

INTRODUCTION

This Application Note describes how to interface the CADDX NX Series of Security Systems to the RCS CommStar line of controllers (CS30/CS308/CS48). The NX-8 can be expanded to 48 zones maximum, the NX-8E expanded to 192 zones maximum. The CommStar controllers support up to 64 security zones.

The CommStar Controllers supports the following CADDX security functions:

- Arm or disarm the system
- Switch between Home and Away modes
- Bypass zones
- Turn the keypad chime mode on and off
- Monitor and act upon partition and zone changes
- Automatically set the alarm panels clock
- Track the status of the security system
- Detect alarm conditions
- Detect zone trouble conditions

CADDX NX Series Configurations

CADDX NX-8, NX-6 or NX-4

These panels require the optional **NX-584** serial interface in order to communicate with the RCS controller.

CADDX NX-8E

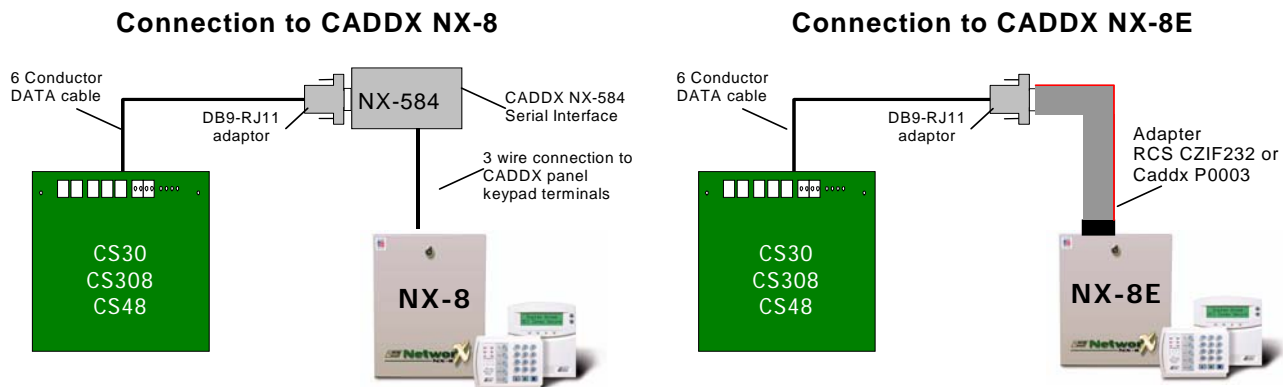
This panel has a built-in serial interface but requires either a Caddx P0003 adaptor cable or an **RCS CZIF232** plug in adapter (PN: 001-01090) to provide a serial connection.

Note: at least one CADDX LCD type keypad is required for alarm system programming and backup for alarm system control.

RCS CommStar Configurations

CommStar CS30, CS308 and CS48 controllers with Version 3.00 (or higher) Firmware/Software.

The CADDX NX panel connects to COM2 or COM3 port of the CommStar controller.



INSTALLATION AND SETUP

Follow the steps described below to install and configure the system.

1. Install Security System - You must first install the security system; refer to the CADDX documentation for details.

CADDX NX-8, NX-6 or NX-4 with the NX-584 Serial Interface

Install an **NX-584** serial interface board into the security system. The NX-584 connects to the POS, GND, and DATA keypad screw terminals on the CADDX panel and provides the RS-232 serial interface (DB-9) that connects to the CommStar controller serial Com port 2 or 3.

The NX-584 has four jumpers (J7, J8, J9, J10) that control the functions of the DB-9 serial port pins.

Leave the NX-584 jumpers in their default positions:

Jumpers J7 & J10 toward DB-9 serial connector (J6),
Jumpers J8 & J9 away from DB-9 serial connector.

CADDX NX-8E

This panel has a built-in serial interface and does not require a NX584. Connect the NX-8E using an RCS Model CZIF232 plug-in adapter (PN: 001-01090) for direct RJ11 to RJ11 connection (or a CADDX P0003 adaptor cable for a DB-9 connection). See connection diagram on page 1.

We strongly recommend you get the security system up and running before connecting it to the controller. This will reduce the likelihood of problems and make troubleshooting much easier.

2. Configure the Security System

The CADDX security system must be configured for serial communications before it can be used with the CommStar controller. The table below shows the required settings and the programming locations for each. Refer to the CADDX Installation Manual for further details on how to program these.

2.1A NX-8/6/4 w/NX584 Serial Communications Setup Programming

On the CADDX LCD keypad, enter into the programming mode: **press * 8 9 7 1 3 7 2 #** (default codes)
Proceed with programming the following locations: Enter location code followed by #.

REQUIRED SETTING	Enter Location	Followed by	Segment	Bits to turn ON	Followed by
Set to ASCII Mode	0	# key	1	1 - - - - -	* key
Set to 9600 baud	1	# key	1	- - - 4 - - - -	* key
Enable Transitions	2	# key	1	- - - - - 6 7 (8)*	* key
Command/Request Enables	3	# key	1	- 2 - 4 5 6 7 8	* key
Request functions	3		2	1 2 3 - - - - -	* key
	3		3	- - - - -	* key
Enable keypad functions	3		4	- - 3 4 5 6 7 8	* key
Exit Device Setup	Exit key				
Exit Programming Mode	Exit key				

* Do not enable bit 8 for firmware versions 3.08.7 or later

2.1B NX-8E Serial Communications Setup Programming

On the CADDX LCD keypad, enter into programming mode: (all passcodes are default factory codes)
 Enter programming mode = * 8
 Enter programmer passcode = 9 7 1 3
 Select Device = 0 # (0 = Controller board)

Press * 8 9 7 1 3 0 # in sequence

Proceed with programming the following locations: Enter location code followed by #.

REQUIRED SETTING	Enter Location	Followed by	Segment	Bits to turn ON	Followed by
Enable Serial Port	207	# key	1	1	* key
Set to 9600 baud	208	# key	1	- 2 - - - - -	* key
Set to ASCII Mode	209	# key	1	1 - - - - -	* key
Enable Transitions	210	# key	1	- - - - - 6 7 (8)*	* key
	210		2	1 2 - - - - -	* key
Command/Request Enables	211	# key	1	- 2 - 4 5 6 7 8	* key
Request functions	211		2	1 2 3 - - - - -	* key
	211		3	- - - - -	* key
Enable keypad functions	211		4	- - 3 4 5 6 7 8	* key
Exit Device Setup	Exit key				
Exit Programming Mode	Exit key				

* Do not enable bit 8 for firmware versions 3.08.7 or later

3. Connect to the CommStar Controller.

For NX4/6/8 systems, connect a DB-9 to RJ-11 adaptor to the NX-584 serial DB9 connector. Connect the RJ11 data cable to the adaptor and to the CommStar controller's COM2 or COM3 port.

For NX8E systems, install an RCS Model CZIF232 plug-in adapter in the NX8E PCB connector J11. Connect a 6 wire data cable from the CZIF's RJ11 to the CommStar controller's COM2 or COM3 port.

4. Configure CommStar Controller with the WinEVM Software.

WinEVM is the PC based control software for CommStar Controllers. Follow these steps to configure the CommStar controller to communicate with the Caddx panel.

1. Start WinEVM and connect the PC serial port to Com1 on the CommStar Controller
2. Open the Security System Configuration screen under the Define menu.
3. In the Security System Type box, select "CADDX NetworX".
4. In the "Serial Port Used" box, select the CommStar's serial port number (2 or 3) the security system is connected to.
5. Enter zone name (Zone1, Front Door, etc.) for each zone used. This name will be used in your schedule and show up in the activity log.
6. When done, click OK.
7. WinEVM will configure the controller serial port for use with the CADDX Security Panel.

5. Verifying Communications with CommStar Controller

Open the WinEVM MegaController and use the Activity Log to monitor security panel activity to verify the controller is communicating with the security system properly.

Arm the Security System. Enter passcode into security system keypad.

You may see 1 or up to 8 partitions show ready in the log: SEC Part 1: READY

You should see the system arming in the log. SEC Part 1: ARMED EXITDELAY START
SEC Part 1: EXITDELAY END

Disarm the Security System. Enter passcode into security system keypad.

You should see the system disarming in the log. SEC Part 1: DIS-ARMED

Faulted Zones will show up in the log as: SEC "Zonename": FAULTED

When Fault is corrected this will show in the log: SEC Part 1: READY
SEC "Zonename": OK

If no activity is observed in the MegaController Activity Log, click "Logging Messages" (above the MegaController Activity Log box) and verify SECURITY box is also selected.

If there is still no activity observed, try the following:

- a) Remove power from the security system, then reapply it.
- b) Verify the serial cable is properly connected between the controller and the CADDX panel.
- c) Be sure you have the correct cable type (data).
- d) Verify the CADDX and WinEVM parameters were set up properly.

6. Using Security System variables in WinEVM Schedules.

With the CADDX system connected and communicating, you can use the "IF" and "THEN SECURITY" statements in WinEVM schedules and Macros.

Refer to the WinEVM programming manual DCN: 141-00550.

Following is a summary list of the Security Commands and Conditions.

WinEVM SECURITY SYSTEM COMMANDS

The following security system commands can be used anywhere in a WinEVM schedule.

Arm partition in Home Mode

This command arms the partition(s) in the Home (Stay) mode. There will be separate check boxes on the screen for each partition in your system. You can select any or all of the partitions to arm.

Arm partition

This command arms the partition(s) specified. There will be separate check boxes on the screen for each partition in your system. You can select any or all of the partitions to arm.

Disarm partition

This command disarms the partition(s) specified. There will be separate check boxes on the screen for each partition in your system. You can select any or all of the partitions to disarm. If an alarm is going off, this command will silence it.

Bypass zone

This command bypasses a particular zone.

Un-Bypass zone

This command un-bypasses a particular zone.

Turn partitions chime mode ON

This command turns on the chime mode for the partition(s) specified. There will be separate check boxes on the screen for each partition in your system. You can select any or all of the partitions to turn on.

Turn partitions chime mode OFF

This command turns off the chime mode for the partition(s) specified. There will be separate check boxes on the screen for each partition in your system. You can select any or all of the partitions to turn off.

Toggle partitions instant mode

This command toggles the "instant" mode for the partition(s) specified. There will be separate check boxes on the screen for each partition in your system. You can select any or all of the partitions to control. If the partition instant mode is currently off, it will turn on. If it is currently on, it will turn off.

Sound partitions Fire Panic

This command sounds the "fire panic" alarm for the partition(s) specified. There will be separate check boxes on the screen for each partition in your system. You can select any or all of the partitions to sound.

Sound partitions Medical Panic

This command sounds the "medical panic" alarm for the partition(s) specified. There will be separate check boxes on the screen for each partition in your system. You can select any or all of the partitions to sound.

Sound partitions Police Panic

This command sounds the "police panic" alarm for the partition(s) specified. There will be separate check boxes on the screen for each partition in your system. You can select any or all of the partitions to sound.

IF Condition for Caddx User Number

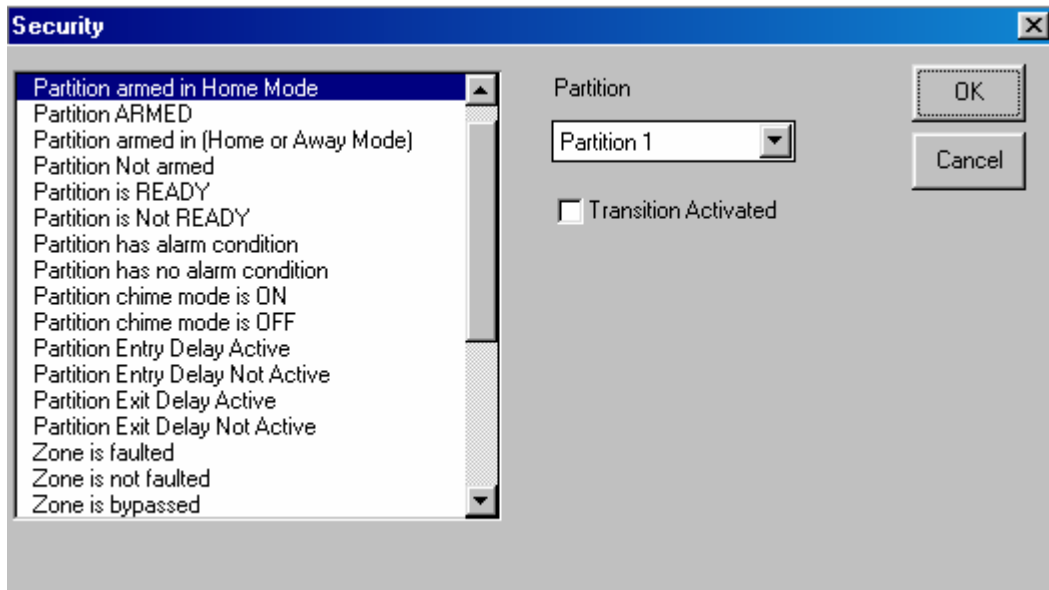
Partition messages (Arm, Disarm, etc) contain a user number that can be used in IF conditions.

Then Condition for Caddx User Number to user_VAR

Then action moves a partition message user number to a user defined variable.

WINEVM SECURITY SYSTEM CONDITIONS

The following security system conditions can be checked in an If-Then statement anywhere in a schedule.



Transition Activated

At the start of every schedule pass, the controller will process the information the CADDX security panel has sent. Any changes to partitions or zones will cause an internal “transition” state to be set for that pass through the schedule, the “transition” state will be cleared at the end of the schedule pass.

By selecting the “Transition Activated” checkbox, the IF condition will be TRUE when the condition **goes** active, as opposed to when the condition **is** active. This is best explained in an example:

```
EVENT: Partition Armed
  If
    Partition ARMED[Partion 1] TRANSITION
  Then
    LCD: Red LED ON [KP:ALL]
  End
```

In this example the LCD Keypads Red LED will be turned ON at the time the security panel gets armed.

```
EVENT: Security Lights
  If
    Partition ARMED[Partion 1]
    and Sunset SMTWTFs -Security Mode-
  Then
    X10: F-1 Front Porch Lt ON
  End
```

In this example the Front Porch light will turn ON if the security panel IS armed (as opposed to GOES armed) and the time is Sunset. Note that if “Transition Activated” was used the Event would trigger only if the security panel became armed at the same time as Sunset.

SUMMARY OF SECURITY SYSTEM CONDITIONS

Partition ARMED

This condition is true if the specified partition is currently ARMED.

Partition armed in Home Mode

This condition is true if the specified partition is currently armed in the Home (Stay) mode. It will be false if armed in the Away mode or disarmed.

Partition armed in (Home or Away Mode)

This condition is true if the specified partition is currently armed in the HOME (Stay) or AWAY mode.

Partition Not Armed

This condition is true if the specified partition is currently disarmed.

Partition is READY

This condition is true if the specified partition is currently ready to arm.

Partition is Not READY

This condition is true if the specified partition is currently not ready to arm.

Partition has alarm condition

This condition is true if the specified partition currently has an alarm condition.

Partition has no alarm condition

This condition is true if the specified partition currently does not have an alarm condition.

Partition chime mode is ON

This condition is true if the specified partition's chime mode is currently on.

Partition chime mode is OFF

This condition is true if the specified partition's chime mode is currently off.

Partition Entry Delay Active

This condition is true if the specified partition has its Entry Delay in progress.

Partition Entry Delay Not Active

This condition is true if the specified partition's Entry Delay is not in progress.

Partition Exit Delay Active

This condition is true if the specified partition has its Exit Delay in progress.

Partition Exit Delay Not Active

This condition is true if the specified partition's Exit Delay is not in progress.

Zone is faulted

This condition is true if the specified zone is currently faulted.

Zone is not faulted

This condition is true if the specified zone is not currently faulted.

Zone is bypassed

This condition is true if the specified zone is currently bypassed.

Zone is not bypassed

This condition is true if the specified zone is not currently bypassed.

Zone is in trouble condition

This condition is true if the specified zone is currently in a "trouble" condition.

Zone is not in trouble condition

This condition is true if the specified zone is not currently in a "trouble" condition.

Zone has alarm in memory

This condition is true if the specified zone has an alarm stored in its memory (i.e., this zone is currently or was previously in an alarm condition).

Zone does not have alarm in memory

This condition is true if the specified zone does not have an alarm stored in its memory.

Any zone is faulted

This condition is true if any of the system zones are currently faulted.

Any zone is bypassed

This condition is true if any of the system zones are currently bypassed.

Any zone is in trouble condition

This condition is true if any of the system zones are currently in a "trouble" condition.

Any zone has an alarm in memory

This condition is true if any of the system zones currently have an alarm stored in memory.

REFERENCES

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