



A Sierra Monitor Company

Driver Manual
(Supplement to the FieldServer Instruction Manual)

**FS-8700-136 (Honeywell Life Safety Middle East NFS2-
640)**

APPLICABILITY & EFFECTIVITY

Effective for all systems manufactured after July 2009

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1 HONEYWELL NFS2-640, NFS-320 DESCRIPTION

The NFS-640 Serial driver allows the FieldServer to record data from Honeywell Series NFS-640, NFS2-640 and NFS-320 Fire Panels over RS-232. The FieldServer primarily acts as a Passive Client receiving unsolicited messages and updating the status of a Honeywell Fire Alarm Panel. This driver is intended solely for the Middle East variations of the NFS panels – for all other NFS panels, refer to FS-8700-90

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 Honeywell Panel 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 Honeywell Fire Panel issues.

The types of Honeywell messages supported by this driver are summarized in Appendix C.1. 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 presented in Appendix A.1. The device status to the data array mapping is also provided in Appendix A.1.

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 Honeywell Networking, thus a fire panel connected to a Noti-Fire-Net will not be supported. If the NFS-640 or NFS2-640 CRT port is used, the FieldServer can actively request that the Honeywell panel send the status of all points, devices and zones on a periodic basis. This status request occurs every 10 min by default; and can be reduced to 5 min or increased to any value with no upper bounds. Note that communication through this port does not equate to Port Supervision. The panel *must* output messages in English.

FieldServer mode	Nodes	Comments
Client		This driver is connection oriented - only one Honeywell Panel may be connected to any single RS-232 FieldServer port.

2 DRIVER SCOPE OF SUPPLY

2.1 Supplied by FieldServer Technologies for this driver

FieldServer Technologies PART #	Description
FS-8917-16	RJ45 Pigtail Cable
FS-8700-90	Driver Manual.

2.2 Provided by the Supplier of 3rd Party Equipment

2.2.1 Hardware

PART #	Description
	Honeywell NFS-640, NFS2-640 or NFS-320 Fire Panel

2.2.2 Required 3rd Party Configuration

If connection through the CRT port is required then the port needs to be enabled. Refer to Appendix A.1 for more information.

3 HARDWARE CONNECTIONS

The FieldServer is connected to the Honeywell NFS-640 Panel as shown below. Configure the Honeywell NFS-640 Panel according to manufacturer’s instructions. Note that the recommended connection through the printer port is depicted in the diagram. If preferred, connection can be made through the CRT port. Refer to Appendix A.1.2 for more information.

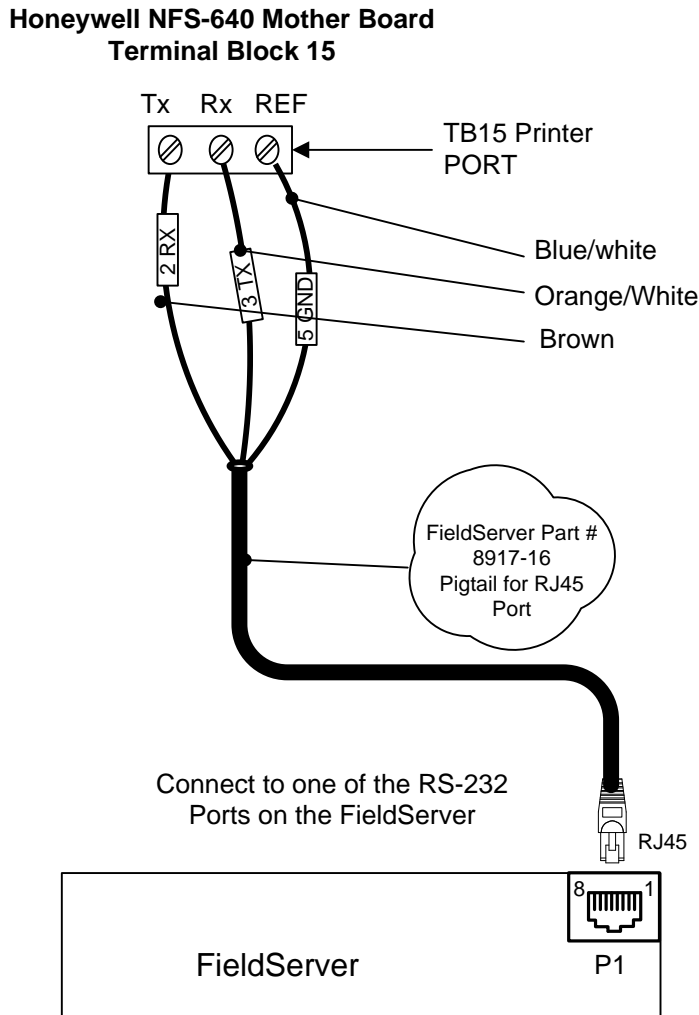


Fig 1 – Honeywell NFS-640 Connection

The FieldServer is connected to the Honeywell NFS2-640 Panel as shown below. Configure the Honeywell NFS2-640 Panel according to manufacturer’s instructions. Note that the recommended connection through the printer port is depicted in the diagram. If preferred, connection can be made through the CRT port. Refer to Appendix A.1.2 for more information.

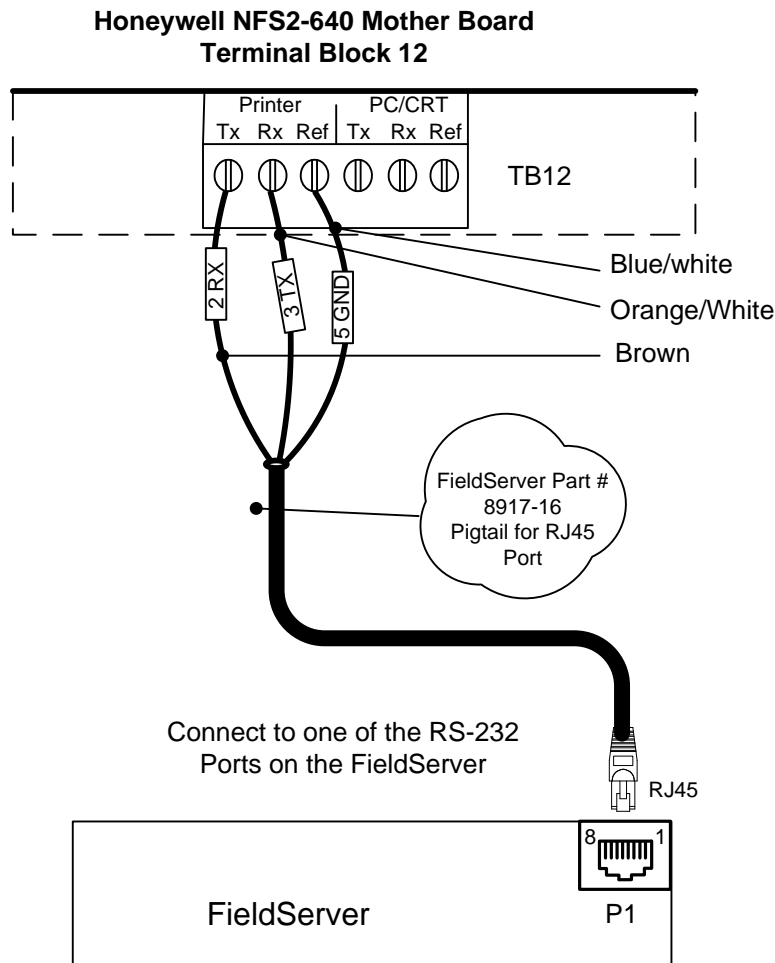


Fig 2 – Honeywell NFS2-640 Connection

4 DATA ARRAY PARAMETERS

Data Arrays are “protocol neutral” data buffers for storage of data to be passed between protocols. It is necessary to declare the data format of each of the Data Arrays to facilitate correct storage of the relevant data.

Section Title	Data_Arrays	
Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 15 alphanumeric characters
Data_Array_Format	Provide data format. Each Data Array can only take on one format.	FLOAT, BIT, UInt16, SInt16, Packed_Bit, Byte, Packed_Byte, Swapped_Byte
Data_Array_Length	Number of Data Objects. Must be larger than the data storage area required by the Map Descriptors for the data being placed in this array.	1-10,000

Example

```
// Data Arrays
Data_Arrays
Data_Array_Name , Data_Array_Format , Data_Array_Length
DA_AI_01        , UInt16,           , 200
DA_AO_01        , UInt16           , 200
DA_DI_01        , Bit              , 200
DA_DO_01        , Bit              , 200
```

5 CONFIGURING THE FIELDSEVER AS A HONEYWELL CLIENT

For a detailed discussion on FieldServer configuration, please refer to the FieldServer Configuration Manual. The information that follows describes how to expand upon the factory defaults provided in the configuration files included with the FieldServer (See “.csv” sample files provided with the FieldServer).

This section documents and describes the parameters necessary for configuring the FieldServer to communicate with a Honeywell NFS-640, NFS-320 or NFS2-640 Server.

It is possible to connect the Honeywell panel to any RS-232 port on the FieldServer. These ports need to be configured for Protocol=" hme-nfs2-640" in the configuration files.

The configuration file tells the FieldServer about its interfaces, and the routing of data required. In order to enable the FieldServer for Honeywell NFS-640, NFS-320 or NFS2-640 communications, the driver independent FieldServer buffers need to be declared in the “Data Arrays” section, the destination device addresses need to be declared in the “Client Side Nodes” section, and the data required from the servers needs to be mapped in the “Client Side Map Descriptors” section. Details on how to do this can be found below.

Note that in the tables, * indicates an optional parameter, with the **bold** legal value being the default.

5.1 Client Side Connection Parameters

Section Title		
Connections		
Column Title	Function	Legal Values
Port	Specify which port the device is connected to the FieldServer	P1-P8 ¹
Protocol	Specify protocol used	Hme-nfs2-640, hme
Baud*	Specify baud rate	9600 baud only (Vendor limitation)
Parity*	Specify parity	None (Vendor limitation)
Data_Bits*	Specify data bits	8 (Vendor limitation)
Stop_Bits*	Specify stop bits	1 (Vendor limitation)

Example

```

//      Client Side Connections

Connections
Port   , Protocol      , Baud   , Parity
P1     , hme-nfs2-640   , 9600   , None
```

¹ Not all ports shown are necessarily supported by the hardware. Consult the appropriate Instruction manual for details of the ports available on specific hardware.

5.2 Client Side Node Parameters

Section Title		
Nodes		
Column Title	Function	Legal Values
Node_Name	Provide name for Node	Up to 32 alphanumeric characters
Node_ID	Unique station address of physical Server Node	1-255
Protocol	Specify protocol used	Hme-nfs2-640, hme
Connection	Specify which port the device is connected to the FieldServer	P1-P8 ¹

Example

```
// Client Side Nodes

Nodes
Node_Name , Node_ID , Protocol , Connection
PLC 1 , 1 , hme-nfs2-640 , P1
```

5.3 Client Side Map Descriptor Parameters

5.3.1 FieldServer Related Map Descriptor Parameters

Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 32 alphanumeric characters
Data_Array_Name	Name of Data Array where data is to be stored in the FieldServer	One of the Data Array names from Section 4
Data_Array_Offset	Starting location in Data Array	0 to (Data_Array_Length-1) as specified in Section 4
Function	Function of Client Map Descriptor	Passive_Client, Rdbc, Wrbx

5.3.2 Driver Related Map Descriptor Parameters

Column Title	Function	Legal Values
Node_Name	Name of Node to store data to	One of the Node Names specified in Section 5.2
Length*	Length of Map Descriptor.	Large enough to store the required data, 1
Address	This parameter determines the behaviour of the Map Descriptor. It needs to be set in conjunction with the Map Descriptor Function as described under Section 5.3.2. Refer to Section for a table linking Map Descriptor Behavior, Address and Function.	7777, 8888, 8880, 8912, 8913,8914, 0
Nfs_Clear_On_Sys_Reset*	Selects memory area to be cleared on "SYSTEM RESET" It is only applicable to Map Descriptors with address 7777 Refer to Appendix C.2.4 for the relevant settings table.	0 or sum of any combination of 1,2,4,8,16,32,64,128, 512 Or 32768.

5.3.3 Use of Address to Determine Map Descriptor Behavior

Map Descriptor Behavior	Address	Function
Selects Memory Area to be cleared on "SYSTEM RESET"	7777	Passive_Client.
Poll for All Statuses	8888	Rdbc
Read Panel Heartbeat	8880	Rdbc
Send Acknowledge code	8912	Wrbx
Send Signal Silence code	8913	Wrbx
Send System Reset code	8914	Wrbx

5.3.4 Map Descriptor Example 1 – Storing Data.

This is a typical example of a Passive Client Map Descriptor, which only reads incoming messages. All messages will be recorded in the Data Array designated to this port. Configuration of Data Arrays is described in Section 4. The offset and length are not used by the driver, but must be set to reasonable values to pass driver validation. Nfs_Clear_On_Sys_Reset is set to 7, and thus Detector, Module and Zone Alarm memory bits will reset on receipt of a “System Reset” message that is generated when the “System Reset” button on the panel is pressed. Refer to Appendix C.2.4 for the relevant settings table.

Map_Descriptor_Name	Data_Array_Name	Data_Array_Offset	Function	Node_Name	Address	Length	Nfs_Clear_On_Sys_Reset
MD1_Panel1_Data	DA_Panel1	0	Passive_Client	Panel1	7777	4800	7

The Data Array name where status bits for all messages received on a port will be stored.

The offset is ignored - the driver always uses an offset of zero.

Designates that this Map Descriptor waits for incoming messages and does not poll

There can only be one node per port. This field indirectly links the FieldServer port to a data storage array. See description of Node definition above.

An address of 7777 indicates that this is a passive Map Descriptor used to store data only

5.3.5 Map Descriptor Example 2 – Heart Beat

This is an example of a Client Map Descriptor, which issues a command to the Panel to send a response to FieldServer. Upon response from panel, Driver will not store any data but now knows that panel is connected and responding, so the node status concept come to the fact.

Note that connection must be via the CRT port

Map_Descriptor_Name	Data_Array_Name	Data_Array_Offset	Function	Node_Name	Address	Scan_Interval	Length
MD_HeartBeat	DA_HeartBeat	0	Rdbc	Panel1	8880	10s	1

Dummy Data Array name. No data will be stored.

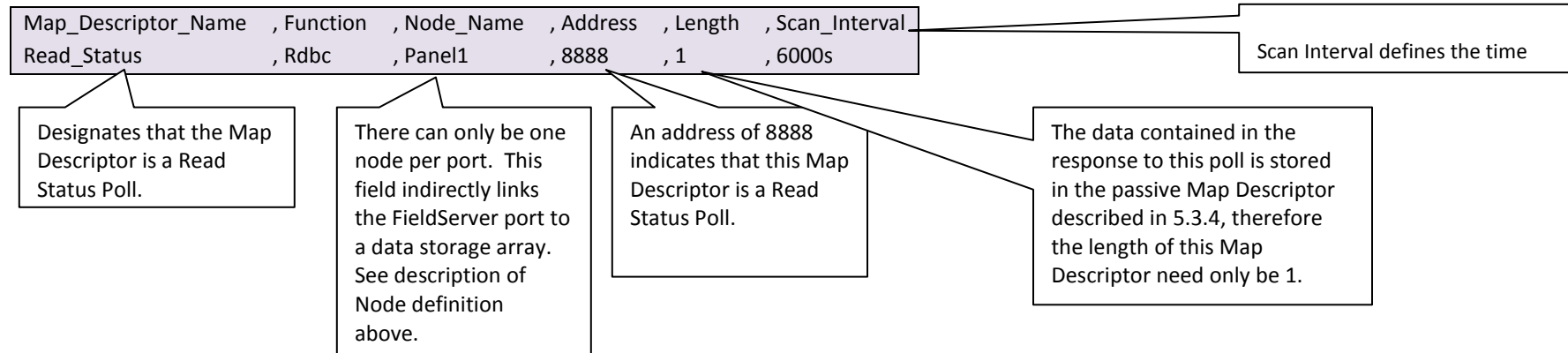
The offset is ignored - the driver always uses an offset of zero.

Designates that this Map Descriptor will issue a command to the panel after every Scan_Interval time period

An address of 8880 indicates that this will issue a command to the panel such that the response indicates Node status.

5.3.6 Map Descriptor Example 3 – Synch the Panel to the FieldServer.

This Read Status Map Descriptor periodically sends a poll to request point information from the Honeywell NFS-640/NFS2-640. The offset and length are not used by the driver but must be set to reasonable values to pass driver validation. **Note that connection must be via the CRT port.**



5.3.7 Map Descriptor Example 3 – Send Acknowledge, Signal Silence and System Reset to Panel

This is an example of a Client Map Descriptors which could be used to issue Acknowledge, Signal Silence and System Reset commands to the panel respectively.

Note that connection must be via the CRT port

Map_Descriptor_Name	Data_Array_Name	Data_Array_Offset	Function	Node_Name	Address	Length
MD_Acknowledge	DA_ACK	0	Wrbx	Panel1	88912	1
MD_Silence	DA_SILENCE	0	Wrbx	Panel1	88913	1
MD_Reset	DA_RESET	0	Wrbx	Panel1	88914	1

The Driver will issue the corresponding commands upon update of the specified offset in the specified Data Array.

Appendix A. Useful Features

Appendix A.1. Connection to the NFS-640/NFS2-640 CRT Port

Before communication can be achieved through the CRT port, this port needs to be enabled. The port can be enabled/disabled as described below:

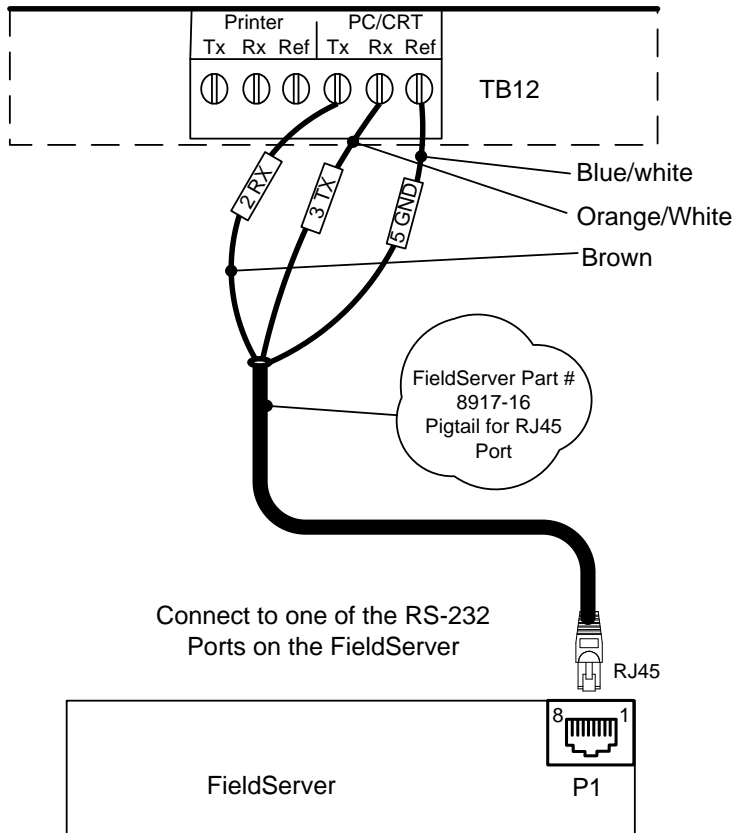
Appendix A.1.1. Enable/Disable communication through the CRT Port

Enable	Disable
<ul style="list-style-type: none"> • Press "Enter" on the keypad • Press "I" • Type "CRT96" • Press "Enter" • Press "Esc" Twice 	<ul style="list-style-type: none"> • Press "Enter" on the keypad • Press "I" • Type "NOCRT" • Press "Enter" • Press "Esc" Twice

Appendix A.1.2. CRT Port Connection diagram

The FieldServer is connected to the Honeywell NFS2-640 CRT port as shown below.

Honeywell NFS2-640 Mother Board
Terminal Block 12



Appendix B. Troubleshooting

- The Honeywell CRT Serial port is disabled by default. If the port is not enabled, the FieldServer receives short (8-9 byte) garbage messages and prints `lc_Timeout` errors for each of these messages. Refer to Appendix A.1 for information on enabling this port.
- If some events are not captured by FieldServer or on "SYSTEM RESET" or "SYSTEM NORMAL" some memory bits are not getting reset at the FieldServer. Check the length of the `Data_Arrays` and `Server Map_Descriptors` – they should be set to a minimum of 4800.
- If the FieldServer reboots when connected to the Panel Serial port, then it is likely that an Optical Isolator is required to balance ground potential differences. Such differences have been known to damage the FieldServer serial port, and therefore it is recommended that this action is taken as soon as the symptom is observed.

Appendix B.1. Driver Limitations & Exclusions

- This driver depends on the stability of Honeywell's CRT and Printer Port messages. Should Honeywell modify their message protocol, problems may be experienced with this driver.
- The accuracy in recording the Honeywell panel status is dependent on synchronization with the FieldServer.
 - For **NFS-640**: Upon startup, the FieldServer polls the panel for the status of all points and is then fully synchronized. Event messages sent from the Honeywell 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.
 - For **NFS2-640**: The system reset button on the panel can be pressed to force all existing events to be sent to the FieldServer.
- If this driver is connected via the CRT port it cannot support a fire panel connected on network, as the Network port (NUP port) cannot be used in conjunction with the CRT port.
- This driver does not support multi-dropped or networked Honeywell 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 the zone will be recorded by the driver. For NFS-640/NFS2-640 the status of other zones cannot be updated unless a read point status poll is sent to the panel. Note that this is only possible if connected through the CRT port.
- Communication through the CRT port was not designed as a supervised port. Should Honeywell wish to make this a supervised port, then this feature can be added to the FieldServer's driver at a later date.
- Logic and Evaluating equation status is not recorded by the driver.
- A percentage of detector alarms (smoke detectors for instance) is provided in detector status messages but was not implemented in this driver
- Successful "write message send" for functions such as ack, silence or reset only indicate that the message has been sent. The driver does not acknowledge whether the message was received or acted upon.

Appendix C. Reference

Appendix C.1. Honeywell NFS-640 Message Types Recognized

	Initiating Function	Status Banner	Data Array	Indication of Clear	Notes:
1	Scheduled function of the NFS-640 panel, or after a reset	SYSTEM NORMAL	N/A	N/A	
2	detector or module activates	ALARM: or ALARM	D(2X159) M(2X159) Z(99) F(10) R(10)	SYSTEM NORMAL And SYSTEM RESET	Will also set zone alarm array
3	detector or module has an electrical or mechanical fault	TROUBL or TEST	D(2X159) M(2X159) Panel(9X9) Bell(4)	CLR TB And SYSTEM NORMAL And SYSTEM RESET	Clear is sent automatically by panel, then system normal is sent if criteria in 2 above are met
4	monitor module programmed with security code activates	ACTIVE	M(2X159)	SYSTEM NORMAL	Will also set zone alarm array
5	monitor module programmed with supervisory code activates	ACTIVE	M(2X159)	SYSTEM NORMAL	
6	detector exceeds programmed pre-alarm alert or action level	PREALM	D(2X159)	SYSTEM NORMAL or CLR PAL And SYSTEM RESET	Action pre-alarms need to be reset Alert pre-alarms reset themselves and sends sys normal CLEAR not implemented
7	detector, monitor module, control/relay module or panel circuit has been disabled	DISABL	D(2X159) M(2X159) Panel(9X9) Bell(4) Z(99)	ENABLE or SYSTEM NORMAL or CLR TB	Can also DISABL zone. Only software zones can be disabled from the panel
8	monitor modules programmed with non-alarm codes	ACTIVE	M(2X159)	CLR ACT SYSTEM NORMAL	
9	monitor modules programmed with equipment trouble codes	TROUBL	M(2X159)	SYSTEM NORMAL And SYSTEM RESET	when corrected panel removes trouble and sends system normal
10	Trouble on output circuits for NAC's, panel circuits, or control/relay modules	TROUBL	M(2X159)	SYSTEM NORMAL And SYSTEM RESET	When corrected panel removes trouble and sends system normal

	Initiating Function	Status Banner	Data Array	Indication of Clear	Notes:
11	read point status of monitor module, NAC=bell, panel, software zone 'Z', special zone 'F', or releasing zone 'R'	ON	M(2X159) B(4) P(8X8) Z(99) F(10) R(10)	OFF or NORMAL or SYSTEM NORMAL	
12	read point status of a detector	ALARM TEST	same array as 3,4 above ALARM will set alarm point, and zone array TEST will set trouble array for point only ALARM will set alarm array, TEST will set trouble array	NORMAL or SYSTEM NORMAL	
13	system has trouble see protocol spec appendix B-3	TROUBL IN SYSTEM	ST(200)	CLR TB IN SYSTEM SYSTEM NORMAL And SYSTEM RESET	see attached table for system trouble messages
14	from read point status	NORMAL	Clears: detector: alarm trouble disable <i>prealarm</i> module: alarm trouble disable <i>active</i> <i>on</i>		
15	from read point status	ON	ON affects: module_on bell_on panel_on z_on f_on r_on	OFF or NORMAL or SYSTEM NORMAL	ON ignores evaluation and logic equations in read point status

	Initiating Function	Status Banner	Data Array	Indication of Clear	Notes:
16	from read point status	OFF	these clear different parts of the array depending on the device or zone: module (control/relay): on disable alarm active panel: on disable bell: on disable zone: on disable(for software only!) alarm tbl		TROUBL arrays except for zone TBL are not affected by OFF. The trouble, clr trouble messages, system normal are expected to clear the TROUBL points
17	from read point status	TBL	sets zone trouble array or sets control/relay module array but not monitor modules		note: TROUBL sets detector, monitor module, panel, and bell TBL ignores evaluation and logic equations
18	clear trouble	CLR TB	resets TROUBL array for D,M,P,B and resets DISABL array for D, M, P, B		When a zone is disabled, the corresponding points are also disabled When a zone is enabled, the zone message is ENABLE, but for the points is CLR TB
19		ENABLE	resets DISABL		

Appendix C.2. Message to Data Array Mapping

Appendix C.2.1. Status Messages Recognised by the Driver

The primary purpose of this driver is to record the status of devices connected to the Honeywell system by interpreting the text messages sent to the RS-232 port. Only messages that directly pertain to device status are recognized. Zone status information will be recorded if incorporated with point status messages.

The following table presents the event and read status messages recognized.

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

TEST read point status messages will change the status of a device in the TROUBL Data Array.

Appendix C.2.2. Panel Status Data Array Mapping

A detailed mapping of message interaction is tabulated below as well as a current listing of System Trouble messages provided by Honeywell at the time this driver was written. Any changes or additions by Honeywell will not be reflected in this driver unless specifically revised.

Parameter		Bits
Detector Alarm	(loop 1)	0-199
	(loop 2)	200-399
Zone Alarms	Software	800-899
	Special	900-909
	Releasing	910-919
Detector Trouble	Loop 1	1000-1199
	Loop 2	1200-1399
Bell Circuit Trouble	Loop 1	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

Example 1: Detector 1 on loop 1 in alarm. Detector alarms are stored in 0-399; Loop 1 detectors are stored in 0-199. Detector 1 is stored at offset 1. (2nd element in the array).

Example 2: Detector 2 on loop 2 in alarm. Detector alarms are stored in 0-399. Loop 2 detectors are stored in 200-399. Detector 2 is stored at offset 202. (203rd element in the array.)

Example 3: Special Zone #3 in alarm. Zone alarms are stored in 800-919. Special zones are stored in 900-909. Special zone #3 alarm status is stored at offset 903. (904th element in the array.)

Example 4: Detector 2 on loop 2 in pre-alarm. Detector pre-alarms are stored in 2300-2699. Loop 2 detectors are stored in 2500-2699. Detector 2 is stored at offset 2502. (2503rd element in the array)

Parameter		Bits
Module Alarm	Loop 1	400-599
	Loop 2	600-799
Panel Circuit Trouble		1800-1889
Module Trouble (loop 1) (loop 2)	Loop 1	1400-1599
	Loop 2	1600-1799
Active Monitor Modules (loop1) (loop2)	Loop 1	1900-2099
	Loop 2	2100-2299
Detector Disable (loop 1) (loop 2)	Loop 1	2700-2899
	Loop 2	2900-3099
On/Off status Module (loop 1) (loop 2)	Loop 1	3600-3799
	Loop 2	3800-3999
Bell Circuit Disable		3590-3599
On/Off status Bell Circuit		4090-4099
Listed SystemTroubles - refer to Appendix C.2.3		4300-4498
Unknown system trouble		4499
Disable Zone (software)		4700-4799

Example 5: The panel reports that the panel door is open. System alarms are stored at offsets 4300-4499. Using the table in Appendix C.2.3 - door open status is stored at offset 4312 (the 4313rd element in the array).

Appendix C.2.3. System Trouble Messages

Message	#	Panel Data Array	Status Offset
"GROUND FAULT"	0	4300	
"AC FAIL"	1	4301	
"BATTERY"	2	4302	
"STYLE 6 POS. LOOP 1"	3	4303	
"STYLE 6 POS. LOOP 2"	4	4304	
"CORRUPT LOGIC EQUAT"	5	4305	
"LCD80 SUPERVISORY"	6	4306	
"EPROM ERROR"	7	4307	
"INTERNAL RAM ERROR"	8	4308	
"EXTERNAL RAM ERROR"	9	4309	
"PROGRAM CORRUPTED"	10	4310	
"NO DEV. INST ON L1"	11	4311	
"PANEL DOOR OPEN"	12	4312	
"AUXILIARY TROUBLE"	13	4313	
"TERM. SUPERVISORY"	14	4314	
"ANNUN. 1 TROUBLE"	15	4315	
"ANNUN. 1 NO ANSWER"	16	4316	
"ANNUN. 2 TROUBLE"	17	4317	
"ANNUN. 2 NO ANSWER"	18	4318	
"ANNUN. 3 TROUBLE"	19	4319	
"ANNUN. 3 NO ANSWER"	20	4320	
"ANNUN. 4 TROUBLE"	21	4321	
"ANNUN. 4 NO ANSWER"	22	4322	
"ANNUN. 5 TROUBLE"	23	4323	
"ANNUN. 5 NO ANSWER"	24	4324	
"ANNUN. 6 TROUBLE"	25	4325	

Message	#	Panel Data Array	Status Offset
"ANNUN. 6 NO ANSWER"	26	4326	
"ANNUN. 7 TROUBLE"	27	4327	
"ANNUN. 7 NO ANSWER"	28	4328	
"ANNUN. 8 TROUBLE"	29	4329	
"ANNUN. 8 NO ANSWER"	30	4330	
"ANNUN. 9 TROUBLE"	31	4331	
"ANNUN. 9 NO ANSWER"	32	4332	
"ANNUN.10 TROUBLE"	33	4333	
"ANNUN.10 NO ANSWER"	34	4334	
"ANNUN.11 TROUBLE"	35	4335	
"ANNUN.11 NO ANSWER"	36	4336	
"ANNUN.12 TROUBLE"	37	4337	
"ANNUN.12 NO ANSWER"	38	4338	
"ANNUN.13 TROUBLE"	39	4339	
"ANNUN.13 NO ANSWER"	40	4340	
"ANNUN.14 TROUBLE"	41	4341	
"ANNUN.14 NO ANSWER"	42	4342	
"ANNUN.15 TROUBLE"	43	4343	
"ANNUN.15 NO ANSWER"	44	4344	
"ANNUN.16 TROUBLE"	45	4345	
"ANNUN.16 NO ANSWER"	46	4346	
"ANNUN.17 TROUBLE"	47	4347	
"ANNUN.17 NO ANSWER"	48	4348	
"ANNUN.18 TROUBLE"	49	4349	
"ANNUN.18 NO ANSWER"	50	4350	
"ANNUN.19 TROUBLE"	51	4351	

Message	#	Panel Data Array Offset	Status
"ANNUN.19 NO ANSWER"	52	4352	
"ANNUN.20 TROUBLE"	53	4353	
"ANNUN.20 NO ANSWER"	54	4354	
"ANNUN.21 TROUBLE"	55	4355	
"ANNUN.21 NO ANSWER"	56	4356	
"ANNUN.22 TROUBLE"	57	4357	
"ANNUN.22 NO ANSWER"	58	4358	
"ANNUN.23 TROUBLE"	59	4359	
"ANNUN.23 NO ANSWER"	60	4360	
"ANNUN.24 TROUBLE"	61	4361	
"ANNUN.24 NO ANSWER"	62	4362	
"ANNUN.25 TROUBLE"	63	4363	
"ANNUN.25 NO ANSWER"	64	4364	
"ANNUN.26 TROUBLE"	65	4365	
"ANNUN.26 NO ANSWER"	66	4366	
"ANNUN.27 TROUBLE"	67	4367	
"ANNUN.27 NO ANSWER"	68	4368	
"ANNUN.28 TROUBLE"	69	4369	
"ANNUN.28 NO ANSWER"	70	4370	
"ANNUN.29 TROUBLE"	71	4371	
"ANNUN.29 NO ANSWER"	72	4372	
"ANNUN.30 TROUBLE"	73	4373	
"ANNUN.30 NO ANSWER"	74	4374	
"ANNUN.31 TROUBLE"	75	4375	
"ANNUN.31 NO ANSWER"	76	4376	
"ANNUN.32 TROUBLE"	77	4377	
"ANNUN.32 NO ANSWER"	78	4378	
"NETWORK FAIL PORT A"	79	4379	
"NETWORK FAIL PORT B"	80	4380	
"NCM COMM FAILURE"	81	4381	
"ADV WALK TEST"	82	4382	
"CHARGER FAIL"	83	4383	
"GROUND FAULT LOOP2"	84	4384	
"STYLE 6 NEG. LOOP 1"	85	4385	
"STYLE 6 NEG. LOOP 2"	86	4386	
"GROUND FAULT LOOP1"	87	4387	
"UDACT TROUBLE"	88	4388	
"UDACT NO ANSWER"	89	4389	
"PROG MODE ACTIVATED"	90	4390	
"LOADING..NO SERVICE"	91	4391	
"BASIC WALK TEST"	92	4392	
"NFPA 24Hr. REMINDER"	93	4393	
"BAT. BACKUP RAM"	94	4394	
"Master Box trouble"	95	4395	
"Detector Initialize"	96	4396	
"Pwr.Supply Comm Fail"	97	4397	
"Release Dev. Disable"	98	4398	

Message	#	Panel Data Array Offset	Status
"DVC Ext Ram Error"	99	4399	
"DVC Program Corrupt"	100	4400	
"DVC Loading No Serv"	101	4401	
"DVC NVRam Batt Tbl"	102	4402	
"DVC Buzzer Off-Line"	103	4403	
"DVC Self Test Fail"	104	4404	
"DVC Soft. Mismatch"	105	4405	
"DVC Aux.Trouble"	106	4406	
"DVC FFT Trouble"	107	4407	
"Drill activated"	108	4408	
"Network Incompatible"	109	4409	
"DVC Rem. Mic. Tbl."	110	4410	
"DVC Local Mic. Tbl."	111	4411	
"DVC Local Phone Tbl"	112	4412	
"DVC Analog Out.1 Tbl"	113	4413	
"DVC Analog Out.2 Tbl"	114	4414	
"DVC Analog Out.3 Tbl"	115	4415	
"DVC Analog Out.4 Tbl"	116	4416	
"DVC Flash Image Err"	117	4417	
"DVC Database Corrupt"	118	4418	
"DVC Audio Lib.Corrupt"	119	4419	
"DVC Dbase Incompat"	120	4420	
"DVC Audio Lib Incomp"	121	4421	
"DVC DAA Downloading"	122	4422	
"HS_NCM Sniffer Activ"	123	4423	
"Exceeded Conn. Limit"	124	4424	

Appendix C.2.4. Nfs_Clear_On_Sys_Reset - Settings Table

Setting	Zone Reset
0	All Zones
1	Detector Alarm (0-399)
2	Module Alarm (400-799)
4	Zone Alarms (800-919)
8	Detector Trouble (1000-1399)
16	Module Trouble (1400-1799)
32	Panel Circuit Trouble (1800-1889)
64	Bell Circuit Trouble (1890-1899)
128	Detector Pre-Alarm (2300-2699)
256	System Trouble (4300-4499)
512	Trouble status Zone (4500-4619)
32678	Nothing will reset on "SYSTEM RESET"

If set to the sum of any of the combinations above, all the selected areas will be reset, e.g. if set to 7 = 4+2+1 then Zone alarm(4) , module Alarm(2) and Detector Alarm (1) all will reset.

If this keyword is not defined or set to 0 all the above will be reset.

Appendix C.3. Driver Error Messages

Most error messages are associated with errors in parsing an incoming message from the NFS-640. The most likely cause is a mismatch in expected message format. The driver will flag one of the following error messages and continue.

Timeout Errors are related to a lack of response by the Honeywell panel to read poll status polls, or due to internal timing anomalies of the FieldServer. If a Timeout error message is displayed then the error is most likely external. Check your connections.

Checksum Errors are recorded for messages that are incomplete. Review the message that was discarded, and call support if this event occurs repeatedly, or if the message was incorrectly ignored.

Error Message	Corrective Action
NFS640#2: Err. Illegal Map Descriptor length - defaulting to 1	check configuration file settings
NFS640#3: Err. Diagnostic line ignored.	call support, developers diagnostic
NFS640#4: Err. Test file <%s> not found.	call support, developers diagnostic
NFS640#5: Err. parsing NORMAL	See note 1.
NFS640#6: Err. storing NORMAL	See note 1.
NFS640#7: Err. parsing ALARM:	See note 1.
NFS640#8: Err. parsing ALARM:	See note 1.
NFS640#9: Err. storing ALARM:	See note 1.
NFS640#10: Err. parsing ACTIVE	See note 1.
NFS640#11: Err. storing ACTIVE	See note 1.
NFS640#12: Err. parsing CLR ACT	See note 1.
NFS640#13: Err. storing CLR ACT	See note 1.

Error Message	Corrective Action
NFS640#14: Err. parsing PREALM	See note 1.
NFS640#15: Err. storing PREALM	See note 1.
NFS640#16: Err. parsing CLR PAL	See note 1.
NFS640#17: Err. storing CLR PAL	See note 1.
NFS640#18: Err. parsing DISABL	See note 1.
NFS640#19: Err. storing DISABL	See note 1.
NFS640#20: Err. parsing ENABLE	See note 1.
NFS640#21: Err. storing ENABLE	See note 1.
NFS640#22: Err. parsing ON	See note 1.
NFS640#23: Err. storing ON	See note 1.
NFS640#24: Err. parsing OFF	See note 1.
NFS640#25: Err. storing OFF	See note 1.
NFS640#26: Problems parsing TROUBL IN SYSTEM, recorded as 'unknown' trouble	See note 1.
NFS640#27: Err. storing TROUBL IN SYSTEM	See note 1.
NFS640#28: Err. parsing CLR TB IN SYSTEM	See note 1.
NFS640#29: Err. storing CLR TB IN SYSTEM	See note 1.
NFS640#30: Err. parsing TROUBL or TEST	See note 1.
NFS640#31: Err. storing TROUBL or TEST	See note 1.
NFS640#32: Err. parsing CLR TB	See note 1.
NFS640#33: Err. storing CLR TB	See note 1.
NFS640:#34 Err. Incoming data is being abandoned on port %d. MapDesc's are required to define storage.	Check that the Honeywell is connected to the correct serial port defined in the csv's
NFS640#35: Err. parsing TBL	See note 1.
NFS640#36: Err. storing TBL	See note 1.
NFS640#37: Warning. Incomplete message.	review message and call support if necessary
NFS640#38: Err. No response to read point status poll	Check connections to the Honeywell panel, call support if message persists. Note, the Honeywell panel will not respond if in programming mode, so some no response messages may occur if the FieldServer polls the Honeywell panel in this mode. This functionality is only possible if connected through the CRT port.
NFS640#39: FYI. Defaulting MD scan_interval to 10 min	If required update config if with appropriate scan_interval
NFS640#40: FYI. Minimum recommended scan_itnerval is %ds	If required update config if with appropriate scan_interval

Note 1: These errors are produced when the driver is unable to parse a message correctly. This could happen if 1) the message is corrupted or 2) the message contains keywords not recognized by the driver or the message structure is different to what was expected. If the cause is the latter then you need to take a log and send the log together with your configuration CSV file when reporting this problem to tech support. If you get one of these errors on rare occasions then the source of the error is likely to be a corrupted message.

Appendix C.4. FieldServer Statistics

The following table identifies statistics generated by the Honeywell NFS-640 serial driver and their meanings.

Message	Meaning
Read message sent	Total number of messages sent for reading the status of all Honeywell panel points. Each time an active poll is made, expect this stat to increase by 2 as the protocol requires two messages to complete this request.
Bytes sent	Total number of bytes sent by all read point status polls to the Honeywell panel.
Message received	Total number messages of all types received from the Honeywell panel A message is a single line reporting status.
Bytes received	Total number of bytes received by all message types from the Honeywell panel.
Ignored messages	Total number of messages ignored by the driver because an appropriate Map Descriptor could not be found or the type of message is not currently relevant.
IC timeout Errors	Total number of inter-character timeouts that have occurred.
Protocol Errors	A message could not be parsed or stored correctly.