FACTORY AUTOMATION

NUMERICAL CONTROL (CNC)
Software Tools

CNC Software Tools

Development Tools

Design

NC Servo Selection —— P3

NC Designer2 —— P4
(Screen Design)

NC Trainer2 plus —— P5
(Customization Support)

Setup

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(Training Tool)

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MITSUBISHI ELECTRIC

CNC

The Best Partner for Your Success

Products
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NC Servo Selection

Charge-free

NC Designer2 (Screen Design)
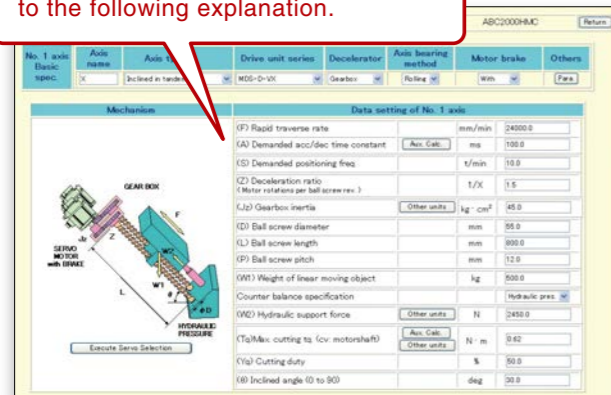
| M800 | M80 | E80 | M700V | M70V | E70 |

Of the various types of servo motors,
which one is the best for my machine?

What helps to create an original screen
to differentiate the machine?
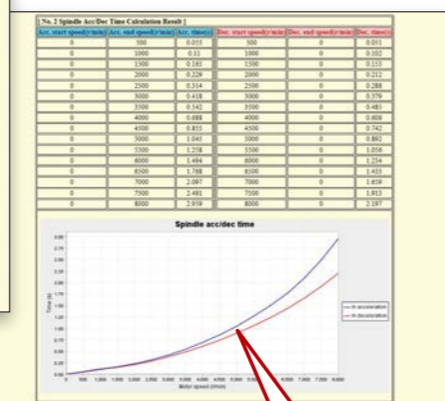
Find it with NC Servo Selection!

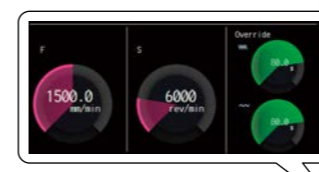Set the machine constants according to the following explanation.

Servo motor selection

Calculation results of the spindle acceleration/deceleration times

The spindle acceleration/deceleration times are shown in a graph.

Input the machine constants for **selection of the optimum servo motor.**
This function automatically calculates spindle acceleration/deceleration times and **selects the optimum power supply unit.**

■**Main functions**
●Servo motor capacity selection
●Spindle acceleration/deceleration time calculation
●Power supply unit selection
●Power supply facility capacity calculation
●Multi-axis drive unit combination function
●Saves selected data

Easy to make with NC Designer2!

Combine the parts to customize the screen without programming.

Easy to make a trend graph

(Note) The trend graph is the control dedicated to M800/M80/E80 series.

We provide **a developmental environment where the MTB can customize screens easily.**
Two types of screen development methods are available; the interpreter system (programming without C++) for simple screen development, and the compiler system (programming with C++) with a complex controller.

■**Main functions**
●**Registration of screen created in CNC menu**
Screen created with NC Designer2 can be registered in the main operation, setup and editing menus.

●**Easy to create custom screens with template function and macro function**
Screens can be created easily by using MITSUBISHI standard screen templates.
Various original processes can be added easily by using macro language instead of C language.

●**C Language Library strongly supports in screen development**
Besides drawing, this function strongly supports event controls such as mouse and key operations and the window function indispensable for creating GUI such as window system, etc.

NC Servo Selection　Main specifications

OS supported	Windows® 8.1/Windows® 10
	★Supports 32-and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese

NC Designer2　Main specifications

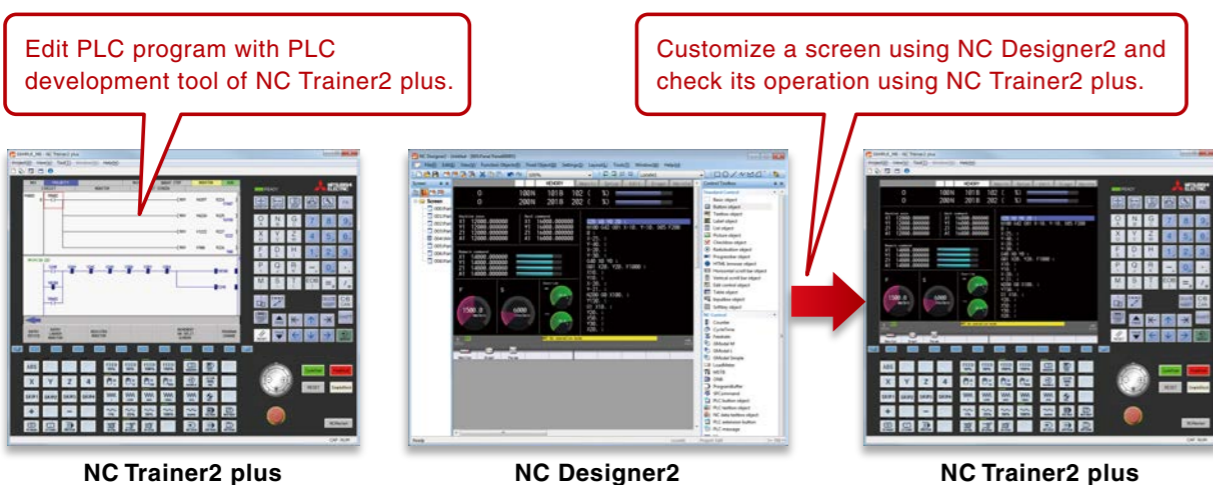| OS supported	Windows® 8.1/Windows® 10
	★Supports 32-and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese
Languages supported for original screen	English/Japanese/German/Italian/French/Spanish/
	Simplified Chinese/Traditional Chinese/Korean/Portuguese/Hungarian/
	Dutch/Swedish/Turkish/Russian/Czech/Polish/Indonesian
CNCs supported	M800/M80/E80/M700V/M70V/E70 Series

NC Trainer2 plus (Customization Support)

| M800 | M80 | E80 | M700V | M70V | E70 |

NC Configurator2 (NC Parameter Setup)

| M800 | M80 | E80 | C80 | M700V | M70V | E70 | C70 |

Free version is limited in function

How can I check the operation of customized screens or PLC programs, etc. be conducted on my computer?

It is hard to setup each parameter using the manual…

Debugging is easy with NC Trainer2 plus!

Easy setup using NC Configurator2!

Edit PLC program with PLC development tool of NC Trainer2 plus.

Customize a screen using NC Designer2 and check its operation using NC Trainer2 plus.

Check the contents of the parameters in the help section.

NC Trainer2 plus　　**NC Designer2**　　**NC Trainer2 plus**

Check and setup the parameter list using a computer.

NC Configurator2

NC Trainer2 plus supports customization development; it helps to program **the ladder programming of the user PLC to be developed by machine tool builders and debug it and check the operations of customized screens.**

■Main functions
- Development support for customized screens. (Even if there is no NC device, it can be debugged using a computer.)
- Development support for user PLC (ladder)
- Provides machine operating environment (customized machine operation panel) that meets the specifications of the user's machine tool.

NC parameters required for NC control and machine operation **can be edited on a computer.**
Initial parameters can also be easily created by inputting the machine configuration.

■Main functions
- NC parameter setting/search
- Help (parameter explanation)
- Offline comparison of parameter input/output
- NC data input
- Printing

The following are included the full-mounted version.
- Parameter initial setting wizard
- Function parameters

NC Trainer2 plus　Main specifications

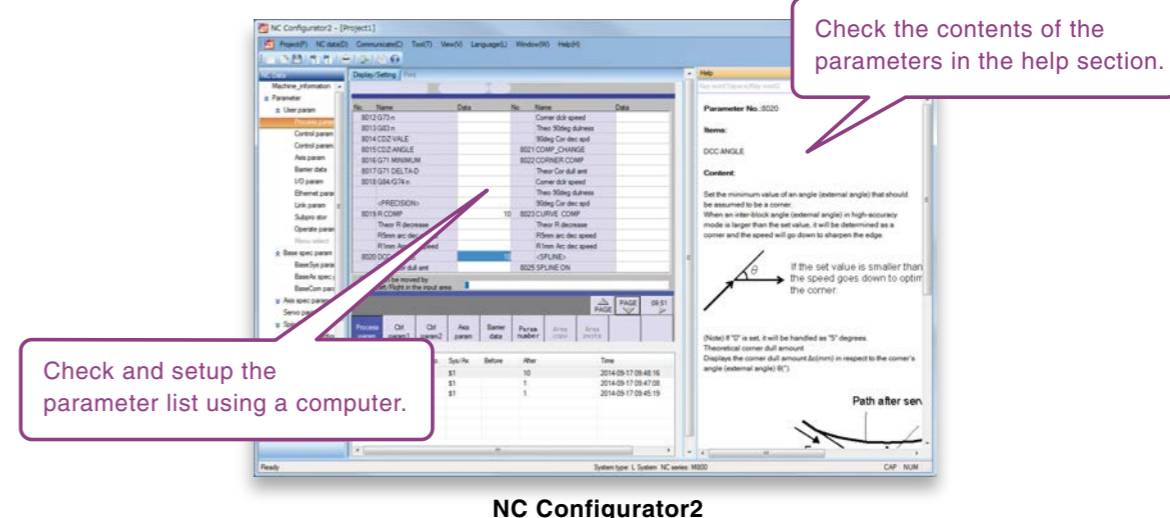| OS supported	Windows® 8.1/Windows® 10
	★Supports 32-and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese/Simplified Chinese/Traditional Chinese
CNCs supported	M800(equivalent to M830)/M80/E80/M700V(equivalent to M730V)/M70V/E70 Series
Operational environment	CPU: 2.66GHz or higher and processor with 2 or more cores
	Memory: 2GB or more
	Available hard disk space: 400MB or more (excluding the free space necessary for running the OS)
	Display resolution : FHD (1920×1080) or higher

NC Configurator2　Main specifications

OS supported	Windows® 8.1/Windows® 10
	★Supports 32-and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese/Simplified Chinese
CNC connections	CNCs supported : M800/M80/E80/C80/M700V/M70V/E70/C70 Series
	Connection configuration : Ethernet/RS-232C(parameter read/write in serial communication)/USB (C70 Series only)
	Connectable CNCs : 8 (max.)
Precaution	Free version has limited in functions.

NC Analyzer2 (Servo Adjustment)

M800	M80	E80	C80	M700V	M70V	E70	C70

NC Trainer2/NC Trainer2 plus (Training Tool)

M800	M80	E80	M700V	M70V	E70

Servo parameter adjustment sounds complicated…

I don't have a tool for measuring the machine's characteristics on hand...

How can I train myself in CNC operation without access to the machine?

Easy adjustment and measurement with NC Analyzer2!

Hone operating skills with NC Trainer2/NC Trainer2 plus!

Servo parameters are adjusted automatically

Results displayed in bode diagram

Adjusting with simple parameter settings

Education

Operation check

Results
- Put skills obtained into practice
- Smooth start-up
- Quick setup/machining

NC Analyzer2 helps the servo parameter settings by measuring and analyzing the machine's characteristics.
Measurement and analysis can be done by running a servo motor using the machining program for adjustment, or using the vibration signal.
This function can sample various types of data.

■**Main functions**
- Adjustment wizard
  Speed loop gain adjustment
  Notch filter setting
  Circularity adjustment
  Display adjustment
  progress
- Graph
  Bode diagram
  measurement display
  Servo waveform
  measurement
  Display waveforms
  before/after adjustments
- Project management
  Measured waveforms batch
  management

This is an application for operating the CNC screen and machining programs on a computer without the CNC control unit or a special display unit.
It can also be used for learning CNC operation and checking machining programs. The machining programs created on NC Trainer2/NC Trainer2 plus can be used on actual CNCs.

■**Main functions**
- Create projects that reproduce a variety of machining environments.
- Not only the NC screen, but also the NC keyboard and the operation panel are displayed on the computer.

NC Analyzer2　Main specifications

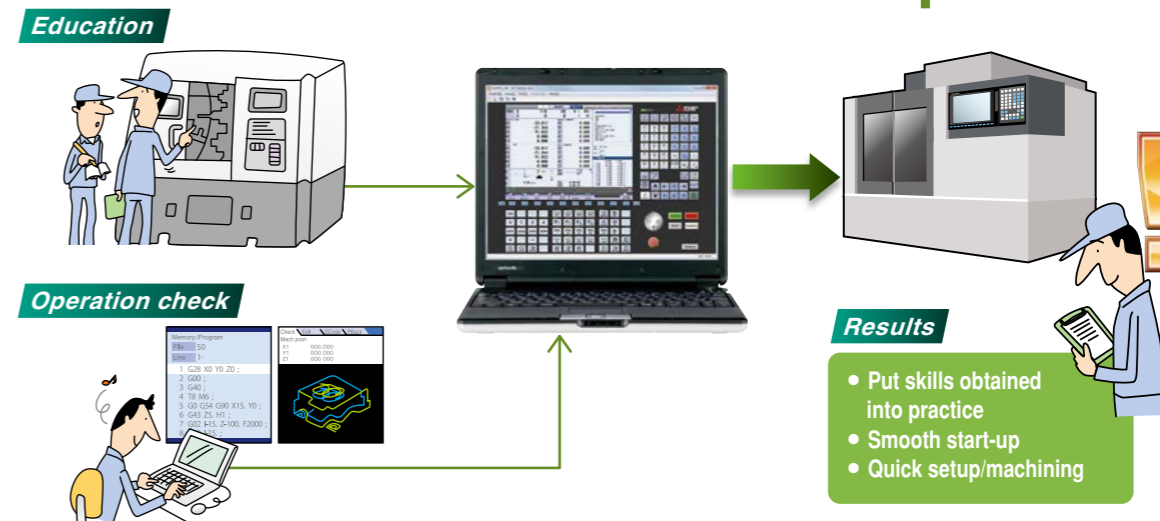| OS supported	Windows® 8.1/Windows® 10
	★Supports 32-and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese/Simplified Chinese/Traditional Chinese/Korean
CNC connections	CNCs supported : M800/M80/E80/C80/M700V/M70V/E70/C70 Series
	Connection configuration : Ethernet

NC Trainer2/NC Trainer2 plus　Main specifications

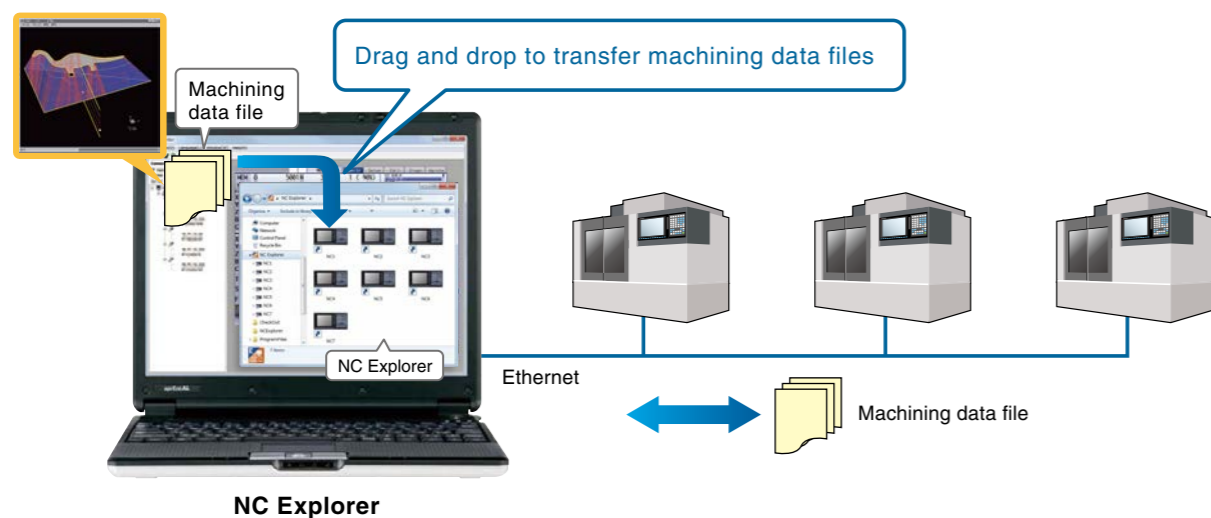| OS supported	Windows® 8.1/Windows® 10
	★Supports 32-and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese/Simplified Chinese/Traditional Chinese
CNCs supported	M800(equivalent to M830)/M80/E80/M700V(equivalent to M730V)/M70V/E70 Series
Operational environment	CPU: 2.66GHz or higher and processor with 2 or more cores
	Memory: 2GB or more
	Available hard disk space: 400MB or more (excluding the free space necessary for running the OS)
	Display resolution : FHD (1920×1080) or higher
Precaution	Before executing machining programs on an actual CNC, sufficient review should be conducted to prevent interference or any other errors.

NC Explorer (Data Transfer)

| M800 | M80 | E80 | C80 | M700V | M70V | E70 |

Charge-free

> How can I transfer data prepared
> on a computer to a CNC?

Easy data transfer using NC Explorer!

Drag and drop to transfer machining data files

Machining data file

NC Explorer

Ethernet

Machining data file

NC Explorer

CNC machining data file can be operated using Windows® Explorer on a computer when the computer is connected with multiple CNCs via Ethernet.

■ **Main functions**

● **Cooperation with Windows® Explorer**
Operational CNCs are displayed as folders on Windows® Explorer.
Drag and drop to transfer the files.

NC Explorer   Main specifications

| OS supported	Windows® 8.1/Windows® 10
	★Supports 32-and 64-bit OS (WOW64 available for 64-bit)
CNC connections	CNCs supported : M800/M80/E80/C80/M700V/M70V/E70 Series
	Connection configuration : Ethernet

NC Monitor2 (Remote Monitoring)

| M800 | M80 | E80 | C80 | M700V | M70V | E70 |

> How can I monitor a CNC on a computer in the office
> without visiting the factory?

Easy monitoring with NC Monitor2!

Monitor the status of multiple CNCs on one computer

Ethernet

NC Monitor2
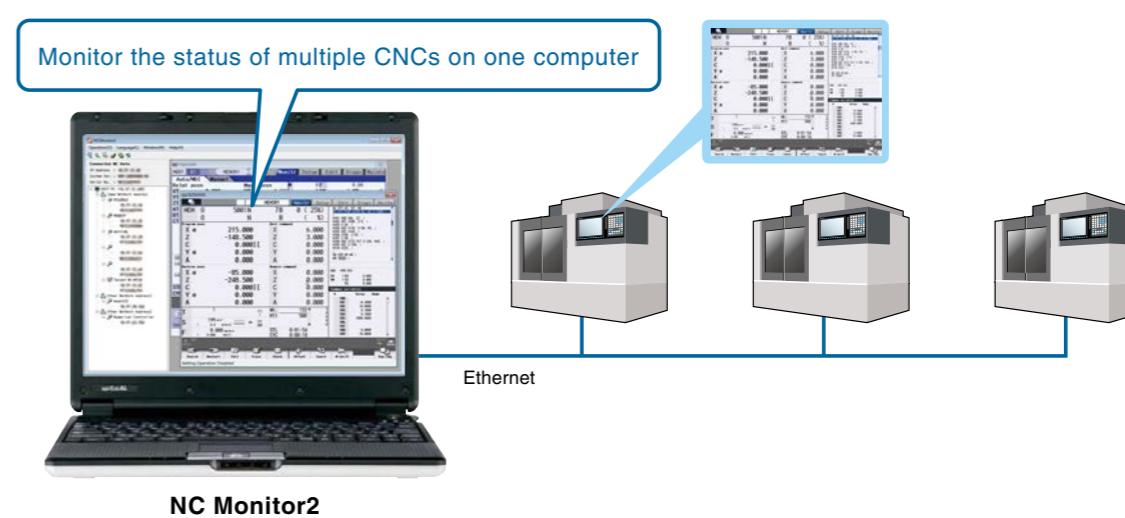
Taking advantage of the network in a plant, CNC operation status can be monitored from remote locations.
Several CNCs can be connected and monitored simultaneously.

■ **Main functions**

● **Adopts the same screen structure**
The monitoring display is constructed to mirror the CNC display unit is.
Note that the screen structure of 10.4-type display is applied when 15-type or 19-type display is connected.
Possible to select a monitoring screen that is not synchronized with display of the CNC in operation.

● **Limit display/setting operation of CNCs**
By setting parameters in a CNC, the availability of displaying and setting using this software can be restricted.

● **Connectable CNCs are automatically listed**
Connectable CNCs in a network group are automatically displayed in a list, and the CNCs can be connected by selecting them.

NC Monitor2   Main specifications

OS supported	Windows® 8.1/Windows® 10
	★Supports 32-and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese
CNC connections	CNCs supported : M800/M80/E80/C80/M700V/M70V/E70 Series
	Connection configuration : Ethernet
	Connectable CNCs : 10 (max.)
Precaution	Please use the Remote Monitor Tool for the C70.

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User support videos will be available, including how to backup/restore data and replace batteries as well as introduction to our products and technologies.
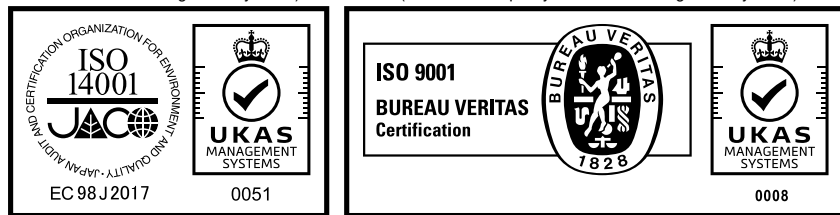
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⚠ Safety Warning

To ensure proper use of the products listed in this catalog, please be sure to read the instruction manual prior to use.

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ISO 14001
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