FieldServer Protocol Driver Sheet
Notifier NCA

FS-8700-98 Version: 1.00 / Rev. 16.B

1 DESCRIPTION

The NCA (Network Control Annunciator) Serial driver allows the FieldServer to record data from Notifier NCA over RS-232. The FieldServer acts as a Passive Client receiving messages and recording the status of a Notifier NCA Panel. There is no active polling by this driver; the communications are one-way through the panel's printer port; however, the driver can generate some system commands like Ack, Reset, Silence and Drill if the FieldServer is connected to the NCA through its CRT port. The panel MUST output messages in English.

This driver is not capable of emulating a Notifier NCA panel and the very limited Server functionality has only been implemented to facilitate FieldServer's Quality Assurance program.

The NCA controls all the devices (e.g. NFS-3030, NFS-640 panels) connected in NOTI*FIRE*NET1 architecture. Each Fire Alarm Panel connected in NOTI*FIRE*NET architecture is considered as a Node. 240 Nodes can exist on one network. The main purpose of this driver is to record the status of Fire Alarm System detectors and Modules at every Node in Data Arrays - one Data Array per loop per Node.

NCA interacts with other Fire Alarm Panels, records the status of all panels and sends the events to printer and CRT ports. FieldServer captures these events in text form, parses and stores them in Data Arrays. These Data Arrays can be controlled by third party tools. Since the FieldServer does not actively poll for data, the accuracy and timeliness of the data is limited to the frequency of update messages that the Notifier Fire Panel issues.

The NCA can connect to additional NOTIFIER Fire Panels (with the proper network software), namely AFP-200, AFP-400, AFP-1010, AM2020, NFS-640, and NFS-3030. Note that when AFP200's and possibly AFP400's are networked they do not send the 'CLEARED' message for latched points via the NCA, so it is not possible to detect cleared points unless a system reset is done.

[1] For more detail about NOTI*FIRE*NET architecture contact Notifier Canada Ltd.

The NCA panel is theoretically capable of a configuration with a large number of points. However, the FieldServer point limits, selected on purchase of each FieldServer, prevent the entire database from being accessed in any one application. It is therefore advisable to configure only the point addresses of interest and ensure that the correct FieldServer point limit is selected.

The types of Notifier messages that are supported are summarized in **Section 6.3**. In addition, a detailed table shows each type of NCA message the FieldServer recognizes and the effect it has on the status of the points in the Data Array.

1.1 Connection Facts

FieldServer Mode	Node	Comments
Client	1	Each FieldServer port can connect to only 1 NCA panel
Server	0	The NCA driver cannot be used as a Server

2 FORMAL DRIVER TYPE

Serial

Passive Client

3 COMPATIBILITY

FieldServer Model	Compatible
FS-B35 Series	Yes
ProtoNode/ProtoAir	No
QuickServer FS-QS-10xx	No
QuickServer FS-QS-12xx	No
QuickServer FS-QS-20xx	No
QuickServer FS-QS-22xx	Yes

4 CONNECTION INFORMATION

Connection Type: RS-232
Baud Rates: 9600 (Device limitation, supports most standard baud rates)
Data Bits: 8 (Device limitation, supports 7,8)
Stop Bits: 1 (Device limitation, supports 1,2)
Parity: None (Device limitation, supports None, Even, Odd)
Multidrop Capability: No

5 DEVICES TESTED

Device	Tested (FACTORY, SITE)
NCA	Factory
NFS-3030	Factory
NFS-640	Factory

6 COMMUNICATION FUNCTIONS

6.1 Message Types Supported

This driver was designed to be connected to the Notifier NCA printer or CRT port and listen for incoming messages. The panel's default setting for the printer port is off. To utilize this driver, the printer port must be enabled to 80-columns, unsupervised.

The driver is capable of generating system commands (Ack, Reset, Silence and Drill) along with listening messages if the FieldServer connected to the CRT port of the NCA Panel.

The primary purpose of this driver is to record the status of devices connected to the NCA system by interpreting the text messages sent to the printer or CRT port and to generate some system commands on the CRT port. Not all messages will be interpreted, as many messages do not directly pertain to device status or are currently supported. The following subset of event messages is recognized:

Active Events
FIRE ALARM
TROUBLE
PREALARM
SECURITY ALARM
SUPERVISORY
DISABLED
ACTIVE
ON
OFF

A detailed mapping of message interaction System Trouble messages provided by Notifier at the time this driver was written is tabulated in the NCA Driver Manual. Any changes or additions by Notifier will not be reflected in this driver unless specifically revised.

6.2 Zone Status

This driver will not record information about zone status that is incorporated with point status messages. A device can belong to multiple zones, however, only the primary zone is listed in the printer output. This severely limits the accuracy of zone data based on event generated messages, and therefore will not be recorded.

6.3 Panel Status: Data Array Mapping

The status of NCA devices will be recorded into a series of data arrays within the FieldServer. This data is available for reading by any other connected device. The data from each loop will be recorded into a separate data array, and a single system array will record system troubles. The structure of the data arrays is provided below.

Most of these arrays will only contain binary information to represent an active or inactive state. However, there could be multiple troubles associated with a single device. For each trouble message, the data array register corresponding to a particular device will be incremented as a counter and decremented when a trouble is cleared.

Parameter	Registers (float)	
{per loop}		
Fire Alarm	0-199 200-399	detectors modules
Trouble - Each point will increment/ decrement the number of troubles recorded, system normal will reset the counter to zero	500-799 700-899	detectors modules
PreAlarm	1000-1199 1200-1399	detectors modules
Security Alarm	1500-1699 1700-1899	detectors modules
Supervisory	2000-2199 2200-2399	detectors modules
Disabled	2500-2699 2700-2899	detectors modules
Active	3000-3199 3200-3399	detectors modules
ON/OFF	3500-3699 3700-3899	detectors modules

Parameter	Registers (float)	
{system points only}		
System Troubles	0-100	
Fire Alarm	101-196 197-200	Panel Bell
Trouble - Each point will increment/ decrement the number of troubles recorded, system normal will reset the counter to zero	201-296 297-300	Panel Bell
PreAlarm	301-396 397-400	Panel Bell
Security Alarm	401-496 497-500	Panel Bell
Supervisory	501-596 597-600	Panel Bell
Disabled	601-696 697-700	Panel Bell
Active	701-796 797-800	Panel Bell

6.4 Driver Limitations & Exclusions

- Zone information will not be recorded.
- Synchronization between the NCA panel and the FieldServer can only occur if the FieldServer is reset while the panel is in SYSTEM NORMAL mode.
- The NCA menu function called “Read Status” will not be recorded as this information is not available at the printer/CRT port.
- The printer port must be enabled on the unit and set to 80 columns with NO supervision.
- Any data related to non-event driven reports will not be recorded by the FieldServer.
- This driver was written specifically for the following NCA firmware versions. Any changes or additions by Notifier will not be reflected in this driver unless specifically revised.
- A002.002.005/B002.002.005
- This driver will not record information about zone status that is incorporated with point status messages.
- This driver is not designed for multi-dropped panels. Only one panel can be connected to any given FieldServer port.
- This driver records data as presented to the Printer/CRT port by the Notifier NCA and can only be as accurate as this data.
- The driver can send Ack, Reset, Silence and Drill messages to the NCA Panel if the FieldServer is connected to the NCA Panel at the CRT port.
- Successful write message sent for functions such as Ack, Silence, Reset or Drill only mean that the message has been sent. The driver does not record whether the message was received or acted upon.

Sierra Monitor Corporation
1991 Tarob Court, Milpitas, California 95305 USA
O. +1 408 262-6611 TF: +1 800 72 SIERRA (74377) E. sales@sierramonitor.com
www.sierramonitor.com