

# How to Troubleshoot communication problems with the Bosch 9412G

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How to troubleshoot communication problems with a Bosch 9412G

## Procedure Steps

Typical Issues:

1. Cannot get panel online

"follow steps 1-6 below

2. Panel cycles online and offline

"follow steps 4-5

"if these don't work, go back through 1-3

"follow step 6 if necessary

3. Panel drops offline periodically, but recovers

"follow steps 4-5

"if these don't work, go back through 1-3

"follow step 6 if necessary

Troubleshooting Steps:

1. Read the Intrusion Detection User Guide

2. Verify the IP address in System Administration

3. Verify the configuration of the DX4020

4. Restart the Communication Server

5. Modify the ACS.INI

6. Perform Radionics Debug

Step 1: Read the Intrusion Detection User Guide

This documentation is installed with OnGuard and gives a good overview of installation for all intrusion detection devices. Also be aware that Bosch has fire panels built off of the D9412G - basic setup of these

is identical, even though they are not "intrusion" panels.

Step 2: Verify the IP Address in System Administration

System Administration\Additional Hardware\Intrusion Devices\Intrusion Panels

Verify that the IP address for the panel is correct and that you can ping the panel from the Communication Server. This is all that needs to be setup in OnGuard to bring the panel online.

Step 3: Verify the Configuration of the DX4020

Most of the following is taken from the Intrusion Detection User Guide. There are several charts in that document which are not duplicated here.

Network Interface Module DX4020

The DX4020 is used for bi-directional communications over ethernet networks. A network connection can be established with a compatible control panel, such as D9412G, D7412G, D9412, D7412.

Set the address to 80 for SDI automation (PC9000).

To communicate with the RAM IV through the network interface module, set the address to 88 (RPS and NetCom).

The address configuration is read only at power-up, so if a change is made, cycle power to the device. (See the Intrusion Detection User Guide for more information on how to change the address of the 4020.)

IP Programming

The DX4020 is shipped with a default IP address (DHCP, port 7700).

Before using the network interface module, you must assign a unique IP address to it. In order to do this, locate the MAC address on the label. You must also obtain an IP address from your network administrator.

Set Up a Temporary IP Address

1. Verify that there is at least one entry in the ARP table. To do so, at the command prompt, type

```
arp -g
```

and press <Enter>.

If there are no entries other than the local machine, ping another machine (which must be a host other than the machine on which you are working) on the network to build the ARP table.

2. Use the ARP command to configure the IP address. Type

```
arp -s [IP Address] [Ethernet/Hardware Address]
```

and press <Enter>

where the IP address is a numerical address and the Ethernet/Hardware Address is the MAC address found on the label attached to the DX4020.

4. Verify that the address was added to the table by typing

```
arp -g
```

The ARP command is used only to temporarily associate the IP address with the MAC address. To permanently assign the IP address, telnet to the device and set it in the server configuration.

Assign the IP Address

1. At the command prompt, telnet to port 1. Type

```
telnet [IP Address] 1
```

This first attempt at telnet will fail.

2. Telnet to port 9999. Type

```
telnet [IP Address] 9999
```

This second attempt at telnet will be successful.

3. Press <Enter> to go into setup mode.

4. Select 0 for Server Configuration.

a. Configure the IP address of the DX4020. This is the same IP address used for the Intrusion Panel in System Administration

b. If a gateway IP address is needed, select Y and enter the information. This is only needed when using a WAN. In a LAN, the gateway is not necessary and only needs to be changed if the gateway IP of the PC is different than that of the DX4020 host.

c. If the net mask needs to be changed from the default, enter the number of bits that correspond to the net mask the network is using. Refer to the PC9133TTL-E Installation Guide for the available values.

d. You may change the telnet configuration password. Select N to leave this at the default setting.

5. Select 1 for Channel 1 Configuration. Configure the serial port parameters.

a. Set the baud rate to 9600.

b. Set the interface mode (I/F Mode) to 4C. This setting corresponds with RS-232C, 8-bit, no parity, 1 stop bit (See the Intrusion Detection User Guide for tables detailing these settings.)

c. Set the flow control to 00 (no flow control).

- d. Set the port number to 3001. The default port number is 7700. This must be changed to 3001.
- e. Set the connect mode to C0. (See the Intrusion Detection User Guide for more information.)
- f. The remote IP address can be left at 0.0.0.0 and the remote port can be left at 0 since these are not used.
- g. The remote port must be set to 3000. This is NOT documented in the Intrusion Detection User Guide.
- h. The disconnect mode (DisConnMode) can be either 00 or 01. This determines the behavior of the state of the LED when there is a connection.
- h. Set the flush mode to 00.
- i. Set the disconnect time (DisConnTime) to 00:00.
- j. For SendChar 1 and SendChar 2, the values can be set to 00.

6. Select 5 for Expert Settings.

It is recommended that you set the TCP Keepalive time to 15 seconds. It is set to 0 by default. This option specifies the amount of time (during a silent connection) before attempting to check if the network device is still online. If there is no response within this time period, the connection is dropped.

7. Select 6 for Security Settings on the main menu. By default, encryption is disabled. If it is not, then disable it.

8. Select 9 to save and exit.

Program the control panel following the instructions in the Program Entry Guide.

Step 4: Restart the Communication Server

After making any changes to the DX4020 you may need to restart the Communication Server for the device to come online.

Step 5: Modify the ACS.INI

If the panel comes online but will not stay online, this is usually due to timing out. Stop the Communication Server, add the following lines to the ACS.INI, and then restart the Communication Server:

[Radionics]

LanTimeoutSeconds=5// Timeout for reading from the panel (in seconds)

WriteReadDelay=200// Delay between the write and read (in milliseconds)

SendReceiveRetries=3// Number of retries to perform

RetryDelay=150// Delay before doing a retry

ReadTotalTimeoutConstant=4000

The "LanTimeoutSeconds" indicates how many seconds the communication server will wait for data from the panel. The "SendReceiveRetries" indicates how many times the communication server will wait for a response. Multiply the timeout by the number of retries to determine how many seconds the panel will actually be offline before the communication server will report it as offline (in this case, 15 sec.).

Note that it is worth trying this even if the panel has never been online.

#### Step 6: Perform Radionics Debug

If none of the troubleshooting produces results, you will need to perform a debug for engineering to review. Normally this process takes less than 5 minutes to generate enough data.

1. Add the following to the ACS.INI & save the file

```
[Radionics]
```

```
DebugFile=1
```

2. Restart the Communication Server

3. Wait for the events to occur and please note the time of the events (so we can cross-reference these in the debug files)

4. Stop the comm server and modify the ACS.INI

```
[Radionics]
```

```
DebugFile=0
```

5. Two files will be created in the OnGuard\Logs directory: RadionicsPanelDebug.txt & RadionicsPanelParseDebug.txt

These files can be sent to Team Leads to review.

## Applies To

Bosch 9412

## Additional Information

