

Let's Use Our Repeater

Estes Valley Amateur Radio Club
2014

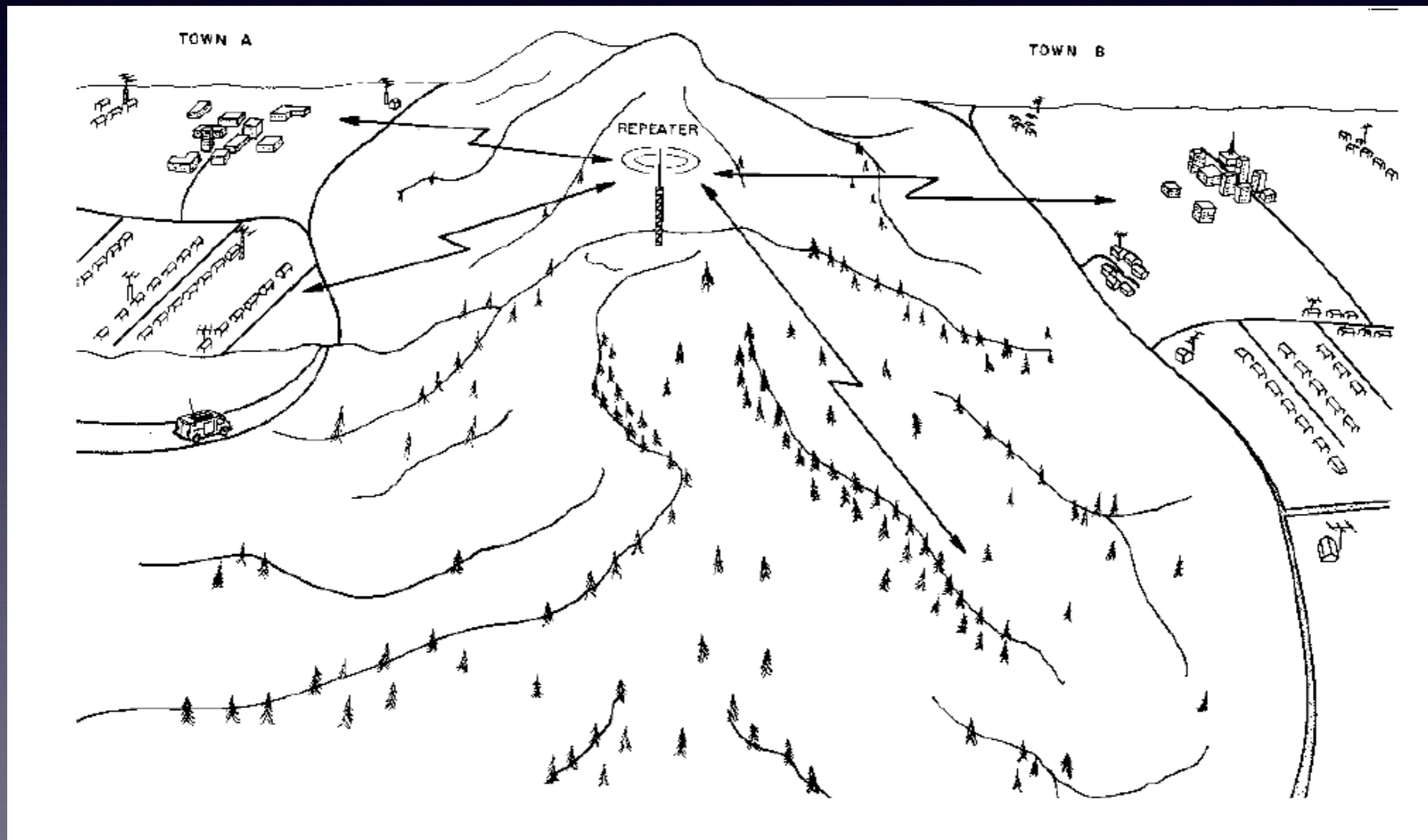
- What's in it for me?
 - Do more with:
 - Your license
 - Club assets
 - That expensive radio you bought

Enjoy our EVARC Repeater

- How?
 - FM means a clear(er) signal
 - Unlike HF with
 - Pink Noise
 - QRM - “M”an-Made Noise
 - Static (QRN) - “N”ature-Made Noise

- How?
 - Extends range of your radio
 - Line of Sight
 - Low Power
 - VoIP (Voice over IP) technology
 - Really extends range for all licensees

Estes is town "A"



- Basics of Communication - Legal
 - FCC Part 97.119 (ID)
 - Simple - Who are you?
 - This is W7ABC - done!
 - Beginning/End of conversation
 - Every 10 minutes once contact is established.

- Basics of Communication - Technical
 - FM - one channel - and a band plan
 - You '*can*' be heard
 - SSB/CW - infinite frequencies - band plan
 - You '*might*' be heard

- Basics of Communication - Technical
- FM and channels?
 - Simplex - e.g. 146.55
(transmit/receive)
 - Repeater – e.g, repeater N0FH

- What is a Repeater?
- A separate receiver and a separate transmitter in the same box

NØFH

Receiver 146.085 MHz	Transmitter 146.685 MHz
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Kenwood TKR-750
a VHF repeater

A Box – Not Real Exciting (Rack mounted)



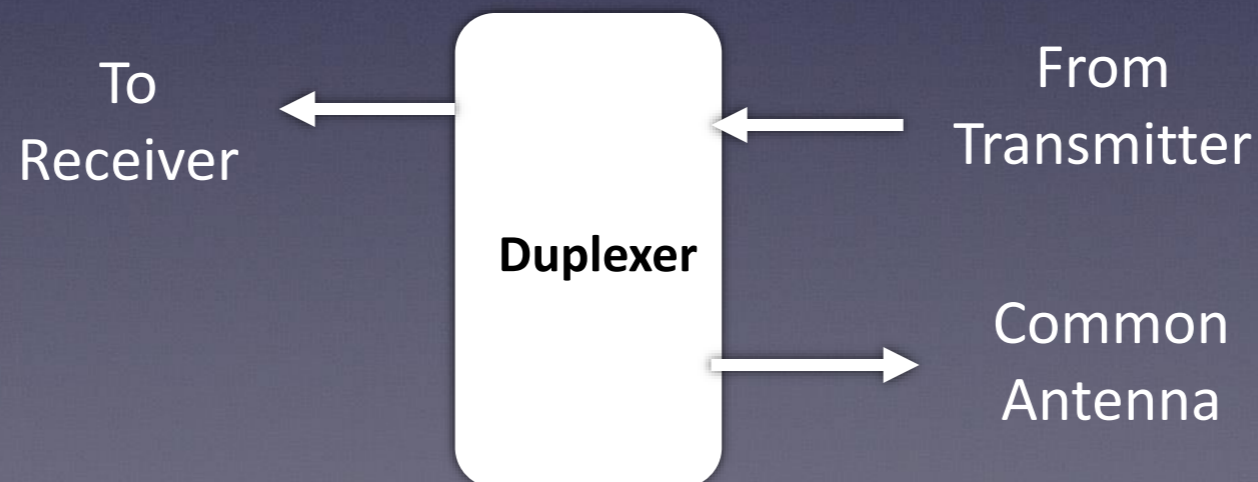
Kenwood TKR-750
Repeater

An Issue!

- Zapping receiver with transmitted signal is not good – “Old Smokey” - a solution?
- Duplexor - resonant “cavity”, a filter!!
- Works by ‘nulling’ transmitted power on receive side of cavity
- Aha! Why we have 600 KHz between receive and transmit frequencies!

The Solution!

- Duplexer - resonant cavity (a filter!)
- Tuned for our very specific frequencies
- 3 connections - Receiver, Transmitter and Antenna



Another Box Makes Things Even Better

- Namely, a repeater “Controller”
- Ours is an S-Com 7330



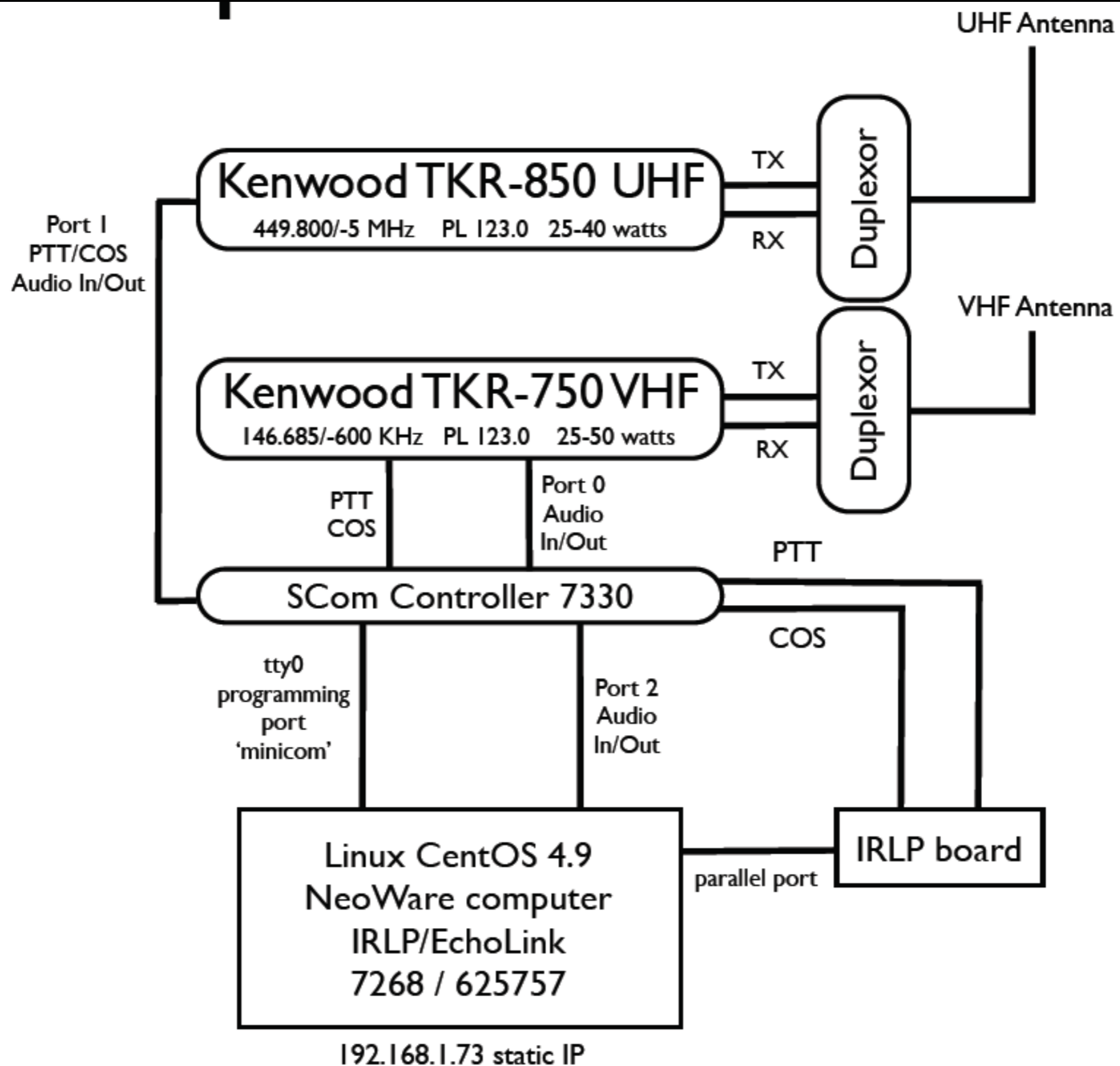
(Rack mounted)

More, Another Box Makes it Even Better

- A Controller permits other functions:
 - Multiple repeaters - VHF and UHF
 - Other functions - VoIP technology?

- Our Controller manages:
 - VHF repeater
 - UHF repeater
 - Computer for IRLP (Internet Repeater Linking Project) and Echolink (using VoIP technology)

For the I.T. folks!



- VoIP technology? Now you lost me ...
- Voice over IP (Internet phones) -
MagicJack, Vonage, Ooma and more
- “The Computer” rescues us
 - Sound card - digitizes “audio” which
can be sent/received over Internet
 - Controls a ‘session’

- But you said IRLP and Echolink
 - Similarities - They use the same VoIP technology, same computer to extend range of communications to World-Wide
 - Differences?
 - IRLP links repeaters (Internet Repeater Linking Project)
 - Echolink links HAM 'devices'

- What are HAM 'devices' ?
 - Your radio - HT, mobile, base
 - Club repeaters
 - computers - desktop/laptop/netbooks and tablets
 - smartphones (yeah, they're really a computer under the covers)

One Last Item!

- What about CTCSS/PL?
 - Continuous Tone Coded Squelch System
 - Sub-audible tone (Private Line) - same thing
 - Works for transmit and receive
(repeater users use it on transmit only so our repeater knows it is “us” and not a Woodland Park user)

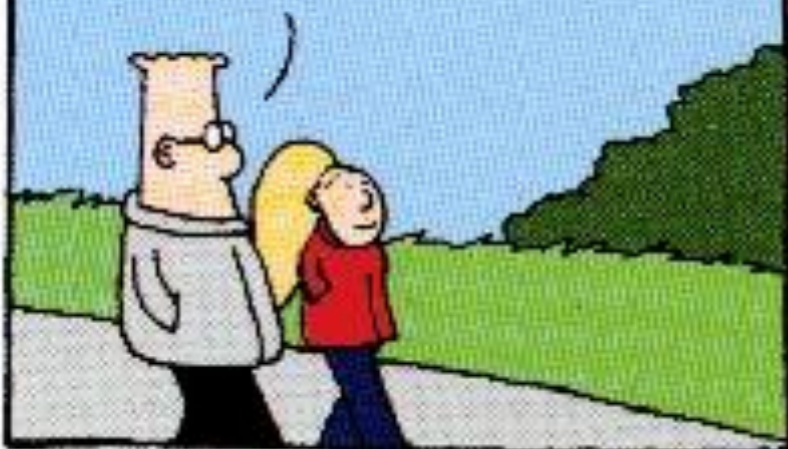
EVARC

- Thanks again
- Let's do some HT programming . . .
- AND, some repeater practice QSOs, and enjoy our repeater!

One of my favorite wanabee Hams!

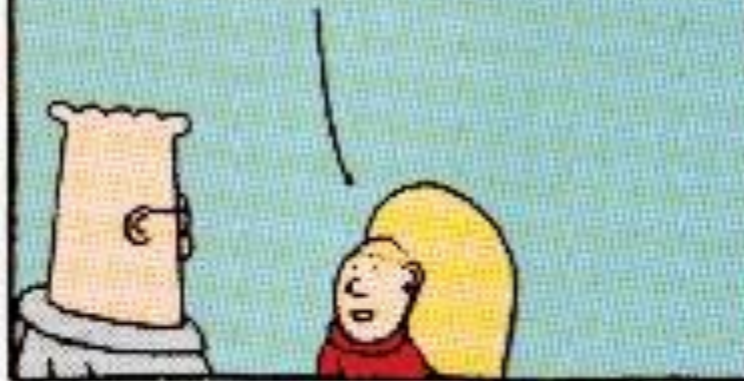
DILBERT® by Scott Adams

IF I LEFT ENGINEERING AND BECAME A MANAGER WOULD I BE AS SEXY AS I AM NOW, LIZ?



S. Adams E-Mail: SCOTTADAMS@ADI.COM

I THINK IT WOULD DECREASE YOUR SEX APPEAL BY 17%. BUT THAT'S JUST A PLANNING NUMBER.



WHAT IF I GOT MY HAM RADIO LICENSE TO COMPENSATE FOR THE LOSS?



LOOK AT MY ARM: GOOSE BUMPS.

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