



**C'erano una volta gli home computers...
e ci sono ancora!**



GoToWebinar



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Agenda

- **Apertura**
 - Luca Ognibene – introduzione
- **I primi microcomputer – home e personal computers**
 - I primi sistemi compatti
 - I personal e il crescente mercato
 - Le console di gioco
- **L'interfaccia grafica e l'evoluzione fino a oggi**
 - I primi sistemi operativi con interfaccia grafica
 - Multimedialità e rete di computers (internet)
 - L'evoluzione del cloud
- **Prossimo webinar, Q&A**



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Luca Ognibene

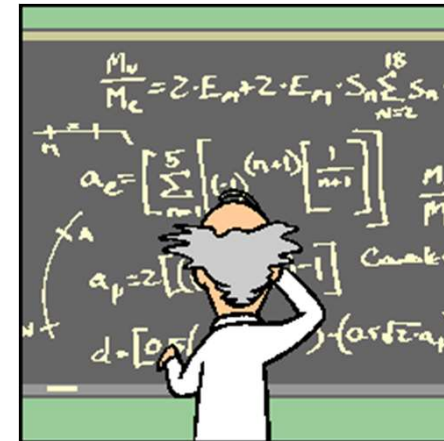
Docente di Informatica e
collezionista

Da dove deriva il termine Computer

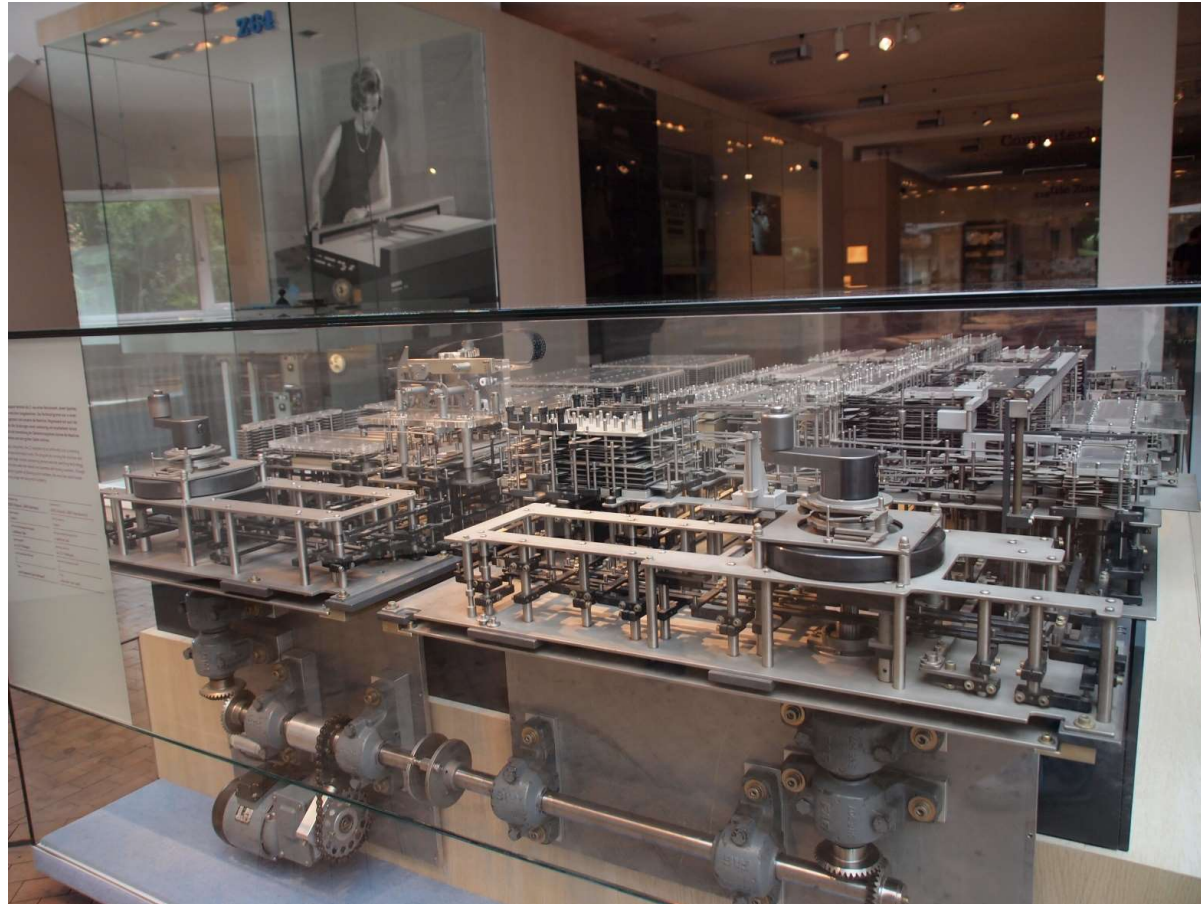
Computer deriva dal termine inglese „*to compute*“, cioè calcolare. Per questa ragione anche in lingua Italiana troviamo talvolta il termine „calcolatore“

$$1 + 2 + 3 + \dots + n = ?$$

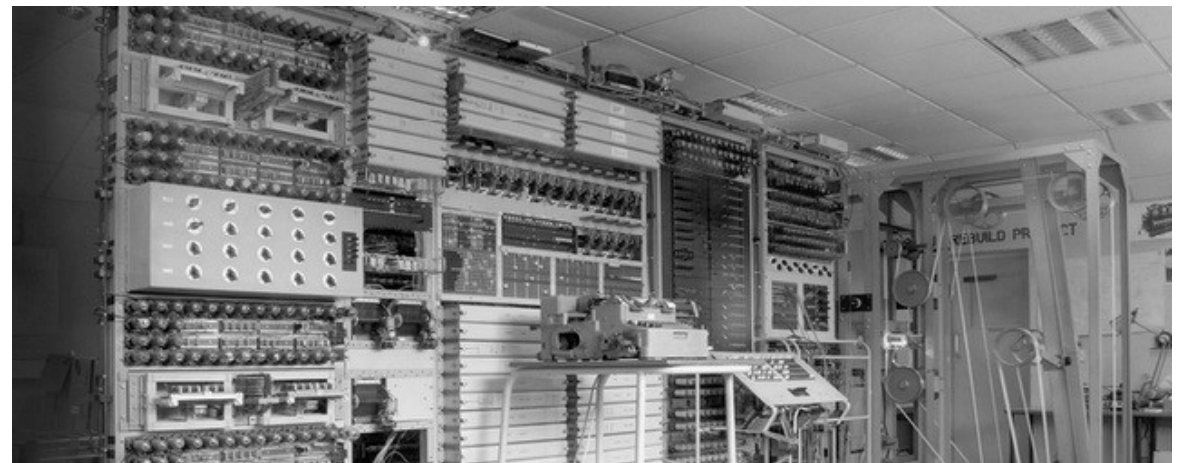
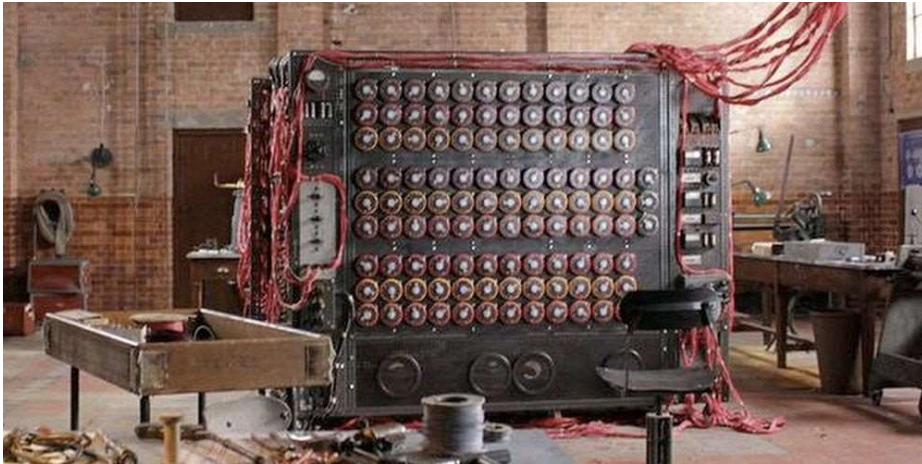
www.mathwarehouse.com/gifs



Ma partiamo dall'inizio... o quasi



Ma partiamo dall'inizio... o quasi



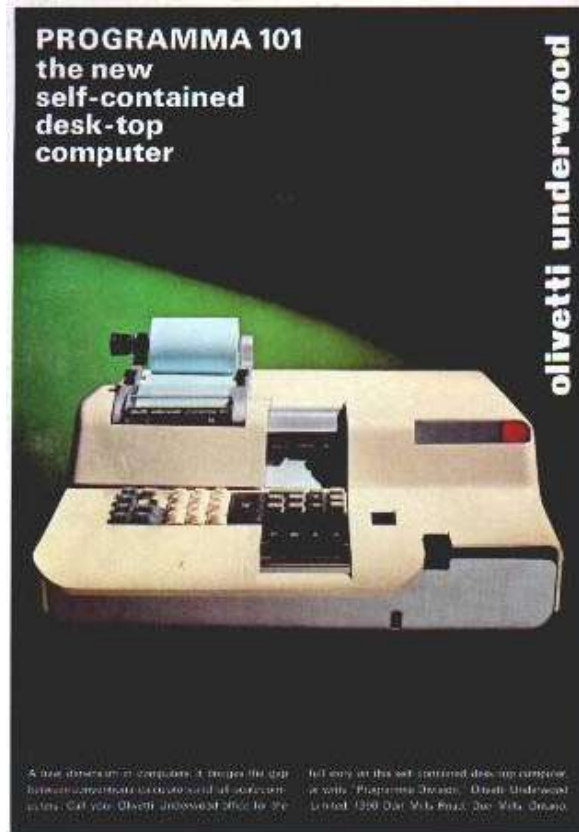
L'evoluzione tecnologica degli anni 60

Forte competizione USA – URSS per la conquista dello spazio -> miniaturizzazione



Iphone 100.000 volte più potente del computer che ha portato l'uomo sulla luna

Il primo esempio di sistema davvero compatto



Programma 101 Olivetti



Produttore
Olivetti

Inizio vendita
Ottobre 1965

Fine vendita
Agosto 1971

Esemplari
44000

Frequenza CPU

CPU

ROM

RAM

1,9KB max

Dai soli numeri ai caratteri alfanumerici

Caratt.	Byte	Caratt.	Byte	Caratt.	Byte	Caratt.	Byte
NUL	00000000	SPACE	00100000	@	01000000	'	01100000
SOH	00000001	!	00100001	A	01000001	a	01100001
STH	00000010	"	00100010	B	01000010	b	01100010
EXT	00000011	#	00100011	C	01000011	c	01100011
EQT	00000100	\$	00100100	D	01000100	d	01100100
EQN	00000101	%	00100101	E	01000101	e	01100101
ACK	00000110	&	00100110	F	01000110	f	01100110
BEL	00000111	'	00100111	G	01000111	g	01100111
BS	00001000	(	00101000	H	01001000	h	01101000
HT	00001001	)	00101001	I	01001001	i	01101001
LF	00001010	*	00101010	J	01001010	j	01101010
VT	00001011	+	00101011	K	01001011	k	01101011
FF	00001100	,	00101100	L	01001100	l	01101100
CR	00001101	-	00101101	M	01001101	m	01101101
SO	00001110	.	00101110	N	01001110	n	01101110
SI	00001111	/	00101111	O	01001111	o	01101111
DLE	00010000	0	00110000	P	01010000	p	01110000
DC1	00010001	1	00110001	Q	01010001	q	01110001
DC2	00010010	2	00110010	R	01010010	r	01110010
DC3	00010011	3	00110011	S	01010011	s	01110011
DC4	00010100	4	00110100	T	01010100	t	01110100
NAK	00010101	5	00110101	U	01010101	u	01110101
SYN	00010110	6	00110110	V	01010110	v	01110110
ETB	00010111	7	00110111	W	01010111	w	01110111
CAN	00011000	8	00111000	X	01011000	x	01111000
EM	00011001	9	00111001	Y	01011001	y	01111001
SUB	00011010	:	00111010	Z	01011010	z	01111010
ESC	00011011	;	00111011	.	01011011	.	01111011
FS	00011100	<	00111100	\	01011100	\	01111100
GS	00011101	=	00111101	^	01011101	^	01111101
RS	00011110	>	00111110	~	01011110	~	01111110
US	00011111	?	00111111	-	01011111	DEL	01111111

Dove tutto ebbe inizio – Apple I

Produttore
Apple Computers

Inizio vendita
Luglio 1976

Fine vendita
Agosto 1977

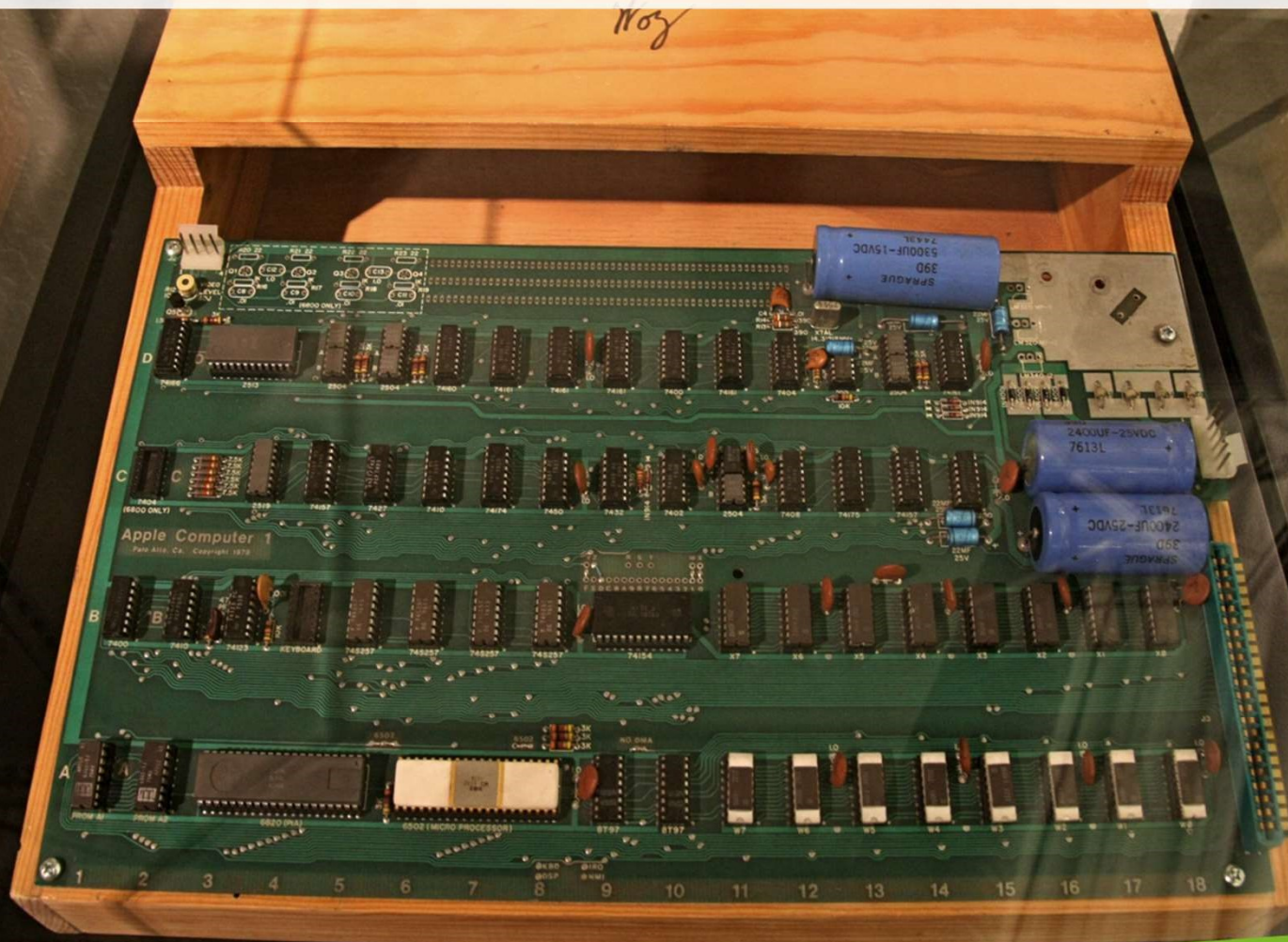
Esemplari
200

Frequenza CPU
1Mhz

CPU
MOS 6502

ROM
8KB

RAM
48KB max



Dove tutto ebbe inizio – Altair 8800



Produttore
Micro Instrumentation &
Telemetry Systems

Inizio vendita
Marzo 1975

Fine vendita

Esemplari

Frequenza CPU
2Mhz

CPU
Intel 8080

ROM
4KB

RAM
64KB max

Il primo vero personal computer



Produttore
Commodore

Inizio vendita
Giugno 1977

Fine vendita
Giugno 1982

Esemplari

Frequenza CPU
1Mhz

CPU
MOS 6502

ROM
14KB

RAM
96KB max

Il primo vero home computer



Produttore
Apple Computer

Inizio vendita
Aprile 1977

Fine vendita
Giugno 1993

Esemplari

Frequenza CPU
1Mhz

CPU
MOS 6502

ROM
12KB

RAM
48KB max

I micro a 8 bit – Radio Shack TRS80



Produttore
Tandy Corporation

Inizio vendita
Agosto 1977

Fine vendita
Primi anni 80

Esemplari

Frequenza CPU
1,78Mhz

CPU
Zilog Z80

ROM
8KB

RAM
4KB max

Il VIC 20 – oltre un milione di unità vendute



Produttore
Commodore Business
Machines Inc
Inizio vendita
Maggio 1981

Fine vendita
Gennaio 1985

Esemplari
2.500.000

Frequenza CPU
1,108Mhz

CPU
MOS 6502

ROM
20KB

RAM
5KB

Dove immagazzinare dati e programmi ?



Dove immagazzinare dati e programmi ?



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Dove immagazzinare dati e programmi ?



Gli anni del boom, prezzi accessibili a tutti



Produttore
Commodore

Inizio vendita
Giugno 1982

Fine vendita
1994

Esemplari
2M per year

Frequenza CPU
1Mhz

CPU
MOS 6510

ROM
20KB

RAM
64KB max

Gli anni del boom, prezzi accessibili a tutti



Una guerra commerciale

IF PERSONAL COMPUTERS ARE FOR EVERYBODY, HOW COME THEY'RE PRICED FOR NOBODY?

A personal computer is supposed to be a computer for persons. Not just wealthy persons. Or whiz-kid persons. Or privileged persons.

But, person persons. In other words, all the persons whom Apple, IBM, and Radio Shack seem to have forgotten about (including, most likely, you).

But that's okay. Because now you can get a high-powered home computer without taking out a second mortgage on your home.

It's the Commodore 64. We're not talking about a low-priced computer that can barely retain a phone number. We're talking about a memory of 64K. Which means it can perform tasks most other home computers can't. Including some of those that cost a lot more. (Take another look at the three computers above.)

By itself, the Commodore 64 is all the computer you'll ever need. Yet, if you do want to expand its capabilities some day, you can do so by adding a full complement of Commodore peripherals. Such as disk drives, Modems. And printers.

You can also play terrific games on the Commodore 64. Many of which will be far more challenging than those you could ever play on a game machine alone. And as great as all this sounds, what's even greater-sounding is the price. It's hundreds of dollars less than that of our nearest competitor.

So while other companies are trying to take advantage of the computer revolution, it seems to us they're really taking advantage of something else: Their customers.

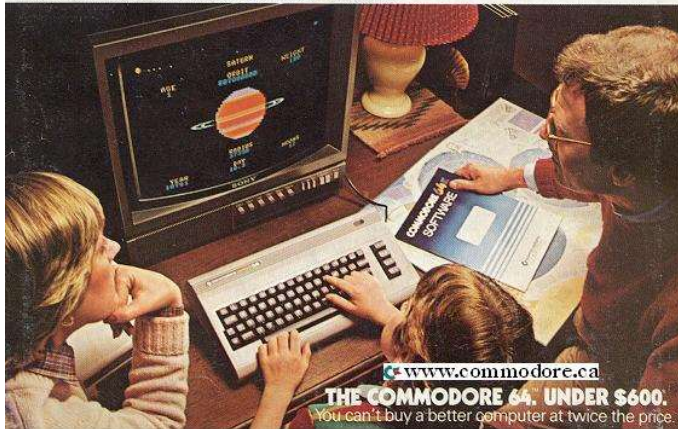
Manufacturers' suggested list prices as of March 20, 1983. Monitor included with 1150-90 II only. Commodore Business Machines, 101 Box 5009, Commodore, PA 16023. Canada: 3410 Pharmacy Avenue, Agincourt, Ont., Can. M1V 2B4.

\$1395* APPLE® IIe 64K
\$999* TRS-80® III 16K
\$1355* IBM® PC 64K

commodore COMPUTER

www.commodore.ca

THE COMMODORE 64. UNDER \$600.
You can't buy a better computer at twice the price.



Jefferson had one of the best minds of 1776, but today you can make better decisions with an Apple.

Jefferson and decision makers of every century have faced the same challenge: how to explore every option before you implement the final plan. Today you have a solution. The Apple personal computer.

A tool to test contingencies.

How would higher interest rates affect your forecasts? What if vendors raised prices 2%? What if you could determine capital equipment depreciation at the touch of a key? Now, you can productively test your assumptions with ease by using the Apple system that sits on your desk.

Declare your independence with Apple.

The same Apple system that helps you forecast saves you more time by tackling word-related tasks, too. Apple helps you write reports. Print letters. With Apple's text editing capabilities, it might not have taken Jefferson 17 days to draft the Declaration of Independence.

Personal advice on personal computers.

Today, the power and versatility of a \$15,000 computer are at your fingertips with a *complete* Apple system solution for \$2,300 to \$7,800. It's computing made easy and economical. A few minutes with your Apple dealer and you'll understand how powerful the Apple computer can be.

Your dealer will guide you through Apple's extensive line of hardware and software solutions, and he'll prove that all personal computers are not created equal. Don't let history pass you by. Visit your nearest Apple dealer, or call **800-538-9696**. In California, **800-662-9238**. Or write: Apple Computer, 10260 Bandley Drive, Cupertino, CA 95014.


apple computer inc.
CIRCLE 8



Una guerra commerciale



**Commodore Computer
per tutti, per tutti gli usi, per tutte le tasche.**

Affari o divertimento, problemi scientifici o amministrazione, industria, agricoltura o didattica: c'è un Commodore Computer per tutti. Dal fantastico Vic 20 alla sofisticatissima serie 8000, i computer a basso costo ed alta capacità per l'elaborazione dati e il word processing.

Commodore Computer è il n. 1 dei personal in Europa, fra le prime tre aziende nel mondo. Grazie alla alta qualità dei suoi prodotti.

Fai un salto da un Rivenditore autorizzato Commodore: un mondo di buone idee ti aspetta!

Commodore Italiana srl
Milano via Conservatorio 22, tel. 74.91.126

Sono interessato a ricevere materiale illustrativo Commodore relativamente a questi settori:

☐ Gestione
☐ Scientifico
☐ Divertimento/didattico

Nome _____
Indirizzo _____

**commodore
COMPUTER**

The new Commodore® Amiga® 500 is everything you never expected from a home computer. That's because we designed it to excite you. To dazzle your senses with 4096 colors and stereo sound. To unleash your creativity. To allow things you never dreamed possible in a home computer. Because until now, they really weren't.

Like built-in speech synthesis, so you'll always have someone to talk to. Pro-quality 3-D animation that lets even beginners put their ideas in motion. Colorful educational programs that make lessons fun and memorable. A complete home office with powerful spreadsheet and database programs—even word processing with WordPerfect®. And unlike any other home computer, the Commodore Amiga 500 can multi-task, so you can run several programs at the same time.

Hook it to your VCR with an optional RF modulator, and the Commodore Amiga 500 becomes a home video production center. Paint graphics over video images. Create moving 3-D titles. Produce your own animated feature.

And for pure fun, enter the incredible world of stereo Amiga video games. With graphics so good, major video game makers use them in their coin arcade machines.

AND NOW YOU CAN SEE IT ALL, FREE.

We captured the excitement, beauty and power of the Commodore Amiga 500 on a special VHS video cassette called *The Amiga 500 Video Test Flight*. If you're ready for the ride of your life, call 1-800-343-3000 or contact your Commodore Amiga dealer to find out how you can get your free video demonstration.

1-800-343-3000

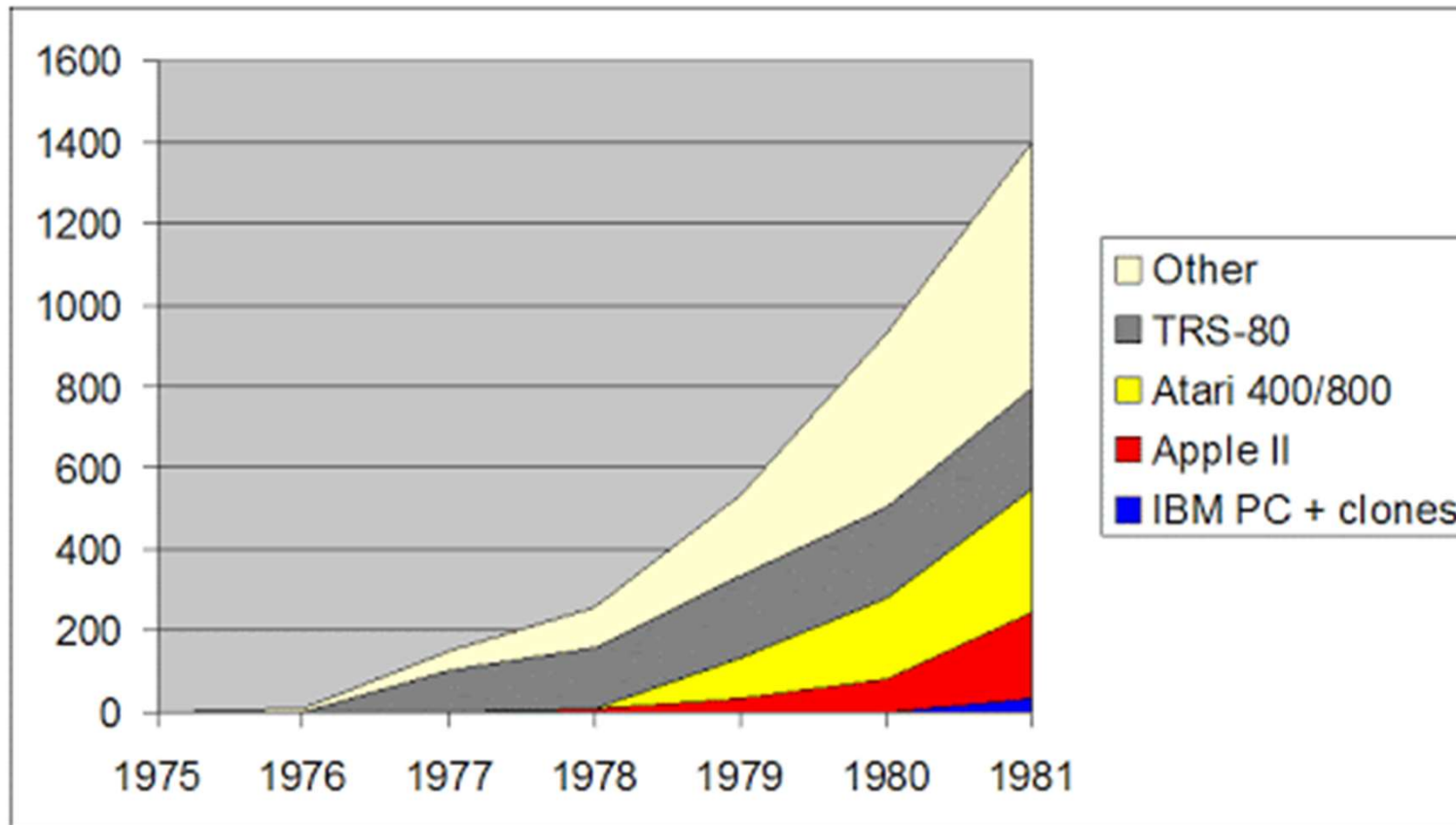


**COMMODORE
AMIGA
500**

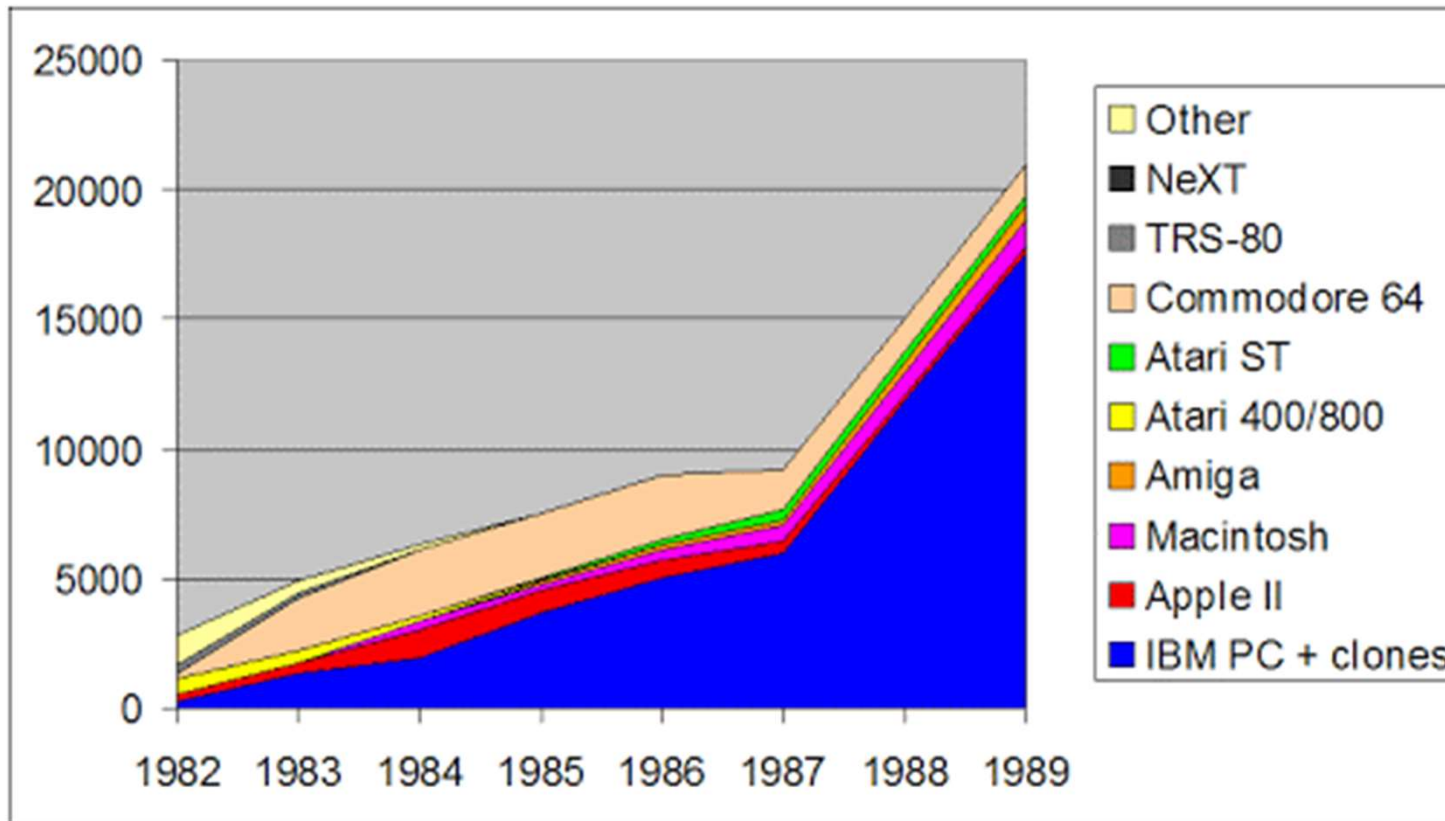
Only Amiga makes it possible.

Commodore is a registered trademark of Commodore Electronics, Ltd. Amiga is a registered trademark, and the Amiga logo is a trademark of Commodore Electronics, Inc. WordPerfect is a registered trademark of the WordPerfect Corporation. Marble Madness game screen courtesy of Electronic Arts. MacPaint business graphics courtesy of Apple, Inc. Macintosh animation screen courtesy of Apple Development.

Una guerra commerciale



Una guerra commerciale



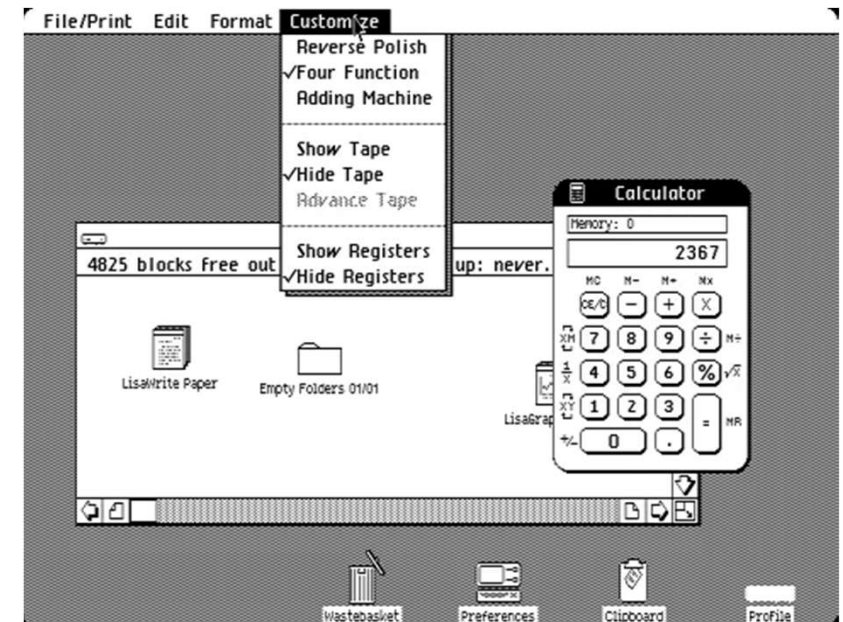
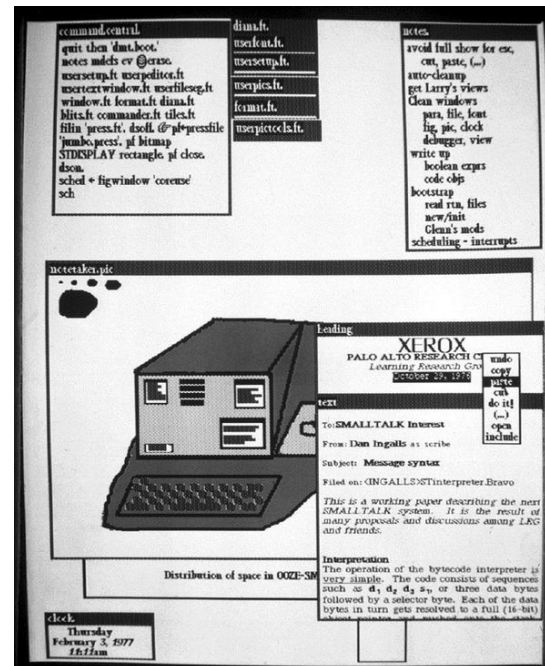
Le console gioco



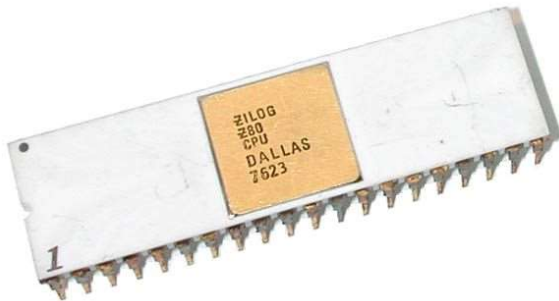
L'interfaccia grafica (GUI)



Xerox Alto



Da 8 a 16 Bit



Il resto della storia la conoscete...

- **Multimedialità**
- **Reti di computers**
- **Internet**
- **Web e servizi cloud**

→ Prossimo webinar del 20 di Maggio – ore 14.30

Come accelerare il rientro alla normalità in azienda – no effetto zombie

- Smart working – una opportunità da cogliere anche per il futuro
- Imparare l'arte della responsabilizzazione tramite obiettivi dei propri collaboratori
- La partecipazione attiva alla realtà aziendale
- Senza pianificazione non ci può essere futuro – definiamo la roadmap – pianifichiamo il 2020
- Le risorse umane sono il più importante asset dell'azienda

Ospite: Dott. Paradiso Antonio – orientatore e consulente HR



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