SNMP & SYSLOG features

Since Tekron's "E" series GPS clocks such as TCG 01-E and TTM 01-E, these have featured Ethernet interfaces for local and Remote Engineering Access.

This same Ethernet port can also be activated at time of ordering, or later via licence code update, to function as a NTP (Network Time Protocol) Server or PTP (Precision Time Protocol).

However, even without the NTP option, the GPS Clocks will provide SNMP and SYS LOG features. Here is a quick overview of what this means to those getting to grips with computer networks and its many acronyms.

SNMP is the acronym for **Simple Network Management Protocol**. It's intended to provide a standardised mechanism to monitor/manage equipment over a network. Typically, a Network Management System uses SNMP to monitor network attached devices to alert administrators to conditions that warrant attention.

The SNMP model includes:

- Managed devices (e.g. Tekron TCG 01-E)
- The Agent – code that runs within the managed device to deliver SNMP information
- Network Management System – software that runs on a "Manager" to gather data from managed devices and report to Network Administrators

SNMP itself does not define what data should be reported, but rather the manufacturer of each managed device provides a MIB (Managed Information Base) file that defines the structure of the information handled by that device's agent.

A Network Management System can request specific information from a managed device (using its knowledge of the MIB and a SNMP GET command), and where permitted it can also request a change to a setting via the SET command.

SNMP is called "Simple" as only five basic message types are used (GET, GET-NEXT, GET-RESPONSE, SET & TRAP).

The SNMP TRAP message is the only message that is initiated by the agent. This allows the "device" to notify the manager of an alarm condition, instead of needing to wait for the SNMP manager to poll the device status.

Note that the MIB information is resident within the agent, and a SNMP "WALK" command can be used by the likes of a Network Management Systems to retrieve from a managed device the full "subtree" of variables accessible within the device. The MIB information is also normally available as a standalone .mib file, to allow network managers to manually import and set the parameters of interest within their Network Management System.

To gain an experience of SNMP activity first hand, use the third party program SNMP Trap Watcher. Running this program on a PC connected to the clock will capture and display the different SNMP TRAP messages issued by the

clock. (Refer to the SNMP section of the Tekron user manuals for required clock settings). Messages include information on the status of the antenna connection, power supply and number of satellites visible.

The SYSLOG features in Tekron GPS Ethernet clocks allows the IP addresses of up to two computers running sys-logging software to be identified. The clock will send to these IP addresses messages that can be logged and time stamped. Syslog's can provide network administrators important forensic information for resolving network issues.

An example of the type of information that is reported by Tekron clocks is shown by the following log:

    <133>Jan 1 12:00:08 Tekron.SN=1898 RCM: Cold start.
    <134>Oct 25 15:54:53 Tekron.SN=40 RCM: Antenna OK.
    <134>Oct 25 15:55:03 Tekron.SN=40 RCM: Power A OK.
    <134>Oct 25 15:54:58 Tekron.SN=40 RCM: Satellites OK.
    <132>Oct 25 15:56:56 Tekron.SN=40 RCM: Antenna fail.