

## Application Note

Number: 001

Date: 07/17/03

### Controlling the DGR100/101 from a PC

The DGR100/101 may be controlled from a PC using the RS-232 connections of the 15 Pin 'External I/O' port on the back of the unit.

In order to do this, you will require the following:

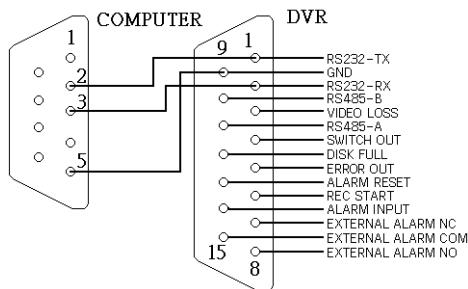
- A RS-232 cable conforming to the connections below.
- A PC with an available COM Port.
- An RS-232 Com Port communication program for the PC. There are many of these programs available. You may wish to try one of the following free programs available online: (both were very easy to use)
  1. **Docklight**. This is a free evaluation program by Lencom and is available at [www.lencom.com](http://www.lencom.com).
  2. **ComDebug**. This is a free program by Windmill available at [www.windmill.co.uk/serial](http://www.windmill.co.uk/serial)

*Optional – The Alarm I/O block included with the DVR should be used to make connections easier.*

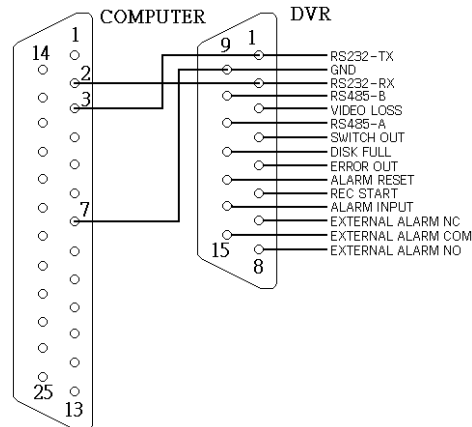
#### **STEP 1:**

Connect the DVR to the PC using a serial cable and observing the following pin connections:

##### **9 Pin COM port connections**



##### **25 Pin COM port connections**



*Using the alarm block will simplify the connection to the DVR.*

**STEP 2:**

Ensure that the DVR is setup for RS-232 control.

On the DVR, press **Menu** and then scroll down to the 'Remote' option and press **Enter**. This will bring up the following menu options:

**Remote Mode** - Selects whether to use an RS-232 or RS-485 interface.

**Baud Rate** – Selects the Baud rate (bps) to be used for the connection.  
Available settings are: 115200, 57600, 19200, 9600, 3600, 2400, 1200

**ID** – If controlling several DVR's each of them may be set to a different unique ID.  
Available setting: 000 – FFE

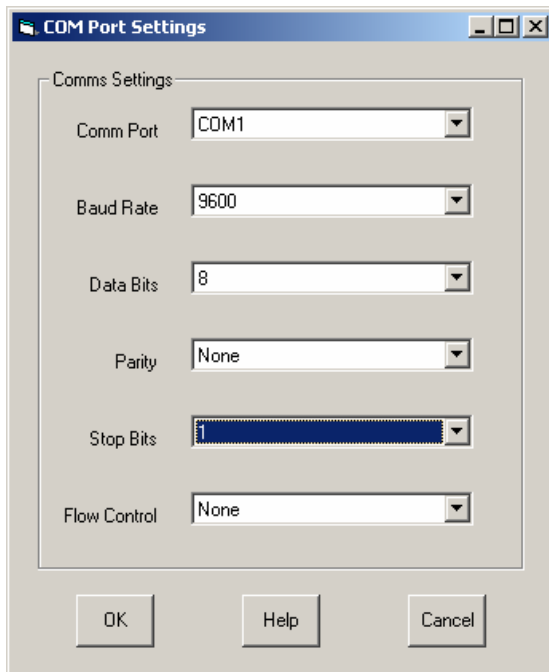
**Default Settings: RS-232 Enabled, 9600bps, 000 ID**

**STEP 3:**

Configure the connection settings in the PC serial communication software being used.

Different software will have different methods of setting the connection properties

The Com Port settings in the communication software will bring up a window similar to the one shown below.



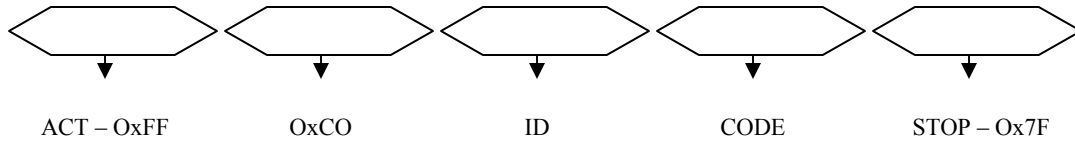
**NOTES:**

- The Data Bits, Parity, Stop Bits and Flow Control should be set as shown.
- Set the Comm Port to the one being used on the PC.
- Set the Baud Rate to match the Baud Rate setting in the DVR.

**STEP 4**

Try sending commands to the DVR using the PC.

Below is an example of the data protocol to be used when sending commands to the unit.



Please note that the '0x' abbreviations are simply markers signifying the beginning of the data.

The following table shows a list of commands able to be sent to the unit.

FUNCTION	CODE	KEY	FUNCTION	CODE	KEY
MENU	0x4D	M	DOWN / STOP	0x4E	N
ENTER	0x0D	ENTER	LEFT / F.F.	0x4C	L
SEARCH	0x48	H	RIGHT / F.R.	0x52	R
SLOW	0x53	S	PLAY	0x50	P
UP / PAUSE	0x55	U	RECORD	0x72	r

The entire data string shown above must be sent to the DVR when issuing a command. The only two variables are the ID code and the Function Code. Assuming the ID code is at its default 00, here are a few command examples:

Note: All values here are shown in Hexadecimal (HEX) format:

**Record:** FF C0 00 72 7F

**Stop:** FF C0 00 4E 7F

**Play:** FF C0 00 50 7F

In the above examples you will notice that the only data changing in each command string is the code for the function being performed.

**Technical Support:**

For further technical assistance with this application please call Digimerge support at 1-866-344-4674.