SharpEye™

WinHost Configuration and Diagnostic Software

20/20MPI Flame Detectors

User Guide

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1 About this Guide

This guide describes the SPECTREX WinHost 20/20MPI Flame Detectors Configuration and Diagnostic software application and its features, and provides instructions on how to install, operate, and maintain the software.

Note:

This user guide should be read carefully by all individuals who have or will have responsibility for using, maintaining, or servicing the product.

This guide includes the following chapters:

- **Chapter 1**, **About this Guide**, details the layout of the guide, includes the release history, a glossary and abbreviations, and explains how notifications are used in the guide.
- **Chapter 2, Product Overview**, provides a general overview of the software, principles of operation, and performance considerations.
- **Chapter 3**, **Loading** the Software, describes how to install the software application.
- **Chapter 4**, **Getting Started**, describes how to connect the computer to the detector and how to run the software application.
- **Chapter 5**, **Operation,** describes how to operate and configure the detector using the software application.

1.1 Reference Documents

- **TM768200**, SharpEye Flame Detector User Guide
- **CD784020**, MODBUS communications protocol for the SharpEye flame detectors

1.2 Release History

Rev	Date	Revision History	Prepared by	Approved by
A	January 2014	First Release	Jay Cooley	Eric Zinn
Ba	October 2017	Second Release	Jay Cooley	Shaul Serero

1.3 Glossary and Abbreviations

Abbreviation/Term	Meaning
Analog Video	Video values are represented by a scaled signal
ATEX	Atmosphere Explosives
AWG	American Wire Gauge
BIT	Built-In-Test
CMOS	Complementary Metal-Oxide Semiconductor image sensor
Digital Video	Each component is represented by a number representing a discrete quantization
DSP	Digital Signal Processing
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
EOL	End of Line
FOV	Field of View
HART	Highway Addressable Remote Transducer – communications protocol
IAD	Immune at Any Distance
IECEx	International Electro-Technical Commission Explosion
IP	Internet Protocol
IPA	Isopropyl Alcohol
IR	Infrared
IR3	Refers to the 3 IR sensors in the VID
JP5	Jet Fuel
LED	Light Emitting Diode
MODBUS	Serial communications protocol using Master-Slave messaging
N/A	Not Applicable
N.C.	Normally Closed
NFPA	National Fire Protection Association
N.O.	Normally Open
NPT	National Pipe Thread
NTSC	National Television System Committee (a color encoding system)
PAL	Phase Alternation by Line (a color encoding system)
P/N	Part Number

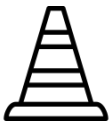
Abbreviation/Term	Meaning
RFI	Radio Frequency Interference
RTSP	Real Time Streaming Protocol
SIL	Safety Integrity Level
UNC	Unified Coarse Thread
VAC	Volts Alternating Current

1.4 Notifications

This section explains and exemplifies the usage of warnings, cautions, and notes throughout this guide:

Warning:

This indicates a potentially hazardous situation that could result in serious injury and/or major damage to the equipment.



Caution:

This indicates a situation that could result in minor injury and/or damage to the equipment.

Note:

This provides supplementary information, emphasizes a point or procedure, or gives a tip to facilitate operation.

2 Product Overview

The WinHost is configuration and diagnostic software for the SPECTREX SharpEye 20/20MPI family. The software displays information (such as address, status, serial number, type, setup, etc.) and makes it possible to change the detector's configuration.

2.1 Software Overview

The WinHost software makes it possible to:

- Communicate with the 20/20MPI Flame Detectors
- Read status and setup parameters from the detectors
- Change the detector's address
- Record relevant detector data to a log file (2020MPILog.txt)
- Perform a manual BIT

2.2 Minimum Requirements

The following are the minimum requirements for operating this software:

- Pentium ® 3GHz
- Windows XP, 7, 8, and 10
- 2GB RAM
- 10GB hard disk free space
- Isolated RS-485 Interface Card to be defined as COM1, COM2, COM3, or COM4; or an RS-232 / RS-485 converter to connect to a standard COM Port

2.3 Standards

- **EIA 485:** Electrical characteristics of enhanced Voltage Digital Interface Circuits.

3 Loading the Software

To load your computer with the SharpEye 20/20MPI WinHost configuration and diagnostic software:

1. Turn on the computer.
2. Copy the 20/20MPI installation files into the correct drive.
3. Start the 20/20MPI WinHost software installation by running the setup.exe file.
4. Follow the installation instructions.
5. Connect the detector unit to the RS-485 communications port (see *Connecting the Detector to the Computer* on page 15).
6. Start the 20/20MPI WinHost software with specification of the COM port number as a parameter (see *Establishing the COM Port* on page 16).

4 Getting Started

4.1 Connecting the Detector to the Computer

Before you can perform any configuration or diagnostic operation on a detector, you must connect the computer to the detector using the harness cable provided.

To connect the computer to a detector:

1. Connect one end of the USB cable to the computer USB port.
2. Connect the other end of the USB cable to the USB serial (RS-485) adapter.
3. Connect the serial port of the adapter to the harness cable.

To connect the detector to the harness cable:

1. Connect one side of the cable to detector Terminal 3 for RS-485 (+).
2. Connect the other side of the cable to detector Terminal 4 for RS-485 (-).

To connect a socket D-Type on the other side of the cable:

1. Connect RS-485 (+) to Pin 2.
2. Connect RS-485 (-) to Pin 1.
3. Connect RTN to Pin 5.

To perform USB adapter setup:

1. Unscrew the cover of the USB adapter.
2. There are 2 options for setting up the jumpers:
   a **Option 1**:

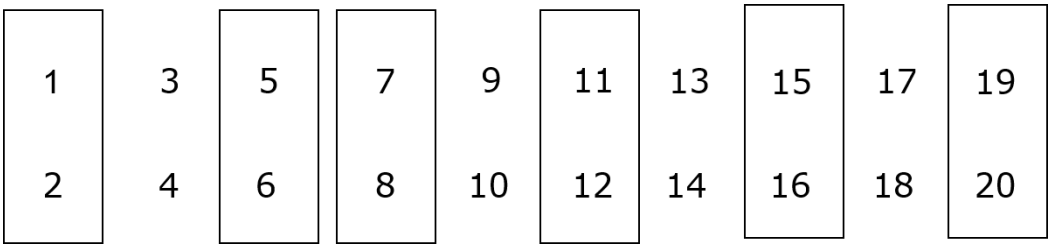


Figure 1: USB Adapter Setup Option 1

b Option 2:

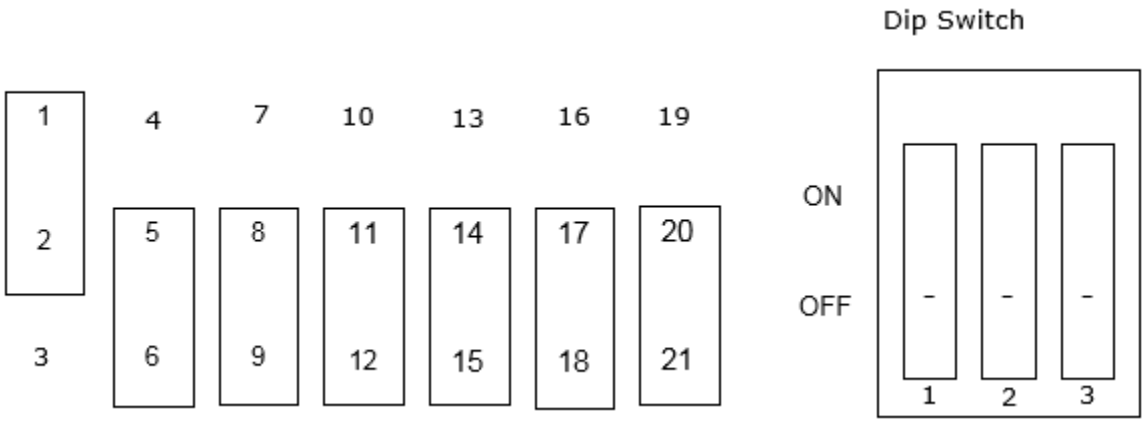


Figure 2: USB Adapter Setup Option 2

3 Close the USB adapter cover.

4 Connect the cable.

Caution:

If using a different adapter than the one recommended, check that the D-connector adapter wiring is similar to the wiring above (if not, adjust the cable wiring to fit the desired adapter).

4.2 Establishing the COM Port

Before using the software, you need to establish the number of the COM port.

This section describes how to establish the COM port used by the adaptor.

To view the COM port used by the adapter:

1 Turn on the computer.

Windows runs.

2 Select **Start** > **Settings** > **Control Panel** > **System** > **Hardware** > **Device Manager**.

3 The COM port number is displayed. This is the COM port number you will use.

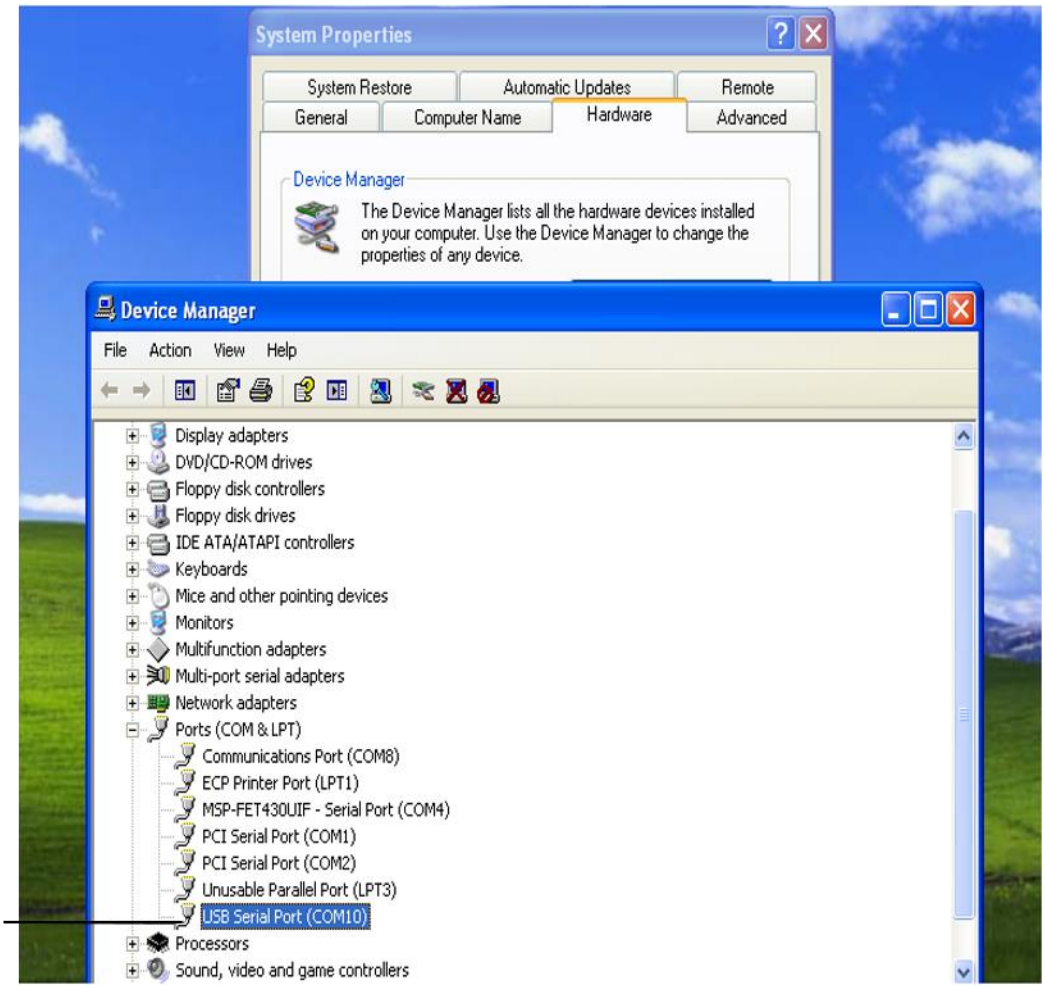


Figure 3: COM Port Number

4.3 Running WinHost

This section describes how to run the WinHost software.

To run the WinHost software:

1 Select **Start** > **Programs** > **T76860D**

The WinHost software application starts running and the opening window appears.

Figure 4: Opening Window

2 After a few seconds, the opening window disappears and the communication setup dialog box appears:

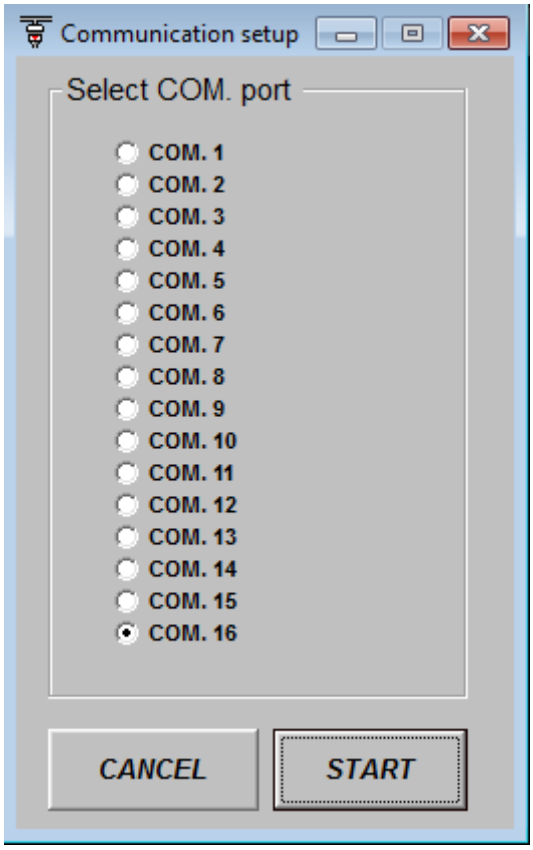


Figure 5: Communication Setup Dialog Box

The communication setup dialog box allows the user to select the communication port number.

3 Select the communication port number listed in the device manager dialog box (see *Establishing the COM Port* on page 16).

4 Click **START**.

The main window appears.

5 Operation

5.1 Main Window

The main window monitors the detector. Figure 6 shows the main window.

Note:

For Windows XP and 2000, in the case of poor communication, press **F12** and wait until good communication is achieved.

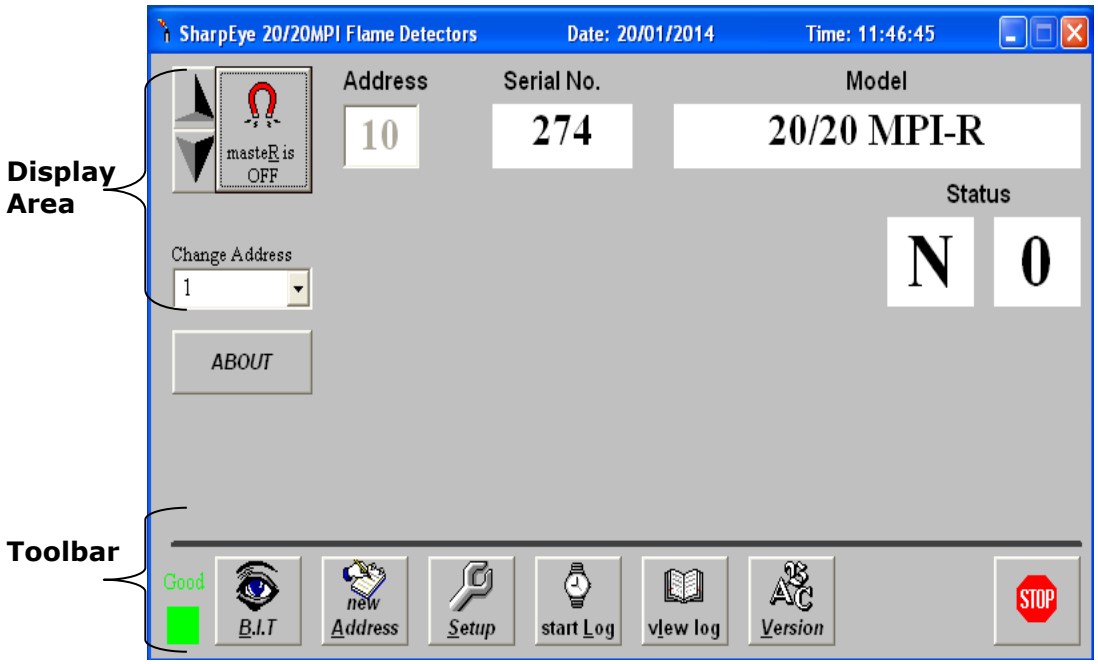


Figure 6: Main Window

The main window is divided into 2 main areas:

- **Display Area**: Displays the detector's various parameters.
- **Toolbar**: Enables access to various control and diagnostic functions.

5.1.1 Display Area Components

Table 1 describes the composition of the display area in the main window.

Table 1: Main Window Display Area

Element	Description
Address Finding Button 	Seeks the address of the connected detector. The up and down arrows increment or decrement the address value by 1, checking that address. This button seeks the connected address from 1 to 247.*
Address	The address currently being looked at by the software (using the up and down arrows).
Serial No.	The detector's serial number. Each detector has a unique serial number.
Model	The detector's model number.
Status	The detector's current operational status.
Change Address	A drop-down list that allows you to select the address location to seek the detector.
About	Opens a window that displays software version information.

* Do not click the address finding button when more than 1 detector is connected.

5.1.2 Toolbar Buttons

Table 2 describes the buttons on the toolbar.

Table 2: Main Window Toolbar Buttons

Button	Button Name	Description
	Comm. Status	Indicates the status of communications between the detector and the mini laptop.
	Built-In-Test	Starts a manual Built-In-Test. The results appear in the **Status** field.
	start Log	Opens a dialog box that enables you to set-up a log of the detector's events.
	vIew Log	Displays the log file.
	new Address	Opens a dialog box that enables you to set a new address location for the detector.
	Setup	Opens a dialog box that enables you to configure the detector.
	Version	Displays the version and details of the primary micro software.
	Stop	Closes the application.

5.1.3 Detector Status

The WinHost software displays the status in 2 fields: a letter field and a number field. The detector can have the following statuses:

Table 3: Detector Status

Characters	Description
DD	Disconnection
S90	Startup
S92	Restore from wrong voltage
V83	Wrong VIN
N0	Normal
W0	Warning
A0	Alarm
L0	Alarm latch
T0	Alarm delay
B0	BIT
M0	Manual BIT
E0	End of manual BIT
N8	BIT failure
Z0	Benzene

5.2 Setup Table Window

This section describes the setup table window and the various parameters that you can define. Depending on the type of detector you are configuring, different setup table windows are shown.

To configure the detector:

1. From the main window, click **Setup.**

   The setup table window appears, as shown in Table 4.

2. Click **Set - F3.**

   The detector is configured.

The following is an example of the setup table window for the 20/20 MPI-R:

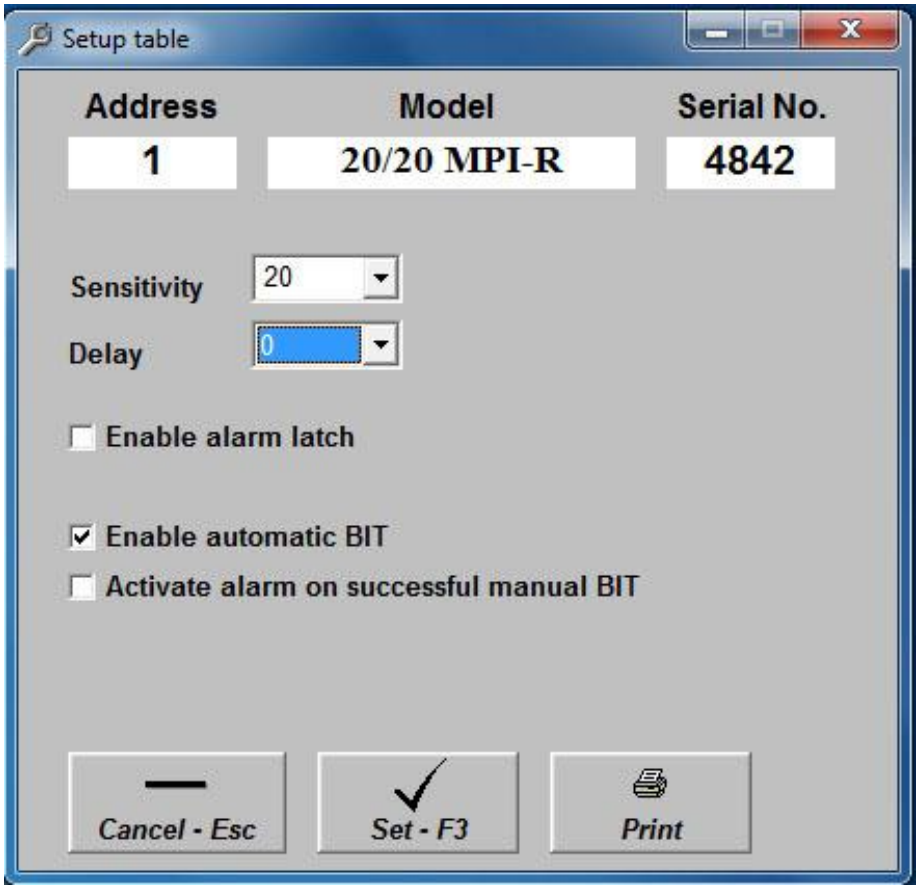


Figure 7: Setup Table Window

Table 4: Setup Window Table Parameters

Parameter	Description
Sensitivity	Sets the detector's sensitivity. The values are provided in meters. A higher number means greater sensitivity. See Table 5.
Delay	The delay between detection of a signal and activation of the alarm. Choose from **0**, **3**, **5**, **10**, **20** or **30 seconds**, or **A** (anti-flare).*
Enable Alarm Latch	When selected, the alarm remains on even when the signal abates.
Enable Automatic BIT	When selected, the Built-In-Test runs automatically according to the BIT settings.
Activate Alarm on Successful Manual BIT	Activates an alarm when a manual BIT is successfully completed.

* Anti-flare mode is selected to prevent false alarms in locations where fast flares may be present. This provides an additional 2.5 second delay prior to signaling an alarm.

5.2.1 Detector Sensitivity Setting

The following tables list the detector's sensitivity settings:

Table 5: Sensitivity Settings

Setting	Sensitivity (ft/m)
10	33/10
20	66/20
30	100/30
43	143/43

5.3 New Address Screen

You can set a new address location for the detector.

To set a new address location for the detector:

1. From the main window, click **New Address**.

   The set new address dialog box appears:

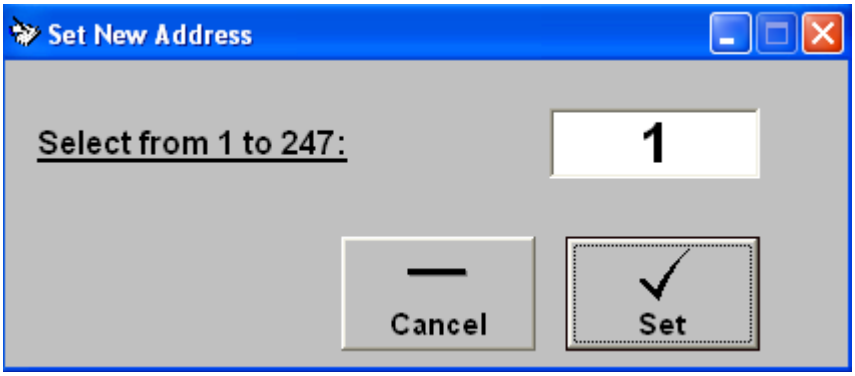


Figure 8: Set New Address Dialog Box

2. Enter the desired address.
3. Click **Set**.

   The new address is set.

5.4 Logging Detector Events

You can use the computer with the WinHost software to log the detector's events for diagnostic and other purposes.

When you start logging, you set the log file period in minutes. A line is subsequently written to the log (2020MPILog.txt) whenever that number of minutes passes (for instance, every 2 minutes) and whenever there is a change in the detector's status.

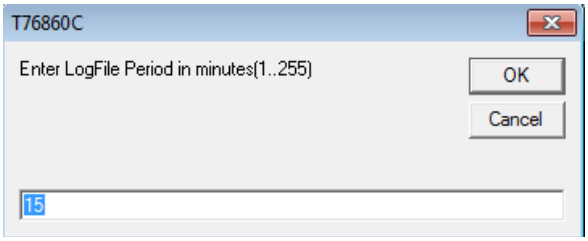
Each line in the log notes the following information:

- The detector's serial number
- The detector's address
- The detector's status
- The date and time

To log detector events:

1. From the main window, click **start Log**.

   The log record dialog box appears:



2. In the text field, enter the log file period (in minutes).
3. Click **OK**.

   Logging now begins and a line is written to the log every time the log file period is over and any time there is a change in the detector's status.

To view the log file:

- From the main window, click **vIew log.**

  The log file viewer window appears.

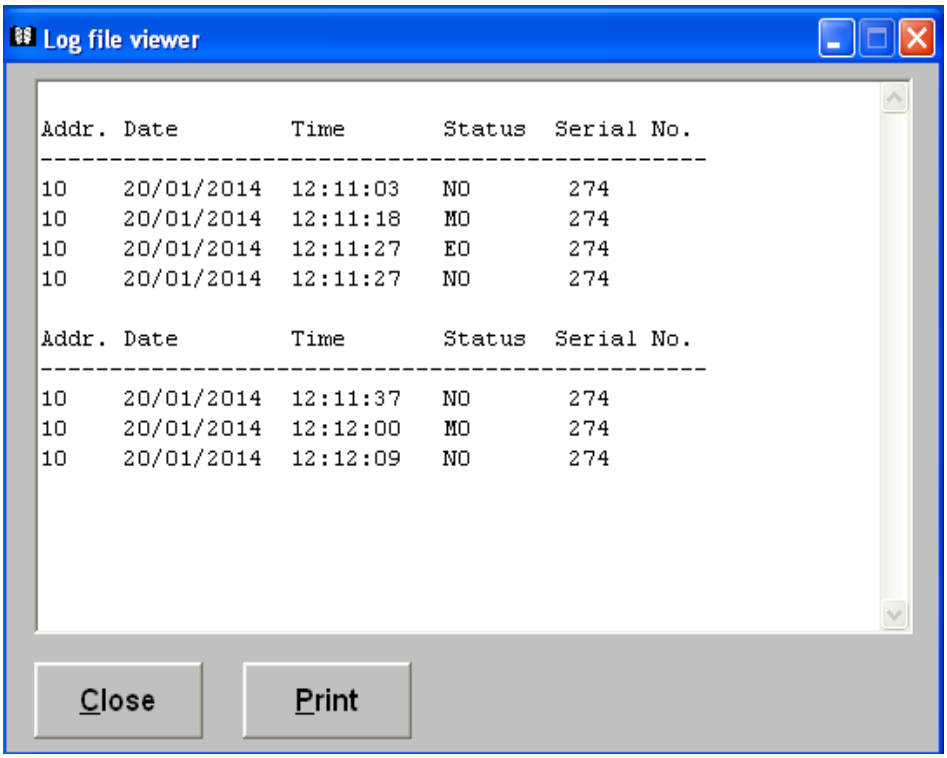


Figure 9: Log File Viewer Window

5.5 Running a Manual Built-In-Test

The software is set to run a Built-In-Test on the detector every 20 minutes. You can run a manual Built-In-Test at any time.

The results of a Built-In-Test are displayed in the **Status** field in the main window.

To run a manual BIT:

- In the main window, click **BIT.**

  The manual BIT runs and the results appear in the **Status** field.

5.6 Viewing the Micro Software Version

You can view the versions of the micro software at any time.

To view the micro software version:

- Click **Version**.

  A field appears in the main window, displaying the software version.

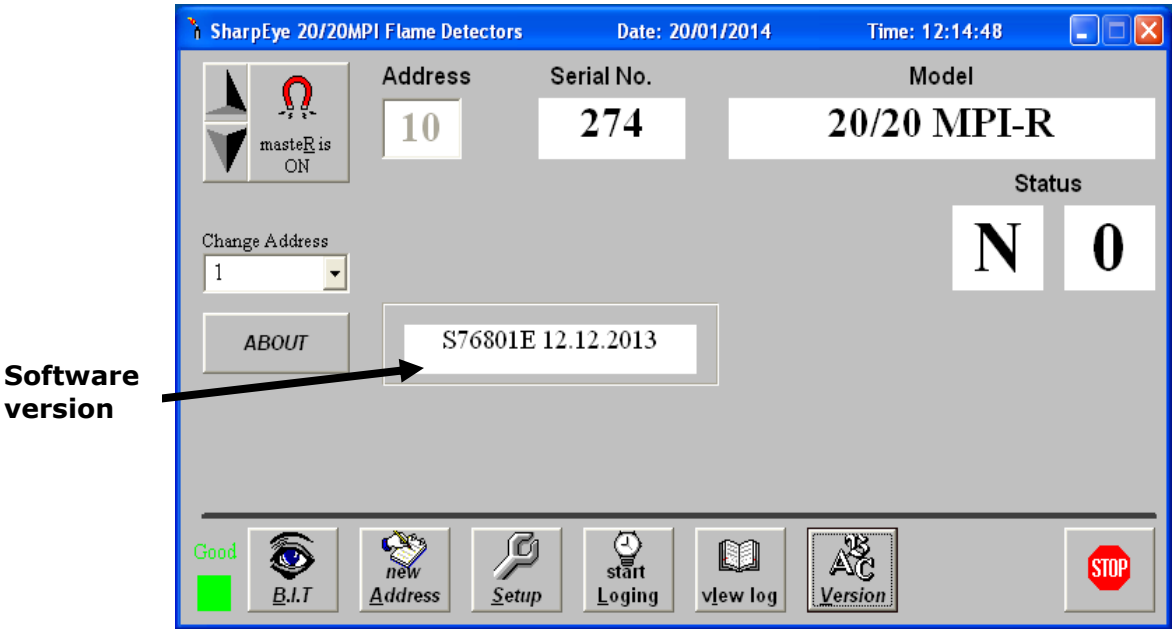


Figure 10: Software Version

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