

# Old Stuff – Computers

How can computers be “old stuff”? We’ll see....

## The Home First Computers

This week we take a look at three pioneers in the computer business:

- From [1975 MITS’ catalog](#) featuring the Altair 8800 computer. (0.6 MB)
- From the [1977 Southwest Technical Products catalog](#) with their 6800-based computer. (5 MB)
- From [1978 The Commodore PET catalog](#) (0.5 MB)
- From [1979 The Texas Instruments TI-99](#) (1.2 MB)
- And from [1980 Ohio Scientific catalog](#) with their products. (7 MB)

How far we have come! Be sure to check out memory size and prices!

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# Old Stuff – Reference

## Techniques and Projects

Here is a variety of new old stuff that focuses on electronics and radio techniques and projects.

- 1958 From Popular Electronics magazine, [The Experimenter’s Handbook](#) (15 MB)
- 1965 Again from Popular Electronics, [The Experimenter’s](#)

[Handbook](#) (8 MB)

- 1973 [Electronics Theory Handbook](#) (4 MB)
- 1973 [Understanding Electronic Circuits](#) (7 MB)

## Handbook, Dictionary, and FixIt

For the New Old Stuff for this week, we present some reference materials.

- The [1936 ARRL Handbook 14th Edition](#) (54 MB)
- The [1944 Allied Dictionary of Radio Terms](#) (4 MB)
- From Popular Science in 1946, the [Third Radio Make It, Fix It Annual](#) (6 MB)

## Tubes, Tubes, tubes...

- From 1951, a manual from Eimac, [The Care and Feeding of Power Tetrodes](#) (3 MB) You are feeding your tetrodes, aren't you?
- 1960 offers a document on [Getting the Most out of Vacuum Tubes](#) (13 MB)
- From 1968, the [RCA Tube Manual](#) (28 MB)

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# Old Stuff – Broadcasting

## All About FM

This week we have a couple of documents from the early 1940's explaining FM. At this time FM was very, very new. It had the benefit of reducing the noise one would hear on AM. A lot of work went into convincing the world that FM was the way of the

future.

[1941-All about FM](#) (3 MB)

[1941-GE FM Primer](#) (4 MB)

## AM Broadcast Transmitters

Some classic (and one BIG) broadcast transmitters.

[Raytheon RA-250](#) Popular with 250 watt small town, low budget stations (1.2 MB)

[Bauer 707](#) Popular with the 1KW day / 250 night stations. Offered as a kit! (2 MB)

[Continental 105C](#) A 1,000 KW transmitter! (8 MB)

## The Story of Stereo 1960

From 1960 the story of stereo from having two ears to stereo LP's and FM!

[The Story of Stereo 1960](#) (8 MB)

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## Old Stuff – Catalogs

### Allied Radio Catalogs

[PDF of the 1969 Allied Radio Catalog](#) (50 MB)

### Radio Shack Catalogs

So what exactly is a Meissner Signal Shifter? What did it cost? How about a 2 and one half meter transceiver? And where could you buy one in 1946? Guess what? Radio Shack. THEY SOLD RADIOS! And they had a radio shack.

[Radio Shack Catalog 1939](#) (6 MB)

[Radio Shack Catalog 1946](#) (11 MB)

[1986 Radio Shack](#) (20 MB)

## Lafayette

[1968 Lafayette Radio Electronics](#) (16 MB)

## Heathkit

[1976 Heathkit](#) (71 MB)

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# WiRES-X Automation

Yaesu does not provide a mechanism that allows the WiRES-X software to be controlled by another program, i.e., having another program switch to a certain Room when a net starts.

Windows does, however, permit another program to send events to a program. Each window, menu item, and dialog in a Windows program has a unique identifier. It is possible to use these identifiers to send “message” to the WiRES-X software.

The WiRES-X Automation Project’s purpose is to bring together people who are interested in developing this technology and sharing their results.

To get things going, here are two mechanisms for automating WiRES-X:

1. AutoIT: <http://www.autoitscript.com>
2. Python – an excellent programming language found at [python.org](http://python.org)

Dave, N9TOW, provided the following information:

Packages I have installed on my WiresX system.

```
C:\Users\WiresX>pip list
```

```
comtypes (1.1.3)
```

```
pip (9.0.1)
```

```
pypiwin32 (220)
```

```
pywinauto (0.6.3)
```

```
setuptools (28.8.0)
```

```
six (1.10.0)
```

```
https://github.com/pywinauto/pywinauto
```

## To install

```
pip install -U pywinauto
```

## Script that executes changing channels on WiresX app

```
import time
from pywinauto import Application
    app = Application().connect(path="C:\Program Files
(x86)\YAESUMUSEN\WIRES-X\wires-X.exe")
app.WiresX.menu_select("Connect(C)->Connect To(T)")
time.sleep(1.5)
app.InputID.Edit.set_edit_text("21493")
time.sleep(.5)
app.InputID.OK.click()
time.sleep(4)
dialogs = app.windows()
##app.Dialog.CloseButton.click()
```

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# DV4mini Fusion Monitor Program

This program uses a DV4mini to monitor over-the-air Fusion signals and display the meta data (does not display voice, pictures, messages, etc.)

This version of the program will output a record when a station keys up and then another record when the station unkeys. I've done this so that the user doesn't get overwhelmed with all of the meta data that is produced.

You'll need to review the [Yaesu Digital Communication Standards](#) document to understand what the different fields mean.

Computer Requirements: Windows 7 or later

## Program Installation

1. Download the program from this link: [DV4mini YSFMonitor](#).
2. Create a directory on your Windows PC and unzip this folder into that directory.
3. Download and install the Microsoft Visual Studio 2017 redistributable for your machine

## Running the Program

1. Open a command box (type cmd) and change to the directory in which you installed the software.
2. Check the program: Type VSFRX.exe -v. It should respond with the version number.
3. User Device Manager to determine the com port of your DV4mini.
4. Enter frequency and com port as follows: VSFRX.exe com7 444525000

Note that the frequency must be entered as 9 digits.

5. A log file will be created in the same directory as the program.

Output Example from the 30-Apr-2018 Net

```
M: 2018-05-01 01:01:30.338 DV4mini version: V01.77
M: 2018-05-01 01:01:30.338 YSFRX-20180430 K9EQ starting
M: 2018-05-01 01:01:33.646
M: 2018-05-01 01:01:33.646 FICH: FI: TC, DT: VD2, BN: 0, BT:
0, FN: 0, FT: 6 SQ: 0 SC: 0
M: 2018-05-01 01:01:33.646 Terminator, CSD1
M: 2018-05-01 01:01:33.646 0000: 2A 2A 2A 2A 2A 48 35 35 37 56
57 38 4F 4A 2D 20 20 20 20 20 *****H557VW80J- *
M: 2018-05-01 01:01:33.646 Terminator, CSD2
M: 2018-05-01 01:01:33.646 0000: 4B 39 45 51 20 20 20 20 20 20
57 38 4F 4A 20 20 20 20 20 20 *K9EQ W80J *
M: 2018-05-01 01:01:36.748
M: 2018-05-01 01:01:36.748 FICH: FI: HC, DT: VD2, BN: 0, BT:
0, FN: 0, FT: 7 SQ: 0 SC: 0
M: 2018-05-01 01:01:36.748 Header, CSD1
M: 2018-05-01 01:01:36.748 0000: 2A 2A 2A 2A 2A 46 30 58 49 4B
4B 44 38 47 52 4E 20 20 20 20 *****F0XIKKD8GRN *
M: 2018-05-01 01:01:36.748 Header, CSD2
M: 2018-05-01 01:01:36.748 0000: 4B 39 45 51 20 20 20 20 20 20
4B 44 38 46 4A 48 20 20 20 20 *K9EQ KD8FJH *
M: 2018-05-01 01:01:43.742
M: 2018-05-01 01:01:43.742 FICH: FI: TC, DT: VD2, BN: 0, BT:
0, FN: 0, FT: 7 SQ: 0 SC: 0
M: 2018-05-01 01:01:43.743 Terminator, CSD1
M: 2018-05-01 01:01:43.744 0000: 2A 2A 2A 2A 2A 46 30 58 49 4B
4B 44 38 47 52 4E 20 20 20 20 *****F0XIKKD8GRN *
M: 2018-05-01 01:01:43.745 Terminator, CSD2
M: 2018-05-01 01:01:43.745 0000: 4B 39 45 51 20 20 20 20 20 20
4B 44 38 46 4A 48 20 20 20 20 *K9EQ KD8FJH *
M: 2018-05-01 01:01:48.921
M: 2018-05-01 01:01:48.921 FICH: FI: HC, DT: VD2, BN: 0, BT:
0, FN: 0, FT: 7 SQ: 0 SC: 0
M: 2018-05-01 01:01:48.921 Header, CSD1
M: 2018-05-01 01:01:48.921 0000: 2A 2A 2A 2A 2A 2A 2A 2A 2A 2A
57 36 5A 44 52 20 20 20 20 20 *****W6ZDR *
M: 2018-05-01 01:01:48.921 Header, CSD2
M: 2018-05-01 01:01:48.921 0000: 4B 39 45 51 20 20 20 20 20 20
```

44 55 31 5A 44 52 20 20 20 20 \*K9EQ DU1ZDR \*  
M: 2018-05-01 01:01:59.513  
M: 2018-05-01 01:01:59.513 FICH: FI: HC, DT: VD1, BN: 0, BT:  
1, FN: 2, FT: 6 SQ: 0 SC: 0  
M: 2018-05-01 01:02:00.317  
M: 2018-05-01 01:02:00.317 FICH: FI: TC, DT: VD2, BN: 3, BT:  
1, FN: 3, FT: 3 SQ: 0 SC: 27  
M: 2018-05-01 01:02:01.717  
M: 2018-05-01 01:02:01.717 FICH: FI: TC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 7 SQ: 0 SC: 0  
M: 2018-05-01 01:02:01.717 Terminator, CSD1  
M: 2018-05-01 01:02:01.717 0000: 2A 2A 2A 2A 2A 2A 2A 2A 2A 2A  
57 36 5A 44 52 20 20 20 20 20 \*\*\*\*\*W6ZDR \*  
M: 2018-05-01 01:02:01.717 Terminator, CSD2  
M: 2018-05-01 01:02:01.717 0000: 4B 39 45 51 20 20 20 20 20 20  
44 55 31 5A 44 52 20 20 20 20 \*K9EQ DU1ZDR \*  
M: 2018-05-01 01:02:02.483  
M: 2018-05-01 01:02:02.483 FICH: FI: HC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 7 SQ: 0 SC: 0  
M: 2018-05-01 01:02:04.203  
M: 2018-05-01 01:02:04.203 FICH: FI: TC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 7 SQ: 0 SC: 0  
M: 2018-05-01 01:02:04.203 Terminator, CSD1  
M: 2018-05-01 01:02:04.203 0000: 2A 2A 2A 2A 2A 2A 2A 2A 2A 2A  
4B 44 38 41 47 4F 4A 4F 48 4E \*\*\*\*\*KD8AGOJOHN\*  
M: 2018-05-01 01:02:04.203 Terminator, CSD2  
M: 2018-05-01 01:02:04.203 0000: 4B 39 45 51 20 20 20 20 20 20  
41 44 30 4D 49 20 20 20 20 20 \*K9EQ AD0MI \*  
M: 2018-05-01 01:02:09.834  
M: 2018-05-01 01:02:09.834 FICH: FI: HC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 6 SQ: 0 SC: 0  
M: 2018-05-01 01:02:09.834 Header, CSD1  
M: 2018-05-01 01:02:09.834 0000: 32 31 34 39 33 47 30 32 7A 42  
41 42 38 52 4C 2D 54 4F 4D 20 \*21493G02zBAB8RL-TOM \*  
M: 2018-05-01 01:02:09.834 Header, CSD2  
M: 2018-05-01 01:02:09.834 0000: 4B 39 45 51 20 20 20 20 20 20  
41 42 38 52 4C 20 20 20 20 20 \*K9EQ AB8RL \*  
M: 2018-05-01 01:02:19.424  
M: 2018-05-01 01:02:19.424 FICH: FI: TC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 6 SQ: 0 SC: 0  
M: 2018-05-01 01:02:19.424 Terminator, CSD1



M: 2018-05-01 01:02:19.424 0000: 32 31 34 39 33 47 30 32 7A 42  
41 42 38 52 4C 2D 54 4F 4D 20 \*21493G02zBAB8RL-TOM \*  
M: 2018-05-01 01:02:19.424 Terminator, CSD2  
M: 2018-05-01 01:02:19.424 0000: 4B 39 45 51 20 20 20 20 20 20  
41 42 38 52 4C 20 20 20 20 20 \*K9EQ AB8RL \*  
M: 2018-05-01 01:02:23.581  
M: 2018-05-01 01:02:23.581 FICH: FI: HC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 6 SQ: 0 SC: 0  
M: 2018-05-01 01:02:23.583 Header, CSD1  
M: 2018-05-01 01:02:23.584 0000: 32 31 34 39 33 45 30 50 71 61  
4B 46 38 50 4D 2F 41 4C 41 4E \*21493E0PqaKF8PM/ALAN\*  
M: 2018-05-01 01:02:23.584 Header, CSD2  
M: 2018-05-01 01:02:23.584 0000: 4B 39 45 51 20 20 20 20 20 20  
4B 46 38 50 4D 20 20 20 20 20 \*K9EQ KF8PM \*  
M: 2018-05-01 01:02:37.296  
M: 2018-05-01 01:02:37.296 FICH: FI: TC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 7 SQ: 0 SC: 0  
M: 2018-05-01 01:02:37.296 Terminator, CSD1  
M: 2018-05-01 01:02:37.298 0000: 32 31 34 39 33 45 30 50 71 61  
4B 46 38 50 4D 2F 41 4C 41 4E \*21493E0PqaKF8PM/ALAN\*  
M: 2018-05-01 01:02:37.298 Terminator, CSD2  
M: 2018-05-01 01:02:37.299 0000: 4B 39 45 51 20 20 20 20 20 20  
4B 46 38 50 4D 20 20 20 20 20 \*K9EQ KF8PM \*  
M: 2018-05-01 01:02:51.164  
M: 2018-05-01 01:02:51.165 FICH: FI: HC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 7 SQ: 0 SC: 0  
M: 2018-05-01 01:02:51.166 Header, CSD1  
M: 2018-05-01 01:02:51.167 0000: 2A 2A 2A 2A 2A 2A 2A 2A 2A 2A  
57 35 4C 4E 41 2D 4B 45 56 4E \*\*\*\*\*W5LNA-KEVN\*  
M: 2018-05-01 01:02:51.168 Header, CSD2  
M: 2018-05-01 01:02:51.169 0000: 4B 39 45 51 20 20 20 20 20 20  
57 30 4D 44 54 20 20 20 20 20 \*K9EQ W0MDT \*  
M: 2018-05-01 01:02:57.665  
M: 2018-05-01 01:02:57.665 FICH: FI: TC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 7 SQ: 0 SC: 0  
M: 2018-05-01 01:02:57.667 Terminator, CSD1  
M: 2018-05-01 01:02:57.668 0000: 2A 2A 2A 2A 2A 2A 2A 2A 2A 2A  
57 35 4C 4E 41 2D 4B 45 56 4E \*\*\*\*\*W5LNA-KEVN\*  
M: 2018-05-01 01:02:57.668 Terminator, CSD2  
M: 2018-05-01 01:02:57.669 0000: 4B 39 45 51 20 20 20 20 20 20  
57 30 4D 44 54 20 20 20 20 20 \*K9EQ W0MDT \*

M: 2018-05-01 01:03:00.908  
M: 2018-05-01 01:03:00.908 FICH: FI: HC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 7 SQ: 0 SC: 0  
M: 2018-05-01 01:03:00.908 Header, CSD1  
M: 2018-05-01 01:03:00.908 0000: 2A 2A 2A 2A 2A 45 35 67 47 79  
4B 31 4B 43 2D 50 4F 52 54 32 \*\*\*\*\*E5gGyK1KC-PORT2\*  
M: 2018-05-01 01:03:00.908 Header, CSD2  
M: 2018-05-01 01:03:00.908 0000: 4B 39 45 51 20 20 20 20 20 20  
4B 31 4B 43 20 20 20 20 20 20 \*K9EQ K1KC \*  
M: 2018-05-01 01:03:07.414  
M: 2018-05-01 01:03:07.414 FICH: FI: TC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 7 SQ: 0 SC: 0  
M: 2018-05-01 01:03:07.414 Terminator, CSD1  
M: 2018-05-01 01:03:07.414 0000: 2A 2A 2A 2A 2A 45 35 67 47 79  
4B 31 4B 43 2D 50 4F 52 54 32 \*\*\*\*\*E5gGyK1KC-PORT2\*  
M: 2018-05-01 01:03:07.414 Terminator, CSD2  
M: 2018-05-01 01:03:07.414 0000: 4B 39 45 51 20 20 20 20 20 20  
4B 31 4B 43 20 20 20 20 20 20 \*K9EQ K1KC \*  
M: 2018-05-01 01:03:29.710  
M: 2018-05-01 01:03:29.710 FICH: FI: HC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 7 SQ: 0 SC: 0  
M: 2018-05-01 01:03:29.710 Header, CSD1  
M: 2018-05-01 01:03:29.710 0000: 2A 2A 2A 2A 2A 2A 2A 2A 2A 2A  
4B 30 4F 52 4B 2D 43 48 55 4B \*\*\*\*\*K0ORK-CHUK\*  
M: 2018-05-01 01:03:29.710 Header, CSD2  
M: 2018-05-01 01:03:29.710 0000: 4B 39 45 51 20 20 20 20 20 20  
57 30 4D 44 54 20 20 20 20 20 \*K9EQ W0MDT \*  
M: 2018-05-01 01:03:37.764 TIMEOUT  
M: 2018-05-01 01:04:24.355 TIMEOUT  
M: 2018-05-01 01:04:44.738 TIMEOUT  
M: 2018-05-01 01:04:53.392  
M: 2018-05-01 01:04:53.392 FICH: FI: TC, DT: VD2, BN: 0, BT:  
0, FN: 0, FT: 7 SQ: 0 SC: 0  
M: 2018-05-01 01:04:53.394 Terminator, CSD1  
M: 2018-05-01 01:04:53.394 0000: 2A 2A 2A 2A 2A 2A 2A 2A 2A 2A  
4B 30 4F 52 4B 2D 43 48 55 4B \*\*\*\*\*K0ORK-CHUK\*  
M: 2018-05-01 01:04:53.395 Terminator, CSD2  
M: 2018-05-01 01:04:53.395 0000: 4B 39 45 51 20 20 20 20 20 20  
57 30 4D 44 54 20 20 20 20 20 \*K9EQ W0MDT \*  
M: 2018-05-01 01:04:55.917  
M: 2018-05-01 01:04:55.917 FICH: FI: HC, DT: VD2, BN: 0, BT:

```
0, FN: 0, FT: 7 SQ: 0 SC: 0
M: 2018-05-01 01:04:55.917 Header, CSD1
M: 2018-05-01 01:04:55.917 0000: 2A 2A 2A 2A 2A 2A 2A 2A 2A 2A
4B 47 34 53 42 47 2D 44 45 4E *****KG4SBG-DEN*
M: 2018-05-01 01:04:55.917 Header, CSD2
M: 2018-05-01 01:04:55.917 0000: 4B 39 45 51 20 20 20 20 20 20
57 38 4F 4A 20 20 20 20 20 20 *K9EQ W80J *
```

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## Listen to MNWis Online

You can now listen to MNWIS online. Just follow this link with your favorite browser:

[MNWIS Online](#)

As an alternative, you can listen to MNWis using the Broadcastify app on your smart device. Download Broadcastify and search for "MNWIS".

[Apple Download](#)

[Android Download](#)

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## MNWis Available on Hotspots

The MNWIS Room is on FCS003-23.

We are also experimenting with a YSF reflector. Currently it is only running during the net. It is located at "US MNWis

21493". Give it a try

MNWis has been available via hotspots since 31 July, 2016

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## Yaesu Published Webinars

Webinar links are to YouTube

[DG-ID and DP-ID Webinar 9-Sep-2018](#)

[Overview of Fusion II 9-Sep-2018](#) (YouTube)

[Overview and setup of the DR2X \(DP-ID\) 9-Oct-2018](#)

[Overview and setup of IMRS \(DG-ID\)](#)

[WiRES-X: Everything you wanted to know part 1 27-Nov-2018](#)

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## Mobile WiRES-X Nodes

FT2D, FTM-100, and FTM-400 Can Now Be Used As Mobile Node

Yaesu has now released software and firmware that enables the FT2D, FTM-100 and FTM-400 to be used as a WiRES-X mobile node. You'll need to update the radio's firmware and install WiRES-X software version 1.510 from HRI-200 and radio downloads at Yaesu.com. Instructions are available at the download site.

A document listing the current firmware and software for

Fusion rados is on the [Fusion Help page here](#).

Stop by for the MNWis Monday night Fusion Technical Net for more information.