

NO: PC-341 **PRODUCT:** NJ, NX Firmware Update
DATE: March 2017 **TYPE:** Modification Notice

Firmware for NJ/NX Series Machine Automation Controller CPUs Updated to Version 1.14

Effective date: April 3, 2017 production

Reason for modification: This upgrade is intended to improve the performance and usability of the controllers.

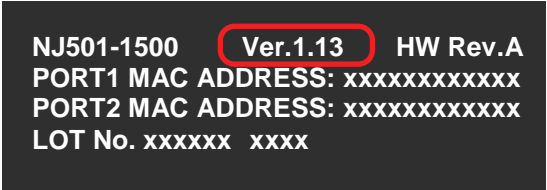
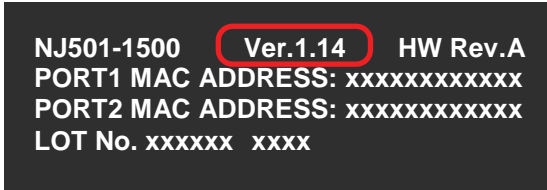


Affected Parts

Series	Type	Model	April 3, 2017 Version Release
NX701	Standard	NX701-1600/1700	1.14.00
NJ501	Standard	NJ501-1300/1400/1500	1.14.00
	Database	NJ501-1320/1420/1520	1.14.00
	SECS/GEM	NJ501-1340	1.14.00
	Robot	NJ501-4300/4400/4500/4310	1.14.00
	Robot + Database	NJ501-4320	1.14.00
NJ301	Standard	NJ301-1100/1200	1.14.00
NJ101	Standard	NJ101-1000/9000	1.14.00
	Database	NJ101-1020/9020	1.14.00
NX1P	Standards	NX1P2-□□□□□□□□/□□□□□□□□1	1.14.00

Changes

Product Label

Before the change	After the change
<p>Change in display of unit version on the label Ver.1.13</p>  <p>(Example: NJ501-1500)</p>	<p>Ver.1.14</p>  <p>(Example: NJ501-1500)</p>
<p>Change in display of unit version on the packaging Ver.1.13</p>	<p>Ver.1.14</p>

Functional Enhancement

The version of the firmware is upgraded to enhance the functions as described on the right.

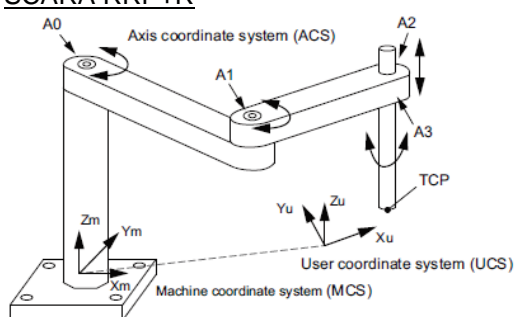
Memory Restoration

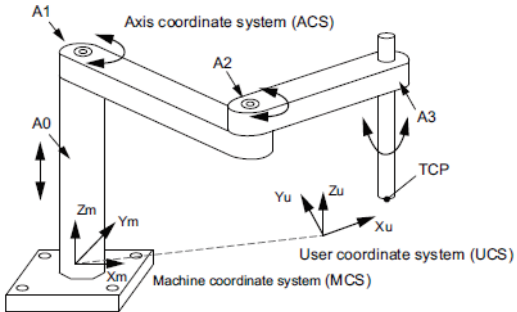
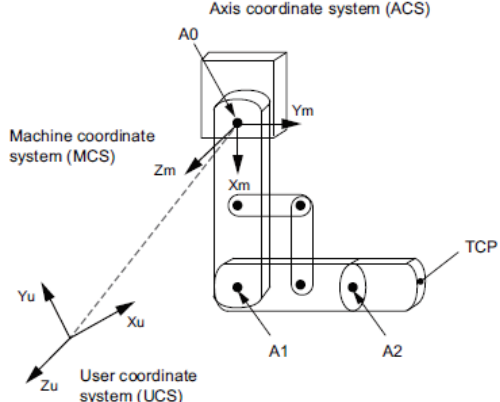
Before the change	After the change
<ul style="list-style-type: none"> In order to use the restoration function, either using CPU Unit's front switch or handling through PC connecting to Sysmac Studio was required. 	<p><New functions></p> <ul style="list-style-type: none"> The restoration of SD Memory Card Backup function can be conducted by using system-defined variable <i>_Card1RestoreCmd</i>. Selection of restoration target data group, which is one of the restoration functions, can be set by system-defined variables, and restoration is enabled in circumstances where CPU Unit's front switch or Sysmac Studio are not accessible.

EtherNet/IP Port IP Address

Before the change	After the change
<ul style="list-style-type: none"> By Controller restoration, Built-in EtherNet/IP port IP address setting (IP address, subnet mask, and default gateway) was always restored to Backup file settings. 	<p><New functions></p> <ul style="list-style-type: none"> Built-in EtherNet/IP port IP address setting can be out of scope of restoration. Since IP address setting is maintained, re-setting after restoration is not necessary. Also, multiple controllers with different IP address can be managed with 1 backup file.

SCARA Robot Kinematics

Before the change	After the change
	<p><New functions></p> <p>SCARA Robot (NJ501-4□□□)</p> <p>The machine coordinate system (MCS), user coordinate system (UCS) and tool coordinate system (TCS) can be used in serial link system mechanism.</p> <p>MC_MoveDirectAbsolute (This instruction moves the robot from current to target position using Joint Interpolated Point-to-Point Movement) is added for SCARA.</p> <p>Kinematics Types</p> <p>SCARA RRP+R</p> 

Before the change	After the change
	<p data-bbox="786 151 1166 184">Kinematics Types (continued)</p> <p data-bbox="844 214 1047 247"><u>SCARA PRR+R</u></p>  <p data-bbox="844 613 1218 646"><u>Expansion 1 (3 Axes serial link)</u></p> 

Details of Applicable Model

Models	Specifications
NX701-1700	Maximum number of controlled axes: 256 axes
NX701-1600	Maximum number of controlled axes: 128 axes
NX1P2-1140DT	Maximum number of controlled axes: 8 axes, Built-in I/O: 40 points NPN transistor
NX1P2-1140DT1	Maximum number of controlled axes: 8 axes, Built-in I/O: 40 points PNP transistor
NX1P2-1040DT	Maximum number of controlled axes: 6 axes, Built-in I/O: 40 points NPN transistor
NX1P2-1040DT1	Maximum number of controlled axes: 6 axes, Built-in I/O: 40 points PNP transistor
NX1P2-9024DT	Maximum number of controlled axes: 4 axes, Built-in I/O: 24 points NPN transistor
NX1P2-9024DT1	Maximum number of controlled axes: 4 axes, Built-in I/O: 24 points PNP transistor
NJ501-1500	Maximum number of controlled axes: 64 axes
NJ501-1400	Maximum number of controlled axes: 32 axes
NJ501-1300	Maximum number of controlled axes: 16 axes
NJ501-1520	Maximum number of controlled axes: 64 axes (database connection series)
NJ501-1420	Maximum number of controlled axes: 32 axes (database connection series)
NJ501-1320	Maximum number of controlled axes: 16 axes (database connection series)
NJ501-1340	Maximum number of controlled axes: 16 axes (SECS/GEM series)
NJ501-4500	Maximum number of controlled axes: 64 axes (Robotics series)
NJ501-4400	Maximum number of controlled axes: 32 axes (Robotics series)
NJ501-4300	Maximum number of controlled axes: 16 axes (Robotics series)
NJ501-4310	Maximum number of controlled axes: 16 axes (Robotics series)

Models	Specifications
NJ501-4320	Maximum number of controlled axes: 16 axes (Robotics and database connection series)
NJ301-1200	Maximum number of controlled axes: 8 axes
NJ301-1100	Maximum number of controlled axes: 4 axes
NJ101-1000	Maximum number of controlled axes: 2 axes
NJ101-9000	Maximum number of controlled axes: 0 axis
NJ101-1020	Maximum number of controlled axes: 2 axes (database connection series)
NJ101-9020	Maximum number of controlled axes: 0 axis (database connection series)

Specifications and prices in this product news are as of the issue date and are subject to change without notice. Only main changes in specifications are described in this document. Please be sure to read the relevant catalogs, datasheets, product specifications, instructions, and manuals for precautions and necessary information when using products.