



CommandStation-EX Test Plan		Enter Answers Here	Assumptions & Notes	
Tester Name:			The tester is technically capable	
Tester e-mail address:			Line # is used as file reference and shown in red	
Discord ID:			Main & program track power are connected	
CommandStation-EX version:			<b>Ledgend:</b>	
Microcontroller Tested:			<b>Green:</b> Instructions to Enter	
Motor Shield Tested:			<b>Yellow:</b> Field to enter	
Decoder Brand & Number:			<b>Blue:</b> Notes or assumptions	

Test Template v1-Draft-D				
Line #	Process or Action	Expected Outcome	Select: Pass - Fail - Block or Not Tested?	Comments
1	Arduino IDE Install		Select	
2	Download CommandStation-EX	CommandStation-EX Downloaded	Select	
3	Open the Arduino IDE program	IDE screen opens.	Select	
4	Click on the CommandStation-DCC file and open it	File opens in the IDE	Select	
5	Connect Serial cable from computer to Arduino	LED on Arduino lights / tone from PC	Select	
6	Select TOOLS/BOARD in the Arduino IDE	Seen to be correct	Select	
7	Choose serial port under TOOLS>PORT	Seen to be correct	Select	
8	Upload the sketch to your Arduino	Sketch compiles and uploads	Select	
9	Select Tools>Serial Monitor	Seen running	Select	
10	Ensure power wires are connected to your track	Physical examination	Select	
11	Enter "<1>" into the Serial Monitor and press SEND	Power turns on - Arduino LED lights up / loco sound on	Select	
12	Enter "<0>" into the Serial Monitor and press SEND	Power turns off - Arduino LED lights go off / loco sound off	Select	
13			Select	
14			Select	
15			Select	
16	Installer Install		Select	
17	Download Installer	Installer downloaded	Select	
18	Run Installer	Installer starts up	Select	
19	Enter Board & Motor Shield	Installer accepts Board & Motor Shield	Select	
20	Start Install process	Installer starts install process	Select	
21	Installer finishes install process	Installer says Installation Successful	Select	
22	Enter "<1>" into the Serial Monitor and press SEND	Power turns on - Arduino LED lights up / loco sound on	Select	
23	Enter "<0>" into the Serial Monitor and press SEND	Power turns off - Arduino LED lights go off / loco sound off	Select	
24			Select	
25			Select	
26			Select	
27			Select	
28			Select	
29			Select	
30			Select	

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Test Template v1-Draft-D				
Line #	Process or Action	Expected Outcome	Select: Pass - Fail - Block or Not Tested?	Comments
<b>1</b>	<b>Operations Track Tests</b>	<b>Operations Track Tests</b>	Select	
<b>2</b>	Display Software Version	Software Version Displayed	Select	
<b>3</b>			Select	
<b>4</b>	Select Locomotive - Long Address	Locomotive Acquired	Select	
<b>5</b>	Run Train FWD	Train runs FWD	Select	
<b>6</b>	Run Train REV	Train runs REV	Select	
<b>7</b>	Emergency Stop	Train stops quickly	Select	
<b>8</b>	F0 - Light	Front Light Turns On	Select	
<b>9</b>	F1 - Bell	Bell goes on	Select	
<b>10</b>	F2 - Horn	Horn goes on as long as button is pushed	Select	
<b>11</b>	CAB Functions F3 to F28 for Decoder (Test as many as possible)	Depends on decoder	Select	
<b>12</b>			Select	
<b>13</b>	<b>Individual Track Power Tests</b>	<b>Individual Track Power Tests</b>	Select	
<b>14</b>	Power On Operations Track	Power On Operations Track Only	Select	
<b>15</b>	Power Off Operations Track	Power Off Operations Track Only	Select	
<b>16</b>	Power On Program Track	Power On Program Track Only	Select	
<b>17</b>	Power Off Program Track	Power Off Program Track Only	Select	
<b>18</b>			Select	
<b>19</b>	<b>Programming Track Tests using Decoder Pro</b>	<b>Programming Track Tests</b>	Select	
<b>20</b>	Read Initial CV Page (Bit Mode)	Read Successful	Select	
<b>21</b>	Read Initial CV Page (Byte Mode)	Read Successful	Select	
<b>22</b>	Write Change to Initial CV Page (Bit Mode)	Changed CV Value Read Successfully	Select	

Line #	Process or Action	Expected Outcome	Select: Pass - Fail - Block or Not Tested?	Comments
23	Write Change to Initial CV Page (Byte Mode)	Changed CV Value Read Successfully	Select	
24	Read/Write Random CVs (Bit Mode)	Random CVs successfully Read & Written	Select	
25	Read/Write Random CVs (Byte Mode)	Random CVs successfully Read & Written	Select	
26			Select	
27			Select	
28			Select	
29			Select	
30			Select	


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Motor Shield Tested:			
Decoder Brand & Number:			

Test Template v1-Draft-D				
Line #	Process or Action	Expected Outcome	Select: Pass - Fail - Block or Not Tested?	Comments
1	Program Consist	Consist Results	Select	
2	Set-up Consist	Consist Formed	Select	
3	Select Lead Loco	Lead Loco Selected	Select	
4	Add Loco	Loco Added	Select	
5	Delete Loco	Loco Deleted	Select	
6	Clear Consist	Consist Cleared	Select	
7			Select	
8	Turnout Control	Turnout Control	Select	
9	Select Turnout	Turnout Selected	Select	
10	Throw Turnout	Turnout Throw successful	Select	
11	Return Turnout to original positions	Turnout successfully returned to the original position	Select	
12	Select Another Turnout	Turnout Selected	Select	
13	Throw Turnout	Turnout throw successful	Select	
14			Select	
15	Accessory Tests	Accessories	Select	
16	Select Accessory	Accessory Selected	Select	
17	Operate Accessory	Accessory Operated	Select	
18			Select	
19			Select	
20	Sensors Tests	Sensors	Select	
21	Read Sensor Status	Sensor Status Read	Select	
22			Select	




Line #	Process or Action	Expected Outcome	Select: Pass - Fail - Block or Not Tested?	Comments
23	WiFi Throttle Tests	WiFi Throttle Results	Select	
24	AP Mode	AP Mode Successfully Acquired	Select	
25	Local WiFi Mode	Local WiFi Mode Successfully Acquired	Select	
26	Run WiFi Throttle Speed Tests Forward	Locomotive runs forward	Select	
27	Run WiFi Throttle Speed Tests Backward	Locomotive runs backward	Select	
28	Emergency Stop	Emergency Stop	Select	
29			Select	
30			Select	

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<b>Test Template v1-Draft-D</b>				
Line #	Process or Action	Expected Outcome	Select: Pass - Fail - Block or Not Tested?	Comments
1	Programming Track Tests	Programming Track Tests	Select	
2			Select	
3			Select	
4			Select	
5			Select	
6			Select	
7			Select	
8			Select	
9			Select	
10			Select	
11			Select	
12			Select	
13			Select	
14			Select	
15			Select	
16			Select	
17			Select	
18			Select	
19			Select	
20			Select	
21			Select	
22			Select	

Line #	Process or Action	Expected Outcome	Select: Pass - Fail - Block or Not Tested?	Comments
23			Select	
24			Select	
25			Select	
26			Select	
27			Select	
28			Select	
29			Select	
30			Select	

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Test Template v1-Draft-D				
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1	Programming Track Tests	Programming Track Tests	Select	
2			Select	
3			Select	
4			Select	
5			Select	
6			Select	
7			Select	
8			Select	
9			Select	
10			Select	
11			Select	
12			Select	
13			Select	
14			Select	
15			Select	
16			Select	
17			Select	
18			Select	
19			Select	
20			Select	
21			Select	
22			Select	
23			Select	



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24			Select	
25			Select	
26			Select	
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Test Template v1-Draft-D				
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1	Programming Track Tests	Programming Track Tests	Select	
2			Select	
3			Select	
4			Select	
5			Select	
6			Select	
7			Select	
8			Select	
9			Select	
10			Select	
11			Select	
12			Select	
13			Select	
14			Select	
15			Select	
16			Select	
17			Select	
18			Select	
19			Select	
20			Select	
21			Select	
22			Select	
23			Select	

Line #	Process or Action	Expected Outcome	Select: Pass - Fail - Block or Not Tested?	Comments
24			Select	
25			Select	
26			Select	
27			Select	
28			Select	
29			Select	
30			Select	