UniversalConnector MediaGateway

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UniversalConnector Introduction

Bold's UniversalConnector converts SMS, GPRS, Email, ODBC database, FTP, RSS, TCP, UDP and simple files into regular signals - GPS, video and audio alarms - that are then delivered into Manitou. Essentially, the UniversalConnector is a receiver for non-traditional transmission. The following documentation illustrates how to set up and use UniversalConnector with the MediaGateway to receive alarms generated through non-traditional equipment into the Manitou system.

UniversalConnector Requirements

For any UniversalConnector installation and configuration questions or issues, please contact Bold Customer Service.

- MediaGateway, version 2
- Individual Connector (Module) licenses

Data Mapping

Data Mapping (also commonly known as "mapping") is taking a signal that has arrived through one of the Connectors, breaking it apart according to a defined method and then assigning the individual fields to a field that is part of an alarm signal in Manitou. A mapping template is independent of a connector, e.g. the same template can be used for a signal sent by an Email as by text sent by an SMS message.

Mapping Types

The first thing to decide in creating the data-mapping for a signal is what is the mapping type. There are four different mapping types to choose from.

1. Separator

   Separator type - is a signal that uses a single character to separate the fields within the signal. For example if a signal is received that contains the transmitter id, the event code, the area and the zone all separated by a comma, a comma would be selected as the separator. The signal might look something like this:-

   12345,BA,1,9

   Note: The ODBC type connector delivers its data in a comma separated format. The connector does essentially a "select * from table", it concatenates the data returned together with a comma separator.

2. Position

Position Type – this is a signal that uses the position and length to divide up a signal. The following signal might be represented as follows

12345BA19

To break it apart we would have to know the transmitter id starts at character 1 and is 5 characters long, the event code starts at character 6 and is 2 characters long, the area starts at character 8 and is 1 long and the zone starts at character 9 and is one long. For this method to work all signals have to be formatted the same way. A six character transmitter id is going to break the formatting in this example.

3. Label/Separator

Label/Separator type – this is a signal that has a label then a data value, then a separator (usually a carriage return). So a signal might look like this

Transmitter ID: 12345

Event: BA

Area: 1

Zone: 9

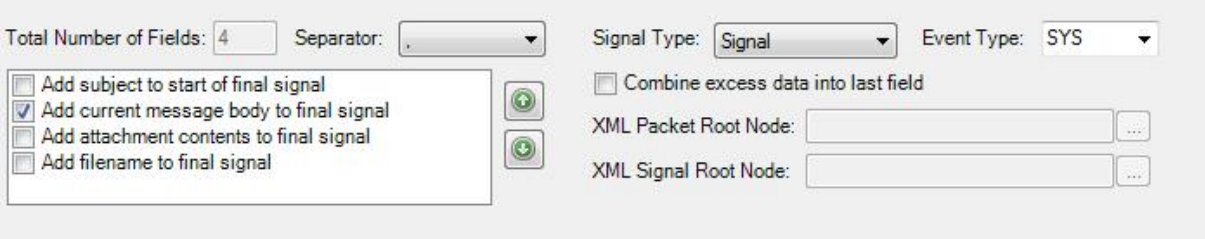
4. XML

XML type – this type uses the standard XML (Extensible Markup Language) format. So the signal represented by the other formats would look something like this.

```
<?xml version="1.0"?>

<Alarms>

  <Customer TxId="12345" >

    <Signal Event="BA">

      <Area>1</Area>

          <Zone>9</Zone>

    </Signal>

  </Customer>

</Alarms>
```

This format is very flexible so the signal could be represented in other ways e.g.

```
<?xml version="1.0"?>
<Alarms TxId="12345">
        <Signal Event="BA" Area = "1" Zone="9" />
</Alarms>
```



XML Type

The other formatting options generally depend upon what mapping type is chosen. The separator is only relevant for seperator and Label/Seperator types, the signal type can be Signal, GPS Signal or Telemetry. This field controls what Fields you can map a signal too, a regular Signal does not allow latitude, longitude, speed, heading or other GPS type information. You have to be licensed to create a GPS signal. Telemetry is a way to distinguish the signal from alarm type conditions and show that it is a informational signal, currently this is not differentiated within Manitou.

The Event Type specifies what Manitou Event Map the signal belongs to. There are three predefined types

SYS: Manitou standard System codes

SIA: SIA standard codes

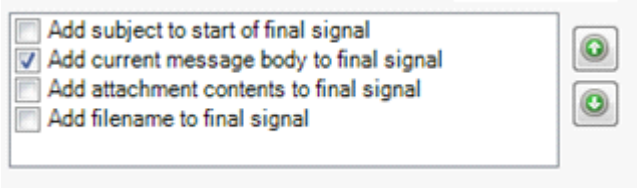
CID: Contact ID standard codes

You can however enter your own code, this has to be declared in Manitou Event Maps for it to be decoded correctly.

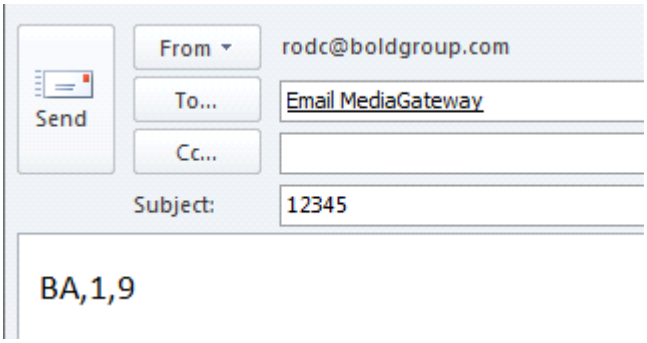
Signal Parts

Depending on the connector a signal can have multiple parts. For example and email may have a body, subject, attachments, and attachment file names. All of these pieces of information may contain data that can decoded within the data-mapping process.

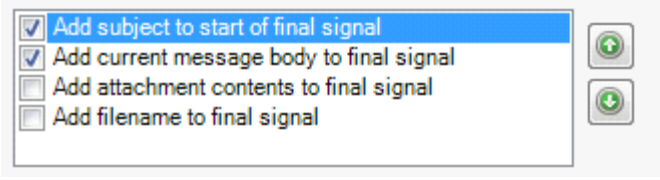
The signal parts box (see below) specifies what can be processed and in what order. So if an email is sent into a data-mapping template that is using a “separator” mapping type you need to tell the template how to put the final signal together.



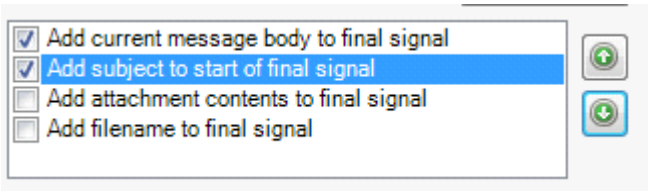
Note: One item has to be selected



In the email above we have the transmitter ID in the subject, then the event, area, zone in the body. To process the signal we have to put it all together in the correct order. So we check the subject and body options and then use the green arrows to move the lines up or down into the correct order. The order is important as to how the signal to be processed is created.

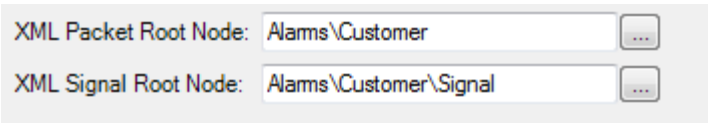


this will create a signal: - **12345,BA,1,9**



this will create a signal: - **BA,1,9,12345**

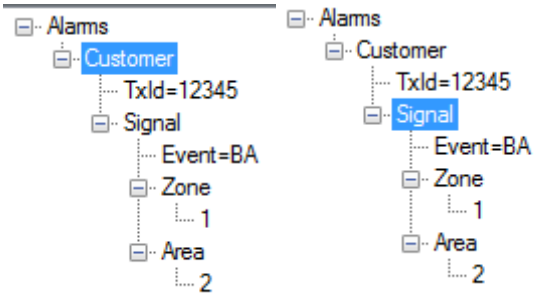
this option lumps all the remaining data into the last field. This can be usefull if the system is sending erroneous information such as signatures or unwanted data at the end of the signal. This can be collected or ignored in a final field.



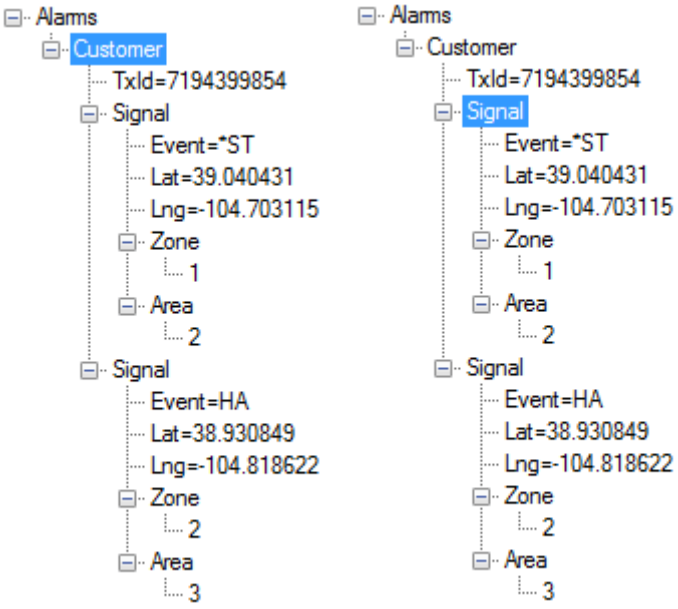
if you are using the XML mapping type then these fields enable you to specify the parts of the signal required for processing. The Packet node identifies the start of the packet of information, within this packet there could be multiple

signals, the signal root node identifies where that would be.

If our simple example, these items are simply identifed below. Nodes are highlighted.



However, a more complex GPS signal with multiple signals can be seen below: Nodes are highlighted.

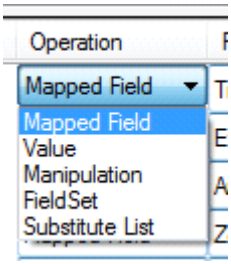


Mapping Fields

Field mapping will vary depending upon the Mapping Type being used. In the example below we are mapping the comma separated signal identified above.

	Position	Operation	Field	Value
▶	1	Mapped Field	Transmitter ID	
	2	Mapped Field	Event code	
	3	Mapped Field	Area value	
	4	Mapped Field	Zone Value	
*				

The position field is numeric and simply specifies the order of the fields, the operation has five options**.**



Mapped: to simply take the data being supplied by the signal choose this option.

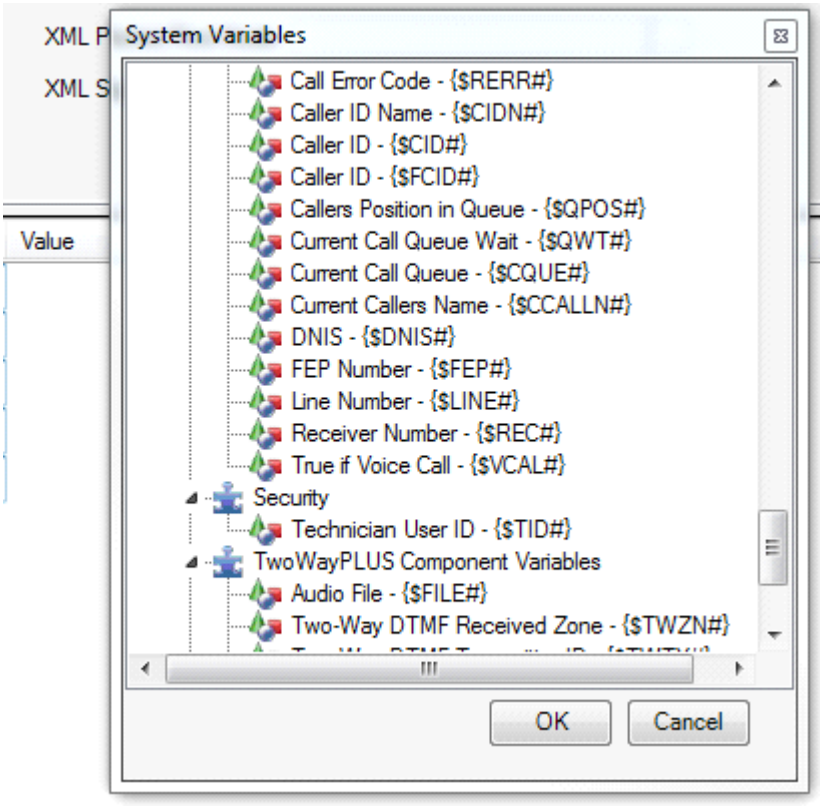
Value: to enter a value for the data or to use a system variable choose value. The value is then entered in the Value column. For example, if the device sending the signal was a cellular device and I wanted to use the caller id of the device as the transmitter ID, I could do this using the "Value Operation".

	Position	Operation	Field	Value
	1	Value	Transmitter ID	{$CID#}

You could also hard code a value (maybe for testing), see below

	Position	Operation	Field	Value
	1	Value	Transmitter ID	7198789999

The {$CID#} is the devices caller ID. You do not have to remember all these variables, by left clicking into the values field so the cursor is flashing, then right clicking a "System Variables" window is shown. Choose the variable that you required.



The “value” is also useful for manipulating fields. If you had a signal that sent the event code in two parts and you wanted to combine into one then you could do it as follows

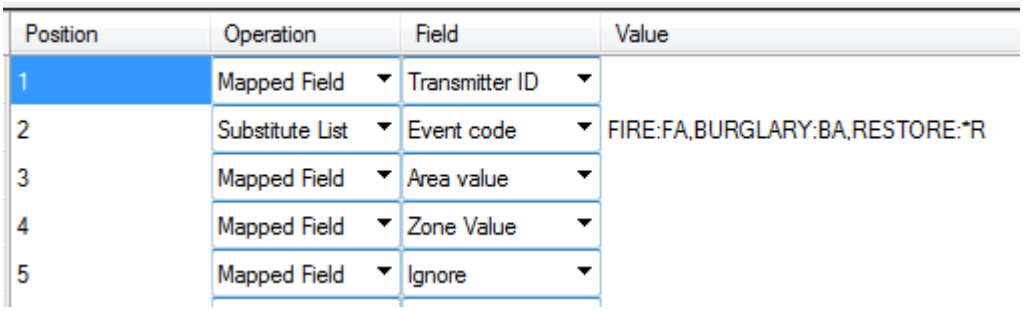
Signal: 12345,F,A,1,9

Position	Operation	Field	Value
1	Mapped Field	Transmitter ID	
2	Mapped Field	$Temp1	
3	Mapped Field	$Temp2	
4	Value	Event code	$Temp1$Temp2
5	Mapped Field	Area value	
6	Mapped Field	Zone Value	

Here we map the two parts of the event code into a temporary variable. Then using the value we assign them to the event code, by placing them straight after each other in the Value field they are concatenated together. So “F” and “A” become “FA”

Substitute List: This option allows you to change the values to something else. Let’s take our current example but assume that the event code was more verbose. It might send event codes of FIRE, BURGLARY, RESTORE etc. The substitute list allows us to change those events to a format we prefer

So we might want FIRE à FA, BURGLARY à BA, RESTORE à *R



Position	Operation	Field	Value
1	Mapped Field	Transmitter ID	
2	Substitute List	Event code	FIRE:FA,BURGLARY:BA,RESTORE:*R
3	Mapped Field	Area value	
4	Mapped Field	Zone Value	
5	Mapped Field	Ignore	

To achieve this we create a substitute list as shown above, using a comma to separate the items and a colon to link the substitutions.

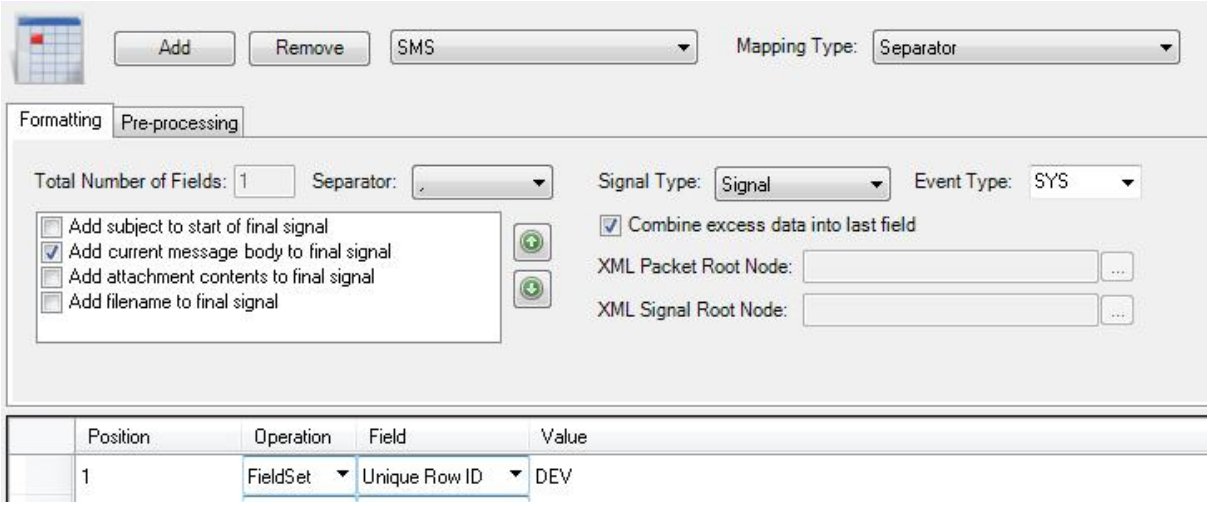
FieldSet: The fieldset option allows data-mapping templates to be set up that reference other templates. This can be useful where you have one device that sends in multiple signal formats. This will require a different template for each format. If the device in the field was an Cellular device, and it was signaling using SMS Text. One way to handle multiple formats is to send the different formats to a different modem at the receiving center. This however is not very scalable. Another way is to include the format being sent using an identifier in the signal.

Example

The following comma separated signals use the first field to decide what the format is. A signal with an S1 is a regular signal, a signal with an S2 is a GPS location signal.

S1, 12345, BA, 1, 9
S2, 12345, 38.941286, -104.719182,

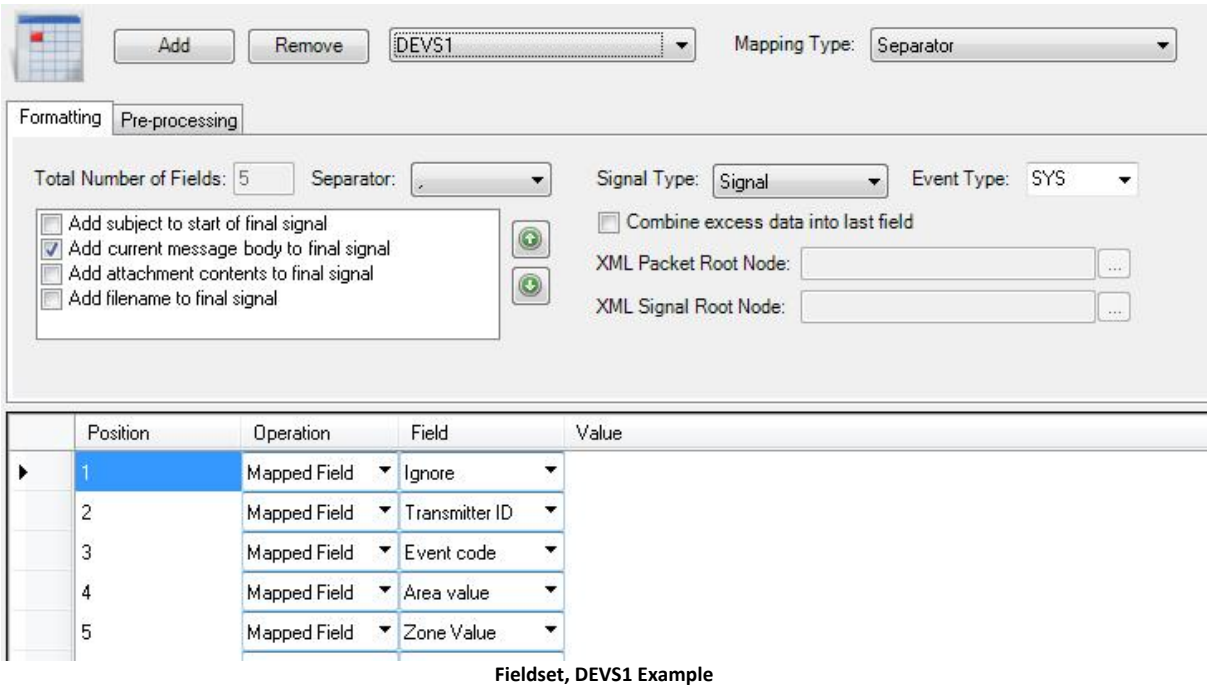
Using the FieldSet we can create a overlay template, that will load the appropriate template for the signal being processed. We need to create two templates to handle the signals above and a third to handle the FieldSet mapping. The overlay template is created just to read the signal type field



Fieldset

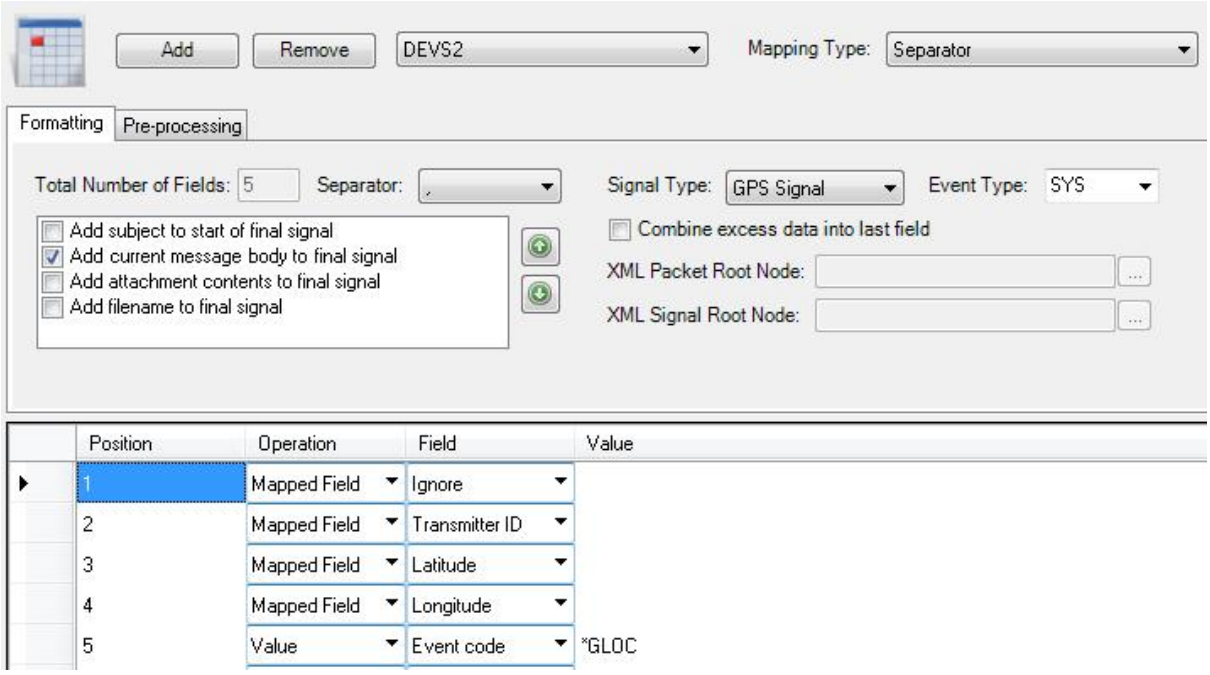
The operation is FieldSet. It will attempt to load another Template using the name found in the field i.e S1 or S2, this can be modified by entering a tag in the Value column, this will prepended onto the value, so in this example it will look for template of DEVS1 or DEVS2.

The DEVS1 Template has to process the regular signal, it looks like this:



Fieldset, DEVS1 Example

The DEVS2 has to process the GPS Signal, it looks like this:



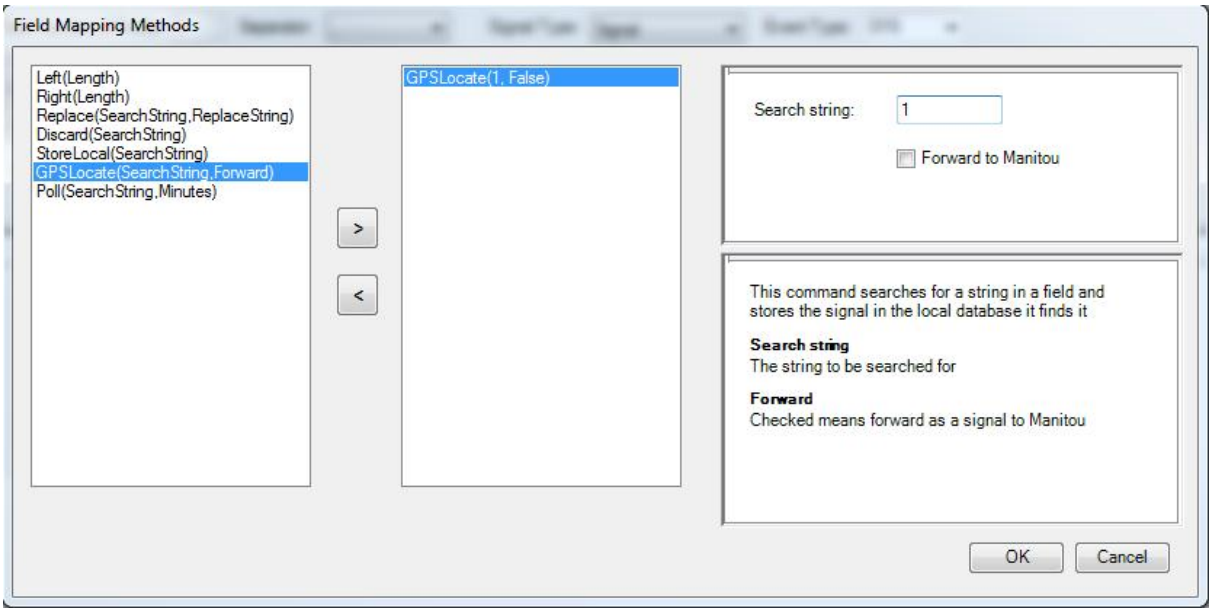
Fieldset DEVS2 Example

Notice in both signals the first field is set to be ignored, this is the Signal type which was used by the SMS template to find the appropriate template for the signal, but it is not needed to process the signal.

Field Mapping Methods

Field Mapping methods can be brought up by either double clicking in the value cell or clicking on the button at the end of the cell

This brings up a dialog box where a number of methods can be chosen that affect the processing of the signal or change a field.



Field Mapping Methods

Left(Length) – this methods will take the Length characters of a field and make it the current value, so if a field contains the value “FIRE” or “BURGLARY”, by using the Left(1) you will get “F” or “B”

Right(Length) – this method works like the Left method but takes from right side of the field.

Replace(SearchString, ReplaceString) – this method will replace one string with another. Replace(FIRE,FA) will replace the string “FIRE” with “FA” it will not do partial matches so “FIREALARM” will NOT get changed to “FAALARM”

Discard(SearchString) – The signal will be discarded if the field matches the Search string

Store(SearchString) – The signal will be stored in the MG_SIGNALS table if the field matches the Search string.

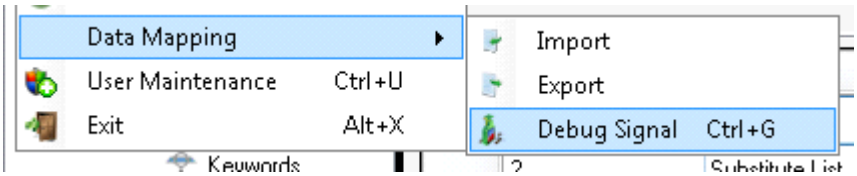
GPSLocate(SearchString, Forward) – The signal will be stored in the MG_SIGNALS table if the field matches the Search string as a GPSLocate Signal. GPS Signal processing such as checking against GEO-Fences will take place. If Forward is checked then the signal will forward to Manitou.

Poll(SearchString, Minutes) – The signal will be count as a polling signal for the device sending if the search string matches. If the device does not send another polling signal within **Minutes** an alarm will be raised in Manitou for the device. A device has to send at least one polling signal to register, if it fails to poll only one alarm will be sent to Manitou. The device will have to signal again to restart the process.

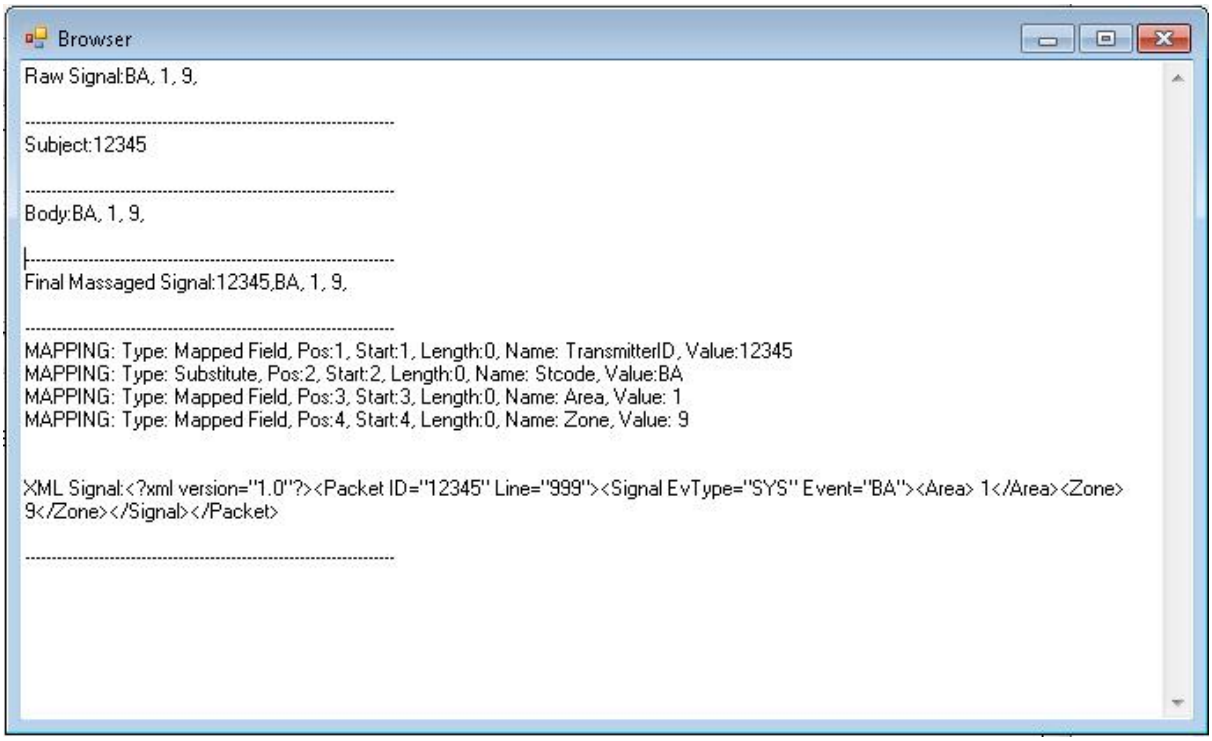
Debugging

Debugging is the mechanism used to trace what has happened to a signal when it is processed. There is a mechanism to debug how the LAST signal is processed using the

UniversalConnector. Send a signal into the UniversalConnector then press CTRL-G or choose the following Menu option



This will show a debug window, that displays the processing. In the example below it shows the Raw Signal, then it shows the subject, then it shows how they are combined together. Next it shows how each field is processed and what the Value of each field is. Finally it shows the XML signal that is sent to Manitou. These pieces of information will enable you to figure out how the signal is transformed as it goes through the UniversalConnector.



Signal Debugging

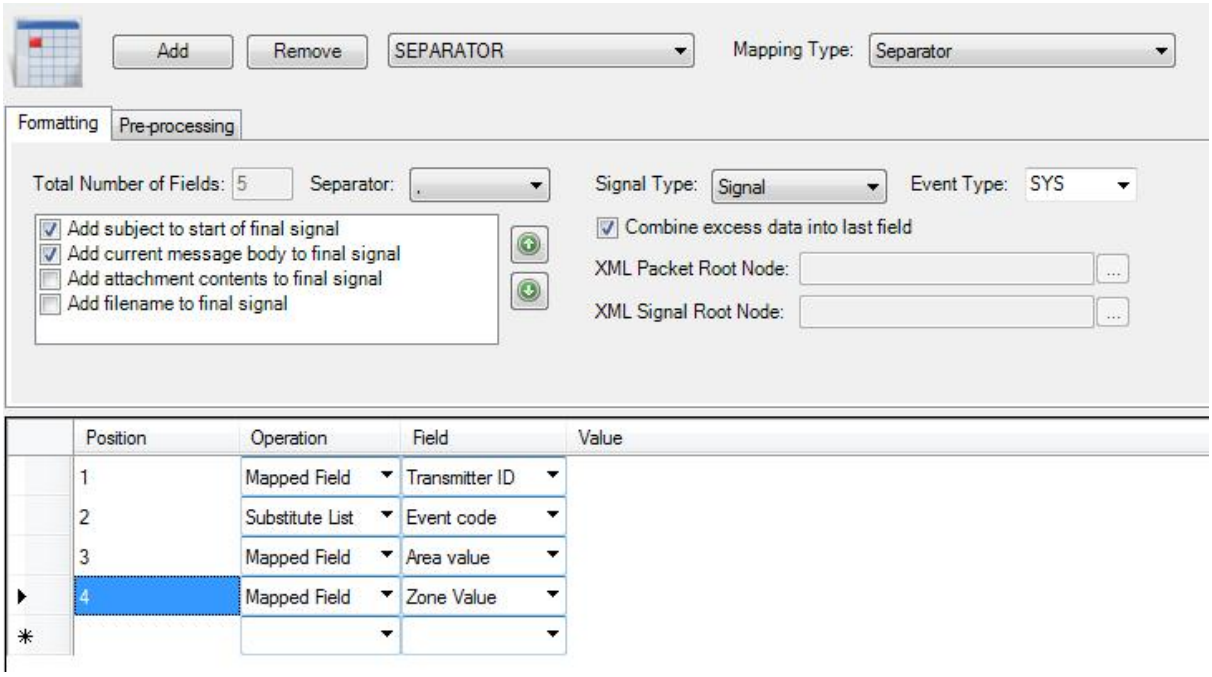
Data Mapping Examples

The following are example setups required for the Mapping Types mentioned above.

Separator

The separator signal for the template below is:

12345, BA, 1, 9

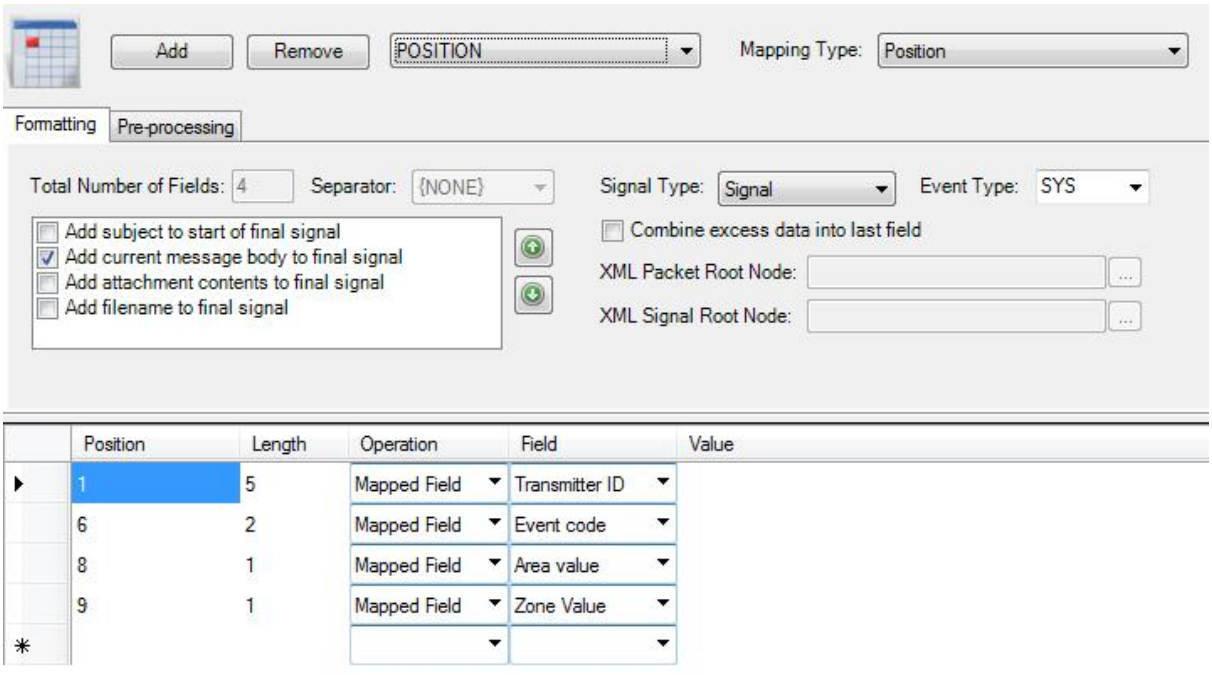


Mapping Separator Example

Position

The position signal for the template below is

12345BA19

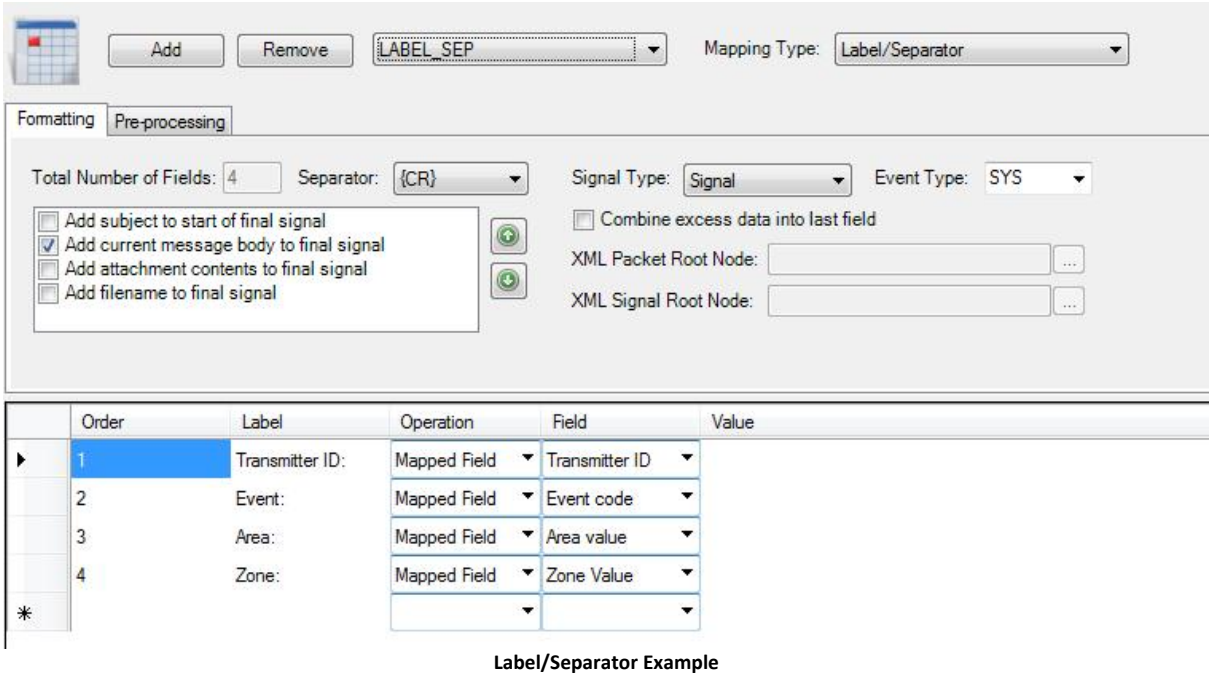


Position Example

Label/Separator

The label/separator signal for the template below is

Transmitter ID:12345
Event:FA
Area:1
Zone:9

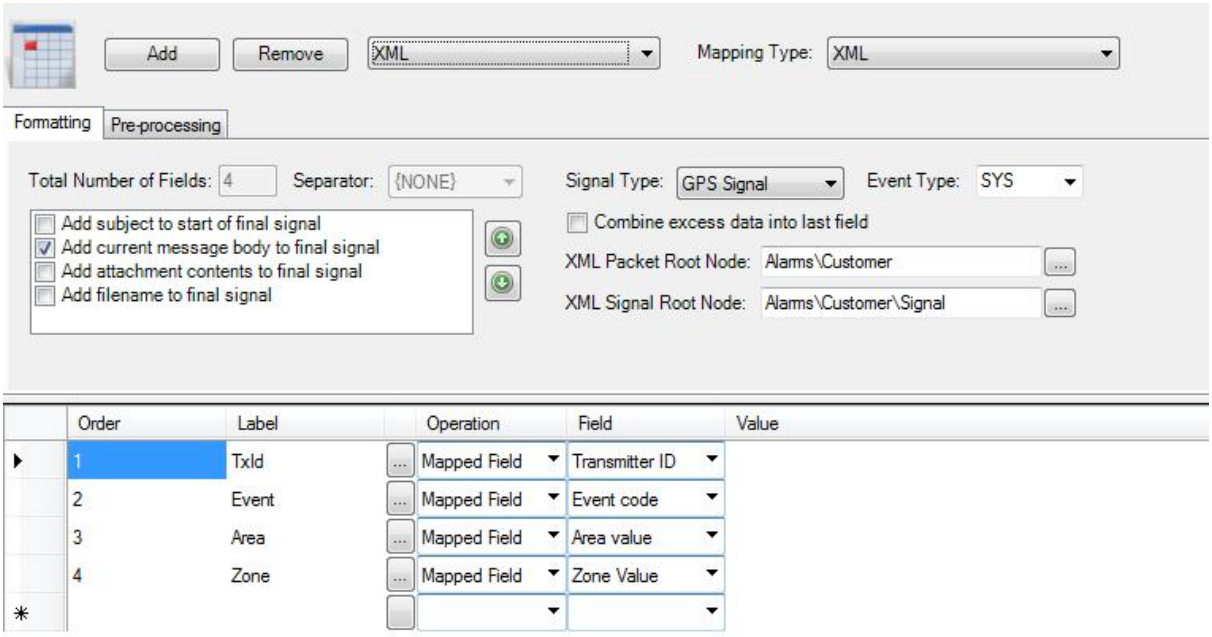


Label/Separator Example

XML

The XML signal for the template below is

```
<?xml version="1.0"?>
<Alarms>
  <Customer TxId="12345" >
    <Signal Event="BA">
      <Zone>1</Zone>
      <Area>2</Area>
    </Signal>
  </Customer>
</Alarms>
```



XML Signal Example

Pre-processing Tab

The pre-processing tab, allows the signal to be massaged before the formatting rules are applied to it. It allows for a **regular expression** to be entered to give very flexible find and replace capabilities. The replacement string can be a the separator you are using or a completely different string.

References for regular expression:

http://www.regular-expressions.info/reference.html

http://en.wikipedia.org/wiki/Regular_expression

for example,. If you had a signal that you wished to process in comma separated format but each item of data was preceded by a information label, such as:

txid:12345,event:Burglary,area:2,zone:5

Just using comma separation would give you four fields as follows

txid:12345

event:Burglary

area:2

zone:5

However, the label and the data are together. To get around this, pre-process this and change the ':' to the comma separator. You will then get 8 fields, in your mapping you can choose to ignore the labels. The signal will be changed to look like the following:

Txid,12345,Event,Burglary,Area,2,Zone,5

Event Types

Users can specify the Event Type attribute of a Signal tag. The supported protocols are:

- SIA – Any standard SIA codes, such as BA, BR, FA, FR, etc.
- CID – Any standard Contact ID codes, such as E101, R101, E103, etc.
- SYS – Manitou standard system codes. Current valid system codes are (subject to additions):

Code	Description		Code	Description
*1	GSM Link Fail		*L	Low Battery
*2	GSM No Response		*LC	Late-To-Close
*3	Land Line Link Fail		*LG	Late-To-Checkin
*4	Land Line No Response		*LO	Late-To-Open
*5	GSM Resp OK		*LS	Late-To-Start
*6	Land Line Resp OK		*LT	Late-To-Test
*7	GSM Remote Link Fail		*M	Message
*8	GSM Remote Resp OK		*MD	Missing Dual Signal
*A	Activation		*N	Cancel
*A1	Unknown Card		*NB	No Battery
*A2	Unassigned Card		*O	Open

*A3	Unauthorized Access		*OE	Early Open
*AX	Unexpected Area		*OF	Off-line
*B	Bypass		*OL	Late Open
*BA	Burglary Alarm		*ON	On-line
*C	Close		*OR	Re-Open
*CA	Call Attempts		*OU	Unscheduled Open
*CE	Early Close		*OX	Unexpected Open
*CI	Caller ID		*P	Force Arm
*CL	Late Close		*PA	Panic Alarm
*CU	Unscheduled Close		*Q	Unauthorized
*CX	Unexpected Close		*R	Restore
*D	Door Access		*RB	Bell Restore
*DF	Device Test Fail		*RO	Restore Overdue
*DO	Device Test Okay		*RX	Unexpected Restore
*DT	Device Fault		*S	Supervisory
*E	Test		*SE	Service End
*EM	Equipment Message		*SS	Service Start
*ER	Error		*ST	Status
*F	AC Loss		*T	Trouble
*FA	Fire Alarm		*TA	Trap Account
*FO	Foreign Account		*TB	Bell Trouble

*FR	Fire Restore		*TP	Tamper
*FT	Fire Trouble		*TT	Two-trip Ignore
*FX	Unexpected Fire Test		*U	Unbypass
*G	Battery OK		*V	Alarm with Audio
*H	Duress		*W	Runaway Warning
*I	User Number		*X	Auxiliary
*ID	User ID		*Y	System Restore
*J	Trouble Restore		*Z	System Alarm
*K	AC Restore			

Field Descriptions

Operations

- **Mapped Field** - a pre-defined field with a specified position in the signal. When connected to the data source, it will recognize the field and perform the mapping.
- **Value** - a field with a defined value, such as *A for an activated alarm or BA for a burglary alarm.
- **Manipulation** - a field with an entered value which is then manipulated into a mapped field

Field

Depending on the Signal Type selected, the Field choices available will change.

For Signals:

- **Unique Row ID** - the unique identifier for each row.
- **Transmitter ID** - the Transmitter ID which sent the signal.
- **Pseudo-DNIS** - allows a map to DNIS line setup and map setup.

- **Event Code** - the description of codes that Manitou uses to internally display incoming signals to Operators and others who may view or access the data.
- **Area Value** - the numeric value assigned to the area.
- **Area Description** - a brief description of the area, if applicable.
- **Zone Value** - the numeric value assigned to the zone.
- **Sensor Value** - a brief description of the zone, if applicable.
- **User Number** - a numeric value assigned to the user.
- **User Info** - brief information about the user, such as the first and last name.
- **Point ID** - detailed information about the location, user, or account as defined in Manitou.
- **Minutes Ago** - the number of minutes ago the signal was sent.
- **Date/Time (if in past)** - when a signal is received and later entered into Manitou, the Date/ Time (if in past) will display the time the signal was first received.

For GPS:

- **Unique Row ID** - the number of the row of the table from which the signal is being taken from.
- **Transmitter ID** - the Transmitter ID which sent the signal.
- **Pseudo-DNIS** - allows a map to DNIS line setup and map setup.
- **Event Code** - the description of codes that Manitou uses to internally display incoming signals to Operators and others who may view or access the data.
- **Latitude** - the latitude of the signal.
- **Longitude** - the longitude of the signal.
- **Direction** - the direction of the signal.
- **Degrees** - degrees of the signal location.
- **Minutes, Seconds, Tenths** - GPS indicators for plotting the position.

- **Speed** - how fast the vehicle is traveling.
- **Heading** - North, South, East, West, etc.
- **Power** - signal strength for the transmitter.
- **Comment** - the signal comment

For Telemetry:

- **Unique Row ID** - the number of the row of the table from which the signal is being taken from.
- **Transmitter ID** - the Transmitter ID which sent the signal.
- **Pseudo-DNIS** - allows a map to DNIS line setup and map setup.
- **Event Code** - the description of codes that Manitou uses to internally display incoming signals to Operators and others who may view or access the data.
- **Sensor Value** - a numeric value for a sensor which has been set up for the account in Manitou
- **Minutes Ago** - the number of minutes ago the signal was sent.

Connector Setup

UniversalConnector currently supports the following connectors. Additional connectors are available within the MediaGateway; however, only those supported through the UniversalConnector are discussed within this section.

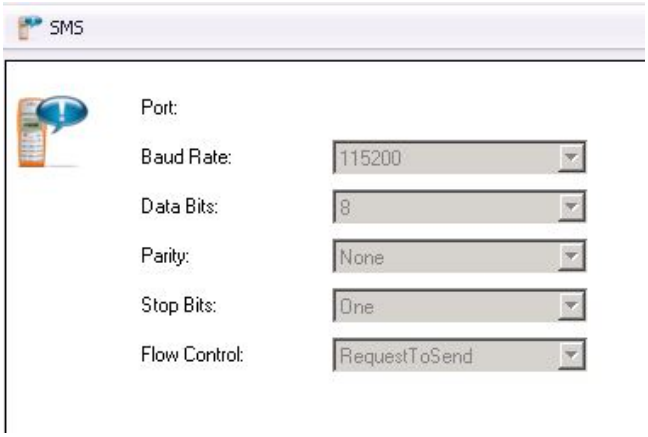
- SMS (modem)
- SMS Gateway
- Email
- ODBC (Database)
- FTP
- TCP/UDP

- File
- RSS

Please note that each connector must be licensed individually; those connectors that are licensed will be available for setup. Initial setup of any available connectors will be handled by the Bold Implementation team. Any connectors not currently licensed will not be accessible through the UniversalConnector list within MediaGateway. Connectors may be licensed at any time through the proper licensing channels.

SMS Gateway

The SMS Connector allows for a connection to a SMS modem - both GPRS and CDMA modems are supported. When configured, the SMS connector setup will show up in the **Connector** section of the **UniversalConnector**.

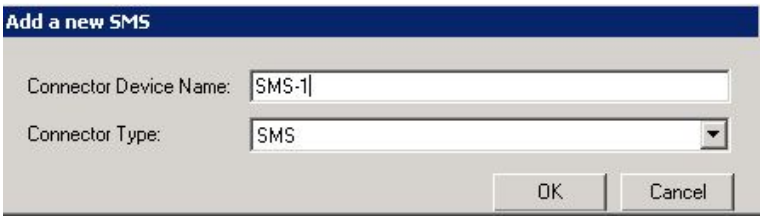


SMS configuration

Add a SMS Connector

A connector must first be added to the UniversalConnector for SMS capabilities. To add a SMS Connector, click **Connector** under the **UniversalConnector** section of the Node Tree.

1. Click the **Add** button at the top of the *Connector* screen. In the *Add a new SMS* dialog box, input a device name in the **Connector Device Name** field.



Add a new SMS Connector, Device Name

2. Confirm that the **Connector Type** field shows "SMS". If not, select SMS from the drop-

down list.

3. Once confirmed, click the **OK** button.
4. Additional fields will populate with default information, which may need to be change depending on physical hardware installed and requirements. Use the drop-down arrows to access additional selections available for each field.

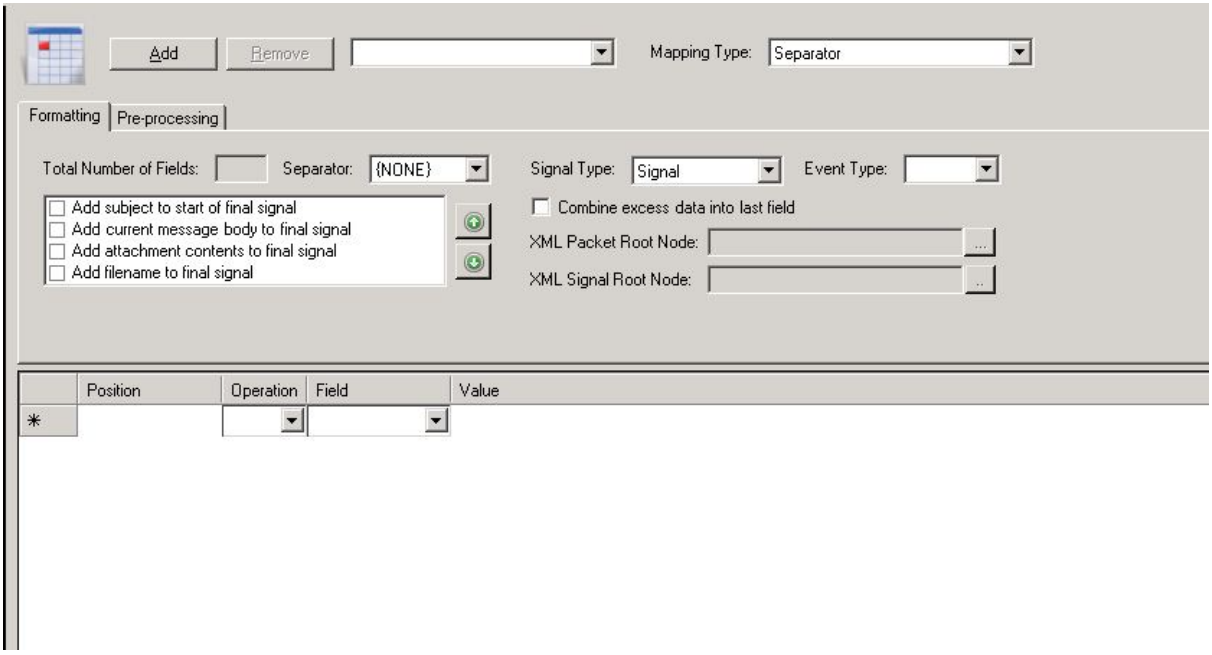
➢ When installing physical hardware, refer to the Windows Device Manager and make note of which COM port was used during installation. This COM port information will then populated in the corresponding **Port** field in the *Connector* window.

SMS Data Mapping

In order for the communication to be properly identified and set up for submission to Manitou, the correct data mapping must be input in to the *Data Mapping* form.

🗁 For an in-depth look at data mapping, please refer to our Data Mapping section.

➢ From within the MediaGateway, click **Data Mapping** from the menu list under **Universal Connector** on the left-hand side of the screen.

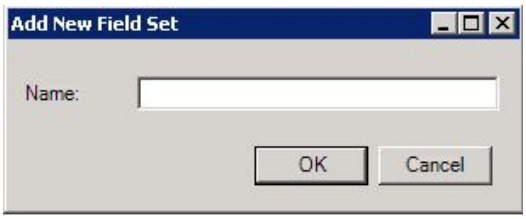


Data Mapping form

Formatting Tab

Upon loading the *Data Mapping* form, the *Formatting* tab will be active.

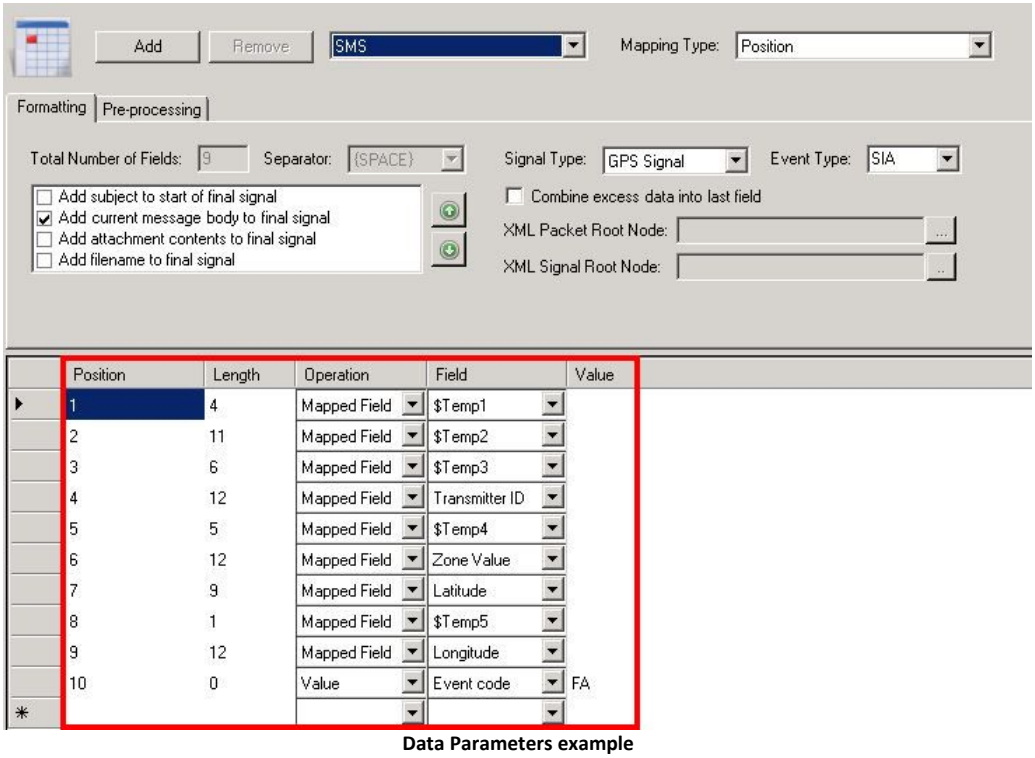
1. Select the **Add** button to add a new *Field Set*.



Add New Field Set

2. Input the *Field Set Name* and click **OK**.
3. Select the *Mapping Type*: **Separator**, **Position**, **Label/Separator**, or **XML**.
4. The *Formatting* form contains the following fields:
    - **Total Number of Fields** - this number will be auto-generated based off the amount of fields designated within the form
    - **Separator** - select the appropriate separator from the drop-down list
    - **Signal Type** - choose either Signal, GPS Signal or Telemetry
    - **Event Type** - SYS, SIA, or CID
5. Check to add any part of the message to the final signal by selecting the appropriate checkboxes.
6. Choose whether or not to **Combine excess data into last field**.
7. If the **Mapping Type** selected is **XML**, designate the **XML Packet** and **XML Signal Root Nodes**.
8. In the *Data Parameters* section, the bottom window in the *Data Mapping* form, designate the order of information to be parsed in to Manitou.

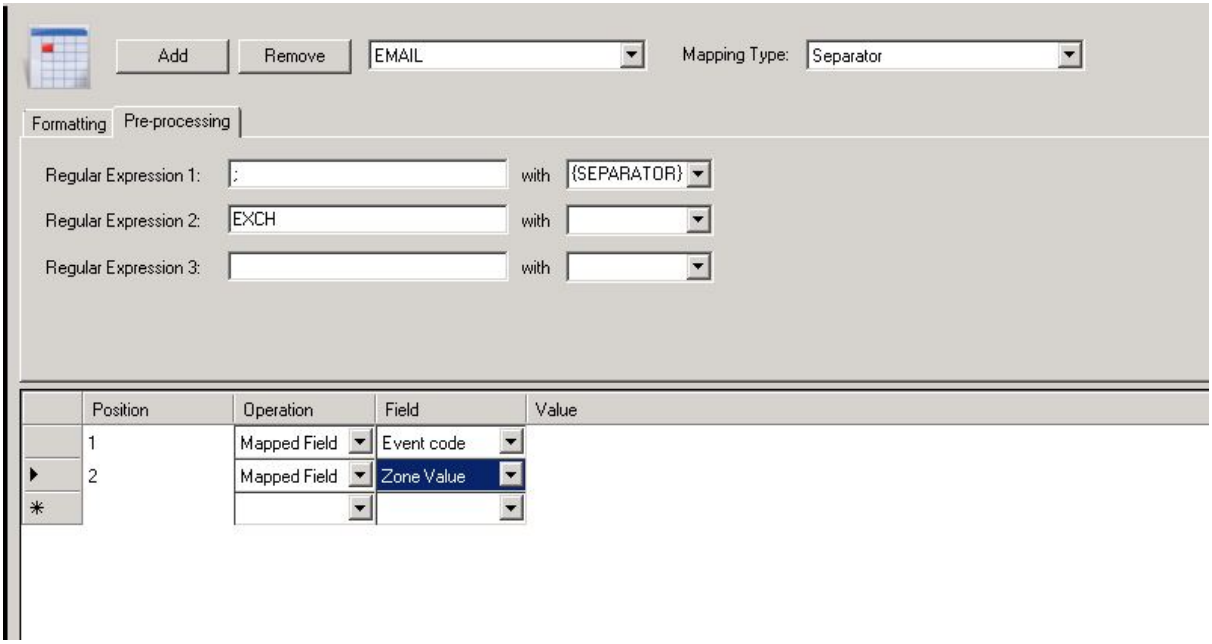
    🗁 The column labels will change depending on the Mapping Type selected.



Data Parameters example

Set up Expressions

The *Pre-processing* tab enables special scenarios to be entered. For example, if the **Separator** has been designated as a comma "," on the *Formatting* tab, but there are occasions where a semi-colon could show up as the separator, this would be designated on the *Pre-processing* tab.



Data Mapping, Pre-processing tab

1. Click the *Pre-processing* tab.
2. In the *Regular Expression 1* field, type the symbol or letters that may be used as a Separator.
3. Choose the appropriate interpretation option in the with field.
4. Repeat for *Regular Expression 2* and *3* if necessary.

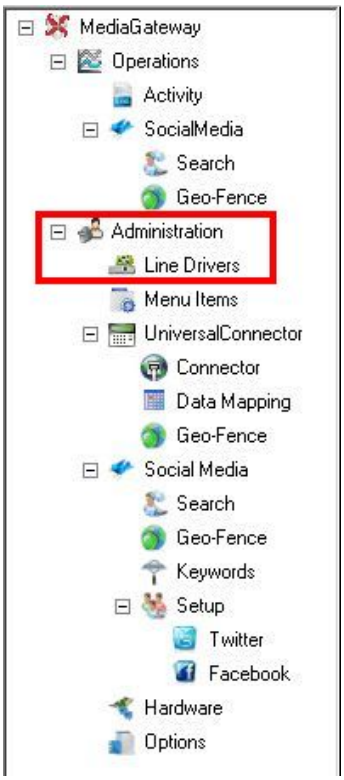
🗁 The Data Parameters section is static and will not change between the Formatting and Pre-processing tabs.

Line Drivers

- **FEP and Receivers <u>MUST</u> be correctly installed and configured prior to formatting line drivers. To check the installation of the FEPs and Receivers, please refer to the appropriate Supervisor Workstation manual for your version of Manitou.**

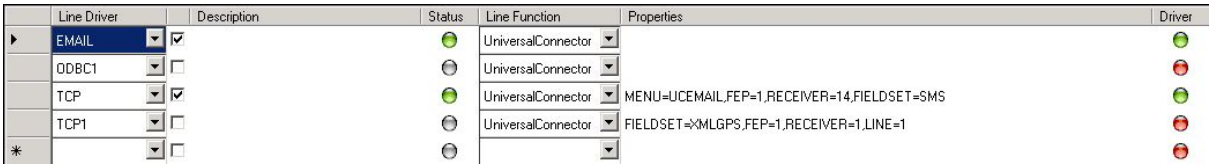
Once a Connector has been created and mapped, line drivers must be formatted.

1. Click the **Line Drivers** selection under **Administration** in the Node Tree on the left-hand side.



MediaGateway Node Tree, Line Drivers

2. In the *Line Driver* column of the *Line Drivers* window, select the Connector from the pull-down list in the next open row (indicated with an asterisk).



UniversalConnector Line Drivers

3. The Line Driver will automatically be designated as active with a check in the box to the right. If this will not be an active Connector, click the checkbox next to the specific Connector to uncheck.

4. Input any description, if preferred, in the **Description** field.

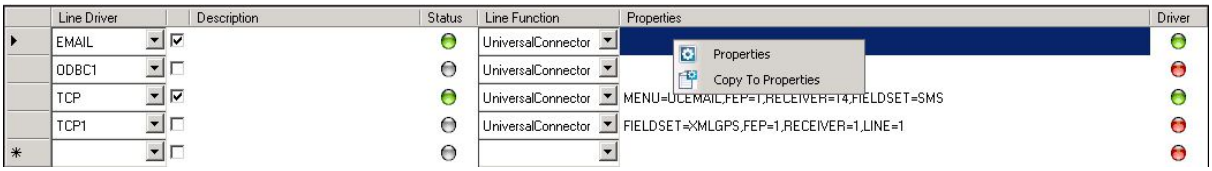
5. The **Status** column will show whether or not the Connector is active (green), inactive (grey), or in an Error Condition (red).

6. Select the type of **Line Function** from the pull-down menu.

Establish Properties

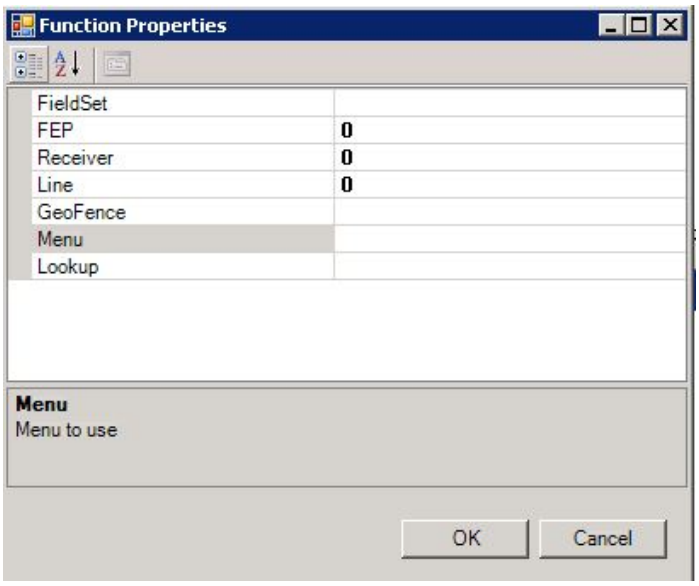
1. Right-click in the *Properties* column and select **Properties** from the drop-down list to

enter new property information for the newly created Connector, or choose to **Copy Properties** from an existing Connector.

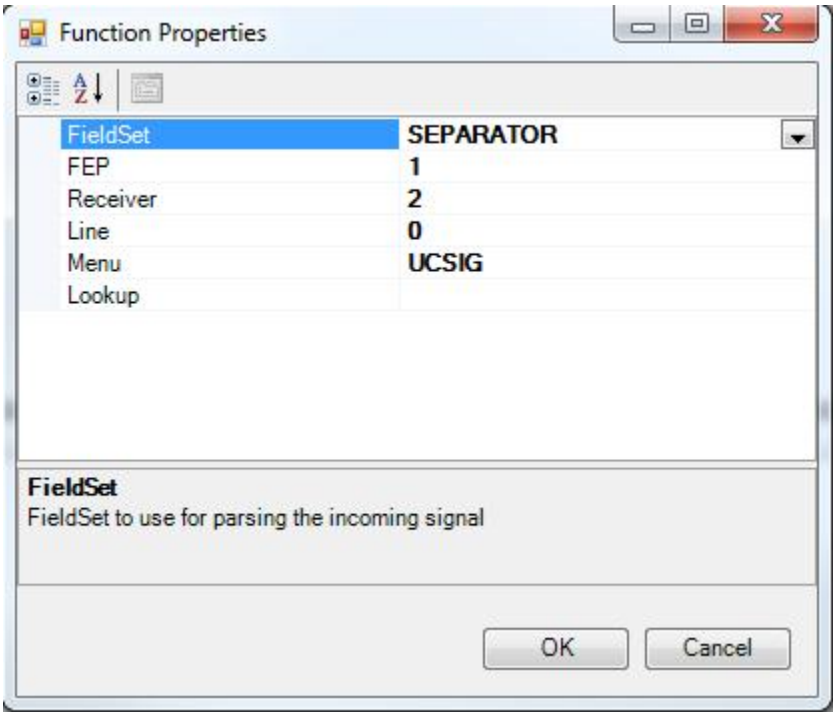


Line Driver Properties

2. Populate the necessary fields in the *Function Properties* window.



Function Properties



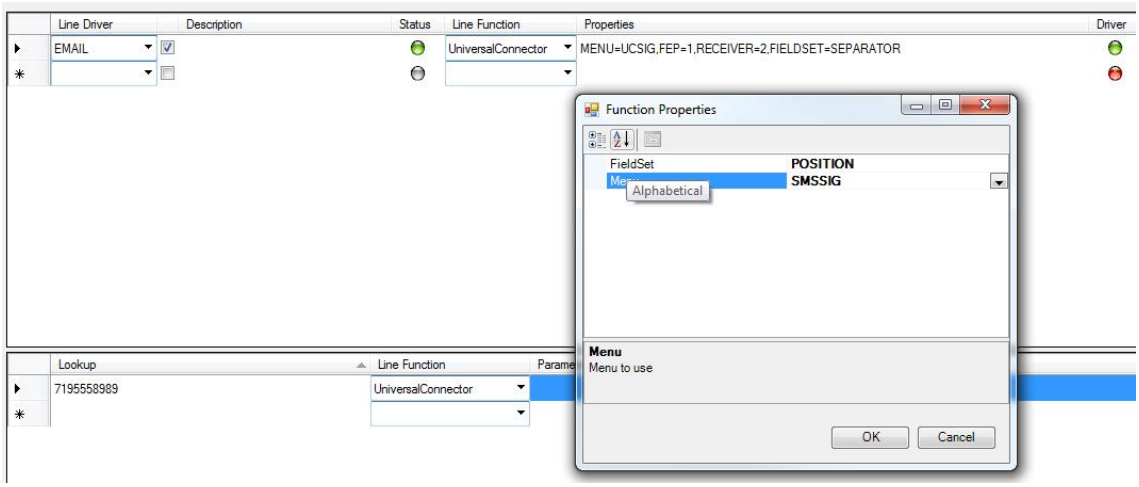
Fieldset Function Properties

- **FieldSet** - select the Data Mapping previously created
- **FEP** - Front End Processor number thatdevices can be referenced to
- **Receiver** - Receiver number that devices can be referenced to
- **Line** - Line number that devices can be referenced to

  Note: the FEP, Receiver, Line combination is used to find Receiver Line Designation. Each account in Manitou is has receiver line designation and transmitter ID. Each FEP, Receiver, Line combination will map to a receiver line designation. When a signal comes through the UniversalConnector, its receiver line designation will be added to the signal based on this relationship.

- **Menu** - The menu allows HAL (Hierarchical Application Language) scripting to be applied to the signal before it is sent to Manitou. This allows post processing and modification of the signal.
- **Lookup** -. The only lookup feature that UniversalConnector supports is the Caller ID on. This varies from connector to connector, for example in SMS it will be the device phone number, in Email it will be the sending email address, some connectors such as FTP it just doesn't apply. The lookup feature allows different processing based on where the signal came from, so if we have a device in the field that we want to process differently, we simple create a lookup for that device. We can then point it to a different FIELDSET (Data mapping template) and use a

different Menu.



Fieldset Lookup

Here you can see that all signals go through the FieldSet "SEPARATOR" and the Menu "UCSIG", however, a device with the caller ID of 7195558989 will use the FieldSet "POSITION" and the Menu "SMSSIG"

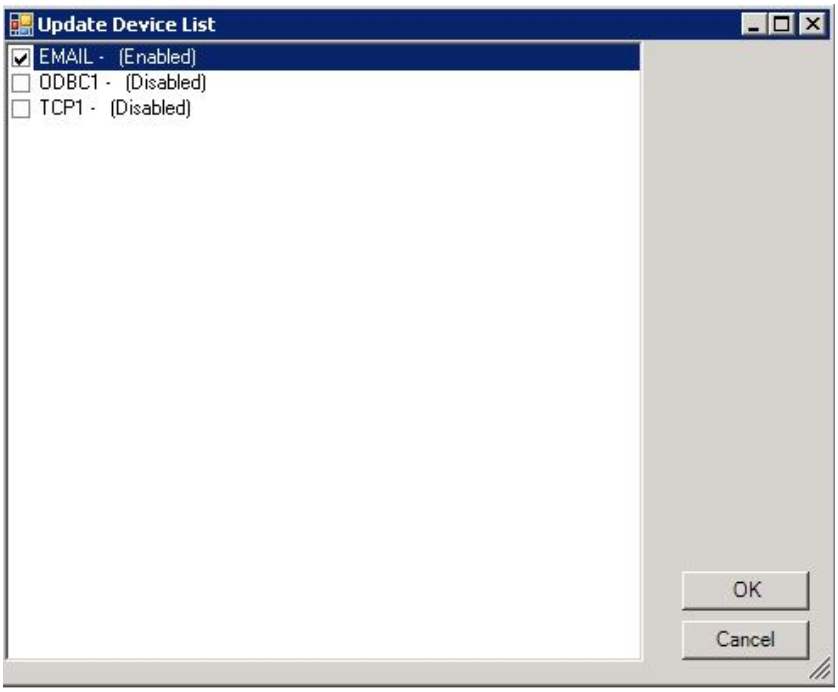
***Example*:** a Lookup can be specified if there will be a different action for one sender versus another in an Email Connector setup.

3. Once the *Properties* form is completed, click the **OK** button.

Copy Properties

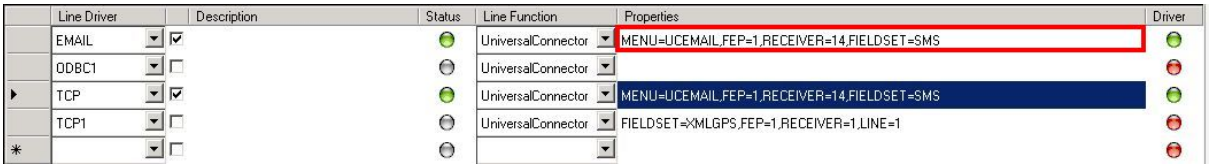
Properties can be easily and quickly copied from an established Line Driver to another.

1. Click within the *Properties* field for the Line Driver to copy FROM.
2. Right-click and select the **Copy To Properties** option.



Copy To, Update Device List window

3. Upon opening, the *Update Device List* window lists and automatically checks any available Line Drivers. Uncheck any that will not need properties copied to them.
4. Once completed, click **OK**.
5. The newly copied properties should now show up in the *Properties* field for the Line Driver(s) specified.

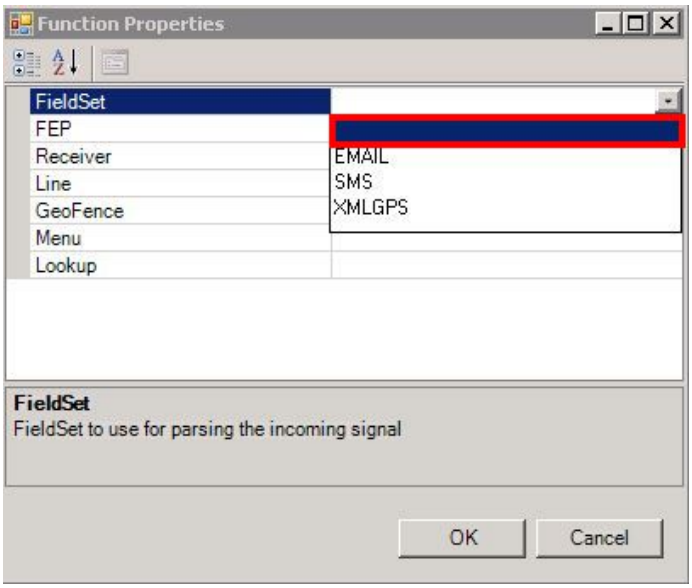


Copied To Properties example

Remove Properties

Removing properties is a manual process.

1. Right-click in the *Properties* field for the appropriate Line Driver.
2. Select **Properties** from the drop-down menu.
3. Within the *Function Properties* window, click in each *Property* field and manually clear it out by either selecting the **blank** from the drop-down menu or using the **<Delete>** or **<Backspace>** key.

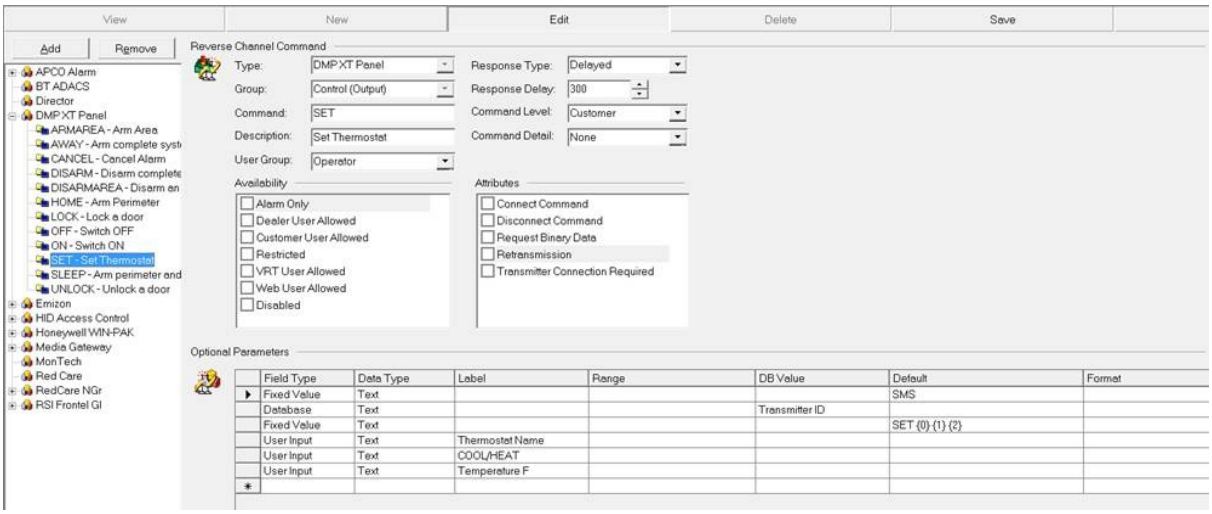


Function Properties window

SMS Control

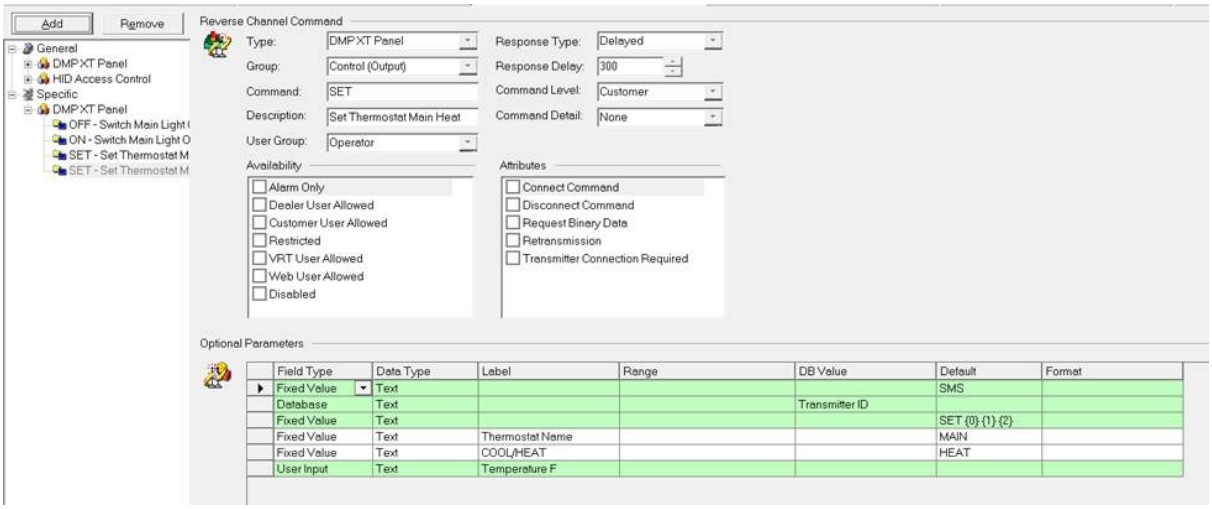
To setup the steps for SMS control through the UniversalConnector, perform the following steps.

1. Set up all the SMS commands, DMP is done. First 3 fields are fixed
2. Field 1 – 'SMS' tells universal connector what to do with it
3. Field 2 – Phone number to send it to
4. Field 3 – Format, this is a flexible format field that lays out the message format. Place holder tags using the format {0}, {1} should be used, these represent the fields that will follow after this field, the number will represent the field number after this field starting at 0. So 0 is the first one.
5. In the example below it is SET {0} {1} {2} this will be filled out with data later but would be something like SET MAIN THERMOSTAT HEAT 75 (SET {MAIN THERMOSTAT} {HEAT} {75})



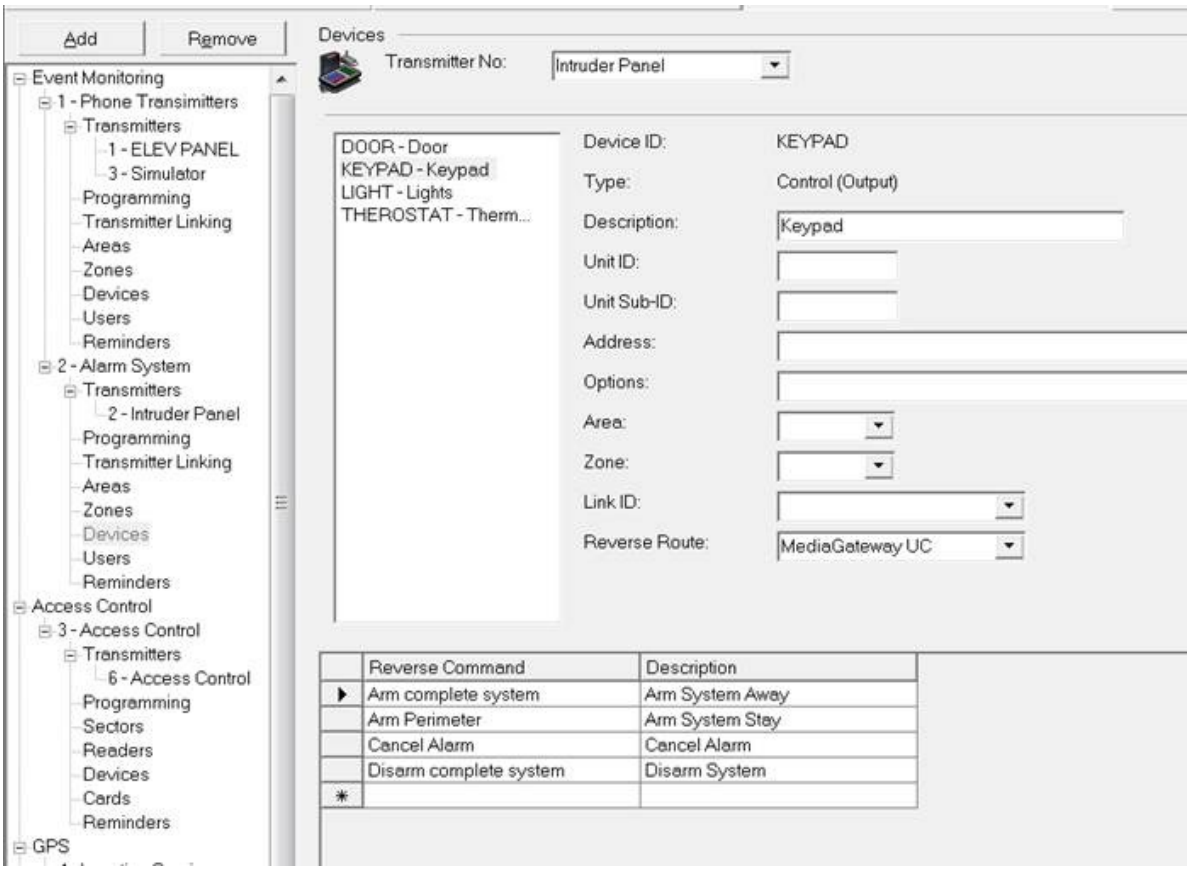
SMS Reverse Channel Command

1. The reverse channel commands can be overridden at the customer level to do more specific device control and pre-fill certain values see below



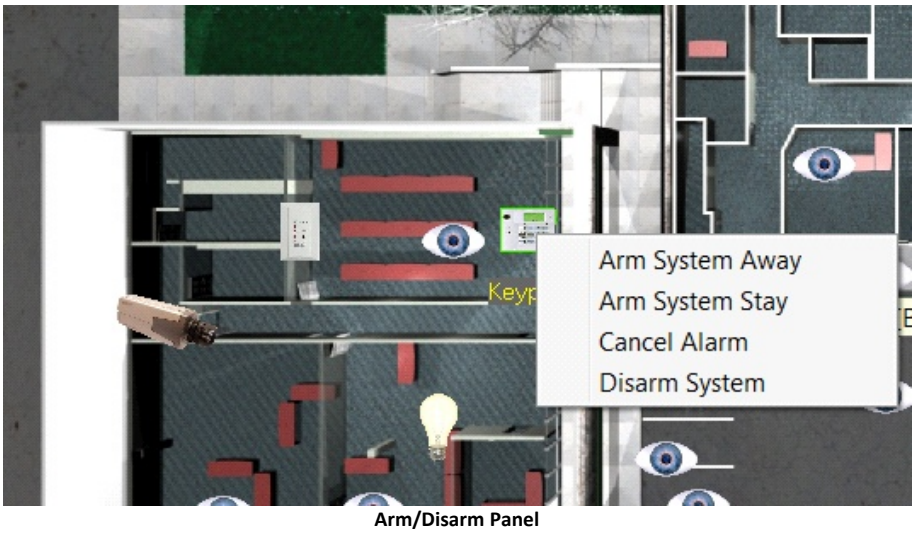
Override Reverse Channel Commands

These commands can then also be linked to devices and attached to plans. They can also be used normally in action patterns or from the main operator workstation

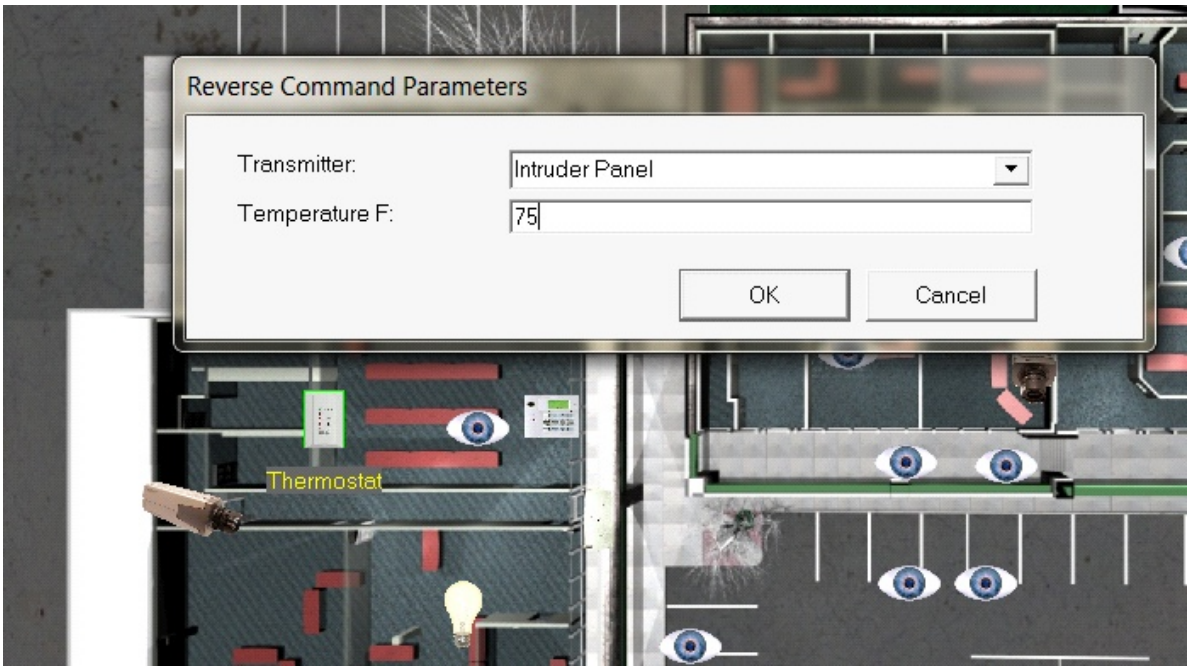


Link Commands to Devices

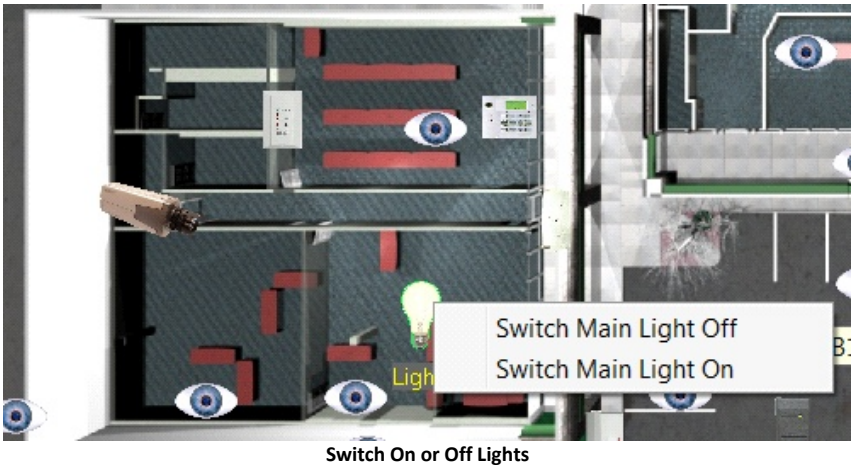
Once they are attached to a device they can be driven from the plans.



Arm/Disarm Panel



SMS Change Temperature



Switch On or Off Lights

SMS Example

There are many ways to define connectors within the UniversalConnector. Below is an example of a SMS Signal interpreted through the UniversalConnector.

Devices supported for SMS:

- Multi-Tech SMS Modem - GSM/CDMA
- SMS Gateway - MessageMedia - US/UK/Australia
- Receive Signal via Text Messaging

*MMS is currently not supported.

SMS Signal

The SMS Connector uses Caller ID as the Transmitter ID then identifies the Event, Point ID, and Zone based off specifications setup in the Data Mapping section of the MediaGateway.

🗁 For an in-depth look at data mapping, please refer to our Data Mapping section.

Signal example: Text message - S1, BA, Kitchen, 1

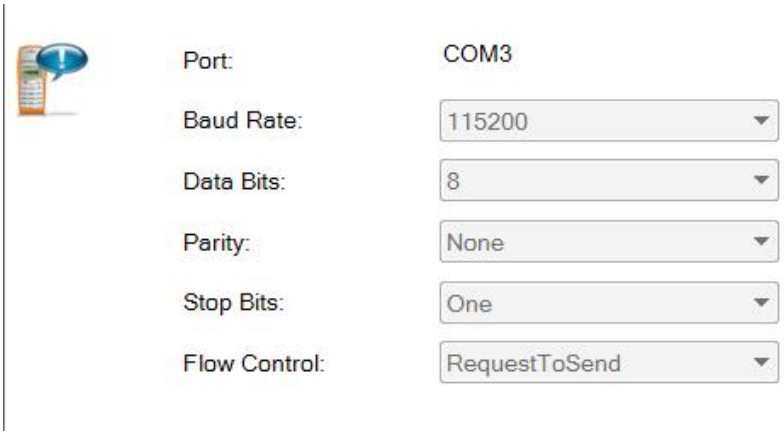
In the above example, the UniversalConnector would be able to correctly identify the following:

- **S1** - Fieldset Identifier
- **BA** - Event (Burglar Alarm)
- **Kitchen** - Point ID
- **1** - Zone

🗁 *It is possible to have multiple fieldsets available for the system to choose from. However, if only one datamap fieldset available, then that fieldset will be automatically selected.*

Connector

In the above example, the connector would be configured in the following setup:



SMS Connector Setup example

Line Maps

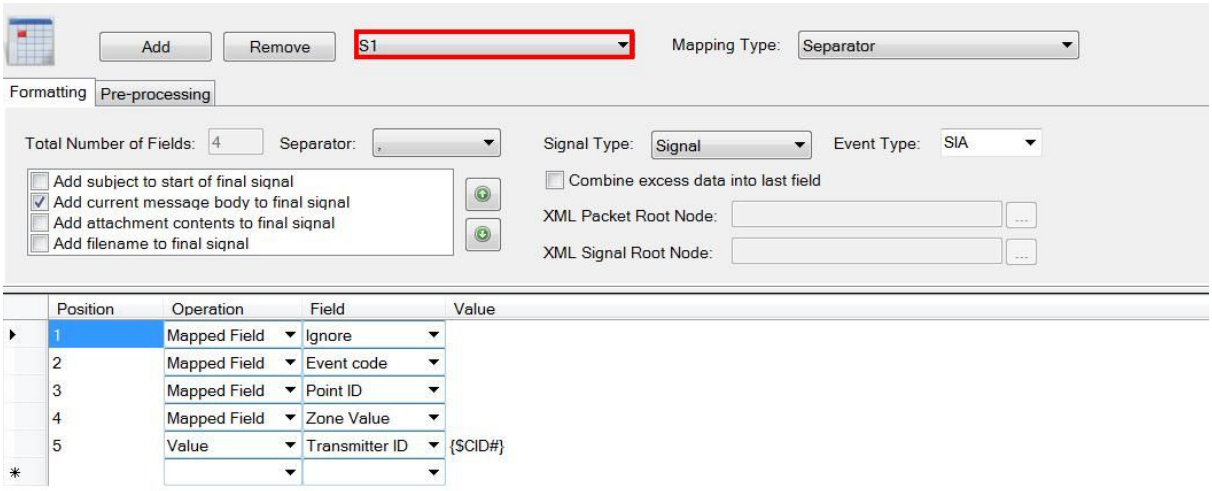
The below image shows the line mapping for the SMS Modem. Notice that fieldset has been identified.

SMS Line Maps example

Data-Mapping

In this example, the line map first points to fieldset “SMS”. If designated differently, as is the case here, it looks at the first field and then loads in the appropriate map, in this example “S1”.

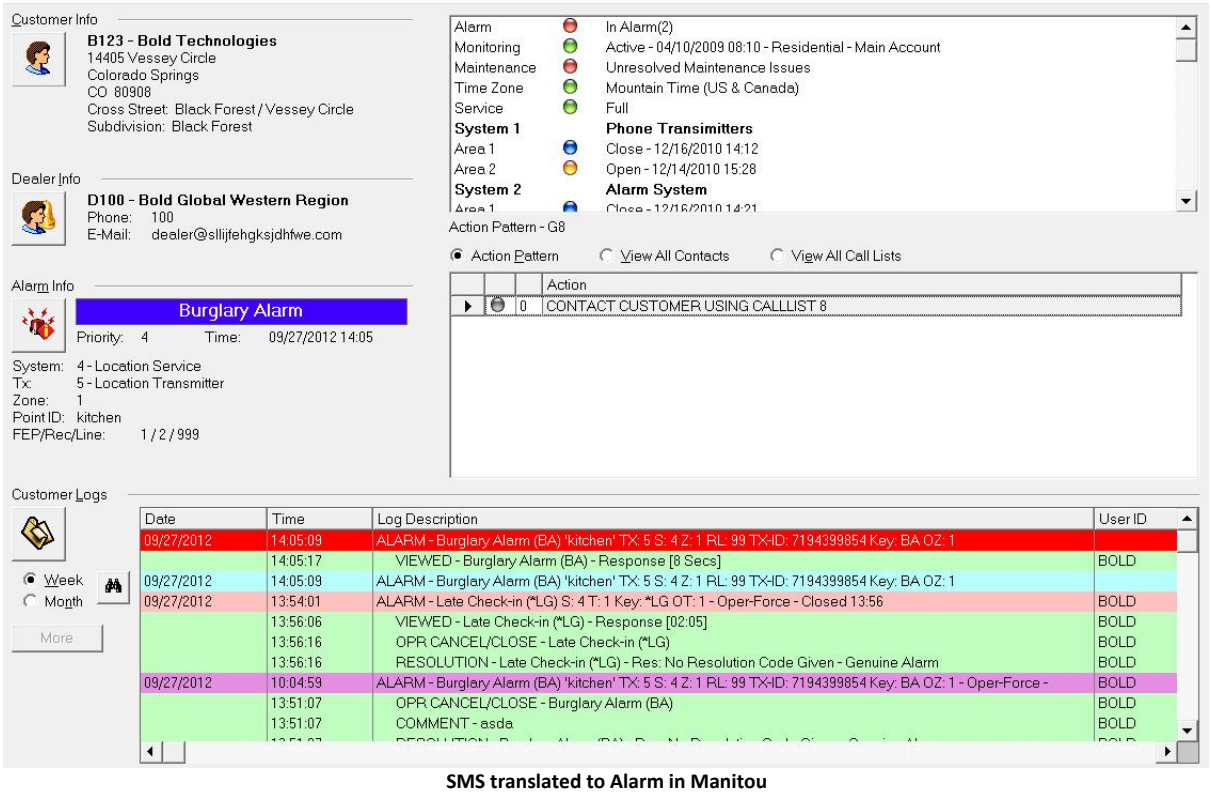
S1 data-mapping



S1 Data Mapping Example

Manitou Alarm

When the signal is sent in to Manitou, the following alarm is created.



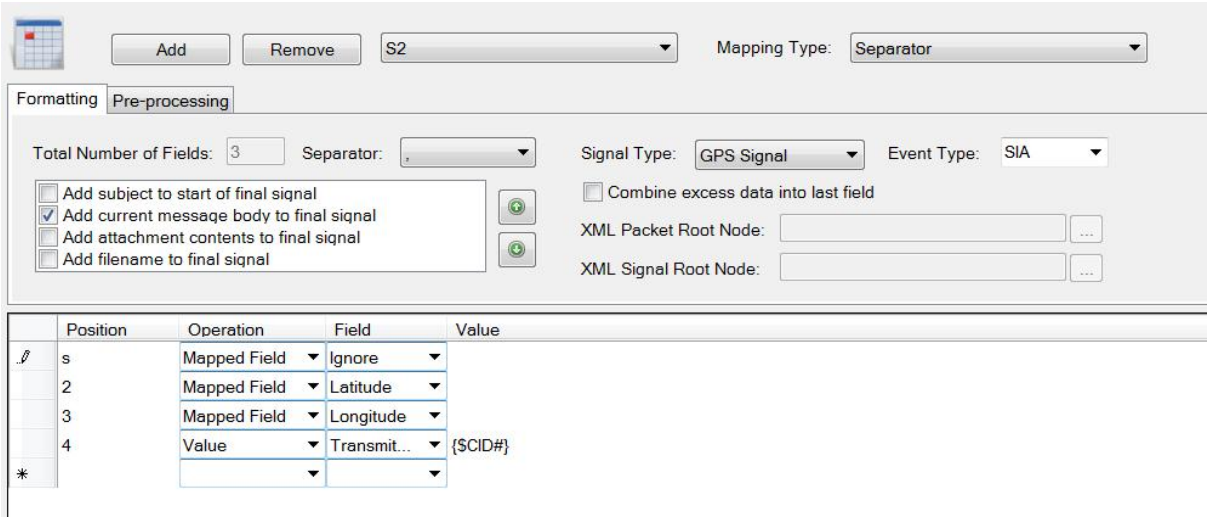
SMS translated to Alarm in Manitou

GPS Alarm

The GPS Alarm is essentially the same as a SMS Alarm.

GPS Example:

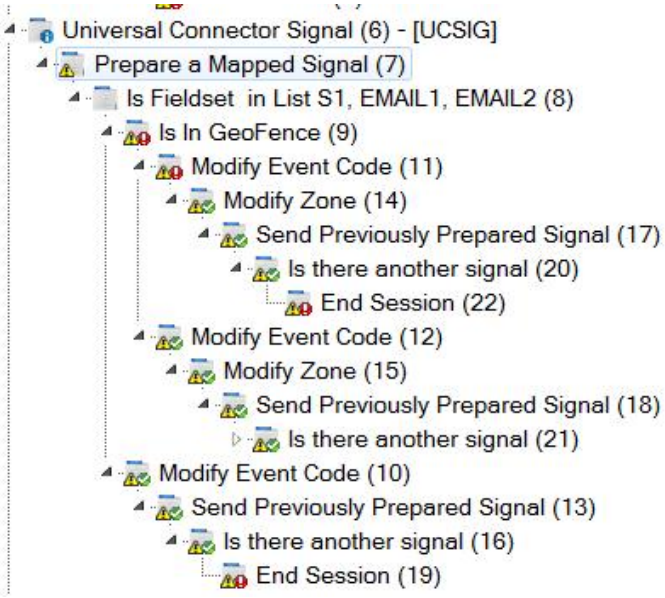
- PA Alarm with GPS information, using Caller ID as Transmitter ID and GeoFence
  - S2, 38.938566,-104.717154 - Inside
  - S2, 38.941286,-104.719182 – Outside



Data Mapping example

Line Driver, Menu Item

The Menu Item assigned in the Line Driver makes all thiswork. The below image shows the item "Prepare a Mapped Signal". As shown in this instance, the menu will take in the GPS signal, determine whether it is inside or outside the GeoFence then modify the event code accordingly.



GPS Menu Item example

Manitou Alarm

When both signals above are sent (Inside and Outside coordinates), two different alarms will be received into Manitou since one signal is coming from inside the GeoFence and one is coming from outside, as seen below:

	Time	Priority	Customer ID	Customer	Post Code	Code	Event	Area	Zone	U
	Sep 27, 14:20:24	2	B123	Bold Technologies	80908	PA	Inside Geo-Fence		1	
	Sep 27, 14:21:38	2	B123	Bold Technologies	80908	PA	Outside Geo-Fence		1	

Alarm examples

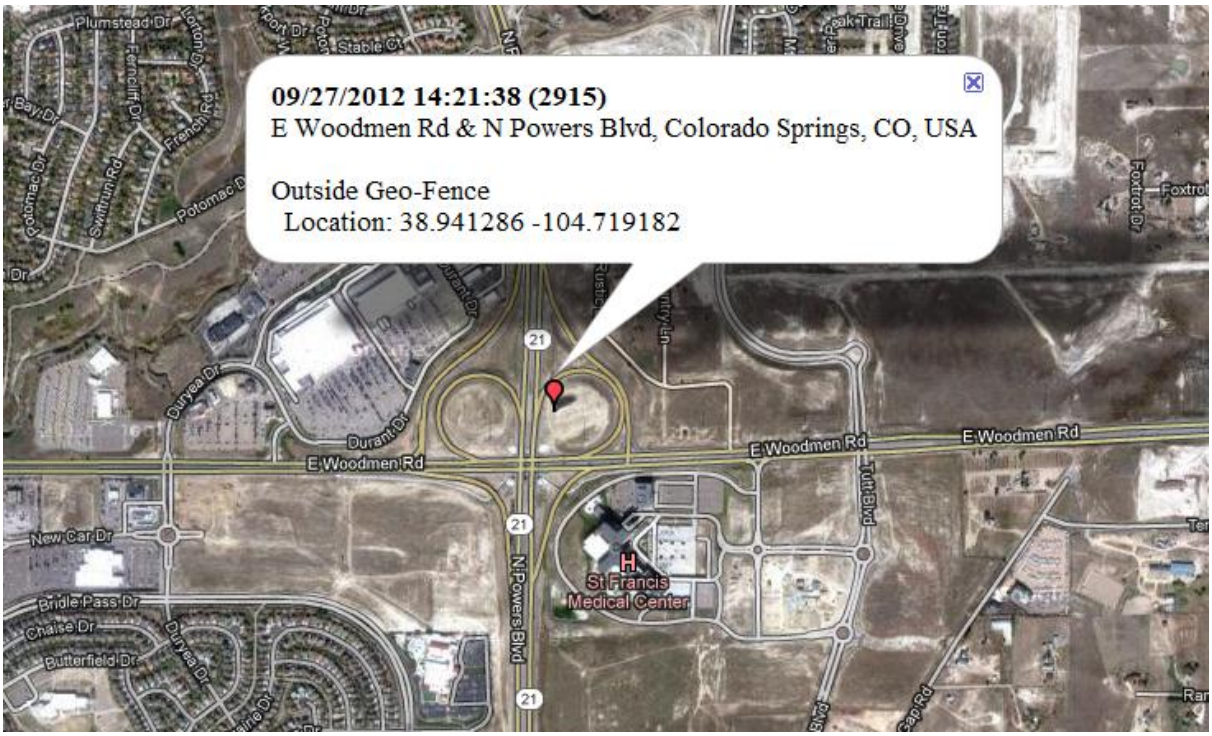
Looking at the above Outside GeoFence alarm, the following data will also be presented:

- The alarm will come in to the Log as a GPS alarm.

09/27/2012	14:21:38	ALARM - Outside Geo-Fence (PA) TX: 5 S: 4 Z: 1 RL: 99 TX-ID: 7194399854 Key: *A OZ: 2	
	14:21:38	GPS LOCATION - Coordinates: 38.941286\-104.719182 - Status: Complete	
	15:14:43	VIEWED - Outside Geo-Fence (PA) - Response [53:05]	BOLD

GPS Alarm example

- It will also display the map and location coordinates.

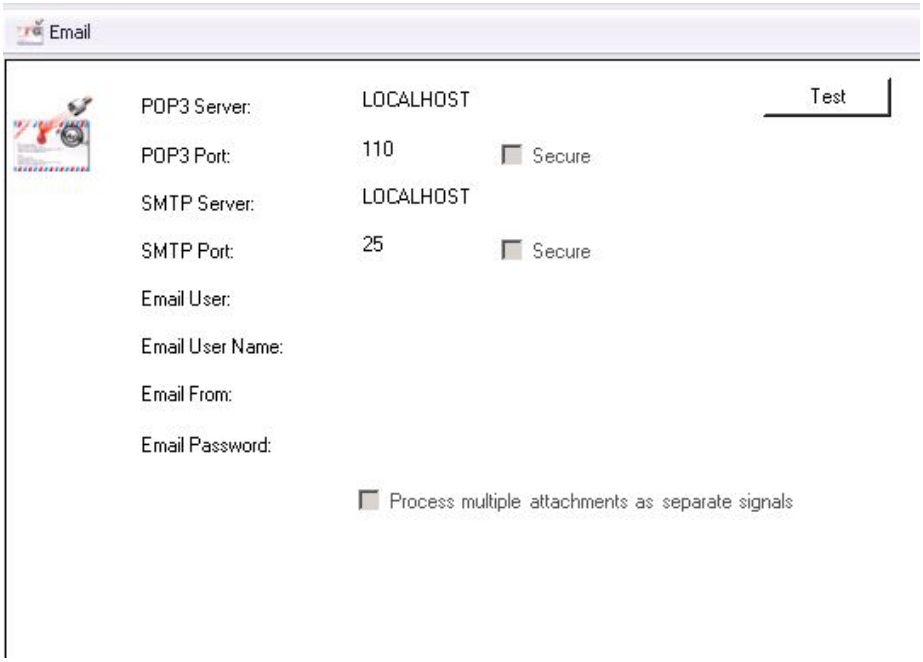


GPS Alarm Map example

Email

When the Email Connector is setup, the MediaGateway will login and check for a particular type of message (at specific intervals), parse it and send it in to Manitou as an alarm. For example, the UniversalConnector can be configured to look in the C:/Temp file for any file extensions of XML. The Email Connector can be configured to include the Subject, Body and Attachments of an email in to the information sent to Manitou.

When configured, the Email Connector setup will show up in the **Connector** section of the **UniversalConnector**.

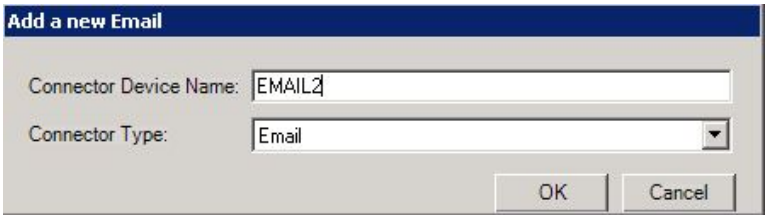


Email configuration

Add an Email Connector

To add an Email Connector, click **Connector** under the **UniversalConnector** section of the Node Tree.

1. Click the **Add** button at the top of the *Connector* screen. In the *Add a new Email* dialog box, input a device name in the **Connector Device Name** field.



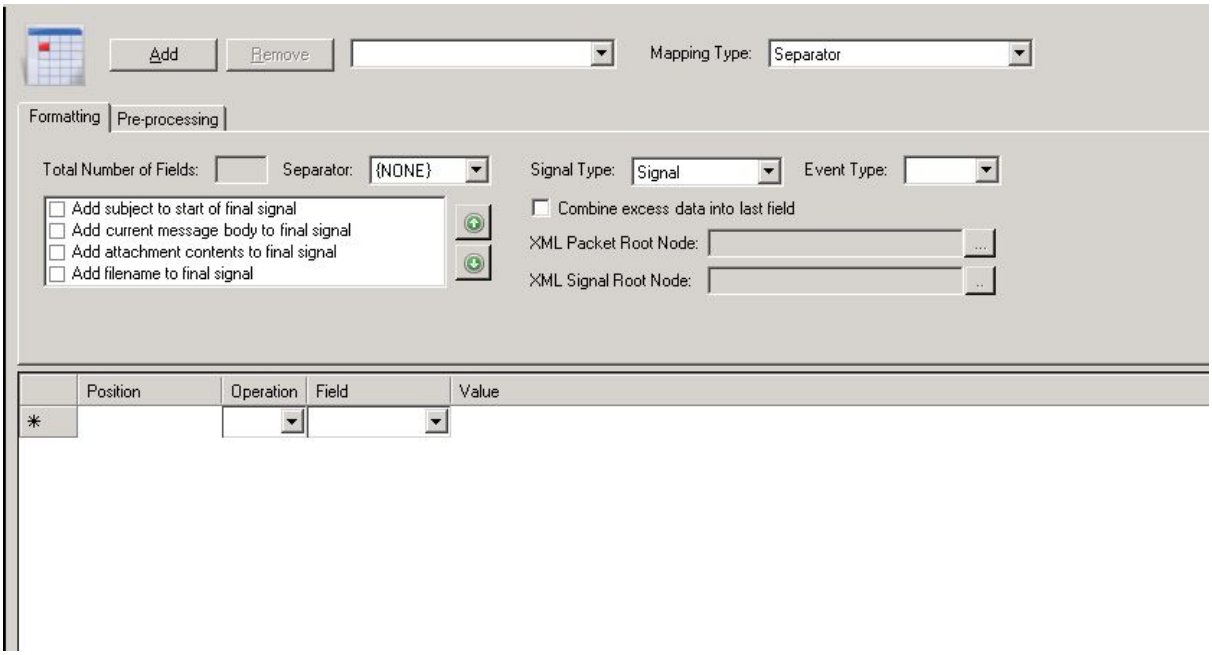
Add a new Email connector, Device Name

2. Confirm that the **Connector Type** field shows "Email". If not, select **Email** from the drop-down list.
3. Once confirmed, click the **OK** button.

Data Mapping

In order for the communication to be properly identified and set up for submission to Manitou, the correct data mapping must be input in to the *Data Mapping* form.

➢ From within the MediaGateway, click **Data Mapping** from the menu list under **Universal Connector** on the left-hand side of the screen.



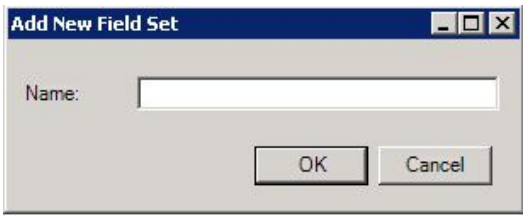
Data Mapping form

🗁 For an in-depth look at data mapping, please refer to our Data Mapping section.

Data Mapping, Formatting

Upon loading the *Data Mapping* form, the *Formatting* tab will be active.

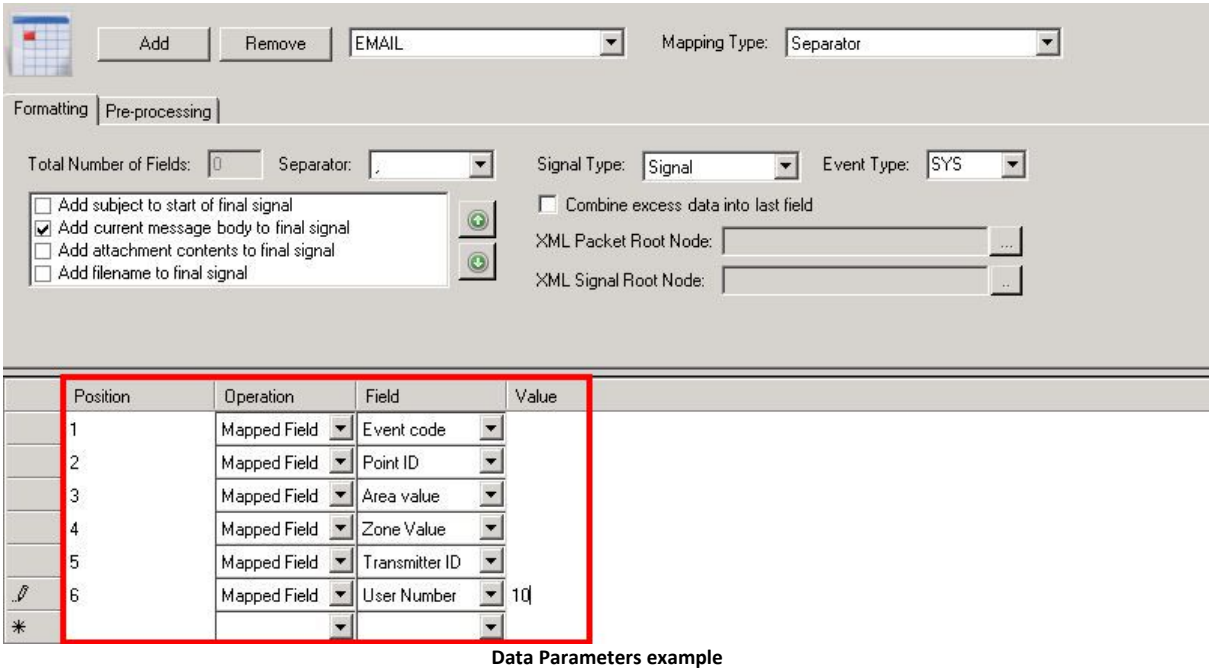
1. Select the **Add** button to add a new *Field Set*.



Add New Field Set

2. Click **OK**.
3. Select the Mapping Type: **Separator**, **Position**, **Label/Separator**, or **XML**.
4. The Formatting form contains the following fields:
   - **Total Number of Fields** - this number will be auto-generated based off the amount of fields designated within the form
   - **Separator** - select the appropriate separator from the drop-down list
   - **Signal Type** - choose either Signal, GPS Signal or Telemetry
   - **Event Type** - SYS, SIA, or CID
5. Check to add any part of the email message to the final signal by selecting the appropriate checkboxes.
6. Choose whether or not to **Combine excess data into last field**.
7. If the **Mapping Type** selected is **XML**, designate the **XML Packet** and **XML Signal Root Nodes**.
8. In the *Data Parameters* section, the bottom window in the *Data Mapping* form, designate the order of information to be parsed in to Manitou.

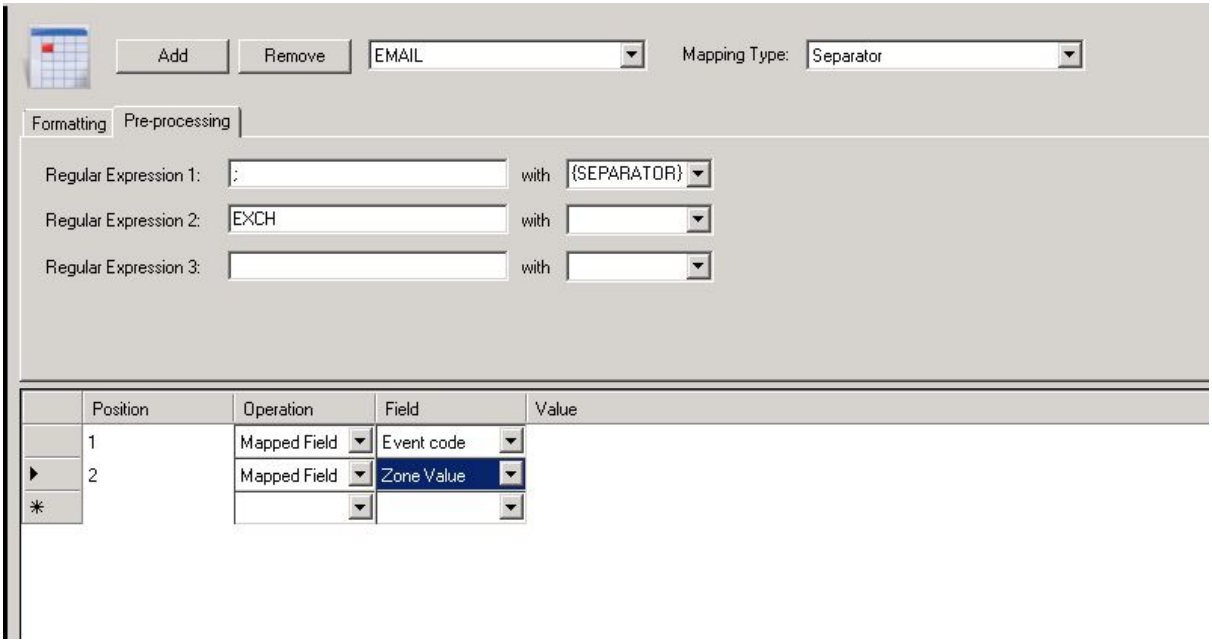
🗁 The column labels will change depending on the Mapping Type selected.



Data Parameters example

Data Mapping, Pre-processing

The *Pre-processing* tab enables special scenarios to be entered. For example, if the **Separator** has been designated as a comma "," on the *Formatting* tab, but there are occasions where a semi-colon could show up as the separator, this would be designated on the *Pre-processing* tab.



Data Mapping, Pre-processing tab

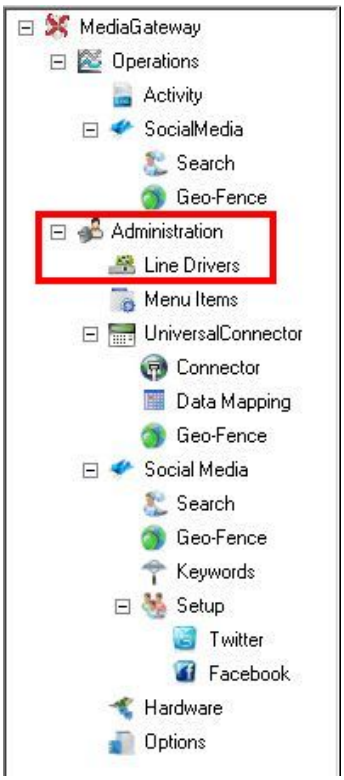
1. Click the *Pre-processing* tab.
2. In the *Regular Expression 1* field, type the symbol or letters that may be used as a Separator.
3. Choose the appropriate interpretation option in the with field.
4. Repeat for *Regular Expression 2* and *3* if necessary.

🗁 The Data Parameters section is static and will not change between the Formatting and Pre-processing tabs.

Line Drivers

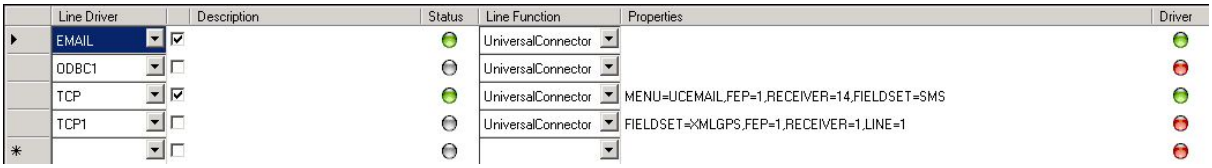
Once a Connector has been created and mapped, line drivers must be formatted.

1. Click the **Line Drivers** selection under **Administration** in the Node Tree on the left-hand side.



MediaGateway Node Tree, Line Drivers

2. In the *Line Driver* column of the *Line Drivers* window, select the newly created Connector from the pull-down list in the next open row (indicated with an asterisk).

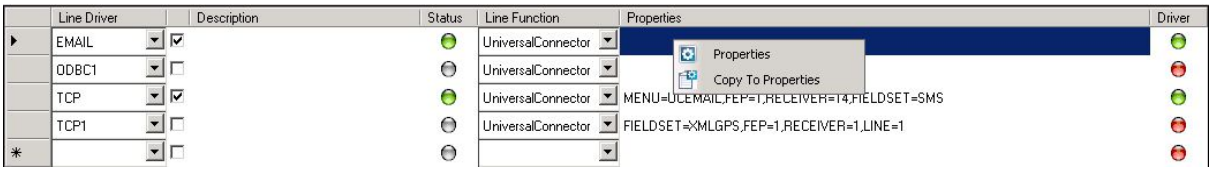


UniversalConnector Line Drivers

3. If this will be an active Connector, click the checkbox next to the specific Connector.
4. Input any description, if preferred, in the **Description** field.
5. The **Status** column will show whether or not the Connector is active (green) or inactive (red).

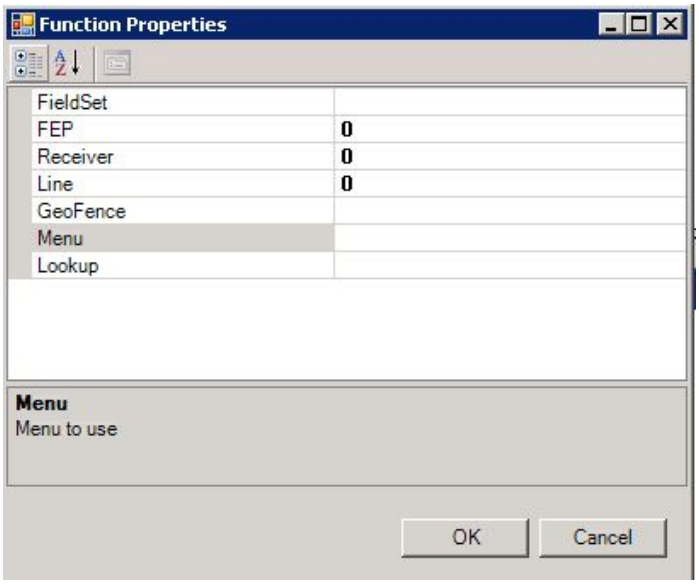
Establish Properties

1. Right-click in the *Properties* column and select **Properties** from the drop-down list to enter new property information for the newly created Connector, or choose to **Copy Properties** from an existing Connector.



Line Driver Properties

2. Populate the necessary fields in the *Function Properties* window.



Function Properties

- **FieldSet** - select the Data Mapping previously created
- **FEP** - Front End Processor that the device could report through
- **Receiver** - Receiver the device is connecting to, the XML receiver
- **Line** - Select from available lines, when using receiver line mapping
- **GeoFence** - User-created GeoFences will be listed in the pull-down menu; any GPS events will look for an applied GeoFence
- **Menu** - Logic to occur, what action will be taken with the compiled data
- **Lookup** - Provides a pull-down menu of any different parameters that could be used such as Email Address or Caller ID.

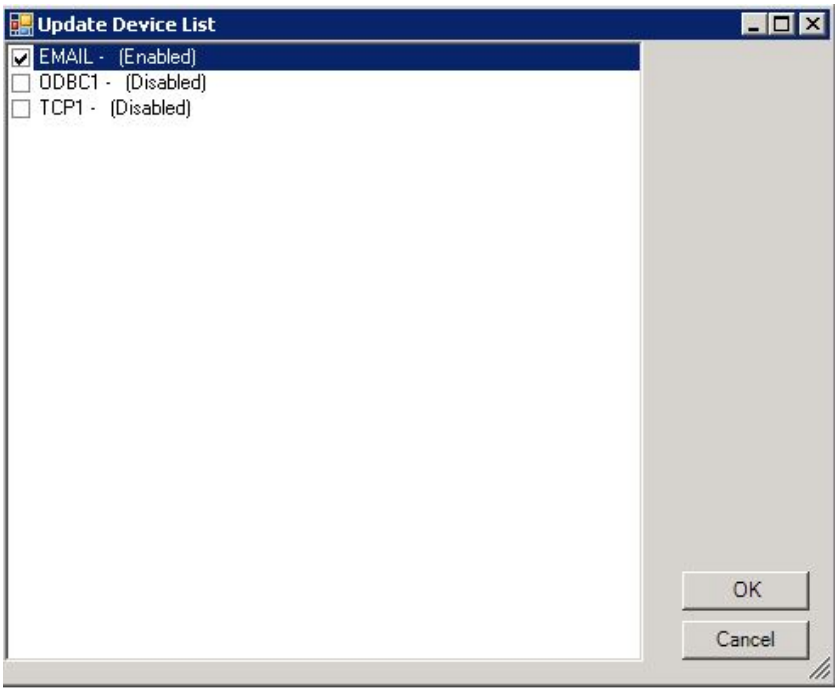
  ***Example*:** a Lookup can be specified if there will be a different action for one sender versus another in an Email Connector setup.

3. Once the *Properties* form is completed, click the **OK** button.

Copy Properties

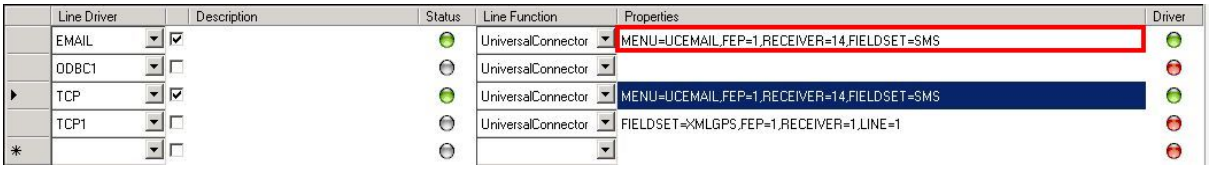
Properties can be easily and quickly copied from an established Line Driver to another.

1. Click within the *Properties* field for the Line Driver to copy FROM.
2. Right-click and select the **Copy To Properties** option.



Copy To, Update Device List window

3. Upon opening, the *Update Device List* window lists and automatically checks any available Line Drivers. Uncheck any that will not need properties copied to them.
4. Once completed, click **OK**.
5. The newly copied properties should now show up in the *Properties* field for the Line Driver(s) specified.



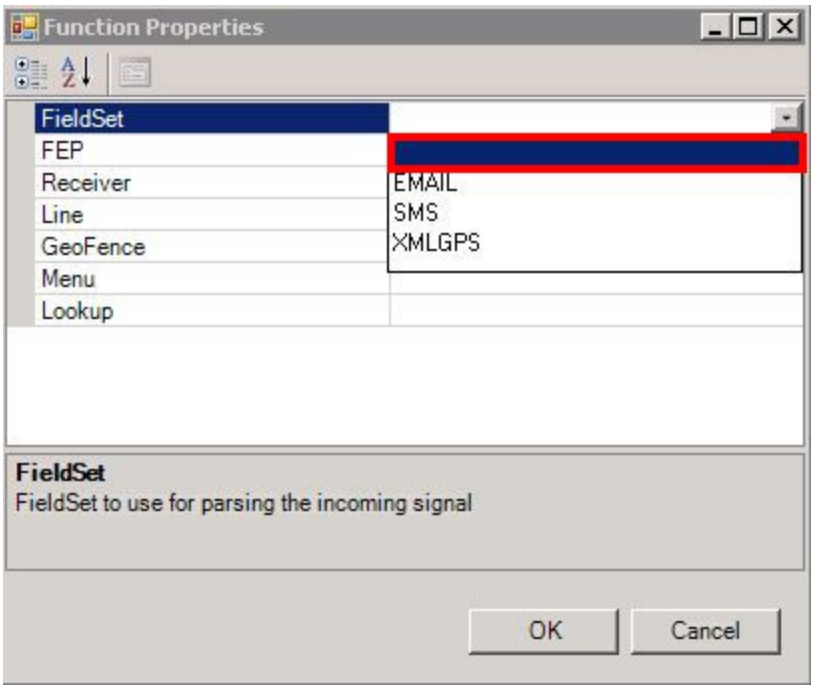
Copied To Properties example

Remove Properties

Removing properties is a manual process.

1. Right-click in the Properties field for the appropriate Line Driver.

2. Select **Properties** from the drop-down menu.
3. Within the *Function Properties* window, click in each *Property* field and manually clear it out by either selecting the **blank** from the drop-down menu or using the **<Delete>** or **<Backspace>** key.



Function Properties window

Email Example

Emails are received in to an area specified and monitored by UniversalConnector. Once detected, they are picked up and parsed in to the Manitou system. Below is an example of an Email Signal interpreted through the UniversalConnector.

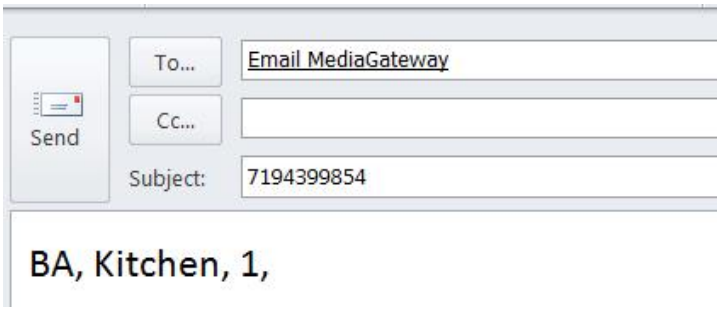
Email Signal (Comma Separated)

Emails can be received in a simple comma separated format or a more complex format including attachments.

Simple Signal Example

- Subject: 7194399854

- Email Body: BA, Kitchen, 1



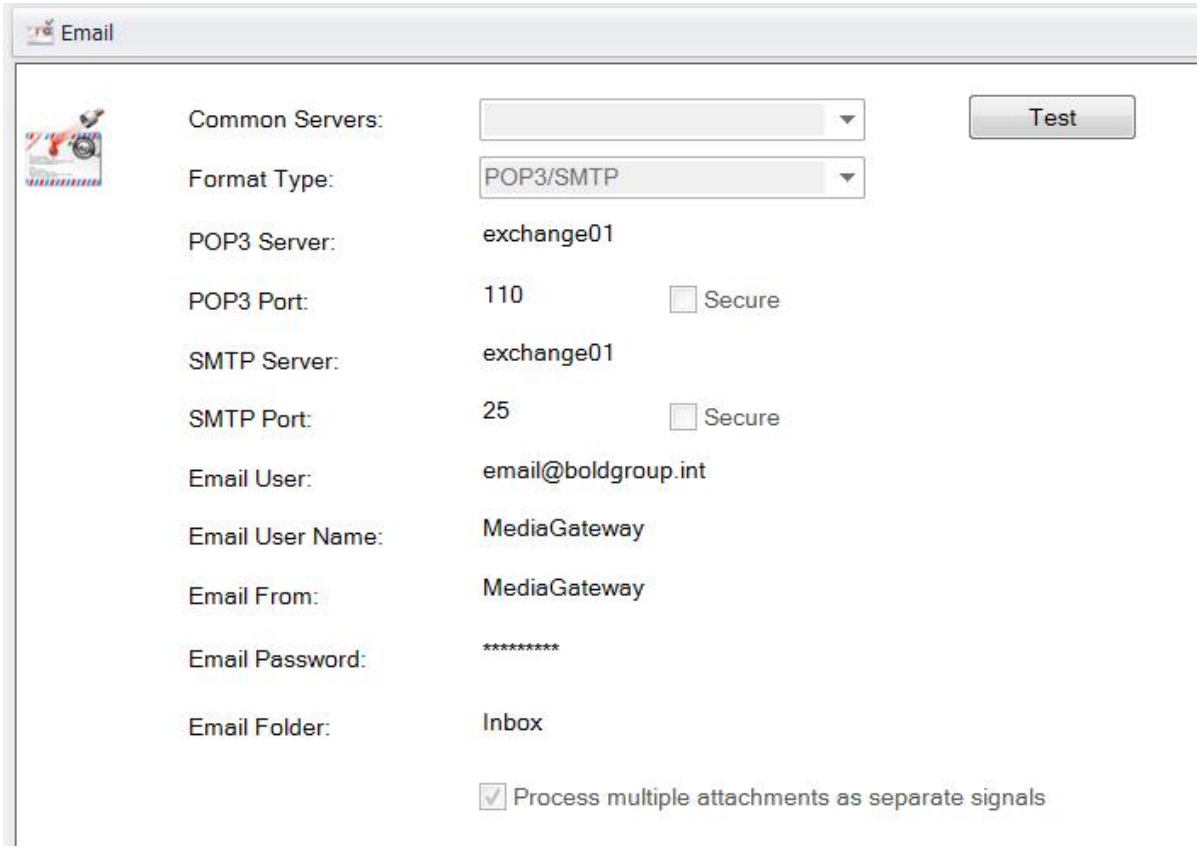
Email example

Where the following can be determined:

- BA - Event
- Kitchen - Point ID
- 1 - Zone

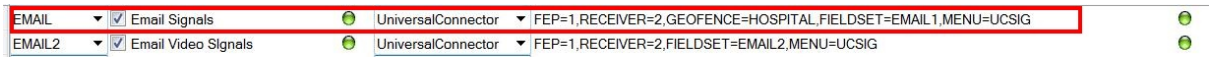
Connector

The connector configuration will include POP3 and SMTP Server and Port information for sending and receiving information from the mail server.



UC Email Connector

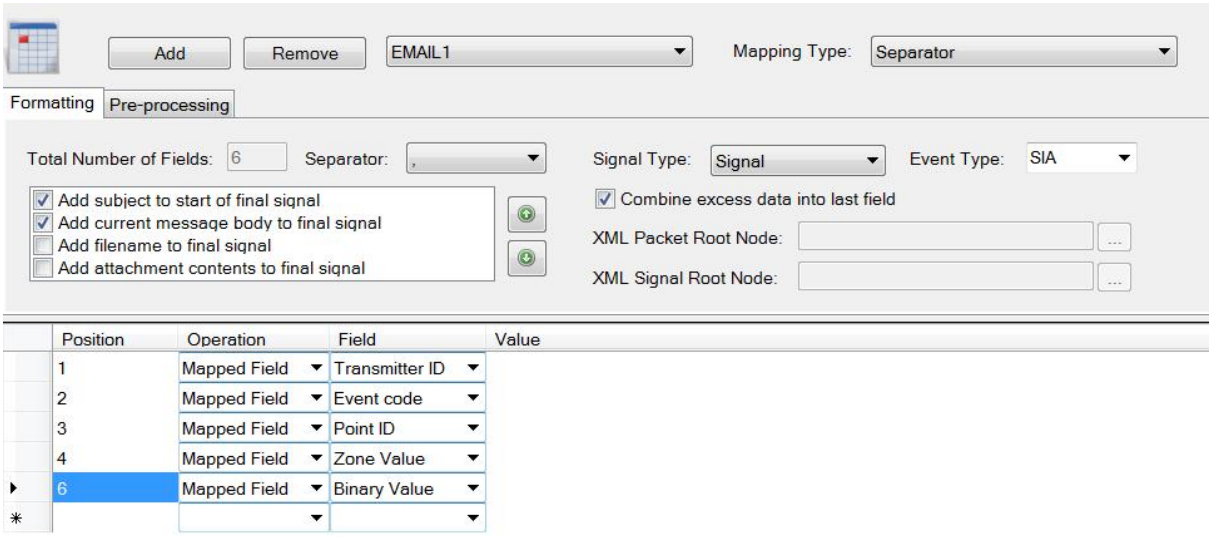
Line Drivers



Email Line Drivers

Data Mapping

The data mapping for the simple email example will look like the following:



Email Line Drivers example

Manitou Alarm

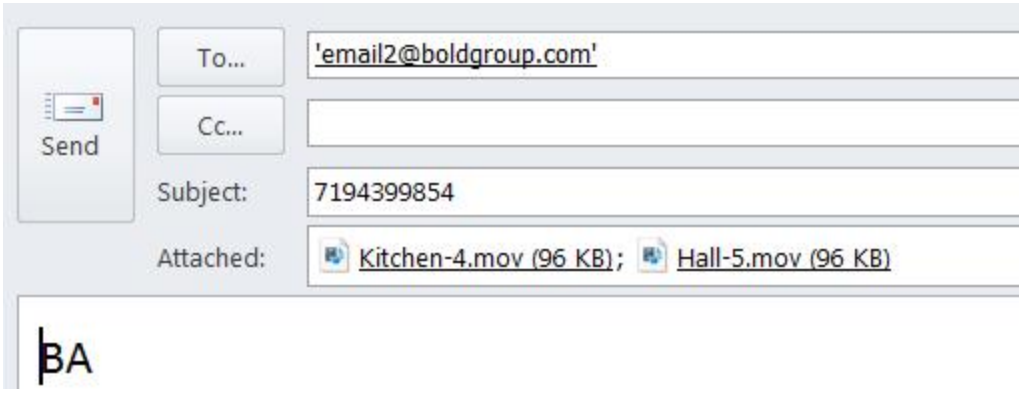
Once parsed in to the system, the Manitou alarm will appear up as shown below:

Email Alarm example

Complex Signal Example

Video signal using attachments

- Subject: 7194399854
- Email Body: BA, Garage Drive, 3
- Attachment: Video File

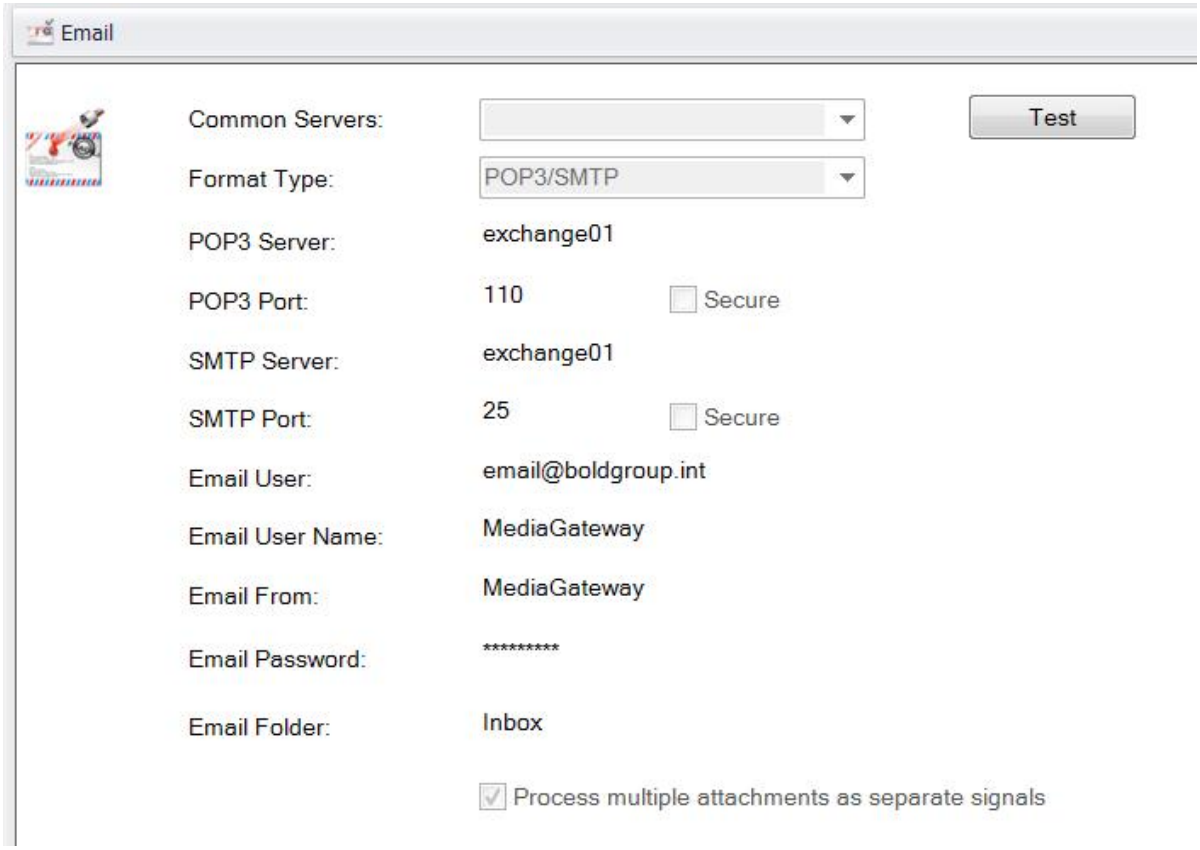


Where the following can be determined:

- BA - Event
- Garage Drive - Point ID
- 3 - Zone
- Accompanying video file

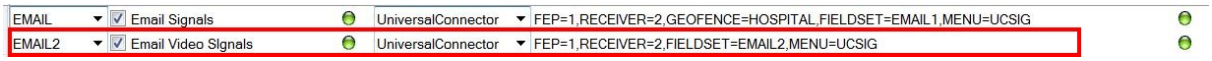
Connector

Using the above example, the Connector would be configured in the following manner:



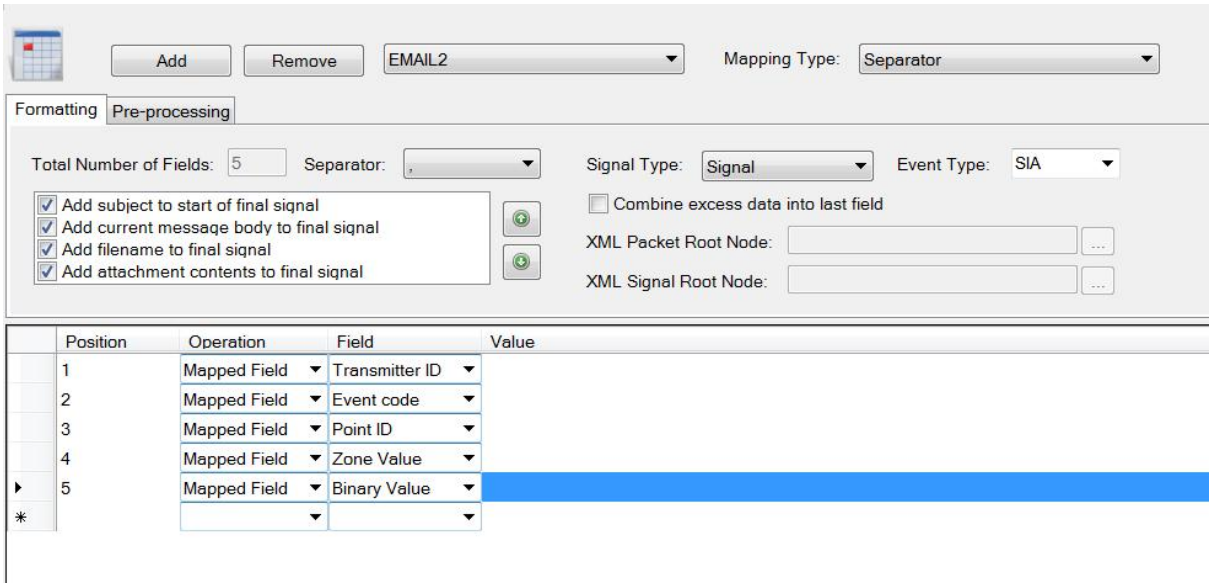
Email Connector example

Line Drivers



Email Line Drivers

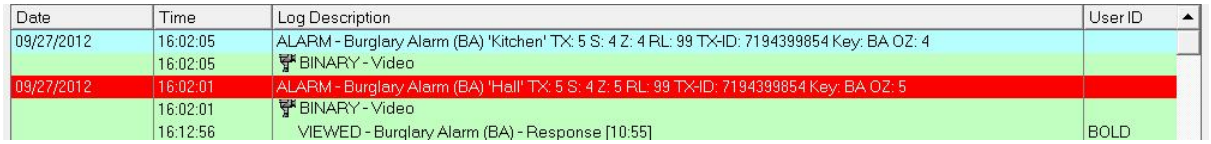
Data Mapping



Email Attachment example

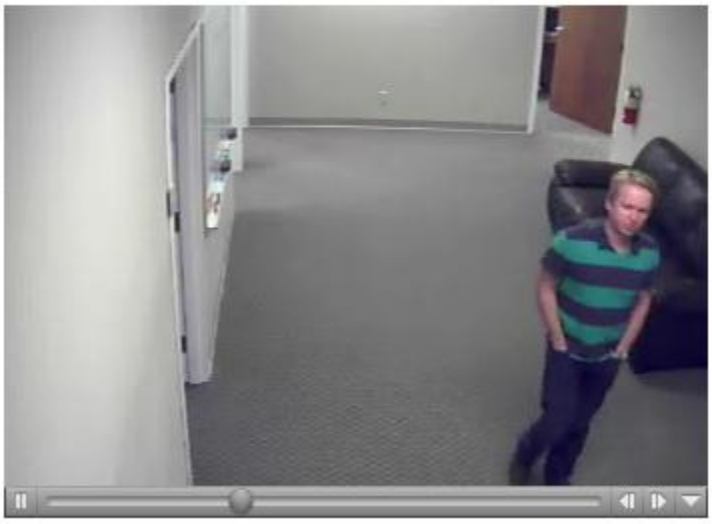
Manitou Alarm

Email Alarms example



Email Alarm example, Log description

Video clips appear in Manitou as below



Alarm Video Clip

SMS Gateway

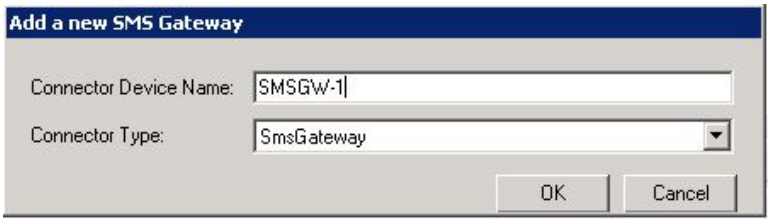
The SMS Gateway features the ability to send out a large number of text, or SMS, messages, providing the bandwidth for mass notifications. Before there was a limited amount of messages that could be processed at one time, creating a bottleneck, but now through the SMS Gateway, these messages can be blasted out at one time.

SMS Gateway configuration

Add a SMS Gateway Connector

To add a SMS Gateway Connector, click **Connector** under the **UniversalConnector** section of the Node Tree.

1. Click the **Add** button at the top of the *Connector* screen. In the *Add a new SMS Gateway* dialog box, input a device name in the **Connector Device Name** field.



Add a new SMS Gateway Connector, Device Name

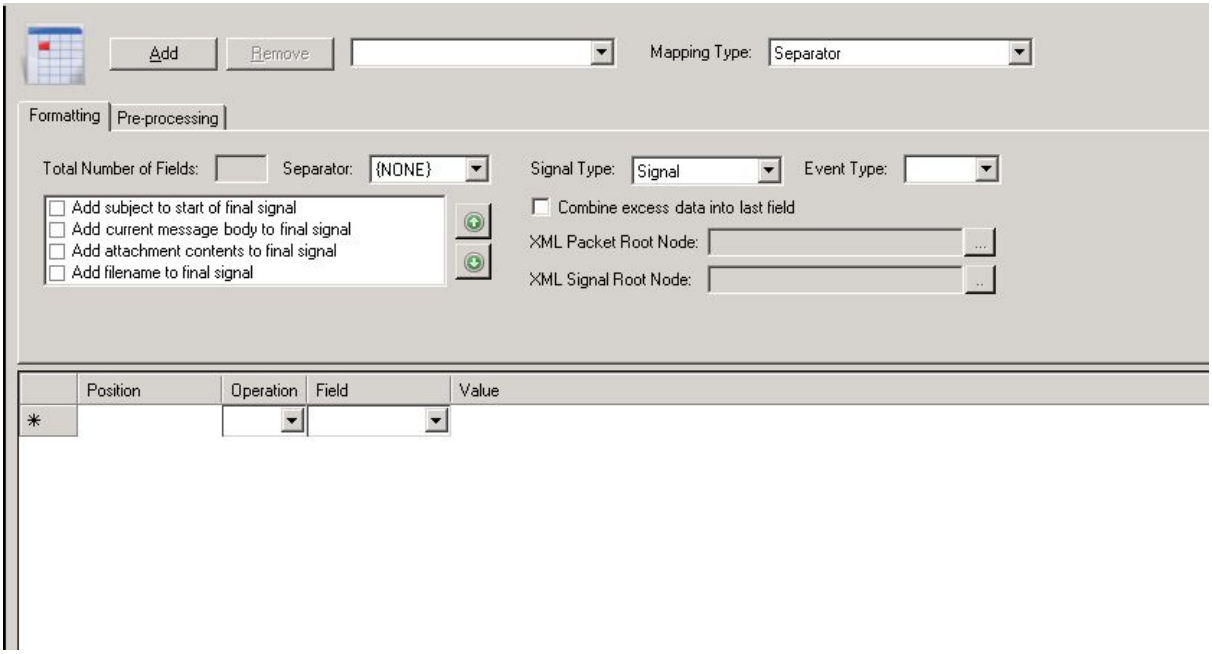
2. Confirm that the **Connector Type** field shows "SmsGateway". If not, select SmsGateway from the drop-down list.

3. Once confirmed, click the **OK** button.

Data Mapping

In order for the communication to be properly identified and set up for submission to Manitou, the correct data mapping must be input in to the *Data Mapping* form.

- From within the MediaGateway, click **Data Mapping** from the menu list under **Universal Connector** on the left-hand side of the screen.



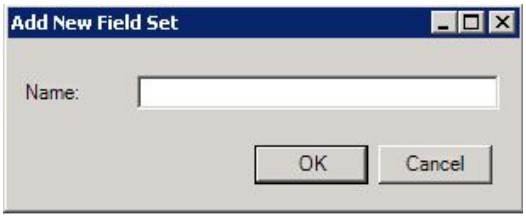
Data Mapping form

For an in-depth look at data mapping, please refer to our Data Mapping section.

Data Mapping, Formatting

Upon loading the *Data Mapping* form, the *Formatting* tab will be active.

1. Select the **Add** button to add a new *Field Set*.

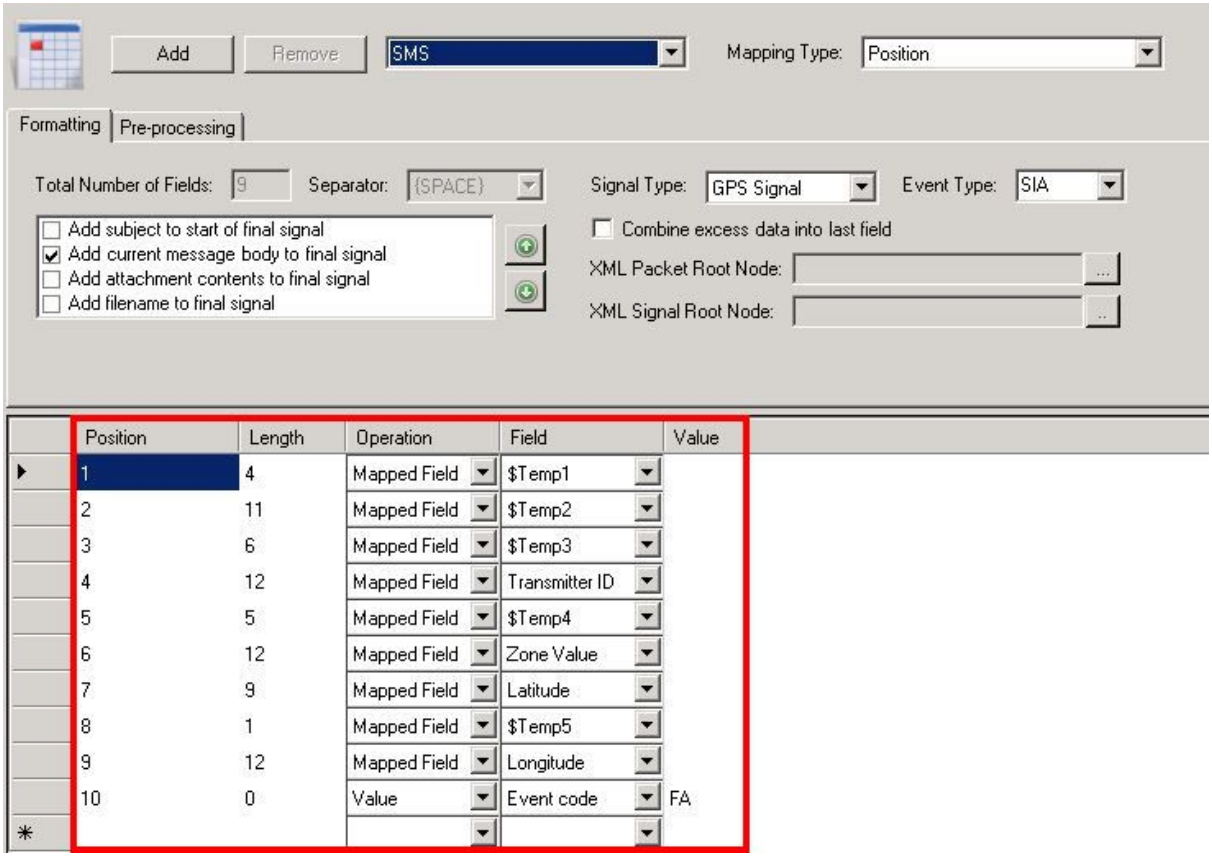


Add New Field Set

2. Input the *Field Set Name* and click **OK**.
3. Select the *Mapping Type*: **Separator**, **Position**, **Label/Separator**, or **XML**.
4. The *Formatting* form contains the following fields:
   - **Total Number of Fields** - this number will be auto-generated based off the amount of fields designated within the form
   - **Separator** - select the appropriate separator from the drop-down list
   - **Signal Type** - choose either Signal, GPS Signal or Telemetry
   - **Event Type** - SYS, SIA, or CID

5. Check to add any part of the message to the final signal by selecting the appropriate checkboxes.
6. Choose whether or not to **Combine excess data into last field**.
7. If the **Mapping Type** selected is **XML**, designate the **XML Packet** and **XML Signal Root Nodes**.
8. In the *Data Parameters* section, the bottom window in the *Data Mapping* form, designate the order of information to be parsed in to Manitou.

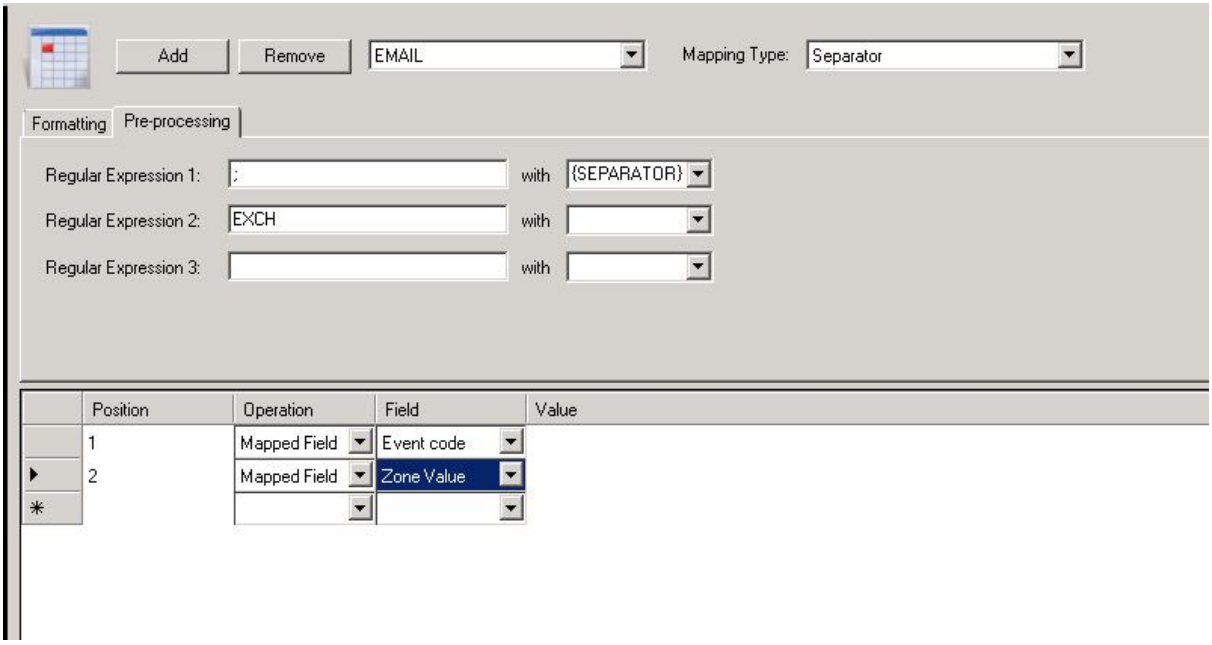
   The column labels will change depending on the Mapping Type selected.



Data Parameters example

Data Mapping, Pre-processing

The *Pre-processing* tab enables special scenarios to be entered. For example, if the **Separator** has been designated as a comma "," on the *Formatting* tab, but there are occasions where a semi-colon could show up as the separator, this would be designated on the *Pre-processing* tab.



Data Mapping, Pre-processing tab

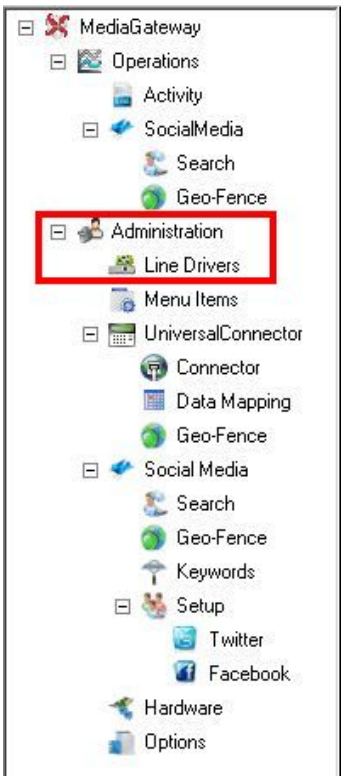
1. Click the *Pre-processing* tab.
2. In the *Regular Expression 1* field, type the symbol or letters that may be used as a Separator.
3. Choose the appropriate interpretation option in the with field.
4. Repeat for *Regular Expression 2* and *3* if necessary.

🗁 The Data Parameters section is static and will not change between the Formatting and Pre-processing tabs.

Line Drivers

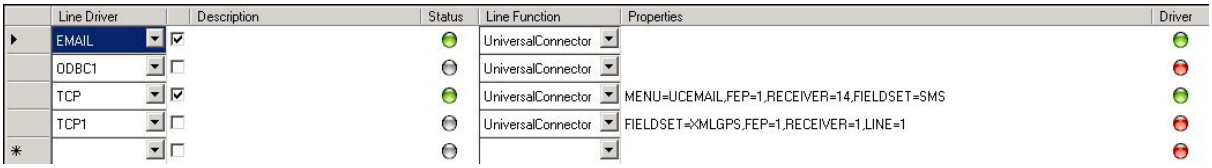
Once a Connector has been created and mapped, line drivers must be formatted.

1. Click the **Line Drivers** selection under **Administration** in the Node Tree on the left-hand side.



MediaGateway Node Tree, Line Drivers

2. In the *Line Driver* column of the *Line Drivers* window, select the newly created Connector from the pull-down list in the next open row (indicated with an asterisk).

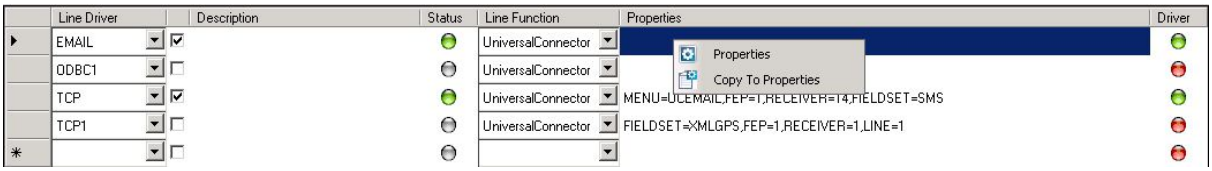


UniversalConnector Line Drivers

3. If this will be an active Connector, click the checkbox next to the specific Connector.
4. Input any description, if preferred, in the **Description** field.
5. The **Status** column will show whether or not the Connector is active (green) or inactive (red).

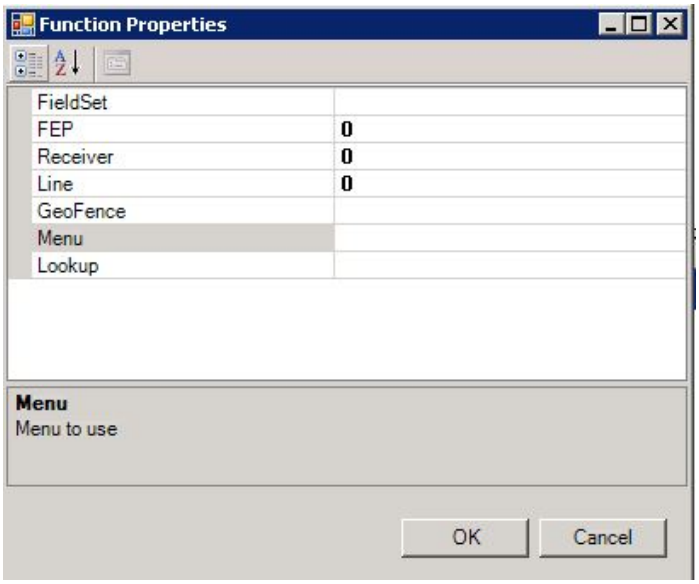
Establish Properties

1. Right-click in the *Properties* column and select **Properties** from the drop-down list to enter new property information for the newly created Connector, or choose to **Copy Properties** from an existing Connector.



Line Driver Properties

2. Populate the necessary fields in the *Function Properties* window.



Function Properties

- **FieldSet** - select the Data Mapping previously created
- **FEP** - Front End Processor that the device could report through
- **Receiver** - Receiver the device is connecting to, the XML receiver
- **Line** - Select from available lines, when using receiver line mapping
- **GeoFence** - User-created GeoFences will be listed in the pull-down menu; any GPS events will look for an applied GeoFence
- **Menu** - Logic to occur, what action will be taken with the compiled data
- **Lookup** - Provides a pull-down menu of any different parameters that could be used such as Email Address or Caller ID.

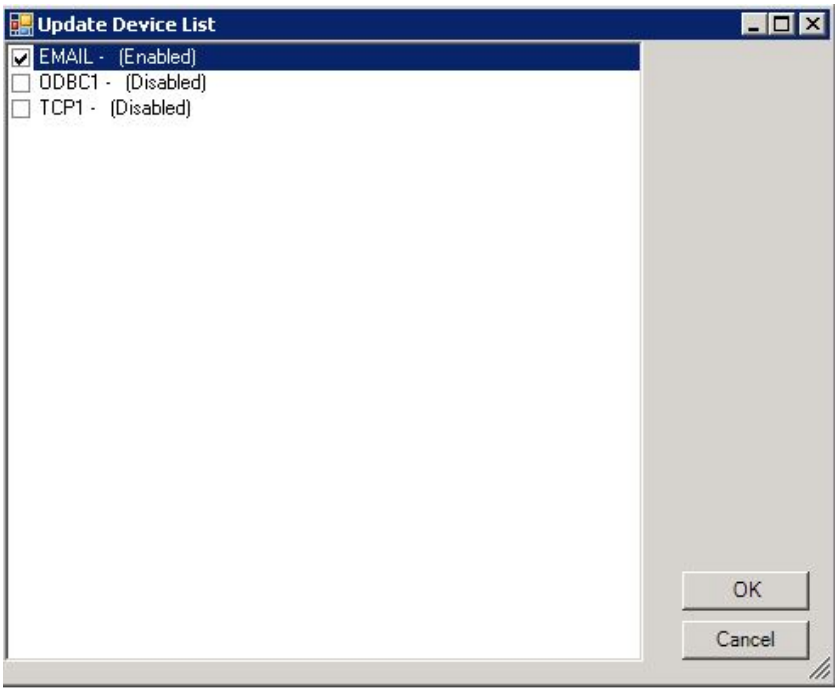
  ***Example*:** a Lookup can be specified if there will be a different action for one sender versus another in an Email Connector setup.

3. Once the *Properties* form is completed, click the **OK** button.

Copy Properties

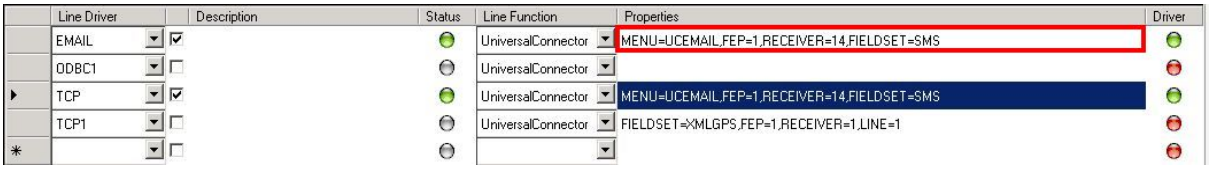
Properties can be easily and quickly copied from an established Line Driver to another.

1. Click within the *Properties* field for the Line Driver to copy FROM.
2. Right-click and select the **Copy To Properties** option.



Copy To, Update Device List window

3. Upon opening, the *Update Device List* window lists and automatically checks any available Line Drivers. Uncheck any that will not need properties copied to them.
4. Once completed, click **OK**.
5. The newly copied properties should now show up in the *Properties* field for the Line Driver(s) specified.



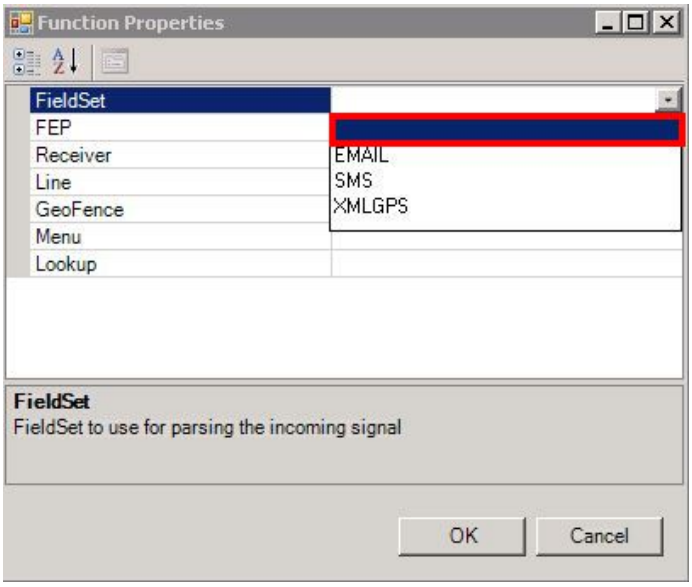
Copied To Properties example

Remove Properties

Removing properties is a manual process.

1. Right-click in the Properties field for the appropriate Line Driver.

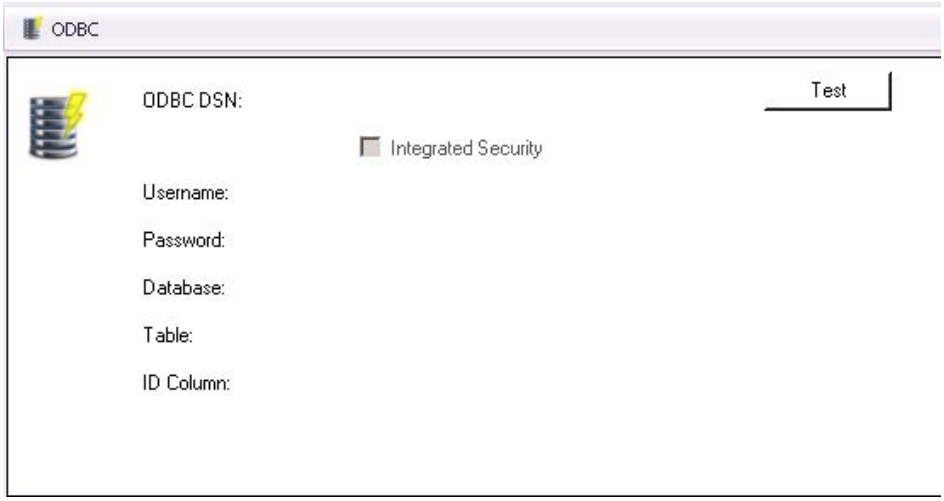
2. Select **Properties** from the drop-down menu.
3. Within the *Function Properties* window, click in each *Property* field and manually clear it out by either selecting the **blank** from the drop-down menu or using the **<Delete>** or **<Backspace>** key.



Function Properties window

ODBC

The ODBC Connector is used to connect to a database, easily mapping to a specific database table and specific columns to mapped fields.

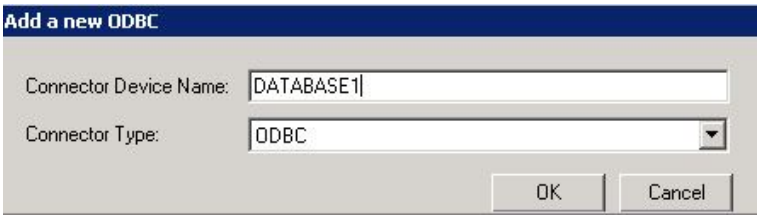


ODBC configuration

Add an ODBC Connector

To add a SMS Connector, click **Connector** under the **UniversalConnector** section of the Node Tree.

1. Click the **Add** button at the top of the *Connector* screen. In the *Add a new SMS* dialog box, input a device name in the **Connector Device Name** field.



Add a new ODBC Connector, Device Name

2. Confirm that the **Connector Type** field shows "ODMC". If not, select **ODBC** from the drop-down list.

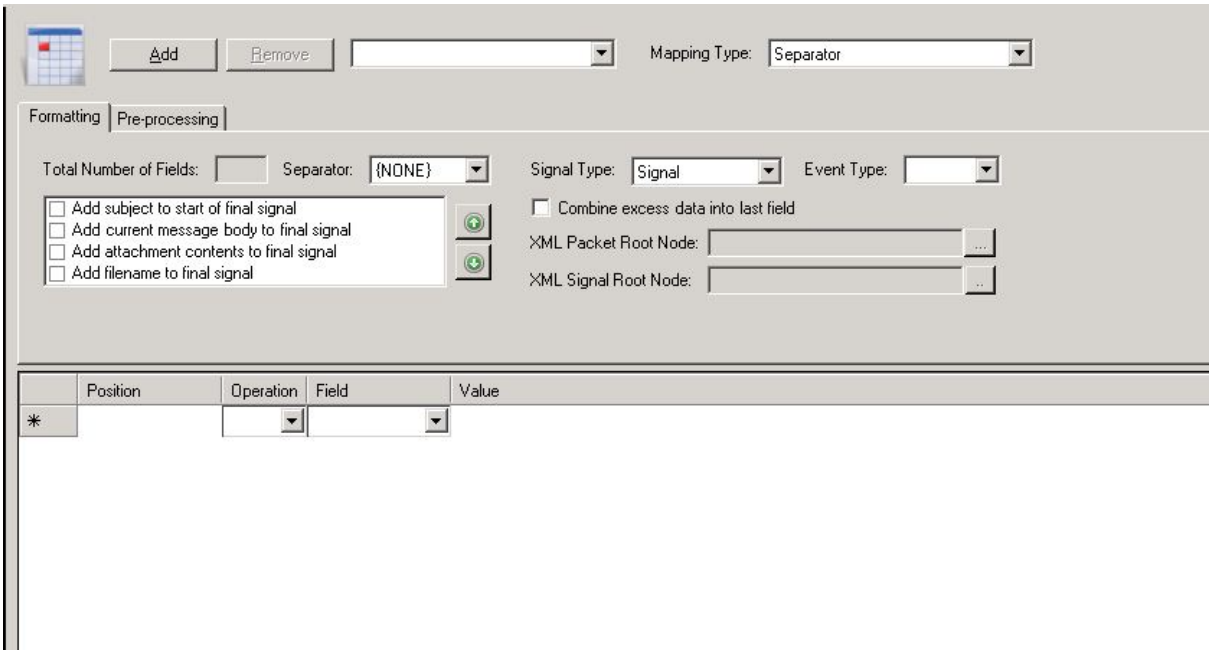
3. Once confirmed, click the **OK** button.

Data Mapping

In order for the communication to be properly identified and set up for submission to

Manitou, the correct data mapping must be input in to the *Data Mapping* form.

- From within the MediaGateway, click **Data Mapping** from the menu list under **Universal Connector** on the left-hand side of the screen.



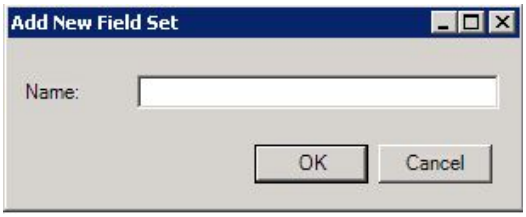
Data Mapping form

For an in-depth look at data mapping, please refer to our Data Mapping section.

Data Mapping, Formatting

Upon loading the *Data Mapping* form, the *Formatting* tab will be active.

1. Select the **Add** button to add a new *Field Set*.



Add New Field Set

2. Input the *Field Set Name* and click **OK**.
3. Select the *Mapping Type*: **Separator**, **Position**, **Label/Separator**, or **XML**.
4. The *Formatting* form contains the following fields:

   - **Total Number of Fields** - this number will be auto-generated based off the amount of fields designated within the form

- **Separator** - select the appropriate separator from the drop-down list
- **Signal Type** - choose either Signal, GPS Signal or Telemetry
- **Event Type** - SYS, SIA, or CID

5. Check to add any part of the message to the final signal by selecting the appropriate checkboxes.
6. Choose whether or not to **Combine excess data into last field**.
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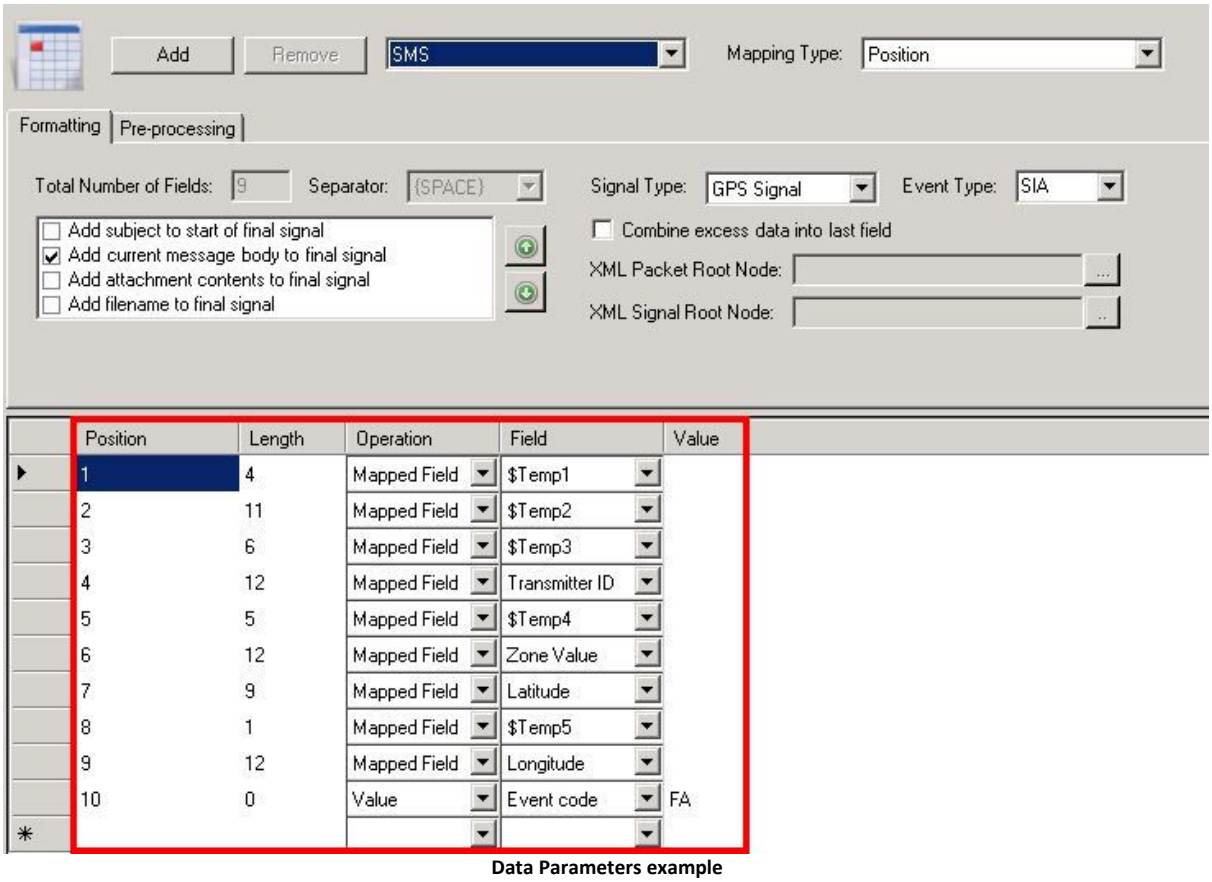
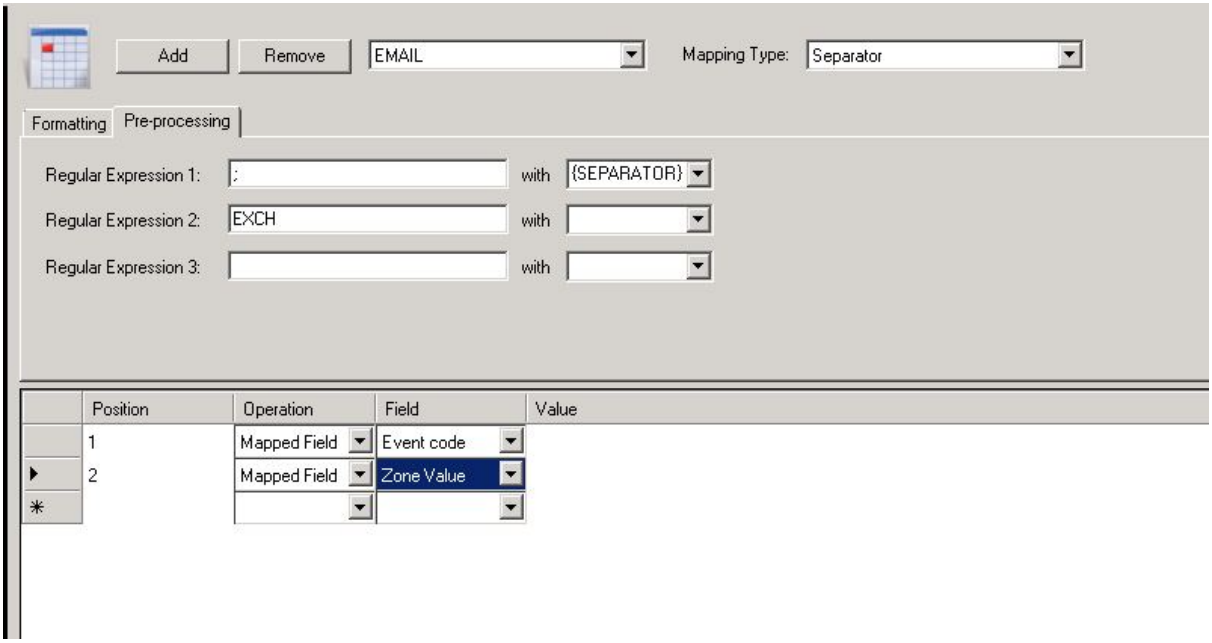


Data Parameters example

💣 **The format of ODBC is treated like comma separated, so the order of the columns is important.**

Data Mapping, Pre-processing

The *Pre-processing* tab enables special scenarios to be entered. For example, if the **Separator** has been designated as a comma "," on the *Formatting* tab, but there are occasions where a semi-colon could show up as the separator, this would be designated on the *Pre-processing* tab.



Data Mapping, Pre-processing tab

1. Click the *Pre-processing* tab.
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3. Choose the appropriate interpretation option in the with field.
4. Repeat for *Regular Expression 2* and *3* if necessary.

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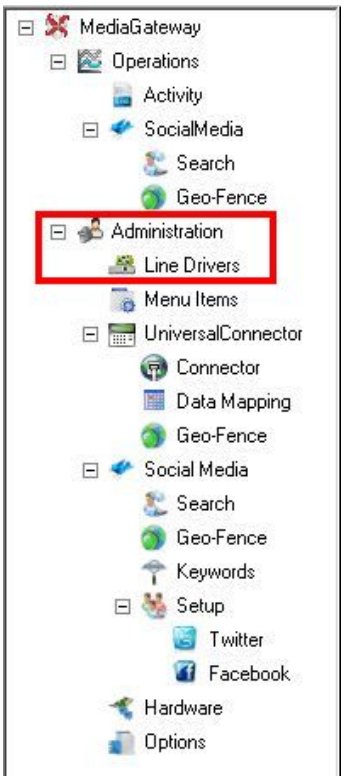
Line Drivers

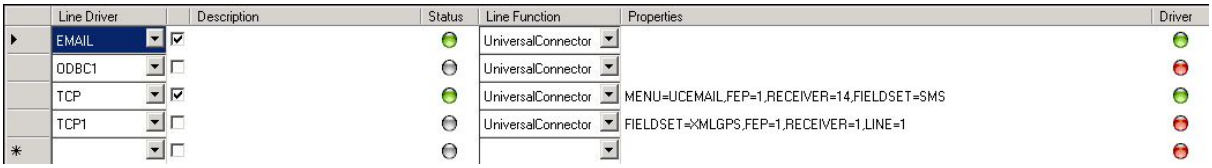
Once a Connector has been created and mapped, line drivers must be formatted.

1. Click the **Line Drivers** selection under **Administration** in the Node Tree on the left-hand side.



MediaGateway Node Tree, Line Drivers

2. In the *Line Driver* column of the *Line Drivers* window, select the newly created Connector from the pull-down list in the next open row (indicated with an asterisk).



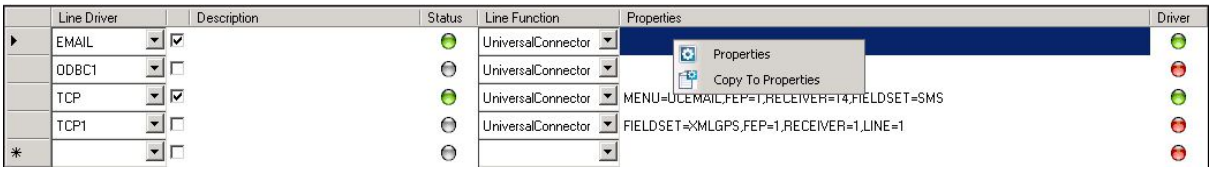
	Line Driver		Description	Status	Line Function	Properties	Driver
▸	EMAIL	☑			UniversalConnector		
	ODBC1	☐			UniversalConnector		
	TCP	☑			UniversalConnector	MENU=UCEMAIL,FEP=1,RECEIVER=14,FIELDSET=SMS	
	TCP1	☐			UniversalConnector	FIELDSET=XMLGPS,FEP=1,RECEIVER=1,LINE=1	
*		☐					

UniversalConnector Line Drivers

3. If this will be an active Connector, click the checkbox next to the specific Connector.
4. Input any description, if preferred, in the **Description** field.
5. The **Status** column will show whether or not the Connector is active (green) or inactive (red).

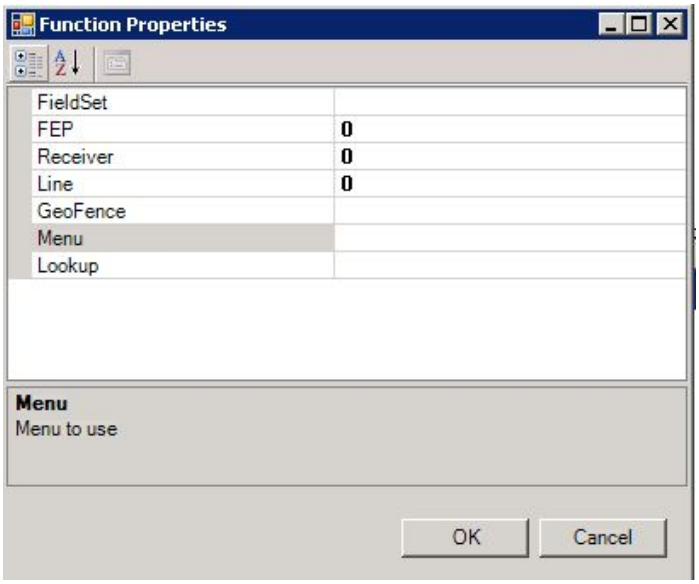
Establish Properties

1. Right-click in the *Properties* column and select **Properties** from the drop-down list to enter new property information for the newly created Connector, or choose to **Copy Properties** from an existing Connector.



Line Driver Properties

2. Populate the necessary fields in the *Function Properties* window.



Function Properties

- **FieldSet** - select the Data Mapping previously created
- **FEP** - Front End Processor that the device could report through
- **Receiver** - Receiver the device is connecting to, the XML receiver
- **Line** - Select from available lines, when using receiver line mapping
- **GeoFence** - User-created GeoFences will be listed in the pull-down menu; any GPS events will look for an applied GeoFence
- **Menu** - Logic to occur, what action will be taken with the compiled data
- **Lookup** - Provides a pull-down menu of any different parameters that could be used such as Email Address or Caller ID.

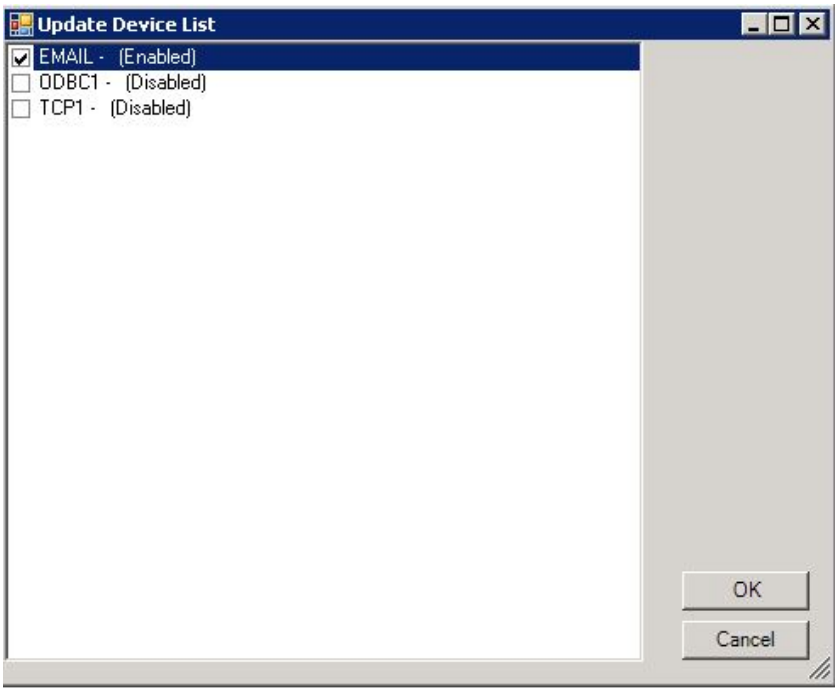
  ***Example*:** a Lookup can be specified if there will be a different action for one sender versus another in an Email Connector setup.

3. Once the *Properties* form is completed, click the **OK** button.

Copy Properties

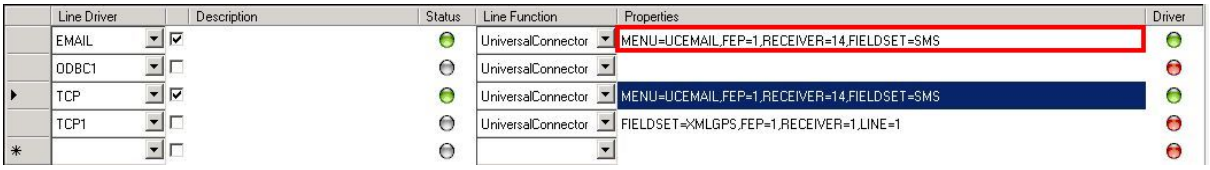
Properties can be easily and quickly copied from an established Line Driver to another.

1. Click within the *Properties* field for the Line Driver to copy FROM.
2. Right-click and select the **Copy To Properties** option.



Copy To, Update Device List window

3. Upon opening, the *Update Device List* window lists and automatically checks any available Line Drivers. Uncheck any that will not need properties copied to them.
4. Once completed, click **OK**.
5. The newly copied properties should now show up in the *Properties* field for the Line Driver(s) specified.



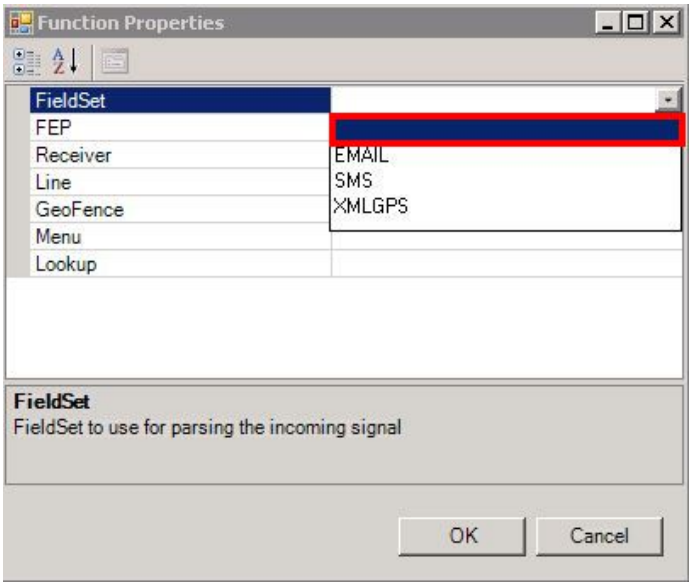
Copied To Properties example

Remove Properties

Removing properties is a manual process.

1. Right-click in the Properties field for the appropriate Line Driver.

2. Select **Properties** from the drop-down menu.
3. Within the *Function Properties* window, click in each *Property* field and manually clear it out by either selecting the **blank** from the drop-down menu or using the **<Delete>** or **<Backspace>** key.



Function Properties window

ODBC Example

The UniversalConnector ODBC option provides connection to a database and enables mapping to a specific database table as well as specific columns to mapped fields.

🗁 The format of ODBC is treated like comma separated, so the order of the columns is important.

ODBC Signal

The UniversalConnector can be directed to monitor a specific database for activity to generate an alarm within Manitou.

ODBC Signal Example

Values are entered in to a database, as seen below.

ID	EVENT	POINTID	AREA	ZONE	TXID
1	BA	Kitchen	1	2	7194399854

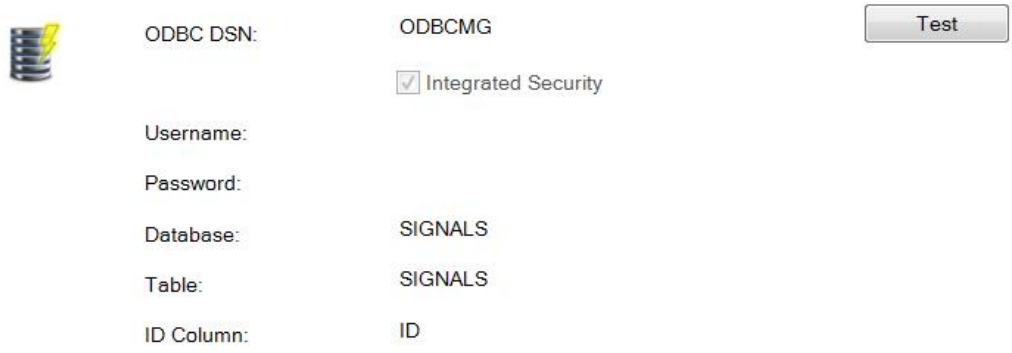
ODBC Database Value example

Where the following can be determined:

- BA - Event
- Kitchen - Point ID
- 1 - Area
- 2 - Zone
- 7194399854 - TXID

Connector

In the above example, the connector would be configured in the following setup:



ODBC Connector example

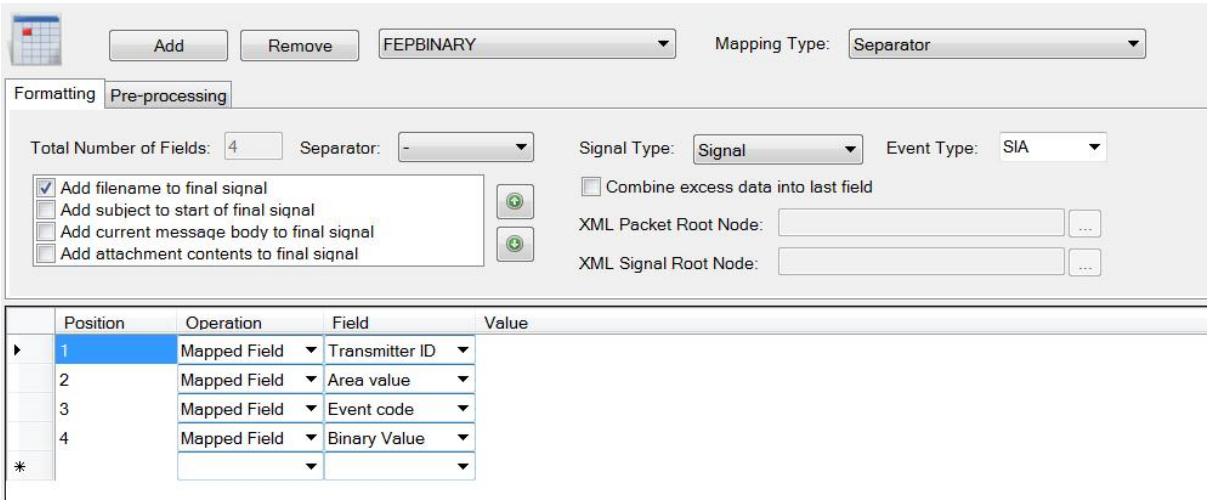
Line Map

The below image shows the line mapping for the ODBC. Notice that fieldset has been identified.

ODBC Line Mapping example

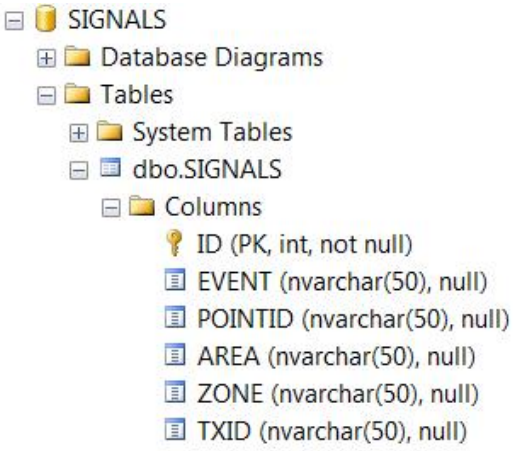
Data Mapping

In this example, the line map points to fieldset “FEPBINARY” as the database configured.



ODBC Data Mapping exmaple

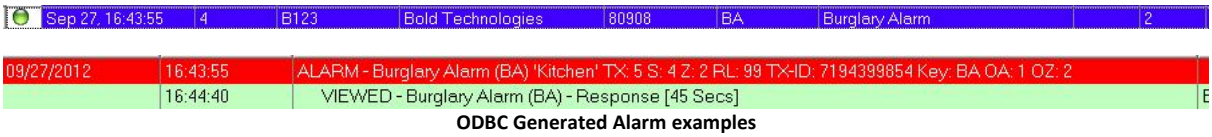
Once configured, the UniversalConnector can monitor a database table for the specified criteria.



ODBC Database Table example

Manitou Alarm

Once, information in the Signal Example is entered in to the database, that information is picked up and an alarm is generated in Manitou.

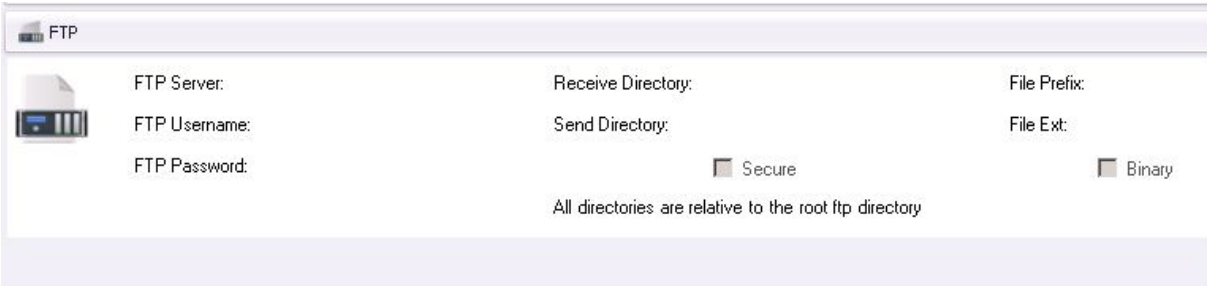


ODBC Generated Alarm examples

FTP

The FTP Connector supports information sent over a FTP. Built in XML gateway, the pieces are brought in to the UniversalConnector and into Manitou. The FTP Connector can be figured to include:

- File name
- Body Contents
  - Binary information such as video, audio, pictures
  - Text information giving signal details

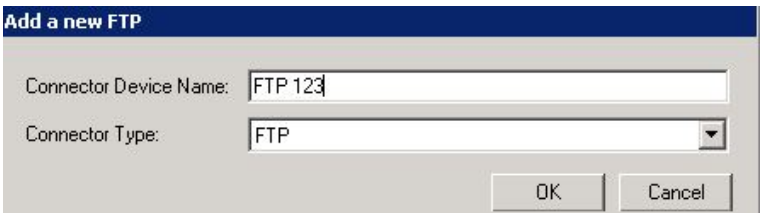


FTP Configuration

Add a FTP Connector

To add a FTP Connector, click **Connector** under the **UniversalConnector** section of the Node Tree.

1. Click the **Add** button at the top of the *Connector* screen. In the *Add a new SMS Gateway* dialog box, input a device name in the **Connector Device Name** field.



Add a new FTP Connector, Device Name

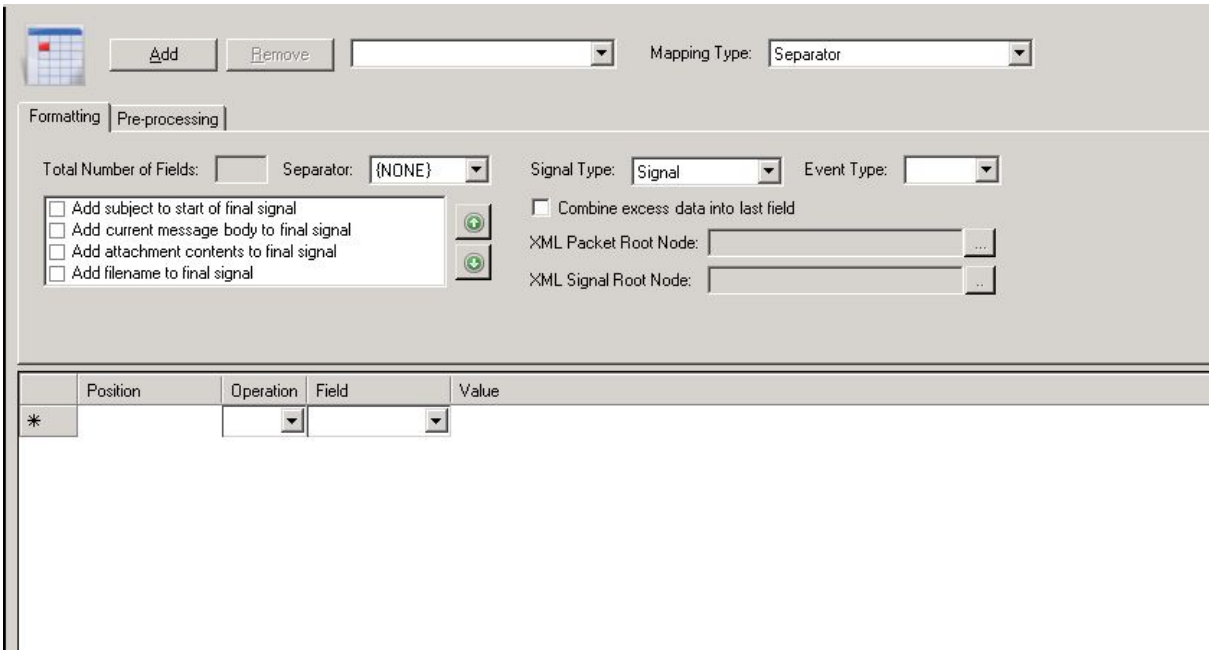
2. Confirm that the **Connector Type** field shows "FTP". If not, select **FTP** from the drop-down list.
3. Once confirmed, click the **OK** button.

Data Mapping

In order for the communication to be properly identified and set up for submission to

Manitou, the correct data mapping must be input in to the *Data Mapping* form.

➢ From within the MediaGateway, click **Data Mapping** from the menu list under **Universal Connector** on the left-hand side of the screen.



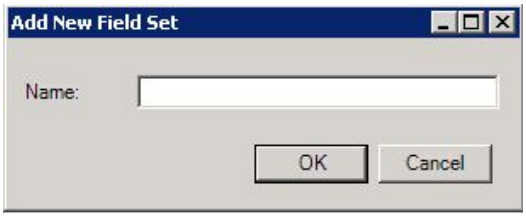
Data Mapping form

📂 For an in-depth look at data mapping, please refer to our Data Mapping section.

Data Mapping, Formatting

Upon loading the *Data Mapping* form, the *Formatting* tab will be active.

1. Select the **Add** button to add a new *Field Set*.



Add New Field Set

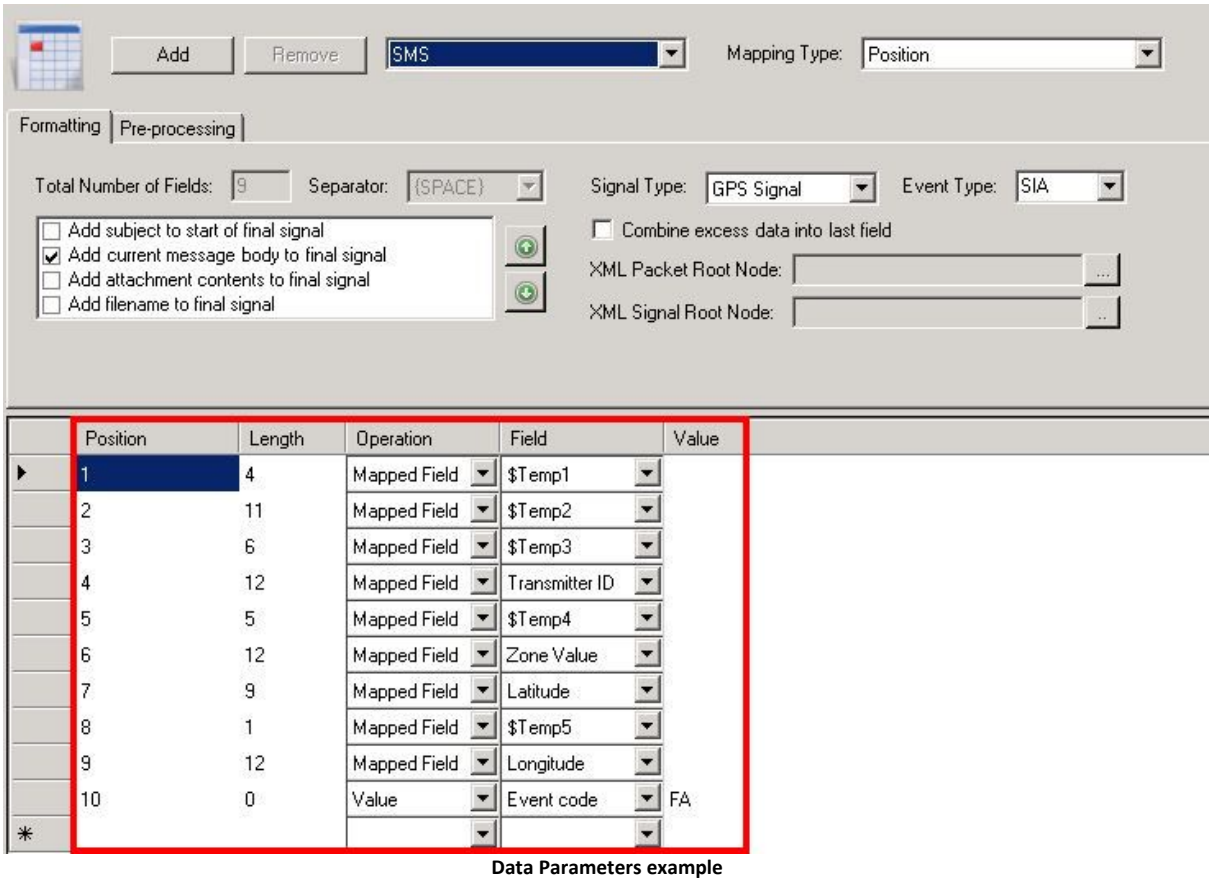
2. Input the *Field Set Name* and click **OK**.
3. Select the *Mapping Type*: **Separator**, **Position**, **Label/Separator**, or **XML**.
4. The *Formatting* form contains the following fields:

- **Total Number of Fields** - this number will be auto-generated based off the amount of fields designated within the form

- **Separator** - select the appropriate separator from the drop-down list
- **Signal Type** - choose either Signal, GPS Signal or Telemetry
- **Event Type** - SYS, SIA, or CID

5. Check to add any part of the message to the final signal by selecting the appropriate checkboxes.
6. Choose whether or not to **Combine excess data into last field**.
7. If the **Mapping Type** selected is **XML**, designate the **XML Packet** and **XML Signal Root Nodes**.
8. In the *Data Parameters* section, the bottom window in the *Data Mapping* form, designate the order of information to be parsed in to Manitou.

🗁 The column labels will change depending on the Mapping Type selected.

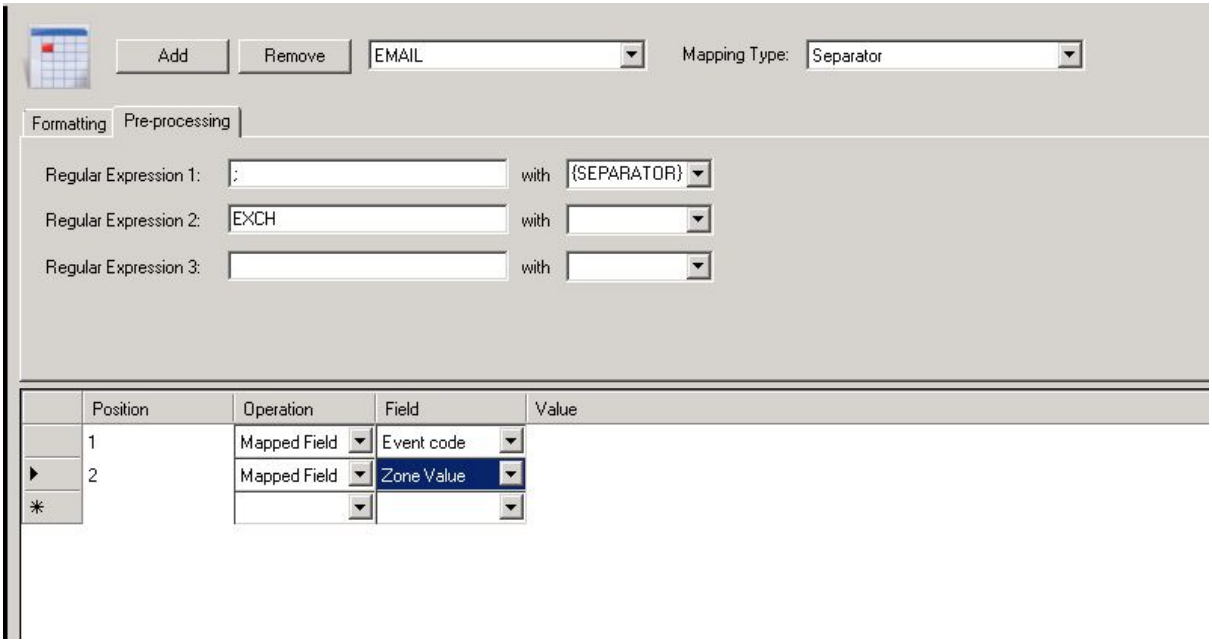


Data Parameters example

Data Mapping, Pre-processing

The *Pre-processing* tab enables special scenarios to be entered. For example, if the

Separator has been designated as a comma "," on the *Formatting* tab, but there are occasions where a semi-colon could show up as the separator, this would be designated on the *Pre-processing* tab.



Data Mapping, Pre-processing tab

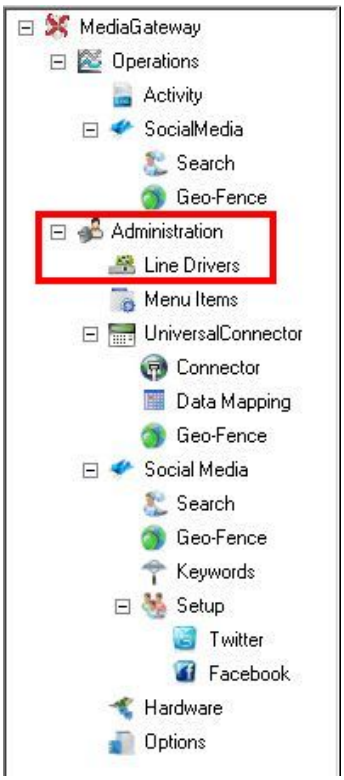
1. Click the *Pre-processing* tab.
2. In the *Regular Expression 1* field, type the symbol or letters that may be used as a Separator.
3. Choose the appropriate interpretation option in the with field.
4. Repeat for *Regular Expression 2* and *3* if necessary.

🗁 The Data Parameters section is static and will not change between the Formatting and Pre-processing tabs.

Line Drivers

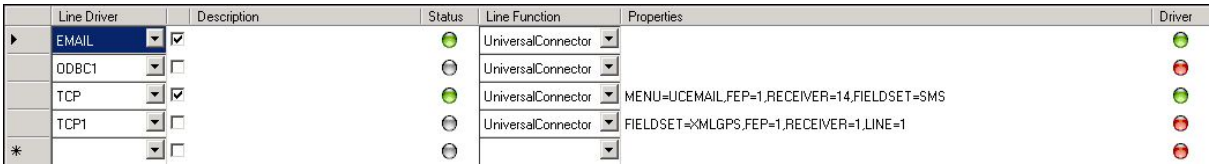
Once a Connector has been created and mapped, line drivers must be formatted.

1. Click the **Line Drivers** selection under **Administration** in the Node Tree on the left-hand side.



MediaGateway Node Tree, Line Drivers

2. In the *Line Driver* column of the *Line Drivers* window, select the newly created Connector from the pull-down list in the next open row (indicated with an asterisk).

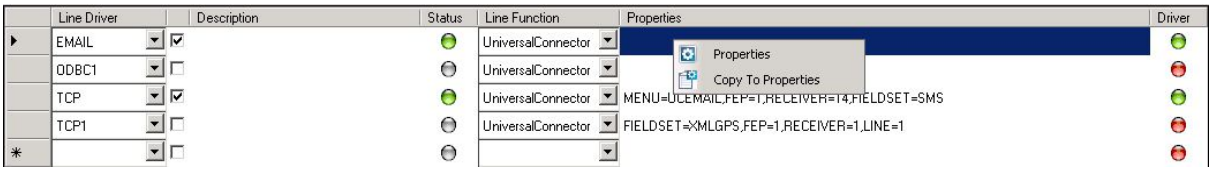


UniversalConnector Line Drivers

3. If this will be an active Connector, click the checkbox next to the specific Connector.
4. Input any description, if preferred, in the **Description** field.
5. The **Status** column will show whether or not the Connector is active (green) or inactive (red).

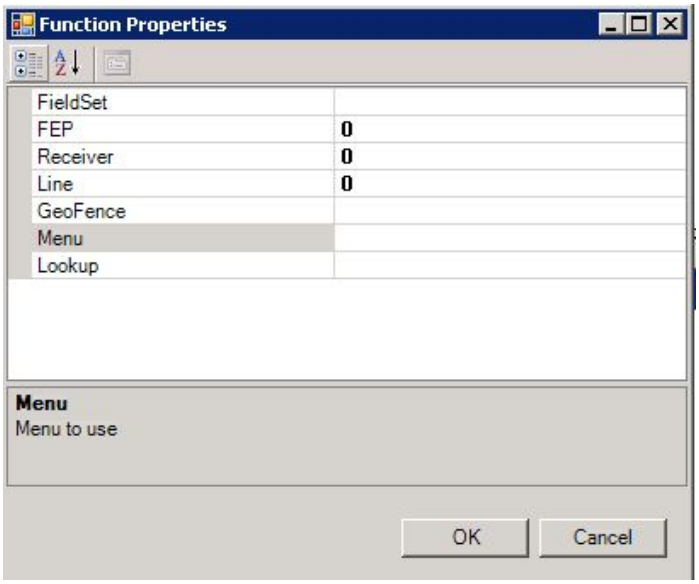
Establish Properties

1. Right-click in the *Properties* column and select **Properties** from the drop-down list to enter new property information for the newly created Connector, or choose to **Copy Properties** from an existing Connector.



Line Driver Properties

2. Populate the necessary fields in the *Function Properties* window.



Function Properties

- **FieldSet** - select the Data Mapping previously created
- **FEP** - Front End Processor that the device could report through
- **Receiver** - Receiver the device is connecting to, the XML receiver
- **Line** - Select from available lines, when using receiver line mapping
- **GeoFence** - User-created GeoFences will be listed in the pull-down menu; any GPS events will look for an applied GeoFence
- **Menu** - Logic to occur, what action will be taken with the compiled data
- **Lookup** - Provides a pull-down menu of any different parameters that could be used such as Email Address or Caller ID.

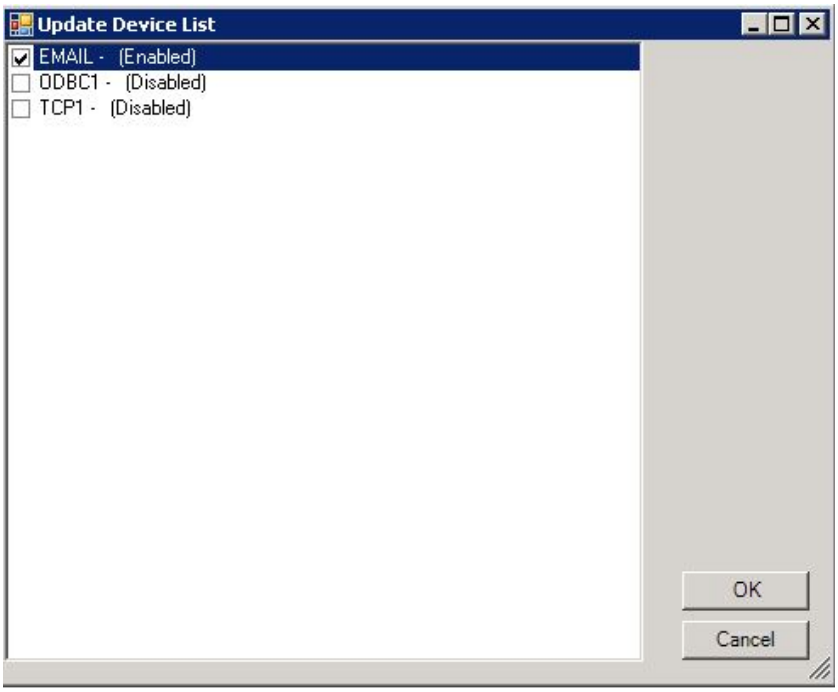
  ***Example*:** a Lookup can be specified if there will be a different action for one sender versus another in an Email Connector setup.

3. Once the *Properties* form is completed, click the **OK** button.

Copy Properties

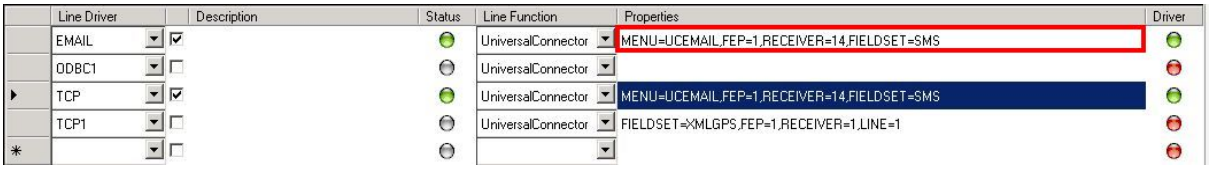
Properties can be easily and quickly copied from an established Line Driver to another.

1. Click within the *Properties* field for the Line Driver to copy FROM.
2. Right-click and select the **Copy To Properties** option.



Copy To, Update Device List window

3. Upon opening, the *Update Device List* window lists and automatically checks any available Line Drivers. Uncheck any that will not need properties copied to them.
4. Once completed, click **OK**.
5. The newly copied properties should now show up in the *Properties* field for the Line Driver(s) specified.



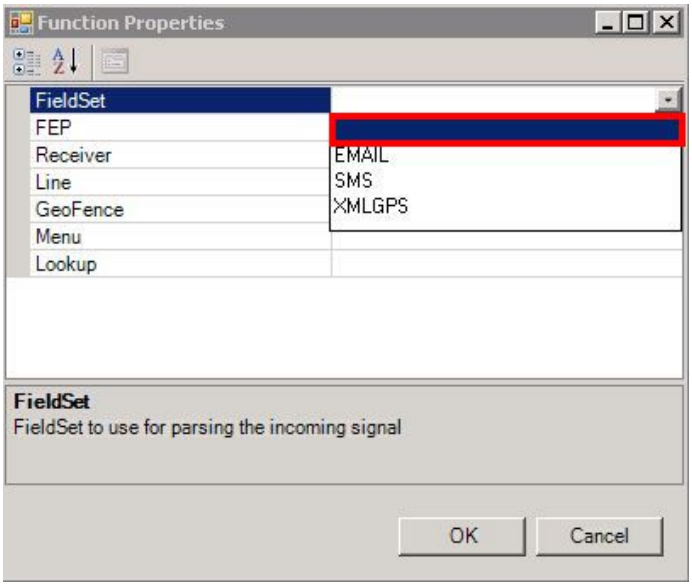
Copied To Properties example

Remove Properties

Removing properties is a manual process.

1. Right-click in the Properties field for the appropriate Line Driver.

2. Select **Properties** from the drop-down menu.
3. Within the *Function Properties* window, click in each *Property* field and manually clear it out by either selecting the **blank** from the drop-down menu or using the **<Delete>** or **<Backspace>** key.



Function Properties window

FTP Example

Since the FTP server looks at two directories, XML and binary, the following example provides two example scenarios:

- XML - FTP Signal
- Binary - FTP Video

FTP Signal

- XML Signal

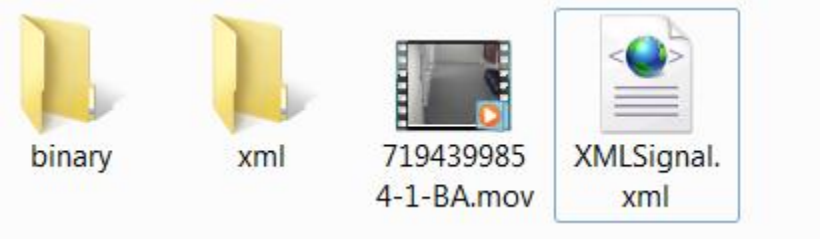
```
<?xml version="1.0"?>
<Alarms>
<Customer TxId="7194399854" >
    <Signal Event="PA" Lat="39.040431" Lng="-104.703115">
        <Zone>1</Zone>
        <Area>2</Area>
    </Signal>
    <Signal Event="HA" Lat="38.930849" Lng="-104.818622">
        <Zone>2</Zone>
        <Area>3</Area>
    </Signal>
</Customer>
</Alarms>
```

XML Signal

FTP Video

Use the filename to hold information.

- 194399854-1-BA.mov

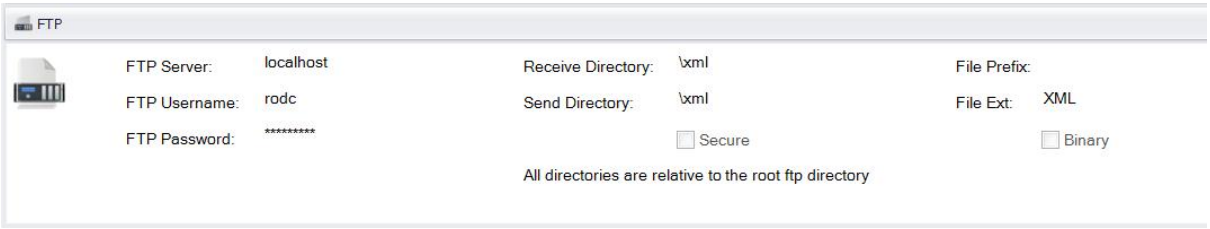


FTP Directories

Connector

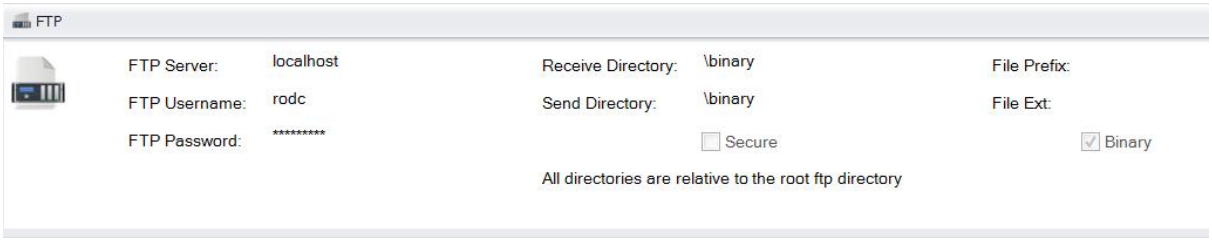
Both XML and Binary connectors will need to be setup.

XML



XML Connector Setup example

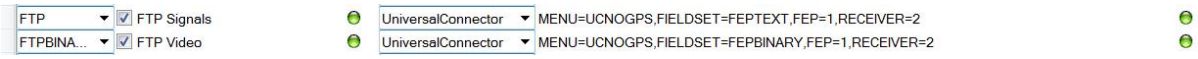
Binary



Binary Connector Setup example

Line Drivers

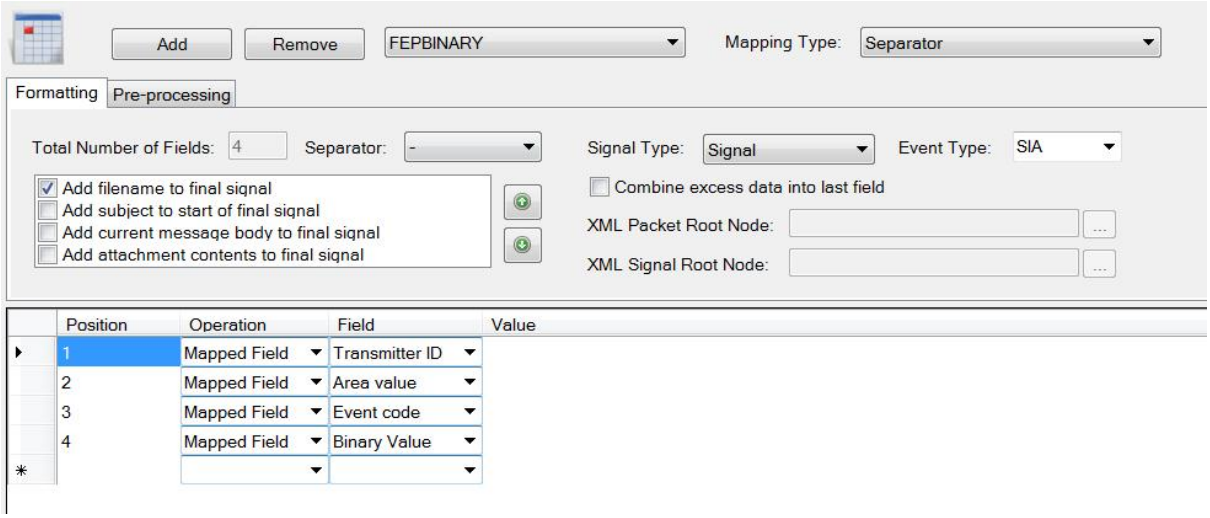
The line drivers are setup as follows:



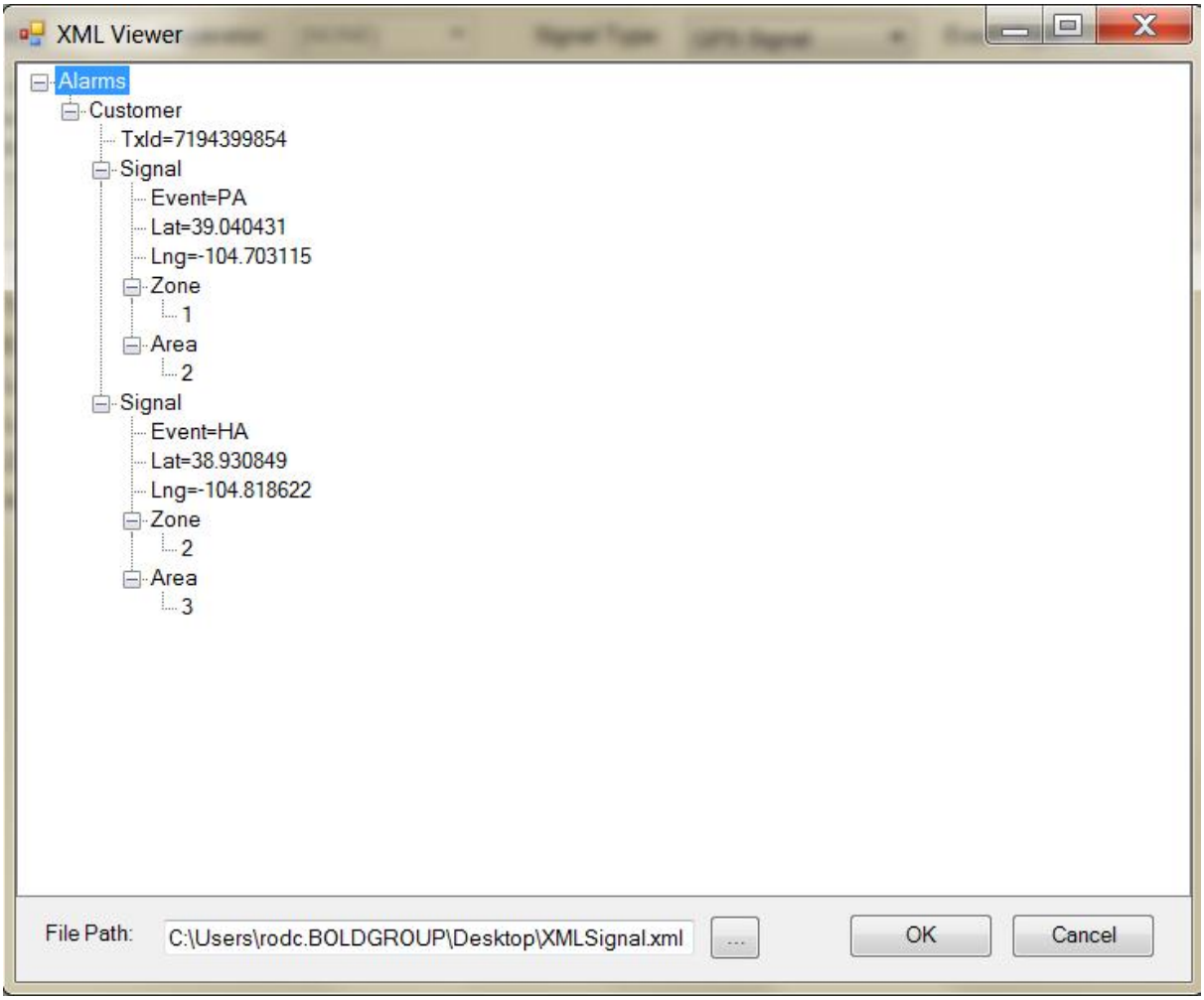
FTP Line Drivers

Data Mapping

For the FTP Text (XML) data mapping screen, note it is using the XML format. The XML view allows users to choose the appropriate label.

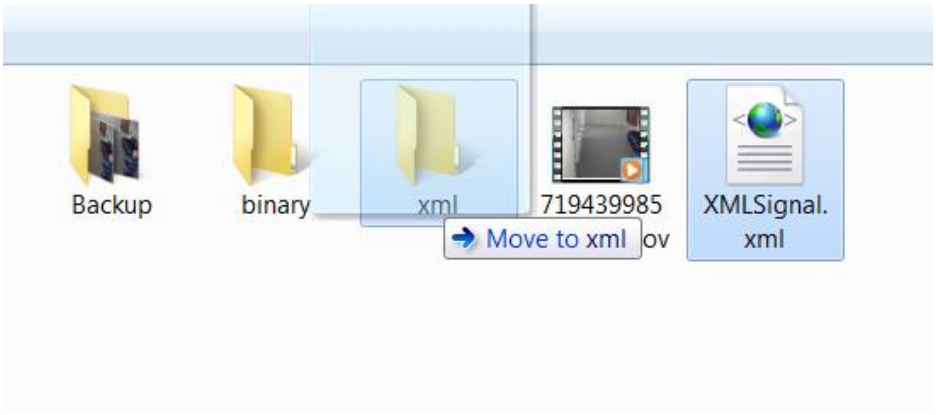


Binary Data Mapping example



XML Viewer

This format can allow multiple signals in one packet to be sent. This example will generate two signals in Manitou.

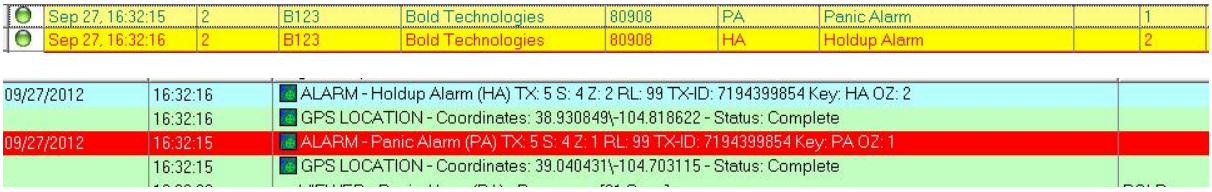


Move XML file

Manitou Alarm

XML Text

Moving the file into the XML directory causes the UnivesalConnector to download the file using FTP and process it. The following alarms are then generated.

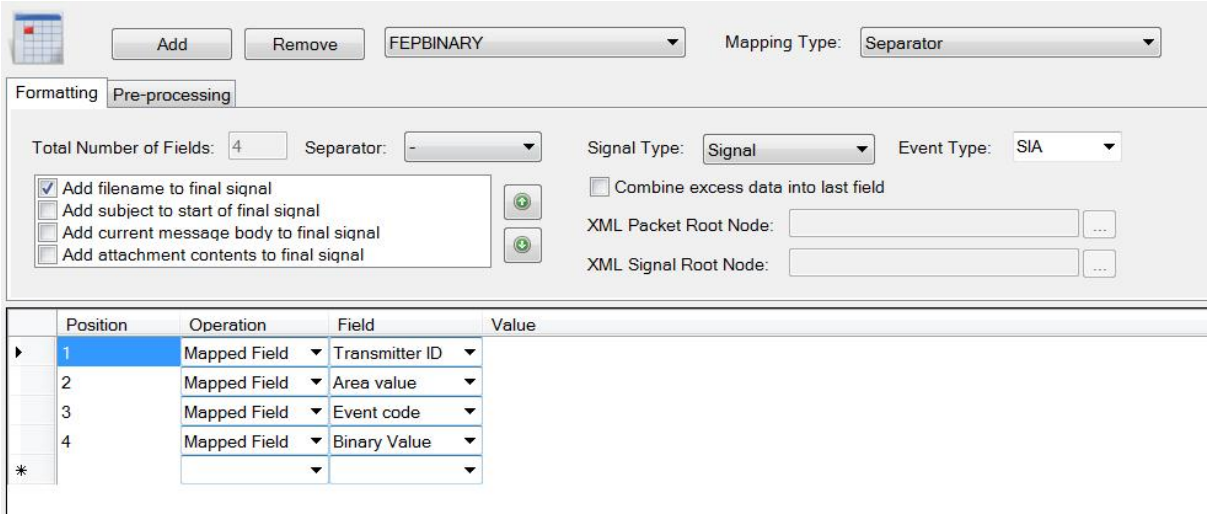


FTP Generated Alarm examples

Binary Video

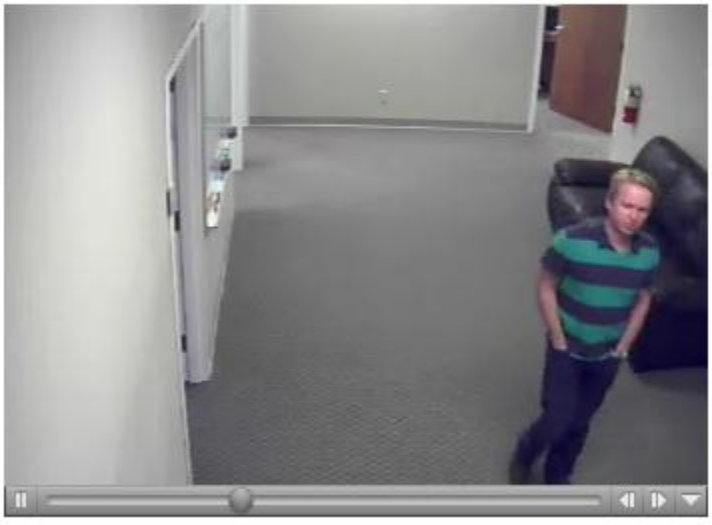
Moving the video file into the binary directory generates a burglary alarm with video.

- Use the filename to hold information
  - 7194399854-1-BA.mov



Binary Data Mapping example

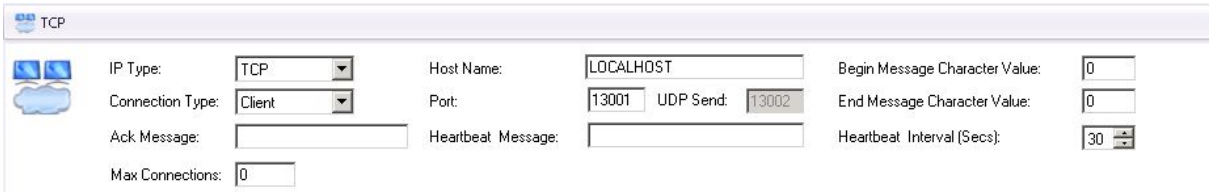
Binary Generated Alarm examples



Alarm Video Clip

TCP/UDP

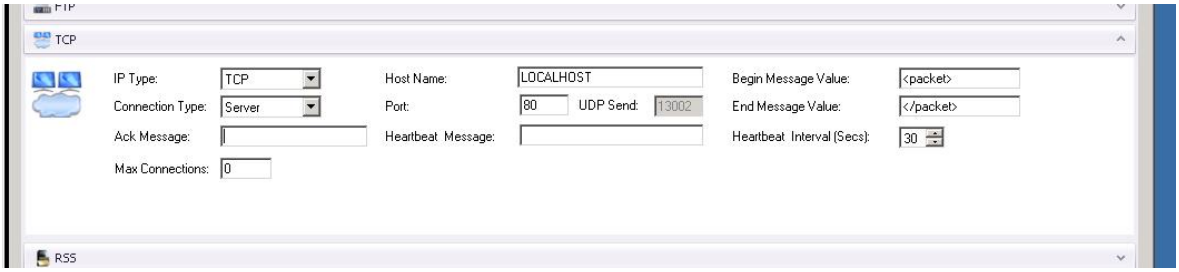
The TCP Connector allows the UniversalConnector to accept raw data connections.



TCP Configuration

Using XML Tokens

Users may also now add a XML token for start and end values (see TCP Config., XML Tokens image below) on a TCP Connector.

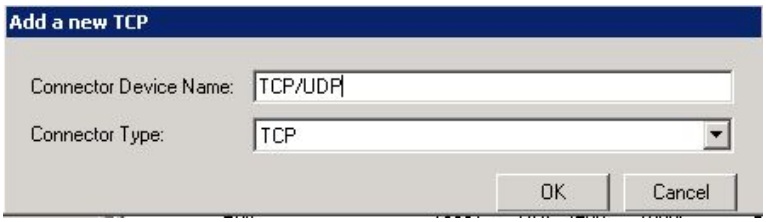


TCP Config., XML Tokens

Add a TCP Connector

To add a TCP Connector, click **Connector** under the **UniversalConnector** section of the Node Tree.

1. Click the **Add** button at the top of the *Connector* screen. In the *Add a new TCP* dialog box, input a device name in the **Connector Device Name** field.



Add a new TCP Connector, Device Name

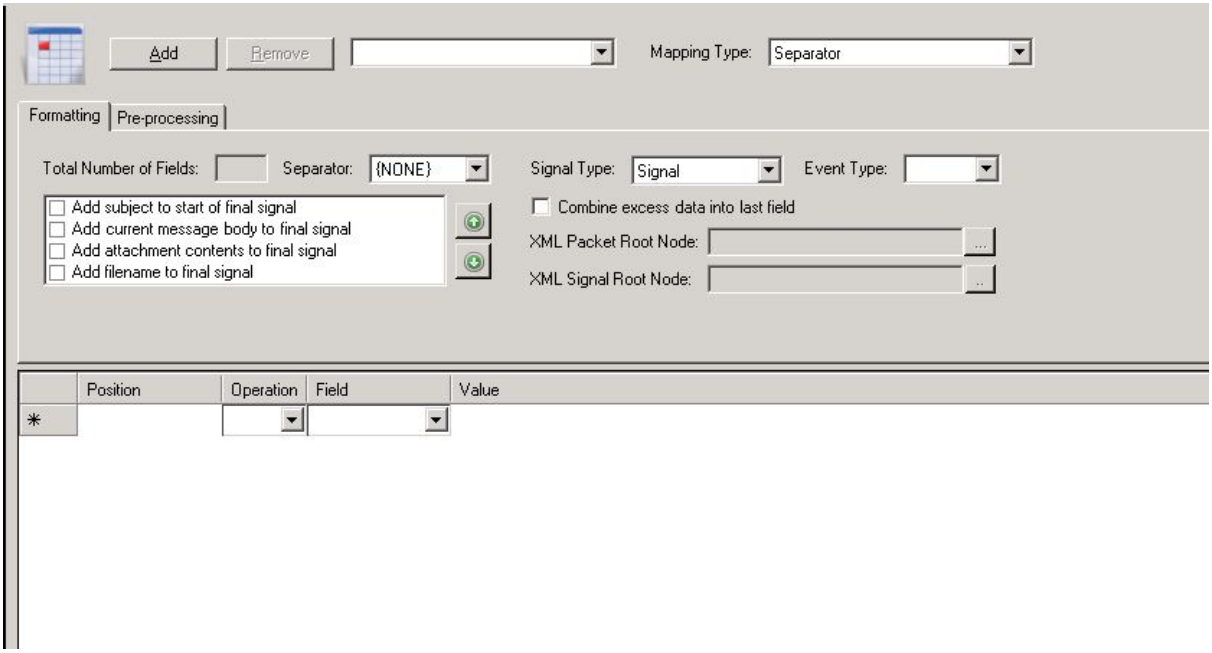
2. Confirm that the **Connector Type** field shows "TCP". If not, select **TCP** from the drop-down list.

3. Once confirmed, click the **OK** button.

Data Mapping

In order for the communication to be properly identified and set up for submission to Manitou, the correct data mapping must be input in to the *Data Mapping* form.

- From within the MediaGateway, click **Data Mapping** from the menu list under **Universal Connector** on the left-hand side of the screen.

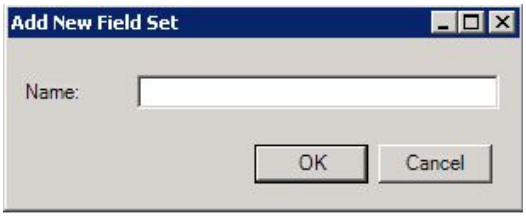


Data Mapping form

Data Mapping, Formatting

Upon loading the *Data Mapping* form, the *Formatting* tab will be active.

1. Select the **Add** button to add a new *Field Set*.



Add New Field Set

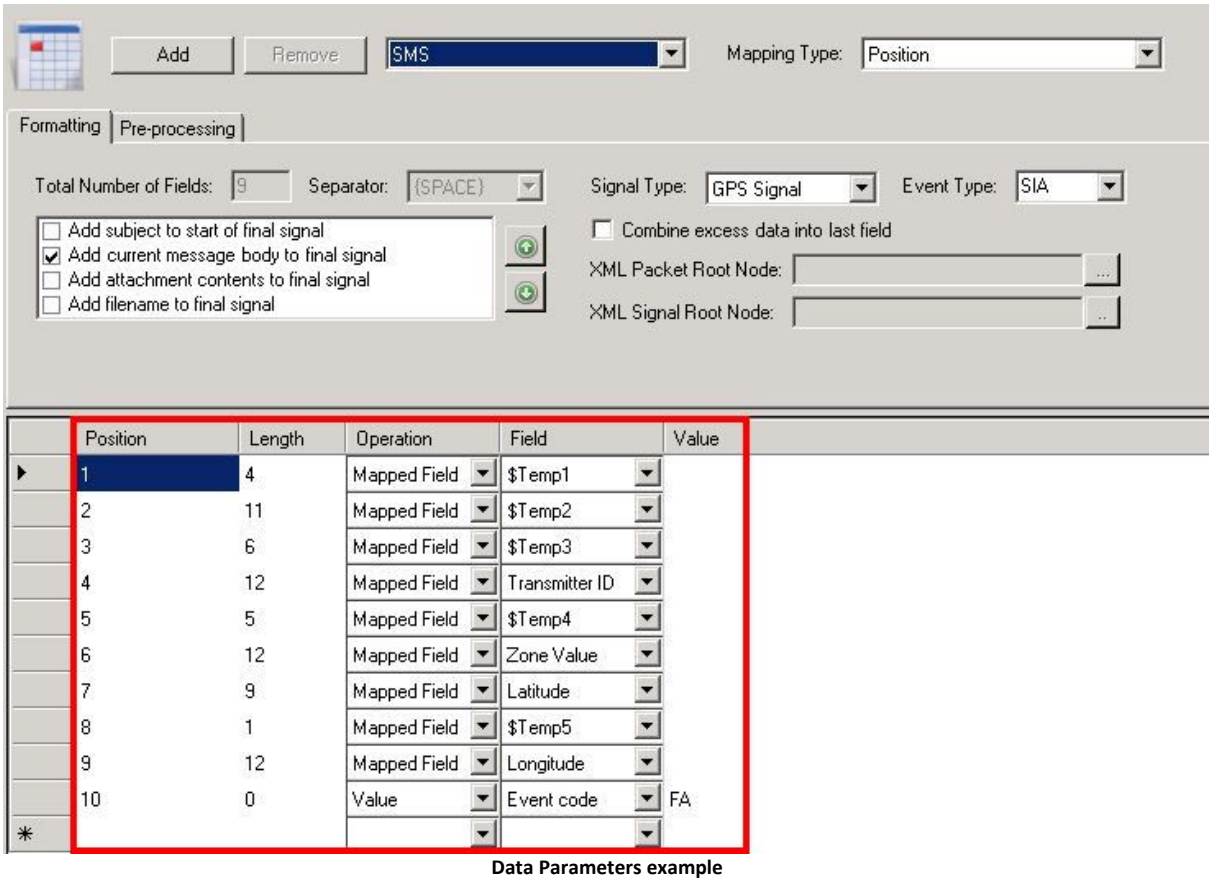
2. Input the *Field Set Name* and click **OK**.
3. Select the *Mapping Type*: **Separator**, **Position**, **Label/Separator**, or **XML**.
4. The *Formatting* form contains the following fields:

   - **Total Number of Fields** - this number will be auto-generated based off the amount of fields designated within the form

- **Separator** - select the appropriate separator from the drop-down list
- **Signal Type** - choose either Signal, GPS Signal or Telemetry
- **Event Type** - SYS, SIA, or CID

5. Check to add any part of the message to the final signal by selecting the appropriate checkboxes.
6. Choose whether or not to **Combine excess data into last field**.
7. If the **Mapping Type** selected is **XML**, designate the **XML Packet** and **XML Signal Root Nodes**.
8. In the *Data Parameters* section, the bottom window in the *Data Mapping* form, designate the order of information to be parsed in to Manitou.

   🗁 The column labels will change depending on the Mapping Type selected.

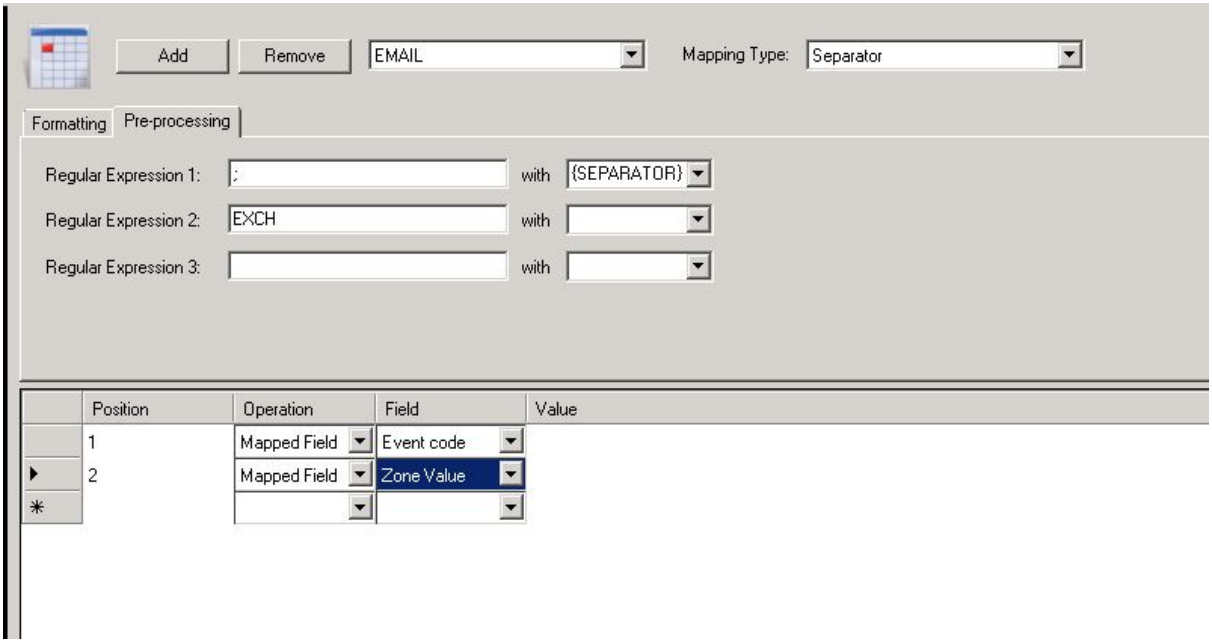


Data Parameters example

Data Mapping, Pre-processing

The *Pre-processing* tab enables special scenarios to be entered. For example, if the

Separator has been designated as a comma "," on the *Formatting* tab, but there are occasions where a semi-colon could show up as the separator, this would be designated on the *Pre-processing* tab.



Data Mapping, Pre-processing tab

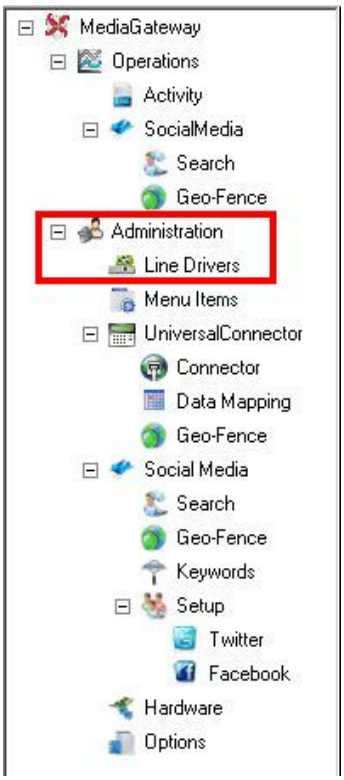
1. Click the *Pre-processing* tab.
2. In the *Regular Expression 1* field, type the symbol or letters that may be used as a Separator.
3. Choose the appropriate interpretation option in the with field.
4. Repeat for *Regular Expression 2* and *3* if necessary.

🗁 The Data Parameters section is static and will not change between the Formatting and Pre-processing tabs.

Line Drivers

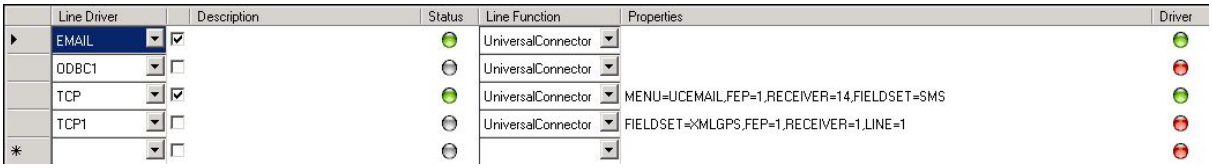
Once a Connector has been created and mapped, line drivers must be formatted.

1. Click the **Line Drivers** selection under **Administration** in the Node Tree on the left-hand side.



MediaGateway Node Tree, Line Drivers

2. In the *Line Driver* column of the *Line Drivers* window, select the newly created Connector from the pull-down list in the next open row (indicated with an asterisk).

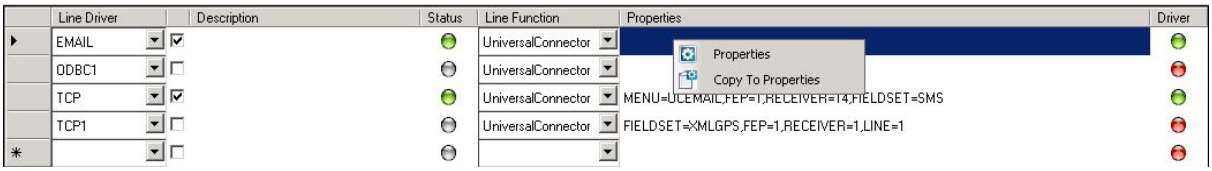


UniversalConnector Line Drivers

3. If this will be an active Connector, click the checkbox next to the specific Connector.
4. Input any description, if preferred, in the **Description** field.
5. The **Status** column will show whether or not the Connector is active (green) or inactive (red).

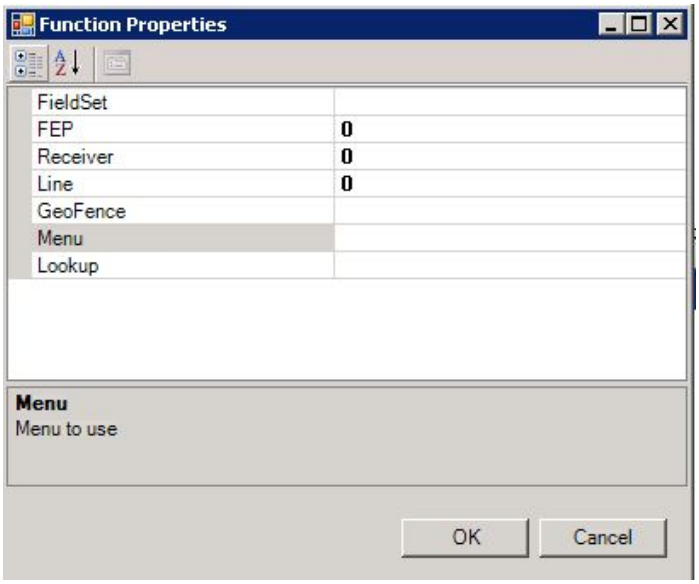
Establish Properties

1. Right-click in the *Properties* column and select **Properties** from the drop-down list to enter new property information for the newly created Connector, or choose to **Copy Properties** from an existing Connector.



Line Driver Properties

2. Populate the necessary fields in the *Function Properties* window.



Function Properties

- **FieldSet** - select the Data Mapping previously created
- **FEP** - Front End Processor that the device could report through
- **Receiver** - Receiver the device is connecting to, the XML receiver
- **Line** - Select from available lines, when using receiver line mapping
- **GeoFence** - User-created GeoFences will be listed in the pull-down menu; any GPS events will look for an applied GeoFence
- **Menu** - Logic to occur, what action will be taken with the compiled data
- **Lookup** - Provides a pull-down menu of any different parameters that could be used such as Email Address or Caller ID.

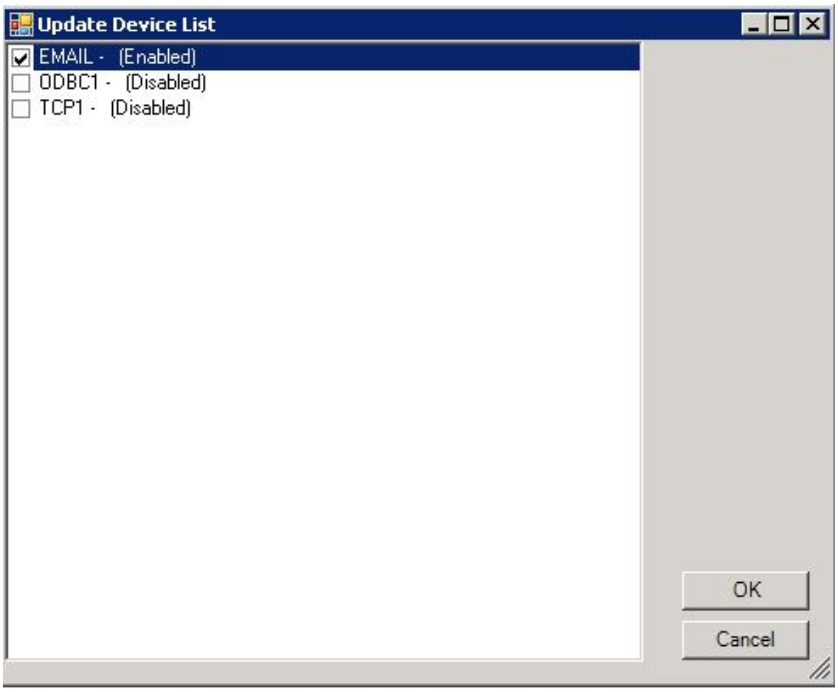
  ***Example*:** a Lookup can be specified if there will be a different action for one sender versus another in an Email Connector setup.

3. Once the *Properties* form is completed, click the **OK** button.

Copy Properties

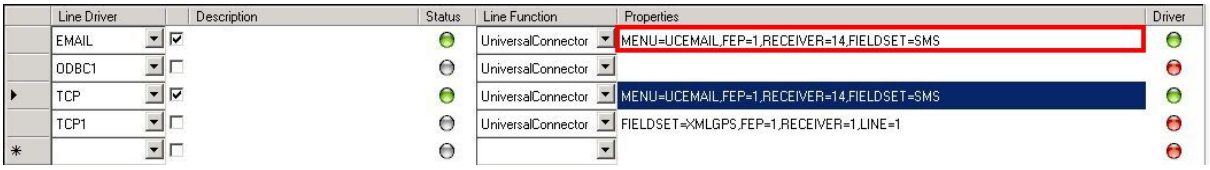
Properties can be easily and quickly copied from an established Line Driver to another.

1. Click within the *Properties* field for the Line Driver to copy FROM.
2. Right-click and select the **Copy To Properties** option.



Copy To, Update Device List window

3. Upon opening, the *Update Device List* window lists and automatically checks any available Line Drivers. Uncheck any that will not need properties copied to them.
4. Once completed, click **OK**.
5. The newly copied properties should now show up in the *Properties* field for the Line Driver(s) specified.



Copied To Properties example

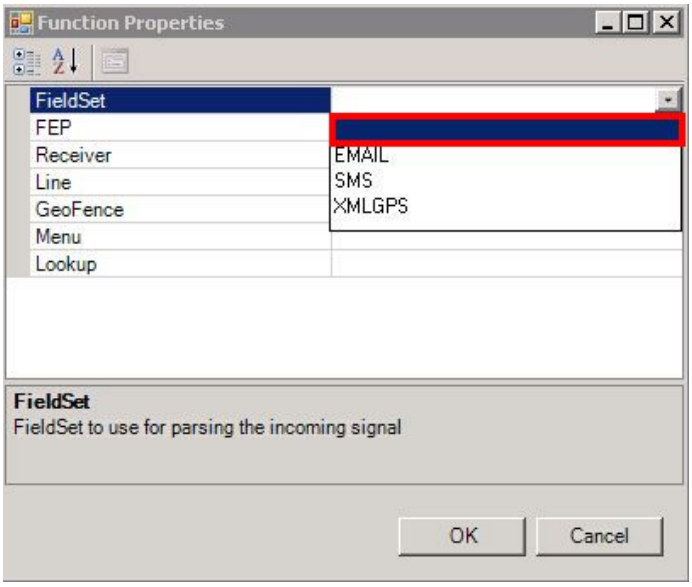
Remove Properties

Removing properties is a manual process.

1. Right-click in the Properties field for the appropriate Line Driver.

2. Select **Properties** from the drop-down menu.

3. Within the *Function Properties* window, click in each *Property* field and manually clear it out by either selecting the **blank** from the drop-down menu or using the **<Delete>** or **<Backspace>** key.



Function Properties window

RSS

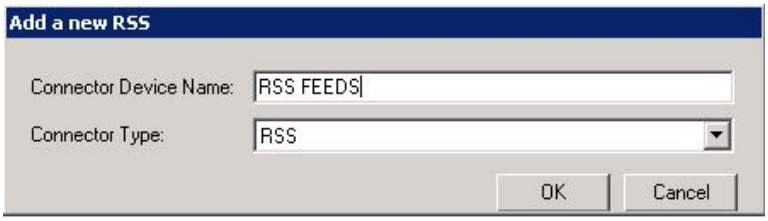
The RSS Connector enables UniversalConnector to monitor, pick up, parse and send RSS feeds through to Manitou as an actual alarm.

RSS Configuration

Add a RSS Connector

To add a RSS Connector, click **Connector** under the **UniversalConnector** section of the Node Tree.

1. Click the **Add** button at the top of the *Connector* screen. In the *Add a new RSS* dialog box, input a device name in the **Connector Device Name** field.



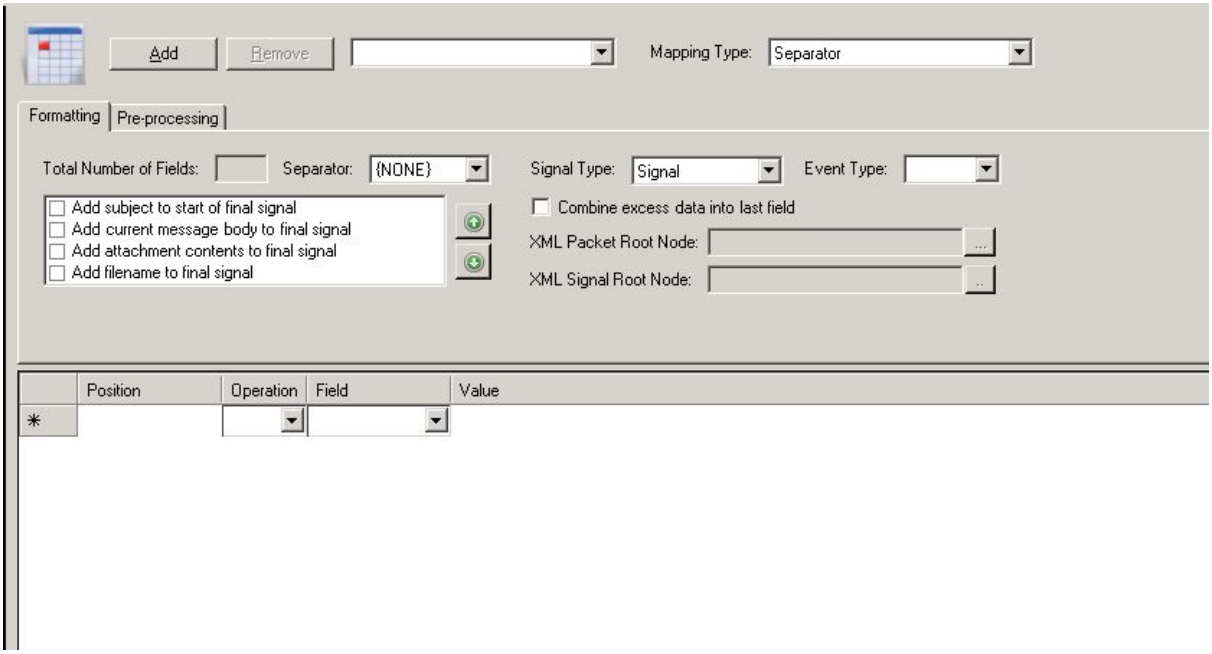
Add a new RSS Connector, Device Name

2. Confirm that the **Connector Type** field shows "RSS". If not, select **RSS** from the drop-down list.
3. Once confirmed, click the **OK** button.

Data Mapping

In order for the communication to be properly identified and set up for submission to Manitou, the correct data mapping must be input in to the *Data Mapping* form.

- From within the MediaGateway, click **Data Mapping** from the menu list under **Universal Connector** on the left-hand side of the screen.



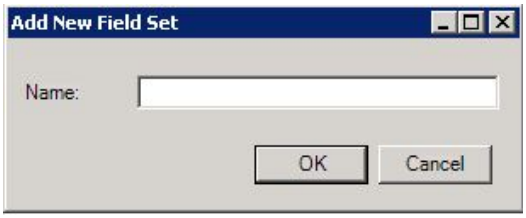
Data Mapping form

For an in-depth look at data mapping, please refer to our Data Mapping section.

Data Mapping, Formatting

Upon loading the *Data Mapping* form, the *Formatting* tab will be active.

1. Select the **Add** button to add a new *Field Set*.

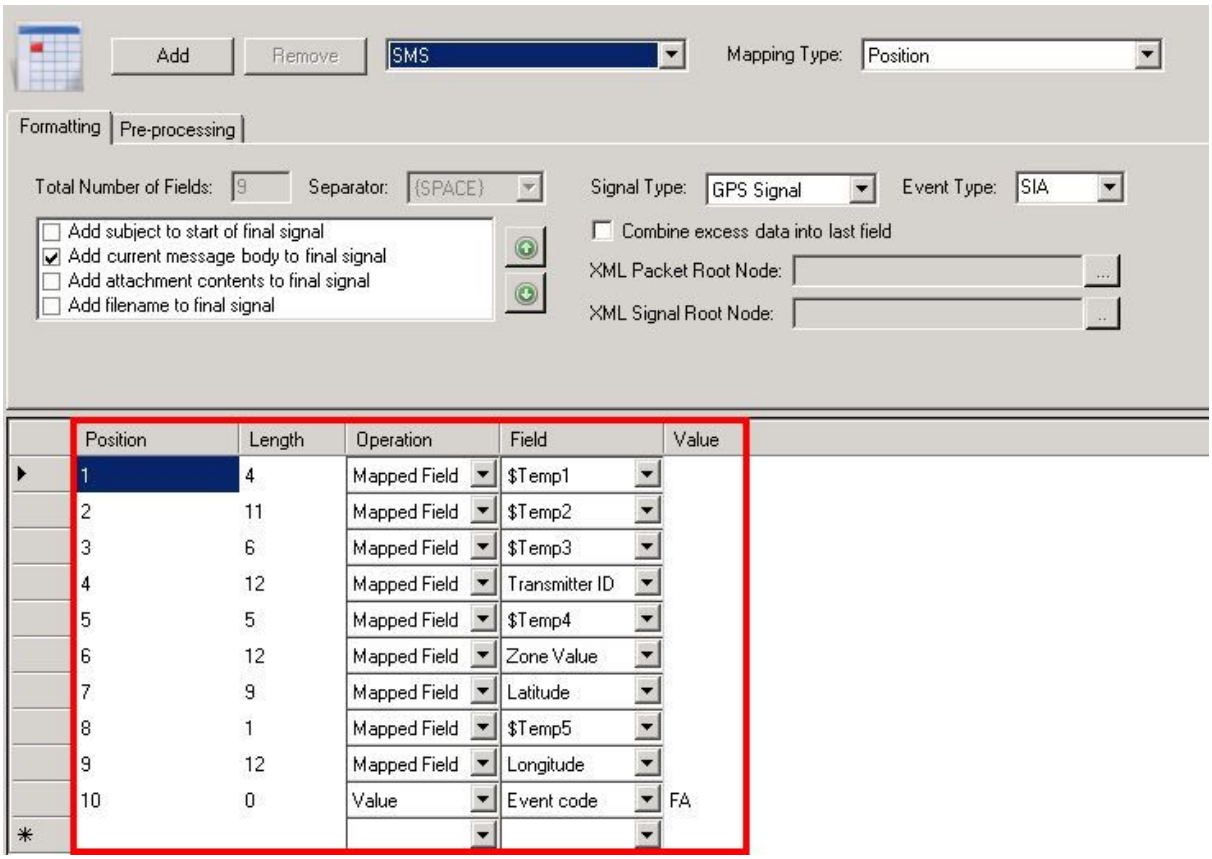


Add New Field Set

2. Input the *Field Set Name* and click **OK**.
3. Select the *Mapping Type*: **Separator**, **Position**, **Label/Separator**, or **XML**.
4. The *Formatting* form contains the following fields:
   - **Total Number of Fields** - this number will be auto-generated based off the amount of fields designated within the form
   - **Separator** - select the appropriate separator from the drop-down list
   - **Signal Type** - choose either Signal, GPS Signal or Telemetry
   - **Event Type** - SYS, SIA, or CID

5. Check to add any part of the message to the final signal by selecting the appropriate checkboxes.
6. Choose whether or not to **Combine excess data into last field**.
7. If the **Mapping Type** selected is **XML**, designate the **XML Packet** and **XML Signal Root Nodes**.
8. In the *Data Parameters* section, the bottom window in the *Data Mapping* form, designate the order of information to be parsed in to Manitou.

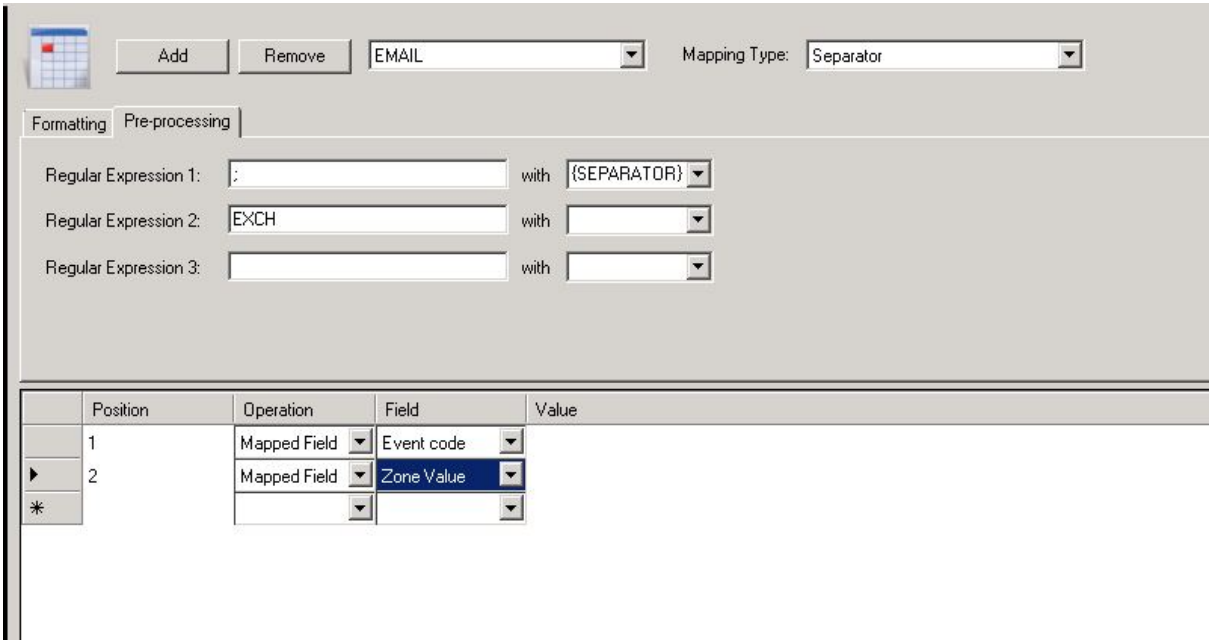
   🗁 The column labels will change depending on the Mapping Type selected.



Data Parameters example

Data Mapping, Pre-processing

The *Pre-processing* tab enables special scenarios to be entered. For example, if the **Separator** has been designated as a comma "," on the *Formatting* tab, but there are occasions where a semi-colon could show up as the separator, this would be designated on the *Pre-processing* tab.



Data Mapping, Pre-processing tab

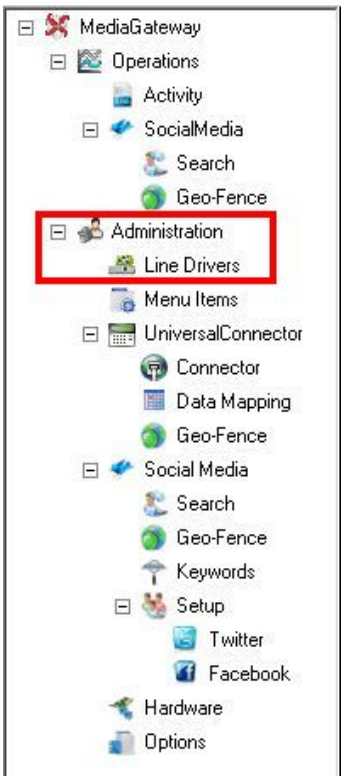
1. Click the *Pre-processing* tab.
2. In the *Regular Expression 1* field, type the symbol or letters that may be used as a Separator.
3. Choose the appropriate interpretation option in the with field.
4. Repeat for *Regular Expression 2* and *3* if necessary.

🗁 The Data Parameters section is static and will not change between the Formatting and Pre-processing tabs.

Line Drivers

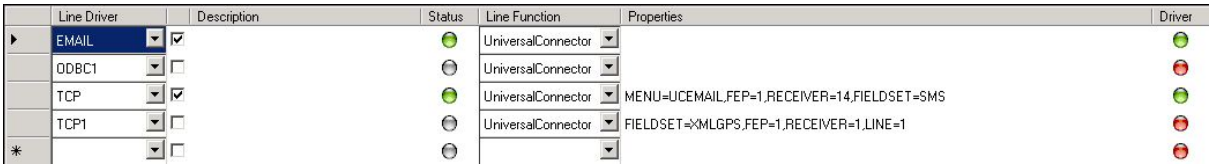
Once a Connector has been created and mapped, line drivers must be formatted.

1. Click the **Line Drivers** selection under **Administration** in the Node Tree on the left-hand side.



MediaGateway Node Tree, Line Drivers

2. In the *Line Driver* column of the *Line Drivers* window, select the newly created Connector from the pull-down list in the next open row (indicated with an asterisk).

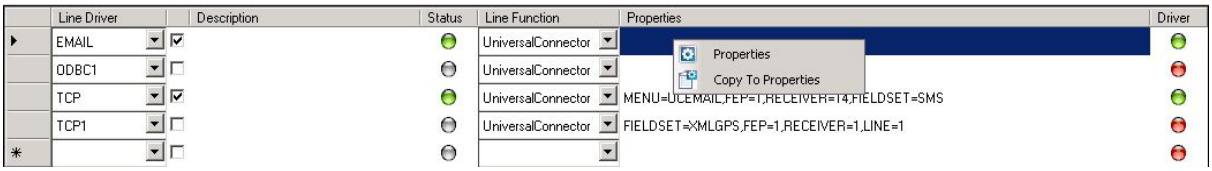


UniversalConnector Line Drivers

3. If this will be an active Connector, click the checkbox next to the specific Connector.
4. Input any description, if preferred, in the **Description** field.
5. The **Status** column will show whether or not the Connector is active (green) or inactive (red).

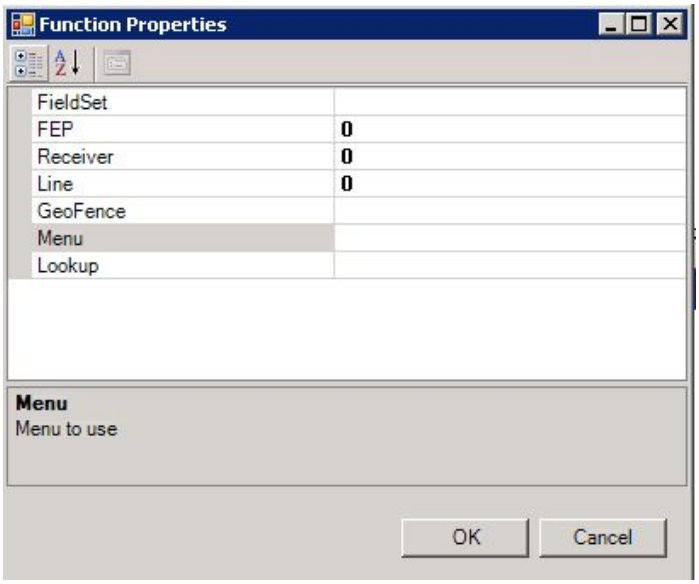
Establish Properties

1. Right-click in the *Properties* column and select **Properties** from the drop-down list to enter new property information for the newly created Connector, or choose to **Copy Properties** from an existing Connector.



Line Driver Properties

2. Populate the necessary fields in the *Function Properties* window.



Function Properties

- **FieldSet** - select the Data Mapping previously created
- **FEP** - Front End Processor that the device could report through
- **Receiver** - Receiver the device is connecting to, the XML receiver
- **Line** - Select from available lines, when using receiver line mapping
- **GeoFence** - User-created GeoFences will be listed in the pull-down menu; any GPS events will look for an applied GeoFence
- **Menu** - Logic to occur, what action will be taken with the compiled data
- **Lookup** - Provides a pull-down menu of any different parameters that could be used such as Email Address or Caller ID.

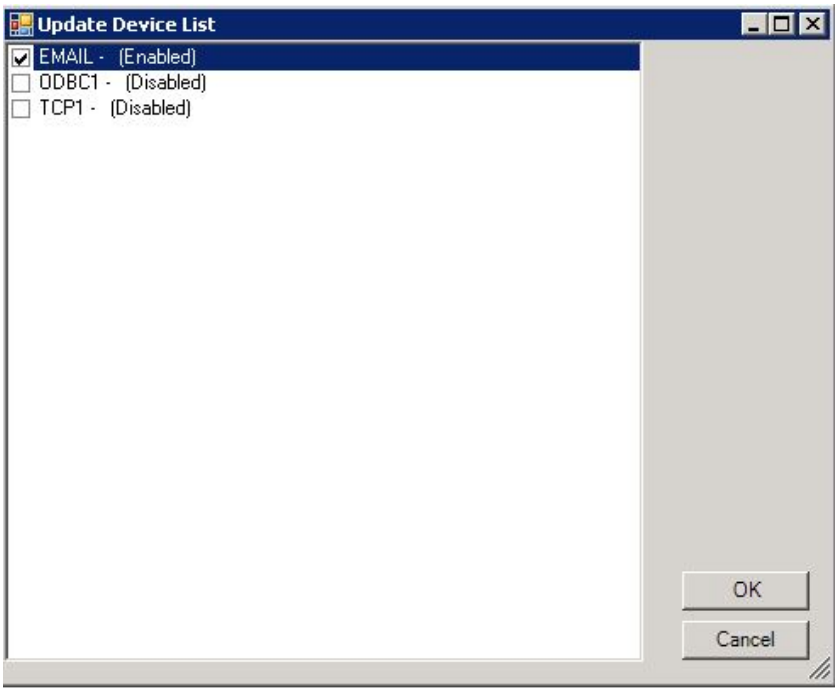
  ***Example*:** a Lookup can be specified if there will be a different action for one sender versus another in an Email Connector setup.

3. Once the *Properties* form is completed, click the **OK** button.

Copy Properties

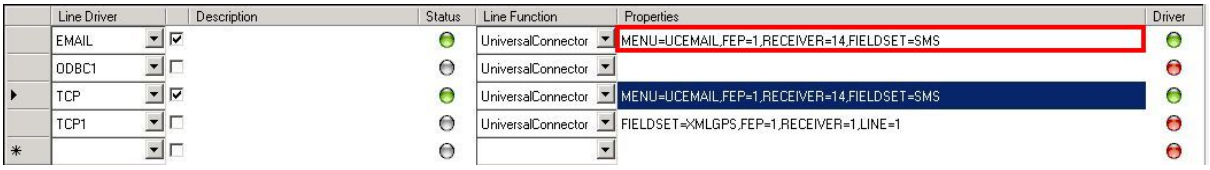
Properties can be easily and quickly copied from an established Line Driver to another.

1. Click within the *Properties* field for the Line Driver to copy FROM.
2. Right-click and select the **Copy To Properties** option.



Copy To, Update Device List window

3. Upon opening, the *Update Device List* window lists and automatically checks any available Line Drivers. Uncheck any that will not need properties copied to them.
4. Once completed, click **OK**.
5. The newly copied properties should now show up in the *Properties* field for the Line Driver(s) specified.



Copied To Properties example

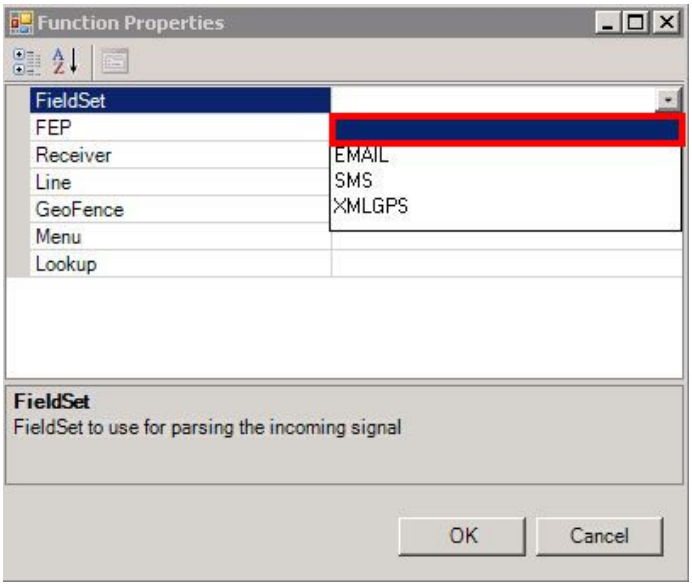
Remove Properties

Removing properties is a manual process.

1. Right-click in the Properties field for the appropriate Line Driver.

2. Select **Properties** from the drop-down menu.

3. Within the *Function Properties* window, click in each *Property* field and manually clear it out by either selecting the **blank** from the drop-down menu or using the **<Delete>** or **<Backspace>** key.



Function Properties window

File

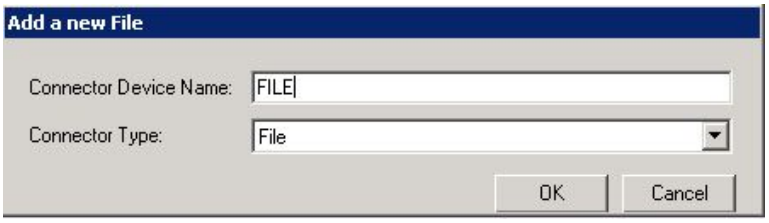
The file connector allows you to designate a location for simple files to be looked for by file prefix and extension, even allowing for the designation for Binary.

File Configuration

Add a File Connector

To add a File Connector, click **Connector** under the **UniversalConnector** section of the Node Tree.

1. Click the **Add** button at the top of the *Connector* screen. In the *Add a new File* dialog box, input a device name in the **Connector Device Name** field.



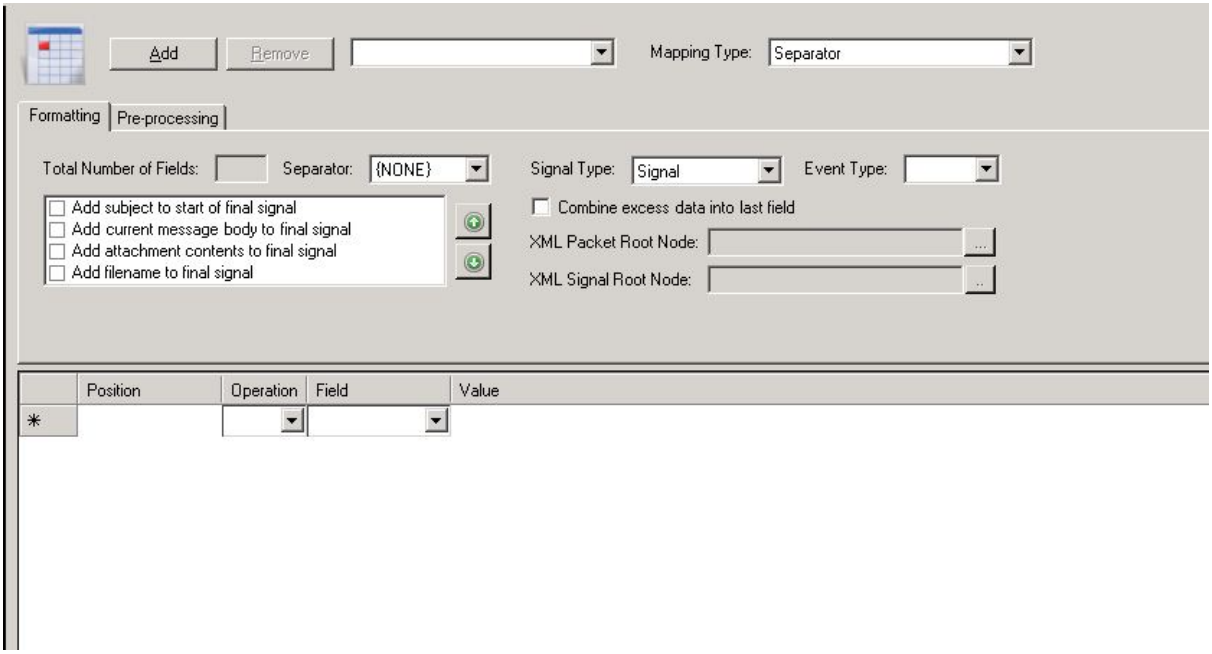
Add a new File Connector, Device Name

2. Confirm that the **Connector Type** field shows "RSS". If not, select **RSS** from the drop-down list.
3. Once confirmed, click the **OK** button.

Data Mapping

In order for the communication to be properly identified and set up for submission to Manitou, the correct data mapping must be input in to the *Data Mapping* form.

- From within the MediaGateway, click **Data Mapping** from the menu list under **Universal Connector** on the left-hand side of the screen.



Data Mapping form

For an in-depth look at data mapping, please refer to our Data Mapping section.

Data Mapping, Formatting

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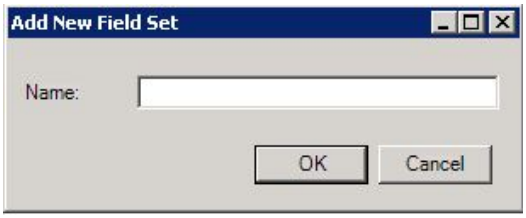
1. Select the **Add** button to add a new *Field Set*.



Add New Field Set

2. Input the *Field Set Name* and click **OK**.
3. Select the *Mapping Type*: **Separator**, **Position**, **Label/Separator**, or **XML**.
4. The *Formatting* form contains the following fields:
   - **Total Number of Fields** - this number will be auto-generated based off the amount of fields designated within the form
   - **Separator** - select the appropriate separator from the drop-down list
   - **Signal Type** - choose either Signal, GPS Signal or Telemetry
   - **Event Type** - SYS, SIA, or CID

5. Check to add any part of the message to the final signal by selecting the appropriate checkboxes.
6. Choose whether or not to **Combine excess data into last field**.
7. If the **Mapping Type** selected is **XML**, designate the **XML Packet** and **XML Signal Root Nodes**.
8. In the *Data Parameters* section, the bottom window in the *Data Mapping* form, designate the order of information to be parsed in to Manitou.

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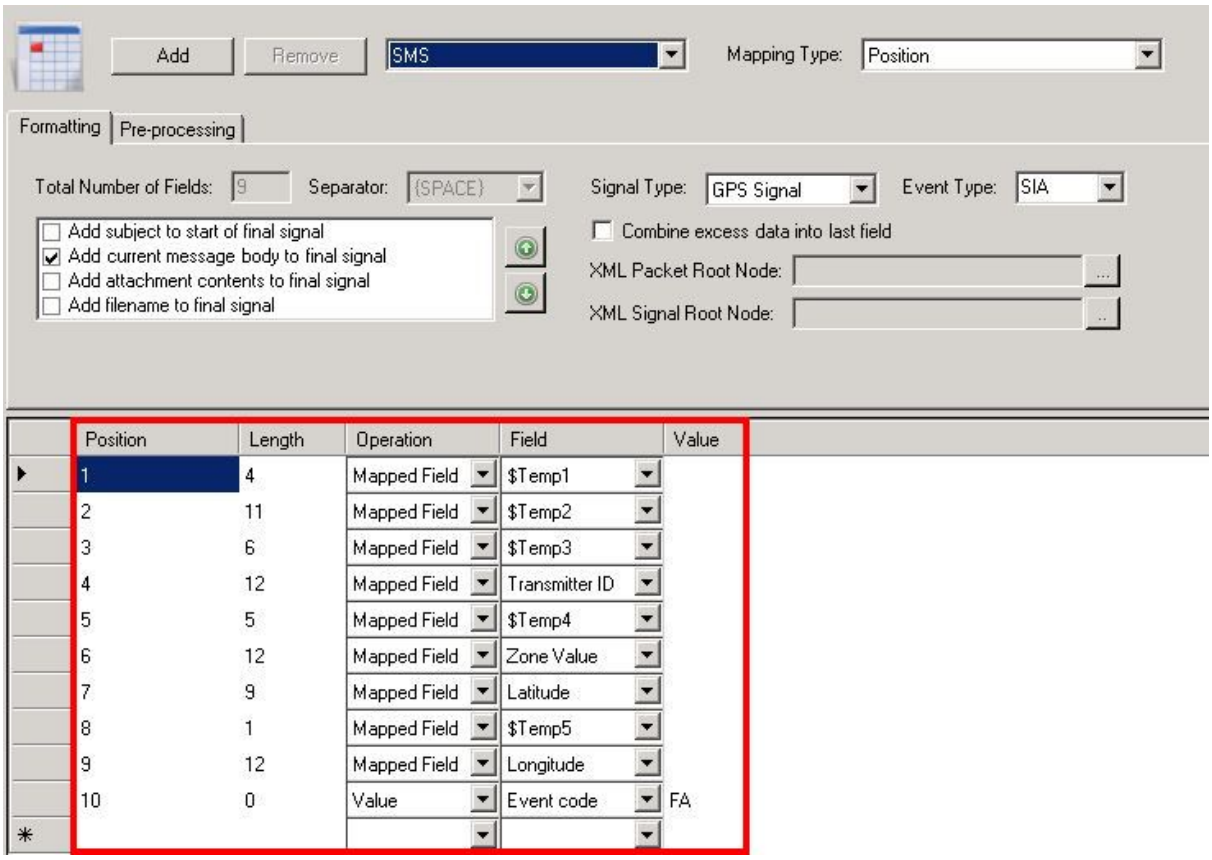

Data Parameters example

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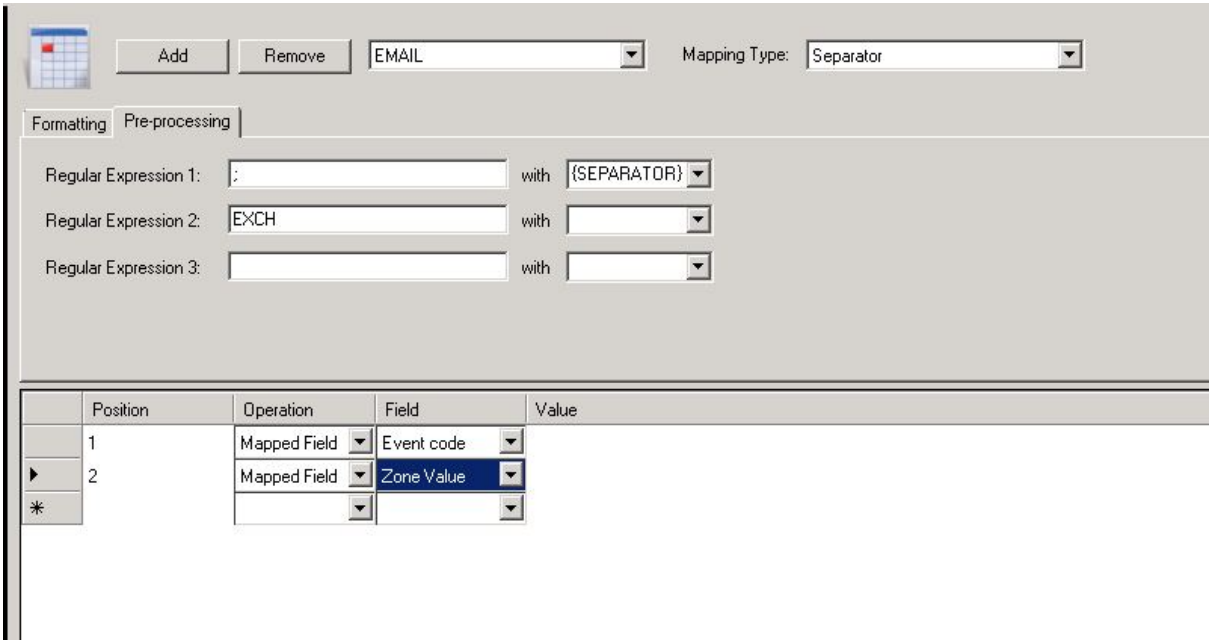

Data Mapping, Pre-processing tab

1. Click the *Pre-processing* tab.
2. In the *Regular Expression 1* field, type the symbol or letters that may be used as a Separator.
3. Choose the appropriate interpretation option in the with field.
4. Repeat for *Regular Expression 2* and *3* if necessary.

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Line Drivers

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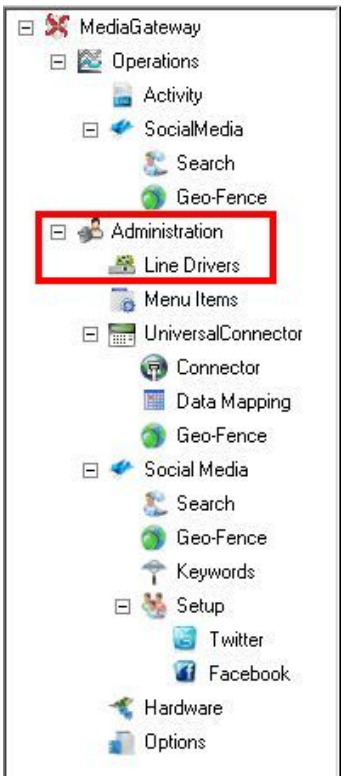
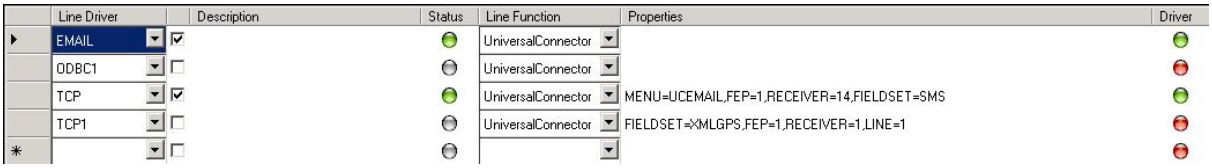


MediaGateway Node Tree, Line Drivers

2. In the *Line Driver* column of the *Line Drivers* window, select the newly created Connector from the pull-down list in the next open row (indicated with an asterisk).



UniversalConnector Line Drivers

3. If this will be an active Connector, click the checkbox next to the specific Connector.
4. Input any description, if preferred, in the **Description** field.
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Establish Properties

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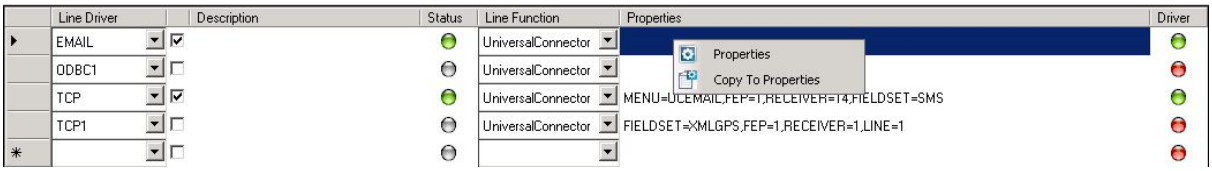
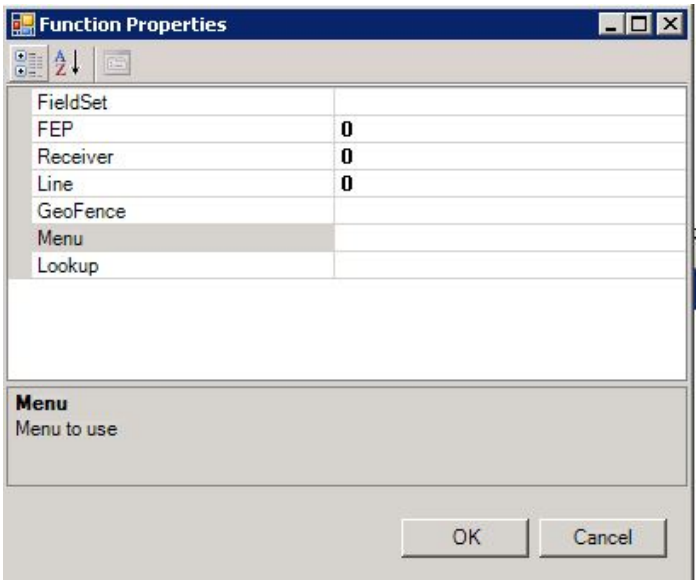


Line Driver Properties

2. Populate the necessary fields in the *Function Properties* window.



Function Properties

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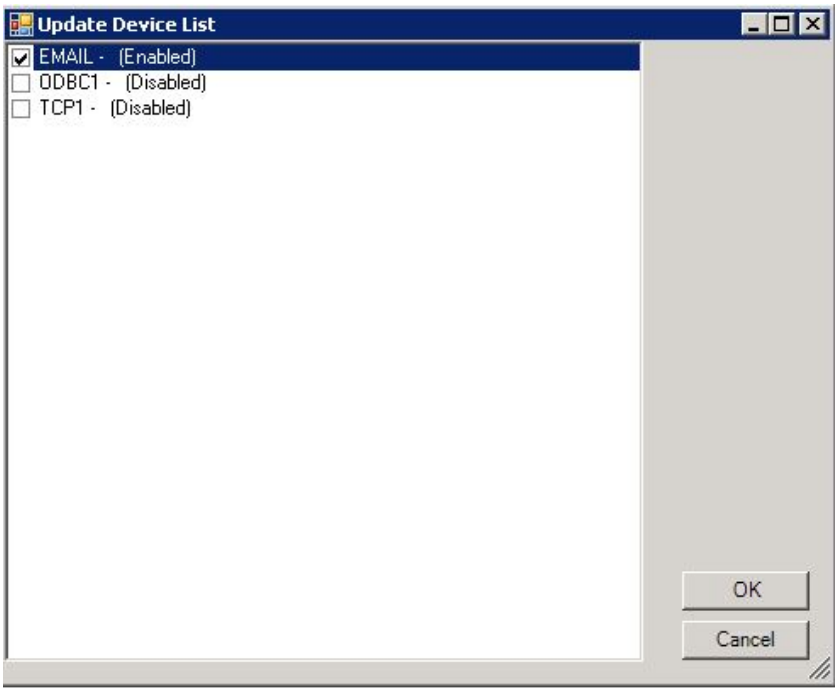
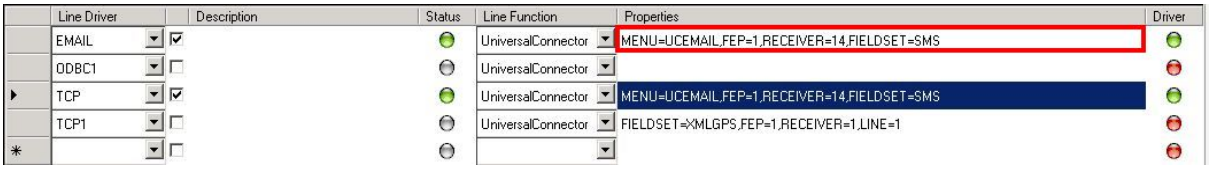
1. Click within the *Properties* field for the Line Driver to copy FROM.
2. Right-click and select the **Copy To Properties** option.



Copy To, Update Device List window

3. Upon opening, the *Update Device List* window lists and automatically checks any available Line Drivers. Uncheck any that will not need properties copied to them.
4. Once completed, click **OK**.
5. The newly copied properties should now show up in the *Properties* field for the Line Driver(s) specified.



Copied To Properties example

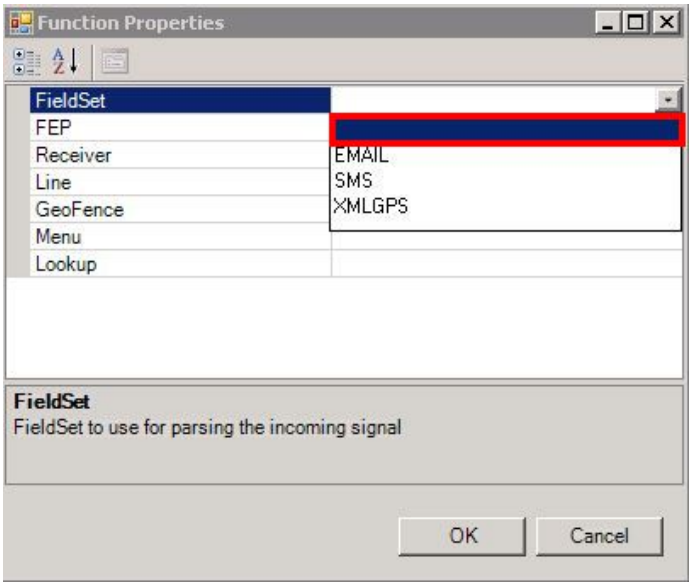
Remove Properties

Removing properties is a manual process.

1. Right-click in the Properties field for the appropriate Line Driver.

2. Select **Properties** from the drop-down menu.

3. Within the *Function Properties* window, click in each *Property* field and manually clear it out by either selecting the **blank** from the drop-down menu or using the **<Delete>** or **<Backspace>** key.



Function Properties window