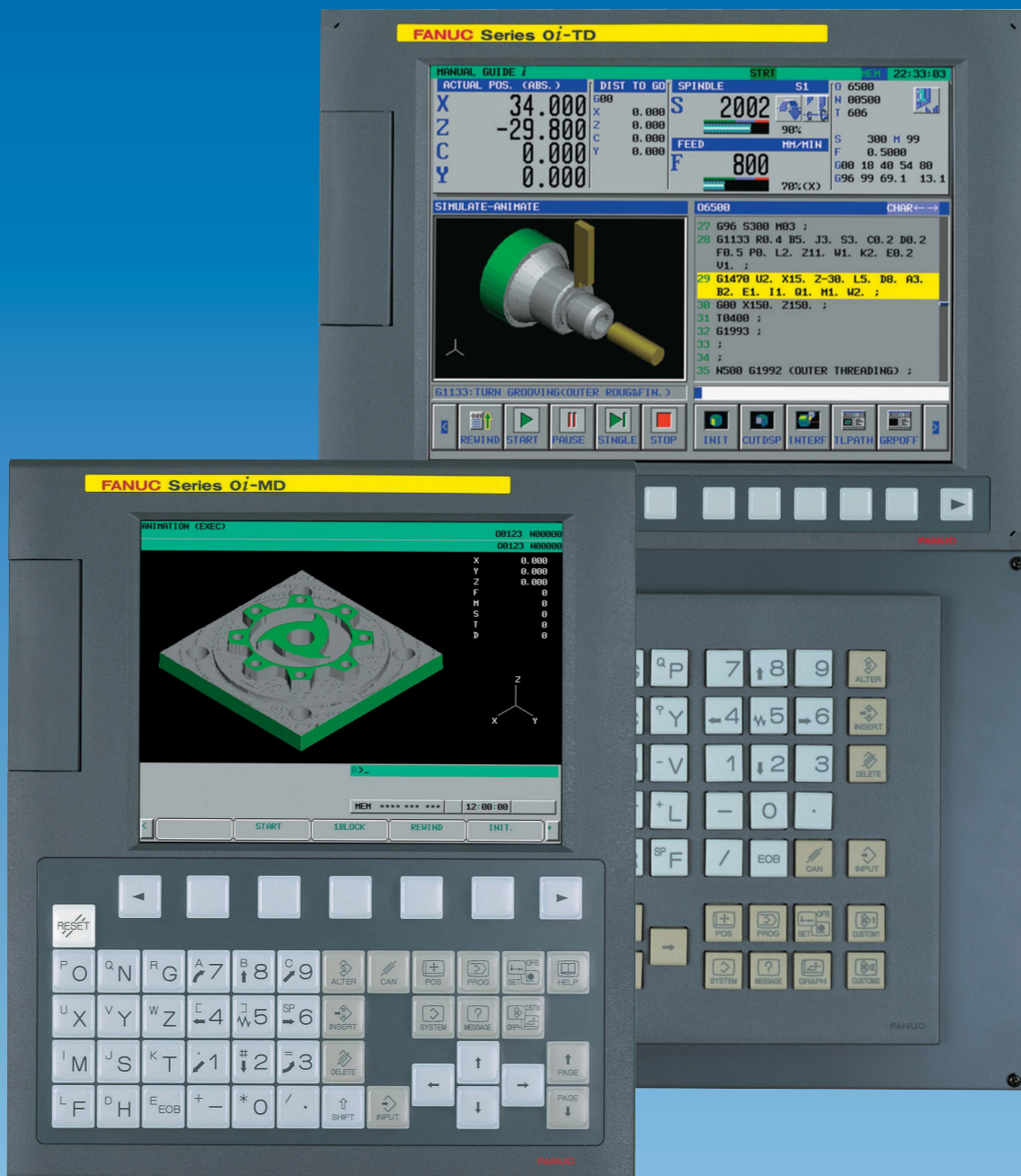


High reliable and high cost-performance CNC

# FANUC Series Oi-MODEL D

# FANUC Series Oi Mate

-MODEL D



High reliable and high cost-performance CNC

# FANUC Series $\beta i$ -MODEL D

# FANUC Series $\beta i$ Mate-MODEL D

FANUC Series  $\beta i$  / FANUC Series  $\beta i$  Mate are the high reliable and high cost-performance CNCs.

## FANUC Series $\beta i$ -MD

Suitable CNC for Machining center  
up to 5 axes control

## FANUC Series $\beta i$ Mate-MD

Suitable CNC for Machining center  
up to 3 axes control

## FANUC Series $\beta i$ -TD

Suitable CNC for lathe  
1 path up to 4 axes control  
2 path up to 8 axes control

## FANUC Series $\beta i$ Mate-TD

Suitable CNC for lathe  
up to 3 axes control

### High reliable and high cost-performance CNC

Packages of the most efficient CNC features  
Ultra-Compact CNC with Simplified Cables and high-reliability  
Cost-performance oriented configuration with  $\beta i$  servo  
Network by Embedded Ethernet as standard\*

### Excellent operation

Integrated Operation & Programming Guidance with extremely simplified operations  
**FANUC MANUAL GUIDE  $\beta i$**  \*  
Programming Guidance with extremely simplified operations  
**FANUC MANUAL GUIDE  $\beta i$**   
Integrated Operation Guidance for NC program-less conventional lathe machining  
**FANUC TURN MATE  $\beta i$**   
Direct editing and operation program in Memory Card

### Enriched control functions

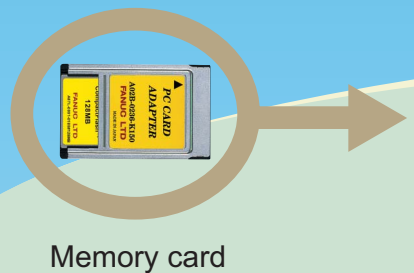
High-Speed, High-precision, High-Quality Machining with AI contour control and NANO interpolation \*  
Suitable for various machines from general machining center / lathe to 2-path lathe \*  
Machining condition selecting function for achieving desired machining easily

### Plenty of customize functions

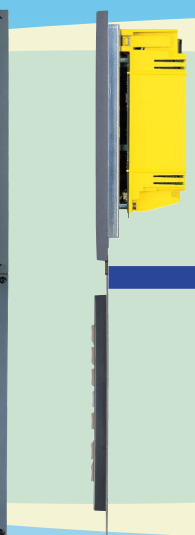
C language executor for customizing CNC display and operation \*  
FANUC PICTURE for easy creating machine operation screen \*

(\* :  $\beta i$  only)

## FANUC Series $\beta i$ -MODEL D



Memory card



AC SPINDLE MOTOR  
 $\beta i$  series

$\beta i$  series SERVO

AC SERVO MOTOR  
 $\beta i$  series

SERVO AMPLIFIER  
 $\beta i$  series

Cost-performance oriented configuration with  $\beta i$  servo

AC SPINDLE MOTOR  
 $\alpha i$  series

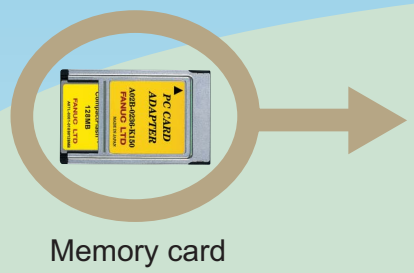
$\alpha i$  series SERVO

AC SERVO MOTOR  
 $\alpha i$  series

SERVO AMPLIFIER  
 $\alpha i$  series

The latest servo control functions with  $\beta i$  servo

## FANUC Series $\beta i$ Mate-MODEL D



Memory card



AC SPINDLE MOTOR  
 $\beta i$  series

$\beta i$  series SERVO

AC SERVO MOTOR  
 $\beta i$  series

SERVO AMPLIFIER  
 $\beta i$  series

Cost-performance oriented configuration with  $\beta i$  servo

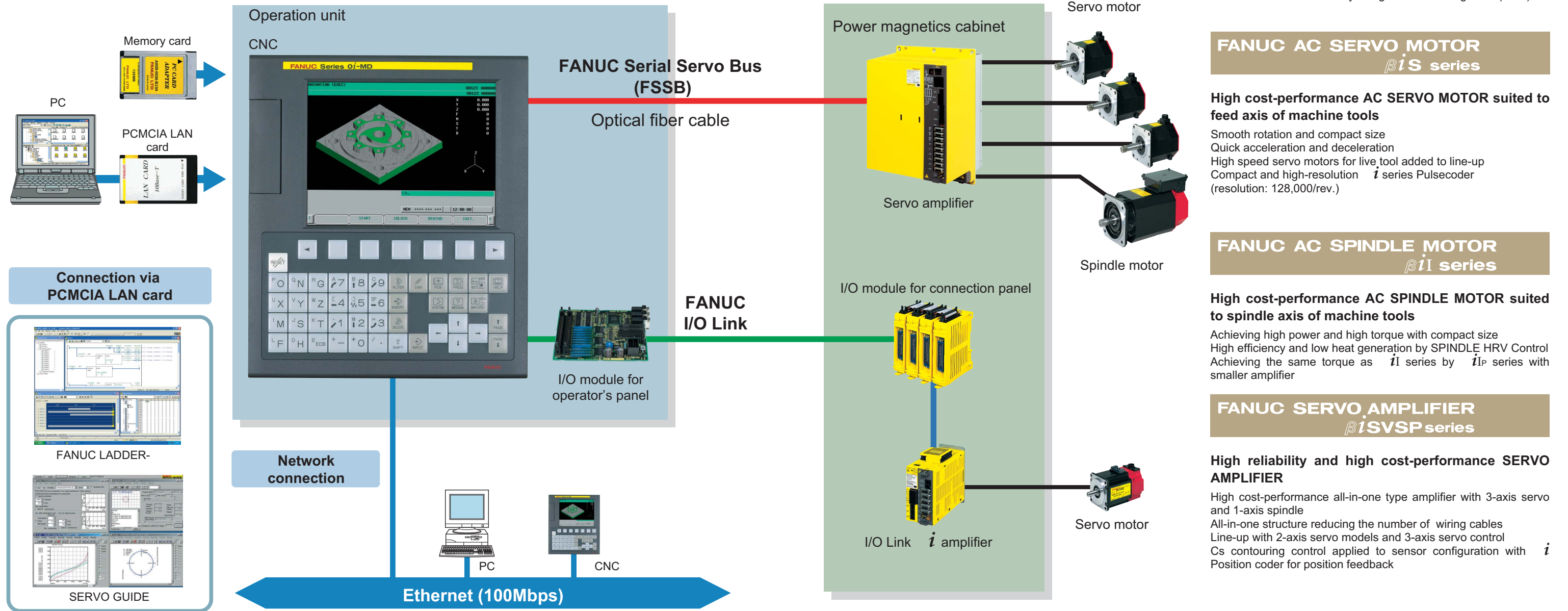
### Advanced digital servo technology

SERVO HRV3 Control for high speed and high precision  
SPINDLE HRV3 Control for quick acceleration and response  
“One-shot setting” “One-shot tuning” for powerfully support Startup and Tuning of CNC system  
Quick & smart tuning  
**FANUC SERVO GUIDE**

# Advanced Technology on Hardware

## Ultra-Compact CNC with Simplified Cables, High-reliability

Ultra-compact CNC is realized through LCD display with integrated CNC.  
A few number cables are provided for ultra high-speed serial communication.  
Aggressive adoption of ECC technology realizes further high reliability.



### FANUC Serial Servo Bus (FSSB)

FANUC serial servo bus (FSSB) using optical fiber cables is used to connect a CNC to servo amplifiers. High-speed, high-reliability data transfer are realized by using error correcting code (ECC).

### FANUC AC SERVO MOTOR *βiS* series

**High cost-performance AC SERVO MOTOR suited to feed axis of machine tools**

Smooth rotation and compact size  
Quick acceleration and deceleration  
High speed servo motors for live tool added to line-up  
Compact and high-resolution *i* series Pulsecoder (resolution: 128,000/rev.)

### FANUC AC SPINDLE MOTOR *βiI* series

**High cost-performance AC SPINDLE MOTOR suited to spindle axis of machine tools**

Achieving high power and high torque with compact size  
High efficiency and low heat generation by SPINDLE HRV Control  
Achieving the same torque as *iI* series by *iI<sub>P</sub>* series with smaller amplifier

### FANUC SERVO AMPLIFIER *βiSVSP* series

**High reliability and high cost-performance SERVO AMPLIFIER**

High cost-performance all-in-one type amplifier with 3-axis servo and 1-axis spindle  
All-in-one structure reducing the number of wiring cables  
Line-up with 2-axis servo models and 3-axis servo control  
Cs contouring control applied to sensor configuration with *i* Position coder for position feedback

### Ultra Compact , Ultra Thin CNC

The small-size CNC integrated with the LCD display realizes the quite thin CNC control unit in depth of 70mm (in case of no external slot).

### Embedded Ethernet as standard



Series *0i* is equipped with Embedded Ethernet as standard. It becomes easy to make a network in factory. The Fast Ethernet board can be mounted as an option.

### Powerful built-in PMC

The powerful built-in PMC is available, which executes sequence control for machine tool and peripheral devices. Rich instructions and Function Block function enable efficient ladder development.

### FANUC SERVO GUIDE

This Software "SERVO GUIDE" provides the integrated environment on a Windows® personal computer for setting servo parameters and data measurement, needed for servo and spindle tuning. Easy direct connection from PC to CNC through PCMCIA LAN card, attached on the CNC front panel.

### High reliable Hardware

FANUC has developed high reliable components to resist in the factory environment, jointly with parts suppliers. Aggressive adoption of ECC (Error Correction Code) technology realizes further high reliability.

### FANUC I/O Link capable of high-speed data transfer

The FANUC I/O Link is an I/O network used to establish a serial I/O connection with various I/O devices. I/O module for operator's panel, I/O module for connection panel and FANUC I/O Unit-MODEL A and so on.

### PMC program development environment

By connecting the program development tool FANUC LADDER- , which runs on a Windows® personal computer, with an Ethernet communication port, Ladder programs can be monitored and edited through online remote operation. (PCMCIA LAN card is necessary to connect with *0i* Mate.)

### Easy maintenance

Detachable fan motor and battery realize further easy maintenance.

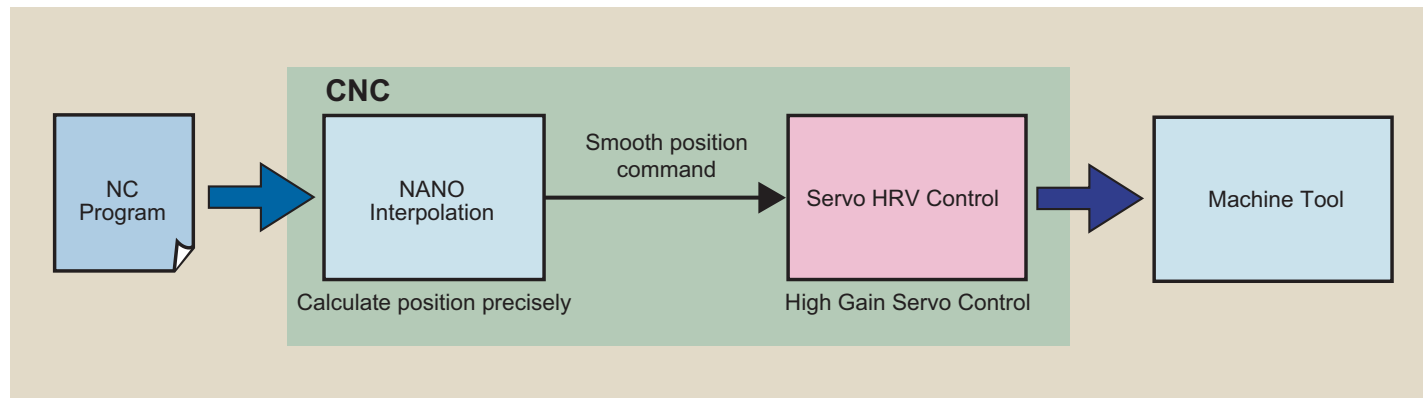
# High performance

## High-Speed, High-Quality Machining

### NANO Interpolation

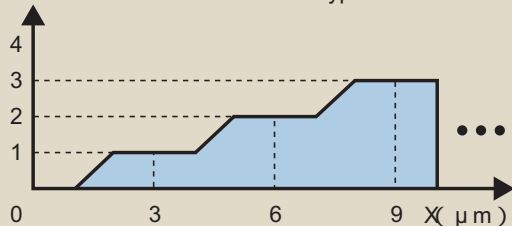
0i only

The NANO interpolation generates position commands for digital servo control in nanometer. This enables smooth path in position commands for digital servo control and enhances surface smoothness.

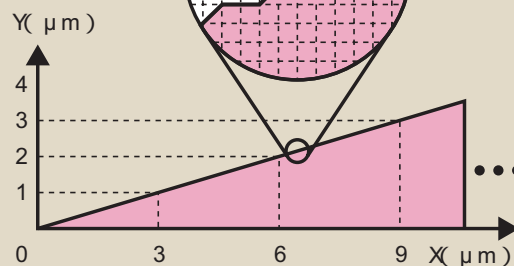


### Tapering at an X:Y ratio of 3:1

Conventional Type



NANO Interpolation



### AI advanced preview control

AI advanced preview control realizes the optimum acceleration / deceleration of cutting speed by looking ahead multi-blocks of the part program. This effectively eliminates machining trajectory error in corners and small radius, and contributes the high speed and high accuracy machining.

### AI contour control

0i only

AI contour control realizes more high speed and high accuracy machining by extending looking ahead multi-blocks and applying more smooth acceleration/deceleration.

### Machining condition selecting function

Desired machining can be achieved easily by tuning between highest velocity and highest precision.

Highest Velocity

Precision Level 1

Precision Level 5

Precision Level 10

Highest Precision

PR-LEV	SLCT(AICC)	00000	N00000
X	AXIS PREC LEV	1	VELO(1)-PREC(10)
	ACC FOR BIPL	4901.960	(MM/S/S)
	MAX ACCELERATION	3463.000	(MM/S/S)
	T-CON AIPL ACC/DEC	64	(MSEC)
	CORNER FEED DIFFER	10000.000	(MM/MIN)
	MAX CUT FEEDRATE	16000.000	(MM/MIN)
	NUMBER 2109	8	
	NUMBER 2143	8	

PR-LEV	SLCT(AICC)	00000	N00000
X	AXIS PREC LEV	5	VELO(1)-PREC(10)
	ACC FOR BIPL	3186.395	(MM/S/S)
	MAX ACCELERATION	2188.333	(MM/S/S)
	T-CON AIPL ACC/DEC	49	(MSEC)
	CORNER FEED DIFFER	5733.333	(MM/MIN)
	MAX CUT FEEDRATE	13333.333	(MM/MIN)
	NUMBER 2109	18	
	NUMBER 2143	32	

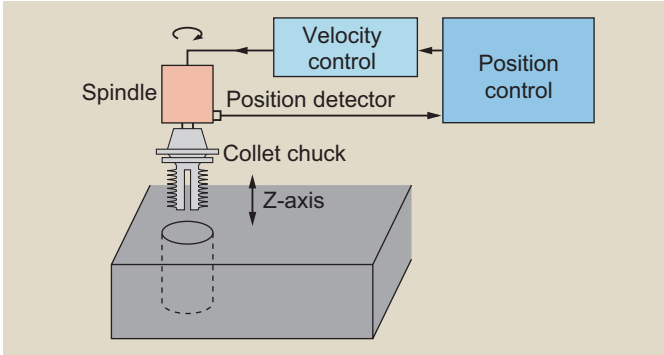
PR-LEV	SLCT(AICC)	00000	N00000
X	AXIS PREC LEV	10	VELO(1)-PREC(10)
	ACC FOR BIPL	1041.938	(MM/S/S)
	MAX ACCELERATION	595.000	(MM/S/S)
	T-CON AIPL ACC/DEC	32	(MSEC)
	CORNER FEED DIFFER	400.000	(MM/MIN)
	MAX CUT FEEDRATE	10000.000	(MM/MIN)
	NUMBER 2109	32	
	NUMBER 2143	64	

Precision level selection screen

# Enriched basic functions

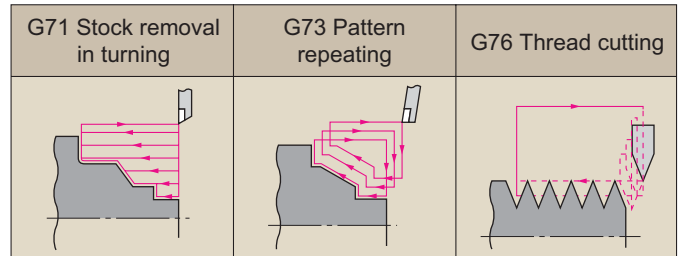
## Rigid tapping

By adopting the position loop in spindle control, the spindle motor is completely synchronized with the tap axis (Z-axis). The high speed and high precision tapping is realized.



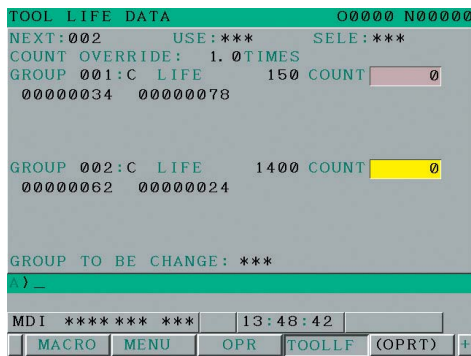
## Multiple repetitive cycle

The multiple repetitive cycles generate a series of cutting paths with simple commands. For instance, definition of final profile of workpiece generates tool path for rough cutting automatically. It simplifies the lathe programming.



## Tool life management

Tools can be classified into various groups, and the tool life and the tool numbers for each group can be arranged in the NC memory in the form of a table.

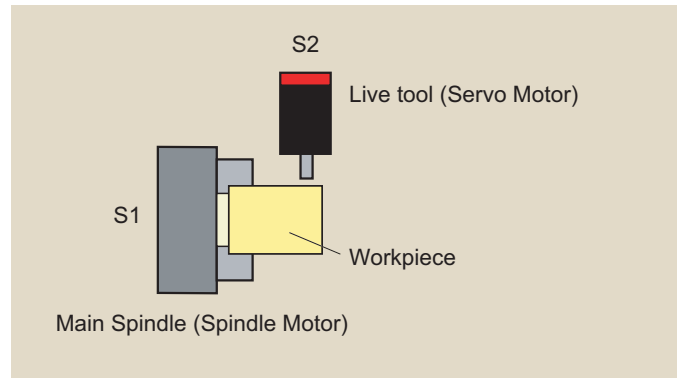


Tool life management screen

## Spindle control with servo motor

Oi only

Spindle functions such as rotation command of spindle and rigid tapping etc. are realized by servo motor.

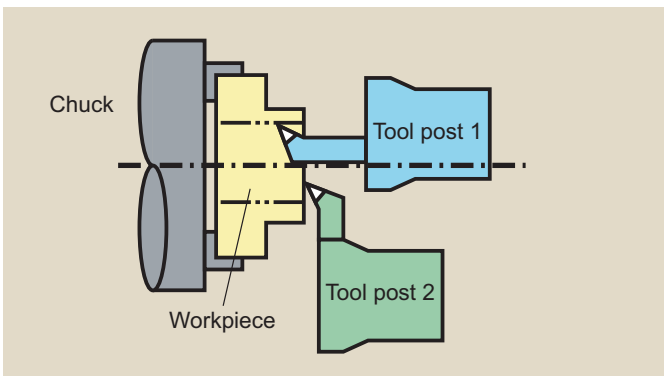


# Enriched functions for 2-path lathe

## Interference check for each path

Oi only

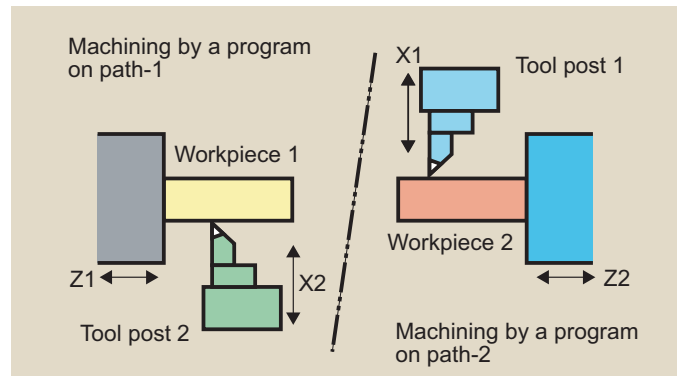
If the two tool posts interfere with each other due to a program error or any other setting error, they are stopped before interfering with each other.



## Composite Control

Oi only

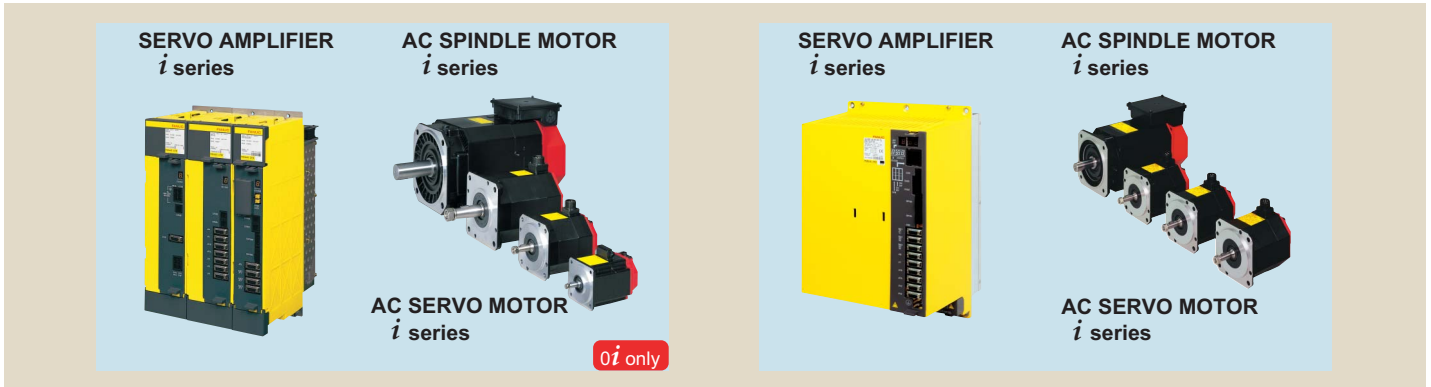
Move commands can be interchanged between an axis in one path and an axis in the other path.



# High performance

## Advanced digital servo technology

### Servo Motor System

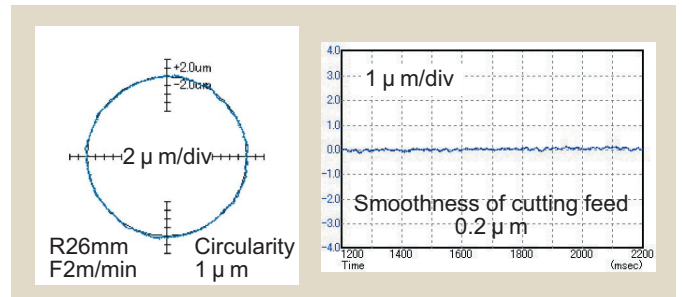


### SERVO HRV3 Control

#### High speed and high precision servo control

By combination of hardware technology such as "Servo motor with ultra smooth rotation", "Accurate current detection", "High response and high resolution Pulsecoder", and software technology such as the latest servo control HRV3 (as standard), high speed and high precision control with nano-meter level is ensured.

Mechanical resonance can be suppressed by Auto-following HRV filter even though its frequency is changed.

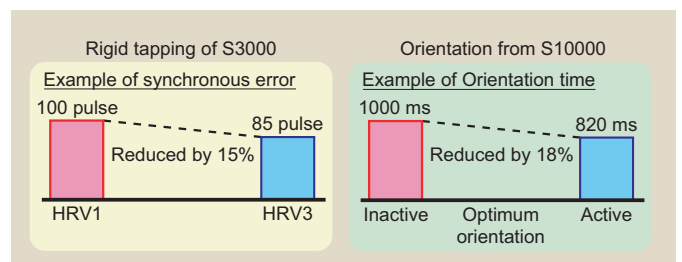


Application example of SERVO HRV3

### SPINDLE HRV3 Control

#### Quick acceleration and response spindle control

High response and high precision spindle control is achieved with fast velocity loop processing and high resolution detector circuit. In rigid tapping with high response control and feed-forward, reduced synchronous error and shorter cycle time are expected. Optimum spindle orientation minimizes orientation time, under condition of various load inertia also by making always full use of spindle motor torque.



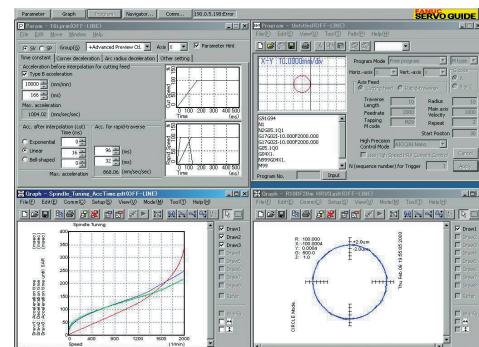
### FANUC SERVO GUIDE

#### Quick & Smart Tuning of Servo and Spindle

This software provides the integrated environment for making test programs, setting parameters, and data measurement needed for servo and spindle tuning. It is useful not only for servo tuning but also for the measurement of spindle characteristic.

It has substantial automatic tuning functions for gains, filters, and others.

With SERVO GUIDE, quick and smart optimization of servo and spindle can be achieved.

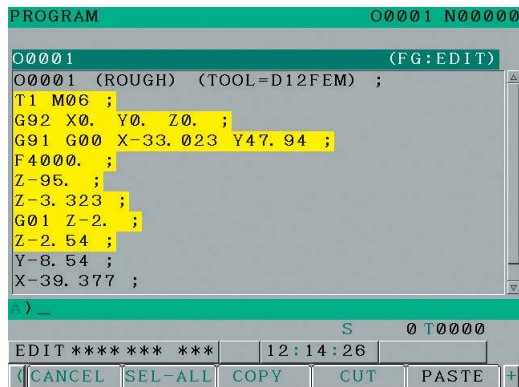


# Excellent Operation

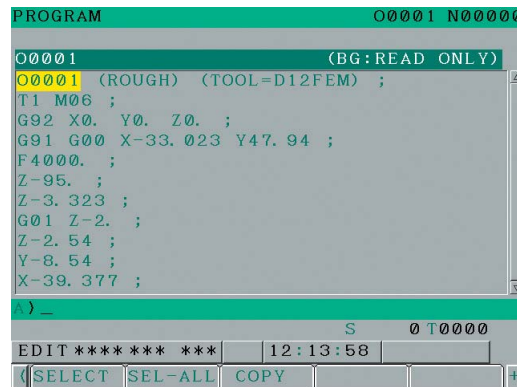
## User friendly operation and assistance

### Program Editing

The CNC program can be edited easily by PC like operation such as cut and paste. The operator can edit the CNC program efficiently. The operating CNC program can be confirmed safely by the reference mode of background editing.



Part program editing screen

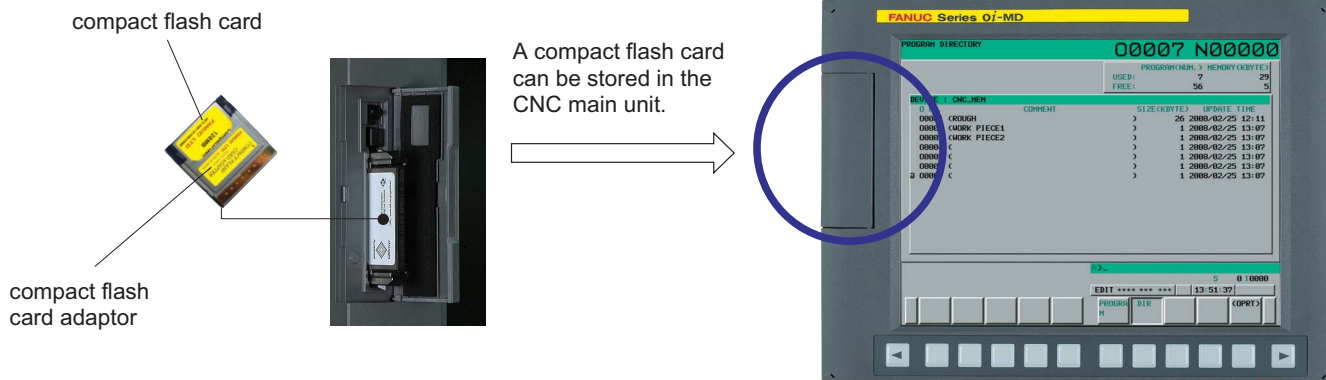


Background editing screen

### Memory Card / Data Server Editing · Operation

The programs stored in a memory card and Data Server can be edited by the CNC edit functions and can be executed as well as the programs in built-in CNC program memory. Memory card and Data Server can be used as large-capacity program memory together with built-in CNC memory.

Data Server is for 0i only



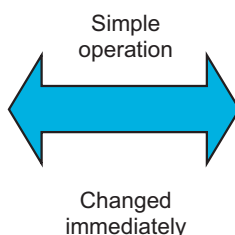
### Support of Multiple Languages and Dynamic Display Language Switching

If different operators display in different languages, the display language can be changed to another with a simple operation without turning the power to the CNC off. This function eliminates the need for stopping the machine at the change of operators, which improves work efficiency.

The CNC operation screen supports 18 languages.



Japanese display



English display

# Excellent Operation

## Integrated Operation & Programming Guidance with extremely simplified operations

### FANUC MANUAL GUIDE *i*

0i only

MANUAL GUIDE *i* is an integrated operation guidance, which provides handy operation guidance from programming through machine operation on one single screen. It can be applied to lathe, milling machine and machining center.

- Integrated Operating Screen
- Powerful Program Editing Functions
- Set-up Guidance
- Multi-path Lathe Functions

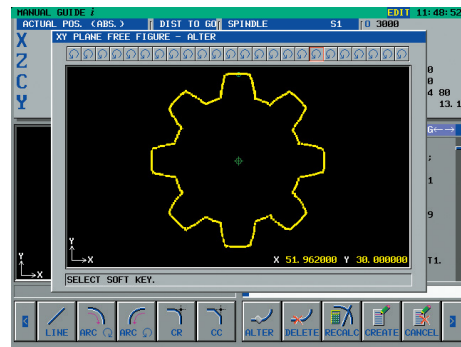
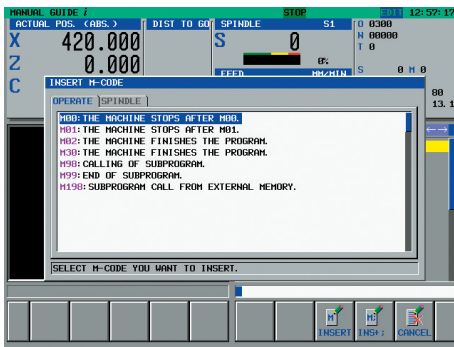
- ISO code part programming
- Various canned cycles
- Realistic Machining Simulation

### Powerful Program Editing Functions

In order to support the program editing operations at shop floor, following powerful editing functions are prepared.

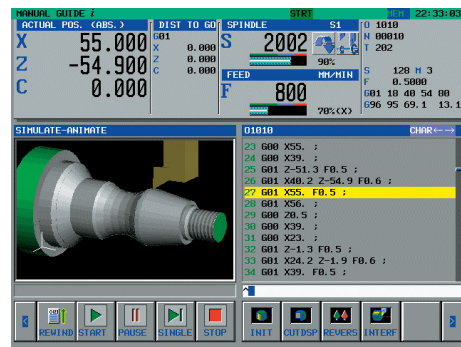
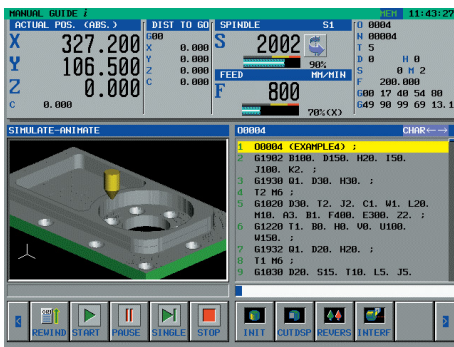
- Cut, Copy & Paste
- Fixed form program menu
- Contour programming

- Guidance message
- M-code menu



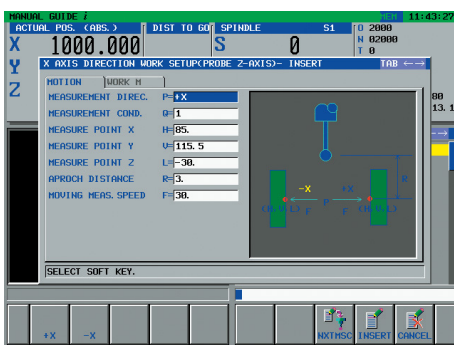
### Realistic Machining Simulation

Machining program can be checked easily by animated drawing or tool path drawing.



### Set-up Guidance Function

Simple instructions on screen enables measuring of work-piece setting error, tool offset value and machined work-piece.





# Programming Guidance with extremely simplified operations

## FANUC MANUAL GUIDE 0i

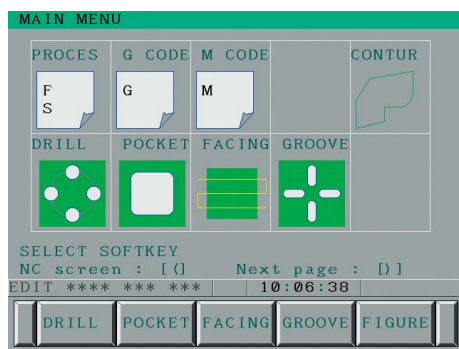
MANUAL GUIDE 0i is a part programming operation guidance, which is concentrated to the functionality for creating a part program, and it pursues the extreme simple operation. It can be applied to lathe, milling machine and machining center.

ISO code part programming  
Contour programming

G-code and M-code assistance  
Various canned cycles

### ISO code part programming

MANUAL GUIDE 0i adopted ISO code program for its part program language. Simple motion such as line and arc are entered by G-code directly, and complex motions such as pocket machining and drilling patterns can be entered easily by cycle machining blocks.



# Integrated Operation Guidance for NC program-less conventional lathe machining

## FANUC TURN MATE i

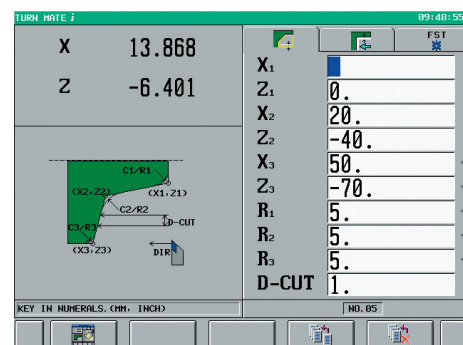
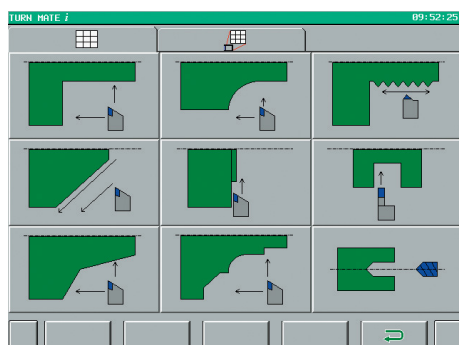
TURN MATE i has accomplished NC program-less turning operation for conventional lathe. It is possible to carry out turning easily only by following guidance drawings on screen and inputting data.

Plain all in one screen  
Various canned cycles  
Sequential execution of canned cycles (Max. 20)

Application to display with and without touch panel  
NC program conversion function of canned cycles

### Various canned cycles

All necessary cycles for conventional lathe are covered. Patterning turning contours which often appear on drawings, input operation for contours can be saved. User friendly guidance drawing helps you to input cycle data.



# Network Support Functions

With plenty of network functions, you can construct an optimum system for a CNC machine tool.

## Embedded Ethernet

0i only

Embedded Ethernet of 100 Mbps is supported as a basic function. CNC can be connected to a personal computer to transfer NC programs and monitor CNC status.

Inserting a PCMCIA LAN card into the slot on the side of a display unit allows simple connection to a personal computer for the adjustment and maintenance of a machine. (PCMCIA LAN card is available for 0i Mate also)

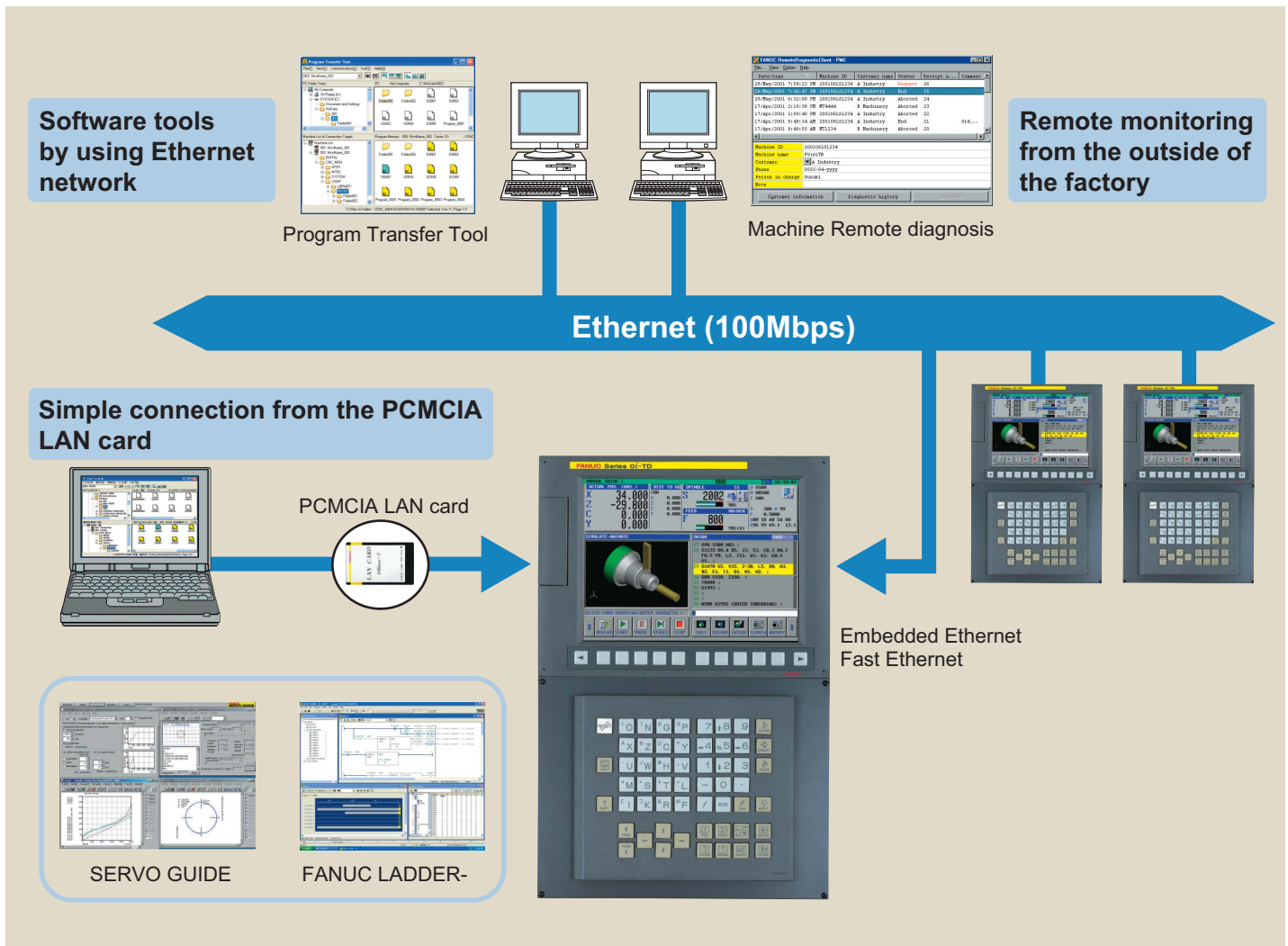
## Fast Ethernet

0i only

Fast Ethernet board can be mounted as an option.

High-speed and stable communication is realized by Ethernet dedicated processor on the option board.

Data can be transferred simultaneously among multiple computers at a high speed. These features are suited to construct a production system which exchanges information among machining lines and factory host computer.



## Field Network

0i only

PROFIBUS-DP (Master/Slave)

Field network conformed with the European Standards (EN50170), realizes fast I/O transfer at 12Mbps. The network is connected freely to a PLC having PROFIBUS.

## Fast Data Server

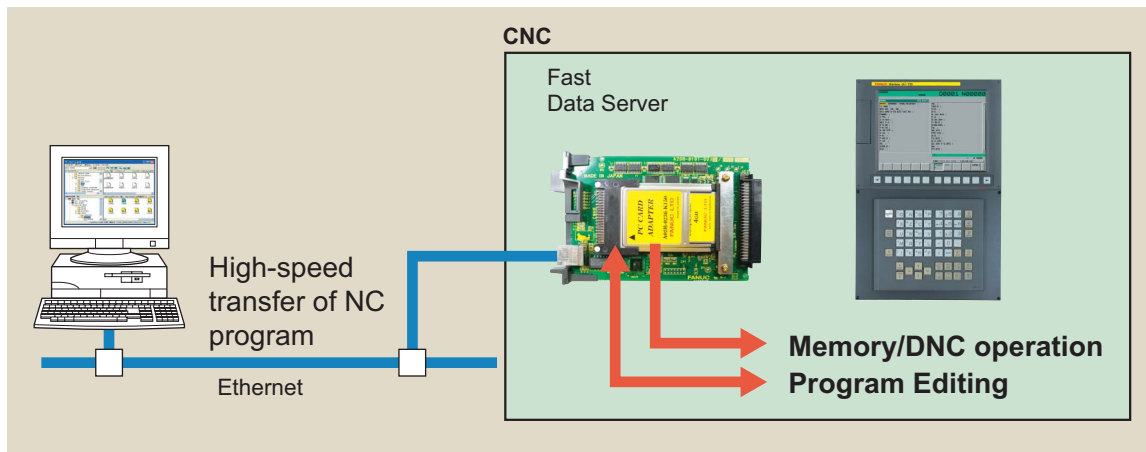
07 only

Programs can be stored in the built-in compact flash card in the Fast Data Server for machining.  
Other Ethernet functions can be used simultaneously with operation of Data Server.

Part programs can be transferred between a personal computer and Data Server at a high speed via Ethernet.  
CNC parameters, tool information files, and other data can also be transmitted.

Memory operation can be performed using macro statements and subprogram stored on the compact flash card. DNC operation can also be performed from a personal computer.

A program stored on the compact flash card can be edited.



## System Construction Support Functions

07 only

Plenty of functions are available for system construction using Ethernet.

### FOCAS2 Library

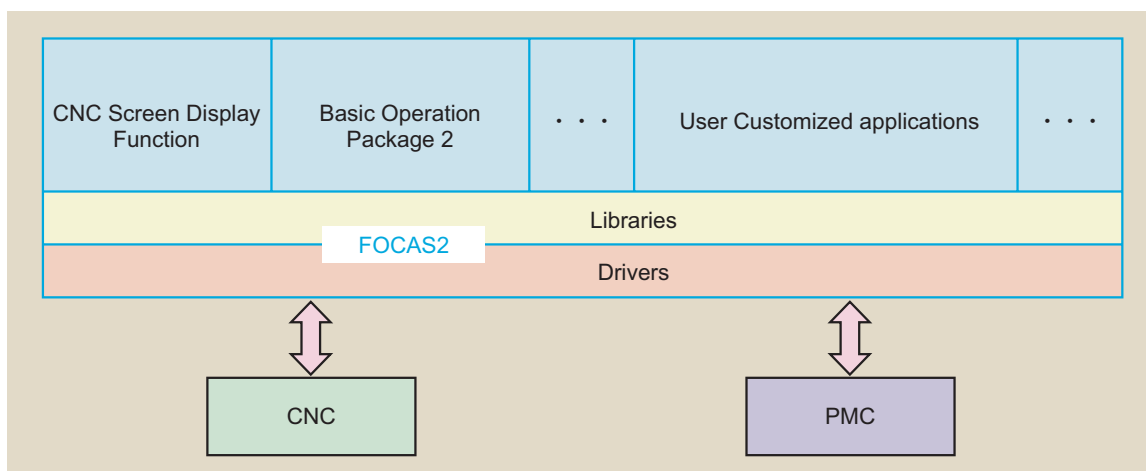
FOCAS2 functions are provided to handle the data of CNC/PMC.  
The users can make their own applications using FOCAS2 Library.

### CNC Screen Display Function

The standard CNC screens can be displayed on a personal computer's display by this function. (Fast Ethernet is applied)

### Basic Operation Package 2

This application software enables the users to display, input and maintenance of CNC/PMC from the personal computer. Machine tool builders can customize many screens such as status display, position display, program editing, and data setting, easily by themselves.



# Powerful built-in PMC

## Built-in PMC function

### High-speed and large capacity ladder

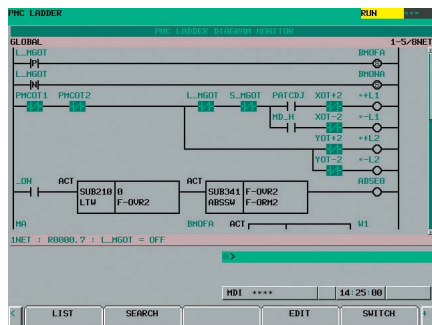
The large capacity built-in PMC, with Max. 32,000 ladder steps for 0i package A or Max 8,000 ladder steps for 0i package B and 0i Mate, is available for complex sequence control of machine and peripheral devices. The PMC and the CNC are connected with high-speed internal bus closely and this enables to transfer various data between PMC and CNC at a high speed.

### Extended PMC Ladder Instruction function

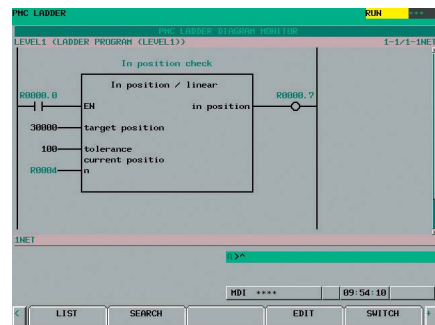
The enhanced computation instructions enable to program complex sequence control of machine into a simple ladder circuit with high readability. The new function helps reduce redundant descriptions of relay contacts and coils, thereby reducing the number of nets and steps of ladder program. The enhanced PMC function enables to correspond flexibly to an abundant array of machine sequence control requirements and realizes efficient ladder development and maintenance by machine tool builders.

### Function Block function

This function enables to call up repeatedly used ladder circuit patterns in blocks. By combining multiple Function Blocks, machine tool builders can create complex ladder programs more efficiently, as if assembling components, with fewer steps for ladder program development and fewer ladder diagram drawings for maintenance.



Extended PMC Ladder Instruction function



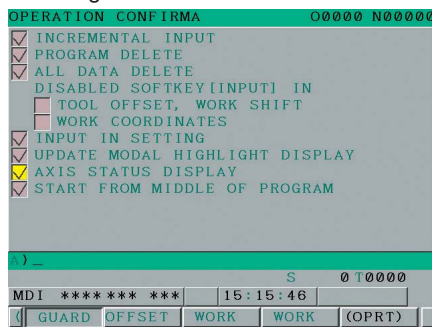
Function Block function

# Positive Safety Measures

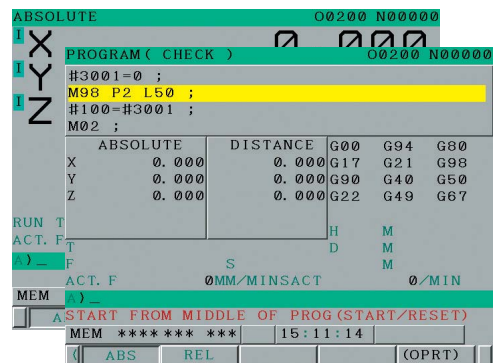
## Prevents unintentional operator errors

### Prevention of Operator Errors

Various types of checks are made and many confirmation messages are displayed for CNC operation, which prevents unintentional operator errors from occurring.



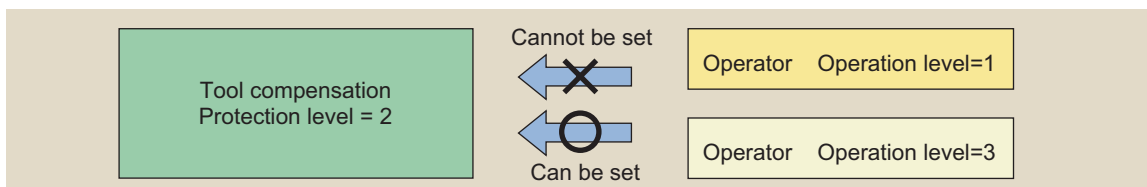
Setting Screen



Axis status display and reconfirmation of program start

## Protection of Data at Eight Levels

If operators having different degrees of skill operate the same machine, data can be protected from operators unfamiliar with operation. Operators are classified into eight levels of skill and each types of CNC data are also classified into eight levels of protection. When an operator attempts to change data or output it to an external unit, the operator cannot change or output data if the operator level is lower than the data protection level.



# Plenty of Customize Functions

## Customize the machine tools uniquely

Customizing operation screens



C language executor / FANUC PICTURE

Customizing machining and measuring cycle



Macro executor

Implementing original sequence control based on PMC



FANUC LADDER-

## C language Executor

Machine tool builders can create their own operation screens, which enables unique CNC display and operation.

C language is used for programming.

Operation screens using the touch panel can be also created.

In addition to standard ANSI functions, many functions are available for CNCs and PMCs.

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## FANUC PICTURE

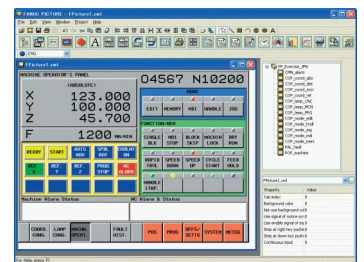
FANUC PICTURE enables a machine operation screen to be created only by pasting screen components such as buttons and lamps on the personal computer.

An easy-to-use user interface that is unique to FANUC and close to the operability of Visual Basic is provided.

A screen usable on a display unit with and without a touch panel can be created.

A created screen is executed by the C language executor.

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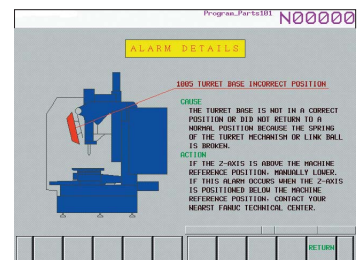
## Macro Executor

CNC functions can be customized to a high degree.

The user-friendly macro language is used for programming.

Machine tool builder's own operation screens can be created.

Machine tool builder's own canned or measuring cycle can be created as a macro called by an M or G code.



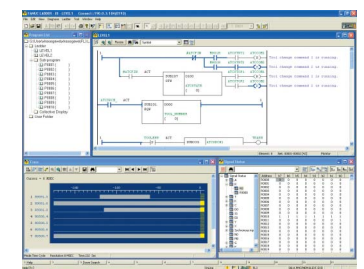
## FANUC LADDER-

For machine customization, a machine tool builder's own sequence control can be incorporated into the built-in PMC. A PMC sequence program can be created on the personal computer by using FANUC LADDER-, the highly easy-to-use programming tool with many useful functions.

A program can be created with ladder and function block.

A program can be coded using signal names instead of signal addresses.

Online monitoring and editing can be performed by connecting the personal computer with the CNC via Ethernet. (PCMCIA LAN card is necessary to connect with 0i Mate.)

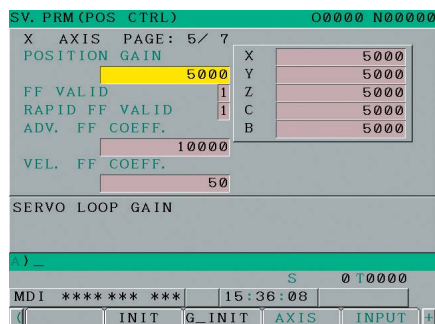


# Easy Setup and Maintenance

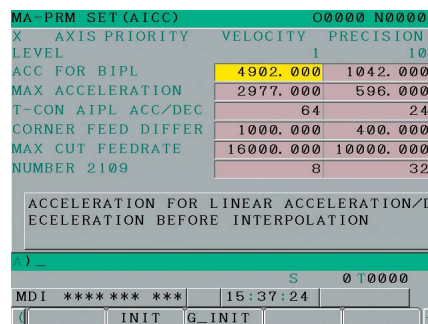
## Powerfully support Startup and Tuning of CNC system

### Parameter Setting Support Screen

Parameter Setting Support Screen powerfully supports the necessary parameter setting for start-up and adjustment of CNC, Servo and Spindle. In menu screen, various setting and adjustment screens are selected by the cursor operation, and the parameter is set on each screen.



Servo parameter setting screen

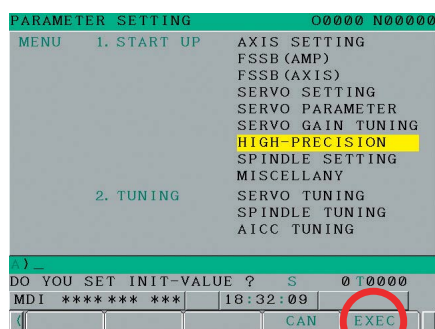


Machining parameter setting screen

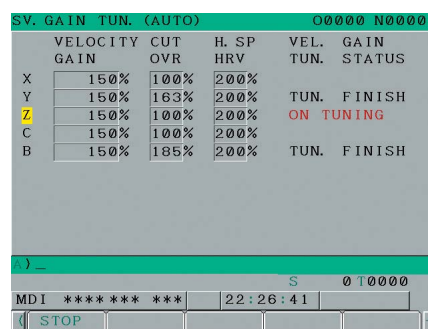
### “One-shot setting” for Servo axes and “One-shot tuning” of Velocity gain

The recommended parameters for high speed and high precision machining can be set only by pressing soft-key once. Practically enough precision can be achieved with only this “One-shot setting”.

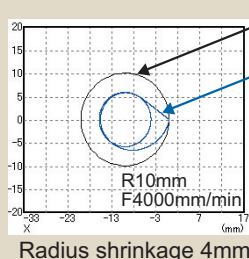
If higher precision is required, stable and optimum velocity gain for each machine can also be set automatically by only pressing soft-key for Parameter Tuning of Velocity Gain.



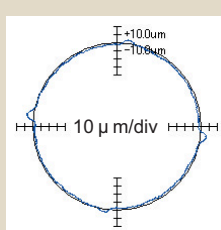
Menu screen



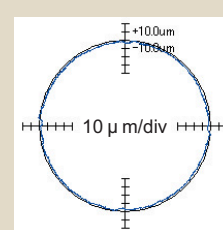
Velocity gain tuning screen



Before applying Parameter Setting for High Precision



After applying Parameter Setting for High Precision

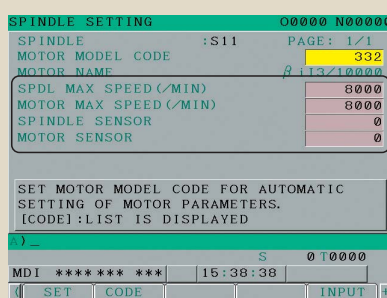


After applying Parameter Tuning of Velocity Gain

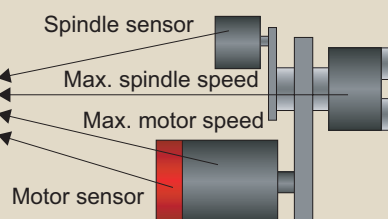
### “One-shot setting” for Spindle axes

The initial parameters for start-up of spindle can be set by “One-shot setting”. The necessary parameters are set automatically by inputting spindle configuration items, such as motor model, maximum speed, sensors.

This screen supports the initial setting also for the optimum orientation function and the parameters for high speed rigid tapping.



Spindle parameter setting screen



Machine component

# In case of fault, quick solution of the problem is supported

## Automatic Data Backup

Various types of data including parameters and offsets that are stored in battery-backed SRAM are saved in the built-in flash memory which is not erased when the power is turned off. If the battery is exhausted and data is erased, easy data recovery is allowed.

Following method can be selected. And data backup by the manual operation is also available.

- Backup at every turning on the power
- Backup at periodically turning on the power

## Saving and restoring by memory card

CNC data such as parameters, part programs and offset data, can be saved to the memory card on the front of the LCD unit with easy operation, and are also restored conveniently from it for recovering CNC memory.

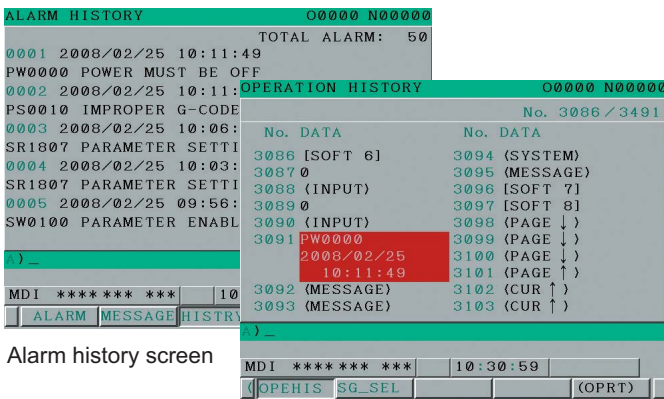


Memory card



## Alarm history and operation history

Alarm and operation status is recorded automatically in the non-volatile CNC memory and can be used for diagnostics.

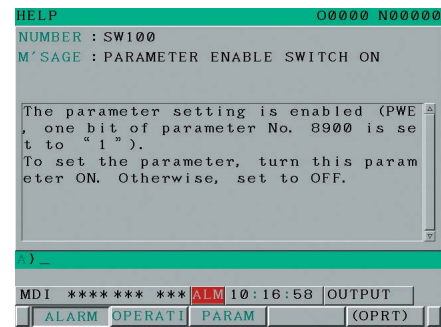


Alarm history screen

Operation history screen

## Help function

Help function shows an operator for details and countermeasure of any CNC alarm.



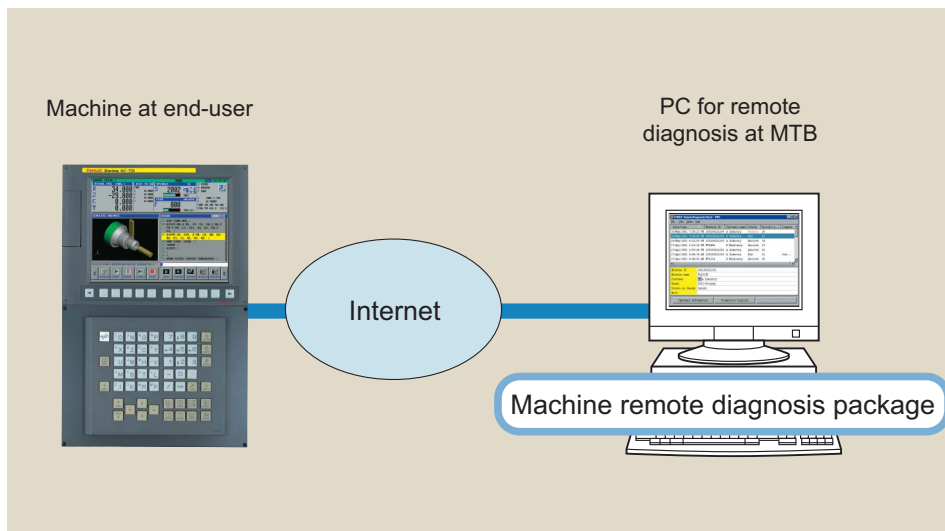
Alarm help screen

## Remote Diagnosis

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Remote diagnosis using Internet communication is supported. Using a machine remote diagnosis package software, machine tool builders can easily construct remote machine maintenance systems.

You can check the status in which a problem occurs without going to the site, which can reduce the machine down time. Machine tool builders can also improve the efficiency of service operations.



# Powerful Software Tools

Development by machine tool builders is supported in a variety of fields such as simulation and data management.

## Simulation Tools Supporting Utilization of High-Level CNC Functions

Software tools for CNC operation simulation on the personal computer are provided to fully utilize the ever advancing CNC functions. Two types of packages are available to meet applications:

For CNC operation training



FANUC NCGuide

For application software development



FANUC NCGuidePro

## FANUC NCGuide (Training tool that enables learning of CNC/MANUAL GUIDE *i* operations)

The FANUC NCGuide is a software tool that enables training of CNC/MANUAL GUIDE *i* operations on a personal computer without using an actual CNC. This software tool allows operators to be trained without using an actual machine tool. This software tool can also be used for CNC training in school.

With the machining simulation function of the MANUAL GUIDE *i*, machining programs can be checked more easily. Furthermore, this software tool can be used for CNC training involving many people in school through network licensing.

CNC and MANUAL GUIDE *i* training is possible.

Machining programs and machining cycles can be edited in the EDIT mode.

Automatic operation/operations in the MEM/MDI mode are possible.

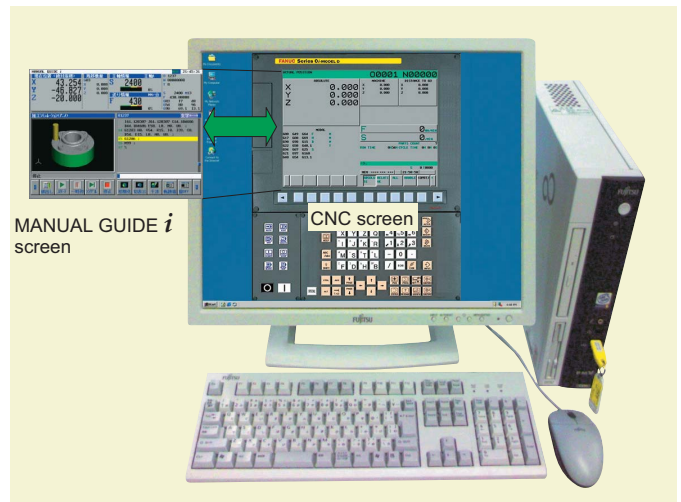
Machining simulation (animated simulation and tool path drawing) is possible.

An MDI unit can be displayed on the personal computer screen and can be directly operated using the mouse.

8.4-inch, and 10.4-inch color display unit and MDI unit with standard ONG (M series/T series) are supported.

Various CNC data items can be input to and output from folders on the personal computer.

Network licensing is supported to enable the NCGuide to be executed on multiple personal computers connected via a LAN.



## FANUC NCGuidePro (Development tool that supports PMC ladder and customized software debugging)

The FANUC NCGuidePro is a development support tool that enables ladder to be executed on a personal computer, with a PMC simulation function added to the NCGuide. Ladder can be efficiently debugged with a machine signal simulation function and a PMC simulation function interacting with the CNC simulation function. Moreover, the C language executor and macro executor can be executed, so that this development support tool can be used to debug a custom screen created by a machine tool builder.

PMC ladder can be executed on PC.

Ladder debugging operation interacting with the CNC simulation function is enabled.

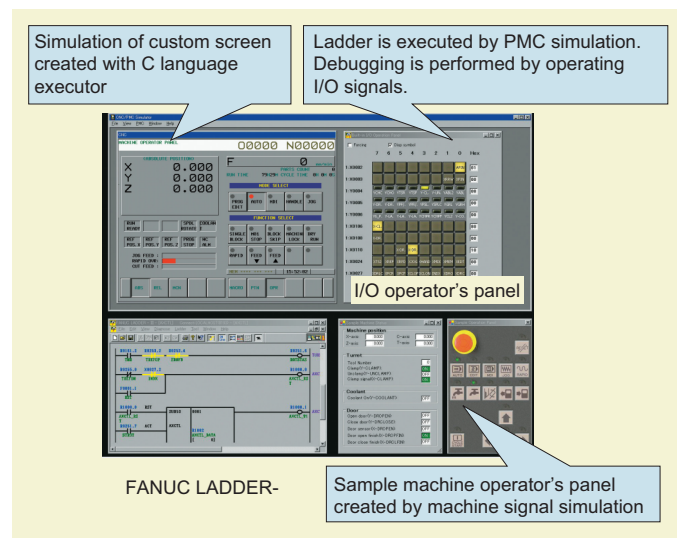
Ladder editing and display interacting with FANUC LADDER- are possible.

PMC axis control simulation is possible.

With a machine signal simulation function, ladder debugging can be performed in an environment close to an environment where a machine is actually used.

Customized software created with the C language executor/FANUC PICTURE/macro executor can be executed.

Source-level debugging of C language executor programs is possible.





## FANUC CNC Setting Tool

The FANUC CNC Setting Tool is a software tool for setting up and managing CNC parameters on a personal computer. Parameters are classified by CNC function and displayed as a list. When an item to be input is selected, a detailed explanation is displayed. At the time of input, the unit corresponding to the parameter is displayed, and a range check is made. The parameters of multiple machines can also be managed on a dedicated screen. Thus, parameters can be set and managed efficiently without referring to the manual.

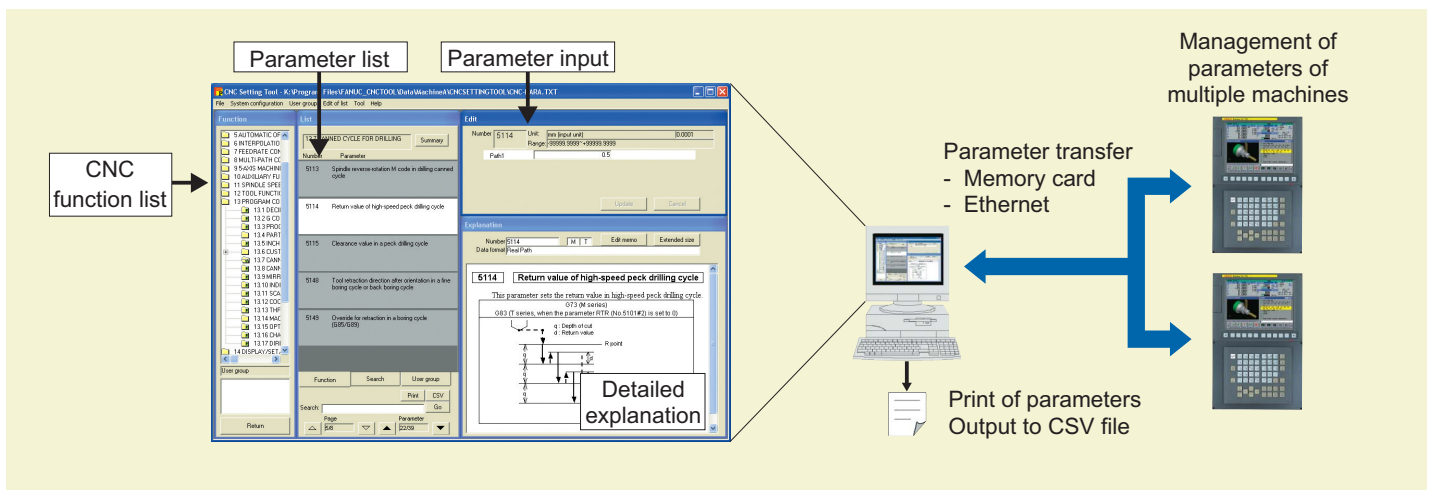
Parameters are classified by CNC function and are displayed and edited. The customers can manage the parameter flexibly according to the classification of the parameter they request.

The CNC system configuration, basic servo settings, and FSSB configuration are displayed in a table format for easy reference.

The difference of two parameter files can be displayed for checking the incorrect settings easily.

The value of a specified parameter can be printed with a simple description of the parameter. The information can also be output to a CSV file.

A parameter file can be divided into modules according to axes, spindles, or specified parameters, and the modules can be combined and integrated into a new parameter file (Module management option).



## FANUC Program Transfer Tool

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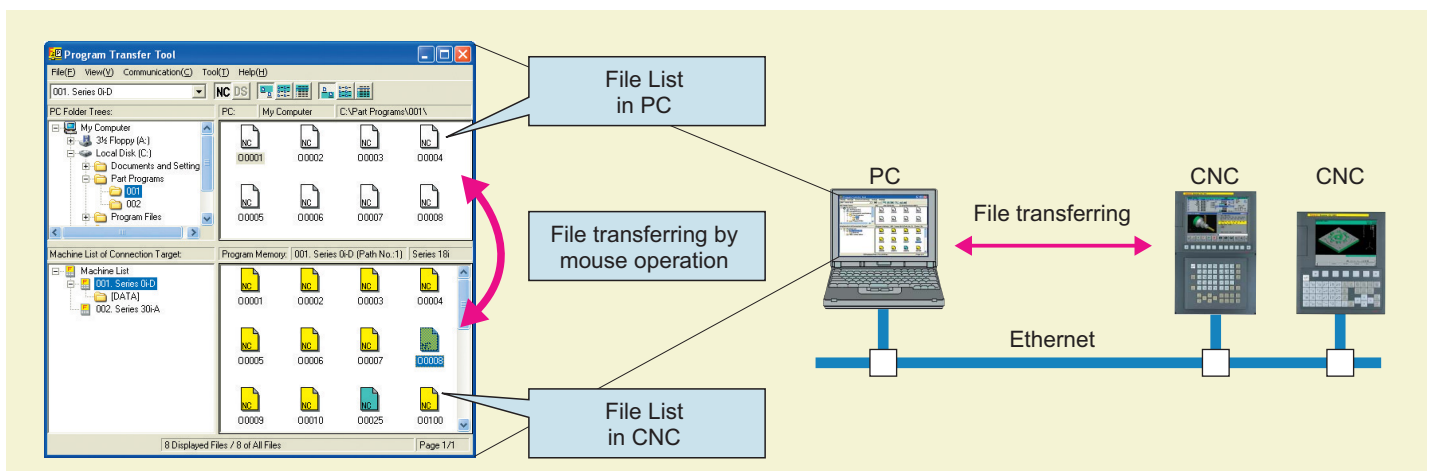
The FANUC Program Transfer Tool is a PC software tool for transferring part programs and data by connecting PC and CNC by Ethernet.

Files and folders in CNC Program Memory and Data Server are displayed on a PC for easy reference.

This tool enables operators to transfer part programs, tool offset, workpiece origin offset, and custom macro variables by easy mouse operation.

CNC data can be transferred from/to one CNC which is selected from up to 255 CNCs.

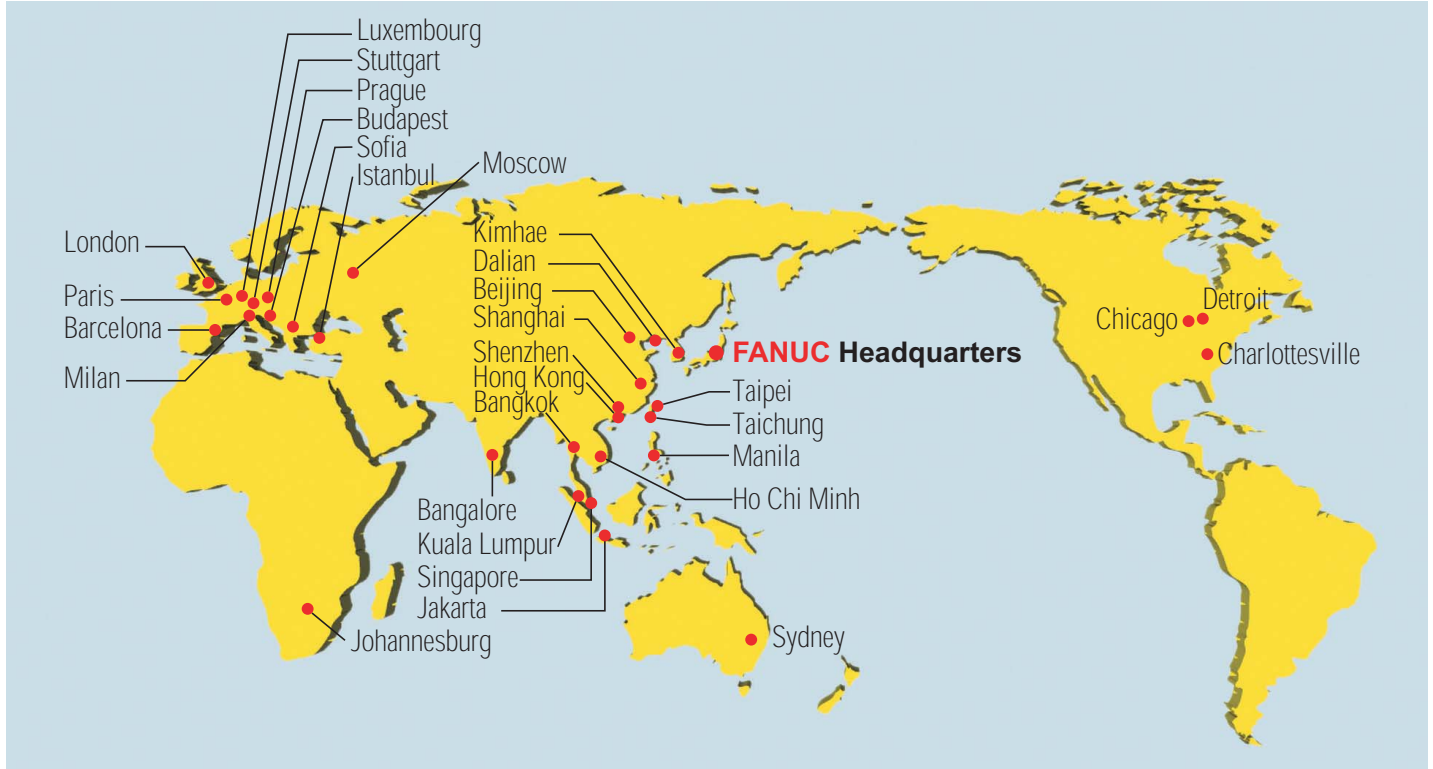
The tool has the configuration dialog menu which sets CNC model and the number of paths into itself automatically and checks the communication, so CNC can be connected easily.



# Maintenance and Customer Support

## Worldwide Customer Service and Support

FANUC operates customer service and support network worldwide through subsidiaries and affiliates. FANUC provides the highest quality service with the prompt response at any location nearest you.



## FANUC Training Center

FANUC Training Center operates versatile training courses to develop skilled engineers effectively in several days.

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