KYO

Unit

MAIN UNIT MANUAL

BENTEL SECURITY

MADE IN ITALY

OHSAS 18001 9192.BSEC
OHSAS 18001 IT - 60983
ISO 14001 9191.BNT2
ISO 14001 IT-52588
ISO 9001 9105.BNT1
ISO 9001 IT-52587

This control unit supports the following keypads and key readers:
PREMIUM, CLASSIKA, MIA series, ALISON series, OMNIA/TAST-R, NC2/TAST, ICON/KP, ECLIPSE, ECLIPSE2
To keep things simple, this instruction manual refers only
to the PREMIUM and CLASSIKA keypads and ECLIPSE2 key readers.
If you require further information relating to the other types of keypad/Key Reader supported by this control unit, the previous version of this instruction manual may be downloaded from the web address www.bentelsecurity.com

KYO 4 M – KYO 8 M – KYO 8W M – KYO 32 M – KYO 4 P – KYO 8 P – KYO 8W P – KYO 32 P
KYO 8GWP-SW1 – KYO 8GWP-SW2 – KYO 8GWL-SW1 – KYO 8GWL-SW2
KYO 8G P-SW1 – KYO 8G P-SW2 – KYO 32G P-SW1 – KYO 32G P-SW2
KYO 8G L-SW1 – KYO 8G L-SW2 – KYO 32G L-SW1 – KYO 32G L-SW2
KYO16D
For all the Control Panels the performance level is II (unless otherwise specified).
The KYO16D performance level is I

Hereby, Bentel Security, declares the above mentioned Control Panels to be in compliance with the essential requirements and other relevant provisions of 1999/5/EC Directive.

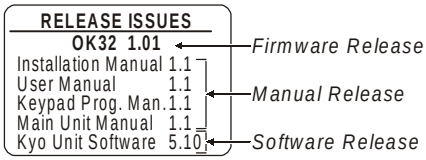
The complete R&TTE Declaration of Conformity for each Panel can be found at www.bentelsecurity.com/dc.html.

These Control Panels comply with **CEI 79-2 2· ed. 1993**.

Installation of these systems must be carried out strictly in accordance with the instructions described in this manual, and in compliance with the local laws and bylaws in force.
The above mentioned Control panels have been designed and made to the highest standards of quality and performance.
The manufacturer recommends that the installed system should be completely tested at least once a month.
BENTEL SECURITY Srl shall not assume the responsibility for damage arising from improper application or use.
The above mentioned Control panels have no user-friendly components, therefore,

IMPORTANT: The following information is for disassembled Control Panels ONLY.

Ensure that the Manual you are using corresponds to, or is higher than the one requested on the "**RELEASE ISSUES**" label (see below).



If the Manual/KYO Unit Software release does not correspond, DO NOT attempt to assemble or install the Control Panel.

The **Manual Release Number** can be found at the bottom of the last page, between the Code and Date, as shown in the Fig. below.

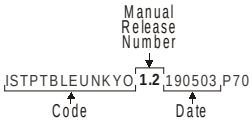


TABLE OF CONTENTS

SECTION 1 - INTRODUCTION

Certification Formalities

The KYO-Unit series can be purchased as out-of-the-box Control panels, or as separate package components. Bentel Security S.r.l declares that KYO-Unit separate package components comply with the essential requirements and other relevant provisions of Directive R&TTE 1999/5/CE — only when they are assembled by a security professional, and are used as part of one of the Control panels provided for in Section 3, and indicated in Table 1.1. in this Manual. Bentel Security S.r.l. declares that CE Certification is not applicable when KYO separate package components are improperly assembled or used.

General Features

This Manual is designed for anyone using a Control panel from the KYO range. Most of the features described in this Manual are included on all KYO Control panels (refer to Table 1.1). However, some features are included on certain models only, in such cases, the Control panel will be specified.

Control Panel

- **KYO4** - 4 fully-programmable input-zones
  KYO8 - 8 fully-programmable input-zones
  KYO16 - 6 fully-programmable input-zones (can be doubled to 12)
- Expandable to 32 Input Zones via optional M-IN/OUT Expanders (only for KYO 32 series Control panels)
- 1 Balanced 24h Tamper Zone (Not available for KYO16D)
- 1 Programmable Alarm Output: 1A relay (3A on '**G**' models)
- Auxiliary Open-Collector Outputs (OC):
  2 x 150 mA for KYO 16D
  3 x 150 mA for KYO 4, KYO 8, KYO 8W and KYO 32 series
  5 x 500 mA for KYO 8 G, KYO 8 GW and KYO 32 G series
  Expandable to 14 (5x500 and 9x150 mA) Outputs for KYO 32 series
  Expandable to 16 (5x500 and 11x150 mA) Outputs for KYO 32 G series
- Metal box (Model **M** or **L**) or Plastic Box (Model **P**)
- Accepts Conventional Fire Detectors, and provides restoral facility
- Supports up to 8 Keypads (4 for KYO 16D)
- Supports up to 16 Readers (8 for KYO 16D)
- Accepts up to 128 SAT Keys and/or PROXI-CARDs
- Manages 4 independent Partitions (8 for KYO 32 and KYO 32 G)
- 3 Arming Modes (Global, A Mode and B Mode): A and B Mode can be programmed as: Away, Stay or Stay with no Entry delay

- Auto-Arming for each Partition on Daily or Weekly basis
- 24 Programmable Codes (4 to 6 digits)
- Partition Bypass for Patrol purposes with automatic or manual Rearming
- Can be programmed from an LCD or LED Keypad
- Can be programmed from a computer via RS232 link cable or via telephone
- Power Supplies:

  Integrated 1A linear Power Supply in KYO 4, KYO 8, KYO 8W, KYO 32 and KYO 16D

  1.5A Switching Power Supply in SW1 Models

  3A Switching Power Supply in SW2 Models

Digital Dialler

- Touch-tone (MF) or Pulse dialling
- Manages 8 Telephone numbers for Teleservice and Central Station calls
- Supports the following Reporting Formats:
  ADEMCO / SILENT KNIGHT - Slow 10 baud - 3/1, 4/1, 4/2
  ADEMCO / SILENT KNIGHT - Fast 14 baud - 3/1, 4/1, 4/2
  FRANKLIN / SECOA / DCI-VERTEX - Fast 20 baud - 3/1, 4/1, 4/2
  RADIONICS - 40 baud - 3/1, 4/1, 4/2
  SCANTRONIC - 10 baud - 3/1, 4/1, 4/2
  CONTACT ID
  CESA
  SIA (Only for KYO16D)
- Accepts commands from touch-tone phones (Arm, Disarm, Turn ON/OFF Main board Outputs; Remote Talk/Listen-in — requires optional NC2/VOX Voice Board. Not available for KYO 16D.
- Manages Voice Calls (requires optional NC2/VOX Voice Board). Not available for KYO 16D.
- Remote Telephone Access via **Dialler** or **Answer** Mode. Not available for KYO 16D.
- Remote Talk/Listen-in (requires optional NC2/VOX Voice Board). Not available for KYO 16D.
- 128 event memory with date and time datails (256 events for KYO8W-16D and 32 series).
- 3 function keys for immediate Alarm calls from Keypad
- Programmable Test Call
- Teleservice Management
- Double Call
- Line-sharing Management

About the System

The Control panel The **Control panel** is made up of a Control Unit, Digital Communicator and Modem. It can be controlled from remote Keypads and/or Digital Key/Card Readers.

The Digital Communicator The **Digital Communicator** can call up to 8 Telephone numbers for Teleservice and communication to Central Stations. You can program the system to report events using any one of the supported formats.

Voice Messages using NC2/VOX (Not for Kyo 16D) The **NC2/VOX** Voice board (accessory item) will allow the Communicator to send 8 Voice messages to up to 8 Telephone numbers. The **NC2/VOX** Voice board also provides the Talk/Listen-in feature.

Teleservice The **B-Mod2** Modem and Management software will allow you to program, control and Teleservice (provide remote maintenance) from a remote computer.

Table 1.1 - Version

Version	Component				
	PCB	Box	Transf. TRF	Power Supply BAQ15T12	Power Supply BAQ35T12
KYO 4 M	K4	BOX-M	●		
KYO 8 M	K8	BOX-M	●		
KYO 8W M	K8W	BOX-M	●		
KYO 16 D	K16D	BOX-M	●		
KYO 32 M	K32	BOX-M	●		
KYO 4 P	K4	BOX PLUS	●		
KYO 8 P	K8	BOX PLUS	●		
KYO 8W P	K8W	BOX PLUS	●		
KYO 32 P	K32	BOX PLUS	●		
KYO 8G P-SW1	K8G	BOX PLUS		●	
KYO 8GWP-SW1	K8GW	BOX PLUS		●	
KYO 32G P-SW1	K32G	BOX PLUS		●	
KYO 8G P-SW2	K8G	BOX PLUS			●
KYO 8GWP-SW2	K8GW	BOX PLUS			●
KYO 32G P-SW2	K32G	BOX PLUS			●
KYO 8G L-SW1	K8G	BOX-L		●	
KYO 8GWL-SW1	K8GW	BOX-L		●	
KYO 32G L-SW1	K32G	BOX-L		●	
KYO 8G L-SW2	K8G	BOX-L			●
KYO 8GWL-SW2	K8GW	BOX-L			●
KYO 32G L-SW2	K32G	BOX-L			●

Telemonitoring

The **B-Mod2** Modem and the **WinBCS software** will allow you to program, control, Teleservice and Monitor the system from a remote computer.

Accessing the system using a remote Touch-tone Telephone

All Events, Alarms and Troubles, complete with Customer and Event details will be logged on the Event Logger.

The User can access the system over the phone, in order to:

- Arm/Disarm the system
- Turn ON/OFF Reserved Outputs
- Activate Talk/Listen-in sessions (NC2/VOX required). Not management for KYO16D.

Programming the system

This Control panel can be programmed:

a) on-site, using an LCD or LED Keypad (accessory item);
b) on-site, using an RS232 Computer link;
c) from remote computer, using a modem and downloading software.

Control panel Versions

Table 1.2 - Functional differences between Models

Model	Wireless Management	Features		
		Partition	Input (Zone)	O.C. Output
KYO 4 M • KYO 4 P	No	4	4	3 x 150 mA
KYO 8 M • KYO 8 P	No	4	8	3 x 150 mA
KYO 8W M • KYO 8W P	Yes	4	8	3 x 150 mA
KYO 16D	Yes	4	6 (12 if 'Double')	2 x 150 mA
KYO 32 M • KYO 32 P	Yes	8	8 Expandable to 32*	3 x 150 mA Expandable to 14 **
KYO 8G Series	No	4	8	5 x 500 mA
KYO 8GW Series	Yes	4	8	5 x 500 mA
KYO 32G Series	Yes	8	8 Expandable to 32*	5 x 500 mA Expandable to 16 **

* *The M-IN/OUT Expander Module manages 6 Inputs*

** *The M-IN/OUT Expander Module manages 6 OC Outputs — 150 mA (6 x 150 mA)*

Components and Accessories

Table 1.3 - Components and Accessory Items	
Code	**Description**
K4 - K8 - K8W - K32	PCB for KYO4, KYO8, KYO8 W and KYO32
K8G - K8GW - K32G	PCB for KYO8 G, KYO8 GW and KYO32 G
K16D	PCB for KYO16D
BOX-M	Metal box for **M** Models
BOX PLUS	Plastic box for **P** Models
BOX-L	Metal box for **L** Models
TRF	17 Vac - 1.5 A Power Transformer
BAQ15T12	1.5 A Switching Power Supply for **SW1** Models
BAQ35T12	3 A Switching Power Supply for **SW2** Models
BKP-LED **BKP-LCD**	PREMIUM keyboards: LCD (BKP-LCD) and LED (BKP-LED)
BKB-LED **BKB-LCD**	CLASSIKA keyboards: LCD (BKB-LCD) and LED (BKB-LED)
BKP-BOX	Flush mounting kit (Only for PREMIUM BKP-LED and BKP-LCD)
ECL2-UKR (ECLIPSE2)	Universal Reader Module for digital key, without contacts and designed for recessed installation
ECL2-C	Cover for ECL2-UKR Universal Reader Module (for the list of types, see Table 1.3 in the Installation Manual)
PROXI	Proximity Reader
SAT	Digital key for ECLIPSE and PROXI Readers
PROXI-CARD	PROXI Card
NC2/VOX	Voice Board
VOX-REM	Talk/Listen-In Zone Expander Module (Microphone + Loudspeaker)
M-IN/OUT	6 Input/Output Expander Module
OMNIA/4R	4 relay Module for Output Expanders
KISUNIT	Manual Kit
VECTOR/RX - /RX8	Wireless Receiver
ARC20	Wireless Key for Vector/RX and Vector/RX8
AMD20	Wireless Pet Immune PIR for Vector/RX and Vector/RX8
AMC30	Wireless Magnetic Contact for Vector/RX and Vector/RX8
ASD20	Wireless Smoke Detector for Vector/RX and Vector/RX8
B-Mod2	Teleservice and Telemonitoring Modem
SECURITY SUITE	Management Software
CVSER/9F9F	Computer Serial Link
ADSER/9M25F	Adapter for CVSER/9F9F link cable for 25 Pole Serial Ports (DB-25)
KST	Thermal Probe (for **G** Models only)
OVC-Link	Output Voltage Control wire (for **G** Models only)
ASNC	Microswitch provides Snatch/Tamper protection for BOX PLUS
MINI-ASNC	Snatch Microswitch for PROXI-READERs
MAXI-ASNC	Tamper Microswitch for Metal boxes (BOX-M and BOX-L)

Technical Specifications

Table 1.4 - Technical Specifications						
Control Panels						
Specifications	**Values**					
	KYO 4M - 8M KYO 8W M KYO 32 M KYO 16D	KYO 4 P KYO 8 P KYO 8W P KYO 32 P	KYO 8 G P-SW1 KYO 8 GWP-SW1 KYO 32 G P-SW1	KYO 8 G L-SW1 KYO 8 GWL-SW1 KYO 32 G L-SW1	KYO 8 G P-SW2 KYO 8 GWP-SW2 KYO 32 G P-SW2	KYO 8 G L-SW2 KYO 8 GWL-SW2 KYO 32 G L-SW2
Voltage	230V~ 50Hz ±10%		100÷240 V~ 47÷63Hz		230V~ 50Hz ±10%	
Maximum Current draw	0,2 A		0,42 A		0,5 A	
Maximum Power	45 W		50 W		115 W	
Power Supply Battery-charger	13.8 V⎓ ±1% / 1 A 13.8 V⎓ ±1%/0.8 A **(Kyo16D)**		13.8 V⎓ ±2% / 1.5 A		13.8 V⎓ ±1% / 3 A	
Insulation Class	I					
Maximum Current available for peripherals	0.6 A 0.4 A **(Kyo16D)**		1 A		2.3 A	
Max. Battery Charge Current	0.3 A				0.5 A	
Battery Housing (Brand and Type)	12V - 7Ah (17Ah in "**L**" models) YUASA NP7-12 FR or Equivalent with UL94-V2 (or superior) Case Flame Class					
IP Protection Level	IP30					
Recognized MF Tones	Minimum Level 200 mVpp (-23 dBV) (Not management fori KYO 16D)					
Operating Temperature	+5 ÷ +40° C					
Dimensions mm (W x H x D)	241 x 279 x 87	309 x 227 x 89		339 x 488 x 108	309 x 227 x 89	339 x 488 x 108
Weight (without Battery)	2.7 Kg	1.8 Kg	1.2 Kg	5.3 Kg	1.3 Kg	5.4 Kg
Complies with CEI Normative Laws	EN 60950:2000 - EN50081-1:1992 - EN50130-4:1995+A1:1998 - CEI 79-2 2ª ed. 1993					

COMPONENTS and ACCESSORY ITEMS			
Description		**Max. Current Draw (mA)**	**Dimensions (W x H x D) mm**
Main Board	K16D	100	122 x 105
	K4-K8-K8W-K32	100	122 x 118
	K8G-K8G-K32G	150	166 x 109
Key pad	**PREMIUM LED**	70	134 x 114 x 28.5
	PREMIUM LCD	70	134 x 114 x 28.5
	CLASSIKA LED	40	144.5 x 115 x 27.5
	CLASSIKA LCD	40	144.5 x 115 x 27.5
Reader	ECLIPSE2	50	20 x 44 x 48 (with cover)
	PROXI	30	78 x 108 x 22
Exp. M-IN/OUT		50	108 x 101 x 34
NC2/VOX Voice Board		30	58 x 71
VectorRX Receiver - RX8		50	146 x 290 x 28

SECTION 2 - IDENTIFICATION OF COMPONENTS

The numbers in boldface in square brackets "[ ]", in this and other Manuals relevant to this product, refer to the components described in this section.

KYO 4 M — KYO 8 M — KYO 8W M — KYO 32 M

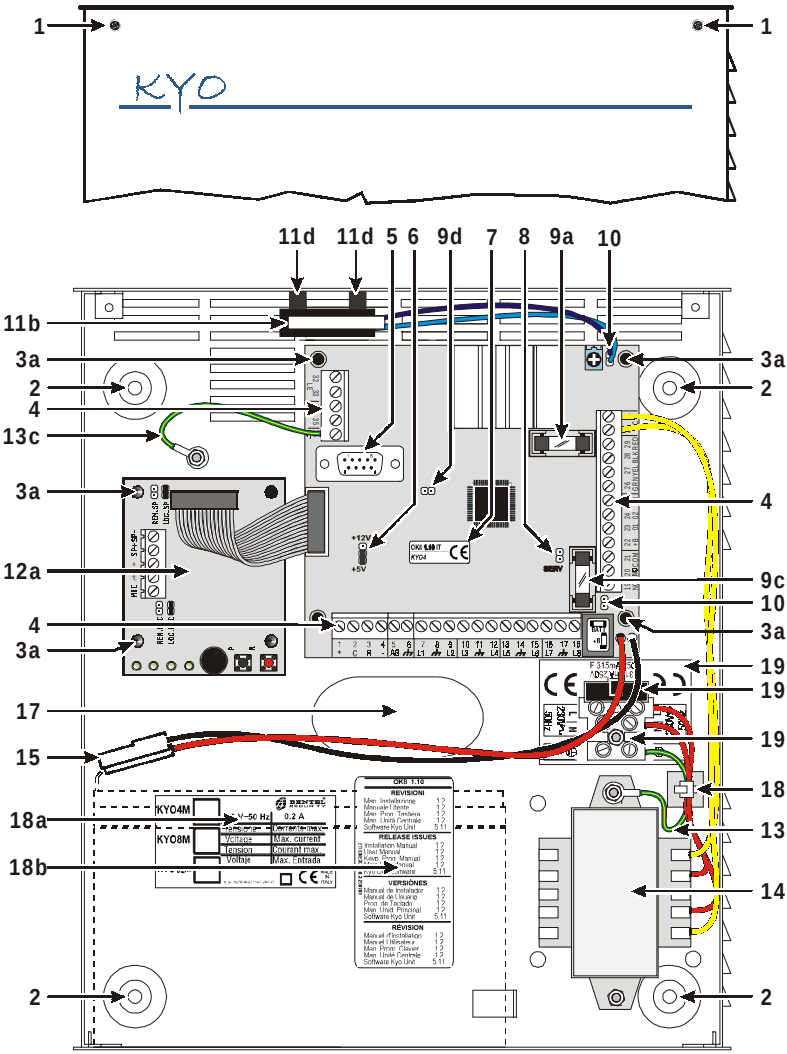


Fig. 2.1 - KYO 32 M Control panel complete with NC2/VOX Voice Board (accessory item)

KYO 4 P — KYO 8 P — KYO 8W P — KYO 32 P

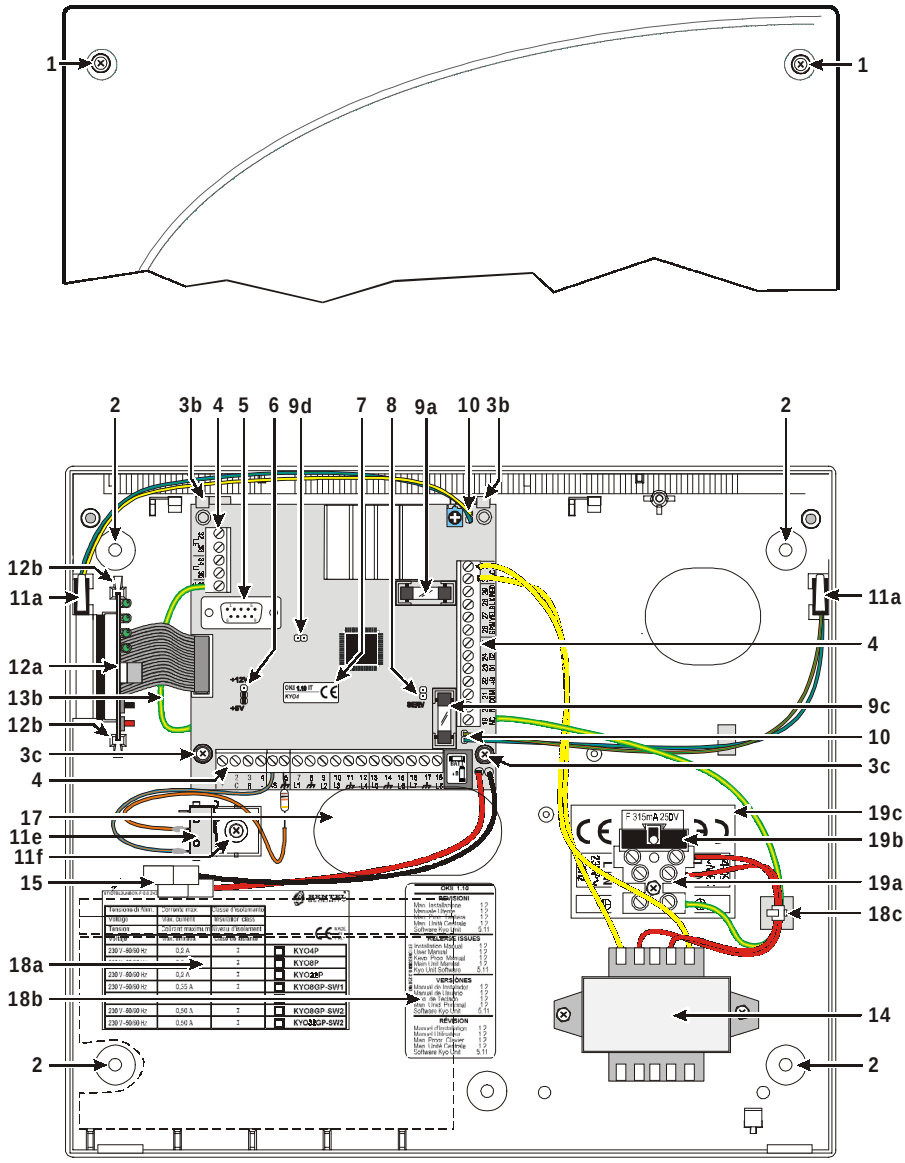


Fig. 2.2 - KYO 32 Control panel complete with NC2/VOX Voice Board (accessory item)

KYO 8G P-SW1 — KYO 8GWP-SW1 — KYO 32G P-SW1

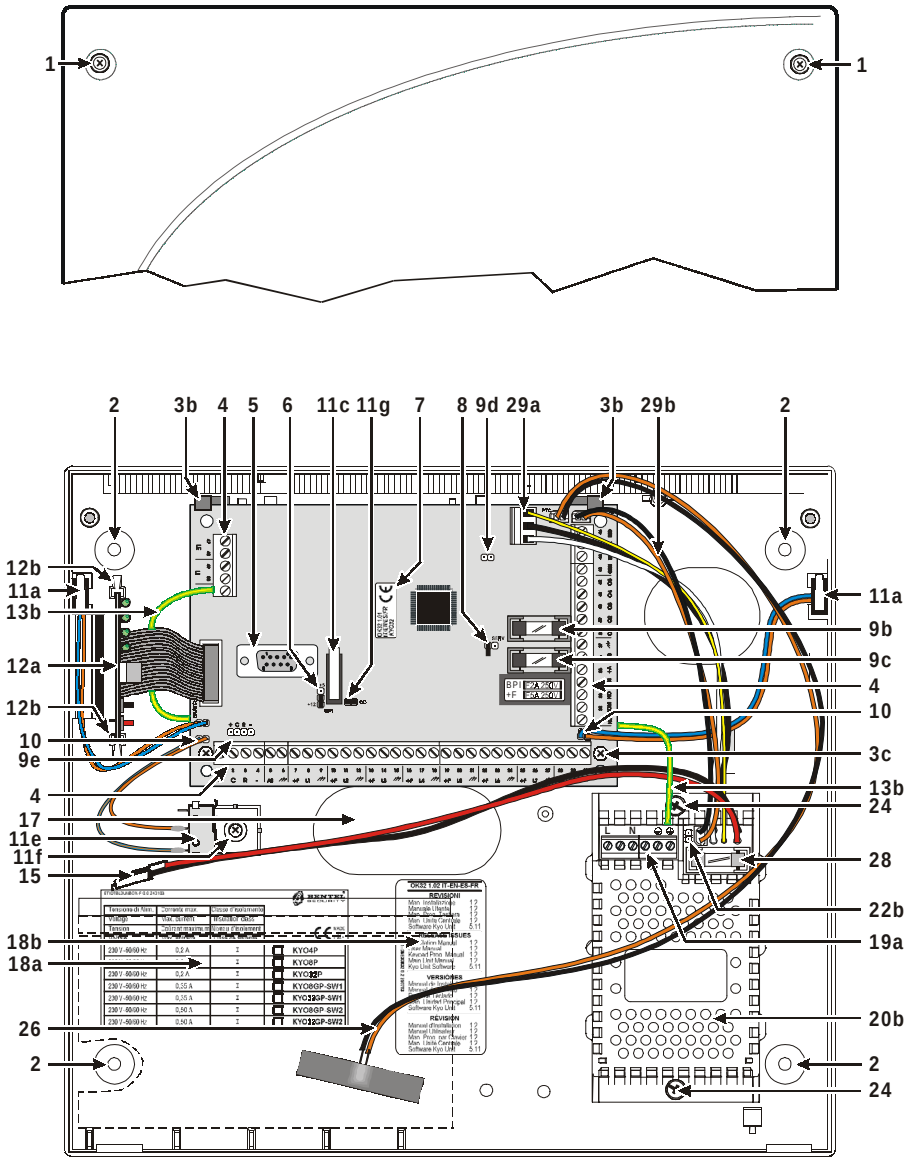


Fig. 2.3 - KYO 32G P-SW1 Control panel complete with NC2/VOX Voice Board (accessory item)

KYO 8G P-SW2 — KYO 8GWP-SW2 — KYO 32G P-SW2

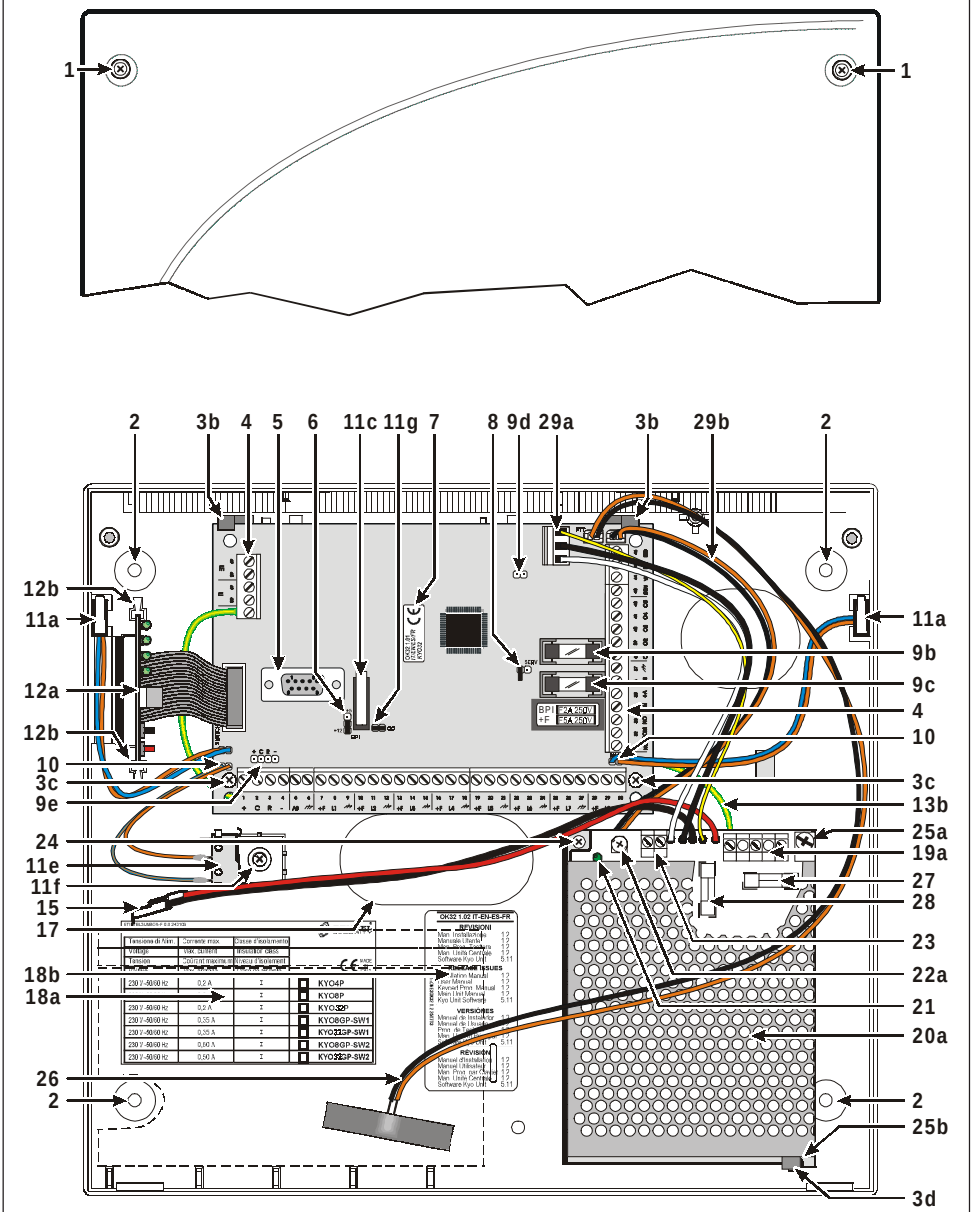


Fig. 2.4 - KYO 32G P-SW2 Control panel complete with NC2/VOX (accessory item)

KYO 8G L-SW1 — KYO 8GWL-SW1 — KYO 32G L-SW1

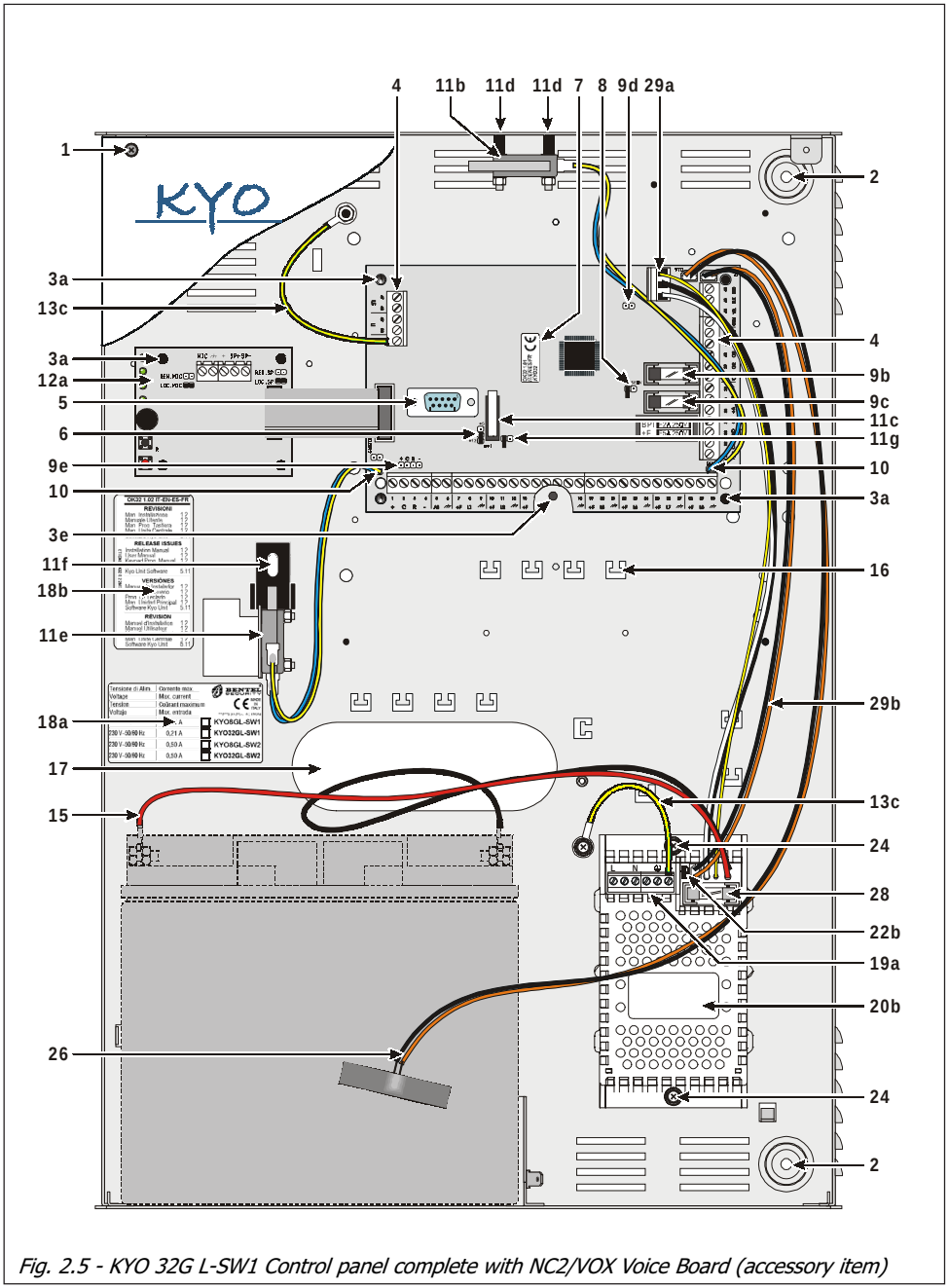


Fig. 2.5 - KYO 32G L-SW1 Control panel complete with NC2/VOX Voice Board (accessory item)

KYO 8G L-SW2 — KYO 8GWL-SW2 — KYO 32G L-SW2

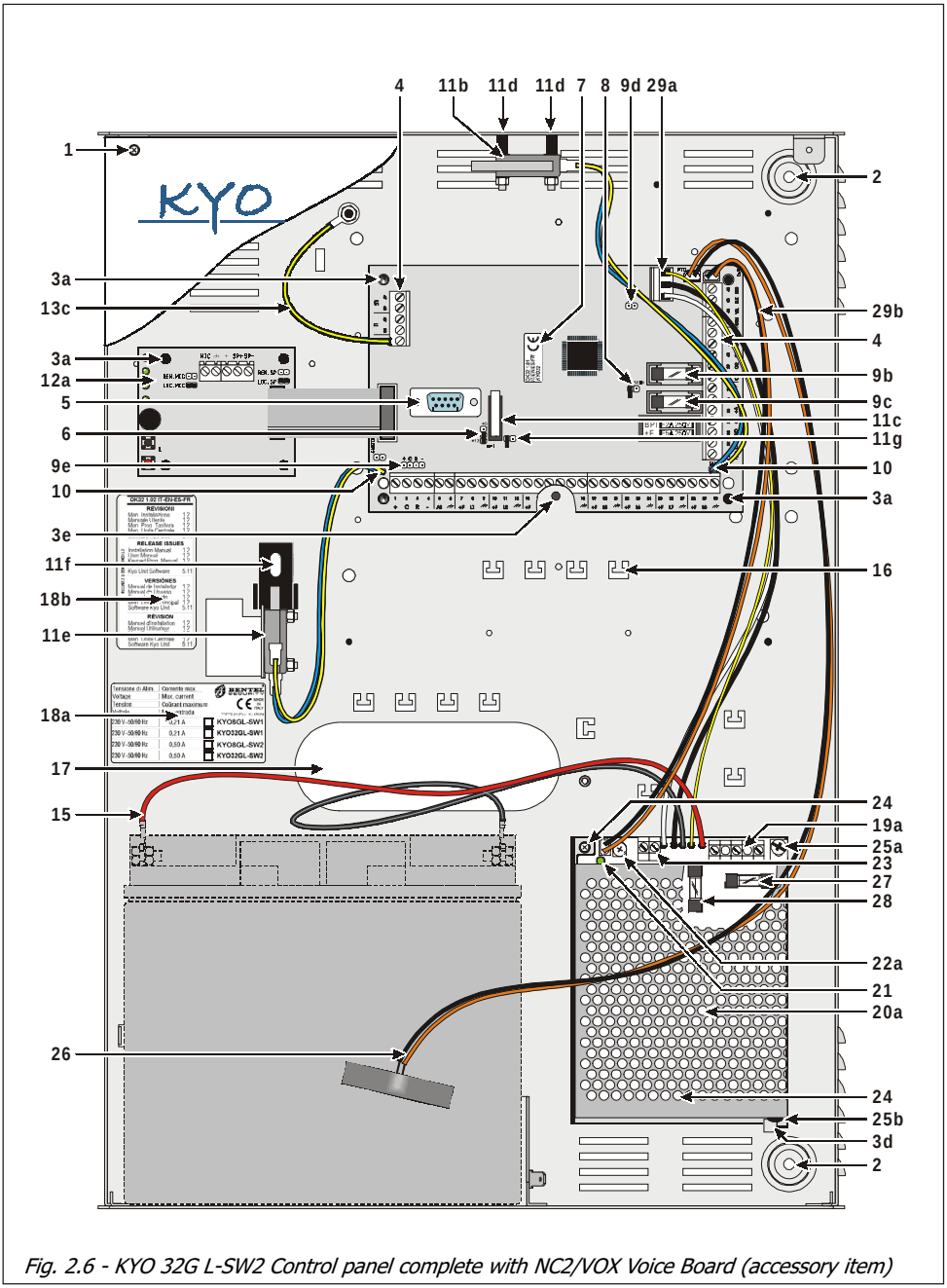


Fig. 2.6 - KYO 32G L-SW2 Control panel complete with NC2/VOX Voice Board (accessory item)

KYO 16D

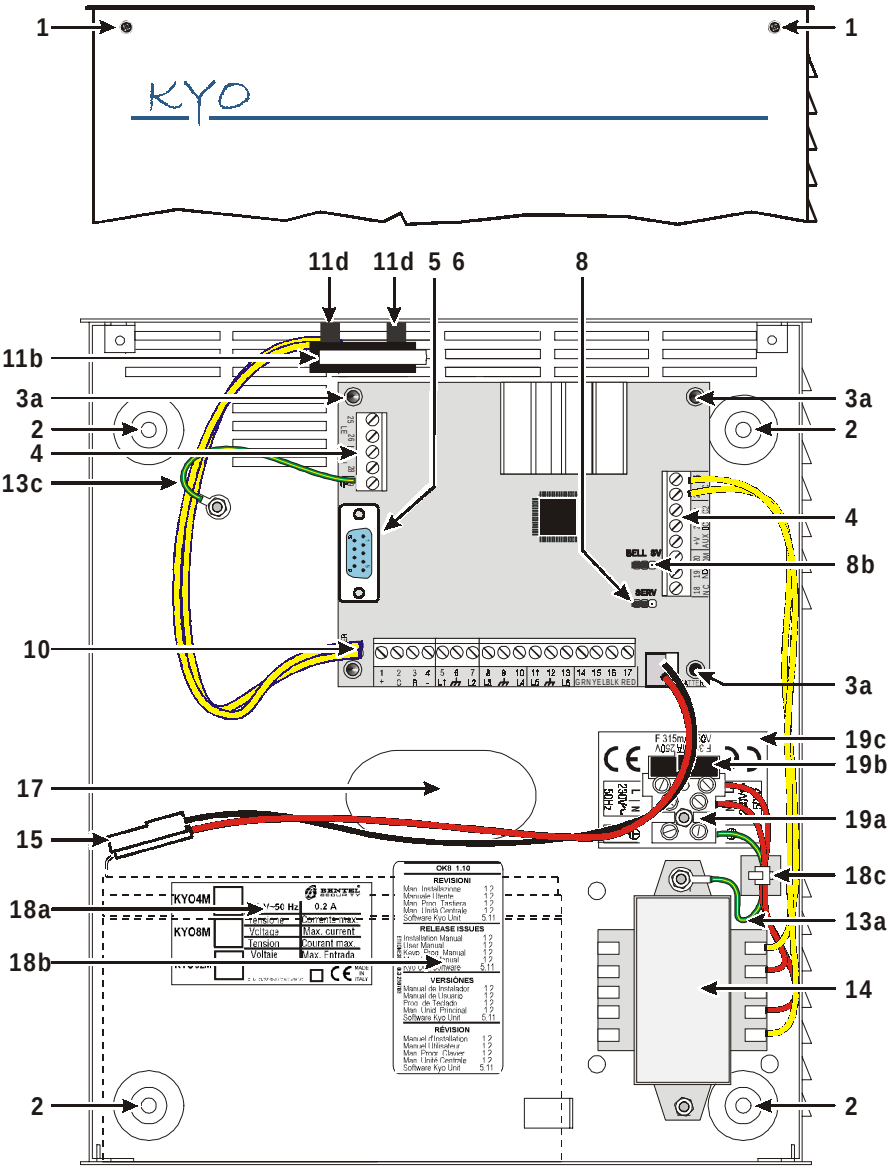


Fig. 2.7 - KYO 16D Control panel

Table 2.1 - Identification the Main Unit Parts	
Part	**Description**
1	Frontplate Screws (2)
2	Locations (4) for backplate screws (Ø = 5 mm)
3a	Reverse locking PCB supports (see Figure 3.3)
3b	PCB location Tabs
3c	Locations (2) for PCB screws
3d	Arrester for BAQ35T12 Switching Power-Supply/Battery Charger
3e	13 mm plastic support
4	Terminal Board
5	DB-9 male connector for computer link
6	BPI Level Jumper: 12V⊙▬5V ⇨ 5 V (at default); 12V▬⊙5V ⇨ 12 V *NOTE - This jumper is not present in KYO16D Control Panel (KYO16D work only with 12V BPI level).*
7	Firmware Release label
8	Stop Alarm Jumper: **Open** (Ⓟ) ⇨ Alarms Uninhibited (default); Stop Alarm Jumper: **Closed** (▬) ⇨ Alarms Inhibited *For **KYO16D:*** ▬⊙ ⇨ Alarms Uninhibited (default); ⊙▬ ⇨ Alarms Inhibited
8b	***Only for KYO16D*** - Jumper for Not Self-Powered Siren Supervision. ▬⊙ ⇨ Supervision Inhibited (default); ⊙▬ ⇨ Supervision Uninhibited
9a	**BATT** Fuse: F8A - 250V
9b	**BPI** Fuse (Fuse — protects BPI Bus [**+**] terminal): F2A - 250V
9c	**+B** Fuse: F5A - 250V (K4, K8, K8W and K32 boards) **+F** Fuse: F5A - 250V (Only for '**G**' boards)
9d	Reserved Jumper
9e	Auxiliary Connector for BPI Devices (K8G, K8GW, K32 and K32G boards ONLY)
10	Connector for Tamper and Snatch Microswitches (N.O. at default)
11a	Tamper Microswitch for BOX PLUS (Accessory Item, code ASNC)
11b	Tamper Microswitch for BOX-M and BOX-L (Accessory Item, code MAXI-ASNC)
11c	On-Board Tamper Microswitch (Only for '**G**' PCBs)
11d	Plastic spacers (2): inside the MAXI-ASNC Tamper Microswitch package
11e	Snatch Microswitch (Accessory Item)
11f	Snatch Microswitch bracket
11g	Jumper for on-board Tamper-Microswitch [**11c**]: **Open** (⊙⊙) ⇨ Microswitch disabled, **Closed** (▬) ⇨ Microswitch enabled (at default)
12a	Optional Voice Board (Order Code: NC2/VOX — refer to Section 5)
12b	Voice Board Holder
13a	Earth Wire
13b	Earth Wire on PCB ⏚ terminal (L=400 mm)
13c	Earth Wire on PCB ⏚ terminal (L=120 mm)
14	Power Transformer — 220-17Vac-1.5A (Order Code: TRF)

Table 2.2 - Identification of the Main Unit and Switching Power Supply Components	
Part	**Description**
15	Battery wires
16	Cable supports
17	Cable entry
18a	Marking ticket
18b	Release Label
18c	Cable Tie Bases
19a	Mains Screw Terminal — for Mains and Earth
19b	General protection Fuse: F315MA - 250V
19c	Adhesive Label
20a	BAQ35T12 Switching Power Supply
20b	BAQ15T12 Switching Power Supply
21	Mains LED (**ON** = Mains OK)
22a	Fine Adjustment Trimmer
22b	KST Jumper — **If you are connecting a KST Thermal Probe to the battery, this jumper must be inserted.**
23	Auxiliary Terminals for system peripheral (**Output** = 13.8 Vcc)
24	Screw to secure the Switching Power Supply to the backplate: 1 x BAQ35T12 - 2 x BAQ15T12
25a	Screw for the Switching Power Supply
25b	Snap Rivet
26	Thermal probe — to be fitted to the battery (Order Code: KST)
27	Fuse — protects Switching Power Supply (F2A-250V)
28	Fuse — protects against Battery polarity inversion (F6.3A-250V)
29a	Connector for the Switching Power Supply
29b	OVC-Link wire (Output Voltage Control)

Table 2.3 - Identification of the NC2/VOX Components	
Part	**Description**
35	MIC Jumper: ⊂⊃ (at Default) - NC2/VOX Microphone Enabled ⊂⊃ - NC2/VOX Microphone Disabled
36	REM-MIC Jumper: ⊂⊃ (at Default) - VOX-REM Remote Microphone Disabled ⊂⊃ - VOX-REM Remote Microphone Enabled
37	Terminal board for VOX-REM Module
38	SPK Jumper: REM ⊂⊃ LOC - VOX-REM Remote Speaker Enabled NC2/VOX Loudspeaker Disabled REM ⊂⊃ LOC - (at Default) NC2/VOX Loudspeaker Enabled VOX-REM Remote Speaker Disabled
40	Flat Cable
41	Microphone
42	PLAY button
43	RECORD button
44	Status LEDs

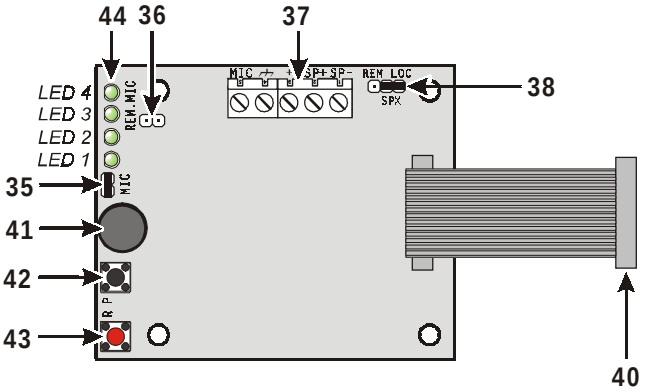


Fig. 2.8 - NC2/VOX Voice Board Components

SECTION 3 - MOUNTING THE COMPONENTS

Introduction

Please read this section to get an overall view of the steps involved in installing Control panels from the KYO Unit range.

The end of the stranded conductor must not be soft soldered in places where it is subject to contact pressure. The Mains wiring must comply with the rules for double or reinforced insulation. Use an adhesive cable grip to secure the wires to the terminal boards.

Boxes and Accessories

Metal and Plastic boxes are available.

Metal box BOX-M

The **Metal Box** (BOX-M) kit includes the following parts:

- 18 Balance Resistors — 10 Kohm
- 4 plastic PCB supports
- 1 x 12cm Earth wire (Yellow-Green) with eyelet [**13c**]
- 4 hexagonal nuts — M3
- 2 Parker screws — 2.9 x 7.5 to secure the Frontplate

Plastic box BOX PLUS

The **Plastic Box** (BOX PLUS) kit includes the following parts:

- 18 Balance Resistors — 10 Kohm
- 1 x 40 cm Earth wire (Yellow-Green) without eyelet [**13b**]
- 2 Parker screws — 2.9 x 7.5 to secure the PCB
- 1 Parker screw — 2.9 x 9.5 to secure the BAQ35T12 Switching Power Supply
- 2 Parker screws — 3.9 x 9.5 to secure the Frontplate
- 1 Parker screw — 3 x 14.2 to secure the Mains Screw Terminal
- 2 Parker screws — 3 x 8 to secure the Transformer or BAQ15T12.

Large Metal Box BOX-L

The **Large Metal Box** (BOX-L) kit includes the following parts:

- 18 Balance Resistors — 10 Kohm
- 1 x 13 mm plastic support for the PCB
- 4 plastic supports for the PCB
- 2 x 12 cm Earth wire (Yellow-Green) with eyelet [**13c**]
- 1 hexagonal nut — M3
- 1 plastic Snatch microswitch bracket [**11e**]
- 2 x 3mm cogged metal washers
- 2 screws 3x6
- 2 screws 3x8
- 2 Parker screws — 2.9 x 7.5 to secure the frontplate
- 1 “Protected Enviroment” label

Installing the Transformer and Mains Screw Terminal - Fused

The **Transformer** (see Fig. 3.1) package includes the following parts:

- 1 Mains Screw Terminal - Fused [**19a**] — 500 mA
- 1 Adhesive Label [**19c**] for the Mains Screw Terminal
- 1 x 12 cm Earth wire (Yellow-Green) with eyelet [**13a**] for earthing the Metal box or Transformer

To install the Transformer (Order Code **TRF**), work carefully through the following steps (refer to Fig. 3.1).

Metal box (BOX-M)

1. Stick the label [**19c**] onto the backplate (one aperture must be positioned over the fixed screw, and the other over the Mains Terminal [**19a**] screw location.
2. Fit the Mains Screw Terminal [**19a**] onto the fixed screw (as indicated on the label) then, using the hexagonal nut, secure it to the backplate.
3. Mount the Transformer onto the 2 fixed screws (M3x10) on the backplate of the Metal box.
4. Fit the eyelet terminal [**13a**] to the fixed screw (as shown in Fig. 3.2a) then, using two hexagonal nuts, secure the transformer to the backplate.
5. Connect the Transformer primary (**RED** wires) to terminals [**N**] and [**L**].
6. Connect the free end of the Earth wire [**13a**] to the [⏚] terminal on the Mains Screw Terminal [**19a**] (as shown in Fig. 3.2a).

*Use the cable tie bases (refer to **[18c]** in Fig. 2.1) to bunch the Red wires of the Transformer and the Earth wire **[13a]**.*

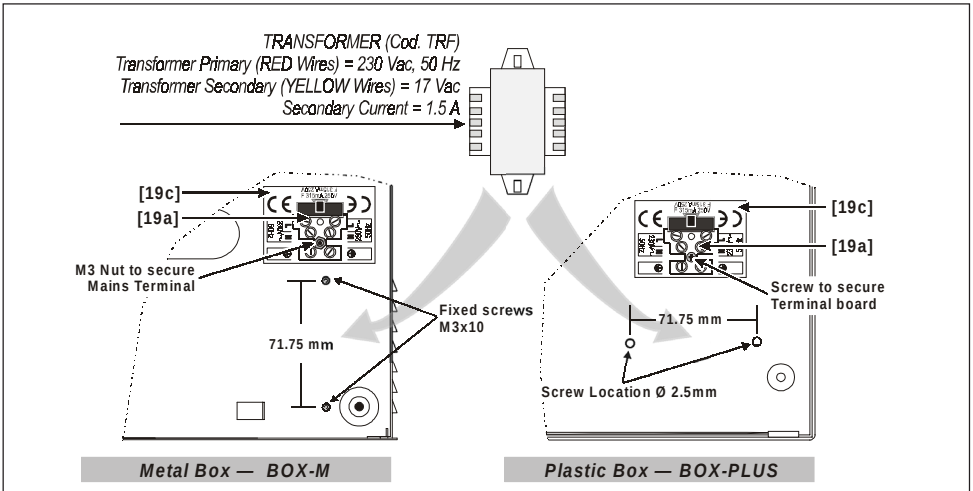


Fig. 3.1 - Installing the Transformer and Mains Terminal board

Plastic box (BOX PLUS)

1. Stick the label [**19c**] onto the backplate (as shown in Fig. 3.1). Ensure that the 2 label holes correspond to the 2 holes on the backplate.
2. Place the Mains Screw Terminal onto the screw location (Ø 2.5) then, using the Parker screw (3 x 14.2) secure it to the backplate.
3. Using the 2 holes on the backplate as reference, mount the Transformer [**14**] (as shown in Fig. 3.2b).
4. Using the two 3 x 8 parker screws, secure the Transformer to the backplate.
5. Connect the Transformer primary (**RED** wires) to terminals [**N**] and [**L**].

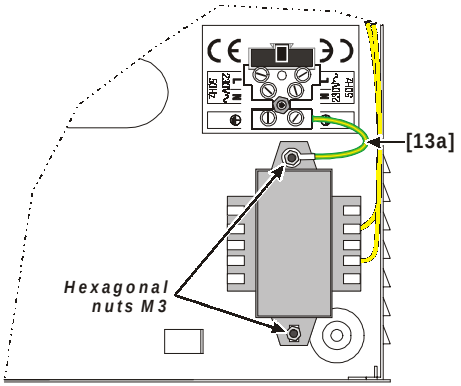


*Fig. 3.2 - Connecting the Earth wire [**13a**]*

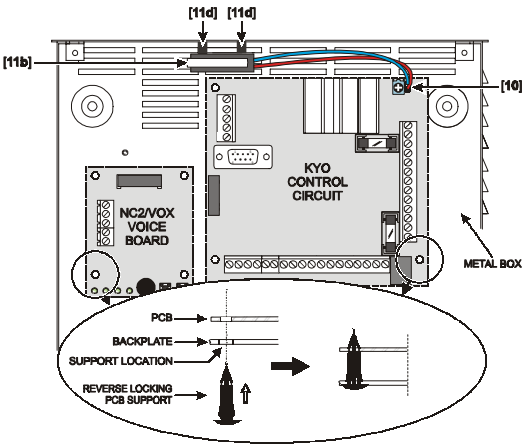


Fig. 3.3 - Fitting the Reverse Locking PCB Supports

Mounting K4-K8-K8W-K16D-K32 PCBs

Please read this section to get an overall view of the steps involved in installing **K4**, **K8**, **K8W**, **K16D** and **K32** PCBs in Metal and Plastic boxes.

Metal box (BOX-M)

For the following procedure, see Fig. 2.1.

1. Insert the 4 reverse locking PCB supports [**3a**] into their locations on the backplate, then attach the PCB. If you are installing an NC2/VOX Voice Board, insert the supports (LEDs to the bottom), then attach the NC2/ VOX Voice board (see Fig. 3.3).
2. Using a hexagonal nut (M3), secure the Earth wire (Yellow-Green) eyelet [**13c**] to the screw (M3x10) on the backplate.
3. Connect the other end of the Earth wire (Yellow-Green) to terminal 36 (⏚) on the PCB.
4. Connect the Transformer secondary (**YELLOW** wires) to terminals 30-31 (**AC**) on the PCB.
5. If you are fitting a Tamper microswitch [**11b**], insert the two spacers [**11d**] then, using the two hexagonal nuts(M3), secure it to its location (see Fig. 3.3). Connect the wire to the connector [**10**].

Plastic box (BOX PLUS)

For the following procedure, see Fig. 2.2.

1. Slide the PCB under the 2 tabs [**3b**].
2. Using the 2 (2.9 x 7.5) Parker screws (in screw locations [**3c**]), secure the PCB to the backplate.
3. Connect one end of the Earth wire (Yellow-Green) [**13b**] to the [⏚] terminal (36) on the PCB, and the other to the [⏚] terminal on the Mains Screw Terminal [**19a**].

   *Use the cable tie bases (refer to [**18c**] in Fig. 2.2) to bunch the Red wires of the Transformer and the Earth wire [**13b**].*
4. Connect the Transformer secondary (**YELLOW** wires) to terminals 30-31 (**AC**) on the PCB.
5. If you are fitting a Tamper microswitch [**11a**], insert it into its location, then connect the wire to one of the two connectors [**10**] on the PCB. The second connector [**10**] can be used for an external Tamper microswitch (on the outside of the cabinet).
6. If you are fitting a Snatch microswitch [**11e**], insert it into its location, then connect the wire to terminals no. 5 and no. **6** (**AS**) and connect, in series, a 10 Kohm EOL resistor.

   NOTE: Cut off the Snatch microswitch connector before connecting the wire.

Installing 'G' series PCBs (K8G-K8GW-K32G)

Please read the following instructions, to get an overall view of the steps involved in installing **K8G, K8GW** and **K32G** PCBs. "**G**" series PCBs can be installed in plastic boxes (**BOX PLUS**) and large metal boxes (**BOX-L**).

Plastic box (BOX PLUS)

For the following procedure, refer to Fig. 2.3 and Fig. 2.4.

1. Slide the PCB under the 2 tabs [**3b**].
2. Using the 2 (2.9 x 7.5) Parker screws (in screw locations [**3c**]), secure the PCB to the backplate.
3. If you are fitting a Tamper microswitch [**11a**], insert it into its location, then connect the wire to one of the two connectors [**10**] on the PCB (see Fig. 2.3 or 2.4). The second connector [**10**] can be used for an exterrnal Tamper microswitch (on the outside of the cabinet).
4. If you are fitting a Snatch microswitch [**11e**], insert it into its location, then connect the wire to connector [**10**].

Metal box (BOX-L)

For the following procedure, refer to Fig. 2.5 and Fig. 2.6.

1. Insert the plastic support [**3e**] into its location.
2. Insert the 4 reverse locking PCB supports [**3a**] into their locations on the backplate, then attach the PCB (see Fig. 3.3). If you are installing an NC2/VOX Voice Board, insert the supports [**3a**], then attach the NC2/VOX Voice board (LEDs to the left).
3. Using a hexagonal nut (M3), secure the Earth wire (Yellow-Green) eyelet [**13c**] to the soldered screw on the backplate.
4. Connect the other end of the Earth wire (Yellow-Green) [**13c**] to terminal 51 (⏚) on the PCB.
5. If necessary, remove the Jumper [**11g**] in order to disable the Tamper microswitch [**11c**].
6. If you are fitting a Tamper microswitch [**11b**], insert the two spacers [**11d**] then, using the two hexagonal nuts (M3), secure it to its location (see Fig. 3.3). Connect the wire to the connector [**10**].
7. If you are fitting a Snatch microswitch [**11e**], position the bracket [**11f**] then, using the two hexagonal nuts (M3), secure the Snatch microswitch to its location. Connect the wire to the connector [**10**].

Installing the Switching Power Supply

Please read the following instructions to get an overall view of the steps involved in installing Switching Power Supplies in '**G**' series Control panels (i.e. Control panels with **K8G, K8GW** and **K32G** PCBs). Two Switching Power Supplies are available:

SW1) **BAQ 15T12** (1,5 A)

SW2) **BAQ 35T12** (3 A)

Installing BAQ15T12 Switching Power Supplies

BOX PLUS Plastic Box

To install a BAQ15T12 in a plastic box, work carefully through the following steps (see Fig. 2.3 and 3.5).

1. Using the 2 holes on the backplate as reference, mount the **BAQ15T12** to the backplate.
2. Using the 2 Parker screws **[24]** (3 x 8), secure the BAQ15T12.
3. Connect one end of the Earth wire (Yellow-Green) **[13b]** to the Earth terminal 51 (⏚) on the PCB, and the other to terminal [⏚] on the **BAQ15T12** Switching Power Supply.
4. Plug the Switching Power Supply into the connector [**29a**] on the PCB.
5. Connect one end of the **OVC-Link** wire [**29b**] to the **OVC** connector on the PCB, and the other to the **NTC** connector on the **BAQ15T12**. This connection will allow the system to monitor the battery status constantly.

BOX-L Large Metal Box

To install a BAQ15T12 in a metal box, work carefully through the following steps (see Fig. 2.5 and 3.5).

1. Using the 2 holes on the backplate as reference, mount the **BAQ15T12** to the backplate.
2. Using the 2 screws **[24]** (3 x 8), secure the BAQ15T12.
3. Connect one end of the Earth wire (Yellow-Green) **[13c]** to the Earth terminal [⏚] on the **BAQ15T12** then, using the screw (3x6) and washer, secure the other end to its location on the backplate (see Fig. 2.5).
4. Plug the Switching Power Supply into the connector [**29a**] on the PCB.
5. Connect one end of the **OVC-Link** wire [**29b**] to the **OVC** connector on the PCB, and the other to the **NTC** connector on the **BAQ15T12**. This connection will allow the system to monitor the battery status constantly.

Installing BAQ35T12 Switching Power Supplies

BOX PLUS
Plastic Box

To install a BAQ35T12 in a plastic box, work carefully through the following steps (see Fig. 2.4 and 3.5).

1. Locate the **BAQ35T12** onto its supports on the backplate. Ensure that the Switching Power Supply is secured firmly in place by the arrester [**3d**].
2. Using the Parker screw [**24**] (2.9 x 9.5), secure the **BAQ35T12** in place.
3. Connect one end of the Earth wire (Yellow-Green) [**13b**] to terminal 51 (⏚) on the PCB, and the other to terminal [⏚] on the **BAQ35T12** Switching Power Supply.
4. Insert the Switching Power Supply plug into the connector [**29a**] on the PCB.
5. Connect one end of the **OVC-Link** wire [**29b**] to the **OVC** connector on the PCB, and the other to the **NTC** connector on the **BAQ15T12**. This connection will allow the system to monitor the battery status constantly.

BOX-L
Large Metal Box

To install a BAQ35T12 in a metal box, work carefully through the following steps (see Fig. 2.6 and 3.5).

1. Locate the **BAQ35T12** onto its supports on the backplate. Ensure that the Switching Power Supply is secured firmly in place by its arrester [**3d**].
2. Using the washer and screw [**24**] (3 x 6), secure the **BAQ35T12** in position.
3. Insert the Switching Power Supply plug into the connector [**29a**] on the PCB.
4. Connect one end of the **OVC-Link** wire [**29b**] to the **OVC** connector on the PCB, and the other to the **NTC** connector on the **BAQ35T12**. This connection will allow the system to monitor the battery status constantly.

Replacing BAQ35T12 Fuse

Please read the following instructions, to get an overall view of the steps involved in replacing the Fuse [**28**] of the BAQ35T12 Switching Power Supply (see Fig. 2.4).

1. Disconnect the Mains Power.
2. Remove the snap rivet [**25b**].
3. Remove the screws [**25a**].
4. Remove the cover, then replace the Fuse.
5. Replace the cover, snap rivet [**25b**] and screw [**25a**].
6. Restore the Mains Power.

IMPORTANT - If the Mains Fuse [27] blows, DO NOT replace it. This condition indicates general malfunction and requires specialist intervention, Therefore, return the Switching Power Supply to your nearest Service Centre for repair.

Earthing the PCB

The PCB must be earthed by means of the Earth wire ([**13a**], [**13b**] or [**13c**]), in order to protect it from electrical surges from the Telephone Line, and comply with Safety Regulations.

Marking Ticket

Once you have assembled the components, specify the type of Control panel that you have constructed.

Using an indelible pen, tick the relevant box on the **Marking Ticket** [**18**] (as shown in Fig. 3.4).

***NOTE: SW1** indicates the presence of a BAQ15T12 Switching Power Supply (**1.5 A**), and **SW2** indicates the presence of a BAQ35T12 Switching Power Supply (**3 A**).*

Connecting the KST Thermal Probe

'**G**' series PCBs have on-board connectors (**PTC** in Fig. 3.5.) for KST Thermal Probes [**26**]. Addition of a KST Thermal Probe will optimize the Battery Charge process, by regulating the Battery Charge Voltage in accordance with the Battery temperature. The probe must be attached to the Battery by means of adhesive tape.

The KST connection cannot be considered complete until the **OVC-Link** Wire [**29b**] (supplied with the Switching Power Supply) has been connected.

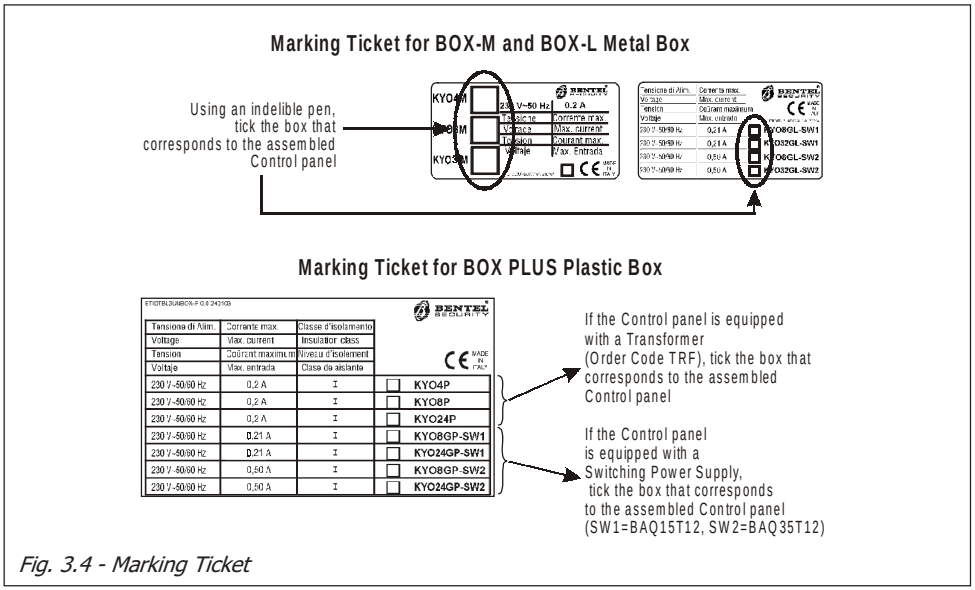


Fig. 3.4 - Marking Ticket

If you are connecting a KST thermal probe to a Control panel with a BAQ15T12 Power Supply, ensure that the BAQ15T12 on-board Jumper [22b] is inserted.

For further information, refer to the Insert in the **KST** package.

Connecting the NC2/VOX Voice Board

To install the NC2/VOX Voice Board, work carefully through the relevant steps (Metal box or Plastic box), and refer to Fig. 3.6.

NOTE - KYO16D Control Panel not management the NC2/VOX Board.

NOTE - If you are connecting an NC2/VOX Voice Board to a Control panel that is already in service, ensure that the Mains and Battery have been DISCONNECTED before starting the connection procedure.

Metal box (BOX-M and BOX-L)

1. Remove the paper from the self-adhesive rubber gasket, and position it in the centre of the 4 board support locations on the backplate.
2. Insert the reverse-locking board supports [**3a**], then attach the NC2/VOX (refer to Fig. 3.3). If you are using a BOX-L, locate the boar as shown in Fig. 2.5 or 2.6.
3. Connect the Flat cable to connector **A** on the NC2/VOX Voice board, and to Connector **B** on the PCB.

Plastic box (BOX PLUS)

1. Slot the NC2/VOX board in the holder [**12b**] — LEDs to the top.
2. Connect the Flat cable to connector **A** on the NC2/VOX Voice board, and to Connector **B** on the PCB.

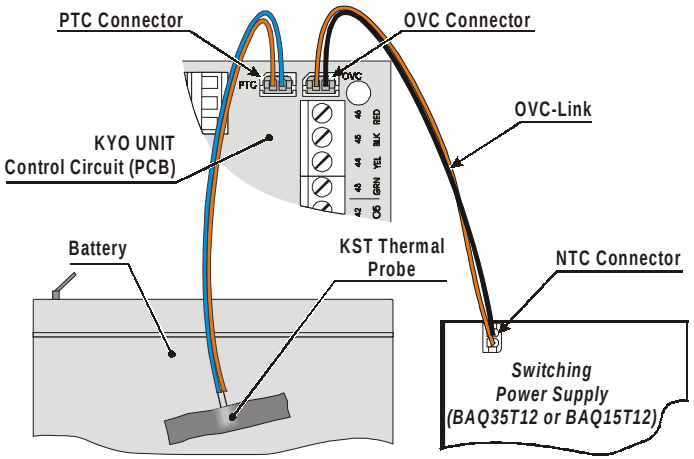


Fig. 3.5 - Connecting the KST Thermal Probe to 'G' series PCBs

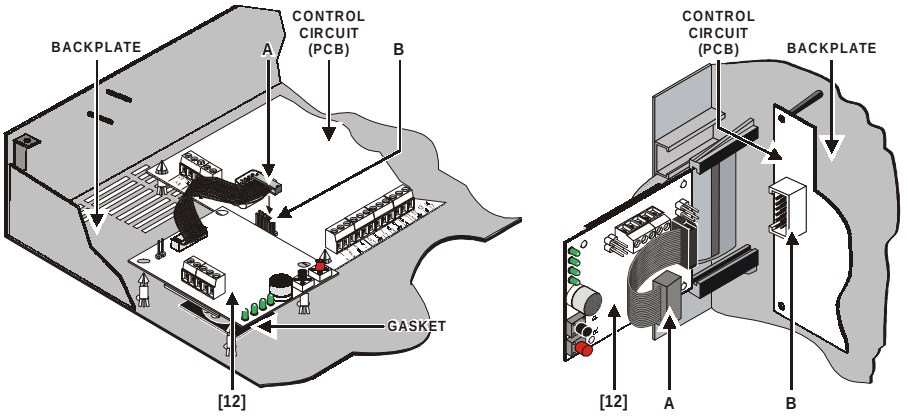


Fig. 3.6 - Installing the NC2/VOX Voice board in Metal box (Left) or Plastic box (Right)

PCB Identification Label

The self-adhesive PCB Identification Label (supplied with the PCB) should be located on the frontplate (attach the label to the container so that it can be easily read); Fig. 37 shows two possible solutions.

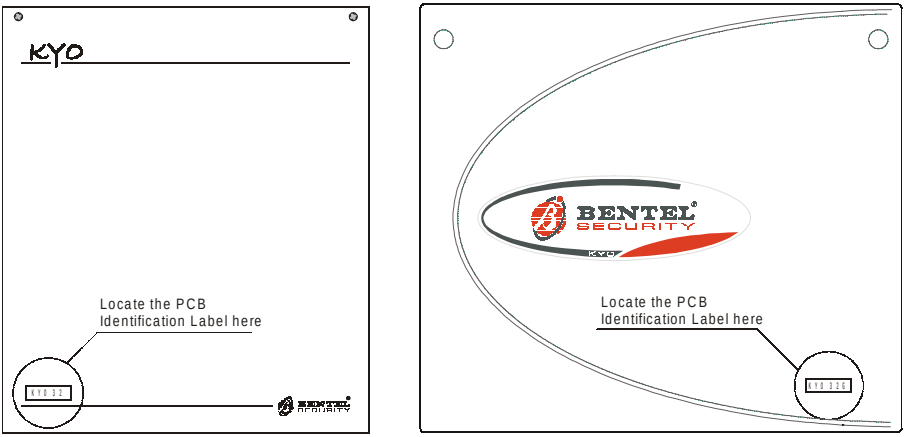


Fig. 3.7 - Locating the PCB Label

SECTION 4 - INSTALLING THE CONTROL PANEL

Mounting the Control Panel

The Control panel must be mounted in a safe, dry place, close to the placement of command devices (Keypads, Readers, etc.). Once you have selected a mounting location and created a layout, ensure that you will be able to connect the Mains and Telephone line.

The Main Unit must be at least 2 metres from GSM and radio relay systems.

To mount the backplate:

1. Remove the screws [**1**] and frontplate.
2. Pull the cables through the wire entry [**17**], then using 4 anchor screws for all the screw locations [**2**], secure the backplate to the wall.
3. Complete the connections on the Terminal board [**4**] (refer to Table 4.1).

> ⚠ ***- In order to comply with safety regulations, the Mains power supply must be fitted with a bipolar insulating device (e.g. Automatic isolating switch) for protection against overvoltage and short-circuit (see Fig. 4.1a).***

4. **Connect the Mains power supply to the Mains terminal [19a]: Neutral to terminal [N], Phase to terminal [L] and Earth to terminal [⏚].**

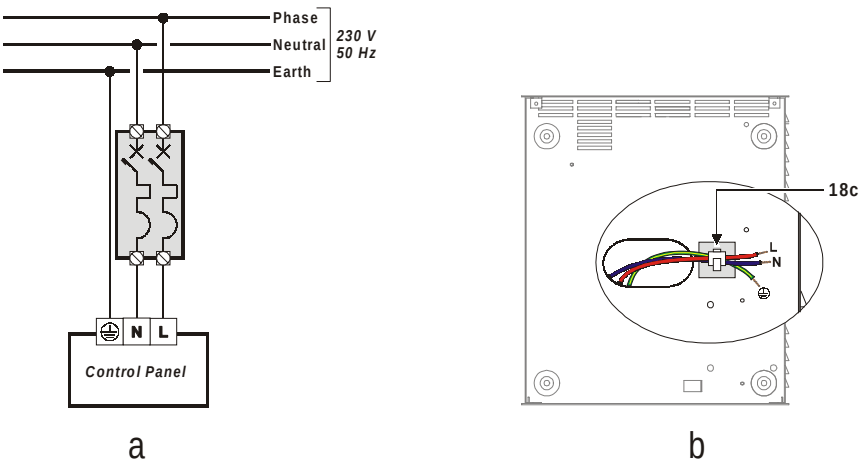


Fig. 4.1 - Connecting the Insulating device

NOTE: In order to comply with the Safety Regulations in force, this device must be protected against electrical surges (e.g. from the Telephone Line), therefore, it must be properly connected to the Mains Earth line. The warranty does not cover damage to the PCB caused by non-connection, or improper connection to a faulty Mains Earth line.

*Use the cable tie bases (refer to **[18c]** in Fig. 4.1b) to bunch the 220 V Mains wires and the Earth wire.*

5. Disable the Alarm Output, as described in the following paragraph *'Opening and Closing the Control panel'*.
6. Connect the battery wires [**15**].
7. Program the Control panel, as described in the INSTALLATION MANUAL.
8. Close the Control panel then, using the 2 screws [**1**], secure the Frontplate.

Opening and Closing the Control Panel

If the Tamper microswitches ([**11a**], [**11b**] or [**11c**]) are enabled, do not open the Control panel until you have disabled the Alarm output.

To open the Control panel:

Opening the Control panel

1. Enter the Installer Code at any Keypad, then press **ENTER**.
2. Remove the screws [**1**] and Frontplate.
3. Insert the **Stop Alarm** Jumper [**8**].

To close the Control panel:

Closing the Control panel

1. Remove the **Stop Alarm** Jumper [**8**].
2. Replace the Frontplate and screws [**1**]
3. Exit the Menu (as described in the PROGRAMMING FROM KEYPAD Manual). The system will become operative when you exit the Menu.

*NOTE: If you are using a LED Keypad, press the **ESC** key to exit Menu.*

Table 4.1 - Description of the Terminals					
PCB Terminals			Description	Voltage (V)	Current Max. (A)
K8G - KG8W K32G	K4 - K8 K8W - K32	K16D			
1-2-3-4 **[+][C][R][-]**			Terminals for the BPI Device connections (Keypads, Readers, Expander, etc.)	13.8	(*)
5 **[AS]**	17 **[AS]**	–	Balanced 10K Tamper Line	–	–
6-9-12-15-18 21-24-27-30-3-7 **[⏚]**	4-6-8-11 14-17 **[⏚]**	6-9-12 **[⏚]**	Negative Terminal	0	–
7-10-13-16-19 22-25-28 **[+F]**	22 **[+B]**	+V **[AUX]**	Positive Terminal — power supply to the Detectors	13.8	(*)
8-11-14-17-20 23-26-29 **[L1] ... [L8]**	7-9-10-12-13 15-16-18 **[L1] ... [L8]**	5-7-8 10-11-13 **[L1] ... [L6]**	Programmable Alarm Lines (KYO4 manages Lines L1 ... L4)	–	–
31-32-33 **[NC][COM] [NO]**	19-20-21 **[NC][NO] [COM]**	18-19-20 **[NC][NO] [COM]**	Free Voltage Changeover Alarm Relay: during **Standby** ⇨ COM Terminal connected to NC (NO floating) during **Alarm** ⇨ COM Terminal connected to NO (NC floating)	–	–
34 **[+N]**	–	–	**Positive** is present on this terminal during **Standby** this Terminal is Open during **Alarm**	13.8	(*)
35 **[+A]**	–	–	**Positive** is present on this terminal during **Alarm** this Terminal is Open during **Standby**	13.8	(*)
36 **[+B]**	22 **[+B]**	+V **[AUX]**	Auxiliary Power Supply for peripherals	13.8	(*)
–	23-24-25 **[O1][O2] [O3]**	22-23 **[OC1] [OC2]**	150 mA Auxiliary Open-Collector Outputs — Programmable	–	0.15 (*)
38-39-40 41-42 **[O1][O2] [O3][O4] [O5]**	–	–	500 mA Auxiliary Open-Collector Outputs — Programmable		0.5 (*)
43-44-45-46 **[GRN] [YEL] [BLK] [RED]**	26-27-28-29 **[GRN] [YEL] [BLK] [RED]**	14-15-16-17 **[GRN] [YEL] [BLK] [RED]**	Key Bus Terminals (if present): **RED** ⇨ Positive **BLK** ⇨ Negative	13.8	(*)
47-48 **[LE]**	32-33 **[LE]**	25-26 **[LE]**	External Telephone Line Terminals	–	–
49-50 **[LI]**	34-35 **[LI]**	27-28 **[LI]**	Terminal for line-sharing devices (Fax, Modem, Telephone, etc.) — connected to the same Telephone line as the Panel	–	–
51 **[⏚]**	36 **[⏚]**	29 **[⏚]**	Terminal for the Earth connection	–	–
–	30-31 **[AC]**	24-25 **[AC]**	Terminals for the Transformer secondary connection	–	–

(*) - the total current draw of these terminals must not exceed:
(*) - **0.6 A** - for K4, K8, K8W and K32 with Transformers
(*) - **0.4 A** - for K16D
(*) - **1 A** - for K8G-SW1, K8GW-SW1 and K32G-SW1 with the BAQ15T12 Switching Power Supply
(*) - **2.3 A** - for K8G-SW2, K8GW-SW2 and K32G-SW2 with the BAQ35T12 witching Power Supply
(*) - (the Battery Charge value must be subtracted from these values)

SECTION 5 - INSTALLING THE NC2/VOX

NOTE: please, refer to the previous release of the Main Unit manual to install the Voice Board NC2/VOX old version BL233.

The NC2/VOX Voice Board (Accessory Item, not management for KYO16D) will allow you to record and send Voice messages to the programmed Telephone numbers. For the installation instructions refer to Section 3 under 'NC2/VOX'.

General Features

- Voice synthesizer — Records/Plays Messages
- Records 8 Messages: 4 x 15 seconds and 4 x 7 seconds
- Repeats the Alarm Message up to 4 times
- Loudspeaker
- Talk Listen-in function (Telemergency)

Additional VOX-REM Modules

If the NC2/VOX Voice Board is unable to cover the entire premises (e.g. due to the size of the building), you can extend cover by using additional VOX-REM Modules (Microphone and Loudspeaker). The additional VOX-REM Modules can be located as required (see Fig. 5.1).

- For proper operation, the wire length between the additional VOX-REM Module and the NC2/VOX Voice Board should not exceed 50 metres.

Additional VOX-REM Modules must be connected in parallel to the NC2/VOX Voice Board (see Fig. 5.1).

Installing Additional VOX-REM Modules

The VOX-REM must be mounted in 2 separate boxes (Minibox), as shown in Fig. 5.1: one for the board and the other for the loudspeaker.

VOX-REM Jumpers

If you intend using the VOX-REM Microphone, you must insert the Jumper marked **EN LOC MIC**.

If you intend using a remote Microphone, you must insert the Jumper marked **EN REM MIC**. The Microphone must be connected to the connector marked **MIC** on the VOX-REM Module.

NOTE: Use shielded cable for all connections. For proper operation, the wire length must not exceed 2 metres.

The Loudspeaker must be connected to the bipolar connector (see Fig. 5.1).

NC2/VOX Jumper Settings

NOTE: If you connect a VOX-REM Module, you must set the jumpers on the NC2/VOX as follows:

- **MIC** Open (⊡⊡)
- **REM-MIC** Closed (▬)
- **SPK** Closed on REM (REM ▬⊡ LOC)

- The NC2/VOX supports up to 4 additional VOX-REM Modules.

Record / Play Messages

Put the system in **SERVICE** Mode (as per maintenance) by inserting the Jumper [**8**] (as described in Section 4 under *'Opening and Closing the Control panel'*): the ✔ LED on the Keypad will blink, and the 4 Green LEDs on the NC2/VOX will go through the 8 message configurations (refer to the 'Select Message').

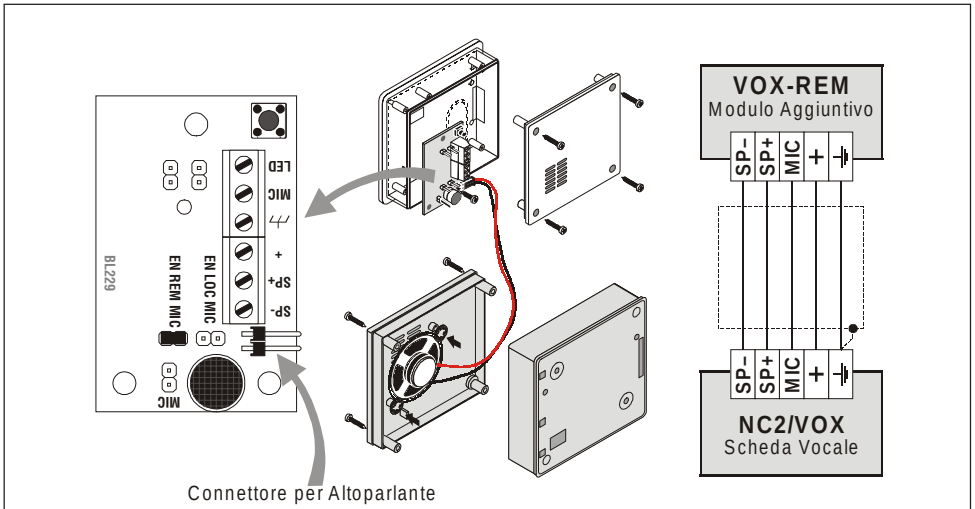


Fig. 5.1 - Installing Additional VOX-REM Modules

Table 5.1 - Selecting the Message								
Message No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Length	*15 sec*	*15 sec*	*15 sec*	*15 sec*	*7 sec*	*7 sec*	*7 sec*	*7 sec*
LED 1	**ON**	OFF	OFF	OFF	OFF	**ON**	**ON**	**ON**
LED 2	OFF	**ON**	OFF	OFF	**ON**	OFF	**ON**	**ON**
LED 3	OFF	OFF	**ON**	OFF	**ON**	**ON**	OFF	**ON**
LED 4	OFF	OFF	OFF	**ON**	**ON**	**ON**	**ON**	OFF

Selecting Messages

The Voice Board can record up to 8 Alarm messages. Four messages of 15 seconds (messages 1, 2, 3 and 4), and four of 7 seconds (messages 5, 6, 7 and 8). The 8 message configurations (refer to Table 5.1) can be viewed on the Green LEDs at 1 second intervals.

To select a message: press and hold keys [**42**] and [**43**] until the required configuration is shown on the LEDs.

Recording Alarm Messages

Press and hold key [**43**] until the 4 LEDs start to blink to signal the elapsing message time (7 or 15 seconds).

You can start recording the Alarm message, as soon as you release the key.

Speak at a distance of approximately 20 cm from the Microphone.

Recording will stop automatically when the message time elapses. You can stop recording at any moment by pressing key [**43**].

Playing Messages

Press and hold key [**42**] until the 4 LEDs start to blink to signal the elapsing message time (7 or 15 seconds).

The Alarm Message will play.

You can stop playback at any moment by pressing key [**42**].

Programming

Proper operation of the NC2/VOX Voice Board depends on **Telephone** and the **Events** pages (refer to *'Programming from PC'* in the *'INSTALLATION MANUAL')*.

Activation

Fig. 5.2 shows the various phases of the Alarm call procedure. If a message-related event occurs, the Control panel will perform the following actions:

1. Engage the Telephone line.

2. Wait 10 seconds for the **Dial Tone**.

- If the **Dial Tone** is recognized, it will go to step **3.**
- If the **Dial Tone** is not recognized, it will hang up and go back to step **1.**

NOTE: In some cases, the Dial Tone check must be disabled (for example, if the system is connected to a Switchboard which operates with non-standard tones). If the Dial Tone check is disabled, step 2 will be ignored.

3. Dial the programmed Telephone number.

4. Wait 30 seconds for the **Line Free** Tone.

- If the **Line Free** Tone is recognized, it will go to step **5.**
- If the **Line Free** Tone is not recognized, it will hang up and go back to step **1.**

5. Wait 20 seconds for a **Valid Handshake**.

- If a **Valid Handshake** is recognized, it will go to step **5.**
- If a **Valid Handshake** is not recognized, it will hang up and go back to step **1.**

6. Play the respective Alarm message 4 times.

- If a call is unsuccessful (for example, unanswered or invalid handshake), it will make 8 tries before quitting.

NOTE: If several events occur simultaneously, the relative Alarm messages will be played in chronological order during the same Telephone call.

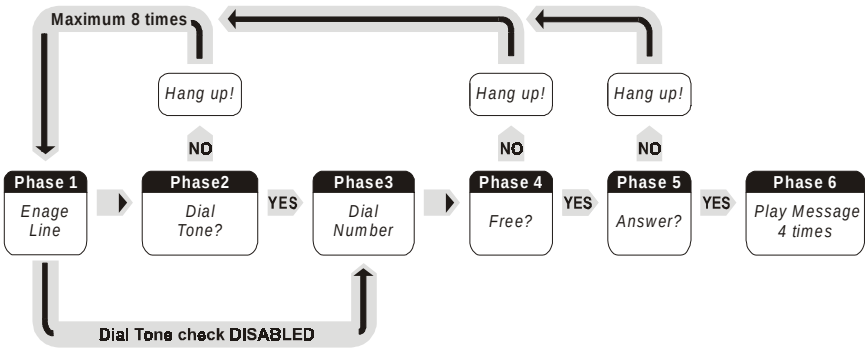


Fig. 5.2 - Voice Message Flow Chart

SECTION 6 - DEFAULT SETTINGS

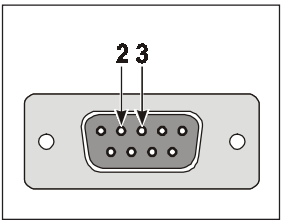
Restoring Factory Default

Sometimes it may be necessary to restore the Factory Default settings (for example, if a User forgets the Access Codes).

To restore the Factory Default:

1. Disconnect the power supply (Mains and Battery)
2. Using a screwdriver, short-circuit pins 2 and 3 of the DB9 connector [**5**], and repower the Control panels.

The tables in this chapter describe the Control panel default settings.



NOTE: For Kyo 32 Series, 8W Models and Kyo16D - If you restore the Factory Default programming, the LCD Keypad display will show the Keypad Language prompt . The Keypad language can be selected from any connected LCD Keypad (refer to the 'Keypads>Language' paragraph in the PROGRAMMING FROM KEYPAD MANUAL for instructions).

Tab. 6.1 - KEYPAD CONFIGURATION

Address	Kyo4 and Kyo8 series		Kyo16D		Kyo32 series	
	Keypad	Partition Default	Keypad	Partition Default	Keypad	Partition Default
01	LCD	1, 2, 3, 4	LCD	1, 2, 3, 4	LCD	1, 2, 3, 4 5, 6, 7, 8
02	ALISON/32LP	1, 2, 3, 4	ALISON/8L BKP-LED BKB-LED	1, 2, 3, 4	—	—
03	ICON/KP ALISON/8L BKP-LED BKB-LED	1, 2, 3, 4	—	—	—	—
04	NC2/TAST	1, 2, 3, 4	—	—	—	—
05...08	—	—	—	—	—	—

Table 6.2 - READER CONFIGURATION

Address	Reader in conf.	Description	Red								Amber and Green							
			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
01 ... 16	No	Reader 01 ... Reader 16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 6.3 - EXPANDER IN/OUT

Expander Type	Enable	Expander Type	Enable
Exp. IN 01 ... 04	No	Exp. OUT 01 ... 02	No

Table 6.4 - ZONES

No.	Pos.	Ter.	Description	Type	Attr.	Bal.	Cycles	Partition							
								01	02	03	04	05	06	07	08
1	M.U.	L1	Zone 1	Delay.	—	Double	Repet.	✓							
2	M.U.	L2	Zone 2	Delay.	—	Double	Repet.	✓							
3	M.U.	L3	Zone 3	Inst.	—	Double	Repet.	✓							
4	M.U.	L4	Zone 4	Inst.	—	Double	Repet.	✓							
5	M.U.	L5	Zone 5	Inst.	—	Double	Repet.	✓							
6	M.U.	L6	Zone 6	Inst.	—	Double	Repet.	✓							
7	M.U.	L7	Zone 7	Inst.	—	Double	Repet.	✓							
8	M.U.	L8	Zone 8	Inst.	—	Double	Repet.	✓							
9 ⇩ 32	None	—	Zone 9 ⇩ Zone 32	—	—	Double	Repet.	✓							

In the KYO16D Control Panels, the zones 7 through 12 are not active

Table 6.5 - OUTPUTS

No.	Place.	Ter.	Description	Attributes	Signals	Partitions							
						01	02	03	04	05	06	07	08
1	M.U.	O1	Output 1 (*)	N.O.	—	✓	✓	✓	✓	✓	✓	✓	✓
2	M.U.	O2	Output 2	N.O.	—	✓	✓	✓	✓	✓	✓	✓	✓
3	M.U.	O3	Output 3	N.O.	—	✓	✓	✓	✓	✓	✓	✓	✓
4	M.U.	O4	Output 4	N.O.	—	✓	✓	✓	✓	✓	✓	✓	✓
5	M.U.	O5	Output 5	N.O.	—	✓	✓	✓	✓	✓	✓	✓	✓

KYO4, KYO8 and KYO16D manage up to 3 OC Output.
(*) In the KYO16D Control Panel this OC Output is managed only if opportunely programmed

Table 6.6 - PARTITIONS and TIMES

No.	Description	Exit Time	Entry Time	Auto-arm Timeout	T. and Zone	T. cod. and.	Patrol Time	Alarm Time	Supervisory Window	Inactivity	Negligence
01	Partition 01	30 sec	30 sec	2 min	450 sec	10 sec	5 min	3 min	120 (2 hours)	0 hours	0 days
02	Partition 02										
03	Partition 03										
04	Partition 04										
05	Partition 05										
06	Partition 06										
07	Partition 07										
08	Partition 08										

Table 6.7 - TELEPHONE								
No.	Description	Disable Tone Check	DTMF Dialling	Type	Protocol	Customer Code	2-Way Audio Alert Timeout	Call Attempts
01	Number 1		✓	None	—	—	3 min	8
02	Number 2		✓	None	—	—	3 min	
03	Number 3		✓	None	—	—	3 min	
04	Number 4		✓	None	—	—	3 min	
05	Number 5		✓	None	—	—	3 min	
06	Number 6		✓	None	—	—	3 min	
07	Number 7		✓	None	—	—	3 min	
08	Number 8		✓	None	—	—	3 min	

Table 6.8 - TELESERVICE			
Double	Number of Rings	Callback	Test Event
No	3	No	No

Table 6.9 - CODES																	
PIN	Description	Partition								Type A and Type B Arming								Code Type
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
0001	Code 1	✓	✓	✓	✓	✓	✓	✓	✓	N	N	N	N	N	N	N	N	Active (Main User)
0002 ⇩ 0024	Code 2 ⇩ Code 24									—	—	—	—	—	—	—	—	Inactive
0025	Installer Code																	Active

Table 6.10 - KEYS											
No.	Description	Service	Clear Call Queue	Partitions							
				1	2	3	4	5	6	7	8
1 ⇩ 128	Key 1 ⇩ Key 128	No	No	No	No	No	No	No	No	No	No

Table 6.11 - SCHEDULER*							
Partition	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**
1	00:00	00:00	00:00	00:00	00:00	00:00	00:00
2	00:00	00:00	00:00	00:00	00:00	00:00	00:00
3	00:00	00:00	00:00	00:00	00:00	00:00	00:00
4	00:00	00:00	00:00	00:00	00:00	00:00	00:00
5	00:00	00:00	00:00	00:00	00:00	00:00	00:00
6	00:00	00:00	00:00	00:00	00:00	00:00	00:00
7	00:00	00:00	00:00	00:00	00:00	00:00	00:00
8	00:00	00:00	00:00	00:00	00:00	00:00	00:00

***** *All Time slots are Disabled*

Table 6.12 - OPTIONS		
No.	**Description**	**Setting**
1	***Enable chime on keypad***	**Yes**
2	***Enable chime on Proxy Reader***	**Yes**
16	*Programmable Output Relais (Only KYO16D Control Panel)*	**No**
	Call all voice numbers (All Control Panels)	**Yes**
23	***Key reader LEDs permanently active***	**Yes**
30	***DTMF Dialling*** *(touch-tone)*	**Yes**
All other options are deselected at default		

	Partitions
Auto-Reset Memory	**01 02 03 04 05 06 07 08**
	☐☐☐☐☐☐☐☐

NOTES

BENTEL SECURITY S.r.l. - Via Gabbiano, 22 - Z.I. Santa Scolastica - 64013 CORROPOLI - TE - ITALY
Tel.: +39 0861 839060 - Fax: +39 0861 839065
www.bentelsecurity.com - infobentelsecurity@tycoint.com

Recycling information

BENTEL SECURITY recommends that customers dispose of their used equipments (panels, detectors, sirens, and other devices) in an environmentally sound manner. Potential methods include reuse of parts or whole products and recycling of products, components, and/or materials.
For specific information see: http://www.bentelsecurity.com/index.php?o=environmental

Waste Electrical and Electronic Equipment (WEEE) Directive

In the European Union, this label indicates that this product should NOT be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.

For specific information see: http://www.bentelsecurity.com/index.php?o=environmental