The JA-82Y GSM communicator

The communicator is a component of the Jablotron Oasis 80 system. It has been designed for communication via a GSM network. It is installed directly within the OASIS control panel housing and it allows the following:

- event reporting by SMS (for up to 8 telephone numbers)
- event reporting by phone call with voice message warnings (it is possible to record up to 7 messages for various events)
- remote control and programming by phone (by calling and using the voice menu or by SMS instructions)
- remote control of the system (or appliances in the house) by dialling in from an authorized number (free of charge)
- remote control and programming of the system via the Internet (**It is not possible to register the communicator on www.gsmlink.cz**)
- data transmission to an Alarm Receiving Centre (ARC) - up to 2 ARCs
- sending photos from JA-84P detectors to a secure server
- updating communicator firmware, language and new text sets using O-Link 2.0 software or higher

Note: The manual is intended for communicator firmware LD62520 or higher.

1. Installation in the control panel

If you purchased the communicator module separately, it should first be installed in the OASiS control panel as follows:

The control panel **power must be switched o**ff (both mains and battery)
Fit the communicator inside the control panel housing using screws and **connect its cable** to the main board.
Attach the adhesive GSM antenna inside the control panel's plastic housing (it can be glued in a suitable place) and connect the antenna to the communicator.
Warning: never switch the control panel power on if the GSM antenna is not connected to the GSM module as this will cause serious damage!!!
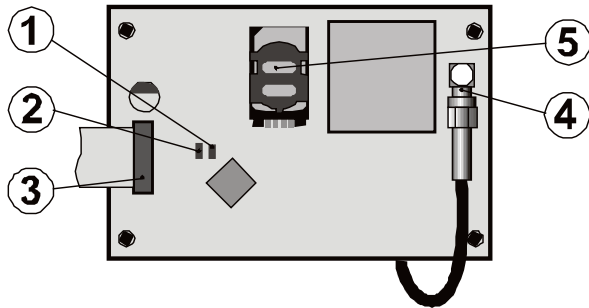

fig. 1 Communicator description:

1.LED signalling connection to a GSM network; 2.LED signalling image transmission; 3. control panel connector; 4. GSM connector; 5. SIM card

2. Initial powering up of the communicator

1. The communicator is installed in the control panel and its GSM antenna is connected, then:
2. **Have a suitable SIM card ready**. It should be activated (see if it works in a mobile phone first). If it requires a PIN code when switching the phone on, **then disable the PIN code request upon the first use of the phone**); e.g. Nokia: Menu / Settings / Security settings / PIN code request / Off. The communicator can work with a prepaid card, but we recommend using a tariff card for more reliable functioning
3. **Insert the SIM card** into the communicator (to open the card holder push its frame up a little)
4. Switch on the control panel power (both mains and battery). The communicator's red LED should be lit = registering to the GSM network; **it should go off within a minute = registration successful**
5. If the red LED starts flashing after a while, switch off the control panel power, put the SIM card into a mobile phone and check that it registers to the network in the place where the control panel is installed without any PIN code requests
6. **Close the control panel cover**, the alarm system should be in Service mode - if it is not, enter *0 Service code (Factory default setting: 8080) with the alarm system unset (disarmed)
7. Key in **99101** - to set the **texts** and voice messages of the communicator **to the English language**
8. Key in 888 to measure the GSM signal strength (a number in the range from 1/4 to 4/4 should be displayed). It should be at least 2/4 to ensure reliable functioning. If the signal is weak, change the location of the control panel or try a SIM card from another GSM provider (it is not recommended to use either a high-gain or directional GSM antenna – see 6.2 GSM signal strength measuring)
9. If the GSM signal strength is sufficient, test the communicator functions (system control via a mobile phone, etc), see the instructions below

Warning: If installed at a location near a national border where the signal strength fluctuates, roaming to a foreign network is highly likely. We therefore recommend blocking the roaming feature in the SIM card to avoid unnecessarily high communication fees (contact your GSM provider for details).

3. User functions of the communicator

The following text describes all communicator features. The installer should show the end user how to operate the functions used in the particular installation.

3.1. Event reporting to the user's phone

The communicator reports events in the OASiS system by sending a text SMS and / or calling and transmitting a voice message. Reporting can be set to up to 8 telephone numbers. The most frequently used report variants are preset but they can be customized

Notes:
- *If used, transmissions to the Alarm Receiving Centre have absolute transmission priority (see 7.4).*
- *Calling is usually used to draw the user's attention to a detailed report sent in an SMS. If reporting by SMS is enabled, the communicator first sends all SMS messages before it starts dialling the set numbers.*
- *Message playing can be terminated by pressing * on the telephone keypad. The keypad then switches into keypad simulation mode and the messages are not further transmitted to other numbers.*

3.2. Temporarily authorizing a phone as a system keypad

It is possible to operate the system remotely by temporarily authorizing a phone keypad as follows:
Dial the communicator's SIM card number.
After 15 seconds of ringing, the system will answer with a voice menu welcome message and ask for a code.
Key in a valid control panel access code on the telephone keypad –the master code (default 1234), a user code or possibly the service code (default 8080).
Once the code has been entered, the voice menu offers the basic system functions (see 10).
To exit this mode simply end the phone call. If nothing is entered within a minute, the phone call will end automatically anyway.
The maximum allowed phone call length is 30 minutes.

Notes:
- *a fixed-line phone can also be used to operate the system remotely in the same way. The phone must use tone dialling (DTMF).*
- ***do not enter sequences on the phone too fast**, each key signal needs a certain time to be sent (it depends on the particular phone and the quality of the GSM connection)*

3.3. SMS instructions to control the system remotely

All incoming SMSes are checked by the communicator and if there are any instructions to the system, they will be performed. Each instruction message must have the following format::

<div align="center">

code_instruction

</div>

(i.e. valid code space instruction)
Valid code = any valid code in the system (e.g. 8080, 1234)
The factory-default instruction texts (editable – see TXT command)

Command	Function	Note
SET	setting (arming)	setting or unsetting (the same way as if the used code is entered on the system keypad), If the system is already in the desired mode, it will not change
UNSET	unsetting (disarming)	
STATUS	reports system status	including GSM signal strength, GPRS connection and ARC communication (shown as MS1, MS2 and MS3)
MEMORY	reports latest events	this concerns the last 3 events from the control panel memory
PGX ON	turns on PGX	the PG output has to be programmed for the function: on/off (by 237/247) or 2 second switching (by 238/248)
PGX OFF	turns off PGX	
PGY ON	turns on PGY	
PGY OFF	turns off PGY	
CREDIT	SIM card credit inquiry	it has to be initialized before it can be used – see 6.21
DINFO	SMS info about device version	SMS on assembly, firmware, and hardware versions, reg. key, remote access code via OLink

Tab. 1 SMS commands

Example by sending: "code SET" (valid code space SET) the system will set (if it is already set it will not change its status)

Notes:
- *the system will confirm performance of the SMS instruction by an SMS reply, if this function is allowed*
- *the SMS instruction texts are not case-sensitive and only ASCII characters are allowed*
- *the SMS instruction texts can contain multiple instructions separated with a comma*

- *if you are sending an instruction and you are not sure whether any other text will be automatically added to the SMS (for example, when using an SMS internet gate) type the instruction as: %code instruction%%*
- *the valid code can also be entered automatically, see 6.6.*

3.4. Remote control by unanswered calls

A limited number of system functions can be activated remotely by calling the system from pre-authorized phones. It is possible to pre-authorize phone numbers stored in memories M1 to M8 (also used for event reporting – see 4.1). To pre-authorize a telephone number insert ∗ at the end of the number and follow it by a single digit (1, 2, 3, 8 or 9) – see the notes in section 4.1. If such a number calls, the communicator enters a "∗ digit" sequence in the system after the first ring (as if it had been entered manually on the system keypad). This remote control by unanswered calls enables the following functions:

∗**1**	setting the complete system (identical to ABC button)
∗**2**	A section setting (identical to A button)*
∗**3**	A and B or just B section setting (identical to B button)*
∗**8**	PGX turns on for 2 sec (if PGX is programmed for the 2s pulse function)
∗**9**	PGY turns on for 2 sec (if PGY is programmed for the 2s pulse function)

Notes:

if a phone sends no caller identification data it cannot be used for this type of remote control by phone

- *when using remote control by unanswered calls, and if the sequence 85 M0 has been entered, the communicator terminates the call itself, so that remote control is free of charge*
- *a phone which is pre-authorized for remote control by unanswered calls can also temporarily authorize its keypad to fully operate the system (see 3.2) – just cancel the action controlled by an unanswered call*
- *if it is desired that the phone which is authorized for toll-free remote control should not receive event reports, then turn the reports off for that tel. number (see 6.3)*
- *the *X functions must be enabled in the control panel*
- *inserting *X is used when programming a function using a keypad, the OLink software has a special section for this*

4. User communicator programming

User setting of the communicator is performed by entering sequences from the OASiS system keypad. Selected parameters can also be controlled or set by SMS instructions or via OLink.

Setting on the system keypad is possible only in the case that the control panel is in **maintenance mode** (if it is not, enter *0 master code – Factory default setting 1234). Modification of values set in the communicator is performed by entering programmable sequences (see Tab. 7).

Press the # button to exit Maintenance mode or to cancel code entering when you key in a wrong number.

If setting of telephone numbers in Maintenance mode is enabled in the control panel settings (sequence 251 of the OASiS control panel), then it is possible to set the following communicator parameters in Maintenance mode by keying in the below mentioned sequences beginning with 8:

- Set telephone numbers M1 to M7
- Assign codes for control by SMSes without having to enter the code
- Select events which should be reported by an SMS message and calling
- Enable / disable remote access (full access or single numbers)
- Measure GSM signal strength
- Limit the number of sent SMSes
- Set forwarding of incoming SMSes to the first set telephone number
- Restart the GSM communicator
- Record voice messages
- Change remote access code

4.1. Setting of telephone numbers for reporting

The communicator reports events in the OASiS system by sending a text SMS and / or calling and transmitting a voice message. Reporting can be programmed for to up to 8 telephone numbers.

The most frequently desired reports are already assigned to the telephone number memories by factory-default, so you only need to program tel. numbers to the particular memories:

Overview of reports assigned to tel. numbers (this can be modified see 6.4)

M	Reports
0	Communicator´s own SIM card number
1	Alarms by SMS and phone call, faults by SMS (ABC)
2	Alarms by SMS and phone call (AC)
3	Alarms by SMS and phone call (AC)
4	Alarms by SMS (AC)
5	Alarms by SMS and phone call (BC)
6	Alarms by SMS and phone call (BC)
7	Alarms by SMS (BC)
8	Technical faults by SMS (for a service technician) (ABC)

tab. 2 Reports assigned to telephone number memories M1to M8

To program phone numbers to the M memories, enter the following sequence while in Maintenance / Service mode:

$$\text{81 M xxx...x}*\text{y } *\text{0}$$

where: **M** is memory number 1 to 8
xxx...x is a telephone number (max. 20 digits)
∗y is a sequence for control via unanswered calls (it does not have to be entered)

In a split system, information from all sections (ABC) is reported to the 1st and 8th number positions, sections AC to numbers 2 to 4, and from sections BC to positions 5 to 7, shown in OLink software by colour differences

Notes:

- *In a split system, when you change a detectors section, adjust the reaction of the detector etc, you have to enter enrollment mode for 1s and leave it before you leave service mode. This way the changes are saved in the communicator.*
- *For automatic time synchronizing by SMS use position 0 in the telephone number settings (the position for its own SIM card number). When you change the SIM card this number will be automatically erased.*

To erase a number from memory M enter: **81 M ∗0**

Example 1: entering **81 5 777 777 777 ∗0** will store the number 777777777 in memory M5 (alarms will be reported by SMSes + phone calls with a voice message) Setting/Unsetting will only be reported by an SMS). Remote access is allowed for this telephone number.

Example 2: entering **81 1 777 777 777 ∗8 ∗0** will store the number 777777777 in memory M1 (alarms will be reported by SMSes only.) Calling from this number will turn on PgX for 2s. Remote access is not allowed to this telephone number.

Notes:

- *Entering *9 before the first digit will insert a "+" for the international formatting of phone numbers*
- *SMS report text consists of the installation name, event type, name of the event source, date and time. For example: „Report from your alarm: setting 47: device Time 11:27 01.08"*
- *if other events or texts should be reported to a particular number, change the communicator settings (see 6.4, 6.7 and tab. 5 the list of events which can be reported to your phone and their factory default settings)*

5. Voice menu for control via a telephone

The communicator is equipped with a voice menu for remote control of the basic system functions (remote access via a telephone must be enabled). The menu has factory default voice reports in multiple languages – the desire languages selected by keying in the 991 xx sequence (see 6.1). The voice menu function (Fig. 2 Voice menu scheme) is as follows:

- after 15 seconds of ringing the communicator will answer with a voice menu welcome message.
- After entering valid code the voice menu offers setting or unsetting. The offer is played once and if you press any key, the current status is reported and the current offer replayed.
- If you press 9 in the menu, you will hear: "Keypad simulation" and the telephone will start acting as a system keypad. It will remain in this mode making it possible to enter sequences which are confirmed by beeping.
- When you enter the service / maintenance code verification is performed and if the code is valid, you will hear: "Service mode, keypad simulation". It remains in this mode and you can enter keys which are confirmed by beeping. If you key in 892 now, you will enter voice message recording menu – see 10.
- Events happening during remote access are reported once every 5 secs

6. Installation programming

The most convenient and complete programming is best done by a PC running OLink software connected locally in the installation or remotely via the Internet.
The communicator can also be programmed by keying in sequences from the OASiS system keypad or via SMS programming instructions.
Programming by the system keypad is possible only if the control panel is in **Service mode**, if it is not, key in *0 Service code (factory default setting: 8080) with the alarm system unset (disarmed) The setting is performed by keying in programming sequences, (see Tab. 7 communicator programming sequences).
Press the # button to exit service mode or to cancel code entering when you key in a wrong number.

6.1. Communicator language setting

The language of the texts and voice menu used by the communicator can be set by the instruction:

991 xx

where: **xx** is a number defining the language – see the following list:

01	EN	English	10	FI	Finish
02	CZ	Czech	11	NO	Norwegian
03	SK	Slovak	12	SV	Swedish
04	NL	Dutch	13	FR	French
05	DE	German	14	HU	Hungarian
06	PL	Polish	15	RU	Russian
07	DA	Dannish	16	TR	Turkish

08	IT	Italian	17	ES	Spanish
09	PT	Portuguese	18	EL	Greek

Example: Keying in 99101 will set English.

Notes:
- *keying in 00 will reset the texts and voice messages to the factory default values in the currently set language.*
- *Set the language before editing the text in the system (a change of language will change the text to the factory default setting)*
- *A change of language in the communicator will automatically result in changing the language in the connected keypads*
- *The set language will not change when a reset is performed*

Factory default setting: **99101 = English**

6.2. GSM signal strength measuring

A good quality GSM signal is necessary for the reliable functioning of the communicator. Keying in **888** starts GSM signal strength measuring. The keypad then displays the signal strength in the range 1/4 to 4/4 and the measuring is repeated every second – new data is indicated by a beep. This mode allows users to find a suitable location for the communicator antenna. **Press the # key to exit the measuring.**

The signal should be at least 2/4. In places with a weak signal we recommend trying another GSM provider's SIM card.

Warning: it is not recommended to use a directional GSM antenna with the communicator (the module would thus communicate with a single cellular base station only). The communicator normally communicates with at least three cellular base stations (the connection is thus more stable). It is not even recommended to use a high-gain antenna – if the signal is transmitted over a distance exceeding 30km, it does not ensure standard GSM function due to time lapses in the transmission.

6.3. Setting of telephone numbers and events

The factory-default list of reported events and their assignment to telephone numbers M1 to M8 (tab. 1) can be modified.

The complete list of reportable events is shown in (tab. 5 List of events which can be reported to your phone and their factory default settings).

It is possible to select whether the event should be reported by an SMS or by a phone call, or in both ways.

Each event has pre-programmed factory-default SMS text (it can be modified – see 6.8).

6.4. SMS report setting

To set events to being reported by SMS, enter:

82 M uu x

where:

	M	**is phone number memory 1 to 8**
uu		event code 01 to 97 (see tab. 5)
	x	0 = no SMS report, 1 = SMS report

Example: If 82 8 03 1 is programmed and a fire alarm is triggered (event 03 in the table), it will be reported by SMS to the phone number stored in memory M8.

6.5. Voice message setting

To set events to being reported by voice messages, enter:

83 M uu x

where:	**M**	is phone number memory 1 to 8
	uu	event code 01 to 97 (see tab. 5)
	x	0 = no phone call, 1 = call

Example: if 83 1 03 1 is programmed and a fire alarm is triggered (event 03 in the table), the communicator will phone the first number stored in the memory and it will keep repeating: Your system is reporting a fire alarm.

Notes:
- *Calling is usually used to draw the user's attention to a detailed report sent in an SMS. If reporting by SMS is enabled, the communicator first sends all SMS messages before it starts dialling.*
- *If used, transmissions to the Alarm Receiving Centre have absolute transmission priority (see 7.4).*
- *The message playing can be terminated by pressing # on the telephone keypad. The keypad then switches into keypad simulation mode and the messages are not further transmitted to other numbers.*

6.6. Access code assignment to programmed telephone numbers

If you do not wish to enter your access code each time you send an SMS message with an instruction, you can assign an access code which will be inserted into the SMS automatically by the communicator to the selected telephone number. To do so, key in:

84 M xxxx

where:	**M**	is phone number memory 1 to 8
	xxxx	Valid code UC / MC / SC

Example: if 83 1 2222 is programmed, the code 2222 will be automatically inserted in an SMS with instructions sent from the first number stored in the memory

Factory default setting: **No code**

6.7. Allowing remote access for telephone numbers

Remote access is allowed for numbers saved in positions 1 to 8. Programming sequence :

85 M x

where:	**M**	memory position tel. numbers 1 to 8
	x	parameter 1 to allow access
		parameter 0 to deny access

Factory default settings : **remote access allowed for all numbers in positions 1 to 8**

6.8. SMS and instruction text editing

The communicator contains various factory default text strings which are used to create SMS reports and also SMS instruction texts. The language of the text can be set – see 6.1. These text strings cannot be changed from the system keypad but they can be edited by OLink software (either locally or remotely via the Internet), or by sending the following SMS instruction:

code_TXT_n,text,n,text,......n,text

where:	**Code**	is a valid service code (Factory default setting 8080)
	_	space
	TXT	is an instruction to edit texts
	N	text number (0 to 611, see tab. 6)
	,	comma (or full stop)
text		the new text (max. 30 characters) which will replace the former text. It is

invalid to enter a comma or a full stop inside the   text string, but a space is valid within the text string (spaces   outside the text string are ignored).

Notes:
- *A single SMS TXT instruction can modify multiple texts (limited only by the maximum length of a single SMS)*
- *the communicator is not case-sensitive and it is recommended to use only English ASCII characters (some networks do not support non-English national characters)*
- *the communicator creates SMS reports with 5 parts (installation name, event description, source number (code or device 01 to 50), source name and time. The maximum possible length of an ASCII SMS is 160 characters (only 70 characters for national characters) If this length is exceeded, the report is sent as multiple SMSes.*
- *The communicator automatically fills in spaces, delimiters and time.*

Examples:
if the factory default service code is 8080 then the SMS instruction:
8080 TXT 20,key fob Bob,21,Key fob Jane changes the description (name) of the key fobs enrolled to addresses 20 and 21.
8080 TXT 605,heating on,606,heating off edits the text of the two instructions used to command the heating to be switched on and off by the PGX output (the PGX output must be programmed to have an ON/OFF function).

6.9. Voice message recording

Recording message is done by phone with the system in service mode. Dial the system SIM card number. When the system answers, enter your access code, then press 9 (keypad simulation) and enter *0 service code or *0 Master code (unless you are in service / maintenance mode) and then sequence 892. The communicator will report that you are in voice message recording mode. You will hear regular beeping from the receiver; the communicator is waiting for a key to be pressed:

0 – replay all messages
1 – Record message no. 1 (intruder alarm)
2 – Record message no. 2 (fire alarm)
3 – Record message no. 3 (tamper alarm)
4 – Record message no.4 (panic alarm)
5 – Record message no. 5 (fault alarm)
6 – Record message no.6 (alarm report) – installation identification
7 – Record message no.7 (other event)
8 – delete all user recordings = reset to factory default recordings

When you press a key from 1 to 7, you will hear another beep and you can start speaking. The end of recording is signalled with a beep and the message is replayed. The communicator then returns to the main menu (regular beeping) and it is possible to record further messages. The length of message no.6 should not exceed 5s, other messages should be 3s long. Press # to stop the voice recording menu and return to service / maintenance mode.

Message no.7 is played upon each event which you set for a voice message and which is not an alarm. The factory default message is: **Other event**. i.e. is usually used to inform about sending SMS. However, it can also be used specifically for a particular event (e.g. it may be used to report PG output control, etc. – it depends on the 83 M uu x settings see 6.5)

Notes:
- *Listening to the message can be terminated by pressing the * key.*
- *To exit the message recording mode, just end the call.*

- *The messages are recorded in a memory which is not erased when the system power supply is shut down.*
- *For events like setting / unsetting, the voice messages "Armed system" , "Disarmed system" or "Partially armed" are reported; these messages cannot be changed.*

6.10. Quick enabling / disabling of reporting to phones

Event reports to your phone can be enabled / disabled as follows:
901 0   all SMS and call reports disabled
901 1   all SMS and call reports enabled
901 2   all reports enabled **except reports of setting and unsetting by users 41 to 50** (i.e. their codes, cards and key fobs). Master code control is not reported either. This allows setting and unsetting done by report recipients (owners, bosses, etc.) not to be reported.

Factory default setting: *9011 all reports enabled*

6.11. Enabling remote access

The following sequence enables remote access to the system by phone or Internet:
802 0   remote access completely disabled
802 1   access from any telephone and Internet access via OLink enabled
802 2   access from programmed phones and Internet access via OLink enabled

Factory default setting: *Remote access enabled*

6.12. Forwarding of incoming SMS messages

The communicator enables the automatic forwarding of incoming SMS messages which contain no valid instructions to the system:

801 0   **messages are not forwarded**, but the communicator saves the last 10 received messages to the SIM card
801 1   **messages are forwarded** to the first programmed tel. number in memories M1 to M8 (e.g. if numbers are only programmed in M5 and M6, then messages will be forwarded to M5). The tel. number from which the SMS was received will be shown at the beginning of the forwarded text.

Factory default setting: *messages are forwarded*

Note:
- *In order to protect the user against runaway (donation SMSes etc.), the forwarding is limited to the first 50 SMS messages. The counter can be erased automatically each midnight, by processing any SMS instruction or by exiting Service / Maintenance mode.*

6.13. Automatic GPRS configuration

If the communicator detects a SIM card change and the main power is on, it sends an SMS to the YTUN Jablotron server with the network identification. The server sends back : APN, login, password and own SIM card telephone number.

903 0   auto configuration disabled
903 1   auto configuration enabled

Factory default setting: *auto configuration enabled*

6.14. SMS instruction confirmation

If the communicator receives a valid SMS instruction, a confirmation SMS will be sent a s a reply. This confirmation can be disabled as follows:

904 0   disabled
904 1   enabled

Factory default setting: *enabled*

6.15. Reaction to incoming calls

This sequence can be used to set the communicator's reaction to incoming phone calls:

905 0   the communicator ignores incoming calls
905 1   the communicator will answer after ringing for 15s

Factory default setting: *answer after ringing for 15s*

6.16. GSM signal dropout indication

This feature enables the monitoring of GSM network signal availability. If enabled and if there is a GSM signal dropout longer than 15 minutes, the control panel announces "External communication fault".

906 0   signal availability monitoring disabled
906 1   signal availability monitoring enabled

Factory default setting: *disabled*

6.17. Time synchronization via SMS

This setting enables the function for synchronizing the clock in the control panel. See chapter 8.5 for further details.

907 0 synchronization off
907 1 synchronization on

Factory default settings: *on*

6.18. Phone receiver loudness

To set the loudness of the receiver of the phone which is used to call the communicator key in:

909 x   where x is a number from 1 to 9 (max.)
Factory default setting: *9 (max.)*

6.19. Number to be called to maintain SIM card validity

If a prepaid SIM card is used and a lack of outgoing phone calls for a certain period cancels the validity of the SIM card, then this function offers the following: if there have been no outgoing phone calls within the last 90 days, then the communicator automatically calls the number programmed by this sequence. The communicator waits until the call is answered and then automatically hangs up after 10 sec.

910 xx...x ∗0

where: **xx...x** is the telephone number

Notes:
- *To erase this number enter 910 *0*
- *It is recommended to call cheap public services (e.g. weather forecasts etc.) but not toll-free numbers.*

Factory default setting: *Erased*

6.20. Restriction of the number of sent SMSes

The parameter limits the amount of sent SMSes to 100 per 24 hours. 50 may be alarm SMSes and 50 may be for other events. This is to prevent enormously high telephone fees.
803 0   restriction disabled
803 1   restriction enabled

Factory default setting: *enabled*

6.21. Prepaid SIM card credit interrogation

The communicator is capable of checking the credit balance of its SIM card upon request (by "CREDIT" SMS instruction) or this activity can be requested automatically (with a preset cycle) and if it finds out that the remaining credit is lower than the preset value, an information SMS is sent. The function is set by sending the following SMS instruction:

code_CREDIT_uu..u_xx_yyy_zz

where:
Code   valid access or service system code (e.g. 8080 or 1234), the change of parameters is possible on with a service code (other codes allow SMS credit interrogation "1234 CREDIT")
_   space
uu..u   instruction recognized by the GSM network to check the balance
xx   automatic checking period in days,
yyy   minimum acceptable credit balance
zz   the textual position in which the number showing the balance starts in the reply message from the GSM provider.

Notes:
- *If the reported credit balance is lower than the set limit (yyy), text no. 545 will be sent to phone numbers M1 and M8 which have the "Low credit balance" (event no. 50) event sending enabled*
- *If only uu..u follows the CREDIT instruction (no xx yyy zz) then periodic balance checking will not be performed, but the balance will be checked immediately*
- *If there is further data following the CREDIT instruction, the communicator will memorize them and automatically put them in the message when the CREDIT instruction is used again (i.e. the Credit instruction must contain at least the uu..u part upon the first sending and the user just needs to send: code CREDIT*

Example: sending the SMS instruction "*code CREDIT ∗101# 7 50 1*" causes the credit balance to be checked every 7th day after the SMS has been sent and if the balance (starting with the first character in the message from the GSM provider) is lower than 50 currency units it will be reported.

Warning: the use of prepaid SIM cards in the communicator can negatively influence the reliability of the device. Some GSM providers block cards not only when there is no credit but also when they are not topped up frequently enough. This means that even if there is enough credit balance on the card, the communication can still be blocked. We therefore strongly advise the use of tariff SIM cards !!!

6.22. Remote programming by SMS instructions

The communicator enables remote programming of the system by the following SMS instruction:

code_PRG_seq_seq, another instruction

where:
Code   valid access or service system code (e.g. 8080 or 1234)
_   space
seq   programming sequence usually set via the keypad

Notes:
- *Only characters which can be keyed in from the system keypad (0 to 9, * and #) can be used in the sequences*

- *When a valid instruction is received, the communicator performs the sequence by simulating entering the keys on the keypad. A comma in the SMS is taken as a pause in the sequence entering.*
- *If you want to remotely reprogram the system it must first be unset and then switched to programming mode*
- *The number of sequences in one SMS is limited by the maximum size of the SMS in the GSM network.*

Example: by sending SMS **8080_PRG_∗08080_201_#** the exit delay will be set to 10s

6.23. Registration code

You need to know the communicator registration code when first connecting via the OLink software through the Internet. The code is stated on the label on the communicator panel but it can also be sent to the mobile phone by SMS. To request a registration code, enter:

911 xx...x∗0

where **xx...x** is the number of the phone where the code should be sent

Notes:
- *The time needed for delivery of the code depends on the current GSM network speed*
- *Each communicator has a unique registration code in the following format: xxxxx-xxxxx-xxxx*

6.24. Remote access password

This security key for data communication is a condition for remote access to the system via OLink program. It is set through the following sequence:

894 xxx …x ∗0

where:
xxx…x   is a security access password which can have 1 to 32 digits

Note: If a password using letters is required, it must be set in the OLink software or by an SMS message. Letters are case-sensitive.

Factory default setting: **1234ABCD**

6.25. Restarting GSM communication

After **893** has been entered, the communicator disconnects from the GSM network and then re-registers itself. This re-registration does not change any settings in the communicator. It should be used after GSM network faults or data collisions and in some networks it also has to be used after a blocked SIM card has been unblocked by the GSM provider. It is also possible (if the SIM card can still receive) to trigger GSM network re-registration by sending the SMS instruction:

code GSM

6.26. Communicator reset

Entering 998080 returns the communicator to its factory default settings. Telephone numbers will be erased together with all untransmitted reports but the text settings in the communicator will not be changed.

6.27. SIM card's PIN code

It is recommended to use a SIM card with disabled PIN protection in the communicator. If you still want to use a card with PIN protection, enter the PIN by entering the following sequence (it must be entered after the control panel has been powered up):

920 PIN∗0

Example: If the SIM card PIN code is 1234, enter **9201234∗0**

Notes:
- *If the communicator does not register to the GSM network within 1 minute of the PIN being entered (this problem is shown by the red LED flashing), then you either entered a wrong PIN or the GSM signal is too weak. In such a case:*
- *enter 920*0 while in control panel service mode (erases the PIN entered in the communicator)*
- *disconnect the control panel power (mains and battery)*
- *take out the SIM card, insert it into a mobile phone and check whether the PIN is correct. Check whether the signal strength at the location of the control panel is sufficient*
- *if you know the right PIN code and the GSM signal is strong enough, put the SIM card back into the communicator, turn on the control panel power and then enter the correct PIN code (920 PIN *0) and wait until the communicator registers to the GSM network (its red LED should turn off within a minute)*
- *The communicator memorizes the set PIN and it will use it automatically whenever it registers to the GSM network again.*
- *If you are replacing the SIM card in the communicator with another one and the former one used a PIN code, first switch the control panel to service mode and enter 920*0 to erase the former PIN code. The SIM card can then be changed.*

Warning: The PIN code cannot be changed if the ARC settings are locked

Factory default setting: **The PIN code is erased**

6.28. GPRS parameter setting

GPRS data communication (wireless Internet via a GSM network) is used for remote access via the OLink software and also for communication between the system and the ARC. To use GPRS data communication it must first be enabled (activated) in the SIM card (contact your GSM provider for details). Depending on the SIM card used, the GPRS parameters (APN and possibly the login and password if the SIM card requires them) must be programmed by sending the following SMS instruction to the communicator.

code_GPRS_ x..x_y..y_z..z

where:
Code   valid service system code (e.g. 8080)
_   space
x..x   SIM card APN
y..y   username (do not enter if not required)
z..z   password (do not enter if not required)

Examples:
For a T-mobile Czechia card enter: code GPRS internet.t-mobile.cz
Warning: The GPRS parameters cannot be changed if the ARC settings are locked

Factory default setting: APN = internet

7.   Communication to the ARC

7.1. ARC phone numbers

Events can be reported to up to 2 ARCs (which can be independent or ARC2 can work as ARC1's backup). Each ARC can have its main and backup phone numbers (or IP addresses) programmed with:

Main: 01 p xx....x∗0

Backup: 02 p xx....x∗0

where:
p   1=ARC1, 2=ARC2
xxx...x   tel. **number** (max.20 digits) **or IP address and port** – entry format example.: **01 2 ∗8 192 168 001 123 08080 ∗0**
where: ∗8 (auto-converts to #) signifies an IP address which must have 12 digits and must be followed by the 5 digits of the port number (no separators).
   To erase a tel. number / IP address enter **01p∗0** or **02p∗0**. If numbers / IP addresses are erased there will be no reporting to that particular ARC.

Notes:
- the communicator first tries to send data to the main number / address, if it is not successful it tries the backup number / address.
- the ARC address can also be entered as URL (via OLink only)

Factory default setting: **all tel. numbers / IP addresses erased**

7.2. Installation (alarm system) ID for ARC use

The installation's ID number which is sent to an ARC with every report can be programmed with:

03 p zz..z∗0

where:
p   1=ARC1, 2=ARC2, 3=IMG
zz..z   installation ID number, max. 8 characters (0 to 9 and *1=A to *6=F)

Factory default setting: **for all ARCs = 0000**

Note: If you want to transmit photographs, enter 3 in the p parameter

7.3. Selecting the ARC communication protocol

To select the required communication protocol enter:

04 p x

where:
p   1 = ARC1, 2 = ARC2
x   0..2 = ARC type
   0 = Contact ID, 1 = Jablotron IP, 2 = Jablotron SMS

Notes:
- ***Jablotron IP is the fastest** of the abovementioned protocols and it is the only one which **allows very frequent checking of communication reliability** with the ARC (e.g. every 5 minutes).*
- *Contact ID protocol can be directed to ARCs linked by standard telephone lines (if they support Contact ID).*
- *If your ARC does not allow Jablotron SMS or Jablotron IP protocols, please contact a Jablotron distributor for details on how to upgrade your ARC*

Factory default setting: **ARC1 - Jablotron IP, ARD2 - Jablotron SMS**

7.4. Selection of events to report to ARCs

This sequence allows you to select which events are reported to the ARC:

05 p uu x

where:

p	1 = ARC1, 2 = ARC2
uu	Event numer 00 to 97
x	0 = no report, 1 = report

Factory default setting: **See the table below**

Event	CID CODE	Factory default settings	uu
Alarm after powering up the system	1140/3140	reported	00
Instant loop alarm	1130/3130	reported	01
Delayed loop alarm	1134/3134	reported	02
Fire alarm	1110/3110	reported	03
Panic alarm	1120/3120	reported	04
Tamper alarm	1144/3144	reported	05
Number of permitted incorrect code-entries exceeded	1461/3461	reported	06
Device fault	1330/3330	reported	07
Complete setting	3401	reported	08
Complete unsetting	1401	reported	09
Codeless setting	3408	reported	12
Partial setting A	3402	reported	13
Detector communication failure	1350/3350	reported	14
Control panel power supply dropout	1301	reported	15
Control panel power supply restored	3301	reported	16
Detector power supply dropout	1384/3384	reported	17
Communicator failure	1330	Not reported	18
Communicator OK	3330	Not reported	19
Control panel battery failure	1302	reported	20
Control panel battery OK	3302	reported	21
Alarm 24h	1130	reported	23
Receiver jamming	1355	reported	24
Setting A – split system	3402	reported	26
Setting B – split system	3402	reported	27
Unsetting A – split system	1402	reported	28
Unsetting B – split system	1402	reported	29
Setting C – split system	3402	reported	30
Unsetting C – split system	1402	reported	31
Partial setting AB	3402	reported	33
Power supply ON	3301	Not reported	64
Switching to service / maintenance mode	1306	reported	65
Exiting service / maintenance mode – configuration downloaded	3306	reported	66
End of alarm indication	*	Not reported	67
Reporting to ARC1	*	reported	68
No reporting to ARC1	*	reported	69
Reporting to ARC2	*	reported	70
No reporting to ARC2	*	reported	71
Alarm cancelled by user	1406	reported	78
Control panel reset	1305	Not reported	79
All tampers calm	3137	reported	80
All faults removed	3300	Not reported	81
System power supply OK	*	Not reported	82
The communicator has no connection	1356	reported	83
Communicator connection restored	3356	reported	84
Master code reset to 1234	1305	Not reported	85
Master code changed	*	Not reported	86
Power supply failure exceeding 30 minutes	1301	reported	89
Unconfirmed alarm	1138	reported	90
Service request	1393	reported	91
PgX output ON	1661	Not reported	92
PgX output OFF	3661	Not reported	93
PgY output ON	1662	Not reported	94
PgY output OFF	3362	Not reported	95
Blocking after an alarm (Engineer reset)	1500	reported	96
Unblocking after an alarm	3500	reported	97
Setting with bypass	1573	reported	99
Low SIM card credit balance	*	Not reported	50
SMS transmission from a line (e.g. from JA-84P)	-	Not reported	51
ARC communication failure	1354	reported	52
ARC communication restored	3354	reported	53

tab. 3 ARC event table

Source	Name
701	Control panel
731	Communicator
741	Keypad
001 - 050	Device 1 – Device 50
500	Master code
599	Service code
501 - 550	Code 1 – code 50

tab. 4 Source number table

The report to the ARC consists of:

- *Premises number, event code, section, source number.*
- *Section: 01 is set for all reports*
- *Split system for setting and unsetting: 02 = A, 03 = B*
- *Unsplit system for partial setting: 01=ABC, 02 = A, 03 = AB*

Notes:

- *Events to ARC are reported with the identification of the section*

7.5. ARC communication checking – periodic or fixed

This sequence is used to define whether the regular transmission takes place at a given time according to **07 p hhmm**, or periodically according to **07 p hhmm** settings.

06 p x

where:

p	1=ARC1, 2=ARC2
x	0= with a period according to **07 p hhmm**
	1= at the set time according to **07 p hhmm**

Factory default setting: With a period after the last report

7.6. ARC communication checking period

This sequence programs how often the communication check is performed:

07 p hhmm

where:

p	1 = ARC1, 2 = ARC2
hh	hours
mm	minutes

Notes:

- *Checking reports are not sent in service mode.*
- *Jablotron IP protocol allows very frequent checking of ARC communication (even every 5 minutes in practice).*
- *When 00:00 is set, communication check is not performed.*

Factory default setting: 23:59 (hours:mins)

7.7. Enable ARC reporting (ARC2 backs up ARC1)

This sequence allows reporting to ARCs to be switched on/off and also enables ARC2 to backup ARC1:

08 p x

where:

p	1=ARC1, 2=ARC2
x	0=off, 1=on, 2=ARC2 backs up ARC1 (2 can only be entered for ARC2)

Note: if ARC2 backs up ARC1 then it will only receive reports if it is not possible to deliver them to ARC1. Each event is first reported to ARC1 (both main and backup number / URL address) and if the transmission fails, the event is reported to ARC2. A report containing "Communication fault to ARC1" is then sent to ARC2 together with the first report to ARC2

Factory default setting: Transmissions to both ARCs are off

7.8. Recording ARC reporting in the control panel memory

This sequence enables the recording of every report successfully communicated to ARCs in the control panel's internal memory:

001 0	disabled
001 1	enabled

Note: it is recommended not to record reports sent to ARCs via reliable protocols (IP CID and SMS CID) but to enable the indication of ARC communication faults (see 7.9). This saves a significant amount of control panel memory. The system initially assumes that every report is successfully delivered to ARCs, but if a report is not successfully delivered within 110 seconds of transmission, then a communication fault will be indicated and recorded.

Factory default setting: disabled

7.9. Indicate an unsuccessful ARC communication fault

Enables the indication and recording of a communication fault if a report is not successfully delivered to an ARC within 110 seconds of its transmission:

002 0   communication faults not indicated
002 1   communication faults indicated

Notes:
- *The communicator continues trying to send information to an ARC even after a communication fault has been indicated (after the data has been delivered, communication fault indication stops)*
- *for communication-checking reports the delivery time limit (confirmation from the ARC) is 300 minutes. But if any other report is sent to the ARC it must be confirmed within 110 seconds (otherwise a communication fault will be indicated).*

Factory default setting: communication faults not indicated

7.10. URL / IP address for data transmission

The communicator supports transmission of special data (e.g. visual information from JA-84P) from the system to a set IP address, which can be set by the following sequence:

013 xx..x∗0

where:
xxx...x   is the IP address and port – entry format example:
013 ∗8 192 168 021 123 07070 ∗0
Where

> ∗8 (auto-converts to #) signifies an IP address which must have 12 digits and must be followed by the 5 digits of the port number (no separators).

To erase the IP enter **013∗0**.

Notes:
- *if no devices supporting this feature are in the system, do not set any IP address.*
- *the address can also be entered in URL format through OLink, the system keyboard allows digits only*

Factory default setting: URL - lib1.jablotron.cz:7070

7.11. Locking the ARC settings

All settings which affect reporting to ARCs can be locked by a digital code. To do so, enter:

091 xx..x*0

where:
xx..x is your code (4 to 8 digits)

Notes:
- *Exiting service mode after the locking code has been entered will lock all the settings affecting ARC communication (see the sequence list in section 13).*
- *If ARC programming is locked, then it can be temporally enabled in **service mode** by entering **092 xx..x ∗0** where xx..x is the locking code. It will then relock on exiting service mode.*
- *The ARC settings can be permanently unlocked by entering **091 ∗0** (the code can be erased only if ARC setting is unlocked)*

Factory default setting: ARC settings unlocked

7.12. Repeated ARC communication

The communicator tries to send the report to the main telephone number. If this fails, it tries the backup number and in the case of failure, the communicator repeats the attempt with a delay which is set by the following sequence:

0001 p mmss

where:
p   1=ARC1, 2=ARC2
mmss   time in minutes, seconds

Factory default setting: 15s

7.13. Number of repeated attempts

Defines how many times in a row the communicator will try to transmit information to the ARC after an unsuccessful attempt. It is possible to set up to 9 repeated attempts. They are set by the following sequence:

0002 p n

where:
p   1=ARC1, 2=ARC2
n   1 to 9 attempts

Factory default setting: 2 attempts

7.14. Integrated image transmission module

The communicator contains a built-in module for the reception of images from JA-84P detectors. The device must be set up properly for the successful transfer of photographs to the server (see 7.10) The Jablotron image viewing server is situated at http://img.jablotron.com.

IP address for image sending:
URL: lib1.jablotron.cz:7070   IP: 77.104.220.129:7070

Warning: The set or modified parameters only take effect after you exit service mode.
The signalling of image transmission on the module
- *Once the images have been taken by a JA-84P, they are immediately sent to the GSM communicator and subsequently to a secure server (if it has been set).*
- *The transmission from a PIR to the communicator is indicated by green LED 1 being permanently lit (on the left under the SIM card holder) see fig. 1 Communicator description:.*
- *Transmission to the server is signalled by a flashing green LED.*
- *Successful transmission is confirmed by a long green-LED flash and unsuccessful transmission is reported by rapid flashes of the green LED. Successful transmission from the GSM communicator to the server is confirmed by a long flash of the red LED, unsuccessful transmission is reported by flashing of the red LED.*

Notes:
- *The total time of transmission to the server is about 20s.*
- *If the signal is weak, the transmission can take longer (the lost data is sent repeatedly). Each image contains the date and time of acquisition which is taken from the control panel internal clock.*
- *The synchronization of time from the moment the batteries are inserted into a JA-84P takes 60 minutes.*

7.15. Updating the communicator

The communicator can be updated by any authorized person. (i.e.firmware, language and voice settings). Current firmware is accessible on www.jablotron.com. Before updating, save your communicator settings to the OLink database. For updating, it is necessary to have one of these interfaces: JA-80T, JA-80BT or JA-82T and the program OLink (v.2.0 or higher). Uploading via a JA-82T is faster. Be careful not to do anything during the updating process (don´t disconnect the cable or do anything with the PC) and wait till the end.
Restart the communicator after the updating procedure via the 893 sequence, or turn off the main power and battery and after a few seconds turn them on again. Then wait for 1 minute. During this operation do nothing with the system till the red LED stops shining.
Updating can change the device registration key which you need for remote access via the internet.

8. Further guidance on the communicator

8.1. How the communicator sends reports

1. If there is a need to report an event (e.g. an alarm) then the communicator sends data to ARC1 (the communicator tries the main phone number / IP address / URL. If unsuccessful then it tries the backup number / IP address / URL and if still unsuccessful, it repeats the action).
2. Then it sends data to ARC2 in the same way if programmed as an independent ARC. If ARC2 is programmed as the backup to ARC,1 then the data will only be sent to it if transfer to ARC1 has been unsuccessful.
3. Then the unit sends SMS reports (1st tel. number, 2nd tel. Number,..)
4. Then the unit transmits a voice message to each telephone number with this setting. Each programmed number is called only once regardless of whether the call has been answered or not. Pressing the # key cancels calling other numbers and the system enters keypad simulation mode in which it is possible to fully control the system.

If all previous attempts to send data to ARCs have been unsuccessful, the next attempts occur after the programmed repeat period (see 7.6).

If an alarm is cancelled by a user while it is being reported, any unsent SMSes and unperformed call reports are cancelled, but the ARC still gets a complete set of reports about events in the system.

8.2. The communicator's LED

The red LED on the communicator board indicates as follows:
- *It is lit for a period during registration to a GSM network*
- *when sending an SMS message, the LED is lit for 1 second*
- *the LED flashes rapidly during the detection of an incoming call*
- *It is lit permanently during remote access from a telephone*
- *A permanently lit LED could indicate that the communicator is not registered to a GSM network*
- *The LED flashes during remote-access data transfer*

The green LED on communicator board indicates as follows:
- *Flashes for a 2 seconds when communicator is connected to control panel*
- *Flashes once a second when pictures are transmitted (see 7.14)*

8.3. Notes on entering service mode

If the system is switched to service mode:
1. The communicator completes the current transmission to the ARC.

2. The current phone call reporting is terminated.
3. Unfinished SMS and call reports are erased (they are not transmitted after the service has finished).
4. Unsent ARC reports are only erased if ARC tel. numbers / IP addresses / URLs or the ARC communication format or the installation ID are changed.
5. Fault restoration reports are sent to the ARC even in service mode.
6. Changes to communicator settings do not take effect until service mode has been exited.

8.4. Remote access via the Internet

The system can be accessed remotely via OLink 2.0.1 and higher. This allows complete programming by installers (it is necessary to know the service code) and also operating the system by end users in the same way as if they were using a keypad. To access the system remotely it is necessary to have:

- The communicator registration code xxxxx-xxxxx-xxxx. The code is stated on the label on the communicator board, in the OLink application or you can have it sent to you by SMS (see 6.23)
- The telephone number of the communicator SIM card
- The remote access password (see 6.24)
- When GPRS is not available a connection with OLink can be realized by SMS with limited capabilities. After GPRS has been restored, the system automatically starts to use the GPRS connection.

It is not possible to register the communicator on www.gsmlink.cz. Remote access via the Internet is done by the program OLink 2.0.1 or higher.

8.5. Time synchronizing process

The right and accurate time is taken from the GSM network via received SMS messages or from the Jablotron YTUN server when GPRS is active. When the communicator has not got time synchronization information, it sends an SMS to itself via the GSM network (1x per 10 days). There is one requirement, the communicator must have its own SIM card number saved in position 0 by the sequence 81 0 xxx..x *0 (xxx..x = own telephone number). If you change the SIM card, position 0 will be automatically erased.

Time synchronization (see section 6.17) of the control panel is performed whenever entering into service mode or maintenance mode, and if there is a difference greater than 5 minutes between the correct time and control panel time, synchronization is performed automatically in an unset system without needing to manually change modes.

Notes:

- Synchronization is indicated by a keypad beep
- PG outputs are deactivated during time synchronization, then the outputs are reactivated afterwards.
- A time synchronization event is sent to the ARC by automatically entering service/maintenance mode (even when unset) and CID report code 1625 (625 means a time and date reset based on the norm DC-05) is transmitted before exiting service/maintenance mode.

9. Technical specifications

Power	12V DC (from the control panel)
Stand-by consumption (mean value)	about 35 mA
	(depends on the GSM signal strength)
GSM band	QUAD-BAND, 850/900/1800/1900MHz
Complies in configuration CIE OASIS system with	EN 50131-1, EN 50136-2-1
as follows:	ATS 4, ATS 5 if CID protocol is used
	and the repeating period is set to zero (Sequence 06p0)
Operating environment – indoor general (-10°C to 40°C)	Class II
Security	Grade 2
Safety	EN 60950-1
EMC	ETSI EN 301489-1, ETSI EN 301489-7
	EN 55022, EN 50130-4, T 031 (INCERT)
Certification body:	Trezor Test s.r.o., Telefication B.V.
Radio transmissions	ETSI EN 301419-1 and EN 301511
CLIP protocol (caller ID + SMS)	ETSI EN 300 089
Can be operated according to	GSM Regulations

JABLOTRON ALARMS a.s. hereby declares that the JA-82Y is in a compliance with the relevant Union harmonisation legislation: Directives No: 2014/53/EU, 2014/35/EU, 2014/30/EU, 2011/65/EU. The original of the conformity assessment can be found at www.jablotron.com - Section Downloads.

Note: Although this product does not contain any harmful materials we suggest you return the product to the dealer or directly to the producer after use.

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10. Voice menu flowchart

```
                        ┌─────────────────┐
                        │  Incoming call  │
                        └─────────────────┘
                                 │
                                 ▼
                   ┌───────────────────────────┐
                   │ „Welcome to OASiS. Enter   │
                   │      your access code."    │
                   │        (Valid code)        │
                   └───────────────────────────┘
                                 │                                          ◄───────────────┐
                                 ▼                                                          │
                            ╱─────────╲      ┌──────────┐    ┌──────────────────────────┐   │
                           ╱   CODE    ╲────▶│ Invalid  │───▶│ "Can´t perform the        │───┘
                           ╲           ╱     └──────────┘    │ operation. Enter your     │
                            ╲─────────╱                      │ access code"              │
                                 │                           └──────────────────────────┘
                                 ▼                                         │
                           ┌──────────┐                                    ▼
                           │  Valid   │                     ┌──────────────────────────┐
                           └──────────┘                     │ Rejected after 3 wrong   │
                                 │                           │ attempts                 │
                                 ▼                           └──────────────────────────┘
                           ┌──────────┐
                           │  „OK!"   │
                           └──────────┘
                                 │
     ┌───────────────┬───────────┴───────────┬───────────────────┐
     ▼               ▼                        ▼                   ▼
┌──────────┐  ┌──────────────┐      ┌──────────────┐    ┌──────────────────┐
│„Disarmed │  │„Armed system."│      │„Service mode"│    │The "9" key pressed│
│ system." │  │"Press 2 to   │      └──────────────┘    └──────────────────┘
│"Press 1 to│  │ disarm"      │             │                    │
│ arm."    │  │"OK! System   │             └──────────┬─────────┘
│"OK! System│  │ disarmed"    │                        ▼
│ Armed."  │  └──────────────┘           ┌──────────────────────────┐
└──────────┘         │                   │    „Keypad simulation"    │
     │               │        ◄──────────└──────────────────────────┘
     └───────┬───────┘
             ▼
   ┌────────────────────┐
   │ If the system is in │
   │ the requested state,│
   │ terminate the call. │
   └────────────────────┘
```
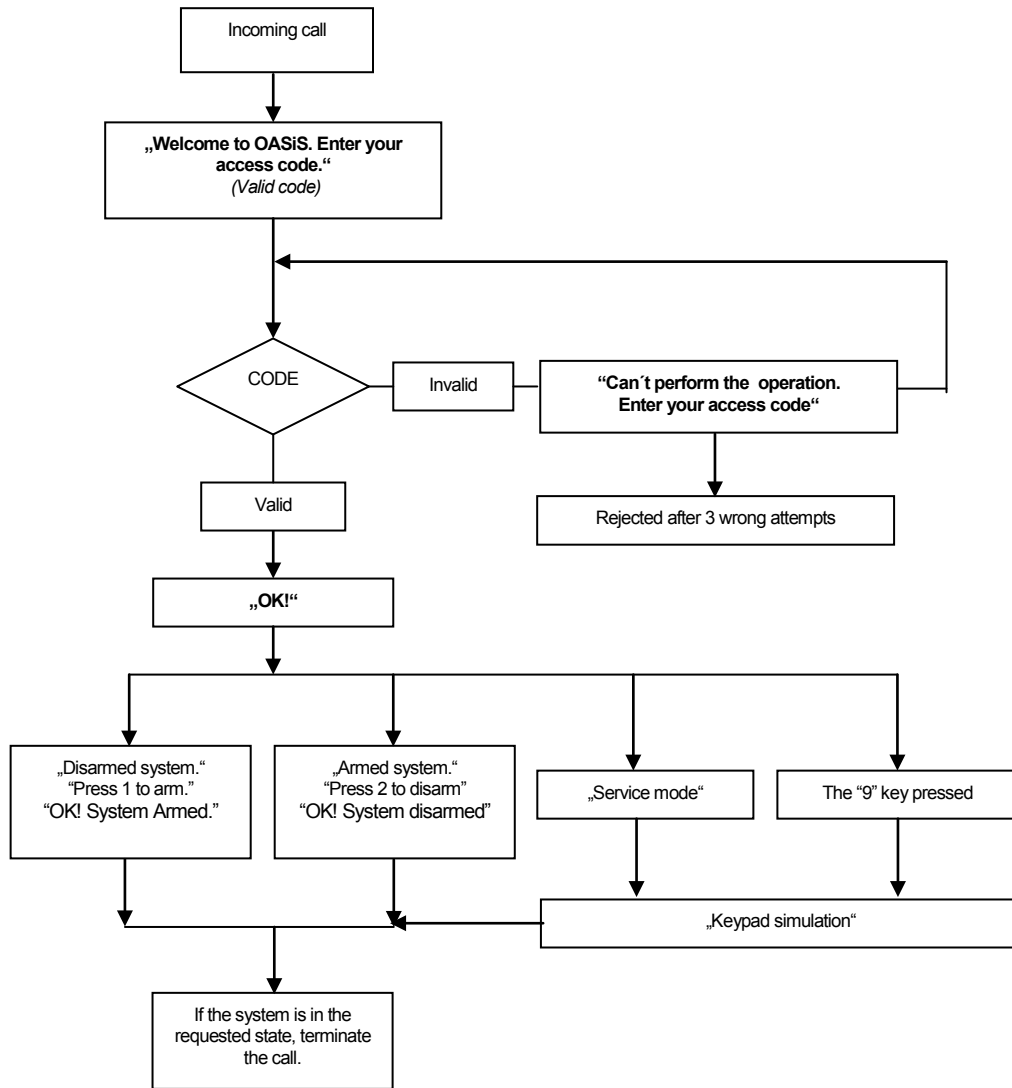
fig. 2 Voice menu flowchart

11. List of events which can be reported to your phone and their factory default settings

uu	Event	ABC 1	AC 2	AC 3	AC 4	BC 5	BC 6	BC 7	ABC 8	Voice message
00	Alarm after powering up the system	SC	SC	SC	S	SC	SC	S		5: "fault"
01	Instant loop alarm	SC	SC	SC	S	SC	SC	S		1: "intruder alarm"
02	Delayed loop alarm	SC	SC	SC	S	SC	SC	S		1: "intruder alarm"
03	Fire alarm	SC	SC	SC	S	SC	SC	S		2: "fire alarm"
04	Panic alarm	SC	SC	SC	S	SC	SC	S		4: "panic alarm"
05	Tamper alarm	SC	SC	SC	S	SC	SC	S		3: "tamper alarm"
06	Number of permitted incorrect code-entries exceeded	SC	SC	SC	S	SC	SC	S		3: "tamper alarm"
07	Device fault	S							S	5: "fault"
08	Complete setting									"Armed system"
09	Complete unsetting									"Disarmed system"
12	Codeless setting									"Armed system"
13	Partial setting A									"Partially armed"
14	Detector communication failure									5: "fault"
15	Control panel power supply dropout									7: "other event"
16	Control panel power supply restored									7: "other event"
17	Detector power supply dropout	S							S	5: "fault"
18	Communicator failure	S							S	5: "fault"
19	Communicator OK									7: "other event"
20	Control panel battery failure	S							S	5: "fault"
21	Control panel battery OK									7: "other event"
23	Alarm 24h	SC	SC	SC	S	SC	SC	S		1: "intruder alarm"
24	Receiver jamming									5: "fault"
26	Setting A – split system									"Armed system"
27	Setting B – split system									"Armed system"
28	Unsetting A – split system									"Disarmed system"
29	Unsetting B – split system									"Disarmed system"
33	Partial setting AB									"Partially armed"
50	Low SIM card credit balance	S								5: "fault"
51	Image delivered to server (e.g. from JA-84P)	S								7: "other event"
64	Power supply ON									7: "other event"
65	Switching to service / maintenance mode									7: "other event"
66	Exiting service / maintenance mode – configuration downloaded									7: "other event"
67	End of alarm indication									7: "other event"
78	Alarm cancelled by user	S	S	S	S	S	S	S		7: "other event"
79	Control panel reset									7: "other event"
80	All tampers on standby									7: "other event"
81	All faults removed									7: "other event"
82	System power supply OK									7: "other event"
83	The communicator has no connection									5: "fault"
84	Communicator connection restored									7: "other event"
85	Master code reset to 1234									7: "other event"
86	Master code changed									7: "other event"
68	Reporting to ARC1									7: "other event"
69	No reporting to ARC1									5: "fault"
89	Power supply failure exceeding 30 minutes	S								5: "fault"
90	Unconfirmed alarm									7: "other event"
91	Service request									7: "other event"
92	PgX output ON									7: "other event"
93	PgX output OFF									7: "other event"
94	PgY output ON									7: "other event"
95	PgY output OFF									7: "other event"
96	Blocking after an alarm (Engineer reset)									7: "other event"
97	Unblocking after an alarm									7: "other event"
99	Setting with bypass	S								7: "other event"

tab. 5 List of events which can be reported to your phone and their factory default settings

Notes:
- *Factory default report assignment: S = SMS, C = call, SC = SMS followed by a call*
- *"External communication fault" means a GSM network dropout longer than 15 minutes (if GSM network dropout indication is enabled)*
- *To get an SMS (from the JA-84P) with a picture link, enable event 51*
- *In a split system it is necessary to synchronize the current control panel settings by opening enrollment mode for 1 s and closing it before you leave service mode*
- *In a split system telephone memory positions are associated with certain sections for reporting alarms as below:*
  - *1st telephone number: sections A, B, C (administrator/master)*
  - *2nd to 4th telephone numbers: sections A, C*
  - *5th to 7th telephone numbers: sections B, C*
  - *8th telephone number sections: A, B, C (service technician)*

12. Summary of all communicator texts for SMS messages and instructions

n	factory default text:	n	factory default text:	n	factory default text:
0	Your system is reporting:	502	Delayed loop alarm	549	Master code changed
1	Device	503	Fire	550	The message has been transmitted by the communicator.
2	Device	504	Panic alarm	551	Message transmission failed
.	…	505	Searching for a code	552	Service request
.	…	506	Alarm after powering up the system	553	PgX output ON
50	Device	507	Tamper alarm	554	PgX output OFF
201	Control panel	508	End of temper alarm	555	PgY output ON
202	Service code	509	End of alarm indication	556	PgY output OFF
203	Service inspection request	510	Alarm cancelled by user	601	SET
204	Communicator	511	Setting	602	UNSET
205	Keypad	512	Unsetting	603	STATUS
206	ARC code	514	Codeless setting	604	MEMORY
300	Master code	515	External communication fault	605	PGX ON
301	Code	516	External communication restored	606	PGX OFF
302	Code	517	Fault	607	PGY ON
.	…	518	Fault removed	608	PGY OFF
.	…	519	Mains dropout over 30 minutes	611	CREDIT
350	Code	520	Mains dropout	612	TXT
400	System status:	521	Mains recovery	613	PRG
401	Set	522	Battery discharged	614	GPRS
402	Unset	523	Battery OK	615	GSM
403	Exit delay	524	Switching to service mode	616	URL
404	Entrance delay	525	Leaving service mode	701	Enrolling
405	Alarm:	528	Radio jamming present	702	Finish setting
406	Service mode	529	Internal communication error	703	Signal strength
407	Maintenance mode	530	Internal communication restored	704	Control
409	Battery discharged	531	Communication test	705	Bypass
410	Tamper alarm	532	Unconfirmed alarm	706	Test OK
411	Alarm memory	533	Blocking after an alarm	707	Test error
412	Fault	534	Unblocking after an alarm	708	0/4
413	Power supply fault	535	Partial setting A	709	1/4
414	Unknown device status	536	Partial setting B	710	2/4
415	Time:	537	Partial setting AB	711	3/4
416	Last event:	538	Partial unsetting A	712	4/4
417	Unknown credit	539	Partial unsetting B	713	Code
418	Credit	540	Communicator failure	714	Text modification
420	Error while processing command	541	Communicator OK	715	Current detector
421	Output ON	542	Control panel battery failure	716	Service inspection
422	Output OFF	543	Control panel battery OK	717	Active output
423	Partially set A	544	Alarm 24h	718	Active detectors
424	Partially set B	545	Low credit balance	720	OASIS JA-80
425	Partially set AB	546	Power supply ON	721	Codes
426	SMS instruction processed successfully	547	Control panel reset		
501	Instant loop alarm	548	Master code reset to 1234		

tab. 6 table of factory-default SMS report and instruction texts

Notes:
- *The communicator always automatically puts numbers from 01 to 50 in front of Device or Code names*
- *Texts **0 to 556** are used to create SMS **event reports***
- *Texts **601 to 616** are SMS instructions (to control the system remotely by SMS)*
- *Texts **700 to 721** are used by keypads*
- *Other texts are part of system configuration and are set in the OLink application*

13. Communicator programming sequence overview

Sequences beginning with "8" are also accessible from Maintenance mode if the change of telephone numbers in Maintenance mode is enabled (OASiS control panel sequence 251)

Function	Sequence	Possible options	Factory default settings
Communicator language setting	991 xx	xx=01 to 18 Language selection affects SMS texts and basic voice menu features	English
GSM signal strength measuring	888	range 1/4 to 4/4, exit by pressing #	-
Tel. number programming for reporting to telephones	81 M xx..x ∗0	**M** = memory 1 to 8; 0 is for the own SIM card number; **xx..x** = tel. number (max.20 digits) keying in *9 inserts +, keying in *7 inserts * , 81 M *0 erases the number in memory M - remote control by unanswered calls – see 3.4	all M1 to M8 erased
Selection of events to report by SMS	82 M uu x	**M** = tel. number memory 1 to 8 **uu** = event code, see the 3.4 **x=1** report, **x=0** no report in a split system, alarm reports are defined for sections A, B, or ABC	M1 alarms and faults from sections A, B, C by SMS. M2 and M3 Alarms from sections A, C by SMS and phone calls M5 and M6 alarms from sections B, C by SMS and phone calls M4 alarms from A, C and M7 alarms from B, C by SMS M8 faults only by SMS from A, B, C sections
Selection of events to report by phone call	83 M uu x	See the List of events which can be reported to your phone and their factory default settings	
Codes associated with enrolled telephones	84 M xxxx	If a codeless SMS arrives from telephone number M, xxxx is used as a code, keying in **84 M *0** erases the given code	No code
Allowing remote access from telephone numbers	85 M x	Allow remote access by authorized numbers M1 – M8, x=1 allow, x=2 deny	allow
SMS and instruction text editing	The texts can be changed by OLink software or by sending an instructional SMS: **code TXT n,text,n,text...**		See 6.8
Voice message recording	The recording is performed via a mobile phone; the system must be in service or user mode. Dial the system SIM card number from your telephone. When the system answers, key in the SC, MC, UC code and then key in **892**. The communicator will announce: "You are in voice message recording mode, see the installation manual." see 6.9		
Enable reporting to phones	901 x	x=0 disabled x=1 enabled (all programmed) x=2 enabled **without reporting setting/unsetting by users 41 to 50** (codes, cards & key-fobs) and master code setting/unsetting	enabled
Enabling remote access	802 x	x=0 no x=1 yes (by phone and Internet) x=2 yes, but only by enrolled phones	1=yes
Forwarding of incoming SMS messages	801 x	x=0 no, x=1 if the incoming text is not an SMS instruction it will be forwarded to the first programmed number in memories M1 to M8	yes
Autoconfiguration of GPRS	903 x	X=0 autoconfiguration disabled x=1 autoconfiguration enabled	Autoconfiguration enabled
SMS instruction confirmation	904 x	x=0 no, x=1 yes (by SMS reply)	yes
Reaction to incoming calls	905 x	x=0 no reaction x=1 answers after 15s ringing	answers after ringing for 15s
GSM signal dropout indication	906 x	x=0 no, x=1 yes (15min. dropout =fault)	no
Time synchronization via SMS	907 x	X=0 off, x=1 synchronization on	on
Phone speaker loudness	909 x	x=0..9, 0=minimum,9=maximum	5
Number to be called to maintain SIM card validity	910 xx..x*0	xx..x = tel. number (max.20 digits), 910*0 erase the number	Erased
Restriction of the number of sent SMS to max. 50 SMS per 24 hours	803 x	1=restriction enabled, 0=restriction disabled	restriction enabled
SIM card credit interrogation	You can inquire about credit balance by sending the SMS instruction: **code CREDIT uu..u xx yyy zz** where code = master or service code, uu..u = GSM network command string to ascertain the credit (e.g. ∗104#), xx=auto-interrogation frequency in days, yyy=minimum acceptable balance, zz= the textual position at which the number showing the balance starts in the reply message from the GSM provider. If the credit is lower than the set minimum value, the provider's SMS will be auto-forwarded to numbers M1 and M8 for someone to top up the pre-paid SIM card		
Programming by SMS	The system can be programmed remotely via SMS instruction **code PRG seq, seq,...** where seq are programming sequences set in the same way as from the keypad (e.g. **8080 PRG*08080 201 #** sets the 10s exit delay) (a space in the sequence causes a 500ms pause)		
Registration code	911 xx...x ∗0	xx..x = tel. number to which the registration code should be sent	
Re-registration to the GSM network	893	the communicator disconnects from the GSM network and then re-registers itself, this function can also be performed by SMS: **code GSM**	
Communicator reset	998080	Resets to the factory default settings and erases all phone numbers, text will not be changed	
SIM card's PIN code	920 xx..x ∗0	xx..x = PIN, 920*0 erases the PIN (to use a SIM card with a disabled PIN)	erased
GPRS parameter settings	by SMS instruction: **code GPRS apn user pass** where apn = APN, user = username, pass = password (only enter the APN if the name and password are not required by the GSM provider)		

Tab. 7 communicator programming sequence

Tab. 7 communicator programming sequence continues

Function	Sequence	Possible options	Factory default settings
ARC main telephone number / IP address / URL	01 p xx..x *0	p=1 ARC1, p=2 ARC2, p=3 IMG, xx..x = tel. number max. 30 digits. When using IP protocol, IP or URL addresses are entered instead of telephone numbers – see URL command To erase the corresponding telephone numbers or URL addresses enter 01p*0	erased
ARC backup telephone number / IP address / URL	02 p xx..x *0	p=1 ARC1, p=2 ARC2, p=3 IMG, xx..x = tel. number max. 30 digits. When using IP protocol, IP or URL addresses are entered instead of telephone numbers – see URL command To erase the corresponding telephone numbers or URL addresses enter 02p*0	erased
Main ARC URL address setting See ARC main telephone number / IP address / URL	Performed via OLink software or by SMS instruction **code URL p xxxxxx : pppp** where p=1 ARC1, p=2 ARC2, p=3 IMG, xx..x = URL address, pppp = port address (not required).. SMS instruction example: **URL 1** www.arc1.com **: 08080** To erase the addresses key in 01p*0, 02p*0 or ARC telephone number		
Installation (alarm system) ID for ARC use	03 p zz..z*0	p=1 ARC1, p=2 ARC2, p=3 IMG, xx..x = installation number max. 8 characters 0 to 9 and *1=A to *6=F	0000
Selecting the ARC communication protocol	04 p x	p=1 ARC1, p=2 ARC2, p=3 ARC3(IMG) x=0 CID, x=1 Jablotron IP, x=2 Jablotron SMS, x=5 IMG – Jablotron image server	1 Jablotron IP 2 Jablotron SMS
Selection of events to report to ARCs	05 p uu x	p=1 ARC1, p=2 ARC2 uu is an event code (see 7.4) x=1 report, x=0 no report	All events are reported - see tab. 3
Periodic or fixed ARC connection check	06 p x	p=1 ARC1, p=2 ARC2 x=0 with a period from the last report according to the 07 p hhmm setting x=1 once a day at the time set by entering 07 p hhmm	With a period after the last report (X=0)
ARC communication checking period	07 p hhmm	p=1 ARC1, p=2 ARC2 hhmm = hours, minutes, see setting via 06 p x	2359
Enable ARC reporting (ARC2 backs up ARC1)	08 p x	p=1 ARC1, p=2 ARC2 x=0 reports disabled, x=1 reports enabled, x=2 only for ARC1, sets that ARC2 backs up ARC1	1,2 ARC reporting disabled 3 enabled (IMG)
Recording reports sent to ARCs in the control panel memory	001 x	x=0 no (only records ARC communication faults) x=1 yes (all reports except communication checks)	no
Indicate an ARC communication fault if a report is not successfully received within 110 sec of transmission	002 x	x=0 no x=1 yes	no
Remote access password	894 xxx …x *0	1-32 characters, (only numbers are available when using keypad)	1234ABCD
Locking the ARC settings	091 xx..x*0	xx..x is your code (4 to 8 digits) Entering this code and then exiting service mode will lock the ARC settings 091*0 will erase the code (permanently unlocked)	unlocked
Unlocking the ARC settings	092 xx..x*0	xx..x is the locking code used by sequence 091	ARC programming can be temporarily enabled in service mode by entering this sequence. It will then relock on exiting service mode. For permanent unlocking see sequence 091.
Period of waiting before repeating unsuccessful communication to the ARC	0001 p mmss	p=1 ARC1, p=2 ARC2 mmss = minutes, seconds	0015
Number of repeated attempts after unsuccessful communication to the ARC	0002 p n	p=1 ARC1, p=2 ARC2 n= 1x to 9x	2x