

# Instrumentation for Amature Radio

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# Instrumentation Topics

- DMM
  - DMM Digital Multi Meter
  - VTVM Vacuum Tube Volt Meter
  - VOM Volt ohm meter
- Counter
  - Direct counting
  - Reciprocal counting
- Oscilloscope
  - Analog type
  - Digital type
- Spectrum Analyzer
  - Basic functions

# DMM

- What to look for in a DMM
  - Specifications
    - Measurement accuracy
    - Basic resolution
  - Features
    - Types of measurements done
    - Computer controlled or stand alone

# HP 34411A dual display



# Counter

- What to look for in a Frequency Counter
  - Specifications
    - Frequency range
    - Types of frequency measurements
  - Features
    - Types of frequency and time measurements
    - Computer control

# HP 5316A frequency mode



# HP 5316A frequency mode



# HP 5316A frequency mode

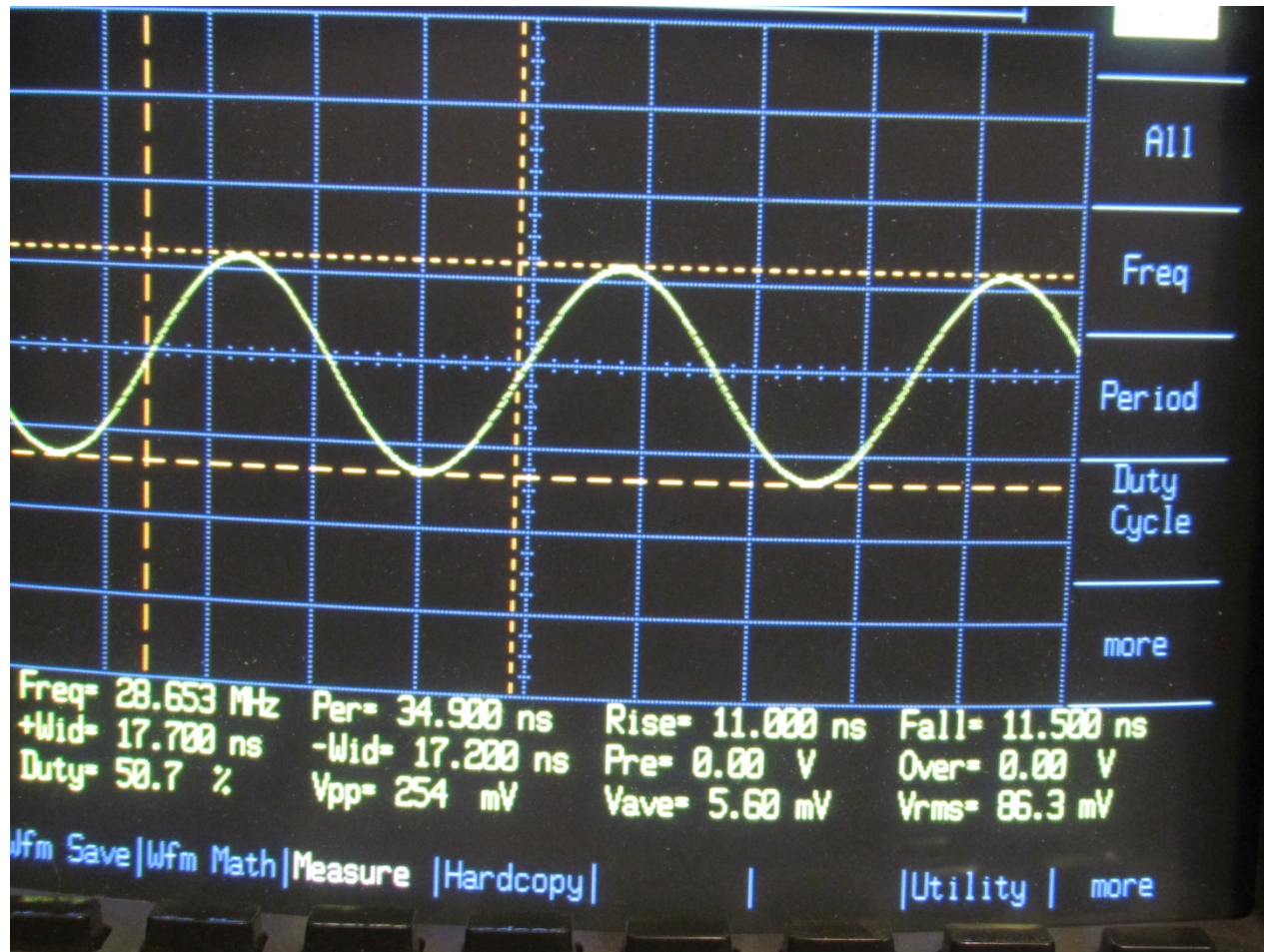




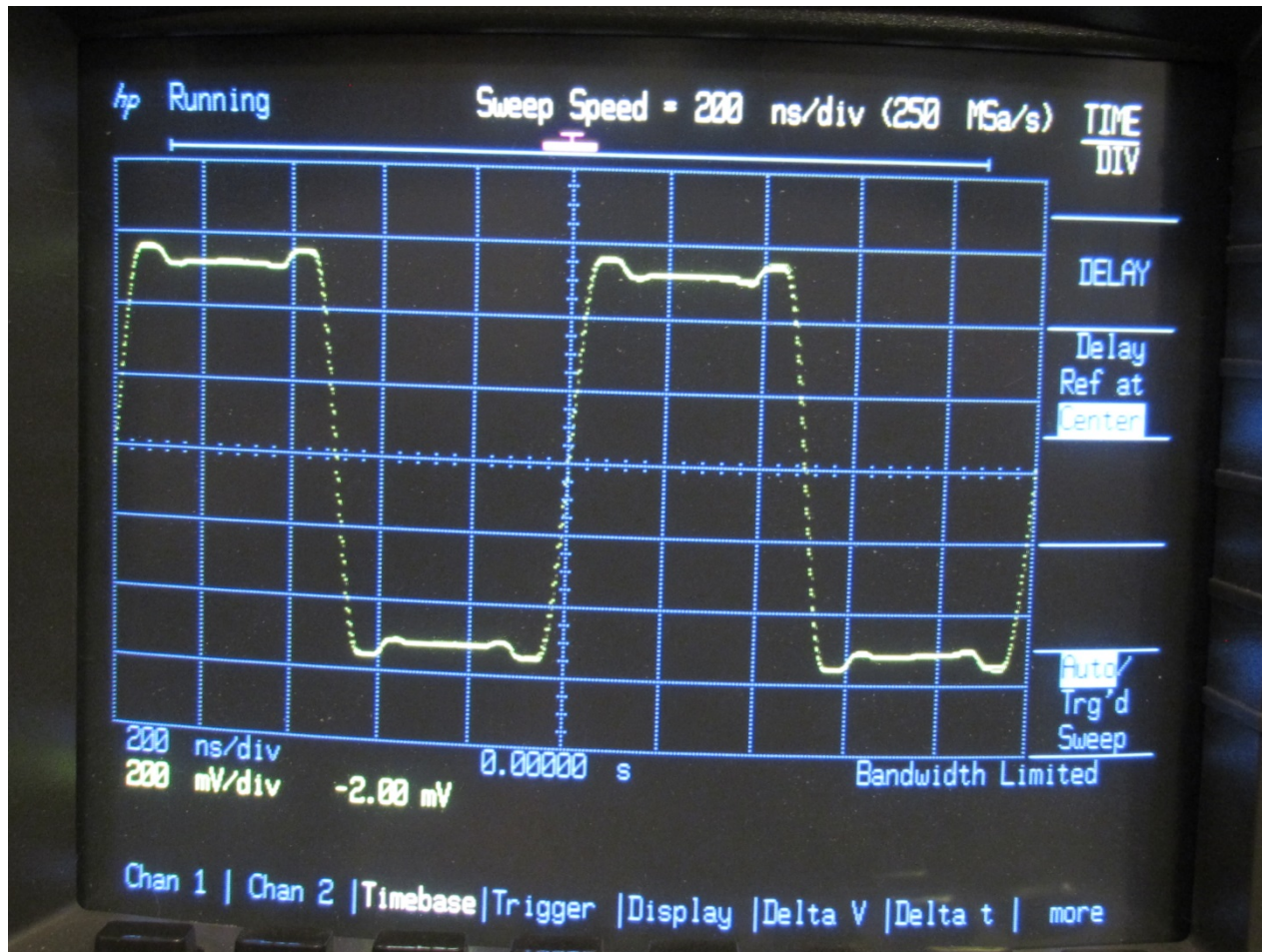
# Oscilloscope

- What to look for in a Oscilloscope
  - Specifications
    - Bandwidth at 3db point
    - Number of channels
  - Features
    - Beyond time, other types of measurements
    - Computer control

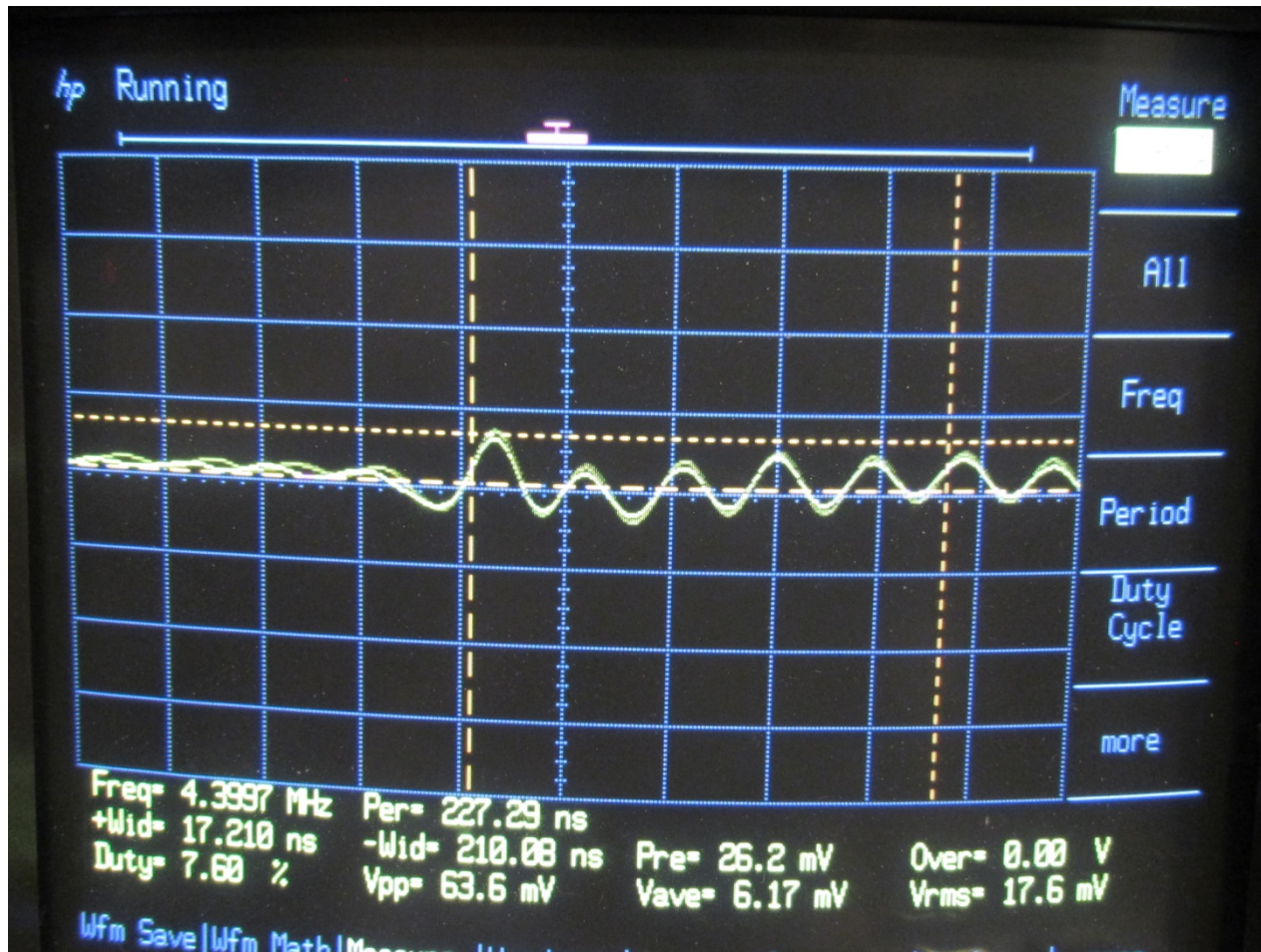
# HP 54111D Scope



# HP 54111D Scope



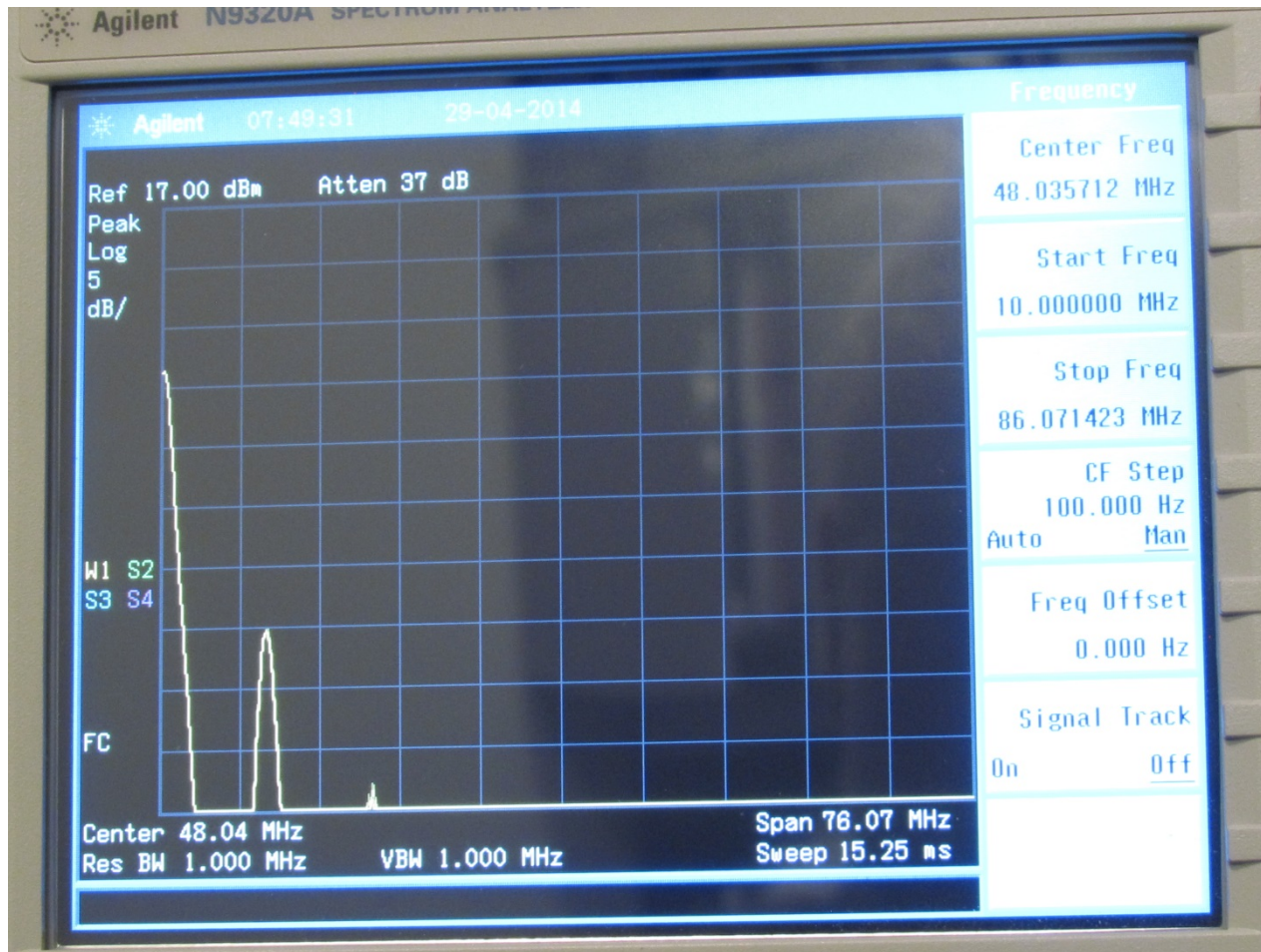
# HP 54111D Scope



# Spectrum Analyzer

- What to look for in a Spectrum analyzer
  - Specifications
    - Bandwidth
    - Functions other than basic
  - Features
    - Types of measurements that can be made
    - Computer control

# Agilent N9320A SpecAn



# Tips and hints

- How to combine processes in one instruments
  - Instruments becoming multi-functional
  - Control options
- Price and where to find instruments
  - Where to find service and operating manuals
  - Where to find instruments
    - E-bay
    - Used equipment dealers (RTR)

# Questions

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Questions on today's information.