable. The remote can be extended up to 100 ft. (30m).

7.1 SENS MODE



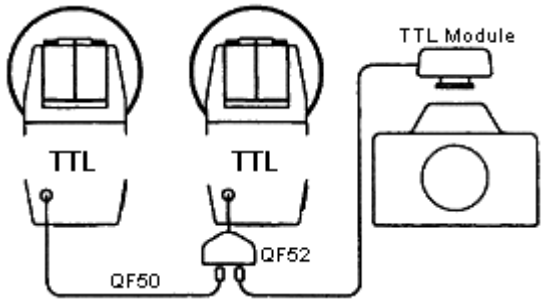
8.0 MULTIPLE Qflash OPERATION

The following section explains using two or more Qflashes connected together with a cable, to create many types of lighting set-ups. In a multi-flash set-up the operation of Qflashes set to Manual or Strobo modes remains unchanged from the basic operation (Section 5.0). TTL operation remains unchanged as long as no Qflash is in Auto mode. Several features become available when one or more Qflashes are in Auto mode.

Some examples are shown in this section. (For best performance connect a separate Power Pack to each Qflash T2.)

8.1 TWO Qflash IN TTL MODE

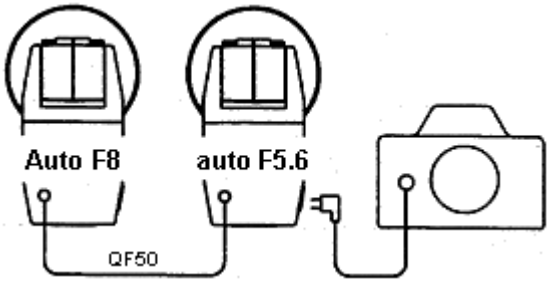
This can increase power and/or create multiple light sources with TTL control.



Accessories needed: One Control Cable QF50, one "Y" Module QF52, and one TTL Adaptor.

8.2 TWO Qflash IN AUTO MODE

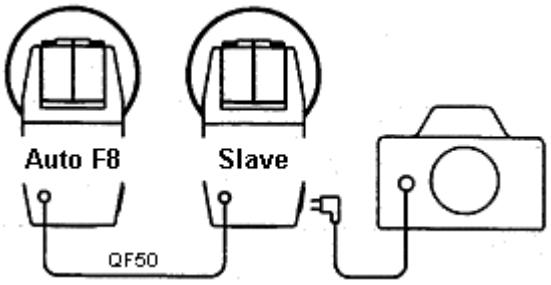
This allows you to control main/fill ratios by setting different light outputs for each Qflash (e.g. f/8 on one, f/5.6 on another) which controls its own light output independently.



Accessories needed: One Control Cable QF50 and one sync cord.

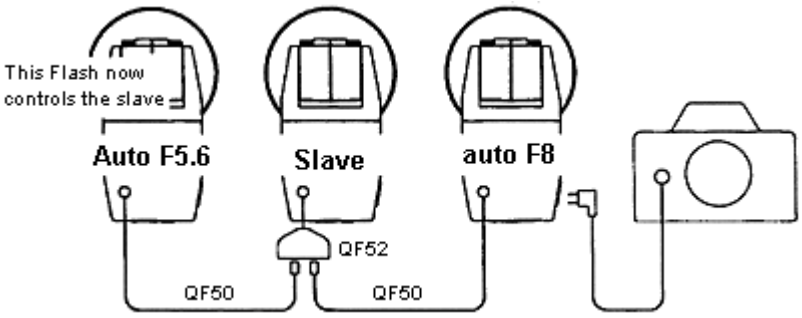
8.3 ONE Qflash IN AUTO, ONE IN SLAVE MODE

With one Qflash in Auto Mode, the TTL mode of the other unit is changed to Slave mode, The "Slave" unit's light output will be controlled by the Auto unit. Use this set-up when you want more light than available with one Qflash, or when you want light from two directions, controlled by the Qflash near the camera, for example.



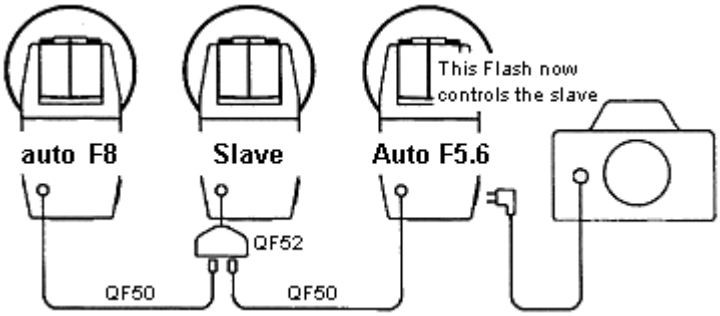
Accessories needed: One Control Cable QF50 and one sync cord.

8.4 TWO Qflash IN AUTO MODE AND ONE OR MORE Qflash IN SLAVE MODE
Power can be increased up to 150 WS for each T2, 200-400 WS for each X2 used. When two Qflashes are set to Auto Mode, only one Qflash will control any additional Qflashes set to Slave Mode. The Qflash which has control over the Slave unit(s) will display the normal "Auto" mode; any other Qflash will display "auto" with a lower case "a".



Accessories needed: Two Control Cables QF50, one "Y" Module QF52 and one sync cord.

8.5 CHANGING THE Qflash THAT CONTROLS THE SLAVE
Push the Mode button on the Qflash in "Auto" mode until "auto" appears. The Qflash which was in "auto" mode will automatically change to "Auto" once it becomes the only Qflash in Auto mode.



Accessories needed: Two Control Cables QF50, one "Y" Module QF52 and one sync cord.

8.6 MISCELLANEOUS MULTI-FLASH INFORMATION
The Rdy's of all flashes connected in a multi-flash setup will appear on the displays when all the flashes are ready. The speakers (on/off) are controlled by the individual Qflashes.

For additional Qflashes added to the sample set-ups shown, one Connecting Cable and one "Y" Module will be required. Any combination of Auto, Manual, TTL/Slave, or Strobo modes is possible.