

# Jacobsen Declaration

## Exhibit H

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<?xml version="1.0" encoding="utf-8"?>
<decoders xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <date_created />
  <date_modified>20050616</date_modified>
  <decoder_template language="English">
    <tpl_version>1</tpl_version>
    <decoder_version>3</decoder_version>
    <decoder_high_version>6</decoder_high_version>
    <manufacturer_id>113</manufacturer_id>
    <mfg>QS Industries (QSI)</mfg>
    <name>BLI GG-1 - QSI Electric</name>
    <prog_modes direct="YES" paged="YES" register="YES"
ops="YES" />
    <reset present="1" cv="8" val="8" />
    <primaryindex>49</primaryindex>
    <secondaryindex>50</secondaryindex>
    <speed_curve starting_cv="67" ending_cv="94" />
    <fmapList>
      <fmap cv="33" defval="1" mask="255" fname="Fwd light" />
      <fmap cv="34" defval="2" mask="255" fname="Rev light" />
      <fmap cv="35" defval="4" mask="255" fname="F1" />
      <fmap cv="36" defval="8" mask="255" fname="F2" />
      <fmap cv="37" defval="16" mask="2040" fname="F3" />
      <fmap cv="38" defval="32" mask="2040" fname="F4" />
      <fmap cv="39" defval="64" mask="2040" fname="F5" />
      <fmap cv="40" defval="128" mask="2040" fname="F6" />
      <fmap cv="41" defval="256" mask="2040" fname="F7" />
      <fmap cv="42" defval="512" mask="2040" fname="F8" />
      <fmap cv="43" defval="1024" mask="16320" fname="F9" />
      <fmap cv="44" defval="2048" mask="16320" fname="F10" />
      <fmap cv="45" defval="4096" mask="16320" fname="F11" />
      <fmap cv="46" defval="8192" mask="16320" fname="F12" />
    </fmapList>
    <cvList>
      <cv index="1">
        <default>3</default>
        <min>0</min>
        <max>255</max>
        <name>Primary Address</name>
        <comment>Short address</comment>
        <bits_defined>NO</bits_defined>
        <date_modified />
        <bitmask />
        <stringList />
      </cv>
      <cv index="2">
        <default>32</default>
        <min>0</min>
        <max>255</max>
        <name>Vstart</name>
        <comment>A value of 255 corresponds to 100%</comment>
        <bits_defined>NO</bits_defined>
        <date_modified />
      </cv>
    </cvList>
  </decoder_template>
</decoders>

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    <bitmask />
    <stringList />
</cv>
<cv index="3">
  <default>3</default>
  <min>0</min>
  <max>31</max>
  <name>Acceleration Rate</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="4">
  <default>3</default>
  <min>0</min>
  <max>31</max>
  <name>Deceleration Rate</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="5">
  <default>1</default>
  <min>1</min>
  <max>255</max>
  <name>Max Volts</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="7">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>Manufacturer Version No</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="8">
  <default>113</default>
  <min>0</min>
  <max>255</max>
  <name>Manufacturer ID</name>
  <comment />
  <bits_defined>NO</bits_defined>

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    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="11">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>Packet Time-out Value</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="17">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>Extended Address</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="19">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>Consist Address</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1 />
    <bit_2 />
    <bit_3 />
    <bit_4 />
    <bit_5 />
    <bit_6 />
    <bit_7>Consist Direction Reversed</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="21">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>Consist Address Active For F1</name>
  <comment />
  <bits_defined>YES</bits_defined>

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    <bit_definition>
      <bit_0 />
      <bit_1>Consist Address Active For F2 Respond to
Consist Address</bit_1>
      <bit_2>Consist Address Active For F3 Respond to
Consist Address</bit_2>
      <bit_3>Consist Address Active For F4 Respond to
Consist Address</bit_3>
      <bit_4>Consist Address Active For F5 Respond to
Consist Address</bit_4>
      <bit_5>Consist Address Active For F6 Respond to
Consist Address</bit_5>
      <bit_6>Consist Address Active For F7 Respond to
Consist Address</bit_6>
      <bit_7>Consist Address Active For F8 Respond to
Consist Address</bit_7>
    </bit_definition>
    <date_modified />
    <bitmask />
    <stringList />
  </cv>
  <cv index="22">
    <default>3</default>
    <min>0</min>
    <max>255</max>
    <name>Consist Address Active For FL in Forward</name>
    <comment />
    <bits_defined>YES</bits_defined>
    <bit_definition>
      <bit_0 />
      <bit_1>Consist Address Active For FL in Reverse
Respond to Consist Address</bit_1>
      <bit_2>Consist Address Active For F9 Respond to
Consist Address</bit_2>
      <bit_3>Consist Address Active For F10 Respond to
Consist Address</bit_3>
      <bit_4>Consist Address Active For F11 Respond to
Consist Address</bit_4>
      <bit_5>Consist Address Active For F12 Respond to
Consist Address</bit_5>
      <bit_6 />
      <bit_7 />
    </bit_definition>
    <date_modified />
    <bitmask />
    <stringList />
  </cv>
  <cv index="23">
    <default>3</default>
    <min>0</min>
    <max>127</max>
    <name>Consist Acceleration Adjustment</name>
    <comment />
    <bits_defined>YES</bits_defined>

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    <bit_definition>
      <bit_0 />
      <bit_1 />
      <bit_2 />
      <bit_3 />
      <bit_4 />
      <bit_5 />
      <bit_6 />
      <bit_7>Consist Acceleration Adjustment Sign
Adjustment Subtracted</bit_7>
    </bit_definition>
    <date_modified />
    <bitmask />
    <stringList />
  </cv>
  <cv index="24">
    <default>3</default>
    <min>0</min>
    <max>127</max>
    <name>Consist Deceleration Adjustment</name>
    <comment />
    <bits_defined>YES</bits_defined>
    <bit_definition>
      <bit_0 />
      <bit_1 />
      <bit_2 />
      <bit_3 />
      <bit_4 />
      <bit_5 />
      <bit_6 />
      <bit_7>Consist Deceleration Adjustment Sign
Adjustment Subtracted</bit_7>
    </bit_definition>
    <date_modified />
    <bitmask />
    <stringList />
  </cv>
  <cv index="25">
    <default>2</default>
    <min>0</min>
    <max>255</max>
    <name>Quantum Speed Table</name>
    <comment>value is applied</comment>
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask>11111111</bitmask>
    <stringList>
      <enumVal choice="User Defined Speed Table" value="1"
/>
      <enumVal choice="Linear Curve" value="2" />
      <enumVal choice="Fast start 1 (close to linear)"
value="3" />
      <enumVal choice="Fast start 2" value="4" />
      <enumVal choice="Fast start 3" value="5" />

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        <enumVal choice="Fast start 4" value="6" />
        <enumVal choice="Fast start 5 (greatest curvature)"
value="7" />
        <enumVal choice="Slow start 1 (close to linear)"
value="67" />
        <enumVal choice="Slow start 2" value="68" />
        <enumVal choice="Slow start 3" value="69" />
        <enumVal choice="Slow start 4" value="70" />
        <enumVal choice="Slow start 5 (greatest curavture"
value="71" />
    </stringList>
</cv>
<cv index="29">
    <default>3</default>
    <min>0</min>
    <max>255</max>
    <name>Locomotive Direction</name>
    <comment />
    <bits_defined>YES</bits_defined>
    <bit_definition>
        <bit_0 />
        <bit_1>FL Location 28/128 speed step format</bit_1>
        <bit_2>Power Source Conversion DC conversion
enabled</bit_2>
        <bit_3 />
        <bit_4>Speed Table Definition Use QSI table or User
table in CVs 67 through 94</bit_4>
        <bit_5>Address Format Two byte (extended) address</
bit_5>
        <bit_6 />
        <bit_7 />
    </bit_definition>
    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="33">
    <default>1</default>
    <min>0</min>
    <max>255</max>
    <name>FL(f) controls output 1</name>
    <comment />
    <bits_defined>YES</bits_defined>
    <bit_definition>
        <bit_0 />
        <bit_1>FL(f) controls output 2 Yes</bit_1>
        <bit_2>FL(f) controls output 3 Yes</bit_2>
        <bit_3>FL(f) controls output 4 Yes</bit_3>
        <bit_4>FL(f) controls output 5 Yes</bit_4>
        <bit_5>FL(f) controls output 6 Yes</bit_5>
        <bit_6>FL(f) controls output 7 Yes</bit_6>
        <bit_7>FL(f) controls output 8 Yes</bit_7>
    </bit_definition>
    <date_modified />

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    <bitmask />
    <stringList />
</cv>
<cv index="34">
  <default>1</default>
  <min>0</min>
  <max>255</max>
  <name>FL(r) controls output 1</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1>FL(r) controls output 2 Yes</bit_1>
    <bit_2>FL(r) controls output 3 Yes</bit_2>
    <bit_3>FL(r) controls output 4 Yes</bit_3>
    <bit_4>FL(r) controls output 5 Yes</bit_4>
    <bit_5>FL(r) controls output 6 Yes</bit_5>
    <bit_6>FL(r) controls output 7 Yes</bit_6>
    <bit_7>FL(r) controls output 8 Yes</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="35">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>F1 controls output 1</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1>F1 controls output 2 Yes</bit_1>
    <bit_2>F1 controls output 3 Yes</bit_2>
    <bit_3>F1 controls output 4 Yes</bit_3>
    <bit_4>F1 controls output 5 Yes</bit_4>
    <bit_5>F1 controls output 6 Yes</bit_5>
    <bit_6>F1 controls output 7 Yes</bit_6>
    <bit_7>F1 controls output 8 Yes</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="36">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>F2 controls output 1</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />

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    <bit_1>F2 controls output 2 Yes</bit_1>
    <bit_2>F2 controls output 3 Yes</bit_2>
    <bit_3>F2 controls output 4 Yes</bit_3>
    <bit_4>F2 controls output 5 Yes</bit_4>
    <bit_5>F2 controls output 6 Yes</bit_5>
    <bit_6>F2 controls output 7 Yes</bit_6>
    <bit_7>F2 controls output 8 Yes</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="37">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>F3 controls output 1</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1>F3 controls output 2 Yes</bit_1>
    <bit_2>F3 controls output 3 Yes</bit_2>
    <bit_3>F3 controls output 4 Yes</bit_3>
    <bit_4>F3 controls output 5 Yes</bit_4>
    <bit_5>F3 controls output 6 Yes</bit_5>
    <bit_6>F3 controls output 7 Yes</bit_6>
    <bit_7>F3 controls output 8 Yes</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="38">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>F4 controls output 4</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1>F4 controls output 5 Yes</bit_1>
    <bit_2>F4 controls output 6 Yes</bit_2>
    <bit_3>F4 controls output 7 Yes</bit_3>
    <bit_4>F4 controls output 8 Yes</bit_4>
    <bit_5>F4 controls output 9 Yes</bit_5>
    <bit_6>F4 controls output 10 Yes</bit_6>
    <bit_7>F4 controls output 11 Yes</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>

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<cv index="39">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>F5 controls output 4</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1>F5 controls output 5 Yes</bit_1>
    <bit_2>F5 controls output 6 Yes</bit_2>
    <bit_3>F5 controls output 7 Yes</bit_3>
    <bit_4>F5 controls output 8 Yes</bit_4>
    <bit_5>F5 controls output 9 Yes</bit_5>
    <bit_6>F5 controls output 10 Yes</bit_6>
    <bit_7>F5 controls output 11 Yes</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="40">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>F6 controls output 4</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1>F6 controls output 5 Yes</bit_1>
    <bit_2>F6 controls output 6 Yes</bit_2>
    <bit_3>F6 controls output 7 Yes</bit_3>
    <bit_4>F6 controls output 8 Yes</bit_4>
    <bit_5>F6 controls output 9 Yes</bit_5>
    <bit_6>F6 controls output 10 Yes</bit_6>
    <bit_7>F6 controls output 11 Yes</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="41">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>F7 controls output 4</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1>F7 controls output 5 Yes</bit_1>
    <bit_2>F7 controls output 6 Yes</bit_2>
    <bit_3>F7 controls output 7 Yes</bit_3>

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    <bit_4>F7 controls output 8 Yes</bit_4>
    <bit_5>F7 controls output 9 Yes</bit_5>
    <bit_6>F7 controls output 10 Yes</bit_6>
    <bit_7>F7 controls output 11 Yes</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="42">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>F8 controls output 4</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1>F8 controls output 5 Yes</bit_1>
    <bit_2>F8 controls output 6 Yes</bit_2>
    <bit_3>F8 controls output 7 Yes</bit_3>
    <bit_4>F8 controls output 8 Yes</bit_4>
    <bit_5>F8 controls output 9 Yes</bit_5>
    <bit_6>F8 controls output 10 Yes</bit_6>
    <bit_7>F8 controls output 11 Yes</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="43">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>F9 controls output 7</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1>F9 controls output 8 Yes</bit_1>
    <bit_2>F9 controls output 9 Yes</bit_2>
    <bit_3>F9 controls output 10 Yes</bit_3>
    <bit_4>F9 controls output 11 Yes</bit_4>
    <bit_5>F9 controls output 12 Yes</bit_5>
    <bit_6>F9 controls output 13 Yes</bit_6>
    <bit_7>F9 controls output 14 Yes</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="44">
  <default>3</default>
  <min>0</min>

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<max>255</max>
<name>F10 controls output 7</name>
<comment />
<bits_defined>YES</bits_defined>
<bit_definition>
  <bit_0 />
  <bit_1>F10 controls output 8 Yes</bit_1>
  <bit_2>F10 controls output 9 Yes</bit_2>
  <bit_3>F10 controls output 10 Yes</bit_3>
  <bit_4>F10 controls output 11 Yes</bit_4>
  <bit_5>F10 controls output 12 Yes</bit_5>
  <bit_6>F10 controls output 13 Yes</bit_6>
  <bit_7>F10 controls output 14 Yes</bit_7>
</bit_definition>
<date_modified />
<bitmask />
<stringList />
</cv>
<cv index="45">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>F11 controls output 7</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1>F11 controls output 8 Yes</bit_1>
    <bit_2>F11 controls output 9 Yes</bit_2>
    <bit_3>F11 controls output 10 Yes</bit_3>
    <bit_4>F11 controls output 11 Yes</bit_4>
    <bit_5>F11 controls output 12 Yes</bit_5>
    <bit_6>F11 controls output 13 Yes</bit_6>
    <bit_7>F11 controls output 14 Yes</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="46">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>F12 controls output 7</name>
  <comment />
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1>F12 controls output 8 Yes</bit_1>
    <bit_2>F12 controls output 9 Yes</bit_2>
    <bit_3>F12 controls output 10 Yes</bit_3>
    <bit_4>F12 controls output 11 Yes</bit_4>
    <bit_5>F12 controls output 12 Yes</bit_5>
    <bit_6>F12 controls output 13 Yes</bit_6>

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    <bit_7>F12 controls output 14 Yes</bit_7>
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="62">
  <default>1</default>
  <min>0</min>
  <max>255</max>
  <name>Programming Verbal Acknowledgement</name>
  <comment>CV62</comment>
  <bits_defined>YES</bits_defined>
  <bit_definition>
    <bit_0 />
    <bit_1 />
    <bit_2 />
    <bit_3 />
    <bit_4 />
    <bit_5 />
    <bit_6 />
    <bit_7 />
  </bit_definition>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="64">
  <default>3</default>
  <min>0</min>
  <max>255</max>
  <name>Verbal CV Inquiry</name>
  <comment>CV64</comment>
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="66">
  <default>128</default>
  <min>0</min>
  <max>255</max>
  <name>Forward Trim</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="67">
  <default>0</default>
  <min>0</min>
  <max>255</max>
  <name>Speed step 1</name>

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    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="68">
  <default>0</default>
  <min>0</min>
  <max>255</max>
  <name>Speed step 2</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="69">
  <default>0</default>
  <min>0</min>
  <max>255</max>
  <name>Speed step 3</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="70">
  <default>0</default>
  <min>0</min>
  <max>255</max>
  <name>Speed step 4</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="71">
  <default>0</default>
  <min>0</min>
  <max>255</max>
  <name>Speed step 5</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="72">
  <default>0</default>
  <min>0</min>
  <max>255</max>

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```

    <name>Speed step 6</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="73">
    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 7</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="74">
    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 8</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="75">
    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 9</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="76">
    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 10</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="77">
    <default>0</default>
    <min>0</min>

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```

    <max>255</max>
    <name>Speed step 11</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
  </cv>
  <cv index="78">
    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 12</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
  </cv>
  <cv index="79">
    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 13</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
  </cv>
  <cv index="80">
    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 14</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
  </cv>
  <cv index="81">
    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 15</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
  </cv>
  <cv index="82">
    <default>0</default>

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```

    <min>0</min>
    <max>255</max>
    <name>Speed step 16</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="83">
  <default>0</default>
  <min>0</min>
  <max>255</max>
  <name>Speed step 17</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="84">
  <default>0</default>
  <min>0</min>
  <max>255</max>
  <name>Speed step 18</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="85">
  <default>0</default>
  <min>0</min>
  <max>255</max>
  <name>Speed step 19</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="86">
  <default>0</default>
  <min>0</min>
  <max>255</max>
  <name>Speed step 20</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="87">

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```

    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 21</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="88">
    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 22</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="89">
    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 23</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="90">
    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 24</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
</cv>
<cv index="91">
    <default>0</default>
    <min>0</min>
    <max>255</max>
    <name>Speed step 25</name>
    <comment />
    <bits_defined>NO</bits_defined>
    <date_modified />
    <bitmask />
    <stringList />
</cv>

```

```

<cv index="92">
  <default>0</default>
  <min>0</min>
  <max>255</max>
  <name>Speed step 26</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="93">
  <default>0</default>
  <min>0</min>
  <max>255</max>
  <name>Speed step 27</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="94">
  <default>0</default>
  <min>0</min>
  <max>255</max>
  <name>Speed step 28</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
<cv index="95">
  <default>128</default>
  <min>0</min>
  <max>255</max>
  <name>Reverse Trim</name>
  <comment />
  <bits_defined>NO</bits_defined>
  <date_modified />
  <bitmask />
  <stringList />
</cv>
</cvList>
<icvList>
  <icv label="System Volume" CVname="51.0" CV="51" PI="0"
SI="-1" default="127" comment="QSI">
    <indexedVal max="127" />
    <ienumVal />
  </icv>
  <icv label="Mute Volume" CVname="51.1" CV="51" PI="1"
SI="-1" default="0" comment="QSI">
    <indexedVal max="63" />

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        <ienumVal />
    </icv>
    <icv label="Horn Triggered Doppler" CVname="51.2"
CV="51" PI="2" SI="-1" default="1" comment="QSI">
        <ienumVal>
            <ienumChoice choice="No" value="0" />
            <ienumChoice choice="Yes" value="1" />
        </ienumVal>
    </icv>
    <icv label="Horn" CVname="52.0" CV="52" PI="0" SI="-1"
default="11" comment="QSI">
        <indexedVal max="15" />
        <ienumVal />
    </icv>
    <icv label="Bell" CVname="52.8" CV="52" PI="8" SI="-1"
default="11" comment="QSI">
        <indexedVal max="15" />
        <ienumVal />
    </icv>
    <icv label="Motor" CVname="52.10" CV="52" PI="10"
SI="-1" default="11" comment="QSI">
        <indexedVal max="15" />
        <ienumVal />
    </icv>
    <icv label="Air Pump" CVname="52.16" CV="52" PI="16"
SI="-1" default="11" comment="QSI">
        <indexedVal max="15" />
        <ienumVal />
    </icv>
    <icv label="Cooling Fans" CVname="52.19" CV="52" PI="19"
SI="-1" default="8" comment="QSI">
        <indexedVal max="15" />
        <ienumVal />
    </icv>
    <icv label="Long Air Let-off" CVname="52.21" CV="52"
PI="21" SI="-1" default="11" comment="QSI">
        <indexedVal max="15" />
        <ienumVal />
    </icv>
    <icv label="Short Air Let-off" CVname="52.22" CV="52"
PI="22" SI="-1" default="11" comment="QSI">
        <indexedVal max="15" />
        <ienumVal />
    </icv>
    <icv label="Squealing Brakes" CVname="52.24" CV="52"
PI="24" SI="-1" default="11" comment="QSI">
        <indexedVal max="15" />
        <ienumVal />
    </icv>
    <icv label="Coupler Sounds" CVname="52.34" CV="52"
PI="34" SI="-1" default="11" comment="QSI">
        <indexedVal max="15" />
        <ienumVal />
    </icv>

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    <icv label="Air Brakes" CVname="52.37" CV="52" PI="37"
SI="-1" default="11" comment="QSI">
    <indexedVal max="15" />
    <ienumVal />
</icv>
    <icv label="Output 1 - Forward/Reverse Only"
CVname="53.1.0" CV="53" PI="1" SI="0" default="96"
comment="QSI" infoOnly="yes">
    <ienumVal>
    <ienumChoice choice="Directional Headlight"
value="96" />
    </ienumVal>
</icv>
    <icv label=" - Neutral Only" CVname="53.1.1" CV="53"
PI="1" SI="1" default="96" comment="QSI" infoOnly="yes">
    <ienumVal>
    <ienumChoice choice="Directional Headlight"
value="96" />
    </ienumVal>
</icv>
    <icv label="Output 2 - Forward/Reverse Only"
CVname="53.2.0" CV="53" PI="2" SI="0" default="97"
comment="QSI" infoOnly="yes">
    <ienumVal>
    <ienumChoice choice="Directional Reverse Light"
value="97" />
    </ienumVal>
</icv>
    <icv label=" - Neutral Only" CVname="53.2.1" CV="53"
PI="2" SI="1" default="97" comment="QSI" infoOnly="yes">
    <ienumVal>
    <ienumChoice choice="Directional Reverse Light"
value="97" />
    </ienumVal>
</icv>
    <icv label="Output 3 - Forward/Reverse Only"
CVname="53.3.0" CV="53" PI="3" SI="0" default="3"
comment="QSI" infoOnly="yes">
    <ienumVal>
    <ienumChoice choice="Bell" value="3" />
    </ienumVal>
</icv>
    <icv label=" - Neutral Only" CVname="53.3.1" CV="53"
PI="3" SI="1" default="3" comment="QSI" infoOnly="yes">
    <ienumVal>
    <ienumChoice choice="Bell" value="3" />
    </ienumVal>
</icv>
    <icv label="Output 4 - Forward/Reverse Only"
CVname="53.4.0" CV="53" PI="4" SI="0" default="1"
comment="QSI" infoOnly="yes">
    <ienumVal>
    <ienumChoice choice="Whistle/Horn" value="1" />
    <ienumChoice choice="_____ place holder not used

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_____ " value="2" />
  </ienumVal>
</icv>
  <icv label=" - Neutral Only" CVname="53.4.1" CV="53"
PI="4" SI="1" default="1" comment="QSI" infoOnly="yes">
  <ienumVal>
    <ienumChoice choice="Whistle/Horn" value="1" />
  </ienumVal>
</icv>
  <icv label="Outout 5 - Forward/Reverse Only"
CVname="53.5.0" CV="53" PI="5" SI="0" default="211"
comment="QSI">
  <ienumVal>
    <ienumChoice choice="Dynamic Brakes" value="5" />
    <ienumChoice choice="Long Air Let-off" value="9" />
    <ienumChoice choice="Short Air Let-off" value="10" /
>
    <ienumChoice choice="Mute" value="64" />
    <ienumChoice choice="Doppler Shift" value="65" />
    <ienumChoice choice="Headlight" value="98" />
    <ienumChoice choice="Dim Headlight" value="99" />
    <ienumChoice choice="Reverse Light" value="100" />
    <ienumChoice choice="Automatic Cab Lights"
value="101" />
    <ienumChoice choice="Directional Mars Light"
value="102" />
    <ienumChoice choice="Mars Light" value="103" />
    <ienumChoice choice="Strobe Mars Light" value="104"
/>
    <ienumChoice choice="Number Board Lights"
value="105" />
    <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
    <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
    <ienumChoice choice="Directional Ditch Lights"
value="109" />
    <ienumChoice choice="Ditch Lights" value="110" />
    <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
    <ienumChoice choice="Cruise Control" value="177" />
    <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
    <ienumChoice choice="Coupler Effect" value="211" />
    <ienumChoice choice="Squealing Brakes" value="215" /
>
    <ienumChoice choice="Squealing Brakes + Air Brakes"
value="216" />
  </ienumVal>
</icv>
  <icv label=" - Neutral Only" CVname="53.5.1" CV="53"
PI="5" SI="1" default="211" comment="QSI">
  <ienumVal>
    <ienumChoice choice="Dynamic Brakes" value="5" />

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        <ienumChoice choice="Long Air Let-off" value="9" />
        <ienumChoice choice="Short Air Let-off" value="10" /
>
        <ienumChoice choice="Mute" value="64" />
        <ienumChoice choice="Headlight" value="98" />
        <ienumChoice choice="Dim Headlight" value="99" />
        <ienumChoice choice="Reverse Light" value="100" />
        <ienumChoice choice="Automatic Cab Lights"
value="101" />
        <ienumChoice choice="Directional Mars Light"
value="102" />
        <ienumChoice choice="Mars Light" value="103" />
        <ienumChoice choice="Strobe Mars Light" value="104"
/>
        <ienumChoice choice="Number Board Lights"
value="105" />
        <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
        <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
        <ienumChoice choice="Directional Ditch Lights"
value="109" />
        <ienumChoice choice="Ditch Lights" value="110" />
        <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
        <ienumChoice choice="Start Up" value="144" />
        <ienumChoice choice="Shut Down" value="145" />
        <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
        <ienumChoice choice="Coupler Effect" value="211" />
        <ienumChoice choice="Pumps" value="217" />
    </ienumVal>
</icv>
    <icv label="Outout 6 - Forward/Reverse Only"
CVname="53.6.0" CV="53" PI="6" SI="0" default="8"
comment="QSI">
    <ienumVal>
        <ienumChoice choice="Dynamic Brakes" value="5" />
        <ienumChoice choice="Long Air Let-off" value="9" />
        <ienumChoice choice="Short Air Let-off" value="10" /
>
        <ienumChoice choice="Mute" value="64" />
        <ienumChoice choice="Doppler Shift" value="65" />
        <ienumChoice choice="Headlight" value="98" />
        <ienumChoice choice="Dim Headlight" value="99" />
        <ienumChoice choice="Reverse Light" value="100" />
        <ienumChoice choice="Automatic Cab Lights"
value="101" />
        <ienumChoice choice="Directional Mars Light"
value="102" />
        <ienumChoice choice="Mars Light" value="103" />
        <ienumChoice choice="Strobe Mars Light" value="104"
/>
        <ienumChoice choice="Number Board Lights"

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value="105" />
    <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
    <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
    <ienumChoice choice="Directional Ditch Lights"
value="109" />
    <ienumChoice choice="Ditch Lights" value="110" />
    <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
    <ienumChoice choice="Cruise Control" value="177" />
    <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
    <ienumChoice choice="Coupler Effect" value="211" />
    <ienumChoice choice="Squealing Brakes" value="215" /
>
    <ienumChoice choice="Squealing Brakes + Air Brakes"
value="216" />
    </ienumVal>
</icv>
<icv label=" - Neutral Only" CVname="53.6.1" CV="53"
PI="6" SI="1" default="8" comment="QSI">
    <ienumVal>
    <ienumChoice choice="Dynamic Brakes" value="5" />
    <ienumChoice choice="Long Air Let-off" value="9" />
    <ienumChoice choice="Short Air Let-off" value="10" /
>
    <ienumChoice choice="Mute" value="64" />
    <ienumChoice choice="Headlight" value="98" />
    <ienumChoice choice="Dim Headlight" value="99" />
    <ienumChoice choice="Reverse Light" value="100" />
    <ienumChoice choice="Automatic Cab Lights"
value="101" />
    <ienumChoice choice="Directional Mars Light"
value="102" />
    <ienumChoice choice="Mars Light" value="103" />
    <ienumChoice choice="Strobe Mars Light" value="104"
/>
    <ienumChoice choice="Number Board Lights"
value="105" />
    <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
    <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
    <ienumChoice choice="Directional Ditch Lights"
value="109" />
    <ienumChoice choice="Ditch Lights" value="110" />
    <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
    <ienumChoice choice="Start Up" value="144" />
    <ienumChoice choice="Shut Down" value="145" />
    <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
    <ienumChoice choice="Coupler Effect" value="211" />

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        <ienumChoice choice="Pumps" value="217" />
    </ienumVal>
</icv>
<icv label="Outout 7 - Forward/Reverse Only"
CVname="53.7.0" CV="53" PI="7" SI="0" default="5"
comment="QSI">
    <ienumVal>
        <ienumChoice choice="Dynamic Brakes" value="5" />
        <ienumChoice choice="Long Air Let-off" value="9" />
        <ienumChoice choice="Short Air Let-off" value="10" /
>
        <ienumChoice choice="Mute" value="64" />
        <ienumChoice choice="Doppler Shift" value="65" />
        <ienumChoice choice="Headlight" value="98" />
        <ienumChoice choice="Dim Headlight" value="99" />
        <ienumChoice choice="Reverse Light" value="100" />
        <ienumChoice choice="Automatic Cab Lights"
value="101" />
        <ienumChoice choice="Directional Mars Light"
value="102" />
        <ienumChoice choice="Mars Light" value="103" />
        <ienumChoice choice="Strobe Mars Light" value="104"
/>
        <ienumChoice choice="Number Board Lights"
value="105" />
        <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
        <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
        <ienumChoice choice="Directional Ditch Lights"
value="109" />
        <ienumChoice choice="Ditch Lights" value="110" />
        <ienumChoice choice="Stobe Ditch Lights" value="111"
/>
        <ienumChoice choice="Cruise Control" value="177" />
        <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
        <ienumChoice choice="Coupler Effect" value="211" />
        <ienumChoice choice="Squealing Brakes" value="215" /
>
        <ienumChoice choice="Squealing Brakes + Air Brakes"
value="216" />
    </ienumVal>
</icv>
<icv label=" - Neutral Only" CVname="53.7.1" CV="53"
PI="7" SI="1" default="5" comment="QSI">
    <ienumVal>
        <ienumChoice choice="Dynamic Brakes" value="5" />
        <ienumChoice choice="Long Air Let-off" value="9" />
        <ienumChoice choice="Short Air Let-off" value="10" /
>
        <ienumChoice choice="Mute" value="64" />
        <ienumChoice choice="Headlight" value="98" />
        <ienumChoice choice="Dim Headlight" value="99" />

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        <ienumChoice choice="Reverse Light" value="100" />
        <ienumChoice choice="Automatic Cab Lights"
value="101" />
        <ienumChoice choice="Directional Mars Light"
value="102" />
        <ienumChoice choice="Mars Light" value="103" />
        <ienumChoice choice="Strobe Mars Light" value="104"
/>
        <ienumChoice choice="Number Board Lights"
value="105" />
        <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
        <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
        <ienumChoice choice="Directional Ditch Lights"
value="109" />
        <ienumChoice choice="Ditch Lights" value="110" />
        <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
        <ienumChoice choice="Start Up" value="144" />
        <ienumChoice choice="Shut Down" value="145" />
        <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
        <ienumChoice choice="Coupler Effect" value="211" />
        <ienumChoice choice="Pumps" value="217" />
    </ienumVal>
</icv>
    <icv label="Outout 8 - Forward/Reverse Only"
CVname="53.8.0" CV="53" PI="8" SI="0" default="65"
comment="QSI">
    <ienumVal>
        <ienumChoice choice="Dynamic Brakes" value="5" />
        <ienumChoice choice="Long Air Let-off" value="9" />
        <ienumChoice choice="Short Air Let-off" value="10" /
>
        <ienumChoice choice="Mute" value="64" />
        <ienumChoice choice="Doppler Shift" value="65" />
        <ienumChoice choice="Headlight" value="98" />
        <ienumChoice choice="Dim Headlight" value="99" />
        <ienumChoice choice="Reverse Light" value="100" />
        <ienumChoice choice="Automatic Cab Lights"
value="101" />
        <ienumChoice choice="Directional Mars Light"
value="102" />
        <ienumChoice choice="Mars Light" value="103" />
        <ienumChoice choice="Strobe Mars Light" value="104"
/>
        <ienumChoice choice="Number Board Lights"
value="105" />
        <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
        <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
        <ienumChoice choice="Directional Ditch Lights"

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```

value="109" />
    <ienumChoice choice="Ditch Lights" value="110" />
    <ienumChoice choice="Stobe Ditch Lights" value="111"
/>
    <ienumChoice choice="Cruise Control" value="177" />
    <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
    <ienumChoice choice="Coupler Effect" value="211" />
    <ienumChoice choice="Squealing Brakes" value="215" /
>
    <ienumChoice choice="Squealing Brakes + Air Brakes"
value="216" />
    </ienumVal>
</icv>
<icv label=" - Neutral Only" CVname="53.8.1" CV="53"
PI="8" SI="1" default="144" comment="QSI">
    <ienumVal>
    <ienumChoice choice="Dynamic Brakes" value="5" />
    <ienumChoice choice="Long Air Let-off" value="9" />
    <ienumChoice choice="Short Air Let-off" value="10" /
>
    <ienumChoice choice="Mute" value="64" />
    <ienumChoice choice="Headlight" value="98" />
    <ienumChoice choice="Dim Headlight" value="99" />
    <ienumChoice choice="Reverse Light" value="100" />
    <ienumChoice choice="Automatic Cab Lights"
value="101" />
    <ienumChoice choice="Directional Mars Light"
value="102" />
    <ienumChoice choice="Mars Light" value="103" />
    <ienumChoice choice="Strobe Mars Light" value="104"
/>
    <ienumChoice choice="Number Board Lights"
value="105" />
    <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
    <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
    <ienumChoice choice="Directional Ditch Lights"
value="109" />
    <ienumChoice choice="Ditch Lights" value="110" />
    <ienumChoice choice="Stobe Ditch Lights" value="111"
/>
    <ienumChoice choice="Start Up" value="144" />
    <ienumChoice choice="Shut Down" value="145" />
    <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
    <ienumChoice choice="Coupler Effect" value="211" />
    <ienumChoice choice="Pumps" value="217" />
    </ienumVal>
</icv>
<icv label="Outout 9 - Forward/Reverse Only"
CVname="53.9.0" CV="53" PI="9" SI="0" default="216"
comment="QSI">

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    <ienumVal>
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      <ienumChoice choice="Long Air Let-off" value="9" />
      <ienumChoice choice="Short Air Let-off" value="10" /
>
      <ienumChoice choice="Mute" value="64" />
      <ienumChoice choice="Doppler Shift" value="65" />
      <ienumChoice choice="Headlight" value="98" />
      <ienumChoice choice="Dim Headlight" value="99" />
      <ienumChoice choice="Reverse Light" value="100" />
      <ienumChoice choice="Automatic Cab Lights"
value="101" />
      <ienumChoice choice="Directional Mars Light"
value="102" />
      <ienumChoice choice="Mars Light" value="103" />
      <ienumChoice choice="Strobe Mars Light" value="104"
/>
      <ienumChoice choice="Number Board Lights"
value="105" />
      <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
      <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
      <ienumChoice choice="Directional Ditch Lights"
value="109" />
      <ienumChoice choice="Ditch Lights" value="110" />
      <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
      <ienumChoice choice="Cruise Control" value="177" />
      <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
      <ienumChoice choice="Coupler Effect" value="211" />
      <ienumChoice choice="Squealing Brakes" value="215" /
>
      <ienumChoice choice="Squealing Brakes + Air Brakes"
value="216" />
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  </icv>
  <icv label=" - Neutral Only" CVname="53.9.1" CV="53"
PI="9" SI="1" default="9" comment="QSI">
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      <ienumChoice choice="Long Air Let-off" value="9" />
      <ienumChoice choice="Short Air Let-off" value="10" /
>
      <ienumChoice choice="Mute" value="64" />
      <ienumChoice choice="Headlight" value="98" />
      <ienumChoice choice="Dim Headlight" value="99" />
      <ienumChoice choice="Reverse Light" value="100" />
      <ienumChoice choice="Automatic Cab Lights"
value="101" />
      <ienumChoice choice="Directional Mars Light"
value="102" />
      <ienumChoice choice="Mars Light" value="103" />

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        <ienumChoice choice="Strobe Mars Light" value="104"
/>
        <ienumChoice choice="Number Board Lights"
value="105" />
        <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
        <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
        <ienumChoice choice="Directional Ditch Lights"
value="109" />
        <ienumChoice choice="Ditch Lights" value="110" />
        <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
        <ienumChoice choice="Start Up" value="144" />
        <ienumChoice choice="Shut Down" value="145" />
        <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
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        <ienumChoice choice="Pumps" value="217" />
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</icv>
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CVname="53.10.0" CV="53" PI="10" SI="0" default="64"
comment="QSI">
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        <ienumChoice choice="Long Air Let-off" value="9" />
        <ienumChoice choice="Short Air Let-off" value="10" /
>
        <ienumChoice choice="Mute" value="64" />
        <ienumChoice choice="Doppler Shift" value="65" />
        <ienumChoice choice="Headlight" value="98" />
        <ienumChoice choice="Dim Headlight" value="99" />
        <ienumChoice choice="Reverse Light" value="100" />
        <ienumChoice choice="Automatic Cab Lights"
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        <ienumChoice choice="Mars Light" value="103" />
        <ienumChoice choice="Strobe Mars Light" value="104"
/>
        <ienumChoice choice="Number Board Lights"
value="105" />
        <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
        <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
        <ienumChoice choice="Directional Ditch Lights"
value="109" />
        <ienumChoice choice="Ditch Lights" value="110" />
        <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
        <ienumChoice choice="Cruise Control" value="177" />
        <ienumChoice choice="Scale mph Report and Status

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Report" value="178" />
    <ienumChoice choice="Coupler Effect" value="211" />
    <ienumChoice choice="Squealing Brakes" value="215" /
>
    <ienumChoice choice="Squealing Brakes + Air Brakes"
value="216" />
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</icv>
<icv label=" - Neutral Only" CVname="53.10.1" CV="53"
PI="10" SI="1" default="64" comment="QSI">
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    <ienumChoice choice="Short Air Let-off" value="10" /
>
    <ienumChoice choice="Mute" value="64" />
    <ienumChoice choice="Headlight" value="98" />
    <ienumChoice choice="Dim Headlight" value="99" />
    <ienumChoice choice="Reverse Light" value="100" />
    <ienumChoice choice="Automatic Cab Lights"
value="101" />
    <ienumChoice choice="Directional Mars Light"
value="102" />
    <ienumChoice choice="Mars Light" value="103" />
    <ienumChoice choice="Strobe Mars Light" value="104"
/>
    <ienumChoice choice="Number Board Lights"
value="105" />
    <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
    <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
    <ienumChoice choice="Directional Ditch Lights"
value="109" />
    <ienumChoice choice="Ditch Lights" value="110" />
    <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
    <ienumChoice choice="Start Up" value="144" />
    <ienumChoice choice="Shut Down" value="145" />
    <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
    <ienumChoice choice="Coupler Effect" value="211" />
    <ienumChoice choice="Pumps" value="217" />
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</icv>
<icv label="Outout 11 - Forward/Reverse Only"
CVname="53.11.0" CV="53" PI="11" SI="0" default="177"
comment="QSI">
    <ienumVal>
    <ienumChoice choice="Dynamic Brakes" value="5" />
    <ienumChoice choice="Long Air Let-off" value="9" />
    <ienumChoice choice="Short Air Let-off" value="10" /
>
    <ienumChoice choice="Mute" value="64" />

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        <ienumChoice choice="Doppler Shift" value="65" />
        <ienumChoice choice="Headlight" value="98" />
        <ienumChoice choice="Dim Headlight" value="99" />
        <ienumChoice choice="Reverse Light" value="100" />
        <ienumChoice choice="Automatic Cab Lights"
value="101" />
        <ienumChoice choice="Directional Mars Light"
value="102" />
        <ienumChoice choice="Mars Light" value="103" />
        <ienumChoice choice="Strobe Mars Light" value="104"
/>
        <ienumChoice choice="Number Board Lights"
value="105" />
        <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
        <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
        <ienumChoice choice="Directional Ditch Lights"
value="109" />
        <ienumChoice choice="Ditch Lights" value="110" />
        <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
        <ienumChoice choice="Cruise Control" value="177" />
        <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
        <ienumChoice choice="Coupler Effect" value="211" />
        <ienumChoice choice="Squealing Brakes" value="215" /
>
        <ienumChoice choice="Squealing Brakes + Air Brakes"
value="216" />
        </ienumVal>
    </icv>
    <icv label=" - Neutral Only" CVname="53.11.1" CV="53"
PI="11" SI="1" default="145" comment="QSI">
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            <ienumChoice choice="Short Air Let-off" value="10" /
>
            <ienumChoice choice="Mute" value="64" />
            <ienumChoice choice="Headlight" value="98" />
            <ienumChoice choice="Dim Headlight" value="99" />
            <ienumChoice choice="Reverse Light" value="100" />
            <ienumChoice choice="Automatic Cab Lights"
value="101" />
            <ienumChoice choice="Directional Mars Light"
value="102" />
            <ienumChoice choice="Mars Light" value="103" />
            <ienumChoice choice="Strobe Mars Light" value="104"
/>
            <ienumChoice choice="Number Board Lights"
value="105" />
            <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />

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        <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
        <ienumChoice choice="Directional Ditch Lights"
value="109" />
        <ienumChoice choice="Ditch Lights" value="110" />
        <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
        <ienumChoice choice="Start Up" value="144" />
        <ienumChoice choice="Shut Down" value="145" />
        <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
        <ienumChoice choice="Coupler Effect" value="211" />
        <ienumChoice choice="Pumps" value="217" />
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</icv>
    <icv label="Outout 12 - Forward/Reverse Only"
CVname="53.12.0" CV="53" PI="12" SI="0" default="178"
comment="QSI">
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        <ienumChoice choice="Long Air Let-off" value="9" />
        <ienumChoice choice="Short Air Let-off" value="10" /
>
        <ienumChoice choice="Mute" value="64" />
        <ienumChoice choice="Doppler Shift" value="65" />
        <ienumChoice choice="Headlight" value="98" />
        <ienumChoice choice="Dim Headlight" value="99" />
        <ienumChoice choice="Reverse Light" value="100" />
        <ienumChoice choice="Automatic Cab Lights"
value="101" />
        <ienumChoice choice="Directional Mars Light"
value="102" />
        <ienumChoice choice="Mars Light" value="103" />
        <ienumChoice choice="Strobe Mars Light" value="104"
/>
        <ienumChoice choice="Number Board Lights"
value="105" />
        <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
        <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
        <ienumChoice choice="Directional Ditch Lights"
value="109" />
        <ienumChoice choice="Ditch Lights" value="110" />
        <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
        <ienumChoice choice="Cruise Control" value="177" />
        <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
        <ienumChoice choice="Coupler Effect" value="211" />
        <ienumChoice choice="Squealing Brakes" value="215" /
>
        <ienumChoice choice="Squealing Brakes + Air Brakes"
value="216" />

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      <ienumChoice choice="Short Air Let-off" value="10" />
    >
      <ienumChoice choice="Mute" value="64" />
      <ienumChoice choice="Headlight" value="98" />
      <ienumChoice choice="Dim Headlight" value="99" />
      <ienumChoice choice="Reverse Light" value="100" />
      <ienumChoice choice="Automatic Cab Lights"
value="101" />
      <ienumChoice choice="Directional Mars Light"
value="102" />
      <ienumChoice choice="Mars Light" value="103" />
      <ienumChoice choice="Strobe Mars Light" value="104"
/>
      <ienumChoice choice="Number Board Lights"
value="105" />
      <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
      <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
      <ienumChoice choice="Directional Ditch Lights"
value="109" />
      <ienumChoice choice="Ditch Lights" value="110" />
      <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
      <ienumChoice choice="Start Up" value="144" />
      <ienumChoice choice="Shut Down" value="145" />
      <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
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      <ienumChoice choice="Pumps" value="217" />
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CVname="53.13.0" CV="53" PI="13" SI="0" default="105"
comment="QSI">
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      <ienumChoice choice="Short Air Let-off" value="10" />
    >
      <ienumChoice choice="Mute" value="64" />
      <ienumChoice choice="Doppler Shift" value="65" />
      <ienumChoice choice="Headlight" value="98" />
      <ienumChoice choice="Dim Headlight" value="99" />
      <ienumChoice choice="Reverse Light" value="100" />
      <ienumChoice choice="Automatic Cab Lights"
value="101" />

```

```

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        <ienumChoice choice="Mars Light" value="103" />
        <ienumChoice choice="Strobe Mars Light" value="104"
/>
        <ienumChoice choice="Number Board Lights"
value="105" />
        <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
        <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
        <ienumChoice choice="Directional Ditch Lights"
value="109" />
        <ienumChoice choice="Ditch Lights" value="110" />
        <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
        <ienumChoice choice="Cruise Control" value="177" />
        <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
        <ienumChoice choice="Coupler Effect" value="211" />
        <ienumChoice choice="Squealing Brakes" value="215" /
>
        <ienumChoice choice="Squealing Brakes + Air Brakes"
value="216" />
        </ienumVal>
    </icv>
    <icv label=" - Neutral Only" CVname="53.13.1" CV="53"
PI="13" SI="1" default="105" comment="QSI">
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            <ienumChoice choice="Long Air Let-off" value="9" />
            <ienumChoice choice="Short Air Let-off" value="10" /
>
            <ienumChoice choice="Mute" value="64" />
            <ienumChoice choice="Headlight" value="98" />
            <ienumChoice choice="Dim Headlight" value="99" />
            <ienumChoice choice="Reverse Light" value="100" />
            <ienumChoice choice="Automatic Cab Lights"
value="101" />
            <ienumChoice choice="Directional Mars Light"
value="102" />
            <ienumChoice choice="Mars Light" value="103" />
            <ienumChoice choice="Strobe Mars Light" value="104"
/>
            <ienumChoice choice="Number Board Lights"
value="105" />
            <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
            <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
            <ienumChoice choice="Directional Ditch Lights"
value="109" />
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            <ienumChoice choice="Strobe Ditch Lights" value="111"

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```

/>
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    <ienumChoice choice="Shut Down" value="145" />
    <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
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    <ienumChoice choice="Pumps" value="217" />
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    <ienumChoice choice="Short Air Let-off" value="10" /
>
    <ienumChoice choice="Mute" value="64" />
    <ienumChoice choice="Doppler Shift" value="65" />
    <ienumChoice choice="Headlight" value="98" />
    <ienumChoice choice="Dim Headlight" value="99" />
    <ienumChoice choice="Reverse Light" value="100" />
    <ienumChoice choice="Automatic Cab Lights"
value="101" />
    <ienumChoice choice="Directional Mars Light"
value="102" />
    <ienumChoice choice="Mars Light" value="103" />
    <ienumChoice choice="Strobe Mars Light" value="104"
/>
    <ienumChoice choice="Number Board Lights"
value="105" />
    <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
    <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
    <ienumChoice choice="Directional Ditch Lights"
value="109" />
    <ienumChoice choice="Ditch Lights" value="110" />
    <ienumChoice choice="Stobe Ditch Lights" value="111"
/>
    <ienumChoice choice="Cruise Control" value="177" />
    <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
    <ienumChoice choice="Coupler Effect" value="211" />
    <ienumChoice choice="Squealing Brakes" value="215" /
>
    <ienumChoice choice="Squealing Brakes + Air Brakes"
value="216" />
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        <ienumChoice choice="Short Air Let-off" value="10" />
    >
        <ienumChoice choice="Mute" value="64" />
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        <ienumChoice choice="Dim Headlight" value="99" />
        <ienumChoice choice="Reverse Light" value="100" />
        <ienumChoice choice="Automatic Cab Lights"
value="101" />
        <ienumChoice choice="Directional Mars Light"
value="102" />
        <ienumChoice choice="Mars Light" value="103" />
        <ienumChoice choice="Strobe Mars Light" value="104"
/>
        <ienumChoice choice="Number Board Lights"
value="105" />
        <ienumChoice choice="Directional Headlight +
Directional Mars Light" value="107" />
        <ienumChoice choice="Directional Headlight +
Directional Ditch Lights" value="108" />
        <ienumChoice choice="Directional Ditch Lights"
value="109" />
        <ienumChoice choice="Ditch Lights" value="110" />
        <ienumChoice choice="Strobe Ditch Lights" value="111"
/>
        <ienumChoice choice="Start Up" value="144" />
        <ienumChoice choice="Shut Down" value="145" />
        <ienumChoice choice="Scale mph Report and Status
Report" value="178" />
        <ienumChoice choice="Coupler Effect" value="211" />
        <ienumChoice choice="Pumps" value="217" />
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</icv>
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CVname="55.110.5" CV="55" PI="110" SI="5" default="5"
comment="QSI">
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    </icv>
    <icv label="Throttle Mode" CVname="56.4" CV="56" PI="4"
SI="-1" default="1" comment="QSI">
        <ienumVal>
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value="0" />
            <ienumChoice choice="Speed Control" value="1" />
            <ienumChoice choice="Regulated Throttle Control"
value="2" />
        </ienumVal>
    </icv>
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CVname="56.10" CV="56" PI="10" SI="-1" default="64"
comment="QSI">
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        <ienumVal />

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    </icv>
    <icv label="Chuff Interval Scale Factor" CVname="56.12"
CV="56" PI="12" SI="-1" default="32" comment="QSI">
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      <ienumVal />
    </icv>
    <icv label="Product Model High Byte" CVname="56.254.4"
CV="56" PI="254" SI="4" default="" comment="QSI"
readOnly="yes">
      <ienumVal />
    </icv>
    <icv label="Product Model Low Byte" CVname="56.254.5"
CV="56" PI="254" SI="5" default="" comment="QSI"
readOnly="yes">
      <ienumVal />
    </icv>
    <icv label="Firmware Build Number" CVname="56.254.8"
CV="56" PI="254" SI="8" default="" comment="QSI"
readOnly="yes">
      <ienumVal />
    </icv>
    <icv label="Firmware Build Date.Month"
CVname="56.254.10" CV="56" PI="254" SI="10" default=""
comment="QSI" readOnly="yes">
      <ienumVal />
    </icv>
    <icv label="Firmware Build Date.Day" CVname="56.254.11"
CV="56" PI="254" SI="11" default="" comment="QSI"
readOnly="yes">
      <ienumVal />
    </icv>
    <icv label="Firmware Build Date.Year" CVname="56.254.12"
CV="56" PI="254" SI="12" default="" comment="QSI"
readOnly="yes">
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    </icv>
    <icv label="Play Product Identifier" CVname="56.255_0"
CV="56" PI="255" SI="-1" default="0" comment="QSI"
opsOnly="yes" writeOnly="yes" infoOnly="yes">
      <ienumVal />
    </icv>
    <icv label="Firmware Build Date.Day" CVname="56.255_1"
CV="56" PI="255" SI="-1" default="1" comment="QSI"
opsOnly="yes" writeOnly="yes" infoOnly="yes">
      <ienumVal />
    </icv>
    <icv label="Firmware Build Date.Year" CVname="56.255_2"
CV="56" PI="255" SI="-1" default="2" comment="QSI"
opsOnly="yes" writeOnly="yes" infoOnly="yes">
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  </icvList>
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  <ireset label="Reset Individual Sounds" CV="56" PI="128"
SI="52" default="113" item="CV56.128.52" />
  <ireset label="Reset Function Output Mappings" CV="56"
PI="128" SI="53" default="113" item="CV56.128.53" />
  <ireset label="Reset QSI Feature Control" CV="56"
PI="128" SI="55" default="113" item="CV56.128.55" />
  <ireset label="Reset QSI Configuration" CV="56" PI="128"
SI="56" default="113" item="CV56.128.56" />
  <ireset label="Reset all standard NMRA CV's" CV="56"
PI="128" SI="253" default="113" item="CV56.128.253" />
  <ireset label="Reset all QSI CV's" CV="56" PI="128"
SI="254" default="113" item="CV56.128.254" />
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default="113" item="CV56.128.255" />
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</decoder_template>
</decoders>
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