

# DCODE® SB-3



## SYNCBOX® TIME CODE GENERATOR

The Dcode® SB-3 is designed to replace the Dcode SB-2A in the Denecke line of Time Code Generators. The SB-3 reads, generates and jams to all the standard frame rates including 23.976 for High Definition shoots. The outputs include Time Code and Word Clock. The Temperature Compensated Crystal Oscillator (TCXO) ensures low drift and very low Word Clock jitter.

### FEATURES

- \* Generates Word Clock in 44.1 KHz, 48 KHz, 96 KHz and 192 KHz, as well as all standard time code rates.
- \* Cross jam regardless of incoming frame rates.
- \* Generates all common SMPTE Time Code frame rates.
- \* Jam from an external time code source or set it internally and use as a stand alone generator.
- \* Continuously jams to new code so there is no need to power down the unit to re-jam.
- \* Runs on 2 AA batteries .
- \* Simple to set up.
- \* Very low Word Clock jitter locked to the high stability crystal (TCXO).
- \* Low and Dead battery warning.

### SPECIFICATIONS

**Input:** -15dB @ 4.7K; 1/8" mini phone jack

**Battery Power:** 2 Alkaline "AA" Batteries

**Size:** 3.75" x 2.79" x 1.06"

**External Power:** N/A

**TCXO Crystal:** +/- 1PPM @ -30° to +75° C

**Battery Life:** 20+ Hours

**Weight:** .50 pounds (with batteries)

**WC Out:** 3.3 VP-P (no Load)  
2.4 VP-P (75 R Load)

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The Denecke SB-3 generates all common SMPTE Time Code and Word Clock rates which are both locked to the same 1 ppm TCXO. The Word Clock signal has very low jitter and is extremely stable. To turn the unit on, simply press the push button. The LED indicates battery and sync/internal run status.

Two AA batteries power the SB-3. The green LED indicates the battery status. Two flashes per second = battery low, and three flashes per second = battery dead. The batteries should be replaced as soon as possible when dead battery is indicated (approximately 30 minutes of run time).

The LED (green) indicates whether the SB-3 is in jam sync mode or in internal run mode. The sync LED flashes once per second (at the start of the frame 00) when in jam sync mode or if the SB-3 has been running in internal run mode for 1 minute. Note that the Time Code rate and mode switches are locked out to prevent accidental change of the settings and the unit must be powered down for different switch setting to take affect. The SB-3 features an automatic jam sync capability, which re-jams to any break in Time Code without the need to power down. The jam occurs at the 00 frame so cross jamming of different rates can be accomplished.

Local run mode is indicated by the LED strobing. When the SB-3 is turned on, without Time Code present at its input, it will generate its own Time Code/Word Clock starting at 00:58:30:00. User bits displayed in the local mode are (00:00:00:XX) where XX indicates the internal frame rate setting. (Example: 00:00:00:30 shows the generator is running at 30fps). The TC frame rate and Word Clock are dependent upon the switch settings. Pressing the set button will increment the minutes, while holding down the set button will scroll the minutes. The minutes roll over into the hours therefore enabling control of the hours and minutes. The dipswitch, push button, and rotary dial are locked out after 1 minute of inactivity (the minute counter is reset with every setting change).

The SB-3 can only be turned off when it has been jammed, or after 1 minute of inactivity. To turn it off, press and hold down the push button for 2 Seconds. The LED will turn on when the system is shut down. The LED will turn off when the push button is released.

The Time Code rate rotary switch selects the **Time Code Frame Rate**. For example, position 4 selects 23.976 fps Time Code.

### Rotary Switch Settings

- 0) 30 frame TC with the selected Word Clock
- 1) 29.970 frame TC with the selected Word Clock
- 2) 25 frame TC with the selected Word Clock
- 3) 24 frame TC with the selected Word Clock
- 4) 23.976 frame TC with the selected Word Clock
- 5) 30 frame TC with NO Word Clock
- 6) 29.970 frame TC with NO Word Clock
- 7) 25 frame TC with NO Word Clock
- 8) 30 Drop frame TC with the selected Word Clock
- 9) 29.970 Drop frame TC with the selected Word Clock

The Mode Dip Switch selects the Word Clock rate. To generate 23.976 fps Time Code with 48 KHz Word Clock, the rotary switch is set to position 4 and the dipswitches are set to **01**. Where **0 = Down Position** and **1 = Up Position (read from left to right)**.

### Dip Switch Settings

- 00 = 44.1 KHz
- 01 = 48 KHz
- 10 = 96 KHz
- 11 = 192 KHz

Note: When connected in a daisy chain, only the last device in the chain should be terminated.

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