

Timecode & Double System

Video & Film Frame Rates

- 24 fps
- 25 fps
- 30 fps
- 60 fps

Frame Rate vs Clock Time

- NTSC 30 fps
- NTSC Interlace 2 fields per frame for 60 fields per second.
- NTSC Color “slowed” recording rate down.
- 30 fps became 29.97 fps even though “timer” on recorder functioned at 30 fps.
- “Record” time and clock time did not match.

Timecode

- SMPTE
- HH:MM:SS:FF
- 03:15:25:12
- NDF T/C = Non-Dropframe Timecode
- Notice that colons are used between numbers

Drop Frame T/C

- In the standard calendar, most years that are multiples of 4 are LEAP years.
- In each leap year the month of February has 29 days instead of 28.
- Adding an extra day to the calendar every four years compensates for the fact that a period of 365 days is “off” almost 6 hours per year.

Drop frame T/C drops 2 frames per minute except every 10th minute.

.
. .
. .
01:00:59;28
01:00:59;29
01:01:00;02
01:01:00;03



The first two frames (frames 00 & 01) are skipped every minute except for every 10th minute.

.
. .
. .
01:09:59;28
01:09:59;29
01:10:00;00
01:10:00;01
01:10:00;02
01:10:00;03



Every 10th minute, no frames are skipped. Frames 00 & 01 are included.

- DF T/C
- 04;21;15;04
- Notice semi-colons used to denote DF T/C
- Computers / Editing systems “hate” mixing DF & NDF in a single project.
- With DF T/C your finished project T/C will now match clock time.
- Be very careful when setting your timecode!

T/C Recording

- FREE RUN
- Continuous
- If doesn't matter if you are recording or not.
- Clock time?
- “Breaks” in T/C
- RECORD RUN
- Only runs when you are recording.

Standard Slate



Smart Slate



Word Clock

- All digital devices.
- Do not confuse with sync clock or T/C.
- Word clock tells A/D and/or D/A when to take a sample.
- The reliability of the clock, how evenly spaced the pulses are, determines the accuracy of the conversion process.
- More than one digital device needs a Master Clock for all devices to be synced to.

Sound Devices 788T



MOS

- “Mid” out sound
- Minus Optical Sound
- NO SOUND!