

# APPLICATIVE NOTES ON “FAAC” PARKING SYSTEM “COBRA 600” card

## Entrance/Exit column Aligned with Ver. 5.8.0c of EPROM (31.01.2001)

The “CØ” option is a variation of the basic “SØ” EPROM, and therefore, most of its functions are the same. This text concerns the documentation of introduced modifications.

### Modes

4 possible modes can be set:

Mode	Presence Loop	Transit Loop
1	No	No
2	Yes	No
3	No	Yes
4	Yes	Yes

Mode 1 is default.

N.B.: this EPROM can never behave like a standard “S0”.

### Mode changes

Procedure for setting one of the four possible modes:

- Program the “Mode Number” in location **240** ( in Terminal Emulation **\*>FØ1, \*>FØ2, \*>FØ3, \*>FØ4**) E.g. **(4)dec** ⇒ **240 (\*>FØ4)** to **activate** mode “4”.
- reset the machine (e.g. power down and power up again; or close the JP1 contact)

When powered up again, the system sets parameters according to the new mode.

N.B.: the location number can be set in three different ways:

- use keyboard /display programming
- Use “Communication” – “EEPROM Reading/Writing” in WinGaep
- Use “Communication” – “Terminal Emulation” in WinGaep

### Functionality:

The card has to manage one or two gateways, piloting the FAAC beams set in “Parking management”.

To do this, a short pulse is required on an input to open and a short pulse on another input to re-close the beam.

We advise you to set four short times on the “Activating operations for valid card” item in the Panel Archive mask of WinGaep. E.g.

- OUT1 → 4 tenths
- OUT2 → 4 tenths
- OUT3 → 4 tenths
- OUT4 → 4 tenths

The following tables describe the pre-defined assignments of the inputs and outputs.

Inputs and outputs for gateway A	
OUT1	entrance opening beam (A)
OUT2	entrance closing beam (A)
ING1	transit loop at entrance (A)
ING5	Vehicle presence loop at entrance (A)

Inputs and outputs for gateway B	
OUT3	exit opening beam (B)
OUT4	exit closing beam (B)
ING2	transit loop at exit (B)
ING6	Vehicle presence loop at exit (B)

N.B.: the “2 Relay” card is required for interfacing output Out3/4, which are “Open-collector” type.

- ⇒ In mode 1) and 3), the card reader is usually enabled (as there is not vehicle presence loop).
- ⇒ In mode 1) and 2), the beam is opened for a valid card and re-closed for Timeout (as there is no transit loop).
- ⇒ In mode 2) and 4), the card reader is usually disabled and is enabled by the corresponding vehicle presence loop - the situation is therefore :
  - vehicle absent → relay contact open → entrance de-activated → unacceptable reading
  - vehicle present → relay contact closed → entrance activated → acceptable reading
- ⇒ In mode 3) and 4), the card reader is disabled if the transit loop is engaged.
- ⇒ In mode 3) and 4) the beam is re-closed under the following conditions:
  - re-closed for Timeout if the transit loop is disengaged and was never disengaged after the card was read
  - re-closed before Timeout if the transit loop was engaged and disengaged before its time elapsed
  - re-closed after Timeout if the transit loop was engaged at its time expiry and then disengaged.

N.B.: in whatever mode, the inputs and outputs described previously are, in any case, considered intended for the assigned function even if not used. This means, for example, that in mode 1) the four inputs to be used with loops cannot be used as normal alarm inputs.

#### “Timeout” changes

Necessary operations to set new timeout times:

Description	By keyboard programming	By Terminal Emulation
timeout before beam A is re-closed	Program time in sec. in location <b>238</b>	*> <b>Dxx</b> with xx in hexadecimal
timeout before beam B is re-closed	Program time in sec. in location <b>239</b>	*> <b>Exx</b> with xx in hexadecimal

As from EPROM version **5.7.6b**, the following functions are also available:

#### “Single-beam” mode

This mode is set if there are two lanes with a single beam, i.e. one entrance lane and one exit lane. In this mode, valid readings on B nevertheless activate the same outputs of A (OUT1 and OUT2).

How to set:

- (0)dec** ⇒ **237** (\*>C00) to **activate** the “Single-beam” function.
- (255)dec** ⇒ **237** (\*>CFF) to **de-activate** the “Single-beam” function (default).

N.B.: after giving the command, reset the card (e.g. power down and then power up) to make it operational

#### Ignore reader A card “Totally”

If this mode is set, all cards are ignored during card ignore time, and not only the last card read as when the mode is disabled.

How to set:

- (0)dec** ⇒ **235** (\*>A00) to **activate** the **ignore reader A card “Totally”**
- (255)dec** ⇒ **235** (\*>AFF) to **de-activate** the **ignore reader A card “Totally”** (default)

#### Ignore reader B card “Totally”

If this mode is set, all cards are ignored during card ignore time, and not only the last card read as when the mode is disabled.

How to set:

- (0)dec** ⇒ **236** (\*>B00) to **activate** the **ignore reader B card “Totally”**
- (255)dec** ⇒ **236** (\*>BFF) to **de-activate** the **ignore reader B card “Totally”** (default)

#### Ignore card on other reader

If this mode is set, the last card read on the other reader too is ignored during card ignore time.

E.g. a card is read on A and the relevant ignore time is 10 sec. - this card is ignored for 10 seconds on both A and B.

If the **Ignore reader A card “Totally”** function were simultaneously activated on A, only the card read on A would be ignored on B, and not any card.

How to set:

- (0)dec** ⇒ **234** (\*>900) to **activate** the **Ignore card on other reader** function
- (255)dec** ⇒ **234** (\*>9FF) to **de-activate** the **Ignore card on other reader** function (default)

### “Transits” Management

If this mode is activated, a “Valid card reading” sets off a mechanism that sooner or later produces the communication describing the outcome of that “Transit” - it can be “valid” or “invalid”.

The Cobra card deduces the outcome of the transit, checking if the sequence whereby the Presence and Transit loops were occupied was correct.

Management in Stand-alone mode is also possible. It was On-line only in the first versions (see further below)

How to set:

- (0)dec** ⇒ **233** (\*>800) to **activate** the “**Transits**” **Management** function (default).
- (255)dec** ⇒ **233** (\*>8FF) to **de-activate** the “**Transits**” **Management** function.

### “Unacceptable queuing” management

This concerns identifying a Transit (valid/invalid).

For normal operations, there is no need to release the Presence loop after the Transit loop was engaged. In practice, this means that it is acceptable for the next vehicle to be so close behind the first vehicle, so that the Presence loop is always engaged.

If this mode is activated, the Presence loop must be released after the Transit loop is engaged - in this way, a vehicle reversing after it has engaged both loops (if management had not been activated, this would be communicated as a “Valid transit”) can be identified as an “Invalid Transit”.

The converse of this is that a transit which was actually valid but was effected while a second vehicle was very close to the first, is identified as an “Invalid transit”.

We advise you to activate this facility only if you are sure that this situation cannot occur.

How to set:

- (0)dec** ⇒ **232** (\*>700) to **activate** the “**Unacceptable queuing**” **Management** function.
- (255)dec** ⇒ **232** (\*>7FF) to **de-activate** the “**Unacceptable queuing**” **Management** function (default).

### How to set “Minimum disengagement time”

A delay time after disengagement can be programmed for each of the four inputs assigned to interface with the Presence/Transit loops. If, when this time elapses, the input is still disengaged, it will be considered as such; if, on the other hand, it is re-engaged before delay time elapses, the SA64 program considers that the input never changed its status, i.e. it has always been engaged.

In brief, we can say that loop disengagements shorter than the programmed time are ignored.

This serves to filter the output of a sensor of magnetic masses which, in the event of a difficult reading, is not always “active” while a vehicle is passing over the loop.

How to set:

- (t)dec** ⇒ **228** (\*>3tt) for “**Transit A (ING1) minimum disengagement time**” with ‘t’ in tenths (default 2 tenths).
- (t)dec** ⇒ **229** (\*>4tt) for “**Transit B (ING2) minimum disengagement time**” with ‘t’ in tenths (default 2 tenths).
- (t)dec** ⇒ **230** (\*>5tt) for “**Presence A (ING5) minimum disengagement time**” with ‘t’ in tenths (default 2 tenths).
- (t)dec** ⇒ **231** (\*>6tt) for “**Presence B (ING6) minimum disengagement time**” with ‘t’ in tenths (default 2 tenths).

### How to set “Minimum engagement time”

As from version 5.7.6f, a delay time before engagement can be programmed for each of the two inputs assigned to interface with the Transit loops - if, when this time has elapsed, the input is still engaged, it will be considered as such; if, on the other hand, it is re-disengaged before delay time elapses, the SA64 program considers that the input never changed its status, i.e. it has always been disengaged.

In brief, we can say that loop engagements shorter than the programmed time are ignored.

This serves to filter the output of a sensor of magnetic masses which, in the event of a difficult reading, is not always “inactive” while no vehicle is over the loop.

How to set:

- (t)dec** ⇒ **226** (\*>1tt) for “**Transit A (ING1) minimum engagement time**” with ‘t’ in tenths (default 2 tenths).

(t)dec ⇒ 227 (\*>2tt) for “Transit B (ING2) minimum engagement time” with ‘t’ in tenths (default 2 tenths).

### Display of Presence loop inputs status

The following explanation applies up to version 5.7.6c. You can monitor the status of input ING5 and ING6 (Presence A and Presence B respectively) by looking at the last character at bottom right (immediately after the seconds) of the SA64 display.

This character can refer to four different values:

‘ ‘ (null, i.e. a Space)	Presence A and Presence B disengaged
‘.’ (a low dot)	Presence A engaged                      Presence B disengaged
‘.’ (a central dot)	Presence A disengaged                      Presence B engaged
‘.’ (two dots)	Presence A and Presence B engaged

The following explanation applies from version 5.7.6d. You can monitor, on the SA64 display, the status of inputs corresponding to:

ING1 and ING5 if reader A (Transit A and Presence A respectively)

ING2 and ING6 if reader B (Transit B and Presence B respectively)

Look at the last character at bottom right (immediately after the seconds).

This character can refer to four different values:

‘ ‘ (null, i.e. a Space)	Presence and Transit disengaged
‘.’ (a low dot)	Presence engaged                      Transit disengaged
‘.’ (a central dot)	Presence disengaged                      Transit engaged
‘.’ (two dots)	Presence and Transit engaged

### Yes/No queuing mode

As from version 5.7.6f, this concerns the possibility (or lack of it) for a second vehicle to be read while another reading is pending, which is waiting to be identified as a valid or invalid Transit.

There is only one setting, but there is separate management for reader A and reader B.

**N.B.: Do not confuse this with “Unacceptable queuing management”.**

“Queuing” **No** is the **pre-defined** setting.

In this case, at the most **two** pending readings are acceptable.

By de-activating the possibility of queuing two readings, a card reading is ignored while a preceding reading is pending on the same reader.

As soon as it becomes a “Transit”, the reader returns to operating status

How to set:

(0)dec ⇒ 225 (\*>000) to activate “Queuing” **Yes Mode**.

(255)dec ⇒ 225 (\*>0FF) to activate “Queuing” **No Mode** (default).

### Behaviour in "Stand-alone" mode

As from version 5.7.6f, Transits can be managed also in "Stand-alone" mode providing they are activated.

A Reading and a Transit cannot be simultaneously archived on SA64.

However, note that the WinGaep program automatically generates a “Card reading” whenever it receives a “Transit” later on (i.e. delayed). This applies to both valid and invalid Transits.

A further function has been added: it periodically (every minute) sends a “beam closing” command if the appropriate conditions exist.

The EPROM version executing the local Antipassback (“C09”) updates the “Absent/Present” flag according to “Valid transits” only. However, remember that this EPROM makes decisions locally as it is forced to operate in “Always Stand-alone” mode.

### “Beam always open” mode if in FAO

As from version 5.7.6f, an always open beam can be forced. Setting is done in the corresponding Panel Archive of WinGaep. First of all, the required Time-Bands must be created in the Time-Bands Archive.

Use the “Activating Operations on Time-Band” function and you must specify:

⇒ OUT 1 to force the beam of lane **A** upward (i.e. the one with reader A)

⇒ OUT 3 to force the beam of lane **B** upward (i.e. the one with reader B)

Note the following:

- several Time-bands may be specified for the same output, and superimposed Bands are acceptable

- as a maximum of 5 total activation pairs can be specified, if you specify more than one for beam A (for example), you will have fewer at your disposal for the other functions included in the same setting mask.
- the permanent relay activating operations are not actually executed as on standard EPROMs.
- if within the Band, the corresponding periodic command is not executed, but nevertheless, it forces a beam down.

### “Disabled reader” mode if in FAO

As from version 5.7.6f, a reader can be disabled, by specifying the Time Band/s in which it ignores any card readings.

The relevant display shows a text notifying disabling.

It is quite acceptable to specify a band in which the beams are forced upward and the corresponding reader is simultaneously disabled.

Setting is done in the corresponding Panel Archive of WinGaep. First of all, the required Time-Bands must be created in the Time-Bands Archive.

Use the “Activating Operations on Time-Band” function and you must specify:

- ⇒ OUT 2 to disable reader A
- ⇒ OUT 4 to disable reader B

Note the following:

- several Time-bands may be specified for the same output, and superimposed Bands are acceptable
- as a maximum of 5 total activation pairs can be specified, if you specify more than one for reader A (for example), you will have fewer at your disposal for the other functions included in the same setting mask.
- the permanent relay activating operations are not actually executed as on standard EPROMs.
- if within the Band, the corresponding periodic command is not influenced by this function, but nevertheless, it forces a beam down.

### Management of “Breaches”

From version 5.8.0b identification and communication of “Queuing Breaches” can be activated.

If this mode is activated, the SA64 control unit checks – per single lane – if a vehicle succeeds in queuing together with the preceding vehicle. This happens when one of the following sequences occurs:

- Presence loop engaged, valid card reading, Transit loop engaged, Presence loop disengaged, Presence loop newly engaged and then disengaged
- Presence loop engaged, spot opening command given, Transit loop engaged, Presence loop disengaged, Presence loop newly engaged and then disengaged
- while the Transit loop is engaged, the Presence loop is engaged, disengaged, engaged and then disengaged again.

The sequences described above could also refer to a vehicle reversing on the Presence loop, however, as this is uncertain, it is preferred to communicate it as a “Queuing breach” because it is statistically more probable.

The Cobra card communicates “Queuing breach” with code 01, and this is how it appears in the Software Reports.

Management is both "On-line" and "Stand-alone".

The function can be activated on one lane or on both lanes.

The default setting is “both activated”.

How to set:

- (0)dec** ⇒ 222 (\*=D00) to **activate** the “Breaches” Management function for lanes **A + B** (default).
- (1)dec** ⇒ 222 (\*=D00) to **activate** the “Breaches” Management function for lane **A** only.
- (2)dec** ⇒ 222 (\*=D00) to **activate** the “Breaches” Management function for lane **B** only.
- (255)dec** ⇒ 222 (\*=DFF) to **de-activate** the “Breaches” Management function.

## Commands from the Centre for special Modes

From version 5.8.0b, special operating Modes can be activated, which must be sent by WinControl, by activating the appropriate icons.

Both can refer to lane A or lane B. They are (associated code in brackets):

- Lane A beam spot opening	(A01)	- Lane B beam spot opening	(B01)
- Lane A beam spot closing	(A02)	- Lane B beam spot closing	(B02)
- Lane A beam always open	(A03)	- Lane B beam always open	(B03)
- Lane A beam always closed	(A04)	- Lane B beam always closed	(B04)
- Lane A beam normal	(A00)	- Lane B beam normal	(B00)

### Spot opening

This command can be sent when required even if the beam is “Always closed”. It sets off same mechanisms as a valid card (timeout at re-closing).

If the beam is “Always open”, spot opening is executed but the beam is not re-closed when timeout elapses.

### Spot closing

This command can be sent when required but has no effect if the beam is “Always open”.

If the beam is “Always closed”, spot closing is nevertheless executed.

If the Transit loop is engaged when the command is received, the closing command is not executed.

### Normal operation

This command returns the operating mode of the lane to the standard situation. It overrides the beam “Always open” or “Always closed” commands.

This is what happens after the command is received:

- return to normal display
- a spot closing command is immediately forced

### Beam always open

Forces the beam to always stay open. The following strategy is required to obtain this result:

:

- the display shows a fixed message inviting one to pass (with a courtesy message in English on the second line)
- after the command is received, a spot opening command is immediately forced.
- the opening command is repeated once every minute
- all beam closing commands are intercepted and cancelled

### Beam always closed

Forces the beam to always stay closed The following strategy is required to obtain this result:

:

- the display shows a fixed message warning that the reader is out of service (with a courtesy message in English on the second line)
- after the command is received, a spot closing command is immediately forced.
- the closing command is repeated once every minute
- the corresponding reader is disabled
- it has priority over any situations of beam always open for FAO (time band)

Spot opening commanded from the Centre is possible.

No settings are necessary.

An updated WinControl program that can send commands is necessary.

Remember that the following service can be used, but only for any tests: “Communication” – “Reading/Writing EEPROM Panels” at the “Commands” item.

Type in the following command:

**J A01** (5 characters ; with a 'space' after J)

Type A or B depending on which lane you wish to activate.

Type the code of the command you wish to send (see table at the beginning) instead of “01”

E.g.: command “J A01” means “Lane A beam spot opening”

E.g.: command “J B04” means “Lane B beam always closed”.

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## Notes referring to “S00” standard and “S09” for local Antipassback

### “Transits” Management

As from version 5.7.6f, Transits Management can be activated.

In this mode, a “Valid card reading” sets off a mechanism that sooner or later produces the communication describing the outcome of that “Transit”. It can be “valid” or “invalid”.

Transits are managed in both “On-line” and “Stand-alone” modes

The transit result depends on the set mode:

1. in mode **1**, a “Valid transit” is immediately generated
2. in mode **2**, a “Valid transit” is immediately generated (identical to mode 1)
3. in mode **3**, a “Valid transit” is generated only if the corresponding input is activated within timeout. Otherwise, an “Invalid transit” is generated. A second card reading while the first is in timeout, forces the first one into “Invalid transit” status and the second one becomes the pending reading.
4. in mode **4**, a “Valid transit” is generated only if the corresponding input is activated within timeout. Otherwise, an “Invalid transit” is generated. A second card reading while the first is in timeout, is ignored.

### Inputs used

- **ING1** to confirm Transits of reader **A**
- **ING2** to confirm Transits of reader **B**

Inputs 1 and 2 are considered as dedicated to the function if:

(transits management active) + (mode 3 or 4)

In all other cases, the inputs can be used as normal alarm inputs.

For inputs dedicated to the function, the activating and de-activating operations are not communicated.

The “Engagement minimum time” or “Disengagement minimum time” functions are not operational on the inputs.

### Settings

Referring to the explanations on “Cobra”, acceptable settings are:

- modes from 1 to 4 (even if with different meanings)
- transit management active/inactive
- reader A timeout
- reader B timeout

For information on how to operate these settings, please consult the section dedicated to “Cobra”.

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## Notes referring to “S09” and “C09” local Antipassback

### “Present Count” management

From Version 5.8.0c, the following functions were implemented:

1. The number of presents is evaluated by scanning the card archive on SA64 (sum of present cards)
2. This scan is performed after:
  - reading of a valid Card (if Transits are disabled)
  - identification of a valid Transit (if Transits are enabled)
  - every full minute (sec. = 0)
  - after a card download from the Centre
  - after a reset/power-on reset
3. The count cannot take into account any advance breaches
4. The “Parking capacity” can be configured.
5. If “Parking capacity” = 0 is set, the system behaves as previously, i.e.:
  - if all are absent, OUT1-AUX is activated
  - it is sufficient a present to disable OUT1-AUX.
6. If “Parking capacity” < 0 is set ( e.g.: 100) the system behaves as follows:
  - If the number of presents is less than the “Parking capacity”, **new entrances** are acceptable and **OUT1-AUX is disabled**.
  - If the number of presents is equal to or greater than “Parking capacity” the “Excess” mode is activated
    - \* **new entrances** are **prohibited**
    - \* the exit reader is subject to Antipassback unless the “Exit always valid” mode is activated
    - \* **OUT1-AUX is activated**

7. If a card is read on the entrance reader while it is in "Excess" mode, this causes the "PARKING FULL" message to appear, followed by the N° of the read card on the second line. .
8. The N° of presents can be locally reset by activating ING 1 (on S09 only) or ING2-AUX on the additional connector (S09 and C09). **Important: local resetting does not reset the Centre count, which then becomes non-aligned.**

#### Setting "Parking capacity"

First of all, remember that this number occupies 2 positions (2 bytes) in EEPROM.

- **487** contains the **most** significant part
- **488** contains the **least** significant part

To set "Parking capacity", write the following:

**(aaa)dec** ⇒ **487** (\*N6HH) to load the most significant value (default = 0).

**(bbb)dec** ⇒ **488** (\*N6HH) to load the least significant value (default = 0).

In practice, if Parking capacity is in the range from 0 to 255 (e.g.: 100) do the following:

- change position **487** to zero ( it contains the **most** significant part)
- write 100 in position **488** (it contains the **least** significant part)

If Parking capacity exceeds 255, do the following:

- if using a polling EPROM, see further below
- if using a keyboard operated EPROM/T, do the following: change the number into hexadecimal (e.g.: 600 = 0258); change the high part into decimals (02hex = 02dec) and write it in position 487; change the low part into decimals (58hex = 88dec) and write it in position 488

If using a polling EEPROM, we advise you to use the "EEPROM Reading/Writing" function, pointing position N°487 and activating 2 locations in decimals. In this way, you can directly write any number from 0 to 65535 because positions 487 and 488 are written/read simultaneously.

If using an EPROM via Modem,/Terminal Server (/T) you must use a **Keyboard/Display**.