"GAME OVER" characters were mentioned in #3 as being available by the command CALL(3164). This command locks up the keypad and you can't get out except by a RESET. We now have a more practical way to do it, leaving the keyboard fully operational so that you can continue a game after the words show up. The following program, developed by Tom Wood, executes a special routine to pull out the 'preprinted' statement.

```
10 A=20180;B=A;C=80
20 X=-43; GOSUB C
30 X=12341; GOSUB C
40 X=19480; GOSUB C
50 X=3164; GOSUB C
60 X=-13871; GOSUB C
70 CALL(B); STOP
80 %(A)=X;A=A+2;RETURN
```

IF your machine does not print the whole phrase, substitute 3159 in line 50. This is indicative of at least two variations in Bally software in the field. That is , the location of certain object codes in the 8K ROM of the Video Console are not identical in all machines.

For those interested, the following is a listing of the routine:

4ED4:	D5		PUSH	DE	Save BASIC pointer
4ED5:	FF		RST	38H	Call subroutine
4ED6:	35		DB	53	SR no. 52, load regs.
4ED7:	30		DB	48	Horizontal screen position
4ED8:	18		DB	24	Vertical screen position
4ED9:	4C		DB	1140	Color and size
4EDA:	5C	0C	DW	0C5CH	Adrs of message to display
4EDB:	D1		POP	DE	Restore BASIC pointer
4EDC:	C9		RET		Go back to BASIC

The strange decimal numbers used in the BASIC statements arise due to an idiosyncracy of 8080/Z80 Microprocessors and the way BALLY BASIC handles integers. BALLY BASIC uses 15 bit signed integers and stores data into memory with the least significant 8 bits going into the lowest numbered memory location. With these two things in mind we can see that machine-level routines must be POKEd into memory 2 bytes at a time, after reversing the bytes and converting to decimal. As an example, consider the first two bytes of the above routine (D5 and FF). The order of these two bytes must be reversed, the two bytes considered as one signed integer and converted to decimal. Thus FFD5 becomes -43 decimal and shows up as line 20 in the BASIC language routine. Continuing,
3035 = 12341
4C18 = 19480
0C5C = 3164
C9D1 = -13871   (C = 1100 which has the sign bit set)