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Bi-Directional UDP-TCP Transport for DRIP Commands CDS-9060G

The UDP (User Data gram Protocol) protocol is a one-to-one or a one-to-many, connectionless data transmission protocol.

Establishing Bi-Directional UDP-TCP from the CDS-9060G Unit to the Host

In order to establish Bi-Directional UDP-TCP, first you must have the destination I.P. address and UDP-TCP port programmed into the unit. Using a terminal program, first enter the event, destination I.P. address and Port. (Example below)

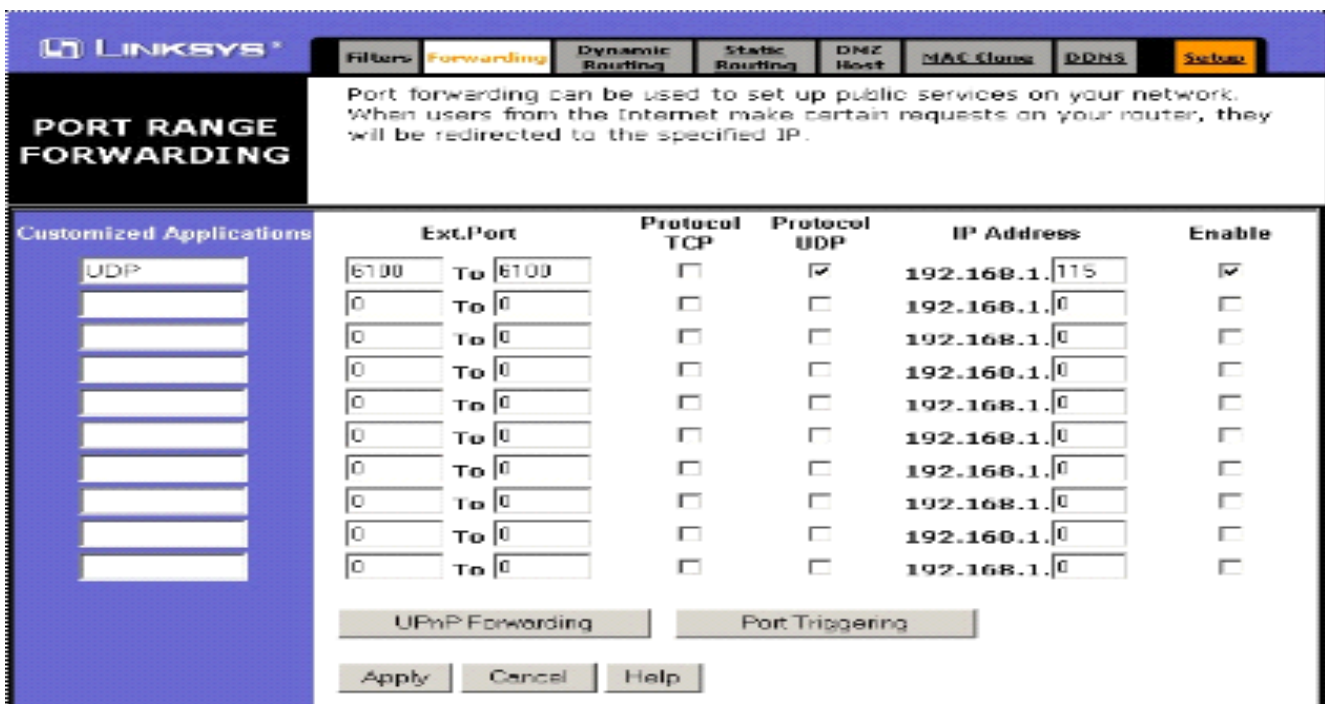
>SED00NV0;TD0+< (THIS IS THE EVENT TO BE PROGRAMED)

>SDA0U0206.72.65.192,6300<(THIS IS WHERE YOU ENTER THE MINUTES YOU WOULD LIKE TO KEEP BI-DIRECTIONAL COMMUNICATIONS ALIVE) (0= NO BI-DIRECTIONAL COMMUNICATIONS) (THIS IS WHERE YOU ENTER THE DESTINATION I.P. ADDRESS AND PORT NUMBER)

Once that the host has established a connection with the remote CDS-9060G unit: Bi-Directional UDP-TCP can be possible.

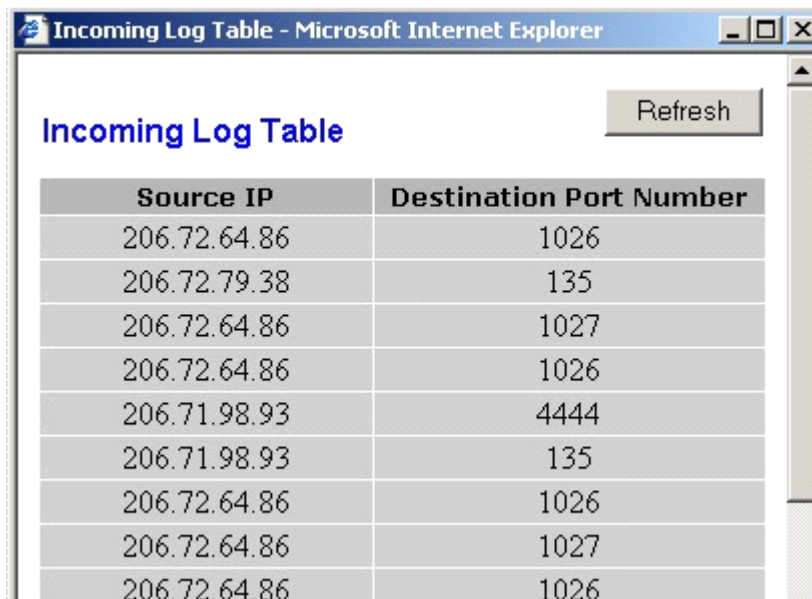
Establishing Bi-Directional UDP-TCP from the CDS-9060G to a Company LAN

Typically a connection within a LAN is setup behind a router. Normally to insure that the UDP-TCP packets are not blocked at the router (firewall) you must configure the router to open certain UDP-TCP ports and even forward the **Unidentified User Datagram Protocol** packet (UDP) to its destination desktop or servers LAN I.P. address.



This example shows a typical Linksys Routers port forwarding configuration within the routers' advanced options.

When Troubleshooting UDP-TCP transport the easiest way to determine if your LAN is actually receiving the incoming UDP-TCP packets, is to reference the routers incoming log and verify that the port you have chosen is in the destination port number in the log.



Source IP	Destination Port Number
206.72.64.86	1026
206.72.79.38	135
206.72.64.86	1027
206.72.64.86	1026
206.71.98.93	4444
206.71.98.93	135
206.72.64.86	1026
206.72.64.86	1027
206.72.64.86	1026

Once you have established that successful incoming UDP-TCP has in fact been referenced to your incoming routers log. Then, congratulations, it is now possible to accept and transmit DRIP commands via UDP-TCP. Please see the section “DRIP Cheat Sheet” in the user’s manual. This section deals with the various DRIP commands and events.

Establishing SMS Data Transfer

Short Message Service (SMS) is the transmission of short text messages to and from a mobile phone, fax machine and/or IP address. Messages must be no longer than 160 alpha-numeric characters and contain no images or graphics.

With the CDS-9060(G) it is also possible to configure the modem to send vital information via SMS. First the unit must be configured to send the events to a destination E-mail address.

Please see page 17 of the manual which Describes SMS setup.

Configuring the “DataRemote I.O. Processor” for GPS\AVL Applications

There are three main components used to identify and establish incoming UDP messages.

1. General Configuration (Incoming Data)

UDP-TCP Port is configured to identify the UDP-TCP port used by the CDS-9060G to transmit UDP-TCP.

Keep Alive Rate is configured when the host would like to talk bi-directionally with the CDS-9060G unit.

SMS/POP3/SMTP Configuration

USER NAME is the name that is configured for your email account.

Complete email address is the same as your email address

Check incoming mail is the interval of time that you would like the IO Processor check for new items.

Incoming Mail (POP3) is the name of your incoming mail server

Outgoing Mail (SMTP) is the name of your outgoing mail server.

Serial Configuration

Port # is used for a modem (circuit switched) outbound call. Baud Rate and Time out can be configured for your needs.

General Configuration

UDP Configuration (Port that will listen)

UDP Port: 7000

Keep Alive rate: Every 2 minutes

SMS/POP3/SMTP configuration

User Name (Pop3/SMTP):

Complete email address to include in "FROM":

Check incoming mail: None

Incoming Mail (POP3):

Outgoing Mail (SMTP):

Mail Host Password:

Serial Configuration

Port # (incoming): 1

Baud Rate: 2400

TimeOut (Seconds): 3

Ok Cancel

2. UNIT ID'S ALLOWED

Site Name is a name given to classify the modem

ID of Unit is the actual name given to the CDS-9060G and is the name entered into the DRIP command. It is set in the modem by entering >Sid (the name) < i.e. >sidRED< (the id is case sensitive).

After you have chosen the Site Name and ID of Unit press add. The unit will appear in the bottom field.

Site Name	Site ID
Schuyler's Desk	PURPLE
Schuyler's Car	RED
Miguel's Desk	brown

3. Schedule of Sites (Outbound Data)

UDP-TCP Schedule is intended for a CDS-9060G with a “*Statically Assigned IP Address.*”

Here is where you would input the assigned address of the modem as well as the port used for UDP-TCP and the frequency of transmitting.

SMS/SMTP Schedule is used to send a SMS message to the CDS-9060G unit. The address and frequency are configured here.

Serial Schedule is used to call the modem via a modem. Here you input the cellular phone number of the modem as well as the frequency of calls

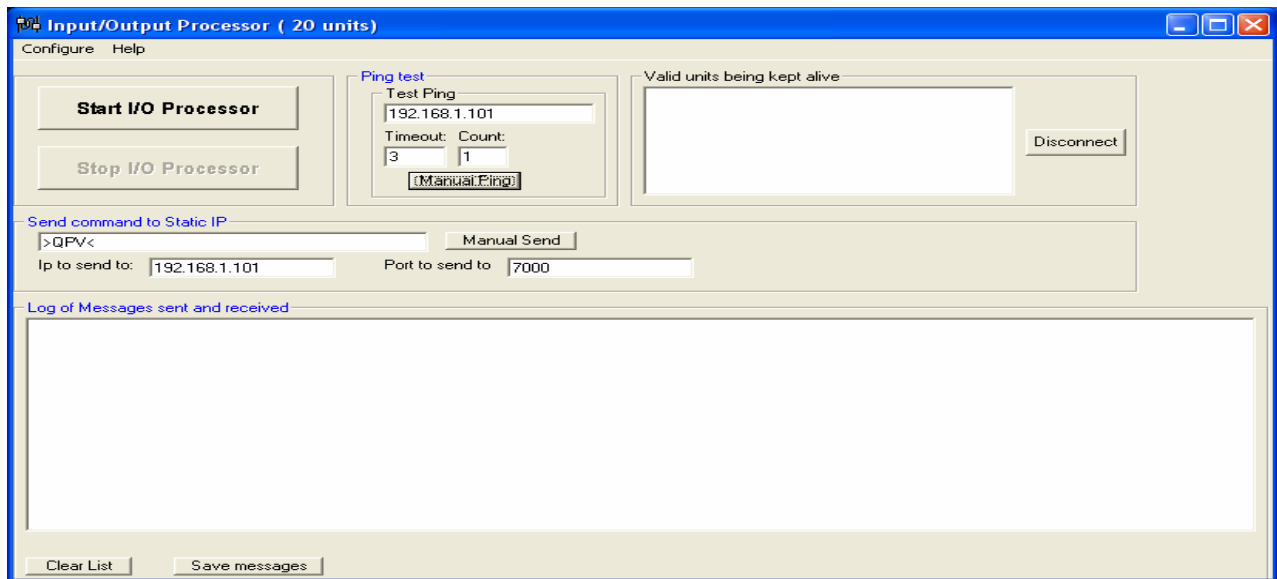
Site Name	UDP	SMS/SMTP	Serial
Schuyler's Desk	None/	None	None/
Schuyler's Car	None/	None	None/
Miguel's Desk	None/	None	None/

Main IO Processor Message Screen

Once that the IO Processor has been configured you would start IO Processor by pressing the “Start I/O Processor” button.

When incoming UDP-TCP messages arrive they will be displayed in the Log of messages sent and received. After the first UDP-TCP message arrives the user may input messages in the send command field to talk bi-directional to the CDS-9060G modem.

The messages are information used by the mapping software to give coordinates, speed, miles traveled, etc.



Configuring the CDS-9060 for straight through UDP-TCP Transmitting

The CDS-9060 can only use the UDP function on the 1XRT2000 network; therefore it is necessary that the service provider has setup your account to take advantage of the 1X network. Many different applications can benefit from straight through UDP such as AMR, SCADA, Telemetry, and more.

In the configuration menu of the CDS-9060 choose option "I" *REPROGRAM ALARM INFORMATION*. Here is an example of how to setup the ALARM SETUP MENU (these menu items may vary depending on which provider you choose). (This example is based on Verizon Wireless).

ALARM SETUP MENU

(These items are required to establish a connection on the 1x Network)

PPP Connect Number: #777

PPP User Name: 8057945819@vzw3g.com

PPP Password: vzw

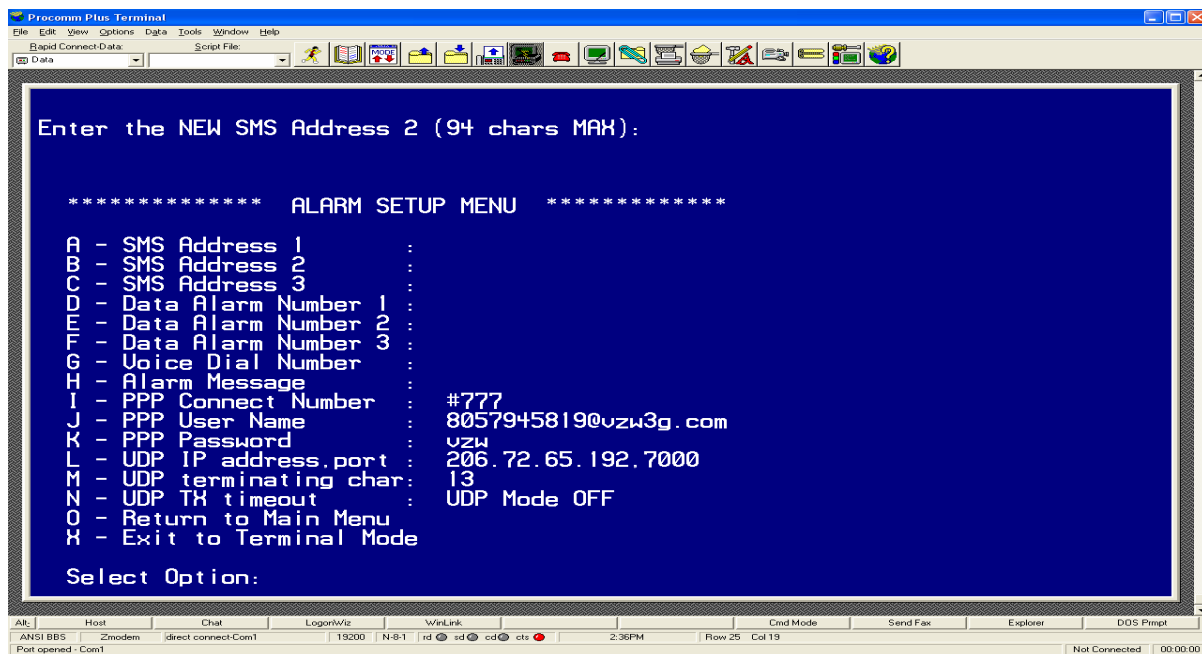
These items are used for straight thru UDP-TCP Transmitting

UDP-TCP IP address, port: 206.72.65.192,7000 (The Host side/destination IP and UDP-TCP Port)

UDP-TCP terminating char: Amount of characters entered before a new line of data is entered.

Terminating Character is a DEC ASCII Number. For example 10 = LF 13 = CR, ETC.

UDP-TCP TX timeout: Amount of time before the data is automatically transmitted. This is configured in .1 seconds.



```
Procomm Plus Terminal
File Edit View Options Data Tools Window Help
Rapid Connect Data: Script File:
Data

Enter the NEW SMS Address 2 (94 chars MAX):

***** ALARM SETUP MENU *****

A - SMS Address 1      :
B - SMS Address 2      :
C - SMS Address 3      :
D - Data Alarm Number 1 :
E - Data Alarm Number 2 :
F - Data Alarm Number 3 :
G - Voice Dial Number  :
H - Alarm Message      :
I - PPP Connect Number : #777
J - PPP User Name      : 8057945819@vzw3g.com
K - PPP Password       : vzw
L - UDP IP address.port : 206.72.65.192.7000
M - UDP terminating char : 13
N - UDP TX timeout     : UDP Mode OFF
O - Return to Main Menu
X - Exit to Terminal Mode

Select Option:
```