

# Mohegan Pequot Model Railroad



## The News for: June 2004

### M&P Out of Woodworker's Warehouse

Well it was fun while it lasted but the Club was asked to leave the Woodworker's Warehouse store in Norwich because Harry Leiser (the owner) found a paying client. So, the modules are back in Larry Southwick's basement or in the Big Blue trailer and it looks like it is business as usual again for the Club.

### Meetings, Work & Operating Sessions

The Club meeting on the 13<sup>th</sup> will be held at the Bill Library in Ledyard, CT starting at 7:30 PM. The second meeting of the month, on the 27<sup>th</sup>, will be held at the Norwich Station, after close of the display. Come to the Club meetings or call an officer to find out where the work sessions on the new passenger modules will be held. Operating sessions at Larry Southwick's house will resume at his discretion so call Larry if you are interested in operating trains.

### We have a New Club Secretary!

Robert Applegate was elected to be the new Club Secretary. Congratulations Bob! Kudos to George Harran who served the Club so well for the last three years in this role.

### Extracts from Meeting Notes in May

[Only includes information relevant this month or not incorporated in other articles in the newsletter.]  
(extracts from John Waller's notes)

### May 9 Woodworkers Warehouse, Norwich

Dan Delany reported on his rail fan trip and tabled many pictures therefrom. There were no security problems (at the rail site). Club members pawing over the pictures was another story.

Dan has been calling St. Bernard's, but is having trouble getting their attention. Last year's check has not yet been presented for payment. Once again, last year's contact person at St. Bernard has quit.

We committed to an HO layout at Norwich Station Soup Kitchen Sunday June 27: It will probably be slightly smaller than that at Willimantic. Open times will be 11 to 5. Set up on Saturday afternoon or Sunday morning.

Dan is still negotiating with the NL Mall manager. The store we used is still empty. The consensus is there was enough quid pro quo for the Mall not to consider charging us for utility use. Maybe things are getting tight for the Mall, and the manager is under pressure.

Clark wants to put advertisements in the Newsletter. The consensus opposes this on grounds connected with our non-profit status. *(The "consensus" is slightly misinformed. Not-for-profit organizations can collect money for services and accumulate funds. That is what we do with our train show. We just can't compete with for-profit companies. They have to follow different tax laws. than the not-for-profit companies. The law prevents the not-for-profits from competing with the for-profits because of the tax advantage. It is highly unlikely that the New London Day or Norwich Bulletin will file a suit against the M&P for unfair competition. Editor.)*

The problems in circulating the Newsletter electronically seem to be getting worse, not better. Some members who had previously been able to receive it by email cannot do so now; no doubt another triumph for Microsoft. Dan is opposed to Clark and others spending so much time (especially creating more than

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one version of a particular Newsletter issue) to try to get around email problems. Dan asserted that more expenditure in sending copies by snail mail is to be preferred. He would entertain the possibility of buying Acrobat Writer.

George Harran, the outgoing Secretary, pleaded for membership application forms (including renewals) to always be sent or given to the Secretary. Otherwise, keeping track of who is a member and who is not becomes difficult. Maybe we need to reinstate a PO box.

#### **May 23 Woodworkers Warehouse, Norwich**

The Woodworkers Warehouse has been cleaned out. Dan will send a letter of thanks to Harry Leiser (the owner) for letting us stay there. The modules are either at Larry's, or in Big Blue (those required for Norwich Station June 27). Setup at Norwich for June 27 will be Sunday morning. The premises are probably not available Saturday afternoon. Setting up the modules at Larry's basement will take place after June 27.

New members Alfred Mayo and (family) and Marc and Ian Campbell were at the meeting.

The June 19 field trip to Peabody, MA, is still on, and the dates for a PA/OH trip are now set at July 14 to 19. (slight conflict with dates received from field trip coordinator)

The possibility of using Acrobat Writer for distributing the Newsletter was discussed; more information is required. The previous notion of distributing more copies by snail mail was repeated. Bill Evans. will need to get more addresses. Copies could be made available on floppy disk, or even CDROM, to avoid the apparent increase in email problems.

A group will be formed to review old modules, and determine what is required to bring them back up to standards. Since we have more modules than required for our largest layout (Springfield), perhaps some could be put out to grass. Any modules refurbished should be made DCC ready. Dan will provide guidance on civil engineering matters, road widths, etc.

The assertion that membership application forms, new or renewal, must pass through the

hands of the Secretary, should be in every copy of the Newsletter.

#### **Found at Springfield, Last Call**

So far nobody has claimed the green Burlington Northern boxcar (BN #316 228) that was found after the Springfield show. It is made by Roundhouse and has Kadees and metal wheels. If it is yours contact Jack Howie at 464-6807 or it is his.

#### **M&P Club Field Trips**

Jim Delany is our field trip coordinator. If you have any ideas or suggestions for places to go, bring them to Jim so he can make them happen.

We usually leave for day trips from the commuter lot in Norwich, located on the west side of I-395 at the Yantic/Norwichtown exit, EXIT 82, At the end of the exit ramp coming from the south, turn left and go under I-395. The lot is on the right just after the overpass. If you are coming from the north you can see the lot as you exit.

#### **Field Trip Debriefs**

None to report from last month.

#### **Scheduled Trips**

A trip is scheduled on June 19, 2004 to see George Sellios' Franklin and South Manchester layout in Peabody, Ma. This is an incredible layout and all who can visit it should do so. The layout is only open from nine in the morning until noon, so we have to leave from the commuter parking lot at Exit 82, Yantic/Norwichtown, off I-395 at 7 AM. The drive takes about 2 hours or so, depending on traffic. Cost is \$3.00. No children under 10 are allowed. Unfortunately now, no cameras or video cameras are allowed. This is a new limitation as George has had difficulties in the past with photographers not following his requests. This is (**VERY**) unfortunate as the layout is great to take pix of.

The annual club trip is now planned for July 14 (Wed.) to 18, (Sun.) 2004. We will visit Altoona again and this time hope to go as far as mid Ohio to see trains on the former B & O main line. There was a series in Railpace on this area in the February and March issues, with maps and good locations with plenty of trains, so it should be interesting. Alternate

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dates are Sat., July 10 to Wed., July 14, 2004. This is up for discussion. We have tried to accommodate as many members as possible with these dates.

*Jim*

#### **Possible/Probable Trips**

The Providence Club layout on a Saturday morning. Northlandz in New Jersey. Troy, NY to see the RPI layout with a visit to the new Amtrak station and the yard at Selkirk. In late June we could visit New Haven station on a Saturday and take Metro North to Grand Central Terminal, to see this renovated gem of a station.

Excursions to the railroad museums in Willimantic and Danbury and the Essex Steam Train are also potential one-day trips that we might take this year.

We could go to Baltimore to check out the B & O Museum and the Amtrak mainline (the Northeast corridor). We can make side trips such as visiting Northlandz as we go west or return are also possible. This can be discussed further at Club meetings over the next few months.

#### **Member News**

Here is where we actually try to communicate with our fellow Club members and those who might want to join us. Do you need some help with a model railroading problem, have expertise to share or just want to get out in the world more? Then let it be known in the Club newsletter.

#### **John Waller's Column**

Don Counsellor kindly drew my attention<sup>1</sup> to an article in *Model Railroader* covering four issues January to April 2004. The article is by Bruce Chubb, entitled *Signaling Made Easy*. Needless to say, it piqued my interest!

The basis for signalling is computer control via one or more "super mini-node" which is a serial interface module with 24 inputs and 48 digital outputs. I was immediately attracted to this module, as its "brain" is the Microchip PIC 16F877-20, the very same microcontroller which I use.

The computer "talks" to any number of mini-nodes through its comport. Now, newer computers don't have comports; USB (universal serial bus) has taken over, something to be resolved. Older comports actually use what is known as RS-232 protocol, developed for communications between mechanical teletypes, that is, before the modern computer even existed.

Naturally, data transfer speed between mechanical devices was very slow, usually 300 baud, or 300 bits per second. At this slow rate, the sending and receiving machines could be a long distance apart. But, as I am sure you know, RS-232 in the computer environment can now run at more than 100,000 baud. The downside is that distances between stations are limited to 15 metres (50 feet), inadequate for all but the smallest model railroad layout.

The distance limitation has been resolved with newer protocol, such as RS-485 used by the above-mentioned mini-nodes. The bit patterns are the same as RS-232, but the signal is balanced using twisted wire pairs with an overall screen to greatly reduce radiation during transmission, and interference during reception, which effects result in the distance limitation with RS-232. So the mini-node can be used in quite large layouts, with a central computer. If the computer has no RS-485 comport, then a conversion module (232↔485) is necessary.

Up to 128 mini-nodes may be connected to any one computer. That's 3072 inputs and 6144 outputs! With such a large number of data flying around, any one data bit could only be updated once every few seconds, something which would need to be born in mind in the overall system design.

The mini-node is not in itself "smart"; its 16F877 "simply" ensures that data are collected at the inputs, outputs are made available to signals<sup>2</sup>, turnout motors, and so on, and that data are exchanged with the host computer on demand from the latter. To differentiate between the various mini-nodes, each one has its own address, set from 0 to 127 using switches on the mini-node.

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<sup>1</sup> Don also lent me his copies of the magazine.

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<sup>2</sup> With, for example, some formatting options for signals.

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The smart part of the system, of course, resides in the host computer, where everything is tied together using a version of the BASIC computer language. Although BASIC originated many years ago as a very simple high-level language, it evolved into many dialects, becoming anything but “basic”. Visual Basic® 6 (VB6), for example, is a very powerful application.

The notion that there is a central computer controlling everything is appealing, although, before that is possible, someone(s) must write the BASIC program, and get it running. It would be possible to have several different versions of the program, each one to cater for a variation of our HO layout, for example.

Of course, I compare what Bruce Chubb writes about with what I have done, and what I am planning to do. The first system I attached to the HO layout used DC control and no intelligence to speak of. Each signal had its own autonomous microcontroller, which knew nothing about the outside world, except for two input lines set by two other microcontrollers, and its own two track sensors. This system has been dismantled, but carefully packed away in a box! The microcontroller is the PIC 16F84, an earlier and smaller version of the 16F877.

The system currently being demonstrated uses DCC and central control in the Smart Throttle. There are four 16F877 microcontrollers, one of which is the master, and has all the smart logic therein. The other three do duty as graphics LCD control, collecting track sensor inputs, and disseminating outputs, respectively. The four communicate with each other via a serial protocol, originally developed by Philips, called inter-integrated circuit, or I<sup>2</sup>C, for short.

The I<sup>2</sup>C protocol differs from RS-232/485 in that it is synchronous, whereas the latter is asynchronous, meaning that with I<sup>2</sup>C the data are transferred using separate clock and data lines. With RS-232/485 there is no clock line; the receiving station must know the baud rate and recognize a data start bit, in order to construct its own clock, whereas with I<sup>2</sup>C the receiving station need not know the baud rate. Also, with I<sup>2</sup>C, faster data rates are available

(up to 1,000,000 baud) than with RS-232/485. There are distance limitations with I<sup>2</sup>C.

But the whole notion of central control with, perhaps, a laptop computer, has always been appealing to me. My long-term aim is to move in that direction, although not quite the extreme represented by Bruce Chubb, with all the intelligence in the host computer. My current intentions are to distribute intelligence among the microcontrollers, and use the host computer in an oversight role. There are pros and cons of both approaches.

*John*

### The President's Corner

(The Prez thinking about his column)

*Dan*

### Vice President's Niche

See John's article on soldering in the Technical Section



From the M&P Website



### The Market Place

#### Club Member Ads

Advertise (free) here to reach more than seventy model railroaders eagerly waiting to buy your wonderful stuff. (Editor's Note: Let me know when your item sells or when you want to stop running the advertisement.)

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**Bob Applegate** has the following HO and N scale Rolling Stock and Power for sale. You can call him at 860 464-2118 or email Bob at [rapplegate@snet.net](mailto:rapplegate@snet.net) (Last time to run)

#### **HO Scale Stuff**

- 1) NHRHTA Limited run kit - C&BT Shops; Pullman Standard Boxcar with improved Dreadnaught ends (Block Herald -NH), boxcar red, car # 33216; \$4.00
- 2) NHRHTA Limited run kit - C&BT Shops; Pullman Standard Boxcar with improved Dreadnaught ends (Block Herald -NH), boxcar red, car # 33450; \$4.00
- 3) Atlas Classic Locomotive (made in China) 8778 ALCO RS-11 New York Central #8014, Black-lightening stripe; NIB; \$60.00
- 4) Proto 1K LIF23934 - 100-Ton Hopper B&O #82967; Black, white lettering; blt 4-79; \$5.00
- 5) Atlas 1677-1 - ACF 60' DD Auto Parts Car, Union Pacific #960566, yellow sides, silver top, ends, Shield logo; \$13.00
- 6) Pacific Western Rail Systems, Limited Edition Special Run; 3 car set (in shrink wrap) H1074A,B,C; by Intermountain; ACF 2 Bay Covered Hopper, BN435600, BN435637, BN437006; Green, white lettering; BN logo. \$60.00 for the set

#### **N Scale Stuff**

- 1) Kato 186-0308 - 2 window Cupola Caboose; PRR # 478124; Red, black roof; white lettering, PRR keystone logo, "local service Pittsburgh built 2-52 NB"; \$14.00

#### **The Club Store**

The Storekeeper has metal wheels, both 33" and 36", and couplers and the usual model railroad stuff too. The new shirts are in too so if you ordered one or want one, see the Storekeeper, Larry Southwick. Oh yeah, Larry has some other model railroad supplies too.



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#### **The Commercial Corner**

Just begging to be filled.

#### **M&PMRR Officers & Functionaries**

The President	Dan DeLany	860 643-9303
Vice President	John Waller	564-3114
Treasurer	Don Counsellor	739-6381
Secretary	Robert Applegate	464-2118
Club Webmaster	Jim Spavins	<a href="mailto:spavij@rpi.edu">spavij@rpi.edu</a>
Storekeeper	Larry Southwick	535-2996
Field Trips	Jim DeLany	889-4029
Newsletter Editor	Clark Pritchett	444-1884
Newsletter Mailing, Meeting Speakers and Bulk Purchases	Bill Evans	267-9482
New Passenger Modules, Name Tags and Show Layouts	Stu Dom	536-7637

#### **Letters to the Editor**

Vent your opinions here!

The Club is waiting to hear from you

#### **On DCC and More**

First, let me second the comment about wireless DCC throttles and train shows. The HO club here (Chicago) has both tethered and wireless. We try to use the wireless regularly and often winding up putting them away in favor of the more traditional connection. We have experienced both slow and no response. From time to time it appears that control is coming from "outside sources". In addition to the potential sources for trouble listed in the newsletter, Hg vapor lamps have been implicated, although from our viewpoint, the jury is still out on these.

Second, relative to John's request for feedback, I read his columns regularly and with great interest.

*Dave Alley*

#### **Pictures of the Month**

Great looking pics aren't they?

#### **The Technical Section**

Contributions are welcome. You can write about anything from prototypes and history to model railroads. Scenery, electrical, bench work, model building and more are all of interest to the club members.

### **Soldering Isn't Getting Any Easier**

(from John Waller)

Soldering is a straight-forward process, isn't it?? Unfortunately, not for much longer. Bill Mooney writes in *Everyday Practical Electronics*<sup>3</sup>, May 2004, that the changeover to lead-free solder is not a done deal. Lead, Bill writes, will be banned internationally from most electronic products by 2006. The legislation in the UK, at least, will not only attack lead, but the resin (rosin) core as well.

According to Bill, the path is not easy, and over 200 lead-free alloys have been tried, with no "drop in" replacement for our resin-cored 60/40 tin/lead solder in sight. The most favored alloy at the moment is tin/silver/copper (TSC). But even TSC is difficult to use unless it has a resin core.

The main problem is the increase in melting temperature from 188 °C for 60/40 to 220 °C for TSC. This might not seem much, but the thermal limit of support materials is being approached too closely. Wetting from the flux ceases before the joint flows freely. The joint just does not look right. Great care must be taken with tip cleaning. Soldering irons are required which deliver heat quickly to the joint, before the flux has time to decompose. Tip cleaners should be used (which themselves contain lead!).

### **GE's New Diesel Engine**

General Electric Transportation Systems invested more than \$200 million and six years of research and development in the new GE "Evolution Series" diesel locomotives. The result is truly an "evolutionary" diesel locomotive platform—one that incorporates the best of existing, proven diesel locomotive engineering with new, advanced technologies that have, to-date, yielded 25 U.S. patents, 13 patents pending, and 18 invention disclosures.

The Evolution Series was literally a team effort. GETS brought together a global array of customers, scientists, and engineers to find new ways to build a more reliable, more fuel efficient, more serviceable diesel locomotive that would also meet the EPA's more stringent Tier II emission standards required in 2005.

The new GE Evolution Series meets all of these goals, providing a diesel locomotive platform that will serve the rail industry well into the future.

Read More at [www.getransportation.com](http://www.getransportation.com)



The GE Evolution Series Diesel Engine

### **World Wide Web**

Send in your favorite railroad related websites and they will be published here so everybody can access them.

(From Jim Spavins (Jr.))

I decided I'd send a few websites that you can put in the newsletter. It would seem appropriate since I'm the club webmaster.

1. Rensselaer Model Railroad Society  
<http://railroad.union.rpi.edu/>

Well, for my first website, I need to plug the Rensselaer Model Railroad Society. This website has a lot of information in it from information on freight cars to buildings to industries. While, some things on this site are free like information on the club's layout and prototype information, much of the how to information is in the paid section. John

<sup>3</sup> Page 312, *Coping with Lead-Free Solder*.

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Nehrich has put most of his books on the site and they are filled with lots of information on all facets of model railroading. Subscriptions to the site can be done on a monthly basis.

2. Trains Magazine Index

<http://index.mrmag.com/>

Have you ever thought, I know I've seen that in a magazine article but I can't remember which one? Well, this website will have your answer. It is a search engine for almost all model railroad magazines. There are many ways to search and the site will give a listing of all the magazine articles for topics that you search.

3. Rails Canada Search Engine

<http://www.railscanada.com/index2.shtml>

This is another interesting search engine. This one focuses exclusively on Canadian railroad topics. If you want to find out some information on railroading, both model and prototype, north of the border, this would be a good place to start.

4. Canadian Pacific in the Mountains

<http://www.homepages.hetnet.nl/~canadianpacific/>

Typically, I don't really like railfan sites, but this is probably the best I have seen. The pictures are great and there is information on Canadian Pacific as well.

5. Mohegan Pequot Model Railroad Club

[www.mpr.org](http://www.mpr.org)

Last but not least, our own club website. If anyone has photos, articles, or news items they want on the site, feel free to email them to me at [spavij@rpi.edu](mailto:spavij@rpi.edu) and I'll be happy to post them.

Happy railroading.- *Jim Spavins*

## Model Railroad Calendar

### This Month in 2004

**June 4-5, 2004, Collinsville, CT:** Prototype Modelers Meet, Canton Community Center, 40 Dyer Ave.

**June 4-5, 2004, Thomaston, CT --:** The Battle for the Tracks, Railroad Museum of New England, Thomaston Train Station. 10:00 AM. - 6:00 PM. Saturday, 10:00 AM. -4:00 PM Sunday.

**June 13, 2004, Ledyard, CT** The first Club meeting will be held at the Bill

Library in Ledyard, CT starting at 7:30 PM.

**June 19, 2004, Peabody, MA** The Club visits George Sellios' fabulous Franklin and South Manchester layout. We leave from the commuter parking lot off of I-395 at Exit 82, Yantic/Norwichtown, at 7 AM.

**June 27, 2004, Norwich, CT** The Club will have an HO layout at the Norwich Station Soup Kitchen. Set up will be on that Sunday morning. The layout will be open to the public from 11AM to 5 PM. Second monthly meeting after the show ends.

### Next Month and Beyond

**July 14 to 18\* (maybe July 10 to 14), 2004.**

[The dates may still up for discussion.] Annual Club Trip to visit Altoona (again) and this time go as far as mid-Ohio to see trains on the former B & O main line. (\*Wed.-Sun. or Sat.-Wed.)

**August 22, 2004, New Haven, CT:** All Gauge Train Show, New Haven City-Wide Field House, 480 Sherman Parkway. 9:00 or 10 AM. to 3.00 PM.

**October 19, 2004, Orange, CT:** Model Train Show. High Plains Community Center, 525 Orange Center Road (Route 152) For more information call (203) 932-0185/795-9466.

**December 11-12, 2004, Marlborough, MA:** NMRA Hub Division Fall Train Show at the Royal Plaza Hotel from 10 AM to 4 PM. Call: (781) 862- 0388 or (508) 528-8587 or you can email them at [info@hubdiv.org](mailto:info@hubdiv.org).

Ron Pothier's list of train shows for the year is available from him at [repth@snet.net](mailto:repth@snet.net).



From the M&P Website

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### The Lighter Side

(from John Waller)

Marriages are made in Heaven, but so is thunder and lightning.

If you want your wife to listen and pay strict attention to what you say, talk in your sleep.

Marriage is grand, and divorce is at least 100 grand!

Married life is very frustrating. In the first year of marriage, the man speaks, and the woman listens. In the second year, the woman speaks and the man listens. In the third year of marriage, they both speak and neither listens and in the fourth year they both speak and the neighbors listen.

When a man opens the door of the car for his wife, either the wife is new or the car is new.

### Club Procedures

In this new standard section we will have things that we all need to know so the Club functions more smoothly.

#### New Members and Renewals

Membership applications, how to submit them, etc. (to be developed by the Club Secretary). The cost of putting an application form in every copy of the newsletter each month will be high due to the cost of printing and mailing. We might do this twice a year like before our Club Show and before Springfield. An application is on the Club Webpage but it needs to be updated with the new Secretary's mailing address. The PO box has expired.

#### Location for Permanent Layout

What members should do/can say to the owner etc. if they find a location that may be used for a permanent layout for the Club. (to be developed by the Club President)

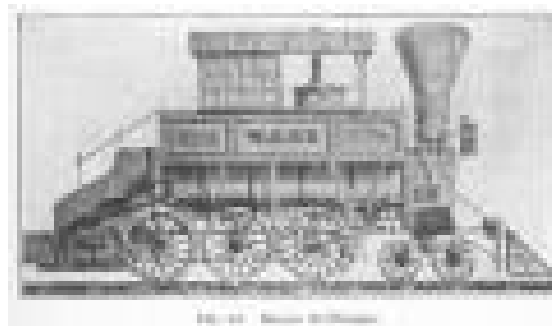
#### Club Website

What members should do. if they have something for the Club Website. (to be developed by the Club Webmaster)

#### Submitting Newsletter Items

Electronic versions are preferred so retyping is not necessary. E-mail enclosures in Microsoft Word and other compatible word processing programs can usually be opened. Send items to be published by E-mailing them to Clark at: [modlrnews@aol.com](mailto:modlrnews@aol.com), or snail-mail them to

23 Beacon Hill Dr. Waterford, CT 06385. If you do e-mail something, it is a good idea to phone (860 444-1884) and say that you sent it so it doesn't mistakenly get deleted as spam. Put M&P Newsletter Article in the subject line. You can also put the items on a floppy disk in Microsoft Word and give it to me or mail it.



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