1 DESCRIPTION

The NFS3030 Serial driver allows the FieldServer to record data from Notifier Onyx Series NFS3030 Fire Panels over RS-232.

The FieldServer acts as a Passive Client receiving messages and recording the status of a Notifier 3030 Fire Alarm Panel. There is no active polling by this driver; the communications are one-way through the panel's printer port.

This driver is not capable of emulating a Notifier NFS3030 panel and the very limited Server functionality has only been implemented to facilitate FieldServer's Quality Assurance program.

The purpose of this driver is to record the status of Fire Alarm System detectors and Modules in Data Arrays - one Data Array per loop. It is limited by the information that the Notifier NFS3030 unit sends in the form of text messages through its RS-232 printer port. The accuracy and timeliness of the data is therefore limited to the frequency of update messages that the Notifier Fire Panel issues.

Appendix A lists the Notifier message types supported by this driver and the effect on the status of points in the Data Array. The driver is capable of supporting the panel's port supervision message if configured to do so.

The panel must output messages in English.

Max Nodes Supported

FieldServer Mode	Nodes	Comments
Client	1	Each FieldServer port can connect to only 1 NFS3030 panel
Server	0	The NFS3030 driver cannot be used as a Server.

2 FORMAL DRIVER TYPE

Serial
Passive Client

3 COMPATIBILITY MATRIX

FieldServer Model	Compatible with this driver
FS-x2010	Yes
FS-x2011	Yes
FSx25	Yes
FS-x30	Yes
FS-x40	Yes
SlotServer	Yes
ProtoNode	Yes
QuickServer FS-QS-10xx	No
QuickServer FS-QS-12xx	Yes
ProtoCessor FPC-ED2	Yes
ProtoCessor FPC-ED4	Yes

4 CONNECTION INFORMATION

Connection type:	RS-232 (Vendor Limitation)
Baud Rates:	9600 (Vendor Limitation)
Data Bits:	8 (Vendor Limitation)
Stop Bits:	1 (Vendor Limitation)
Parity:	None (Vendor Limitation)
Multidrop Capability:	No

5 DEVICES TESTED:

Device	Tested (FACTORY, SITE)
NFS-3030 Test Panel supplied by Notifier Corp.	Factory
BOOT: 002.003.002 APP: 002.003.014	Site
BOOT: 002.012.006 APP: 002.013.002	Site

6 COMMUNICATIONS FUNCTIONS - SUPPORTED FUNCTIONS AT A GLANCE:

6.1 Data Types Supported

This driver was designed to be connected to the Notifier Onyx NFS-3030 printer 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, before this driver can be used.

The primary purpose of this driver is to record the status of devices connected to the NFS-3030 system by interpreting the text messages sent to the printer 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
ON/OFF *detectors, modules, panels only*
ACTIVE

A detailed mapping of message interaction System Trouble messages provided by Notifier at the time this driver was written is tabulated in the NFS 3030 Driver Manual. Any changes or additions by Notifier will not be reflected in this driver unless specifically revised.

6.2 Zone Status:

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

However, zone DISABLED messages will be recorded by the driver as there is no ambiguity in their status.

6.3 Panel Status: Data Array Mapping:

The status of NFS 3030 devices will be recorded into a series of data arrays within the FieldServer, and are 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 and disabled zones. 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	1500-1799 1700-1899	detectors modules
Supervisory	2000-2199 2200-2399	detectors modules
Disabled	2500-2799 2700-2899	detectors modules
On/Off	3000-3199 3200-3399	detectors modules
Active	3500-3799 3700-3899	detectors modules
{system points only}		
System Troubles	0-1000	
Disabled Zones	1000-1999 2000-2099 2100-2199	General Zones Releasing Zones Trouble Zones
Panel *note: some of these Data Arrays are not appropriate for panels but arranged in this fashion for symmetry in message parsing	3000-3099 3100-3199 3200-3299 3300-3399 3400-3499 3500-3599 3600-3699 3700-3799	Fire Alarm Trouble * Security Alarm * Disabled On/Off *

6.4 Port Supervision[1]

The driver is able to process port supervision queries sent by the panel. It has several modes for achieving this.

Mode=1	Driver responds to port supervision queries.
Mode=2	Driver responds to port supervision queries unless it fails to process a message correctly (parsing error). In this case the driver starts a 7 second timer during which time it will not respond to port supervision queries.
Mode=3	Driver accepts the port supervision query but does not respond. This mode is useful for panels where supervision is enabled but no response should be sent.
Mode=4	This is an internal mode. It means the mode is in transition.
Mode=5	Similar to Mode 1 but can be made to transition between mode=3 and mode=5 based on the value in a Data Array. This mode is useful for Hot Standby.

6.5 Driver Limitations & Exclusions

- General zone disabling will be recorded, but zone information related to corresponding alarm, trouble, pre-alarm, security alarm, supervisory, and on/off will not be recorded
- Synchronization between the NFS 3030 panel and the FieldServer can only occur while the panel is in SYSTEM NORMAL mode. At this time the FieldServer can be reset.
- Read point status data will not be recorded as this information is not available at the printer port
- The printer port must be enabled on the unit and set to 80 columns with NO supervision unless port supervision is enabled in the driver configuration
- All data related to non-event driven printer reports will not be recorded by the FieldServer
- This driver was written specifically for the following Notifier 3030 firmware versions. Any changes or additions by Notifier will not be reflected in this driver unless specifically revised.

Boot:	001.001.001	Dec 03 2002	App:
	001.005.001	Feb 28 2003	

- Information about zone status incorporated with point status messages will not be recorded.
- There can only be one panel connected to any given FieldServer port.
- Data accuracy is dependant on data presented to the printer port by the Notifier NFS3030.
- The driver cannot send any messages (including Ack, Reset and Silence) to the 3030 Panel.

[1] The driver did not support port supervision prior to version 1.02e.