

ADVANTAGE 400 CNC Controller

ADV400 ОБЗОР

- полнофункциональное CNC решение до 5 осей
- основой системы является РМАС2 контроллер движения вместе с встроенным РС104 компьютером
- для фрезерного, токарного и прочего оборудования
- для приводов с аналоговым управлением $\pm 10V$, шаговых приводов и TTL энкодеров в качестве сигнала обратной связи.
- представляет I/Os



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ADV400 ОБЗОР

ПОЛНОФУНКЦИОНАЛЬНЫЙ ИНТЕРФЕЙС

- Предоставляет все необходимые данные (позиция, редактор программ ,сообщения , магазин инструментов...)
- RS274 G-коды с наличием линейной,круговой и сплайн интерполяций.
- DNC-интерфейс для отработки длинных программ из внешних устройств
- Встроенный редактор PLC
- 2D графическая симуляция опционально



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КОМПАКТНЫЙ ПУЛЬТ ОПЕРАТОРА

- 8.4" LCD TFT или 7.4" DSTN цветной панельный монитор
- Стандартная клавиатура с буквенно-цифровыми и функциональными клавишами F1-F10
- Пуск УП / СТОП УП / СБРОС клавиши
- корректор подач,
- Штурвал 50 инкрементов
- USB-интерфейс для клавиатуры или другой USB совместимой периферии.



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CNC ИНТЕРФЕЙС

- управление 5-осями с помощью $\pm 10V$ задающего воздействия (или STEP/DIR для шагового привода)
- 4x TTL сигнал обратной связи с энкодера .
- 1x TTL сигнал обратной связи с энкодера для: 5^{ой} оси, штурвал или внешний сигнал для синхронизации
- 1x дополнительный выход $\pm 10V$ для управления шпинделем
- 1x 12-bit аналоговый вход 0-10V, 2 x 12-bit $\pm 10V$ аналоговых входа опционально
- 32 входа и 16 выходов
- Multiplexed I/O (JTHW) порт для подключения дополнительных I/O опционально



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Настройки станка

легкая настройка с помощью интерактивных страниц

CNC SetUp Page 1 of 4 PgUp/PgDown=switch page F2=Apply F10=Cancel

Motor 1 X-Axis

<input checked="" type="radio"/> Analog	Max Freq	Resolution	Max Speed	Max Acc time to max speed
<input type="radio"/> Stepper	0 Hz	4096 Cts/mm	10000 mm/min	200 ms
<input type="radio"/> Stepper + Encoder				

Motor 2 Y-Axis

<input checked="" type="radio"/> Analog	Max Freq	Resolution	Max Speed	Max Acc time to max speed
<input type="radio"/> Stepper	0 Hz	2048 Cts/mm	5000 mm/min	300 ms
<input type="radio"/> Stepper + Encoder				

Motor 3 Z-Axis

<input checked="" type="radio"/> Analog	Max Freq	Resolution	Max Speed	Max Acc time to max speed
<input type="radio"/> Stepper	0 Hz	1024 Cts/mm	8000 mm/min	400 ms
<input type="radio"/> Stepper + Encoder				

Motor 4

<input type="radio"/> U	<input checked="" type="radio"/> Analog	Max Freq	Resolution	Max Speed	Max Acc time to max speed
<input type="radio"/> A	<input type="radio"/> Stepper	0 Hz	16348 Cts/mm (U)	10000 mm/min (U)	600 ms
<input type="radio"/> S	<input type="radio"/> Stepper + Encoder		Cts/deg (A)	deg/min (A)	
<input type="radio"/> Open loop Spindle	<input type="radio"/> Open loop spindle + Encoder		Cts/rev	rev/min	
<input type="radio"/> Closed loop Spindle					

Motor 5

<input type="radio"/> V	<input checked="" type="radio"/> Analog	Max Freq	Resolution	Max Speed	Max Acc time to max speed
<input type="radio"/> B	<input type="radio"/> Stepper	0 Hz	512 Cts/mm	2000 mm/min	500 ms
<input type="radio"/> Stepper + Encoder					
<input type="radio"/> Use Enc5 as Handwheel					

Home seq
2

Home seq
3

Home seq
0

Home seq
0

Home seq
0

No Home

Only C ch.

Home Low True

Home High True

Limit flag +

Limit - flag

Low True

High True

None

0 mm/min

Plus direction

Minus direction

0

Motor 5

No Home

Only C ch.

Home Low True

Home High True

Limit flag +

Limit - flag

Low True

High True

None

C channel

Home Speed

0 mm/min

Plus direction

Minus direction

0

CNC SetUp Page 2 of 4 PgUp/PgDown=switch page F2=Apply F10=Cancel

Motor 1

Amp Fault	Hardware Limit	Soft Limits	Max JOG Speed
<input type="radio"/> High-True	<input type="radio"/> Enable	Pos 0 mm	0 mm/min
<input type="radio"/> Low-True	<input checked="" type="radio"/> Disable	Neg 0 mm	<input checked="" type="checkbox"/> Motor 1 with Brake
<input checked="" type="radio"/> Disable			Brake on Output 3

Motor 2

Amp Fault	Hardware Limit	Soft Limits	Max JOG Speed
<input type="radio"/> High-True	<input type="radio"/> Enable	Pos 0 mm	0 mm/min
<input type="radio"/> Low-True	<input checked="" type="radio"/> Disable	Neg 0 mm	<input type="checkbox"/> Motor 2 with Brake
<input checked="" type="radio"/> Disable			Brake on Output 0

Motor 3

Amp Fault	Hardware Limit	Soft Limits	Max JOG Speed
<input type="radio"/> High-True	<input type="radio"/> Enable	Pos 0 mm	0 mm/min
<input type="radio"/> Low-True	<input checked="" type="radio"/> Disable	Neg 0 mm	<input type="checkbox"/> Motor 3 with Brake
<input checked="" type="radio"/> Disable			Brake on Output 0

Motor 4

Amp Fault	Hardware Limit	Soft Limits	Max JOG Speed
<input type="radio"/> High-True	<input type="radio"/> Enable	Pos 0 mm	0 mm/min
<input checked="" type="radio"/> Low-True	<input checked="" type="radio"/> Disable	Neg 0 mm	<input checked="" type="checkbox"/> Motor 4 with Brake
<input type="radio"/> Disable			Brake on Output 4

Motor 5

Amp Fault	Hardware Limit	Soft Limits	Max JOG Speed
<input type="radio"/> High-True	<input type="radio"/> Enable	Pos 0 mm	0 mm/min
<input checked="" type="radio"/> Low-True	<input checked="" type="radio"/> Disable	Neg 0 mm	<input type="checkbox"/> Motor 5 with Brake
<input type="radio"/> Disable			Brake on Output 0

Max Following Error

33.456 mm/deg

Reverse Counting direction

Use 4 decimal places

Motor 5

Max Following Error

44.567 mm

Reverse Counting direction

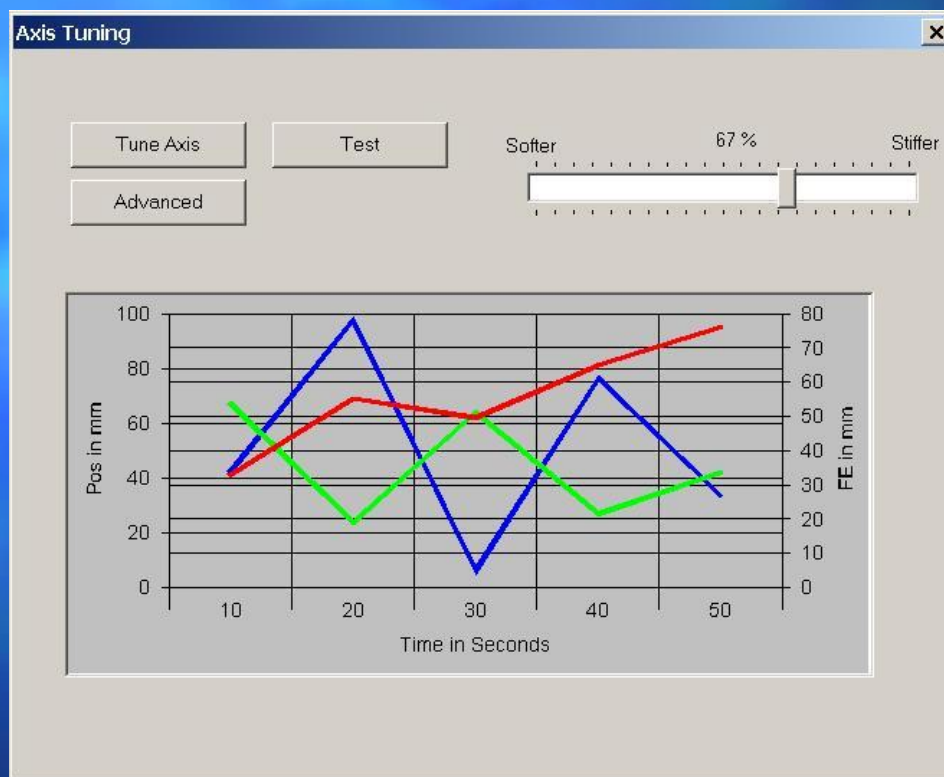


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Настройки станка простое ПО для настройки приводов



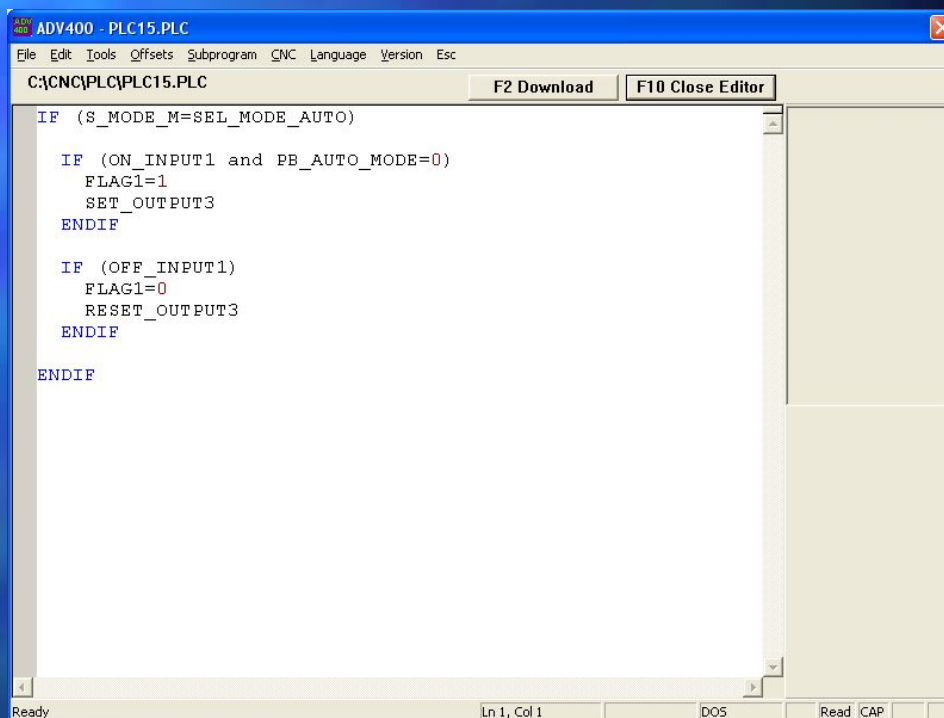
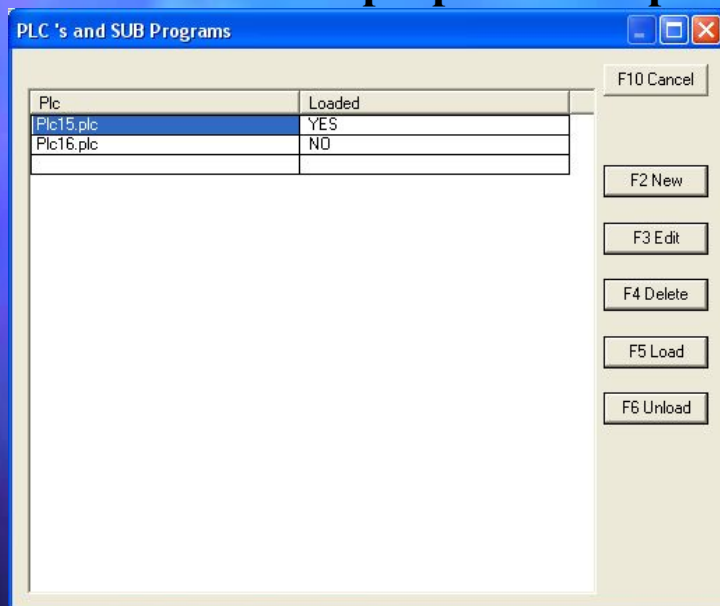
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Настройки станка

Полная многофункциональность для
разработки программы электроавтоматики



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УПРАВЛЕНИЕ СТАНКОМ

Main Page

ADV400 - ADVT1.NC

File Edit Tools Offsets Subprogram CNC Language Version Esc

C:\NCDATA\ADVT1.NC

Machine	Position	To Go
X 0.000	X 0.000	X 0.000
Y 0.000	Y 0.000	Y 0.000
Z 0.000	Z 0.000	Z 0.000
A 0.000	A 0.000	A 0.000

Override 0.0 U/min
 PrqAktiv
 InPosition MANUAL

```
G90 G99  
G54  
G00 X10 Y10 B0  
G52 X0 Y0  
G01 F1200  
X100  
Y20  
Y120  
G02 X0 Y0 R  
G4 X1  
G00 X0  
M30
```

1 X+ limit switch, 2X- limit
F1 Error msg F2 Mar

Ready

Messages

1 X+ limit switch reached
1.1 X-axis + limit switch reached
1.2 Please run the X-axis negative
2 X- limit switch reached
2.1 X-axis - limit switch reached
2.2 Please run the X-axis positive
3 Y+ limit switch reached
3.1 Y-axis + limit switch reached
3.2 Please run the Y-axis negative
33.1
33.2
34.1
34.2
65.1
65.2

F10 Cancel

Tool Offset

Tool Geometrie

Off. X	Off. Y	Off. Z	Radius	Dir.
12.000	23.000	34.000	45.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0
0.000	0.000	0.000	0.000	0

F2 OK
F10 Cancel

Offsets

G54	G55	G56
X 123.456	X 44.44	X 77.77
Y 22.22	Y 55.55	Y 88.88
Z 33.33	Z 66.66	Z 99.99

G57	G58	G59
X 10.1	X 13.13	X 16.16
Y 11.11	Y 14.14	Y 17.17
Z 12.12	Z 15.15	Z 18.18

F2 Set
F10 Cancel

Work Offset



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УРАВЛЕНИЕ СТАНКОМ

редактор программ и подпрограмм

Main Program Edition

The screenshot shows the 'Main Program Edition' window for 'ADV400 - ADVT1.NC'. The window title is 'ADV400 - ADVT1.NC' and the menu bar includes 'File', 'Edit', 'Tools', 'Offsets', 'Subprogram', 'CNC', 'Language', 'Version', and 'Esc'. The main area displays a table of machine positions and their 'To Go' values, along with a 'G90 G99' and 'G54' coordinate system setup. Below the table, the G-code program is visible, including lines like 'X0.222 Y0.222 Z-0.555 A-0.555' and 'G00 X10 Y10 B0'. The status bar at the bottom shows 'Ready' and 'Ln 1, Col 1'.

Machine	Position	To Go
X 0.222	X 0.000	X 0.000
Y 0.222	Y 0.000	Y 0.000
Z -0.555	Z 0.000	Z 0.000
A -0.555	A 0.000	A 0.000

```
G90 G99
G54
X0.222 Y0.222 Z-0.555 A-0.555
X0.222 Y0.222 Z-0.555 A-0.555
X0.222 Y0.222 Z-0.555 A-0.555
X0.222 Y0.222 Z-0.555 A-0.555

G00 X10 Y10 B0
G52 X0 Y0
G01 F1200
X100
Y20
Y120
```

Sub-Routines Management

The screenshot shows the 'Sub-Routines Management' window titled 'PLC's and SUB Programs'. It features a table listing subprograms and their loaded status. The table has columns for 'Subprogram' and 'Loaded'. Below the table, there are buttons for 'F10 Cancel', 'F2 New', and 'F3 Edit'. A second window, 'ADV400 - PROG2.NC', is overlaid on top, showing the editing interface for a subprogram. The subprogram window title is 'ADV400 - PROG2.NC' and the menu bar includes 'File', 'Edit', 'Tools', 'Offsets', 'Subprogram', 'CNC', 'Help', and 'Esc'. The main area displays the G-code for the subprogram, including 'G90', 'G01 X10', and 'X0'. The status bar at the bottom shows 'Ready'.

Subprogram	Loaded
Prog2.ncs	X
Prog122.ncs	X
Prog355.ncs	X
Prog998.ncs	
Prog999.ncs	

```
G90
G01 X10
X0
```

Sub-Routines Edition



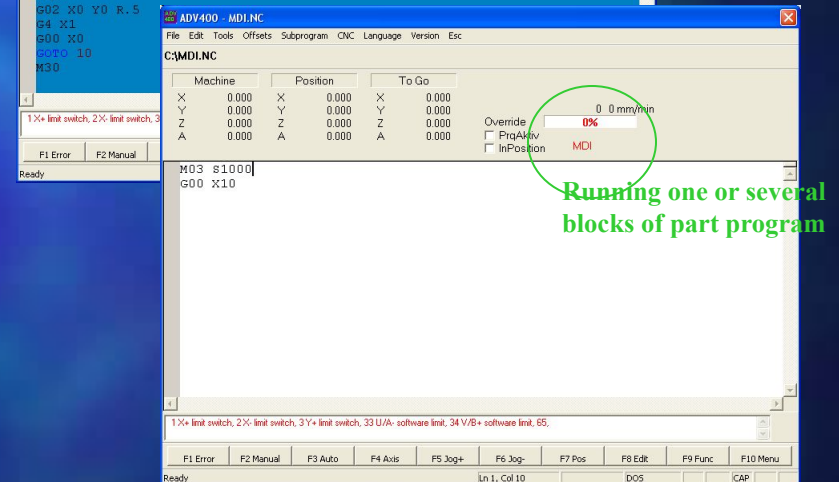
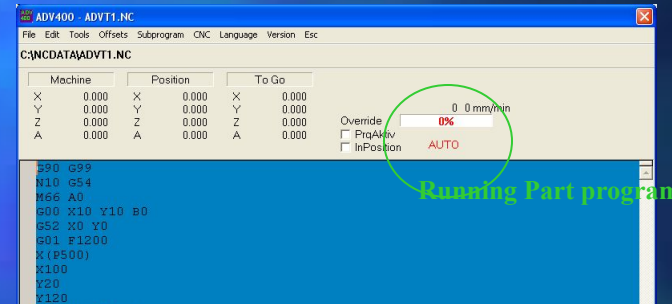
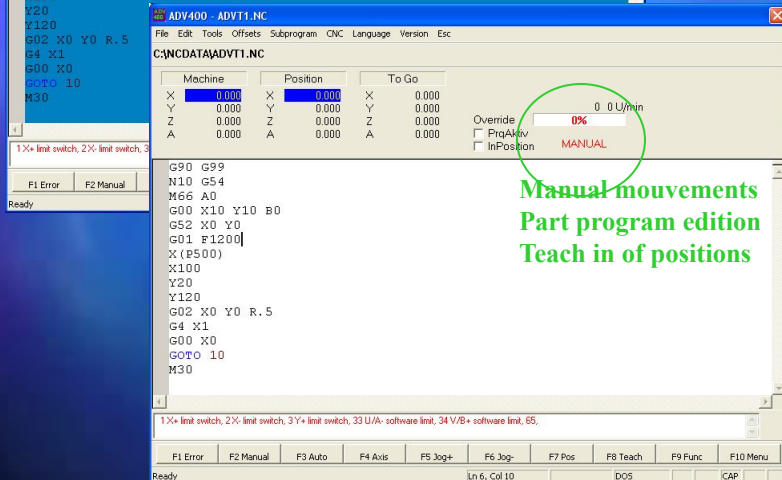
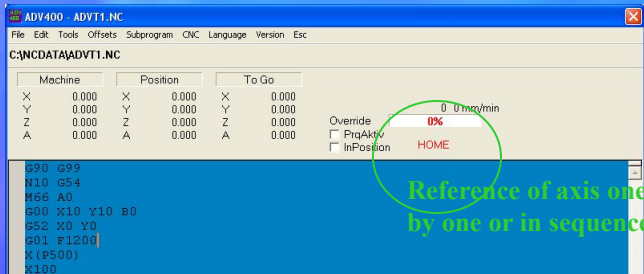
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Управление станком Home/Manual/Auto/MDI режимы



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MACHINE CONTROL

RS274 G/M/T codes

G00 Rapid Traverse

G01 Linear Interpolation

G02 Circular Interpolation, CW

G03 Circular Interpolation, CCW

G04 Dwell

G09 Exact Stop Check

G17 XY Plane Selection

G18 ZX Plane Selection

G19 YZ Plane Selection

G25 Spindle Speed Detect Off

G26 Spindle Speed Detect On

G40 Tool Nose Radius Compensation Cancel

G41 Tool Nose Radius Compensation Left

G42 Tool Nose Radius Compensation Right

G52 Local Coordinate System Setting

G53 Remove Work Coordinate System

G54 Work Coordinate System 1

G55 Work Coordinate System 2

G56 Work Coordinate System 3

G57 Work Coordinate System 4

G58 Work Coordinate System 5

G59 Work Coordinate System 6

G61 Exact Stop Mode

G64 Cutting Mode

G68 Coordinate System Rotation

G69 Coordinate System Rotation Cancel

G74 Axis referencing

G80 Canned Cycle Cancel

G81 Spot Drilling Canned Cycle

G84 Tapping Cycle

G90 Absolute Programming

G91 Incremental Programming

G92 Coordinate System setting

G92.1 Coordinate System setting cancel

G94 Feed Per Minute

G95 Feed Per Revolution

M00 Program Stop

M01 Optional Stop

M03 Spindle CW

M04 Spindle CCW

M05 Spindle Stop

M08 Coolant On

M09 Coolant Off

M19 Spindle Orientation

M50 C axe Call

M51 Spindle Call

M30 Program End & Rewind

M98 Subprogram Call

Txxxy Tool xx call and
compensation yy activation



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