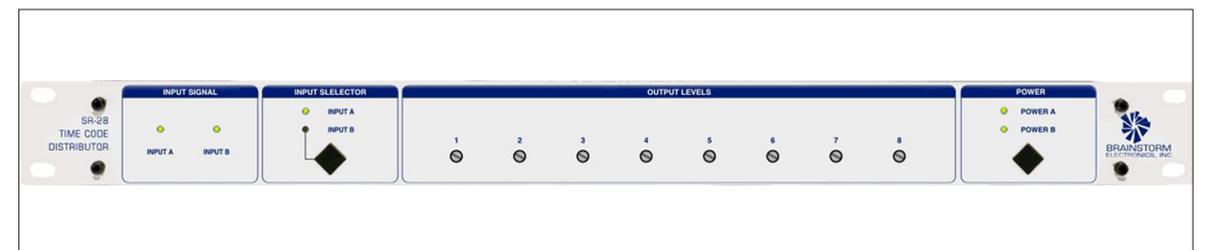


# SR-28

## Time Code Distributor

Operation Manual



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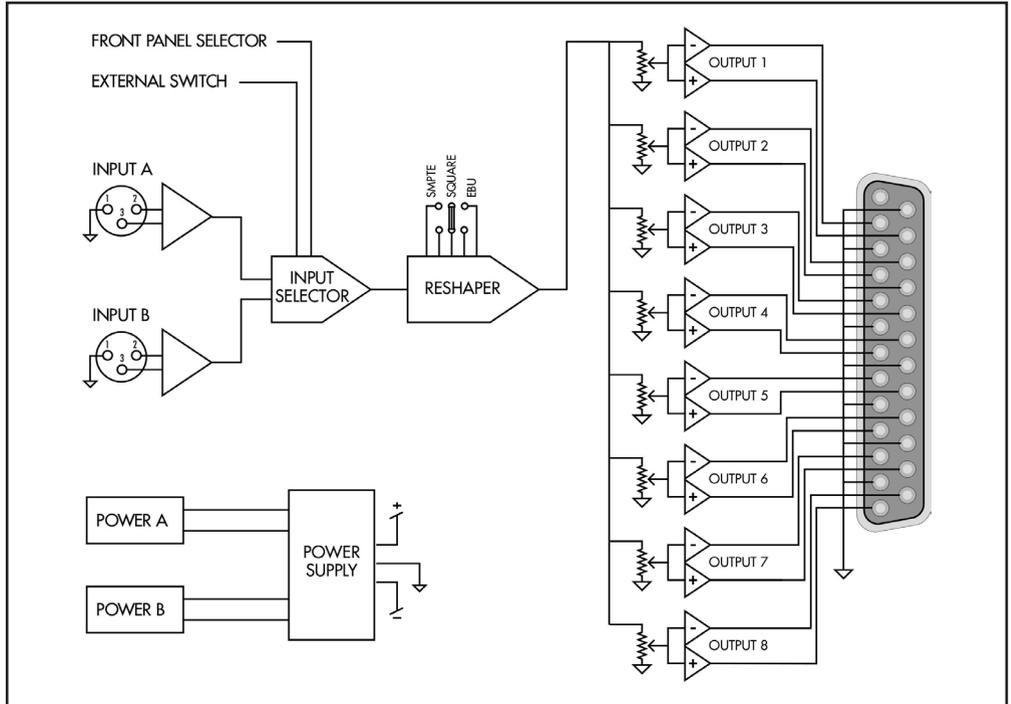
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# 1. Introduction

Congratulations on purchasing the SR-28 Time Code Distributor. The SR-28 is a high quality reshaper designed to recondition very low level or amplitude distorted time code into a properly shaped waveform and to distribute it through its 8 individually buffered outputs. Each output has it's own level adjust pot.

There are 2 separate time code inputs that can be selected via a front panel selector or, alternatively via an external remote switch. Two separate power supplies can be connected into the SR-28 for redundancy.



# 2. Installation

## 2.1. UNPACKING

When unpacking your SR-28 the following items should be in the shipping carton:

- SR-28 unit
- Universal Power Supply (12VDC, 1.3A)
- IEC power cable
- Owner's Manual & Registration card

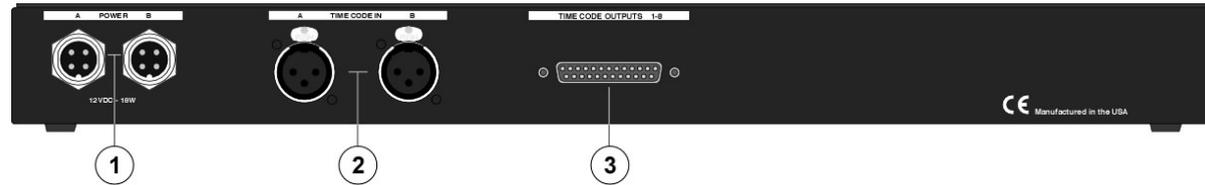
## 2.2. INSTALLING THE SR-28

The SR-28 is designed to be mounted in a standard 19" rack. It is 1U in height.

Usual precautions should be respected when wiring the SR-28: use high quality cables with good shield to guarantee a good signal transmission. Keep your cables as short as possible.

To preserve the integrity of the transmission line, it is recommended that you do not 'mult' a single output to multiple devices as it can degrade signal quality.

### 3. I/O's Description and Cable Requirements



#### 3.1 POWER

The SR-28 requires 12VDC, 1A. Acceptable range is 12VDC +/-15%.

The external supply provided with the SR-28 accepts 100 to 240 VAC input at 50 - 60 Hz so it is suitable for use anywhere in the world.

Optionally, a second power supply can be connected to Power Input B for redundancy (see 4.4 below). To order a second power supply (p/n: PS-7) contact your dealer.

> Insert the 4 pin plug into the rear panel jack and secure by screwing the ring. Plug the supply into the wall outlet using the standard IEC cable supplied.

#### 3.2 TIME CODE INPUTS

Accepts any time code format at speeds ranging from 1/30x to 60x playspeed.

Connectors: XLR female

> Use a standard audio cable, Pin #2 Hot. Balanced or unbalanced systems.

#### 3.3 TIME CODE OUTPUTS

Connector: 25 pin D Female (See Appendix C for wiring diagram)

> Use standard Tascam/Avid (Digidesign) analog audio pin out configuration and if needed, a readily available DB-25 male to 8 XLR male break-out cable from third party companies.

### 4. Front Panel Switches & LED'S



#### 4.1. INPUT SIGNAL LED'S

These 2 LED'S indicate that a signal is present at the corresponding input.

#### 4.2. INPUT SELECTOR & LED'S

Tap the [SELECTOR] button to toggle between the 2 inputs. One of the 2 LED's lights up to indicate which input is currently selected. If necessary, an external selector switch can be used (see appendix B)

#### 4.3. OUTPUT LEVELS

The level for each of the 8 outputs is adjustable via 8 front panel pots. Levels go from full off to +12db.

#### 4.4. POWER

To turn the unit on, tap the [POWER] button. There will be a small delay before the unit actually turns on.

To turn the unit off, hold the [POWER] button for about 2 seconds.

When the SR-28 is turned on, the Power A and/or Power B LED's light up to indicate that power is present at the corresponding connector. When the SR-28 is off, these LED's stay off, even with power present at the connector.

**REDUNDANCY:** The SR-28 has 2 power inputs and allows for 2 separate power supplies to be connected simultaneously. If one of the supplies fails, the second one will keep the SR-28 running. The LED corresponding to the faulty supply will start blinking to alert you. You can then replace it without having to power down.

Note: For better failure protection, the 2 power supplies should be on separate mains circuits.

### 5. Reshaping and distributing time code

#### 5.1. TIME CODE DISTRIBUTION

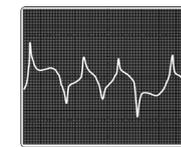
Simply muling a time code source to multiple destinations can cause serious problems and is not recommended. The SR-28 eliminates these potential problems by providing 8 individually buffered and balanced outputs.

#### 5.2. RESHAPING DISTORTED TIME CODE

On older analog tape machines (especially VTR's), time code usually has improper rise/fall times, leading edge peaking and different amplitude levels on "one's" and "zero's". With more modern equipment, the signal is usually cleaner but can also get distorted by long cable runs and poor connections.



Analog tape machine  
Play Speed



Analog tape machine  
High Speed



Analog tape machine  
Low Speed

As a result, time code can become unreadable. The SR-28 eliminates these amplitude distortions by reshaping the code to its original specifications.

#### 5.3. TIME CODE LEVEL

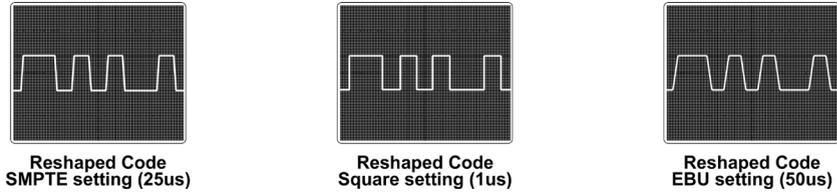
Level fluctuations or improper level can also render time code unreadable. With the SR-28, each output is individually adjustable so that optimum levels can be sent to each reader. These levels remain constant regardless of input fluctuations.

#### 5.4. SELECTING THE PROPER RISE TIME

Rise time limiting was specified in SMPTE and EBU to minimize crosstalk from time code into audio. A longer rise time removes more high frequency compo-

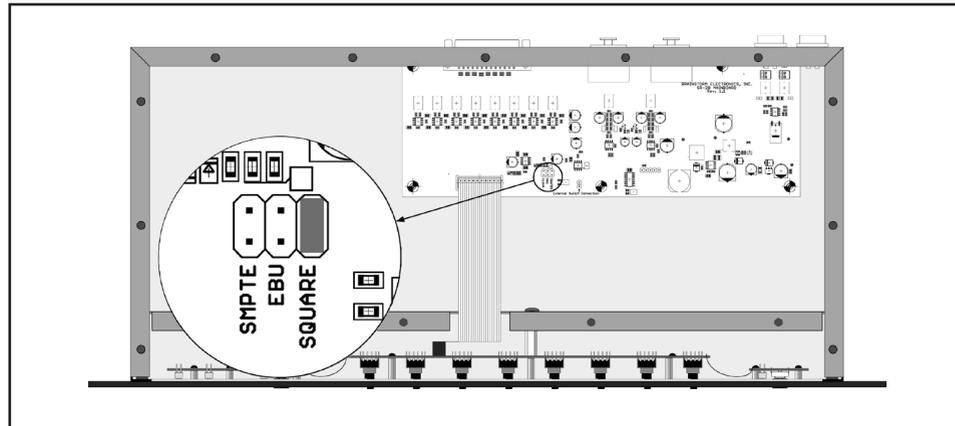
nents from its waveform. However some equipment may not be able to read time code if its rise time is too long.

The SR-28 has three preset rise times for its output waveform: 25 µsec (SMPTE), 1µsec (square wave) and 50µsec (EBU).



As a general rule, if time code is patched directly into a reader, use the square wave position; but, whenever possible cross-talk problems exist (i.e. in an audio patchbay...) or when recording the reshaped signal, use the SMPTE or EBU setting (as needed).

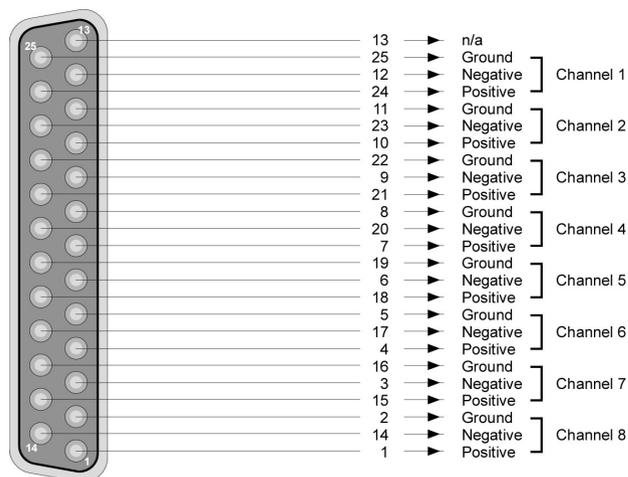
The rise time is set by default to square wave. To change it to one of the other presets, move the internal jumper as shown below:



## 6. Appendix

### APPENDIX A - 25 pin D CONNECTOR WIRING DIAGRAM

The diagram below shows the pin-out for the 25 pin D-Sub connector (outputs 1-8):

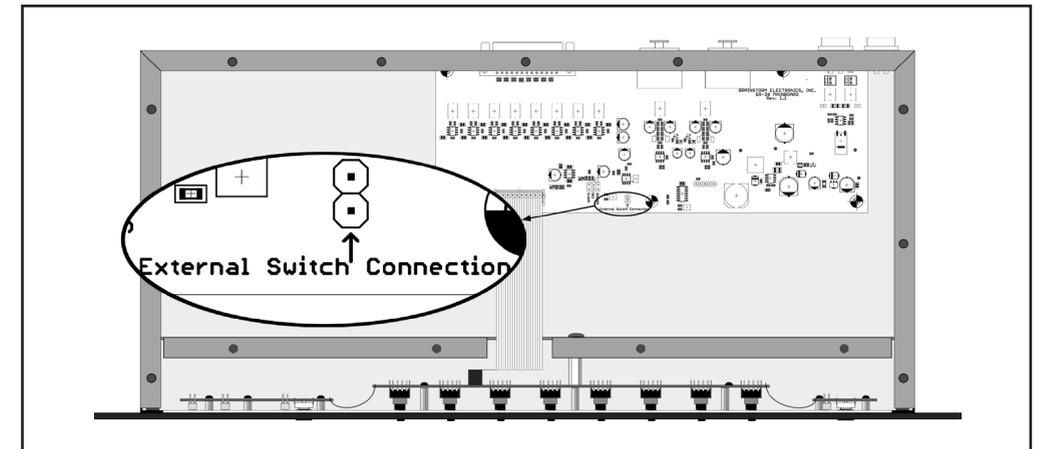


### APPENDIX B: USING AN EXTERNAL SWITCH FOR INPUT SELECTION

When necessary an external switch can be used to change the SR-28 input selection.

Wire it to the 2 pads labeled 'EXTERNAL SWITCH CONNECTION' on the mother board. A 2 pin header can be soldered in the mother board with a connector at the end of the wires for easy disconnect.

This external switch should be momentary SPST and will operate in parallel with the front panel switch. Either one can be used. The front panel LED always indicates the currently selected input.



## Specifications

CONFIGURATION	2 x 8 (w/ input selector)	
INPUT	Signal	SMPTE/EBU Longitudinal Time Code (forward or reverse, play, shuttle & wind)
	Impedance	20KΩ balanced; 10KΩ unbalanced
	Level	-30dbU min; +20dbU max
OUTPUT	Impedance	600Ω balanced; 300Ω unbalanced
	Level	full off to +10dbU balanced; to +4dbU unbalanced front panel pots adjustable
	Waveform	25µs (SMPTE), 50µs (EBU), or 1µs (square wave) selectable rise time (on board jumpers)
	Amplitude Distortion	less than 2%
CONNECTORS	Inputs	XLR Female (2) - Pins: 3=high; 2=low; 1=ground
	Outputs	DB25 Female (8 channels)
LED'S	Input A & B	Signal present
	Input select	Currently selected Input (A or B)
	Power	Power present (A & B)
POWER	12VDC, 1.3A (universal supply provided)	
DIMENSIONS		
WEIGHT		