

# **DC6000*i***

**ISDN Communicator**



TM

**SG SECURITY  
COMMUNICATIONS**

A Division of Sur-Gard Security Systems Ltd.

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## **Installation Manual**

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*Version 1.0*

## **Limited Warranty**

SG Security Communications warrants that for a period of twelve months from the date of purchase, the product shall be free from defects in materials and workmanship under normal use and that in fulfillment of any breach of such warranty, SG Security Communications shall, at its option, repair or replace the defective equipment upon return of the equipment to its repair depot. This warranty applies only to defects in parts and workmanship and not to damage incurred in shipping or handling, or damage due to causes beyond the control of SG Security Communications, such as lightning, excessive voltage, mechanical shock, water damage, or damage arising out of abuse, alteration or improper application of the equipment.

The foregoing warranty shall apply only to the original buyer, and is and shall be in lieu of any and all other warranties, whether expressed or implied and of all other obligations or liabilities on the part of SG Security Communications. SG Security Communications neither assumes responsibility for, nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

In no event shall SG Security Communications be liable for any direct or indirect or consequential damages, loss of anticipated profits, loss of time or any other losses incurred by the buyer in connection with the purchase, installation or operation or failure of this product.

***WARNING: SG Security Communications recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.***

# Intelligent Guard Mechanism

The DC6000i comes with an intelligent S0-bus monitor that enables it to disconnect other devices and thus ensures 100% availability of the ISDN network for alarm signalling. In contrast to analog systems where the panel is equipped with a relay to allow the analogue line to be available at any time, with standard ISDN systems there is no such priority mechanism for the alarm panel. Since up to eight terminal adaptors can share the same physical ISDN S0-bus and two simultaneous calls (B1 and B2) are allowed, it is very likely that there will not be a channel available to the alarm panel when an alarm has to be transmitted to the central station (See fig. 1.0 below).

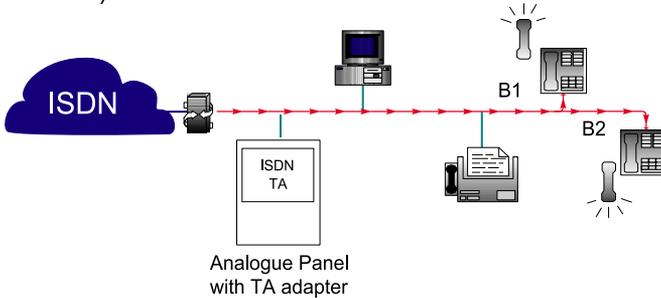


Fig. 1.0 Typical ISDN security system set-up

From Fig 1.0, the alarm panel cannot connect to the central station because there are two other devices on the same ISDN S0-bus that already occupy the two B-channels. Another error in this example is the lack of ISDN S0-bus tamper protection. Imagine someone shortening the ISDN S0-bus near the fax machine. This will disable communications for the devices including the alarm panel and its third party ISDN terminal adapter. The guard mechanism of the DC6000i ISDN adapter offers both a tamper protection mechanism and an intelligent mechanism to disconnect other device connections.

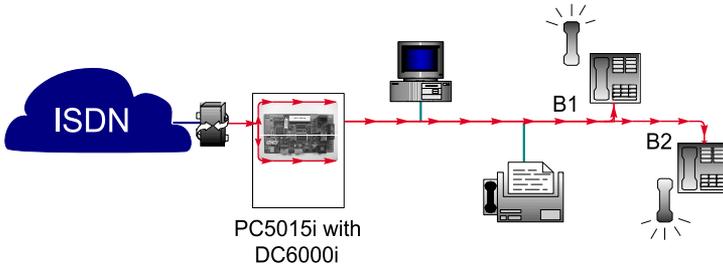


Fig. 1.1 Correct ISDN security system set-up

Figure 1.1 shows the correct way of setting up your ISDN security system using the DC6000i ISDN adapter. In case of ISDN S0-bus tamper, the DC6000i will detect malfunctioning of the S0-bus and will physically disconnect other devices. Since the tamper source is no longer connected to the DC6000i, the alarm panel is able to continue normal operation.

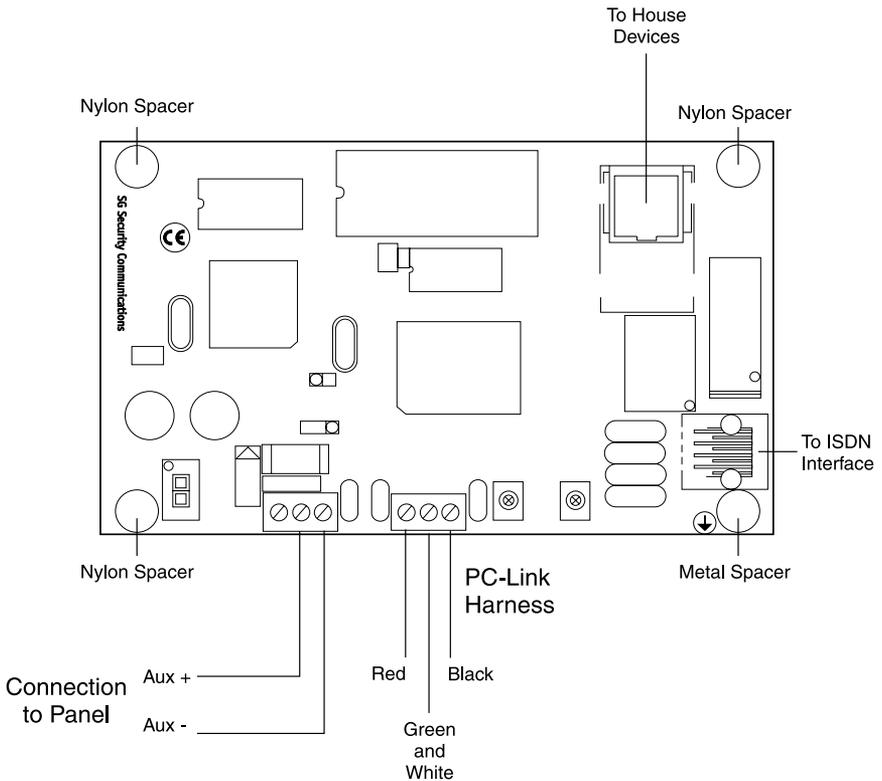
Every five minutes the DC6000i adapter reconnects the secondary S0-bus to see if the tamper source is still present. If the tamper source has disappeared the secondary bus stays connected. If not, the DC6000i will immediately disconnect the secondary S0-bus again and it will follow the same procedure in five minutes.

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## Connections to the PC5015 ISDN

Connect the DC6000i's 3-pin header to the PC5015 ISDN PC-Link header with the supplied cable. It is not recommended to make any modifications to the cable. This connection will provide the communication information to the DC6000i module. Next, connect the positive 12v and Ground from the PC5015 ISDN auxiliary output. This will provide power to the module.

## The DC6000i



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# Technical Specifications

## Dimensions

- Board size (L x W): 5.50" x 3.25" / 13.97cm x 8.255cm

## Power

- Voltage: 12Vdc, from panel
- Current: 150mA

## ISDN S0 Network Connection

- Physical: RJ45-socket (Basic Rate Interface)
- Protocols: Euro-ISDN ETS300-102 HDLC
- Analogue Protocol: Bell 103 (300baud) SIA (level 1 & 2)
- Mode of Operation: Point-to-point or Point-to-multipoint

## ISDN Secure S0'-output

- Physical: shielded RJ45-socket

## PC-Link connection to panel

- Physical: 3 pin header

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## Programming

Programming the DC6000i is done via the PC5015 ISDN telephone number section, installer address [301] first telephone number. The transmitted account number is also programmed in the PC5015 ISDN installer programming at section [310].

Upon an alarm call from the panel, the DC6000i operation reads the receiver phone number string format programmed in the panel.

### Receiver telephone number format

The new receiver telephone number format programmed in the panel is:

D0987654321B1234567890E1A

Where:

A = Indicates to the module to use the panel account number

B = Local subscriber number for the DC6000i connected to (MSN), must be unique

C = The digital central station receiver telephone number

D = The analogue central station receiver telephone number

E = The DC6000i guard mode to be applied (0, 1 or 2)

NOTE: Either C or D may be programmed. However, it is possible to program the first and second receiver telephone numbers differently to two different types of receivers. When sending to the analogue receiver the DC6000i utilizes the SIA protocol.

### Guard Modes

Operation of the DC6000i guard mechanism can be specified by the 'E' option in the receiver telephone number string. The options are:

Mode 0: No action. Never disconnect the line. This is not recommended.

Mode 1: Disconnect 1 B-channel if no channel is available. Recommended.

Mode 2: Disconnect all B-channels and physically disconnect the secondary S0-bus.

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## Status Indicators

On the bottom left of the module, there are 2 LEDs to indicate the status of the module. The NT OK light will be on to indicate the S BUS is working correctly. If the light is off, there is no S BUS, or there is a wiring problem between the NT1 and the DC6000i, or there is no power to the module.

The CS OK LED indicates the status of the call. In normal operation, this LED should be off. The LED will flash when dialing a central station and will remain steady when transmitting data to the central station.

Near the 'S BUS OUT' there is one more red LED. This LED will only activate when the module has physically disconnected to 'S BUS OUT' because of a trouble condition on the S BUS, or due to the programming of the module when transmitting to the central station.

