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# **RKF Travel Card**

## **Settings of keys and application identifiers**

### **Edition B**

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## 1 INTRODUCTION

This document exists in two different editions;

- Edition A
- Edition B

The difference between the editions is that Edition A holds information of keys that are erased from edition B. Edition A is only for distribution to:

- Public transport associations
- Suppliers attached to public transport associations

## 2 TRANSPORT KEYS

The following transport keys shall apply to all sectors and blocks of the card when delivered from factory:

Key A (hex):      -- -- -- -- -- -- -- (defined in [RKF-0018])

Key B (hex):      -- -- -- -- -- -- -- (defined in [RKF-0018])

Access conditions should allow reading and writing using both key A and B. According to the Mifare card specification this means the following code:

C1X0, C2X0, C3X0 = 0 0 0      block 0 (data block)

C1X1, C2X1, C3X1 = 0 0 0      block 1 (data block)

C1X2, C2X2, C3X2 = 0 0 0      block 2 (data block)

C1X3, C2X3, C3X3 = 0 0 1      block 3 (sector trailer)

When a sector is used by an application the keys may be changed to a different set of keys. When an application is deleted from a sector and the sector is of no use at the moment, the transport keys as outlined above shall apply.

The use of transport keys will prevent any unauthorised use of the card before it is commissioned by a background system.

### 3 ACCESS KEYS TO SECTORS WHERE THE DIRECTORY AND EVENT LOG IS STORED

The base file of the directory is always kept in sector 0h. The directory records are stored in sector 1h for “Mifare Standard” cards and in sector 20h for “Mifare Plus” cards.

The event log is dynamically placed on the card.

The following key shall apply to sectors as outlined above:

Key A (hex):      -- -- -- -- -- -- -- (defined in [RKF-0018])

Key B (hex):      -- -- -- -- -- -- -- (defined in [RKF-0018])

Access conditions should allow reading and writing using key B but only reading using key A. According to the Mifare card specification this means the following code:

C1X0, C2X0, C3X0 = 1 0 0	block 0 (data block)
C1X1, C2X1, C3X1 = 1 0 0	block 1 (data block)
C1X2, C2X2, C3X2 = 1 0 0	block 2 (data block)
C1X3, C2X3, C3X3 = 0 1 1	block 3 (sector trailer)

## 4            **MAC-KEY ATTACHED TO THE DIRECTORY**

The following key shall apply when generating the MAC of the directory:

-- -- -- -- -- -- -- -- -- (defined in [RKF-0018])

This key has value 0 as *cardMACkeyidentifier* and creation date of 1st Nov 1999

## 5 TABLE OF EXISTING APPLICATION IDENTIFIERS

The application identifier (AID) identifies the owner of an application. All public transport authorisations and other traffic operators will have their own AID, which identifies their particular application.

An AID is a 12 bits wide integer between 0...4095 (dec).

The numbering of AIDs are distribute among public transport authorisations and other traffic operators by the following principals:

00h - 63H	These AID values are special values used in the Directory (TCDI) to specify system objects, application objects, and data element groups common to all PTAs. The values are defined in [RKF-0022].
64H - 1F3H	Swedish public transport authorisations acting on county or municipal levels
1F4H - 3E7H	Swedish public transport authorisations acting on national or regional level and other operators
3E8H - 7CFH	Norwegian public transport authorisations or other operators
7D0H - BB7H	Danish public transport authorisations or other operators
BB8H - FFFH	Reserved

The following AIDs have been distributed:

AID	Organisation
64H	Stockholms Läns Landsting
65H	SL - StorstockHolms Lokaltrafik AB
66H	SL Flygbussar AB
67H	WaxHolms Ångfartygs AB
6EH	Länstrafiken i Västerbotten AB
6FH	Umeå Lokaltrafik AB
78H	Länstrafiken i Norrbotten AB
79H	Luleå Lokaltrafik AB
82H	Upplands Lokaltrafik AB
83H	Uppsalabuss AB
8CH	LTS - Länstrafiken Sörmland AB
96H	Östgötatrafiken AB
97H	Norrköpings Kommun
A0H	Jönköpings Länstrafik AB
AAH	Länstrafiken Kronoberg
B4H	Kalmar Läns Trafik AB
BEH	Gotlands Kommun, Kollektivtrafiken

AID	Organisation
BFH	Destination Gotland
C8H	Blekingetrafiken
DDH	Helsingborgs Kommun
DEH	Lunds kommun
E0H	Skånetrafiken
E6H	Hallandstrafiken AB
F0H	Västtrafik
10EH	Värmlandstrafik AB
10FH	Karlstads kommun
118H	LTÖ - Länstrafiken Örebro AB
122H	Västmanlands Lokaltrafik AB
12CH	Dalatrafik, AB
136H	X-Trafik AB
137H	Gävle Kommun
140H	Västernorrlands läns Trafik AB
14AH	Länstrafiken i Jämtlands Län AB
1F4H	SJ
1F5H	TIM - Trafik i Mälardalen
3E9H	AS Oslo Sporveier
3EAH	Norges Statsbaner
3EBH	SL - Stor-Oslo Lokaltrafikk A.S.
7D1H	HUR - Hovedstadens Udviklingsråd
7D2H	DSB
7D3H	ØSS/Metro
7D4H	STS
7D5H	VT