Card

ASK

The new generation of cards is compliant with Calypso specification and enables to create additional applications after card issuance.

Calypso cards are microprocessor based and offer both speed of transaction and high level of security.

ASK operating platform, TanGO, perpetuates the lifetime of existing products as well as the implementation of enhanced functionalities. Completed with CD21 OS, ASK's card offer is the most comprehensive on the market.

With CT4000 series, ASK provides the right answer to transport operators for more contracts, interoperability and flexible mapping.

Calypso Card
Protect your legacy system and open it to the future

CT4000 series custom configuration

- Powerful and cost effective microprocessor card for ticketing
- Fully interoperable & multimodal
- DES, DESX, Triple-DES security
- Up to 7 keys to share the cards between independent operators
- High-end microprocessor card for ticketing and multi-applications
- Flexible and customizable file structure
- Meets your requirements: create your own directories and size your files
    - Up to 18 Kbytes EEProm
    - Ticketing e-purse
    - Post issuance
    - Calypso Revision 2.4 or 3.1 compliant

CD21 / CD97 / CD97BX emulation

- Predefined multiservice card
- Ticketing, Electronic purse
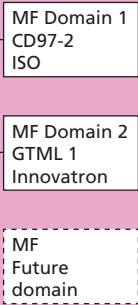- Multipurpose application

GTML / GTML2 / CT2000 emulation

- The most popular dual interface card
- High security mechanism DES & DESX

Standard

- Contactless: Innovatron and ISO14443 type B
- Contact: ISO7816
- Calypso certified
- Compliant with ISO1545 data structure

Physical characteristics

- ISO 7816 / ISO 7810 ID1
- 85.5 x 54 mm
- Thickness < 0.9 mm
- Temperature:
  PVC: -10°C to +50°C
  PET: -20°C to +70°C

Security features

- 8/16 bits microprocessor
- Data protection against reader's field withdrawal
- ISO9797 security mechanism
- Hardware crypto-processor

CT4000 series

- Flexible mapping
- Access condition defined for each file
- CT4000: 2,4,8,18 Kbytes EEProm
- Post issuance

Card body

- PET/PVC mat or glossy finishing
- Silver ink printed antenna
- Enhanced quality tests
- Dual interface or full contactless

Options

- 4 colors artwork printing
- PET body for extended temperature range
- Magnetic stripe
- Signature panel
- Thermo rewrite overlay
- Hologram

Physical Root

- MF Domain 1 CD97-2 ISO
- MF Domain 2 GTML 1 Innovatron
- MF Future domain

	Calypso Transit Cards						
Card Family	**TanGO**				**CD21**		
Card Name	CT4002 CTC4002	CT4004 CTC4004	CT4008 CTC4008	CT4018 CTC4018	CD21-2K CDC21-2K	CD21-8K CDC21-8K	CD21-3
Calypso compliance	Rev 2.4	Rev 2.4 / Rev 3.1			Rev 2.4		Rev 3.1
Emulation available	GTML/GTML2/CDLight/CD97				CDLight / CD97		
Interface	Dual / Contactless				Dual / Contactless		
Chip	ST19	ST23			ST19		ST23
ISO	ISO 14443 B1, 2, 3, 4 and ISO 7816-4						
EEProm	2 KBytes	4 KBytes	8 KBytes	18 KBytes	2 KBytes	8 KBytes	15 KBytes
Number of writes	100 000 cycles	500 000 cycles			100 000 cycles		500 000 cycles
Data rate	106 / 212 / 424 Kbps						
Unique S/N	32 bits	64 bits			32 bits (optional 64)		
Cryptography	DES / DES X / 3DES						
Key length	56 / 120 / 112 bits						
SAM	C. SAM and SAM S1						
Communication protocol	ISO Innovatron	ISO and Innovatron simultaneously on different domains			ISO Innovatron		
Number of keys	3 keys (up to 7 keys)				3 keys		
File structure	Customizable	Customizable after issuance Independant domains with different ATR			Customizable		

Your best contact in contactless: www.ask-rfid.com