

# ACS MobileMate (for Android)

User Manual V1.01

Subject to change without prior notice

info@acs.com.hk www.acs.com.hk



# **Table of Contents**

1.0.	Introduction	4
2.0.	Specifications	5
2.1. 2.2.	Supported Mobile Operating Systems Supported Mobile Card Readers	5 5
3.0.	Using the ACS MobileMate application	6
3.1.	Set the Custom ID	8
3.2.	Explore the mobile card reader	9
3.3.	Explore the magnetic card	10
3.4.	Explore contact card (for ACR32 only)	13
3.5.	Explore contactless card (for ACR35 only)	16
3.6.	About the reader	19
3.7.	Contact ACS	20

Page 3 of 20



# **1.0. Introduction**

The ACS MobileMate is an application developed by Advanced Card Systems Ltd that allows the user to explore ACS' Mobile Card Reader (MOCR) product line using different types of card technologies such as contact, contactless and magnetic stripe cards.

The MOCR product line is comprised of ACR3x readers – ACR31 Swipe, ACR32 MobileMate and ACR35 NFC MobileMate. ACR3x is attached to the audio jack port of an Android<sup>™</sup> device, which enables you to view smart card and card reader information, configure card reader settings, and establish a communication between the smart card and card reader.

Page 4 of 20



# 2.0. Specifications

Below are the supported specifications of the ACS MobileMate application:

#### 2.1. Supported Mobile Operating Systems

• Android<sup>™</sup> 5.0 and later

## 2.2. Supported Mobile Card Readers

- ACR31 Swipe
- ACR32 MobileMate
- ACR35 NFC MobileMate

Page 5 of 20



# 3.0. Using the ACS MobileMate application

To use the ACS MobileMate application:

1. Connect the ACR3x mobile card reader to the audio port of your device.



2. Open the ACS MobileMate application.



Page 6 of 20



3. The application will start by detecting and highlighting the connected reader.



Page 7 of 20



## 3.1. Set the Custom ID

To set the Custom ID:

1. Tap on Settings.

ACR32 MobileMate Card Reader
Settings
Explore Device
Explore Magnetic Card
Explore Contact Card

2. Tap on the Custom ID field, and then enter your preferred ID. Tap on Set.

	🗊 📶 76% 🛑 10:32 AM			
Settings				
SET CUSTOM ID				
ACS MOCR				
Set				

Note: Maximum number of characters is 10.

Page 8 of 20



#### 3.2. Explore the mobile card reader

To explore the details of your mobile card reader:

1. Tap on **Explore Device**.



- 2. Wait until the ACR3x details are displayed:
  - Firmware Firmware version of the mobile card reader
  - Battery Level Remaining battery power of mobile card reader
  - Reader ID Device ID in hexadecimal format
  - Custom ID Custom name of the reader

	🗟 .nl 100% 🛢 2:40 PM		
Explore Device			
Firmware Version	ACR32 V1.08		
Battery Level	100%		
Reader ID	29 BF DE 52 05 FD 29 24		
Custom ID	ACS MOCR		

Page 9 of 20



### 3.3. Explore the magnetic card

To explore the details of a magnetic card:

1. Tap on Explore Magnetic Card.



2. Swipe your magnetic card (in either direction) to the mobile card reader.



Page 10 of 20



- 3. The magnetic card details will be displayed:
  - Swipe Count Number of swipes to the reader
  - Data Received Data received in hexadecimal format

🞧 🛜 📶 75% 🗖 10:33 AM
Explore Magnetic Card $\bigcirc$
Swipe Count 1
Data Received
23 00 87 50 F7 E2 C2 9A 41 1D 2F 11 43 FD C7 71
04 BF F4 09 D1 A9 85 48 E7 93 F9 94 3A 89 6A 5F
37 F2 E6 E9 7E 04 47 C1 0C F6 82 72 B1 49 C1 56
4F 95 E4 0A 67 F1 93 82 EB 9C E4 03 C8 F8 E9 43
5F 3B 20 CB A4 DF 16 BD 2C F9 13 1B 55 E1 74 01
57 09 B3 DD D7 CC 13 1E 16 06 63 F3 A7 28 A5 97
1A 60 7F F1 BD B8 63 26 B9 C7 8E 6E 81 43 35 BC
A2 FF F3 4A 85 60 F6 6C 83 39 36 25 BF 5D EA C7
75 A1 64 99 0D 01 2F 18 27 BC (Checksum OK)

- **Card Track 1** Details the cardholder's name, account number and other discretionary data
- Card Track 2 Holds the data used for financial transactions (e.g., ATM and credit card checkers)
  - JIS2 Data Type of magnetic stripe data
  - Card Number Primary account number
  - o Name Name of the cardholder
  - Expiry Date Date of card's expiration
  - o Service Code Indicates the type of card that is set by the Card Issuer
  - Discretionary Data Sensitive authentication data that is defined by the Card Issuer (e.g., Card Verification Code)

Card Track 1			
JIS2 Data			
Card Number	168011003974811		
Name	MARK T. FRANCISCO		
Expiration Date	0000		
Discretionary Data	0		
Card Track 2			
Card Number	1168011003974811		
Expiration Date	1220		
Service Code	?7		
Discretionary Data			



4. To reset the reader connection, tap on the **Refresh** button.

🞧 🙃 🛜 📶 75% 💼 10:33 AM
Explore Magnetic Card 🛶 🕐
Swipe Count 1
Data Received
23 00 87 50 F7 E2 C2 9A 41 1D 2F 11 43 FD C7 71
04 BF F4 09 D1 A9 85 48 E7 93 F9 94 3A 89 6A 5F
37 F2 E6 E9 7E 04 47 C1 0C F6 82 72 B1 49 C1 56
4F 95 E4 0A 67 F1 93 82 EB 9C E4 03 C8 F8 E9 43
5F 3B 20 CB A4 DF 16 BD 2C F9 13 1B 55 E1 74 01
57 09 B3 DD D7 CC 13 1E 16 06 63 F3 A7 28 A5 97
1A 60 7F F1 BD B8 63 26 B9 C7 8E 6E 81 43 35 BC
A2 FF F3 4A 85 60 F6 6C 83 39 36 25 BF 5D EA C7
75 A1 64 99 0D 01 2F 18 27 BC (Checksum OK)

Page 12 of 20



## 3.4. Explore contact card (for ACR32 only)

To explore the details of a contact card:

1. Tap on **Explore Contact Card**.



2. Insert the card in the contact card slot of ACR32.



Page 13 of 20



3. To display the card's Answer To Reset, tap on the **Answer To Reset** field.

<b>?</b>	(lu+	🖡 📶 74% 💼 10:36 AM		
Explore Contact Card				
DISPLAY CARD ATR				
Answer-t 3B F8 13 34 31 B7	o-Reset 00 00 81 31 FE 45 4	1A 43 4F 50 76 32		

4. To manually send commands to ACR32, tap on the **APDU** field, and then enter the command.

APDU				
APDU C	APDU Command			
80 14 00	80 14 00 00 08			
Respons	Response			
	Tran	smit Comn	nand	
1	2	3	4	5
6	7	8	9	А
В	С	D	E	F
	return	0	×	

5. Tap on **Transmit Command**.

Page 14 of 20



6. The **Response** code will be displayed.

🞧 🗿 🗊 🖓 🖬 10:37 AM				
Explore Contact Card				
DISPLAY CARD ATR				
Answer-to-Reset 3B F8 13 00 00 81 31 FE 45 4A 43 4F 50 76 32 34 31 B7				
APDU				
APDU Command				
80 14 00 00 08				
Response				
6A 81				
Transmit Command				

**Note:** To know more about APDU commands, please refer to the card manuals supported by the ACR3x mobile card readers.



### 3.5. Explore contactless card (for ACR35 only)

To explore the details of a contactless card:

1. Tap on Explore Contactless Card.



2. Tap the card to the ACR35 reader.



Page 16 of 20



3. To display card's Answer To Reset, tap the Answer To Reset field.



4. To manually send commands to ACR35, tap on the **APDU Command** field, and then enter the command.

<b>?</b>		t;))	72%	10:43 AM
E	Explore Contactless Card			
DISPLAY	CARD ATR			
Answer-	to-Reset	4F 50 76 3	2 34 31 5E	
APDU		11 00 100	2010102	
APDU C	ommand			
FF CA 0	0 00 00			
Respons	se			
	Transmit Command			
	2	3		5
6	7	8	9	А
R			F	F
	return	0	×	

5. Tap on **Transmit Command**.

Page 17 of 20



6. The **Response** code will be displayed.



**Note:** To know more about APDU commands, please refer to the card manuals supported by the ACR3x mobile card readers.



## 3.6. About the reader

To know more about the ACR3x reader and its technical specifications:

1. Tap on the ACR3x mobile card reader name.



2. The mobile card reader information will be displayed.



ACR32 MobileMate is the ideal tool that can be used with your mobile device. It unites card reader functionality with mobility which allows you to access secure applications anytime, anywhere.

The ACR32 MobileMate supports both magnetic cards that conform to ISO7810/11 standards; and ISO7816 Class A, B, and C smart cards (5 V, 3 V, and 1.8 V), microprocessor cards with T=0, T=1 protocol, and common memory cards in the

Page 19 of 20



# 3.7. Contact ACS

To contact ACS:

1. Tap on the **Contact** icon to view the details.



Android is a trademark of Google Inc.

Page 20 of 20