

SATEL CA10 plus

with **LED** Keypad

User Manual

Satel 

GDANSK, POLAND

Control Panel CA-10 plus with an LED keypad

Control panel CA-10 plus is a modern, microprocessor-based control panel designed for burglary and assault signaling systems. The CA-10 plus panel controls an alarm system, responds to information coming from the system detectors about an intrusion on a protected facility, signals and informs about the event. The panel is designed to be operated with LED and LCD display keypads.

Basic functions of CA-10 plus:

- signaling burglary, panic and fire alarms,
- informing of alarms with telephone voice messages or messages to a paging system,
- the possibility of answering phone calls and informing the user of system status (whether there has been an alarm condition since its arming),
- MONITORING - communication with telephone monitoring stations (real-time transmission of detailed information about specified events in a protected facility),

Features of CA-10 plus

- panel operation controlled with remote keypads,
- real-time status display for up to 12 armed zones,
- alarm condition and failure logs available (for up to 255 occurrences),
- operate on 4 partitions,
- any partition can be operated by up to 13 users with independent access codes (up to 32 access codes) - the access codes can have different authority level, any instance of using them is recorded in the memory log,
- locks, lighting system and other devices can be remotely controlled with the panel keypads,
- alarms PANIC, FIRE and HELP can be activated with the keypad,
- a number of system arming procedures (with automatic bypassing, with no exit automatic bypassing),
- internal clock capable of automatic arming and disarming of the system,
- automatic status analysis of the basic elements of the system.

Armed modes

To adapt the alarm system to various needs the control panel CA-10 plus offers several armed modes:

Armed mode (full)

The mode in which detectors connected to the panel control the protected facility and violation of the protected zones is signaled by the panel with all available means (sirens, reporting to telephone monitoring stations, telephone messages).

Silent armed mode

Armed mode in which alarms are signaled only in the panel keypads. The installer can decide which of the detectors are automatically by-passed on entering this mode; he can also choose signaling device to be used in that mode.

Partially armed mode

Installer can determine the detectors in the system which will be excluded from the supervision on arming the system with the special access code (authority level 7). The user can, by entering an appropriate code, arm the system fully or in a chosen part only.

Stay armed mode

In this mode the panel enables automatic bypassing of chosen detectors if after arming the system the user did not leave the supervised area and did not violate the exit/entry zone.

Operating instructions

Operating of the alarm system consists basically in arming and disarming the system (setting surveillance mode) and responding appropriately to the information the control panel may signal on the keypad. The keypad displays the information about the status of the alarm system by means of 15 LED controls and acoustic signals.

LED functions:

- **ALARM** - diode blinks - signals alarm,
- **ARMED** - indicates the status of a zone: blinking of the diode while the ALARM diode is off) signals the countdown of exit delay time; the LED solid on signals armed mode.
- **FAILURE** - diode blinks when the control panel detects technical problems or telephone messaging system trouble,
- **1 + 12** - the status of partitions is shown:
 - the LED off - zone is free (not violated),
 - the LED on - zone is violated,
 - the LED is on with extinguishing phase every two seconds,
 - the LED blinking quickly - zone caused an alarm condition,
 - the LED winking every two seconds - anti-tampering system caused an alarm,
 - the LED slow blinking - zones by-passed.

Conditions signaled acoustically in the keypad:

The signals produced to confirm the operation on the keypad:

- **three short** - system arming/disarming confirmation,
- **two long** - wrong access code, canceling a function or incorrect data for a function,
- **three long** - an attempt to arm the system with violated priority option zones (see Arming),
- **four short and one long** - correct user function completion.

System events signaling:

- **continuous signal** - alarm condition,
- **intermittent signal** - fire alarm,
- **one short signal every 3 seconds** - entry time countdown,
- **one long signal every 3 seconds** - exit time countdown,
- **two short signals every 3 seconds** - trouble condition,
- **five short** - CHIME zone violated,
- **five long** - day/night type zone violated.

Which of the events are signaled acoustically and in which keypads is determined by the installer.

User Access Codes

For everyday operation of the system users are assigned access codes. The control panel comes with one factory-set code (master user code) for each partition:

- 1234 for partition 1,
- 2345 for partition 2,
- 3456 for partition 3
- 4567 for partition 4.

Programming of additional 12 user access codes is possible in each partition (but no more than 32 in the entire system). The code can be 4 to 6 digits long.

While creating new user access code, master user assigns specific authority level - determines which of the panel functions are available for a particular user, and which are excluded.

Arming

[Access code][#]

Arming is only possible when the partition is not signaling alarm and is not already armed: ALARM and ARMED diodes are off.

In order to arm the system, access code should be entered and confirmed by pressing the [#] key. If, while typing the code, user makes a mistake, [*] key should be pressed and the code re-entered. The access codes should be entered very carefully. Giving a wrong access code three times in sequence may activated the alarm which is recorded in alarm memory log as „3 wrong codes alarm”.

If the code is entered correctly and arming is possible, the panel will confirm the entry with three short beeps. At the same time ARMED diode starts blinking indicating the exit delay time countdown.

The installer determines the value of the exit time and the way the acoustic signaling works.

The panel may fail to arm the system if:

- **the panel is not ready for arming:** there are specifically designed zones which cannot be violated while the system is being armed and one of them is being violated at the time of arming - the panel signals the situation with three long beeps. In such a case, a delay is recommended until all the exits are ready (the 1+12 diodes extinguish) and arming the system again. If one of the exits remains violated (one of the 1+12 diodes is on, the cause may be, for example, the detector failure) the armed mode can be switched on after the bypassing option of the exit has been set. (function 4),
- **access code entered is incorrect** - the control panel signalizes the event with two long beeps
- **in a given partition there are no armed type zones** - the control panel signalizes the event with two long beeps (access code is correct and allows, for example, to call user functions).

Quick Arming	[0][#]
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On pressing the sequence [0][#] user can, without typing access code, quickly arm the system. The Quick Arming function can be blocked by the installer. Arming is not influenced by any detectors being violated at the time. The installer can install a special key to arm the system quickly.

Disarming and clearing the alarm	[Access code][#]
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When the control panel is armed (ARMED diode is on or is blinking) or signalizes the alarm (ALARM diode is blinking) it can accept only one command - disarming the system or clearing the alarm. Typing the access code confirmed by pressing [#] or [*] keys disarms the system or turns off the alarm. If, while typing the access code, user makes a mistake, he should press [*] button and re-enter the code.

The panel confirms the entry with three short beeps and extinguishes diodes ALARM/ARMED.

The control panel will not be disarmed or allow the alarm clearing if:

- the access code is incorrect,
- the access code authority level does not allow disarming (for example, authority level 3 or 9 - see "User Functions" - "New User")

It is possible to cancel the alarm without disarming the system with authority level 0 access code.

If the system is divided into partitions, the alarm can be cancelled only in the partition in which the keypad signalizes the alarm condition with the ALARM diode.

Clock Controlled Arming and Disarming

Arming and disarming of the system can be controlled with a control panel clock. The installer can program the exact hour and minute of arming/disarming of the system. Arming and disarming will occur every day at a specified time. The control panel can also be armed with a clock and disarmed manually by a user.

System Status Telephone Messaging

The owner of the facility with CA-10 plus control panel installed can check if there has been an alarm condition by means of a standard telephone connection. In order to do so he has to phone the facility - the control panel will answer the phone and will brief the caller on the system status. The control panel will answer telephone calls only when the system in the whole protected facility is armed.

On receiving the call the control panel sends:

- **one beep a second** - if, since the last arming, there has been no alarm condition;
- **voice synthesizer message** - if the alarm occurred within the last hour;
- **sequence of five short beeps every second** - if the alarm occurred, but more than an hour ago.

The panel can receive the calls in on of two modes:

- **single calling mode** - the panel answers the phone after specified number of rings (as is the case with a standard answering machine); after receiving the call the panel doesn't answer any more calls for 5 minutes.
- **double calling mode** - to receive a message from the panel the user must call it and after listening to a specified number of so called returned calling signals (steady tone for a second and break for 4 seconds - the sequence is similar to telephone ringing sequence) put down the receiver and call once more (within 5 minutes) - the panel will answer the second call immediately.

The installer decides if the function is on and how the control panel answers the phone calls (number of rings, double calling etc.)

„HOLD DOWN” User Functions

The functions are available for every user (without specifying the access code). They are activated on longer depressing the function key.

SWITCHING TO *n* PARTITION (GO TO *n*)

①②③④

In alarm systems divided into several partitions (subsystems) single keypad control over the whole system is possible. The keys 1, 2, 3, 4 depressed for a time switch the partition the keypad is currently controlling. The panel will confirm the switch with three short beeps. From that moment the panel treats the keypad, from which the function was called, as if it was connected to a given partition. All operations on that partition can be done except for „HOLD DOWN” function (for example, the function GO TO cannot be called).

The exit from a given partition is automatic (the keypad returns to its own partition after 15 seconds after the last key has been pressed) or after depressing the [*]

key for 3 seconds. The panel confirms the return to its basic partition with four short and one longer beep.

Pressing the [*] key in order to exit GO TO function is immediately confirmed with two long beeps, and after 3 seconds of pressing the key the keypad returns to its own partition.

CAUTION: if the panel does not confirm the operation in the described way, it is in its basic partition and after 3 seconds it will call fire alarm from the keyboard.

Alarm Memory Review

⑤

Holding down the 5 key displays the information about the most recent alarm condition. Pressing any key (except for the [*] key, which stops memory log review immediately), displays the previous alarm conditions recorded, until the earliest record information appears.

The panel signalizes three types of alarms:

- **zone alarms:** one of the diodes 1 to 12 is on steadily (burglary alarms, panic alarms, fire alarms etc. depending on how the functions of the zones were set up by the installer)
- **anti-tampering zone alarms:** one of the diodes 1 to 12 is blinking (this type of alarm signalizes an attempt at dismantling detectors or wiring failure),
- **keypad activated alarms:** the diodes 1 to 8 are steadily on with two diodes blinking - one within 1 to 5 range, and one within 9 to 12.

The meaning of the diodes is following:

- | | |
|---|--|
| 1 - fire alarm keypad activated | |
| 2 - auxiliary alarm keypad activated | 9 - alarm activated in partition 1 |
| 3 - panic alarm keypad activated | 10 - alarm activated in partition 2 |
| 4 - anti-tampering keypad alarm | 11 - alarm activated in partition 3 |
| 5 - three wrong access codes alarm | 12 - alarm activated in partition 4 |

Failure Memory Review

⑥

The function allows the panel user to review the information about system trouble conditions from the panel memory log.

On activating the function the diodes ALARM and ARMED switch on and FAILURE diode starts blinking. At the same time one of the diodes 1 to 12 turns on indicating the type of alarm (see: function description CURRENT FAILURE CHECK-OUT)

On pressing any key the previously detected failures are displayed; the [*] key cancels the function.

Current Trouble Check-Out

⑦

When the control panel signals a failure detection (FAILURE diode is blinking), holding down key 7 activates the Current Failure Check-out function. On activating the function diode FAILURE and the diodes indicating current failures turn on. Pressing any key stops the function.

The meaning of the diodes is following:

1 - output 1 failure,

2 - output 2 failure,

3 - output 3 failure,

- the signaling device is disconnect (for example, siren wires were cut) or output is overloaded (short circuit) - usually requires specialized service.

4 - AC loss

- the panel is equipped with a limited time battery backup, if the AC power loss trouble is signaled when the AC power is on, service should be called.

5 - battery failure

- the battery voltage is too low (lower than 12V under normal operational load). The state may hold for several hours after AC power supply disconnection (or after connecting a discharged battery). The battery charging time depends on its capacitance (the battery is charged with direct current about 350mA, the time necessary for testing the battery status is 12 minutes).

6 - keypad power supply failure

- signals an installation error; servicing is necessary (the failure can be displayed only while reviewing alarm memory).

7 - clock loss

- the message appears on power down and power up the control panel; the clock should be set with user function 6.

8 - printer failure

- stands for "not-ready" status of the printer attached to RS-232 port of the control panel, as a result of, for example, paper out trouble or no power supply. The RS-232 port is monitored if the installer sets up real-time event printout.

9 - no voltage of the telephone line

- the message indicates that the telephone line to which the control panel is connected is cut off. It may also indicate lifting the receiver of the telephone connected to the same line for longer than the time specified by the installer.

10 - telephone line failure - busy signal on lifting the receiver,

11 - telephone line failure - no signal on lifting the receiver

trouble 10 and 11 both point to the reason why telephone messaging system failed (no signal on line on lifting the receiver or busy signal instead of steady tone)

The signaling of 10 and 11 trouble will remain lit until next successful telephone connection. The condition can be cleared by calling the Trouble Check-out function and depressing the [#] key.

12 - output 4 failure

ALL OFF - system memory error

- the message appears on erratic microchip operation of the system (it may be caused by strong electromagnetic interference produced by lightning) - in most cases service should be called.

Depressing any key stops the function. If the installer set up the acoustic failure signaling, activating the Trouble Check-Out function turns the signaling off.

Switching the Chime on/off

⑧

The function gives the user the possibility of switching the chime on/off (acoustic signaling of the violation of specified detectors) by means of the keypad. Three short beeps in the keypad confirm switching off of the chime signaling. Four short and one long beep confirm switching the chime on.

The installer decides which zones and in which keypads can use chime to signal their status.

Fire Alarm

(*)

The function switching on fire alarm by means of the keypad.

Auxiliary alarm

⑩

The purpose of the alarm depends on the current needs. It may, for instance, be an emergency call for doctor's help. The function may transmit an appropriate message about auxiliary alarm to monitoring station and activate voice messaging.

Panic alarm

(#)

The function activating the panic alarm by means of the keypad.

The keypad activated functions can be blocked by the installer.

User functions

If the control panel is not armed and is not signaling any alarm, users with an appropriate authority level can access several functions useful in everyday operation of the alarm system.

User functions are activated by entering user access code and confirming it with the [*] key (and not the [#] key as in case of arming/disarming the system). The panel confirms the operation with simultaneous blinking of ALARM, ARMED and FAILURE diodes. After entering the function selection mode an appropriate function number should be entered

User functions:

- | | |
|--|--------------|
| • access code change | [code][*][1] |
| • new user (new code) | [code][*][2] |
| • delete user (code) | [code][*][3] |
| • bypassing panel zones (partition) | [code][*][4] |
| • switch on silent armed mode | [code][*][5] |
| • system clock programming | [code][*][6] |
| • MONO switch zone on | [code][*][7] |
| • BI switch zone status on/off | [code][*][8] |
| • power supply reset at outputs of „RESET power supply” type | [code][*][9] |
| • DOWNLOADING function start | [code][*][0] |

Functions *2 and *3 are available after entering master access code for a partition.

Access Code Change**[code][*][1]**

The function enables changing the access code of the user who activated it. On calling the function a new code should be entered and confirmed by pressing the [#] key. The function is available for master user and users with authority level 1, 2 or 7.

Example: changing the access code from [1234] to [7890]

[1234][*] - calling the „user function” mode confirmed with one short beep and ALARM, ARMED and TROUBLE diodes blinking.

[1] - calling the „change access code” function, confirmed with two short beeps.

[7890][#] - entering the new code digits and confirmation with four short and one long sound.

New User**[code][*][2]**

The function is available only to master user. The user can add new users to a specific partition, assigning an access code to them and determining their authority level.

After calling the function the panel waits for new user access code entry (4 to 6 digits after which the [#] key should be pressed), and after that one more digit (0 to 9) determining the new user authority level.

As new users are added, the panel will assign new, consecutive numbers to them. The number of the user being programmed is indicated by one of the zone diodes blinking. The diodes that are on indicate current users, the ones that are off - empty users. In any given partition up to 12 users can be entered (apart from the master user).

An access code can have the following functions/authority levels:

- 1 - all functions available except for adding and deleting users,
- 2 - arming and disarming functions available as well as changing access code,
- 3 - arming function available as well as disarming - disarming, however, on condition that the same access code is used for the second time
- 4 - access code-trap: arming and disarming functions are available but after disarming the system the "DURESS" message is sent to the monitoring station
- 5 - activates mono type output (the use of the output is determined by the installer)
- 6 - switches bi type output (the use of the output is determined by the installer)
- 7 - partial arming of the system: the code arms the system with simultaneous bypassing of a group of zones (determined by the installer in service functions), except for that the code gives the same authority as any level 2 code,
- 8 - arming and disarming available without the possibility of changing access code,
- 9 - only arming available,
- 0 - only clearing the alarm available

Delete code**[code][*][3]**

The function's purpose is to delete the code of a current user to revoke the rights to use the system. The function is available for master user only.

Example: deleting the third user's access code (master code = 1234)

- [1234][*] - activating the „user function” mode by master user,
- [3] - calling the „delete code” function, the zone diodes indicate the partition users numbers.
- [3] - selecting the code to delete; the diode of the chosen code starts blinking
- [#] - selected user code deletion; four short and one longer beep signal the end of the function.

After entering the deleted user access code the panel waits for confirmation if the selected user is to be deleted. If not, the [*] key should be pressed, if yes, the [#] key.

Zone Bypassing

[code][*][4]

The function sets zone bypassing in order to switch on the alarm system in the protected facility only partially or disable temporarily malfunctioning detectors.

Only disarmed zones can be bypassed. After bypassing a zone is set, the zone's diode starts blinking. The zones remain bypassed till the next disarming of the system or manual disabling the bypass function. The blinking LED diode's number should be entered or a zone number, if it is bigger than 12. 10 to 16 numbers should be entered by pressing two keys - first the [*] key (tens), and after that the single digits (0 to 6).

Example: bypassing lines 3, 5 and 12 (master access code = 1234)

- [1234][*] - activating the „user function” mode by master user,
- [4] - calling the „partition line bypass” function,
- [3] [5] - selecting line number 3 and 5; after each of the numbers entry, the panel will confirm it with two short beeps,
- [*] [2] - selecting line number 12; the panel will confirm the entry with two short beeps,
- [#] - acknowledging the data and, at the same time, exiting the function programming.

While the function is active, on entering a line number, the panel signals bypassing the line with two beeps, and remove bypas with one. Two long beeps mean that the line belongs to another partition, or is armed and its bypassing is not possible.

The function is available only to the master user with authority level 1.

Silent Armed Mode

[code][*][5]

In silent armed mode the alarms are signaled only in keypads and by sending an appropriate message to monitoring station. The installer decides if silent armed mode is active in the entire protected facility or if, in a selected area, it will be disarmed.

The function is not available for users with authority level 5, 6, 0.

Setting Time

[code][*][6]

The function enables setting the panel's clock. The programming procedure is as follows:

- HOURS, MINUTES, acknowledging ([H][H][M][M][#]),
- DAY, MONTH, acknowledging ([D][D][M][M] [#]),
- YEAR (if it is 1998, 1999 two last digits are enough), acknowledge

It is possible to complete the function faster after programming either time or date by pressing the [#] key twice.

The function is available only for the master user and a user with authority level 1.

Mono Switch	[code][*][7]
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The purpose of the function is determined by the installer. It can, for example, activate electric locks, bells, signaling lamps or any other device. Using the function is equal to using the access code with authority level 5 and is recorded in the event log as "exit/entry".

The function is not available for users with authority level 5, 6, 0.

Bi Switch	[code][*][8]
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The use of the function is determined by the installer. It can activate the outside lightning or any other electrical devices.

The function is available for the master user and a user with authority level 1.

Power Supply Reset	[code][*][9]
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The function is used with special detectors equipped with individual on/off memory which is cleared by shutting down power supply (for example smoke detectors, broken glass detectors) The function temporarily disconnects power supply for such detectors.

The function is available for the master user and a user with authority level 1.

Start Download	[code][*][0]
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The function can be activated by master user and a user with authority level 1. It starts the control panel - service PC telephone connection. The function establish the panel - PC telephone connection when an attempt at establishing connection from the PC computer is blocked.

On activating the function the panel engages the telephone line and connects to the service computer. If the panel is unable to connect first time, it will attempt to do establish connection four more times. During the downloading process the telephone line will be busy. Service can temporarily free the telephone line suspending the downloading and, after some time attempt to re-establish connection to continue transmitting data. The installer should make users aware of that so that they will not answer the incoming calls and allowed re-establishing and correct completion of the transmission.

Technical Reliability of the Alarm System

The alarm system consists of devices whose reliability is vital in effectiveness of offered protection. The elements of the alarm system are subject to various outside influences, for example weather conditions (outside signaling devices), lightning (overhead telephone lines, power lines, outside signaling devices), mechanical damage (keypads, detectors). Only regular testing of the alarm system operation ensures keeping high level of burglary and fire protection.

The control panel is equipped with a number of safeguards and auto diagnostic functions testing the reliability of the system. The control panel signals failure detection by switching the TROUBLE diode on the keypad on. **The signal should be immediately taken care of - if necessary, the installer should be consulted.**

It is necessary to test the reliability of the alarm system periodically. In order to do so - check every single detector's ability to signal zone violation, check if their field of vision was not covered or blocked, if they detect violation of the protected windows, doors etc. It is also necessary to check signaling devices and telephone messaging system.

The installer gives specific instructions on how the system should be controlled. Periodic commissioning installer's maintenance service is strongly recommended.

In user's best interest is predicting unexpected alarm conditions and making appropriate rules. It is vital to be able to verify the nature of the alarm, determine its source based on the keypad information, and taking appropriate action, for example, organizing evacuation.

⑤ - pressing for 3 sec.
activates alarm events stored in
memory review

①②③④ - pressing for 3 sec.
switch to controlling chosen
partition.

Controls 1+12 (zones state)

ON - zone violated

OFF - zone OK

fast flashing - alarm memory

on , short off every 2 sec. - zone tamper violated

short flash every 2 sec. - zone tamper alarm memory

slow flashing - zone bypassed

⑦ - pressing for 3 sec. activates
current trouble condition display

TROUBLE DISPLAY:

Control ON =

1,2,3 - Output 1,2,3 trouble

4 - AC fail

5 - Low battery

6 - Keypad supply fail

7 - Time lost

8 - Printer trouble

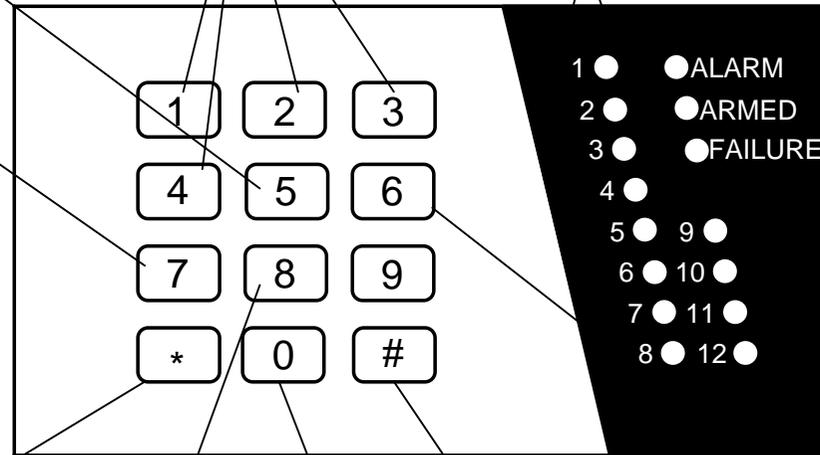
9 - Tel. line disconnect

10 - Tel. trouble (wrong signal)

11 - Tel. trouble (no signal)

12 - Output 4 trouble

all off - System memory fault



ALARM – flashes when an alarm
in partition occurs

ARMED
on – partition armed,
flashes – exit time in progress.

FAILURE on – indicates existence
of trouble conditions – press key
⑦ for 3 sec. to view trouble display

(*) - pressing for 3 sec. activates
FIRE ALARM

CODE+(*) - User Functions:

CODE*1 - change code

CODE *2 - new code/user

CODE *3 - delete code/user

CODE*4 - zone bypass

CODE *5 - arming silent

CODE *6 - time program

CODE *7 - switch MONO

CODE *8 - switch BI

CODE *9 - supply reset

CODE *0 - Downloading start

⑧ - pressing for 3 sec.
activates/deactivates
CHIME signaling

(#)-pressing for 3 sec. activates
PANIC ALARM

CODE+(#) – arm/disarm partition

⑩ - pressing for 3 sec.
activates
AUX. ALARM

⑥ - pressing for 3 sec. activates
trouble events stored in memory
review.

TROUBLE DISPLAY:

Control ON =

1,2,3 - Output 1,2,3 trouble

4 - AC fail

5 - Low battery

6 - Keypad supply fail

7 - Time lost

8 - Printer trouble

9 - Tel. line disconnect

10 - TLM trouble

11 - *not used*

12 - Output 4 trouble