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*Note:The MC950CR Link program is for Windows Vista/XP/2000 use and is not compatible with other OS.
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# **Distribution & exemption of liability**

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# **Downloaded Zip file extraction (decompression)**

The downloaded MC950CR Link\_Eng\_V144 file is a Zip format file. Extract (decompress) this file. (\*For Windows 2000, separate decompression software is necessary.)

- With Windows Vista/XP, double click file MC950CR Link\_Eng\_V144 to display its contents.
- 2. Click "Extract all files". The Extraction Wizard launches.
- **3.** Extract (decompress) Zip file MC950CR Link\_Eng\_V144 to the same location as the Zip file storage location.



# Extracted (decompressed) file confirmation

Let's confirm the extracted (decompressed) file.

- **1.** At the end of extraction (decompression), a folder named MC950C Link Setup En V144 like that shown below is created.
- Double click "MC950\_Link\_Setup\_En\_V144". The contents of the folder are displayed.



# **MC950C** Link program installation

Before installing the MC950CR Link program, confirm that all other applications are closed. Close all virus check and other resident programs, if any.

This program needs Microsoft NET Framewowk 2.0.

If NET Framework2.0 is not installed in your computer, it is downloaded and installed from the Internet automatically.

Please note: your computer must be connected to the Internet.

- **1.** Select and double click the folder named MC950CR Link Setup Eng V144 created by downloaded Zip file extraction (decompression). The contents of the folder are displayed.
- 2. Double click the EXE file named "setup".



3. If "NET Frameforwk 2.0 Setup" window appears, click "Accept".

NET Frameforwk 2.0 is downloaded and installed from the Internet automatically.

🐞 MC950CR Link Setup 🛛 🛛 🔀
For the following components:
.NET Framework 2.0
Please read the following license agreement. Press the page down key to see the rest of the agreement.
MICROSOFT SOFTWARE SUPPLEMENTAL LICENSE TERMS MICROSOFT .NET FRAMEWORK 2.0 MICROSOFT WINDOWS INSTALLER 2.0 MICROSOFT WINDOWS INSTALLER 3.1 Microsoft Corporation (or based on where you live, one of its affiliates) licenses this supplement to you. If you are licensed to use Microsoft Windows operating system software (the "software"), you may use this supplement. You may not use it if you do not have a license for the software. You may use a copy of this supplement with each validly licensed copy of the software.
View EULA for printing
Do you accept the terms of the pending License Agreement?
If you choose Don't Accept, install will close. To install you must accept this agreement. Accept Don't Accept
Click "Accept"

4. After "Welcome the MC950CR Link Setup Wizard" window appears, click "Next".



**5.** Chosen to install this program for "Just me", or for "Everyone". Confirm the program folder (save destination) at "Folder:" and click "Next". To change the directory, click "Browse..." and specify the folder which is to save the program and then click "Next".

	谩 MC950CR Link	Confirm the program save folder "Folder:". To change the save destination click "Brewse" and specify the fold which is to save the program.	
	Select Installation Folder		
	The installer will install MC950CR Link to the following folder. To install in this folder, click "Next". To install to a different folder, en	ter it below or click "Browse".	
	Eolder: C:\Program Files\Futaba\MC950CR Link\	Browse Disk Cost	
	Install MC950CR Link for yourself, or for anyone who uses this cor C Everyone Just me	mputer:	
	Cancel	< Back Next >	Click "Next"
Chosen to in or for "Every	stall this program for "Just me", one".		

6. After "Confirm Installation" window appears, click "Next".



7. After "Install Complete" is displayed, click "Close".

The above completes MC950C R Link program installation.







# MC950CR Link program startup and termination

## MC950CR Link program startup

- Connect your CIU-2 to the USB port of the PC.
- Select desktop lower left side "Start" button - "All Programs" - "Futaba" -"MC950CR Link", in that order. The MC950CR Link program starts up.

(The order above is for when the program group name was set to "Futaba" at installation step "5".)



**3.** After the program is installed, the CIU-2 COM number setting window is displayed simultaneously with the first starting. After installing the CIU-2 drivers, select the COM number confirmed by Device Manager and then click the "OK" button.



At the end of COM number setting, the MC950CR Link program startup window shown at the right opens.

The message "ComPort was initialized" appearing in the Message box shows that a COM port was set.



#### \*Note:

When the CIU-2 is not connected to the USB port of the PC at MC950CR Link program starting, the COM number confirmed by Device Manager cannot be selected. When a COM number is not selected, the MC950CR Link program will not start even when the "OK" button is clicked.

Click the "Cancel" button, wait for the MC950CR program to start and then connect the CIU-2 to the USB port of the PC and select the COM number confirmed by Device Manager from the "ComPort" menu.



Also, when the wrong COM number is selected and the "OK" button is clicked, the MC950CR Link program is started, but communication is impossible even if a CIU-2 is connected. Select a COM number confirmed by Device Manager from the "ComPort" menu.



When the MC950CR Link program is started without a CIU-2 connected to the USB port of the PC after a COM number was selected at the "ComPort" menu, the window shown at the right appears. Start the MC950CR Link program by clicking "OK" and connect a CIU-2 to the USB port and check the COM number at the "ComPort" menu, and then click "OK".



# MC950CR Link program termination

To terminate the MC950CR Link program, click "Exit" on the menu bar.

#### MC950CR Link File ComPort Exit Setting Data Read WMM frequency(at Max. load)

# **CIU-2 disconnection**

The CIU-2 can be disconnected even when the PC power is on. However, do not disconnect the CIU-2 while it is communicating with the MC950CR.

# Using the MC950CR Link program

# CIU-2 and MC950CR connection

1. Connect the MC950CR to the CIU-2.

# **2.** Connect the batteries to the MC950CR.

(Refer to the MC950CR instruction manual for the connection method.)

**3.** Set the MC950CR power SW to ON. The MC950CR LED blinks orange. (red and green simultaneously)

## MC950CR Link program startup window



Minimize button Button which causes the program window to collapse into its taskbar button at the bottom of the Windows desktop.

## Close button

Closes (exits) the program. Same as "Exit" on the menu bar.



Button which writes the standard setting data set at the factory to the connected MC950CR.

#### Data Get:

Log Data

Get

Clear

Button which reads to the program the log data of the connected MC950CR.

#### **Data Clear:**

Button which clears the log data of the connected MC950CR.

# Reading log data recorded by the MC950CR

The logging function of the MC950CR can record a maximum of about 8 minutes of running current value and power supply voltage data at 1 second intervals. By connecting the MC950CR to a CIU-2, the recorded log data can be read and displayed by the MC950CR Link program. We recommend that this log data be referenced and made the setting data.

1. Connect the MC950CR to the CIU-2 and connect the batteries to the MC950CR. Dead Band Busy 💳 Default Write Low Batt. Protection Set the MC950CR power SW to ON. **Current Limiter** 2. Click the "Data Get" button. Log Data Current Limiter(Time Limit) Get Current Limit timer Brake Max Duty Log Data **Current Limite** Clear Reverse Max Duty Get Current Limit Neutral Brake The access lamp (Busy) blinks green. Brake Max. D Boost Clear Reverse Max Brake timer Futaba Neutral Brake Reverse mode shift level MC050CR Link Click the "Get" button. **3.** The log data to be recorded 🚟 Log data C:¥Futaba-01.csv Voltage/Current Voltage is read and a log data 10.0 400 9.0 Scale Line 350 graph is displayed in a 80 300 Current window separate from the 7.0 6.0 250 Scale Line MC950CR Link program [V] 5.0 200 [A] 4.0 150 startup window. 3.0 Time 100 2.0 Span 🚫 Full 50 1.0 💿 480s 0 30 60 90 120 150 180 210 240 270 300 330 360 390 420 450 480 Start 1s ~ Time[s] Revolution -Revolution/Speed 120 110 100 Revolution A log data graph is displayed in 90 O Speed a separate window. 80 18 ×1000 70 60 [rpm] 50 40 30 Pulley (Large) 20 10 0 90 120 150 180 210 240 270 300 330 360 390 420 450 480 30 60 Close Time[s]

#### \*Note:



## Log data window

100

80

70

50

40 30

20

10 0

30 60

90 120 150 180

[km/h] 60



different from the actual vehicle speed.

Pulley (Small) and Pulley (Large).

**Revolution/Speed** 

Revolution

18 T

108 T

26 T

53 mm

35

When Speed is selected, the red line on the graph can be switched from

To calculate the vehicle speed from the motor speed, the reduction gear ratio and tire diameter are necessary. Enter the number of teeth of each gear and the tire diameter. For direct drive vehicles, enter "1" at both

\*Since the vehicle speed is at most the calculated value, it may be

Speed

Pinion Gear

Spur Gear

Pulley (Small)

Pulley (Large)

Tire Diameter

motor speed display to vehicle speed (speed per hour) display.

# Saving log data and reading the saved data

### \* Save

The log data read from the MC950CR can be saved to the computer by "Data Get" button. Since the data is saved in CSV format, it can be opened by CSV format spreadsheet program, etc.

The log data can be saved even after the graph window was closed. However, save the old log data before reading the new log data.

- Click "File" on the menu bar and place the cursor on "Log Data" and click "Save". A "Save As" window opens.
- Decide the save location and filename and save the data by clicking the "Save" button.



#### \* Reading the saved data

The MC950CR Link program can read and display the log data saved to the computer.

- **1.** Click "File" on the menu bar and place the cursor on "Log Data" and click "Open". An "Open" window opens.
- 2. Decide the save location and read data and click the "Open" button. A log data graph is displayed.



# Clearing log data recorded by the MC950CR

To update the MC950CR log data, the old log data must be cleared. If the old log data is not cleared, the log data will not be updated.

**1.** Connect the MC950CR to a CIU-2 and connect the batteries to the MC950CR.

Set the MC950CR power switch to ON.

**2.** Click the "Data Clear" button.

	Data Oloai	bottorn	11			
			Default Write	Low Batt. Protection	🗧 V 🛛 Busy 💻	
				Current Limiter	A A	
	Log Data	Current Limite	Log Data	Current Limiter(Time Limit)	A C	
	Get	Current Limit	Get	Current Limit timer	C Sec	
(		Brake Max. D.		Brake Max. Duty	© %	
	Clear	Reverse Max	Clear	Reverse Max Duty	0 x	
		Neutral Brake		Neutral Brake	lomp (Ruov) blinko grov	
				Boost	s lainp (Busy) billiks gree	÷11.
			Futaba	Brake timer	Sec	
	Click the "Clea	ar" button	MC950CR Link	Reverse mode shift level	C X	
—(						

Dead Band



**3.** The recorded log data is cleared.

If clearing of the log data ends normally, "Completion" is displayed.

> To record new log data after clearing the old log data, set the MC950CR power switch to OFF, and then set it back to ON and proceed.

> If a new series of operations is performed with the MC950CR power left on, new log data will not be recorded.

MC950CR Link				
<u>F</u> ile <u>C</u> omPort <u>E</u> xi	t			
Setting Data	PWM frequency(at Min. load)	\$	Hz	Rev Cancel
Read	PWM frequency(at Max. load)	×	Hz	Robot Mode
Mikita	PWM frequency at Brake	*	Hz	Current Limiter disable
	Dead Band	×	uS	
Default Write	Low Batt. Protection	A V	V	Busy 💻
	Current Limiter	×	A	
Log Data	Current Limiter(Time Limit)	Ŷ	A	
Get	Current Limit timer	×	Sec	
	Brake Max. Duty	*	%	
	Reverse Max Duty	*	%	
	Neutral Brake	\$	%	
	Boost	*		
Futaba	Brake timer	\$	Sec	
MC950GRULink	Reverse mode shift level	*	%	
Version 1.10	Lead Angle	\$		
CommPort was initialized.				

#### \*Note:

When "MC cannot be set." shown at the right is displayed when the "Data Clear" button is clicked, click the "OK" button and check for the following: \*Batteries are not connected to the MC950CR. \*MC950CR power is off. \*MC950CR is faulty If "Get data failed." is displayed when the "OK" button is clicked, the log data could not be cleared normally. When "Get data failed." is displayed in the Message box, the log data could not be cleared normally. MC950CR Link MC MC cannot be set. MC cannot be

# Reading setting data set at the MC950CR

The setting data currently set at the MC950CR connected to a CIU-2 is read and displayed in the MC950CR Link program startup window.

1. Connect the MC950CR to a CIU-2 and connect the batteries to the MC950CR.

Set the MC950CR power switch to ON.

2. Click the "Setting Data Read" button.

		Dead Band	S uS	
	Default Write	Low Batt. Protection	🗘 V 🛛 Busy 📖	
		Current Limiter	2 A	
File ComPort Exit	Log Data	Current Limiter(Time Limit)	A 😂	
	Get	Current Limit timer	Sec Sec	
PWM frequenc		Brake Max. Duty	3 %	
Read PWM frequenc	Clear	Reverse Max Duty	C x	
PWM frequenc		Neutral Brake	C 4	
WHITE David David		Boost The access	lamp (Busy) blinks green.	
	Futaba	Brake timer	Sec	
Oliak the IIDeedII butter	MC950CB Link	Reverse mode shift level	\$ x	
Click the "Read" button.	A SOUCH LIN			
Click the "Head" button.	MOODOT LINK			



🗘 Hz

Rev Cancel

3. The setting data currently set at the MC950CR is read and displayed in the MC950CR Link program startup window.



Completion.

MC950CR Link

Setting Data-

<u>File ComPort Exit</u>

Read

PWM frequency(at Min. load)

#### \*Note:

MC950CR Link When "MC cannot be set." shown at the right is displayed when the "Setting Data Read" button is clicked, click "OK" and check for the following: MC cannot be set. \*Batteries are not connected to the MC950CR. OK \*MC950CR power is OFF. \*MC950CR is faulty. When "Reading Failed." is displayed in the Message box when the "OK" button is clicked, the setting data could not be read normally. Version 110 Angle When "Reading Failed." is displayed in the Message Reading Failed box, the setting data could not be read normally.

# Setting items

The setting of each setting data can be changed by clicking  $\blacktriangle$  or  $\checkmark$  at the right side of the box of each setting item. Values can also be input directly from the keyboard.





#### \*PWM frequency (at Max. load) PWM frequency (at Min. load) Current Limiter

- PWM frequency (at Max. load) sets the PWM frequency at maximum load at the output current limit value set by Current Limiter.
- PWM frequency (at Min. load) sets the "0"A PWM frequency at minimum load.



Since setting of the PWM frequency (at Max. load) is based on the output current limit value set by Current Limiter.

#### \*PWM frequency (at Max. load) PWM frequency (at Min. load) Current Limiter

- PWM frequency (at Max. load) sets the PWM frequency at maximum load at the output current limit value set by Current Limiter.
- PWM frequency (at Min. load) sets the "0"A PWM frequency at minimum load.
- Current Limiter sets the current value at maximum load here.

Since setting of the PWM frequency (at Max. load) is based on the output current limit value set by Current Limiter, Current Limiter does not have to be turned OFF except when a current exceeding 300A is generated.

#### \* Using log data to set the frequency and current limiter

Study at the maximum load current from the log data read from the MC950CR.

From this data, the Current Limiter value is set about 20 ~ 30A higher than the current at maximum load. (at Min. load), which sets the frequency when the load is small, is set to the high frequency side (large value) when extension is desired after straightaways and curves. (at Max. load), which sets the frequency when the load is large, is set to the high frequency side (large value) when you want to suppress the rise from low speed and when motor heating and commutator roughness are sensed. When the rise from low speed is poor, and becomes bad even when (at Max. load) is set to the low frequency side, use the log data to check if there was a momentary voltage drop. When you want to suppress the overall power, lengthen the run time, and otherwise improve efficiency, set both (at Max. load) and (at Min. load) to the high frequency side.

full range regardless of the load current, set PWM frequency (at Max. load) and PWM frequency (at Min. load) to the same value.



#### Example:

When PWM frequency (at Min. load) is set to 3000Hz, PWM frequency (at Max. load) is set to 1000Hz, and Current Limiter is set to 300A. The set drive frequency variable range is within the range indicated by the yellow color. However, when minimum load = 10A and maximum load = 150A at the running log data, the variable range during running becomes the range indicated by the red color.

#### \*Current Limit disable

If you want to cancel the current limiter function, check the box.

In this case, the PWM frequency (at Max. load) standard becomes 500A without regard to the Current Limiter setting.



#### \* Brake PWM at frequency

This setting can set the brake PWM frequency.

The lower the frequency (the smaller the value), the greater the braking force.

	PWM frequency(at Min. load)	5000 💲	Hz
	PWM frequency(at Max. load)	3000 😂	Hz
	PWM frequency at Brake	1500 🗘	Hz
	Dead Band	8 拿	uS
te	Low Batt. Protection	3.0 拿	v

#### \*Dead Band

This sets the range (neutral point range) over which the MC950CR does not respond to transmitter throttle operation. The larger the set value, the wider this range.



#### \*Low Bat Protection

This setting cuts off the output to the motor when the running battery voltage drops to the

set voltage to prevent the receiver from stopping operation when the supply of voltage to the receiver becomes insufficient while running due to a drop of the power supply voltage. When the power supply voltage recovers, power is supplied to the motor once more.

لسس	PWW Trequency (at Wax, load)	0000 <u>×</u>	HZ
	PWM frequency at Brake	1500 拿	Hz
	Dead Band	8 🛟	uS
ite	Low Batt. Protection	3.0 🌲	٧
	Current Limiter	300 💲	A
	Current Limiter(Time Limit)	300 🗘	A
		0 ^	

#### \*Current Limiter (Time Limit) /Current Limit Timer

The output current can be limited up to the set time lapse from the start of running. This is effective in preventing the motor from outputting wasted energy when the voltage is high immediately after the power battery was recharged.

- Current Limiter (Time Limit) sets the maximum output current within the time the output current is limited.
- Current Limiter Timer sets the time the output current is limited. This function is disabled when set to "0" sec.
   Since the Current Limit Timer starts when the throttle is operated to the forward side and current is output to the motor, this function begins to operate when the motor is run during trim adjustment, etc.

ite	Low Batt. Protection	3.0 🛟	v
	Current Limiter	300 💲	A
	Current Limiter(Time Limit)	300 🗘	A
	Current Limit timer	0 ‡	Sec
=	Brake Max. Duty	100 💲	%
	Reverse Max Duty	100 🗘	%
		0 .	

#### \* Brake Max. Duty

This setting can set the braking force between the neutral point and Max brake point. The larger this value, the greater the braking force. When set to "0%", the brakes are not effective.



#### \* Reverse Max. Duty

This setting can set the reverse power between the neutral point and Max reverse point. The larger this value, the greater the reverse power. When set to "0%", the reverses are not effective.



#### \* Reverse Cancel

If the reverse function is not necessary please check the box.

When the box is checked there is only forward and brake operation

#### \* Robot Mode

If the brake function is not necessary please check the box.

When the box is checked there is only forward and reverse operation



30 -

#### \* Neutral Brake

Make this setting when you want to use the brakes at the neutral throttle (OFF) position by throttle operation. The larger this value, the greater the braking force. When you want to use the neutral brake, set this value to "0%".

1	Ourrent Limit timer	~ <u>*</u>	000
	Brake Max. Duty	100 💲	%
	Reverse Max Duty	100 😂	%
-	Neutral Brake	2 🗘	%
	Boost	6 🗘	
	Brake timer	0 🗘	Sec
	Dense de la Vide en la	10 ^	M

#### \* Boost

Operation near the throttle trigger (stick) neutral position becomes a sharp rise.

Forward Boost



Brake Max. Duty	100 拿	%
Reverse Max Duty	100 拿	%
Neutral Brake	2 🗘	%
Boost	6 🤹	
Brake timer	0 🗘	Sec
Reverse mode shift level	10 🜲	%
Lead Angle	0 🛟	
	Brake Max. Duty Reverse Max Duty Neutral Brake Boost Brake timer Reverse mode shift level Lead Angle	Brake Max. Duty 100 Reverse Max Duty 100 Neutral Brake 2 Boost 6 Brake timer 0 Reverse mode shift level 10 Lead Angle 0

#### \* Brake timer

When the reverse function is used, usually if the throttle trigger (stick) is not once returned from the brake status to the neutral point and then operated at the brake (reverse) side, reverse operation is not performed. However, if the neutral point setting is

deliberately shifted to the forward side, when brake operation is repeated, reverse operation may be performed even if the trigger (stick) is not returned to the neutral point. The time needed to switch to reverse operation can be set to prevent this.

#### \* Reverse Mode Shift Level

The reverse operation can be done with the throttle trigger (stick) to be thrown from brake status to the neutral. The value can set the amount of the brake in order to switch to the reverse operation.

#### \* Lead Angle

The motor lead angle can be set by the MC950CR, but since the motor speed becomes the standard, when setting LeadAngle (Lead Angle value), always check the average speed by Log. Normally, use at "0" is recommended

	Boost	6 🤤	
	Brake timer	0 🗘	Sec
ink	Reverse mode shift level	10 🗘	%
10	Lead Angle	0 🗘	
_			

Neutral Brake	2 🤤	%
Boost	6 🗘	
Brake timer	0 ‡	Sec
Reverse mode shift level	10 🗘	%
Lead Angle	0 🌲	
	Neutral Brake Boost Brake timer Reverse mode shift level Lead Angle	Neutral Brake     2 \$       Boost     6 \$       Brake timer     0 \$       Reverse mode shift level     10 \$       Lead Angle     0 \$

Finding the lead angle

LeadAngle = Lead angle you want to set at the motor x 1,000,000 Normal average speed of motor x 3

Neutral Brake	2 🗘	%
Boost	6 🤹	
Brake timer	0 🗘	Sec
Reverse mode shift level	10 🌲	%
Lead Angle	0 🌲	
	Neutral Brake Boost Brake timer Reverse mode shift level Lead Angle	Neutral Brake     2 \$       Boost     6 \$       Brake timer     0 \$       Reverse mode shift level     10 \$       Lead Angle     0 \$

severse Max Duty

## Writing setting data set to the MC950CR

Write new setting data to the MC950CR.

1. Connect the MC950CR to a CIU-2 and connect the batteries to the MC950CR.

Set the MC950CR power switch to ON.

2. After input of each item is complete, click the "Setting Data Write" button.

			Dead Band	2 105
		Default Write	Low Batt. Protection	Busy =
			Current Limiter	2 A 🔺
Setting Data	PWM frequence	Log Data	Current Limiter(Time Limit)	a A
Read	PWM frequenc	Get	Ourrent Limit timer	Sec Sec
	PWM frequenc		Brake Max. Duty	3 %
Write	Dead Band	Clear	Reverse Max Duty	C X
Default Write	Low Batt. Prot		Neutral Brake Boost The access	lamp (Busy) blinks gree
		Futaba	Brake timer	Sec
			Reverse mode shift level	\$ X





#### \*Note

When "MC cannot be set." or "Verify was NG" shown at the right is displayed when the "Write" button is clicked, click the "OK" button and check for the following:

\*Batteries are not connected to the MC950CR.

\*MC950CR power supply is OFF.

\*MC950CR is faulty.

When the "OK" button is clicked, "Writing failed." is displayed in the Message box

to show that the setting data was not written normally.

When "Writing failed." is displayed in the Message box, the setting data could not be read normally.

MC950CR Link 🔀
MC cannot be set.
ОК

d Angle

Version 1.10

Writing failed

# Saving setting data and reading the saved data

## \*Save

The setting data currently displayed in the MC950CR Link program startup window can be saved to a computer.

- **1.** Click "File" on the menu bar and place the cursor on "Setting Data" and then click "Save". A "Save As" window opens.
- 2. Decide the save location and filename and click the "Save" button. The setting data is saved.



# \* Reading saved data

Setting data saved to a computer can be read and displayed in the MC950CR Link program startup window and written to the MC950CR.

- Click "File" on the menu bar and place the cursor on "Setting Data" and click "Open". An "Open" window opens.
- Decide the save location and read data and click the "Open" button. The setting data to be saved is displayed in the MC950CR Link program startup window.

To write this data directly to the MC950CR, see "Writing setting data to MC950CR" on Page 20.

	Open			?	X
	Save in	: 🛅 Set		S 🕸 📂 💷 🖌	
Eile         QomPort         Exit           Setting Data          Open	Ò	Set Data-01	set 🖌		
Log Data > Save	My Recent Documents			Select the save location	»n.
Write FWM frequency at Brake	B		Click the read data	ר	
Default Write Low Batt. Protection	Desktop				
Current Limiter	<b>&gt;</b>				
Click "File" and place the cursor	My Documents				
on "Setting Data" and then click "Open".				Click "Open".	
	My Computer				
		File name:	Set Data-02		
	My Network	Files of type:	MC setting data (*.set)	Cance	

# Initializing the MC950CR

This function returns the MC950CR setting data to the factory setting.

Since the setting data, neutral, high point, and brake point are all initialized at the factory, reset them.

1. Connect the MC950CR to a CIU-2 and connect the batteries to the MC950CR.

Set the MC950CR power switch to ON.

2. Click the "Default Data Write" button.

PWM frequenc	Default Write	Low Batt. Protection	Busy =
PWM frequenc		Current Limiter	
1 milling galarie			
DUM (	Log Data	Current Limiter(Time Limit)	🗘 A
Pivili frequenc	Get	Current Limit timer	Sec Sec
Dead Band		Brake Max. Duty	Ĵ %
Low Batt. Prot	Clear	Reverse Max Duty	C %
Current Limite		Neutral Brake	(n) 4
Current Limite		Boost The access	lamp (Busy) blinks gre
	Enterlan	Brake timer	Sec .
	Futava	Reverse mode shift level	÷ *
ult Write" button.	MC950CR Link		
	Dead Band Low Batt. Prot Current Limite Current Limite	Current Limite Current Limite UIt Write " button.	With Requerce     Get     Current Limit timer       Dead Band     Brake Max Duty       Low Batt. Prot     Clear       Current Limite     Reverse Max Duty       Current Limite     Neutral Brake       Current Limite     Boost       Futaba     Brake timer       MC950CR Link     Reverse mode shift level

3. The factory setting data is written to **EMC950CR Link** the M is initia

he MC950CR and the MC950CR	<u>F</u> ile <u>C</u> omPort <u>E</u> xi	t		
s initialized.	Setting Data	PWM frequency(at Min. load)	5000 🗘 Hz	🔽 Rev Cancel
	Read	PWM frequency(at Max. load)	3000 🗘 Hz	🔲 Robot Mode
		PWM frequency at Brake	1500 🔷 Hz	🔽 Current Limiter disable
	write	Dead Band	8 🗘 uS	
	Default Write	Low Batt. Protection	3.0 🗘 V	Busy 💻
		Current Limiter	300 💲 A	
	Log Data	Current Limiter(Time Limit)	300 🗘 🔺	
	Get	Current Limit timer	0 🗘 Sec	
		Brake Max. Duty	100 💲 🕺	
	Clear	Reverse Max Duty	100 💲 🕺	
		Neutral Brake	2 📚 🕺	
When writing of the default setting data		Boost	6 🗘	
ends normally, "Completion" is displayed.	Enterlan	Brake timer	0 🗘 Sec	
	MODERCELLak	Reverse mode shift level	10 🗘 🕺	
	Version 1.10	Lead Angle	0 🗘	
	Completion.			

#### \*Note:

MC950CR Link 🔀 When "MC cannot be set." shown at the right is displayed when the "Setting Data Read" button is clicked, click "OK" and check for the following: MC cannot be set. \*Batteries are not connected to the MC950CR. ΟK \*MC950CR power is OFF. \*MC950CR is faulty. When "Default Writing failed." is displayed in the Message box when the "OK"

button is clicked, the setting data could not be read normally.

When "Default Writing failed." is displayed in the Message box, the setting data could not be read normally.

Version 1 11	Lead Angle
efault Writing failed.	

# **Messages List**

The following shows the contents displayed in the message box (Message) in the software startup window.

Write	PWM frequency at	Brake	 Υ.	Hz 🔄 Current Limiter disable
	Dead Band		×	uS
Default Write	Low Batt. Protecti	on	×	V Busy 📖
	Current Limiter		×	A
Log Data	Current Limiter(Ti	me Limit)	×	A
Get	Current Limit time	r	×	Sec
	Brake Max. Duty		×	8
Clear	Reverse Max Duty	,	×	8
	Neutral Brake		×	8
	Boost		×	]
Futaba	Brake timer		×	Sec
MC050CR Link	Reverse mode shi	ft level	×	%
Version 1.10	Lead Angle		×	
CommPort was initialized.				

#### "ComPort was initialized."

Shows the COM port setting state. (Displayed when MC950CR Link program starts.)

Since the COM port is set even if the wrong COM number is set, this message is displayed.

However, when the MC950CR tries to communicate with the CIU-2, "RS232 communication fault" is displayed, and communication with the CIU-2 becomes impossible.

MC950CR Link	$\mathbf{\times}$
RS232 communication fa	ault.
ОК	

#### "LabelStatus"

COM number is not set.

Select the correct COM number from the ComPort menu. (See Page 8.)

#### "ComPort cannot be opened."

The CIU-2 is not connected to the USB port of the PC

#### "Completion"

Displayed when read, write, clear, and initialization of each data ends normally.

#### "Get data failed.","Clear data failed","Reading failed","Wrating failed","Default Writing failed"

When read, write, clear, or initialization of each data did not end normally, the message shown at the right is displayed. When the "OK" button is clicked, this message is displayed. (See Pages 10, 13, 14, 20, and 22.) When communication with the CIU-2 was attempted when the wrong

COM number was set, the message shown at the right is displayed. When the "OK" button is clicked, this message is displayed. Since the COM number is wrong, communication with the CIU-2 is impossible. Set the correct COM number at the "ComPort" menu. (See Page. 8.)



MC950CR Link	×
RS232 communication	fault.
ОК	

# MC950CR Link program removal (uninstall)

To remove (uninstall) the MC950CR Link program from the computer, use the Windows "Add/Remove Programs" function. Since the operation method differs with the OS used, refer to Windows help, etc.

- **1.** Open "Control Panel" from the "Start" button at the bottom right side of the Windows XP desktop.
- 2. Launch "Add/Remove Programs" from the opened "Control Panel".
- **3.** After "Add/Remove Programs" is displayed, select "MC950CR Link" and click the "Change/Remove" button.

🐻 Add or Remo	ove Programs			
Change or	Currently installed programs:	] Show up <u>d</u> ates	Sort by: Name	*
Remove Programs	MC 950CR Link		Size	0.11MB
1	Click here for support information.		Used g	occasionally
Add <u>N</u> ew Programs	To change this program or remove it from your computer, click	Change or Remove.	Last Used On Change	7/9/2009 Remove
6	With the second			$\uparrow$
Add/Remove <u>W</u> indows Components	Clic	k the "Remove	" button.	
Set Program Access and Defaults				

**4.** "Are you sure you want to completely remove MC950CR Link and all of its components?" is displayed. Click the "Yes" button.

Add or Remove Programs	
?	Are you sure you want to remove MC950CR Link from your computer?
	Yes No
Click the "Yes" button.	

**5.** This completes removal (uninstall) of the MC950CR Link program.