

Monday, November 12, 2018

### **NBN And Emergency Lift Phones, Alarms, And Other Fixed Diallers**

Emergency phones like those in Lifts, Security and Fire Alarm Systems with back to base monitoring are also affected by the NBN changeover and cut-offs, therefore building owners, tenants, and managers need to start considering what action they need to take, even if the NBN is not as yet active in your area, it likely won't be that far off, so you'll need to start planning for the changeover, it's also beneficial to change earlier, cheap PAYG M2M plans are more economical for standby emergency and idle telecommunications than PSTN line rental. As for Alarms, some B2B providers supply you with a SIM that includes all signalling calls in your monthly B2B plan.

This process is not as daunting or expensive as it might sound, for example, with Lifts, you're not going to need lengthy and costly service calls, or have downtime to change over the panels, because the system stays the same, it's only the external part, on how it talks to the outside world, that changes. These systems are intelligent, with a lot of electronics behind them, as part of that, the system is pre-programmed by the Lift company on who to call in the event of emergency call button activation. These systems usually have a phone lead from them plugged into a telecommunications outlet on a normal PSTN phone line, just like your home phone, as this example shows. In the current set up, when the call button is pressed, it automatically dials the pre-determined phone number which usually is the Lift or Security company, it's exactly like if you pick up a normal phone and hit a stored number memory button and sending caller-ID. Most Alarm Systems with B2B monitoring operate the same way, all you need to do is make sure it's plugged into a working PSTN line.

And therein lies the problem, the PSTN line, it is the existing copper telecommunications network, which gets completely switched off 18 months after the area is formerly NBN ready. To get around this we need to go wireless - with a 3G or 4G dialler gateway - please, do not consider using VoIP/NBN for such critical infrastructure, somebody's life, maybe your own, may one day depend on that call button on a Lift, or panic button on your Alarm getting through to someone, help can't come if your internet is down, or high jitter because your Internet is lagged out.

NBN (see PDF) recommends cellular (3G, 4G etc) diallers be used for Lifts, Security, and Fire Alarmed Systems, as there is no battery backup on FTTN/FTTB/FTTC, and very limited backup on only some FTTP installs. Reliability is key, and WH&S Laws covering Lifts and Fire must also be consulted.

To overcome the PSTN line problem you first need to purchase a 3G or 4G dialler, the most commonly used unit is the Ness 106-249 3G single line dialler, this unit ranges in cost from around \$160 to \$200, so shop around. At around 18\*12\*4 cm, it's small enough to fit inside most Lift Control units, it also includes a backup battery capable of powering the unit for two or so hours which meets the requirements under Queensland law where most states are similar, which although not appearing to be very long, should be ample time - let's face it, if you're stuck in a Lift, you might wait a few minutes for power to come back (since a tripped network often tries to re-energize 2 minutes later), but you're not really going to sit around for an hour before calling for help. This unit also has an operating temperature range of 0-50°C, and is suitable for humid environments, making it the perfect fit for all Australian climates. Larger capacity multiple line units are also available from other manufacturers such as Aristel.

\*\* I strongly advise against purchasing cheap diallers or knock-offs from sellers on eBay, always buy from a reputable company with equipment that may save your life

Next, purchase a SIM Card compatible with a 3G network, there are established companies that specialise in M2M (Machine to Machine) SIMs that are very well suited for Lifts and Alarms, one such example is M2Mone who at time of writing have very cheap PAYG plans at \$1.50 per month, plus per second timed calls, works out to be around 69c a minute - perfect for Lifts and Alarm Systems that mostly sit idle. As touched on earlier, for a B2B Fire/Security Alarms, talk to your B2B company first in case they have a better deal.

\*\* Do not use a normal pre-paid phone service, if credit expires or exceeds purchased value - the Lift Emergency, Security, and Fire Alarm call service will not work

Setting up the Ness device is as easy as inserting the SIM into the dialler, plugging in its external antenna, then unplugging the phone lead coming from your Lift Control unit from the phone wall outlet, and plugging it into the phone socket at the rear of the 3G dialler, power it up, and you're good to go.

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Don't forget to let your Lift/Alarm company know you've moved off the PSTN network, they will likely need the new number. Then test the system, and even if it works flawlessly, test again to be absolutely sure.

Your new dialler set up now looks something like this...

A few side notes...

Make a note of the date the dialler was installed, as with everything with batteries, they need to be replaced eventually, and test them every six months (or more often if your local law requires it).

Add the six and twelve months onto your to do calendar so you don't forget.

Some Lift systems may have their phone cabling hard wired, in this case, you'll need to seek out a Registered Cabler to sort it out for you.

Some lift companies will tell you that you can't do it that way and will try sell you a multi thousand dollar upgrade - which will just be a 3 or 4 G dialler anyway, so don't take for gospel everything that comes out of a companies mouth, since they have vested interests in selling you new products.

The dialler doesn't have to be located in or even next to the Lift Control system, if the existing phone line is currently wired to an MDF, the dialler can be connected down there, or anywhere in between, for convenience, security and reception.

If this is for a Security Systems, before you go out and get any of this, it's possible your system is already capable of 3 or 4G services, either right now, or through purchase of a module or licence upgrade (yeah, I too despise these licence upgrade paths, someone's always out to rip us off every and any way they can).

If you're considering replacing or upgrading your entire Security System, you need to ensure it's 3 or preferably 4G capable, if you need, or think one day you might need, back to base monitoring.

As for monitored Fire Alarms, you need to talk to your Fire Alarm Service Provider, your equipment may be under maintenance contract to be replaced by them, or maybe capable of 3 or 4G dialler module, if not you can go down the external 3 or 4G dialler road.

You might also want to notify your Indemnity Insurance company

I said it above but i'll say it again, after installation - test, and test again.

Hope this explains what needs to change for your Lifts and B2B Alarms. If you have other fixed dialler uses, like Doors, or Taxi phones, you may get away with using VoIP (SIP), but don't take any chances with services that may potentially save a life or property.

Usual Disclaimer: I have no direct relationship with any equipment manufacturer or cellular provider, I offer suggestions and examples based on what is known to work, and at fair and reasonable prices.

This article was originally written in February, but has been updated

Posted by NoelB at 11:04

Gday Noel,

Do you know whether anyone can install this device, seems pretty plug and play.

or

Does it have to be a sparky or lift company?

Advice would be much appreciated!

Anonymous on Aug 16 2018, 11:06

Hi Ryan,

I can not see any requirements for an ACMA approved registered cabler (not all, in fact most sparkies, are not authorised to do data/telco cabling work as they are not registered cabler - their sparky tickets don't cover them for telco/data stuff) or lift company to do this work, since you are unplugging from a wall jack, and plugging into this device instead, one thing the article should have emphasized though is to test, test, and re test your outbound emergency call system to ensure each call gets out, if you have problems getting through, even though you have good signal, then you might need to check with your lift company, you can also test it by plugging an analog phone into it and calling someone, even your mobile.

Check your insurance policy/company as well, especially if you are installing this in a multi tenanted building, can't see there being

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any problems though, since once they cut off your copper service, you have to 'call out' somehow and everyone seems to be going 3G or 4G. They might have something in your policy about emergency call, so pays to check, do not consider any of this legal advice, only technical

Anonymous on Aug 16 2018, 16:26

Have tried to connect our dialers to GSM box from Ebay. We can dial-in. Dial-out works almost, in that GSM box shows number and receiver picks up, but they cannot negotiate - receiver does not get alarmId and hence disconnects. Have tried with multiple sim-cards and 2 dialers. Might be issue with frequencies - or other ideas ?

Anonymous on Nov 20 2018, 04:24

@gsmuser

Does it work by dialing out using a normal analog handset to say your mobile?

It could be the progress tone freq's, from memory I think Aus is 425 Hz signalling

Do you know what brand/model? I guess coming from eBay it's some cheap Chinese unit so it could be anything.

Anonymous on Nov 22 2018, 13:21

Yep, it is a cheap CE unit, but it does work with headset call out. Might stm-product.com - GSMT-03 a try. This is for usage in Denmark... Or can you recommend other models ?

Anonymous on Nov 24 2018, 07:55

I'm not familiar with Denmark's Telco networks, but I'd caution on that GSMT03, if its a true GSM unit, it may be obsolete in near future.

Australia shut down all GSM services in recent times, and I think some other countries have or are moving that direction as well, only 3G or 4G services are available (with 5G soon) here, and if their statements on that unit are as GSM is understood here, its old tech (up to 2G).

I only know the ness units work in Australia, but I think our signalling tones here are same as in use in Europe (excluding UK), you may need to seek out a local forum where people in Denmark with local experience can advise you on the best units.

Anonymous on Nov 24 2018, 11:07