

# XTB-523 MODE PROGRAMMABLE OPTIONS

In addition to basic TW523/PSC05 functionality, the XTB-523 also provides other features available through mode options. Programming the XTB-523 mode options requires a sequence of X10 commands sent either with a Maxi Controller plugged into an adjacent AC receptacle or by sending the commands through the digital port. Mode commands are normally sent on the "P" housecode unless an alternate housecode has been selected. The gap between each command must be less than 4 seconds. Programming begins with the sequence 5-2-3, followed by the parameter to change, and then either ON or OFF. For example, the sequence 5-2-3-7-ON enables the repeater. The LED will flash again after the ON or OFF as the mode number and its status are transmitted for logging. The LED will flash 5 times for an incorrect key sequence or if there was too much time between commands.

The default configuration provides basic TW523/PSC05 functionality. It can be restored by sending ALL OFF from a Mini or Maxi Controller as the XTB-523 is plugged in after being unplugged for at least 5 seconds. The ALL OFF should continue to be sent for about a second after the LED begins to flash. The LED will blank and then flash once more after the ALL OFF key is released when the default configuration is restored. The mode options are as follows (defaults in parenthesis):

- 8 (off) Enable 3-Phase Transmit (source must also transmit 3-phase)
- 7 (off) Repeater Enable
- 6 (off) Only One Repeat for each command to prevent repeater ping-pong
- 5 (off) Auto Retransmit of repeat following collision
- 4 (off) Abort Transmission on Collision
- 3 (n/a) is used to program housecode after ALL OFF reset (5-2-3-3-ON)
- 2 (off) Delay Transmit Burst to reduce flashing of nearby dimmers
- 1 (off) Selects return all bits received (no error checking)

**8 (OFF) 3-Phase Transmit or Repeat:** This option enables 3-phase transmission, regardless of the source. Output power is reduced when this mode is enabled, and the source must also be set for 3-phase transmission for this option to have an effect. The XTB-523 normally masks the superfluous 3-phase bursts to concentrate its energy into the essential zero-crossing burst.

**7 (OFF) Repeater Enable:** This option enables the XTB-523 repeater. Like other repeaters, this outputs a high-power transmission in bit-sync with the second half of a received command.

**6 (OFF) Only One Repeat:** When a repeater is used in an installation that has another repeater or certain two-way modules, it is possible for a command to be echoed back and forth continuously. This option prevents that ping-pong effect. For example when this option is enabled, only A-1, A-ON will be repeated for the sequence A-1, A-ON, A-ON, A-ON. However, A-1 A-ON, A-1, A-ON will be repeated completely. Bright and dim commands are a special case, and all will be repeated.

**5 (OFF) Auto-Retransmit:** This option enables automatic retransmit of a command that was aborted due to a collision. Auto-retransmit only works with repeated commands because a collision during a normal transmission would result in that command being corrupted.

**4 (OFF) Abort Transmission on Collision:** A collision is identified by a burst appearing in the timeslot when no burst is being transmitted. When this option is enabled, the XTB-523 will immediately cease transmission whenever a collision is identified. When a command is being repeated there is an option to re-transmit that command after the line has cleared.

**3 (P) Housecode Select:** The 5-2-3-3-ON sequence sent IMMEDIATELY after an ALL OFF power-up default reset will set the housecode for mode programming to that used for the 5-2-3-3-ON sequence. The window to change the housecode is only open for 4 seconds after the default reset, and will default to "P" if not changed within that window.

**2 (OFF) Delay Transmit Burst:** The strong XTB-523 signal may induce flicker in nearby dimmers. This option reduces the potential for dimmer flicker by delaying the transmit burst until just before the X10 reception window. This option generates a shorter signal burst, and it should only be used if dimmer flicker becomes a problem. Note: This option must be turned off to obtain an accurate measurement when using the XTBM to check the XTB-523 transmission frequency.

**1 (OFF) Return All Bits:** This option sends all data bits received over the powerline to the digital port without any error checking. Data is only delayed ½ cycle of 60Hz from real time. This option may be useful for diagnostics or for an enhanced automation controller that can use this format for its own error checking. However, since no error checking is performed, noise can cause erroneous "1" bits. When enabled, data pulses are stretched to a full half cycle rather than the standard 1mS pulses. This may be useful for monitoring equipment. Some controllers cannot accept data in this format, and this option should remain disabled unless needed.