

## DO YOU HAVE OTHER NOISES ON YOUR PHONE LINE?

### IS IT A HUM, WHINE OR BUZZ?

A mains powered appliance such as a light dimmer, fluorescent lamp or electric motor may be to blame.

### IS IT HARSH STATIC, DISTORTED SPEECH OR RADIO PROGRAMME?

Radio interference from a broadcast transmitter, amateur radio, CB radio, cell phone, unsuppressed electric motor or welding plant may be to blame.

### CAN YOU FIND THE NOISE SOURCE? CHECK IT'S THE SOURCE BY SWITCHING IT ON & OFF.

Have it checked to ensure it is not faulty, get it fixed or locate it further away from telephone wiring.

## TIPS TO IMPROVE YOUR RURAL INTERNET CONNECTION

**Unplug other equipment** - try unplugging things like phones, faxes, cordless phone base stations, bells, answer machines, double adapters, extension cords, Sky digital decoders, and monitored alarm systems from the phone line when you are on the Internet. These can reduce connect speeds and cause disconnections. Alarm systems are usually programmed to call into the monitoring station at regular times so check with your supplier that it isn't programmed to call when you want to use the Internet.

**Avoid using telephone extension cords if you can.**

**Check the phone wiring** - the new two-wire telephone wiring system offers improved performance over the old three-wire system. If you have two or more phone outlets in the house, and they are not the modern two-wire type (with a small two on the face plate instead of an M or S) consider upgrading. Consider installing a new outlet near your computer if you are using an extension lead.

## MORE TIPS TO IMPROVE YOUR RURAL INTERNET CONNECTION

**Check your modem** - some modems try to go too fast on more challenging rural lines causing problems connecting and staying connected to the Internet. These modems often perform more reliably if you force them to connect at lower speeds and give more time to negotiate a connection. Check your modem documentation to find the command to do this. For example for a Dyalink rural modem the "Extra Settings" field to extend the connection time to 120 seconds is "**S7=120**", to limit the speed to no faster than 33k6 is "**+ms=11,,300,33600,,**" (In some other Dyalink modems the command is "**+ms=V.34,,300,33600**", and in USR/3COM modems "&U1&N16"). Therefore in the case of a Dyalink rural modem you would enter "**S7=90+MS=11,,300,33600,,**" in the "**Extra settings**" field. To do this under Windows XP:

Click on "**Start**";

Then go to "**Settings**", "**Control Panel**" and click on it;

Double click on "**Phone and Modem Options**";

Click on the "**Modems**" tab;

Highlight the modem you are using for your Internet connection by clicking on it;

Click "**Properties**" button;

Click on the "**Advanced**" tab;

Insert the modem command string in the "**Extra initialisation commands**:" field;

Click on the "**Change Default Preferences...**" button;

Change the "**Cancel the call if not connected within**" value to 120 secs;

Click "**Ok**" button;

Click "**Ok**" button;

Click "**Close**" button;

Close the "**Control panel**" window.

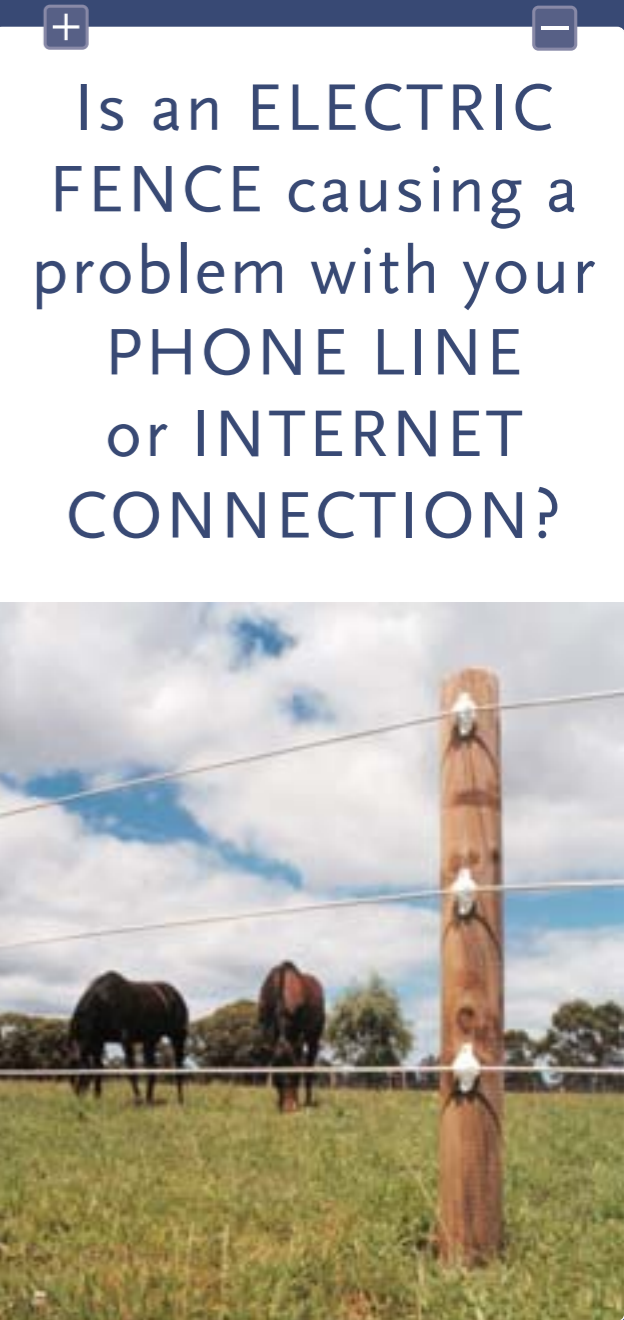
**Check your digital mobile-phone** - digital mobile phones and other radio transmitters have been known to cause disconnections when near a PC or phone line. Either switch them off while you are on the Internet, or put them well away from your computer, modem and phone wiring.

**Check the modem driver and firmware** - make sure you use the most appropriate driver and firmware for your modem. Modem manufacturers release new software and firmware periodically to fix problems and improve performance. Loading the latest driver or firmware may resolve problems you are experiencing.

**Check power cable location** - avoid running your telephone cable close to power cables and speaker wires. This can increase the noise on your line and degrade performance. Avoid placing your external modem and/or the computer itself near other high power or electrically noisy appliances (heaters, microwaves, conventional ovens, vacuum cleaners or other appliances with electric motors, fluorescent and neon lights, welding plant, etc). Aim to keep at least 150 mm away from these if you can, the further the better.

**Protect against power surges and sags** - problems with the quality of your power supply can also cause Internet connection problems. If you have frequent power outages or regularly experience flickering or dimming of your lights you may like to consider getting a true on-line no-break Un-interruptible Power Supply (UPS) to supply both your computer and modem if it is an external one. If you are in an area prone to electrical storms then either a UPS with in-built surge protection or an external surge protector should be installed to protect the UPS and computer.

This pamphlet is intended to provide general tips - please contact your electrician if the problem persists or you need further advice.



# Is an ELECTRIC FENCE causing a problem with your PHONE LINE or INTERNET CONNECTION?

Do you or your neighbours complain of hearing clicks on the telephone line? Do the clicks disappear when you or your neighbours turn an electric fence off?

**IF YES, TRY THE FIVE-STEP CHECK INSIDE**



## Did you know your ELECTRIC FENCE could be interfering with your INTERNET ACCESS?

### THESE ARE SOME TELL-TALE SIGNS:

- CLICKS ON YOUR PHONE LINE
- SLOW OR UNRELIABLE INTERNET CONNECTIONS

It can sometimes be hard to find the electric fence that's causing the problem.

It could be anywhere along the path of the telephone cable – from where it starts at the telephone exchange to the customer who is the furthest away.

Often the fence owner doesn't get interference on their own line, but their neighbours do - and those neighbours could live several kilometres away.



If your fence is causing the interference complete the **FIVE-STEP ELECTRIC FENCE CHECK**.

If your fence isn't causing the interference get together with neighbours to turn off the nearby fences to find the one causing the interference – then do the **FIVE-STEP CHECK** on it.

- Please seek expert advice before constructing new, or extending or altering existing electric fences to minimise the risk of your electric fence interfering with your, or your neighbour's, phone line.
- Do not increase the size of the electric fence energizer to overcome poor electric fence performance due to a lack of fence maintenance. Instead, fix the faults on the fence.

### MORE INFORMATION CAN BE FOUND AT:

<http://shop.standards.co.nz/shop/index.jsp> - type "3014" in the Reference No: window

A new Standards New Zealand standard on the installation and operation of electric fences, ASN25 3014 is now available. Appendix B of the standard describes how to prevent interference to communications cables and is available free of charge.

[www.tru-test.com](http://www.tru-test.com) Phone: 0800 878 837

[www.gallagher.co.nz](http://www.gallagher.co.nz) Phone: 0800 731 500

For Federated Farmers members  
[www.fedfarm.org.nz](http://www.fedfarm.org.nz) Phone: 0800 327 646

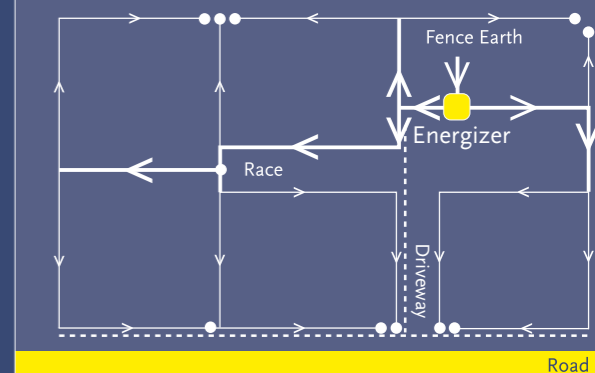
Or try Telecom's NetRight service – a free Telecom dialup test line that accurately tests your modem, and has suggestions on diagnosing and fixing electric fence noise.

The address is <ftp://download.xtra.co.nz/telecom/netright.isp> You will need to download the netright access icon onto your desktop to access the service. Please note electric fence interference is outside Telecom's responsibility and Telecom does not locate problem electric fences.

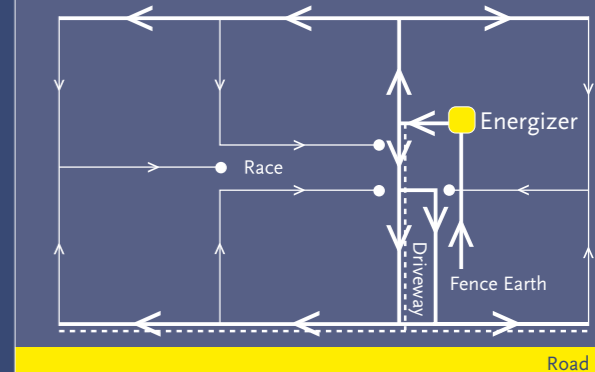
## FIVE – STEP ELECTRIC FENCE CHECK

- FIND OUT WHERE THERE ARE TELECOMMUNICATION CABLES OR PHONE LINES ON OR NEAR YOUR ELECTRIC FENCE.** This includes both buried and overhead wires and cables. They almost always run along or near the roadside reserve or along driveways. A marker post or grey connection pillar should be nearby. If you can't work out where they are call Telecom, on 124, for help.
- IDENTIFY THE ELECTRIC FENCE WIRES AND CONNECTING LEADS** within 100 metres of the phone lines and running either parallel or nearly parallel to them. Long sections running parallel to the phone lines feeding other sections are more likely to be a problem than short sections that go nowhere else.
- CHECK THE CURRENT IN THESE WIRES.** You can use a Gallagher SmartFix or Stafix Fence Compass, a Speedrite Fault Finder or Pakton Power Probe to do this. The current in a well-maintained fence should be less than two amps per kilometre of energised fence line. If it's higher, there could be a short on the fence, too much overgrowth, live wires contacting the ground or old deteriorating insulators. Work along the section with high current, and the downstream parts fed via this section, to locate and fix shorts by removing overgrowth, fixing live wires touching the ground and replacing old insulators.
- IF, AFTER FIXING FAULTS, THE CURRENT IS STILL TOO HIGH, FIND A WAY TO FEED THE MAIN SUPPLY THROUGH SECTIONS OF THE FENCE THAT ARE FURTHER AWAY FROM THE PHONE LINE.** For example feed the power out through fences in the middle of the farm, away from the phone line, rather than through the roadside boundary fence next to the phone lines.
- CHECK THAT THE EARTHING SYSTEM MEETS THE MANUFACTURER'S INSTRUCTIONS.** Make sure that it is at least ten metres from any buildings and ten metres from another earthing system. Also check that the energizer, earth electrode connecting lead and output leads to the fence are well clear of phone lines.

- ✓ The ideal way to set up your electric fence is to feed the power out from the energizer in a 'star' fashion, with no closed loops and low currents in parts of the fence that closely parallel phone lines.



- ✗ Avoid doing it like this...



➤ High current carrying fence section ➤ Low current carrying fence section --- Phone Line ● Insulation Point

**REMEMBER:** If you are buying a new computer or modem talk to your retailer about a modem that will work satisfactorily from your premises.



**CAUTION:** If you're not familiar working with electric fences, consult your electrician.