

Instructions for TCS TXM-8 Crystal for Bolex

1. Connection

Plug the TXM-8s 7-pin Tuchel plug into the jack on the camera. Set the Bolex EL, EBM or ESM speed dial to “Sync” or “Crys” depending on the camera model. If using wired pilot (cable) sync connect this cable also. With the EBM, the accessory multi-jack base must be used, or else the TXM-8 modified to accept power input. (The later models TXM-16 and TXM-24 already have a jack for powering the EBM.)

2. Speed selection

The TXM-8 is normally shipped to North American customers switched for 24 FPS (Frames Per Second) speed and 60 Hz pilot frequency. If you need to use a different speed, it is changed as follows:

A. Remove the four #6-32 screws retaining the cover, using a No. 2 Phillips screwdriver. Lift off the cover.

B. Remember that in dry weather your body can accumulate thousands of volts of static charge that could damage the circuitry in the TXM-8. Touch a grounded object such as a water pipe, or appliance with a 3-wire grounding plug and that is connected to a grounded outlet, to drain off your body’s static electricity.

C. While touching the unpainted inside of the TXM-8 metal box to equalize charge, change the settings of the six tiny switches, known as a “dipswitch,” as follows:

24 FPS 60 Hz, turn on 1 & 4

25 FPS 50 Hz, turn on 2 & 5

30 FPS 60 Hz, turn on 3 & 6 *

* Don’t plan on using 30 FPS. This requires camera/motor modification and is not recommended any more. “On” means push the switch up, towards its number. Turn all unlisted switches Off. You can use a fingernail or small pointed object such as a toothpick. Do not use something sharp such as a knife blade as this will damage the plastic switch. See Appendix below, for less common pilot combinations.

D. Replace the cover and cover screws.

3. Note on 30 FPS filming

Your camera or motor must be modified before it is willing to be externally controlled at the 30 FPS speed. This entails changing the internal speed limit pot from 27 up to 32 FPS and possibly other changes, and then it may no longer be willing to run properly at 24 or 25 FPS.

4. Filming technique

Your sound recorder must be equipped with a crystal sync generator that records a pilot tone on the pilot or spare audio track, before you can do crystal cordless double-system sound filming. If your recorder does not have a crystal, you must use wired sync from the TXM-8. See Appendix below for the required cable connections.

With either crystal or wired sync, the technique is the same:

A. The director commands “Roll ‘em!” Start the sound recorder. When it is working, the recordist announces “Sound Rolling!”

B. Start the camera. When the sync alarm light on the TXM-8 goes out after flashing momentarily, the cameraman announces “Speed!”

C. The director commands, “Mark It!” The clapper/loader announces the scene and take number, and bangs the clapstick together in sight of the camera lens, and within earshot of the microphone, to give a visible and audible start mark for later synchronization of picture and sound.

D. The director commands, “Action!” and actual filming of that shot begins.

(With a practiced crew, steps A, B and C can be done very rapidly.)

E. At the end of the take the director commands “Cut” and everything stops. If the performance and technical details are satisfactory he will command “Print It” meaning that the film will be workprinted and the sound will be transferred to fullcoat, if only selected takes will be so handled. Appropriate notations will be made on the camera and sound reports for the film laboratory.

Appendix

1. For unusual combinations of the speed and pilot frequency, set the dipswitches as follows:

24 FPS & 48 Hz turn on 1 & 5

25 FPS & 62.5 Hz turn on 2 & 4

30 FPS & 75 Hz turn on 3 & 4

2. Pilot and bloop output requires a 1/4" (6.35mm) 3-conductor headphone type plug. Tip is pilot output, Ring is +12 volts bloop during clapper, and Sleeve is common ground. The pilot signal is derived from the actual camera running speed and will be correct even if the camera is not set to the correct “Crys” or “Sync” position.

For a Nagra 4 (IV), Tip goes to pin 4, Ring to pin 2, and Sleeve to pin 1. The +12 volt signal during clapper will trigger the bloop oscillator in the Nagra to give an audible start mark “beep” when the camera is started, suitable for one man band filming, which however is not quite as definite as the sharp noise from the clapsticks.

Tobin Cinema Systems Inc.

www.TobinCinemaSystems.com

Revised from original 5-92 version