

Time code enables different pieces of studio gear to work together but it has become a source of problems and frustrations for many engineers. The SR-15+ can eliminate these frustrations by providing three essential functions in one comprehensive unit: a time code analyzer, a distributor/ reshaper and a pilot tone stripper.



### ANALYZING TIME CODE

#### Time code format & Frame Rate:

The front panel displays separately the format (24, 25 or 30), the drop frame status and the frame rate of the incoming time code. For example: 30 drop at a rate of 29.97. No more guessing!

In addition, the counter can show potential problems such as jitter or wow and flutter.

#### Time code errors:

Time code errors such as repeated frames,

drop outs etc. are detected and reported on the front panel along with the faulty addresses. A buzzer is included which sounds whenever the analyzer detects an error.

#### Video Phase:

In audio post production, it is essential that time code be synchronous with video (i.e. the video frame must be perfectly aligned with the corresponding time code word). The SR-15+ accurately monitor the phase

between time code and video and report even slow drifts.

#### Printed time code report:

A comprehensive report that includes format, video phase and time code errors can be sent to an external printer or computer via the rear panel parallel and serial ports.

### DISTRIBUTING TIME CODE

#### Buffered outputs:

Multiplying a single time code source to multiple destination can cause many problems. The SR-15+ eliminates those by distributing time code through balanced and buffered outputs.

#### Reshaping:

The Brainstorm Time Code Distributors are more than audio DA's; they reshape the signal before distributing it. Audio DA's on the other hand, transfer all distortions and level fluctuations present at the source.

#### Output Level Adjust:

Output levels are adjustable individually via front panel pots from full off to +12db. Thanks to the reshaper, these adjusted levels remain constant regardless of the input level.

### SPECIFICATIONS

#### Distributor Configuration:

1x5 (2 inputs w/ front panel selector switch)

#### Input Signal:

SMPT/EBU Longitudinal Time Code  
 (Forward or reverse; play, shuttle and wind)  
 Impedance: 20KΩ bal.; 10KΩ unbal.  
 Level: -30dbU min; +20dbU Max

#### Output Signal:

Waveform: switchable rise time  
 Impedance: 600Ω bal.; 300Ω unbal.  
 Level: adjustable (front panel pot):  
 full off to +8dbU bal.; to + 2dbU unbal.  
 Amplitude distortion: less than 2%

**Analyzer's LEDs:** Signal present, Good code, ascii, Color, Drop, Video code

#### 8 Digit Display Functions:

- Reader: reads time code and user bits;
- Video Phase: displays the time code bit aligned with video F1L5 and the field (of the color sequence) aligned with ID pulse;
- Errors: displays the description and address of the error detected

#### 4 Digit Display:

- Frame Rate Reader: code in (fr/sec)
  - Frequency Counter: tone in or tone out
- Reading range:  
 ≈ 21 to 39 fr/sec or ≈ 5.00 to 99.99 Hz  
 Display accuracy: ± 20 ppm plus ± 1/2 lsd  
 Resolution: .01 Fr/sec or Hz  
 Update rate: 4x per sec.

#### Tone Stripper: time code conversions:

- 24 fr/sec (film) . . . . . 60Hz
- 25 fr/sec (pal) . . . . . 50Hz
- 29.97fr/sec (ntsc) . . . . . 59.94Hz
- 30 fr/sec (smpte) . . . . . 60Hz

#### Stripper Output Waveform:

Low distortion Sine or Square wave.

#### Connectors:

- XLR Female (2 inputs); XLR Male (6 outputs)
- BNC: color ID in & loop; video ref in & loop; DB-9 Male: Serial port (RS-232)
- DB-25 Fem: Parallel port (Centronics)
- 1/4" Jack: Relay out / Event In
- IEC 320 power inlet

**Power:** Switchable: 115VAC / 230 VAC @ 50 / 60Hz with front panel on-off switch



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