

User's manual
UCR200 USB wireless jog pendant to use with MACH3
software
Plugin version: V1.032



Product description:

The UCR200 wireless jog pendant was designed to use with Mach3 software. The product is built from 2 main parts, one part is the jog pendant built into an ABS plastic enclosure having buttons and a jog wheel encoder. The other part is the USB wireless transmitter module which connects to the computer's USB port and transferring data between the PC and the jog pendant device. Using the jog pendant makes the zero point picking up and other machining routines easier and faster to setup and to do.

The jog pendant comes with a built in LCD screen which continuously showing and updating the readout values of the axis positions, the stepping mode, and the spindle's actual speed giving a feedback to the user without the need of looking onto the monitor. Also the axes can be zeroed and the main spindle can be switched on/off using the pendant device.

Installing the device drivers on Windows XP and Windows 7 operating systems:

The UCR200 device enumerates as a standard HID (Human interface device) on the control PC and for this reason there is no need to install any drivers. Just plug the USB wireless transmitter to the USB port of the PC and the device drivers installs automatically without any user interaction.

Installing the UCR200 plugin:

First download the plugin (.m3p) file from our website:

<http://www.cncdrive.com/UCR200.html>

The plugin file should be simply double clicked and it installs automatically. When installing the plugin file, Mach3 copying the .dll file packed into the plugin into the /Mach3/plugins/ directory.

Important notice: After the plugin installation check that only one UCR200 plugin must be installed, if more versions were installed earlier these .dll files must be manually removed and deleted from the Mach3/plugins installation folder.

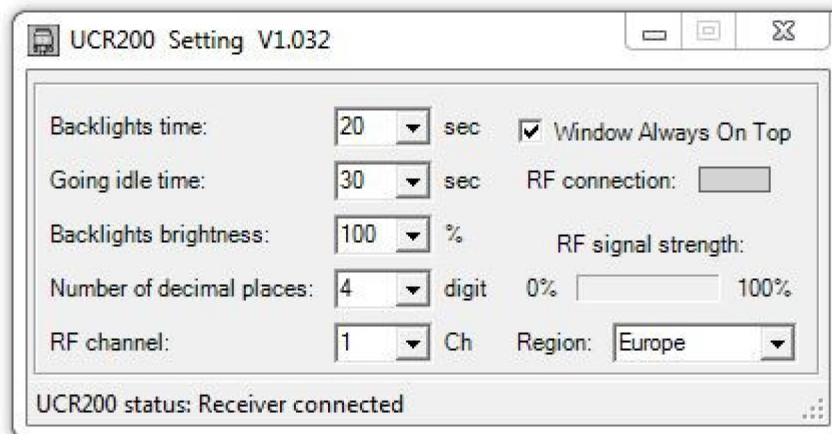
Using the device:

After the successful installation of the USB drivers and the wireless pendant's USB transmitter plugged into the computer's USB port run the Mach3 control software.

In Mach3 enable the UCR200 plugin under the Config->Config plugins menu item. It is necessary to close and restart Mach3 after enabling the plugin. After the plugin is enabled the UCR200 settings screen will appear in the Plugin control menu in Mach3. All setup of the UCR200 can be done on this setup screen.

In the current plugin version the following settings can be done:

- Backlights time: The time in seconds while the backlights of the LCD remains on after the last touch of the pendant buttons or its encoder.
- Going idle time: The time in seconds till the pendant goes to an idle, low power mode after touching the pendant's buttons or encoder the last time.
- Backlights brightness: The intensity of the backlights on the LCD.
- Number of decimal places: Sets how many decimal places of the numbers are shown of the position DROs on the LCD.
- RF channel: Up to 4 different radio frequency channels can be selected which makes it possible to use up to 4pcs of the pendant devices in the same workspace to control different machines in the same time.
- Region: This setting must be selected according to the location, region where the product is used.



Moreover on this screen informations also shown about the RF signal actual strength and if the device established a vital connection with its receiver.

The „window always on the top” setting makes this screen floating above all others in Mach3.

Properties of the LCD screen and the buttons:



The top right section of the LCD shows the state of Mach3, the strength of the radio frequency signal and the vitality of the batteries in the pendant device. Below this section on the right side of the screen the feedrate and the spindle speed is shown, and in MPG mode the JOG parameters are displayed. Pressing the „MPG mode” button toggling between the MPG and normal operation modes.

In normal operation mode pressing the „Axis/FRO/SRO” button selecting through the axes and the feedrate and spindle speed values. Pressing the button more then one times makes the selection jogging through these properties.

The left side of the LCD screen showing the coordinate DROs of the activated axes in a decimal number format setup on the Mach3 plugin screen..

The LCD screen can display 4 rows one time, if more then 4 axes are activated in Mach3 then pressing the „Axis” button jogs through and showing and selecting the other axis. The selected axis coordinates are always displayed inverted.

The device has 9 pieces of buttons in total and their functions are the following:

- The upper buttons can start, feed hold and stop the program running. And a reset can be also activated in Mach3.
- The middle row of buttons have the spindle on/off switching function, the zero axis function and the previously described MPG/Normal mode selection.
- The lower section button rows has functions of the MPG speed which can be set the percentage of the jogging speed. The available setable ranges are 100%, 10% and 1%. The MPG step button selects between the continuous and the stepping jog modes. The size of the steps per encoder tick can be setup in the Mach3->General config menu item. The MPG encoder wheel sensitivity can be setup in the Mach3->Function Cfg's->Calibrate MPG menu item.

Selecting the channel of the radio frequency:



In Mach3 on the UCR200 plugin settings screen select the required radio frequency channel. Press the Cycle start and the reset buttons for 5 seconds.

The pendant switching to the RF channel settings mode and the channel can be selected using the encoder wheel on the device. For the correct operation the same RF channel have to be selected in the UCR200 device as which channel was selected in Mach3. After the selection was done press the stop button to step back to normal operation mode. The device saves and keeps the settings after exiting this mode.

It is important to mention that the region parameter must be set according to the region of usage. This is important, because different countries allowing different frequency ranges to be used. For the USA, Canada, Australia the frequency is 915MHz. For Europe the allowed and used frequency is 868MHz.

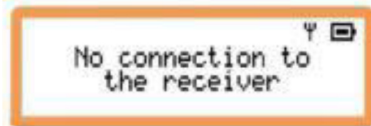
Error messages:

Broken firmware error.



If the above error message appears on the LCD screen means that the firmware code in the device got broken. This problem can happen if a firmware update was issued but was not finished successfully. For example the communication broken and got lost while a firmware update was ongoing. To eliminate this error in Mach3 go to the Config->Config plugins and next to the UCR200 plugin press the yellow „Config” button. On the popup screen press the „Repair defective firmware” button. This function forcing the pendant to update the firmware no matter how the firmware got broken and corrupted.

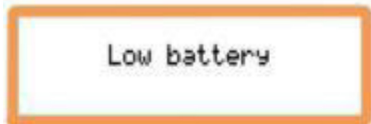
No connection error.



If this error message appears check that Mach3 is running and if it is then check if the UCR200 plugin is enabled.

Also check the matching of the RF frequency in Mach3 and in the device. The way how to check these were described previously in this manual.

Low batteries error.



If the above message shows up then the batteries getting empty and needs to be exchanged to new ones. 2 pieces of 1.5V AA, LR6 size batteries are required. It is important to always use good quality batteries only.

For more information visit:
<http://www.cncdrive.com>



Please consider the enviroment before printing this document.