

PIKO ML4000 Diesel Locomotive Lighting board instructions and CV table (North American version)

Introduction:

The ML4000 locomotive has an additional controller for the lighting functions. This controller, referred to as the "lighting board" or "LightController" works like a SUSI function decoder and can be configured via CV programming. The CV table below provides information for programming. The numbering of the outputs is independent of the numbering of the PluX22 locomotive decoder. The lighting board can be programmed using a programming track like any other DCC decoder. Since most of the CVs on LightController are higher than 999, most popular DCC systems can't program the majority of the CVs. The easiest way to program the CVs is using Java Model Railroad Interface (JMRI). Their decoder profile for the ML4000 includes all CVs on both the decoder and the LightController. The LightController uses block-by-block addressing to allow for more CVs to be available for fine control of the function outputs. Depending on which bank (0 – 9) the function is to be programmed in, CV 1021 must be programmed with the value corresponding to the number of the bank before CV programming! For example: To program a CV in bank 4, set CV 1021 to a value of 4 to allow access to that bank. The LightController therefore uses CVs 980 – 1019 from the "CV Slave 3" column TEN times! The CVs from the "CV Slave 1" and "CV Slave 2" columns are usually used by SUSI sound modules. They are not being used in the ML4000.

CAUTION: FOR DCC EXPERTS ONLY!!!

Adjusting CVs on the lighting board requires knowledge of bit-by-bit programming. DO NOT attempt to adjust CVs without understanding their function / use FULLY.

Tips for using the CV table:

1: The yellow highlighted cells in columns 5 – 12 are bits that are set to on by default. Their values (top row, columns 5 – 12 in parenthesis) add together to the default value of the CV. For example (see F0: Front headlight below): for CV 982 in bank 0, bit 7 (128) and bit 0 (1) are on. 128 + 1 = 129, which is the default value for the CV.

2: Like any other DCC decoder, the LightController has its own reset function. To do a factory reset, set CV 1021 to a value of 0 to access bank 0. Then set CV 1019 to a value of 255. This will reset all CVs to their default values as shown in the CV table

3: Two of the most important CVs have had their rows highlighted with a light grey. These are CV 1019 (LightController reset), and CV 1021 (CV Banking). Other grey or orange highlighted cells are usually to differentiate CVs with unique functions that are sandwiched between other larger blocks of CVs.

CV Table:

Slave CV #1	Slave CV #2	Slave CV #3	Bank (1021)	Bit7 (128)	Bit6 (64)	Bit5 (32)	Bit4 (16)	Bit3 (8)	Bit2 (4)	Bit1 (2)	Bit0 (1)	Description	Default	Output description (Default mapping)
897										x	x	Slave Number 1-3	3	
898												Reserved	0	
899												Reserved	0	
900	940	980	0	ID	ID	ID	ID	ID	ID	ID	ID	Manufacturer ID NMRA	162	
901	941	981	0								22 PWM	Manufacturer Subversion	2	
902	942	982	0	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 1 Function Forward On	129	F0: Front headlight
903	943	983	0	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 1 Function Forward On	0	
904	944	984	0	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 1 Function Forward On	0	
905	945	985	0	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 1 Function Forward On	0	
906	946	986	0	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 1 Function Backwards On	0	
907	947	987	0	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 1 Function Backwards On	0	
908	948	988	0	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 1 Function Backwards On	0	
909	949	989	0	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 1 Function Backwards On	0	
910	950	990	0	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 1 Function Forward Off	0	
911	951	991	0	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 1 Function Forward Off	8	
912	952	992	0	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 1 Function Forward Off	0	
913	953	993	0	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 1 Function Forward Off	0	
914	954	994	0	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 1 Function Backwards Off	0	
915	955	995	0	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 1 Function Backwards Off	0	
916	956	996	0	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 1 Function Backwards Off	0	
917	957	997	0	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 1 Function Backwards Off	0	
918	958	998	0					PWM2	Effect	Fade out	Fade in	Output 1 Effect Flags	11	F7: Front headlight dimming
919	959	999	0	-	-	0	0	0	1	1	1	Output 1 Effect Number / Function.#	7	
920	960	1000	0	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 2 Function Forward On	0	Not used
921	961	1001	0	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 2 Function Forward On	0	
922	962	1002	0	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 2 Function Forward On	0	
923	963	1003	0	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 2 Function Forward On	0	
924	964	1004	0	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 2 Function Backwards On	0	
925	965	1005	0	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 2 Function Backwards On	0	
926	966	1006	0	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 2 Function Backwards On	0	
927	967	1007	0	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 2 Function Backwards On	0	
928	968	1008	0	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 2 Function Forward Off	0	
929	969	1009	0	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 2 Function Forward Off	0	
930	970	1010	0	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 2 Function Forward Off	0	
931	971	1011	0	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 2 Function Forward Off	0	
932	972	1012	0	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 2 Function Backwards Off	0	

Slave CV #1	Slave CV #2	Slave CV #3	Bank (1021)	Bit7 (128)	Bit6 (64)	Bit5 (32)	Bit4 (16)	Bit3 (8)	Bit2 (4)	Bit1 (2)	Bit0 (1)	Description	Default	Output description	
933	973	1013	0	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 2 Function Backwards Off	0		
934	974	1014	0	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 2 Function Backwards Off	0		
935	975	1015	0	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 2 Function Backwards Off	0		
936	976	1016	0					PWM2	Effect	Fade out	Fade in	Output 2 Effect Flags	0		
937	977	1017	0									Output 2 Effect Number	0		
938	978	1018	0	Test Mode	Analog DC Priority	Sequencer 1						Direction over Vist or Vsoll	Module Configuration 1	96	
939	979	1019	0									Module Config. 2, if 0xFF, then Re-Initialize	0	LightController reset (set to 255 to reset)	
900	940	980	1									Manufacturer ID NMRA	0		
901	941	981	1								HW1	Manufacturer Subversion	1		
902	942	982	1	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 3 Function Forward On	0	F10: Front Gyalright 1	
903	943	983	1	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 3 Function Forward On	4		
904	944	984	1	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 3 Function Forward On	0		
905	945	985	1	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 3 Function Forward On	0		
906	946	986	1	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 3 Function Backwards On	0		
907	947	987	1	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 3 Function Backwards On	0		
908	948	988	1	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 3 Function Backwards On	0		
909	949	989	1	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 3 Function Backwards On	0		
910	950	990	1	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 3 Function Forward Off	0		
911	951	991	1	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 3 Function Forward Off	8		
912	952	992	1	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 3 Function Forward Off	0		
913	953	993	1	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 3 Function Forward Off	0		
914	954	994	1	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 3 Function Backwards Off	0		
915	955	995	1	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 3 Function Backwards Off	0		
916	956	996	1	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 3 Function Backwards Off	0		
917	957	997	1	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 3 Function Backwards Off	0		
918	958	998	1					PWM2	Effect	Fade out	Fade in	Output 3 Effect Flags	7		
919	959	999	1									Output 3 Effect Number	0		
920	960	1000	1	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 4 Function Forward On	0	F10: Front Gyalright 2	
921	961	1001	1	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 4 Function Forward On	4		
922	962	1002	1	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 4 Function Forward On	0		
923	963	1003	1	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 4 Function Forward On	0		
924	964	1004	1	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 4 Function Backwards On	0		
925	965	1005	1	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 4 Function Backwards On	0		
926	966	1006	1	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 4 Function Backwards On	0		
927	967	1007	1	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 4 Function Backwards On	0		
928	968	1008	1	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 4 Function Forward Off	0		
929	969	1009	1	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 4 Function Forward Off	8		
930	970	1010	1	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 4 Function Forward Off	0		
931	971	1011	1	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 4 Function Forward Off	0		
932	972	1012	1	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 4 Function Backwards Off	0		
933	973	1013	1	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 4 Function Backwards Off	0		
934	974	1014	1	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 4 Function Backwards Off	0		
935	975	1015	1	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 4 Function Backwards Off	0		
936	976	1016	1					PWM2	Effect	Fade out	Fade in	Output 4 Effect Flags	7		
937	977	1017	1									Output 4 Effect Number	0		
938	978	1018	1	Output 8	Output 7	Output 6	Output 5	Output 4	Output 3	Output 2	Output 1	Analog Function Forward	29		
939	979	1019	1	Output 8	Output 7	Output 6	Output 5	Output 4	Output 3	Output 2	Output 1	Analog Function Backwards	80		
900	940	980	2									PIKO Product-SubID			
901	941	981	2									PIKO Product-ID Byte0			
902	942	982	2	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 5 Function Forward On	0	Desk light F25	
903	943	983	2	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 5 Function Forward On	0		
904	944	984	2	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 5 Function Forward On	0		
905	945	985	2	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 5 Function Forward On	2		
906	946	986	2	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 5 Function Backwards On	0		
907	947	987	2	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 5 Function Backwards On	0		
908	948	988	2	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 5 Function Backwards On	0		
909	949	989	2	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 5 Function Backwards On	2		
910	950	990	2	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 5 Function Forward Off	0		
911	951	991	2	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 5 Function Forward Off	0		
912	952	992	2	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 5 Function Forward Off	0		
913	953	993	2	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 5 Function Forward Off	0		
914	954	994	2	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 5 Function Backwards Off	0		
915	955	995	2	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 5 Function Backwards Off	0		
916	956	996	2	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 5 Function Backwards Off	0		
917	957	997	2	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 5 Function Backwards Off	0		
918	958	998	2					PWM2	Effect	Fade out	Fade in	Output 5 Effect Flags	3		
919	959	999	2									Output 5 Effect Number	0		
920	960	1000	2	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 6 Function Forward On	0	Cab light F13	
921	961	1001	2	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 6 Function Forward On	32		
922	962	1002	2	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 6 Function Forward On	0		
923	963	1003	2	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 6 Function Forward On	0		
924	964	1004	2	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 6 Function Backwards On	0		
925	965	1005	2	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 6 Function Backwards On	32		
926	966	1006	2	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 6 Function Backwards On	0		
927	967	1007	2	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 6 Function Backwards On	0		
928	968	1008	2	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 6 Function Forward Off	0		
929	969	1009	2	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 6 Function Forward Off	0		
930	970	1010	2	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 6 Function Forward Off	0		
931	971	1011	2	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 6 Function Forward Off	0		
932	972	1012	2	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 6 Function Backwards Off	0		
933	973	1013	2	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 6 Function Backwards Off	0		
934	974	1014	2	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 6 Function Backwards Off	0		

Slave CV #1	Slave CV #2	Slave CV #3	Bank (1021)	Bit7 (128)	Bit6 (64)	Bit5 (32)	Bit4 (16)	Bit3 (8)	Bit2 (4)	Bit1 (2)	Bit0 (1)	Description	Default	Output description
935	975	1015	2	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 6 Function Backwards Off	0	
936	976	1016	2					PWM2	Effect	Fade out	Fade in	Output 6 Effect Flags	3	
937	977	1017	2									Output 6 Effect Number	0	
938	978	1018	2	Output 16	Output 15	Output 14	Output 13	Output 12	Output 11	Output 10	Output 9	Analog Function Forward	140	
939	979	1019	2	Output 16	Output 15	Output 14	Output 13	Output 12	Output 11	Output 10	Output 9	Analog Function Backwards	48	
900	940	980	3									PIKO Product-ID Byte1		
901	941	981	3									PIKO Product-ID Byte2		
902	942	982	3	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 7 Function Forward On	0	Red class lights (auto sequencer)
903	943	983	3	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 7 Function Forward On	0	
904	944	984	3	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 7 Function Forward On	0	
905	945	985	3	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 7 Function Forward On	0	
906	946	986	3	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 7 Function Backwards On	0	
907	947	987	3	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 7 Function Backwards On	0	
908	948	988	3	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 7 Function Backwards On	0	
909	949	989	3	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 7 Function Backwards On	0	
910	950	990	3	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 7 Function Forward Off	0	
911	951	991	3	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 7 Function Forward Off	0	
912	952	992	3	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 7 Function Forward Off	0	
913	953	993	3	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 7 Function Forward Off	0	
914	954	994	3	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 7 Function Backwards Off	0	
915	955	995	3	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 7 Function Backwards Off	8	
916	956	996	3	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 7 Function Backwards Off	0	
917	957	997	3	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 7 Function Backwards Off	0	
918	958	998	3					PWM2	Effect	Fade out	Fade in	Output 7 Effect Flags	3	
919	959	999	3									Output 7 Effect Number	0	
920	960	1000	3	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 8 Function Forward On	0	White class lights (auto sequencer)
921	961	1001	3	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 8 Function Forward On	0	
922	962	1002	3	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 8 Function Forward On	0	
923	963	1003	3	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 8 Function Forward On	0	
924	964	1004	3	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 8 Function Backwards On	0	
925	965	1005	3	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 8 Function Backwards On	0	
926	966	1006	3	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 8 Function Backwards On	0	
927	967	1007	3	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 8 Function Backwards On	0	
928	968	1008	3	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 8 Function Forward Off	0	
929	969	1009	3	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 8 Function Forward Off	8	
930	970	1010	3	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 8 Function Forward Off	0	
931	971	1011	3	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 8 Function Forward Off	0	
932	972	1012	3	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 8 Function Backwards Off	0	
933	973	1013	3	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 8 Function Backwards Off	0	
934	974	1014	3	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 8 Function Backwards Off	0	
935	975	1015	3	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 8 Function Backwards Off	0	
936	976	1016	3					PWM2	Effect	Fade out	Fade in	Output 8 Effect Flags	3	
937	977	1017	3									Output 8 Effect Number	0	
938	978	1018	3			Output 22	Output 21	Output 20	Output 19	Output 18	Output 17	Analog Function Forward	0	
939	979	1019	3			Output 22	Output 21	Output 20	Output 19	Output 18	Output 17	Analog Function Backwards	16	
900	940	980	4									LC Firmware_Minor		
901	941	981	4									LC Firmware_Major		
902	942	982	4	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 9 Function Forward On	0	Green class lights (auto sequencer)
903	943	983	4	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 9 Function Forward On	0	
904	944	984	4	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 9 Function Forward On	0	
905	945	985	4	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 9 Function Forward On	0	
906	946	986	4	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 9 Function Backwards On	0	
907	947	987	4	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 9 Function Backwards On	0	
908	948	988	4	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 9 Function Backwards On	0	
909	949	989	4	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 9 Function Backwards On	0	
910	950	990	4	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 9 Function Forward Off	0	
911	951	991	4	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 9 Function Forward Off	8	
912	952	992	4	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 9 Function Forward Off	0	
913	953	993	4	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 9 Function Forward Off	0	
914	954	994	4	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 9 Function Backwards Off	0	
915	955	995	4	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 9 Function Backwards Off	0	
916	956	996	4	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 9 Function Backwards Off	0	
917	957	997	4	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 9 Function Backwards Off	0	
918	958	998	4					PWM2	Effect	Fade out	Fade in	Output 9 Effect Flags	3	
919	959	999	4									Output 9 Effect Number	0	
920	960	1000	4	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 10 Function Forward On	0	Not used for SP as-delivered
921	961	1001	4	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 10 Function Forward On	0	
922	962	1002	4	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 10 Function Forward On	0	
923	963	1003	4	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 10 Function Forward On	0	
924	964	1004	4	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 10 Function Backwards On	0	
925	965	1005	4	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 10 Function Backwards On	0	
926	966	1006	4	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 10 Function Backwards On	0	
927	967	1007	4	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 10 Function Backwards On	0	
928	968	1008	4	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 10 Function Forward Off	0	
929	969	1009	4	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 10 Function Forward Off	0	
930	970	1010	4	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 10 Function Forward Off	0	
931	971	1011	4	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 10 Function Forward Off	0	
932	972	1012	4	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 10 Function Backwards Off	0	

Slave CV #1	Slave CV #2	Slave CV #3	Bank (1021)	Bit7 (128)	Bit6 (64)	Bit5 (32)	Bit4 (16)	Bit3 (8)	Bit2 (4)	Bit1 (2)	Bit0 (1)	Description	Default	Output description
933	973	1013	4	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 10 Function Backwards Off	0	
934	974	1014	4	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 10 Function Backwards Off	0	
935	975	1015	4	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 10 Function Backwards Off	0	
936	976	1016	4					PWM2	Effect	Fade out	Fade in	Output 10 Effect Flags	3	
937	977	1017	4									Output 10 Effect Number	0	
938	978	1018	4	S_inv	S_on		F	F	F	F	F	Output 17 Function Forward an	0	Not used on SP as-delivered
939	979	1019	4	S_inv	S_on		F	F	F	F	F	Output 17 Function Backwards an	0	
900	940	980	5	S_inv	S_on		F	F	F	F	F	Output 17 Function Forward off	0	
901	941	981	5	S_inv	S_on		F	F	F	F	F	Output 17 Function Backwards off	0	
902	942	982	5	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 11 Function Forward On	0	Not used on SP as-delivered
903	943	983	5	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 11 Function Forward On	0	
904	944	984	5	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 11 Function Forward On	0	
905	945	985	5	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 11 Function Forward On	0	
906	946	986	5	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 11 Function Backwards On	0	
907	947	987	5	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 11 Function Backwards On	0	
908	948	988	5	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 11 Function Backwards On	0	
909	949	989	5	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 11 Function Backwards On	0	
910	950	990	5	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 11 Function Forward Off	0	
911	951	991	5	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 11 Function Forward Off	0	
912	952	992	5	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 11 Function Forward Off	0	
913	953	993	5	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 11 Function Forward Off	0	
914	954	994	5	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 11 Function Backwards Off	0	
915	955	995	5	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 11 Function Backwards Off	0	
916	956	996	5	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 11 Function Backwards Off	0	
917	957	997	5	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 11 Function Backwards Off	0	
918	958	998	5					PWM2	Effect	Fade out	Fade in	Output 11 Effect Flags	3	
919	959	999	5									Output 11 Effect Number	0	
920	960	1000	5	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 12 Function Forward On	0	Not used on SP as-delivered
921	961	1001	5	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 12 Function Forward On	0	
922	962	1002	5	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 12 Function Forward On	0	
923	963	1003	5	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 12 Function Forward On	0	
924	964	1004	5	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 12 Function Backwards On	0	
925	965	1005	5	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 12 Function Backwards On	0	
926	966	1006	5	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 12 Function Backwards On	0	
927	967	1007	5	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 12 Function Backwards On	0	
928	968	1008	5	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 12 Function Forward Off	0	
929	969	1009	5	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 12 Function Forward Off	0	
930	970	1010	5	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 12 Function Forward Off	0	
931	971	1011	5	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 12 Function Forward Off	0	
932	972	1012	5	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 12 Function Backwards Off	0	
933	973	1013	5	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 12 Function Backwards Off	0	
934	974	1014	5	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 12 Function Backwards Off	0	
935	975	1015	5	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 12 Function Backwards Off	0	
936	976	1016	5					PWM2	Effect	Fade out	Fade in	Output 12 Effect Flags	3	
937	977	1017	5									Output 12 Effect Number	0	
938	978	1018	5	S_inv	S_on		F	F	F	F	F	Output 18 Function Forward an	0	Not used on SP as-delivered
939	979	1019	5	S_inv	S_on		F	F	F	F	F	Output 18 Function Backwards an	0	
900	940	980	6	S_inv	S_on		F	F	F	F	F	Output 18 Function Forward off	0	
901	941	981	6	S_inv	S_on		F	F	F	F	F	Output 18 Function Backwards off	0	
902	942	982	6	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 13 Function Forward On	0	Not used on SP as-delivered
903	943	983	6	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 13 Function Forward On	0	
904	944	984	6	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 13 Function Forward On	0	
905	945	985	6	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 13 Function Forward On	0	
906	946	986	6	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 13 Function Backwards On	0	
907	947	987	6	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 13 Function Backwards On	0	
908	948	988	6	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 13 Function Backwards On	0	
909	949	989	6	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 13 Function Backwards On	0	
910	950	990	6	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 13 Function Forward Off	0	
911	951	991	6	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 13 Function Forward Off	0	
912	952	992	6	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 13 Function Forward Off	0	
913	953	993	6	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 13 Function Forward Off	0	
914	954	994	6	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 13 Function Backwards Off	0	
915	955	995	6	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 13 Function Backwards Off	0	
916	956	996	6	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 13 Function Backwards Off	0	
917	957	997	6	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 13 Function Backwards Off	0	
918	958	998	6					PWM2	Effect	Fade out	Fade in	Output 13 Effect Flags	3	
919	959	999	6									Output 13 Effect Number	0	
920	960	1000	6	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 14 Function Forward On	0	Not used on SP as-delivered
921	961	1001	6	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 14 Function Forward On	0	
922	962	1002	6	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 14 Function Forward On	0	
923	963	1003	6	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 14 Function Forward On	0	
924	964	1004	6	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 14 Function Backwards On	0	
925	965	1005	6	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 14 Function Backwards On	0	
926	966	1006	6	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 14 Function Backwards On	0	
927	967	1007	6	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 14 Function Backwards On	0	
928	968	1008	6	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 14 Function Forward Off	0	
929	969	1009	6	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 14 Function Forward Off	0	
930	970	1010	6	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 14 Function Forward Off	0	
931	971	1011	6	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 14 Function Forward Off	0	
932	972	1012	6	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 14 Function Backwards Off	0	

Slave CV #1	Slave CV #2	Slave CV #3	Bank (1021)	Bit7 (128)	Bit6 (64)	Bit5 (32)	Bit4 (16)	Bit3 (8)	Bit2 (4)	Bit1 (2)	Bit0 (1)	Description	Default	Output description
933	973	1013	6	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 14 Function Backwards Off	0	
934	974	1014	5	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 14 Function Backwards Off	0	
935	975	1015	6	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 14 Function Backwards Off	0	
936	976	1016	6					PWM2	Effect	Fade out	Fade in	Output 14 Effect Flags	3	
937	977	1017	6									Output 14 Effect Number	0	
938	978	1018	6	S_inv	S_on		F	F	F	F	F	Output 19 Function Forward	78	F14: Engine room lights
939	979	1019	6	S_inv	S_on		F	F	F	F	F	Output 19 Function Backwards	78	
900	940	980	7	S_inv	S_on		F	F	F	F	F	Output 19 Function Forward off		
901	941	981	7	S_inv	S_on		F	F	F	F	F	Output 19 Function Backwards off		
902	942	982	7	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 15 Function Forward On	0	F11: Emergency red Gyalright
903	943	983	7	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 15 Function Forward On	0	
904	944	984	7	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 15 Function Forward On	0	
905	945	985	7	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 15 Function Forward On	0	
906	946	986	7	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 15 Function Backwards On	0	
907	947	987	7	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 15 Function Backwards On	8	
908	948	988	7	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 15 Function Backwards On	0	
909	949	989	7	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 15 Function Backwards On	0	
910	950	990	7	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 15 Function Forward Off	0	
911	951	991	7	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 15 Function Forward Off	0	
912	952	992	7	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 15 Function Forward Off	0	
913	953	993	7	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 15 Function Forward Off	0	
914	954	994	7	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 15 Function Backwards Off	0	
915	955	995	7	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 15 Function Backwards Off	0	
916	956	996	7	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 15 Function Backwards Off	0	
917	957	997	7	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 15 Function Backwards Off	0	
918	958	998	7					PWM2	Effect	Fade out	Fade in	Output 15 Effect Flags	7	
919	959	999	7									Output 15 Effect Number	0	
920	960	1000	7	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 16 Function Forward On	0	Indicator boards (auto sequencer)
921	961	1001	7	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 16 Function Forward On	0	
922	962	1002	7	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 16 Function Forward On	0	
923	963	1003	7	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 16 Function Forward On	0	
924	964	1004	7	F7_on	F6_on	F5_on	F4_on	F3_on	F2_on	F1_on	F0_on	Output 16 Function Backwards On	0	
925	965	1005	7	F15_on	F14_on	F13_on	F12_on	F11_on	F10_on	F9_on	F8_on	Output 16 Function Backwards On	0	
926	966	1006	7	F23_on	F22_on	F21_on	F20_on	F19_on	F18_on	F17_on	F16_on	Output 16 Function Backwards On	0	
927	967	1007	7	F31_on	F30_on	F29_on	F28_on	F27_on	F26_on	F25_on	F24_on	Output 16 Function Backwards On	0	
928	968	1008	7	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 16 Function Forward Off	0	
929	969	1009	7	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 16 Function Forward Off	8	
930	970	1010	7	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 16 Function Forward Off	0	
931	971	1011	7	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 16 Function Forward Off	0	
932	972	1012	7	F7_off	F6_off	F5_off	F4_off	F3_off	F2_off	F1_off	F0_off	Output 16 Function Backwards Off	0	
933	973	1013	7	F15_off	F14_off	F13_off	F12_off	F11_off	F10_off	F9_off	F8_off	Output 16 Function Backwards Off	0	
934	974	1014	7	F23_off	F22_off	F21_off	F20_off	F19_off	F18_off	F17_off	F16_off	Output 16 Function Backwards Off	0	
935	975	1015	7	F31_off	F30_off	F29_off	F28_off	F27_off	F26_off	F25_off	F24_off	Output 16 Function Backwards Off	0	
936	976	1016	7					PWM2	Effect	Fade out	Fade in	Output 16 Effect Flags	3	
937	977	1017	7									Output 16 Effect Number	0	
938	978	1018	7	S_inv	S_on		F	F	F	F	F	Output 20 Function Forward	0	Not used on SP as-delivered
939	979	1019	7	S_inv	S_on		F	F	F	F	F	Output 20 Function Backwards	0	
900	940	980	8	S_inv	S_on		F	F	F	F	F	Output 20 Function Forward off		
901	941	981	8	S_inv	S_on		F	F	F	F	F	Output 20 Function Backwards off	0	
902	942	982	8	PWM1_7	PWM1_6	PWM1_5	PWM1_4	PWM1_3	PWM1_2	PWM1_1	PWM1_0	Output 1 Brightness 1	128	F0: Front headlight brightness
903	943	983	8	PWM2_7	PWM2_6	PWM2_5	PWM2_4	PWM2_3	PWM2_2	PWM2_1	PWM2_0	Output 1 Brightness 2	40	F7: Dimmed front headlight brightness
904	944	984	8									Output 1 Reserved	0	
905	945	985	8	PWM1_7	PWM1_6	PWM1_5	PWM1_4	PWM1_3	PWM1_2	PWM1_1	PWM1_0	Output 2 Brightness 1	128	Not used
906	946	986	8	PWM2_7	PWM2_6	PWM2_5	PWM2_4	PWM2_3	PWM2_2	PWM2_1	PWM2_0	Output 2 Brightness 2	0	
907	947	987	8									Output 2 Reserved	0	
908	948	988	8	PWM1_7	PWM1_6	PWM1_5	PWM1_4	PWM1_3	PWM1_2	PWM1_1	PWM1_0	Output 3 Brightness 1	128	F10: Front Gyalright 1 brightness
909	949	989	8	PWM2_7	PWM2_6	PWM2_5	PWM2_4	PWM2_3	PWM2_2	PWM2_1	PWM2_0	Output 3 Brightness 2	0	
910	950	990	8									Output 3 Reserved	0	
911	951	991	8	PWM1_7	PWM1_6	PWM1_5	PWM1_4	PWM1_3	PWM1_2	PWM1_1	PWM1_0	Output 4 Brightness 1	128	F10: Front Gyalright 2 brightness
912	952	992	8	PWM2_7	PWM2_6	PWM2_5	PWM2_4	PWM2_3	PWM2_2	PWM2_1	PWM2_0	Output 4 Brightness 2	0	
913	953	993	8									Output 4 Reserved	0	
914	954	994	8	PWM1_7	PWM1_6	PWM1_5	PWM1_4	PWM1_3	PWM1_2	PWM1_1	PWM1_0	Output 5 Brightness 1	128	F25: Desk light brightness
915	955	995	8	PWM2_7	PWM2_6	PWM2_5	PWM2_4	PWM2_3	PWM2_2	PWM2_1	PWM2_0	Output 5 Brightness 2	0	
916	956	996	8									Output 5 Reserved	0	
917	957	997	8	PWM1_7	PWM1_6	PWM1_5	PWM1_4	PWM1_3	PWM1_2	PWM1_1	PWM1_0	Output 6 Brightness 1	128	F13: Cab light brightness
918	958	998	8	PWM2_7	PWM2_6	PWM2_5	PWM2_4	PWM2_3	PWM2_2	PWM2_1	PWM2_0	Output 6 Brightness 2	0	
919	959	999	8									Output 6 Reserved	0	
920	960	1000	8	PWM1_7	PWM1_6	PWM1_5	PWM1_4	PWM1_3	PWM1_2	PWM1_1	PWM1_0	Output 7 Brightness 1	128	Red class lights brightness
921	961	1001	8	PWM2_7	PWM2_6	PWM2_5	PWM2_4	PWM2_3	PWM2_2	PWM2_1	PWM2_0	Output 7 Brightness 2	0	
922	962	1002	8									Output 7 Reserved	0	
923	963	1003	8	PWM1_7	PWM1_6	PWM1_5	PWM1_4	PWM1_3	PWM1_2	PWM1_1	PWM1_0	Output 8 Brightness 1	128	White class lights brightness
924	964	1004	8	PWM2_7	PWM2_6	PWM2_5	PWM2_4	PWM2_3	PWM2_2	PWM2_1	PWM2_0	Output 8 Brightness 2	0	
925	965	1005	8									Output 8 Reserved	0	
926	966	1006	8	PWM1_7	PWM1_6	PWM1_5	PWM1_4	PWM1_3	PWM1_2	PWM1_1	PWM1_0	Output 9 Brightness 1	128	Green class lights brightness

