Release Notes

September 2005

Release Notes for Firmware Version 4.10

Trademarks

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1.0 Remote Programming Compatibility

Use Remote Programming Software-International, RPS-INT'L, version 3.7.140 or later to program the DS7400XiV4 control panel.

2.0 New Features in Firmware Version 4.10

2.1 Network Communication

With a DX4020 Network Interface Module (NIM), you can:

- Configure the control panel to communicate over an Ethernet network
- Send reports over this network from the control panel to the central station receiver
- Perform remote programming with RPS over this network

Refer to the *DX4020 Network Interface Module Installer's Guide* (P/N: 49522) for installation and configuration instructions. Refer to *Section 2.1.1 Network Communication Report Routing* on *page 1* through *Section 2.1.9 Programming Baud Rate for Network Communication* on *page 5* for network communication configuration information.

You can also connect a DX4010i to a serial printer for report printing. Refer to *Section 2.1.10 Programming Modules 1 and 2 for RS-232 Printing* on *page 5* and *Section 2.1.11 RS-232 Printer Baud Rate Programming* on *page 5* for RS-232 printer configuration information.

You can connect up to two modules to the control panel. Configure the DX4020 and DX4010i as described in *Table 1*.

Table 1: Module Configuration Combinations

Combination Number	Module 1 (Address 13)	Module 2 (Address 14)
1	DX4010i[1]	Not used
2	DX4020[2]	Not used
3	DX4020[2]	DX4010i[3]
4	DX4020[2]	DX4020[4]

[1] - Supports both RS-232 printing and RPS direct connect.
[2] - Supports both central station reporting and RPS programming.
[3] - On Module 2, the DX4010i only supports RS-232 printing.
[4] - On Module 2, the DX4020 only supports central station reporting.

2.1.1 Network Communication Report Routing

Program whether open and close reports, alarm and trouble reports, and system reports are routed using the digital communicator (phone), network communication (Internet Protocol [IP]), or both.

- **Address:** 3025
- **Data Digit:**
  - **Data Digit 1:** ____ (refer to *Table 2*; default = 0)
  - **Data Digit 2: Must = 0**
- **Selections:** 0 to 4

Table 2: Network Communication Report Routing Options

Select Options	0	1	2	3	4
Disabled	•				
Use IP with phone as backup		•			
Use phone with IP as backup			•		
Use IP only				•	
Use both phone and IP					•

2.1.2 Network Communication Routing

Select how the control panel routes network communication attempts.

- **Address:** 3026
- **Data Digit:**
  - **Data Digit 1: ____** (refer to *Table 3*; default = 0)
  - **Data Digit 2: Must = 0**
- **Selections:** 0 to 3

Table 3: Network Communication Routing

Select Options	0	1	2	3
Use IP Module 1 only	•			
Use IP Module 2 only		•		
Use IP Module 1 as primary and Module 2 as backup			•	
Use both IP Module 1 and 2				•

2.1.3 Network Communication Heartbeat Interval

Set the rate at which the DX4020 polls the receiver.

The heartbeat interval requires four data digits. For example, to program a five-second heartbeat interval, program Data Digit 1 as **0**, Data Digit 2 as **0**, Data Digit 3 as **0**, and Data Digit 4 as **5**.

Program the heartbeat interval using HEX values. *Table 4* shows the keypad keys you must press to generate HEX characters A through F. *Table 19* on *page 8* shows the HEX-to-decimal conversion values.

- **Addresses:** 3027
- **Data Digit:**
  - **Data Digit 1: ____**
  - **Data Digit 2: ____**
  - **Data Digit 3: ____**
  - **Data Digit 4: ____**
- **Values:** 0 (disabled), 5 sec to 65535 sec
- **Default:** 0000 (disabled)
- **Selections:** 0 to 9, *0 to *5 (hexadecimal values that display as A through F at the keypads). Use these selections to enter valid heartbeat values, such as:
  - **0000** = disabled
  - **0005** = 5 sec
  - **000A** = 10 sec
  - **FFFF** = 65535 sec

Table 4: HEX Character Values

Keys Pressed	HEX Character
[*][0]	A
[*][1]	B
[*][2]	C
[*][3]	D
[*][4]	E
[*][5]	F

2.1.4 Network Communication Wait for Ack Time

Set the amount of time that the DX4020 waits for an acknowledgment from the receiver before polling it again.

The wait for acknowledgement time requires four data digits. For example, to program a five-second ack time, program Data Digit 1 as **0**, Data Digit 2 as **0**, Data Digit 3 as **0**, and Data Digit 4 as **5**.

The ack time is programmed using HEX values. *Table 4* shows the keypad keys you must press to generate HEX characters A through F. *Table 19* on *page 8* shows the HEX-to-decimal conversion values.

- **Addresses:** 3029
- **Data Digit:**
  - **Data Digit 1: ____**
  - **Data Digit 2: ____**
  - **Data Digit 3: ____**
  - **Data Digit 4: ____**
- **Values:** 0 (disabled), 5 sec to 65535 sec
- **Default:** 0000 (disabled)
- **Selections:** 0 to 9, *0 to *5 (hexadecimal values that appear as A through F at the keypads). Use these selections to enter valid ack time values, such as:
  - **0005** = 5 sec
  - **000A** = 10 sec
  - **FFFF** = 65535 sec

2.1.5 Network Communication Module 1 and Module 2 Ack and Message Type Configuration

Select if an acknowledgment from the receiver is required for each alternate communication route. Also select if anti-replay is required for each alternate communication route.

Anti-replay is a strategy designed against replay attacks. A replay attack occurs when a hacker records a message sent over the network by Device A. The hacker replays this message at a later time while pretending to be Device A. This feature prevents substituting a control panel and network interface module (NIM) for delivering events over a network.

- **Addresses:** 3031 (Module 1) and 3032 (Module 2)
- **Data Digit:**
  - **Data Digit 1:** ____ (refer to *Table 5*; default = 1)
  - **Data Digit 2:** ____ (refer to *Table 6*; default = 0)
- **Selections:** 0 or 1 for Data Digit 1; 0 to 3 for Data Digit 2

Table 5: Ack Usage

Data Digit 1 Select Options	Value
Do not use central station ack	0
Use central station acks	**1**

Table 6: Network Communication Routing

Data Digit 2 Select Options	0	1	2	3
Anti-replay off	•		•	
Anti-replay on		•		•
Use Cobox™ header	•	•		
Do not use Cobox™ header			•	•

2.1.6 Network Communication Module 1 Central Station IP Address

Set the IP address of the central station receiver used by Network Communication Module 1.

Each section of the IP address is stored in Address 3033, in HEX format. After entering all four sections, press [#] to accept the values. For example, to program the IP address **172.16.17.11**, enter **AC 10 11 0B [#]**. *Table 4* on *page 2* shows the keys you must press to generate HEX characters A through F. *Table 19* on *page 8* shows the HEX-to-decimal conversion values.

- **Addresses:** 3033
- **Default:** 00 00 00 00
- **Selections:** 0 to 9, *0 to *5 (hexadecimal values that appear as A through F at the keypads).

2.1.7 Network Communication Module 2 Central Station IP Address

Set the IP address of the central station receiver used by Network Communication Module 2.

Refer to *Section 2.1.6 Network Communication Module 1 Central Station IP Address* for more information.

- **Address:** 3037
- **Default:** 00 00 00 00
- **Selections:** 0 to 9, *0 to *5 (hexadecimal values that appear as A through F at the keypads).

2.1.8 Programming Modules 1 and 2 for Network Communication

Enable or disable the network communication module.

- **Addresses:** 4019 (Module 1); 3041 (Module 2)
- **Data Digit:**
  - **Data Digit 1:** ____ (refer to *Table 7*; default = 0)
  - **Data Digit 2: Must = 0**
- **Selections:** 0 or 1 for Data Digit 1

Table 7: Network Communication Module 1 and 2 Configuration

Select Option	Value
Module disabled	**0**
Module enabled	1

2.1.9 Programming Baud Rate for Network Communication

If the network communication module is enabled, configure its baud rate.

DX4020 Network Interface Module: Configure Addresses 4020 for Module 1 and 3042 if using Module 2 as **4 1**. Refer to *Table 8* and *Table 9* on page 4. Also configure Addresses 4019 and 3041 as **1 0**. Refer to *Section 2.1.10 Programming Modules 1 and 2 for RS-232 Printing* on page 4.

RPS Direct Connection option for programming using Module 1: Configure Address 4019 as **1 0**, and configure Address 4020 as **2 5**. Refer to *Table 8* and *Table 9* on page 4.

Remote programming is only available through Network Communication Module 1.

- **Addresses:** 4020 (Module 1); 3042 (Module 2)
- **Data Digit:**
  - **Data Digit 1:** ____ (refer to *Table 8*; default = 0)
  - **Data Digit 2:** ____ (refer to *Table 9*; default = 0)
- **Selections:** 0 to 5 for Data Digit 1; 0 to 7 for Data Digit 2

Table 8: Module 1 and 2 Baud Rate, Data Digit 1

Select Option	Value
300 baud	**0**
1200 baud	1
2400 baud	2
4800 baud	3
9600 baud	4
14400 baud	5

Table 9: Parity, Flow Control, Stop Bits, and Data Bits Configuration, Data Digit 2

Select Options	0	1	2	3	4	5	6	7
No Parity	•	•	•	•				
ODD Parity					•	•		
EVEN Parity							•	•
Software Flow Control	•		•		•		•	
Hardware Flow Control		•		•		•		•
1 Stop Bit	•	•			•	•	•	•
2 Stop Bits			•	•				
8 Data Bits	•	•	•	•	•	•	•	•

2.1.10 Programming Modules 1 and 2 for RS-232 Printing

You can use Module 1 or 2 to connect the control panel to an RS-232 printer. Most printers operate using the default values, but some printers operate more efficiently using optional program values. Refer to *Section 2.1.11 RS-232 Printer Baud Rate Programming* for baud rate configuration.

Consult the operation guide provided with your printer to ensure that its configuration matches the one programmed here.

- **Addresses:** 4019 (Module 1); 3041 (Module 2)
- **Data Digit:**
  - **Data Digit 1:** ____ (refer to *Table 10*; default = 0)
  - **Data Digit 2:** ____ (refer to *Table 11*; default = 7)
- **Selections:** 0 or 1 for Data Digit 1; 0 through 7 for Data Digit 2

Table 10: RS-232 Printing Using Module 1 and 2

Select Option	Value
Module disabled	**0**
Module enabled for printing	1

Table 11: RS-232 Event Printing Configuration, Data Digit 2

Select Options	0	1	2	3	4	5	6	7
No Events	•							
Alarms, Troubles, and Restorals		•		•		•		•
Opens and Closes			•	•			•	•
All Other Events					•	•	•	•

Table 12 shows the available options when you install two RS-232 modules on one system.

Table 12: Network Module Options

Network Module	Available Options		
	Print	Direct Connect/ Alt Comm RPS Connection	AltComm Reporting
Module 1	Yes	Yes	Yes
Module 2	Yes	No	Yes

If both network modules are enabled, only the second module prints history reports.

2.1.11 RS-232 Printer Baud Rate Programming

You can configure the network communication module's baud rate if you are using it to connect the control panel to an RS-232 printer.

- **Addresses:** 4020 (Module 1); 3042 (Module 2)
- **Data Digit:**
  - **Data Digit 1:** ____ (refer to *Table 13*; default = 0)
  - **Data Digit 2:** ____ (refer to *Table 9*; default = 0)
- **Selections:** 0 to 5 for Data Digit 1

Table 13: Module 1 and 2 Baud Rate, Data Digit 1

Select Option	Value
300 baud	**0**
1200 baud	1
2400 baud	2
4800 baud	3
9600 baud	4
14400 baud	5

2.2 Door Access Control Module (DACM) Support

Use **Keypad/DACM Assignment Programming** to assign a keypad or DACM to a keypad bus address, and to identify its area (partition).

The DS7400XiV4 supports up to eight DACMs. Each DACM must have a unique keypad bus address.

You can only assign a DACM to Keypad Bus Addresses 3 to 10.
You cannot assign a DACM and a keypad to the same address.

Once a DACM is assigned to a keypad bus address, the control panel forces Zones 9 through 16 to the DACM door contact zone type. If you remove all DACMs from the system, Zones 9 through 16 return to their programmed values. Although the zone type is forced, the zone function programming applies. Refer to *Table 14*, and the *DS7400XiV4-EXP Control Panel Reference Guide* (P/N: 4998154963).

Refer to the *DACM Installation Instructions* (P/N: F01U500999) for more information.

Refer to the *DACM Operation Instructions* (P/N: F01U500997) for instructions on using the DACM with the control panel.

Table 14: DACM Address, Zone, and Zone Function Addresses

Keypad Bus Address that DACM Occupies	Zone	Zone Function Address
3	9	0039
4	10	0040
5	11	0041
6	12	0042
7	13	0043
8	14	0044
9	15	0045
10	16	0046

- **Addresses:** 3132 to 3135
- **Data Digit:** Refer to *Table 15*.
- **Defaults:** Refer to *Table 15*. If using only one keypad, the default is an Alpha keypad belonging to Area 1. Otherwise, the default is 0.

- **Selections:**
  - **Keypad/DACM Type:** 0 to 4 (refer to *Table 16*). Select **4** for DACM.

Table 15: Address 3131 to 3135 Keypad/DACM Assignment Programming

Address	Data Digit	Keypad/ DACM	Default	Assigned Value
3131	1	1*	1	
	2	2*	0	
3132	1	3	0	
	2	4	0	
3133	1	5	0	
	2	6	0	
3134	1	7	0	
	2	8	0	
3135	1	9	0	
	2	10	0	

* Keypad only

Table 16: Keypad/DACM Type (Addresses 3131 to 3135)

Select Options	0	1	2	3	4
Disabled	•				
Alpha (LCD) Keypad		•		•	
LED Keypad			•		
Master Keypad*				•	
Door Access Control Module					•

* If only using one area, do not select Master Keypads. Only use a Master Keypad if you need to view multiple areas from a single keypad.

2.2.1 Keypad/DACM Partition Assignment

- **Addresses:** 3139 to 3146
- **Data Digit:** See *Table 17*
- **Default:** 0
- **Selections:** See *Table 18*

To assign an area (partition) to a keypad or DACM:

1. Select an area assignment from *Table 18*.
   For example, your device is Keypad 1, and you want it in Area 3.
2. Enter the value that corresponds with your area assignment selection in the appropriate address and data digit in *Table 17*.
   For example, enter "2" (in *Table 17*, "2" = Area 3) in Data Digit 1 for Address 3139. Each address supports two devices. For Address 3139, Data Digit 1 supports Keypad 1 or DACM 1; Data Digit 2 supports Keypad 2 or DACM 2.

Table 17: Address 3139 to 3146 Keypad Partition Assignment Selections

Select Option	Value
Belongs to Area 1	**0**
Belongs to Area 2	1
Belongs to Area 3	2
Belongs to Area 4	3
Belongs to Area 5	4
Belongs to Area 6	5
Belongs to Area 7	6
Belongs to Area 8	7

Table 18: Address 3139 to 3146 Keypad/DACM Partition Assignment

Address	Data Digit	Keypad/ DACM	Default	Assigned Value	Address	Data Digit	Keypad/ DACM	Default	Assigned Value
3139	1	1*	0		3143	1	9	0	
	2	2*	0			2	10	0	
3140	1	3	0		3144	1	11	0	
	2	4	0			2	12	0	
3141	1	5	0		3145	1	13	0	
	2	6	0			2	14	0	
3142	1	7	0		3146	1	15	0	
	2	8	0			2	This data digit **must** be 0.		0

* Keypad only

The DACM Partition Assignment's assigned value (*Table 18* and *Table 17*) and the zone partition assignment's assigned value must be the same. For example, if you assign a DACM to Partition 2 and the DACM is assigned to Zone 9, then you must assign Zone 9 to Partition 2. For information on assigning the Zone Partition Assignment's value, refer to *Zone Partition Assignment* in the *DS7400XiV4-EXP Control Panel Reference Guide* (P/N: 4998154963).

Table 19: HEX-to-Decimal Conversion Values

Dec Value	HEX Value	Dec Value	HEX Value	Dec Value	HEX Value	Dec Value	HEX Value	Dec Value	HEX Value	Dec Value	HEX Value
1	01	43	2*1	85	55	127	7*5	169	*09	211	*33
2	02	44	2*2	86	56	128	80	170	*0*0	212	*34
3	03	45	2*3	87	57	129	81	171	*0*1	213	*35
4	04	46	2*4	88	58	130	82	172	*0*2	214	*36
5	05	47	2*5	89	59	131	83	173	*0*3	215	*37
6	06	48	30	90	5*0	132	84	174	*0*4	216	*38
7	07	49	31	91	5*1	133	85	175	*0*5	217	*39
8	08	50	32	92	5*2	134	86	176	*10	218	*3*0
9	09	51	33	93	5*3	135	87	177	*11	219	*3*1
10	0*0	52	34	94	5*4	136	88	178	*12	220	*3*2
11	0*1	53	35	95	5*5	137	89	179	*13	221	*3*3
12	0*2	54	36	96	60	138	8*0	180	*14	222	*3*4
13	0*3	55	37	97	61	139	8*1	181	*15	223	*3*5
14	0*4	56	38	98	62	140	8*2	182	*16	224	*40
15	0*5	57	39	99	63	141	8*3	183	*17	225	*41
16	10	58	3*0	100	64	142	8*4	184	*18	226	*42
17	11	59	3*1	101	65	143	8*5	185	*19	227	*43
18	12	60	3*2	102	66	144	90	186	*1*0	228	*44
19	13	61	3*3	103	67	145	91	187	*1*1	229	*45
20	14	62	3*4	104	68	146	92	188	*1*2	230	*46
21	15	63	3*5	105	69	147	93	189	*1*3	231	*47
22	16	64	40	106	6*0	148	94	190	*1*4	232	*48
23	17	65	41	107	6*1	149	95	191	*1*5	233	*49
24	18	66	42	108	6*2	150	96	192	*20	234	*4*0
25	19	67	43	109	6*3	151	97	193	*21	235	*4*1
26	1*0	68	44	110	6*4	152	98	194	*22	236	*4*2
27	1*1	69	45	111	6*5	153	99	195	*23	237	*4*3
28	1*2	70	46	112	70	154	9*0	196	*24	238	*4*4
29	1*3	71	47	113	71	155	9*1	197	*25	239	*4*5
30	1*4	72	48	114	72	156	9*2	198	*26	240	*50
31	1*5	73	49	115	73	157	9*3	199	*27	241	*51
32	20	74	4*0	116	74	158	9*4	200	*28	242	*52
33	21	75	4*1	117	75	159	9*5	201	*29	243	*53
34	22	76	4*2	118	76	160	*00	202	*2*0	244	*54
35	23	77	4*3	119	77	161	*01	203	*2*1	245	*55
36	24	78	4*4	120	78	162	*02	204	*2*2	246	*56
37	25	79	4*5	121	79	163	*03	205	*2*3	247	*57
38	26	80	50	122	7*0	164	*04	206	*2*4	248	*58
39	27	81	51	123	7*1	165	*05	207	*2*5		
40	28	82	52	124	7*2	166	*06	208	*30		
41	29	83	53	125	7*3	167	*07	209	*31		
42	2*0	84	54	126	7*4	168	*08	210	*32		

2.3 Additional Features

- **Special Dial Timing:** The control panel disconnects after a failed dial attempt and waits 3 sec before dialing again. If the second attempt fails, the control panel repeats this process. If the third dial attempt fails, the control panel disconnects and waits 60 sec before dialing again. The control panel repeats this process up to ten times before it declares a communication failure.
- **A Alarm Output:** You must enable the A B Alarm option (Address 4035) first before using the A Alarm Output option. If you enable A Alarm Output, fault the B point first and then fault the A point before the programmed alarm output changes state.
- **Fast Zone Response:** Zone 8's tamper response time is set to 15 ms.
- **Swap Every 8 Days with Every Hour If Armed Report:** The control panel sends a test report every hour if it is armed. To enable this option, set Address 4026, Data Digit 1, to 9.
- **Partition Needs Account Number for Reports:** The control panel does not send any reports if you do not assign an account number to any partition. If Partition 1 has an account number, then partitions without an account number do not send a report to the central station.
- **Send Partial with Bypassed Points:** The control panel sends a partial closing report when you arm it with bypassed points. To enable this option, enter the desired value in Address 3334.
- **No Multiplex Reset on System Reset:** If you enable this option, multiplex points are not reset when you perform a system reset.
- **20-sec Pager Delay:** By default, the control panel inserts a 20 second delay after the phone number is dialed and before the control panel sends reports to the pager system. To adjust the delay time, set Address 4038 to a value between 0 and 99 sec.
- **No Remote Event if Unchanged:** The control panel does not send the Remote Event report if no programming changes are made during a remote programming session.

3.0 Known Issues in Firmware Version 4.10

- **RF Keyfob Cannot Control Outputs:** You cannot control outputs using an RF keyfob.
- **Multiplex Devices and Address 9995:** To add multiplex devices that do not have DIP switches, use Address 9995. The first zone shown, Zone 009, is reserved for the first DACM door contact. Press and hold [*] until "MUX POINT" appears on the keypad's display. Enter the desired zone number for the multiplex device.
- **Door Forced Open Condition Does Not Send a Report:** You must enable Addresses 3418 (Keypad Tamper) and 3419 (Keypad Tamper Restoral) to send a Door Forced Open (DACM Trouble 75) report.
- **DACM Trouble Events Do Not Show the DACM Number:** If a DACM experiences a trouble event, such as a Tamper (72), Missing (73), Door Held Open (74), or Door Forced Open (74), the keypad does not show the number for that DACM when it displays the trouble message.
- **Keypad and DACM Tamper and Restoral Report Programming:** Information on programming keypad and DACM tamper and restoral reports is missing from the control panel's documentation. Use Address 3418 for keypad or DACM tamper reports, and Address 3419 for keypad or DACM tamper restoral reports. If you disable tamper and tamper restoral reports for keypads, the keypads do not display tamper messages. However, if you disable tamper and tamper restoral reports for DACMs, the keypads still display DACM tamper messages.
- **DX4010i Serial Interface Module "Printer Error" Message:** The control panel generates a "Printer Error" message if you use the DX4010i to create a direct connection to the remote programming software (RPS) PC.
- **RPS Callback Address 3043:** Enter an IP address in Address 3043 if you want the control panel to call the RPS PC over an Ethernet network.
- **Daylight Saving Time Missing from Reference Guide:** To enable Daylight Saving Time, set Address 3478, Data Digit 2 to "1." To disable Daylight Saving Time, set Data Digit 2 to "0."

- **Daylight Saving Time Not Working Correctly:** The Daylight Saving Time falls back an hour at 2:00 AM instead of 3:00 AM on the last Sunday in October.
- **Network Communication Attempts Use AltComm Module 2 First, Then AltComm Module 1:** The control panel uses AltComm Module 2 first before using AltComm Module 1 when attempting to communicate over an Ethernet network. When attempting to communicate over the telephone line, the control panel uses Phone 1 first before using Phone 2.
- **AltComm Remote Programming Callback Not Available:** You cannot program the control panel for remote programming callback over an Ethernet network.
- **Arming An Unlocked Door:** You can arm an area when a user command latches a door access control module's (DACM) door open, or a fire alarm latches a DACM's door open.
- **Fire Bell and DACM Operation:** If the bell output is set for fire and assigned to all areas (partitions), then all DACMs in the system release their doors during a fire alarm. If the bell output is assigned to a certain area, only the DACMs in that area release their doors.
- **Restoral Report Not Sent for Serial Interface Module or AltComm Module:** The control panel does not send a restoral report when a serial interface module, or an altcomm module with the altcomm heartbeat parameter disabled, fails and then restores.
- **Alarm Verification Not Available:** Alarm verification is not available in version 4.10 of the DS7400XiV4.
- **"Do Not Use Central Station Ack" Option and High Network Activity:** Alarm reports sent over an Ethernet network during periods of high network activity might not reach the central station if the "Do Not Use Central Station Ack" option is selected. Refer to *Table 5* on page 3 for more information.