Technical Service Note   August 8, 2003

Important Information regarding the use of NetCom and Encryption

If you are considering using or are currently using the Encryption with NetCom, please read the following information carefully. There are several things to be considered before simply turning on and using Encryption.

In all cases, Encryption is performed in the NIM (Network Interface Module) that is used in the D6680, D9133TTL-E and the C900TTL-E. This means that when Encryption is being used, the Encryption key (a 16-byte hex number) on a given IP address coming to the D6600 must be the same key used on all field devices that are reporting to that IP address. Since you can use up to two NIMs on the D6600, there are several combinations that could be used:

1. Both using Encryption – they could use different keys or the same key
2. One using Encryption, the other not using Encryption
3. Neither using Encryption

The only thought to keep in mind is that if Encryption is **On** in the NIM at the D6600, then it must be **On** in the field devices. If it is **Off** in the NIM at the D6600, then it must be **Off** in the field devices. This is where the planning for how and when to enable Encryption must be thought out carefully.

- If you are **not** currently using Encryption, then please see *Section 1. Using Encryption for the First Time.*

- If you are currently using Encryption, then please see *Section 2. Upgrading Encryption.*

1.   Using Encryption for the First Time

When deciding to use Encryption for the first time, there are a few things to verify and consider.

1. Check the hardware versions of the NIMs that will be used in the system. If all of the hardware versions used in a system does not match those listed below, then Encryption can not be used on that system if they are all reporting to one D6680 as explained above. Any device that is not at the required hardware version will need to be replaced with a current version if it is desired to support Encryption.

- The D6680 needs to be a COBOX-FL-01 version. This is the only hardware version that can support Encryption. The COBOX-E2-01 can not be used.

- The D9133TTL-E and C900TTL-E NIMs need to be a CM-E2-RAD. This is the only hardware that can support Encryption. The CBXM-ERAD can not be used.

2. Check the firmware versions of the NIMs that will be used in the system. For NIST approved AES support, the version needs to be 5.16 or higher. The latest version is available both on the D6600CD (v1.10 or higher) and the web site **www.boschsecurity.us** under **Tech Support → Software Downloads**. For the steps on how to upgrade the firmware in the CoBox, please refer to the *DeviceInstaller Operation and Installation Guide* (P/N: 4998138688). DeviceInstaller version 2.01 is required to upgrade the firmware in the NIMs. For more info on how to obtain a new D6600CD or how to receive access to the web site, please see *Section 4. Obtaining Latest D6600CD Software.*

3. When enabling Encryption on any NIM, it will only be able to communicate with a NIM that also has Encryption enabled and has the same Encryption Key programmed in it. This means that when enabling Encryption, all devices will have to be programmed in order for them to communicate with the D6680 once it has been programmed. During the time that it takes to program the Encryption key into the NIMs, the devices will not be able to communicate with the D6680.

4. As stated above, you can have two D6680s on one D6600, one having Encryption On and the other having it Off. This would allow for field devices to continue to communicate with the D6680 with Encryption Off and begin the programming of the field devices to send with Encryption On to the second D6680. This would allow devices to be programmed for Encryption without the loss of any signals or data to the D6600. For more information on how to use two D6680s in a system as described, see *Section 3. Using Two D6680s in a System.*

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2. Upgrading Encryption

If Encryption is currently being used at a site that was setup prior to the release of D6600CD v1.10 or higher, then there are some things to be considered before using releases after this date.

The D6600CD v1.09 had the first release of Encryption in it and all NIM devices being shipped since March 2003 also have that firmware version (v5.15) installed in them. During the NIST verification phase of the Encryption, a change had to be made to the code. This change caused this release to be incompatible with the previous release. This means that devices with the newest code will not communicate with devices that have the older code if Encryption is enabled. This incompatibility extends to all the NIMs, D6200 software, and the D6202 software. To ensure that NIST approved encryption is being used and that communication between them will continue, all NIMs will need to be upgraded to v5.16 or higher, D6200 v1.10 or higher, and D6202 v2.3 or higher. All versions of NIMs, D6200 software, and D6202 software are being shipped with the latest software in them.

As stated above, you can have two D6680s on one D6600, one having Encryption On and the other having it Off. This would allow for field devices to continue to communicate with the D6680 with Encryption Off and begin the programming of the field devices to send with Encryption On to the second D6680. This would allow devices to be programmed for Encryption without the loss of any signals or data to the D6600. For more info on how to use two D6680s in a system as described, see see *Section 3. Using Two D6680s in a System* below.

3. Using Two D6680s in a System

If you are going to use two D6680s in a system, one using Encryption (v5.16 or higher) and the other non-Encrypted or using encryption (v5.15), then the following steps will explain how to do this:

1. The following list of equipment is needed:

    *   One additional D6680
    *   One additional static IP Address
    *   A D6672 COM1 Expansion is needed for the D6600

2. D6680 #1 will be the one that is currently running.

3. Assuming the first D6680 is already setup and running, setup the second D6600 on COM1 to the D6600 as per the *D6600 Operation and Installation Guide* (P/N: 4998122704).

4. Enable Encryption in the second D6680 as per the *D6600 NetCom System Guide* (P/N: 4998122712).

5. Add a Receiver to the list of receivers under **Administration → Connection Settings** with IP Address of the second D6680 and the Encryption key data in it.

6. Select newly added Receiver name from the previous step.

7. Verify that the D6200 can communicate to the D6600.

8. Program field devices to communicate with the encryption enabled D6680:

    *   Verify that the NIM has the correct firmware (v5.16 or higher).

    *   Enable encryption on the NIM device with the same key that is entered in the D6680.

    *   If it is a C900TTL-E, change the destination IP Address that is currently programmed in it to the encryption enabled D6680.

    *   If it is a D9133TTL-E, change the destination IP Address that is currently programmed in to the panel to the encryption enabled D6680. (Panel programming required).

9. The devices that are programmed with Encryption will be running through the encryption enabled D6680 (v5.16 or higher), while the non-Encrypted or using encryption (v5.15) will run through the original D6680.

4. Obtaining Latest D6600CD Software

If you do not already have the latest D6600CD (v1.10 or higher) you can obtain one by the following methods:

*   You may also call and order a D6600CD from our customer service group by calling 1-800-289-0096.

*   Download the released software, firmware, and documentation from our company web site

4.1　Downloading

1. Connect to the company web site:
   www.boschsecurity.us
2. Select **Technical Support** → **Software Downloads**.
3. Enter **User Name** and **Password**:
   - If you are not a registered user you will need to fill out the registration form. If you have your customer number, your request will be processed within a few minutes automatically; otherwise it may take up to 24 hours to process your request. If you need immediate access please fill out the registration form and then call technical support.
4. Select **D6600** from the drop down list and click **Show List**.
5. Download all files listed.

> ☑ Download times will vary depending on the speed of your Internet connection.

6. Read the *D6600 Release Notes* (P/N: 4998122709) from the **D6600 Documentation.zip** for the latest information regarding software installation, changes and added features.

> ☑ A decompression program that handles .zip files is required. Otherwise you will not be able to open the zipped file.

7. Follow the directions outlined in the *Software Upgrade Procedure* section of the *D6600 Operation and Installation Guide* (P/N: 4998122704) for the proper installation procedure for the latest software and firmware.