Tips and Tricks on

The Perfect Alarm Monitoring Station

COMON PROFESSIONALS

Every day we realize more and more the importance of security and safety of our lives. We are shaping our lives in reliance to theft, robbery, fire and terror as we come to understand the importance of these unplanned events. Many individuals and corporate structures are implementing new measures from stronger locks to advanced security automations. And every new step leads us to closer to ultimate peace.

Alarm monitoring stations functioning around the clock is one sample of bringing us peace to our doorstep. But as the global economy heats up, more and more alarm monitoring stations are set for tomorrows demands. But do they supply the service that customers need? Are alarm panels programmed to react properly? Is your service standards up to date? In the following chapters we will be covering almost all necessary requirements to undertake the mission of maintaining an alarm monitoring station.

Infrastructure

One of the most important corporate issues in running an alarm monitoring station is that you must understand if you are ready to undertake the mission. This is not an adventure that can be given up at any time. You cannot send your operators on holiday and close the alarm monitoring station over the weekend. It MUST function 24 hours a day, 7 days a week. If you are new to the business you must understand the fact that what ever you plan in the beginning will be a handcuff for ever.
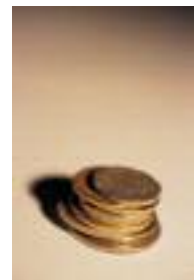
Services

The services that are to be given are to be fully planned before any site is connected to your alarm monitoring station. Services such as open/close control, medical alerts, listen-in features, fire alarms, time attendance, etc. must be understood and priced accordingly. You must decide the sales terms of your systems installed (sales, rental, leasing, through distributors, etc.) and plan the capacity well. You must even prepare price policies for credit card payments, fixed term payments, total payments as well. Sales policies must be fully automated to have the same tables shared through out the sales, marketing and technical departments.

It is recommended that such services be prepared in reliance to site surveys of possible and present consumers

Technically, your alarm equipment should be flawless. Working with the wrong equipment in the beginning may have a negative effect on your future role as a dependable security expert. Communication protocols must be set in reliance to your service types. For example 4 by 2 is the most common protocol but some panels do not send certain alarms through this protocol.

On field programming must be as detailed as possible. Please note that some regions have national standards for programming alarm panels. Please check these standards to keep your technical staff up to date. You may wish to upload/download panel programs remotely. Please store these files in secure media as they will be useful for both bad intensions and for your rivals. All installations must be conducted in reliance to national standards. If your region does not have a standard for installing security systems, try to adapt to a foreign standard as much as possible or develop your own standard. But do not leave this to the field technician. A field technician should not have to "assume" where what has to be installed. Every installation must be backed up by detailed projects of the site. The worst situation in an installation is to hear "…Jason knows the installation better than me. I think he should go there…" If a fully detailed project is submitted then the dependency of technical staff will decrease thus result in a decrease in technical installation costs (for example, "…if Jason quits the job, I will be in big trouble. So I must pay him more for him to stay and work…").

Your accounting system must be fully adapted to all types of services supplied. Automated monthly invoice printing, credit card features are some of the accounting end of the services supplied.

An ideal monitoring station environment

Alarm evaluation room

This room must be large and friendly with a very high ceiling. The monitoring station chief must share the same room to provide complete control and assistance when needed. A special screen (wide screen, plasma, projector, etc.) to watch over the operators is a good marketing technique for visitors. Archives must be placed in proper file cabinets and information must be kept up to date in the event of any problem that may occur. The room must be echo free as
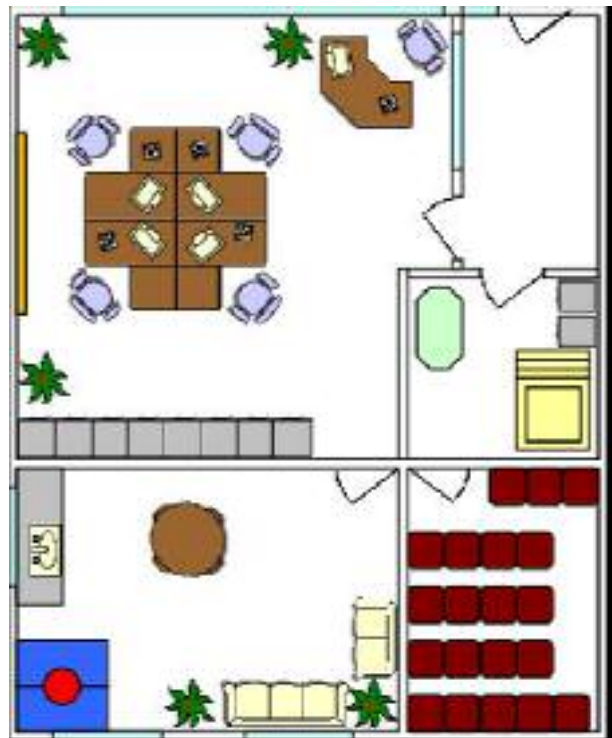
echo's will interfere with telephone conversations. Carpet on the raised floor is a good idea to cut noise down. Most echoing occurs in corners, so there should be something in corners of the room.

Rest rooms

Rest rooms are a must for operators to rest and to eliminate any stress during work hours. Hot/cold drinks, comfortable couches, flowers, fish tanks, boxing bags (excellent tool for relieving a stressed out operator), small table and television is a good way to keep operations under control. Please remember that your operators will be speaking to system users within the complete work hours assigned. Some users may be well interested in systems and be polite in cooperating with the operator to eliminate problems occurring. But most users are simply not like this. There may be times that your operators may argue with system users. The worst situation is the when an operator tries to deal with the next event after such an argument!

Server/Receiver room

All technology must be installed into these rooms. Servers, receivers, switchboards, voice recording equipment, etc. It is recommended that enclosed 19" racks be used. This room must be cooled separately. More details on this room will be added later.

Printing and postal room

All report printing and postal preparations must be conducted in a separate room. It should not interfere with operations in any way.

The monitoring area must be controlled through double access doors with anti-passback access control fitted. Visual contact must be made by the monitoring chief of all incoming and outgoing personnel. Full reflective glass is recommended to be fitted to eliminate the possibility of disturbances caused from the outside.

An environment such as this would be able to support up to 200,000 sites flawlessly. Some monitoring stations prefer to use the 1970 standard of placing rack cabins in front of walls. This may look fancy but please note that customers will not pay you for your space age looking monitoring station. They prefer to have higher service standards. This can only be accomplished by operators calling users with a friendly and cheerful voice and providing the customer with all information required. Do not forget that you are an invisible full time service center. If a customer does not cause any alarm within the service period, he/she may not even notice that you are looking over their premises 24 hours a day, 7 days a week. So designing your services, explained

earlier in this chapter, is one of the major key players of a successful monitoring station.

Human resources

Except for a few countries, almost all international alarm monitoring stations use personnel that are not of police/military background. Some countries use ex-police/ex-military personnel to influence national forces to the site more promptly.

As the alarm evaluating operators are to speak to the end users, they must have the capacity to speak with a soothing and relaxing voice to bring down the stress in the user in say for example the event of an alarm. Unlike a banking call center, the operator must be prompt in understanding the situation, must use short and specific predefined vocabulary and result an event in the least amount of time possible. The operator must try not to add any other extra conversation that may lengthen action time of the event.

Briefly speaking, an alarm evaluating operator must be able to do more in less time and must be sharp throughout the event handled. So do not be misguided by the costs of conventional call center operators. But never forget that the more the operator is trained to handle all events the less they will cost.

In reliance to some of the worlds most famous internet based human resource sites, an alarm evaluating operator must have at least the following skills:

- High School graduate
- Proper voice and diction
- Developed communication skills
- Team player
- Able to work in pleasantly in all shifts
- Between the age of 20-27
- Knowledge on common packet programs

For an alarm evaluating operator the following skills are too necessary:

- Knowledge on security systems
- Technical background preferred
- Analytical capacity

In some countries as the operator is to guide security forces to the site through radio, a radio operating license may also be required. If you have permission in your region to directly contact national security forces through radios, please make sure that your operator has the required permissions before continuing.

As your monitoring station grows, you will notice that below the 30,000 site mark, you will be giving higher service standards, resulting in extra work conducted by your operators. Thus the wage scheme may end up higher than expected in this region. But generally after the 30,000 mark, you will notice that you will have to give more professional service meaning less work and a more standard procedure in alarm evaluation. Of course this will result in a more cost effective operator choice.

Some monitoring stations use a system called "Active/Passive". This system is used to rotate field technicians with alarm evaluating operators and visa versa. This can be helpful to technicians as they live the troubles that operators suffer if they do not give sufficient information on the systems installed. The operators on the field realize the tough conditions that the technicians face during the installation process. Some companies use this system as some sort of reward for the personnel.

All in all, human resources is a major key player in training, arranging shifts and recruiting sufficient personnel to suite your service needs.

The heart of your monitoring station
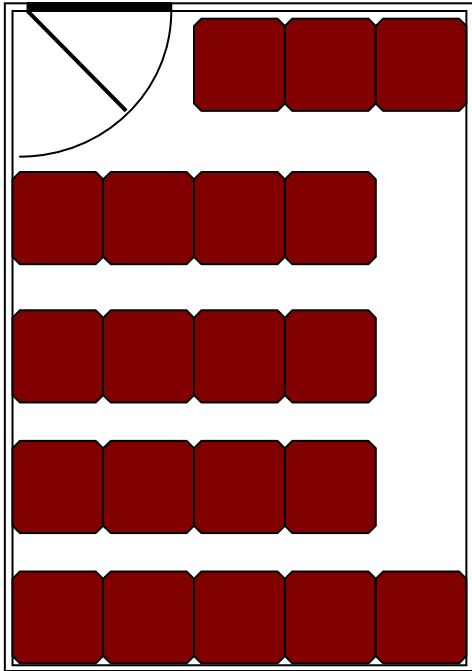
While setting up your monitoring station, you must realize that you cannot under-spend any amount during the preparations of the main server and receiver room. A terminal of an operator may be shut down; the lights may be shut down. But from the day the monitoring station starts to function not a single signal received from an alarm panel may be missed. Basically you can ill-afford any mishap that may occur in this room. The floor of this room must be raised and coated with antistatic material. Every component in this room must be grounded, tested and re-tested periodically. All cabling under the floor must be within appropriate cable conduits and fastened to the ground. The area beneath the floor must be isolated against

any dust. Proper IP ratings must apply to this region. Periodic cleaning of the room must be set and the cleaning material must be supplied as a procedure. The climate control of the room must be separated from the rest of the building and the control must be outside of this room. All output heat ratings in BTU must be calculated. The climate control must have a capacity of ¼ higher than the total heat exchange. For example some of the most common servers have an exchange of 2180 BTU/hour. Most receivers are averaged to 550 BTU/hour. It is recommended that this room does not have any windows at all. Therefore you will not have to calculate an unexpected heat source from sunlight. The room must be humidified in reliance to the average requirements of the equipment. But in what ever the case it should not be less than 20% and more than 80%.

The power system of the room must be controlled by an external UPS (Uninterrupted Power Supply) located in an external room and definitely not in this room. The power source must be controlled 24 hours a day by either an external PC or a remote control panel located outside of the room. All batteries must be periodically checked. The fuse system of each rack cabinet must be within the rack cabinet. You may also add extra fuses on the outside of the room.

All units must be placed in 19" rack cabinets. These cabinets must be accessible on all four sides, thermostat controlled with at least four coolers per cabinet. They must be fitted with proper cable handlers and an isolated cable inlet must be on the bottom of the rack cabinet. One of the doors must be made of Plexiglas, acrylic or normal glass. The rack cabinet is not to have wheels that may force cables from being moved around. No cable should be seen from the outside of the cabinet. Each cabinet must be controlled by a local fire detection system wired to a panel located outside of the room.

All receivers and line cards must be placed systematically inside the rack
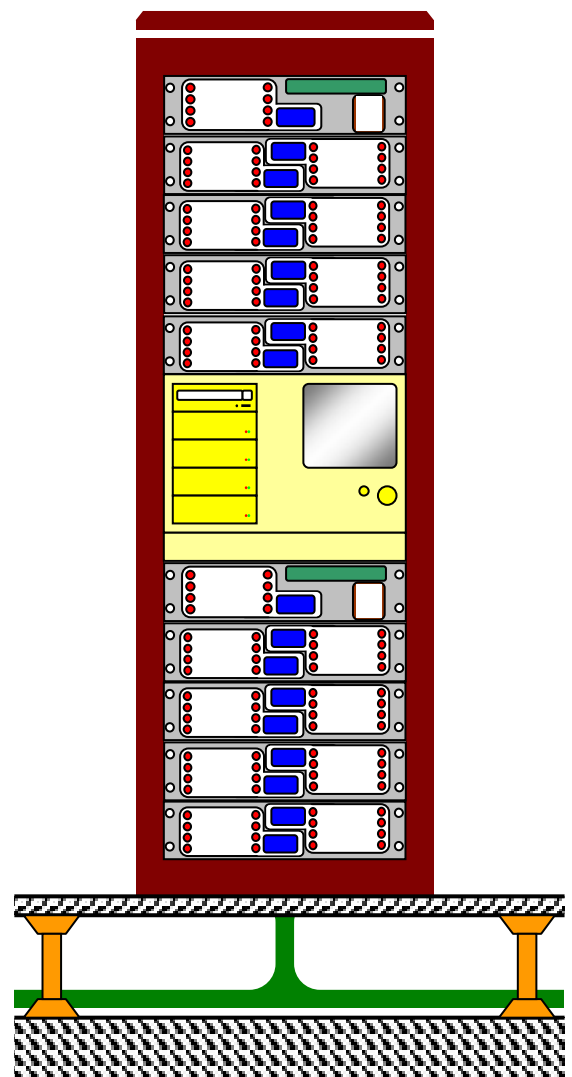
cabinets with proper installation components. Each piece of equipment must be labeled in detail for future reference. All phone lines must be connected through punch panels located inside of the rack cabinets. All excess cables must be batched like in the drawing below.
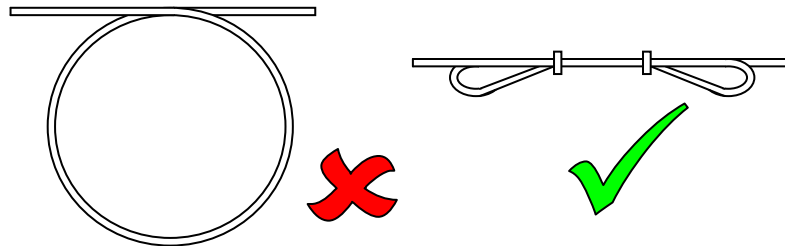
All receivers must be programmed to suite your services given and in reliance to your computer automation used. If line cards are used they must be labeled in detail, programmed to function with the receiver and checked periodically. All receivers must be fit with equivalent batteries against any servicing that may be required to prevent signal loss.

Servers

Servers that are to be used in these rooms must be chosen with caution as they are to be switched on after day one and never turned off. The minimum requirements for servers below 30,000 sites should have the following:

- Single or dual processor capacity
- Raid5 controller
- Minimum of 4 HDD's
- Serial port expansions
- Backup unit

The minimum requirements for servers above 30,000 sites should have the following:

- Dual processor capacity
- 19" Rack adaptors
- Integrated screen to save space
- Raid5 controller
- Minimum of 4 HDD's (8 HDD's recommended)
- Serial port expansions
- Backup unit

All servers must be installed with required database software in reliance to operating system and automation software and re-checked periodically. The backup units must be used periodically to backup databases and archived clearly. The databases must be maintained be authorized personnel frequently. Some countries have laws in the procedures of backup operations. Check your local authorities to see if any legal aspects apply to your sector.

Other peripherals

All servers, terminals are to be connected through LAN in the fastest technology possible. Switches are preferred to HUB units for use in LAN. The following table would give you and idea of the peripherals required in reliance to the sites connected to your monitoring station:

Site amount	Required Equipment
<500	At least two terminals One Switch
500-2000	At least three terminals One Switch One Server
2000-30000	At least 4 terminals One switch At least two servers
>30000	The number of terminals should be incremented in reliance to the service types provided Three separate database servers An extra database server every 100000 sites connected.

Operator terminals

The terminals used by operators need not have very high end capacities. Almost all of the automation software on the market does not pressure the terminals very much at all. The only advantage of a good terminal is that you would have an advantage of speeding operations a little.

The system requirements of a terminal are generally supplied by the automation software supplier. We fully recommend that the "recommended configuration" be applied rather than the "minimum configuration".

Printers

The choice of printers in printing monthly or annual reports is a very delicate issue. There are many monitoring stations across the globe still sending alarm reports via post. By printing high quality reports to end users is one of the major

marketing issues as these reports are the only tool that reminds users that they are monitored 24 hours a day. The printer that you will choose will generally be used once or twice a month. Generally the printing may take from 1 to 3 days.

Purchasing the right printer for the right job is essential. The supplier must give full support in reliance to your printing schedules. Printing is recommended to be accomplished in a separate room within the monitoring station. There are many companies that actually outsource the printing, enveloping and posting of the reports. This too can be an alternative. The printer must not be connected to a terminal directly. Instead a network printer is recommended. Some of the major features to look out for during the purchasing of a printer is high memory capacities, large tray for paper, double sided printing and high output capacity. Please note that some laser printers say that printing of the first page takes 30 seconds and the next sheets take only 3 seconds for example. This is may be true if the print out is for the same material. Printing reports mean that each page is different.

The automation software

One of the major marketing tools to promote your service is definitely the flexibility of your automation software. Using the right automation software enables you to react to alarms and supply customer requested reports faster.

The automation software must supply all of your planned services. It must also expand with your monitoring station to relieve you financially. Planning your present services to fulfill your requirements in the future is extremely important as long as your software can support it.

Requirements

The most important requisite in deciding the needs for your software is standardization. The software must comply with national and/or international standards. Software packages that only function with certain panels and receivers will definitely lower your flexibility form day one. The software must support more than one type of international or national receiver. There are cases in the past that some receivers have been left out of production. Using such a receiver with a one-type software will

eliminate the possibility of your company growing.

Another important feature to look out for is the proper use of databases. For the monitoring station to function flawlessly the database of the automation software must be internationally accredited (For example: MS SQL, MySQL or Oracle). These database structures have been created to function for years to come. There are many different software packages that have there own created databases. This can be very dangerous as you may confront that you may loose your data if you wish to change or upgrade your present automation for alarm monitoring applications. Re-entering your present data from scratch can be one of the most painful events that a monitoring station could ever come across.

As your monitoring station is setup and running for 24 hours a day, you will of course require support for your automation 24 hours a day. It is no good if your system has crashed for any reason and the supplier has a recorded message; "We are sorry that we cannot answer your call. Please call between 9 am and 6 pm for any assistance...".

There is no need to mention that the automation software must be network based. Whether this is LAN or WAN, the operator databases must be synchronized in some way. We have come across some monitoring stations that have, at the beginning of there operations, used one receiver per PC. As the system has grown they have added another PC and receiver to the system. As each PC has their own database, when the operators receive an incoming call, they run around the room checking for the account number of the user on each individual PC. This system may seem economic at the begging but the system does not have any chance of growing. This is not an economical way to approach professional alarm monitoring. A properly installed network system working off a database can be shared with the sales, technical and accounting departments. Such a system would be less prune to crashes of a fully functioning system.

In some countries, you may find regulations for all events of the alarm monitoring station to be logged. Even if this is not regulated, it is an excellent tool to review your operator procedures during their shift. Keeping all logs of all operations at all times is important in the event

of any dispute occurring between the user and the monitoring station.

Other handy features to look out for are automatic dialing, automatic e-mails and automatic faxes sent. To speed action time of an event one touch dialing can be very handy. If the dialed number is entered automatically into the report of the event this would be even more useful. Automatic e-mail and fax services from the terminal or through fax and e-mail services is also a very fast way to handle events.

One of the most important services to offer end users is the automatic control of open/close events. The automation software should have the capability to auto-generate alarms such as early open, late close, late open and early close. Considering the fact that today, 75% of alarms evaluated by operators in alarm monitoring stations, are related to open and close events, just gives a simply idea of this feature. Each time zone must be controlled by at least 4 different tolerances. It is recommended that this service be optional (and therefore charged separately) as it will take up most of your resources.

There are many alarm panels that support access control and time attendance. If this information is shared with the alarm monitoring station then you would be able to report all information regarding time attendance to the user. If the software supports such services, this could lead to extra income.

It is extremely important that you design your software to handle your capacity for at least 5 years. But keep in mind that the better solution you choose will prevent you from transforming your databases between software less frequently. It is recommended that the software is of modular structure and can grow with your capacity. It should give useable statistics that would shape your monitoring services. For example: It should tell you when you need another operator, when you need another line card and give detailed cost analyses of your current monitoring station. It should be able to handle 3rd party security companies with ease. As the automation industry is moving more and more into artificial intelligence, the software should inform of any problems before you start any data mining. These types of services does help in bringing end users strong data on their current situation thus implementing strong marketing tools of your current service.

The future of automation

In the near future alarm monitoring stations will use much stronger tools than today's infrastructures. Almost fully automated services will reduce cost and increase performance. Integration with switchboards will be a vital tool to decrease action time of events. Automatically generated SMS messages and e-mails will be sent to end users for details on the situation of the current. An

example of a message would be: Say for example you are the owner of a chain store. You have a very prestigious brand and your store should be open at 10:00AM and close at 10:00PM. If one of your stores opens later than 10:00AM or closes earlier than 10:00PM, a SMS will be sent to your mobile phone with the following message, "XYZ store, Norlane, has been opened by Jason Brown at 10:04AM. Central Monitoring Services"

In today's international market, to be the best at what you do requires extra skill, up to date technology, fast and effective service and most importantly cost effectiveness. The above information is a sample monitoring station and has been mixed from many monitoring stations from around the globe. It does not show any alarm monitoring station in particular. We would just hope that it will guide you through your mission in bringing into life, the most exciting challenges in your business career.

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