

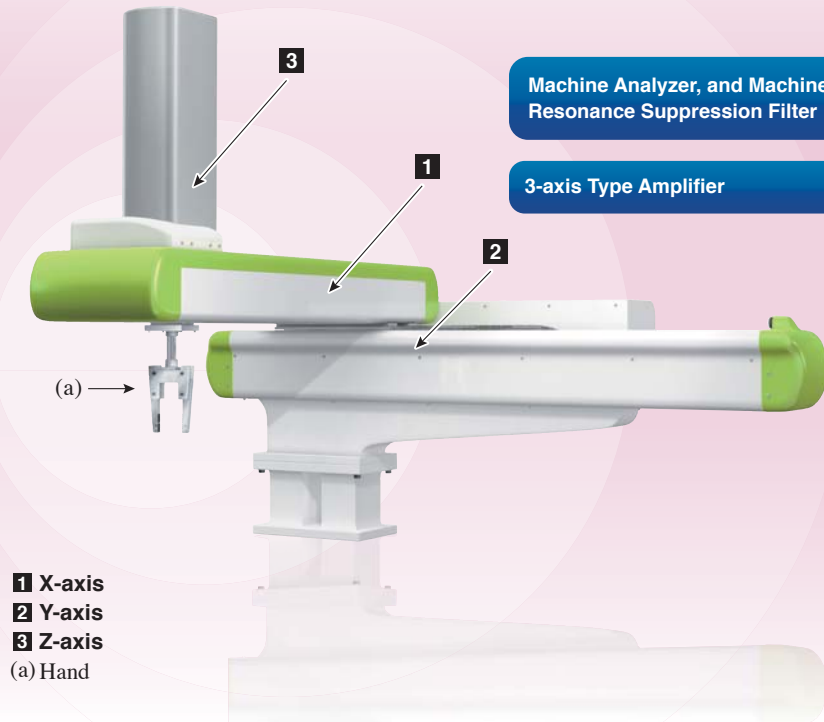
For your all production needs

# MELSERVO-J4 Solutions

MITSUBISHI SERVO AMPLIFIERS & MOTORS  
**MELSERVO-**

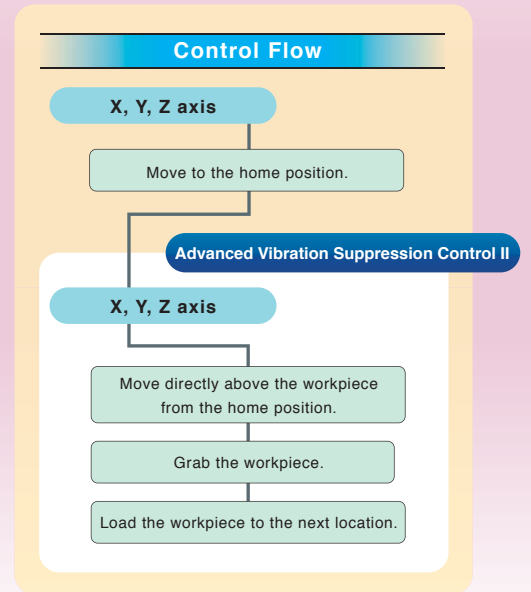
# J4

## vol.05 Pick and Place Robot



Machine Analyzer, and Machine Resonance Suppression Filter

3-axis Type Amplifier



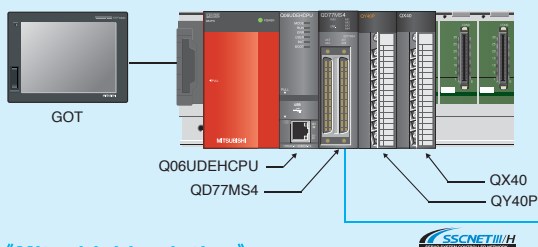
Issues at production sites

**Issue 1** Suppression of the machine vibration  
➔ Advanced Vibration Suppression Control II

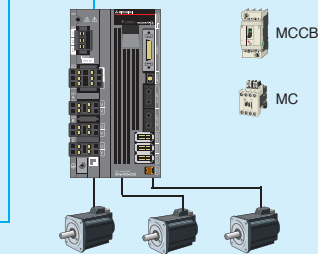
**Issue 2** Simpler setting of the suppression function  
➔ Machine Analyzer, and Machine Resonance Suppression Filter

**Issue 3** Smaller size machine  
➔ 3-axis Type Amplifier

### System Example



### MELSERVO-J4



### 《Application》

- X-Y table
- Sealing
- Material Loading/Unloading

### 《Mitsubishi solution》

PLC CPU : Q06UDEHCPU	Simple Motion : QD77MS4	Servo amplifier : MR-J4W3-B
Main base unit : Q35DB	I/O module : QX40, QY40P	Servo motor : HG-KR
GOT : GOT 1000 series		

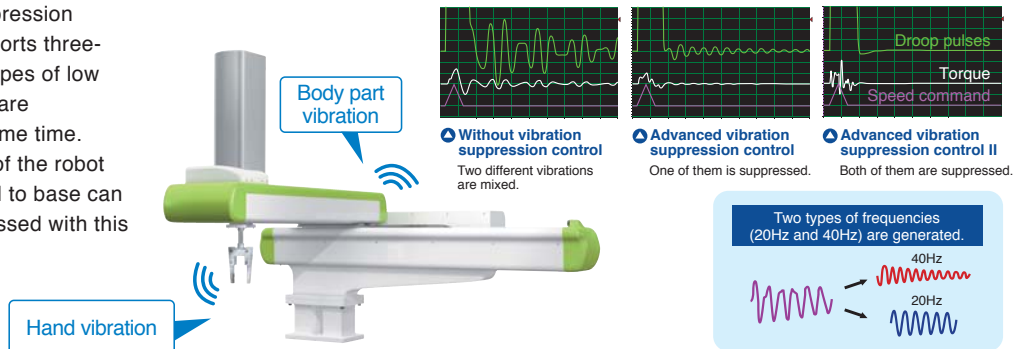
Setup Procedure



## Solution 1 Advanced Vibration Suppression Control II

## Effectively Suppressing Two Types of Low Frequency Vibrations

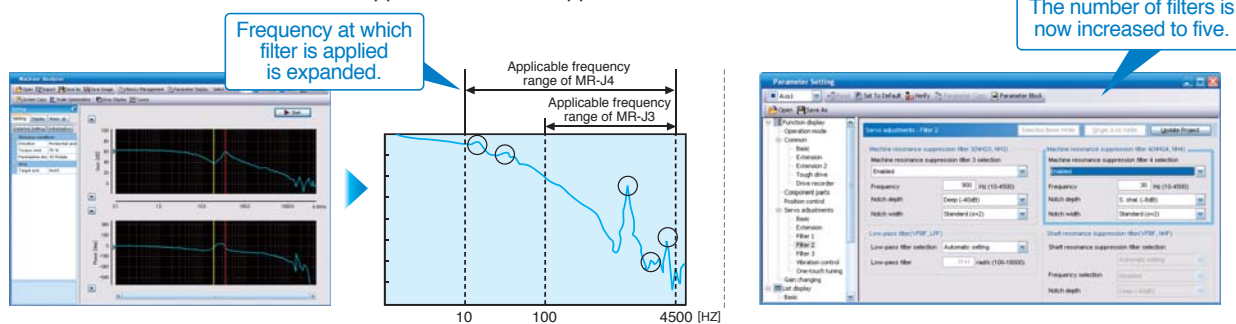
Due to vibration suppression algorithm which supports three-inertia system, two types of low frequency vibrations are suppressed at the same time. Thus, the vibrations of the robot existing from its hand to base can be effectively suppressed with this function.



## Solution 2 Machine Analyzer, and Machine Resonance Suppression Filter

## Easy Suppression of Multiple Vibrations with the Machine Analyzer and Filter Option

First, the "Machine analyzer" function analyzes the machine frequency characteristics. Then the five "Machine resonance suppression filters" suppress the vibration.



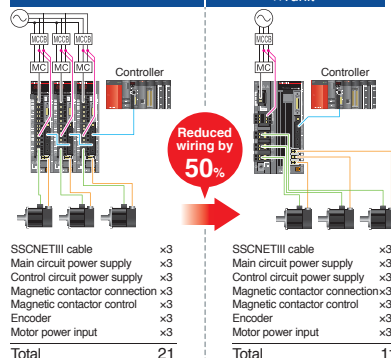
## Solution 3 3-axis Type Amplifier

## Designed to Cut Cost and Save on Space and Wiring

### Reduced Wiring

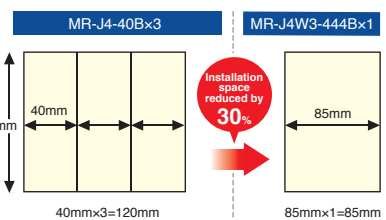
- SSCNET III/H compatible servo amplifier drastically reduces the wiring compared to the pulse train type.
- In 3-axis servo amplifier MR-J4W3-B, the three axes use the same connections for main and control circuit power, peripheral equipment, control signal wire, etc. Thus, the number of wirings and devices is greatly reduced.

### Comparison of the number of wirings and devices



### Space Saving

3-axis servo amplifier MR-J4W3-B requires 30% less installation space than three units of MR-J4-B.



# Setup Procedure

## Step 1 System Configuration Setting

Set the servo amplifier.

## Step 2 Parameter Settings

Open the "Compute Basic Parameter 1" screen and enter the mechanical data there. The parameter for electronic gear is calculated using the data automatically.

## Step 3 Parameter Settings for Vibration Suppression Control

Select "Three-inertia mode" to start the "Advanced Vibration Suppression Control II".

## Step 4 Positioning Data Settings

Set the positioning data for each axis.

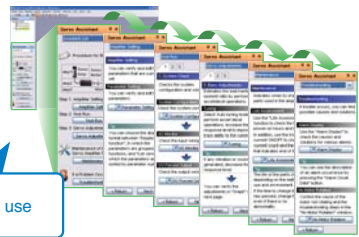
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Features

**User-friendly Software for Easy Setup, Tuning and Operation**

**Easy to Use Easy Data Setting with the Servo Assistance Function**

**Servo Assistant Function**

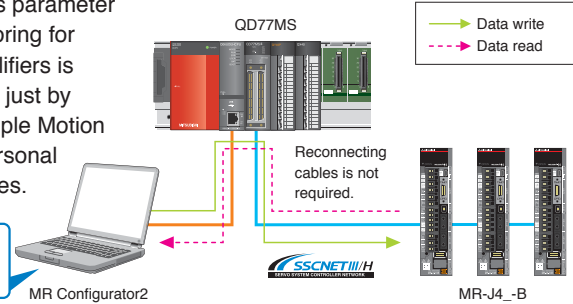
Complete setting up the servo amplifier just by following guidance displays.



Easy use

**Using MR Configurator2 via Simple Motion module**

Information such as parameter settings and monitoring for multiple servo amplifiers is consolidated easily just by connecting the Simple Motion module and the personal computer with cables.



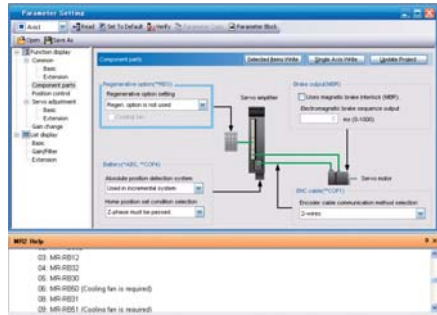
Easy information management for multiple axes operation

**Easy to Use Setting without Manuals via Docking Window**

**Parameter Setting Function**

Display parameter setting in list or visual formats, and set parameters by selecting from the drop down list. The details of the relevant parameters are displayed in a docking window, enabling the parameter setting without referring to the manual.

Set without manuals.



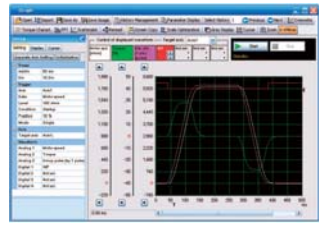
Display details of relevant parameters in a docking window.

**Easy to Use Easy Servo Adjustment and Maintenance**

**Graph Function Enhanced Function**

The number of measurement channels is increased to 7 channels for analog, and 8 channels for digital. Display various servo statuses in the waveform at one measurement, supporting setting and adjustment.

Check the servo operation in waveform.



**Servo Amplifier Life Diagnosis Function**

Check cumulative operation time and on/off times of inrush relay. This function provides an indication of replacement time for servo amplifier parts such as capacitor and relays.

Support the preventive maintenance of the servo amplifier.



Man, machine and environment in perfect harmony Solution

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