



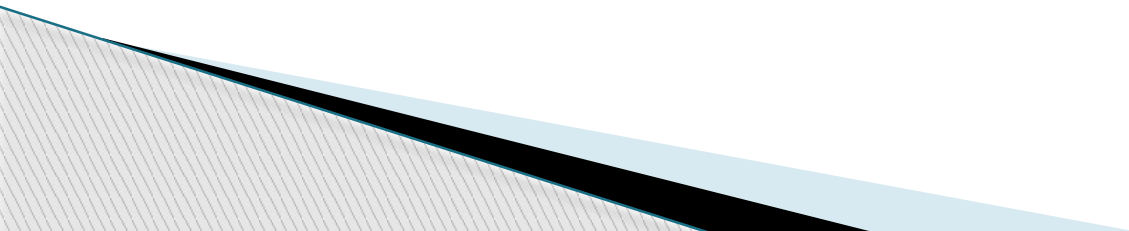
Stafford and Districts
Amateur Radio Society

The Oscilloscope

(some of what you might want to know)

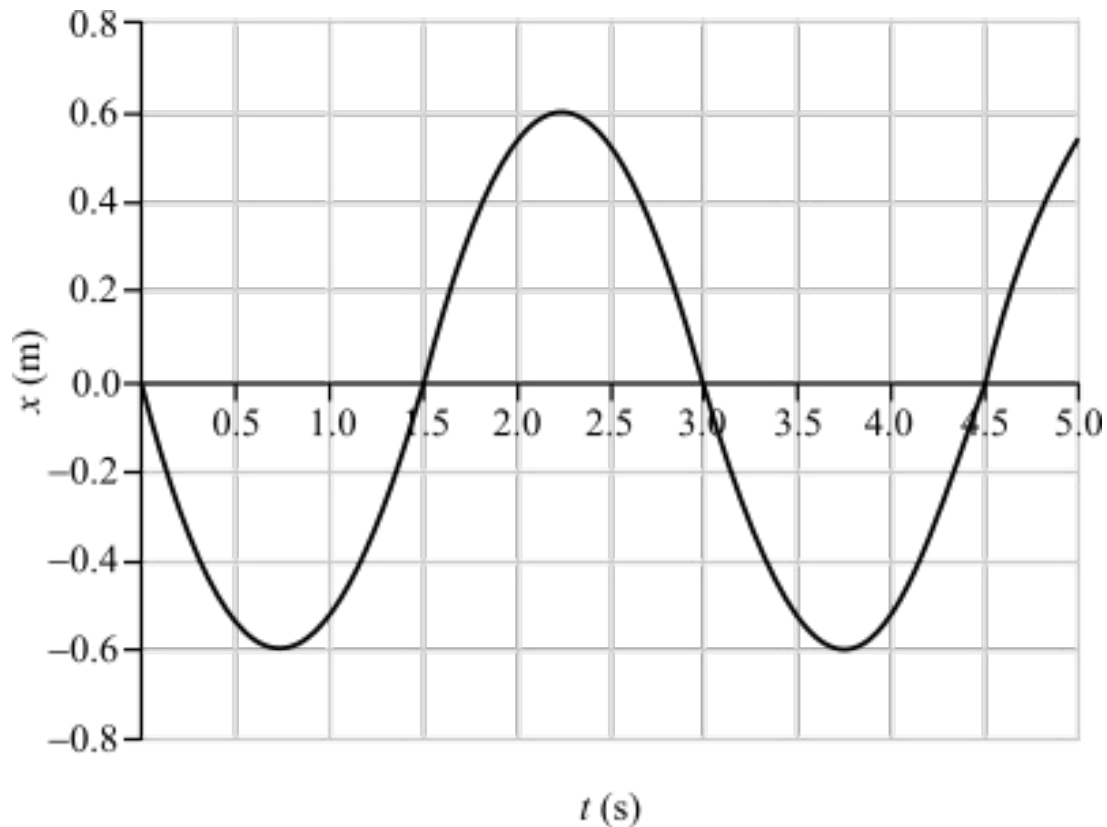


Spoiler Alert!!



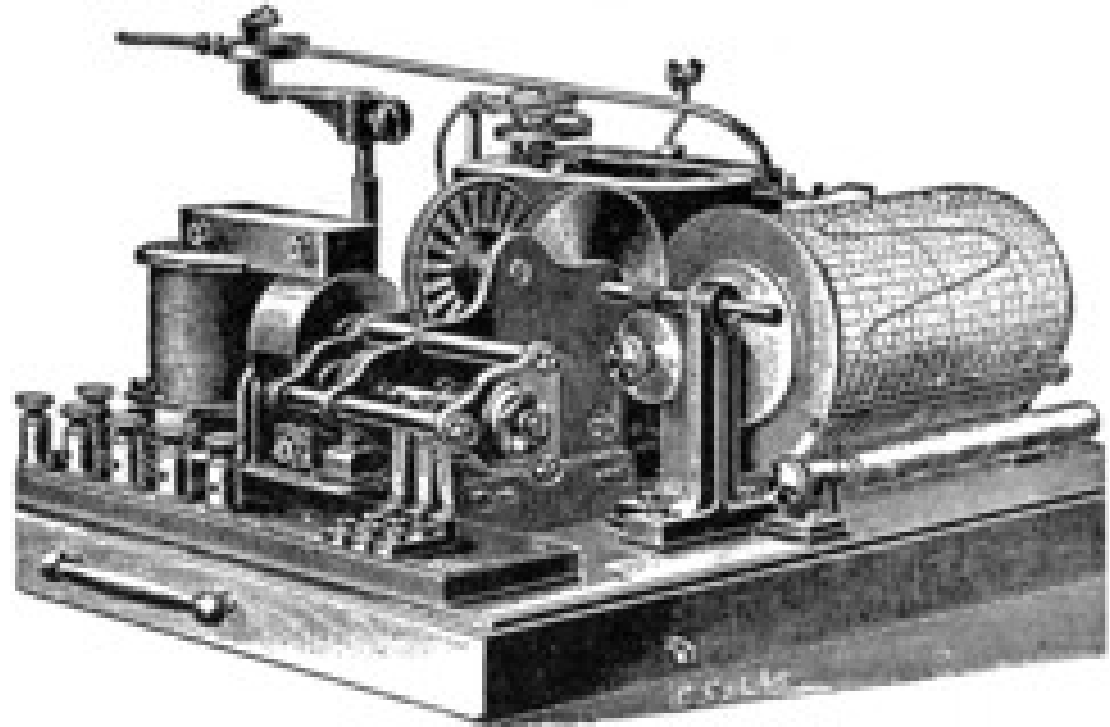
What does it do?

- ▶ Displays Amplitude vs. Time



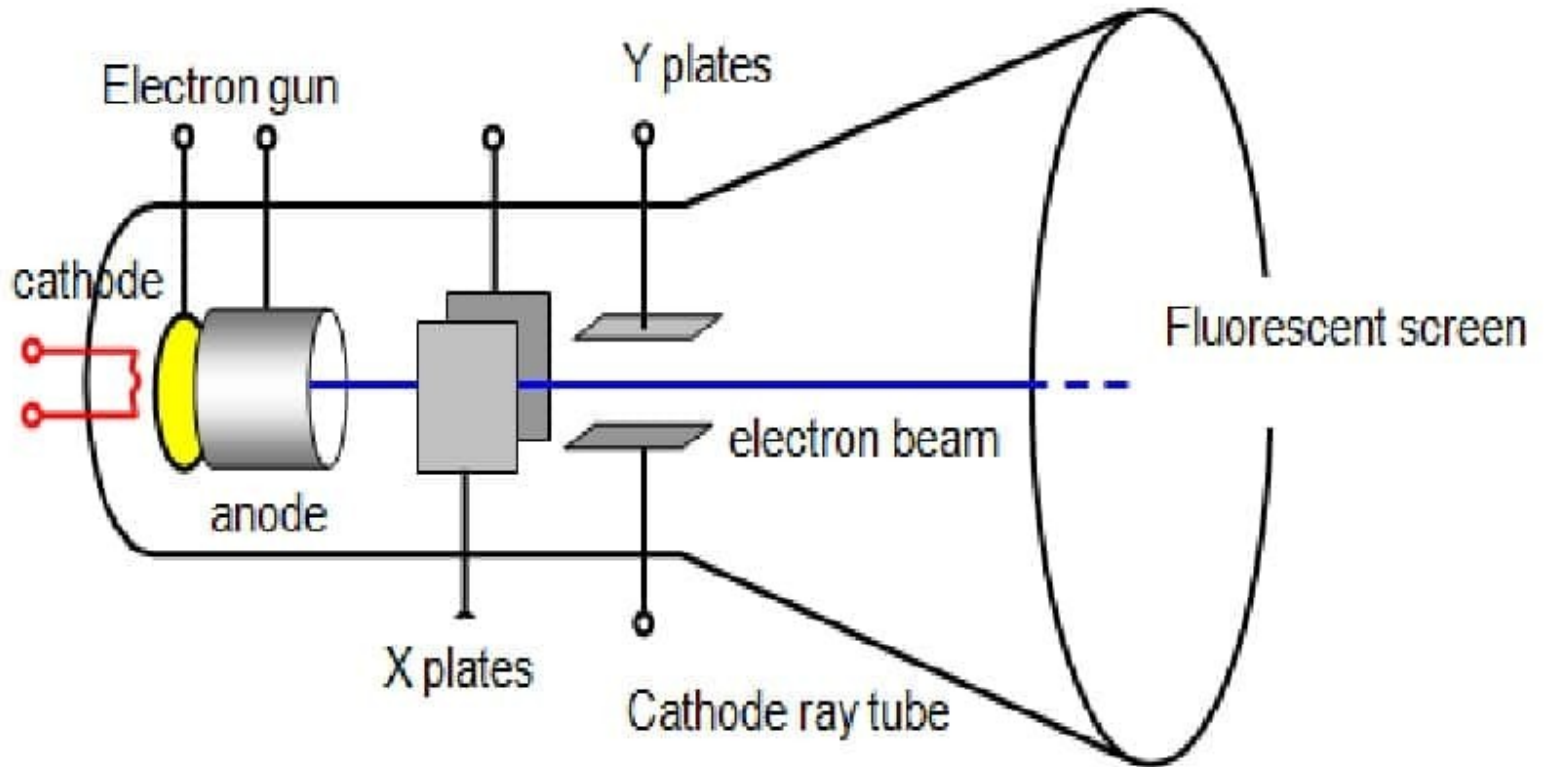
How does it do it?

- ▶ In the beginning: 19th century



- ▶ The Oscillograph

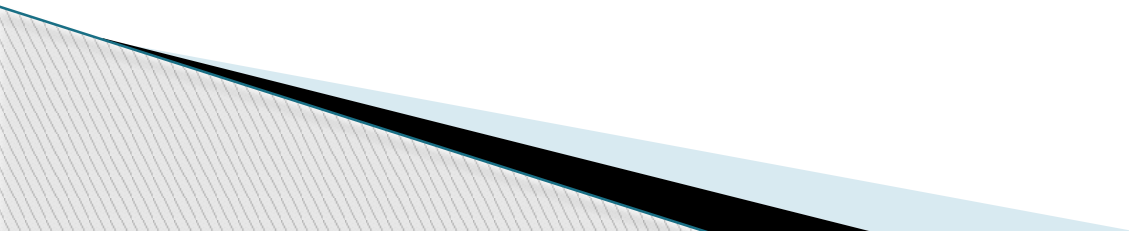
Cathode Ray Tube



Basic instrument-



A Bit of Scope Nostalgia-



MAKING A 3½ INCH OSCILLOSCOPE

PRACTICAL ^{1/3} WIRELESS

JULY
1956
EDITOR - F.J. CAMM



MAKING A 'SCOPE FROM THE 62 UNIT

PRACTICAL ^{1/3}

SEPTEMBER
1957
EDITOR: F.J. CAMM

WIRELESS



149

Practical Electronics

MARCH 1965

PRICE 2'6

4 GREAT CONSTRUCTIONAL PROJECTS

INEXPENSIVE OSCILLOSCOPE · AUTO PARKING LIGHT ·
DIGITAL DISPLAY CLOCK · RADIO TUNER

*Plus 8 more pages
of your Guide to
semi-conductor
Circuit Design*



PRACTICAL TELEVISION

310

APRIL
1969

THE PTV VIDEOSCOPE



also inside

UNDERSTANDING COLOUR FAULTS

PRACTICAL WIRELESS

APRIL
1971

17½p (3/6)

EXTRA

**pw
WORKSHOP
OSCILLOSCOPE**



**GUIDE TO Test Instruments
SUPPLEMENT**



**ALSO:
HIGH
IMPEDANCE
VOLTMETER**

RADIO & ELECTRONICS CONSTRUCTOR

Vol. 26 No. 5

DECEMBER 1972

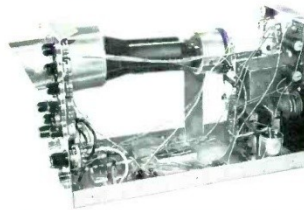
20p



SPECIAL FEATURE

TRANSISTORISED OSCILLOSCOPE

In this oscilloscope the only
thermionic device is the
cathode ray tube



**ALSO
FEATURED**

**HIGH-GAIN SILICON
REFLEX RECEIVER**

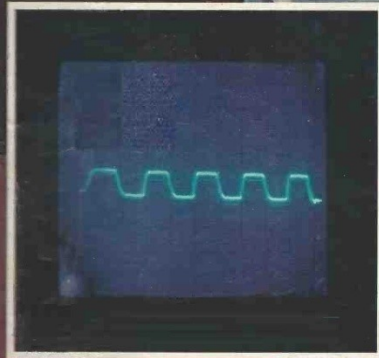
APRIL
1978

practical WIRELESS

45p

THE **Pw** 'PURBECK'

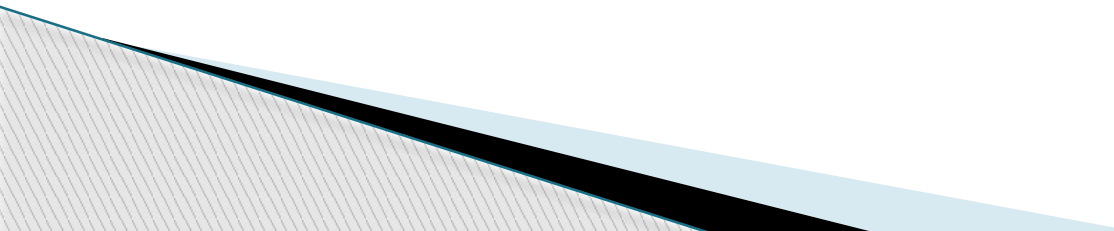
OSCILLOSCOPE



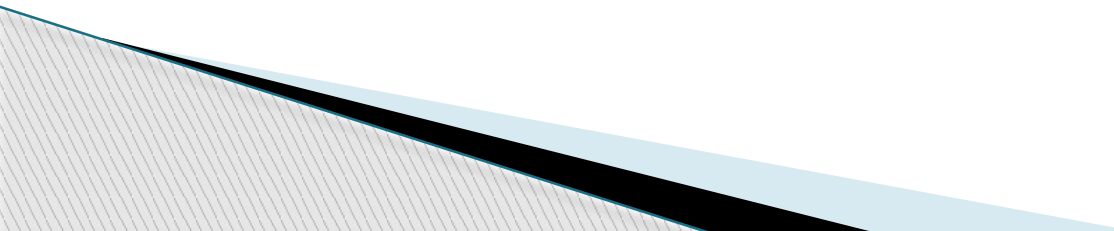
also:
'SLIM JIM'
2-METRE AERIAL
and

A VHF WAVEMETER

1980s onward–

- ▶ Digital electronics –Storage
 - ▶ LCD screens
 - ▶ Small size / Low weight /Portability
 - ▶ Increasing measurement capability
- 

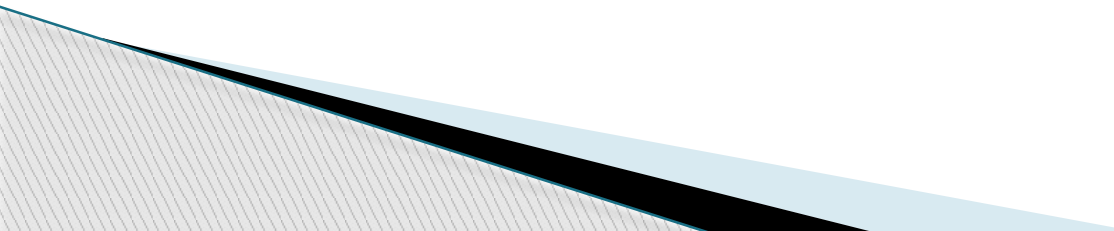
Probes

- ▶ The interface between DUT and oscilloscope
 - ▶ Passive (x1, X10)
 - ▶ High voltage, Low voltage
 - ▶ Active (amplified)
 - ▶ Power rail Probes
 - ▶ Isolated
 - ▶ Differential
- 

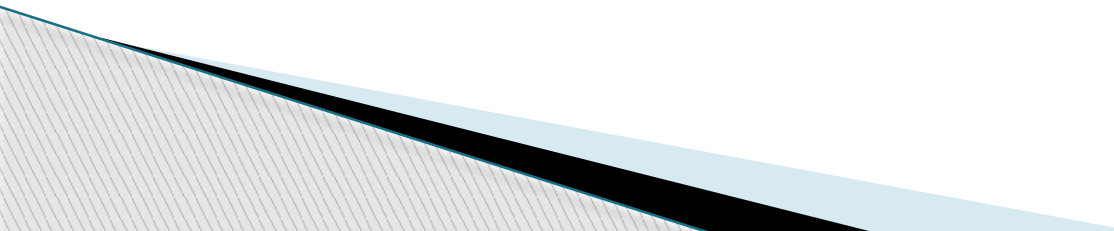
Probes

- ▶ Compensation
- ▶ Earthing

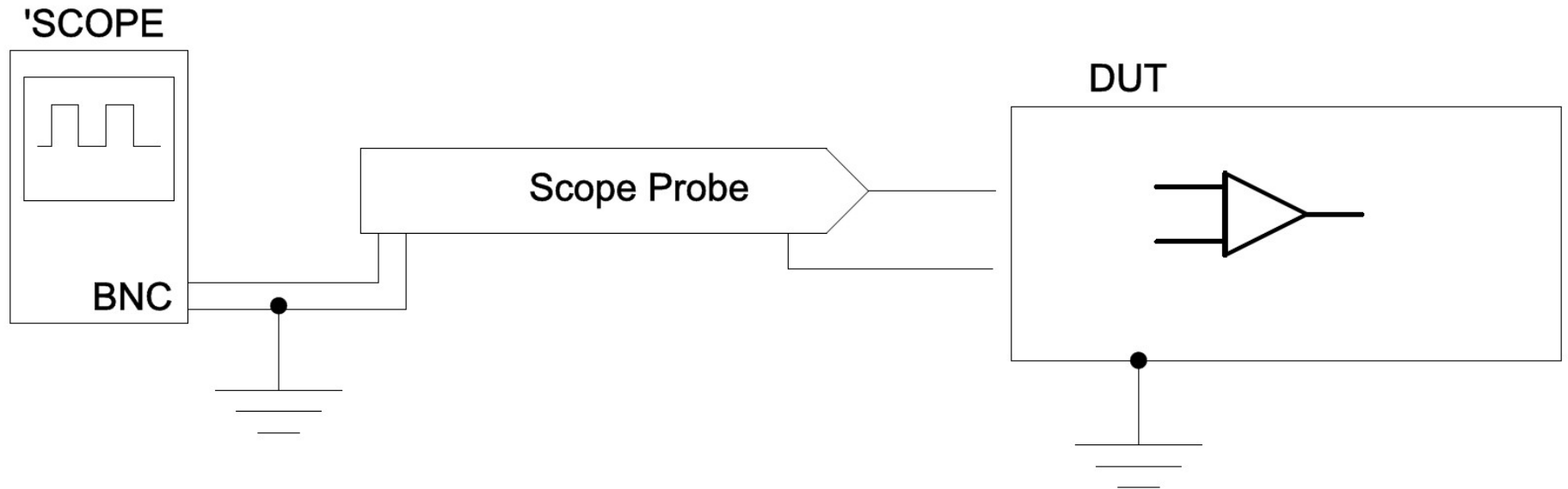
Modern Oscilloscopes–

- ▶ Colour LCD screen
 - ▶ Multiple channels
 - ▶ Adjustable cursors on screen
 - ▶ Auto Ranging
 - ▶ Choice of input impedance
 - ▶ Measurements
 - ▶ Maths functions inc. FFT
 - ▶ Adjustable screen persistence
 - ▶ Touch screens....
- 

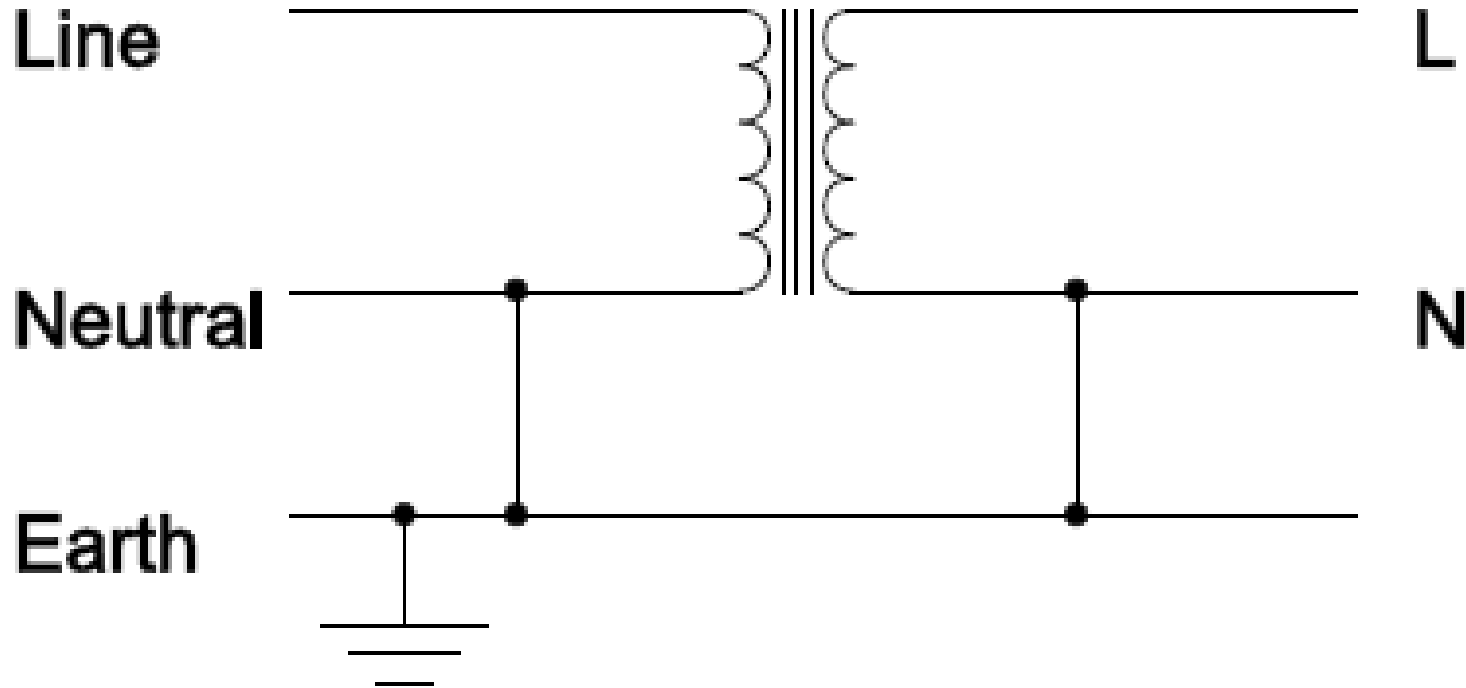
Modern Oscilloscopes

- ▶ Digital Storage Oscilloscope DSO
 - ▶ Digital Phosphor Oscilloscope DPO
 - ▶ Mixed Domain Oscilloscope MDO
 - ▶ Mixed Signal Oscilloscope MSO
 - ▶ Digital Sampling Oscilloscope
- 

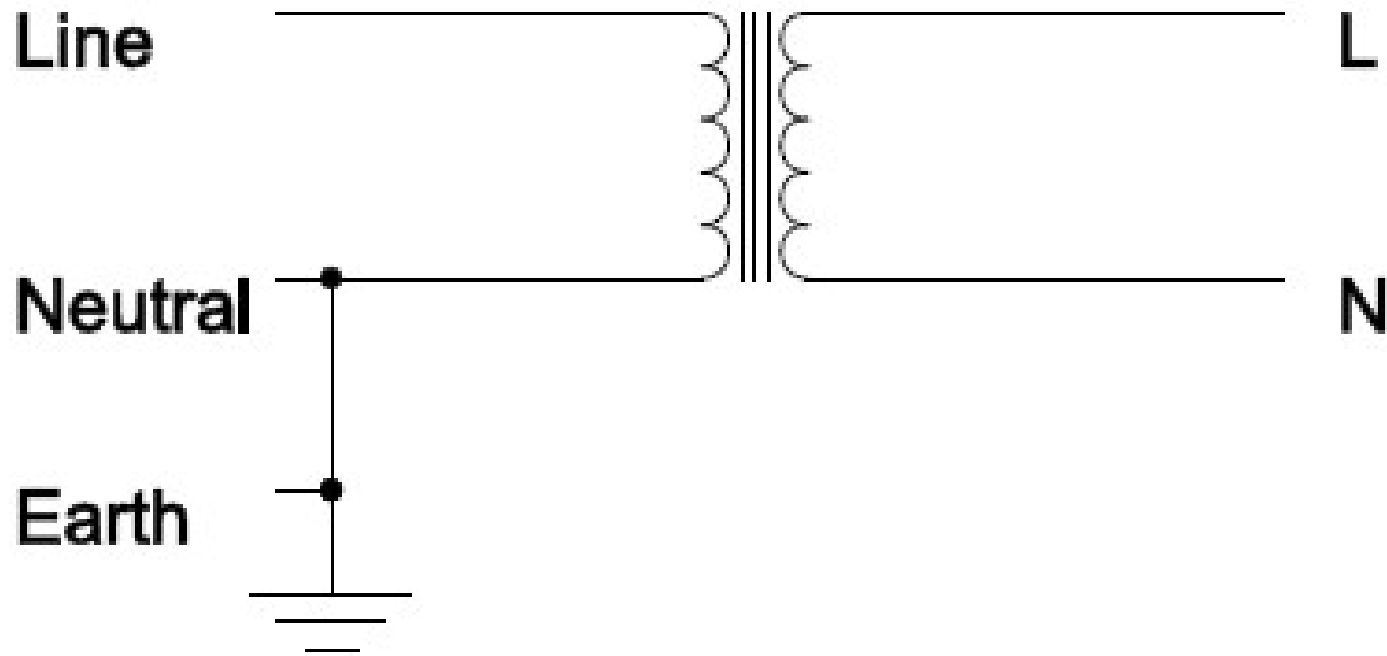
How to blow up your scope!



“Medical Isolation Transformer”



Real Isolation



Horses for courses–

- ▶ Intended uses
- ▶ Bandwidth
- ▶ Budget
- ▶ New / used
- ▶ Top scopes (Keysight, Tektronix, Lecroy,
 - £10,000 s
- ▶ There's still a lot to be said for a good used analogue scope.