Hall Declaration
Exhibit L
From:  "Gerry Pruss" <g_pruss@yahoo.com>
To: "Michael Mosher" <mjmx@comcast.net>; <STR1230H@npgcable.com>; <info@qsisolutions.com>
Sent: Wednesday, October 04, 2006 6:32 PM
Attach: Version7CVSupport.txt
Subject: Re: QSI V7 decoder definition for DecoderPro

Michael,

Hopefully the attached file will meet your needs.

I have also added this file to the Files section of the QSIndustries yahoo group.

Gerry Pruss
QSI

--- Michael Mosher <mjmx@comcast.net> wrote:

> I've started to create a Decoder Pro file for
> version 7 QSI decoders. I've
> started with the Articulated steam locos (because
> the first chip for a loco
> I have is the AC4). I've also made one for non
> articulated steam. And will
> do Diesel, Electric and Gas turbine in the future.
> 
> The message below indicates that the upgrade chip
> does not support every CV
> listed in the 4.02 manual. I'd like to get a list
> of CVs supported for each
> Product ID (400, 401, 100, 200, 300...) so I can
> create the Decoder Pro XML
> file.
> http://jmri.sourceforge.net/
> 
> Thanks
> Michael Mosher
> http://home.comcast.net/~mjmx
>
>>> As of yesterday I've used your V.7 file on my AC5
>>> cab forward (the
>>> only articulated I have with a V.7 chip so far),
>>> and also looked at
>>> the way it handles non-articulated steam and
>>> diesel units.
>>> 
>>> One thing is painfully clear: QSI firmware does
>>> *not* include CVs for
functions not included on the original model itself. IOW, if the unit
didn't originally come with a Mars light,
separate marker or cab
lights, a secondary whistle, ditch lights, or
even a dimmable backup
light, then the V.7 chips do *not* contain the
CV's for setting those
options. On my AC5, there are a full 30 Indexed
CV's that DP attempts
to set that simply don't exist on the V.7 chip.
Most of these are the
ones dealing with customizing the lighting
options. On some, it "gives
up" after two attempts to read them; but on
others it makes *eight*
attends, which means it takes at least half an
hour to do a "Read All
Sheets" operation.

---

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http://mail.yahoo.com

Version 7 CV Support
4-Oct-06
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This document lists the features and CV's supported by the version 7 firmware for each HO model released to date or soon to be released.

There may be a few discrepancies between this document and new version 7 firmware released after this date.

This document will be updated as additional version 7 firmware is released.

Model 100 E7 (BLI)
Features:
Headlight
Reverse Light
Mars Light
Front Number Board Lights
Supported CV's:
CV1 Primary Address (Default=3)
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV2 Vstart</td>
<td>17</td>
</tr>
<tr>
<td>CV3 Acceleration Rate</td>
<td>0</td>
</tr>
<tr>
<td>CV4 Deceleration Rate</td>
<td>0</td>
</tr>
<tr>
<td>CV5 Vhigh</td>
<td>1</td>
</tr>
<tr>
<td>CV7 Mfg Version No.</td>
<td>7</td>
</tr>
<tr>
<td>CV8 Mfg ID</td>
<td>113</td>
</tr>
<tr>
<td>CV11 Packet Time-out Value</td>
<td>1</td>
</tr>
<tr>
<td>CV17 Extended Address</td>
<td>192</td>
</tr>
<tr>
<td>CV18 Extended Address</td>
<td>0</td>
</tr>
<tr>
<td>CV19 Consist Address</td>
<td>0</td>
</tr>
<tr>
<td>CV21 Consist Functions 1-8</td>
<td>0</td>
</tr>
<tr>
<td>CV22 Consist Lights &amp; Functions 9-12</td>
<td>0</td>
</tr>
<tr>
<td>CV23 Acceleration Adjustment</td>
<td>0</td>
</tr>
<tr>
<td>CV24 Deceleration Adjustment</td>
<td>0</td>
</tr>
<tr>
<td>CV25 Speed Table Select</td>
<td>2</td>
</tr>
<tr>
<td>CV29 Configuration Data #1</td>
<td>6</td>
</tr>
<tr>
<td>CV33 FL(f)</td>
<td>3</td>
</tr>
<tr>
<td>CV34 FL(4)</td>
<td>3</td>
</tr>
<tr>
<td>CV35 Function 1</td>
<td>4</td>
</tr>
<tr>
<td>CV36 Function 2</td>
<td>8</td>
</tr>
<tr>
<td>CV37 Function 3</td>
<td>16</td>
</tr>
<tr>
<td>CV38 Function 4</td>
<td>4</td>
</tr>
<tr>
<td>CV39 Function 5</td>
<td>8</td>
</tr>
<tr>
<td>CV40 Function 6</td>
<td>16</td>
</tr>
<tr>
<td>CV41 Function 7</td>
<td>32</td>
</tr>
<tr>
<td>CV42 Function 8</td>
<td>64</td>
</tr>
<tr>
<td>CV43 Function 9</td>
<td>16</td>
</tr>
<tr>
<td>CV44 Function 10</td>
<td>32</td>
</tr>
<tr>
<td>CV45 Function 11</td>
<td>64</td>
</tr>
<tr>
<td>CV46 Function 12</td>
<td>128</td>
</tr>
<tr>
<td>CV48 Primary Index</td>
<td>0</td>
</tr>
<tr>
<td>CV50 Secondary Index</td>
<td>0</td>
</tr>
<tr>
<td>CV51.0 System Volume</td>
<td>127</td>
</tr>
<tr>
<td>CV51.1 Mute Volume</td>
<td>0</td>
</tr>
<tr>
<td>CV51.2 Special Sound Effects Enable</td>
<td>1</td>
</tr>
<tr>
<td>CV52.0 Horn Volume</td>
<td>11</td>
</tr>
<tr>
<td>CV52.8 Bell Volume</td>
<td>11</td>
</tr>
<tr>
<td>CV52.10 Motor Volume</td>
<td>11</td>
</tr>
<tr>
<td>CV52.16 Air Pump Volume</td>
<td>11</td>
</tr>
<tr>
<td>CV52.19 Cooling Fans Volume</td>
<td>11</td>
</tr>
<tr>
<td>CV52.21 Long Air Letoff Volume</td>
<td>11</td>
</tr>
<tr>
<td>CV52.22 Short Air Letoff Volume</td>
<td>11</td>
</tr>
<tr>
<td>CV52.24 Squealing Brakes Volume</td>
<td>11</td>
</tr>
<tr>
<td>CV52.28 Dyanamic Brakes Fan Volume</td>
<td>11</td>
</tr>
<tr>
<td>CV52.34 Coupler Volume</td>
<td>11</td>
</tr>
<tr>
<td>CV52.37 Air Brakes Volume</td>
<td>11</td>
</tr>
<tr>
<td>53.1.0 Output 1 FWD/REV</td>
<td>136</td>
</tr>
<tr>
<td>53.1.1 Output 1 NFF/NFR</td>
<td>136</td>
</tr>
<tr>
<td>53.2.0 Output 2 FWD/REV</td>
<td>136</td>
</tr>
<tr>
<td>53.2.1 Output 2 NFF/NFR</td>
<td>136</td>
</tr>
<tr>
<td>53.3.0 Output 3 FWD/REV</td>
<td>3</td>
</tr>
</tbody>
</table>
Case 3:06-cv-01905-JSW Document 348-12 Filed 10/30/09 Page 5 of 14

53.3.1 Output 3 NFF/NFR (Default=3)
53.4.0 Output 4 FWD/REV (Default=1)
53.4.1 Output 4 NFF/NFR (Default=1)
53.5.0 Output 5 FWD/REV (Default=211)
53.5.1 Output 5 NFF/NFR (Default=211)
53.6.0 Output 6 FWD/REV (Default=8)
53.6.1 Output 6 NFF/NFR (Default=8)
53.7.0 Output 7 FWD/REV (Default=5)
53.7.1 Output 7 NFF/NFR (Default=5)
53.8.0 Output 8 FWD/REV (Default=65)
53.8.1 Output 8 NFF/NFR (Default=144)
53.9.0 Output 9 FWD/REV (Default=216)
53.9.1 Output 9 NFF/NFR (Default=9)
53.10.0 Output 10 FWD/REV (Default=64)
53.10.1 Output 10 NFF/NFR (Default=64)
53.11.0 Output 11 FWD/REV (Default=179)
53.11.1 Output 11 NFF/NFR (Default=145)
53.12.0 Output 12 FWD/REV (Default=178)
53.12.1 Output 12 NFF/NFR (Default=178)
53.13.0 Output 13 FWD/REV (Default=137)
53.13.1 Output 13 NFF/NFR (Default=137)
53.14.0 Output 14 FWD/REV (Default=138)
53.14.1 Output 14 NFF/NFR (Default=138)
CV55.3.0 Maximum Bell Index (Default=2)

CV55.3.1 Bell Select (Default=1)
CV55.70.0 Headlight Initial State (Default=1)
CV55.70.1 Headlight Automatic Config (Default=86)
CV55.73.0 Reverse Light Initial State (Default=1)
CV55.73.1 Reverse Light Automatic Config (Default=101)

CV55.76.0 Mars Light Initial State (Default=1)
CV55.76.1 Mars Light Automatic FWD Config (Default=3)
CV55.76.2 Mars Light Automatic NFF Config (Default=1)
CV55.76.3 Mars Light Automatic REV Config (Default=1)
CV55.76.4 Mars Light Automatic NFR Config (Default=1)
CV55.76.10 Mars Light Dim Intensity (Default=32)
CV55.100.0 Front Num Brd Lts Initial State (Default=1)
CV55.100.1 Front Num Brd Lts Automatic Config (Default=85)

CV55.136.0 Multiple Lights #1 Config Byte 0 (Default=255)
CV55.136.1 Multiple Lights #1 Config Byte 1 (Default=0)
CV55.136.2 Multiple Lights #1 Config Byte 2 (Default=0)
CV55.137.0 Multiple Lights #2 Config Byte 0 (Default=0)
CV55.137.1 Multiple Lights #2 Config Byte 1 (Default=255)
CV55.137.2 Multiple Lights #2 Config Byte 2 (Default=0)
CV55.138.0 Multiple Lights #3 Config Byte 0 (Default=0)
CV55.138.1 Multiple Lights #3 Config Byte 1 (Default=0)
CV55.138.2 Multiple Lights #3 Config Byte 2 (Default=255)
CV55.178.0 Status Report Configuration (Default=1)

CV56.0 System Configuration (Default=0)
CV56.4 Throttle Mode (Default=1)
CV56.5 Regulated Throttle Minimum BEMF (Default=2)
CV56.18.0 Very Low Speed Proportional Gain (Default=20)
CV56.18.2 Very Low Speed Differential Gain (Default=60)
CV56.19.0 Low Speed Proportional Gain (Default=16)
CV56.19.2 Low Speed Differential Gain (Default=16)
CV56.20.0 Medium Speed Proportional Gain (Default=10)
CV56.20.2 Medium Differential Gain (Default=10)
CV56.21.0 High Speed Proportional Gain (Default=7)
CV56.21.2 High Speed Differential Gain (Default=2)
CV56.128 Reset to Factory Defaults
CV56.129 Locomotive ID Access
CV56.254 About Quantum Decoder
CV56.255 Play Build Information
CV62 QSI Control (Default=1)
CV64 Numeric Verbal Readout
CV66 Forward Trim (Default=128)
CV67 Speed Table[1] (Default=0)
CV68 Speed Table[2] (Default=9)
CV69 Speed Table[3] (Default=18)
CV70 Speed Table[4] (Default=28)
CV71 Speed Table[5] (Default=37)
CV72 Speed Table[6] (Default=47)
CV73 Speed Table[7] (Default=56)
CV74 Speed Table[8] (Default=66)
CV75 Speed Table[9] (Default=75)
CV76 Speed Table[10] (Default=85)
CV77 Speed Table[11] (Default=94)
CV78 Speed Table[12] (Default=103)
CV79 Speed Table[13] (Default=113)
CV80 Speed Table[14] (Default=122)
CV81 Speed Table[15] (Default=132)
CV82 Speed Table[16] (Default=141)
CV83 Speed Table[17] (Default=151)
CV84 Speed Table[18] (Default=160)
CV85 Speed Table[19] (Default=170)
CV86 Speed Table[20] (Default=179)
CV87 Speed Table[21] (Default=188)
CV88 Speed Table[22] (Default=198)
CV89 Speed Table[23] (Default=207)
CV90 Speed Table[24] (Default=217)
CV91 Speed Table[25] (Default=226)
CV92 Speed Table[26] (Default=236)
CV93 Speed Table[27] (Default=245)
CV94 Speed Table[28] (Default=255)
CV95 Reverse Trim (Default=128)

Model 101 SW7 (BLI)
Features:
Headlight
Reverse Light
Rear Cab Lights
Supported CV's:
CV1 Primary Address (Default=3)
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV2 Vstart</td>
<td>(Default=11)</td>
</tr>
<tr>
<td>CV3 Acceleration Rate</td>
<td>(Default=0)</td>
</tr>
<tr>
<td>CV4 Deceleration Rate</td>
<td>(Default=0)</td>
</tr>
<tr>
<td>CV5 Vhigh</td>
<td>(Default=1)</td>
</tr>
<tr>
<td>CV7 Mfg Version No.</td>
<td>(Default=7)</td>
</tr>
<tr>
<td>CV8 Mfg ID</td>
<td>(Default=113)</td>
</tr>
<tr>
<td>CV11 Packet Time-out Value</td>
<td>(Default=1)</td>
</tr>
<tr>
<td>CV17 Extended Address</td>
<td>(Default=192)</td>
</tr>
<tr>
<td>CV18 Extended Address</td>
<td>(Default=0)</td>
</tr>
<tr>
<td>CV19 Consist Address</td>
<td>(Default=0)</td>
</tr>
<tr>
<td>CV21 Consist Functions 1-8</td>
<td>(Default=0)</td>
</tr>
<tr>
<td>CV22 Consist Lights &amp; Functions 9-12</td>
<td>(Default=0)</td>
</tr>
<tr>
<td>CV23 Acceleration Adjustment</td>
<td>(Default=0)</td>
</tr>
<tr>
<td>CV24 Deceleration Adjustment</td>
<td>(Default=0)</td>
</tr>
<tr>
<td>CV25 Speed Table Select</td>
<td>(Default=2)</td>
</tr>
<tr>
<td>CV29 Configuration Data #1</td>
<td>(Default=6)</td>
</tr>
<tr>
<td>CV33 FL(f)</td>
<td>(Default=3)</td>
</tr>
<tr>
<td>CV34 FL(4)</td>
<td>(Default=3)</td>
</tr>
<tr>
<td>CV35 Function 1</td>
<td>(Default=4)</td>
</tr>
<tr>
<td>CV36 Function 2</td>
<td>(Default=8)</td>
</tr>
<tr>
<td>CV37 Function 3</td>
<td>(Default=16)</td>
</tr>
<tr>
<td>CV38 Function 4</td>
<td>(Default=4)</td>
</tr>
<tr>
<td>CV39 Function 5</td>
<td>(Default=8)</td>
</tr>
<tr>
<td>CV40 Function 6</td>
<td>(Default=16)</td>
</tr>
<tr>
<td>CV41 Function 7</td>
<td>(Default=32)</td>
</tr>
<tr>
<td>CV42 Function 8</td>
<td>(Default=64)</td>
</tr>
<tr>
<td>CV43 Function 9</td>
<td>(Default=16)</td>
</tr>
<tr>
<td>CV44 Function 10</td>
<td>(Default=32)</td>
</tr>
<tr>
<td>CV45 Function 11</td>
<td>(Default=64)</td>
</tr>
<tr>
<td>CV46 Function 12</td>
<td>(Default=128)</td>
</tr>
<tr>
<td>CV49 Primary Index</td>
<td>(Default=0)</td>
</tr>
<tr>
<td>CV50 Secondary Index</td>
<td>(Default=0)</td>
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<tr>
<td>CV51.0 System Volume</td>
<td>(Default=127)</td>
</tr>
<tr>
<td>CV51.1 Mute Volume</td>
<td>(Default=0)</td>
</tr>
<tr>
<td>CV51.2 Special Sound Effects Enable</td>
<td>(Default=1)</td>
</tr>
<tr>
<td>CV52.0 Horn Volume</td>
<td>(Default=11)</td>
</tr>
<tr>
<td>CV52.8 Bell Volume</td>
<td>(Default=11)</td>
</tr>
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<td>CV52.19 Cooling Fans Volume</td>
<td>(Default=11)</td>
</tr>
<tr>
<td>CV52.21 Long Air Letoff Volume</td>
<td>(Default=11)</td>
</tr>
<tr>
<td>CV52.22 Short Air Letoff Volume</td>
<td>(Default=11)</td>
</tr>
<tr>
<td>CV52.24 Squealing Brakes Volume</td>
<td>(Default=11)</td>
</tr>
<tr>
<td>CV52.34 Coupler Volume</td>
<td>(Default=11)</td>
</tr>
<tr>
<td>CV52.37 Air Brakes Volume</td>
<td>(Default=11)</td>
</tr>
<tr>
<td>53.1.0 Output 1 FWD/REV</td>
<td>(Default=136)</td>
</tr>
<tr>
<td>53.1.1 Output 1 NFF/NFR</td>
<td>(Default=136)</td>
</tr>
<tr>
<td>53.2.0 Output 2 FWD/REV</td>
<td>(Default=136)</td>
</tr>
<tr>
<td>53.2.1 Output 2 NFF/NFR</td>
<td>(Default=136)</td>
</tr>
<tr>
<td>53.3.0 Output 3 FWD/REV</td>
<td>(Default=3)</td>
</tr>
<tr>
<td>53.3.1 Output 3 NFF/NFR</td>
<td>(Default=3)</td>
</tr>
</tbody>
</table>
From: "Michael Mosher" <mjmx1@comcast.net>
To: "Gerry Pruss" <g_pruss@yahoo.com>
Sent: Saturday, July 28, 2007 6:04 PM
Subject: Version7CVSupport.txt

Gerry,

Would you make an updated Version7CVSupport.txt file so I can update the Decoder Pro files.

Thanks,

Michael Mosher
http://home.comcast.net/~mjmx
Member SFRH&MS
http://www.atsfrr.net/
Member PVSMR
http://www.patcongvalley.com/
Having problems with message search? Fill out this form to ensure your group is one of the first to be migrated to the new message search system.

Version7CVSupport.txt

Gerry,

Woud make an updated Version7CVSupport.txt

Re: Version7CVSupport.txt
Michael, I have updated the Version7CVSupport.txt file in the files section. Gerry Pruss (QSI)

Re: Version7CVSupport.txt
Gerry, I started the question on the Universal Chip upgrade because I have purchased a LL SW8 that I plan on stealing the decoder to install in my S-SCALE SW1....

Re: S-SCALE
Ed, We have experimented with S-SCALE locomotives containing the HO diesel board. It runs, but we have not done extensive testing to see how long it runs before...

http://groups.yahoo.com/group/QSIndustries/message/4909
Having problems with message search? Fill out this form to ensure your group is one of the first to be migrated to the new message search system.

Messages

Message #4920 of 7996 < Prev | Next >

Re: Version7CVSupport.txt

Michael,

I have updated the Version7CVSupport.txt file in the Files section.

Gerry Pruss
QSI

--- In QSIndustries@yahoogroups.com, "Michael Mosher" <mjmxi@...> wrote:
> 
> Gerry,
> 
> Would made an updated Version7CVSupport.txt
>

Message #4920 of 7996 < Prev | Next >

Author

Michael Mosher
mmosher5501

Jul 28, 2007 6:05 pm

Gerry Pruss

Jul 31, 2007 5:48 pm

Edward Sauers

Jul 31, 2007 7:09 pm

2RGJ_MM.00000009

8/14/2009
Re: [QSIndustries] Quantum i Lighting

Gerry,

When will the new firmware for the B23-7 & B40-8(W) with the additional lighting outputs enabled (number board lights & ditch lights) be available? The version on QSISolutions web (127-0v7-33-00 & 126-0v7-33-025) does not have them according to Q4a upgrade V1.1.0.0. It shows HL BL for the B23 & HL BL Ditch for the B40. And on a loco with that firmware, reading CV55:106.0 & other CVs for those lighting features results in failed read.

Also what about the Atlas C40-8(W) firmware 132, any chance that will get a number board output?

And, could I get an updated "Version7CVSupport.txt" file?

Thanks,

Michael Mosher
http://home.comcast.net/~mjmx
Member SFRH&MS
http://www.atsfrr.net/
DCC Master PVSMR
http://www.patenogvalley.com/

----- Original Message -----
From: "g_pross" <__pross08...>
To: QSIndustries@yahoogroups.com
Sent: Thursday, June 10, 2008 3:47 PM
Subject: [QSIndustries] Quantum i Lighting

http://groups.yahoo.com/group/QSIndustries/message/6288
Re: Quantum 1 Lighting

Michael,

>>> When will the new firmware for the B23-7 & B40-8(W) with the additional lighting outputs enabled (number board lights & ditch lights) be available? The version on QSI solutions web (127-07-33-00 & 126-07-33-028 ) does not have them ... <<<

It looks like the QSI Solutions site is not updated to the most recent firmware for 126 and 127.

Ask QSI Solutions for
126-07-35-8 (added Number Board Lights 21-Jan-08)
126-117-35-8 (added Number Board Lights 21-Jan-08)
127-07-35-8 (added Ditch Lights and Number Board Lights 21-Jan-08)
127-117-35-8 (added Ditch Lights and Number Board Lights 21-Jan-08)

>>> Also what about the Atlas C40-8(W) firmware 132, any chance that will get a number board output? <<<

Submit a request to QSI Solutions for 132 firmware with Number Board Lights.

>>> And, could I get an updated "Version7CVSupport.txt" file? <<<

I'll put it on my list of things to do.

Gerry Pruss
Having problems with message search? Fill out this form to ensure your group is one of the first to be migrated to the new message search system.

Version7CVSupport.txt

Gerry Pruss

I'd like to request an updated "Version7CVSupport.txt" file.

Thanks,

Michael Mosher
http://home.comcast.net/~mjmx
Member SFRHR8MS
http://www.at&tfr.net/
DCC Master PVSMDR
http://www.potlioingvalley.com/

Michael Mosher
<mjmx1@comcast.net>
mmosher5501

http://groups.yahoo.com/group/OSIndustries/message/7291
Having problems with message search? Fill out this form to ensure your group is one of the first to be migrated to the new message search system.

Version7CVSupport.txt

Re: Version7CVSupport.txt

Michael,

I added "Version7CVSupport_x5Feb09.txt" to this group's Files section.

Gerry Pruss
QSI

--- In QSIndustries@yahoogroups.com, "Michael Mosher" <mjmx1@...> wrote:
> > > Gerry Pruss
> > > I'd like to request an updated "Version7CVSupport.txt" file.
> > > Thanks,
> > > Michael Mosher
> > > http://home.comcast.net/~mjmx
> > > Member SFRHRMS
> > > http://www.sfrhrms.com
> > > DCC Master PVSRR
> > > http://www.coloringvalley.com/