OpenLCB II

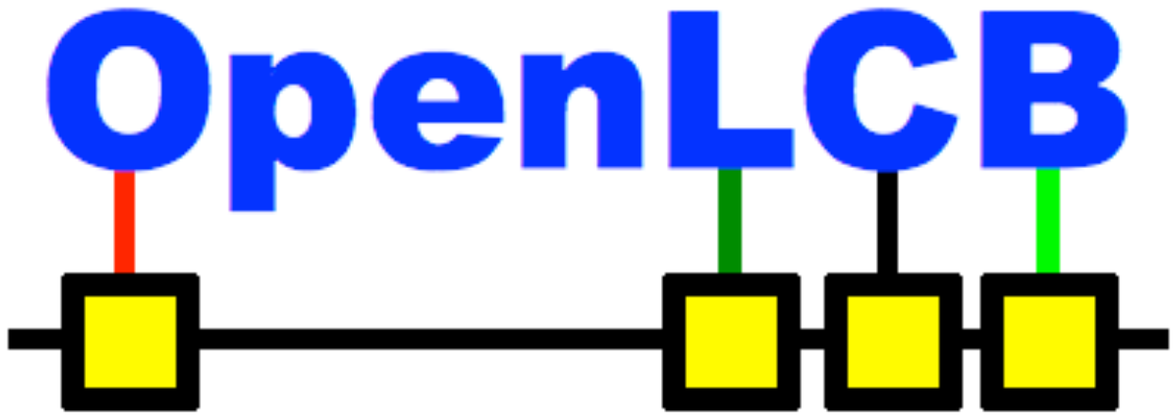
It’s been an interesting week. This is the second clinic which was billed as a summary.... But most work online (which is exhausting)

Activity within 7 days: 2 New Members - 51 New Messages - New Questions

Description (Edit)

This group is to facilitate the development of an new and open Model Railroad Layout Control Bus specification. See:

http://www.openlcb.org



The OpenLCB specification will be submitted to the NMRA as a candidate for adoption as NMRAnet, and as such is also referred to as S 9.6. OpenLCB defines a common protocol for model railroad layout control that is transport agnostic, and suitable for a wide variety of transports including Ethernet, wireless, and CAN. An OpenLCB network can be a single segment, or many heterogeneous segments connected by active gateways. The protocol design caters equally to the needs of small and large layouts. You can start with just two nodes straight from the box, without the need for special tools, knowledge or connection to a computer, but OpenLCB also caters to large layouts, such as museums and modular clubs, as it is designed interconnect multiple heterogeneous segments via gateways, and the protocol is optimized for transparent multi-gateway operation.

Most Recent Messages (View All)
(Group by Topic)

Search: Search Advanced **Start Topic**

Fwd: [moderatorcentral] message posting issues

News from Yahoo

Posted - Fri Jul 8, 2011 9:00 am

Bob Jacobsen
bob_jacobsen15
Offline
Send Email

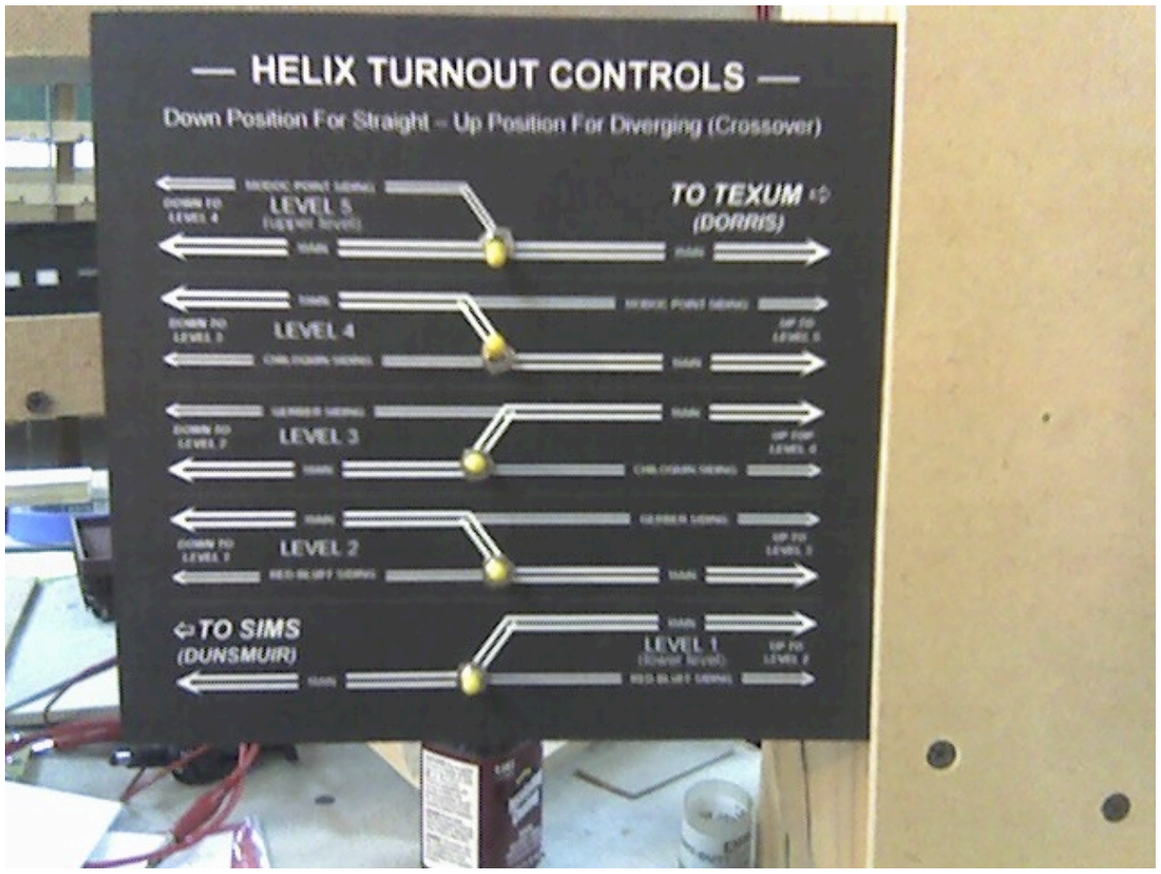
Re: On radio connections for locomotives

... This is possible because CAN does not do any routing and doesn't require acknowledgements for reliable delivery purposes. I.e. With CAN, if you don't see

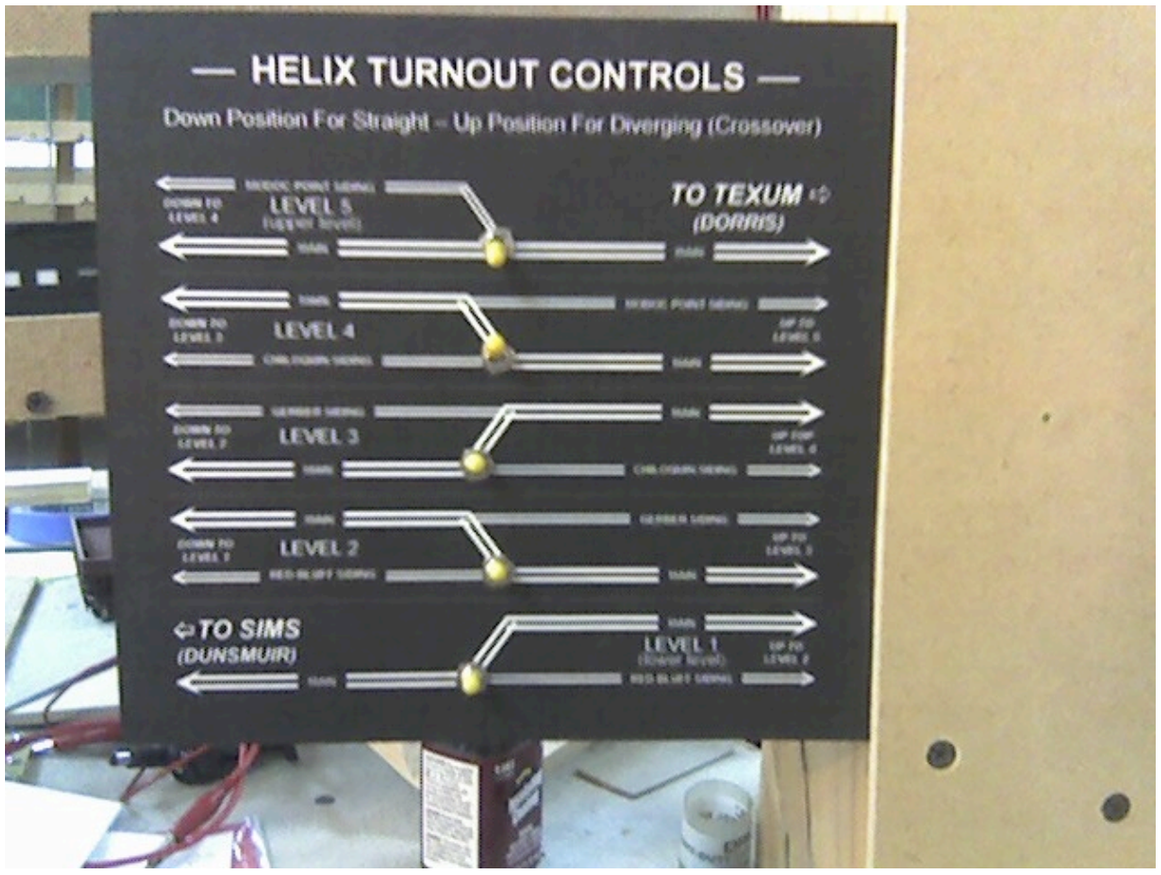
Posted - Fri Jul 8, 2011 7:39 am

Paul Bender
paul_a_bender
Offline
Send Email

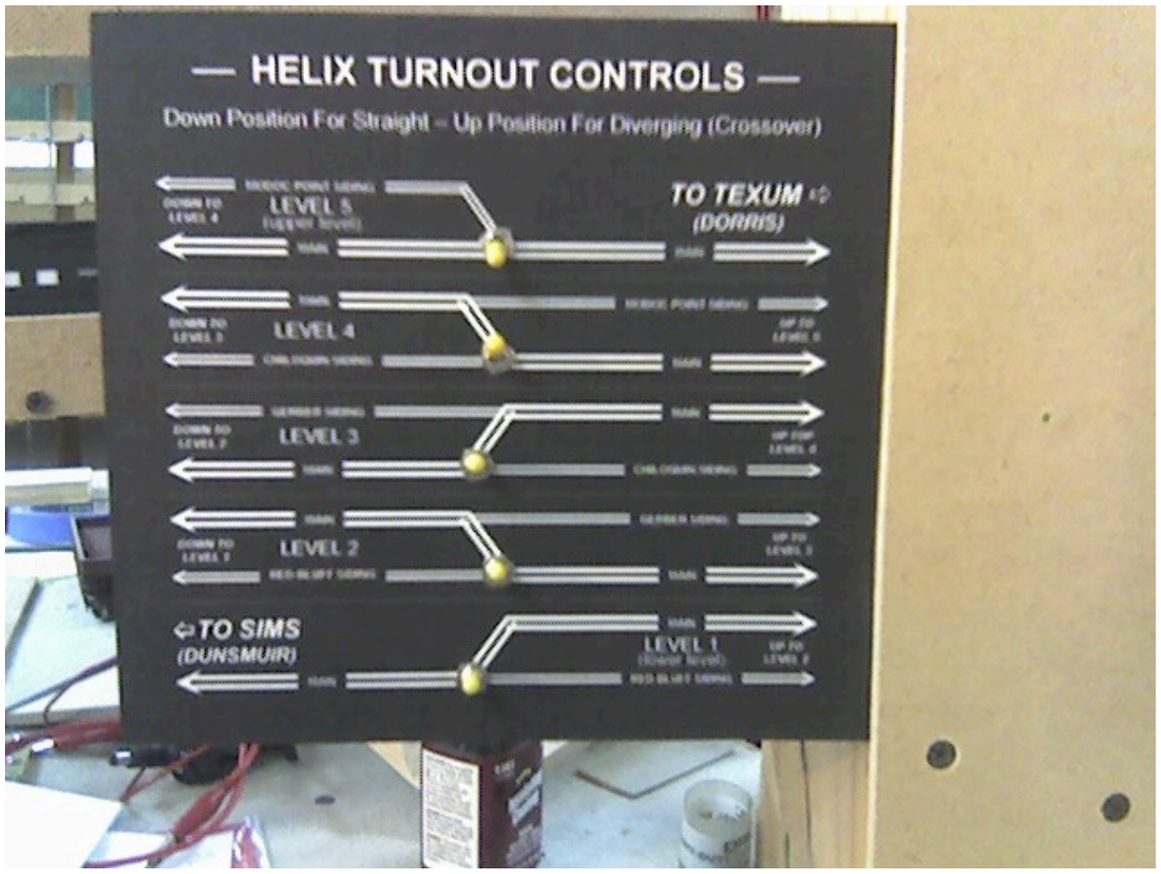
Two main topics: Radio for locomotives (as opposed to throttles and control panels) and some very-large layout work. But before that, do a quick introduction...

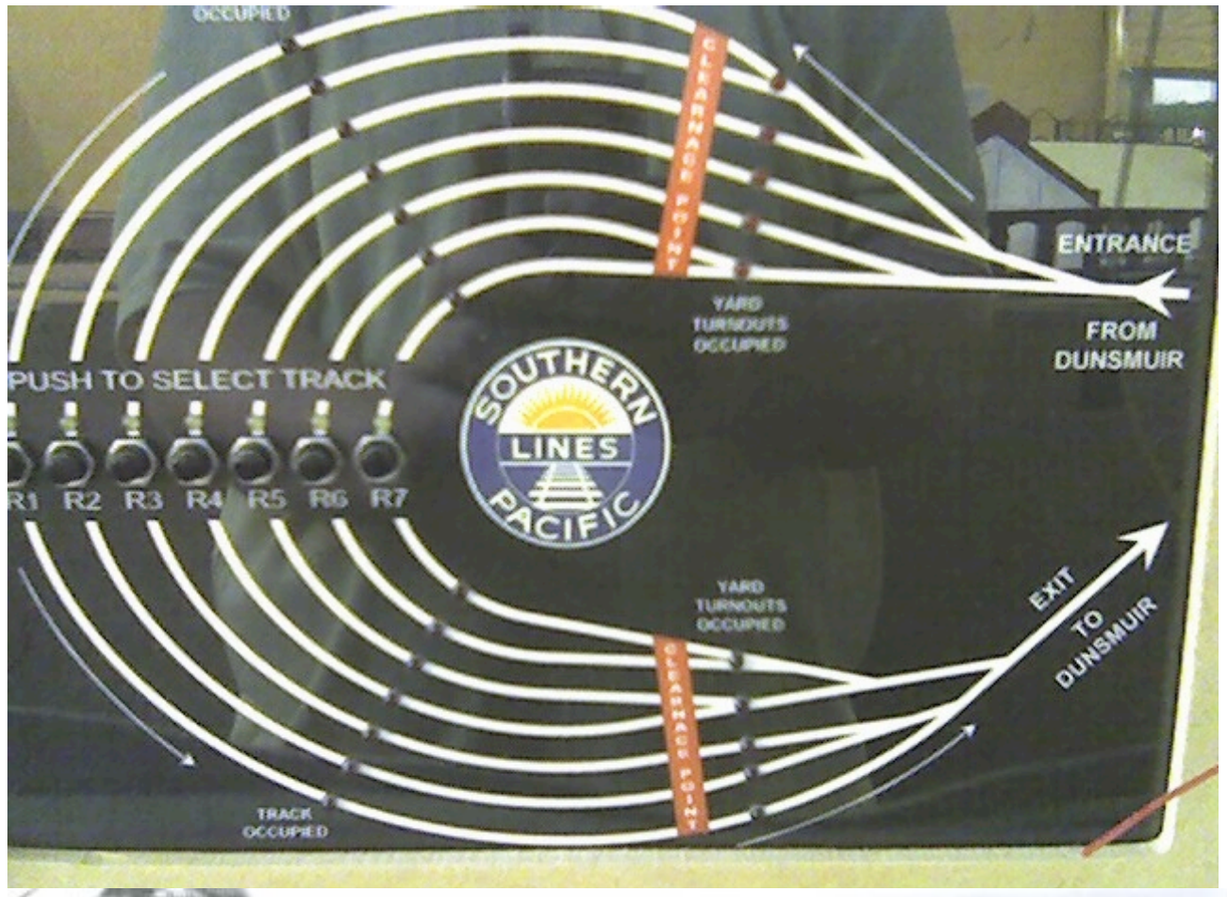


Not sure what MMR requires, but it’s at closer to the first one.

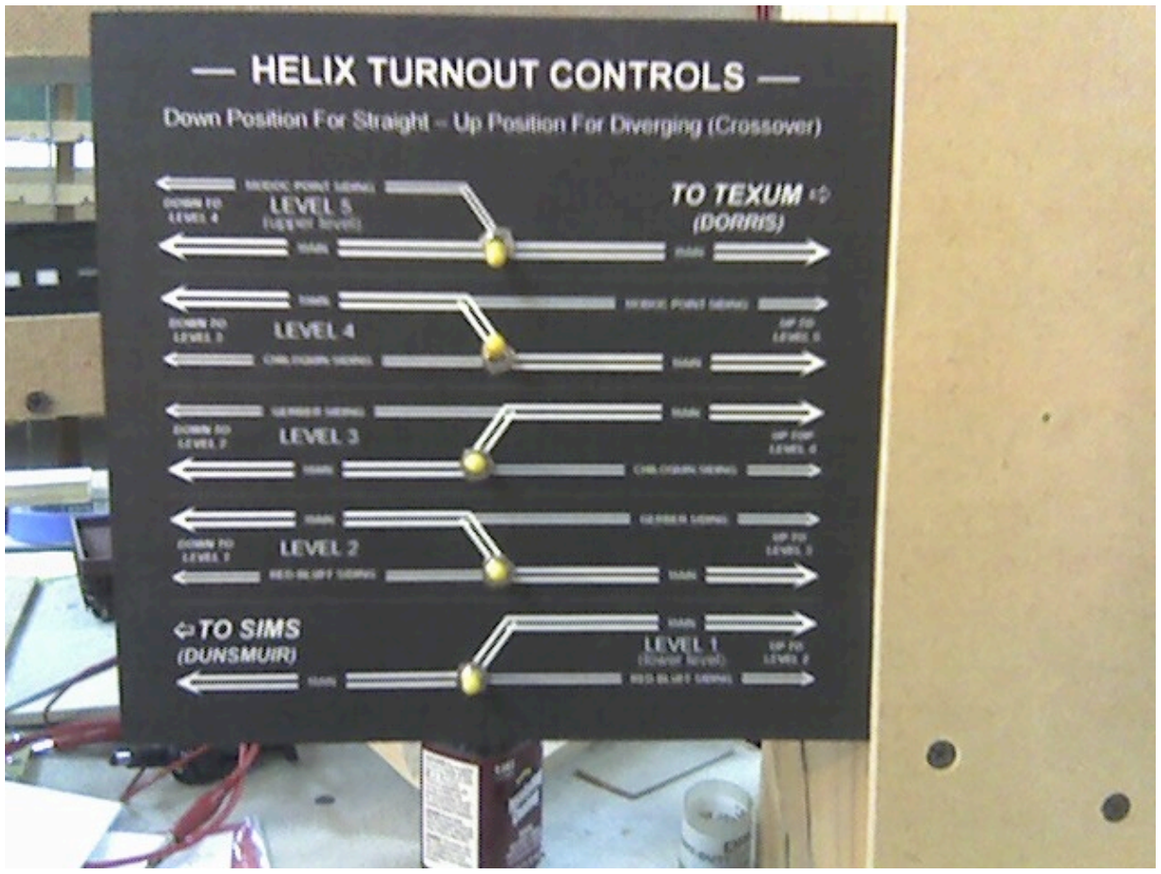


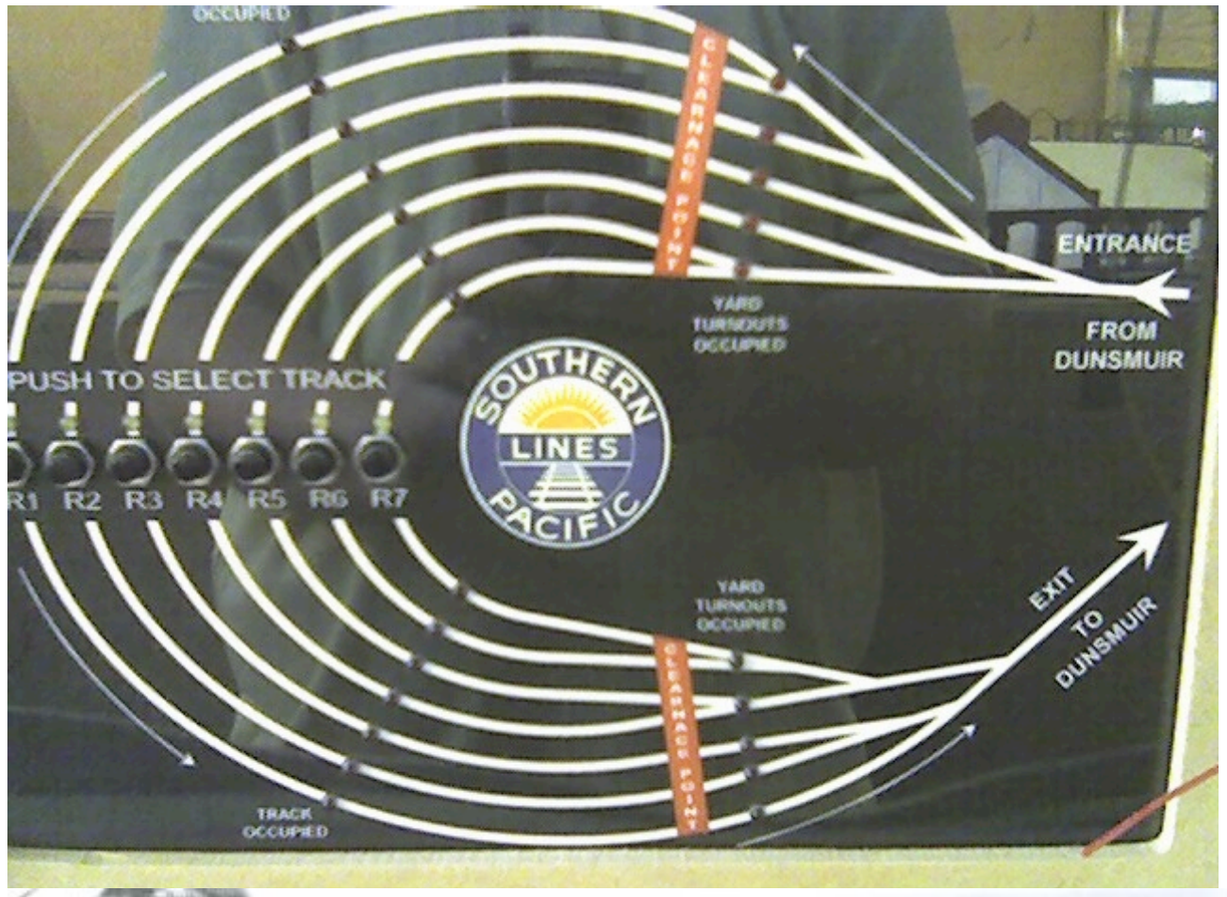
Not sure what MMR requires, but it's at closer to the first one.

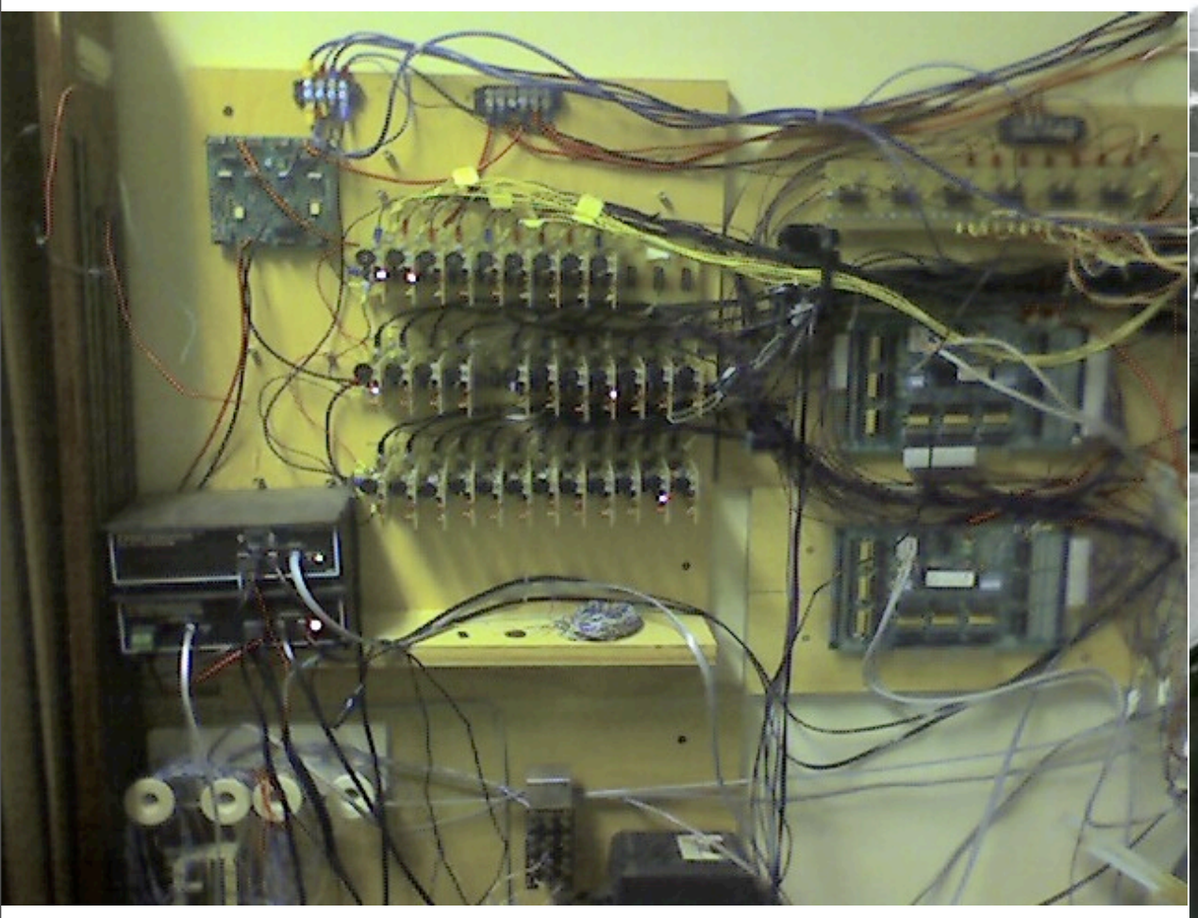


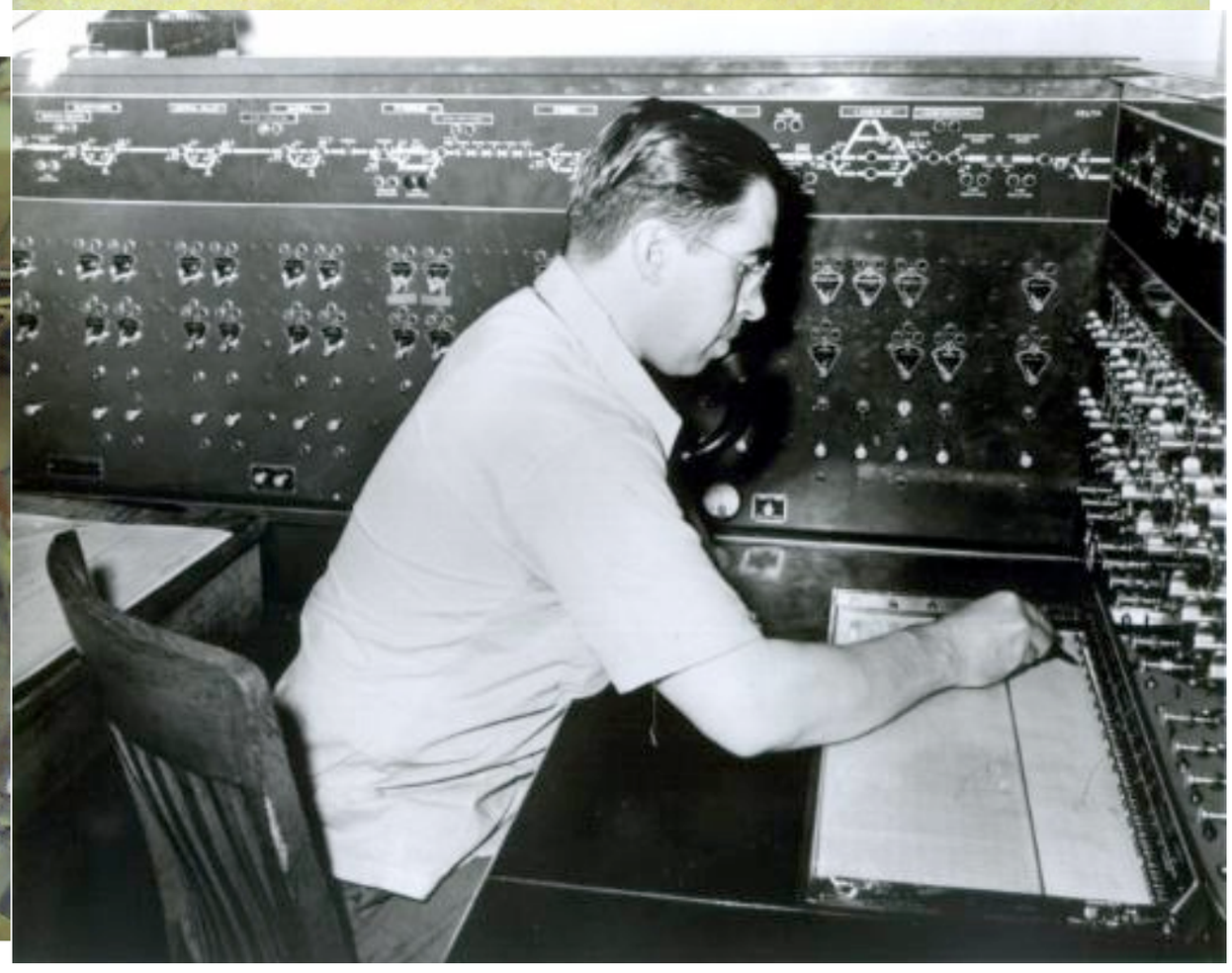


Not sure what MMR requires, but it's at closer to the first one.

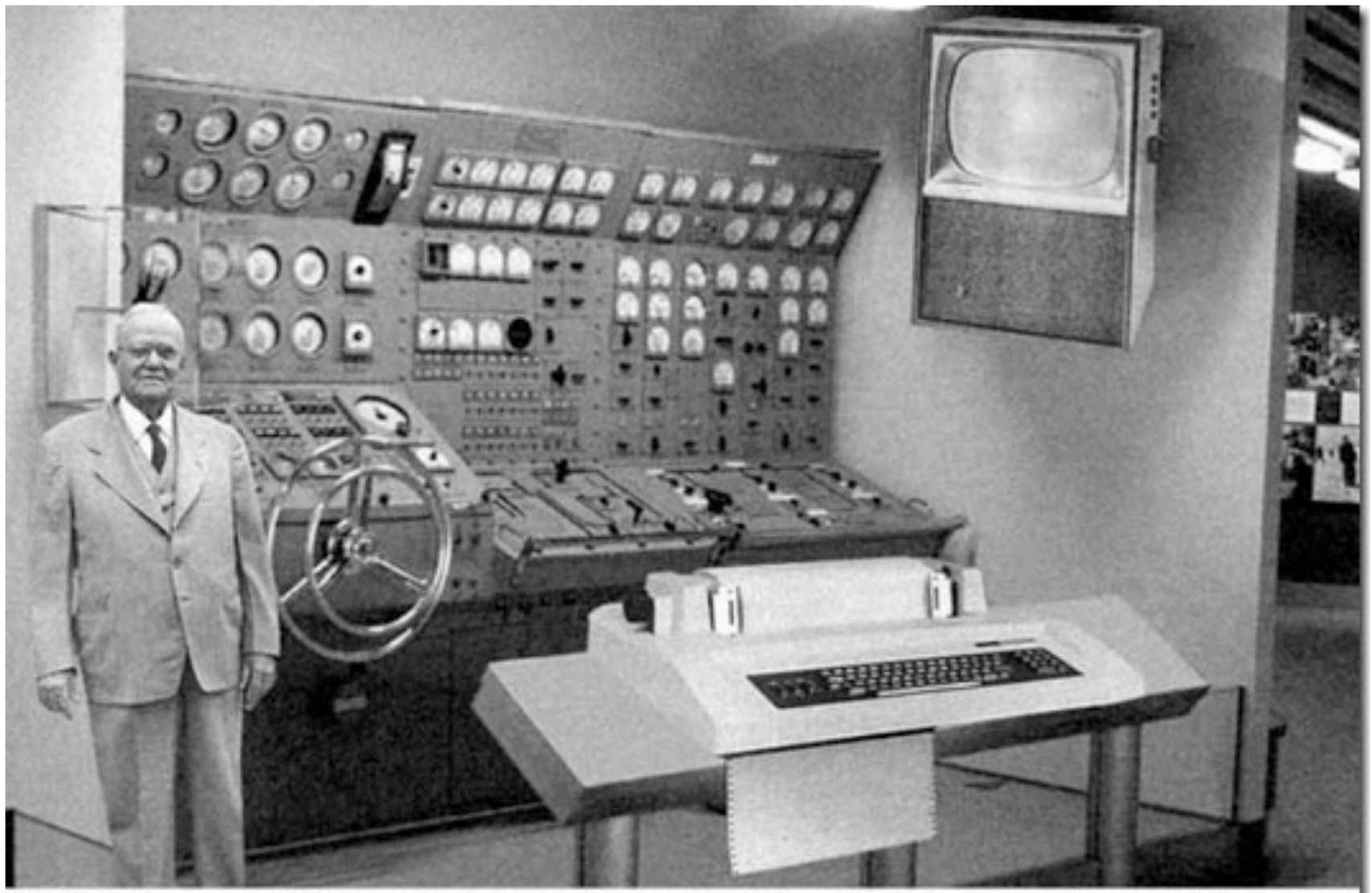






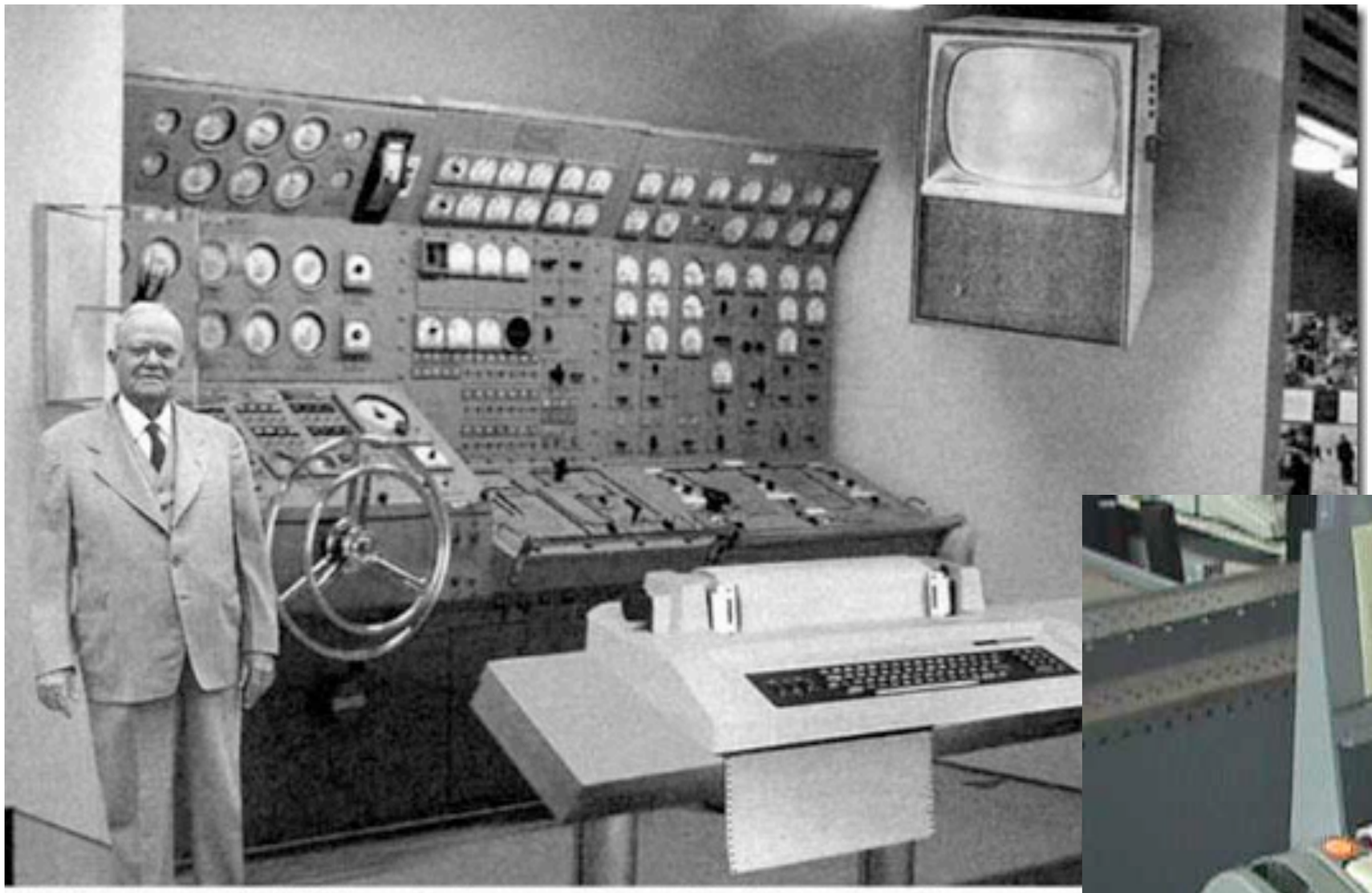


Not sure what MMR requires, but it's at closer to the first one.



Scientists from the RAND Corporation have created this model to illustrate how a "home computer" could look like in the year 2004. However the needed technology will not be economically feasible for the average home. Also the scientists readily admit that the computer will require not yet invented technology to actually work, but 50 years from now scientific progress is expected to solve these problems. With teletype interface and the Fortran language, the computer will be easy to use.

From 1954; 2004 ref; FORTRAN. Computers got smaller, but that's not the only thing that changed. I'm old enough to remember 70's when it was immensely cool to have a terminal in somebody's house for playing games. This was a _dumb_ terminal! Commanded at the level of single characters. Note wheel, original pic is a hoax, actually controls for a sub at Smithsonian

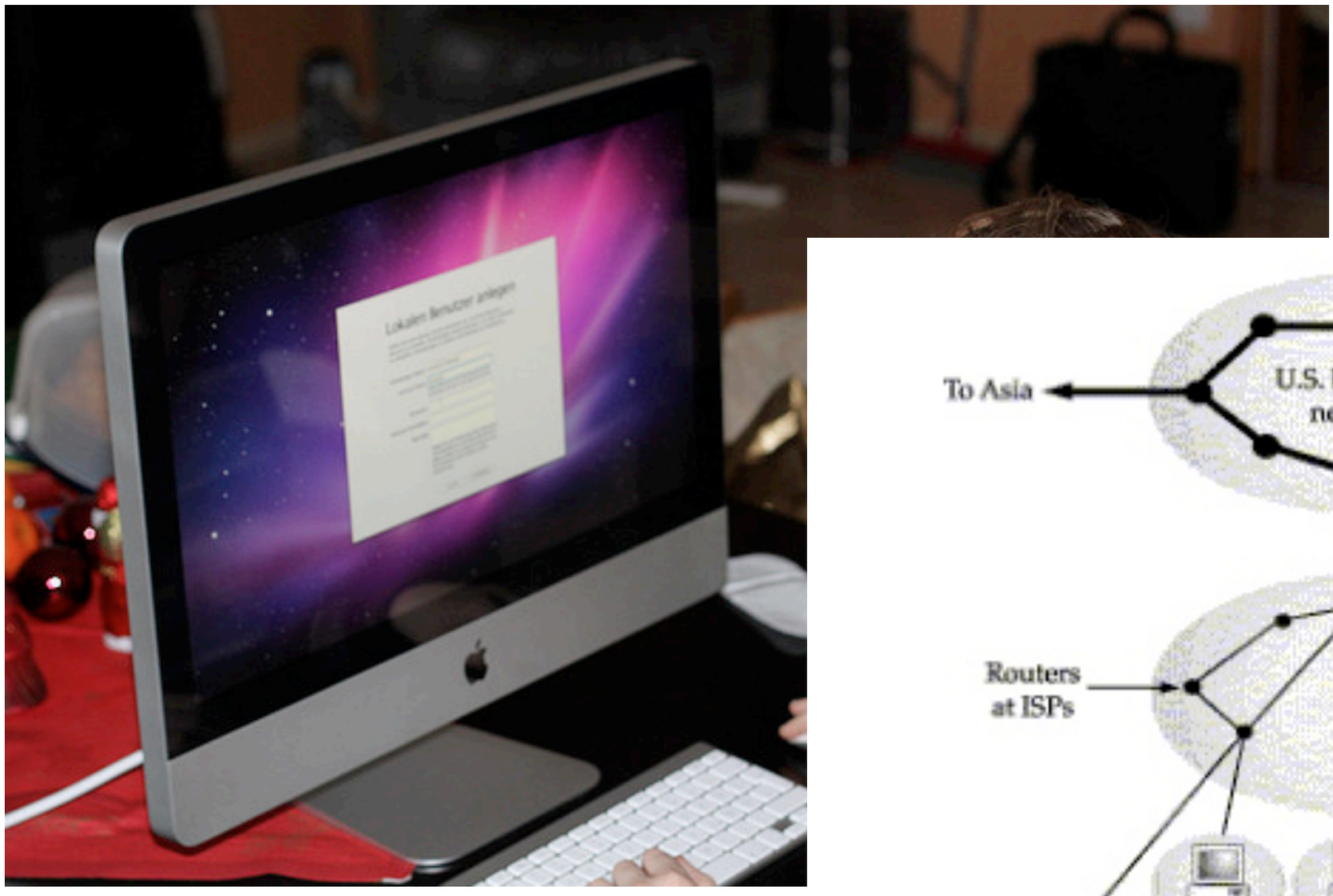


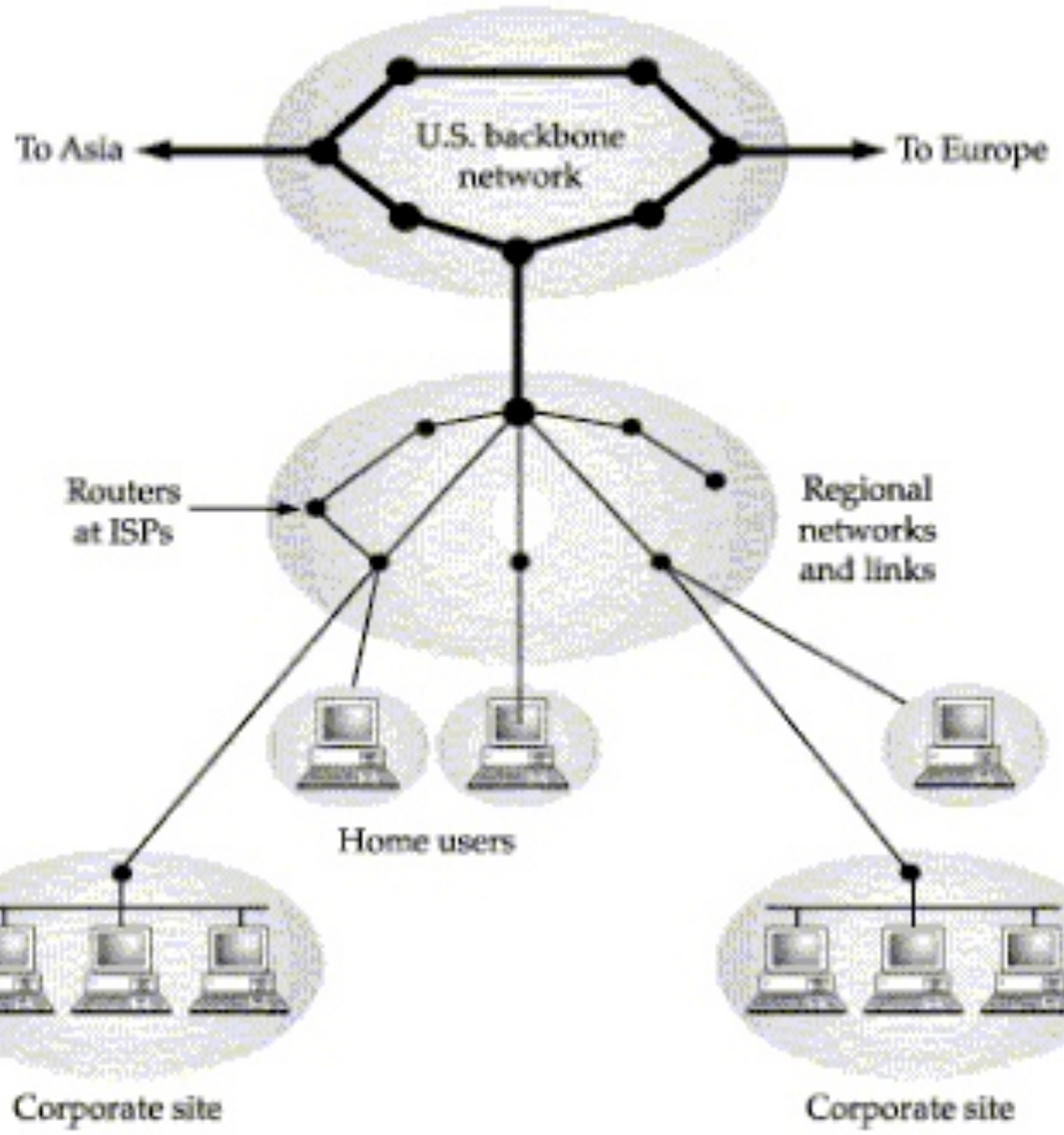
Scientists from the **RAND** *Corporation have created this model to illustrate how a "home computer"*
year 2004. However the needed technology will not be economically feasible for the average home. Als
admit that the computer will require not yet invented technology to actually work, but 50 years from no
expected to solve these problems. With teletype interface and the Fortran language, the computer will

From 1954; 2004 ref; FORTRAN. Computers got smaller, but that's not the only thing that changed. I'm old enough to remember 70's when it was immensely cool to have a terminal in somebody's house for playing games. This was a _dumb_ terminal! Commanded at the level of single characters. Note wheel, original pic is a hoax, actually controls for a sub at Smithsonian

From 1954; 2004 ref; FORTRAN. Computers got smaller, but that's not the only thing that changed. I'm old enough to remember 70's when it was immensely cool to have a terminal in somebody's house for playing games. This was a _dumb_ terminal! Commanded at the level of single characters. Note wheel, original pic is a hoax, actually controls for a sub at Smithsonian

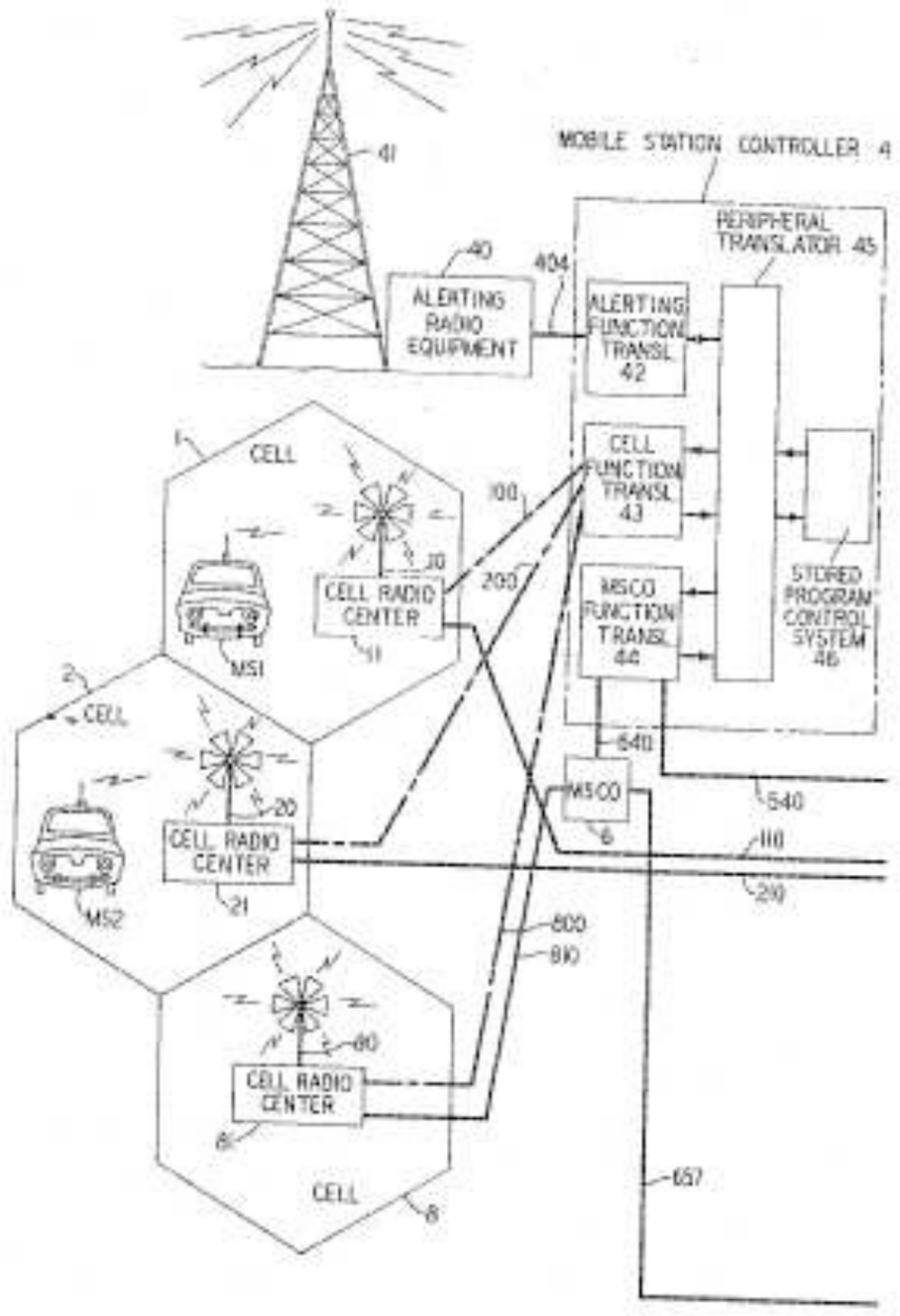
Now the computer is there. But it gets it’s power from the ability to talk to lots of others. That requires protocols, complex but seems simple to user.



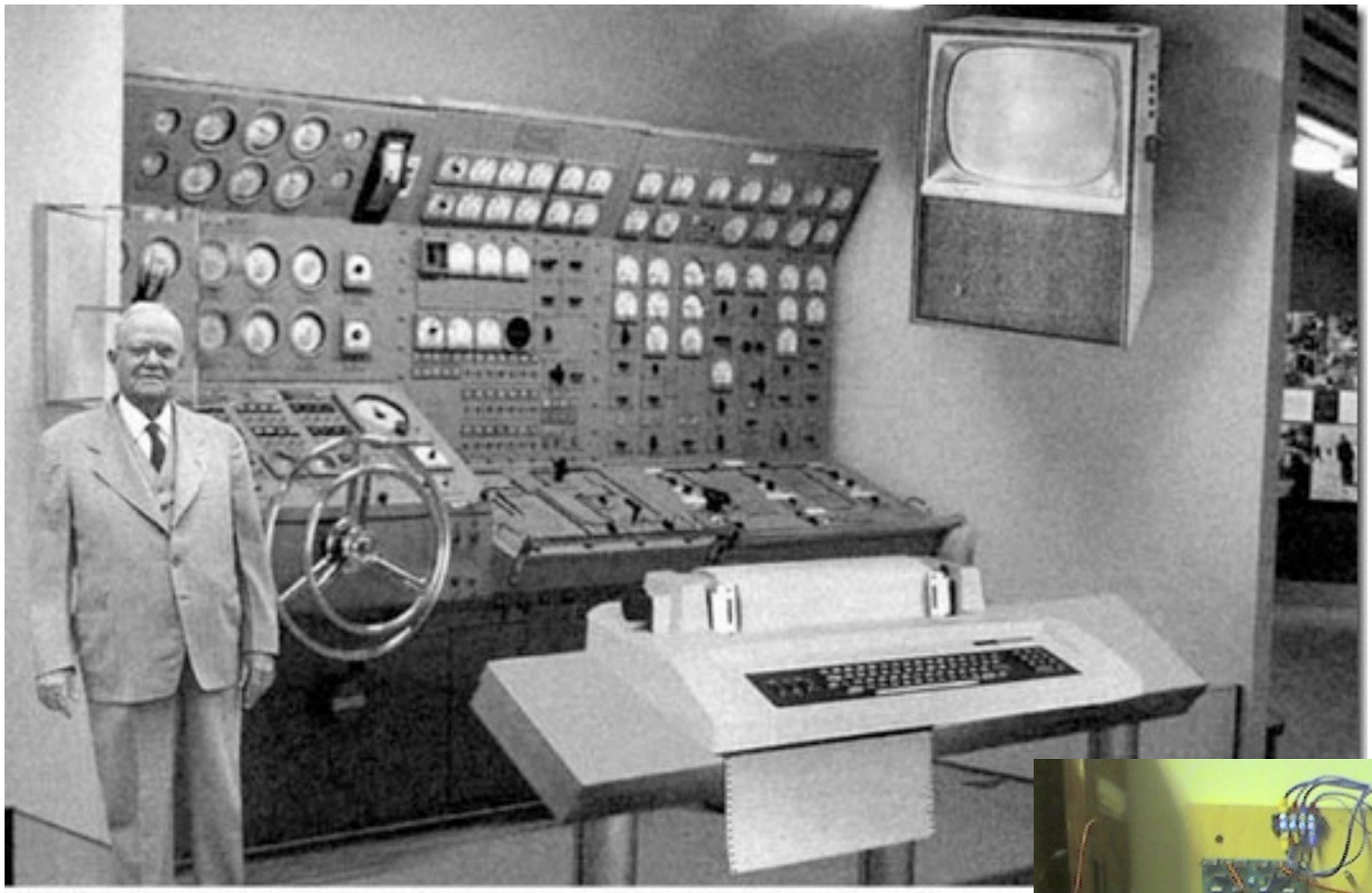


Now the computer is there. But it gets it's power from the ability to talk to lots of others. That requires protocols, complex but seems simple to user.

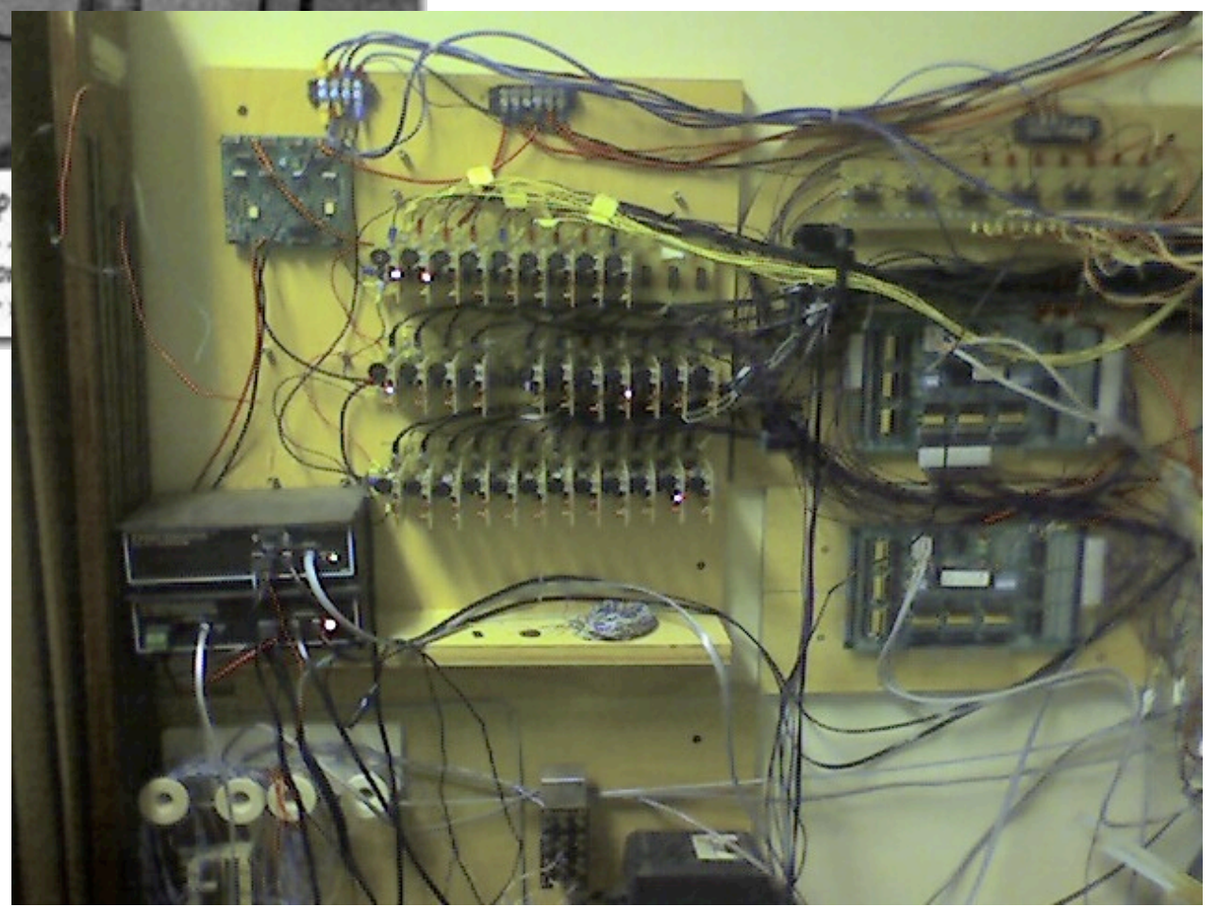
Same thing is true of communications. We didn't just perfect POTS, we used the intelligence that's available. (If Peter Ely here, reference him & call forwarding, tracking, etc) (1970 patent by Amos Joel)

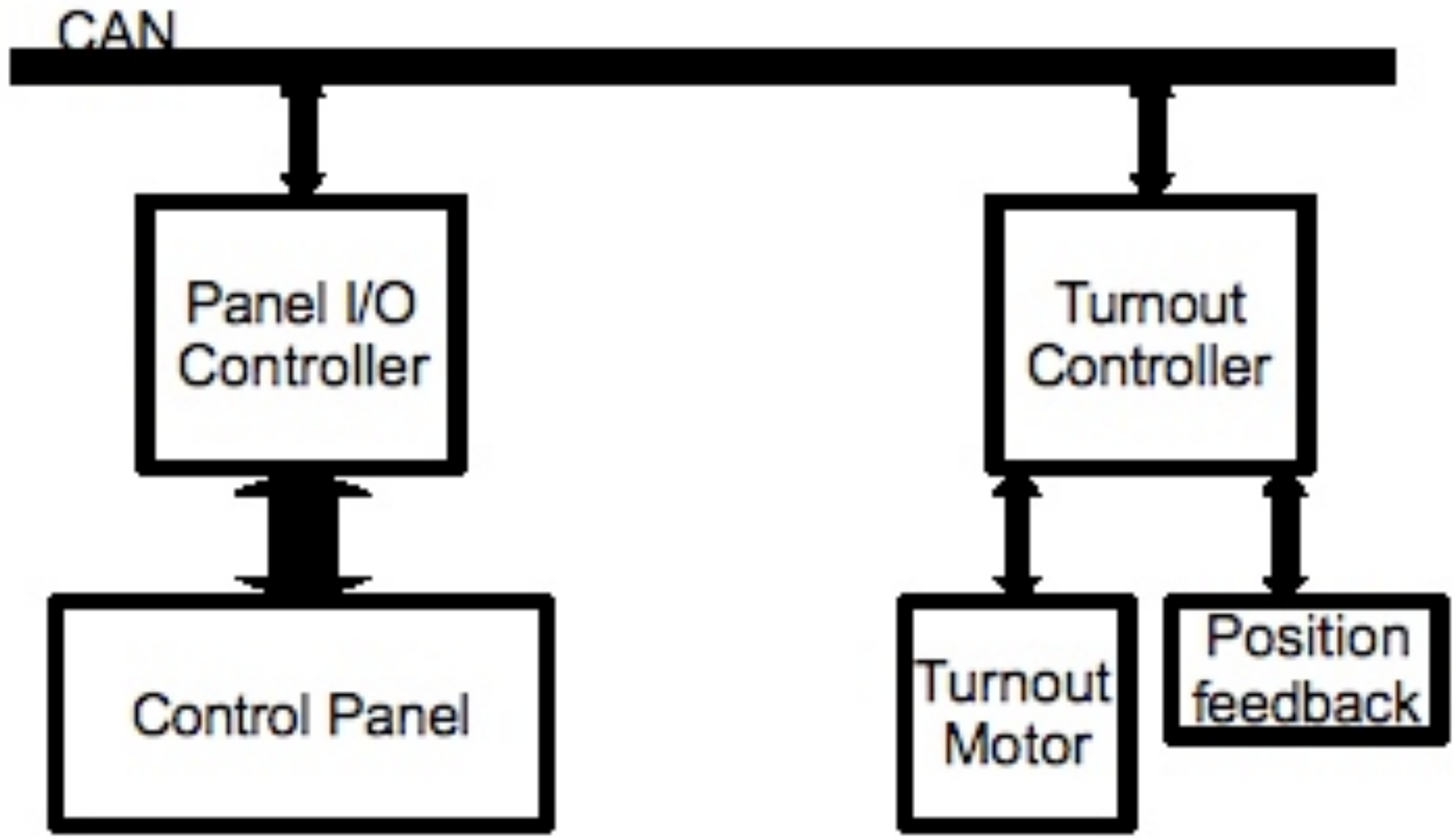


Same thing is true of communications. We didn't just perfect POTS, we used the intelligence that's available. (If Peter Ely here, reference him & call forwarding, tracking, etc) (1970 patent by Amos Joel)

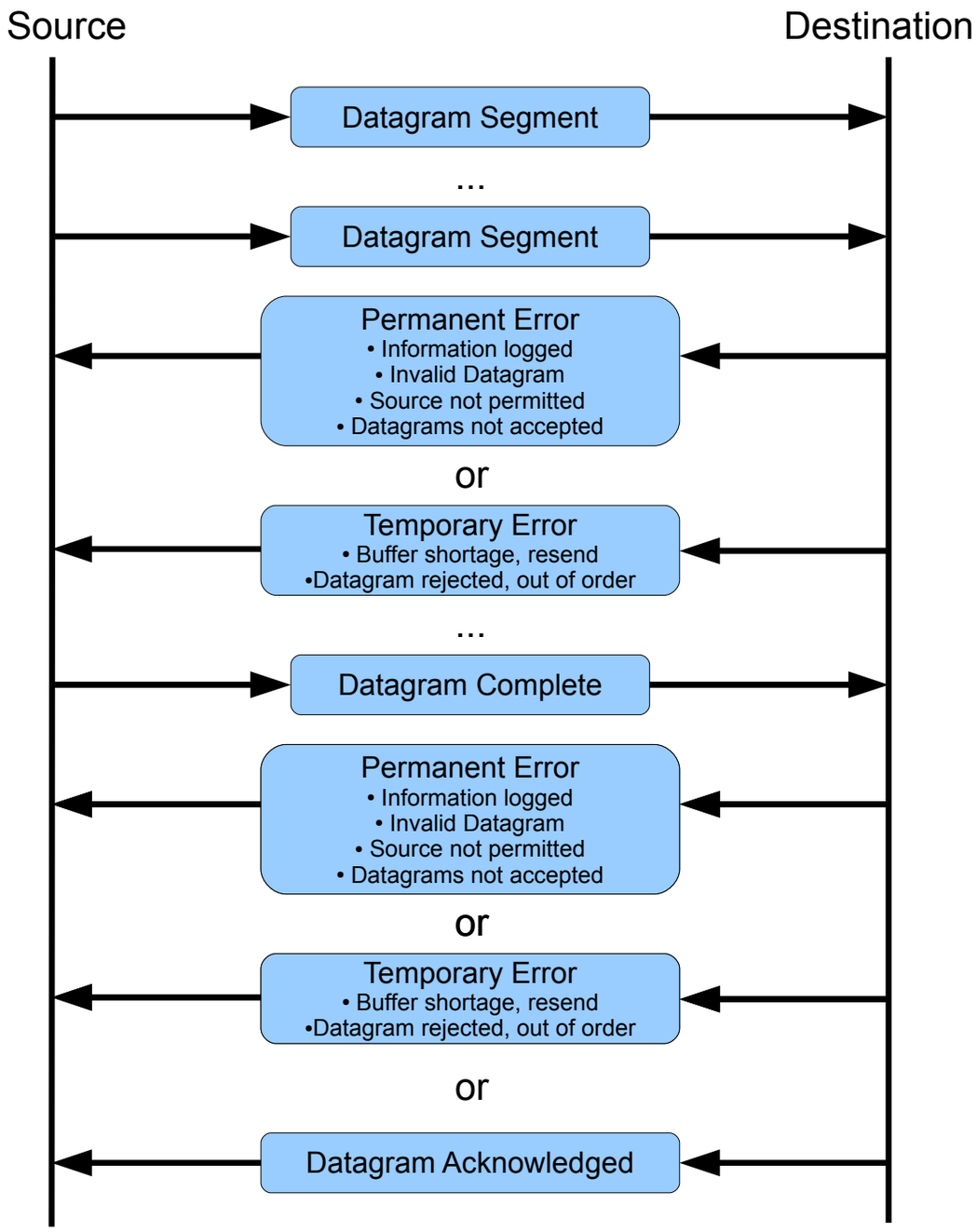


Scientists from the RAND Corporation have created this model to illustrate how a "home comp
year 2004. However the needed technology will not be economically feasible for the average home.
admit that the computer will require not yet invented technology to actually work, but 50 years fro
expected to solve these problems. With teletype interface and the Fortran language, the computer



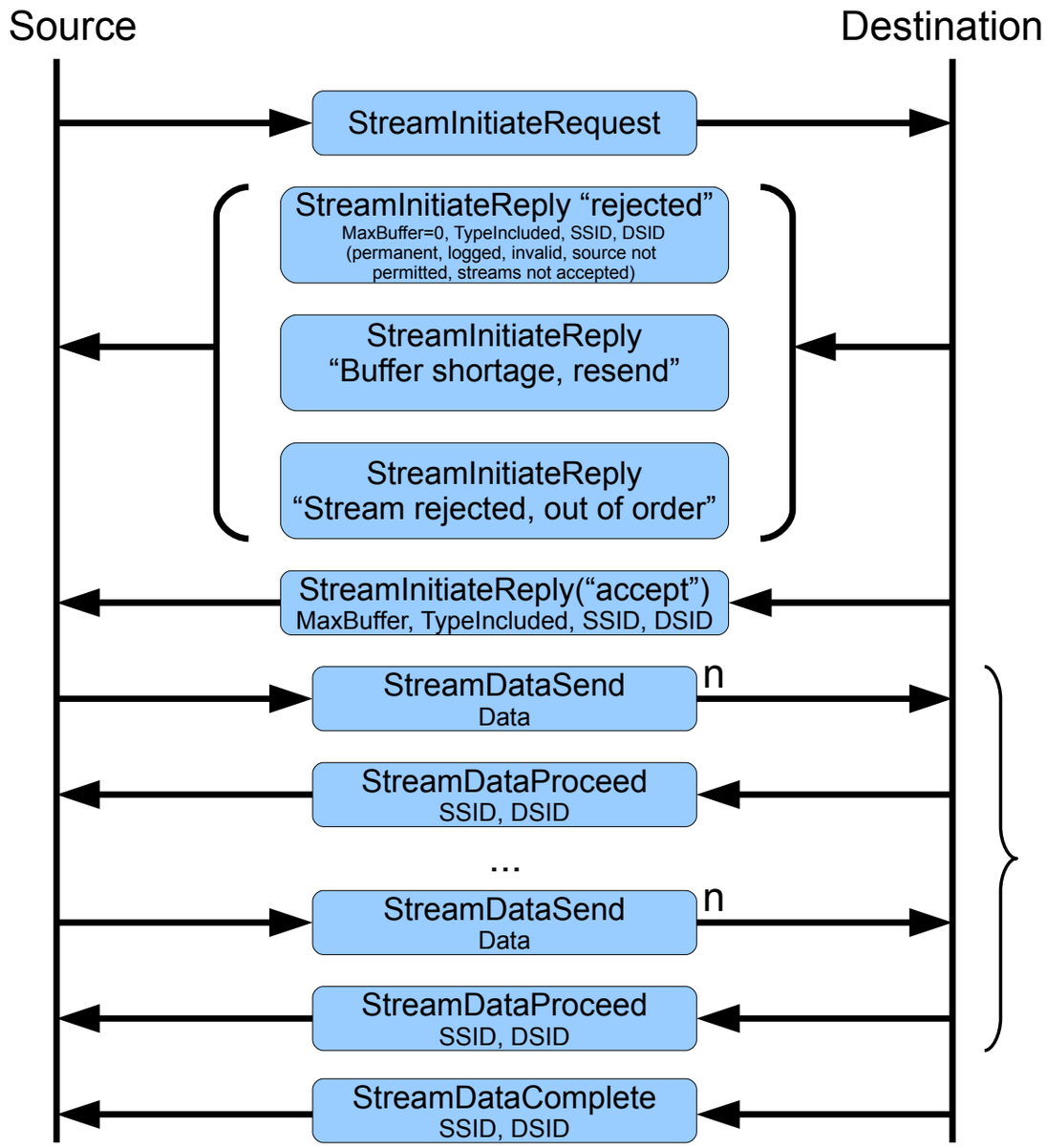

CAN
Panel I/O Controller
Turnout Controller
Control Panel
Turnout Motor
Position feedback

OpenLCB CAN Datagram Protocol



Note: The Short-Datagram case, where the Datagram consists of only one CAN frame, is represented by the lower part of the diagram.

OpenLCB Stream Protocol



Not just commands, protocols. Yes, they take more time, more engineering, but they’re transparent to you.

	CAB NUMBERS ASSIGNED: rev 2, 09												
	WIRED			RADIO (Wireless)				WIRED			RADIO		
Addrs	ProCab	PwrCab	Cab04	Procab	PwrCab	Cabo4	Addrs	ProCab	PwrCab	Cab04	Procab	PwrCab	Cabo4
0	Setting cab to #0 resets cab				XXX	XXX							
2	Rick S		XXX			XXX	46				XXX	XXX	
3			XXX			XXX	47				XXX	XXX	
4	Bad	Bad	XXX	Bad	Bad	XXX	48	Dave E			XXX	XXX	
5	Guest	Guest	XXX	Guest	Guest	XXX	49	XXX	XXX	XXX	XXX	XXX	XXX
6			XXX			XXX	50	Bob B			XXX	XXX	XXX

Assigned Numbers:

Macros

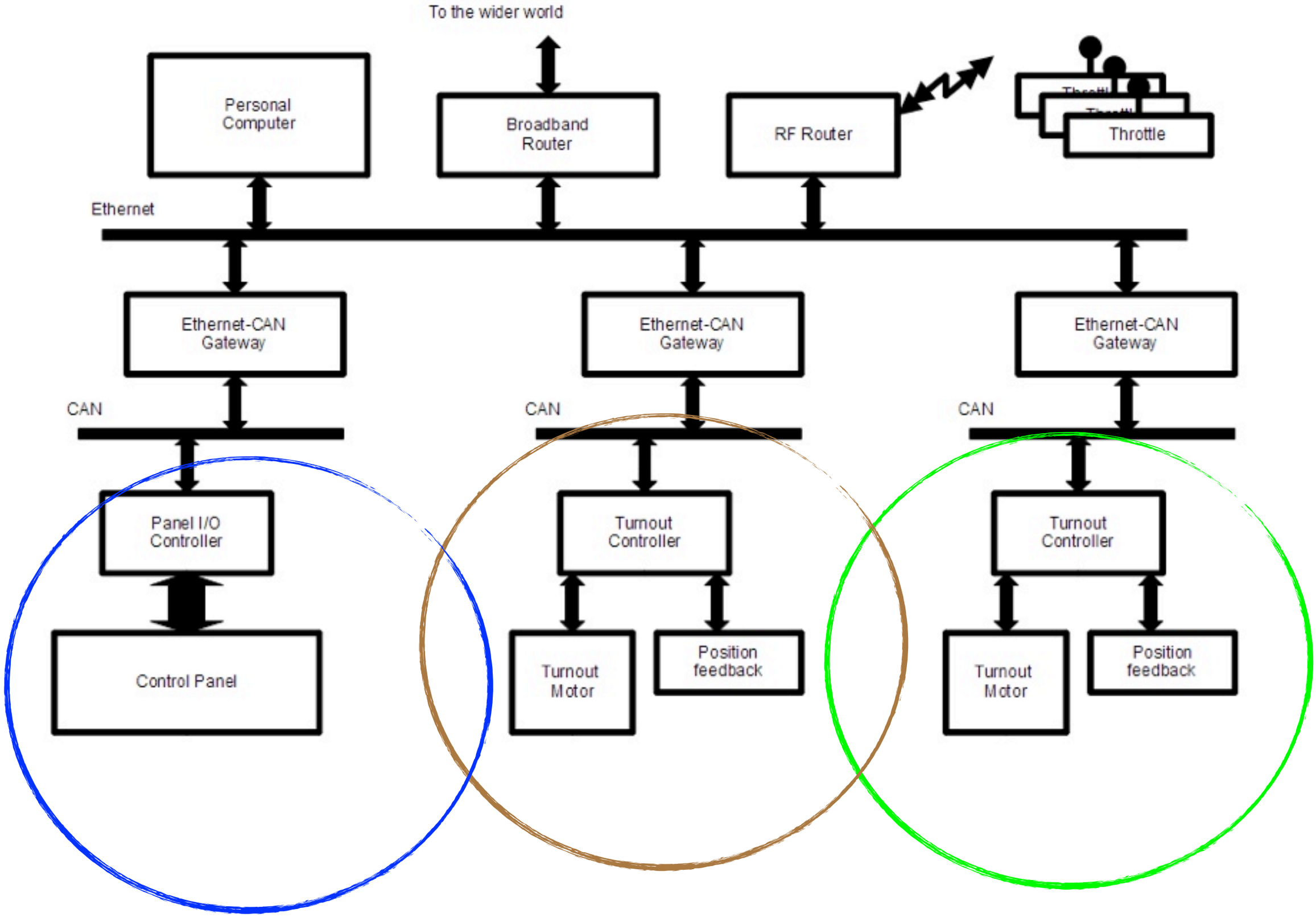
NAME:	Macro #'s
Ross T	10 - 19
Bob B	20 - 50
Mike S	101 - 150
4th Div	151-220

NMRANet Series numbers assigned
4/7/2010
PB = Pushbuttons, LED = LED, Tort = Tortoises

4D:
PB 100 series
Tort 300 series
LED 600 series
Signals 8000 series
Bob 200 series

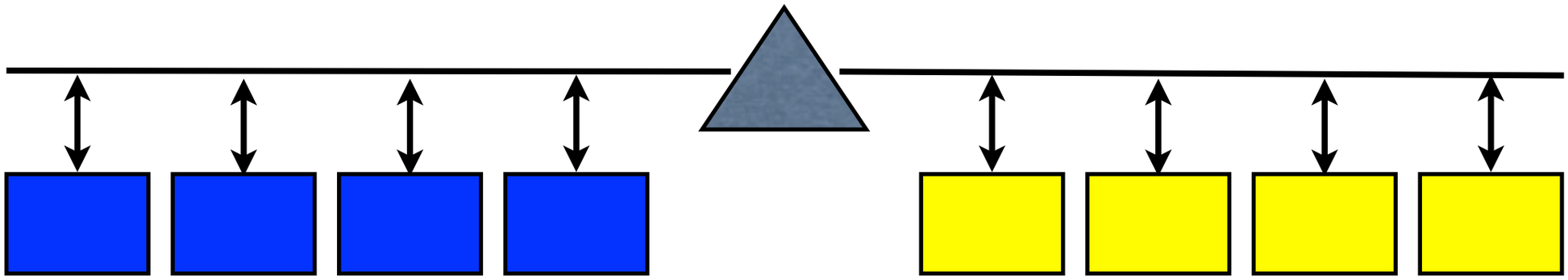
Part of those protocols is addressing. What if a guest arrives with the wrong number?

Better yet, what if hundreds of guests show up?

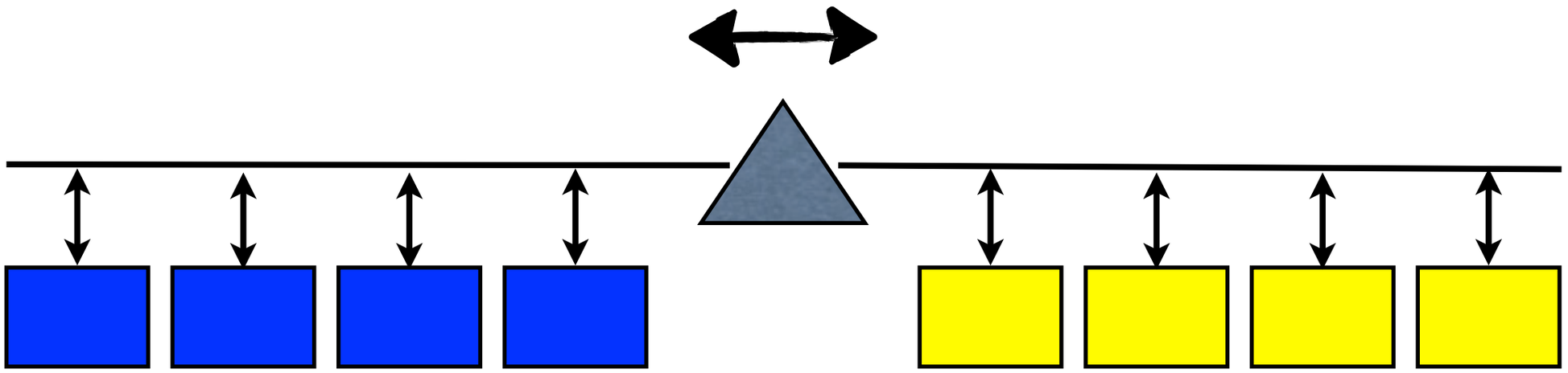


Protocols allow communication (though debate today about timing of some of the algorithms for 4000+ nodes). Connections between modular groups.

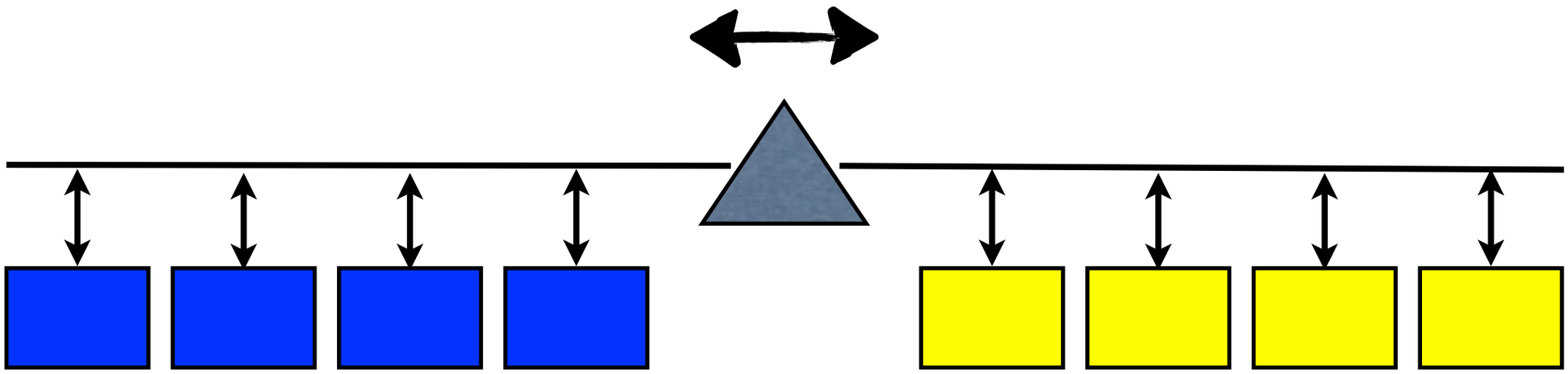
Need to make this problem go away.

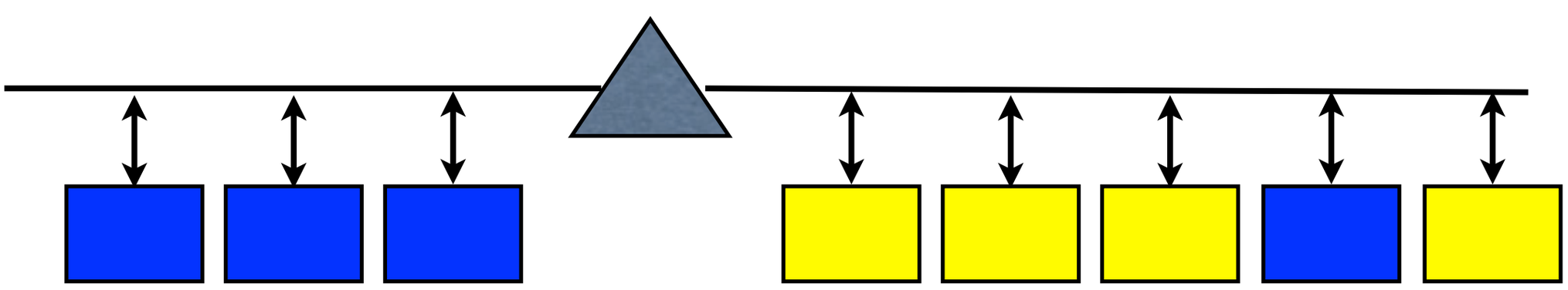


Need to make this problem go away.



Need to make this problem go away.





Need to make this problem go away.

View OpenLCB Unique ID Ranges

'*' means that any values are accepted in that byte, forming the range.

0	0	0	0	0	0	Reserved; convenient value for "No valid node ID assigned"
0	*	*	*	*	*	Reserved; Leading 0 byte indicates uninitialized or non-standard Node ID
1	*	*	*	*	*	Reserved for well-known global identifiers
1	1	0	0	0	0	Reserved for well-known EventIDs (see EidAllocations sheet; this is referred to as "OpenLCB vnode" there)
1	1	1	*	*	*	Reserved for CBUS-defined EventIDs (specifically when last two bytes zero); see EidAllocations sheet, where this is referred to as "CBUS vnode"
1	99	*	*	*	*	XpressNet translation
1	129	*	*	*	*	LocoNet packet transport
1	238	*	*	*	*	DCC translation
2	*	*	*	*	*	Manufacturer-specific assignments
2	1	*	*	*	*	Manufacturer space bank 1 (by NMRA Mfg ID byte)
2	1	13	*	*	*	DIY (shared unmanaged space, not recommended for individual use)
2	1	18	*	*	*	JMRI (e.g. for use in software solutions)
2	1	235	*	*	*	MERG
2	1	238	*	*	*	NMRA reserved
3	*	*	*	*	*	Self-assigning groups space
3	0	*	*	*	*	NMRA member number assignments
3	4	*	*	*	*	MERG member number assignment
3	8	*	*	*	*	CBUS - for mapping existing modules, using the "Layout ID" etc defined by CBUS
4	0	0	*	*	*	Individual UIDs allocated by automated requests
5	*	*	*	*	*	Specifically assigned ranges
5	1	0	0	*	*	8-bit assigned ranges
5	1	1	1	1	*	
5	1	1	1	2	*	
5	1	1	1	3	*	
5	2	*	*	*	*	16-bit assigned ranges
5	2	1	2	*	*	
5	3	*	*	*	*	24-bit assigned ranges

Large numbers and delegated allocation.

View OpenLCB Unique ID Ranges

'*' means that any values are accepted in that byte, forming the range.

0	0	0	0	0	0	Reserved; convenient value for "No valid node ID assigned"
0	*	*	*	*	*	Reserved; Leading 0 byte indicates uninitialized or non-standard Node ID
1	*	*	*	*	*	Reserved for well-known global identifiers
1	1	0	0	0	0	Reserved for well-known EventIDs (see EidAllocations sheet; this is referred to as "OpenLCB vnode" there)
1	1	1	*	*	*	Reserved for CBUS-defined EventIDs (specifically when last two bytes zero); see EidAllocations sheet, where this is referred to as "CBUS vnode"
1	99	*	*	*	*	XpressNet translation
1	129	*	*	*	*	LocoNet packet transport
1	238	*	*	*	*	DCC translation
2	*	*	*	*	*	Manufacturer-specific assignments
2	1	*	*	*	*	Manufacturer space bank 1 (by NMRA Mfg ID byte)
2	1	13	*	*	*	DIY (shared unmanaged space, not recommended for individual use)
2	1	18	*	*	*	JMRI (e.g. for use in software solutions)
2	1	235	*	*	*	MERG
2	1	238	*	*	*	NMRA reserved
3	*	*	*	*	*	Self-assigning groups space
3	0	*	*	*	*	NMRA member number assignments
3	4	*	*	*	*	MERG member number assignment
3	8	*	*	*	*	CBUS - for mapping existing modules, using the "Layout ID" etc defined by CBUS
4	0	0	*	*	*	Individual UIDs allocated
5	*	*	*	*	*	Specifically assigned rang
5	1	0	0	*	*	8-bit assigned ranges
5	1	1	1	1	*	
5	1	1	1	2	*	
5	1	1	1	3	*	
5	2	*	*	*	*	16-bit assigned ranges
5	2	1	2	*	*	
5	3	*	*	*	*	24-bit assigned ranges

Request OpenLCB Unique ID Range

Your info (* fields required):

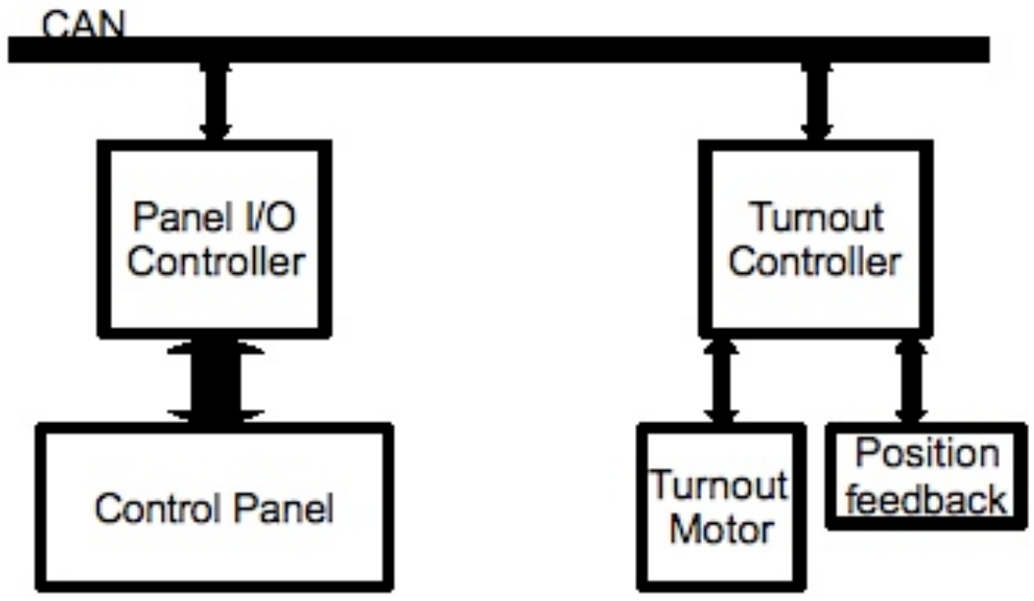
First Name: *Last Name: *

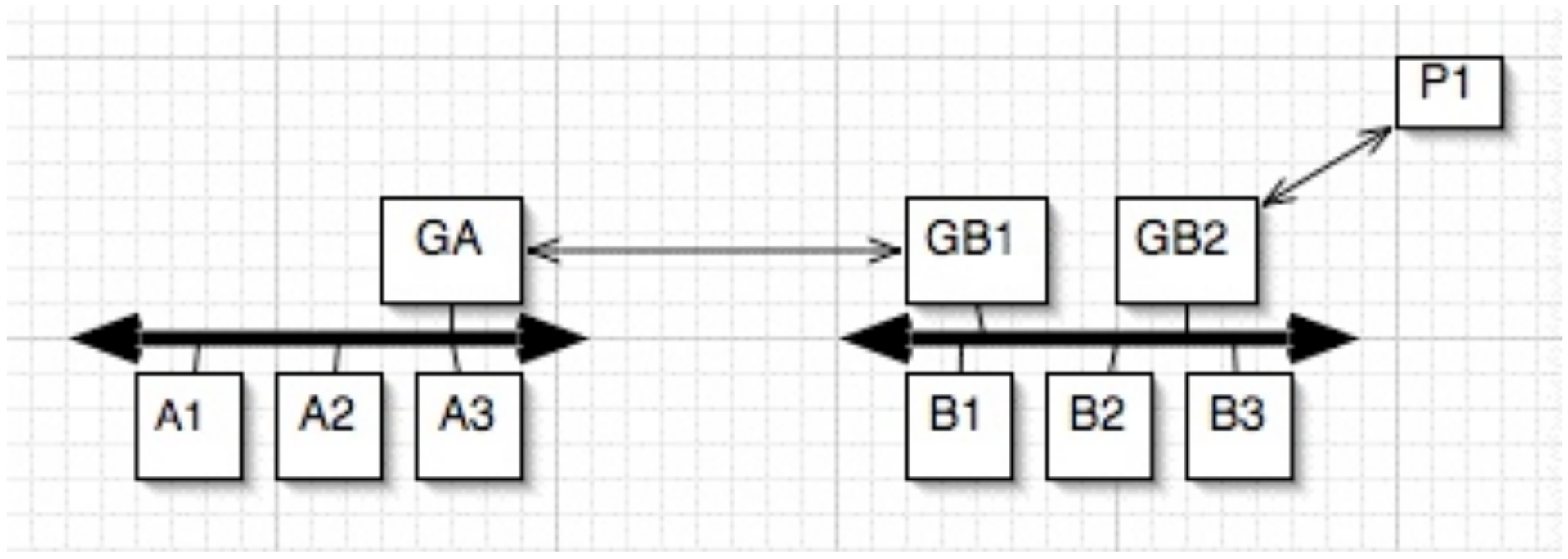
Organization:

Email Address: *

Next

Large numbers and delegated allocation.





Even works for smaller cases, like growing a club

or even building something on your workbench & then carrying to railroad.