



# Serial DCD Signal with Automation Control

Tech Note – TN043  
March 1, 2018

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# Introduction

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Ctek's Z4500 and Z4550 Series platforms offer 1 RS-232 serial interface without the DCD signal; however, is now accessible through the Automation Control Application. This document will describe how to externalize the DCD signal on the device's digital output pin using the Automation Control Application.

## Applicability

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This document is applicable to the following hardware models:

- Z4500XXX
- Z4550XXX
- Z44009XX
- Z42009XX

This feature is enabled from firmware release 6.00.12.01 (selective update 0001) and greater.

## Methodology

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The following procedure must to be completed to use the DCD signal of the serial interface:

1. Create a Virtual Digital Input with Serial DCD as the source
2. Create a Virtual Digital Output on Pin 1
3. Create a program to toggle the virtual output
4. Tie the program to the state of the virtual input

## Implementation

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### Create DCD State Program

From the Automation Control configuration area:

1. Select Programs and New Program
2. Enter the following program:

Name: DCD Signal State  
1. Digital I/O – Set o 1 i 1

This program will set output on pin 1 to the value of input at pin 1. The input and output will be defined next. Output 1 is directly tied to Pin 3 (DO) of the Ctek device.

### Serial DCD as a Virtual Input

Assuming the first module in the system is Virtual I/O module, from the Automation Control configuration area:

1. Select **Inputs** and click on the button to configure Virtual **Input 1**
2. Select the **Digital** type tab
3. Select **Serial DCD** for **Primary Source**
4. Under **Alarms/Programs**, select the DCD Signal State program for the **Off State** and **On state**
5. Fill-in all the other options as necessary

## Serial DCD via Physical Digital Out

Assuming the first module in the system is Virtual I/O module, from the Automation Control configuration area:

1. Select **Outputs** and click on the button to configure Virtual **Output 1**
2. Select the **Digital** type tab
3. Give the output a **Name** and fill-in all the other options as necessary



*The default configuration for the Automation Control Application has a Virtual IO Module at location 1. When Automation Control is given access to the on-board (Pin 3) Digital Out, it is configurable from Pin 1 on Virtual IO Module at location 1*

## Grant Automation Control Access to Digital Out

From the **Admin Main** screen:

1. Select **Relay Out**
2. Select **Yes** for **Managed by Automation Control**

## Run Configuration

The configuration is now complete and ready to be executed. From the configuration screen of Automation Control click on **Run Configuration**.

The DCD signal will now be transmitting over Pin 3 of the controller.