

Appendix

22. Appendix

22.1. Programming Long Addresses

As described in chapter 9.2. the long address is split into two CVs. The byte with the higher value of the address is in CV 17. This byte determines the range in which the extended address will be located. For instance, if you enter the value 192 in CV 17 then the extended address may be between 0 and 255. If 193 is written into CV 17 then the extended address will be between 256 and 511. You can continue this up to addresses with values of 9984 and 10239. The possible values are shown in figure 35.

22.1.1. Write address

To program a long address you first of all need to calculate the values for CV 17 and CV 18 and then program it. Please note that it is not possible to program addresses via the programming mode "POM".

To program the long address proceed as follows:

- First you determine the desired address, for instance 4007.
- Then you look for the appropriate address range in Fig. 35. The value to be entered into CV 17 can be found in the column on the right. In our example, it is 207.

The value for CV 18 is established as follows:

	desired address		4007
minus	first address in the address range -		3840
	=====		=====
equals	value for CV 18		167

- 167 is therefore the value to be entered in CV 18. Thus you decoder is now programmed to address 4007.

22.1.2. Read out address

If you wish to read out a loco address please read the values of CV 17 and CV 18 one after another and proceed then in reverse order:

Let's assume you have read:

CV 17 = 196; CV 18 = 147. Look up the corresponding address range in Fig. 23. The first possible address within this range is 1024. Then you have to add the value from CV 18 and you arrive at the locomotive address:

$$\begin{array}{r}
 1024 \\
 + 147 \\
 \hline
 = 1171
 \end{array}$$

Address range			Address range			Address range		
from	to	CV17	from	to	CV17	from	to	CV17
0	255	192	3584	3839	206	7168	7423	220
256	511	193	3840	4095	207	7424	7679	221
512	767	194	4096	4351	208	7680	7935	222
768	1023	195	4352	4607	209	7936	8191	223
1024	1279	196	4608	4863	210	8192	8447	224
1280	1535	197	4864	5119	211	8448	8703	225
1536	1791	198	5120	5375	212	8704	8959	226
1792	2047	199	5376	5631	213	8960	9215	227
2048	2303	200	5632	5887	214	9216	9471	228
2304	2559	201	5888	6143	215	9472	9727	229
2560	2815	202	6144	6399	216	9728	9983	230
2816	3071	203	6400	6655	217	9984	10239	231
3072	3327	204	6656	6911	218			
3328	3583	205	6912	7167	219			

Figure 35: Chart of extended loco addresses

Note:

Check CV 29 is enabled for 4 digit addressing

29	Configuration register	This register contains important information, some of which are only relevant for DCC operation.		
		Bit	Function	Value
		0	Normal direction of travel	0
			Reversed direction of travel	1
		1	14 speed steps DCC	0
			28 or 128 speed steps DCC	2
		2	Disable analog operation	0
			Enable analog operation	4
3	Disable RailCom®	0		
	Enable RailCom®	8		
4	Speed curve through CV 2, 5, 6	0		
	Speed curve through CV 67 - 94	16		
5	Short addresses (CV 1) in DCC mode	0		
	Long addresses (CV 17 + 18) in DCC mode	32		