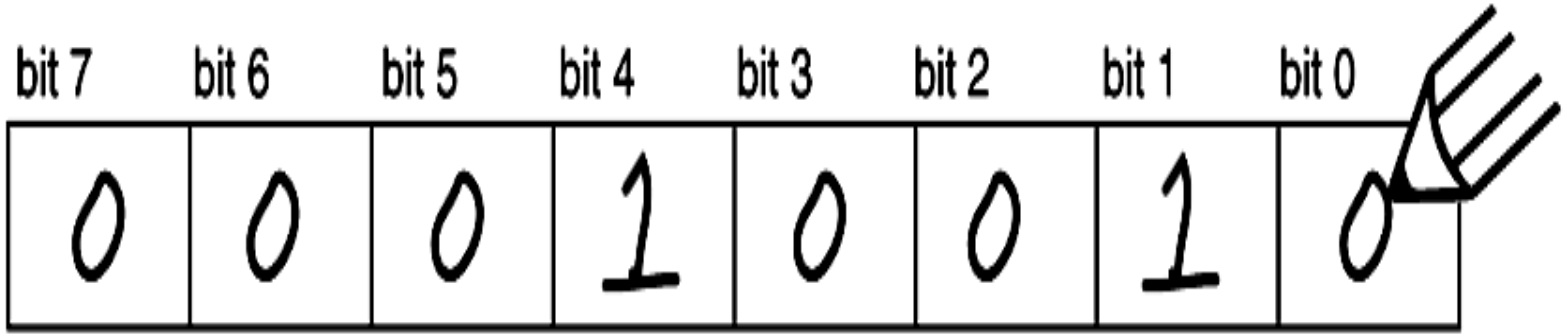
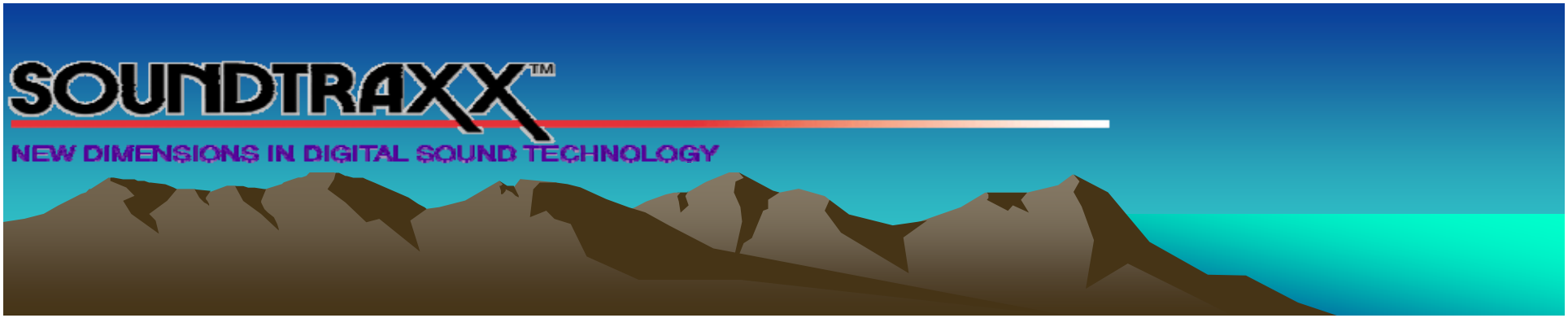
Advanced Tsunami Programming

From Bits to CV Values



When bit is set to 1, value =	128		64		32		16	
	8		4		2		1	
Therefore:	0	+	0	+	0	+	16	
	0	+	0	+	2	+	0	= 18



CV 29

The Configuration CV

Bit 7							Bit 0
0	0	EAM	STE	ACK	APS	F0	DIR

DIR = Direction

F0= Speed Steps

APS= Alternate Power Sources (DC)

STE= Speed Table Enable (CV 25)

EAM= Extended Address Mode (CV 17,18)

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Address Changing on the Main

- Can only change type of address not in use on the main
- CVs used CV 1, 17, 18, 29

Short Address= (01-127)

Long Address= (0001-9,999)

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Dual Mode Operation

Setting up dual mode operation on a Tsunami

CV's to adjust CV 12, 13, 14, 29, 197

CV 12= 1, CV 13=48 (If using F5&6), CV 14=3, CV197= 2

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CV 197/ 198

Bit 7							Bit 0
			ABD	BRK	BELL	WHSIG	WHXNG

Automatic Sound Configuration

CV 197= Analog (DC)

CV 198 = DCC

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Function Mapping

Function Mapping Table

Function Key	HL	BL	WH	BEL	FX5	FX6	DYN	SHW	STM	WS	DIM	MUT	BRK	INJ	CPL
F0 (f)	X	X	X	X	X	X	X	X	X						
F0 (r)	X	X	X	X	X	X	X	X	X						
F1	X	X	X	X	X	X	X	X	X						
F2	X	X	X	X	X	X	X	X	X						
F3	X	X	X	X	X	X	X	X	X						
F4				X	X	X	X	X	X	X	X	X			
F5				X	X	X	X	X	X	X	X	X			
F6				X	X	X	X	X	X	X	X	X			
F7				X	X	X	X	X	X	X	X	X			
F8				X	X	X	X	X	X	X	X	X			
F9								X	X	X	X	X	X	X	X
F10								X	X	X	X	X	X	X	X
F11								X	X	X	X	X	X	X	X
F12								X	X	X	X	X	X	X	X

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Function Mapping

Table F. Function Mapping Table

Function Key	Control CV	Headlight	Backup Light	Airhorn	Bell	FX5	FX6	Dynamic Brake	Short Horn	Reserved	Radiator Fans (RPM+)	DIM	MUT	Air Comprssor (RPM-)	Brake	Coupler
F0 (f)	33	**1**	2	4	8	16	32	64	128							
F0 (r)	34	1	**2**	4	8	16	32	64	128							
F1	35	1	2	4	**8**	16	32	64	128							
F2	36	1	2	**4**	8	16	32	64	128							
F3	37				1	2	4	8	**16**	32	64	128				
F4	38				1	2	4	**8**	16	32	64	128				
F5	39				1	**2**	4	8	16	32	64	128				
F6	40				1	2	**4**	8	16	32	64	128				
F7	41							1	2	4	8	**16**	32	64	128	
F8	42							1	2	4	8	16	**32**	64	128	
F9	43							1	2	4	**8**	16	32	64	128	
F10	44								1	2	4	8	16	**32**	64	128
F11	45								1	2	4	8	16	32	**64**	128
F12	46								1	2	4	8	16	32	64	**128**

Bold Numbers indicate default settings.

Hyperlights CVs 49-52

Bit 7 Bit 0

LED	R17	XING	PHSE	EF3	EF2	EF1	EF0

- Bit 0-3= Which affect you want
- Bit 4 Selects which phase on alternating lights
- Bit 5 Selects the Crossing Logic
- Bit 6 Selects Rule 17 lighting
- Bit 7 Selects LED compensation

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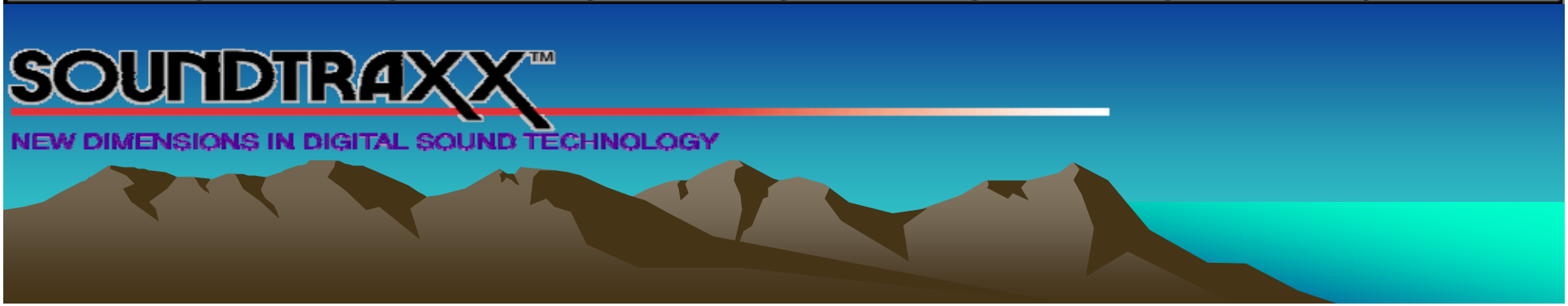
CV 112

Steam:

Bit 7							Bit 0
CAM	AECS	SR1	SR0				AP2

Diesel:

Bit 7							Bit 0
							CP



CV 112
Steam

Traditional

Rod engine

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CV 112
Steam

Articulated
Steam Engine

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Tsunami's Best Kept Secret!! User Adjustable Equalizer

- CV 153= Presets for our speakers
- CV 154 - 160 User adjustable Seven Band Equalizer
- Allows YOU to customize the sound to best fit your speaker and personal taste

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NEW DIMENSIONS IN DIGITAL SOUND TECHNOLOGY

Dynamic Digital Exhaust

- Simulate locomotives on trains with various grades and tonnages

CV's to adjust 177-189

3 most important and effective CVs to adjust are 177, 178 and 188

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NEW DIMENSIONS IN DIGITAL SOUND TECHNOLOGY

Dynamic Digital Exhaust

CV 177 = DDE Throttle Sensitivity

CV 178 = DDE Load Sensitivity

CV 188=DDE Tracking Coefficient
(Motor Efficiency)

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Running a Tsunami K class

Drifting Down Grade

Engines don't
Pull down hill!

Trains ride their
Brakes downhill

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NEW DIMENSIONS IN DIGITAL SOUND TECHNOLOGY

Running a Tsunami K class

Drifting Down Grade

5 CVs to adjust for drifting

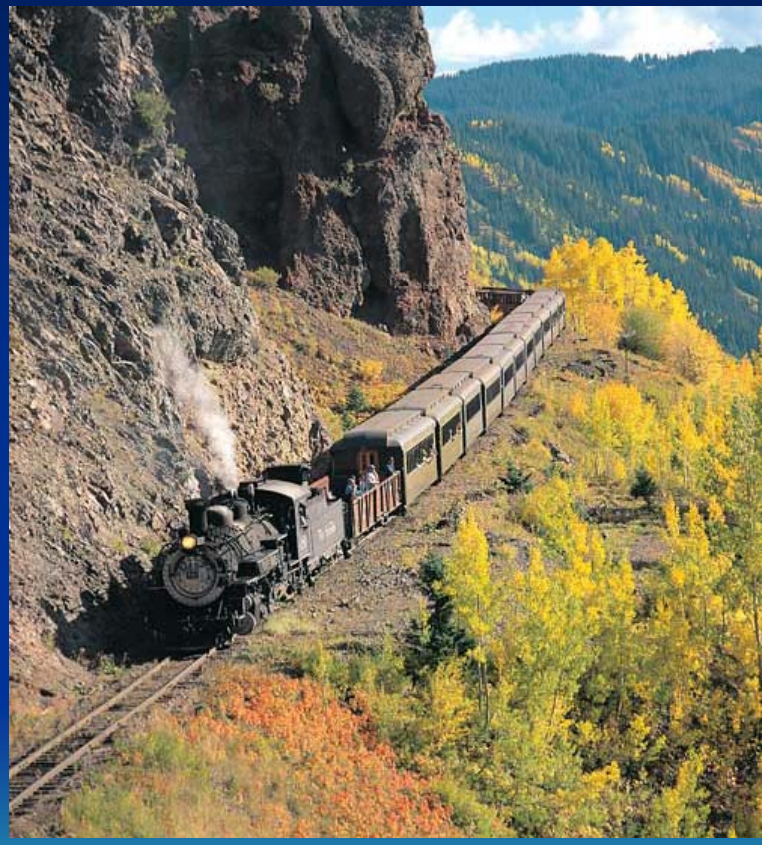
CV 131= 0 (exhaust chuff)

CV134= 40-80 (Blower)

CV135= 50 (Rod Clank)

CV136= 30 (F4)

CV141= 0 (Snifter) Optional



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Running a Tsunami K class

Drifting Down Grade

- Whistle signals (F2&3)
- Turn on the bell (F1)
- Release the brakes (F11)
- Crack the throttle
- Hear the snifter lift
- Running brake test
- Increase throttle

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Diesel Operations

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NEW DIMENSIONS IN DIGITAL SOUND TECHNOLOGY

CV 112
Diesel

- Turns on automatic sounds to free up functions 9 and 10

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CV 116
Diesel

- Sets up notching rate with values between 1 and 16
- Sets up manual notching and interlock bit
- Sets up dynamic brake

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Questions?