FieldServer Protocol Driver Sheet
Notifier ONYX NFS-640
(Spanish)

FS-8700-90-SP   **Version: 1.01 / Rev. 2**

1   DESCRIPTION

For Notifier 640 Onyx firmware with North American English Firmware installed in the panel please read the Driver Fact Sheet named FST DFS Notifier Onyx 640.

This driver is for use with Notifier 640 Panels equipped with Spanish Firmware as sold in Mexico. Please check with your vendor if your panel has the same firmware. There are features of this driver that differ from the FS-8700-90 driver and there are limitations.

The NFS-640 (SPANISH) Serial driver allows the FieldServer to record data from Notifier Onyx Series NFS-640 (SPANISH) Fire Panels over RS-232. The FieldServer primarily acts as a Passive Client receiving unsolicited messages and updating the status of a Notifier Fire Alarm Panel. The FieldServer can actively request that the NFS-640 (SPANISH) send the status of all points, devices and zones on a periodic basis.

The main purpose of this driver is to record the status of Fire Alarm System detectors and modules in a bit oriented Data Array. It is limited by the information that the Notifier NFS-640 (SPANISH)unit broadcasts in the form of text messages through its RS-232 communication port. The accuracy and timeliness of the data is therefore limited by the frequency of update messages that the Notifier Fire Panel issues, as well as the frequency of the read status requests that the FieldServer makes. The request for status of all points and zones occurs every 10 min by default; this period can be reduced to 5 min or increased to any value with no upper bounds.

The types of Notifier messages supported by this driver are summarized in this fact sheet. A detailed table showing each type of panel message the FieldServer recognizes and the effect that it has on the status of points in the data array is also presented. Finally, the device status to the data array mapping is also provided.

It is possible to connect through the CRT Port. The disadvantage of doing this is that the use of this port restricts the use of Notifier Networking, thus a fire panel connected to a Noti-Fire-Net will not be supported.

1.1   Connection Facts

FieldServer Mode	Nodes	Comments
Client		Only one Notifier Panel may be connected to any single RS-232 FieldServer port

2   FORMAL DRIVER TYPE

Serial

Client Only

3   COMPATIBILITY MATRIX

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

4   CONNECTION INFORMATION

Connection type: RS-232 or RS-485 (with converter)
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-640 (SPANISH)Test Panel supplied by Notifier Corp	Customer Site

6 COMMUNICATIONS FUNCTIONS - SUPPORTED FUNCTIONS AT A GLANCE:

6.1 Message Types Supported

The purpose of this driver is to record the status of devices connected to the Notifier Panel by interpreting text messages sent to the printer or CRT port. Messages that do not directly pertain to device status are not reported. The following subset of event and read status messages is recognized:

Active Events	Read Point Status
SYSTEM NORMAL	ON/OFF (Untested)
ALARM:	NORMAL (Untested)
TROUBL/CLR TB	ALARM
ACTIVE/CLR ACT	TEST (Untested)
PREALM/CLR PAL	TBL
DISABL/ENABLE (Untested)	
TROUBL IN SYSTEM/CLR TB IN SYSTEM (Partial Support)	

When a read point status is performed, some points may have their status reported as TEST. This driver regards these points as being in a TROUBLE state. (This feature is untested)

6.2 Zone Status

Information about zone status will be recorded if incorporated with point status messages. Some messages (e.g. Trouble messages) do not contain zone status information.

If the device belongs to multiple zones, only the zone status of the first zone is reported. This limits the accuracy of zone data based on event generated messages, however, when the status is read, the zone status will be valid.

6.3 Panel Status: Data Array Mapping

Parameter	Example	Bits
Detector Alarm (loop 1)	2D001 ->	0-199
(loop 2)	201	200-399
Zone Alarms (software)	Z01 -> 801	800-899

Parameter	Example	Bits
(special)	F07 -> 907	900-909
(releasing)	R00 -> 910	910-919
Detector Trouble (loop 1)		1000-1199
(loop 2)		1200-1399
Bell Circuit Trouble	B01 -> 1891 B04 -> 1894	1890-1899
Detector Pre-Alarm (loop 1)		2300-2499
(loop 2)		2500-2699
Module Disable (loop 1)		3100-3299
(loop 2)		3300-3499
Panel Circuit Disable		3500-3589
On/Off status Panel Circuit		4000-4089
On/Off status Zone (software)		4100-4199
(special)		4200-4209
(releasing)		4210-4219
Trouble status Zone (software)		4500-4599
(special)		4600-4609
(releasing)		4610-4619
Parameter		Bits
Module Alarm (loop1)		400-599
(loop2)		600-799
Panel Circuit Trouble	P1.1 -> 1811 P8.8 -> 1888	1800-1889
Module Trouble (loop 1)		1400-1599
(loop 2)		1600-1799
Active Monitor Modules (loop 1)		1900-2099
(loop 2)		2100-2299
Detector Disable (loop 1)		2700-2899
(loop 2)		2900-3099
On/Off status Module (loop 1)		3600-3799
(loop 2)		3800-3999
Bell Circuit Disable		3590-3599
On/Off status Bell Circuit		4090-4099
SystemTrouble 4499 = unknown system trouble 4300+ = listed system troubles		4300-4499
Disable Zone (software)		4700-4799

7   DRIVER LIMITATIONS & EXCLUSIONS

- This driver depends on the stability of messages received by the printer/CRT ports. Should Notifier modify their message protocol, then problems can be expected with this driver.

- The accuracy in recording the Notifier NFS-640 (SPANISH) status is dependent on synchronization with the FieldServer. Upon startup, the FieldServer can (if configured) poll the NFS-640 (SPANISH) for the status of all points and is then fully synchronized. Event messages sent from the Notifier CRT port will also update the recorded status. Some status changes, e.g. zone information do not result in an explicit message to the CRT port, therefore, the FieldServer's record may not be accurate until the next full read status request.

- When connected via the CRT port, the driver cannot support a fire panel connected to a Noti-Fire-Net, as the Network port (NUP port) cannot be used in conjunction with the CRT port.

- This driver does not support multi-dropped or networked NFS-640 (SPANISH) panels.

- Active event messages such as ALARM: include primary zone information; however, a point device such as a detector or module can be associated with a listing of zones, of which only the first is identified in the message. The status of this zone will be recorded by the driver. To update the status of other zones, a read point status poll needs to be sent to the panel.

- Communication through the CRT port was not designed as a supervised port. Should Notifier wish to make this a supervised port, then this feature will need to be added to the FieldServer.

- Logic and evaluating equation status was not recorded by FieldServer's driver. These could be added at a later date.

- Percentage of detector alarms (smoke detectors for instance) is provided in detector status messages but was not implemented in this driver. If requested, this information can be provided as an addition at a later date

- A number of message types have not been tested.

- Very few system troubles are distinctly recognized. The driver will in most cases set bit 4499 'The unrecognized System Trouble' bit . The state of this bit cannot be relied on as a sequence of troubles and clears might leave it in an inaccurate state.