

M1 Gold Cross Platform Control

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Let's face it we are all creatures of habit. We would like to follow the same routine every day. It makes your life simple and makes us feel secure. It is very difficult to get us to try new things for this reason. I like using the same



products over and over again. I spend a lot of time researching and testing products for features, reliability and ease of installation. Every product I select for installation by my company is fully tested at my office by installing the product, programming it, and putting it through its

paces. Every new product has its learning curve that is very expensive in dollars and time.

We all must add new products to keep up with technology and to keep our business growing. Fortunately some new products are easy to assimilate into our product lines such as contacts, motion detectors, cameras and hardware. I am always reluctant when it comes to testing a new control panel. I have been using control panels from two of the major manufacturers for 30 years. I try to get all of our requirements out of the standard control we use. It sometimes takes a shoehorn to squeeze some applications into an existing product. I recently had a requirement for something that could not be squeezed into our favorite control panel. The project required a 32-zone alarm system, water sensor monitoring, low temperature detection (5 zones), high temperature detection (5 zones), lighting home/away/vacation environmental control, remote phone, and Internet access.

The question came up as how can we do this with an existing control and still come up with a price that would be affordable to the homeowners and be simple enough



for them to use without a daily call for tech support. This application would have required a standard alarm control and our industrial control computer. Adding up all the equipment to make this happen would have added up to a price that the homeowners would never accept. So I

started my quest for a simple cost-effective solution. My main requirement is that the equipment had to be easy to use, easy to install and easy to program. I also wanted something that was versatile enough so we would be able to use it as an every day alarm control.

My search brought me to the ELK M1 and M1 Gold Platform. The M1 has been around for several years' and the company that designed and manufactured the M1 has many years of experience in the security industry. ELK calls the M1 a "Platform" because it has endless options and interfaces that can be built upon. The M1's circuit board comes incased in a plastic protective housing. The circuit board has 6 euro style removable terminal strips, and a 9 pin D connector for your RS232 programming cable. Also on the board is a RJ11 connector for direct connection to an X10 lighting control module.

The M1 Gold has all of the features you would expect in a high-end control including:

Standard Features:

- Large zone capacity - 16 on-board zones expandable to 208
- Wireless capability - Up to 48 zones
- Flash Memory - Allows field updates to firmware electronically
- RS-232 Serial Port to interface to computers and peripheral devices
- Time/Date stamped 512-event history log
- Menu driven, full text keypad programming - no manual required
- Voice Announcement of alarms, zone descriptions, status, etc.
- 13 On-board Outputs: 1 voice/siren, 1 siren driver, 1 form "C" relay and 10 low current (50mA) outputs
- Can be partitioned into 8 separate areas and account numbers
- Arm levels: Away, Stay, Stay Instant, Night, Night Instant, Vacation
- True V.22 bis Modem for fast, reliable upload/download
- Optional Ethernet port for reporting operation/control or programming
- Built-in telephone remote control makes any phone a keypad
- Integrated Voice Dialer uses vocabulary or custom word/phrases
- Digital Communicator formats: SIA, Contact ID, 4+2 and Pager
- Elk-RP PC software includes "conflict resolution" to easily highlight differences between control and
 - Dial-up, Ethernet or local from RS-232 port or house phone jack

Automation Features

- Create lifestyle enhancing comfort, convenience and security
- Powerful "Whenever/And/Then" RULES Programming allows almost any imaginable operation.
 - No need to chain rules together.
 - Any single "Whenever" event can have one or more ANDs and THENs (conditions and commands).
- Control lighting using RS-232 serial or 2-way Power Line Control (PLC) ports
 - On, Off, Dim All On, All Off commands
- Sunset/Sunrise calculation and activation
- Read temperature sensors and communicate with thermostats

- Turn on Tasks, Lights, Outputs via Keypad or Telephone Remote

Power Supply

- Heavy Duty - 2.5 Amp power supply w/ 1.5 Amp continuous

There is a lot more to this platform than I listed above. Each of the 16 on-board zones is really voltage sensing input. You can tie in a standard industrial monitoring device that outputs 0 to 5 volts and create a rule to evaluate the condition. For example, in my installation I used an industrial-type fluid sensor to monitor the fuel oil level in the tank. This sensor generates 0 to 5 volts proportional to the oil level in the tank. I have the panel set to call the subscriber if the oil level goes below 10%. I did this by writing a rule for the M1. The rule said that if the voltage on the zone dropped below .5 volt, call out and display "Oil Level Low Call for Delivery" on the keypad. Temperature monitoring is easier than that because each keypad also has a built-in temperature sensor. I set the environment control up on a failsafe system. When the homeowner leaves for vacation, he sets the thermostats to 55 degrees and pushes one button on the keypad that informs the system to arm/away and goes into vacation mode. This is done in case of a system failure. We would not be responsible for the house freezing. The M1 then takes control of the heating circulator pumps. When the homeowner is on his way back from vacation, he calls in to the M1 using the built-in voice response system to allow the M1 to take over the heating system and bring the house temperature back to 68 degrees for a warm arrival at home.

Each keypad has a connector for an access card reader for clients that need easy access. A simple rule tells the system to disarm when the card is presented at the reader that is cancelled in the keypad. The M1 also has an interface and software package that allows you to see a keypad over the Internet using a PDA or PC. By using the built-in RS232 interface and the standard programming tool, you can also control devices that are not part for the M1 family by adding your own commands to the program.

You can take your installation one-step forward by adding the TS07 7" LCD color touch-screen interface. This screen acts as a keypad and window into the home automaton functions of the M1. From this terminal, you can access all the alarm functions, lighting functions,



temperature readings and settings. It can tie into the Russound CAV system to make it a multi-room controller for the distributed audio system. As a Windows CE device, the TS07 is actually a small computer. It

has a CAT5 modular Ethernet port connector on the

back, which allows it to be connected directly to a LAN (local area network) router/switch. For ultimate ease of installation, the TS07 features PoE (Power over Ethernet). When connected to a LAN that has high speed Internet service, the TS07 is fully capable of Internet browsing and retrieving e-mail. Because it is using Windows as its base OS, the TS07 also can be set up to view the output of a IP camera or a DVR that has a web page viewer.

As I had mentioned before our project included lighting control. This was easily accomplished using the on-board RJ11 jack that connected to an X10 PSC04 transmitter and the built-in astronomical clock. Several simple rules turned on the lights at dusk and shut them off at dawn, depending if the alarm was set for home or away. The telephone interface allowed the homeowner to call in and turn on the driveway lights from his cell phone. I added a nice feature that shut off the hallway light when the system was armed. Then shut off the walkway lights when the exit delay expired. One of the programmable function keys on the keypad was used to control the garage door and the LED behind the function button was programmed to illuminate if the garage door was open.



The M1 also has the ability to send and receive RS232 data. This is valuable if the commands for you remote device are not included in the M1 onboard library. I tested it with a RS232 controllable video switcher. I created a rule that told the switcher to follow the activity of the door switches and motion detectors. The camera images came up on a monitor only for the areas that there was activity. I just have easily sent TPZ commands to a camera to move to the required preset.

One and very enjoyable (sorry I'm a geek) feature is the M1 uses a standard modem for downloading. M1 can be downloaded over the Internet for those that have really graduated into geekdome. We all have experienced the aggravation of trying to find a modem that works with a particular control and connecting special adapters to make that vital downloading connection work. I have 4 modems on my desk at present, and don't need another one.

The M1Gold is a very economical and easy to use solution for your every day installations and many of today's advance home control and automation needs. It can bring your company into the automation market without a big investment in time or arduous training. You can visit the Elk website for more information at www.elkproducts.com. The website is very informative, and the tech support is one of the best in the industry.