/*mcl*/
Advanced Product Division

product description
DDFS-8
Dec 1987

V I D E O W A L L S O F T W A R E

VIDEO WALL VERSION 9 software

Version (9) is the final version of software. There is a matrix of 4 wall sizes by 4 input control devices as follows 4X4,5X5,6X6 and 8X8 with terminators, R(emote), M(ouse), T(ouch screen). eg 6x6 with remote would be VW96R.COM.

The main new features of video wall 9 software are as follows

- Simple user friendly programming system with menus and icons
- Auto select menu with queuing and icon wall emulator
- colour wash palette icons
- Special effects options with system programmable on screen icons
- up to 8X8 format
- Built software EBU/SMPTE time code reader
- Remote available on all formats
- Reconfigurable framestore card nos and screen complexion stored on disk as initialising conditions.
- RS232 output for controlling VTRS Laser discs lighting etc
- External wait cue implemented on RS232 Input.

Hardware requirements: The video wall program is machine specific and will only run on Memotech series 512 computers with disk drive CP/M option. Robust Custom Rom based systems for fixed environments can be configured from program disks provided by users.

Input/output

There are basically four mutually exclusive input devices for controlling the Videowall program.

1. The MTX keyboard.
2. A Logitech/Genius compatible mouse.
3. A Microvitec I/R touch screen.
4. A remote terminal or PC

Devices 2,3,4 run on the RS232 port 0 (A) of the MTX series with baud rates auto configured for 2 and 3 and for 4 the remote mode the RS232C data format is 9600 baud 7 bits/chr even parity. See below for software protocol. The keyboard operates together with 2 and 3 but 4 locks out keyboard control. An industry standard

Atari compatible joystick can also be used in the keyboard entry mode.

Longitudinal EBU/SMPTE time code is read on the 3.5mm jack plug Cassette input port of MTX computer. The signal should be approx 0db (1V p-p) for best results.

The main output of the program to the DDFS units is via the Centronics type parallel port. The update data rate is on the order of 2.5 MBits/s.

RS232C port 1 (B) is used as an output port for VTR control data. Data is ASCII as input (NB. Carriage return =!). The data format is 9600 baud 7 bits/chr even parity.

In version 9 software an external wait cue input goes in on RS232 port 1 (B). The data format once again is 9600 baud 7 bits/chr even parity. A single character performs the cue and is input a a hex character ie 41 = "A", 01 = "Control A", 7F = "Del" etc.

Software Codes for DDFS series videowall controllers

128-255 addresses frame store card subsequent data (0-127) calls up modes detailed below.

A. STRAIGHT THRU DIGITISED BUT NOT STORED

0

B. COLOUR WASH

BLACK	1
RED	3
GREEN	5
YELLOW	7
BLUE	9
MAGENTA	11
CYAN	13
WHITE	15

C. BLANK

127

D. 4X4 MAGNIFICATION POSITION
FREEZE VALUE BELOW (=N+32)

33	34	35	36
65	66	67	68
37	38	39	40
69	70	71	72
41	42	43	44
73	74	75	76
45	46	47	48
77	78	79	80

E. 3X3 MAGNIFICATION POSITION
FREEZE VALUE BELOW

49	50	51
81	82	83
52	53	54
84	85	86
55	56	57
87	88	89

F. 2X2 MAGNIFICATION POSITION
FREEZE VALUE BELOW

58	59
90	91
60	61
92	93

G. 1X1 DIGITISED AND STORED PICTURE
FREEZE VALUE BLOW

62
94

H. LARGE MAGS > 4X4 SEPARATE ROW AND COLUMN PROMS NEEDED

63
95

NB. ALL OTHER VALUES RESERVED FOR FUTURE USE.

/*mcl*/
Advanced Product Division

product description
DDFS-10
Dec 1987

REMOTE CONTROL of VIDEO WALL

INTRODUCTION

The REMOTE option obtained from the SPECIAL menu will allow the Video Wall to be controlled from a device connected to RS232 port A. It is set up as 9600 baud, 7 bits per character and even parity. DTR and CTS are high.

GAINING CONTROL OF VW FOR REMOTE USAGE

There are 2 methods. Firstly you can use the REMOTE option from the special options menu. Alternatively, since VW9xR continually monitors the RS232 port for a "Take Control" signal, you can send the sequence:-

@TC__<CR><LF>

Down the RS232 line. If the code is successfully received, then the same code will be echoed back. Otherwise no response will occur. Note the two underline characters after the two character mnemonic and before the carriage return, line feed terminator.

The above code is also echoed if remote mode is entered via the menu.

All other commands will be ignored until remote mode is entered.

COMMAND PROTOCOL

The control computer sends a request sequence to VW. If it is invalid, gets corrupted or is too long then the control computer will receive the negative acknowledge signal back:-

@NK__<CR><LF>

If it is recognised and valid the acknowledge is received:-

@AK__<CR><LF>

VW will then attempt to execute the command. It will return a STATUS COMPLETE signal of the form:-

@SCrr<CR><LF>

where rr is a 2 digit return code. By convention a return code of rr=00 implies that all went well.

COMMANDS AVAILABLE

@VN__<CR><LF>

This causes VW to return its version number. It transmits a sequence of the form:-

@VNvv<CR><LF>

where vv is a 2 digit version number.
Return codes 00 always.

@XE__PROGNAME<CR><LF>

This causes VW to execute the program segment specified.
Return codes 01 => no program segment in memory by that name.
02 => abnormal termination of execution.

@LS__<CR><LF>

This scans the memory and transmits a sequence of program segment names associated with the file in memory. This list is of the form:-

PROGNAME<CR><LF>
PROGNAME<CR><LF>
^Z

All program names are padded to 8 characters. If no program has not be loaded then the default program segments might be listed.

Return codes 00 always.

@FD__<CR><LF>

This produces a list of all the .VW files currently on the disc. The list may include .VW files that are of an incompatible format and so presence of the list does not imply it is executable. The list is of the form:-

FILENAME<CR><LF>
FILENAME<CR><LF>
^Z

All filenames are padded to 8 characters.
Return codes 00 always.

@CF__<CR><LF>

This returns the name of the most recently loaded .VW file. The output is of the form:-

FILENAME<CR><LF>

It is padded to 8 characters. If no file has yet been loaded, or if the program has been cleared from memory by a function such as UPLOAD then the name is "________".

Return codes 00 always.

@LD__FILENAME<CR><LF>

This causes VW to search the disc for the named file and load it.
Return codes 01 => filename is invalid
02 => file does not exist or is of incompatible format

@UL__FILENAME<CR><LF>

This causes VW to clear the current program in memory, to load the named file and to send it to the controlling computer in Intel hex format. The data is ^Z terminated. After this is complete the loaded file is cleared from memory. At this stage there are no program sequences in memory.
Return codes 01 => filename is invalid
02 => filename does not exist

@DL__FILENAME<CR><LF>

This causes VW to clear the current program in memory, and to attempt to download the file in Intel hex format. The data must be contiguous, ie: no holes. If downloading succeeds then a file is written to disc and given the name specified. The sequence must be ^Z terminated. (^Z is the control-Z ascii character).
Return codes 01 => filename is invalid
              02 => the Intel hex format data was invalid

@ST__<CR><LF>

This performs identical operations to the UPLOAD command except that the file STATUS.DOC is used.

@DF__FILENAME<CR><LF>

This causes VW to delete the file from the disc.
Return codes 01 => filename is invalid
              02 => no file exists already

@RC__<CR><LF>

This makes VW "RELEASE CONTROL" of the video wall. The program returns to the operating system.
No return code is received

ESCAPE

When a program sequence is in execution it may be prematurely terminated by sending a single hash '#' character to VW. This is NOT acknowledged and the controlling machine should receive the code:-

@SC02<CR><LF>

Which signals that a program has been interrupted for some reason.

INTEL HEX FORMAT

This program will only deal with contiguous data starting at 0100 hex. This is the definition as we understand it:-

A set of lines followed by a terminating line. A typical line is:-

:sshhll00----nn<CR><LF>

ss = record size
hhll = address
---- = ss worth of hex bytes
nn = negative checksum (all previous bytes+nn = 00)

We have yet to find any .HEX file with the 4th byte non zero.

A terminating line is of the form :00XXXXXXXX<CR><LF>

In the software, we can handle the case when the terminating line is missing, provided a ^Z exists in its place. In fact, we insist that a ^Z is always present, whether or not the terminating line is present.