

TC 30 RI(V)

Option: time code regeneration JAM_DIFF + once-JAM and display/video insertion of the generator values

Functions overview

As a standard proceeding, a readout value is checked regarding plausibility and upcounting sequence before it will be transferred to the built-in time code generator. Such check will not prevent frame jumps occurring in case of e.g. a lacking synchronisation between reader and generator. In this case, two proceedings can be offered additionally to achieve a correct regeneration.

JAM_DIFF:

To improve the time code regeneration, proceed as follows: only if the difference between the readout and the actually generated value exceeds a liminal value (in this case 3 frames), the read value will be transferred to the generator, otherwise the generator will count on freely. This way it is possible to generate a continuous time code without any frame jumps. To achieve a frame-accurate lock even e.g. after the start (run-up time) of a VCR, in case of a 4-frame difference all values will be transferred to the generator for two seconds, then it will be switched to the „free-running mode“. This way the generator is synchronised automatically to the reader values, if e.g. a VCR is being rewinded and then forwarded again.

The generator remains in the „free-running mode“ if no more values will be read (infinite „flywheel“).

With this proceeding please note the following:

1. If the last reader value (2 seconds after a 4-frame-difference) has been transferred and the reader time code is not yet phase-locked to the generator time code (e.g. if a run-up phase is delayed), it is might occur that values will be generated continuously which constantly differ to the reader time code for up to 3 frames.
2. If the reader time code is not synchronous to the generator, a difference is being build up which will reach the liminal value. Then a correction will be made, i.e. instead of frequently generating 1-frame jumps, 4-frame jumps will be made, i.e. less frequently. The shorter the time of processing the more probable a correct regeneration.

Once-JAM:

Another possibility is to have the generator automatically count synchronous to the video, and to initiate only once a transfer of values from the reader by pressing a button. This ensures to prevent the generation of frame jumps. With this operating mode the generator will only accept plausible, upcounting time code values. The factors determining the accuracy of the generator values compared to the reader values are the point of time and the locking, i.e. if everything is synchronous to the same video, a frame-accurate regeneration will be achieved.

Display and video insertion of the generator values:

TC 30 RI(V) is a time code reader, i.e. the display and the visible insertion show the reader data. Since the generator function is of importance with regard to the functions as described above, the display and the video insertion may be switched to display of generator values.

Operation

To display and change operating mode: press keys **hold** and ↓ simultaneously, and the display will indicate the status and in digit 3 (unit seconds) the selected operating mode for the generator, and in digit 4 (tens seconds) the selection for the display/video insertion:

<u>Digit 4</u>	<u>Digit 3</u>
0 = reader values	1 = flywheel
1 = generator values	2 = converter
	3 = JAM-DIFF
	4 = once-JAM

Use the **LTC** key to switch between the operating modes of the generator (digit 3).

Use the **CTL** key to switch between the reader values and generator values (digit 4).

Use the **hold** key to store the changes made!

In the operating mode **4** = once-JAM, the reader has to be set to **auto** (LED 'auto' is lighting). Then, every pressing of the **CTL** key triggers a „once-JAM“, i.e. the following readout value (plausible and in upcounting sequence) will be transferred to the generator.