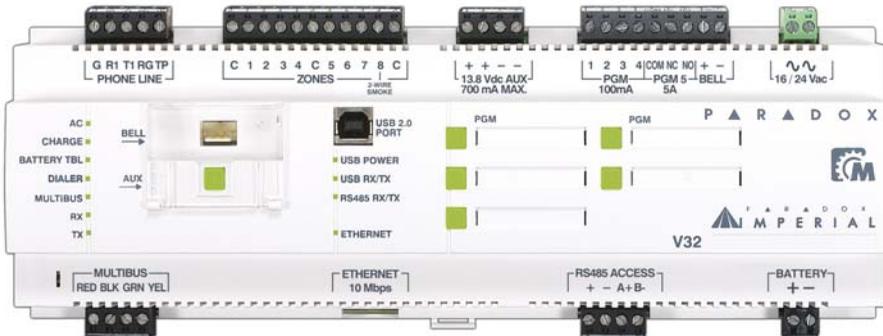




DRAFT

High Security & Access
Imperial V32
V1.0

Installation Manual



We hope this product performs to your complete satisfaction. Should you have any questions or comments, please visit www.paradox.com.



Warranty

For complete warranty information on this product please refer to the Limited Warranty Statement found on the website www.paradox.com/ terms. Your use of the Paradox product signifies your acceptance of all warranty terms and conditions.

Limitations of Alarm Systems

It must be understood that while your Paradox alarm system is highly advanced and secure, it does not offer any guaranteed protection against burglary or other emergency (fire emergency options are only available on certain Paradox models). This is due to a number of reasons, including but not limited to inadequate or improper installation/positioning, sensor limitations, battery performance, inadequate maintenance or the potential for the system or telephone lines to be compromised or circumvented. As a result, Paradox does not represent that the alarm system will prevent personal injury or property damage, or in all cases provide adequate warning or protection.

Your security system should therefore be considered as one of many tools available to reduce risk and/or damage of burglary or other emergencies, such other tools include but are not limited to insurance coverage.

We also strongly recommend that you regularly maintain your security systems and stay aware of new and improved Paradox products and developments.

Warning for Connections to Non-Traditional Telephony (e.g. VoIP)

Paradox alarm equipment was designed to work effectively around traditional telephone systems. For those customers who are using a Paradox alarm panel connected to a non-traditional telephone system, such as "Voice Over Internet Protocol" (VoIP) that converts the voice signal from your telephone to a digital signal traveling over the Internet, you should be aware that your alarm system may not function as effectively as with traditional telephone systems.

For example, if your VoIP equipment has no battery back-up, during a power failure your system's ability to transmit signals to the central station may be compromised. Or, if your VoIP connection becomes disabled, your telephone line monitoring feature may also be compromised. Other concerns would include, without limitation, Internet connection failures which may be more frequent than regular telephone line outages.

We therefore strongly recommend that you discuss these and other limitations involved with operating an alarm system on a VoIP or other non-traditional telephone system with your installation company. They should be able to offer or recommend measures to reduce the risks involved and give you a better understanding.

TBR-21

In order to comply with TBR-21, standard force dialing must be enabled.

RECOMMENDED:

- EOL resistor part #2011002000
- All outputs are rated from 11.3Vdc to 12.7Vdc
- 12Vdc 4Ah rechargeable acid/lead or gel cell backup battery (YUASA model #NP7-12 recommended) for residential use.
- Wheelock 46T-12 siren

Legal

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Canadian and international patents may also apply. Paradox Imperial is a trademark or registered trademark of Paradox Security Systems Ltd. or its affiliates in Canada, the United States and/or other countries.

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Imperial Overview

The Paradox Imperial is a security and access control system designed for large installations. Securing 32 partitions and controlling up to 64 access doors, the Paradox Imperial is designed for installation in residential buildings, commercial complexes and high-security installation. The Paradox Imperial ensures easy installation with standard DIN rail mounting of all Imperial modules. All programming for the Imperial system is done through BabyWare software (included). BabyWare is designed for use by the installer (system programming) as well as the system administrator (user programming).

Features

- DIN rail installation
- 32 partitions
- 999 user codes
- 511 expansion modules
- 64 access doors
- 256 access levels
- 256 access schedules
- 200,000-event buffer (total for security + access control events)
- 500 PGMs (5 on-board with manual controls)
- 64 virtual zones (for PGM activation)
- 3,996 remote control support with one RTX3 (up to 4 remotes per user)
- All master and installer programming through BabyWare
- Digital Multibus:
 - Provides constant power, supervision and two-way communication between the control panel and all modules
 - In-field upgrade for all Imperial modules
 - Supports up to 511 modules
 - Connect modules up to 914m (3000ft) from the panel
- 8 on-board zones - expandable to 384 zones via 4-wire Multibus
- Zone 8 can be used as a 2-wire smoke input
- Built-in access control features
- Automatic Daylight Savings Time feature
- Program remote controls using the master or installer codes
- Built-in real-time clock backup with automatic adjustment when connected to the internet
- 1.7A switching power supply
- 1 supervised bell output, auxiliary output and telephone line
- Auxiliary output ON / OFF button
- Bell/siren ON / OFF button (future version - see "BELL Button*" on page 17)

Imperial System Software / Modules

The following modules are designed for use with the Imperial system:

BabyWare System Programming Software	BabyWare is the first software program designed for both installers and end-users of Paradox security systems. This innovative software simplifies operations and allows you to program all system parameters on site or remotely. BabyWare removes the burden of complex keypad programming by allowing you to configure system settings and monitor system events from a single point of control.
PS27D Power Supply Module	The PS27D is a fully-supervised 2.85A switching power supply designed to power modules on the Imperial Multibus. The PS27D's four outputs can supply up to 500mA each. Using BabyWare, outputs can also be configured to be used as PGMs.
ACM24D 4-Wire Access Control Module	The ACM24D Access Control Module is designed to be used either in conjunction with the Imperial V32 control panel or as a stand-alone access control module. The ACM24D can control two doors and can support REX devices, readers, locking devices and door contacts. Door contacts that are connected to the ACM24D are programmed using BabyWare software and can be assigned to zones in the Imperial system.
HUB4D 4-Port Hub and Bus Isolator Module	The HUB4D 4-Port Hub and Bus Isolator Module extends and divides the panel's Multibus into four isolated outputs. Designed for larger installations, the HUB4D features opto-isolated outputs which provide protection from high-voltage spikes (ideal for exterior lines).
ZX8D 8-Zone Expansion Module	The ZX8D 8-zone Expansion Module connects to the Imperial control panel's Multibus and acts as an interface between the control panel and any hardwired detection devices.
ZX16D 16-Zone Expansion Module	The ZX16D 16-zone Expansion Module offers the same features as the ZX8D.
ZX32D 32-Zone Expansion Module	The ZX32D offers the same features as the ZX8D and includes a 12Vdc, 700mA (max.) power supply.

Technical Specifications

Power Input:	16-24VAC or 18-30VDC, 20/40VA, 50-60Hz
Battery:	12VDC, 7Ah minimum
Auxiliary Power:	12VDC 600mA typical, 700mA maximum, fuseless shutdown at 1.1A
Bell Output:	1A, fuseless shutdown @ 3A
PGM Output:	PGM1 to PGM4 100mA solid-state relays with +/- trigger PGM5 Form C relay output rated at 3A / 28Vdc N.O. / N.C.
Operational Temp:	-20°C to +50°C (4°F to +122°F)
All control panel outputs are rated to operate between 10.8Vdc and 13.8Vdc	

Installation

Location

Select a site that is not accessible to intruders. The site should be dry and close to an AC, ground and telephone line connection.

Mounting - DIN Rail

All Imperial modules are enclosed in a standard DIN rail plastic. A **DIN rail** or **top-hat rail** is a standardized metal rail used for mounting units in equipment racks or metal boxes. There are many benefits for this type of installation:

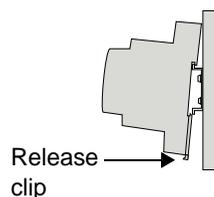
1. Using a standard DIN Rail metal box for system module installation is fast, economical, orderly, and saves space. Wiring is convenient and easy to run and connect. Paradox offers a 60cmX80cmX25cm (23.6inX31.5inX9.8in) DIN Rail metal box that can hold at least 12 modules including the Imperial panel and batteries. When divided by 12, the cost, installation time, and space per module is very reasonable in comparison to separate metal box installations.
2. All DIN modules include removable connectors that make the service and replacement of modules convenient and fast. Also, DIN Rail modules are much smaller than similar modules in "PCB" form. All modules include an extensive LED display to indicate module status and help during troubleshooting.
3. All modules include manual/local control for testing and emergency operation.
4. Installing the modules in the DIN rail metal box makes for a professional and attractive installation.

Using a DIN Rail

Modules can be mounted in a Paradox DIN rail enclosure. Alternatively, using the supplied DIN rail, the Imperial can be mounted in any location. To attach the module, align the top of the DIN rail as shown in *Figure 1* and apply pressure to the module until it clicks into place. To remove the Imperial from a DIN rail, pull the release clip and remove the module.

To facilitate installation and servicing, the Imperial terminals can be detached from the module. Wires can be labeled using the supplied tie wraps.

Figure 1: DIN Rail Mounting



Earth Ground

Connect the ground connector (labeled "G" in the phone line terminals) to the enclosure and cold water pipe or grounding rod as per local electrical codes.

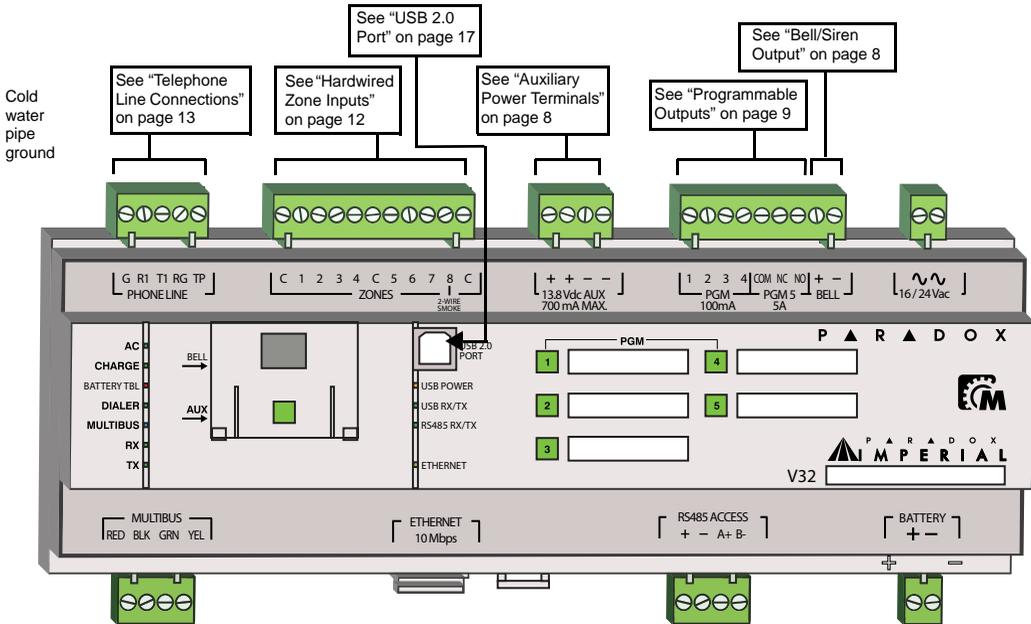
Power

Use a 16.5-24Vac (50/60Hz) or 18-30 VDC transformer with a minimum 20VA rating. For increased power use a 40VA rating. Do not use switch-controlled outlets to power the transformer.



Do not connect the transformer or the backup battery until all wiring is completed. When powering up the Imperial control panel, the panel will begin a module scan.

Figure 2: Imperial Wiring Diagram



! The Multibus supports a maximum of 511 modules. Although external power supplies can be used to provide power to modules connected far from the control panel, the total distance of all runs of wire combined cannot exceed 914m (3000ft). For example, if ten runs of wire measuring 305m (1000ft) each are connected to the control panel, the total distance would be 3048m (10,000ft), which exceeds the system's capacity.

Before adding any module to the control panel, shut down the AUX output by pressing the AUX button.

! When powering up, the Imperial control panel initiates a module scan to verify that all modules connected to the panel are operational. The scanning process takes between 30 seconds and 3 minutes to complete depending on the number of modules connected to the control panel. The module scan is complete when the keypad begins to show the partition status. Only after the module scan is complete will the control panel be fully operational.

! When installing the Multibus wires in a noisy environment, or when connecting the Multibus across separate buildings, you must use a shielded cable. Refer to *section* on page 13.

Backup Battery

Connect a 12VDC 7Ah rechargeable acid/lead or gel cell backup battery (YUASA model #NP7-12 recommended). Verify the battery polarity. If Battery polarity is reversed, the panel's Battery TBL LED will illuminate. The battery current charge can be configured in BabyWare (350mA or 850mA).

Battery Test

The control panel conducts a dynamic battery test under load every 60 seconds. A "Battery Trouble" message will appear in the Trouble Display if the battery is disconnected, if its capacity is too low or if the battery voltage drops to 10.5 volts or less when there is no AC. At 8.5 volts, the panel shuts down and all outputs close.

Auxiliary Power Terminals

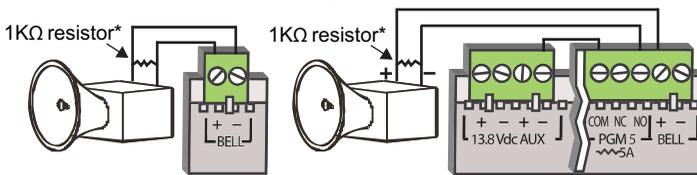
The auxiliary power supply can power accessories in the security system. A fuseless circuit protects the auxiliary output against overload and shuts it down if the current exceeds 1.1A. Auxiliary power will resume once the overload condition has been corrected. To activate or deactivate AUX power, press the AUX button located under the plastic cover.

Bell/Siren Output

In the event of an alarm, the bell output supplies 12VDC and can support one 30-watt or two 20-watt sirens. If the current exceeds 3A, the bell output will automatically shut down (if the option is enabled in BabyWare). If the load on the BELL terminals returns to normal ($\leq 3A$), the control panel will re-instate power to the BELL terminals. Please verify correct polarity.

NOTE: When the bell output is not used, the "Bell Absent" message appears in the Trouble Display. To avoid this, connect a 1k Ω resistor across the bell output.

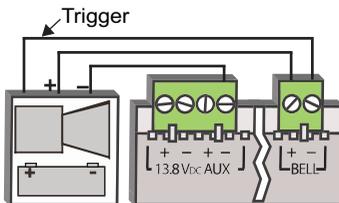
Figure 3: Bell / Siren Connections



The "BELL" output will shut down if the current exceeds 3A.

* A 1K resistor is required if the Bell is not equipped with an internal resistor. Position the resistor as close as possible to the Bell. A resistor is not required for sirens.

Figure 4: Self-Contained Bell Connection

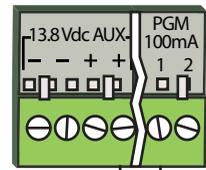


The sum of the current drawn from the BELL and AUX must be limited to 2.0A. Exceeding this limit will overload the panel power supply and lead to complete system shutdown (if no battery is connected).

Programmable Outputs

The Imperial includes 5 programmable output relays (PGMs) PGM1 to PGM4 are 100mA (max.) solid-state relays with +/- trigger. PGM5 is a 5A/28Vdc N.O./N.C. relay output. PGM initial states can be set at either normally open (N.O.) or normally closed (N.C.). If the current draw on PGM1 to PGM4 could possibly exceed the current output, it is recommended that an external relay be used as shown in *Figure 5*.

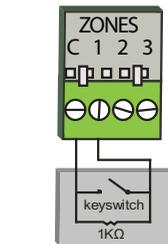
Figure 5: External Relay



Keyswitch Connections

Connect keyswitches to the keypad, control panel, or ZX8D/ZX16D/ZX32D zone expansion module's hardwired input terminals as shown in *Figure 6*.

Figure 6: Keyswitch



Access Control Connections

For all access control explanations and connection drawings, see "Access Control" on page 15.

Calculating Power Requirements

Table 1: Power Requirement Calculation

Description	QTY.	mA used by each	Total mA
Grafica Graphic LCD Keypads (K07):	___	X 130mA =	___ mA
Motion Detectors (DG85, DM50/60/70):	___	X 30mA =	___ mA
8-Zone Expansion Modules (ZX8D):	___	X 30mA =	___ mA
Magellan Wireless Expansion Modules (RTX3):	___	X 35mA =	___ mA
Hub and Bus Isolator (HUB4D):	___	X 50mA =	___ mA
Access Control Module (ACM24D): Note: The ACM24D consumes 130mA from its own power supply.	___	X 120mA =	___ mA
Other devices (e.g. hardwired motion detectors)	___	X ___mA =	___ mA
Maximum available milliamps = 700mA		GRAND TOTAL	___ mA

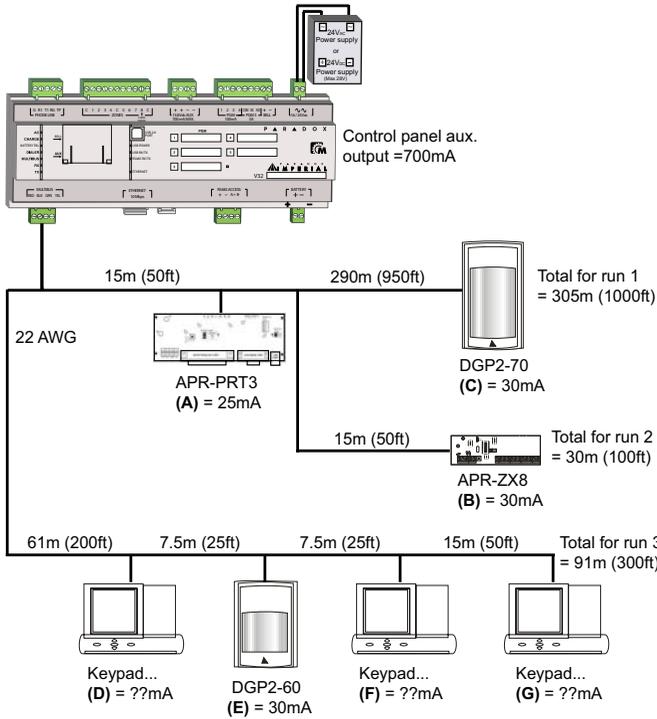
To calculate total power consumption:

- Using *Table 1*, calculate the total number of milliamps (mA) required by each device, module, and accessory in the system. Take into account devices connected to the control panel's PGM outputs. Since the BELL output has its own power supply, do not include the sirens connected to the BELL output in the calculation.
- If Grand Total is less than 700mA, go to step 3. If the value is greater, an external power supply is required (see *Figure* on page 11) to provide the additional power needed. Proceed with step 3 and refer to the example in "Sample Power Requirement Calculations" on page 11.
- Due to the degradation of a power signal over long distances, **EACH** length or run of wire in the system can support only a specific number of milliamps (mA). Using *Table 2*, determine how many milliamps each length of wire can support. NOTE: that the total number of milliamps (mA) can never surpass 700mA.

Table 2: Milliamps (mA) Limitations For Each Run of Wire

Gauge: 18AWG, Surface: 0.823mm²		Gauge: 22AWG, Surface: 0.326mm²		Gauge: 24AWG, Surface: 0.205mm²	
Length of each run of wire	Available milliamps (mA)	Length of each run of wire	Available milliamps (mA)	Length of each run of wire	Available milliamps (mA)
30m(100ft.)	700	30m(100ft.)	700	30m(100ft.)	700
61m(200ft.)	700	61m(200ft.)	682	61m(200ft.)	429
91m(300ft.)	700	91m(300ft.)	454	91m(300ft.)	286
122m(400ft.)	700	122m(400ft.)	341	122m(400ft.)	214
152m(500ft.)	690	152m(500ft.)	273	152m(500ft.)	171
183m(600ft.)	575	183m(600ft.)	227	183m(600ft.)	143
213m(700ft.)	493	213m(700ft.)	195		
244m(800ft.)	431	244m(800ft.)	170		
274m(900ft.)	383	274m(900ft.)	151		
305m(1000ft.)	345	305m(1000ft.)	136		
457m(1500ft.)	230				
610m(2000ft.)	172				
762m(2500ft.)	138				
914m(3000ft.)	115				

Sample Power Requirement Calculations



Power required by devices connected to control panel's auxiliary output must not exceed the auxiliary output's limit: (A) + (B) + (C) + (D) + (E) + (F) + (G) = 368mA < 700mA = OK

In this example:

Run 1 can support 136mA: (A) 25mA + (B) 30mA = 55mA < 136mA = OK

Run 2 can support 700mA: (A) 25mA + (B) 30mA = 55mA < 700mA = OK

Run 3 can support 454mA

(D) 110mA + (E) 30mA + (F) 110mA + (G) 110mA = 360mA < 454mA = OK

Keypad Zone Connections

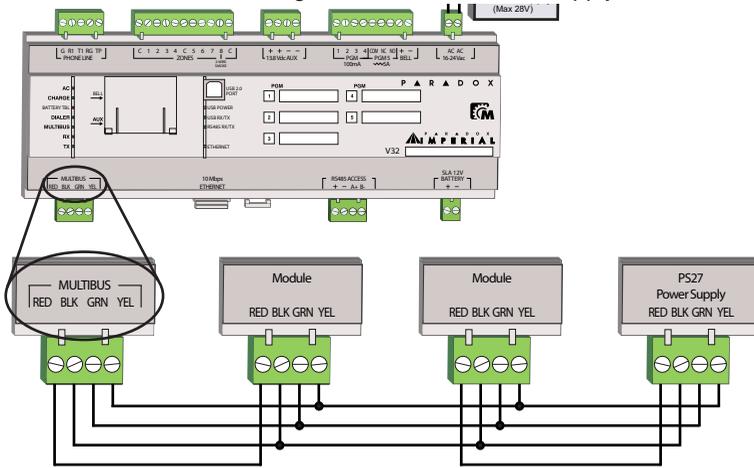
Every keypad has one hardwired input terminal. The Grafica keypad's input terminal can also be used as an external temperature input (see "Grafica Keypad Connections" on page 15). Tamper is not recognized on keypad zones. The keypad zone follows the control panel's EOL definition.

The keypad communicates the status of the zone to the control panel via the Multibus. The detection device is connected as shown in the "Imperial Wiring Diagram" on page 7.

External Power Supply

If the total power drawn from the control panel could exceed 700 mA, modules can be powered using the PS27D or PS817 power supply as shown in *Figure 7* on page 12.

Figure 7: External Power Supply Connections

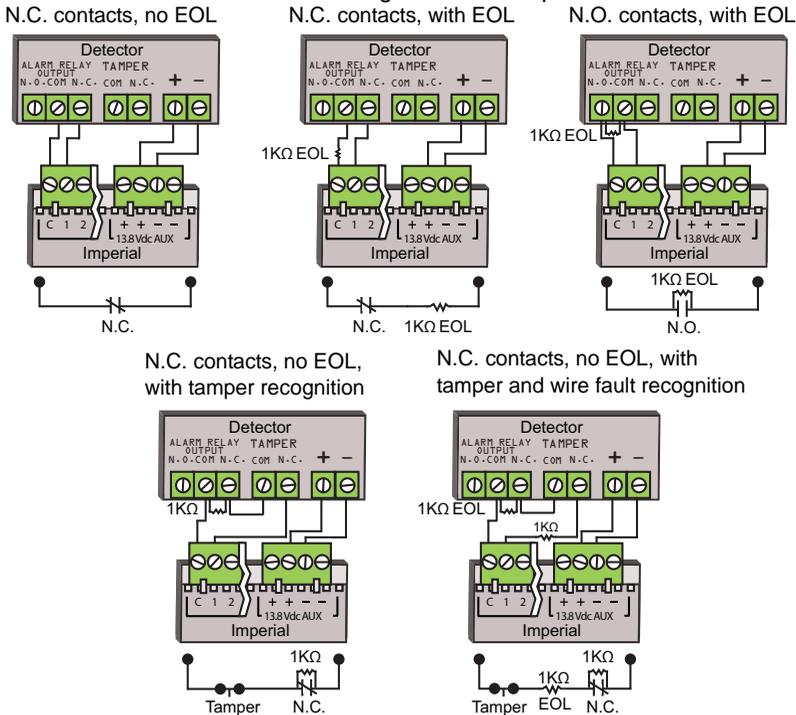


Hardwired Zone Inputs

The control panel includes eight hardwired input terminals for use with traditional hardwired (non-Multibus) door contacts, smoke detectors and/or motion detectors.

The control panel also supports hardwired zone expansion modules. Hardwired zones can be connected as shown in *Figure 8*.

Figure 8: Zone Input Connections



Multibus Connections

The 4-wire multibus can support up to 511 modules. Use star and/or daisy chain configuration. The total length of wire cannot exceed 914m (3000ft).



Before connecting a module to the Multibus, shut down the auxiliary output from the control panel.

Connecting the Multibus in Noisy Environments

When installing the Multibus wires in proximity to high electrical interference or across separate buildings, use shielded cables:

Within the Same Building: Strip the outer jacket at one end of the shielded cable to expose the shield. Connect the shield to the control panel ground (not the dialer ground). Leave the shield at the other end of the cable open (floating).

Across Separate Buildings: Strip the outer jacket at one end of the shielded cable to expose the shield. In the same building as the control panel, connect the exposed shield to any earth ground available. Leaving the shield at the other end of the cable open (floating). The same configuration applies for any subsequent building.

Fire Circuits

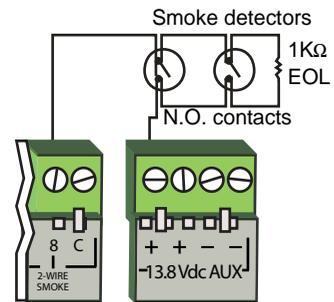
Using BabyWare, assign the smoke detector connected to the control panel or zone expansion input terminals to a zone and define the zone's parameters as a Fire Zone.

Smoke Detector Installation (2-Wire)

Using BabyWare, Zone 8 can be defined as a 2-wire smoke detector input. Connect the 2-wire smoke detectors as shown in Figure 9. If a line short occurs or the smoke detector activates. Whether the system is armed or disarmed, the control panel will generate an alarm. If the line is open, the "Zone Fault" trouble indication appears in the Trouble Display and the report code is sent to the monitoring station, if programmed.

Note: It is recommended that the smoke detectors be connected in a daisy chain configuration.

Figure 9: 2-Wire Detector Connection*



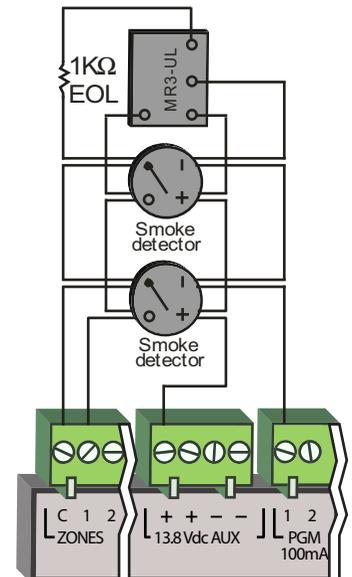
Smoke Detector Installation (4-Wire)

Recommended: System Sensor model 2112/24D smoke detectors. Connect the 4-wire smoke detectors and a relay as shown in Figure 10. If power is interrupted, the relay causes the control panel to transmit the Fire Loop Trouble report (programmable in BabyWare).

To reset (unlatch), connect the smoke detector's negative (-) to a PGM. Then program the PGM with the "Smoke Detector Power Reset" activation event (programmable in BabyWare) to interrupt power to the smoke detector for four seconds when the Grafica keypad's [#] and ["] keys are pressed and held for two seconds.

Note: It is recommended that the smoke detectors be connected in a daisy chain configuration.

Figure 10: 4-Wire Detector Connection



Telephone Line Connections

Telephone lines can be connected directly to the control panel or through a CA38A or RJ31 as shown in Figure 11 on page 14.

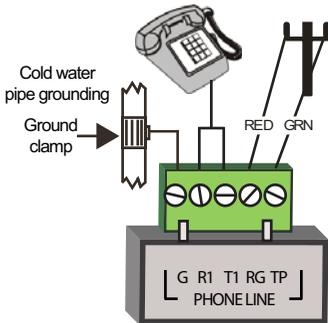
For TBR-21 compliance, please note the following:

1. The Imperial can be connected to the telephone network via an RJ-11 connector.

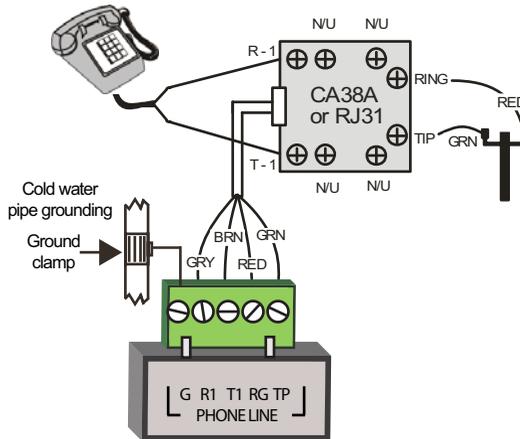
- 2. The Maximum Dialing Attempts cannot exceed 15 attempts (programmable in BabyWare).

Figure 11: Telephone Line Connection Examples

Example 1:



Example 2:



1.1 Keypad Installation Instructions

Connecting the Keypads

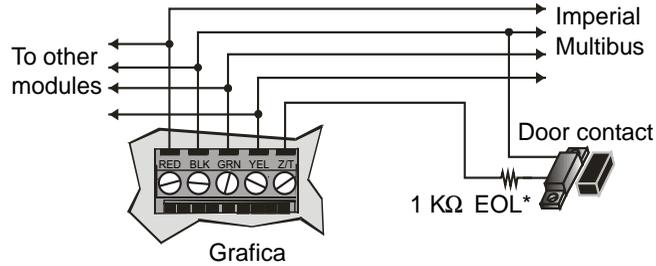
Keypads are connected to the control panel's Multibus in a star and/or daisy chain configuration. Connect the four terminals labeled Red, Blk, Grn and Yel of each keypad to the corresponding Multibus wires or control panel terminals.

Connecting Keypad Zones

Each keypad has one hardwired input terminal, allowing you to connect one detector or door contact. Connect the device to the keypad's input terminal as shown in Figure 12. In order to communicate its status to the control panel, the keypad's input must be assigned to a zone in the control panel and the zone's parameters must be defined.

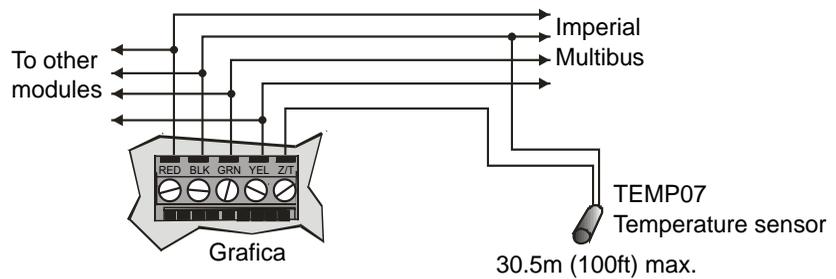
Figure 12: Grafica Keypad Connections

Connecting Grafica with Keypad Zone



* The keypad zone follows the control panel's EOL definition. The zone speed is set at 600mS and cannot be programmed.

Connecting Grafica with and External Temperature Sensor



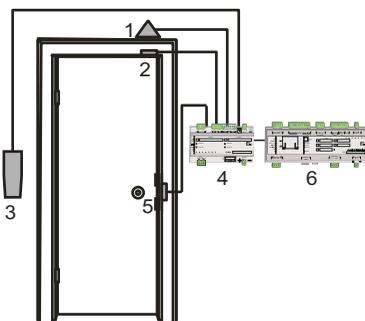
Access Control

RS485 Access Connections

The RS485 Access Port communicates using the high-speed RS485 protocol and is designed to support the ACM24D Access Control Module.

Typical Access Control Installation

For details on connecting the ACM24D, refer to the *ACM24D Access Control Module Reference & Installation Manual*.



- 1 = Request for Exit Device (Paradoorn)
- 2 = Door Contact
- 3 = Reader (R910 or R915) on other side of the wall
- 4 = Access Control Module (ACM24D)
- 5 = Locking Device
- 6 = Control Panel (Imperial)

Persons authorized to access the protected area are issued cards which are assigned to user access codes programmed in the system. These users are then assigned to a User Group which follows its assigned door schedule. The control panel determines whether or not to unlock the door depending on the card's User Group.

Manual Controls

When installed in the Paradox Imperial metal enclosure, only the module interface is visible, allowing access to the following manual controls:

PGM Buttons

The Imperial control panel is equipped with 5 PGMs (programmable outputs). PGMs are usually assigned and triggered through BabyWare software. PGMs can also be manually activated (LED green) or deactivated (LED red) using the PGM buttons. Using the PGM buttons overrides any PGM programming in BabyWare. Once a PGM button is pushed, the PGM will remain in that state until either the button is pushed again, or until the PGM is triggered by BabyWare.

BELL Button*

Used when testing the system, pushing the BELL button activates the bell/siren. The bell/siren will remain activated (LED on) for one minute (max.) or until the button is pushed again.

* The Bell button feature will be included in future versions. Presently in place of the Bell button is a 4-pin (Molex) Multibus connection.

AUX Button

The Imperial control panel supplies 700mA to power security system modules. By pressing the AUX button, the 13.8VDC auxiliary power supply can be manually activated (LED on) or deactivated (LED off), allowing modules to be powered down without shutting down the control panel.

Communication Ports

The Imperial control panel provides the following two methods for connecting to PC software / upgrading system firmware:

Ethernet Port

Through the Ethernet port, the Imperial includes a built-in communication TCP/IP link. This provides the freedom to monitor the security system and control basic functions remotely using either BabyWare software or through a web browser.

USB 2.0 Port

The USB port can be used to connect a PC to the Imperial control panel. Because power is supplied through the USB connection, an external power source is not necessary. Connecting to the Imperial control panel and upgrading firmware through the USB port can be done before or after installation.

LED Feedback

The Imperial control panel includes a 17-LED display, giving feedback to aid in installation troubleshooting as well as giving the user and installer important information on system status.

Table 3: Imperial LEDs

LED	Colour	Condition
AC	green	External power supply is OK
CHARGE	green	Battery charging / Battery in test mode
	off	No battery / Battery fully charged
BATTERY TBL	red	No battery / Battery malfunction

DIALER	green - slow flash (flash every sec.)	TLM test - line is available
	green - slow flash (1 sec. on / 1 sec. off)	TLM test - no line available
	green	Panel is using the line
USB POWER	amber	PC connected
RX/TX USB	green - fast flash	USB communication in progress
RX/TX RS485	green	Power supplied to RS485 access port
	green - fast flash random	RS485 communication in progress
ETHERNET	green	Network cable connected
	green - fast flash random	Ethernet communication in progress
PGM LEDs 1 to 5	red	PGM is in Normal state
	green	PGM is in Opposite state

Table 4: Multibus LEDs

MULTIBUS	RX	TX	Condition
OFF	green - flash	green - flash	OK (panel communication in progress)
OFF	off	off	OK (no data RX/TX)
RED ON	off	off	Short on GRN or YEL
RED ON	off	green	Communication failure / Too many modules on Multibus
RED ON	green	green	Multibus lines reversed (Green / Yellow)
RED FLASH	off	off	Bus power too low
RED FLASH	green - flash	green - flash	Locate mode
BLUE ON	---	---	Multibus mode (firmware upgrade)
BLUE FLASH	off	off	Firmware upgrade in progress

Remote IP Connection

The Imperial control panel provides an Internet communication link which enables it to be controlled and monitored remotely using BabyWare.

Use the following steps to configure the system for IP communication.

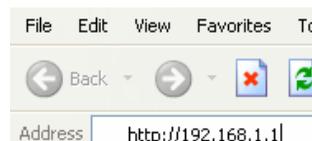
Step 1: Setting up the Router

This step allows you to set up the router for proper communication with the control panel. This should be completed before connecting the module to avoid unnecessary resets.

 **Every router is configured differently. To ensure that the configuration is done properly, it is strongly recommended that you consult the router's instruction manual. Illustrations marked with a * are those that may change depending on the router used.**

1. Ensure that the router is connected properly as indicated in the router's instructions.
2. Access your router's configuration page. Refer to your router's instruction for the exact procedure. In most cases, this is done by entering the router's static IP address in the address bar of your web browser (see Figure 13). For this example, we will use 192.168.1.1 as an example, since it is a commonly used default router IP address. Your router's IP address may be indicated in the router's instructions or on a sticker on the router.

Figure 13: Router Configuration Page*



3. In the router's configuration page, check the DHCP settings.

If DHCP is enabled, verify that the IP address range leaves at least one IP address available outside of the range. In Figure 14 on page 19, that range would leave addresses 2 to 4 and 101 to 254 available (all the numbers in an IP address are between 1 and 254.) Record one of the addresses outside the DHCP range as the one you will use for the control panel.

Figure 14: DHCP Settings*

Use Router as DHCP Server

Starting IP Address . . .

Ending IP Address . . .

If DHCP is disabled, the control panel will use the default address of 192.168.1.250. It is possible to change that address if needed using the Paradox IP Exploring Tools software.

4. In the router's configuration page, go to the Port Range Forwarding section (also known as "port mapping" or "port redirection.") Add a service/item, set the Port to 80 and enter the static IP address selected in the previous step for the IP module (see Figure 15 on page 19). If port 80 is already used, you can use another one, such as 81 or 82 but you will have to modify the control panel's settings in step 5. Some Internet Service Providers block port 80, therefore the control panel may function locally using

Figure 15: Port Forwarding*

Service Name

Service Type

Starting Port (1~65534)

Ending Port (1~65534)

Server IP Address . . .

port 80 but not over the Internet. If this is the case, change the port to another number. Repeat this step for port 10 000.

Step 3: Setup the Control Panel

1. Open the Paradox IP Exploring Tools file found on www.paradox.com.
2. Click Find It, the control panel will appear in the list.
3. Right-click the control panel and select Assign IP Address (see Figure 16).
4. Type in the static IP address you recorded in Step 1.3 or modify the address so that it corresponds to the one you have selected for the control panel (see Figure 17). Enter the installer password (default: admin) and click OK. If it indicates that the IP address is already used, change it to another and modify it in the Port Forwarding of the router (Step 1.4) and go back to Step 3.2.
5. You can set additional information (such as dynamic address, port, subnet mask, etc.) by clicking More Details, right-clicking the control panel and select Module Setup.

Figure 16: Configuration Access

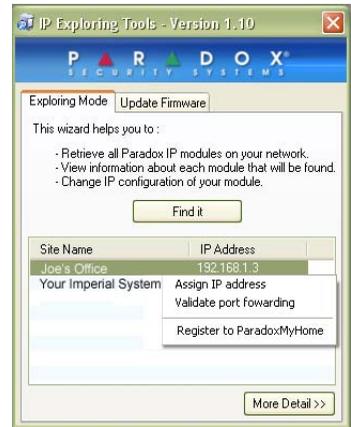


Figure 17: IP Address Assignment



Step 4: Setting up the DNS Service (optional)

This step is not needed if the IP address provided by the Internet Service Provider is static.

Using the DNS service will allow you to access your system over the Internet with a dynamic IP address. The control panel will then poll the DNS server to keep the information updated. By default, the DNS service is disabled.

To set up the DNS service:

1. Go to www.paradoxmyhome.com, click on "Request Login" and provide the requested information.
2. Use the Paradox IP Exploring Tools software and right click on your control panel.
3. Select Register Module
4. Enter the requested information. Enter a SiteID for the module. That SiteID has to be unique.
5. Once the registration is complete, you can access the Imperial configuration page by going to: [www.paradoxmyhome.com/\[SiteID\]](http://www.paradoxmyhome.com/[SiteID]). If there are issues with connecting to the control panel, try making the polling delay shorter, so that the IP information available for the DNS connection is up to date. However, a shorter delay for the polls will increase the traffic on the Internet connection (bandwidth).

Figure 18: Module Registration



Step 5: Accessing the Imperial Control Panel

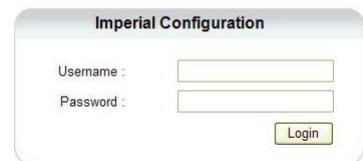
On-Site Access:

1. Type in the IP address assigned to the control panel in the address bar of your web browser. If you have used a port other than port 80, you must add [: port number] at the end. (For example, if the port used is 81, the IP address entered should look like this: <http://192.168.1.250:81>.)
or
Use the Paradox IP Exploring Tools software, click **Find It** and double-click on your control panel in the list.
2. Enter the same siteID and password that are used when logging in to BabyWare. The Imperial Internet Properties window opens.

Off-Site Access:

1. Go to [www.paradoxmyhome.com/\[siteID\]](http://www.paradoxmyhome.com/[siteID]) (replace SiteID by the SiteID you used to register with Paradox's DNS service)
2. Enter the same siteID and password that are used when logging in to BabyWare. The Imperial Internet Properties window opens.

Figure 19: Login



The following settings allow you to configure the Imperial control panel for IP connection:

Figure 20: Imperial Internet Properties

DHCP
If the Imperial control panel is connected to a server using a static address, the DHCP protocol is not necessary.

ParadoxMyHome.com
With this option enabled, the control panel will refresh its IP address with ParadoxMyHome.
 With the polling time set to the default (5 minutes), if the installation's Internet IP address changes, communication will be lost for up to 5 minutes until the DNS server polls the panel.
Decreasing the polling time will result in increased communication between the panel and the Paradox DNS server.

MAMA Configuration

DHCP Yes No

IP Address

Netmask

Gateway

DNS Address

HTTP Port

TCP Port

UDP Port

Paradoxmyhome.com

Enable service Yes No

Polling time minute(s)

System Information

Sitename

Mac Address 00:19:BA:29:22:22

Software Version 1.0

Common Access Control Terms

Access Alarm: A warning generated by the reader if either an Access Door remains open beyond the programmed time limit or if it was opened without the proper signal. This event is logged in the Event Buffer. If the door is assigned to a zone, the event is reported to the monitoring station.

Access Card: A tag assigned to a user access code used to identify the user to the access control system.

Access Denied: The system preventing access through an access door.

Access Granted: The system granting access through a access door.

Burglar Alarm: A warning sent to the control panel if an armed zone in the security system has been breached. This event is logged in the Event Buffer and can be reported to the monitoring station.

Door Left Open: Each access door is programmed with a period of time it is allowed to stay open. An access alarm will be triggered after that period.

Forced Door: An Access Door was opened without an "Access Granted" or "Request for Exit" signal, a silent or audible access alarm can be triggered. This alarm can be reported if the door is assigned to a zone.

Reader: An access control device (R910 / R915) located near an Access Door that sends the information from an access card to the ACM24D or control panel.

Request for Exit: When a REX device (Paradoo 460) detects movement, it sends a request-for-exit signal to the ACM24D Access Control Module.

Valid Card: An access card presented to a reader during its assigned schedule and within its assigned access level.

Common Internet Configuration Terms

IP Addresses (Static/Fixed or Dynamic): The address of a device connected to an IP network. This is equivalent to a phone number in the sense that they are all unique and are used to establish communication to a particular network. In an IP network, addresses can either be fixed or dynamic. Fixed addresses are established by the network administrator while dynamic addresses are decided through DHCP protocols and change over time.

DHCP: (Dynamic Host Configuration Protocol) This protocol automatically assigns temporary IP addresses to devices connected to an IP network. It eliminates the need to set static IP addresses every time a device is added to a network. This is done automatically in servers and routers.

Port Forwarding: Port Forwarding allows a router in a private network to let a party outside the network to connect a device in the network. Once port forwarding is set, requests from the internet (outside users) will be forwarded to the proper device. If you were to set the port number 80 (HTTP) to be forwarded to IP address 192.168.1.2, then all HTTP requests from outside users to this port would be forwarded to the device with that address

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For technical support in Canada or the U.S., call 1-800-791-1919, Monday to Friday from 8:00 a.m. to 8:00 p.m. EST. For technical support outside Canada and the U.S., call 00-1-450-491-7444, Monday to Friday from 8:00 a.m. to 8:00 p.m. EST. Please feel free to visit our website at www.paradox.com

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