GS2065/TL265GS Technical Guide

ALEXOR

THE POWER OF SPEED

DSC

GS2065 – Overview

Overview:
The GS2065 provides primary or backup GSM/GPRS communication for the PC9155 2-way wireless security suite

Specifications:
- Dimensions : 3.937"x5.875"x0.625" (100mmx150mmx15mm)
- Weight : 68 g
- Input Voltage : 10 to 13.8 V (from the PC-Link header)
- Current Draw : 100 mA at 12V (400 mA during the GSM transmission)
- Operating Environment : 40 to 104 F (5 to 40 C)

Features:
- Backup and primary GSM/GPRS alarm communication
- Panel remote uploading/downloading support via GSM/GPRS
- Supervision heartbeats via GSM/GPRS
- 128-bit AES encryption over GSM/GPRS
- Full event reporting
- SIA format
- PC-Link connection
- SIM card included
- Signal strength and trouble display
- Activating and initializing through Connect 24
- Quad-Band: 850 MHz, 1900 MHz, 900 MHz and 1800 MHz

Compatible Receivers:
- Sur-Gard System I Receiver: version 1.10 and higher
- Sur-Gard System II Receiver: version 2.00 and higher
- Sur-Gard SG-DRL3-IP: version 2.20 and higher (for Sur-Gard System III Receiver)

Product Model and Accessories:
- GS2065GS-USA: For US market with SIM card
- GS2065GS-CDN: For Canada market with SIM card
- GS-15ANTQ: Antenna Extension Kits with 15 feet cable
- GS-25ANTQ: Antenna Extension Kits with 25 feet cable
- GS-50ANTQ: Antenna Extension Kits with 50 feet cable

THE POWER OF SPEED

ALEXOR

TL265GS

Overview:
The TL265GS is an Internet and GSM/GPRS Dual-Path alarm communicator for the PC9155 2-way wireless security suite

Specifications:
- Dimensions : 3.937"x5.875"x0.75" (100mmx150mmx18mm)
- Weight : 78 g
- Input Voltage : 10 to 13.8 V (from the PC-Link header)
- Current Draw : 100 mA at 12V (400 mA during the GSM transmission)
- Operating Environment : 40 to 104 F (5 to 40 C)

Features:
- Fully redundant Internet and GSM/GPRS dual-path alarm communication
- Integrated call routing
- Panel remote uploading/downloading support via GSM/GPRS and Internet
- Supervision heartbeats via GSM/GPRS and Internet
- 128-bit AES encryption via GSM/GPRS and Internet
- Full event reporting
- SIA format
- PC-Link connection
- SIM card included
- Signal strength and trouble display
- Activating and initializing through Connect 24
- Quad-Band: 850 MHz, 1900 MHz, 900 MHz and 1800 MHz

Compatible Receivers:
- Sur-Gard System I Receiver: version 1.10 and higher
- Sur-Gard System II Receiver: version 2.00 and higher
- Sur-Gard SG-DRL3-IP: version 2.20 and higher (for Sur-Gard System III Receiver)

Product Model and Accessories:
- TL265GS-USA: For US market with SIM card
- TL265GS-CDN: For Canada market with SIM card
- GS-15ANTQ: Antenna Extension Kits with 15 feet cable
- GS-25ANTQ: Antenna Extension Kits with 25 feet cable
- GS-50ANTQ: Antenna Extension Kits with 50 feet cable

THE POWER OF SPEED

ALEXOR

Table of Contents

Section 1 – Application Information

Section 2 – Installation

Section 3 – DLS IV Configuration (SMS/IP)

GS2065/TL265GS Application Information

Application List

GS2065
GPRS Only Communications
GPRS Backup Communications*
GPRS Redundency Communications*
*POTS may be used with all listed applications

TL265GS
GPRS/IP Only Communications
GPRS/IP Backup Communications*
GPRS/IP Redundency Communications*
*POTS may be used with all listed applications

TL265GS - IMPORTANT NOTE:
When using the TL265GS, both GPRS and IP settings must be configured. This module does not support GPRS only or IP only applications.

TL265GS Application Programming

Primary and Backup (2 Receivers) - 1 Backup Path

Application	Section [301]	Section [302]	Section [303]	Section [305]	Sections [351-376]	Section [383]
Primary - Path#1 **1st Backup** - Path#2	Path#1 Option	Path#2 Option			Option#1 ON	Option#2 ON

Path Options:

Ethernet Receiver#1 - DCBB, **Ethernet Receiver#2** - DCCC

GPRS Receiver#1 - DCDD, **GPRS Receiver#2** - DCEE

Program the respective phone number as per the desired path

Note: One path must be IP and the other GPRS

Primary and Backup (2 Receivers) - 2 Backup Paths

Application	Section [301]	Section [302]	Section [303]	Section [305]	Sections [351-376]	Section [383]
Primary - Path#1 **1st Backup** - Path#2 **2nd Backup -** Path#3	Path#1 Option	Path#2 Option	Path#3 Option		Option#1 ON	Option#2,3 ON

Path Options:

POTS - Telephone Number

Ethernet Receiver#1 - DCBB, **Ethernet Receiver#2 -** DCCC

GPRS Receiver#1 - DCDD, **GPRS Receiver#2 -** DCEE

Program the respective phone number as per the desired path

Note: A minimum of one path must be programmed for IP and another for GPRS

Primary and Backup (4 Receivers) - 3 Backup Paths

Application	Section [301]	Section [302]	Section [303]	Section [305]	Sections [351-376]	Section [383]
Primary - Path#1 **1st Backup** - Path#2 **2nd Backup -** Path#3 **3rd Backup -** Path#4	Path#1 Option	Path#2 Option	Path#3 Option	Path#4 Option	Option#1 ON	Options#2, 3, 4 ON

Path Options:

POTS - Telephone Number

Ethernet Receiver#1 - DCBB

Ethernet Receiver#2 - DCCC

GPRS Receiver#1 - DCDD

GPRS Receiver#2 - DCEE

Program the respective phone number as per the desired path

THE POWER OF SPEED

ALEXOR

TL265GS Application Programming

Redundancy (2 Receivers)

Application	Section [301]	Section [302]	Section [303]	Section [305]	Sections [351-376]	Section [383]
1st Signal - Path#1 2nd Signal - Path#2	Path#1 Option	Path#2 Option			Options #1, 2 ON	Options 2-4 OFF

Path Options:

Ethernet Receiver#1 - DCBB, **Ethernet Receiver#2 -** DCCC

GPRS Receiver#1 - DCDD, **GPRS Receiver#2 -** DCEE

Program the respective phone number as per the desired path

Note: One path must be IP and the other GPRS

Redundancy (4 Receivers)

Application	Section [301]	Section [302]	Section [303]	Section [305]	Sections [351-376]	Section [383]
1st Signal - Path#1 2nd Signal - Path#2 3rd Signal - Path#3 4th Signal - Path#4	Path#1 Option	Path#2 Option	Path#3 Option	Path#4 Option	Options #1 - 4 ON	Options 2-4 OFF

Path Options:

POTS - Telephone Number

Ethernet Receiver#1 - DCBB

Ethernet Receiver#2 - DCCC

GPRS Receiver#1 - DCDD

GPRS Receiver#2 - DCEE

Program the respective phone number as per the desired path

GS2065 Application Programming

GPRS Only

Application	Section [301]	Section [302]	Section [303]	Section [305]	Sections [351-376]	Section [383]
Primary - Path#1 **Backup** - Path#2	Path#1 Option	Path#2 Option			Option 1 On	Options 2-4 OFF

Path Options:

GPRS Receiver#1 - DCDD

GPRS Receiver#2 - DCEE

Program the respective phone number as per the desired path

Primary and Backup (2 Receivers)

Application	Section [301]	Section [302]	Section [303]	Section [305]	Sections [351-376]	Section [383]
Primary - Path#1 **1st Backup** - Path#2 **2nd Backup** - Path#3	Path#1 Option	Path#2 Option	Path#3 Option		Option 1 On	Option 2, 3 ON

Path Options:

POTS - Telephone Number

GPRS Receiver#1 - DCDD

GPRS Receiver#2 - DCEE

Program the respective phone number as per the desired path

When using one backup path, Path#3 entry not required and disable Option#3(set to OFF), Section [383]

Redundency (3 Receivers)

Application	Section [301]	Section [302]	Section [303]	Section [305]	Sections [351-376]	Section [383]
1st Signal - Path#1 **2nd Signal** - Path#2 **3rd Signal** - Path#3	Path#1 Option	Path#2 Option	Path#3 Option		Option 1 On	Options 2-4 OFF

Path Options:

POTS - Telephone Number

GPRS Receiver#1 - DCDD

GPRS Receiver#2 - DCEE

Program the respective phone number as per the desired path

When using one redunency path, Path#3 entry not required

ALEXOR

THE POWER OF SPEED

Installation – GS2065/TL265GS

BEFORE YOU BEGIN

Have the following ready before installation:

- Control panel backup battery
- Battery connection harness
- Batteries for WT5500 2-way wireless keypad
- Screwdriver

Prior to installing a GS2065 and TL265GS, contact your monitoring station to determine if it is a master reseller or visit www.connect24.com and become an authorized dealer. In both instances, you will acquire a Profile Number, Installer ID Number and an Installer Password.

PLEASE NOTE: You need to activate the SIM card and initialize the communicator 24 HOURS BEFORE INSTALLATION (Steps 1).

Summary of Installation Steps

Step 1 – Initialize an account via Connect 24 Website (www.connect24.com)

Step 2 – Install and wire the communicator to the control panel (on-site)

Step 3 – Load the programming and test for best signal strength location

Step 4 – Program communication options on the control panel via keypad

Step 5 – Test communicator

Step 1

Step 1 – Initialize an account via Connect 24 Website (www.connect24.com)

Login to Connect 24 website by using Installer ID and Password and initialize an account
- Select Profile Number
- Select Product Module
- Enter SIM card number
- Enter DNIS number*
- Enter Account Code
- Select Supervisory Type*
- Enable DHCP*
- Enter IP Address**
- Enter Subnet Mask Address**
- Enter Gateway Address (TL260GS/TL265GS only)
- Select Rate Plan
- Confirm information and submit activation application   * if necessary

Step 1

Step 1 – 1

- Select Profile Number

GS2065/TL265GS Installation – Connect 24

Step 1

Step 1 – 2

- Select Product Module

Select Module Number

THE POWER OF SPEED

ALEXOR

Step 1

Step 1 – 3

- Enter SIM card number

Enter SIM Number

Step 1

Step 1 – 4

- Enter DNIS number (if necessary)
- Enter Account Code
- Select Supervisory Type (if necessary)
- Enable DHCP (if necessary)

Note: If DHCP is not selected, manual entries of the IP Address, Subnet Mask Address and Gateway Address are required (next page).

Enter DNIS

Enter Account Code

DHCP Option

Select Supervisory Type

Step 1

Step 1 – 5 (only available if DHCP is not selected)

- Enter IP Address (TL265GS only)
- Enter Subnet Mask Address (TL265GS only)
- Enter Gateway Address (TL265GS only)

GS2065/TL265GS Installation – Connect 24

Step 1

Step 1 – 6

• Select Rate Plan

Rate Plan

THE POWER OF SPEED
ALEXOR

Step 2

Step 2 – Install and wire the communicator to the control panel (on-site)

GS2065/TL265GS: See details in product manual for PC9155 control panel

THE POWER OF SPEED
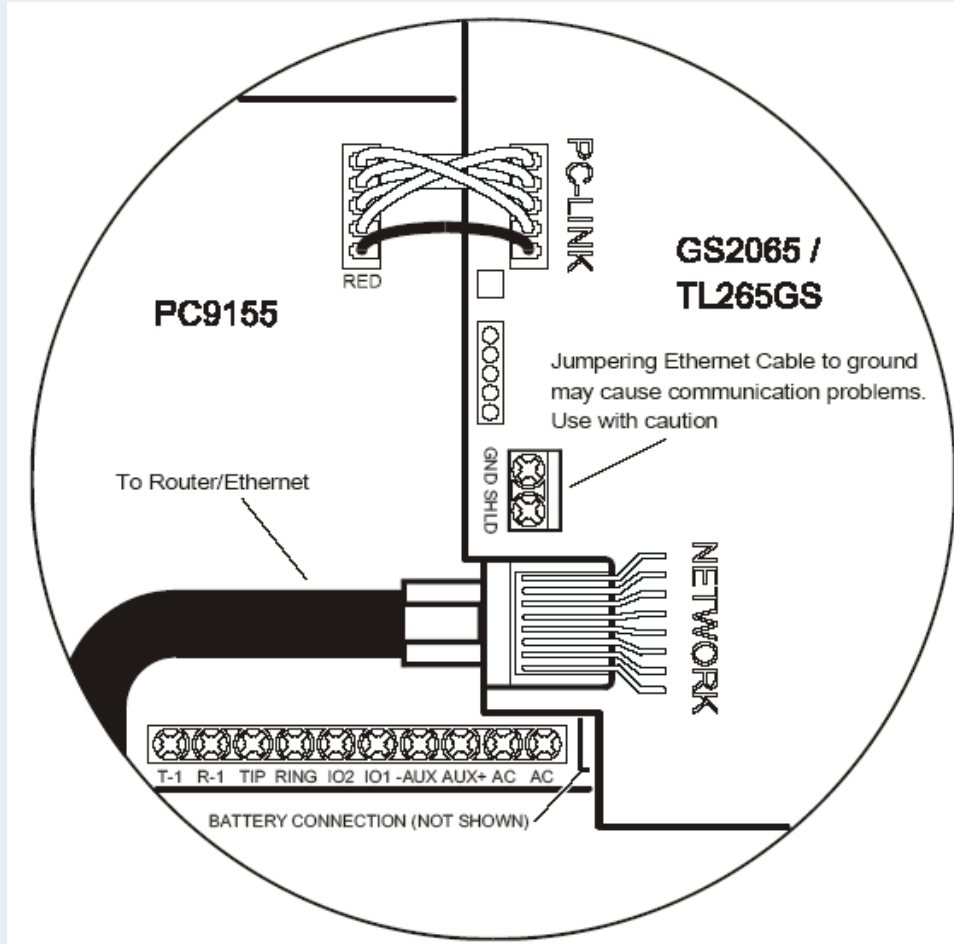
ALEXOR

Step 3

Step 3 – Load the programming and test for best signal strength location

Ensure the SIM card is inserted
Power up the control panel

The communicator will be programmed by loading the pre-programmed configuration from Connect 24 automatically

Check Green LEDs. You must achieve full or medium signal strength. See details in product manual
If signal strength is poor, must relocate the control panel or use an external extension antenna kit

THE POWER OF SPEED

ALEXOR
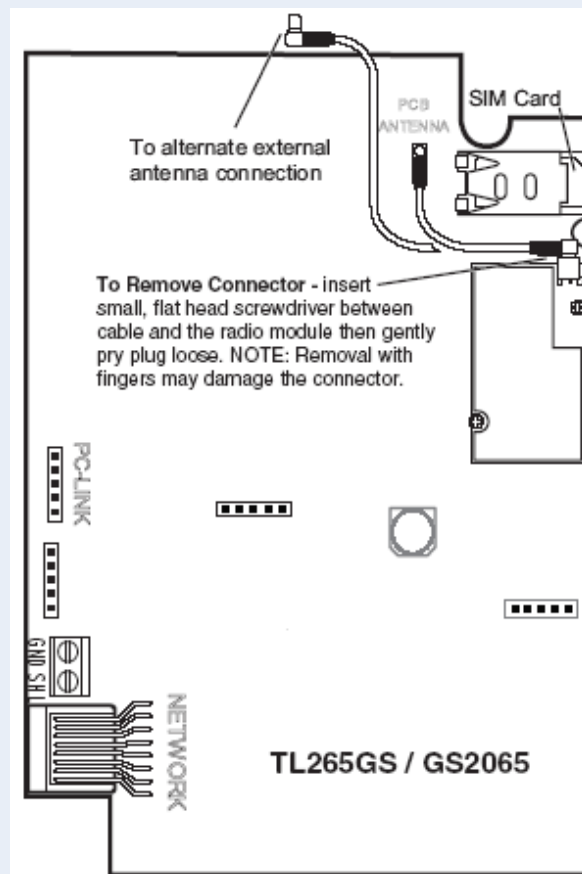
Step 4

Step 4 – Program communication options on the control panel via keypad

GS2065/TL265GS with PC9155 control panel
- o [301], [302], [303], [305]   Program Communication Path
  - DCAA - Internal (Ethernet 1, Ethernet 2, GPRS 1, GPRS 2)
  - DCBB - Ethernet Receiver 1
  - DCCC - Ethernet Receiver 2 (backup)
  - DCDD - GPRS Receiver 1
  - DCEE - GPRS Receiver 2 (backup)

- o [350] option: Program Communication Format (Communicator)
  - (If Option [301] (above) is set to DCAA, Option [350] must be set to SIA, sub-option 5)

- o [351] to [376] options: Program Call Direction
- o [382] option: Enable T-LINK Interface (Option [5])
- o [383] option: Program Back up Communication
- o [167] option: Enable Communication Wait For ACK (Set to 60 seconds)
- o [401] option: Enable DLS Session Through GPRS or Ethernet (Option [1])

Step 5

Step 5 – Test communicator

1. Disconnect incoming phone line from TIP and RING on the control panel
2. Verify that LED 2 is on, this indicates that the unit is active
3. Create an alarm transmission
4. Verify alarm transmission by calling monitoring station
5. Re-connect the phone line, if necessary

For back-up communication applications, perform steps 1 to 5
For primary communication applications, perform steps 3 and 4 only

THE POWER OF SPEED

ALEXOR

Communicator Controlled Call Routing

– Backup (dual-path)
– Redundant (dual-path)

Required Programming

Panel Sections [301], [302],[303] and [305] (Control Panel Programming)
• Any of them could be programmed as DCAA

Communicator Sections [005] (Communicator Module Programming)
Option [4] - Primary and backup path
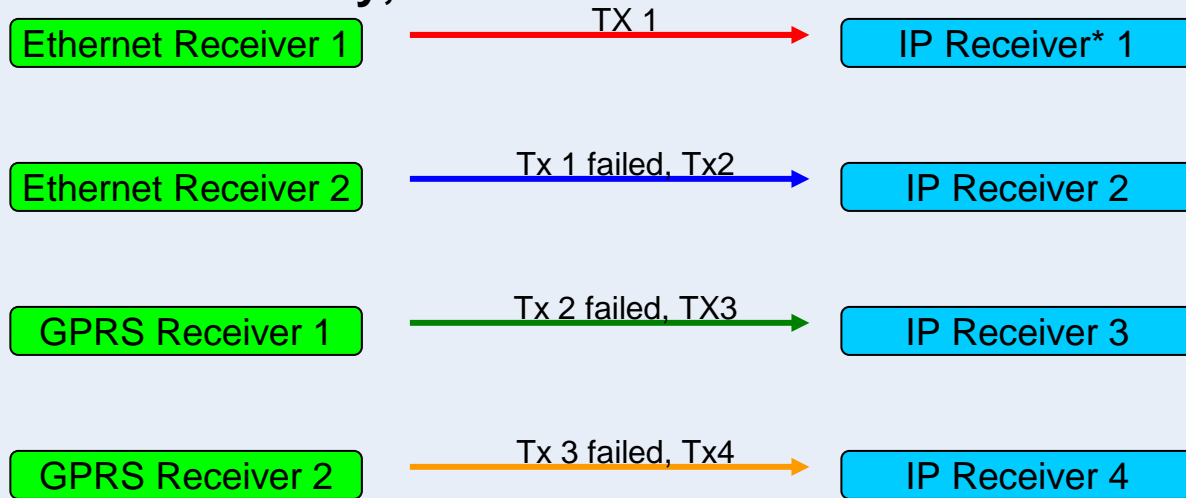[ON]: GPRS path primary, Ethernet path backup
[OFF]: Ethernet path primary, GPRS path backup

Option [5] - Redundant between GPRS path and Ethernet path
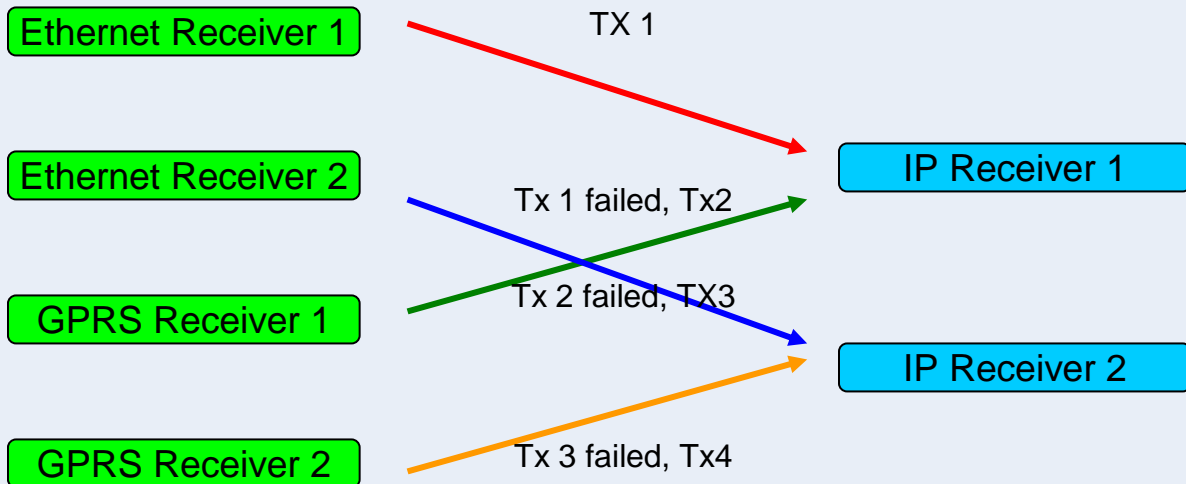[OFF]: Disable redundancy
[ON]: Enable redundancy
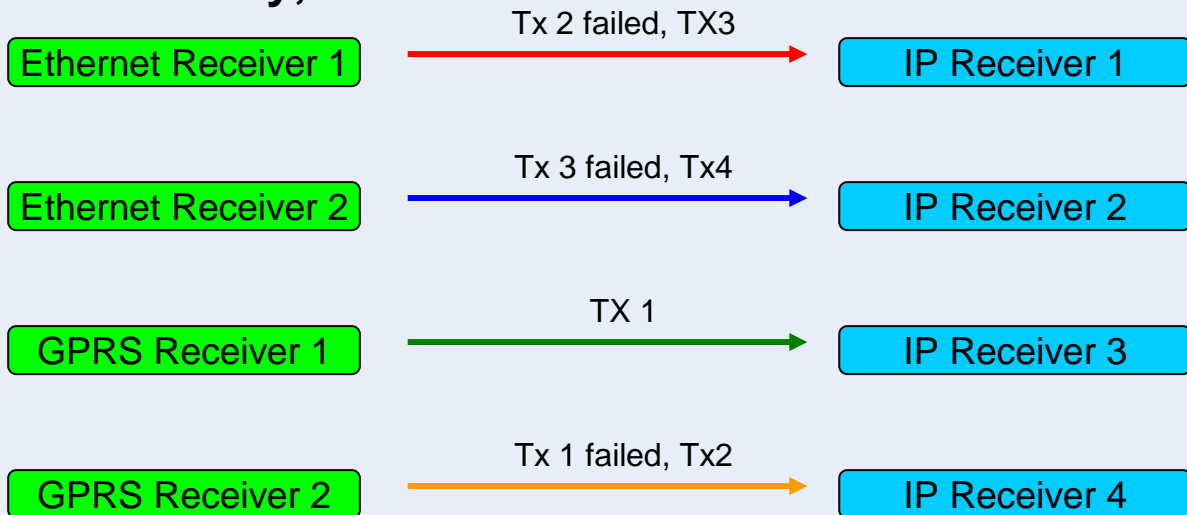
Backup Mode 1:
Ethernet Primary, 4 Receivers

Ethernet Receiver 1	TX 1 →	IP Receiver* 1
Ethernet Receiver 2	Tx 1 failed, Tx2 →	IP Receiver 2
GPRS Receiver 1	Tx 2 failed, TX3 →	IP Receiver 3
GPRS Receiver 2	Tx 3 failed, Tx4 →	IP Receiver 4

THE POWER OF SPEED
ALEXOR

GS2065/TL265GS Installation – Programming

Backup Mode 2:
Ethernet Primary, 2 Receivers

Ethernet Receiver 1	TX 1
Ethernet Receiver 2	IP Receiver 1
	Tx 1 failed, Tx2
GPRS Receiver 1	Tx 2 failed, TX3
	IP Receiver 2
GPRS Receiver 2	Tx 3 failed, Tx4

Backup Mode 3:
GPRS Primary, 4 Receivers

	Tx 2 failed, TX3	
Ethernet Receiver 1		IP Receiver 1
	Tx 3 failed, Tx4	
Ethernet Receiver 2		IP Receiver 2
	TX 1	
GPRS Receiver 1		IP Receiver 3
	Tx 1 failed, Tx2	
GPRS Receiver 2		IP Receiver 4

THE POWER OF SPEED

ALEXOR

GS2065/TL265GS Installation – Programming

Backup Mode 4:
GPRS Primary, 2 Receivers

Ethernet Receiver 1	Tx 2 failed, TX3	IP Receiver 1
Ethernet Receiver 2	TX 1	
GPRS Receiver 1	Tx 3 failed, Tx4	IP Receiver 2
GPRS Receiver 2	Tx 1 failed, Tx2	
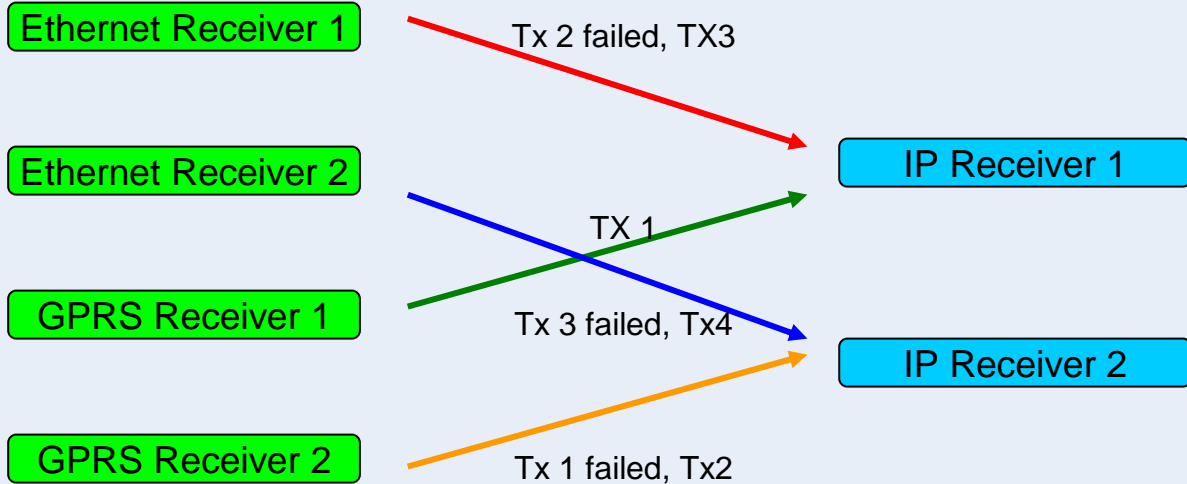
Redundant Mode 1: 4 Receivers
– (Redundancy between GSM/GPRS path and Ethernet/Internet path)

Ethernet Receiver 1	TX 1, Ethernet path	IP Receiver 1
Ethernet Receiver 2	TX1 failed, TX 2 via Ethernet path	IP Receiver 2
GPRS Receiver 1	TX1, GPRS path	IP Receiver 3
GPRS Receiver 2	TX 1 failed, TX 2 via GPRS path	IP Receiver 4
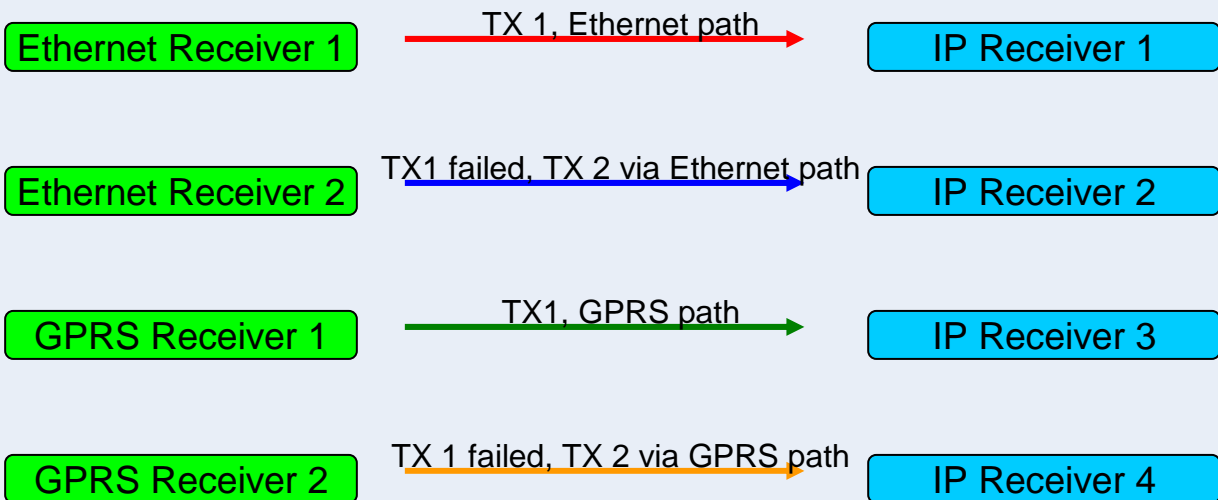
Redundant Mode 2: 2 Receivers
– (Redundancy between GSM/GPRS path and Ethernet/Internet path)

Ethernet Receiver 1

TX 1, Ethernet path

Ethernet Receiver 2

IP Receiver 1

TX1, GPRS path

GPRS Receiver 1

TX1 failed, TX 2 via Ethernet path

IP Receiver 2

GPRS Receiver 2

TX 1 failed, TX 2 via GPRS path

THE POWER OF SPEED

ALEXOR

PC9155 Panel Controlled Call Routing

Backup (triple-path)
- Panel section [383] – Options [2],[3] and [4] enabled
- Panel section [380], Option [6] disabled

Redundant (triple-path)
- Panel sections [351] – [376] Options enabled

Alternate (triple-path)
- Panel section [380] – Option [6] enabled

Required Programming
Panel Sections [301], [302],[303] and [305]
- Phone #: Phone number of the receiver (POTS)
- DCBB: Ethernet Receiver 1
- DCCC: Ethernet Receiver 2
- DCDD: GPRS Receiver 1
- DCEE: GPRS Receiver 2

PC9155 Panel Controlled Call Routing
–Backup: Panel Section [383] – Options [2],[3] and [4] enabled

Example

[301]	1-800-xxxxxxx
[302]	D C B B
[303]	D C C C
[305]	D C D D

Phone Line path — TX 1 → Phone Line Receiver 1

Ethernet Receiver 1 — Tx 1 5 failures, Tx2 → IP Receiver 1

Ethernet Receiver 2 — Tx 2 5 failures, Tx3 → IP Receiver 2

GPRS Receiver 1 — Tx 3 5 failures, Tx4 → IP Receiver 3
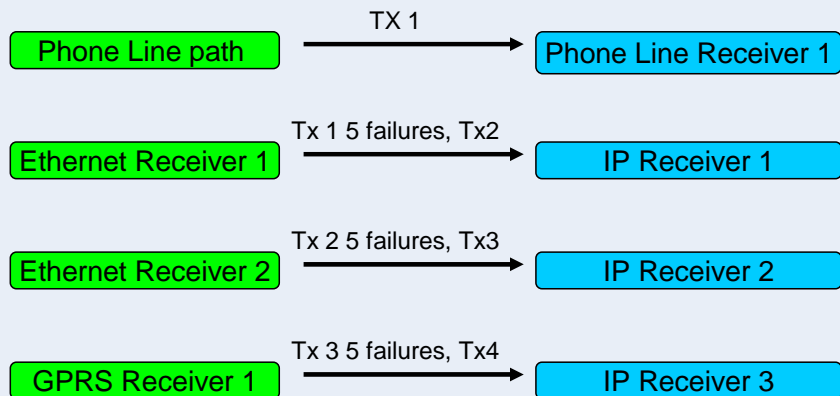
GS2065/TL265GS Installation – Programming

PC9155 Panel Controlled Call Routing
–Redundant: Panel Sections [351] – [376] Options enabled
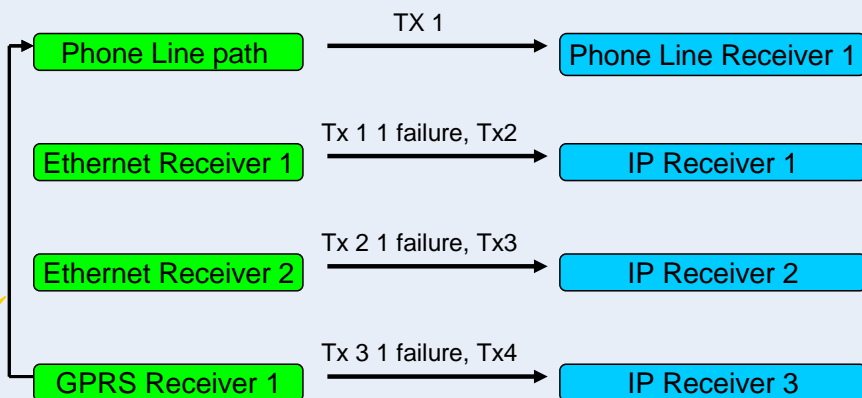
Example

[301]	1-800-xxxxxxx
[302]	D C B B
[303]	D C C C
[305]	D C D D

Phone Line path	TX 1 →	Phone Line Receiver 1
Ethernet Receiver 1	TX 1 →	IP Receiver 2
Ethernet Receiver 2	TX 1 →	IP Receiver 3
GPRS Receiver 1	TX 1 →	IP Receiver 4
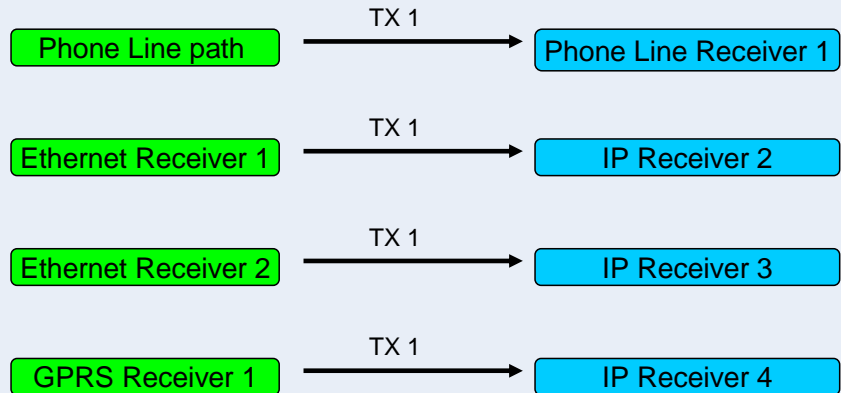
PC9155 Panel Controlled Call Routing
–Alternate: Panel section [380] – Option [6] enabled

Example

[301]	1-800-xxxxxxx
[302]	D C B B
[303]	D C C C
[305]	D C D D

Phone Line path	TX 1 →	Phone Line Receiver 1
Ethernet Receiver 1	Tx 1 1 failure, Tx2 →	IP Receiver 1
Ethernet Receiver 2	Tx 2 1 failure, Tx3 →	IP Receiver 2
GPRS Receiver 1	Tx 3 1 failure, Tx4 →	IP Receiver 3

5 rounds total

GS2065/TL265GS
SMS Initiated Communications to DLS IV

ALE✗OR

THE POWER OF SPEED

DSC
A Tyco International Company

DLS IV – SMS Initiated Transmissions

Transmission Overview:

When performing SMS initiated communications (to communicate via GPRS (GS2065 or TL265GS) or IP (TL265GS only), the following will occur:
- DLS IV will send a request transmission to Connect 24
- Connect 24 will authenticate the username/password entered for the account
- Connect 24 will then send an SMS message to the communicator to initiate a DLS session

>   GS2065 – the communication path between the module and DLS IV will take place over the GPRS network
>   TL265GS – the communication path between the module and DLS IV will be based on the method configured as the primary receiver (IP or GPRS).

Port Information:

DLS IV's local network port (**Port 51004**) must be opened to accept TCP traffic for any incoming connections.

The following must be performed:
- the router must be configured to forward Port 51004 to Port 51004 of the DLS IV computer
- the DLS IV computer firewall must be set to allow incoming connections to Port 51004
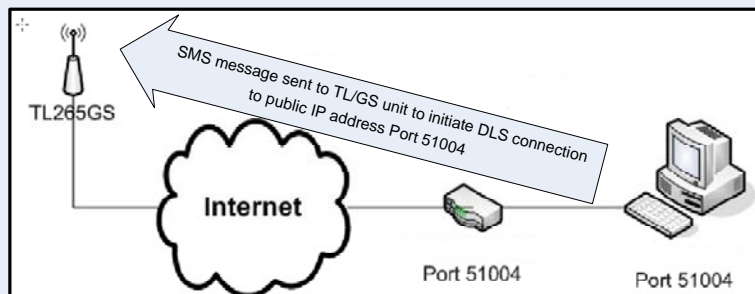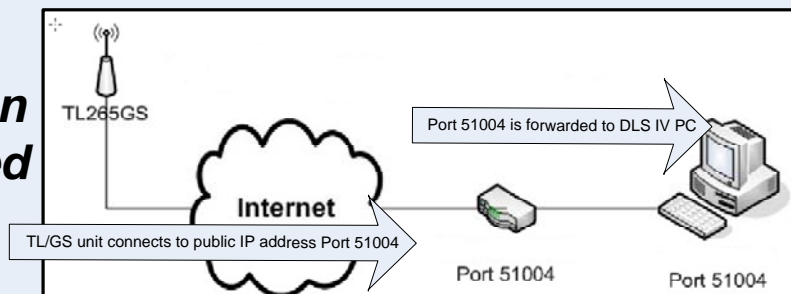
DLS IV – SMS Initiated Transmissions

Port Translation – Multiple DLS IV Computers Behind 1 Firewall

As indicated, when performing an SMS initiated communication, DLS IV will always use port 51004 as the listing port on the PC. When there are multiple computers on the same network running DLS IV, 'Port Translation' is required.

Port Translation maps an external port on a router to a different port on a PC.

Example:
The configuration to the below includes 3 computers running DLS IV.

The router has been configured as follows:
- Each computer assigned with a different internal IP address
- Each computer listening to internal Port 51004
- Each internal IP address mapped to a different external port

External Port	Internal IP	Internal Port
8881	192.168.1.2	51004
8882	192.168.1.3	51004
8883	192.168.1.4	51004

Note: the ports 8881 -8883 were chosen arbitrarily, you can select any unused ports
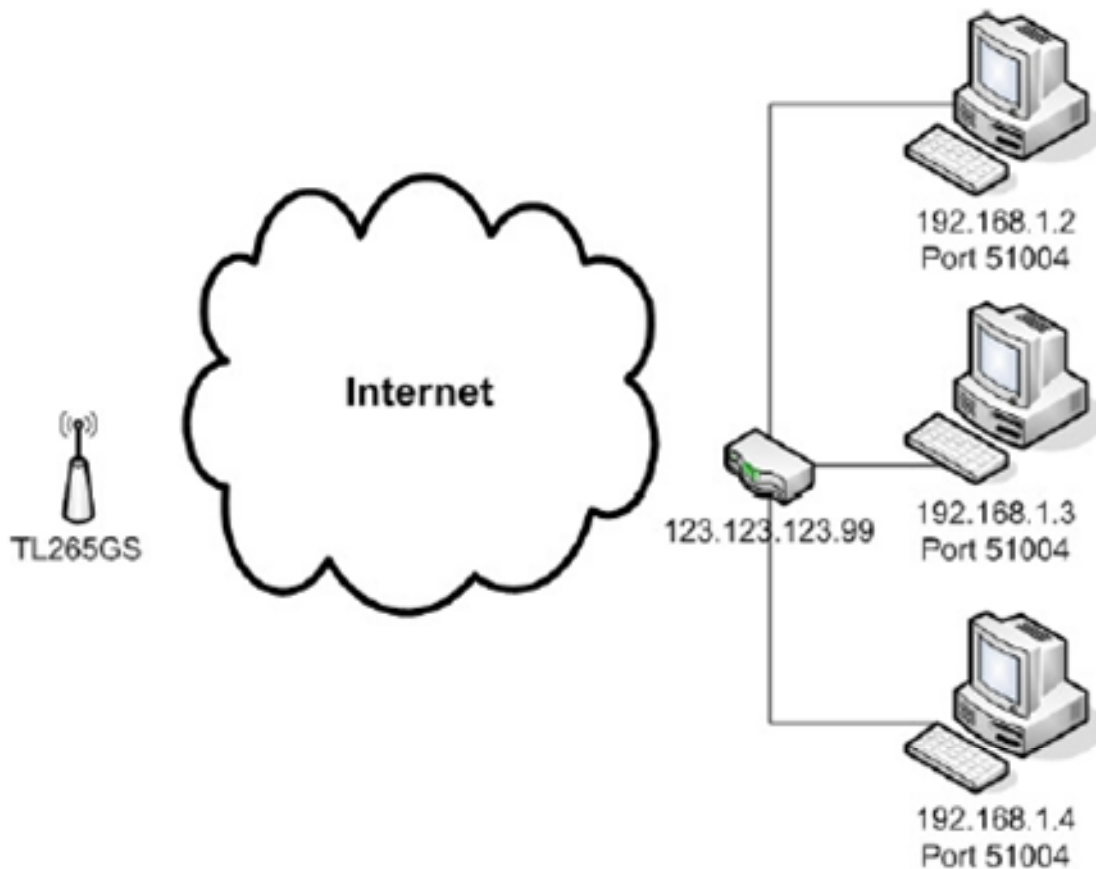
TL265GS

Internet

123.123.123.99

192.168.1.2
Port 51004

192.168.1.3
Port 51004

192.168.1.4
Port 51004

DLS IV – SMS Initiated Transmissions

Port Translation – Multiple DLS IV Computers Behind 1 Firewall (Continued)
Step-by-step setup

Step 1 – Router/IP Configuration
• Each DLS IV computer must be assigned with a different internal IP address
• Each internal IP address must be configured to listen to Port 51004 (DLS IV Port)
• Each internal IP address must be mapped to a different Port
• Ensure that each internal IP is mapped to a different external Port and forwarded to the correct Public IP address

Step 2 – Change the account port number
Access the account 'Advance' properties and change the default external port number
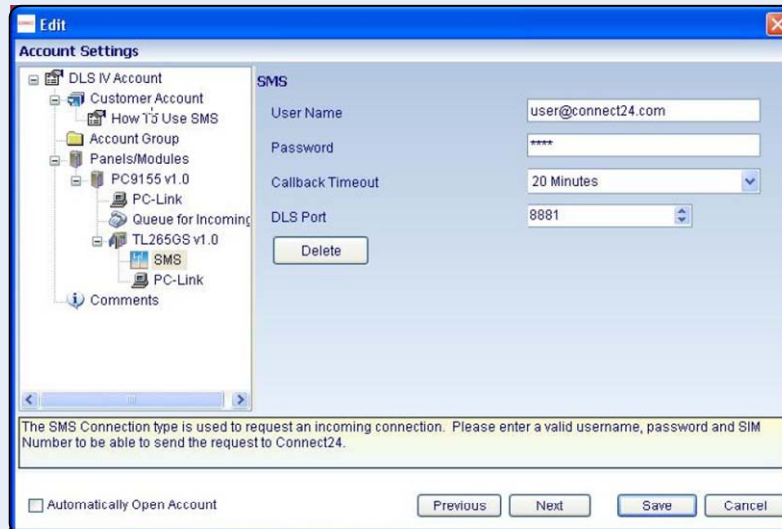
Step 3 – Submitting a Job (Upload/Download)

Ensure that the Public IP address and DLS Port (External Port) are correct
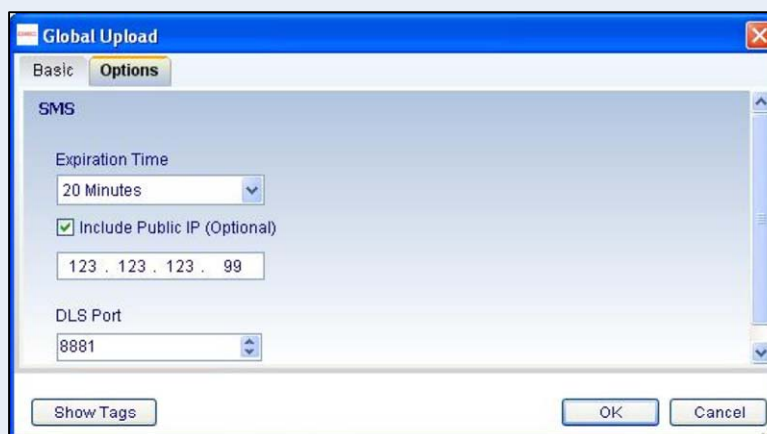
Setup – SMS Initiation DLS IV Session

Summary of setup procedure:

Step 1 – Add SMS as the 'Connection Type'

Step 2 – Program the SIM card number

Step 3 – Initiate a DLS session (i.e. upload/download)

Step 4 – Select 'SMS' as the connection method in the options window
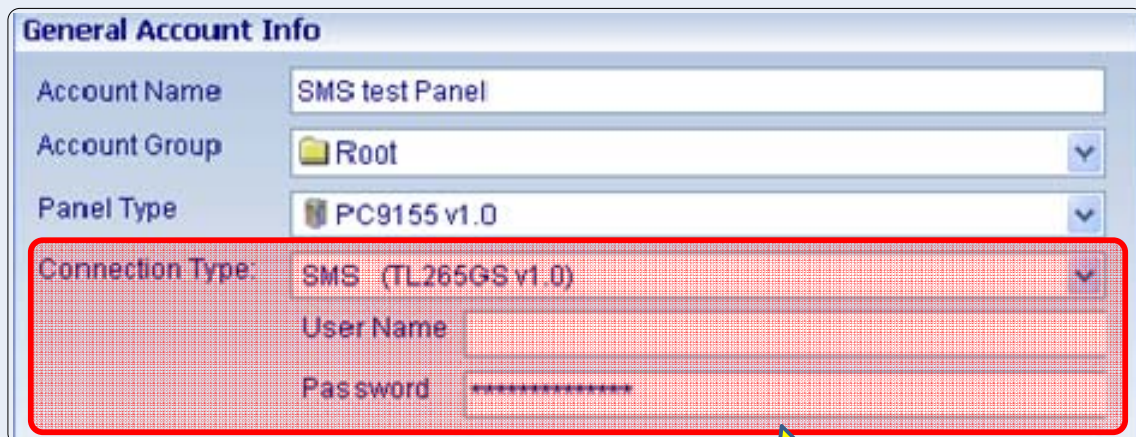
Step 5 – Wait for the connection to be established

Detailed Setup Procedure

Step 1 – Add SMS as the 'Connection Type'

Step 1.1 – When creating an account, select 'SMS' as the connection type

Step 1.2 – Enter the username/password (provided by Connect 24)

General Account Info

Account Name	SMS test Panel
Account Group	Root
Panel Type	PC9155 v1.0
Connection Type	SMS (TL265GS v1.0)
User Name	
Password	*************

Connection type may also be added/edited in the account 'Properties' screen

THE POWER OF SPEED

ALEXOR
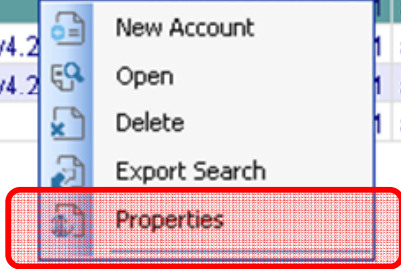
Setup – SMS Initiation DLS IV Session

Step 2 – Program the SIM card number

Step 2.1 – Select account 'Properties'

Step 2.2 – Highlight the GS2065/TL265GS module and enter the SIM number

Setup – SMS Initiation DLS IV Session

Step 3 – Initiate a DLS session

Initiate a DLS session by performing an upload or download (global or tagged)

Step 4 – Select 'SMS' as the connection type

All available connection methods will be available in the 'Connection Type' check 'SMS'
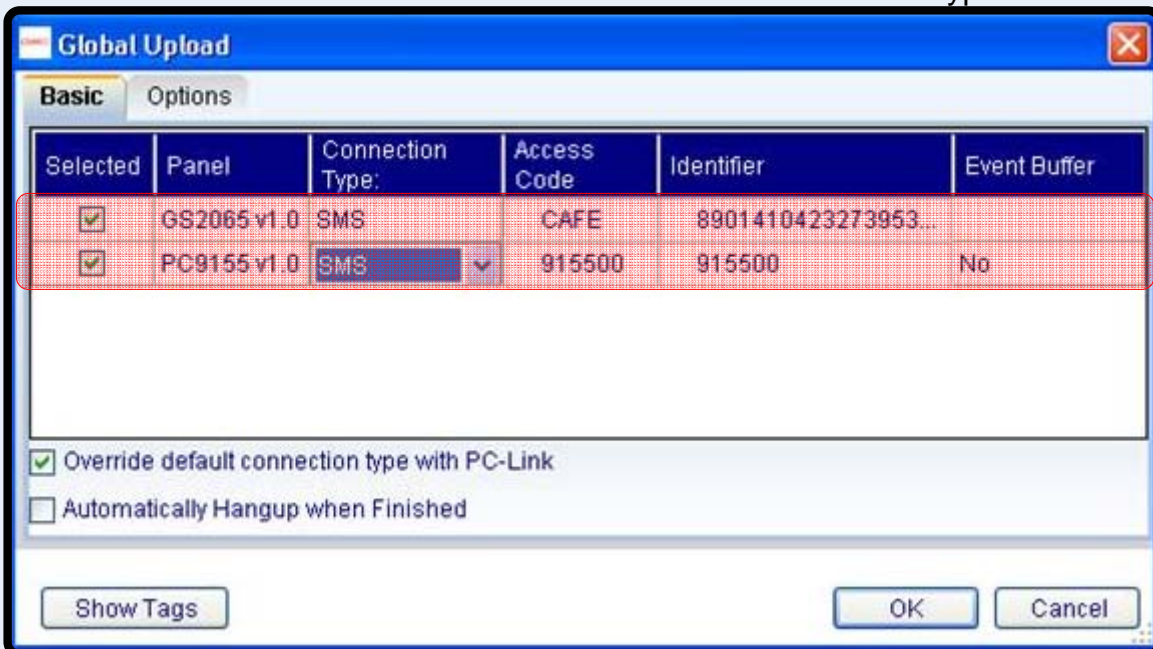
Note: Ensure that the correct option is selected for panel/module:
TL265GS/GS2065 - will upload/download TL265GS module information only
PC9155 - will upload/download PC9155 panel information only
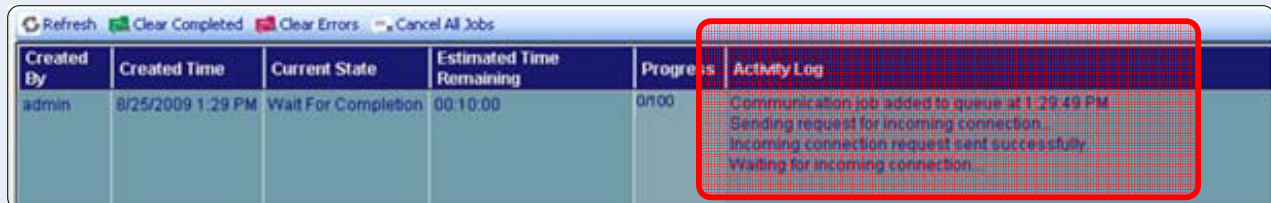
Setup – SMS Initiation DLS IV Session

Step 5 – Wait for a connection to be established

DLS IV will contact Connect 24 over the Internet and provide the following information:
- SIM #
- Port Number (51004)
- IP Address
- Username and Password

Connect 24 will communicate to the GS2065/TL265GS over the GPRS network. If successful, the following will appear in the activity log:

Note: If this connection times out, port 51004 may be blocked (i.e. firewall)

TL265GS
IP Initiated Communications to DLS IV

ALEXOR

THE POWER OF SPEED

Setup – DLS IV via Ethernet (TL265GS)

Summary of setup procedure:
Step 1 – Add Ethernet/Internet as the 'Connection Type'

Step 2 – Program the IP

Step 3 – Initiate a DLS session (i.e. upload/download)

Detailed Setup Procedure

Step 1 – Add Ethernet/Internet as the 'Connection Type'

When creating an account, select 'Ethernet/Internet' as the connection type

Connection type may also be added/edited in the account 'Properties' screen
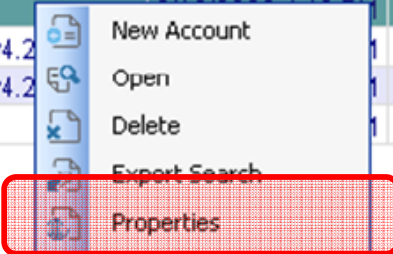
Setup – DLS IV via Ethernet (TL265GS)

Step 2 – Program the IP information
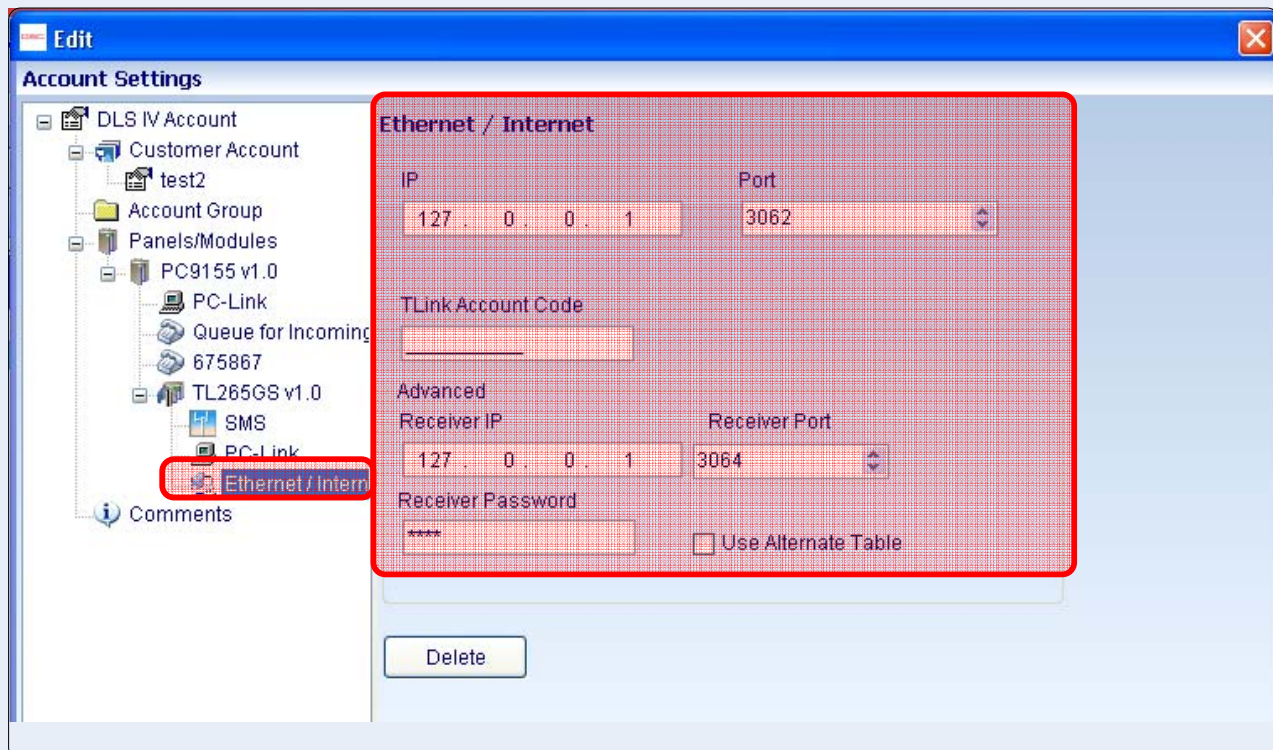
Step 2.1 – Select account 'Properties'

Step 2.2 – Highlight the TL265GS module and enter the IP information

THE POWER OF SPEED
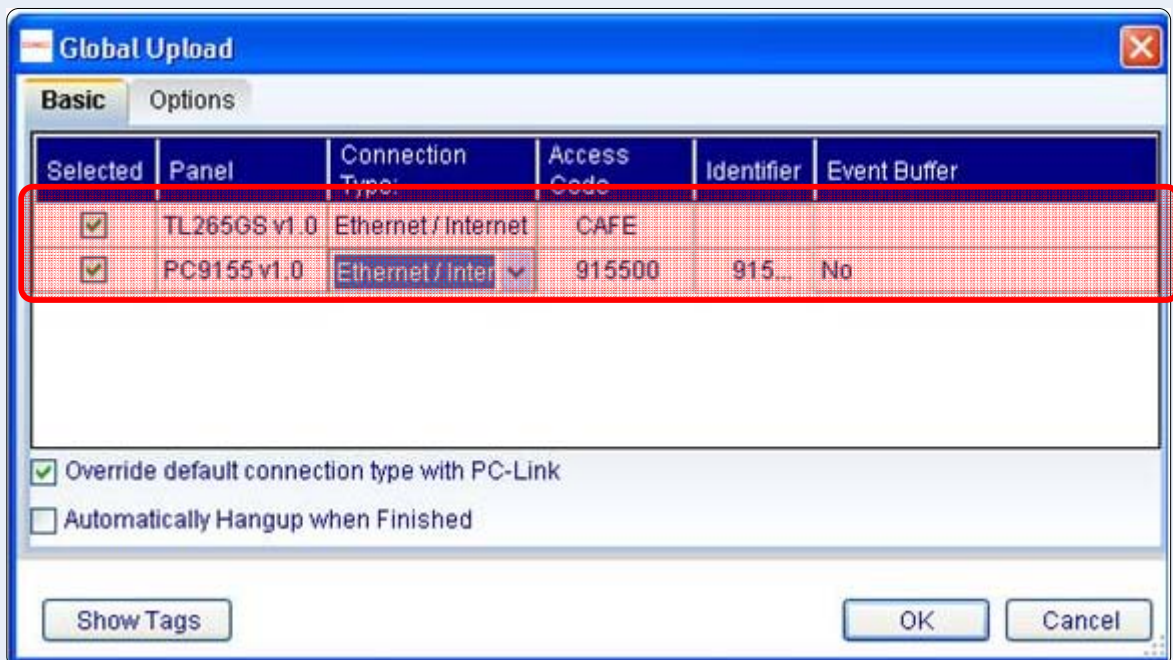
ALEXOR

Setup – DLS IV via Ethernet (TL265GS)

Step 3 – Initiate a DLS session

Initiate a DLS session by performing an upload or download (global or tagged)

Step 4 – Select 'Ethernet/Internet' as connection type

All available connection methods will be available in the 'Connection Type' check 'Ethernet/ Internet'

Note: Ensure that the correct option is selected for panel/module:
TL265GS - will upload/download TL265GS module information only
PC9155 - will upload/download Alexor panel information only

THE POWER OF SPEED

ALEXOR

ALE✗OR

THE POWER OF SPEED

DSC
A Tyco International Company