Mech-Mind User’s Manual

Mech-Mind

Mar 06, 2023

CONTENTS

This section introduces the process of setting up master control of an ELITE robot.

CHAPTER

ONE

CHECK CONTROLLER AND SOFTWARE COMPATIBILITY

- Controller software version: 2.19.2 or lower

Note: See step 2 in IP Configuration for instructions on checking the software version.

CHAPTER

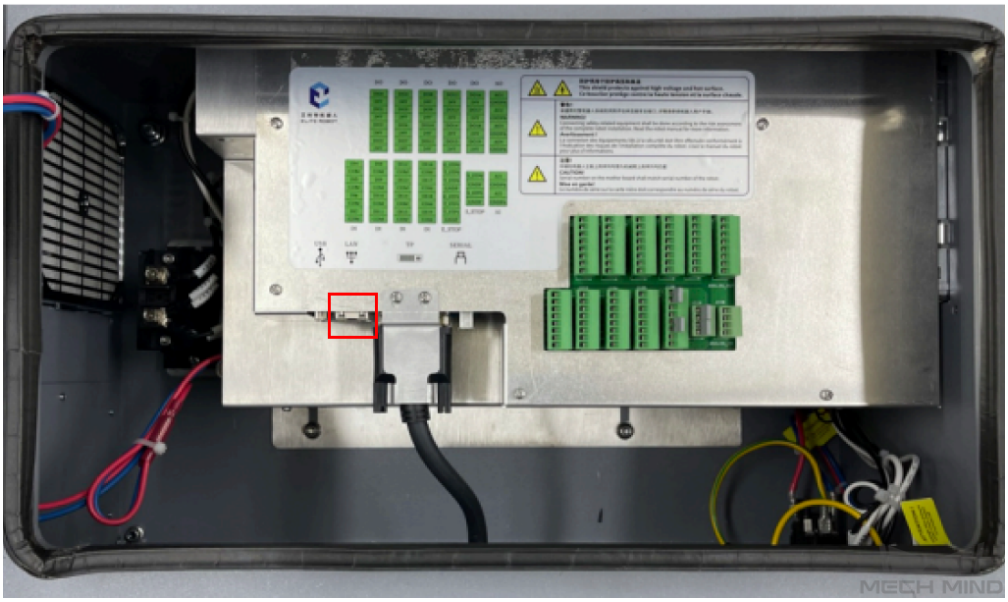
TWO

SETUP THE NETWORK CONNECTION

2.1 Hardware Connection

Plug the Ethernet cable into:

- An Ethernet port on the IPC
- The Ethernet port inside the controller

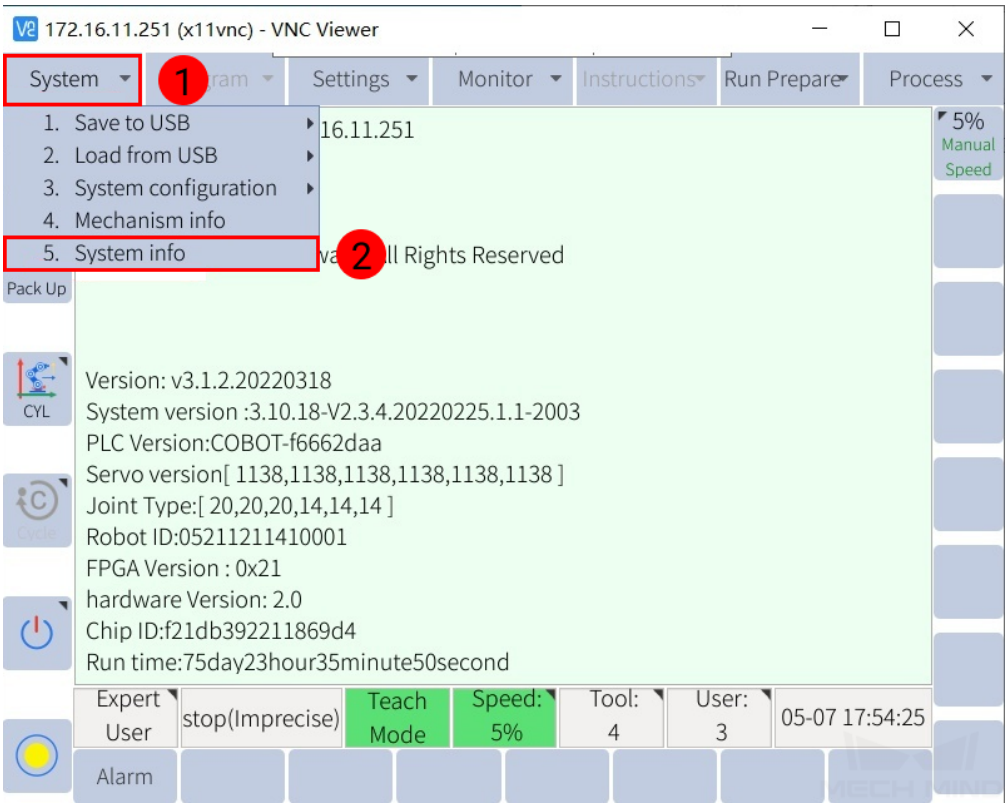


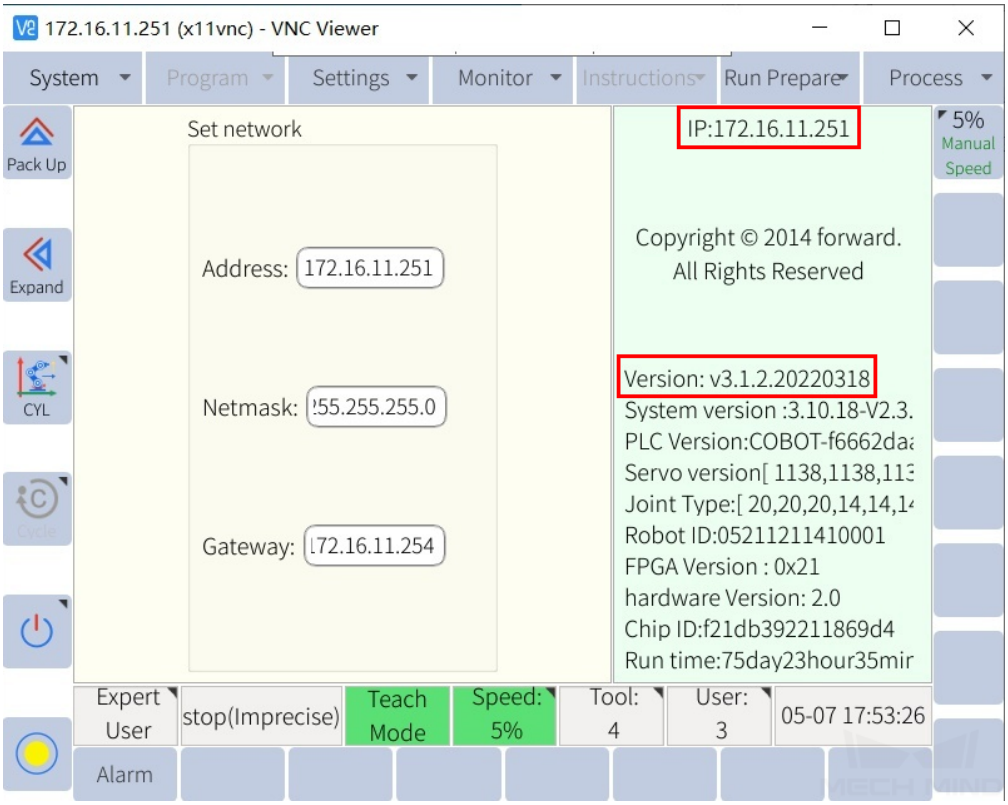
2.2 IP Configuration

To allow communication between the IPC and the robot controller, both must have an IP address in the same subnet. This means that the first three numbers of the IP addresses should be the same. For example, 192.168.100.1 and 192.168.100.2 are in the same subnet.

1. Check the IP address of the IPC: please use the *ipconfig* command in Command Prompt or PowerShell to check the IP address.

2. Press on *System* → *5. System info* to check the current IP address and software version.

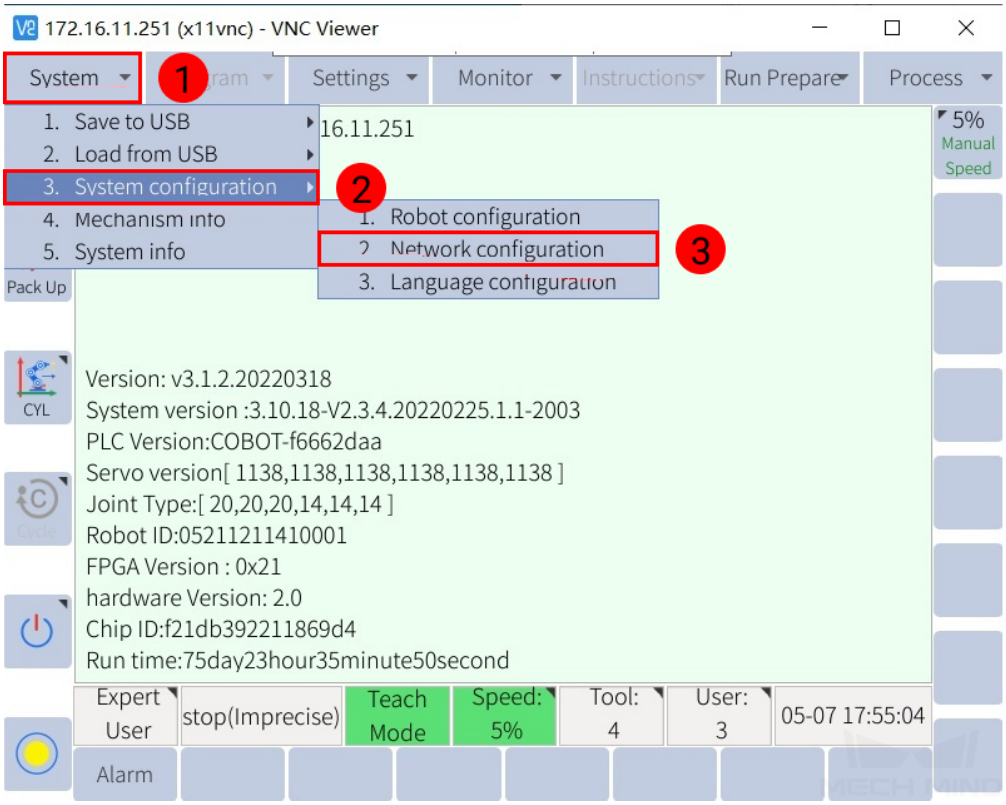




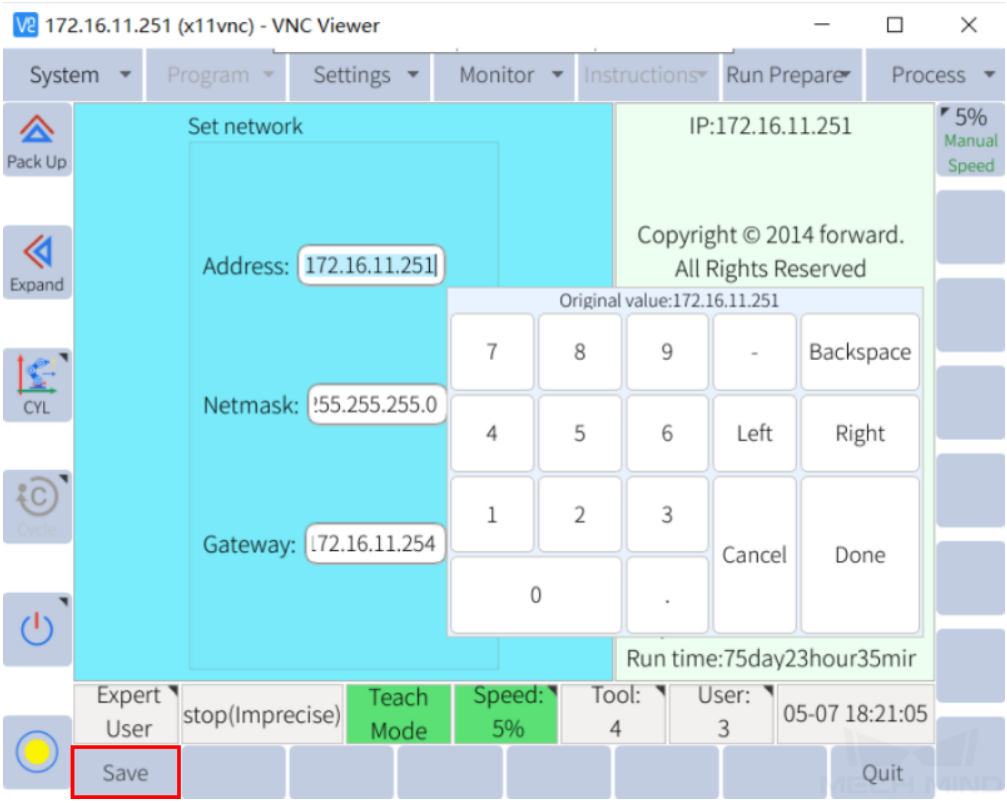
3. If the IP address isn't in the same subnet as the IPC, change it with the following steps:

    1. Turn the key to **TEACH**, and check the current user mode in the lower left. If it's not Admin mode, press and select **Admin**. Then, enter the **Password** and press **OK**.

2. Select *System* → *3. System configuration* → *Network configuration*.



3. Set the IP address to one in the same subnet as the IPC. Press *Save* to save the change.


172.16.11.251 (x11vnc) - VNC Viewer
System
Program
Settings
Monitor
Instructions
Run Prepare
Process
Pack Up
Expand
CYL
Set network
Address: 172.16.11.251
Netmask: 255.255.255.0
Gateway: 172.16.11.254
IP:172.16.11.251
Copyright © 2014 forward.
All Rights Reserved
5%
Manual
Speed
Original value:172.16.11.251
7
8
9
-
Backspace
4
5
6
Left
Right
1
2
3
Cancel
Done
0
.
Run time:75day23hour35mir
Expert User
stop(Imprecise)
Teach Mode
Speed: 5%
Tool: 4
User: 3
05-07 18:21:05
Save
Quit

CHAPTER

THREE

TEST ROBOT CONNECTION

Turn the key to REMOTE, press the `Servo` key in the lower right of the teach pendant, and make sure the SERVO indicator in the upper left lights up.

3.1 Configure Robot in Mech-Viz

1. Open Mech-Viz, click *New project* to create a new project.
2. Select the robot model in use in the next page.
3. Save the project by pressing `Ctrl` + `S`.
4. In the toolbar, change the **Vel.** (velocity) and **Acc.** (acceleration) parameters to **5%**.
5. Right-click the project name in **Resources** and select **Autoload Project**.

3.2 Configure Settings in Mech-Center

1. Open Mech-Center and click on *Deployment Settings*.
2. Go to **Robot Server**, and make sure **Use robot server** is checked.
3. Check if the robot model displayed next to **Robot type in Mech-Viz project** matches the one in use.
4. Set the Robot IP address, and click **Save**.

3.3 Connect to Robot in Mech-Center

1. Click *Connect Robot* in the Toolbar.
2. The robot is successfully connected if:
   - A message saying **Robot: server connected to the robot** shows up in the **Log** panel, and
   - A robot icon with the robot model shows up in the **Service Status** panel.

3.4 Move the Robot

1. In Mech-Viz, click *Sync Robot* in the toolbar to synchronize the pose of the real robot to the simulated robot. Then, click *Sync Robot* again to disable the synchronization.
2. Click the **Robot** tab in the lower right, and change the joint position of J1 slightly (for example, from 0° to 3°). The simulated robot will move accordingly.
3. Click *Move real robot*, the real robot should move accordingly.

> Attention: When moving the robot, please pay attention to safety hazards. In the case of an emergency, press the emergency stop button on the teach pendant!