

HITMAN *HM220i* ***Cloud and Sync App***



USER OPERATION GUIDE
fibre-gen

Available on the iPhone
 App Store

ANDROID APP ON
 Google play

CONTENTS

| | |
|--|-----------|
| 1. INTRODUCING HITMAN CLOUD AND SYNC APP | 3 |
| 2. GETTING STARTED | 3 |
| 2.1. <i>HM220i TOOL FIRMWARE UPGRADE.....</i> | <i>3</i> |
| 2.2. <i>SETUP API KEYS.....</i> | <i>4</i> |
| 2.3. <i>DELETE LOG FILES FROM THE SYNC APP.....</i> | <i>4</i> |
| 2.4. <i>'TIME OF DAY' TIMESTAMP SETTING.....</i> | <i>5</i> |
| 3. USING THE HM220i SYNC APP..... | 5 |
| 3.1. <i>ENABLE BLUETOOTH ON THE HM220i TOOL</i> | <i>5</i> |
| 3.2. <i>CONNECT HM220i WITH YOUR DEVICE.....</i> | <i>6</i> |
| 3.3. <i>UPLOAD LOG FILES TO THE HITMAN SYNC APP.....</i> | <i>6</i> |
| 4. UPLOADING TO THE HITMAN CLOUD | 7 |
| 4.1. <i>EMAIL LOG FILES FROM THE SYNC APP</i> | <i>7</i> |
| 4.2. <i>FETCH LOGS FROM THE HITMAN CLOUD API</i> | <i>8</i> |
| 5. MANAGE HM220i SETTINGS USING HITMAN SYNC APP | 8 |
| 5.1. <i>SETTING PREDEFINED LOG LENGTHS.....</i> | <i>9</i> |
| 5.2. <i>SET DEFINED SPEED GRADES AND GRADE COLOURS</i> | <i>9</i> |
| 5.3. <i>SETTING THE COMPARTMENT AND STAND NUMBERS.....</i> | <i>10</i> |
| 5.4. <i>MAX VELOCITY, CONFIDENCE AND AMV SETTINGS.....</i> | <i>10</i> |

1. INTRODUCING HITMAN CLOUD AND SYNC APP

The Hitman Cloud and Sync App have been created to enable your HM220i Log Files to sync securely with your connected forest management platform. This User Operation Guide explains how to install, connect and operate the Sync App to configure device settings and integrate your data with the Hitman Cloud.

The Hitman Sync App can be downloaded from Google Play and Apple Stores and opened on your mobile device. With the purchase of a subscription, login information will be supplied to enable a Bluetooth connection to be made to your HM220i tool.

Your Hitman Cloud Service subscription can be applied for by emailing info@fibre-gen.com.

2. GETTING STARTED

Once you have received your Hitman Cloud Services package from Fibre-gen via email, there are several key steps required to set up your HM220i tool to connect with your mobile device:

1. Download the HM220i Sync App to your device from Google Play or Apple Stores
2. Upgrade the HM220i firmware on your tool (see section 2.1)
3. Open the Sync App, tap Settings and input your login credentials to activate your Bluetooth connection



Android App



Apple App

2.1 HM220i TOOL FIRMWARE UPGRADE

A firmware upgrade may be required to enable Bluetooth functionality on your HM220i tool (unless your tool has been supplied enabled prior). Fibre-gen will send you a new firmware version if this is required.

To update HM220i firmware follow these steps:

- ENSURE THE HM220i TOOL IS SWITCHED OFF
- REMOVE THE BATTERY COVER AND CONNECT THE USB CABLE TO THE CONNECTOR ADJACENT TO THE BATTERY
- INSERT THE USB CABLE INTO YOUR PC WHILE HOLDING DOWN THE HM220i TOOL KEYS '3' AND '7'
- A REMOVABLE DRIVE NAMED "FGL HM220IFW" WILL APPEAR IN YOUR PC DIRECTORY
- DRAG AND DROP THE FIRMWARE FILE SUPPLIED INTO THE FGL HM220i FW FOLDER

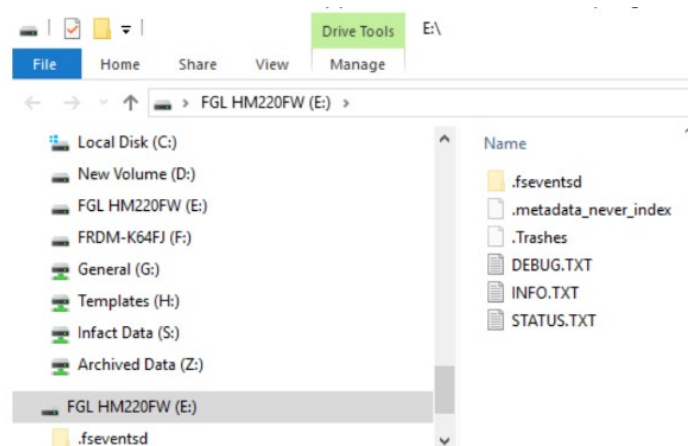



Figure 2: HM220i Tool appears as a Mass Storage Device

Note: Once the firmware is updated to the HM220i memory, the 'FGL HM220i FW' drive will disappear from the directory, and the HM220i will automatically reboot. To check the firmware version on the device, press the 7 key on the tool keypad and view the version number. Refer to section 3.1 to enable the Bluetooth function.

 After upgrading the firmware, you need to connect the device via a USB cable, delete the 'results.csv' file, and then reboot the device

2.2 SETUP LOGIN CREDENTIALS

To enter your Sync App login credentials, navigate to Settings via the icon in the top right corner of the home page. Input your credentials into the relevant section (see Figure 3). These credentials are provided by Fibre-gen.

- OPEN THE APP
- CLICK THE SETTINGS ICON AT THE TOP RIGHT OF THE HOME PAGE
- ENTER USERNAME AND PASSWORD
- CLICK “VALIDATE USER”
- CLICK “BACK” BUTTON

The screenshot shows the 'App Settings' page. At the top left is a back arrow and the text 'Back'. Below that is the title 'App Settings' with a horizontal line underneath. The 'App User' section contains two input fields: 'Username' and 'Password'. Below these fields is a green button with a checkmark and the text 'Valid User'. Further down is a toggle switch for 'Time of day on upload', which is currently turned on. At the bottom is a section for 'Delete all data' with a warning icon and the text 'Permanently delete all locally stored information'.

Figure 3: App Settings Page

Note: Fibre-gen must also enable your tool in the Hitman Cloud

2.3 DELETE LOG FILES FROM THE SYNC APP

Once you're up and running with the App you can "Delete all data" if required. This provides users a way to delete all Log files stored on your device in the Sync App. This will also delete the API Keys which would need to be entered into the App.

This screenshot shows the same 'App Settings' page as Figure 3, but with a dialog box overlaid. The dialog box is titled 'Delete all data?' and contains the text: 'Data and all locally stored information will be permanently deleted.' At the bottom of the dialog box are two buttons: 'Cancel' and 'Delete'.

Figure 4: Deleting Log Files

Note: Log files already uploaded from the Sync App to the Hitman Cloud or those Log files not deleted from the HM220i tool itself will not be deleted during this process. Only the data on your mobile device will be deleted.

2.4 'TIME OF DAY' SETTING

The "Time-of-day" applied to each log record can be removed from Logs before they are uploaded to the Hitman Cloud. The log date will remain, but this will no longer include the time of day.

- Enter the Sync App settings by tapping the Settings icon in the top right corner.
- Toggle "Time of day on upload" On or Off.

← Back

App Settings

App User

Username

Password

✓ Valid User

Time of day on upload

Figure 5: Removing 'time of day'

3 USING THE HM220i SYNC APP

The Hitman Sync App has been developed to enable Log Files to sync securely with your connected forest management platform or to be able to email these to a chosen recipient. The Hitman Sync App also allows easy user management of HM220i tool settings and configurations.

The Hitman Sync App enables you to:

- **CONNECT THE HM220i TOOL TO YOUR DEVICE OVER BLUETOOTH**
- **UPLOAD AND SYNC LOG FILES FROM THE HM220i TOOL WITH THE SYNC APP**
- **SYNC LOG FILES SECURELY FROM THE SYNC APP TO THE FIBRE-GEN CLOUD**
- **EMAIL LOG FILES FROM THE SYNC APP**
- **VIEW AND UPDATE HM220i TOOL SETTINGS**

3.1 ENABLE BLUETOOTH ON THE HM220i TOOL

Bluetooth needs to be turned ON in the HM220i tool menu before connecting to the Sync App on your device

Follow these steps to connect:

- **TURN ON YOUR HM220i TOOL USING THE POWER BUTTON**
- **PRESS 6 ON THE KEYPAD TO BRING UP THE BLUETOOTH SETTINGS**
- **PRESS ENTER ON THE KEYPAD TO TURN BLUETOOTH ON**
- **ENSURE THAT THE TOP LINE NOW READS "Bluetooth=ON"**
- **PRESS F1 TO EXIT THE BLUETOOTH MENU**

Once in the HM220i Tool Settings screen the following functions are accessible:

- **ENTER KEY TOGGLES THE BLUETOOTH ON AND OFF**
- **F2 KEY ACTIVATES BLUETOOTH DISCOVERY MODE AND LEAVES THE BLUETOOTH MENU**
- **F1 KEY LEAVES THE BLUETOOTH MENU**



Figure 6: HM220i Bluetooth Modes

Note:

- Bluetooth will enter sleep mode when HM220i tool enters sleep to conserve power
- HM220i sleep mode default timer is extended to prevent interruptions when managing the tool
- Use F2 to reactivate Bluetooth Discovery mode if no connection is established after 20 seconds
- With Bluetooth=ON your device will automatically connect with the HM220i tool whenever you initiate an action

3.2 CONNECT HM220i WITH YOUR DEVICE

Open the Hitman Sync App on your device and ensure your Bluetooth is on. The Sync App will automatically detect any HM220i tools in range with Bluetooth switched on. These will automatically appear in the list on the “Hitman Tools” page. When an action is selected in the Sync App which requires a Bluetooth connection to be established, the App will automatically connect with the tool and perform the chosen action.

- Identify the desired tool from the list and tap the button to activate the pairing process

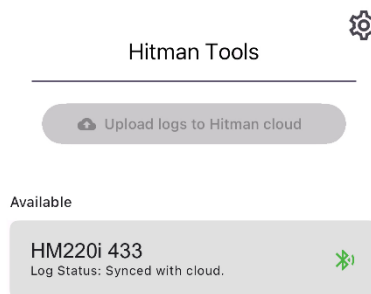


Figure 7: Hitman Sync App Home

3.3 UPLOAD LOG FILES TO THE HITMAN SYNC APP

Your Log Files are stored within the HM220i tool internal memory. Once your device is paired with the HM220i you can upload the stored Log Files to the Sync App (see Figure 8).

To upload Log files:

- Access the “Tool Management” page and use the “Sync logs to App” button
- Once the Log files are synced you can upload to the cloud or email them

Note: Log Files remain in the HM220i memory after a syncing

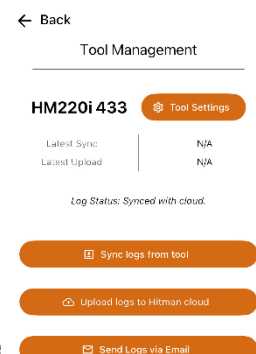


Figure 8: Tool Management Page

4 UPLOADING TO THE HITMAN CLOUD

Log Files can be uploaded from the Sync App to the Hitman Cloud. You can either upload logs for a single device or Log files for all devices at once.

To upload Log from a single HM220i tool:

- Select the HM220i tool from the "Hitman Tools" page (see Figure 7) and navigate to the "Tool Management page" (see Figure 8)
- Tap the "Upload logs to Cloud" button
- A pop-up notification reading "logs uploaded successfully" will indicate whether this was successful and going back to the "Hitman Tools" page will display the upload status (Figure 9).

To upload Log files from all HM220i tools listed on the Sync App:

- Ensure the Log files from each tool is synced with your device
- Press the "Upload logs" button on the Sync App "Hitman Tools" page

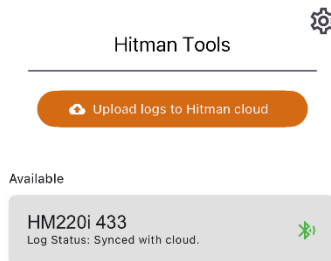


Figure 9: Upload all Log files

4.1 EMAIL LOG FILES FROM THE SYNC APP

The Sync App has the capability to email logs to external users via the Hitman Cloud (see Figure 10).

To activate this feature:

- Tap the "Send Logs via Email" button on the "Tool Management" page.
- Enter a start and end date to filter the Logs files to be sent from the Sync App
- Input the email address (last entered recipient will be saved)
- Select the "Log Format" to choose the Log file format (.CSV or JSON) to be emailed to the recipient. A .CSV provides an easy view of data via Microsoft Excel, and JSON is useful for system integration.

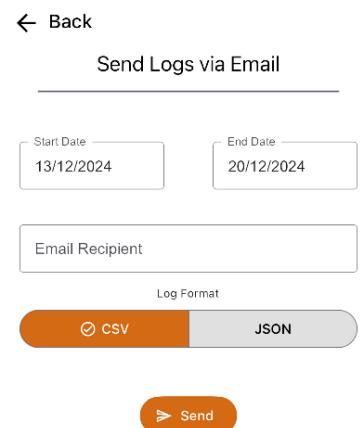


Figure 10: Emailing Uploaded Logs (.CSV selected)

Note: The email action is triggered from the Hitman Cloud. Any logs not yet synced to the Hitman Cloud will not be included in the export.

4.2 FETCH LOGS FROM THE HITMAN CLOUD API

Logs can be fetched from the Hitman Cloud API. This allows you to setup automated polling of data into your own system. Follow the link below to access technical documentation of how to fetch logs from the Hitman Cloud API (figure 11).

- <https://app.swaggerhub.com/apis/inFact/HM220-Public-API/1.0.0>

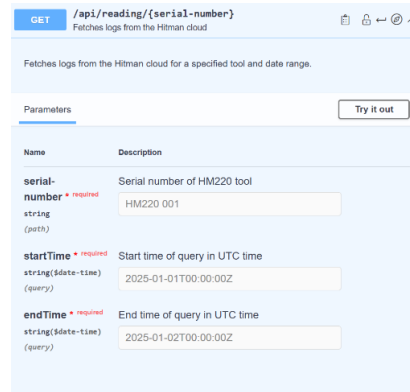


Figure 11: Specific Tool API Fields

5 MANAGE HM220i SETTINGS USING HITMAN SYNC APP

HM220i tool settings can be changed using the Sync App (see Figure 12.)

These settings include:

- **Predefined Lengths:** Set up or change the 'Predefined Lengths' to meet your default log length requirements.
- **Speed Grades:** Set up or change speed grades to align with the velocity range of your operations. The app simplifies the process, allowing you to optimise the tool's performance according to your workflow.
- **Compartment & Stand:** Configure compartment and stand settings to adapt the HM220i tool to different environments. Streamline log collection organisation by efficiently managing these settings through the app.
- **Thresholds:** Control your calibration preferences to fine tune your tools to your environment.
- **System Settings:** Usability settings to tailor the Sync App to your requirements.

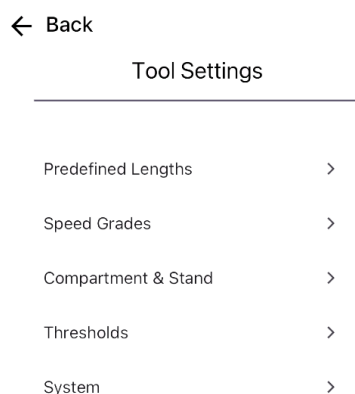


Figure 12: Tool Settings Page

5.1 SETTING PREDEFINED LOG LENGTHS

Setting the predefined log lengths from the "Tool Management" page:

- CLICK ON TOOL SETTINGS PAGE
- CLICK ON "PREDEFINED LENGTHS"
- SELECT LENGTHS TO BE MODIFIED
- KEY IN NEW VALUES
- CLICK SAVE

Clicking on "Predefined Lengths" allows the user to assign a length to one of the 0 to 6 predefined lengths. Input the desired length in meters or feet/inches using the numeric keys and decimal place. The specified length should fall within the range of 2 to 50 meters, or 6 feet 6 inches to 164 feet.

Note: The value stored in the 0 predefined length box is that which will automatically appear on HM220i startup

5.2 SET DEFINED SPEED GRADES AND GRADE COLOURS

Set up speed grades and colours from the "Tool Management" page (see figure 13):

- CLICK ON TOOL SETTINGS
- CLICK ON "SPEED GRADES"
- SELECT GRADES TO BE MODIFIED
- KEY IN NEW VALUES
- CLICK THE COLOURED CIRCLE TO CHOOSE NEW COLOURS
- CLICK THE SCREEN TO LOWER THE KEYPAD AND CLICK SAVE

You can establish specific velocity thresholds for three log grades and assign distinct colours to each grade. When testing a log, different tones will signal its grade. For the velocity grades:

- Grade 1 spans from zero (ft/s or m/s) up to the high range velocity entered for grade 1
- Grade 2 spans the high range velocity for grade 1 to the high range velocity entered for grade 2
- Grade 3 extends from the high range velocity for grade 2 up to 10 km/s (32,927 ft/s)

The system guides the user to choose a colour for display as the grade colour. Users can select from a list of available colours that appear when you click on the colored circle.

Note: If the high range velocity for grade 2 is 10 km/s or greater, grade 3 will not occur. Grades are treated sequentially from 1 to 3.

← Back

Speed Grades

Cancel Save

Grade 1 m/s

Grade 2 m/s

Grades define the velocity ranges associated with each color grade for categorizing the log.

Figure 13: Setting Speed Grades

5.3 SETTING THE COMPARTMENT AND STAND NUMBERS

Setting the compartment and stand numbers from the Tool Management page:

- CLICK ON TOOL SETTINGS
- CLICK ON "COMPARTMENT & STAND"
- SELECT COMPONENTS TO BE MODIFIED
- KEY IN NEW VALUES
- CLICK SAVE

Note: A crew number may be entered in place of either the stand or compartment number

Manually enter the compartment and/or stand numbers, ensuring that the assigned values fall within the specified range of 1 to 9999. This process involves inputting the numerical identifiers associated with compartments and stands through manual log entry.

5.4 MAX VELOCITY, CONFIDENCE AND AMV THRESHOLDS

Setting the threshold from the tool management page:

- CLICK ON TOOL SETTINGS
- CLICK ON "THRESHOLDS"
- KEY IN NEW VALUES
- CLICK SAVE

The App allows you to modify three different settings and parameters as follows:

Maximum Velocity Setting:

- Typically set at 4000 m/s (13171 ft/s) for Radiata pine or 5400 m/s (17716 ft/s) for Douglas Fir.
- Alternative values may be used based on wood characteristics, e.g., dry wood may have a recommended maximum value of 5000 to 5500 m/s.

Confidence Threshold Value:

- Ranges from 0 to 99.
- Recommended setting is 20 for reliable measurements.
- After processing, the display shows 'GOOD' or 'REHIT' based on the confidence value.
- Less than 20 is considered a bad hit, 20 and above are acceptable, and 99 signifies perfect confidence.
- The value must be between 1 and 98.

Adaptive Maximum Velocity Threshold Value (AMV):

- HM220i calculates the appropriate max velocity based on acoustic signature if sufficient data is available.
- If not, the default value (applicable to maximum velocity) is used, enhancing measurement accuracy.
- Recommended AMV threshold value is 20.
- The value must be between 1 and 98.
- To disable "Adaptive Maximum Velocity," set the value at 1.