Noble gas mass spectrometers are built to last. There are no moving parts and the vacuum envelope will become cleaner with time as the instrument is periodically baked. However, the electronics and software on the instrument will become dated, unreliable and unsupported by instrument manufacturers. For the user the only option would be to buy a new instrument which may not be possible. This electronics upgrade package addresses this situation with new electronics and software to control existing older instruments.

At a minimum the upgrade will offer the same electronics stability as current electronics on the NGX noble gas mass spectrometer, which will continue to be supported by Isotopx.

This upgrade is available for VG 1200, VG 3600, VG 5400, MAP 215, MAP 215-50, GV Argus, GV Helix, and GV Helix SFT.
The units to be replaced in the instrument are as follows:

- Source emission regulator electronics
- High voltage power supply,
- Magnet control electronics including Hall Probe,
- Faraday Acquisition Unit,
- Ion counting Unit and Amp/discriminator

Additional advantages

- Source electronics - All tuning parameters for the system are computer controlled interfacing to a 20 bit suite of electronics that operate the HT, Focus, Electron Volts, Ion Repeller, Trap and X Steering.
- Intelligent Interface - Controls communication between the PC and the Source, Magnet and all valve control.
- Output lines for implementation of full valve control.
- Additional data collection channels for preparation system auxiliary inputs.
- Ion counting electronics including discriminator for the electron multiplier.
- The NGX software is the dedicated data acquisition and control software utilised to create the upgrade software. Operating under a Windows environment and in conjunction with the intelligent interface provides comprehensive system control, acquisition and reporting.
- Full colour display, including a numeric and graphical display of ion beams and pressure gauges and a graphical valve status display.
- Ion beams and isotope ratio display during data acquisition to allow operator assessment of data quality during analysis.
- Operating parameters for the mass spectrometer and preparation systems are stored in parameter files for recall and control of automated sample runs.
- Manual control routines for scan control, source tuning, and valve operation.
- True multitasking enabling concurrent operation of multiple programmes including access to Microsoft Excel for off line data handling / analysis whilst analysis is still taking place.
- Remote and Self-diagnostics Included. Maintenance time and costs reduced. This can be achieved by the use of Team Viewer on the control computer.
- Windows operating and data reduction software. Robust windows 7 based suite (Windows 10 available late 2016). Network compatible.