

## Common CVs

CV 1: Short address  
CV 2: Vstart  
CV 3: Acceleration  
CV 4: Deceleration  
CV 5: Vhigh  
CV 6: Vmid

CV 7: Mfg version  
CV 8: Mfg ID (list below)

CV 9: Total PVM  
CV10: BEMF Cutout  
CV11: Packet timeout  
CV13: Alternate mode F1-F8  
CV14: Alternate mode F9-F12, FL

CV15-16: Decoder lock  
CV17-18: Long address

CV19: Consist address  
CV21: Consist active F1-F8  
CV22: Consist active F9-12, FL  
CV23: Acceleration adjust  
CV24: Deceleration adjust

CV29: Decoder configuration

CV30: Error indicator

CV65: Kick start  
CV66: Forward trim  
CV67-94: Speed table  
CV95: Reverse trim

CV105-106: User ID

## Manufacturer IDs (CV 8)

1: CML Electronics Limited  
2: Train Technology  
11: NCE Corporation  
12: Wangrow  
13: Public Domain & Do-It-Yourself Decoders  
14: PSI - Dynatrol  
15: Ramfixx Technologies (Wangrow)  
17: Advanced IC Engineering, Inc.  
18: JMRI  
19: AMW  
20: T4T - Technology for Trains GmbH  
21: Kreischer Datentechnik  
22: KAM Industries  
23: S Helper Service  
24: MoBaTron.de  
25: Team Digital, LLC  
26: MBTronik - PiN GITmBH  
27: MTH Electric Trains, Inc.  
28: Heljan A/S  
29: Mistral Train Models  
30: Digsight  
31: Brelec  
32: Regal Way Co. Ltd

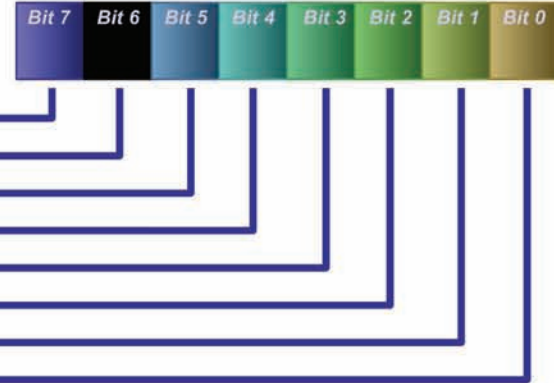
34: Aristo-Craft  
35: Elektronik & Modell Produktion  
36: DCCConcepts  
37: NAC Services, Inc.  
38: Broadway Limited Imports, LLC  
39: Educational Computer, Inc (DCCdevices.com)  
40: KATO Precision Models  
41: Passmann Modellbahnzubehoer  
42: Digirails  
43: Nginereng  
44: SPROG-DCC  
45: ANE Model Co., LTD.  
46: GFB Designs  
47: Capecom  
48: Hornby Hobbies Ltd.  
49: Joka Electronic  
50: N & Q Electronics  
51: DCC Supplies, Ltd  
52: Krois-Modell  
53: Rautenhaus Digital  
54: TCH Technology  
62: Tams Elektronik GmbH

66: Railnet Solutions, LLC  
68: MAWE Elektronik  
71: New York Byano Limited  
73: The Electric Railroad Company  
85: Uhlenbrock Elektronik GmbH  
87: RR-CirKits  
95: Sanda Kan Industrial (1981) Ltd.  
97: Doehler & Haas  
99: Lenz Elektronik GmbH  
101: Bachmann Trains  
103: Nagasue System Design Office  
105: Computer Dialysis France  
109: Viessmann Modellspielwaren GmbH  
111: Haber & Koenig Electronics GmbH  
113: QS Industries  
115: Dietz Modellbahntechnik  
117: cT Elektronik  
119: W. S. Ataras Engineering  
123: Massoth Elektronik, GmbH  
125: ProfiLok Modellbahntechnik GmbH  
127: Atlas Model Railroad Co., Inc.  
129: Digitrax  
131: Trix Modelleisenbahn

## CV Bit Mapping

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
128	64	32	16	8	4	2	1

## CV 29



# DCC Shortcuts Card

PRINT OUT AND KEEP  
NEAR DCC SYSTEM

## Model Railroad Hobbyist magazine - Issue 4 bonus

Resetting decoder to factory settings (use programming track):

- Set CV 8 to 8: Digitrax, ESU, SoundTraxx Tsunami
- Set CV 8 to 33: Lenz
- Set CV 30 to 2: NCE, SoundTraxx DSD, TCS

Then remove loco from track and put back on track (or power cycle the layout).

### LOCO DOESN'T MOVE?

- Put loco on programming track
- Set CV19 to zero and try again
- Still doesn't move? Then ...
- Set CV29 to 2 and set CV1 to value 1-99
- Assign throttle to value in CV1
- Still doesn't move? Then ...
- Try resetting decoder to factory settings
- Still doesn't move? Then ...
- Time to send the decoder in for repair

Accessory decoder (**OFF**=mobile on=accessory)

Reserved (not used)

Addressing digits (off=2-digit **ON**=4-digit)

Speed table (**OFF**=none on=use speed table)

DC sensing (**OFF**=none on=run on DC)

Speed steps (off=14 **ON**=28/128)

Reverse direction (**OFF**=normal on=reverse)

### GETTING OPTIMUM SLOW SPEED PERFORMANCE

- Lubricate and break in your loco. Do the following while the loco is still warm:
- Make sure speed step table in CV67-94 is linear with step 1 = 0 (CV67) and step 28 = 255 (CV94).
  - Put the decoder in 28/128 mode and speed table on (50 in CV29). Set CV3, CV4, CV65 all to zero.
  - Run the loco, then determine the slowest speed step at which it will keep running.
  - Put the speed step value in Vstart (CV2).
  - Set the decoder to speed table off (34 in CV29).
  - Turn the throttle to speed step 1.
  - Play with kick start to get the loco to move consistently at speed step 1. Tweak CV2 up if needed.
  - Set CV 5 to desired top speed (128-255 common)
  - Set CV 6 to desired mid-speed (40-64 common)
  - Now adjust acceleration, deceleration, torque compensation, dithering, or BEMF as desired.

### MRH DCC SPONSORING ADVERTISER URLS (alphabetical):

**Accu-Lites** [acculites.com](http://acculites.com)  
**DCC Installed** [dccinstalled.com](http://dccinstalled.com)  
**Digitrax** [digitrax.com](http://digitrax.com)  
**Litchfield Station** [litchfieldstation.com](http://litchfieldstation.com)  
**Tonys Trains** [tonystrains.com](http://tonystrains.com)  
**Traintek** [traintekllc.com](http://traintekllc.com)

132: ZTC Controls Ltd.  
133: Intelligent Command Control  
135: CVP Products  
139: RealRail Effects  
141: Throttle-Up (Soundtraxx)  
143: Model Rectifier Corp.  
145: Zimo Elektronik  
147: Umelec Ing. Buero  
149: Rock Junction Controls  
151: Electronic Solutions Ulm GmbH & Co KG  
153: Train Control Systems  
155: Gebr. Fleischmann GmbH & Co.  
157: Kuehn Ing.  
159: LGB (Ernst Paul Lehmann Patentwerk)  
161: Modelleisenbahn GmbH (formerly Roco)  
163: WP Railshops  
165: Model Electronic Railway Group  
170: AuroTrains  
173: Arnold - Rivarossi  
186: br /AWA Modellspielwaren GmbH & Co.  
204: Con-Com GmbH  
225: Elproma Electronics Poland  
238: NMRA reserved