Exhibit W

QSI MATERIALS INCORPORATED INTO JMRI SOFTWARE

**QSI Published Manual
dated 16 February 2005, page 161
Copyright TX 6-445-094**

**Jacobsen
Court Doc 237-31, Exhibit AD, page 11
October 2008**


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Table (QSI Published Manual, page 161, 16 February 2005):

Feature ID	Feature	Signal Type	Allowed States
0	Null Output	LA Toggled	All
1	Whistle	LA Toggled	All
3	Bell	LA SD-Toggled	All
5	Dynamic Brakes	LA Toggled	All
8	Blower Hiss/Diesel Cooling Fans	TA Momentary	All
9	Long Air Let-off	TA Momentary	All
10	Short Air Let-off	TA Momentary	NFF/NFR
12	Pop-off	TA Momentary	NFF/NFR
13	Blow Down	TA Momentary	NFF/NFR
14	Injector	TA Momentary	All
64	Mute	LA-SD Toggled	FWD/REV
65	Doppler Shift	TA Momentary	All
96	Directional Headlight	LA Toggled	All
97	Directional Reverse Light	LA Toggled	All
98	Headlight	LA Toggled	All
99	Dim Headlight	LA Toggled	All
100	Reverse Light	LA Toggled	All
101	Automatic Cab Lights	LA Toggled	All

Table (Feature ID / Feature / Signal Type / Allowed States):

Feature ID	Feature	Signal Type	Allowed States
10?	Directional Mars Light	LA Toggled	All
103	Mars Light	LA Toggled	All
104	Strobe Mars Light	LA Toggled	All
105	Number Board Lights	LA Toggled	All
107	Directional Headlight + Directional Mars Light	LA Toggled	All
108	Directional Headlight + Directional Ditch Lights	LA Toggled	All
109	Directional Ditch Lights	LA Toggled	All
110	Ditch Lights	LA Toggled	All
111	Strobe Ditch Lights	LA Toggled	All
144	Start Up	TA Momentary	NFF/NFR
145	Shut Down	TA Momentary	NFF/NFR
176	Air Brakes	Progressive	FWD/REV
178	Status Report	TA-SD Toggled	FWD/REV
17?	Cruise Control	TA Momentary	NFF/NFR
211	Coupler Effect	TA-SD Toggled	FWD/REV
215	Squealing Brakes	TA Enable and TA Momentary	All
216	Squealing Brakes + Air Brakes	TA Momentary	All
217	Pumps	TA Momentary	All
		LA Toggled	NFF/NFR

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antum DCC Reference Manual v.3.0