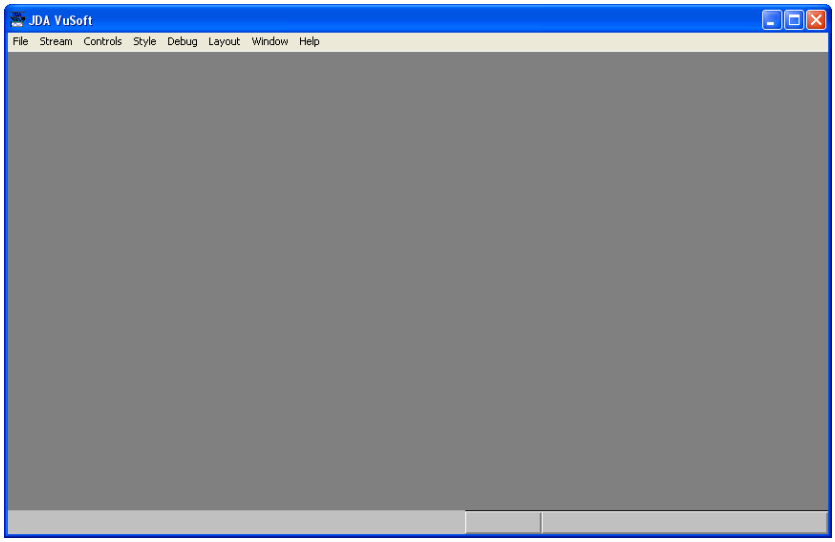
LIBRARY: JDA Network Analog Output *Version 4.11*
November 2013
FILE NAME: AnalogNetOut0



Purpose

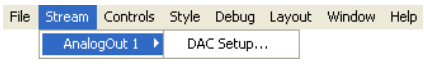
VuSoft offers an extensive analog output functionality via a network based analog output library that supports a number of optional JDA Systems Ethernet analog output units. Each unit offers 16 single ended outputs with a programmable range within the maximum range of 0 to 10V and with output rates of up to 1000 samples per second for each channels. The outputs may be any combination of available data parameters from any of the streams in both real time and playback.

Attachment Guide

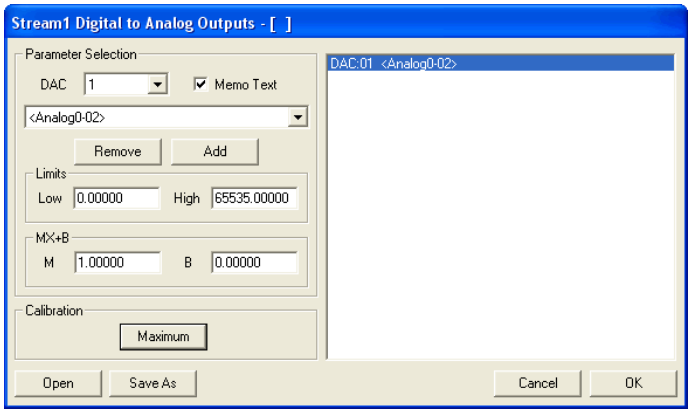
Place in VuSoft directory and add to PCM.ini as usual.

Additional Menus

Stream



DAC Setup… - *In this dialog you can connect the parameters to individual analog channels for output via PCI analog output cards.*



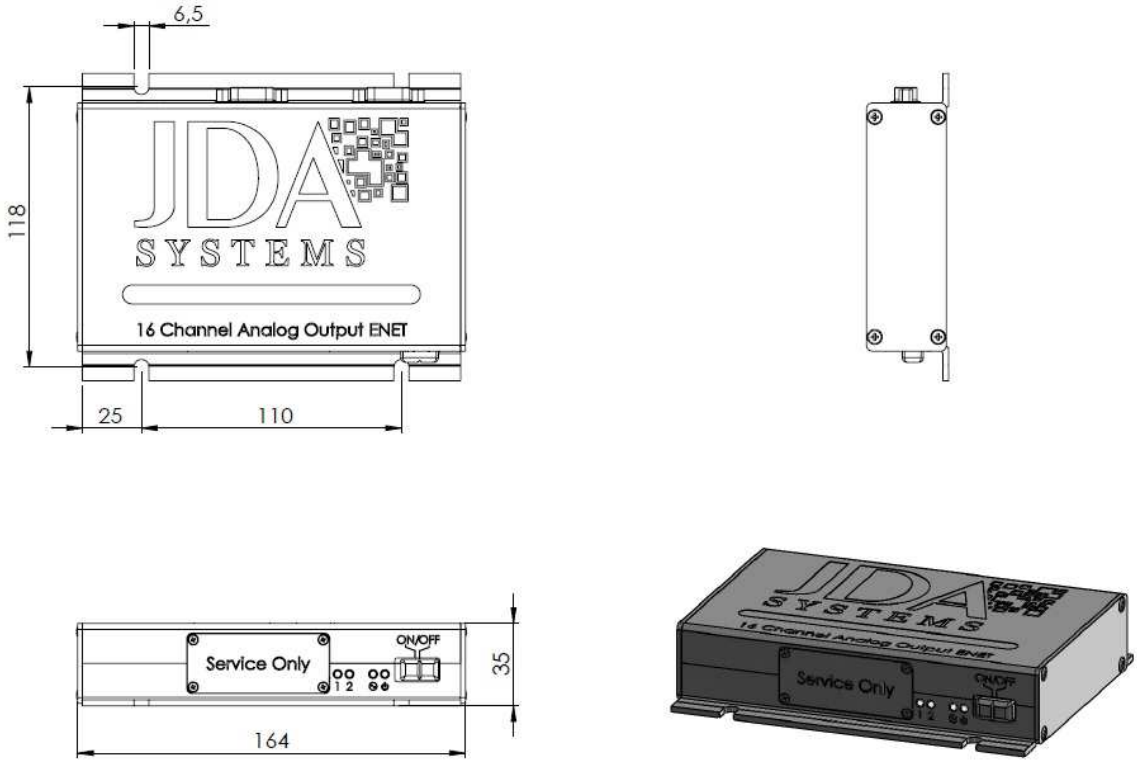
Digital to Analog Outputs Dialog

DAC	-	*This allows the user to set the channel on which the parameter is to be outputted, only one parameter may be selected per channel*
Memo Text	-	*Show the memo text instead of the parameter name in the parameter selection dialog*
Parameter Selection Menu	-	*This allows the user to select the parameter they wish to be outputted for a given channel.*
Remove	-	*This removes a parameter from the Selected Parameter Box, this can also be performed by double-clicking upon the parameter or by selecting a new parameter from the Parameter Selection Menu and clicking the Add button, then selecting Yes when asked if you would wish to replace the existing entry.*
Add	-	*This adds a parameter to the Selected Parameter Box. A parameter and channel must already be chosen. If a parameter selection already exists for a given channel you will be asked if you wish to replace it.*
Low Limit	-	*This sets the lower limit of the outputted parameter for appropriate scaling.*
High Limit	-	*This sets the higher limit of the outputted parameter for appropriate scaling.*
M	-	*Allows setting of a multiplier for linear scaling. If not required set to 1.*
B	-	*Allows setting of an offset for linear scaling. If not required set to 0.*
Calibration	-	*Allows settings of the output calibration method, Calibrate, 9.0V, 1.0V, and 5V. Note: For normal operation this must be set to Calibration, other settings will set all the outputs to the requested levels.*
Selected Parameter Box	-	*Contains the chosen parameter for a given channel.*
Open	-	*Opens the Open Analog Output dialog.*
Save As	-	*Opens the Save Analog Output dialog.*
Cancel	-	*Closes the Digital to Analog Outputs dialog, discarding all changes.*
OK	-	*Applies all changes and closes the Digital to Analog Outputs dialog.*

The JDA Systems 16 Channel Analog Output ENET Device

The analog output device may be placed at any position on a suitable Ethernet connection supporting 100Mb/Sec or higher data rates. The unit requires a single 12V DC power input to operate and provides 16 single ended outputs with a programmable range within the maximum range of 0 to 10V and with output rates of up to 1000 samples per second for each channels. The outputs may be any combination of available data parameters from any of the streams in both real time and playback.

N.B. The analog output system relies on a fast and always available fast Ethernet connection. This is necessary as data buffering is not practical in such a system dues to the delays inherent in a system using data buffering. The analog outputs are designed to appear at the output with no noticeable delays for the user thus making them suitable for real time operation. If the Ethernet connection does not meet the requirements as set out here then the analog outputs should still run but noticeable dropouts may occasionally occur showing flat spots in the data where the last updated value will be held while waiting for new data.



The 16 Channel Analog Output ENET Unit

Rear Panel Connections

The rear panel has four clearly marked connectors.

These are from left to right:

D-SUB9 Male	Channel 9-16	Any range between 0-10V up to a maximum of 1-10V programmable
Pin	**Purpose**	
1	Analog Channel 9	
2	Analog Channel 10	
3	Analog Channel 11	
4	Analog Channel 12	
5	Analog Channel 13	
6	Analog Channel 14	
7	Analog Channel 15	
8	Analog Channel 16	
9	Analog Ground	

D-SUB9 Male	Channel 1-8	Any range between 0-10V up to a maximum of 1-10V programmable
Pin	**Purpose**	
1	Analog Channel 1	
2	Analog Channel 2	
3	Analog Channel 3	
4	Analog Channel 4	
5	Analog Channel 5	

6	Analog Channel 6
7	Analog Channel 7
8	Analog Channel 8
9	Analog Ground

RG45 100Mb/Sec Ethernet, full duplex

Power Socket 12V DC minimum 1.5A +ve center pin.

Front Panel Connections

The front panel contains a power switch (left on) and a service cover which should only be removed and used by trained service personnel. Under this cover are found from left to right:

Reset Switch Press and release to reset the unit.

10 Pin Socket This is the programming socket for uploading new firmware using the provided programmer and software.

USB Type B Remote control and initial setup interface. This interface represents an HID type device when connected to any PC with a USB 2.0 standard interface. Entries sent to the unit via this interface are held in non volatile memory and therefore are persistent to the unit. This interface accepts HID serial communications via the provided HID interface software and responds to the following commands:

Command	**Purpose**
!PTMC,SET,MAC XX.YY	Sets the MAC address to be 00:14:A5:76:XX:YY where XX and YY are hex between 00 and FF
!PTMC,SET,IP AAA.BBB.CCC.DDD	Sets the IP address to be AAA.BBB.CCC.DDD where AAA to DDD represents a valid IP address with the numeric values between 000 and 255 in decimal. Default 192.168.001.060
!PTMC,SET,MASK AAA.BBB.CCC.DDD	Sets the IP mask to be AAA.BBB.CCC.DDD where AAA to DDD represents a valid IP mask with the numeric values between 000 and 255 in decimal. Default 255.255.255.000
!PTMC,SET,PORT N	Sets the IP starting port to be N where N is a valid port number. The starting port represents the access port for the values for analog channel one. The unit requires a separate and unique port for each analog channel. All ports apart from that for channel 1 are generated automatically and sequentially starting at the port for channel 1, for example analog channel 2 will have the port number N+1and analog channel 3 will have the port number N+2 etc. The default starting port is 4502 and so the uses in this case ports 4502 thru 4517 for analog channels 1 thru 16.
!PTMC,SET,NAME TEXTSTRING	Sets the text name of the unit itself. This name may contain up to a maximum of 19 characters and may be used to uniquely identify the unit.
!PTMC,SET,IDENTIFY	Returns the text name of the unit itself. This name may contain up to a maximum of 19 characters and may be used to uniquely identify the unit.

!PTMC,GET,MAC	Gets the MAC address to be 00:14:A5:76:XX:YY where XX and YY are hex between 00 and FF
!PTMC,GET,IP	Gets the IP address as AAA.BBB.CCC.DDD where AAA to DDD represents a valid IP address with the numeric values between 000 and 255 in decimal. Default 192.168.001.060
!PTMC,GET,MASK	Gets the IP mask as AAA.BBB.CCC.DDD where AAA to DDD represents a valid IP mask with the numeric values between 000 and 255 in decimal. Default 255.255.255.000
!PTMC,SET,PORT	Gets the IP starting port as N where N is a valid port number. The starting port represents the access port for the values for analog channel one. The unit requires a separate and unique port for each analog channel. All ports apart from that for channel 1 are generated automatically and sequentially starting at the port for channel 1, for example analog channel 2 will have the port number N+1and analog channel 3 will have the port number N+2 etc. The default starting port is 4502 and so the uses in this case ports 4502 thru 4517 for analog channels 1 thru 16.
!PTMC,SET,NAME	Gets the text name of the unit itself. This name may contain up to a maximum of 19 characters and may be used to uniquely identify the unit.
!PTMC,GET_VERSION	Returns information about the unit and its version.
!PTMC,?	Returns the units command structure details.
!PTMC,HELP	Returns the available commands as a list