

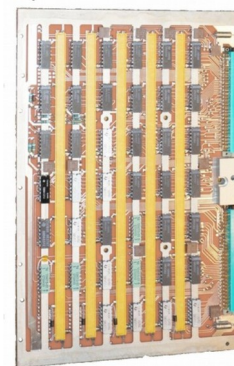


**Rolm:** [CHM-Video \(YouTube\)](#)

Founded by  
Gene Richeson,  
Ken Oshman,  
Walter Loewenstern, and  
Robert Maxfield used the  
Nova architecture and its  
successors to build very  
successful hardened  
machines → „PC“ of  
military computing!

Huge Pros:  
Big Variety of [IO modules](#) &  
Nova Software compatibility!

Year	Data General	Rolm	Digital Equipment	“Others” and Comments
1958			Founded	
1959			PDP-1	
1961				Autonetics D17 Minuteman-I
1965			PDP-8	“Star Trek”-Series
1968	Founded			Space Odyssey 2001
1969	Nova	Founded		
1970	Nova 1200	1601	PDP-11/15	Intel 4004
1972		1602		
1974	Eclipse			
1976		1602B/1603		Zilog Z80, Rolm CBX
1977		1606/1666		
1975	Nova 3			Altair 8800, AM2901
1978			VAX	Separation Rolm Telecom/MIL-SPEC
1980	MV/8000	MSE14		
1981				ZX-81 / IBM-PC
1982				C64
1983		HAWK/32		

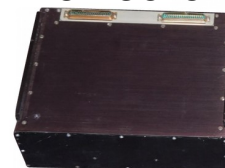


Processor  
with 8k core

24k  
core



8k core

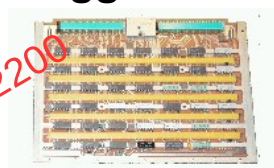


\$6500

\$8500

\$23500

Rugged PCB



\$2200



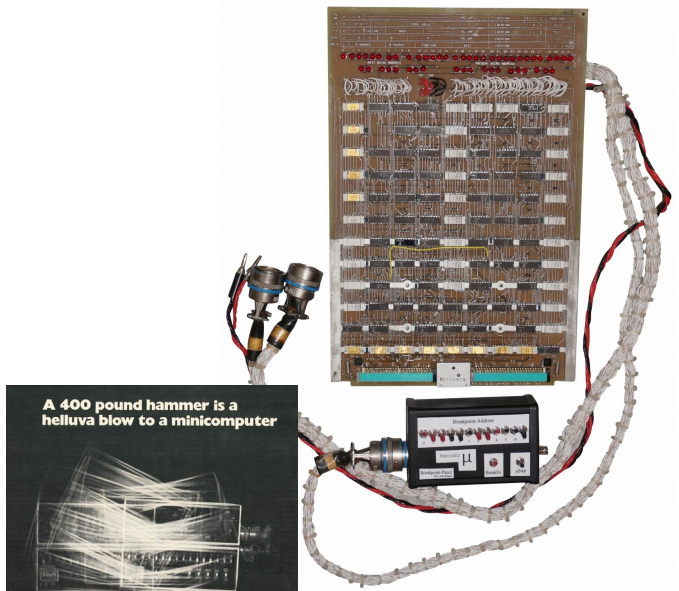
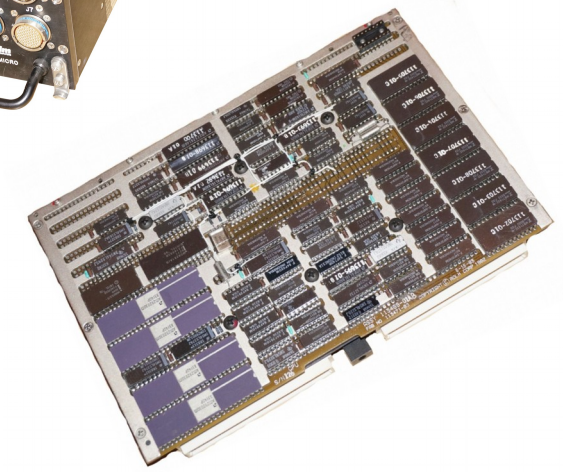
**RUGGEDNOVA**

# Impressions:

Early designs TTL based like Nova – PCBs and chassis with rigid constructions to allow excessive shock and vibration, temperature range and salt spray/humidity!



Later 2901 based LSI designs (MSE14, Eclipse)



**A 400 pound hammer is a helluva blow to a minicomputer**

**...unless it's a Ruggednova**

The U.S. Navy recently bombarded our spare environment...  
 As part of military applications work on the Nova...  
 The Ruggednova is the only computer that can...  
 ...unless it's a Ruggednova

**RoM**  
MIL-SPEC COMPUTERS

All designs Use micro-code



Between 5 and 11 IO-Modules in each processor – expandable by IOchassis



### Applications:

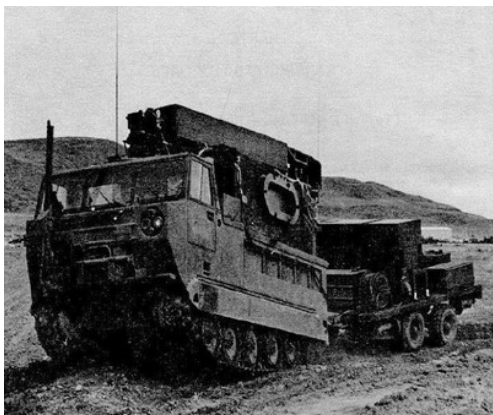
MIL: Air/Ground/Submarine

Industry: Steel, Paper mills

Science: Geology, Aircraft research,..

Early warning

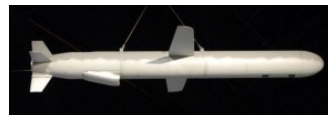
Electronic Intelligence



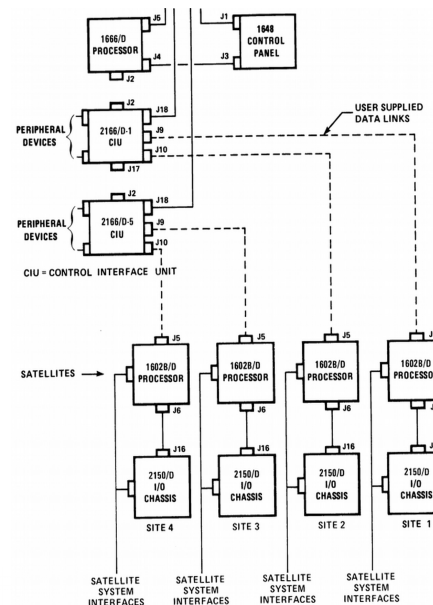
Radar warner



TAFLIR radar



Multi Rolm GPS for Tomahawk launch center



ATTAS Aerodynamics Research



# RUGGEDNOVA



Impact of Data General's Nova Architecture to MIL-SPEC Computing, Erik Baigar  
10/2018, erik@baigar.de, www.baigar.de

## Ads:

# ROLM RUGGEDNOVA 1602



**CONTROL PANEL**  
Designed for programed convenience, the 1602 control panel provides address and data information in real time. The controls necessary for machine operation are in use compact area. Two unique features are a programmable data display and a panel instruction/break point. The panel can be connected directly to the CPU main or via a 6 to 24-foot cable.

**CENTRAL PROCESSING**  
The 1602 CPU is the world's toughest, with features. These include a 1.1 microsecond one cycle time, an expanded instruction set, an on-chip processing capability, and memory chip. It contains a sophisticated microprocessor, an 8K instruction set, a 30 word cache, a 100 word microprogram capacity of 4K words, a 30 word cache, and a 100 word cache. The cache memory is 100% non-volatile. The cache memory can be further enhanced by microprogram packages to be introduced in the future.

*First and best source of 1602 Rugged Nova computer and related information is 1602 RUGGEDNOVA 1602.*

### The most complete mil spec con


### ROLM CORPORATION 1601 RUGGEDNOVA AN/UUK-12(V)



- Proven Hardware Design
- Extensive Software
- "On the Spot" Availability
- Commercial Equivalents
- Nonvolatile Read/Write Options
- MIL E-16490 Standalone Environments
- MIL E-16490 Standalone Environments
- Nonvolatile
- Programmed

ROLM CORPORATION 1602 Two-Disk Computer, California Model # 1602-0104 P.O. Box 91000

### ROLM CORPORATION MODEL 1602 AN/UYK-19 (V)



- Microprogrammed Processor
- Optional Floating Point Firmware
- Memory Expansion to 256K
- Dual-Port Memory
- Field Proven Hardware Design
- MIL-E-16490, MIL-E-16499

ROLM CORPORATION 1602 Two-Disk Computer, California Model # 1602-0104 P.O. Box 91000

### ROLM CORPORATION MODEL 1603 AN/UYK-21(V)



- Compatible with AN/UYK-19(V), -18(V)
- Over 40 Peripherals and Interfaces
- Single ATA Channels for CPU, I/O, Panel, CD-ROM Power Supply and a Modem
- Field Proven Hardware Design
- MIL-E-16490, MIL-E-16499

ROLM CORPORATION 1602 Two-Disk Computer, California Model # 1602-0104 P.O. Box 91000

**30 Day Delivery. A Complete Line That's REAL. Extensive Software. Full Nomenclature. 7 Years of Proven Reliability.**



**That's Why We're #1 in Mil-Spec Computers.**

**ROLM**  
MIL-SPEC COMPUTERS

## Introducing the new, faster ROLM 1602 Ruggednova... the world's toughest computer.



For more information on ROLM computers, contact the ROLM Sales Office, 1602 RUGGEDNOVA 1602, P.O. Box 91000, San Diego, CA 92161. ROLM is a registered trademark of ROLM Corporation.


### ROLM's New ARTS Is A Fast Real-Time System. With WCS, It's Even Faster.



ROLM's new ARTS (Advanced Real-Time System) is a fast, real-time system designed for use in military applications. It is a fast, real-time system designed for use in military applications. It is a fast, real-time system designed for use in military applications. It is a fast, real-time system designed for use in military applications.

**That's Why We're #1 in Mil-Spec Computer Systems**


### ROLM's Mil-Spec ECLIPSE Data System... a new power in military computers



ROLM's new ECLIPSE Data System is a fast, real-time system designed for use in military applications. It is a fast, real-time system designed for use in military applications. It is a fast, real-time system designed for use in military applications. It is a fast, real-time system designed for use in military applications.

**That's Why We're #1 in Mil-Spec Computer Systems**


### ROLM's Mil-Spec ECLIPSE Data System...for operations on the move



ROLM's new ECLIPSE Data System is a fast, real-time system designed for use in military applications. It is a fast, real-time system designed for use in military applications. It is a fast, real-time system designed for use in military applications. It is a fast, real-time system designed for use in military applications.

**That's Why We're #1 in Mil-Spec Computer Systems**

### Hard Facts About The ROLM Military Hard Disk



**Fact: The ROLM Disk Is Tough**

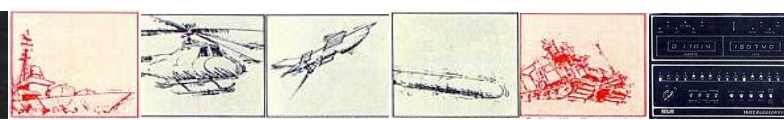
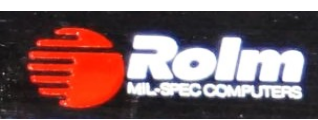
**Fact: The ROLM Disk Is Reliable**

**Fact: The ROLM Disk Has Capacity**

**Fact: The ROLM Disk Has the Best Price And Delivery**

**Fact: The ROLM Disk Is On Active Duty**

ROLM MIL-SPEC COMPUTERS



# RUGGEDNOVA