

# Exhibit AF

# 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 14  
October 2008

Feature ID	Feature	Signal Type	Allowed States	Feature ID	Feature	Signal Type	Allowed States
0	Null Output		All	102	Directional Mars Light	LA Toggled	All
1	Whistle	LA Toggled	All	103	Mars Light	LA Toggled	All
3	Bell	LA Toggled	All	104	Strobe Mars Light	LA Toggled	All
5	Dynamic Brakes	LA SD-Toggled	All	105	Number Board Lights	LA Toggled	All
8	Blower Hiss/Diesel Cooling Fans	LA Toggled	All	107	Directional Headlight + Directional Mars Light	LA Toggled	All
9	Long Air Let-off	TA Momentary	All	108	Directional Headlight + Directional Mars Light	LA Toggled	All
10	Short Air Let-off	TA Momentary	All	109	Directional Ditch Lights	LA Toggled	All
12	Pop-off	TA	NFF/NFR	110	Ditch Lights	LA Toggled	All
13	Blow Down	TA	NFF/NFR	111	Strobe Ditch Light	LA Toggled	All
14	Injector	TA	NFF/NFR	144	Start Up	PA Momentary	NFF/NFR
64	Mute	LA-SD Toggled	All	145	Shut Down	PA	NFF/NFR
65	Doppler Shift	TA	FWD/REV	176	Air Brakes	TA-SD Toggled	FWD/REV
96	Directional Headlight	LA Toggled	All	178	Status Report	TA	FWD/REV
97	Directional Reverse Light	LA Toggled	All	177	Cruise Control	TA-SD Momentary	NFF/NFR
98	Headlight	LA Toggled	All	211	Coupler Effect	TA Enable and TA Momentary	All
99	Dim Headlight	LA Toggled	All	215	Squealing Brakes	TA Momentary	FWD/REV
100	Reverse Light	LA Toggled	All	216	Squealing Brakes + Air Brakes	TA Momentary	FWD/REV
101	Automatic Cab Lights	LA Toggled	All	217	Pumps	LA Toggled	NFF/NFR

```

e label="Outout 14 - Forward/Reverse Only" CVname="53.14.0" CV="53
"101" comments="QSI" item="CV53.14.0">
  <choice choice="Dynamic Brakes" value="5" />
  <choice choice="Long Air Let-off" value="9" />
  <choice choice="Short Air Let-off" />
  <choice choice="Mute" value="64" />
  <choice choice="Doppler Shift" />
  <choice choice="Headlight" value="98" />
  <choice choice="Dim Headlight" />
  <choice choice="Reverse Light" />
  <choice choice="Automatic Cab Lights" />
  <choice choice="Directional Mars Light" />
  <choice choice="Mars Light" />
  <choice choice="Strobe Mars Light" />
  <choice choice="Number Board Lights" />
  <choice choice="Directional Headlight + Directional Mars Light" va
  <choice choice="Directional Headlight + Directional Ditch Lights" />
  <choice choice="Directional Ditch Lights" />
  <choice choice="Ditch Lights" />
  <choice choice="Strobe Ditch Lights" />
  <choice choice="Cruise Control" value="177" />
  <choice choice="Scale mph Report and Status Report" />
  <choice choice="Coupler Effect" value="211" />
  <choice choice="Squealing Brakes" value="215" />
  <choice choice="Squealing Brakes + Air Brakes" />
  </choice>
  </label>
  
```