



YOUR NEXT HAM RADIO SHACK COMPUTER

THE NEXT GENERATION IN PC'S

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What are we going to cover in this presentation?

A quick stroll down memory lane

Costs of PC's, Old and New

A look into the Next Generation of PC's

What I've decided to do, and why now?





Radio Shack TRS-80
(Model I)

Catalog:	26-1001
Released:	August 1977
Price:	US \$599.95 (with monitor)
How Many:	200,000 (1977-1981)
CPU:	Zilog Z-80A, 1.77 MHz
RAM:	4K, 16K max*
Ports:	Cassette I/O, video, Expansion connector*
Display:	12-inch monochrome monitor 64 X 16 text
Expansion:	External Expansion Interface*
Storage:	Cassette storage*
OS:	BASIC in ROM*

* Additional capabilities with Expansion Interface

According to the Bureau of Labor Statistics consumer price index, prices in 2018 are 314.35% higher than prices in 1977. The dollar experienced an average inflation rate of 3.53% per year during this period. In other words, **\$600 in 1977 is equivalent in purchasing power to \$2,486.10 in 2018**, a difference of \$1,886.10 over 41 years.



Radio Shack TRS-80 Model III

Introduced:	July 1980
Price:	US \$699 base model US \$2495 w/ 32K, dual drives.
CPU:	Zilog Z-80, 2.03 MHz
RAM:	4K, 48K max.
Ports:	Cassette tape, expansion, serial
Display:	12-inch B/W monitor: 64 X 16 text
Storage:	0, 1, or 2 internal 178K floppy drives External cassette @ 500 / 1500 baud
OS:	BASIC in ROM, TRS-DOS on disk

According to the Bureau of Labor Statistics consumer price index, prices in 2018 are 204.73% higher than prices in 1980. The dollar experienced an average inflation rate of 2.98% per year during this period.

In other words, **\$699 in 1980 is equivalent in purchasing power to \$2,130.05 in 2018**, a difference of \$1,431.05 over 38 years.



Commodore VIC-20

Introduced:	June 1980
Released:	January 1981
Price:	US \$299
CPU:	MOS 6502, 1MHz
RAM:	5K (3.5K for the user)
Display:	22 X 23 text 176 X 184, 16 colors max
Ports:	composite video joystick, cartridge, user port serial peripheral port
Peripherals:	cassette recorder printer, modem external floppy drive
OS:	ROM BASIC

According to the Bureau of Labor Statistics consumer price index, prices in 2018 are 204.73% higher than prices in 1980. The dollar experienced an average inflation rate of 2.98% per year during this period.

In other words, **\$299 in 1980 is equivalent in purchasing power to \$911.14 in 2018**, a difference of \$612.14 over 38 years.



Apple Macintosh

Model:	M0001
Introduced:	January 1984
Price:	US\$2495
CPU:	Motorola 68000, 7.83 Mhz
RAM:	128K, later 512K
Display:	9-inch monochrome screen 512x342 pixels
Ports:	Two DB9 serial ports Printer port External floppy port
Storage:	Internal 400K SSDD floppy optional external floppy (\$495)
OS:	Macintosh GUI (graphical user interface)

According to the Bureau of Labor Statistics consumer price index, prices in 2018 are 141.67% higher than prices in 1984. The dollar experienced an average inflation rate of 2.63% per year during this period.

In other words, **\$2,495 in 1984 is equivalent in purchasing power to \$6,029.69 in 2018**, a difference of \$3,534.69 over 34 years



Inspiron Desktop



Shell ONLY Starting at \$619.99

Alienware Area-51 Desktop – Core i7,
16GB, 256GB SSD, NVIDIA



\$3,379.96
+ Free Standard S&H
or 6 “Easy” Payments of \$563.33

Both PC's are 2018 pricing!



So what are we suppose to do...!!!

Intel Nuc: A Mini PC – NUC817BEH



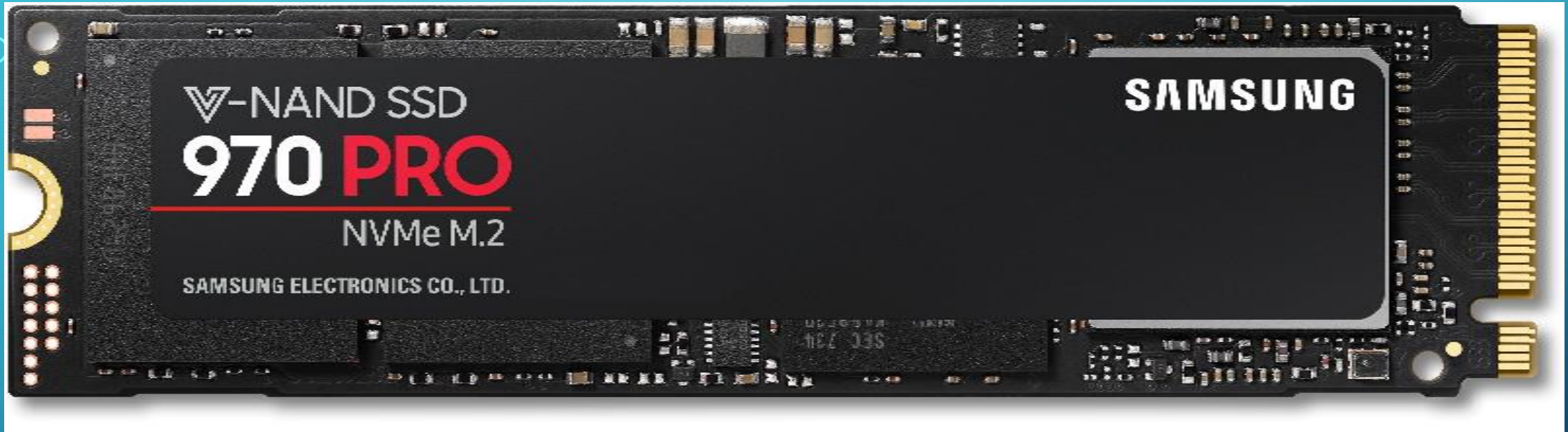




Intel NUC NUC7i3BNH Intel Core i3-7100U Dual-Core 2.4 GHz WIN/Linux Desktop Computer Kit, Size: OS

\$ 484.00

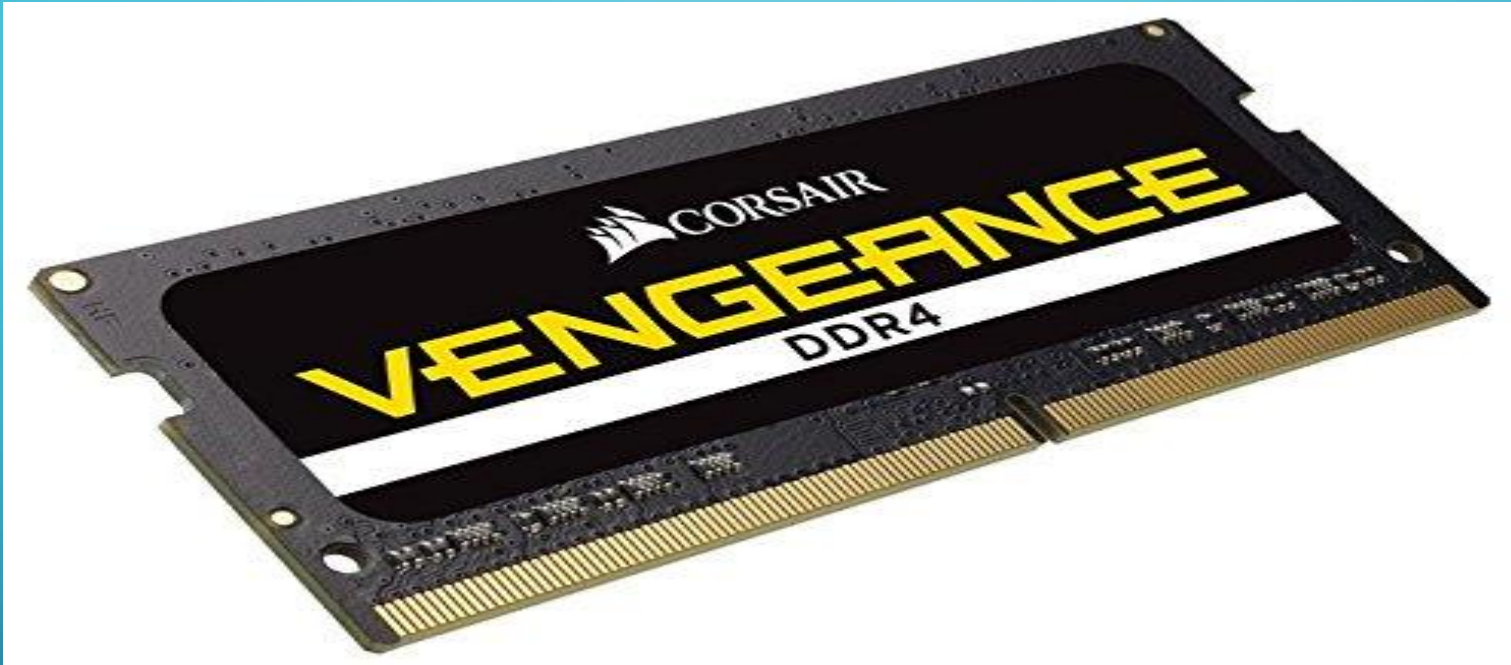
Solid State Drive Storage 512GB



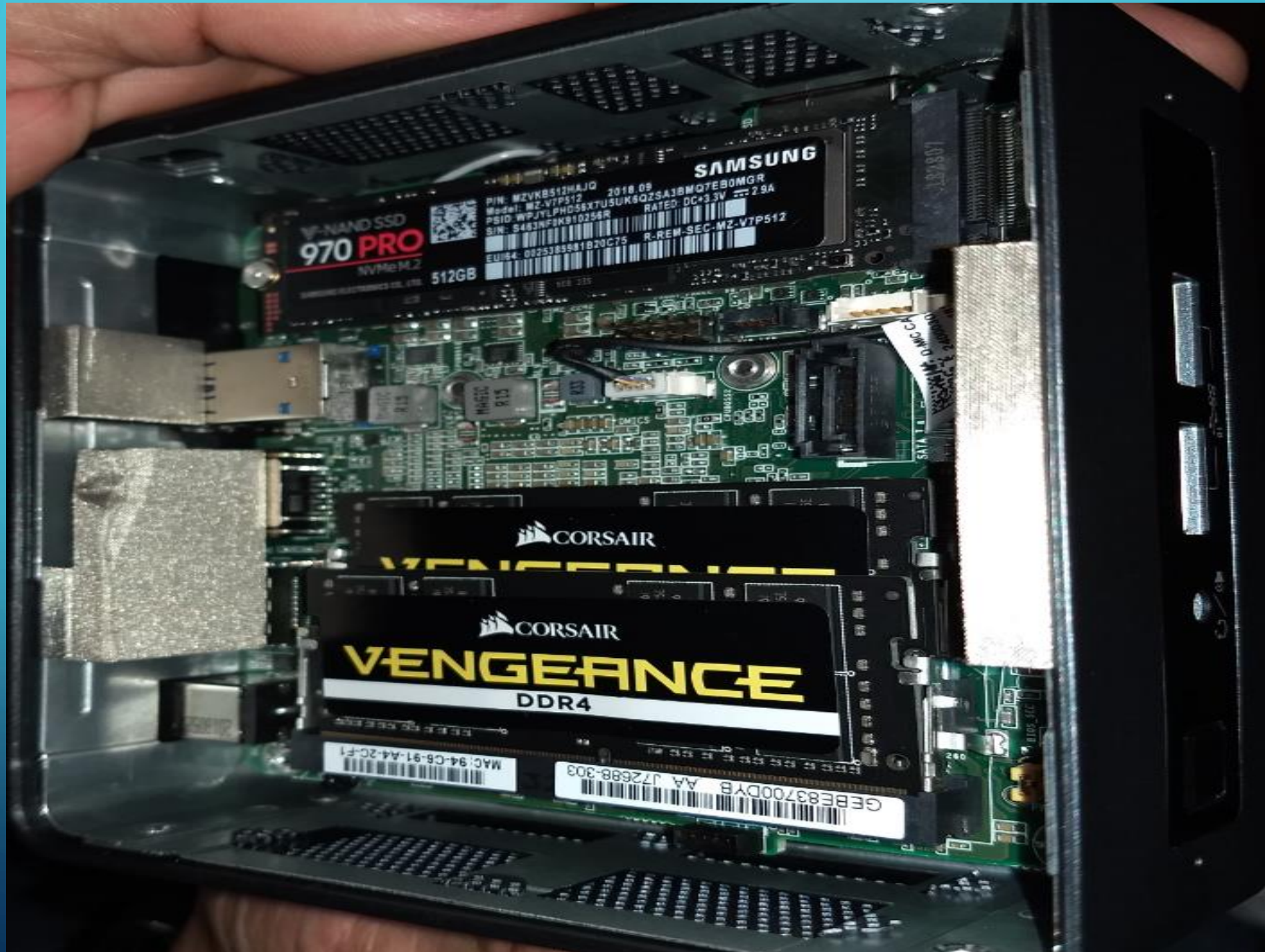
SAMSUNG 970 PRO M.2 2280 512GB PCIe Gen3. X4, NVMe
1.3 64L V-NAND 2-bit MLC Internal Solid State Drive (SSD)
MZ-V7P512BW

\$ 197.99

CPU Storage – 16 GB



Corsair Vengeance SODIMM 16GB (1x16GB) DDR4 2400
C16 1.2V for Intel 6th & 7th Gen Systems \$124.99 ea.



SAMSUNG
V-NAND SSD
970 PRO
NVMe M.2
512GB
PIN: MZVK8512HAJQ 2018.09
Model: MZ-VTP512
PSID: WPJYLPD58XTUSUKSQZSA1BMQTEB0MGR
S/N: S483NFK910256R
RATED: DC+3.3V --- 2.9A
R-REM-SEC-MZ-VTP512
EUSS4: 0025385981B20C75

CORSAIR
VENGEANCE
DDR4

MAC: 94-C8-91-A4-2C-F1
GEBE83700DYB AA J72688-303

Technical Specifications Essentials

Status = Launched

Launch Date Q3'18

Board Form Factor UCFF (4" x 4")

Socket Soldered-down BGA

Internal Drive Form Factor M.2 and 2.5" Drive

of Internal Drives Supported 2

Lithography 14 nm

TDP 28 W

DC Input Voltage Supported 12-19 VDC

Warranty Period 3 years

Supplemental Information

Embedded Options Available No

Description

Other features: Includes Thunderbolt 3 (40Gbps), USB 3.1 Gen 2 (10Gbps) and DP 1.2 via USB-C; also includes micro SDXC card slot, dual microphones

Memory & Storage

Max Memory Size (dependent on memory type) 32 GB

Memory Types DDR4-2400 1.2V SO-DIMM

Max # of Memory Channels 2

Max Memory Bandwidth 38.4 GB/s

Max # of DIMMs 2

ECC Memory Supported ‡ No

Graphics Specifications

Integrated Graphics ‡ Yes

Graphics Output HDMI 2.0a; USB-C (DP1.2)

of Displays Supported ‡ 3

Expansion Options

PCI Express Revision Gen3

PCI Express Configurations ‡ M.2 slot with PCIe X4 lanes

Removable Memory Card Slot micro SDXC with UHS-I support

M.2 Card Slot (storage) 22x42/80

I/O Specifications

of USB Ports 6

USB Configuration 2x front and 3x rear USB 3.1 Gen2; 2x USB 2.0 via internal headers

USB Revision 2.0, 3.1 Gen2

USB 2.0 Configuration (External + Internal) 0 + 2

USB 3.0 Configuration (External + Internal) 2B 2F + 0

Total # of SATA Ports 2

Max # of SATA 6.0 Gb/s Ports 2

RAID Configuration 2.5" HDD/SSD + M.2 SATA/PCIe SSD
(RAID-0 RAID-1)

Audio (back channel + front channel) 7.1 digital (HDMI mDP);
L+R mic (F)

Integrated LAN 10/100/1000

Integrated Wireless[‡] Intel® Wireless-AC 9560 + Bluetooth 5.0

Integrated Bluetooth Yes

Consumer Infrared Rx Sensor Yes

Additional Headers CEC, 2x USB2.0, FRONT_PANEL

of Thunderbolt™ 3 Ports 1

Package Specifications

Low Halogen Options Available See MDDS

Advanced Technologies

Intel® Optane™ Memory Supported ‡ Yes

Intel® Virtualization Technology for Directed I/O (VT-d) ‡ Yes

Intel® vPro™ Platform Eligibility ‡ No

TPM No

Intel® HD Audio Technology Yes

Intel® Rapid Storage Technology Yes

Intel® Virtualization Technology (VT-x) ‡ Yes

Intel® Platform Trust Technology (Intel® PTT) Yes

Security & Reliability

Intel® AES New Instructions Yes

COST ANALYSIS

Dear Kenneth D Trudel,

Customer ID: kdtrudel@gmail.com
Account Number: Guest

Thank you for shopping at Newegg.

This is the invoice and receipt for your recent order. Please keep a copy for your records.

Invoice Summary:

Your Sales Order Number: 293073424

Order Date: 11/04/2018

Order Total: \$1,645.94

\$1,645.94 for 2 Complete Systems or \$822.97 per system!

Billing Information

Kenneth D Trudel
9 Franconia Dr
Harrisville, RI 02830-1851
United States
401-427-0303

Shipping Information

Ken Trudel
9 Franconia Dr
Harrisville, RI 02830-1851
United States
401-427-0303

Invoice Number: 164227932

Invoice Date: 11/5/2018 1:20:14 PM



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Item List:

Item	Description	Quantity	Unit Price	Extended Price
12-119-234	Rosewill RC-16-HDM-DVM-BK - 16-Foot HDMI to DVI Cable (24 + 1-Pin)	2	\$15.99	\$31.98
20-147-693	SAMSUNG 970 PRO M.2 2280 512GB PCIe Gen3. X4, NVMe 1.3 64L V-NAND 2-bit MLC Internal Solid State Drive (SSD) MZ-V7P512BW Click Here To Protect Your Investment	2	\$197.99	\$395.98
20-233-961	CORSAIR Vengeance 16GB (2 x 8G) 260-Pin DDR4 SO-DIMM DDR4 2400 (PC4 19200) Notebook Memory Model CMSX16GX4M2A2400C16	2	\$124.99	\$249.98
56-102-209	Intel NUC (Next Unit of Computing) BOXNUC8i7BEH1 Black Mini / Booksize Barebone System Click Here To Protect Your Investment	2	\$484.00	\$968.00

So in today's dollars, for less than the cost of a Vic 20 in 1981 or a TRS80 in 1977, you can buy a new PC for your shack that runs either Windows or Linux OS.

Remember, A VIC20 was \$299.00 in 1980 and is equivalent in purchasing power at \$911.14 in 2018, or a TRS-80 was \$600 in 1977 and is equivalent in purchasing power at \$2,486.10 in 2018.



So again, where do we go from here?

That is up to you!

The choice is yours...



The background is a blue gradient with faint concentric circles. White circuit-like lines with circular nodes are positioned in the corners: top-left, top-right, bottom-left, and bottom-right.

73, N1RGK