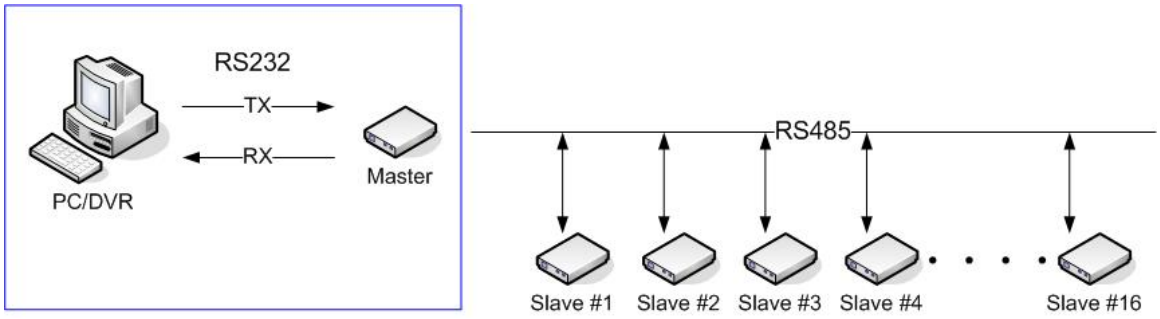
AVE Master Programming & Data Protocol

The AVE VSI-Pro Max can directly support the following protocols since menu selectable as either a Slave POS interface or Master or Master and POS interface combined together simultaneously with restrictions. In the Network Communications menu you set the unit for Master. If the “Addr” is set for 1-16 then the unit is both a Master and POS interface but the interface can only be in tap mode using the RXD and the TXD port is assigned for data output only. Under the Register Communication menu you can select output for VSI-ADD or Vnet. If in the Network Communications menu you set “Addr” N/A then both the RXD & TXD are assigned to the data port and the unit can not be used for a POS interface. In this configuration all the following commands are supported for either VSI-ADD or Vnet. Also in this mode you can use the PC Programming software to program any device on the AVE Network from the single connection to the Master by the laptop.

The AVE VSI-Pro as a standalone device can directly support only the TXD Output VSI-ADD protocol for sending out transaction data and alarm data via its TXD port while its RXD port is reserved for reading the POS data.

Using the VSI-Pro in conjunction with a RegCom or Networker adapter will allow the VSI-Pro to be set as a slave device on the AVE RegCom network. In either of the above connections a Master device is usually a Hydra but a VSI-Pro Max can also be used. This network configuration only will give the ability to send out POS and alarm data in the VSI-ADD format.

Using the VSI-Pro in conjunction with the Vnetworker Adapter will make it fully compatible with the Vnet protocol as a slave on the AVE Vnetwork along with VSI-Pro Max as slaves. This network configuration allows full slave device programming, POS data, alarm data and Time Sync functions to the DVR utilizing the Vnet protocol.



RS232 Protocol

VSI-ADD

Master → PC/DVR(RX)

No data
<ESC><ADD><NAK><CR>

There is a data available
<ESC><ADD>TEXT<CR>

Set alarm
<ESC><ADD><ESC><5BH([)><31H(1)><61H(a)><CR>

Clear alarm
<ESC><ADD><ESC><5BH([)><30H(0)><61H(a)><CR>

PC/DVR(TX) → Master

Program command	**<ESC><ADD>"[P"<CR>**
UP command	**<ESC><ADD>"[A"<CR>**
DW command	**<ESC><ADD>"[B"<CR>**
SET command	**<ESC><ADD>"[S"<CR>**
RESET command	**<ESC><ADD>"[R"<CR>**
SET TEXT command	**<ESC><ADD>"[x"<CR>**
Back Space command	**<ESC><ADD>"[b"<CR>**
Read time	**<ESC><ADD>"[d"< CR >**
Set time	**<ESC><ADD>"[Pyear;Pmonth;Pdate; Phour;Pmin;Psec D"<CR>**

Pyear = 2 ASCII bytes of Year
Pmonth = 2 ASCII bytes of Month
Pdate = 2 ASCII bytes of Day
Phour = 2 ASCII bytes of Hour
Pmin = 2 ASCII bytes of Minute
Psec = 2 ASCII bytes of Second must be 00 only

Ex. Read time and date at address 1
<1BH><01H><5BH([)><64H(d)><0DH>

Master will reply time and date.
<1BH><01H><58H([)>

<30H(0)><37H(7)><3BH(;)>	**Year 2007**
<30H(0)><30H(2)><3BH(;)>	**Month February**
<31H(1)><32H(2)><3BH(;)>	**Date 12**
<30H(0)><37H(7)><3BH(;)>	**Hour 7 AM**
<31H(1)><35H(5)><3BH(;)>	**Minute 15**
<31H(1)><34H(4)>	**Second 14**
<44H(D)><0DH>	**End sending time and date**

Ex. Update time date to 13:04 January 3 , 2007 at address 3

<1BH><03H><5BH([)>	
<30H(0)><37H(7)><3BH(;)>	**Year 2007**
<30H(0)><31H(1)><3BH(;)>	**Month January**
<30H(0)><33H(3)><3BH(;)>	**Date 3**
<31H(1)><33H(3)><3BH(;)>	**Hour 1 PM**
<30H(0)><34H(4)><3BH(;)>	**Minute 4**
<30H(0)><30H(0)>	**Second always 00**
<44H(D)><0DH>	**End update time and date**

Vnet

Master → PC/DVR(RX)

No data
<SOH><ADD(Ten)><ADD(One)><STX><NAK><NAK><ETX>

There is a data available
<SOH><ADD(Ten)><ADD(One)><STX>TEXT<CR><BCC><ETX>

Set alarm
<SOH><ADD(Ten)><ADD(One)><STX><ESC><5BH([)><31H(1)><61H(a)>
<CR><BCC><ETX>

Clear alarm
<SOH><ADD(Ten)><ADD(One)><STX><ESC><5BH([)><30H(0)><61H(a)>
<CR><BCC><ETX>

PC/DVR(TX) → Master

Program command	**<SOH><ID0><ID1><STX>"]PROGRAMM"<ETX>**
UP command	**<SOH><ID0><ID1><STX>"/U"<ETX>**
DW command	**<SOH><ID0><ID1><STX>"/D"<ETX>**
SET command	**<SOH><ID0><ID1><STX>"/S"<ETX>**
RESET command	**<SOH><ID0><ID1><STX>"/R"<ETX>**
SET TEXT command	**<SOH><ID0><ID1><STX>"/X"<ETX>**
Back Space command	**<SOH><ID0><ID1><STX>"/B"<ETX>**
Read time	**<SOH><ID0><ID1><STX>"<READTIME"<ETX>**
Set time	**<SOH><ID0><ID1><STX>"<SETTIME"<ETX>**

Ex. Read time and date at address 1
<01H><30H><31H><02H>><3CH(<)><52H(R)><45H(E)><41H(A)>
<44H(D)><54H(T)><49H(I)> <4DH(M)><45H(E)> <ETX>

Master will reply time and date.

<01H><30H><31H><02H><1BH><58H([)><54H(T)> <44H(D)>

<30H(0)><37H(7)><3BH(;)>	**Year 2007**
<30H(0)><30H(2)><3BH(;)>	**Month February**
<31H(1)><32H(2)><3BH(;)>	**Date 12**
<30H(0)><37H(7)><3BH(;)>	**Hour 7 AM**
<31H(1)><35H(5)><3BH(;)>	**Minute 15**
<31H(1)><34H(4)>	**Second 14**
<44H(D)><0DH><BCC><ETX>	**End sending time and date**

Pyear;Pmonth;Pdate;Phour;Pmin;Psec”<ETX>

Pyear = 2 ASCII bytes of Year
Pmonth = 2 ASCII bytes of Month
Pdate = 2 ASCII bytes of Day
Phour = 2 ASCII bytes of Hour
Pmin = 2 ASCII bytes of Minute
Psec = 2 ASCII bytes of Second must be 00 only

Ex. Update time date to 13:04 January 3 , 2007 at address 3
<01H><30H><33H><02H><3CH(<)><53H(S)><45H(E)><54H(T)>
<54H(T)><49H(I)><4DH(M)><45H(E)>

<30H(0)><37H(7)><3BH(;)>	**Year 2007**
<30H(0)><31H(1)><3BH(;)>	**Month January**
<30H(0)><33H(3)><3BH(;)>	**Date 3**
<31H(1)><33H(3)><3BH(;)>	**Hour 1 PM**
<30H(0)><34H(4)><3BH(;)>	**Minute 4**
<30H(0)><30H(0)>	**Second always 00**
<ETX>	**End update time and date**