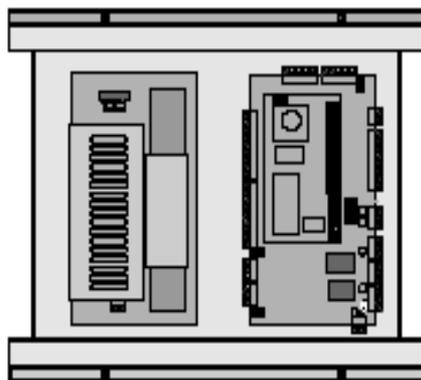


Operating manual

“COBRA 600” MANAGEMENT UNIT

EPROM Ver.5.7.6x

Manual Rev. C of 29.06.2000



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1. Description of "COBRA 600" control unit

The "COBRA 600" control unit is a peripheral device of the "WinNet" network able to communicate with the Controller.

The Controller is a PC on which the WINCONTROL program, with Win95, Win98, WinNT or Win2000, is installed and executed.

One or two card readers of different technology can be connected to the control unit – i.e. magnetic, proximity etc, with or without keyboard and display.

Every control unit has 6 inputs with various use, i.e. door status, sensors, photocells, alarm contacts, etc, and 4 outputs (2 with relay and 2 open collector) utilised for electric locks, activators, lighting, "traffic lights", etc.

An RS 485 serial port and an RS 232 port are provided for connection to the "WinNet" network.

The information contained in this manual refers to the standard EPROM version for polling on the "WinNet" network.

The standard "COBRA 600" control unit has no additional (or auxiliary) serial ports. To make use of an additional auxiliary RS 232 serial port, the "COBRA 600/S" control unit must be ordered – this port requires some EPROM variations (see relevant paragraph), which, therefore, require the "COBRA 600/S" version.

The additional auxiliary serial port is needed for interfacing with a serial printer, optical reader, etc, according to case.

The "COBRA 600" control unit is supplied with a "Clock Module" with a lithium buffer or floating battery, enabling the control unit to add local date/time to card reading data - this function is particularly useful for Time & Attendance and for activating relays on the time-band without using the Controller.

As concerns the Time & Attendance facility, the user should directly see the date/time of the "stamp", and therefore, we advise you to use readers complete with keyboard /display.

The system normally operates with the "COBRA 600" control units on-line - in this case, one refers to "On-line" mode.

This is the only mode ensuring all the functions possible with the program installed on the PC.

If communication with the Controller is interrupted, the "COBRA 600" control unit switches to "Stand-Alone" mode.

Only some of the functions are possible in this mode, and, therefore, some limitations are inevitable.

- on system level
- on "COBRA 600" level

A paragraph will describe these limitations.

1.1 Features

Local memory for card archive, time-bands, public holidays.

Archives sent from PC

Lithium battery for maintaining data-memory and clock/dater ever in the event of a power cut..

Functional settings saved on a non-volatile memory (EEPROM).

Programming by PC of functional settings.

Local buffer memory containing 600 user codes.

Local buffer memory containing 1750 transactions.

Facility for activating reading shut-down if the transits memory is full.

32 Kbyte RAM with lithium battery to maintain data even in the event of power failure.

RAM used partly for the transactions buffer and the remainder for archives (cards, time-bands, public holidays).

Complete management of gateway or door.

Incomplete management of 2 separate gateways (reader A on one door and reader B on the other)

Maximum distance between a "COBRA 600" and a reader without keyboard / display : 100 mt.

Maximum distance between a "COBRA 600" and a reader with keyboard / display : 40 mt.

Power supply voltage; 230 Vac (+6% -10%) 50 (60) Hz

Maximum absorption: 900mA (varies according to number of connected readers).

Important note : only the main settings are possible from the PC in a way that is clear to the user.

However, other settings are possible, by programming appropriate values in certain areas of the memory.

This is possible from both WINCONTROL ("EEPROM Reading/writing") and from the programming keyboard on the "COBRA 600".

As an example of programming, you will find the following symbols in the manual: 486 ← (18)dec

This means: send (or write) decimal number 18 to location #486.

The described programming will be shown during the explanation and at the end of each paragraph.

1.2 “On-line” and “Stand-Alone” modes.

The "COBRA 600" control unit is able to operate both by communication with the PC (“On-line” mode) and locally (“Stand-Alone” mode), if communication with the PC is interrupted.

In other words, "COBRA 600" has decision making ability and this makes it possible not to interrupt the Access Control service and, if necessary, the Time & Attendance service.

Switching from “On-line” and “Stand-alone” modes (and vice versa) is automatic depending on whether communication is activated with the Controller (polling) or not.

In “On-line” mode, every "COBRA 600" panel continuously dialogues with the PC (polling), transmitting every detected event in real-time. All decisions regarding a transit are delegated to the Controller (on which “WINCONTROL” software is applied) which records it in the “Historical Archive”. Before being enabled for transit, every card is subjected to all the controls specified in the “WINCONTROL” software for “Access Control” (see relevant manual).

In “Stand Alone” mode, all decisions regarding transit by card, is made by the panel: all transits related data are recorded on the terminal’s non-volatile memory and are automatically downloaded toward the Controller, as soon as communication is restored.

Enabled opening by the panel is based on personal-data archives also stored in the panel’s non-volatile memory.

The terminal’s memory capacity does not allow complete management in “Stand-Alone” mode, as if the panel were “On-line” (communicating) with the Controller, but is sufficient to deal with a temporarily interrupted communication.

The panel can be programmed so that it is forced to operate always in "On-line" mode or always in "Stand-alone" mode (this will be described in detail later in the manual).

Forcing a "COBRA 600" control unit to always operate "On-line", overrides any forcing to operate in "Stand-alone" mode.

This facility is set either by Programming on the "COBRA 600" keyboard or with the following commands:

Always "On-line" **432 ← (00)dec** (**432 ← (255)dec** to disable)

Always "Stand-alone" **428 ← (00)dec** (**428 ← (255)dec** to disable)

The always "On-line" mode is used for this reason:

- to force the system to operate only if the PC is on-line in special applications. If the system is being polled by the PC, everything functions as described – if it is not being polled, the card, alarms etc. are ignored as local management is disabled.

The Always “Stand-alone” mode is in operation, even if communication with the Controller (active polling) is active.

In this case, if a card is read, the validity decision is made by "COBRA 600" – if the card is valid, the transit data-item is sent to the internal buffer. If "COBRA 600" is communicating with the Controller, the information is immediately transferred to the PC, or it will be as soon as communication is restored. Note the significant difference between the modes:

- if "On-line", the decision is made by the PC which immediately re-sends the result to "COBRA 600"
- if "Stand-alone", the decision is made by "COBRA 600" and is then communicated to the PC which does no more than archive it.

We shall now describe the functions of a panel in "Stand-alone" mode and the limitations compared to the "On-line" mode.

1.2.1 Characteristics in "Stand-alone" mode.

The following paragraph explains the memory limits of a "COBRA 600" panel in "Stand-alone" mode.

Historical archive :

1750 transits (that used to be 1770 up to 5.7.1 version) are stored in a circular buffer – if it is full, new data are overwritten over the oldest.

Facility for preventing readings if the buffer is full – to re-enable reading, data must be downloaded to the PC.

This facility is set either by Programming on the "COBRA 600" keyboard or with the following command:

Historical archive shut-down **292 ← (00)dec** (**292 ← (255)dec** to disable)

Data of **valid transits** only are normally archived to allow maximum space for this function (therefore alarms, restoring operations, invalid cards, etc are not archived).

Alarms must also be stored in some applications. By programming one can do the following:

archive **alarms + restoring operations + valid transits** (**414 ← (00)dec**)

archive **alarms + valid transits** (**414 ← (00)dec** + **413 ← (00)dec**)

Other archives:

<\\Pc5\docword\Doc00\15manual\FaacControl\Cobra600\Manuale Cobra600 - V 5-7-6x.doc>

Storing data of a maximum of 600 **cards** (see note further below) (was 598 up to 5.7.1. version)

Storing data of a maximum of 255 **time bands** (N.B.: numbered from 1 to 255)

Storing data of a maximum of 32 days defined as "**Holidays**".

N.B.: the limits of some EPROM options and of customised EPROMs can be expanded in order to accommodate more cards in the memory and, therefore - less space is reserved for transactions and vice versa.

"WINCONTROL" is not designed to send the "Accesses Level" archive to the "COBRA 600" control unit and neither does it send - card by card - information on the associated "Accesses Level".

Instead, "WINCONTROL" sends to a certain control unit only those cards which are potentially valid there.

This is typically effected according to the primary "Accesses Level" only. As from the 2.33.34 version of the "WINCONTROL" program, the other "Accesses Levels" associated with a card are also analysed - for further information, see the current program manual. However, the "Accesses Level" associated with the reason is not used.

The Card archive is sent in increasing numerical order according to the "Card Code": first the lowest numbers and then the highest. Therefore, only some cards (or even no cards) may be sent to a given "COBRA 600".

The program sends all relevant cards to the control unit - it may send more cards than can be contained in the specified capacity of the installed EPROM (600 for the standard version).

In this case, the "COBRA 600" control unit stores the first 600 received (if it is the standard version) and ignores the rest.

1.2.2 Operational functions in "Stand-alone" mode.

The following function remain in operation in the "Stand-alone" mode (see the "WINCONTROL" manual for possible explanations of the functions listed below):

- check of card validity per time band and accesses level (typically primary level only - additional levels are also considered as from the 2.33.34 version of "WINCONTROL")
- full use of the "character sequence" association
- validity of only the first "Site Code" (the one on the left) of the three on the mask in the panels archive
- activation of the four outputs for valid cards (the valid card action message is not executed)
- different activating operations between reader A and reader B (this is a local decision of "COBRA 600" in "On-line" mode too)
- activation of one output for non-valid cards (the non-valid card action message is not executed)
- an Activation Card executes only the activation operations specified for that panel and not those for other panels (which, furthermore, are not on-line if "Stand-alone")
- PIN function (only in the following order: type code + presenting card and not vice versa)
- PIN suspended for Time Band + Exit always valid
- PINSOST function, i.e. PIN replacing a card
- a reason explanation can be typed before presenting the card
- Activation of exits according to time band (OUT1 - OUT4 are activated if current time is within the specified time band). N.B.: activation according to time band is a decision made by the panel even in "On-line" mode
- archival of card data, date/time, reason and relevant reading head (A or B)
- activating operations associated with entrances providing they concern the same panel

1.2.3 Limitations and non-operational functions in "Stand-alone" mode.

In "Stand-alone" mode, "COBRA 600" operates at a lower performance level - details below:

- limit: recognition of a maximum of 600 cards (if standard version)
- limit: only 1750 transits can be stored in the memory
- card validity decisions made locally according to the latest data download operation
- present/absent count in real-time on "WINCONTROL" (however, the count is updated automatically while the historical data is being downloaded as soon as the panel resumes "On-line" status)
- "antipass-back" function
- action messages of any kind as not downloaded into the "COBRA 600" memory
- subscriber cards
- enabling / disabling cards for a certain period
- validity extended for subscriber cards
- antipass-back disabled for certain cards
- simplified access (rudimentary type)

1.3 Operating modes

In "Stand-alone" status the "COBRA 600" control unit can operate in three modes:

1. standard "Access control" mode (as described up to now)
2. "Time & Attendance" mode
3. "Excess" mode

The setting is input by keyboard Programming on "COBRA 600".

1.3.1 "Access Control" mode

This is the standard operating mode. The card validity check is performed according to COBRA 600 's internal archives. The last archives to be downloaded from the Controller apply.

- maximum number of cards in the memory is **600**
- maximum number of transits in the memory is **1750** in the standard versions

"Access control" mode **427 ← (255)dec** (default)

In minimum security cases, the **Site Code test can be disabled** (see paragraph).

This facility is set either by Programming on the "COBRA 600" keyboard or with the following command:

Disable Install. Code test **289 ← (00)dec** (**289 ← (255)dec** to restore)

1.3.2 "Time & Attendance" mode

If this mode is activated, and the "COBRA 600" control unit is in "**Stand-alone**" status, it executes some much more rudimentary tests when each card is read, to the extent that the Card archive need not be downloaded for it to function.

- N.B.:
- the "**T**" prefix must be active
 - the **always "Stand-alone"** function must be activated

Under these conditions, a card is considered valid if:

- the card number is in the range from 1 to 65535
- the read site code is in the range 1 to 65535 and coincides with that of "COBRA 600"

In practice, the card is checked to see if it belongs to the system and has a number within the specified range.

No tests are run on time bands or for other purposes.

"Time & Attendance" mode **427 ← (00)dec** (**427 ← (255)dec** to restore the "Access Control" mode)

In minimum security cases, the **Site Code test can be disabled**.

This facility is set either by Programming on the "COBRA 600" keyboard or with the following command:

Disable Install. Code test **289 ← (00)dec** (**289 ← (255)dec** to restore)

Although downloading the Card archive is not necessary in this mode, the number of transits that can be stored in the memory is the same.

If communication with "WINCONTROL" is re-established, transit data are immediately downloaded from "COBRA 600".

Important : the advantage of this mode is that the limit of 600 cards becomes 65535.

1.3.3 "Excess" mode

If this mode is activated, and "COBRA 600" if in "**Stand-alone**" status, it behaves in a hybrid way, according to the number of downloaded cards.

if below capacity (<600 for basic EPROM) → standard Access Control mode

if above capacity (>600 for basic EPROM) → "Time & Attendance" mode

If acceptable on a system level, this makes it possible to have several "COBRA 600" operating normally if On-line, but continuing to recognise all cards (subject to the limits we mentioned) if they change to off-line.

- N.B.:
- the "**T**" prefix must be active
 - the **always "Stand-alone"** function must not be activated

"Excess" mode **427 ← (01)dec** (**427 ← (255)dec** to restore the "Access Control" mode")

1.4 Disabling the "Site code" test

Up to the 5.7.5b version, one could disable the "Site Code" test only if in "Time & Attendance" mode (see relevant paragraph).

As from the 5.7.5c version, one can disable this test also in the "Access Control" mode (i.e. the standard one) and in "Excess" mode.

This can be done only if in "**T**" Prefix. In fact, there is no sense in talking about "Site Code" with the "N" Prefix ("character sequence association").

This function should operate in the following :

- Stand-alone
- On-line
- Magnetic-Stripe input

- Wiegand input

If in "Stand-alone" mode, any "Site Code" read on the card is acceptable for card validity. When transit data are communicated to the Controller, the "Site Code" programmed on "COBRA 600" will be used.

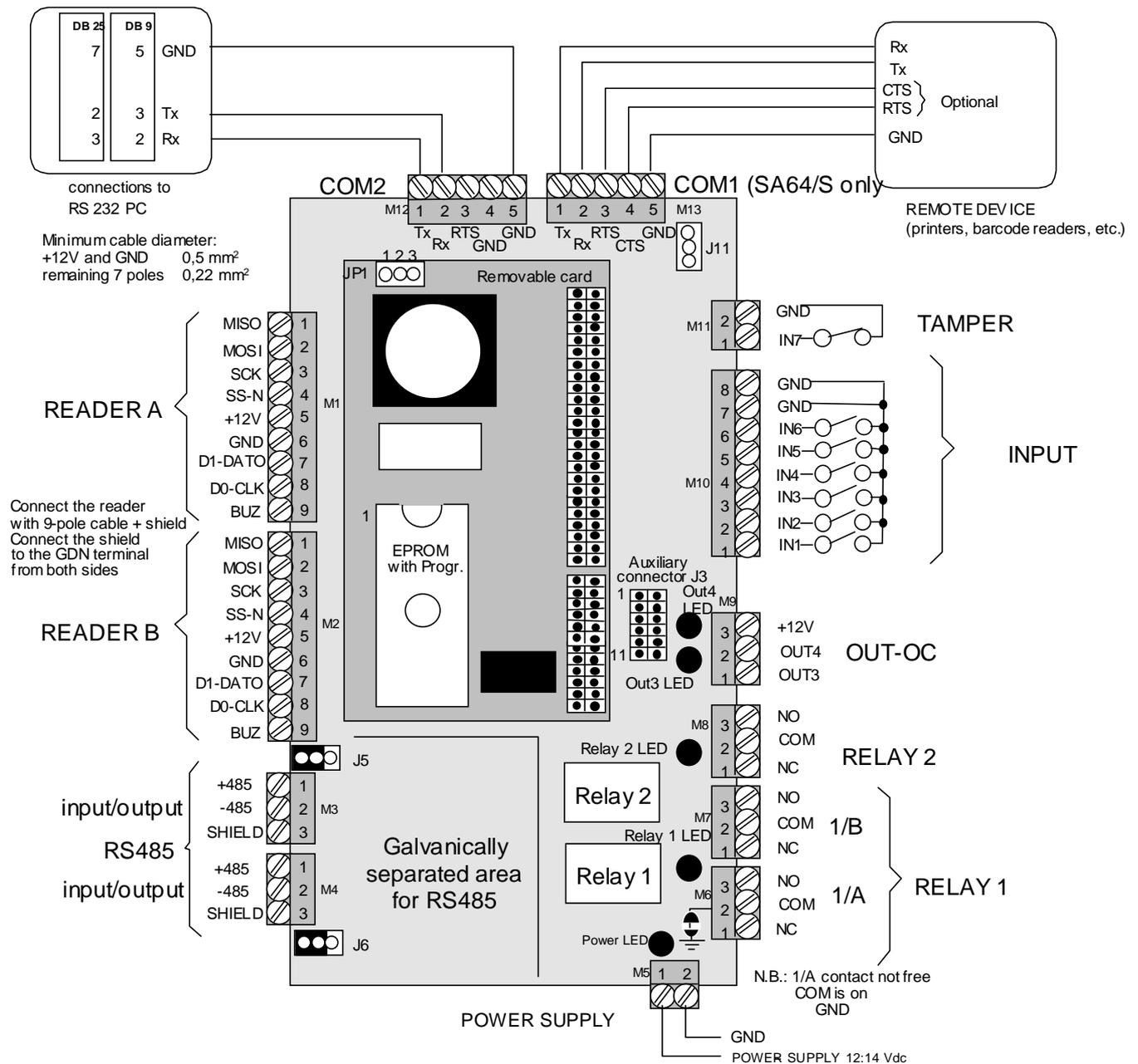
If in "On-line" mode, transit data will be communicated to the Controller, using the "Site Code" programmed on "COBRA 600" and not data read on the card.

To disable the "Site Code" test:

This facility is set either by Programming on the "COBRA 600" keyboard or with the following command:

Disable Install. Code test **289 ← (00)dec** (**289 ← (255)dec** to restore)

2. Connections lay-out



The "COBRA 600" control unit consists of 2 cards connected one above the other by a 60-pole connector. The basic card is used for fastening, to support the terminals, and houses the "RS 485" section, the power supply to the digital section, the outputs (with or without relays), the input stages, and the "RS 2322" stages for variations to the basic version for which they are specified.

The small card is fitted on SMD and is connected to the previous one by a 60-pole connector (2 rows of 30); it houses the CPU, the EEPROM non-volatile memory, the buffered memory and the Clock Module.

There are several functional logic blocks on "COBRA 600". They typically communicate with the outside world via terminals. The blocks are:

- power supply unit
- serial port for polling in RS485 (WinNet)
- serial port for polling in RS232 (COM2)
- auxiliary RS232 (COM1) serial port on COBRA 600/S only
- Connection for reader A
- Connection for reader B
- physical inputs
- outputs

Power supply

The terminal board associated with M5 is a standard 12 Vdc (11.3-13.8 Vdc) power supply.

The "COBRA 600" control unit is equipped with the "ALI SA device, a power supply unit at 220/240 Vac with 12Vdc output.

Serial port for polling in RS485 (WinNet)

The associated terminal boards are M3 and M4.

This port can be used only if the RS232 (COM2) port is not being used either.

Connect as described in the figure of the control unit.

The serial port is opto-isolated. Two 3-pole terminal boards are provided – they are identical to each other because the corresponding Pins are connected in parallel: use one terminal board for the incoming line and the other for the outgoing line.

Meaning of Pins:

- Pin1: +485
- Pin2: -485
- Pin3: Cable shield

N.B.: the shield is isolated and is not connected to the card's GND: it serves only for anchoring the braids of the data-line cables.

Serial port for polling in RS232 (COM2)

The associated terminal board is M12.

This port can be used only if the RS485 port is not being used either.

Connect as described in the figure of the control unit.

By using this serial port, a direct point-to-point connection on RS232 between one of the Controller PC's serial ports and just one "COBRA 600" control unit is possible (max. distance 15 m).

Auxiliary RS232 (COM1) serial port.

The associated terminal board is M13.

This port is available **only** on the "COBRA 600/S" control unit.

This terminal board can be installed on the panel to enable communication with peripheral devices such as optical readers, printers, etc.

The "COBRA 600/S" control units have more components installed on their card than the standard "COBRA 600" .

Connection for reader A

The associated terminal board is M1.

"COBRA 600" can be programmed to read Wiegand or Magnetic-Stripe codes.

N.B.: if Magnetic Stripe (or Wiegand) is set, it applies to both reader A and B.

Note that Wiegand is the standard output for Cotag readers, whereas Magnetic-Stripe is the standard for Credit Card type coded cards (ABA).

The keyboard / display is built into certain types of reader (see catalogue).

The maximum distance for this type of connection is 40 metres if the keyboard/display is supplied, and about 100 metres for card readers only.

Connection for reader B

The associated terminal board is M2.

"COBRA 600" can be programmed to read Wiegand or Magnetic-Stripe codes.

N.B.: if Magnetic Stripe (or Wiegand) is set, it applies to both reader A and B.

Note that Wiegand is the standard output for Cotag readers, whereas Magnetic-Stripe is the standard for Credit Card type coded cards (ABA).

The keyboard / display is built into certain types of reader (see catalogue).

The maximum distance for this type of connection is 40 metres if the keyboard/display is supplied, and about 100 metres for card readers only.

Inputs:

The associated terminal boards are M10 and M11.

M10 is an 8-pole terminal: it is used for inputs from 1 to 6.

M11 is an 2-pole terminal: it is used for input 7, usually dedicated to the Tamper.

Total inputs are 7. They should be activated by connecting them to GDN and using a free contact.

If necessary, they may be connected directly to OUT3 and OUT45 open collector.

The **function logic** can be programmed, i.e. if the inputs have to be activated by "normally open" or "normally closed" contacts. The following table describes the pre-defined settings and the meanings of Pins.

TERMINAL	INPUT	STATUS WITH PRE-DEFINED LOGIC AND TERMINAL LEFT FREE	<u>PRE-DEF. LOGIC</u>
M10-Pin1	IN1	Restore	<input type="checkbox"/> Normally open
M10-Pin2	IN2	Restore	<input type="checkbox"/> Normally open
M10-Pin3	IN3	Restore	<input type="checkbox"/> Normally open
M10-Pin4	IN4	Restore	<input type="checkbox"/> Normally open
M10-Pin5	IN5	Restore	<input type="checkbox"/> Normally open
M10-Pin6	IN6	Restore	<input type="checkbox"/> Normally open
M10-Pin7	GND		
M10-Pin8	GND		
M11-Pin1	IN7	Alarm	<input checked="" type="checkbox"/> Normally closed
M11-Pin2	GND		

❖ "Normally open" logic means that:

- there is no tick-mark on WINCONTROL's "On-line panel initialisation" screen mask
- the input left disconnected is in Restore state.
- the input connected to GND is in Alarm status.

❖ "Normally closed" logic means that:

- there is a tick-mark on WINCONTROL's "On-line panel initialisation" screen mask
- the input connected to GND is in Restore status.
- the input left disconnected is in Alarm state.

All M10 inputs is in restore status if left disconnected and with a pre-defined logic - to put it in alarm status, it must be connected to GND.

The tamper input is normally in alarm status: to put it in restore status, it must be connected to GND.

Some inputs can have alternative functions according to setting or EEPROM version.

Outputs

The associated terminal boards are M6, M7, M8 and M9.

Four outputs are available. These outputs have no pre-defined function and, therefore, can be utilised at the user's discretion. A valid card can activate all 4 outputs or part of them at a time settable for each. Everyone of the 4 control outputs can be activated on a time band basis too. If a valid card activates for a certain period an output that is already enabled as it is within a time-band, when the relevant time elapses, the output remains activated because the timed activation command is ignored and the time-band is given priority.

- OUT1 activates RELAY1/A and RELAY1/B; 2 exchanges are available on a terminal, one of which is not free (see below)
- OUT2 activates RELAY2; 1 free exchange available on a terminal

- OUT3 is open collector type; 100 mA max; no protective diode is supplied at counter-phase
- OUT4 is open collector type; 100 mA max; no protective diode is supplied at counter-phase

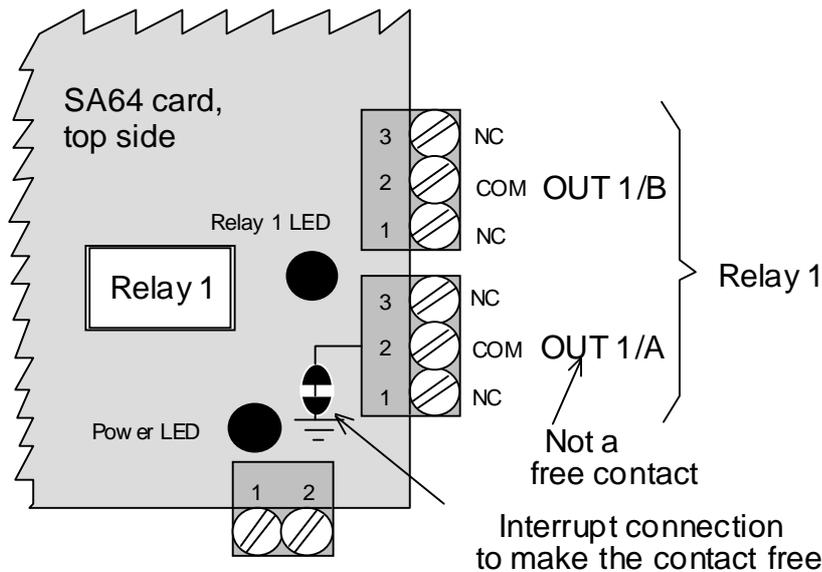
N.B.: If connecting one or more outputs of the "COBRA 600" panel using direct current electro-actuators, make sure that these devices are equipped with adequate protective diodes in parallel, and have a different power supply from that of the panel itself.

Noise induced by external actuators could reset COBRA 600's CPU at every activating/de-activating operation.

Remember that different activating operations can be defined for readers A and B: a paragraph will describe how to proceed.

N.B.: OUT1 has a double exchange: section A of the relay does not have free exchanges because its COM is already connected to the card's GND - this connection can be excluded by interrupting a card bed on the exposed side of the card to the left of the terminal in question, as shown in the figure.

It can always be restored later with a drop of solder.



Auxiliary connector: description of Pins

		J3			
level CMOS (0- 5V)	OUT5-AUX	1	● ●	2	+12V
level CMOS (0- 5V)	OUT4-AUX	3	● ●	4	IN4-AUX
level CMOS (0- 5V)	OUT3-AUX	5	● ●	6	IN3-AUX
level CMOS (0- 5V)	OUT2-AUX	7	● ●	8	IN2-AUX
Open-Collector	OUT1-AUX (*)	9	● ●	10	IN1-AUX
	GND	11	● ●	12	GND

(*): OUT1-AUX is an Open-Collector type output.

N.B.: OUT1-AUX is active if the Panel is in "Stand-alone" mode (basic options only).

Outputs from OUT2-AUX to OUT5-AUX are at level CMOS (0- 5V).

Inputs from IN1-AUX to IN4-AUX should be activated with free contacts toward GND.

3. Card reading

One of "COBRA 600" control unit's most important functions is card reading.

The control unit has no built-in readers but has inputs for interfacing with a maximum of 2 readers: reader A and reader B:

Each input consists of 2 Pins named D0-CLOCK and D1-DATO.

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The program is able to decode two types of readers:

- readers with Magnetic-Stripe output
- readers with Wiegand output

The "COBRA 600" control unit is delivered (unless otherwise agreed) preset for interfacing Magnetic-Stripe readers. The setting can be modified from both the Controller and the keyboard.

The "COBRA 600" control unit waits for a code from one of the two readers and dedicates itself to receiving the first to be activated.

This means that, if the second reader is activated while the first is receiving codes, the reading from the second reader may be lost.

3.1 Magnetic-Stripe

The most common readers with a Magnetic-Stripe output are:

- both swipe and insertion type readers of magnetic cards
- radio-control receivers

To provide full information, please note that, on request, Cotag Controllers can be programmed for a Magnetic-Stripe output.

However, this is used only in very special cases. A typical case is when, for economic reasons, on a single "COBRA 600", a Cotag controller is connected to the A reader for vehicle Tags, and a magnetic reader to the B reader for a pedestrian gateway.

As the Magnetic-Stripe (or Wiegand) setting applies to both A and B readers, the Cotag Controller is set for a Magnetic-Stripe output. Programming of Tag Cotags becomes very complicated and compatibility with the usual Tag Cotags is lost.

The "COBRA 600" control unit requires a Magnetic-Stripe code with a maximum of 37 characters + 3 control characters according to ABA standard

A magnetic reader on ISO2 track, requiring a maximum of 37 characters + 3, must be connected.

These are the control characters:

Start sentinel (B)hex.....START.....located at the beginning of the useful code

End sentinel (F)hexSTOPlocated at the end of the useful code

LRC.....LRC.....located after End sentinel (Longitudinal Control of Redundancy)

The string must, therefore, be of the following type: START + DATA (max. 37) + STOP + LRC

- If codes are in found to be correct order during decoding, reading is "**normal**".
- If codes are in found to be reverse order (first LRC + STOP + DATA + START) during decoding, reading is "**reverse**".

3.2 Wiegand

Readers with Wiegand output are typically:

- readers of active cards (Cotag controller)

The "COBRA 600" control unit requires a 32-bit Wiegand code which is seen as 16 + 16 bit.

- The first 16 bits are the Site Code in binary code. They are transformed into decimal code and take on values from 00000 to 65535
- The second 16 bits are the Card Code in binary code. They are transformed into decimal code and take on values from 00000 to 65535

With "T" prefix. (see further below)

The card is communicated to "WINCONTROL" (or internally managed if "Stand-alone") as a 10-character string, the sum of the 5 Site Codes and the 5 Card Codes.

With "N" prefix. (see below)

The card is communicated to "WINCONTROL" (or internally managed if "Stand-alone") as a 10-character string, the sum of the 5 Site Codes and the 5 Card Codes.

So, only the prefix changes, but the rest of the code is the same.

3.3 "T" and "N" prefix

It is very important to set the prefix because it involves the way the read codes are interpreted.

This interpretation is performed by the "WINCONTROL" program, if "COBRA 600" control unit is "On-line" or "COBRA 600" if "Stand-alone".

It is called "prefix" because the most evident effect of programming is that the first character of the string containing the data of the card sent to the Controller is a "T" or an "N" (e.g. N0042600032678?.....).

N.B.: we inform the person monitoring communications with the "Terminal Emulation" function, that in the sent string, the "T" was replaced some time ago by a "K", but the prefix is still referred to as a "T" prefix for the sake of continuity.

With "T" prefix

The "COBRA 600" control unit :

- reads all codes on the card (e.g. 0042600032678)
- identifies the Site Code and the Card Code in precise positions (fixed for all cards).
- transforms the Site Code into a 5-character number with zeros at the beginning if necessary (e.g. 00426)
- transforms the Card Code into a 5-character number with zeros at the beginning if necessary (e.g. 0032).
- unites the two codes into a single 10-character string (e.g.: 0042600032)
- sends the data of the read card with the "T" prefix + 10 characters.
- characters that are neither Site Code nor Card Code (e.g. 678) are ignored.

Procedure of instrument analysing the code ("WINCONTROL" if "On-line" or "COBRA 600" if "Stand-alone") if it detects that the prefix is "T":

- requires 10 numeric characters after the prefix and sees them as two groups of 5 + 5
- interprets the first 5 as the Site Code
- interprets the second 5 as the Card Code
- scans the internal Card archive to evaluate if a Card with that Number and that Site Code exists.
- if it does not exist, the card is not valid – if it does exist, the different validity tests applicable are run (time bands, etc.).

To exploit this function, one must be able to program the cards:

it must be possible to identify on the code one part that clearly refers to the Card Code, and another to the Site Code.

This can be done with :

- new magnetic cards programmed by FAAC
- active Cotag cards

Prefix "T" is preferable since it is easier to manage.

With "N" prefix

The "COBRA 600" control unit :

- reads all codes on the card (e.g. 456700324000256781987)
- if specified, the initial part and final part of the code (only in special applications) are cut in order to compose a "useful code" (0032400025678)
- sends data with the "N" prefix + useful code (N0032400025678).

Procedure of instrument analysing the code ("WINCONTROL" or "COBRA 600" if "Stand-alone") if it detects that the prefix is "N":

- scans the internal Card archive to evaluate if a Card with that code in the "Character sequence Association" field exists.
- if it does not exist, the card is not valid; if it does exist, the Card Code and the Site Code are extracted from it for identification, then the necessary validity tests are run (time bands, etc.)
- if valid, the card is archived in the historical archive with the Card Code and Site Code obtained from the Card archive, and not from the numbers read on the card ("Character sequence Association" field).

It is clear that the archives must have been prepared beforehand, so that, the corresponding code was loaded in the "Character sequence Association" field card by card: the Autoread function in "WINCONTROL" is used.

N.B.: it is usually advisable to have a "COBRA 600" control unit close to the PC, using "WINCONTROL" for Autoreading.

Most common use.

The "N" prefix is used in the following cases:

- proximity passive cards (they have a distinct random non re-programmable code)

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FAAC s.p.a.

- existing cards whose code does not make it possible to identify if one part of the code clearly refers to a Card Code and another to the Site Code.

3.4 Code control settings

The contents of the following paragraph refer only to a reader with a Magnetic-Stripe output.
The length read code can be up to 37 characters.

With “T” prefix

The "COBRA 600" control unit executes the following controls and operations:

- it checks that the length of the read code is longer than “Minimum length” (default 1 but programmable from 1 to 37). If it is shorter, it aborts that card reading operation.
- it checks that the length of the read code is shorter than “Maximum length” (default 37 but programmable from 1 to 37). If it is longer, it aborts that card reading operation.
- goes to the position indicated by “Start of Site Code” (default 1 but programmable from 1 to 37) and takes as many characters as specified in “Site Code Length” (default 5 but programmable from 1 to 5)
- the read characters are, in any case, converted into a 5-character string with leading zeros on the left, and form the Site Code (e.g. if length I.C. = 3 and there are 234 characters, they become 00234)
- goes to the position indicated by “Start of Card code” (default 6 but programmable from 1 to 37) and takes as many characters as specified in “Card Code Length” (default 5 but programmable from 1 to 5)
- the read characters are, in any case, converted into a 5-character string with leading zeros on the left, and form the Card Code (e.g. if length C.C. = 4 and there are 0519 characters, they become 00519)
- the 10 obtained characters (5 Site Code characters + 5 Card Code characters) are sent to the Controller with prefix “T”.

Possible settings with "COBRA 600":

Start of Card Code (474 ← (05)dec) input a number from 1 to 37 less 1 i.e. from 0 to 36 (def. 5).

Card Code Length (475 ← (05)dec) input a number from 1 to 5 (default 5).

Start of Site Code (476 ← (00)dec) input a number from 1 to 37 less 1 i.e. from 0 to 36 (def. 0).

Site Code Length (477 ← (05)dec) input a number from 1 to 5 (default 5).

The setting is made in “On-line panels Programming” (Code beginnings only) of "WINCONTROL" or in "COBRA 600" keyboard programming.

Minimum Card length (415 ← (01)dec) input a number from 1 to 37 but not in excess of Max. Card. Length.

Maximum Card length (416 ← (37)dec) input a number from 1 to 37 but not below Min. Card. Length.

The setting is input by keyboard programming on "COBRA 600".

Example

1	2	3	4	5	6	7	8	9	10	11	12	...	32	33	34	35	36	37	?Position
0	0	7	3	5	0	0	3	8	2	9	5	...	X	x	x	x	x	x	?Numeric code

N.B.: there is nothing from position 13 to 37, i.e. the card is 12 characters long.

Minimum Card length = 12

Maximum Card length = 12

Start of Site Code = 1

Length of Site Code = 5

Start of Card Code = 6

Length of Card Code = 5

Reading result:

Minimum length test OK: there must be at least 12 characters

Maximum length test OK: there must be 12 characters at the most

00735 → Site Code

00382 → Card Code

Sent as T0073500382 (in Terminal Emulation one would actually see K;0073500382?011832190599 A).

Note that with any other card length (e.g. 13 characters) the reading would be aborted.

With “N” prefix

The "COBRA 600" control unit executes the following controls and operations:

- it checks that the length of the read code is longer than “Minimum length” (default 1 but programmable from 1 to 37). If it is shorter, it aborts that card reading operation.
- it checks that the length of the read code is shorter than “Maximum length” (default 37 but programmable from 1 to 37). If it is longer, it aborts that card reading operation.
- goes to the position indicated by “Start of character sequence” (default 1 but programmable from 1 to 37) and eliminates all characters preceding the specified position.
- goes to the position indicated by “End of character sequence” (default 37 but programmable from 1 to 37) and eliminates all characters following the specified position.
- the characters thus obtained are sent to the Controller with prefix “N”.

Ignore Reader A card **465 ← (00)dec** input a number from 0 to 255 – 0 to disable
 Ignore Reader B card **480 ← (00)dec** input a number from 0 to 255 – 0 to disable
 The setting is made in “On-line panels Programming” on “WINCONTROL” or in “COBRA 600” keyboard programming.

3.7 Disable Time Band test

During the card validity check, the card is evaluated to ascertain if it is in the Time Band.
 If there is no need for a given panel to run this test (e.g. an external vehicle gateway), control can be disabled so that all cards presented at that panel are valid round-the-clock for 365 days a year.
 Obviously, the other tests, such as Card archive, “Accesses Level”, etc. remain enabled.
 To disable the Time Band test:

- access item “Time Band test” in Panel Archive of “WINCONTROL”, and remove the tick-mark.
- effect a download operation toward “COBRA 600”

This function is operational also in “Stand-alone” mode.

Disable test on FAO **436 ← (00)dec** (**436 ← (255)dec** not to provide the possibility)

3.8 Display and communication settings

There are four types of card readings:

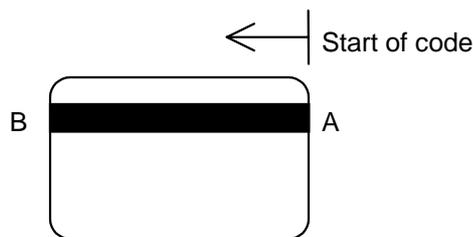
1. “**normal**” reading on reader **A** (**NA**)
2. “**reverse**” reading on reader **A** (**RA**)
3. “**normal**” reading on reader **B** (**NB**)
4. “**reverse**” reading on reader **B** (**RB**)

A reading is considered “normal” when the code sent by the reading head starts with the first character and ends with the last.

A reading is considered “reverse” when the code sent by the reading head starts with the last character and ends with the first.

The “normal” and “reverse” reading concept is typical of magnetic card readers:

- ◆ if **swipe-type**, the following apply to FAAC readers:
 - “normal” is a reading from right to left (←)
 - “reverse” is from left to right →
- ◆ if **insertion type**
 - “normal” is reading during insertion
 - “reverse” is reading during extraction.



The figure shows a card viewed from the magnetic strip side.

The code begins at A and ends at B. It ends a little short of B as the string is shorter than 37 characters (ISO2)

- If the reading head in the card reader first meets point A and then B, the reading is “normal”.
- If the reading head in the card reader first meets point B and then A, the reading is “reverse”.

FAAC passive proximity readers have a “normal” Magnetic-Stripe output – by closing a contact on the reading card, a “reverse” type output can be activated.

Readers of Cotag active cards (and Wiegand in general too) only have a “normal” output.

The distinctions we have just made are important for setting the behaviour of “COBRA 600” for card reading.

The following can be defined for each of the 4 previous cases (NA, RA, NB, RB) :

- ◆ reason (from 0 to 9)
- ◆ entrance/exit/neutral (E, U, ‘ ‘)
- ◆ on-display message for a valid card (6 characters. e.g. Exit).

3.8.1 Reasons

When a card is read (or downloaded later if valid while in "Stand-alone" mode), "WINCONTROL" is also informed of the reason associated with the type of reading effected.

Reason is typically used for Time & Attendance applications. In fact, "WINCONTROL" does no more than file the information in the historical archive.

If the 8-hour module is built-in, the information serves to reconstruct if transit was an entrance or an exit.

The information is reconstructed by associating certain reasons with Entrance and others with Exit. E.g. 1=Entrance; 2=Exit).

Warning: do not use the Entrance / Exit indications of the next paragraph for this purpose.

A card reading is typically communicated complete with the corresponding reason.

For Time & Attendance purposes, one can enable the facility for typing in a reason before the card is read.

In that case, one can type in just one numeric number from 0 to 9.

The setting is made in "On-line panels Programming" of "WINCONTROL" or in "COBRA 600" keyboard programming.

Random typing-in facility **479 ← (00)dec** **(479 ← (255)dec** to avoid enabling the facility)

3.8.2 Entrance/Exit/Neutral

When a card is read (or downloaded later if valid while in "Stand-alone" mode), "WINCONTROL" is also informed whether the type of reading effected also serves for "Present Vehicles Count" or for "Antipassback" purposes.

The information in question can take on one of the three following values:

1. " " (a space) Neutral (pre-defined value)
2. "E" Entrance
3. "U" Exit

If "WINCONTROL" receives an "E" transaction

- if "Antipassback" is active, the card is considered valid only if it is "Absent".
- the program forces the card under "Present" and increases the "Present vehicles counter" (at top right) by one unit.

If "WINCONTROL" receives a "U" transaction

- if "Antipassback" is active, the card is considered valid only if it is "Present" – however the "Exit always valid" flag can still be activated on "WINCONTROL" to prevent any problems at the exit.
- The program forces the card under "Absent" and reduces the "Present vehicles counter" (at top right) by one unit.

If "WINCONTROL" receives a transaction with " " (space)

- it does not concern the preceding tests. The "present vehicles counter" is not influenced. This is the pre-defined situation.

N.B.: do not use this function to define entrances and exits under Time & Attendance!!!

Exit always valid **288 ← (00)dec** **(288 ← (255)dec** to restore)

We recommend programming the command directly on "COBRA 600" but to program it on "WINCONTROL" and then download it.

3.8.3 Word on display

You can set a string with a maximum of 6 characters. If the card is valid, this string will be shown on the display of the relevant terminal (either on A or on B) – on the bottom left line.

"COBRA 600" is delivered with a setting enabling 6 spaces to be printed.

This function can be exploited to display words such as ENTRANCE or EXIT according to how the card was read.

Operating in "WINCONTROL" ("On-line panel programming") you can compose each word as you like, whereas if you operate from the keyboard programming facility, you can activate only one of the three preset words.

1. " " (nil i.e. 6 spaces)
2. "Entr. "
3. "Exit "

3.9 Replacement Pin function

With this function, the user does not require any card for opening and stamping.

It operates also in "Stand-alone" mode.

The function must be programmed in the "Panels" Archive of "WINCONTROL".

- write the following in the "Mode" field: PINSOST
- execute a download toward COBRA 600.

To make use of the function (e.g. because the user has forgotten his card) proceed as follows:

1. type the card number
2. press the "#" key

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3. type the PIN associated with that card
4. the press the 'E' Enter key

Asterisks should appear in front of the numbers on the screen

E.g. card 19 associated with PIN 429602.

Type this: 19#429602E where E is the Enter key of the keypad

You cannot type " reason".

The reading cannot be indicated as a "Reverse" reading.

3.10 Pin Function

This function makes card progress more secure at some gateways. It also operates in "Stand-alone" mode, subject to a limit we shall describe later.

The function must be programmed in the "Panels" Archive of "WINCONTROL".

- write the following in the "Mode" field: PIN
- effect a download operation toward "COBRA 600"

Procedure for effecting a card reading operation :

1. type in the PIN code associated with the card
2. Have the card read

The execution order of the two operations can be reversed only "On-line" mode.

A longer time period than the one specified under the "Initialisations" – "System configuration" in the "Special transits timeout" field (preset at 16 seconds) of "WINCONTROL" must not elapse between one stage and the next.

When the PIN is being typed in, asterisks should appear instead of numbers on the screen.

E.g. card 19 associated with PIN 429602.

- You must type: 19E where E is the Enter key
- Have the card read

If the function is enabled, the " reason " can be typed before the card is read, but an asterisk is displayed.

3.10.1 Cards not requiring a PIN

An operational function of the 2.46.53 version of "WINCONTROL" and of the 5.7.5a version of "COBRA 600" (the updated EPROM is necessary to maintain functionality in "Stand-alone" mode too).

Card by card definition is possible – in the relevant archive – on whether a card is subject to PIN or not.

In all panels defined as PIN, cards not subject to PIN do not require the PIN to be typed in.

N.B.: the "Anti-coercion" function does not operate for cards not subject to PIN that do not require typing it in. This applies to both "On-line" and "Stand-alone".

3.10.2 Suspension of Pin on a time-band

In "WINCONTROL", the "Suspend PIN" function followed by three time-bands can be activated panel per panel.

They are usually set at zero to de-activate the function. If time-bands are shown, this is the procedure:

- if you are in at least one of the three Time-Bands, card reading only without PIN is sufficient.
- if you are not in any of the three Time-Bands, card reading with PIN is necessary

At download from "WINCONTROL", the information is transferred to "COBRA 600", which continues behaving as described although in "Stand-alone".

4. Miscellaneous functions

4.1 Tenths / Seconds

On the "COBRA 600" control unit, the count of activation time of:

1. OUT1 output (for valid card, for activation associated with an input or for external control)
2. OUT2 output (for valid card, for activation associated with an input or for external control)
3. OUT3 output (for valid card, for activation associated with an input or for external control)
4. OUT4 output (for valid card, for activation associated with an input or for external control)

is in "Tenths" of a second or in "Seconds".

In the first case, the loaded number is interpreted in Tenths, and, in the second case, in seconds.

As the pre-defined setting is "Tenths", remember to indicate activation times in tenths in "WINCONTROL" (e.g. activation time 2 seconds = 20 tenths).

However, "COBRA 600" can be set in "Seconds". In that case, seconds must be directly specified.

The Tenths/Seconds setting can be made from "WINCONTROL" ("On-line panels Programming") or on "COBRA 600" keyboard programming.

Remember that if a "COBRA 600" is set in "tenths" with a time of, for example, 50 tenths for OUT1, if the time unit is then switched to "seconds" without changing the time period, the OUT1 output will be activated for 50 seconds. Up to the 5.7.0 version – excluding the "Disable input IN3" function of "Door management" – "COBRA 600" was programmable in Tenths/Seconds (preset at 150 tenths). It is now always in seconds (preset at 15 sec.).

4.2 Programmable inputs logic

Inputs IN1, IN2, IN3, IN4, IN5, IN6, IN7 are switchable in the function logic.

This makes it possible to connect both normally open (NO) and normally closed (NC) contacts.

This function is described better in the "Connections" paragraph.

Use the "On-line panels Initialisation" item of "WINCONTROL".

4.3 Transit memory shut-down

If communication between "COBRA 600" control unit and "WINCONTROL" is interrupted, transits can be saved and are then downloaded to the PC as soon as communication is restored.

If the available memory is completely filled, the most recent data delete the oldest. However, operation continues. In some applications, it is preferable not to lose any data-item at the cost of stopping readings of any further cards.

If the "Transit memory shut-down" is activated, when the memory is full:

- card readings are ignored
- a message is shown reporting the status and prompting you to download to the PC.

The setting is performed in "Keyboard programming" of "COBRA 600" ("HIST.ARCH. SHUT-DOWN?").

You can also operate with the following command:

Transit memory shut-down **292 ← (00)dec** (**292 ← (255)dec** to disable, i.e. to continue)

4.4 Baud-Rate change

You can change the Baud-Rate of the serial port used for communication with the PC (WINCONTROL)

This port is accessible via two electric interfaces according to application:

1. RS232 on COM2 terminal board
2. RS485, galvanically separated

It is clear that if one of the two interfaces is used, the other must not be used otherwise electric conflicts will occur.

Changing the Baud Rate is generally of no use, but in some rare applications, it may be appropriate to lower polling speed.

The preset speed is 57600, S, 8, 1.

Other standard speeds can be selected with "Keyboard programming".

If you select another speed (e.g. 19200), the polling port is initialised at 19200, S, 8, 1.

5. Miscellaneous management

5.1 Management of Vehicle Gateways with magnetic loops

5.1.1 Introduction

"COBRA 600" control unit is structured to manage two gateways equipped with loops and strictly configured in the same mode.

This is a list of the four configurable modes:

MODE	"PRESENCE" LOOP	"TRANSIT" LOOP
1	NO	NO
2	YES	NO
3	NO	YES
4	YES	YES

In **Mode 1** the reader is always enabled, the beam is opened for "Valid Card" and is re-closed for Timeout.

In **Mode 2** the reader is enabled by the "Presence" loop, the beam is opened for "Valid Card" and is re-closed for Timeout.

In **Mode 3** the reader is always enabled, the beam is opened for "Valid Card" and:

- is re-closed for Timeout if the "Transit" Loop is disengaged
- it is re-closed before Timeout if the "Transit" Loop switches before the time elapses.
- it re-closed when the "Transit" loop is disengaged – if Timeout has elapsed, the Loop is engaged.

In **Mode 4** the reader is enabled by the "Presence" Loop, the beam is opened for "Valid Card" and:

- is re-closed for Timeout if the "Transit" Loop is disengaged
- it is re-closed before Timeout if the "Transit" Loop switches before the time elapses
- it re-closed when the "Transit" loop is disengaged – if Timeout has elapsed, the Loop is engaged.

5.1.2 Programming

Procedure for setting one of the four modes:

- Program the "Mode Number" in Location **240** (in Terminal Emulation ***>F01**, ***>F02**, ***>F03**, ***>F04**)
- Reset "COBRA 600" (By switching off and on again, or by closing the JPI contact)

When powered up again, the System sets some 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" on "WINCONTROL" software
- Use "Communication" – "Terminal Emulation" on "WINCONTROL" software

Procedure for setting Beam Closure Timeout:

- For barrier "A", program a time in seconds on Location **238** (in Terminal Emulation ***>Dxx** with xx in hexadecimal).
- For barrier "B", program a time in seconds on Location **239** (in Terminal Emulation ***>Exx** with xx in hexadecimal).

"COBRA 600" must pilot FAAC barriers configured in "P" Logic. We advise you to set four short times on the "Activating operations for valid card" item in the "Panels Archive" mask of "WINCONTROL".

For example: **OUT1** → 4 Tenths of a Second
 OUT2 → 4 Tenths of a Second
 OUT3 → 4 Tenths of a Second
 OUT4 → 4 Tenths of a Second

PRE-DEFINED ASSIGNMENTS FOR COBRA 600 INPUTS AND OUTPUTS	
ING1	"TRANSIT" LOOPS GATEWAY "A"
ING2	"TRANSIT" LOOPS GATEWAY "B"
ING5	"PRESENCE" LOOPS GATEWAY "A"
ING6	"PRESENCE" LOOPS GATEWAY "B"
OUT1	OPEN BARRIER GATEWAY "A"
OUT2	CLOSED BARRIER GATEWAY "A"
OUT3	OPEN BARRIER GATEWAY "B"
OUT4	CLOSED BARRIER GATEWAY "B"

N.B. The "2 RELAY" card is required to interface outputs OUT3-OUT4, which are OPEN-COLLECTOR type

5.2 Double door management (reader A on one gateway, B on the other)

5.2.1 Introduction

The "COBRA 600" control unit and the "WINCONTROL" program are **not** structured for completely separate management of reader A and reader B installed on two different gateways. However, accepting some limitations, a single "COBRA 600" (complete with 2 readers: A and B) can be used to manage access of 2 separate gateways. A reader to be installed at each gateway: e.g. reader A at door A, and reader B at door B.

N.B.: there are several **limitations**. These are the main ones:

- accesses level not separate among readers A and B
- non optimised reports for each reader
- video messages cannot be customised separately in "WINCONTROL" (the description of a transit at a gateway coincides with that at the other gateway).

Remember also that the function:

- is active in "Stand-alone" mode
- "Action messages" for valid cards must not be involved
- "Action messages" or activating operations for **non** valid cards must not be involved

The management function consists of:

1. to identify which of the 4 available outputs are involved, irrespective whether they are for reader A or B
2. to assign activation time to each output

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3. to program which output (OUT1 - OUT4) to activate in the event of a valid card on reader A
4. to program which output (OUT1 - OUT4) to activate in the event of a valid card on reader B

For a clearer picture of point 3) or 4), consult the following tables:

Outputs	Actvatn. time	Filter for A	Activation operations really executed if card valid in A
OUT 1	10 tenths	Yes	10 tenths
OUT 2	15 tenths	No	-
OUT 3	40 tenths	Yes	40 tenths
OUT4	60 tenths	No	-

Outputs	Actvatn. time	Filter for B	Activation operations really executed if card valid in B
OUT 1	10 tenths	No	-
OUT 2	15 tenths	Yes	15 tenths
OUT 3	40 tenths	No	-
OUT4	60 dec.	Yes	60 tenths

All 4 outputs are involved in the preceding example, and, therefore, the corresponding activation time must be specified on all four.

Filter for A is “No, Yes, No, Yes” and corresponding to binary number “0101” which becomes “5” in hexadecimal.

Filter for B is “Yes, No, Yes, No” and corresponding to binary number “1010” which becomes “A” in hexadecimal.

For example, the electric lock of door A can be connected to OUT1 (time of 10 tenths) and electric lock of door B to OUT2 (time of 15 tenths).

COT COBRA 600 must be programmed so that it activates OUT1 only when a valid card is read at door A, and activates OUT2 only when the reading is at door B.

In the paragraph “How to program” we explain how to send these two filters to "COBRA 600".

5.2.2 How to program

Programming can be done both by using "WINCONTROL" software on the PC, or using the keyboard/display of COT "COBRA 600" if installed.

5.2.2.1 Programming from "WINCONTROL"

First of all, in the “Panel Archive” of the "WINCONTROL" software, set all the activation times for both A and B (e.g. 10 tenths for OUT1, 15 tenths for OUT2, 40 tenths for OUT3 and 60 tenths for OUT2).

Update the terminal enabling you to transfer data from the panel archive of "WINCONTROL" to "COBRA 600".

Next, activate the function “Communication” – “EEPROM Reading/writing” in "WINCONTROL"

Send the following command to the relevant terminal:

Double door management **486** ← (xy)hex input a number in hexadecimal. ‘x’ for reader A ‘y’ for reader B

‘x’ and ‘y’ are two hexadecimal system numbers (from 0 to F), and their value can be obtained from the following table.

Hexadecimal number for A “x”	OUT4 for A	OUT3 for A	OUT2 for A	OUT1 for A	OUT4 for B	OUT3 for B	OUT2 for B	OUT1 for B	Hexadecim. number for B “y”
0	-	-	-	-	-	-	-	-	0
1	-	-	-	Yes	-	-	-	Yes	1
2	-	-	Yes	-	-	-	Yes	-	2
3	-	-	Yes	Yes	-	-	Yes	Yes	3
4	-	Yes	-	-	-	Yes	-	-	4
5	-	Yes	-	Yes	-	Yes	-	Yes	5
6	-	Yes	Yes	-	-	Yes	Yes	-	6
7	-	Yes	Yes	Yes	-	Yes	Yes	Yes	7
8	Yes	-	-	-	Yes	-	-	-	8
9	Yes	-	-	Yes	Yes	-	-	Yes	9
A (10)	Yes	-	Yes	-	Yes	-	Yes	-	A (10)
B (11)	Yes	-	Yes	Yes	Yes	-	Yes	Yes	B (11)
C (12)	Yes	Yes	-	-	Yes	Yes	-	-	C (12)
D (13)	Yes	Yes	-	Yes	Yes	Yes	-	Yes	D (13)
E (14)	Yes	Yes	Yes	-	Yes	Yes	Yes	-	E (14)

F (15)	Yes	F (15)							
--------	-----	-----	-----	-----	-----	-----	-----	-----	--------

Referring to the preceding example, the following EEPROM writing command must be given
Double door management **486 ← (5A)hex**

5.2.2.2 Programming from the keyboard

Obviously, one can go ahead only if the COT "COBRA 600" in question has a connected keyboard/display.
First of all, in "Panel Archive" of the "WINCONTROL" software, set all the activation times for both A and B (e.g. 10 tenths for OUT1, 15 tenths for OUT2, 40 tenths for OUT3 and 60 tenths for OUT2).
Update the terminal enabling you to transfer data from the panel archive of "WINCONTROL" to "COBRA 600".
N.B.: if you do not intend using "WINCONTROL", you can set times for OUT1, OUT2, OUT3, OUT4 from the keyboard.

On COT "COBRA 600", activate programming from the keyboard (see manual).

Use key "E" to confirm fields not involved in this function.

At a certain point, the display shows the following message referred to reader A:

N. FOR ACT. READ.A

Type in a decimal number from 0 to 15 and press key "E".

To find the detail of the activating operations associated with each number, consult the previous table, and remember that, if a number is higher than 9, you must use the number in decimals - this is in brackets.

The following request is shown:

N. FOR ACT. READ.B

The explanations for reader A apply here too.

Continuing with the above example, type in "5" for reader A and "10" for reader B.

5.2.3 Miscellaneous notes

The behaviour we have described applies to both "On-line" and "Off-line" modes.

Any activation combination is acceptable for reader A and B – therefore, one or more exits may be activated in the event of a valid card on both reader A and reader B.

5.2.4 "Door management" for two separate gateways

"COBRA 600" cannot be configured so that it behaves with both door A and door B in "Door management" (internal door opening push-button + open door microswitch that can be disabled) - this is possible with door A only.

However, "COBRA 600" can be set so that it simulates "Door management" behaviour on two gateways.

Procedure :

Connections for **door A**

- OUT1/B (e.g. timed 20 tenths) for door-opener A (do not use OUT1/A as it is not a free contact)
- OUT 3 (open collector) (e.g. time 150 tenths) connected by a short wire to IN1.
- IN1 + GND for the microswitch (normally closed if door closed) which senses the status of door A.
The status of IN1 logic must be reversed, i.e. it must be tick-marked on "WINCONTROL".
- IN2 + GND for the A door-opening push-button

Connections for **door B**

- OUT2 (e.g. time 20 tenths) for door-opener B.
- OUT 4 (open collector) (e.g. time 150 tenths) connected by a short wire to IN3.
- IN3 + GND for the microswitch (normally closed if door closed) which senses the status of door B.
The status of IN3 logic must be reversed, i.e. it must be tick-marked on "WINCONTROL".
- IN4 + GND for the B door-opening push-button

This is the necessary programming:

- The panel concerned must **not** be under "Door management".
- In the Panel archive of "WINCONTROL", set activation times for a valid card. Example:
 - OUT1 = 20 tenths
 - OUT2 = 20 tenths
 - OUT3 = 150 tenths
 - OUT4 = 150 tenths
- In the Panel archive of "WINCONTROL", set two activation times associated with input IN2. Example:
 - IN2 OUT1 = 20 tenths on the same panel

- IN2 OUT3 = 150 tenths on the same panel
- In the Panel archive of "WINCONTROL", set two activation times associated with input IN4. Example:
 - IN4 OUT2 = 20 tenths on the same panel
 - IN4 OUT4 = 150 tenths on the same panel
- Update the terminal enabling you to transfer data from the panel archive of "WINCONTROL" to "COBRA 600".
- Activate the "Double door management" function for the panel in question.
You can operate from "WINCONTROL" to "COBRA 600", or by programming on the keyboard. This is the command:

Double door management	486 ← (5A)hex or
Double door management	486 ← (90) dec (equivalent to previous command)

5.3 Disabling reader A and reader B

As from version 5.7.0, readers A and B can be disabled individually or both together.

The function can be programmed and is usually non operational.

Disabling is effected according to the status of an input, as follows:

- ❖ IN5 de-activated → reader A operating
- ❖ IN5 activated → reader A non operating

- ❖ IN6 de-activated → reader B operating
- ❖ IN6 activated → reader B non operating

Remember that the input logic can be reversed to adapt behaviour.

If a reader is not operating and a card is read, the initial signalling beep is nevertheless emitted.

To activate the function on reader A:

Disab. Reader A for IN5 **241 ← (00)dec** (**241 ← (255)dec** to de-activate, i.e. ignore IN5)

To activate the function on reader B:

Disab. Reader B for IN6 **242 ← (00)dec** (**242 ← (255)dec** to de-activate, i.e. ignore IN6)

N.B.: **do not** use this function if the "Two-way" mode is active (see relevant paragraph) or with certain EPROM options that use other inputs to disable readers (e.g. S18, S18-DON, S19, etc.)

5.4 Interfacing with Alarm Control Units

A certain input on "COBRA 600" can be used to interface with the output of an Alarm control unit in order to disable both readers (A + B).

The appropriate input is IN2 and the functions are operational only if activated.

Two functions can be activated:

- input management from alarm control unit mode 0
- input management from alarm control unit mode 1

5.4.1 Input management from alarm control unit mode 0

If the function is active, it enables the following behaviour:

- ❖ if IN2 is de-activated
 - all is operational
- ❖ if IN2 is activated
 - the display shows the message "ALARM CONTROL UNIT ON"
 - normal cards are considered valid but **do not** execute the specified activating operations
 - the "Activation" or "Activation only" cards are valid and activating operations are only those specified for "Activation only" cards (therefore, there are no activating operations for normal valid cards).

The fact that some cards can execute activating operations makes it possible to turn ON/OFF the Control unit with the Access Control system. The "Card Counter" of "WINCONTROL" (providing it is always on-line) is usually utilised.

- an action message is associated when there are zero presences.
- another action message is associated when presences are above zero.

The two action messages have to activate or de-activate an output on a "COBRA 600" which must be connected to the input that turns the Alarm control unit ON or OFF.

How to activate mode 0:

Control unit management from IN2 **412 ← (00)dec**
Control unit management from IN2 **412 ← (255)dec** (de-activates the function)

If you observe the command that was sent, you will see that the two modes cannot be activated simultaneously.

5.4.2 Input management from alarm control unit mode 1

If the function is active, it enables the following behaviour:

- ❖ if IN2 is de-activated
 - all is operational
- ❖ if IN2 is activated
 - the display normally shows Date/Time
 - if any card is read
 - the display shows the message “ALARM CONTROL UNIT ON”
 - normal, “Activation” and “Activation only” cards are all ignored.

As no card can be recognised as valid when the Control unit is ON (IN2 activated), this means that the terminals in question cannot be used for turning the Alarm control unit ON or OFF:

However, this is possible from other gateways set in “0 mode”.

How to activate mode 1:

Control unit management from IN2 **412 ← (01)dec**
Control unit management from IN2 **412 ← (255)dec** (de-activates the function)

If you observe the command that was sent, you will see that the two modes cannot be activated simultaneously.

5.5 “Monodirectional” or “Bidirectional” mode

The "COBRA 600" panel is supplied in Monodirectional mode and can be switched to Bidirectional.

To program, use “Communication” – “On-line panels initialisation” in "WINCONTROL"

In “Monodirectional” mode, the card informs the Controller of the transit of the card, indicating the Site Code and the Card Code, and adds a reason which, typically, can have any meaning only in a Time & Attendance program environment.

However, in Present Vehicles Count and Antipassback environments, the Controller must also be informed of the travel direction to indicate if the card owner intends to enter or exit (e.g. in the case of Bidirectional turnstiles, Cotag readers, proximity readers or insertion readers, etc.).

This function can help solve the problem

If you set the “Bidirectional” mode, inputs IN5 and IN6 are no longer general alarm inputs (they no longer communicate alarm statuses) and take on a meaning regarding the detected transit according to the following table:

An input is considered inactive if at rest, and active when in alarm status (see table).

Input IN 5	Input IN6	Meaning
Inactive	Inactive	Unacceptable status: card reading is ignored
Active	Inactive	Ok. “ Reason ” and “Toward”, associated with reader A Normal or B Normal, are queued
Inactive	Active	Ok. “ Reason ” and “Toward”, associated with reader A Reverse or B Reverse, are queued
Active	Active	Unacceptable status: card reading is ignored

In “Bidirectional” mode, status changes (alarms and restoring operations) occurring at IN5 and IN6 inputs are not communicated to the Controller, but their status is analysed by "COBRA 600" only when a card is being read in order to use the relevant data.

The terminal stores the settings (“Monodirectional” or “Bidirectional”) in a non-volatile memory and, therefore, any reset of power cut do not make it necessary to repeat the initialising operation.

In “Bidirectional” mode, inputs 5 and 6 cannot be disabled because "WINCONTROL" automatically enables these two inputs if “Bidirectional” mode is selected.

5.6 "Normal" mode or "Door Management"

"Door management" means controlling any unauthorised openings of the gateway and use of a door-opening push-button to exit.

The "COBRA 600" panel is supplied in "Normal" mode but can be switched to "Door management".

To program, use "Communication" – "On-line panels initialisation" in "WINCONTROL"

This function only refers to reader A and the relevant door. If there are two doors, consult the "Double door management" paragraph describing an application that emulates this mode if two readers are installed on two separate gateways.

The difference is that this function is obtained via software and, therefore, occupies fewer inputs and outputs.

If the "Door management" mode is set, inputs IN3 and IN4 of "COBRA 600" can no longer be used as general alarm inputs, but must be connected to the following devices:

Input 3	Door status microswitch. If it is normally closed, the logic must be reversed when the door is closed.
Input 4	Internal push-button to activate door-opener

Input 3 remains an alarm input but can be disabled for a certain time when one of the two following conditions occurs:

- transit of a valid card (even if via the replacing PIN)
- pressing the internal door-opening push-button connected to input 4.

Disabling time can be set from the Controller, by selecting the screen mask that modifies the operating mode. Times range from a minimum of 1 sec to 255 secs The data-item is downloaded from the Controller to the terminal and saved in a non-volatile memory.

Up to the 5.7.0 version – excluding the "Disable input IN3" function of "Door management" – "COBRA 600" was programmable in Tenths/Seconds (preset at 150 tenths). It is now always in seconds (preset at 15 sec.).

Pressing the door-opening key energises all outputs preset in the "Panel Archive" as a result of the "valid card" event and disabling of input 3 for the time mentioned.

To sum up, presenting a valid card or pressing the door-opening push-button cause the same standard activating operations to be executed.

Obviously, what we said does not concern

- Activation cards on which only the standard activating operations remain in common
- Activation **only** cards: a set of activating operations are enabled with the card, another set with the door-opening push-button
- Action messages

The terminal stores the setting ("normal" or "door management") in a non-volatile memory and, therefore, any reset of power cut do not make it necessary to repeat the initialising operation.

The "door management" or "normal" mode is not connected to the "one-way" or "two-way" mode, and, therefore, you can freely select from one of the four possible combinations.

5.7 Anti-coercion in "Stand-alone" mode

The Anti-coercion function can normally be used only with on-line terminals, and the generated alarm causes the same output to be activated on only one of the on-line panels.

Fully "Stand-alone" management is possible: it must be enabled on each panel.

"WINCONTROL" does not have a procedure directly communicating the setting on "COBRA 600" - you have to work "manually" from "WINCONTROL"

Functionality: this is the procedure :

- the panel in question must be enable for the "PIN" function , i.e. Code + Card
- any digital key in addition to the actual PIN code must be typed in
- the card must be read within the specified timeout
- output #4 is activated for 2 seconds (OUT4 → 2 sec.)
- however, the card is treated like any normal valid card

Important: the output in question must not be activated for other reasons (for valid card, for time-band, etc.).

N.B.: when the terminal returns to On-line status, this exit is no longer activated in the event of coercion: in fact, only the one programmed by the software will be activated again .

This means that alarm outputs with this function must be located on several panels and be connected to each other (in series or in parallel according to configuration).

N.B.: the following limits apply if in "Stand-alone" mode:

- a the PIN must be typed in first and then the card must be presented (if "On-line", reverse order is possible)

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b 10-digit PIN codes are not permitted. Codes with lengths of 1 to 9 digits are acceptable.

Enab.Anti-coercion in "St.-alone" **431 ← (00)dec** **(431 ← (255)dec** to disable)

5.8 Activating operations on Time-Band

One or more Time-Bands in the archive can be associated with each of the outputs (OUT1 – OUT4). These outputs will be activated for the entire validity period of the Time-Band.

Up to 5 activating operations can be specified for a Time-band : obviously, the same exit can be indicated several times to generate more complex Time-bands.

Setting must be done on "WINCONTROL" using **"Archive" – "Panels" + data download to "COBRA 600"**.

In this function, it is advisable to use outputs not utilised for other purposes, although there are exceptions: for example, an output for door-opener maintained continuously active at certain hours of the day, and activated with valid Cards at other hours.

Application examples: light on, buzzers, closing an input in order to generate timed activating operations, etc.

Management is handled from "COBRA 600", whether operating in "On-line" or "Stand-alone" mode - the information must be downloaded from "WINCONTROL" to "COBRA 600".

If an output (e.g. OUT1) is active as it is within the Time-band, it stays active even if it is activated for a few seconds by a valid Card or by a timed activating operation associated with an input.

As from the 5.7.4 version, if disabling of the output (time 255) is associated with an input, the output stays active.

Previously, however, the output was de-activated for ~1 second and was then re-activated if still in the Time-band.

A Reset causes the relevant outputs to be disabled for Reset time plus about one second.

6. Settings of COBRA 600 card

The card enables the user to select some operating modes and store data associated with them in a non-volatile EEPROM memory (therefore, data are not lost following a reset, a power cut, or disconnection from the lithium battery). These parameters can be set as follows:

- by "Keyboard programming" on "COBRA 600", providing it is supplied with a keyboard/display.
- from the Controller if the panel to be set is on-line. In that case, the following setting procedures are available:
 1. using the "WINCONTROL" software and selecting the "Panel Archive" item
 2. using the "WINCONTROL" software and selecting the "Communication" – "On-line panel programming" item.
 3. using the "WINCONTROL" software and selecting the "Communication" – "On-line panel Initialisation" item.
 4. using the "WINCONTROL" software and selecting the "Communication" – "EEPROM Reading/writing" item.
 5. using the "WINCONTROL" software and selecting the "Communication" – "Terminal Emulation" item.

N.B.: procedures 4) and 5) makes it possible to set all panel parameters, whereas the others do not.

The difference is that procedures 1), 2) and 3) suggest screen masks to be used for setting the data-item and then unloading it automatically to "COBRA 600" in the correct location, without any action by the operator.

Procedures 4) and 5) essentially make it possible to write any data-item in any location of COBRA 600's EEPROM. Consequently this potentially dangerous operation must be effected by duly instructed personnel, and only by writing in the locations for which the relevant documentation is available.

Settings effected on "WINCONTROL" are explained in the relevant manual or on on-line Help.

Several settings can be effected by "Keyboard programming" but not all are permissible.

As from the 5.7.0 version, one can program any location directly, writing the value in decimals.

This virtually allows any setting although the operating procedure cannot always be described in the manual. In special cases, consult FAAC on what to do.

6.1 Programming from the keyboard

If only the A keyboard/display is supplied or both readers: programming is possible on A only.

If only the B keyboard/display is supplied, programming is possible on B only.

Keyboard programming can be accessed in two ways:

1. using key pair 7 and 9
2. using the JP1 connector

Activating programming with keys 7 and 9

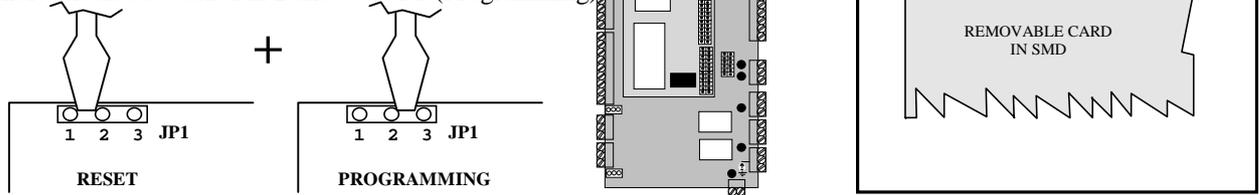
- power down the panel

- simultaneously hold down keys 7 and 9 of the keyboard
- power up the panel
- release keys 7 and 9 after a brief beep and a long confirming beep.

The display shows a set of screens listed in the following table: at every screen, type in the new setting and confirm the previous one with the “E” key (Enter).

Activating programming with the JP1 connector (see following figure):

- power down the panel
- electric connect to each other Pin 2 and 3 of JP1
- power up the panel
- release connection after a brief beep and a long confirming beep. N.B.: a short-circuit between Pin 1 and 2 causes the CPU to Reset, and the effects are approximately the same as if the card were powered down and powered up again. As a result, the preceding procedure can be:
- short-circuit between Pin 1 and 2 of JP1 (Reset)
- short-circuit between Pin 2 and 3 of JP1 (Programming)



N.B.: in the following programming masks:

- if current value is displayed, it is shown between round brackets
- if a selection is made, the cursor flashes on the current value
- press the “E” key to confirm current value and move on to the next mask

```
WRITE EEPROM?
 1=Yes    3=No
```

If you reply Yes (1), this appears:

```
9=RESET EEPROM
0=EXIT; 1=WRITE
```

- Key 0 to return to main menu.
- Key 1 to access the following routine: “Writing of a location” + “reading” function
- Key 9 to delete all settings previously stored in the EEPROM of the panel (with the exception of the panel number) and modify them to a pre-defined value. **Caution:** do not activate them involuntarily.

If key 1) “Writing of a location”

```
LOCAT. : ____
VALUE : ____ (255)
```

In the top line, indicate a number from 001 to 512 (use three characters) + Enter - this is the location to read/write. The current value in brackets appears on the bottom line, and the cursor flashes signalling that you can type in a number from 0 to 255 – this is the value to write. If you press only the Enter key without typing in any value, the current value is **confirmed** (in practice, this serves to read the status of a location.) Read and typed-in values are decimal. The cycle is repeated to infinity. To interrupt it, reset or turn off and on again.

```
CHANGE DATE/HR?
 1=Yes    3=No
```

If you answer Yes (1), a sequence of screens appears referring to: hours, minutes, date, month, year (last two digits), day of the week (1= Monday, 2= Tuesday, ..., 7 = Sunday). At the end, you can reset the seconds hand by pressing the ‘0’ key. N.B.: if you write year ‘00’, this means ‘2000’.

```
PANEL NUMBER
1-255 ____ (001)
```

To change the current number of the panel (shown in brackets), type in the new number and confirm with key 'E'. Type in a number in the range 1 to 255 that does not already exist on the network.

```
SITE CODE  
(00001) _____
```

To change the current Site Code of the panel (shown in brackets), type in the new code and confirm with key 'E'.

```
3 = WIEGAND  
1 = MAGN.-STRIPE
```

Set the reading mode for the panel. Remember that it applies to both reader A and reader B.

```
3 = TENTHS  
1 = SECONDS
```

Press key "3" to indicate activation times in tenths of a second - these times can vary from 1 tenth to 25.3 tenths. If you press key "1", the above value is indicated in seconds, and, consequently, times may vary from 1 to 253 seconds. Note that resolution also changes for the two situations. The disabling time for ING3 in "Door management" is also affected by this setting: if it is in tenths, it ranges from 1 to 25.3 seconds, if in Seconds, from 1 to 253 seconds. The machine is delivered preset to "Tenths".

```
IGN.READ A CARD  
0-255 ____ (000)
```

Set the "Ignore Card" time for reader A.

```
IGN.READ B CARD  
0-255 ____ (000)
```

Set the "Ignore Card" time for reader B.

```
HIST. SHUT-DWN?  
1=Yes 3=No
```

Press key '1' to interrupt card reading (in "Stand-alone"), if the transit memory is full.

```
ON-LINE ONLY?  
1=Yes 3=No
```

Press key '1' to configure the panel in "On-line only" mode.

```
STAND AL. ONLY?  
1=Yes 3=No
```

Press key '1' if you wish to configure the panel as "Stand-alone".
Press key '0' if you do not wish to activate the configuration described above (preset value).

```
TIME/ATT. TYPE ?
0=No 1=EXS 2=Yes
```

Press key '0' to configure the panel as a terminal for "Access Control" (preset value)
Press key '2' to configure the panel simply as a "Time & Attendance" terminal.
Press key '1' to configure the panel as an "Excess" mode terminal.

```
BAUD: 57.600
1=UP 3=DOWN
```

Select the Baud-rate of the polling port (RS232 COM2 or RS485). The setting is BAUD, S, 8, 1
Current value is suggested. To change the value:

- press either key 1 or key 3 until the value you require is shown.
- press the Enter key to confirm

```
SET READERS?
1=Yes 3=No
```

Press key '3' (No) or key 'E' to skip to the "Readers setting" item.
Press key '1' (Yes) for a sequence of settings for readers. The following is a case where the reply was yes ('1').

```
REASON NORM. A
0-9 ____ (001)
```

Type in a number from 0 to 9. When the terminal informs the Controller of a "normal" reading of a card on reader A, it adds the reason number.

```
REASON REVER. A
0-9 ____ (002)
```

Type in a number from 0 to 9. When the terminal informs the Controller of a "reverse" reading of a card on reader A, it adds the reason number at the end.

```
REASON NORM. B
0-9 ____ (001)
```

Type in a number from 0 to 9. When the terminal informs the Controller of a "normal" reading of a card on reader B, it adds the reason number at the end.

```
REASON REVER. B
0-9 ____ (002)
```

Type in a number from 0 to 9. When the terminal informs the Controller of a "reverse" reading of a card on reader B, it adds the reason number at the end.

```
ENT/EXIT NA READ
0=No 1='E' 2='U'
```

The selection refers to the "Entrance / Exit / Neutral" function. Letter 'E' refers to an entrance, whereas letter 'U' refers to an exit. Leave "Neutral" (replying '0' (No)): in that case a space (' ') is added at the end.
Their meaning regards strictly "Access Control" only as concerns:

- Card count
- "Present / Absent" flag
- Antipass-back (if operating)

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Use “ reason” to generally communicate Time & Attendance, entrance/exit information. See the paragraph on the “Reasons”.

```
ENT/EXIT RA READ
0=No 1='E' 2='U'
```

This setting resembles the one in the previous mask but refers to a valid card read on reader A in “reverse”.

```
ENT/EXIT NB READ
0=No 1='E' 2='U'
```

This setting resembles the one in the previous mask but refers to a valid card read as “normal” on reader B.

```
ENT/EXIT RB READ
0=No 1='E' 2='U'
```

This setting resembles the one in the previous mask but refers to a valid card read on reader B in “reverse”.

```
NA TYPE MESSAG.?
0=No 1=ENT 2=EXT
```

This concerns the 6-character message at bottom left for a valid card on “normal” reader A.

If you press the ‘0’ key, the display will not show any (preset) message.

If you press the ‘1’ key, the display will show “Entr.”.

If you press the ‘2’ key, the display will show “Exit”.

```
RA TYPE MESSAG.?
0=No 1=ENT 2=EXT
```

This concerns the 6-character message at bottom left for a valid card on reader A in “reverse”.

If you press the ‘0’ key, the display will not show any (preset) message.

If you press the ‘1’ key, the display will show “Entr.”.

If you press the ‘2’ key, the display will show “Exit”.

```
NB TYPE MESSAG.?
0=No 1=ENT 2=EXT
```

This concerns the 6-character message at bottom left for a valid card on “normal” reader B.

If you press the ‘0’ key, the display will not show any (preset) message.

If you press the ‘1’ key, the display will show “Entr.”.

If you press the ‘2’ key, the display will show “Exit”.

```
RB TYPE MESSAG.?
0=No 1=ENT 2=EXT
```

This concerns the 6-character message at bottom left for a valid card on reader B in “reverse”.

If you press the ‘0’ key, the display will not show any (preset) message.

If you press the ‘1’ key, the display will show “Entr.”.

If you press the ‘2’ key, the display will show “Exit”.

```
POSS. TYPED 0-9
1=Yes 3=No
```

Press the ‘3’ key (No) to ignore any reasons typed in before the card was read (preset).

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FAAC s.p.a.

Press the '1' key (Yes) to accept any reason typed in before the card was read.

ENABLE LRC ? 1=Yes 3=No

Press the '1' key (Yes) to execute LRC control while a card is being read (preset).
Press the '3' key (No) to skip LRC control while a card is being read.

SITE CODE TEST? 1=Yes 3=No

Press key '1' (Yes) to check if the card's Site Code matches that of COBRA 600 (preset). This only has any meaning with prefix "T".

Press key '3' (No) to skip this type of check (i.e. any Site Code is acceptable).

➤ **Card settings:**

SET CARDS ? 1=Yes 3=No

Press key '3' (No) or key 'E' to skip to the "Prefix" item.

Press key '1' (Yes) for a sequence of settings for cards. The following is a case where the reply was yes ('1').

CARD CODE START 1-37 ____ (006)

Type in a number from 1 to 37. This applies only to Mag-Stripe prefix "T". It refers to the starting position of the Card Code.

CARD CODE LENGTH 1-5 ____ (005)

Type in a number from 1 to 5. This applies only to Mag-Stripe prefix "T". It refers to Card Code length, i.e. how many characters represent the Card Code on the numeric string that was read.

SITE CODE START 1-37 ____ (001)

Type in a number from 1 to 37. This applies only to Mag-Stripe prefix "T". It refers to the starting position of the Site Code.

SITE CODE LENGTH 1-5 ____ (005)

Type in a number from 1 to 5. This applies only to Mag-Stripe prefix "T". It refers to Site Code length, i.e. how many characters represent the Site Code on the numeric string that was read.

```
CARD MIN. LENGTH
1-37 ____ (001)
```

Type in a number from 1 to 37. This applies only to Mag-Stripe. It refers to the minimum length of a numeric string being read.

```
CARD MAX. LENGTH
1-37 ____ (037)
```

Type in a number from 1 to 37. This applies only to Mag-Stripe. It refers to the maximum length of a numeric string being read.

➤ **Prefix**

```
3 = PREFIX 'T'
1 = PREFIX 'N'
```

Press key “3” to indicate activation times in tenths of a second - these times can vary from 1 tenth to 25.3 tenths. If you press key “1”, the above value is indicated in seconds, and, consequently, times may vary from 1 to 253 seconds. Note that resolution also changes for the two situations.

```
OUT1 FOR CARD OK
0-253 ____ (000)
```

Type in a number from 0 to 253. This is the activation time of OUT1 for a valid card. The preset value is zero. Therefore, we advise you to update the value either by downloading from "WINCONTROL" or by using this programming on the keyboard. Activation time of OUT1, OUT2, OUT3 and OUT4 depends on the “TENTHS/SECONDS” setting.

```
OUT2 FOR CARD OK
0-253 ____ (000)
```

Type in a number from 0 to 253. This is the activation time of OUT2 for a valid card.

```
OUT3 FOR CARD OK
0-253 ____ (000)
```

Type in a number from 0 and 253. This is the activation time of OUT3 for a valid card.

```
OUT4 FOR CARD OK
0-253 ____ (000)
```

Type in a number from 0 e 253. This is the activation time of OUT4 for a valid card.

This is followed by a timed display (about two seconds) of the current status of “Double door management”. The appropriate mask for reader A and B, executing the same activating operations (preset) is:

```
ACT.MASK A 1234
ACT.MASK B 1234
```

This mask shows the current setting for both reader A (top line) and reader B (bottom line).
<\\Pc5\docword\Doc00\15manual\FaacControl\Cobra600\Manuale Cobra600 - V 5-7-6x.doc>
FAAC s.p.a.

If all four outputs (“1234”) of each line are indicated in non-cryptic form, all are enabled.

If one or more activation operations were disabled, an “X” would appear in their place.

For example, if the mask were:

ACT. MASK A 1X3X

ACT. MASK B X2X4

This means that a valid card on A is activating OUT1 and OUT 3 (providing both have times other than zero).

This means that a valid card on B is activating OUT2 and OUT 4 (providing both have times other than zero).

This is followed by the setting mask for reader A.

N. FOR ACT. READ. A
—

Set a number from a 0 to 15.

The value to set was explained in the “Double door management “ paragraph. The following table will clarify matters further.

DEC.	OUT 4	OUT3	OUT2	OUT1
0	NO	NO	NO	NO
1	NO	NO	NO	YES
2	NO	NO	YES	NO
3	NO	NO	YES	YES
4	NO	YES	NO	NO
5	NO	YES	NO	YES
6	NO	YES	YES	NO
7	NO	YES	YES	YES
8	YES	NO	NO	NO
9	YES	NO	NO	YES
10	YES	NO	YES	NO
11	YES	NO	YES	YES
12	YES	YES	NO	NO
13	YES	YES	NO	YES
14	YES	YES	YES	NO
15	YES	YES	YES	YES

The preset value is 15: all outputs are enabled, i.e. they are potentially executed.

This is followed again (for two seconds) by an updated display of the current status of “Double door management”.

ACT. MASK A 1234
ACT. MASK B 1234

This is followed by the setting mask for reader B.

N. FOR ACT. READ B
—

Set a number from a 0 to 15.

If you confirm the previous mask, the mask appears for the third time, showing the updated situation of “Double door management”.

Keyboard programming is no longer available on standard versions.

Other requested specifications, described in the relevant manual, may appear on certain options.

The panel performs an automatic reset and shows the main mask on the display.

Appendix

6.2 Display of current version

The display may show for a few seconds a screen containing important information on "COBRA 600".

When is the screen is shown?:

- at power-up (for a few seconds)
- after very Reset (for a few seconds)
- by short-circuiting Pins 2 and 3 of connector JP1, used for programming (for the entire time of the short-circuit).

The display shows the panel Address (e.g. N. 001) and the version (e.g. 5.7.5a).

6.2.1 Display identifying A or B

The following techniques are available to find out if a reader is 'A' or 'B':

If the readers is equipped with a keyboard:

- press the "#" key

to show the letter A or B at bottom left of the display

If the readers is equipped with a buzzer:

- Power down "COBRA 600" and then power up again
 - if it is reader A, the buzzer is sounded once
 - if it is reader B, the buzzer is sounded twice

6.2.2 Changing the EPROM

To update the EPROM version, ask for the new version or a new option. Then do the following:

- take a note of the panel operating parameters (see further below)
- power down COBRA 600
- find the EPROM on the COBRA 600's CPU card and take a note of the insertion direction.
- remove the previous EPROM from the base
- insert the new one, taking care over the insertion direction
- power up

Important: certain options require a COBRA 600/S. If you are not using that model, there is no point going on.

However, you can always fit on a COBRA 600/S an EPROM that simply requires a COBRA 600.

We advise you to take a note of the operating parameters, because the current ones may be removed.

In fact, under certain conditions, the EEPROM (the one containing the operating parameters) is cleaned and re-initialised with the standard parameters which could be different from current parameters obtained through subsequent modifications.

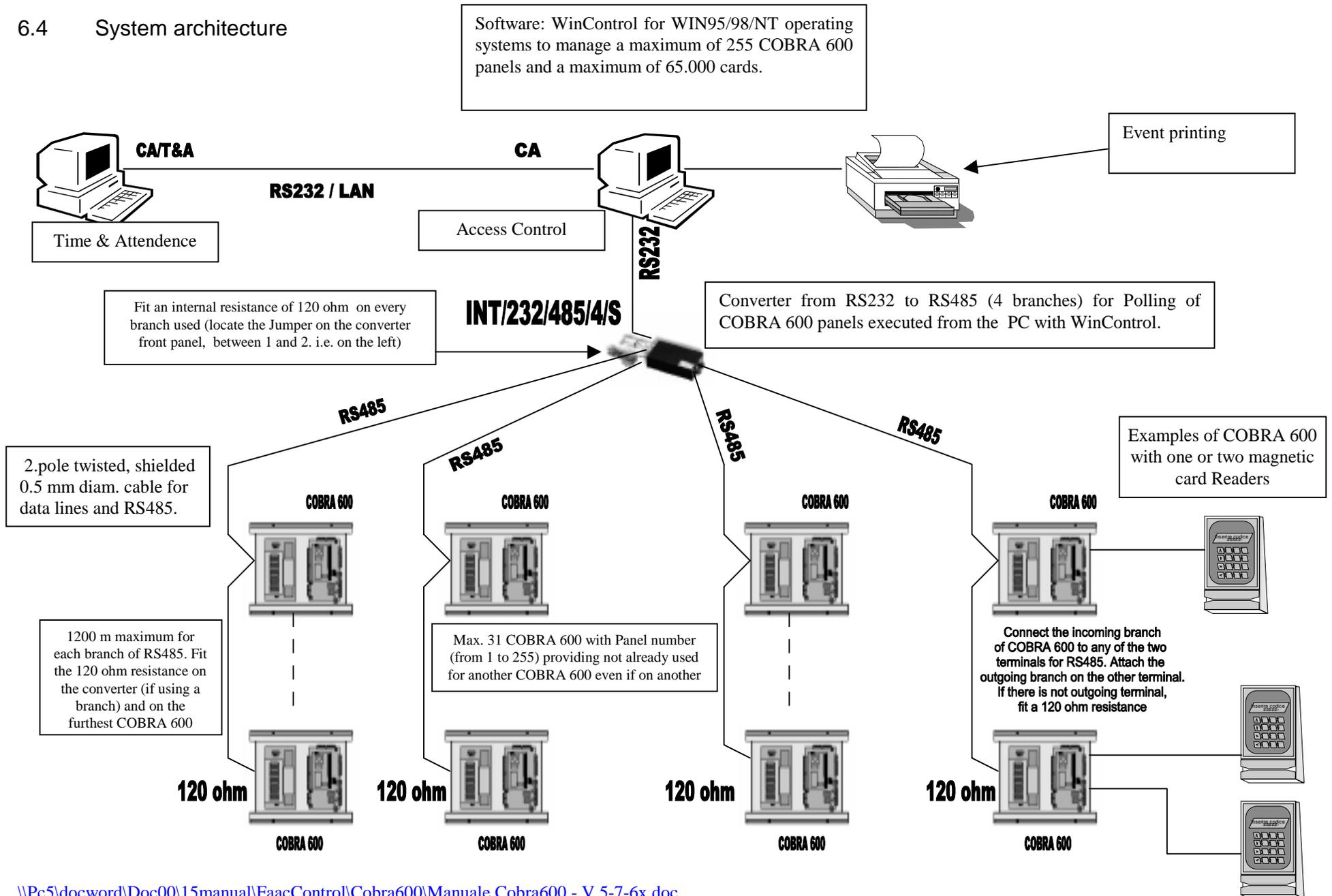
It is re-initialised:

- if the first number of the EPROM version has changed (from 5.0.0 to 6.0.0)
- if the second number of the EPROM version has changed (from 5.6.0 to 5.7.0)
- if the option has changed (from S0 to S09) even if the version is the same

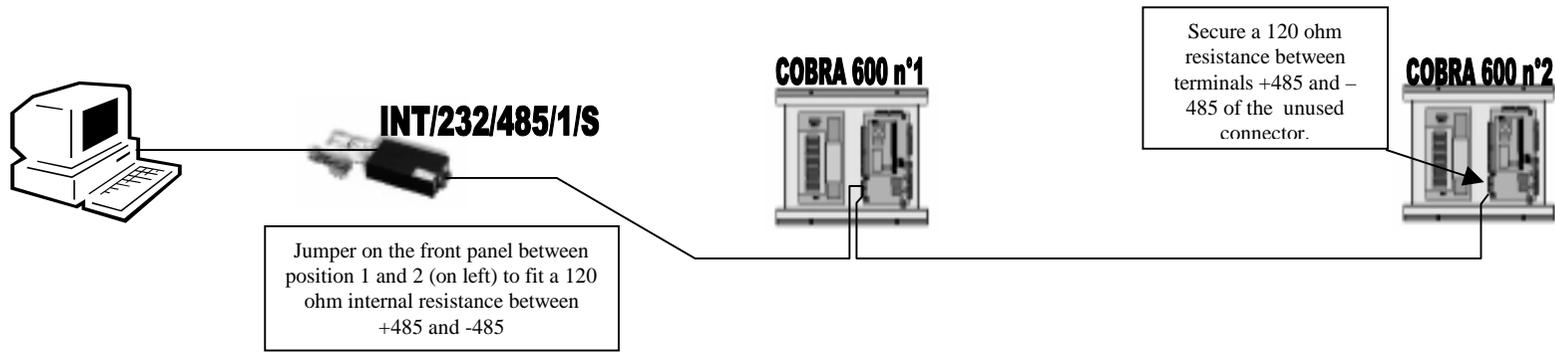
It is **not** re-initialised:

- if the third number of the EPROM version has changed (from 5.7.0 to 5.7.1)

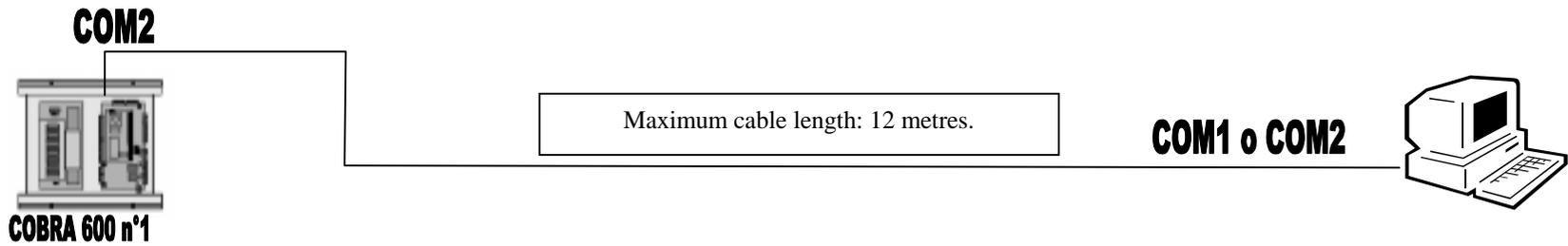
6.4 System architecture



An example of connection of two COBRAS 600 panels to a RS232-to-RS485 Converter (1 branch only available) for polling COBRAS 600 panels executed from the PC with WinControl.



An example of direct connection between one COBRA 600 Panel and a P.C. with WinControl-1P not requiring DDP.
 N.B.: a program requiring DDP cannot be used.
 The DDP (Protective Device) is built into the RS232/485 converter – not supplied here.



6.5 WIRING

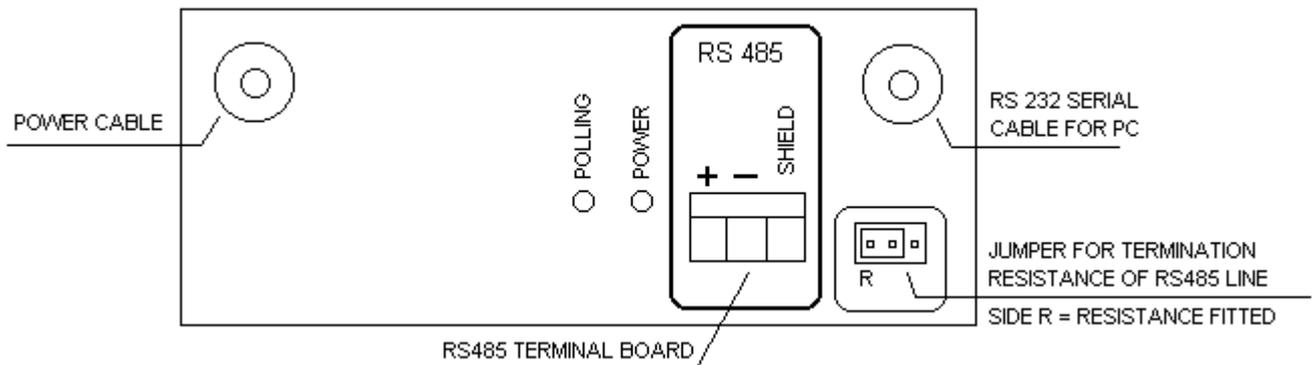
The following pages contain tables, lay-outs and connections for the following devices:

CONVERTER FOR INTERFACING RS 232/485 1 Line
CONVERTER FOR INTERFACING RS 232/485 4 Lines
COBRA 600
GATEWAY "B" BARRIER
DETECTOR FG-2
MAG READER
TAG-3
TAG-5
TAG-10
DIGIMAG
DIGITAG
RADIO-CONTROL 433 SLP
MIXER
AT-8

6.5.1 CONVERTER FOR INTERFACING RS 232/485 1 LINE

The RS 232/485 1 Line converter manages polling of the "COBRA 600" peripheral CONTROL UNITS. It must be connected to the PC's COM1 or COM2 serial port (see "WINCONTROL" manual). Two 120 ohm resistances (supplied) must be fitted on the two ends of the RS485 lines.

power supply	230 Vac. (+6% -10%) 50 (60) Hz
RS232 serial connection to PC	wired cable with DB9 Female connector
red LED	power ON
flashing green LED	now polling
dimensions	92 x 44 x 165 mm



N.B.

The converter may be connected to one of the two ends of the RS485 line (used as a **terminator**) or to an **intermediate** point.

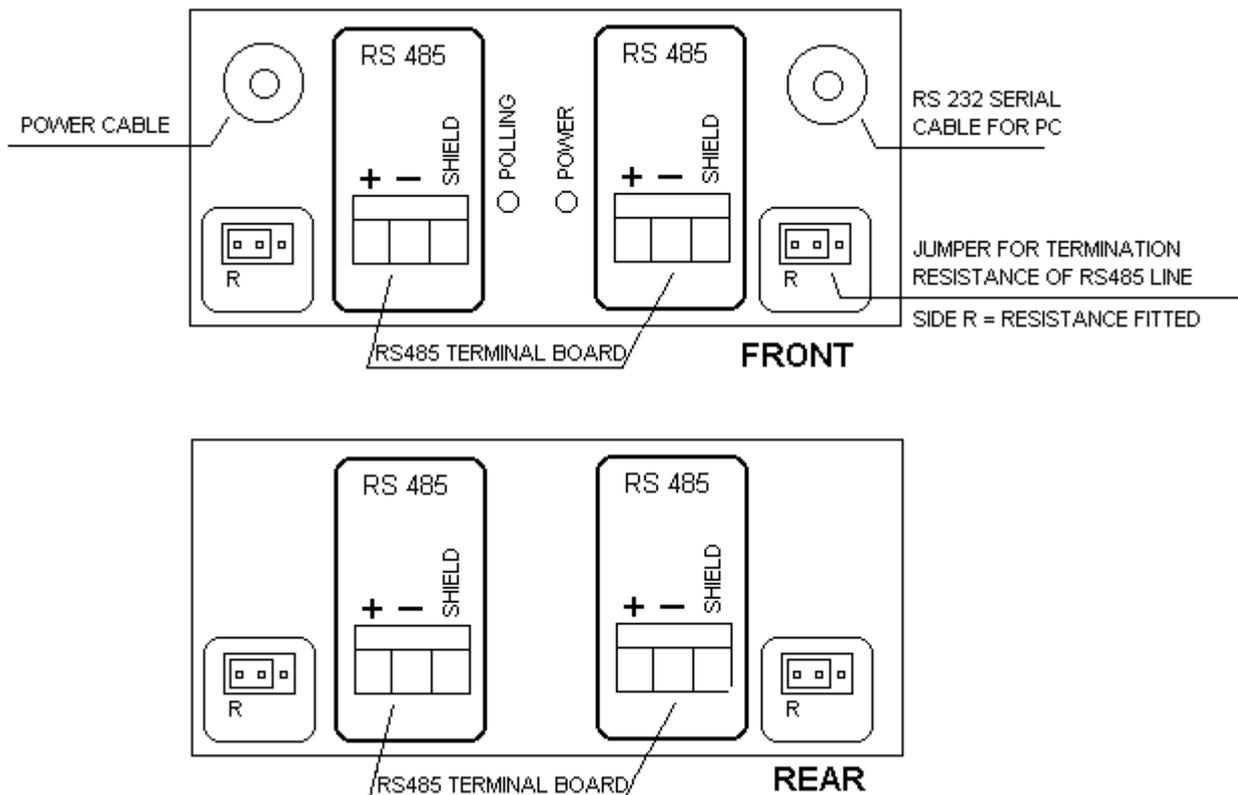
- If the converter is used as a **terminator**, fit the termination resistance (jumper on side R).
- If the converter is used in an **intermediate** position, connect the two branches of the RS485 line in parallel to the converter terminals. Do not use the termination resistance (jumper on right side). In this case, the termination resistance must be fitted at the beginning (first management unit) and end of the line (last management unit).

6.5.2 CONVERTER FOR INTERFACING RS 232/485 4 LINES

The RS 232/485 4 Lines converter manages polling of the "COBRA 600" peripheral CONTROL UNITS. It must be connected to the PC's COM1 or COM2 serial port (see "WINCONTROL" manual).

The converter has 4 RS485 output lines. All or some may be used.
Two 120 ohm resistances (supplied) must be fitted on the two ends of the lines.
Non-used lines must not be fitted with a termination resistance.

power supply	230 Vac. (+6% -10%) 50 (60) Hz
RS232 serial connection to PC	wired cable with DB9 Female connector
red LED	power ON
flashing green LED	now polling (on all lines)
dimensions	92 x 44 x 165 mm



N.B.

The converter may be connected to one of the two ends of the RS485 line (used as a **terminator**) or to an **intermediate** point.

- If the converter is used as a **terminator**, fit the termination resistance (jumper on side R).
- If the converter is used in an **intermediate** position, connect the two branches of the RS485 line in parallel to the converter terminals. Do not use the termination resistance (jumper on right side).
In this case, the termination resistance must be fitted at the beginning (first management unit) and end of the line (last management unit).

6.5.3 COBRA 600

1 POWER CABLE

Flame-retardant cable 2x1.5 sq.mm + Ground

1 CABLE FOR READER A

- Solution 1 for devices MAG, TAG-3, TAG-5, TAG-10, DECODER TTL, MIXER. Shielded flame-retardant cable 5x0.5
- Solution 2 for DIGIMAG and DIGITAG devices.
Shielded flame-retardant cable with 9 conductors (7x0.35 + 2x0.5)

1 CABLE FOR READER B

- Solution 1 for devices MAG, TAG-3, TAG-5, TAG-10, DECODER TTL, MIXER. Shielded flame-retardant cable 5x0.5
- Solution 2 for DIGIMAG and DIGITAG devices.
Shielded flame-retardant cable with 9 conductors (7x0.35 + 2x0.5)

1 CABLE FOR RS485 ON INPUT (If not using RS232)

Twisted, shielded, flame-retardant cable 2x0.25 sq.mm

1 CABLE FOR RS485 ON OUTPUT (If not using RS232)

Twisted, shielded, flame-retardant cable 2x0.25 sq.mm

1 CABLE FOR RS232 (If not using RS485)

Shielded flame-retardant cable 3x0.35

1 CABLE FOR FG-2 DETECTOR CONTACTS GATEWAY "A"

Flame-retardant cable 4x0.75 sq.mm

1 CABLE FOR FG-2 DETECTOR CONTACTS GATEWAY "B"

Flame-retardant cable 4x0.75 sq.mm

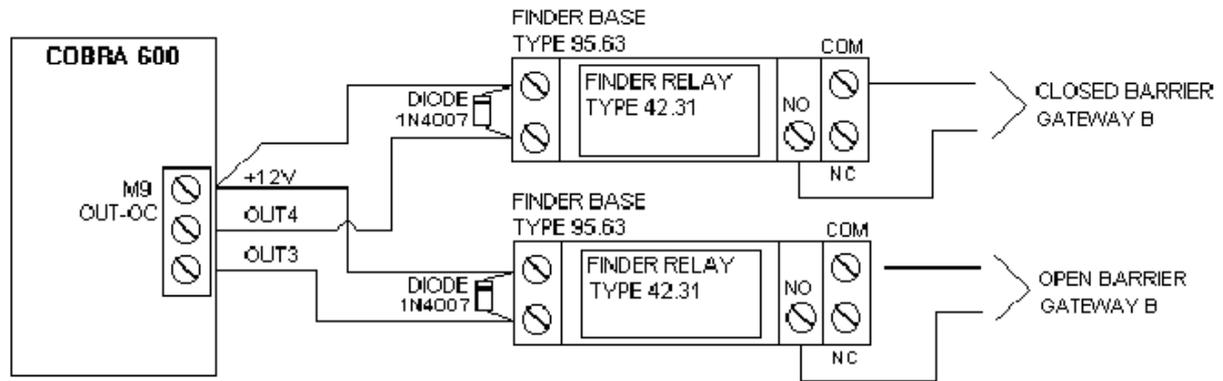
1 CABLE FOR BARRIER COMMANDS GATEWAY "A"

Flame-retardant cable 4x0.75 sq.mm

1 CABLE FOR BARRIER COMMANDS GATEWAY "B"

Flame-retardant cable 4x0.75 sq.mm

6.5.4 Gateway "B" barrier



6.5.5 DETECTOR FG-2

GATEWAY "A"

- 1 Flame-retardant cable 2x0.75 sq.mm – Powering the Detector
- 1 Flame-retardant cable 1x1.50 sq.mm – Presence Loop (Twisted Cable)
- 1 Flame-retardant cable 1x1.50 sq.mm – Transit Loop (Twisted Cable)
- 1 Flame-retardant cable 4x0.75 sq.mm – Detector N.O. Contacts

TERMINALS OF UNDECAL BASE	DESCRIPTION	ORIGIN OR DESTINATION
1	+24 Vdc	from outside Power-suppl. unit
2	0 Vdc	from outside Power-suppl. unit
3	N.O. CONTACT TRANSIT L.	to Pin 1 of M10 COBRA 600
4	N.O. CONTACT TRANSIT L.	to Pin 8 of M10 COBRA 600
5	N.O. CONTACT PRESENCE L.	to Pin 5 of M10 COBRA 600
6	N.O. CONTACT PRESENCE L.	to Pin 8 of M10 COBRA 600
7	PRESENCE LOOP OF GATEWAY	from Buried Loop
8	PRESENCE LOOP OF GATEWAY	from Buried Loop
9	NOT CONNECTED	-----
10	TRANSIT LOOP OF GATEWAY	from Buried Loop
11	TRANSIT LOOP OF GATEWAY	from Buried Loop

GATEWAY "B"

A second FG-2 DETECTOR must be connected in the same way as that of Gateway "A" with the exception of the following terminals:

TERMINALS OF UNDECAL BASE	DESCRIPTION	ORIGIN OR DESTINATION
3	N.O. CONTACT TRANSIT L.	to Pin 2 of M10 COBRA 600
4	N.O. CONTACT TRANSIT L.	to Pin 7 of M10 COBRA 600
5	N.O. CONTACT PRESENCE L.	to Pin 6 of M10 COBRA 600
6	N.O. CONTACT PRESENCE L.	to Pin 7 of M10 COBRA 600

6.5.6 MAG READER

Reading head

1 Shielded cable 5x0.5 sq.mm (MAX 100 m)

MAG Connector J2	COBRA 600 Connector M1
+	+12V
-	GND
D	D1
C	D0
B	BUZ

Connect the shield from the COBRA 600 side only to the "GDN" (M1) terminal

If using a second MAG reader, connect it to the M2 (COBRA 600) terminal board – connection is identical to M1.

Distance between MAG reader and COBRA 600.

100 m is guaranteed with 5x0.5 Shielded cable in a raceway separated from the 230V line.

Note on heater:

MAG is supplied with two heaters: the first is powered by the Cobra card, the second – required when operating temperatures of –20 °C are expected – requires an additional power supply.

Additional heating

N. 01 Cable 2x0,5 sq.mm

MAG Connector J1	POWER FROM EXTERNAL POWER SUPPLY UNIT
+ TERM	+12Vdc - +24Vdc or 24Vac
- TERM	GND

6.5.7 TAG-3 READER

1 Shielded cable 5x0.5 sq.mm (Max 100m)

TAG-3 Connector	COBRA 600 Connector M1
+	+12V
-	GND
D	D1
C	D0
B	BUZ

Connect the shield from the COBRA 600 side only to the “GDN” (M1) terminal

If using a second TG-3 reader, connect it to the M2 (COBRA 600) terminal board – connection is identical to M1.

6.5.8 TAG-5 READER

1 Shielded Cable 5x0.5 sq.mm (100 m max)

TAG-5 Connector	COBRA 600 Connector M1
+	+12V
-	GND
D	D1
C	D0
B	BUZ

Connect the shield from the COBRA 600 side only to the “GDN” (M1) terminal

If using a second TG-5 reader, connect it to the M2 (COBRA 600) terminal board – connection is identical to M1.

6.5.9 TAG-10 READER

1 Shielded Cable 5x0.5 sq.mm (100 m max)

TAG-10 Connector	COBRA 600 Connector M1
+	+12V
-	GND
D	D1
C	D0
B	BUZ

Connect the shield from the COBRA 600 side only to the “GDN” (M1) terminal

If using a second TAG-10 reader, connect it to the M2 (COBRA 600) terminal board – connection is identical to M1.

6.5.10 DIGIMAG

1 9-conductor cable comprising 7x0.35 and 2x0.5 sq.mm Shielded (Max 40m)

DIGIMAG Connector M1	COBRA 600 Connector M1	Diameter (sq.mm) Conductors
MISO	MISO	0,35
MOSI	MOSI	0,35
SCK	SCK	0,35
SS-N	SS-N	0,35
+12V	+12V	0,50
GND	GND	0,50
D1	D1	0,35
D0	D0	0,35
BUZ	BUZ	0,35

Connect the shield to the “GND” terminal from both sides

If using a second DIGIMAG reader, connect it to the M2 (COBRA 600) terminal board – connection is identical to M1.

6.5.11 DIGITAG

1 9-conductor cable comprising 7x0.35 and 2x0.5 sq.mm Shielded (Max 40m)

DIGITAG Connector M1	COBRA 600 Connector M1	Diameter (sq.mm) Conductors
MISO	MISO	0,35
MOSI	MOSI	0,35
SCK	SCK	0,35
SS-N	SS-N	0,35
+12V	+12V	0,50
GND	GND	0,50
D1	D1	0,35
D0	D0	0,35
BUZ	BUZ	0,35

Connect the shield to the “GND” terminal from both sides

If using a second DIGITAG reader, connect it to the M2 (COBRA 600) terminal board – connection is identical to M1.

6.5.12 RADIO-CONTROL 433SLP

RECEIVER PLUS433E - DECODER TTL

1 Shielded 3x0.5 sq.mm cable (Max 50m)

PLUS 433E 3-terminal Connector	DECODER TTL 3-terminal Connector
+	+
-	-
⇒	⇒

Connect the shield to the “-” terminal from the PLUS 433E side only

DECODER TTL - COBRA 600

1 Shielded 4x0.5 sq.mm cable (Max 100m)

DECODER TTL 5-terminal Connector	COBRA 600 Connector M1
+	+12V
-	GND
D	D1
C	D0
B	(Not connected)

Connect the shield from the COBRA 600 side only to the “GDN” (M1) terminal

If using a second DECODER TTL, connect it to the M2 (COBRA 600) terminal board – connection is identical to M1.

6.5.13 MIXER CARD

TAG-3/5/10, MAG, DECODER TTL - MIXER TTL

1 Shielded Cable 5x0.5 sq.m

TAG-3/5/10, MAG 5-terminal Connector	MIXER TTL 5-terminal Connector
+	+
-	-
D	D
C	C
B	B

Connect the shield to the “-” terminal from the MIXER TTL side only

Important: Do not connect the “B” terminal if using a DECODER TTL.

MIXER TTL - COBRA 600

1 Shielded 5x0.5 sq.mm cable (Max 100m)

MIXER TTL 5-terminal Connector	COBRA 600 Connector M1
+	+12V
-	GND
D	D1
C	D0
B	BUZ

Connect the shield from the COBRA 600 side only to the “GDN” (M1) terminal

Important: Do not connect the “B” terminal if using a DECODER TTL.

If using a second MIXER TTL, connect it to the M2 (COBRA 600) terminal board – connection is identical to M1.

6.5.14 AT-8

Electric connections

To make the connections, unscrew the two Allen screws visible on the front panel of the appliance and lift up the cover.

This exposes to view the screw terminals along one side of the printed circuit. The connection layout is shown below. The connection layout is shown below.

For connection cables to the electric mains and control card, use the grommets supplied on the rear of the appliance.

You are recommended to use a cable of adequate diameter for the grommet holes in order to ensure a perfect seal.

Use these cables:

1 FLAME-RETARDANT CABLE 2x1.5 + GROUND

1 SHIELDED FLAME-RETARDANT CABLE 3X0.50 (Connect the shield from the COBRA 600 side only to the "GND" terminal of terminal board M1).

If using a second AT-8 reader, connect it to the M2 (COBRA 600) terminal board – connection is identical to M1.

