

GenRef
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MDOS Reference guide.

ANSI Library

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Beery W. Miller
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ANSI - CONTENTS

Contents

ANSI OVERVIEW3

CALLING ANSI FUNCTIONS4

SET ANSI MODE.....5

DISPLAY ANSI CHARACTERS6

ANSI VERSION.....7

ANSI Overview

All ANSI management routines in the self-installing MDOS XOP application is provided to aid a programmer in writing applications requiring ANSI operations beyond the immediate instruction set of the TMS 9995 microprocessor and V9938 video processor for the Geneve 9640.

Opcodes within the ANSI XOP Library 13 extend support access to the VIDEO routines in providing ANSI Video output in both 80-column text mode and 80 column 16-color graphic mode.

All ANSI code was written by InsaneMultitasker on AtariAge and Michael Maksimik and subsequently converted to a standalone driver by Beery Miller with the ability to self-install into the MDOS operating system.

CALLING ANSI FUNCTIONS

The MDOS ANSI Library must be called from within a machine code program running as a task under MDOS. You pass arguments to the ANSI Library via the calling registers.

The MDOS ANSI Library is invoked from a machine code program when software trap number zero (XOP 0) is called with a library number of 13. The calling program's R0 must contain the 16-bit subprogram at the time of the XOP. The following code fragment will open a TCP connection to a hostname or IP address.

	LI	R0,>0001	CRU address opcode
	CLR	R1	Let's use a null terminated string
	XOP	@ANSI,0	Access subprogram
ANSI	DATA	13	ANSI Library
STR1	TEXT	'Hello'	String
	BYTE	0	null terminated

In the preceding example, two hidden assumptions were made. First it is assumed the STR1 label address is located on a page which is currently mapped into a memory page which has the same 16-bit address page number as its Virtual address page number (read the section on Memory Management). The second assumption is the ANSI label is currently mapped into a memory page which has the same 16-bit address page number as its Virtual address page number.

SET ANSI MODE

Function Sets the screen and video mode for the ANSI screen.

Parameters R0 = >0000 (opcode)
 R1 = Text or Graphics Mode
 R2 = Telnet handle port (MSB), optional

Results N/A -

Parameter Description

Text or Graphics Mode Specify 0 for 80 column text mode or <>0 for Graphics Mode 6 (512x192x16 colors).

Telnet handle Port Specify the optional TIPI client or server byte for communication between a TCP connection. This is generally only used when there is a request from a server to autodetect an ANSI terminal or cursor position on the screen.

Example Code

LI	R0,>0000	Set ANSI opcode
CLR	R1	Set 80 column text mode configuration
LI	R2,>0100	TIPI Client handle byte
XOP	@ANSI,0	Access subprogram
ANSI	DATA 13	ANSI Library

Display ANSI characters

Function Passes the ANSI string to the ANSI interpreter for displaying the ANSI sequence to the screen. This function uses multiple Video XOP functions for cursor placement, color (if applicable) designation, window size and placement, etc.

Parameters R0 = >0001
R1 = String to pass
R2 = String length or 0 if null terminated.

Results Not Applicable

Parameter Description

String Any string, up to 8K in length, can be passed for display purposes.

String Length Length of string. Designate >0000 for a null terminated string. When reading ANSI sequences from a file, it is suggested the record length be used for the R2 value and the location of the buffer be used for the R1 string pointer.

It should also be noted when processing ANSI sequences, care must be taken during an ANSI terminal mode to not break up input and output character/string sequences during the display.

Example Code

```
LI      R0,>0001    CRU address opcode
CLR     R1          Let's use a null terminated string
XOP     @ANSI,0     Access subprogram
```

```
ANSI    DATA 13     ANSI Library
STR1    TEXT 'Hello' String
        BYTE 0       null terminated
```

ANSI VERSION

Function Returns the current version of the ANSI Interpreter and status if the ANSI XOP driver is loaded.

Parameters R0 = >0002

Results R0 = Result code
R1 = Version

Parameter Description

Result code >FFFF if ANSI driver installed
>0000 for no ANSI driver installed

Version Reports version number of current ANSI driver. Version will return >0100 for the current version if XOP driver is installed. The presence of the ANSI driver should be tested first in R0 prior to testing R1.

Example Code

	LI	R0,>0002	Open Host opcode
	XOP	@ANSI,0	Access subprogram
	MOV	R0,R0	Test for ANSI Driver
	JEQ	NOCONCT	No driver
	CI	R1,>0100	Version test
	JHE	GOODANSI	ANSI present, version >0100
	JMP	NOANSI	Go to no ANSI driver mismatch and evaluate
ANSI	DATA	13	ANSI Library