

# NATIONAL CONTROL DEVICES COMM Operator Quick Start Guide

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File Edit	View Operate	Tools Help		
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Quick Send -	Standard ] Clear 🔲 Add to List	Add CR 🔲 Check Sum Length: (	0x0 [Hex]	Send DEC Send Repeatedly Edt Rate: 1 Calc
Log Data		1 A 7 7	·····	Format
				◯ Text ◯ Hex ⊙ Dec
		✓ Show Send Clear   ✓ Show Time Copy		
Sond Data List		<b>▼</b> 33	••••••	
Name	Туре	Content	Comments	Send Item Send & Go Next
<		117		Repeatedy Rate: 10   Send Automatically Interval: Close Kare Edit Load Load Save As Save All Close
Connected   P	ort: COM11   Baud Ra	te: 115200   Data Bits: 8   Parity: None   I	DTC: None   Recv:0/0   Send: 0/0	

Testing and Troubleshooting Device Communications NATIONAL CONTROL DEVICES

# **Comm Operator**

**Testing and Troubleshooting Device Communications** 

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#### Chapter

# Introduction

**Comm Operator** is a powerful communication tool that can be used in testing NCD boards, in developing applications for NCD boards, and in deploying applications. The main focus of Comm Operator is on communicating with your device. It is a reliable program and can help you discover if you are able to communicate with the device in order to help pinpoint problems.

#### Features:

- ➢ Communicate with Serial Port, TCP/IP and UDP
- Send/receive data in Text, Hex and Decimal format
- Support sending a file
- Support specific panel for NCD relay boards
- Support terminal panel and RST/DTR control
- Support structured data and customized panel
- > Send data repeatedly with specified interval automatically
- Send data automatically according to predefined rules
- Send large data in a separate thread
- Support three types of build-in checksum
- Work with multiple send data list
- > Create send data list from Text, Hex and Decimal files directly
- Copy and paste data between different list
- > Drag and drop to open send data list directly
- ➢ Keep log file automatically
- > Detect all available COM ports automatically
- ➢ Keep all settings for later use

#### **Getting Started:**

You will need to download and install the latest version of Comm Operator software.

You may download the Comm Operator program on our website: http://www.controlanything.com/Relay/Device/COMM\_OPERATOR

Or download directly from: http://www.serialporttool.com



#### Chapter

# **Using Comm Operator**

These instructions will explain how to use the Comm Operator software program with NCD devices. You may also find a tutorial on our website at the following location:

http://www.controlanything.com/Relay/Device/COMM OPERATOR

Comm Operator can communicate with NCD devices through both the Serial Port and TCP Client.

Step 1: Open Connection

- Connect NCD device.
- Start Comm Operator software.
- From the main screen click "File" and then 'Open Connection

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🚱 Comm Operator							
	File	Edit View	Operate	Tools	Help		
		New Comm Ope					
		Save As COP File					
		Open Connection					
		Close Connection	n F6				
		Quick Open	F5	Ad	d CR 📃		
ļ		Save Log Data					

This will open the following 'Open Connection' dialog box.

Connect using the appropriate interface (Port or IP Address)



#### Option 1

#### Connecting through serial port

- Click on the 'Serial Port' tab.
- Select the 'Port Name' of the port that your device is connected to.
- Set the Baud Rate. (default baud rate is 115200)
- Click 'Open'

Serial Port TCP Serve	r TCP Client UDP HTTP Profiles	
Serial Port Setting		Add to Profiles
Port Name	COM9 -	Name Link1 Add
Baud Rate	115200 💌	
Byte Size	8	
Parity	None	
Stop Bits	1 •	
Data Flow Control	None 🔻	
Input Buffer	1024	
Output Buffer	1024	

#### Option 2 Connecting through TCP Client

- Click on the 'TCP Client' tab.
- Enter the IP Address of your device.
- Enter the Port number (*default 2101*)
- Click 'Open'

Open Connection	×
Serial Port TCP Server TCP Client UDP HTTP Profiles	
TCP Client Setting	Add to Profiles
IP Address 127 0 0 1	Name Link 1 Add
Connection Port 2101	
Interface information for Ryan-Touch-PC.	
Ethemet NIC (NDIS 6.20) Physical Address : 002215827104	
IP v4 Address :192.168.0.4	
-	
<u>O</u> pen <u>C</u> ancel	



There are two main views that will be used when communicating with NCD devices: Standard and NCD Relay Board. **The following example will be shown in standard view**. In standard view, always use decimal format.

Step 2:	Comm	Operator	Settings
- 1		1	0

A. Select 'Standard' from the 'View' menu

B. Select 'DEC' at the right of 'Quick Send' box

C. Select 'Dec' at the right of the 'Log Data' box



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8	s 🗞 🔒	🕨 🛯 🔲 🕂 🔡 🧿		
Quick Send	d - Standard			
254,33				<u>S</u> end DEC ✓
				Send Repeatedly Edit
	Clear Add to	blist 🗌 Add CR 📄 Check Sum Length	: 0x2 [Hex]	Rate: 1 🚔 Calc
		ا <u>ــــــــــــــــــــــــــــــــــــ</u>	*****	
Log Data	4.36.10) 254	33		Format
Rec:(14	:36:10)85			◯ Text ◯ Hex ⊙ Dec
				Show Send Clear
				Show Time Copy
			*****	Show Time Copy
Send Data L	List		•••••••••••	Show Time Copy
Send Data L Name	ist	Content	Comments	Send Item Send & Go Next
Send Data L Name	List Type	Content	Comments	Send item Send & Go Next
Send Data L Name	List Type	Content	Comments	Send Item Send & Go New Rate:
Send Data L Name	Type	Content	Comments	Send Item Send & Go Next Repeatedly Rate: 10 © Send
Send Data L Name	List Type	Content	Comments	Send Item Send & Go Next Repeatedly Rate: 10 - Send Automatically
Send Data L Name	ist Type	Content	Comments	Send Item Copy Send Item Send & Go Next Repeatedly Rate: 10 © Send Automatically Interval: Save As
Send Data I	ist Type	Content	Comments	Send Item Copy Send Item Send & Go Next Repeatedly New Rate: 10 © Send Load Automatically Interval: 1 © sec Save All
Send Data L	ist Type	Content	Comments	Send Item Copy Send Item Send & Go Next Repeatedly New Rate: 10 © Send Load Automatically Interval: 1 © sec Save All Save All Save All Cose

Step 3: Test Communication

The first command sent should be 254,33 to test if Comm Operator is able to communicate with your device. It will return 85 if communication is working.

- Type 254,33 in the 'Quick Send-Standard' textbox as shown below. (marked as D)
- Click 'Send' or press 'Enter' on the keyboard to complete the command.

The results will display in the 'Log Data' textbox, as well as the current time as shown below in blue. (marked as E)



There are additional features that you may find helpful when testing communication with your device.

- A. If you click the 'Clear' checkbox located under the 'Quick Send' textbox, the program will clear the command from that box after you send it.
- B. If you click the 'Add to List' checkbox also located under the 'Quick Send' textbox, the program will record each command in the 'Send Data List' found at the bottom of the Comm Operator window.
- C. If you wish to send a command repeatedly, click the 'Send Repeatedly' button. You may adjust the frequency that the commands are sent by changing the 'Rate'.





#### **Helpful Hints**

For the ProXR relay board, send 254,108,1 to turn on first relay in bank 1. The program will return 85 if it works correctly and you should hear a click on your relay board.

Next send 254,100,1 to turn off the first relay in bank 1. The program will again return 85.

Send 254, 150 to read input on AD1. You will receive a value from 0-255. Please refer to the command set in the Quick Start Guide for your device for additional command information

O Comm Opera	ator						
<u>F</u> ile <u>E</u> dit	<u>V</u> iew <u>O</u> perate <u>T</u> o	ols <u>H</u> elp					
88	s						
Quick Send - Sta	andard						
	Send     DEC ▼       Send Repeatedly     Edit						
< > 🗸 (	Clear 📝 Add to List 🗌	Add CR Check Sum Length: 0x0 [Hex]		Rate: 1 🚔 Calc			
Log Data		L	* ▲	Format			
Send: (15:1) Rec: (15:19	Send: (15:19:23) 254 108 01 Rec: (15:19:23) 85						
Send: (15:20 Rec: (15:20 Send: (15:2	0:03) 254 100 0 :03)85 0:28) 254 150	1		Show Send			
Rec:(15:20	:28)255			Show Time Copy			
		••••••••••••••••	• • • I				
Send Data List							
Name	Туре	Content	Comments	Send Item Send & Go Next			
Send00002	Dec	254 33	2:37:19 PM	Repeatedly			
Send00003	Dec	254 33	2:47:24 PM	Rate:			
Send00006	Dec	254 100 01	3:16:03 PM	10 Send Edit			
Send00007	Send00007 Dec 254 150 3:16:30 PM						
Send00008	Send00008 Dec 254 108 01 3:19:23 PM						
Send00009	Dec	254 100 01	3:20:03 PM	Interval: Save As			
Send00010	Dec	254 150	3:20:28 PM				
				Save All			
				Loop Start Close			
Connected   Port	III Connected   Port: COM9   Baud Rate: 115200   Data Bits: 8   Parity: None   DTC: None   Recy:12/12   Send: 28/12						

#### Send Data List

Notice in the screen shot above that the last set of commands are recorded. You may save this list and load again to use the same set of commands for testing. This will save you time by allowing you to send the same commands again without having to retype them. You can also set the command list to send automatically at a set interval.

There are files that have saved useful ProXR commands from the 'Send Data List' that you may download from our website, save, and then load into the Comm Operator program.



As mentioned earlier, there are two main views that you will use with NCD devices. Up to this point, the instructions have been shown from Standard view.

#### NCD Relay Board View

The NCD Relay Board view is a view dedicated for use with NCD devices. It contains presets that eliminate a few steps for the user. For example, the first part of the command set (254) has already been entered. Also, it is set to the default decimal format. You will enter the remainder of the desired command in the open boxes under the 'Quick Send-NCD Relay Board' heading, as shown below.

O Comm Operator							
<u>F</u> ile <u>E</u> dit <u>V</u> iew <u>O</u> perate	<u>T</u> ools <u>H</u> elp						
No 200 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
Quick Send - NCD Relay Board							
254 33 ÷ 0 ÷ 0 ÷	Send Repertedly						
Add to List Send on Change Rate: 1							
log Data	1 A 7						
Send: (09:09:43) 254 33			Format				
Rec:(09:09:44)85			O Text O Hex ⊙ Dec				
			Show Send Clear				
			Show Time Copy				
<u> </u>	I 🖉 -	*****					
Send Data List							
Name Type	Content	Comments	Send Item Send & Go Next				
Send00002 Dec	254.33	2:37:19 PM	Prostati				
Send00003 Dec	254 33	2:47:24 PM	New New				
Send00006 Dec	254 100 01	3:16:03 PM					
Send00007 Dec	254 150	3:16:30 PM					
Send00008 Dec	254 108 01	3:19:23 PM	Automatically				
Send00009 Dec	Send00009 Dec 254 100 01 3:20:03 PM						
Send00010 Dec	254 150	3:20:28 PM					
			1 🚖 sec 🔻 Save All				
			✓ Loop Start Close				
< III > Coop Stat. Close							
Connected   Port: COM9   Baud Ra	ite: 115200   Data Bits: 8   Parity: None   [	DTC: None   Recv:1/1   Send: 2/1	.::				



#### Chapter

# 3

# **Technical Support**

Technical support is available through our website, <u>controlanything.com</u>. AccessNCD is the way we connect NCD engineers to our customers.



*Click on the* **AccessNCD** *button located on the top right of the header of each page of our website.* 

For technical support and application information, contact Travis Elliott, our technical engineer. If you feel that you have discovered a bug in the firmware of our controllers, contact Ryan Sheldon, our hardware developer. If you have programming-related questions or have discovered a bug in our software, please contact Shirui Xu, our software engineer.



Click the 'Tech Support Staff' tab and click on the appropriate engineer link for assistance. Click on our 'Forum' tab if you would like to post publicly or review problems that other customers have had and our recommended solutions.



Our engineers monitor questions and respond continually throughout the day. Before requesting telephone technical support, we ask that customers please try to resolve their problems through **AccessNCD** first. However, for persistent problems, NCD technical support engineers will schedule a phone consultation.

### **Contact Information**

National Control Devices, LLC PO Box 455 Osceola, MO 64776 417-646-5644 phone 866-562-0406 fax Open 9 a.m. - 4 p.m. CST

All orders *must* be placed online at our website, www.controlanything.com

#### **Notice:**

The only authorized resellers of NCD products are

- <u>www.controlanything.com</u>
- <u>www.relaycontrollers.com</u>
- <u>www.relaypros.com</u>
- www.amazon.com

All other websites are not authorized dealers; we have noticed some retailers offering our products fraudulently.

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