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* Bachman OEM Decoder CV Default Value Definitions

* July 28, 2006

* (c) 2006 SoundTraxx

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PRIM_ADDR 0x03 /* CV 1, Primary Address */
VSTART 0x00 /* CV 2, Vstart */
ACCEL_RTE 0x00 /* CV 3, Baseline Acceleration */
BRAKE_RTE 0x00 /* CV 4, Baseline Braking Rate */

MFG_VER_CODE VER_ID0 /* CV 7, Manufactuer Version Code */
MFG_ID_CODE 141 /* CV 8, Manufacturer ID Code */

 /* MOTOR CONTROL CVs */
MTR_PWM_PER 180 /* CV 9, PWM Period */
BEMF_CUTOUT 0 /* CV 10, Back EMF Cutout */
PACKET_TIME_OUT 0 /* CV 11, Packet Time-out Value */

 /* ANALOG MODE CVs */
ALT_PWR_SRC 0x01 /* CV 12, Alternate Power Source */
ANALOG_MODE_FUNC1 0x00 /* CV 13, Analog Mode Functions */
ANALOG_MODE_FUNC2 0x03 /* CV 13, Analog Mode Functions */

 /* SECURITY CVs */
CV_UNLOCK_CODE 0 /* CV 15, CV Unlock Code */
CV_LOCK_ID 0 /* CV 16, CV Lock ID */

 /* EXTENDED OPERATION CVs */
EXT_ADDR_MSB 0xC0 /* CV 17, Extended Address MSB */
EXT_ADDR_LSB 0x03 /* CV 18, Extended Address LSB */
CONSIST_ADDR 0 /* CV 19, Consist Address #1 */

CONSIST_FUNC_GRP1 0 /* CV 21, Consist Function Active */
CONSIST_FUNC_GRP2 0 /* CV 22, Consist FL Func. Active */
CONSIST_ACCEL_RTE 0 /* CV 23, Consist Acceleration */
CONSIST_BRAKE_RTE 0 /* CV 24, Consist Braking Rate */
SPD_TBLE_SEL 0 /* CV 25, Speed Table Select */
CVAR_29 6 /* CV 29, Configuration Byte 1 */
ERR_INFO 04 /* CV 30, Error Information */

 /* FUNCTION MAPPING CVs */
FL_F_MAP 0x01 /* CV 33, FL(f) Output Location */
FL_R_MAP 0x02 /* CV 34, FL(r) Output Location */
F1_MAP 0x08 /* CV 35, F1 Output Location */
F2_MAP 0x04 /* CV 36, F2 Output Location */

F3_MAP 0x10 /* CV 37, F3 Output Location */
F4_MAP 0x20 /* CV 38, F4 Output Location */
F5_MAP 0x02 /* CV 39, F5 Output Location */
F6_MAP 0x04 /* CV 40, F6 Output Location */

F7_MAP 0x10 /* CV 41, F7 Output Location */
F8_MAP 0x20 /* CV 42, F8 Output Location */

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F9_MAP          0x01  /* CV 43, F9 Output Location */
F10_MAP         0x04  /* CV 44, F10 Output Location */
F11_MAP         0x80  /* CV 45, F11 Output Location */
F12_MAP         0x10  /* CV 46, F12 Output Location */

ANALOG_FUNC_CH  0      /* CV 47, Analog Whistle Channel */

                /* LIGHTING CONTROL CVs */
FL_F_LGHT_CONFIG 0x01  /* CV 49, Head Light Control */
FL_R_LGHT_CONFIG 0x01  /* CV 50, Rear Light Control */
FLASH_RATE       0x03  /* CV 59, Lighting Flash Rate */
XING_HOLD_TIME   0x04  /* CV 60, Grade Crossing Hold Time */

                /* MISC. CONTROL */
F11_BRAKE_RATE   0x00  /* CV 61, F11 Braking Rate */
XPNDR_CTRL       0x00  /* CV 62, Transponder Control 1 */

                /* ANALOG MODE MOTOR CONTROL */
ANA_MODE_VSTART  20    /* CV 63, Starting Voltage */
ANA_MODE_VMTRMAX 180   /* CV 64, Maximum Motor Voltage */

                /* SPEED TABLE */
KICK_START       0      /* CV 65, Kick Start */
FWD_TRIM         0x80  /* CV 66, Forward Trim */
SPD_TBL_0        9      /* CV 67, Speed Table */
SPD_TBL_1        18    /* CV 68 */
SPD_TBL_2        27    /* CV 69 */
SPD_TBL_3        36    /* CV 70 */
SPD_TBL_4        45    /* CV 71 */
SPD_TBL_5        55    /* CV 72 */
SPD_TBL_6        64    /* CV 73 */
SPD_TBL_7        73    /* CV 74 */
SPD_TBL_8        82    /* CV 75 */
SPD_TBL_9        91    /* CV 76 */
SPD_TBL_10       100   /* CV 77 */
SPD_TBL_11       109   /* CV 78 */
SPD_TBL_12       118   /* CV 79 */
SPD_TBL_13       127   /* CV 80 */
SPD_TBL_14       137   /* CV 81 */
SPD_TBL_15       146   /* CV 82 */
SPD_TBL_16       155   /* CV 83 */
SPD_TBL_17       164   /* CV 84 */
SPD_TBL_18       173   /* CV 85 */
SPD_TBL_19       182   /* CV 86 */
SPD_TBL_20       191   /* CV 87 */
SPD_TBL_21       200   /* CV 88 */
SPD_TBL_22       209   /* CV 89 */
SPD_TBL_23       219   /* CV 90 */
SPD_TBL_24       228   /* CV 91 */
SPD_TBL_25       237   /* CV 92 */
SPD_TBL_26       246   /* CV 93 */
SPD_TBL_27       255   /* CV 94 */
REV_TRIM         0x80  /* CV 95, Reverse Trim */

                /* USER INFORMATION */
USER_ID_1        04    /* CV 105, User Identifier #1 */

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USER_ID_2          12      /* CV 106, User Identifier #2      */

                                /* SOUND CONTROL                    */
SND_CONFIG_1      1      /* CV 112, Sound Configuration 1  */
QUIET_MODE_CTRL   0      /* CV 113, Quiet Mode Control 2   */
BELL_RING_RATE    04     /* CV 114, Bell Ring Rate         */
WHISTLE_SEL       0      /* CV 115, Whistle Select         */
EXHAUST_CTRL      80     /* CV 116, Exhaust Control        */
MASTER_VOL        255    /* CV 128, Master Volume Control  */
MIXER_CH0         225    /* CV 129, whistle volume         */
MIXER_CH1         128    /* CV 130, bell volume            */
MIXER_CH2         192    /* CV 131, chuff volume           */
MIXER_CH3         48     /* CV 132, airpump volume         */
MIXER_CH4         32     /* CV 133, dynamo volume         */
MIXER_CH6         32     /* CV 135, rod clank volume       */
MIXER_CH7         128    /* CV 136, steam hiss volume     */
MIXER_CH8         128    /* CV 137, coupler volume         */
MIXER_CH10        128    /* CV 139, brake squeal volume    */
MIXER_CH11        64     /* CV 140, brake release volume   */
MIXER_CH12        64     /* CV 141, snifter valve volume   */
MIXER_CH13        64     /* CV 142, pwr reverse volume     */
MIXER_CH17        96     /* CV 146, water stop volume      */

                                /* DYNAMIC DIGITAL EXHAUST         */
DDE_T_GAIN        10     /* CV 177, DDE Throttle Sensitivity */
DDE_L_GAIN        32     /* CV 178, DDE Load Sensitivity    */
DDE_ATTACK        10     /* CV 179, DDE Attack Time Constant */
DDE_RELEASE       10     /* CV 180, DDE Decay Time Constant */
DDE_EXH_LO_LMT    255    /* CV 181, DDE Exh Lower Volume Lmt */
DDE_EXH_HI_LMT    255    /* CV 182, DDE Exh Upper Volume Lmt */
DDE_ROD_LO_LMT    255    /* CV 183, DDE Rod Lower Volume Lmt */
DDE_ROD_HI_LMT    255    /* CV 184, DDE Rod Upper Volume Lmt */
DDE_OFFSET        42     /* CV 185, DDE Filter Initial Freq */
DDE_GAIN          64     /* CV 186, DDE Filter Slope       */
DDE_DAMPING       255    /* CV 187, DDE Filter Damping     */
DDE_TRACKING      102    /* CV 188, DDE BEMF Trking Constant */
DDE_TRKING_OFFSET 0      /* CV 189, DDE BEMF Tracking Offset */

                                /* AUTOMATIC SOUND CONTROL         */
V_BELL_ON         15     /* CV 193, Bell On Voltage         */
V_BELL_OFF        19     /* CV 194, Bell Off Voltage        */
WH_SENSTVTY       4      /* CV 195, Xing Whistle Sensitivity */
BRK_SENSTVTY      3      /* CV 196, Brake Squeal Sensitivity */
ANA_AUTO_SND_EN   22     /* CV 197, Analog Auto Snd Enable 1 */
DCC_AUTO_SND_EN   8      /* CV 198, DCC Auto Snd Enable 1   */

                                /* BACK EMF CONTROL                */
KP                25     /* CV 209, PID Kp Coefficient      */
KI                20     /* CV 210, PID Ki Coefficient      */
KD                0      /* CV 211, PID Kd Coefficient      */
BEMF_INTENSITY    255    /* CV 212, BEMF Feedback Intensity */
BEMF_SAMPLE_PER   15     /* CV 213, BEMF Sample Period      */
BEMF_APERTURE_TIME 15    /* CV 214, BEMF Sample Window Size */
BEMF_GAIN         0      /* CV 215, BEMF Gain Coefficient   */

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