

BIOSID[®] USER MANUAL



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INTRODUCTION

Thank you for your purchase of BIOSID® by CardLogix. You can now capture and enroll multi-modal biometric data (frontal face, 10 fingerprints, 2 irises, signature) and user demographic data. You can also instantly verify cardholder identities via digital biometric matching and other factors of authentication. BIOSID simplifies user enrollment, prevents identity fraud, and ensures that only authorized personnel gain access to facilities, resources and locations.

HOW TO USE THIS GUIDE

This user guide is designed to jumpstart the use of BIOSID and to provide an overview of starting features and capabilities. Each section includes simple explanations and easy-to-follow instructions. For any questions or concerns not addressed in this document, please feel free to contact CardLogix at support@cardlogix.com. Keep in mind that CardLogix can customize the solution at any time to meet unique project needs from personalized branding and design to enhanced features and capabilities.

CONTENTS OF BIOSID KIT

- 1 x BIOSID® Tablet (Loaded with BIOSID Verify or BIOSID Verify+Enroll Software Editions)
- 1 x Power Supply Charging Cable (USB to USB Mini)
- 2 x M.O.S.T. C7 Contact Smart Cards, Preconfigured for Use with BIOSID Standard Features
- 2 x M.O.S.T. C8 Contactless Smart Cards, Preconfigured for Use with BIOSID Standard Features

Please check that all items listed above are included with your order. The User Manual and Quick Start Guide electronic files are included within your BIOSID tablet's main file directory. You may also download copies via the following links:

- BIOSID User Manual: <https://www.cardlogix.com/downloads/literature/documentation/7000306-BIOSID-USER-MANUAL.pdf>
- BIOSID Quick Start Guide: <https://www.cardlogix.com/downloads/literature/documentation/7200094-READ-ME-BIOSID-how-to-get-started.pdf>

BIOSID EDITIONS OVERVIEW

BIOSID® by CardLogix is a completely integrated software, smart card and tablet solution. The BIOSID software is pre-installed onto your BIOSID tablet and available in two separate editions:

1. **BIOSID® Enroll+Verify.** This edition includes software for the capture of 10 fingerprints, 2 irises, 1 frontal face, 1 signature, and cardholder demographic information. This data is enrolled and stored to the smart card directly or it can be transferred to a cloud database for remote card issuance. This version also includes BIOSID Verify, as described below.
2. **BIOSID® Verify.** This edition includes software for high reliability, multifactor authentication. Identity verification features include the onscreen display of cardholder identity information which the software extracts from his/her smart ID card. It also includes live 1:1 biometric matching whereby live biometric images are captured from the subject and algorithmically compared to the biometric templates stored within the subject's smart card. The smart card also contains multiple security features for credential authentication, including security graphics, photo ID, and challenge/response commands for safeguarding access to digital file stored within the smart card chip. This edition does not include the capture of biometric or demographic data nor the enrollment and storage of that data, as described above in the BIOSID Enroll+Verify version.

	BIOSID Verify	BIOSID Enroll+Verify
Biometric Matching and Identity Verification		
Frontal Face	Live 1:1 Biometric Matching	Live 1:1 Biometric Matching
Dual Iris	Live 1:1 Biometric Matching	Live 1:1 Biometric Matching
10 Fingerprints	Live 1:1 Biometric Matching	Live 1:1 Biometric Matching
Signature	Onscreen Display (Read from Card)	Onscreen Display (Read from Card)
Photo ID	Onscreen Display (Read from Card)	Onscreen Display (Read from Card)
Cardholder Demographic Data	Onscreen Display (Read from Card)	Onscreen Display (Read from Card)
Biometric Capture and Enrollment		
Frontal Face	No	Yes
Dual Iris	No	Yes
10 Fingerprints	No	Yes
Signature	No	Yes
Starting Cardholder Data Fields		
First Name	Onscreen Display	Enroll + Onscreen Display
Last Name	Onscreen Display	Enroll + Onscreen Display
Middle Name	Onscreen Display	Enroll + Onscreen Display
Date of Birth	Onscreen Display	Enroll + Onscreen Display
Serial Number / Unique ID	Onscreen Display	Enroll + Onscreen Display
Expiration Date	Onscreen Display	Enroll + Onscreen Display
Address	Onscreen Display	Enroll + Onscreen Display
Apt. / Suite	Onscreen Display	Enroll + Onscreen Display
City	Onscreen Display	Enroll + Onscreen Display
State	Onscreen Display	Enroll + Onscreen Display
Zip code	Onscreen Display	Enroll + Onscreen Display
Employer	Onscreen Display	Enroll + Onscreen Display
Organization	Onscreen Display	Enroll + Onscreen Display
Position	Onscreen Display	Enroll + Onscreen Display
Cardholder Data Enrollment and Storage		
Write Data Directly to Smart Card	No	Yes
Send Data to Cloud Database	No	Yes
Send Data to BIOSID Internal SD Card	No	Yes
Onscreen Display of Digital Data (Read from Card)		
Starting Cardholder Fields	Yes	Yes
Photo ID (Frontal Face)	Yes	Yes
Serial Number / Unique ID	Yes	Yes
Signature	Yes	Yes
Smart Card Features		
M.O.S.T. Card® Contactless	Read Only	Read & Write
M.O.S.T. Card® Contact	Read Only	Read & Write
Data Encryption & File Authentication	Yes	Yes
Anti-Tampering Protection	Yes	Yes
Customization Services by CardLogix		
New Data Fields	Yes	Yes
Application Layout and Design	Yes	Yes
Application Personalization	Yes	Yes
Smart Card Initialization Service	Yes	Yes
Card Design, Personalization, Printing	Yes	Yes

BIOSID HARDWARE SPECIFICATIONS



Processor	A7, Quad-Core 1.1 GHz or Above
Memory	1GB RAM, 8GB FLASH, Ext. TF(Micro SD) Card; 2GB RAM, 16GB FLASH
Device Operating System	Android 7.1 and Above
Display	8", TFT, 1280x800
Smart Card Readers	Contact ISO 7816 and Contactless ISO14443 Type A/B, MIFARE®, ISO18092-Compliant
Fingerprint Scanner	ANSI/INCITS 378, ISO/IEC 19794-2, ISO/IEC 19794-4
Iris Scanner	2MP Sensor for ISO 19794-6 Image Formats. Iris Scanner may Replace Front or Rear Camera
Front Camera	2MP Fixed Focus, 5MP Autofocus (Optional)
Rear Camera	8MP Autofocus (Barcode Software Decoding)
SIM Slots	2 SIMs, 1 SIM+1 SAM (Optional)
Communications	LTE, WCDMA, GPRS, WiFi, Bluetooth, NFC
GPS	Built-in
Peripheral Ports	1 Micro USB, 1 DC Charge
Audio	Digital Audio Speaker, Microphone
Power Supply	5V/2A
Battery	3.8V/8540mAh, Li-ion
Dimensions	262(L)×160(W)×30(H)
Certifications, Ratings	CE-Certified, Ingress Protection IP67-Rating
Durability	IP67-Rated Dust-Proof and Waterproof up to 3m. Shockproof and Drop-Resistant from 1.2m on 6 Sides

PRODUCT LICENSES

To use BIOSID Verify and BIOSID Enroll+Verify, the following product licenses must be activated.

1. CardLogix BIOSID User License controls the security and functionality of the solution. Without this license, a user cannot use BIOSID on the designated device
2. Face Matching: NeuroTechnology (NT) or RankOne One Computing Face Matching Algorithm license
3. Iris Matching: NeuroTechnology (NT) or Princeton Identity Iris Matching Algorithm license

NOTE: In most cases, customers will receive their BIOSID devices with pre-activated software licenses. However, there may be times that you will need to activate or re-activate licenses, for example in the case of software updates and upgrades. To check the status of your product licenses, please go to the Settings Menu, tap **MANAGE LICENSES**, then tap **MANAGE NT LICENSES**. From there will you see a screen with a button that either says **ACTIVATE OR DEACTIVATE**. If it says **DEACTIVATE**, this indicates that the software licenses have already been activated. If it says **ACTIVATE**, this indicates that the licenses have not yet been activated.

TROUBLESHOOTING

If you are experiencing any difficulty with the BIOSID tablet or software, please visit our Support Page and submit a trouble ticket with a detailed description of the problem (<https://www.cardlogix.com/support/product-support/>). You may also send an email to support@cardlogix.com.

Please make sure you have the following information available when submitting a trouble ticket:

1. The unit serial number (found on the back of the unit)
2. Purchase date of the unit
3. Version number of the BIOSID™ software, found on startup screen or in the setup menu
4. List of applications that you have loaded to the device
5. Screen shots if possible. To get a screen shot, please use this command on the BIOSID™ Tablet:
 - a. Press the Power button and Volume down key at the same time
 - b. Hold them down until you hear an audible click or a screenshot sound
 - c. You will get a notification that your screenshot was captured, and that you can share or delete it
 - d. OR, please take a picture of the screen using your smart phone or camera

NOTE: Any user modifications to BIOSID™ (additional software programs, etc.) that have affected the solution's performance will not be covered under warranty.

WARRANTY & RETURNS

Please contact CardLogix regarding any and all merchandise that is not performing to the published specifications. In the event of a defect in material or workmanship during the warranty period, CardLogix, at its discretion, will repair or replace the defective product after it is returned to CardLogix by the owner. For a return of this product, you must be issued, by CardLogix, a Return Material Authorization (RMA) number. For any unused BIOSID and still in their boxes, a 25% restocking fee will be imposed if there are no valid reasons for the return of the BIOSID. We cannot issue an RMA Number unless you have registered your BIOSID device. This RMA Number is to be included with any returned merchandise. Please mark the RMA Number on the shipping box and on the packing slip. You are responsible for the shipping charges when returning items to CardLogix for quality review. We recommend that you insure the BIOSID device to CardLogix in this case. If the items are found to be defective and within the warranty terms and/or period, CardLogix will pay for all shipping charges, not including duties or other charges that are not related to shipping.

INSTALLING BIOSID UPDATES AND UPGRADES

CardLogix continually makes improvements to standard software editions. When updates are made, CardLogix will contact you with the latest software version via the email address that you include from the BIOSID Registration Menu. If your software has been customized/upgraded, you will receive a new APK file with installation instructions as well.

To successfully install a new version of BIOSID, whether it be an update to your existing edition or a customized upgrade, you must first deactivate all product licenses and uninstall the current version of software from your device. You can then install the new software version and reactive product licenses.

1. DEACTIVATE BIOMETRIC MATCHING LICENSES

- a. From the software Home Screen, go to the Settings Menu via settings gear icon in upper left-hand corner



- b. Press **MANAGE LICENSE** found at the top left-hand side of the Settings Menu



- c. Press **MANAGE NT LICENSE**



- d. Press **DEACTIVATE**



2. UNINSTALL CURRENT BIOSID VERSION

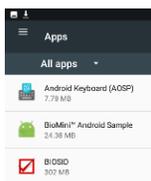
- a. Close BIOSID application from the Home Screen by pressing the (X) icon located on the upper right-hand corner of the application
- b. Locate and select the Android device's main menu icon
- c. Select the Settings gear icon



- d. Open **APPS**



- e. Select **BIOSID**



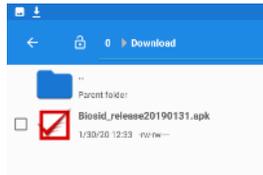
- f. Select **UNINSTALL**

3. INSTALL NEW BIOSID SOFTWARE VERSION

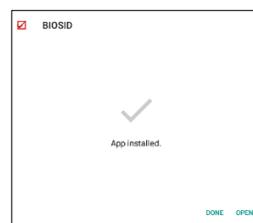
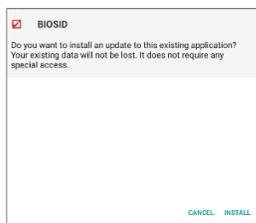
- Download the APK file sent by CardLogix
- Return to the device's main menu by clicking on the 6-dot menu icon
- Select the File Manager icon



- Open the **ALL** directory, shown in image to the right
- Open the **Download** folder
- Double click the BIOSID software file with icon as shown below



- Press **INSTALL** located at the bottom right-hand corner. After it installs, press **OPEN**



- Open BIOSID by tapping on the BIOSID icon. A blue screen will appear with an icon in the center that shows the software is loading and displays the new software version

4. REACTIVATE BIOMETRIC MATCHING LICENSES

- As soon as the BIOSID home screen is presented on the screen, go to the Settings Menu by tapping the gear icon located in the upper left-hand corner
- Press **MANAGE LICENSES**
- Press **MANAGE NT LICENSES**
- Press **ACTIVATE**



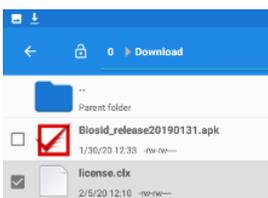
- The NT licenses will be activated, and its status and steps will appear below the button

5. SEND QR CODE IMAGE TO CARDLOGIX

- After installation, return to the Home Screen
- Press the Settings icon in upper left-hand corner
- Press **MANAGE LICENSES**
- Take a screenshot of the QR code and send that image to CardLogix
- CardLogix will then send you a new product license

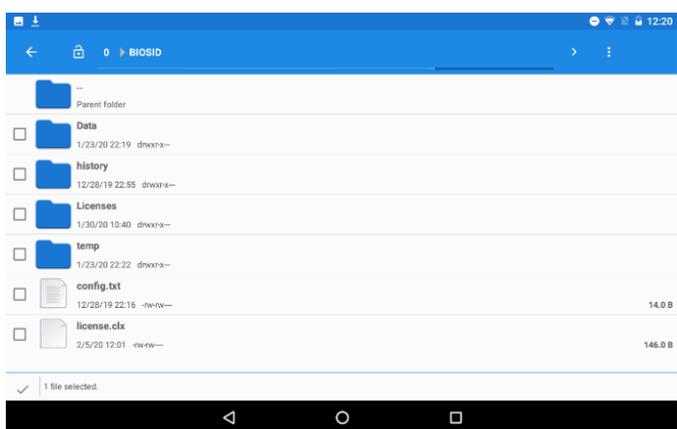
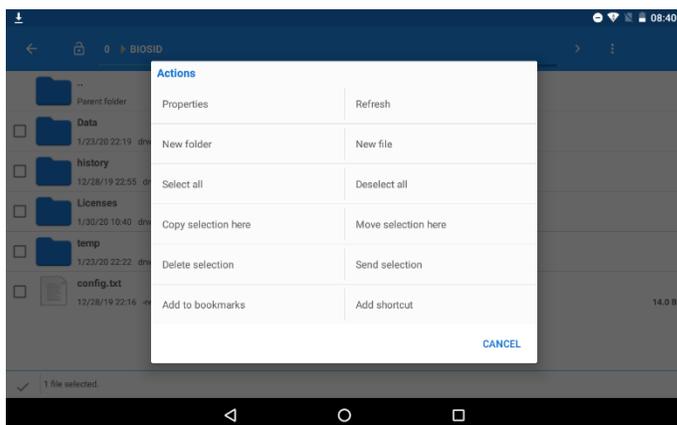
6. REACTIVATE BIOSID PRODUCT LICENSE

- Double click the new file provided via a link or email
- Return to the Download folder under the device's File Manager
- Click the checkbox next to the file (license.clx)



- Return to previous screen by pressing the back-arrow button located in the top left-hand corner

- e. Open the BIOSID folder and tap the 3-dot menu located on top right-hand corner
- f. Select **MOVE SELECTION HERE** to relocate the file to this designated folder.



NOTE: the new license file must be stored under this BIOSID folder in order for the software to run

BIOSID ENROLL+VERIFY

OVERVIEW

BIOSID™ Enroll+Verify enables the capture 10 fingerprints, 2 irises, 1 frontal face, 1 signature and cardholder demographic information. It also enables the enrollment of this data to a cloud database, written to the smart card directly, or stored in protected files within the tablet. It also includes BIOSID™ Verify for biometric matching capability and identity verification. See subsequent chapter on BIOSID Verify for how to use this section of the software.

HOME SCREEN: OPTIONS AND SETTINGS

The Home Screen (Fig 2.2) displays 3 buttons.

1. **ENROLLMENT.** To begin the enrollment process, you will start here. You will be able to enroll cardholder information, capture multi-modal biometric data, then encode the data directly to a smart card or send it to a cloud database for remote credential issuance.
2. **READ CONTACTLESS CARD.** To read cardholder data from a contactless card and to verify that data against the subject’s identity, you will start here.
3. **READ CONTACT CARD.** To read cardholder data from a contact card and to verify that data against the subject’s identity, you will start here.

CONFIGURE SETTINGS (General settings)

First you must configure your language, biometric modalities and thresholds, and cardholder data field settings. From the Home Screen, go to the Settings Menu found in the upper left-hand corner of screen.

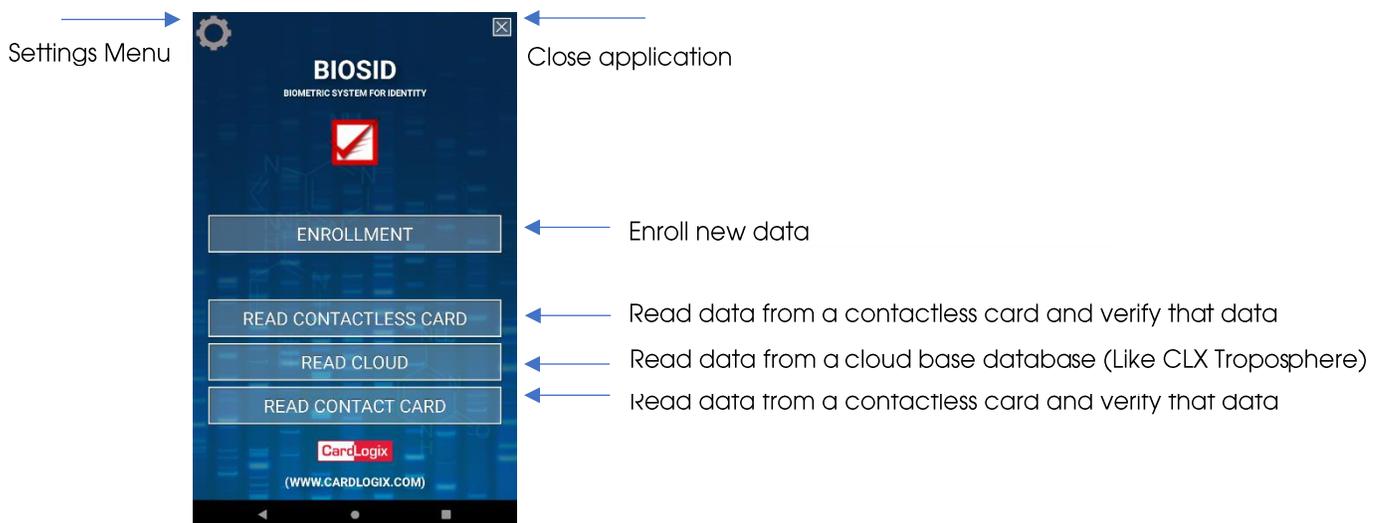


Fig 1.0

Under Settings Menu:

1. Select desired language. We currently support English, French, Spanish and Arabic.
2. Configure biometrics. Select which biometric modalities to capture and to enroll.
3. Set sensitivity matching thresholds. This selection will also be used for biometric matching and verification.
4. Configure demographic data fields. Select which fields to capture for cardholder demographic data.

Review enrollment history

The screenshot shows the BIOSID SETTINGS menu with the following sections and options:

- Version:** 20200128
- Buttons:** MANAGE LICENSE, HISTORY, CONTACT CARDLOGIX, REPORT ISSUE
- Language:** English
- Biometric Options:**
 - Face (Face Matching Threshold: 50)
 - Iris (Iris Matching Threshold: 50)
 - Fingerprints (10 finger icons, 4 are checked)
- Person Detail:**
 - Name, Dob, Sex, Serial Number, Expiration Date
 - Serial Number is mandatory field for saving data in Cloud and Device
 - Serial Number
- Address Detail:**
 - Address, Apt/Suite, City, State, Zip Code
 - Signature
- Employee Data:**
 - Employer, Organization, Position
- Default Storage Location:** /storage/emulated/0/BIOSID/xml (BROWSE button)
- Save Fingerprint Image:** (Note: This option is only allowed if the user saves to the Cloud or to the Device)
- Saving options:**
 - Contactless, Contact, Cloud Storage, Device
- API URLs:**
 - Submit User detail api: http://www.clxdemo.com/bioSidAndroidsubmit/Submit.aspx
 - Fetch User detail api: http://www.clxdemo.com/bioSidAndroidsubmit/User.aspx?serialNumber=
- Buttons:** SAVE, CANCEL

Annotations and instructions:

- BIOSID Version #** and **Manage licenses** point to the top left.
- Report Issue** points to the REPORT ISSUE button.
- Language selection: English, French, Spanish, Arabic** points to the Language dropdown.
- Face options to enroll or Verify.** and **Iris options to enroll or Verify.** point to the biometric options section.
- Biometric options to enroll. Click on the biometric that you would like to enroll and select the sensitivity of the biometric verification. We recommend 50%.** points to the threshold sliders.
- Fingerprint options to enroll. Click on the fingers that will be enrolled. All 10 fingerprints can be enrolled. This is an example selected 4 fingerprints to be enrolled.** points to the fingerprint icons.
- Enter the Personal data that you would like to Enroll (if any)** points to the Person Detail section.
- Serial Number (Primary key identifier for user) for enrollment and verification. This is a MUST entry if saving or verification from the cloud database.** points to the Serial Number checkbox.
- Address information to be entered. Select fields that you would like to include in the enrollment** points to the Address Detail section.
- Select if you would like a signature to be capture during enrollment** points to the Signature checkbox.
- Select and choose fields to be enrolled for the Employee information** points to the Employee Data section.
- Provide Location to save Enrollment information to be saved to the BOISID device.** points to the Default Storage Location.
- Select this option is you would like to save the Fingerprint images during enrollment. THIS OPTIONS IS ONLY AVAILABLE TO SAVE TO TE CLOUD DATABASE OR DIRECTLY TO THE DEVICE.** points to the Save Fingerprint Image checkbox.
- This option allows the users to select where the enrollment information is saved or to verify the user's information from a specific source. Please not if the FINGERPPRINT IMAGES are selected, only the cloud or device options are available to be selected.** points to the Saving options section.
- Included is the location where the enrollment data can be STORED to a cloud base database** points to the Submit User detail api URL.
- Included is the location where the enrollment data can be VERIFIED from a cloud base database** points to the Fetch User detail api URL.
- Contact CardLogix for Assistance** points to the CONTACT CARDLOGIX button.
- Select options to either SAVE your changes or CANCEL if you would like to return to the main screen.** points to the SAVE and CANCEL buttons.

Fig 2.3

BEGIN ENROLLMENT

ENTER CARDHOLDER DEMOGRAPHIC INFORMATION (Depending on the Setup selection that you have selected)

From the Home Screen, Press **ENROLLMENT**. You will now be presented with input fields for enrolling cardholder data. Fill in the information and press **NEXT** to move to the subsequent screen as shown in Fig 2.4, Fig 2.5, and Fig 2.6.

Fig 2.4

Fig 2.5

Fig 2.6

CAPTURE SIGNATURE

After the cardholder information has been entered, the subject will now use their index finger to capture their signature (see Fig 2.7). If you are unsatisfied with the signature, you can clear the screen and start again by pressing the **CLEAR SIGNATURE** button.

Fig 2.7

Fig 2.7 B

Fig 2.7 B is an example of a completed signature

CAPTURE FRONTAL FACE (PHOTO ID)

After the signature has been selected, you will now take a picture of the subject’s face (if face capture was chosen in the setup menu).

First, press **TAKE PHOTO**, as shown in Fig 2.8.

This will then take you to the next screen, as shown in Fig 2.9. By default, the software uses the back camera of the device due to a higher resolution image. However, by tapping this screen twice, you may switch camera modes and switch to the front camera.

Please make sure that the face of the individual lies within the yellow outlined box and that the eyes are aligned within the yellow circles. Also make sure to take the picture in an environment with plenty of light.

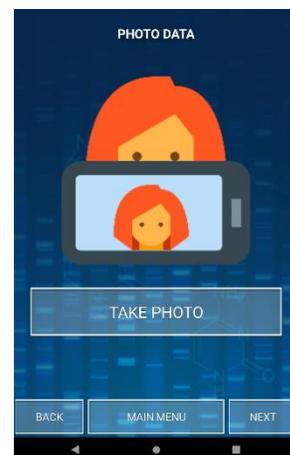


Fig 2.8

CAPTURE PHOTO

To capture the photo, you have 2 options. To either use the front or back camera. To change from the back to the front, please **TAP “ TWICE ”** on the right side of the screen. This will allow for the camera to be changed from front to back or back to front. After you put the person picture into the template provided on the screen, **TAP** the yellow round button, located at the bottom left-hand corner of the screen. It may take a few seconds for the image to be captured. If there is an error with the picture, an error code will appear, and the previous screen (Fig 2.8) will display for you to reattempt the picture.

After the picture is taken, (See Fig 2.9 B) you have 4 options. You may take a new photo, go back to the previous screen by tapping **BACK**, go to the main menu by selecting **MAIN MENU**, or go the next step to enroll biometric Irises by selecting **NEXT**. See Fig 2.10.



Fig 2.9



Fig 2.9 B

CAPTURE IRISES

You will now capture the subject’s irises. If this option was not selected under the Settings Menu, you will be directed to the next screen. Please select **CLICK TO ENROLL** to begin iris enrollment, as shown in Fig 2.11.

You can either use the front camera or the back camera at this point.

Front Camera: Use the front Camera, as shown in Fig 2.12. Keep the subject’s eyes within the circles and then press the lower left button. The white circles will rotate until they have completed the Iris scan. Each circle will become green when the irises have been captured. For a successful and fast iris capture, please make sure that you are in an environment with plenty of light. Also, please keep your eyes towards the capturing lens. For front facing capture, focus on the red dot at the top of the device.

Back Camera: The user can use the back camera by double clicking the screen. The back screen will appear with the same white circles. Please align the irises in the circles and press the lower left button to allow for the capturing of both irises. When BIOSID has successfully captured the iris data, each circle will appear green.



Fig 2.11



Fig 2.12

Note: To expedite the iris registration process, please follow these instructions.

1. Capture irises in an environment with plenty of light
2. Keep your eyes towards the camera. For the front camera, a red light will appear and focus on the red light while keeping your iris in the white circles. For the back camera, the user will assist in keeping your eyes centered inside the wide circles
3. Keep your eyes wide open to allow the camera lens to take a good picture of your iris
4. Move the camera slowly toward your face (if using the front camera) or toward the subject (for back camera). Keep the iris images focused within the green circles as much as possible. If you still have some difficulties, focus on 1 one IRIS at a time. The main issues with the iris capture is with the light in the room. If it is too dark, it will be difficult for the iris to be captured
5. As soon as the iris have been captured (see Fig 2.12A and Fig 2.12B), the page will allow you to retake the iris or move to the next section

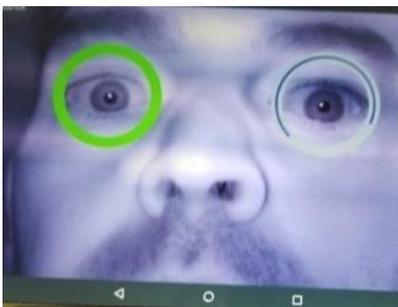


Fig 2.12A



Fig 2.12B

CAPTURE FINGERPRINTS

This next step (if fingerprints were selected) will be to register the subject’s fingerprints as shown in Fig 2.13A, B, C.



Fig 2.13A



Fig 2.13B



Fig 2.13C

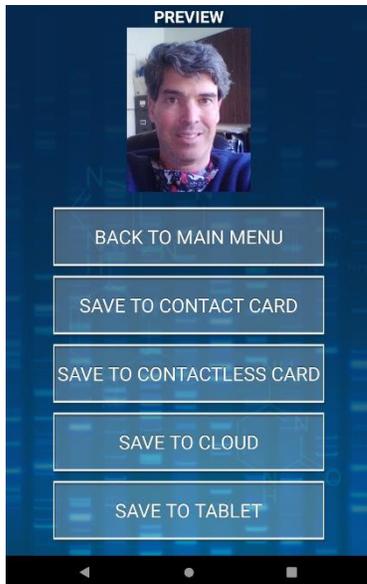
Place the subject’s finger onto the fingerprint reader (located on the bottom right of the BIOSID tablet). A green tip of the finger will show you which finger to use. Please make sure that your finger is aligned in the center of the fingerprint reader. Then, press **SCAN FINGER**.

Wait until the picture of your fingerprint is displayed on the screen (as seen on Fig 2.13B). As soon as the picture of the fingerprint is displayed, you can then select another finger (as demonstrated by the green finger image presented on the screen) to be positioned on the fingerprint reader. Then, press **SCAN FINGER** and repeat the process until you have all fingerprints that you would like to be enrolled, registered. As soon as the fingerprints are registered, the next page (Fig 2.13C) will show the subject’s picture and the biometric enrollment completed.

Please click **NEXT** to go to the next phase of the Biometric Enrollment process.

MANAGE CARDHOLDER DATA

The next screen allows you to select where to send and store the biometric and demographic data you have just captured. You will be presented with 5 options, as shown in Fig 2.14 below.



BACK TO MAIN MENU. Go back to start a new enrollment. **NOTE:** If you click this option, the enrollment data will not be saved if you have just finished capturing data.

SAVE TO CONTACT CARD. This writes the data to the contact smart card. Please insert the contact card into the reader prior to selecting this option.

SAVE TO CONTACTLESS CARD. This writes the data to the contactless smart card. Please place the card on the NFC reader prior to selecting this option.

SAVE TO CLOUD. With this option, you may save the cardholder data to a cloud database. One option is to send to the CardLogix Troposphere Cloud Database, as demonstrated via the link: <https://www.cardlogix.com/downloads/literature/information-sheets/7200111-Troposphere-Identity-Server.pdf>. You can print and encode remotely from a desktop or centralized printer and encoder using CardLogix’s Card Encoding Engine (CEE) software: <https://www.cardlogix.com/product/cee-chip-smart-card-encoding-software-id-printing/>

SAVE TO BIOSID DEVICE. This option saves the enrollment information into a file for future use.

Fig 2.14

As soon as the user selects where the enrolled information should be saved, BIOSID will send your information to that location. If you would like to write the information to a contactless or contact smart card directly, please follow the instructions below.

WRITE CARDHOLDER DATA TO SMART CARD

If you have pressed **SAVE TO CONTACTLESS CARD** or **SAVE TO CONTACT CARD**, a status bar will indicate that the software is writing the data to the smart card (Fig 2.15). If you save to the Cloud or to the device a complete screen will be shown like Fig 2.15 B. After the data is stored to the medium that you have selected, you can save it to a different location or go back to the main menu to enroll another user or verify a user or leave the BIOSID application (see Fig 2.15 C).



Fig 2.15

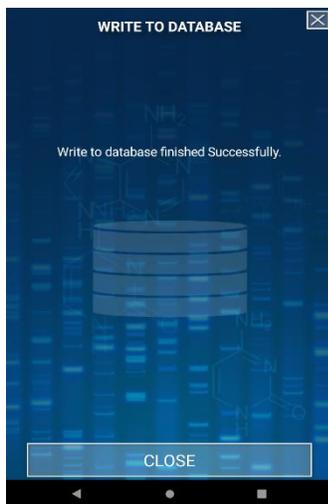


Fig 2.15 B

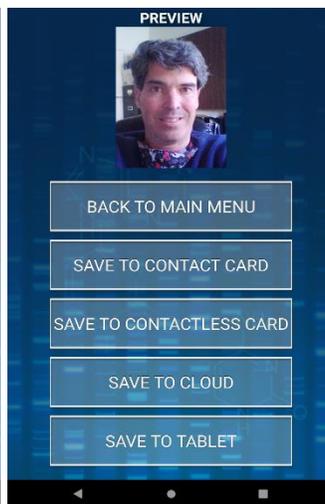


Fig 2.15 C

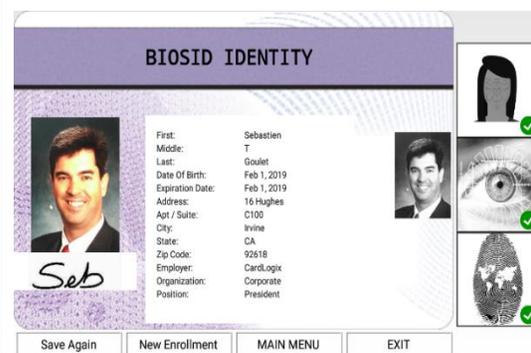


Fig 2.16

As soon as the information has been encoded into the card or the cloud, an example of the complete card is demonstrated to the user. (Fig 2.16)

VIEW CARDHOLDER DATA ONSCREEN

Congratulations! You have enrolled your first subject.

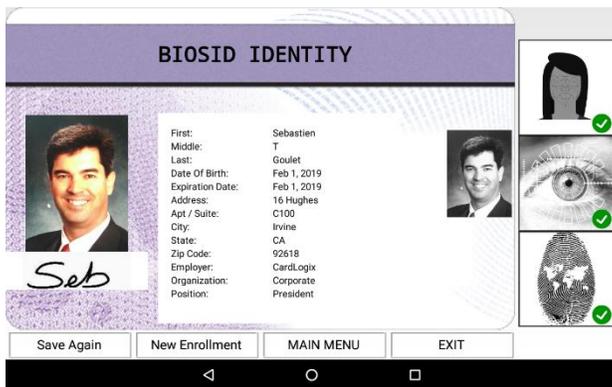


Fig 1.16

From this screen (Fig 1.16), you now have 4 options:

1. Press **SAVE AGAIN** to write to another card (in a different format if preferred)
2. Press **NEW ENROLLMENT** to begin another enrollment for a new subject
3. Press **MAIN MENU** to return to the main menu. From the main menu you can verify the card or you may begin a new enrollment
4. Press **EXIT** to close the application

The three icons (on the left) will show with a green tick mark if the biometric information has been saved

SAVE DATA TO BIOSID DEVICE OR CLOUD DATABASE

At the Home Screen (See Fig 1.0 on page 10), there is a wheel icon to enter the setup menu. Click on it and then, go through the setup to select the option to save to the cloud or device or both. See Fig 2.3

BIOSID VERIFY

OVERVIEW

BIOSID Verify enables multi-factor authentication, including 1.1 biometric matching whereby protected biometric templates stored in CardLogix M.O.S.T. smart card chip are compared against live captures from the subject presenting his or her identity. CardLogix leverages sophisticated biometric matching technologies, indulging its own proprietary fingerprint capture and matching algorithm. The application also provides the onscreen display of photo ID, signature, and demographic cardholder data which is also extracted from inside the smart card chip.

USING BIOSID VERIFY

BIOSID Verify comes in two version. One with the BIOSID Enroll and Verify (See Fig 3.1) capability and one with ONLY the BIOSID Verify (See Fig 3.1 B) option. This depends on the options that you purchased. To use the BIOSID Verify, you need to select the users data location (Smart Card Contact, Smart Card Contactless, Cloud or Device (TBD)). After you pressed which method to verify the users, the next screen will show up to process to the next step to retrieve the users information to be verified.

From the home screen, press **READ CONTACTLESS CARD** if you are using a contactless card or press **READ CONTACT CARD** if you are using a contact card, or **READ CLOUD** for cloud base database or **READ DEVICE** (Fig 3.1) .

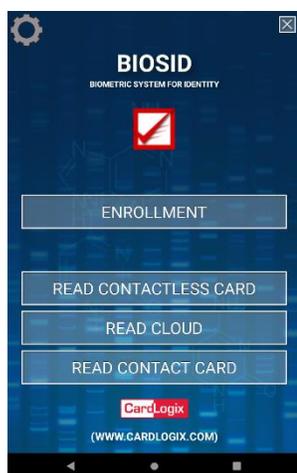


Fig 3.1

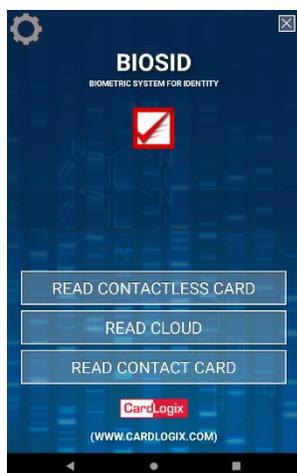


Fig 3.1 B



Fig 3.3

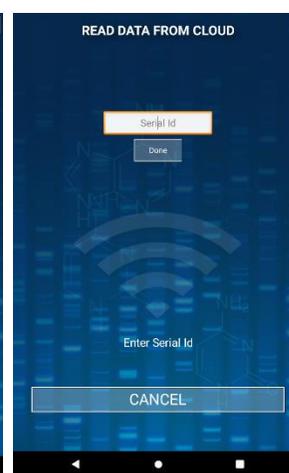


Fig 3.3 B

After this point, the next screen will display (Fig 3.3 or FIG 3.3 B). Notice the status bar below which indicates that BIOSID is now extracting data from the smart card (Contact or Contacless Card Fig 3.3) or from the cloud or device (FIG 3.3 B). Please remember, if you are reading form the cloud or device, your **MUST** enter a serial ID to continue. This is the PRIMARY KEY that is mandatory to retrieve the user’s information from these storage locations.

VERIFY ONSCREEN CARDHOLDER DATA

Once the software has extracted the information from the smart card successfully, a new screen (Fig 3.4) will populate this information onto the screen, including photo ID, signature, and demographic data fields.

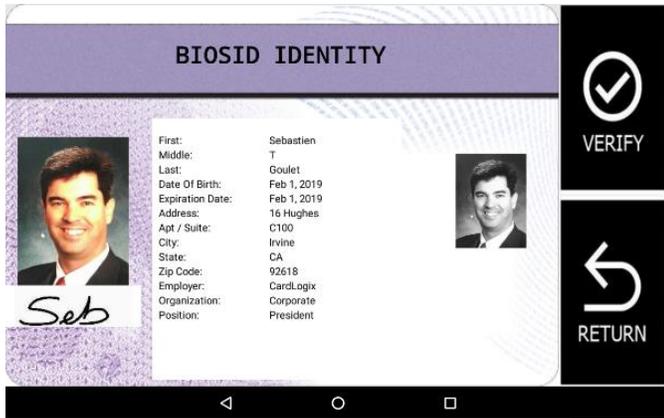


Fig 3.4

Please ensure that all the data is correct. Check that the Photo ID image matches the face of the subject presenting his or her ID card. Check that the information presented onscreen matches the information printed onto the card.

Press **RETURN** or press the back-arrow icon on the bottom left-hand corner of the screen if there are any issues.

Press **VERIFY** to begin the biometric verifying process.

VERIFY BIOMETRIC DATA

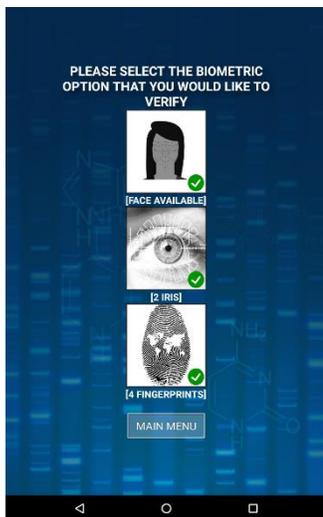


Fig 3.5

As soon as the user has selected the biometric information that needs to be verified, this new screen will be shown on the BIOSID Mobile Device (Fig 3.5). The green checkmarks indicate that the particular modality has been set to be verified.

- 1) Face recognition / verification
- 2) Iris recognition / verification
- 3) Fingerprint recognition / verification

NOTE: After pressing your selection, please wait until the next screen appears. This may take a few seconds.

FACE RECOGNITION / VERIFICATION:

For face recognition and verification, the subject will need to present his or her face toward the camera. Please ensure that the face lies within the yellow outlined box and that the irises are aligned within the 2 yellow oval indicators. (See Fig 3.6A). Press the bottom left button to capture the image.

As soon as the image is captured, BIOSID will determine whether or not the new face image presented matches the preexisting template stored in the smart card chip.



Fig 3.6A



Fig 3.6B

← This section will either say "MATCH" or "NOT A MATCH"

If the new face image is recognized and matches the preexisting template, the screen will indicate a "MATCH" as shown in Fig 3.6.

However, if the new face image is not recognized, the same screen (Fig 3.6B) will instead state "NOT A MATCH".

Press **CLICK TO VERIFY** to try again, **BACK** to return to previous screen, or **MAIN MENU** to return to the main menu

IRIS RECOGNITION / VERIFICATION:

For the Iris recognition and verification, the user can select either the front or back camera to verify the Iris of the individual that you would like to verify. Reminder, if you would like to switch camera, just tap twice rapidly on the screen.

As soon as you have selected which camera to use, please align the subject's 2 eyes within the white circles on the screen.

Have the subject continue to look forward (towards the red dot with the front camera) and towards the camera for the rear camera. Then, press the round button in the left corner to start the process of validation.

Please keep your eyes wide open during the process. (See Fig 3.7)

VERY IMPORTANT. Please capture all new images in an environment with plenty of light.

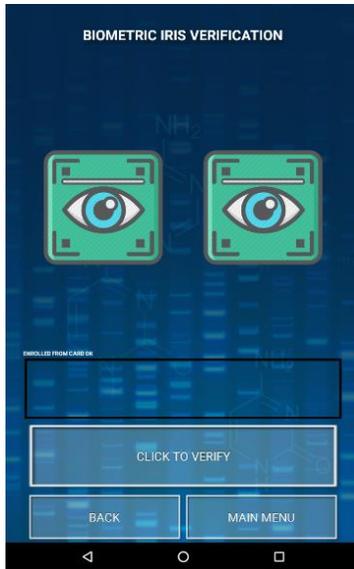


Fig 3.7



Fig 3.8

This section will either say "MATCH" or "NO MATCH"

If the new iris images match the iris templates within the smart card chip, the screen will say "MATCH". (See Fig 3.8). However, if the images do not match, it will state that it is "NOT A MATCH".

Press **NEXT** to move to the next step or press **VERIFY** to try again.

FINGERPRINT RECOGNITION / VERIFICATION:

For fingerprint recognition and verification, ask the subject to put their fingerprint on the fingerprint reader (located at the bottom right of the tablet).

Please select **CLICK TO VERIFY** to start the process of verifying the fingerprint(s). (Fig 3.9A)

If you click **HELP**, it will show which fingers are available to be verified. It will tell you what has been stored in the card or on the cloud. (Fig 3.9B). If you would like to cancel the Fingerprint verification, please click **CANCEL**. If you would like to go to the main menu and try a different type of Biometric Verification, please select **Main Menu**.

If the fingerprint successfully matches, it will state **MATCH**, as shown in Fig 3.10A. If the fingerprint does not match, it will state **FAILED**, as shown in Fig 3.10B.

Press **CLICK TO VERIFY** to try again, press **MAIN MENU** to verify another finger, or press **CANCEL** to go back to the Biometric Verification page.



Fig 3.9B



Fig 3.9B

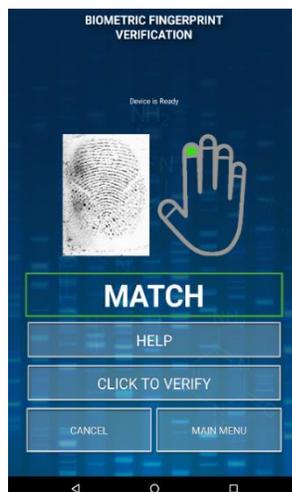


Fig 3.10A



Fig 3.10B

CUSTOMIZATION SERVICES

BIOSID is shipped out-of-the-box in standard editions. However, CardLogix understands that every project comes with a unique set of needs and requirements, and we are here to customize the solution to meet the specific needs.

Included below are common requests we receive from customers:

- 1) Personalize background. Provide your own information on the BIOSID background for your personalized touch.
- 2) Customize the cardholder data screen layout to match the printed layout of the actual issued ID card.
- 3) Change the color of your BIOSID: With orders of over 2,000 BIOSID, you can change the colors of the plastic of your BIOSID for a fee.
- 4) Add on functionality. The capabilities to the BIOSID are numerous and we can develop applications to link the BIOSID to external devices such as printers, cloud or LAN base system (through WiFi or GSM networking capabilities), projection, web apps, etc.
- 5) Device Lock: Lock the device so the users do not have access to the BIOSID settings or applications (\$20 add on).
- 6) Card File Structure (CFS) customization: Provide the users with their unique CFS (instead of the standard application) for your secure identity credential or the user can purchase the MOST Tools Kit to design their own CFS.

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FCC

The BIOSID equipment has been tested and found to comply with the requirements/standards for a class B digital device, pursuant to part 15 of the United States FCC rules. These requirements/standards are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit separate from the receiver's
- Consult the dealer or an experienced radio/TV technician for help.

This equipment has been certified to comply with the requirements/standards for a class B computing device, pursuant to FCC rules.

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This product has passed all electromagnetic interference and susceptibility testing required by the European Community and thus bears the "CE" mark. This Class B Digital Apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations.

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