PocketWizard®

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Firmware Release Notes
MiniTT1® / FlexTT5® for Canon

MiniTT1 Firmware Upgrade to version 6.400
FlexTT5 Firmware Upgrade to version 6.400
340.00 - 354.00 MHz, FCC/IC
433.42 - 434.42 MHz, CE

MiniTT1/FlexTT5 for Canon ControlTL® Firmware 6.400 Overview

Intro: MiniTT1/FlexTT5 for Canon ControlTL firmware version 6.400 addresses some improvements we have made since the launch of Canon ControlTL firmware version 6.200.

IMPORTANT:

This new firmware requires that you use PocketWizard Utility version 1.54 or later. It is available for download here. Upgrade to the latest Utility first, then upgrade your radios' firmware.

When updating firmware, be sure to update all of your Canon radios to the latest version, 6.400. Your radios will only operate as expected when all units are using the latest firmware.

Note: Previously used settings or saved profiles cannot be automatically reloaded after installing the new 6.400 firmware. Make sure to copy down any important settings before loading the firmware because the PocketWizard Utility will perform a factory reset once the installation is complete.

PocketWizard Utility and Factory Reset Note: Always perform a factory reset after updating your firmware. The PocketWizard Utility performs a factory reset automatically when you upgrade the firmware. It also has a Factory Reset button on the Update tab which additionally simplifies factory reset. You can also perform a Factory Reset with the radio: See RESET B here, or simply hold TEST before you power on your radio and continue to hold TEST for 10 seconds until you see 4 blinks (green).

Learn More: Visit the PocketWizard Wiki for more information on using your radios.

Overview of New Key Features:

- New Camera Compatibility
- HyperSync® Improvements
- USB Port Power-Able
- Modeling Light Control Improvements

New Key Features:

Compatibility with Canon Cameras:

The following new Canon gear is now supported in this firmware release:

- Canon EOS 1D X
- Canon EOS 6D
- Canon EOS T4i

These cameras will work in the ControlTL® system with some important operational considerations:

- Manual power control only – No TTL. TTL is not currently available when using the 1D X, 6D, or T4i with a MiniTT1 or FlexTT5. See additional information on the next page.

- Manual power control operates normally, which includes the following functions:
  - Manual power control for X-sync
  - Manual power control for HSS
  - HyperSync®
  - Rear Curtain Sync
  - AC3 ZoneController with the zone set to “M” for Manual
  - Manual power control of compatible flashes like Einstein E640, AlienBees, White Lightning, and select Elinchrom flashes

- Improved HyperSync performance. New HyperSync enhancements allow for these cameras to perform well when shooting with studio flash above X-sync.

- PowerTracking with these cameras works with “Full Manual” setting. Other PowerTracking settings are not available at this time.

- Please review the general Canon Operational Considerations on the PocketWizard Wiki.

Canon 1D X, 6D and T4i detailed operational considerations:

- For remote manual power control to work, remote Speedlites on FlexTT5 radios must be set to TTL, as is normal operation for the ControlTL system.

- A Master Speedlite on the camera’s radio set to E-TTL mode will not trigger. Any remote zones set to TTL will not trigger.

  A Master Speedlite on the camera’s radio set to manual mode, with or without remote manual zones, will function normally.

  The Canon 600EX-RT Group and ALL modes are not supported in the ControlTL system for any Canon cameras, including the 1D X, 6D, and T4i. Master Manual Mode works properly with these cameras.

- An AC3 ZoneController will not trigger any zones set to A for either TTL remotes (Speedlites) or PowerTracking studio remotes.

- If the 1D X, 6D, or T4i are woken up with a very quick full-press of the camera's shutter release, flashes may misfire or clipping may occur. Try to always wake the camera with a slow, deliberate half-press of the shutter release before taking the exposure. On the 1D X, consider setting C.Fn6 ("Timer Duration") to 1 min or longer to keep the camera awake longer after a full-press.

Using the 1D X's FEC adjustment:

When using a bare shoe FlexTT5 or MiniTT1 on the 1D X, 6D, or T4i (no Master Speedlite and no AC3 ZoneController), the camera's FEC adjustment can adjust the manual power of remote Speedlites or studio flashes per this table ->

This adjustment is not real time. To apply an FEC adjustment, either wait for the camera to sleep, and then wake it with a half-press of the shutter release button, *or* press the FEC button, make your adjustment, and then press the FEC button again to "set" the adjustment.

On cameras other than the 1D X, 6D, or T4i, using a bare shoe MiniTT1 or FlexTT5 (no AC3 ZoneController or Master Speedlite) would cause the remote flashes to be used as TTL flashes, with FEC controlling compensation to output power in real time.

FEC	Power
3	**1/1**
2.7	1/2 + 0.7
2.3	1/2 + 0.3
2	**1/2**
1.7	1/4 + 0.7
1.3	1/4 + 0.3
1	**1/4**
0.7	1/8 + 0.7
0.3	1/8 +0.3
0	**1/8**
-0.3	1/16 + 0.7
-0.7	1/16 + 0.3
-1	**1/16**
-1.3	1/32 + 0.7
-1.7	1/32 + 0.3
-2	**1/32**
-2.3	1/64 + 0.7
-2.7	1/64 + 0.3
-3	**1/64**

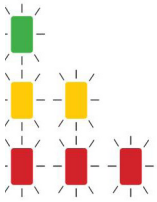
- Only the "Full Manual" PowerTracking mode is available for the 1D X, 6D, and T4i. If other PowerTracking modes, like "Center on ISO & Aperture" are selected, they will per form as "Full Manual."

"No Change (Trigger Only)" will work as expected.

Color-blind battery level status LED:

The Canon MiniTT1 and FlexTT5 Status LEDs previously changed color with battery level, but now they also blink a number of blinks to make the battery level even more apparent.

1 Green blink =	More than 50% remaining	> 1/2
2 Amber blinks =	Less than 50% remaining	< 1/2
3 Red blinks =	Less than 25% remaining	< 1/4



These battery levels are tuned for alkaline batteries in the FlexTT5 and a standard Lithium coin cell in the MiniTT1. Other battery chemistries can work, but their battery level may not be reported accurately.

Canon MiniTT1 and FlexTT5 now power-able via USB port:

Save batteries! The Canon MiniTT1 and FlexTT5 can now be powered using a standard AC adapter with a USB Mini-B DC plug like the PocketWizard PW-AC-USB:

http://www.pocketwizard.com/products/cable_accessory/accessories/pw-ac-usb/

Connecting directly to a computer's USB port is only for communication with the PocketWizard Utility, and not for powering the MiniTT1 or FlexTT5.

HyperSync® Improvements:

Some valuable improvements have been made to Canon ControlTL HyperSync. Read the information below and check out the HyperSync comparison attached to the end of this document.

HyperSync timings extended:

The manual HyperSync control, used for HyperSync with Standard Channel receivers like the Plus or MultiMAX, now allows for settings down to -4500 (previously the limit was -1600). This allows for improved HyperSync operation for many users.

Not all cameras can use the full range of this setting. Some cameras, like the Canon 60D, will show no change from -1500 through -4500. This is a limitation of the camera. Other cameras, like the 5D Mark III, will be able to get useful results with settings beyond -1600 that were not previously attainable.

More information on how to best optimize HyperSync will be added to the PocketWizard Wiki in the coming months. Since every camera and flash combination is unique, it is best to experiment and discover your own results!

Improved HyperSync optimizations for the FlexTT5 as receiver:

There is a new control in the PocketWizard Utility for a receiving FlexTT5 called "Optimize HyperSync For." There are 2 settings: "Reduced Clipping" and "Highest Energy." They optimize HyperSync timings for the connected flash for a specific photographic result. Connected flashes can include AlienBees, White Lightning or Zeus flashes attached via the AC9 AlienBees Adapter, flashes connected to the P2 port of a FlexTT5, or a Speedlite in the hotshoe (though Speedlites are often not the best choice for HyperSync flashes due to their short flash durations – if you must use a Speedlite, it will get the best HyperSync performance at full power).

"Reduced Clipping" optimizes for an elimination or reduction of hard black clipping at the bottom of the frame. This causes a smoother gradient of light across the frame at the expense of some flash output power.

"Highest Energy" optimizes for getting as much flash energy in the frame as possible. This makes for less of a gradient in the frame at shutter speeds just above X-sync, but may come at the expense of some clipping at faster shutter speeds.

Modeling Light Control Improvements:

Improved Modeling Light Control for helping with AF-Assist:

Using the controls on the Modeling Tab, you can set your remote ControlTL studio flash to engage its modeling light when the camera requests more light for auto focus. This feature can be useful when you are shooting in a dark venue like a dance hall and you are lighting the room with ControlTL-enabled studio flashes.

Follow these steps to engage the feature:

1. Check the "Modeling Light Control" box.
2. Select "AF-Assist" for the Control Mode.
3. Check the "Modeling Light Sleep" box.
4. Adjust the "Modeling Light Delay After AF-Assist" to suit your situation. This sets how many seconds the modeling light will stay on after the camera asks for AF-Assist.

Depending on how fast you take the picture, the modeling light might also contribute to the scene, but in most cases the light from the flash will be the primary light source and the modeling light's contribution may be negligible.

Other Improvements:

- Changed the default "HSS/FP Begins At (HyperSync End)" value to 1/250th. This is helpful for users shooting primarily TTL and looking for an experience very similar to using Canon's native system. HyperSync users will need to reset this control to their desired preference.

- Improved a situation when low shutter speeds are used with "HyperSync Only" engaged.

- Corrected Basic Trigger Mode so that it will now send out continuous triggers if TEST is held.

- Fixed a phenomenon where some clipping could occur when using a 7D at HSS shutter speeds.

- Changed "P2 HyperSync Flash Duration" for a FlexTT5 when used as a receiver from 1 to 7. This should provide better out of the box performance with many studio flashes.

- Improved shutter timings at exactly 1/4000 on the 1D Mark III, 1DS Mark III, and the 1D Mark IV. It is still important to select the 1D Mark IV camera model on the Misc Tab in the PocketWizard Utility when using this camera.

- Corrected a situation where a MiniTT1 with AC3 ZoneController would not make "real time" adjustments when used off camera.

- Implemented several major improvements to HyperSync.

- Masterminded a plan to take over the universe, but chose not to for humanitarian reasons.

- Improved remote modeling light control in many situations, including when using a camera's Depth of Field Preview button. Note: modeling light control is disabled by default in the PocketWizard Utility.

- Addressed a phenomenon where a remote on Zone C would fire even if it was turned off on a Master Flash in Manual mode.

- Removed "Full Manual + FEC" PowerTracking mode.

- Fixed a Relay Mode bug where the remote flash would trigger one channel higher than desired.

- Corrected a situation where Aperture Priority combined with Rear Curtain Sync could cause occasional missed frames at shutter speeds longer than 1 second (not, ControlTL does not support shutter speeds longer than 8 seconds).

-Tested with recent camera firmware releases. Please make sure to update your camera to the latest firmware:

- 1D X - 1.2.4
- 1D Mark IV - 1.1.3
- 1D Mark III - 1.2.1
- 6D - 1.1.3
- Tested against other Canon cameras with no recent firmware changes