

## RS-232 Driver Errors

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If a driver error occurs during the form retrieval process, the data acquisition software writes a text message, containing an error return code in hexadecimal format, to your screen. This appendix contains:

- A driver error table
- Directions for converting the hexadecimal error return codes written to your screen into the driver error codes shown in the table

### **Converting Error Return Codes into RS-232 Driver Error Codes**

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To convert the hexadecimal error return code into a driver error code, you must first convert the hexadecimal number into a binary number and then look up the position number of the bits that are on.

To convert the hexadecimal error return code into a driver error code:

1. Convert the hexadecimal error number on your screen to a binary number. Binary equivalents for hexadecimal numbers, in groups of four bits for each hexadecimal digit, are shown on the next page.

Hexadecimal Equivalents			
Hexadecimal	Binary	Hexadecimal	Binary
0	0000	8	1000
1	0001	9	1001
2	0010	A	1010
3	0011	B	1011
4	0100	C	1100
5	0101	D	1101
6	0110	E	1110
7	0111	F	1111

For example, in the following table, the error number 85 (shown on the first line below) is the binary number 10000101 (shown on the second line).

Example Conversion			
Hexadecimal error	8	5	
Bit value	1000	0101	
Bit position	7654	3210	

- In the binary number 10000101, each binary digit is called a bit. A one means the bit is on, while a zero means the bit is off.
- The bit positions, reading from left to right, are 76543210 (shown on the third line).
- Look at the last three bits on the right (101 in the above sample). These bits are the completion code that tells whether the command succeeded, or whether it failed and why.
  - Look up the completion code number in the RS-232 driver error table below. You will see that the error represented by the value 101 is No DSR (line break).

Driver Errors		
Bit Positions	Errors	Bit Type
2 to 0	Completion Code:  000 = Successful completion  001 = "Busy" or "no character ready"  010 = Parameter error  011 = Not opened  100 = Not closed  101 = No DSR (line break)  110 = No CTS (modem error)  111 = Illegal command	
3	Overrun error	Receive only
4	Parity error	Receive only
5	Framing error	Receive only
6	Break detected	Receive only
7	Timeout indicator	

- 4. Notice whether a 1 is in any of the bit positions 3, 4, 5, 6, or 7.
- 5. Look up the corresponding bit position number in the driver error table to obtain further error information.

For example, in the example conversion table above, bit number 7 is on. If you look in the driver error table, you will see that this number corresponds with Timeout indicator.

Of the completion codes, the only one that should appear is 101 (No DSR). The DSR line in the interface cable between the DEFINITY AUDIX System or R1 AUDIX system and the PC carries a signal that controls the flow of data. When error 101 appears on your screen, this control signal either is not present or is in the wrong state. None of the other completion codes should be seen.

When the driver is opened, it is told to ignore CTS (Clear to Send) errors.

Driver errors may be accompanied by the timeout indicator.

<b>B</b>	RS-232 Driver Errors	
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*B-4*