DATA MULTIPLEXER

DM1210N

Operation and Installation Manual

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Designed and manufactured by

Pacific Micro Systems
136 Curtis Street
PO Box 9285
Wellington 6012
NEW ZEALAND

Telephone 64-4-475-9004
Facsimile 64-4-475-9084
Mobile 64-25-449-061
Email trevor@pacmicro.com
Internet www.pacmicro.com

OUTLINE:

This Data Multiplexer DM1210N receives data from a number of different Satellite Navigators, GPS's, Lorans, etc capable of sending NMEA0182/3, Furuno CIF, JRC format, Koden 8805/8811, Kaijo Denki format or Simrad EK500 depth format. These can be converted to NMEA0183 and transferred to any other output. The data can also be input and output on an UTP 10Meg Ethernet port.

Features:

1 Ethernet port, 10Mb, UDP.
12 Current Loop, RS422 or RS232 asynchronous serial Inputs.
10 Serial Outputs.
    10 x Current Loop or RS422 asynchronous serial Outputs.
    4 of the 10 also have RS232 asynchronous serial Outputs.

User selectable baud rates to allow high thru-put of data..

Conversion of NMEA0183, Furuno CIF to NMEA0183 or Furuno CIF serial data.
Full transfer capabilities between all Inputs & Outputs allowing flexible data combining.
Filtering of NMEA 0183 data thru any input or output, ie All, GGA, VTG, ZDA etc
NMEA0183 or Furuno CIF sentences can be generated from trigger and depth pulses with selectable NMEA0183 depth sentence ie. SDDBT, SDDBS etc. Output in Meters, Fathoms or Feet depth output with selectable sound velocity factors between 1450 and 1550 m/s.
Convert Simrad ITI net position to TLL sentence for display on plotter.
Convert Furuno Sonar target data to TTM sentence for display on plotter.
Capability to change NMEA0183 talkers on any outputs.
Generates log pulses from NMEA0183 sentence VTG or VHW in 100, 200 or 400 PPNM.
Generates NMEA0183 sentence VTG or VHW from 100, 200 or 400 PPNM input.
Alarm output when predefined conditions are met ie No GPS, No DGPS etc.
Galvanic isolation between input supply, data inputs and outputs.
RFI shielded housing.
Status LEDs on all inputs and outputs.
4 x binary inputs/outputs

PARTS SUPPLIED:

1 x DM1210N Interface.

INSTALLATION:

1. Run a two core screened data cable from each serial source to the required serial input..

2. Run a two core screened data cable from each output to the data destinations.

3. Run a standard UTP Cat5 patch cable (crossover) between the DM1210N Network port and the network port on the target PC or a straight thru cable to a hub that the PC is also plugged in to.

4. Run the supply cable to a suitable 11-35v supply. (Red/Black +volts, Black -volts).

Note:
The DM1210N has DC isolation between its power supply input and ground. This makes it suitable for interfacing to any computer installation and all isolated ground equipment, without affecting the integrity of the battery positive (+) or negative (-) relative to ground.

DM1210N OPERATION:

1. The RX LED's are normally off and flashing on when receiving serial data.

2. As data is received in 1 thru 12 the appropriate RX LED will flash.

3. As data is transmitted out 1 thru 10 the appropriate TX LED will flash.

DMxxConfig.EXE (DM1210N CONFIGURATION):

Due to the extensive capabilities available in the DM1210N, configuration is accomplished though the Configuration program DMxxConfig.exe.

Connect the DM1210N Network port to the PC network port via a cross over cable, or standard cable and network hub, and launch the program DMxxConfig.EXE.
Click on the button Search for DM1210N's.
All DM1210N's on the network will be listed in the list box.
Highlight the DM1210N (Serial Number and IP Address) of the DM1210N to configure.
Click on the Get Config menu item to get the selected DM1210N's current configuration.
Change the configuration as required using the Options and Transfer Menu Items.
Update the DM1210N by clicking on the Update Config Menu Item.

SPECIFICATIONS:

Serial data capabilities:
Inputs: 1 thru 12. RS232 or Current Loop/RS422.
Outputs: 1 thru 10. Current Loop orRS422.
Outputs: 7 thru 10. RS232.

Input/Output 1: Baud Rate up to 115200.
Input/Output 2 thru 10: Baud Rate up to 38400.
Input 11, 12: Baud Rate up to 38400.

Serial Formats Received:
NMEA0183, Furuno CIF.

Serial Format Transmitted:
NMEA0183, CIF

Transmitted Data:
NMEA0183: 4800, 8 data bits, no parity, 1 stop bit.
CIF: 4800, 7 data bits, even parity, 2 stop bits
User: 50-115200, 5-8 data bits, None, Odd, Even parity, 1 or 2 stop bits.

Digital In:
0-5v

Digital Out:
Current sink 100mA, External supply required (50v max).

Power Requirements: 11-35 vdc @ 50- 200 mA.
DC isolation between power supply input and ground is provided.

Weight: 620 grams.

Dimensions: 170 x 150 x 40 mm

Mounting: Table top or wall mounted

Pacific Micro Systems has a policy of continued development and therefore reserves the right to change specifications without notice.

CONNECTION DETAILS

J 1	Description
1	+ve DC In (11-36)
2	Ground
3	- ve DC In (11-36)

J 2	Description
1	Current Loop Input RX1 + (Signal)
2	Current Loop Input RX1 - (Return)
3	Current Loop Input RX2 + (Signal)
4	Current Loop Input RX2 - (Return)
5	Current Loop Input RX3 + (Signal)
6	Current Loop Input RX3 - (Return)

J 3	Description
1	Current Loop Input RX4 + (Signal)
2	Current Loop Input RX4 - (Return)
3	Current Loop Input RX5 + (Signal)
4	Current Loop Input RX5 - (Return)
5	Current Loop Input RX6 + (Signal)
6	Current Loop Input RX6 - (Return)

J 4	Description
1	Current Loop Input RX7 + (Signal)
2	Current Loop Input RX7 - (Return)
3	Current Loop Input RX8 + (Signal)
4	Current Loop Input RX8 - (Return)
5	Current Loop Input RX9 + (Signal)
6	Current Loop Input RX9 - (Return)

CONNECTION DETAILS cont.

J 5	Description
1	Current Loop Input RX10 + (Signal)
2	Current Loop Input RX10 - (Return)
3	Current Loop Input RX11 + (Signal)
4	Current Loop Input RX11 - (Return)
5	Current Loop Input RX12 + (Signal)
6	Current Loop Input RX12 - (Return)

J 6	Description
1	Ground
2	Ground
3	Ground
4	Ground
5	Ground
6	Ground

J 7	Description
1	RS422 Output TX1 +
2	RS422 Output TX1 -
3	Ground
4	Ground
5	RS422 Output TX2 +
6	RS422 Output TX2 -

J 8	Description
1	RS422 Output TX3 +
2	RS422 Output TX3 -
3	Ground
4	Ground
5	RS422 Output TX4 +
6	RS422 Output TX4 -

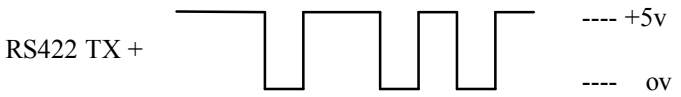
CONNECTION DETAILS cont.

J 9	Description
1	RS422 Output TX5 +
2	RS422 Output TX5 -
3	Ground
4	Ground
5	RS422 Output TX6 +
6	RS422 Output TX6 -

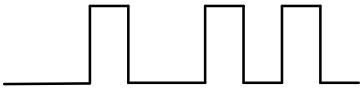
J 10	Description
1	RS232 Output TX7
2	RS232 Output TX8
3	Ground
4	Ground
5	RS232 Output TX9
6	RS232 Output TX10

J 11	Description
1	Digital In/Out 1
2	Digital In/Out 2
3	Ground
4	Ground
5	Digital In/Out 3
6	Digital In/Out 4

RS422 DATA OUTPUT POLARITY:



RS422 TX -



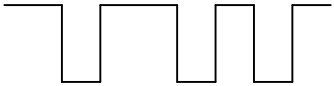
---- +5v

---- 0v

PPNM Connections

J11	Description
1	Analogue Out 1
2	Analogue Out 2
3	Ground/Return

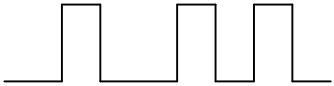
Output 1/2 Normal



O/C

---- 0v

Output 1/2 Inverted



O/C

---- 0v

Using the internal open collector transistor max sink current is 100mA.

SOFTWARE UPGRADES:

Upgrading DM1210N Software:

- Connect the DM1210N to the PC via the Network connector.
- Run DMxxConfig.exe.
- Click 'Search for DM1210N's'
- Selected the DM1210N to upgrade from the list box.
- Click on 'Utilities'
- Select 'Upgrade Software'
- Select the upgrade file to upload to the DM1210N.
- Click Go to upload the file.