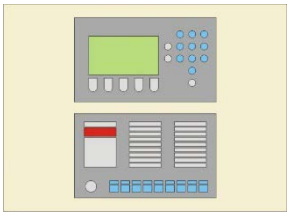
The Simplex Driver



The Simplex driver connects a Simplex Series 4100 fire detection panel. Available for Commander and ObSys.

This document relates to Simplex driver version 1.1

Please read the *Commander Manual* or *ObSys Manual* alongside this document, available from *www.northbt.com*

Contents

Compatibility with the Simplex System

The Simplex driver allows North to interface with a single Simplex fire detection panel.

The driver connects to a single 4100 series panel (Fig. 1), using an available RS232 port.

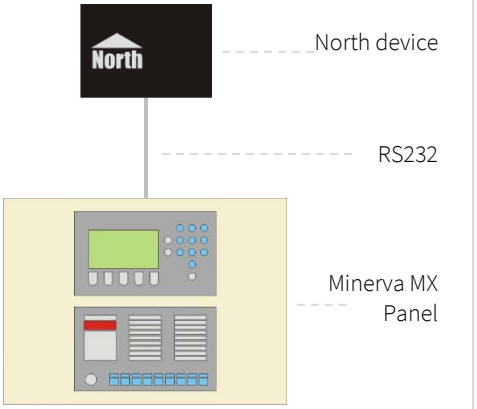


Fig. 1 North to Simplex panel

Equipment

Simplex fire panels compatible with the driver include the 4020 and 4100 series.

Values

The driver can typically access the following values:

- Panel/Point/Subpoint value

Fire, pre-alarm, fault, and isolation conditions are available.

The fire panel can send alarms to the Simplex driver.

Prerequisites

The Simplex panel's RS232 port must be configured before the driver can communicate with it. Configure the following parameters for the port used:

Set device type to 'COMPUTER';

Enable event reporting for the classes of events required – fire, priority 2, etc;

Configure and note port baud rate and associated settings (default: 9600 baud, E81);

Set access level to '1' to enable control functions using driver – alarm silence, system reset, fire alarm acknowledge, etc.

Using the Driver

On ObSys, the Simplex driver is pre-installed. On Commander, the driver is available to download in the file 'Bank7 Simplex.cdm'. On all of these North devices, you can use the driver to create an interface to Simplex. Once started, you will need to set up the driver before it can communicate with the Simplex panel.

Making the Cable

Using the RS232 cable specification (Fig. 2 or 3), connect the North device COM port to the Simplex panel's RS232 port. Connector types at each end of the cable are shown.

North DB9 Female		Simplex 4020 Port A	Simplex 4020 Port B
2	———	1	6
3	———	3	8
6	———	4	9
5	———	5	10

Fig 2 North to Simplex 4020 cable

North DB9 Female		Simplex 4100 Port A	Simplex 4100 Port B	Simplex 4100 DB25 Male
2	———	8	1	2
3	———	6	3	3
6	———	5	4	4
5	———	4	5	7

Fig 3 North to Simplex 4100 cable

The maximum RS232 cable length is 15m.

Starting the Interface

To start an interface using the Simplex driver, follow these steps:

- → **Start Engineering** your North device using ObSys
- → Navigate to **Configuration, Interfaces,** and set an unused **Interface** to 'Simplex to start the particular interface
- → Navigate to the top-level of your North device and re-scan it

The driver setup object (M*c*), labelled **Simplex Setup**, should now be available. If this object is not available, check an interface licence is available and the driver is installed.

Setting up the Driver

To set up the driver, follow these steps:

- → Navigate to the **Simplex Setup** object (M*c*). For example, if you started interface 1 with the driver earlier, then the object reference will be 'M1'
- → Set **RS232 COM Port** (RS.COM) to select the serial port number on the North device the Simplex panel is connected to
- → Set **Baud Rate** (RS.BR) and **Byte Format** (RS.BF) to match that of the Simplex interface port
- → Set **Card Type** (C*x*.T) for each of the installed Simplex panel hardware cards.

Checking Communications

You can check that the interface is communicating by reading the **Comms Online** object (DS). A value of 'Yes' indicates the driver has received messages from the Simplex panel.

Alarms

When the Simplex system reports an event to the driver, the driver sends a North-format alarm to the device's alarm processing.

Format

North-format alarms contain six text fields. The Simplex driver places the following information into these fields:

System – copied from System Label object (DL) within driver setup

Point – see Point Field section below

Condition – see Condition Field section below

Priority – see Priority Field section below

Date & Time – from panel

Examples

System	Point	Condition	Priority	Date	Time
Simplex System	Card 1 Point 1 Sub 3	Fire	1	01/03/13	14:29:48
Simplex System	Card 1 Point 1 Sub 3	Alarm	2	01/03/13	14:35:12
Simplex System	Card 1 Point 1 Sub 3	Cleared	2	01/03/13	14:35:20
Simplex System	Card 3 Point 7 Sub 1	Mapnet Device Fire	1	19/12/96	13:00:00
Simplex System	Card 3 Point 7 Sub 1	Mapnet Device Fire Cleared	1	19/12/96	13:05:00

Point Field

Card *a*

Card *a* Point *b*

Card *a* Point *b* Sub *c*

The Sub number field is included only if the panel gives a Sub number. The Point field is included only if the panel gives a Point number

Condition Field

The condition field may be prefixed with the card type, followed by:

Fire	Fire Cleared
Alarm	Alarm Cleared
Supervisory	Supervisory Cleared
Trouble	Trouble Cleared

Priority Field

The driver uses the event category from the panel to determine the priority field:

Event Category	Priority
Fire or Fire Cleared	1
Alarm or Alarm Cleared	2
Supervisory or Supervisory Cleared	3
Trouble or Trouble Cleared	4

Object Specifications

Once an interface is started, one or more extra objects become available within the top-level object of the device. As with all North objects, each of these extra objects may contain sub-objects, (and each of these may contain sub-objects, and so on) - the whole object structure being a multi-layer hierarchy. It is possible to navigate around the objects using the ObSys Engineering Software.

Each object is specified below, along with its sub-objects.

Example Object Reference

An example of a reference to an object in the same device: the Simple System (S1) contains Card 1 (C1), which has Point 22 (P22), which has Subpoint 3 (S3) which contains a value (V). Therefore, the complete object reference will be 'S1.C1.P22.S3.V'.

An example of a reference to an object in a different device: the IP network object (IP) contains Default Commander object (CDIP), which contains the object above (S1.C1.P22.S3.V) – therefore the complete object reference is 'IP.CDIP.S1.C1.P22.S3.V.

Device Top-Level Objects

When an interface is started using the Simplex driver, the objects below become available within the top-level object of the device. For example, if Interface 1 is started, then the object with references 'M1' and 'S1' become available.

Description	Reference	Type
Simplex Setup Set up the Simplex driver, started on interface *c* (*c* is the interface number)	M*c*	Fixed Container: On the Commander platform this will be *[CDM v20\Simplex v11]* On the ObSys platforms this will be *[OSM v20\Simplex v11]*
Simplex System Access Simplex system connected to interface *c* (*c* is the interface number)	S*c*	Variable Container: *[Simplex v11]*

Simplex Driver Setup

Object Type: *[OSM v20\Simplex v11]*
Object Type: *[CDM v20\Simplex v11]*

The Simplex driver contains the following objects:

Description	Reference	Type
System Label Label displayed when scanning the system and within alarms	DL	Obj\Text: 20 Chars; Adjustable
RS232 COM Port	RS.COM	Obj\Num: 1…8; Adjustable
Baud Rate	RS.BR	Obj\Num; Adjustable Values: 19200, 9600 (default), 4800, 2400
Byte Format Set the parity and stop bits	BF	Obj\ENum: 0…11; Adjustable 0=N81, 1=N82, 2=N71, 3=N72,4=O81,5=O82,6=O71,7=O72,8=E81 (default),9=E82,10=E71,11=E72
Comms Online Indicates whether communication is established with the panel	DS	Obj\NoYes
Card *x* Type Type of physical card number *x*, where *x* is in the range 0…119.	C*x*.T	Obj\Num: 0…18; Adjustable See table below for meaning of individual values

Card Type

The physical card type is a number with the following meaning:

Card Type	Meaning
0	No Card
1	Master controller
2	Monitor card
3	Signal Card including Multi-channel
4	Four-point AUX relay card
5	LED/Switch controller
6	Graphic IO
7	SCU/RCU
8	Remote Unit Interface (RUI)
9	Audio Card
10	Message expansion card
11	Master Phone card
12	Mapnet interface
13	RS232 interface
14	LCD annunciator
15	Eight-point AUX Relay card
16	Universal Power supply
17	Eight-point multifunction card
18	Network interface

Simplex System

Object Type: *[Simplex v11]*

A Simplex panel contains the following objects.

Panel reset, alarm silence, and acknowledge require adequate access levels configuring to operate. See *Prerequisites* for further details.

Description	Reference	Type
Panel Reset	PR	Obj\NoYes; Adjustable-only
Alarm Silence	AS	Obj\NoYes; Adjustable-only
Alarm Acknowledge	AA	Obj\NoYes; Adjustable-only
Date & Time	TIME	Obj\DateTime; Adjustable
Card c Card *x*, where *x* is the card number in the range 1…175. See Table below.	Cc	Fixed Container: *[Simplex v11\Card]*

Card numbers have the following meanings:

Card Number	Meaning
1…119	Physical Cards
128…143	Pseudo Digital Cards
144…159	Pseudo Analogue Cards
160…175	Pseudo List Cards

Card

Object Type: *[Simplex v11\Card]*

A Simplex Card contains the following objects:

Description	Reference	Type
Point x Where x is the point number, dependent on the Card type, and can be in the range 0…175	Px	Fixed container: *[Simplex v11\Point]*

Point

Object Type: *[Simplex v11\Point]*

A Simplex Card contains the following objects:

Description	Reference	Type
Subpoint x Where x is the Subpoint number, dependent on the Card Type and Point Number, and can be in the range 0…175	Sx	Fixed container: *[Simplex v11\Subpoint]*

Subpoint

Object Type: *[Simplex v11\Subpoint]*

A Simplex Subpoint contains the following objects:

Description	Reference	Type
Value Provides active condition of up to three FaultCodes separated by '|'. Write a single FaultCode to acknowledge that condition.	V	Obj\Text; Adjustable FaultCode: 0=OK, 12=Trouble, 15=Supervisory, 17=Priority 2 Alarm, 22=Fire Examples: '0' = OK, '12|15' = Trouble and Supervisory conditions active
Isolate	I	Obj\NoYes; Adjustable-only
Arm	A	Obj\NoYes; Adjustable-only
State This sets the state of pseudo points	S	Obj\NoYes; Adjustable-only
Utility State	U	Obj\NoYes
Control State	C	Obj\NoYes

Driver Versions

Version	Build Date	Details
1.0	7/4/1998	Driver released
1.1	1/10/2008	ObServer v2 compatibility
1.1	21/12/2023	Commander compatibility

Next Steps…

If you require help, contact support on 01273 694422 or visit *www.northbt.com/support*

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