Прилог број 1: Пример програматора – Universal Programmer SuperPro-6100, Advin Systems Inc, USA (уз партију број 10)

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EPROM Programmer

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PROM Programmer
Best Choice:
SuperPro-6100 UNIVERSAL DEVICE PROGRAMMER

Bipolar PROMs

This universal device programmer supports a wide range of PROMs, which are the oldest version of programmable read-only memory (PROM) and uses technology called "bipolar". Because of its old technology, bipolar PROMs require a variety of high voltages for programming and therefore PROMs a not supportable by lower cost programmers. Bipolar PROMs are programmable only once and cannot b erased.

CMOS PROMs

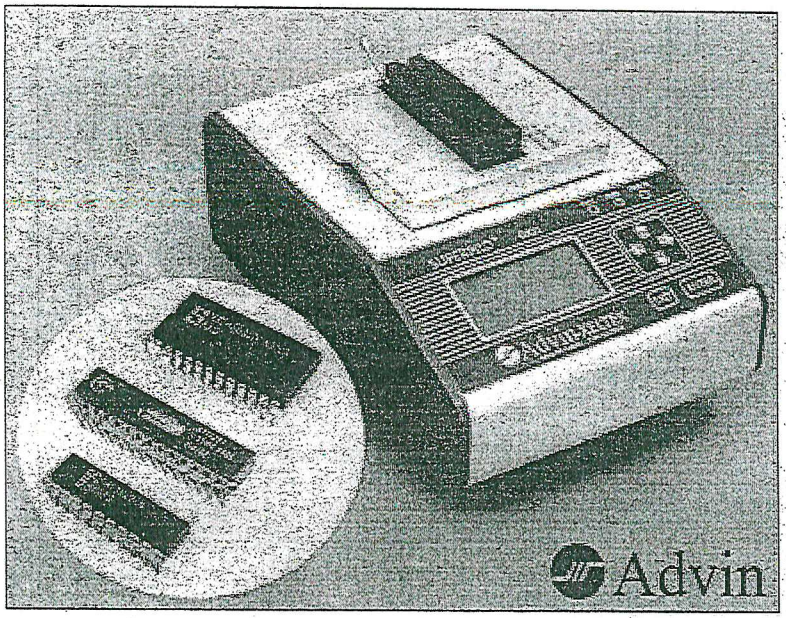
After bipolar, the next major technology that emerged was CMOS (Complementary metal oxide silicon). CMOS allows the design of UV-erasable cells which gave rise to erasable PROMs or EPROMs. Memorie chips that are based on the EPROM cells can be erased and reprogrammed numerous times -- provide that the IC chips have a glass (actually quartz) windows to allow UV lights to go through. Those do not have glass windows cannot be erased and therefore are called one-time-programmable, or OTP, EPROMs.

While all EPROMs are byte-wide (8-bit) or word-wide (16-bit), most PROMs are only 4-bit or 8-bit wide.

Since PROMs are very old memory devices, it is not always possible to find them these days. Therefore helps to know which ones are compatible, in case the original part number you need is not available.

For the same reason, it is also important to buy a programmer that supports a wide variety of bipolar PROMs.

http://www.advin.com/PROM-programmer.htm



SuperPro-6100
PROM Programmer &
Universal Programmer
$1,795

- Programmer Details

The following table shows some of the PROM devices supported (out of a long list of PROMs). The PROM devices are organized to help you find compatible PROMs if the ones you need are not available.

# of Pins	Data Size	Manufacturer	PROM Part #
16	32 x 8	AMD	AM27S18, AM27S18A, AM27LS19, AM27S19, AM27PS191
		NSC	DM54S188, DM54S188A, DM54S288A, DM54S288A
		Philips, Signetics	N82S123, N82S123A
16	256 x 4	NSC	DM54S287, DM54S287AA
16	512 x 4	AMD	AM27S13, AM27S13A
18	1K x 4	AMD	AM27S184, AM27S185, AM27S185A
		Philips, Signetics	N82S137A, N82S137B, N82S137C
20	256 x 8	NSC	DM54LS471, DM54S471
		Philips, Signetics	N82LS135, N82S135
20	512 x 8	TI	TBP28L42N, TBP28P42, TBP28S42, TBP28SA42

20	4K x 8	AMD	AM27PS41
24	512 x 8	Philips, Signetics	82S105, 82S140, 82S141
24	1K x 8	AMD	AM27S180, AM27S180A, AM27S181, AM27S181A
24	2K x 8	AMD	AM27S190, AM27S190A, AM27S191, AM27S191A, AM27PS191A, AM27PS291, AM27PS291A
		Philips, Signetics	82S191, 82S191A, 82S191B, 82S191C
For a complete list of all PROMs supported, please refer to the complete IC chip device list: • All Devices Supported by this Universal Programmer			

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Support email: Support@Advin.com

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Programmers by function:
• PROM Programmer
• Gang Programmer
• EPROM Programmer
• Universal Programmer
• Legacy Programmers

PDF Datasheet

SuperPro-6100 Universal Programmer is our most popular universal programmer model for industrial applications. Its huge supported IC chip device list covers all kinds of IC chips used by a lab or a small production line.

If you are operating a lab or work in an electronics industry, you may want to consider this model instead of a lower level model. Otherwise there is a possibility that you may need to buy another programmer down the road just because a lower level programmer cannot support the IC chips you may encounter.

Universal Programmer SuperPro-6100 Datasheet

UNIVERSAL PROGRAMMER HIGHLIGHTS

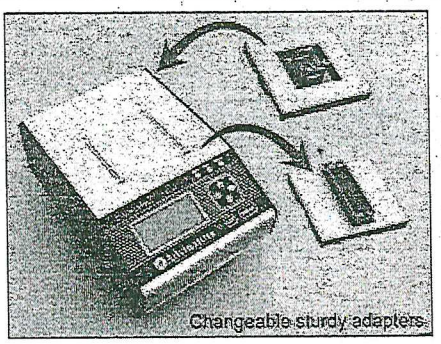
- Supports **100,000+** IC devices from 350+ IC chip manufacturers.
- Capable of **stand-alone** operation (requires optional CF card)
- Supports **low voltage** chip types with Vcc as low as 1.2v.
- High programming **throughput**
- **USB 2.0** high-speed PC interface
- Programmer-control S/W supports **XP / Vista / Windows 7, 8 and 10**
- CE and RoHS **compliant**

UNIVERSAL PROGRAMMER FEATURES

IC CHIP DEVICE SUPPORT

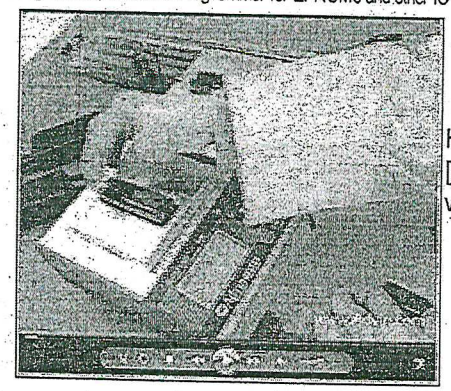
- Supports 100,000+ IC devices from 350+ IC chip manufacturers.

- IC device types supported include:
FLASH memory, EPROM, EEPROM, Serial EEPROM, FPGA Configuration Serial PROM, NVRAM, PAL, PLD, CPLD, EPLD, NAND Flash, Microcontroller, PIC Micro, Logic Devices, etc.
- Supports standard DIP and skinny DIP packages from 8 to 48-pins on standard equipment
- Supports a wide variety of surface-mount devices (SMDs) and other IC device packages with reliable factory-made adapters. Packages supported include: PLCC, CLCC, SOIC, LAP, DFN, QFN, QFP, TQFP, LQFP, PAFP, TSOP, SOP, SSOP, PSOP, TSSOP, SON, BGA, EBGA, FBGA, VFBGA, ÂµBGA, etc.
- Free software updates can be downloaded via internet at any time.


Changeable sturdy adapters

PROGRAMMER SPEED

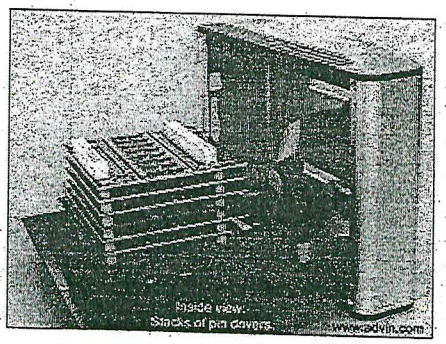
- Ultra fast programming speed via USB interface.
- Programs high-density flash memory chips at near-theoretical maximum programming speed.
- The **Production Mode** feature allows programming to start automatically as soon as a chip is loaded into the programming socket.



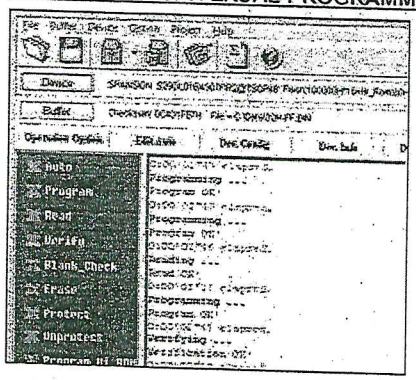
How [Production Mode] works

ADVANCED UNIVERSAL PROGRAMMER HARDWARE

- Advanced hardware design provides **clean signals** and allows programming of low-voltage chips **reliably**.
- The programmer has **144 universal pin-drivers** built-in. There is no need to add additional or optional pin-drivers even when you are programming large complex chips, up to 144-pins. (As long as you have the proper SMD-to-programmer adapters.)
- Since each pin-driver is software programmable, proper voltage levels will be applied to each and every pin, not just the Vcc pins, allowing **true low-voltage programming** for low-voltage chips.
- **Reverse insertion check** and pin continuity check help to prevent chips from accidental damage.
- **Over-current** and over-voltage protection ensures safety of the chips and programmer hardware.

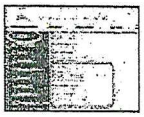


EASY-TO-USE UNIVERSAL PROGRAMMER SOFTWARE



- Programmer-control S/W supports XP, Vista, Windows 7, 8, 10.
- User-friendly software allows you to do these and more easily:
  - Read data from a master chip, put it in the data buffer
  - Save the data to a file

- Program a new chip with this data
- Erase a used EE chip before program it
- Secure the chip so that others cannot copy it
- Load data from a file instead of from a master chip
- Display the data buffer and allow you to edit it
- Search the data buffer for a certain pattern
- Do an AUTO sequence such as [Erase, Program, Verify and Secure] with just one click
- Plus a whole lot more



See how easy it is to use the software

ADVANCED SOFTWARE FEATURES

Advanced functions allow you to do things that would be impossible to do with lower level programmers or competing products. These include::

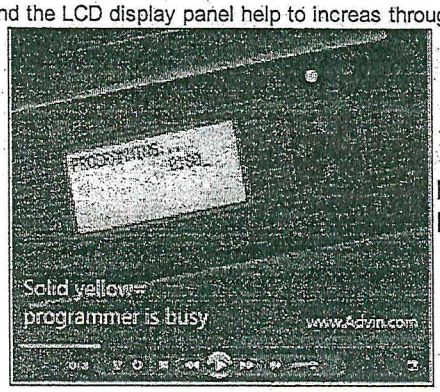
- The Project function allows you to store settings such as IC chip manufacturer, chip selection, data filename, device configuration, programming options, etc., into different project files.
- Data splits: 1-to-2, or 1-to-4, for both byte-wide and word-wide memory chips.
- Byte swap: for Intel or Motorola byte arrangements
- Optionally do write-protection on selected sectors
- Optionally do read-protection on selected blocks
- Do specific device configurations for Microchip PIC micros
- Setup counters so that your operator can easily keep track of how many chips have been programmed.
- Plus a whole lot more

FLEXIBLE MULTI-MODE OPERATIONS

• Convenient **PC-controlled mode**, via high speed USB 2.0, lends to easy operation for the R&D and engineering environment.

• **Stand-alone** operation is provided by a built-in 6-key keyboard and a 4-line LCD display. (Requires optional Compact Flash Card for storing programming algorithms which are downloaded from PC to programmer. Once the programming algorithms and data files are stored in the Compact Flash Card, the programmer can be operated without connection to a PC.)

• Built-in LEDS and the LCD display panel help to increas through-put in **production mode.**



How the LEDs work

USEFUL AS A PRODUCTION PROGRAMMER

• Putting multiple units together in stand-alone mode creates a multi-site concurrent programming environment for volume production. The advantages, over a traditional gang programmer, are:

• Flexible and expandable: start with one unit and expand by adding more units when the need arises.

• Concurrent programming: each programmer begins to program as soon as its socket has been loaded. Chances are, by the time you finish loading the last programmer, the first one is already

done.

UNIVERSAL PROGRAMMER SPECIFICATIONS

IC CHIP DEVICE SUPPORT

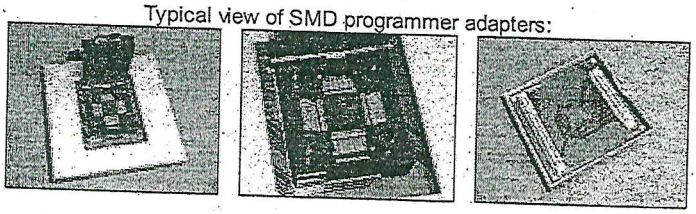
- Chip Packages Supported on Standard Equipment:

DIP, SDIP.

- Chip Packages Supported with Optional SMD Adapters:

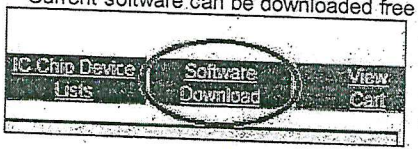
PLCC, CLCC, SOIC, LAP, DFN, QFN, QFP, TQFP, LQFP, PQFP, TSOP, SOP, SSOP, PSOP, TSSOP, SON, BGA, EBGA, FBGA, VFBGA, ÂµBGA, etc.

Typical view of SMD programmer adapters:



IC CHIP DEVICE UPDATES

- Software and chip programming algorithms are updated regularly.
- Current software can be downloaded free of charge



HARDWARE & ELECTRICAL

- PC interface: High speed USB 2.0

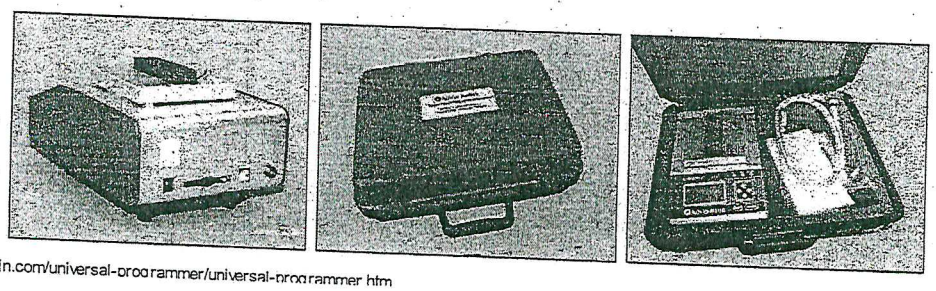
- AC power supply: Input 100V-240V AC, 50/60 HZ. Output 12VDC, 2 Amp.
- Programmer physical size: 8.5" x 5.8" x 4.75" high (216 mm x 149 mm x 120 mm)
- Net weight (programmer unit, AC power supply and USB cable): 4.25 Lbs.
- Gross shipping weight: 9 Lbs.

WARRANTY

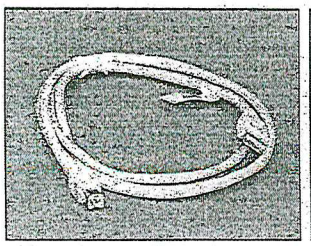
- 2-years. Programmer is warranted to be free of manufacturing or workmanship defects for two (2) years from the date of purchase. Warranty covers parts, labor, and free UPS ground shipping from Advin back to customer. (Free ground shipping applies to 48-states and Canada only).

INCLUDED ITEMS

- Programmer unit with 48-pin Glod-plated DIP ZIF socket adapter.
- AC power supply.
- Durable storage and carry case.
- USB Cable.
- Programmer-control software CD.
- User's Guide as a file on CD.
- User-feedback form.



Back View



USB cable

Programmer Carry case

AC Power Supply

Carry case inside view

OPTIONAL ITEMS

- Compact flash card for stand-alone operation.
- SMD to programmer adapters for different SMD device packages such as SOIC, PLCC, TSOP, etc.

Please see ❁ SMD to Programmer Adapters

$1,595 Add to Cart

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Programmers by function:

- PROM Programmer
- Gang Programmer
- EPROM Programmer
- Universal Programmer
- Legacy Programmers

National Semiconductor

DM54/74S573
(1024 x 4) 4096-Bit TTL PROM

General Description

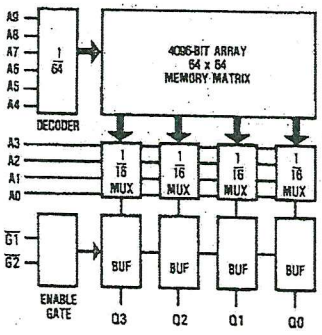
This Schottky memory is organized in the popular 1024 words by 4 bits configuration. Memory enable inputs are provided to control the output states. When the device is enabled, the outputs represent the contents of the selected word. When disabled, the 4 outputs go to the "OFF" or high impedance state.

PROMs are shipped from the factory with lows in all locations. A high may be programmed into any selected location by following the programming instructions.

Features

- Advanced titanium-tungsten (Ti-W) fuses
- Schottky-clamped for high speed
  - Address access—down to 35 ns max
  - Enable access—25 ns max
  - Enable recovery—25 ns max
- PNP inputs for reduced input loading
- All DC and AC parameters guaranteed over temperature
- Low voltage TRI-SAFE™ programming
- TRI-STATE® Outputs

Block Diagram



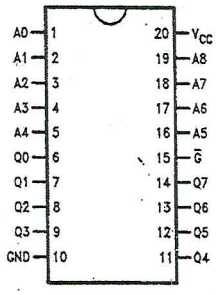
TL/D/9193–1

Pin Names

A0–A9	Addresses
$\overline{G1}$–$\overline{G2}$	Output Enables
GND	Ground
Q0–Q3	Outputs
V_{CC}	Power Supply

Connection Diagrams

Dual-In-Line Package

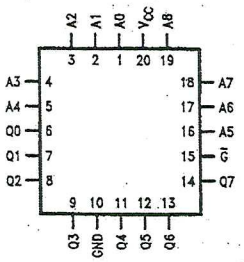


TL/D/9193-2

Top View

Order Number
DM54/74S573J, 573AJ, 573BJ
DM74S573N, 573AN, 573BN
See NS Package Number J18A or N18A

Plastic Leaded Chip Carrier (PLCC)



TL/D/9193-3

Top View

Order Number
DM74S573V, 573AV, 573BV
See NS Package Number V20A

Ordering Information

Commercial Temp Range (0°C to +70°C)

Parameter/Order Number	Max Access Time (ns)
DM74S573AJ	45
DM74S573BJ	35
DM74S573J	60
DM74S573AN	45
DM74S573BN	35
DM74S573N	60
DM74S573AV	45
DM74S573BV	35
DM74S573V	60

Military Temp Range (−55°C to +125°C)

Parameter/Order Number	Max Access Time (ns)
DM54S573AJ	60
DM54S573BJ	50
DM54S573J	75

3

Absolute Maximum Ratings (Note 1)

If Military/Aerospace specified devices are required, please contact the National Semiconductor Sales Office/Distributors for availability and specifications.

Supply Voltage (Note 2)	−0.5V to +7.0V
Input Voltage (Note 2)	−1.2V to +5.5V
Output Voltage (Note 2)	−0.5V to +5.5V
Storage Temperature	−65°C to +150°C
Lead Temp. (Soldering, 10 seconds)	300°C

Note 1: Absolute maximum ratings are those values beyond which the device may be permanently damaged. They do not mean that the device may be operated at these values.

Note 2: These limits do not apply during programming. For the programming ratings, refer to the programming instructions.

Operating Conditions

	Min	Max	Units
Supply Voltage (V_{CC})			
Military	4.50	5.50	V
Commercial	4.75	5.25	V
Ambient Temperature (T_A)			
Military	−55	+125	°C
Commercial	0	+70	°C
Logical "0" Input Voltage	0	0.8	V
Logical "1" Input Voltage	2.0	5.5	V

DC Electrical Characteristics (Note 1)

Symbol	Parameter	Conditions	DM54S573			DM74S573			Units
			Min	Typ	Max	Min	Typ	Max	
I_{IL}	Input Load Current	V_{CC} = Max, V_{IN} = 0.45V		−80	−250		−80	−250	μA
I_{IH}	Input Leakage Current	V_{CC} = Max, V_{IN} = 2.7V			25			25	μA
		V_{CC} = Max, V_{IN} = 5.5V			1.0			1.0	mA
V_{OL}	Low Level Output Voltage	V_{CC} = Min, I_{OL} = 16 mA		0.35	0.50		0.35	0.45	V
V_{IL}	Low Level Input Voltage				0.80			0.80	V
V_{IH}	High Level Input Voltage		2.0			2.0			V
V_C	Input Clamp Voltage	V_{CC} = Min, I_{IN} = −18 mA		−0.8	−1.2		−0.8	−1.2	V
C_I	Input Capacitance	V_{CC} = 5.0V, V_{IN} = 2.0V T_A = 25°C, 1 MHz		4.0			4.0		pF
C_O	Output Capacitance	V_{CC} = 5.0V, V_O = 2.0V T_A = 25°C, 1 MHz, Outputs Off		6.0			6.0		pF
I_{CC}	Power Supply Current	V_{CC} = Max, Input Grounded All Outputs Open		100	140		100	140	mA
I_{OS}	Short Circuit Output Current	V_O = 0V, V_{CC} = Max (Note 2)	−20		−70	−20		−70	mA
I_{OZ}	Output Leakage (TRI-STATE)	V_{CC} = Max, V_O = 0.45V to 2.4V Chip Disabled			+50			+50	μA
					−50			−50	μA
V_{OH}	Output Voltage High	I_{OH} = −2.0 mA	2.4	3.2					V
		I_{OH} = − 6.5 mA				2.4	3.2		V

Note 1: These limits apply over the entire operating range unless stated otherwise. All typical values are for V_{CC} = 5.0V and T_A = 25°C.

Note 2: During I_{OS} measurement, only one output at a time should be grounded. Permanent damage may otherwise result.

AC Electrical Characteristics with Standard Load and Operating Conditions

COMMERCIAL TEMP RANGE (0°C to +70°C)

Symbol	JEDEC Symbol	Parameter	DM74S573			DM74S573A			DM74S573B			Units
			Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
TAA	TAVQV	Address Access Time		40	60		25	45		25	35	ns
TEA	TEVQV	Enable Access Time		20	35		15	25		15	25	ns
TER	TEXQX	Enable Recovery Time		20	35		15	25		15	25	ns
TZX	TEVQX	Output Enable Time		20	35		15	25		15	25	ns
TXZ	TEXQZ	Output Disable Time		20	35		15	25		15	25	ns

MILITARY TEMP RANGE (−55°C to +125°C)

Symbol	JEDEC Symbol	Parameter	DM54S573			DM54S573A			DM54S573B			Units
			Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
TAA	TAVQV	Address Access Time		40	75		25	60		25	50	ns
TEA	TEVQV	Enable Access Time		20	45		15	35		15	35	ns
TER	TEXQX	Enable Recovery Time		20	45		15	35		15	35	ns
TZX	TEVQX	Output Enable Time		20	45		15	35		15	35	ns
TXZ	TEXQZ	Output Disable Time		20	45		15	35		15	35	ns

Functional Description

TESTABILITY

The Schottky PROM die includes extra rows and columns of fusable links for testing the programmability of each chip. These test fuses are placed at the worst-case chip locations to provide the highest possible confidence in the programming tests in the final product. A ROM pattern is also permanently fixed in the additional circuitry and coded to provide a parity check of input address levels. These and other test circuits are used to test for correct operation of the row and column-select circuits and functionality of input and enable gates. All test circuits are available at both wafer and assembled device levels to allow 100% functional and parametric testing at every stage of the test flow.

RELIABILITY

As with all National products, the Ti-W PROMs are subjected to an on-going reliability evaluation by the Reliability Assurance Department. These evaluations employ accelerated life tests, including dynamic high-temperature operating life, temperature-humidity life, temperature cycling, and thermal shock. To date, nearly 7.4 million Schottky Ti-W PROM device hours have been logged, with samples in Epoxy B molded DIP (N-package), PLCC (V-package) and CERDIP (J-package). Device performance in all package configurations is excellent.

TITANIUM-TUNGSTEN FUSES

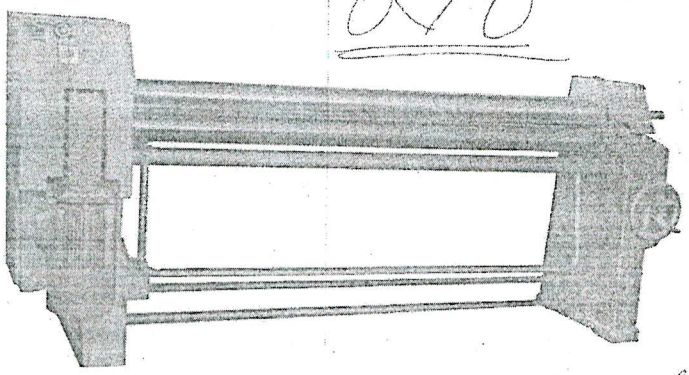
National's Programmable Read-Only Memories (PROMs) feature titanium-tungsten (Ti-W) fuse links designed to program efficiently with only 10.5V applied. The high performance and reliability of these PROMs are the result of fabrication by a Schottky bipolar process, of which the titanium-tungsten metallization is an integral part, and the use of an on-chip programming circuit.

A major advantage of the titanium-tungsten fuse technology is the low programming voltage of the fuse links. At 10.5V, this virtually eliminates the need for guard-ring devices and wide spacings required for other fuse technologies. Care is taken, however, to minimize voltage drops across the die and to reduce parasitics. The device is designed to ensure that worst-case fuse operating current is low enough for reliable long-term operation. The Darlington programming circuit is liberally designed to insure adequate power density for blowing the fuse links. The complete circuit design is optimized to provide high performance over the entire operating ranges of V_{CC} and temperature.

Прилог број 2: Пример машине за кружно савијање лима са траженим карактеристикама (уз партију број 26)

MAŠINE ZA KRUŽNO SAVIJANJE LIMA

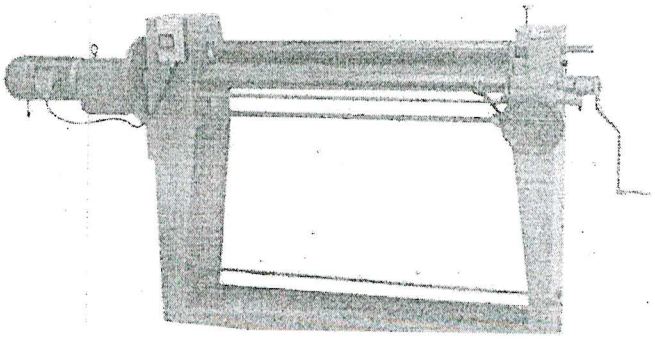
MAŠINA ZA KRUŽNO SAVIJANJE LIMA, TIP MSM



Tip	MSM 3.6/1000	MSM 3.15/1250	MSM 2.8/1600	MSM 2.5/2000	MSM 2.2/2500	MSM 3/2000
Max. debljina lima mm	1000	1250	1600	2000	2500	2000
Max. širina lima mm	3.6	3.15	2.8	2.5	2.2	3.0
Promjer valjka mm	114	114	114	114	114	120
Min. promjer savijanja mm	160	160	160	160	160	160
Brzina savijanja m/min	7	7	7	7	7	7
Motor kW	3.5	3.5	3.5	3.5	3.5	3.5
Masa kg	900	1000	1100	1100	1100	1200
Dimenzije D mm	1900	2100	2500	2900	3400	2900
Š mm	1100	1100	1100	1100	1100	1100
V mm	1200	1200	1200	1200	1200	1200

MAŠINA ZA KRUŽNO SAVIJANJE LIMA, TIP UBBD-1,6/1000

Max. debljina lima pri 280 N/mm²	1,6 mm
Max. širina lima	1000 mm
Promjer gornjeg valjka	70 mm
Promjer donjeg valjka	90 mm
Brzina savijanja	7,6 m/min
Motor	1,5 kW
Dimenzije (DxŠxV)	2240x485x1090 mm
Masa	500 kg



Прилог број 3: Пример машине за угаоно савијање лима са траженим карактеристикама (уз партију број 27)

MAŠINE ZA UGAONO SAVIJANJE LIMA

MOTORNA MAŠINA ZA UGAONO SAVIJANJE LIMA, TIP SUS

Primjena:

- Pogodna za precizno savijanje lima u metalnoj industriji i građevinarstvu.
- Proizvodnja limenih profila svih vrsta.
- Proizvodnja metalnog namještaja, kontejnera i sl.

Tehnički opis:

- Mašina se sastoji od kućišta, donjeg nepokretnog mosta, gornjeg linearno pokretnog mosta, bočnog lučno pokretnog mosta za savijanje, pogonskog i zaštitnog mehanizma, graničnika lima te upravljačkog uređaja.
- Pokretanje (dizanje i spuštanje) gornjeg mosta u granicama od 0 do 200 mm, vrši se elektromehanički preko samokočivog motornog reduktora, a kretanje se ostvaruje preko zavojnih vretena.
- Most za savijanje se podiže pomoću samokočivog motornog reduktora.
- Mogući raspon ugla savijanja 0-180° (Mašina je snadbjevena standardnim alatom sa uglom savijanja do 135°).
- Širina lima (položaj zadnjeg graničnika) do 1000 mm se podešava motornim pogonom.
- Rad na upravljačkom pultu:
  - Rad u pojedinačnom modu (ručno)
  - Poluautomatski rad
  - Podešavanje ugla savijanja (graničnik mosta za savijanje)
  - Podešavanje zadnjeg graničnika
- Sve smetnje koje se jave pri radu se indiciraju na kontrolnoj tabli preko signalnih indikatora.
- Promjena ugla savijanja je kontinualna..
- Svi opterećeni dijelovi mašine su izrađeni od visokokvalitetnih materijala.
- Konstrukcija mašine i svi dijelovi su pristupačni za nadzor i održavanje.
- Široke mogućnosti savijanja profila raznih oblika, te motorni pogon i jednostavno upravljanje, čine ovu mašinu veoma ekonomičnom.

Tip		6/1020	5/1520	4/2040	3/2540	2.5/3040	4/1020	3/1520	2.5/2040	2/2540	1.5/ 3040
Max. debljina lima pri 280 N/mm²	mm	6	5	4	3	2.5	4	3	2.5	2	1.6
Radna dužina	mm	1020	1520	2040	2540	3040	1000	1500	2000	2500	3000
Visina stola	mm			1000			1000	1000	1000	1000	1000
Otvaranje gornjeg mosta	mm			200			250	250	250	250	250
Otvaranje donjeg mosta	mm			100			110	110	110	110	110
Hod graničnika	mm			1000			1000	1000	1000	1000	1000
Snaga motora mosta za savijanje	kW			7.5			2.2	2.2	2.2	2.2	2.2
Snaga motora gornjeg mosta	kW			2.2			1.5	1.5	1.5	1.5	1.5
Snaga motora graničnika	kW			0.37			0.37	0.37	0.37	0.37	0.37
Masa	kg	1860	2450	2100	3100	3600	1800	2300	2700	3000	3400
Električni priključak			3x380V 50 Hz				3x380V	3x380V	3x380V	3x380V	3x380V
Ukupna instalisana snaga	kW			10.5			4	4	4	4	4