

Summary of key benefits

Easy to set up

- The system is self-configuring; no manual configuration of the radio network is required
- Provided each radio logger is within range of the receiver or another radio logger, data will find its way back to the receiver
- On-line diagnostics are available in the unlikely event of problems

Self-contained and battery powered

- Loggers have user-replaceable batteries with a typical life of 1 year
- The system will generate a warning when batteries need replacing

Labour saving

- There is no need for manual data downloading at each site. Data is sent back to the receiver and can be viewed on the PC connected to the receiver or any other PC on the network
- Logger settings such as measurement interval and alarm levels can also be managed remotely

Local recording

- If the radio logger is unable to transmit, either because it is out of range or has lost connection with its neighbouring loggers, it will store data locally for a week, until the obstacle is removed, or the position of the radio logger is changed and the data finds its way back to the receiver

Fast access to information

- This system allows for multiple sites to be monitored from one central location
- Tinytag Explorer software can be set up remotely, allowing data to be checked via an internal network, or via the Internet

Quick response

- Remote alarm signalling via e-mail is included in the system. SMS messaging can also be supported. These features can warn the user of problems even if no one is immediately available on the premises

Cost efficient

- The bigger the potential network, the cheaper the price per measuring point
- Wireless mesh networking offers local recording with fast access to data, saving you time and money.

Product Specifications

Mechanical

- IP67 case, Grey, 75 X 80 X 130mm
- 90mm stub antenna

Power

- User replaceable lithium battery, size AA (x2)
- 1 year typical battery life

Radio

- licence-free
- Range, 100m typical
- Frequency, 869.8 MHz (EU version)
- Power, 3mW

Download and interface software

- Tinytag Explorer (RF version)
- Bespoke software service available

Measurement

- Temperature and/or humidity
- Logging intervals from one minute to 10 days
- Local cache of 1 week's readings



➔ TINYTAG WIRELESS DATA LOGGING SYSTEMS

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Tinytag
Radio

MESH WIRELESS NETWORK

The Tinytag wireless data logging system from Gemini Data Loggers

Wireless mesh networking has been applied at Gemini Data Loggers with outstanding results. This system is robust, reliable, intelligent and saves time.

Intelligent Radio Loggers

The new system uses radio to send information back to a central receiver, taking away the inconveniences of manual downloading such as labour costs, health and safety issues and time delays.

It is an easy to set-up, ready to use, wireless system with data logging capability. It consists of a receiver which is connected to a PC and a number of radio loggers.

Each radio logger is a self-contained, battery powered unit that can receive, log, store and transmit data to other radio loggers, as well as the central receiver.

There is no time consuming configuring of each radio logger; the mesh network is, quite simply, self-configuring and there is no limit to the number of loggers you can have, or to how far away you have them.

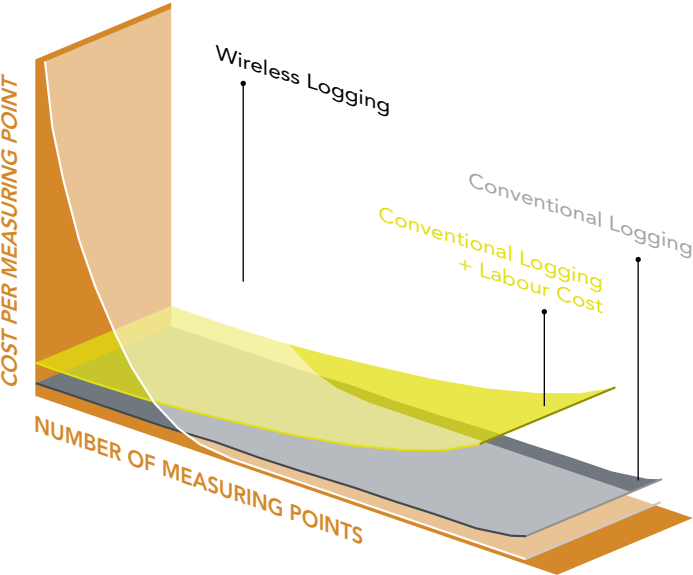
Each radio logger has a line of sight range of up to 100 metres, either from the nearest radio logger or the receiver. Each one acts as a repeater; if one radio logger is out of range with the receiver, its data hops to its nearest neighbour and hence finds a path back to the receiver.

If the radio logger is unable to find a path back to the receiver, data is stored locally until such time as a path becomes available.

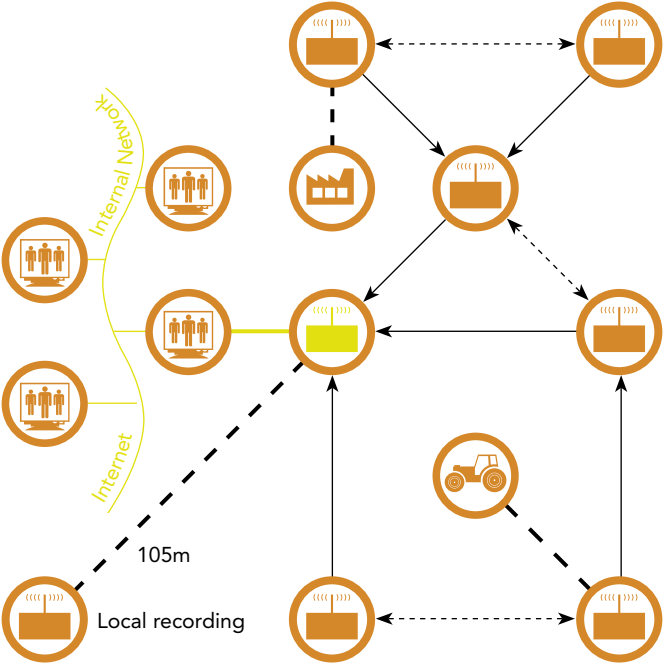
With this robust and self-healing way of transferring information the network is able to recover from temporary interruptions such as obstructions to the radio signal, loggers moving out of range, or the host PC being switched off. All measurement data will be automatically transferred when the interruption is cleared.

Cost-Efficient

For small sites a conventional logging system may well make sense. If, however, you are monitoring 20 or more points, radio becomes cost effective – even before you factor in savings such as eliminating the needs for manual downloads and the benefits of centrally correlated data. The graph below illustrates this point.



The benefits of mesh technology or a spider web network



Receiver

Radio Logger

Obstacle 1

Obstacle 2

Communication Route

Alternative Communication Route

Out of Range

Connection to Network

If an obstruction prevents a radio logger from communicating directly with the receiver, or its nearest neighbour, it will send the data back through other radio loggers within its line of sight, by-passing the obstruction and finding an alternative way back.

If the radio logger is unable to transmit, either because it is out of range (sited beyond 100m), or has lost connection with all of its neighbouring loggers, it will store data locally for a week until the obstacle is removed or the position of the radio logger is changed. Because the mesh network is self-healing, it will re-configure and re-establish the communication link automatically.

Alarm Icon

The software can connect to a receiver anywhere in the mesh network and be accessed remotely over IP

The loggers can be grouped

Flat Battery Icon

Data can be displayed as a table, cut and pasted into Excel and also exported as .csv file

Summary view can be displayed. Properties such as min, max readings, start and end times, etc are displayed in this panel.

Traces for individual loggers, groups of loggers or all the loggers can be displayed

Probes can be individually labelled, eg Humidity

A mouse click in here provides online diagnostics

Intelligent Tinytag Explorer Radio software

Tinytag Explorer Radio is the principal software for operating Tinytag radio loggers. This Windows-based program is simple and intuitive and allows users to easily manage their data loggers and recorded data.

Upon selecting the radio system from the menu, icons show individual radio loggers, each with their own unique serial number. These serial numbers can be grouped and given identifiable names, perhaps a location, or the individual probe can be labeled. Simply click 'get data', and information from one logger, a group of loggers or all loggers can be displayed in tabular or graphical format

Remote alarm signaling via email is included in the system and messages via SMS are also supported. This is ideal for sites not continually manned, allowing the user to take corrective action even if no one is immediately available on the premises. Alarm levels are checked continuously and an alarm email is sent as soon as the alarm condition is entered.

Tinytag Explorer Radio software can be set up remotely, allowing data to be checked via an internal network or the Internet. This allows for the monitoring of multiple sites from one location.

This 'Radio' version of Tinytag Explorer also supports conventional logging, enabling data from other Tinytag loggers outside the network to be incorporated into the network graphs.

Product part numbers and descriptions

	ACSRF-0020 Tinytag Radio Receiver, including Software Tinytag Explorer Radio, Antenna and Cable
	TGRF-0022 Tinytag Radio Logger 2 Temperature channels
	TGRF-0023 Tinytag Radio Logger 4 Temperature channels
	TGRF- 2500 Tinytag Radio Logger 2 channels, Temperature / RH
	SWCD-0040-V1 Tinytag Explorer Radio Software

There is a wide range of cost effective, watertight, robust probes suitable for most applications.

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