

MEARADIO SOIL MOISTURE SYSTEM.

DESCRIPTION. The MEARadio Soil Moisture System is an efficient method to record soil moisture data from a large number of widely distributed soil moisture sensors. Up to 38 soil moisture monitoring sites transmit sensor readings to a single data storage point. Data is stored continuously, automatically for up to 152 individual sensors.



MEARadio can be used with all MEA Soil Moisture Sensors including the GBHeavy, GBLite and Theta Probe. Continuously recording the sensor output creates a clear picture of the dynamic nature of soil moisture levels, the impact of rain and irrigation events, and when correlated to climate data, allows the grower to accurately assess the growth phases of the crop.

MEARadio simplifies the collection of data, sending signals across roadways, pipelines, vines, neighbours and rivers. While more expensive than cable-linked systems, the cost of cable and cable installation makes the radio cost effective. More importantly, MEARadio avoids the faults associated with cable systems. Damage from animals, farm machinery and lightning can cause extensive down time to cable linked systems.

MEARADIO FEATURES.

- ▶ MEARadio consists of an array of up to 38 *Field Stations* which collect sensor readings and transmit these readings to a *Base Station*.
- ▶ Transmission distance from the Field Station to the Base Station is conservatively claimed at 1 km. but a number of sites are exceeding this. A radio path test conducted by MEA will confirm actual signal strength between a measurement site and the Base Station.
- ▶ Transmission from the Base Station to your office is via the GSM cell phone network, a proven and constantly improving network.
- ▶ MEARadio is licence free.
- ▶ MEARadio allows a direct upgrade path from hand held measurements to an automatic, continuously logging system.
- ▶ MEARadio accepts either gypsum block soil moisture tension sensors or Theta probe soil moisture contents sensors, and these are interchangeable.
- ▶ MEARadio soil moisture measurement systems plug into MEA Automatic Weather Stations to provide comprehensive soil moisture and climate data.
- ▶ To collect data from the Base Station
 - Use a laptop at the Base Station
 - Take the small data logger back to the office for data retrieval
 - Add a communications pack with a built-in digital phone to retrieve data from anywhere.
 - Hard wire direct to your office PC (within 500 metres)



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MEARADIO FEATURES CONTINUED.

- ▶ The spring loaded radio antenna protrudes above the crop canopy but rolls under spraying, pruning and harvesting machinery.
- ▶ Field Stations are battery powered rather than powered by a solar panel to avoid interference with farm machinery. Battery packs have a one-year field life, and are fitted with a power switch to shut down during winter and double battery life. Battery replacement is a 30 second job that does not require any tools.
- ▶ Field stations transmit battery voltage so that deteriorating battery quality is detected at an early stage.
- ▶ For those applications where spring loaded aerials are not required, a solar panel can provide everlasting power.
- ▶ Installation is simple. A section of Ag-Bar holds the aerial and Field Station and cables are fed through a protective channel. A smooth profile on the lightweight aerial mast prevents protrusions catching on machinery. The Field Station enclosure hangs in a metal frame and is easily removed while being protected back, top and sides by robust brackets fitted with captive nuts.



MEARadio is made in Australia and supported by Australians. The system has been extensively field tested.

SPECIFICATIONS.

<i>Part number</i>	<i>Description</i>	<i>Comments</i>
MEA111	MEARadio BaseStation	Centrally located radio receiver and data storage device. Can be linked to MEA AWS
MEA113	MEARadio Field Station	Accepts four soil moisture sensors; GBHeavy and GBLite or Theta Probes.
3100	Magpie	Data management software

RELATED PRODUCTS.

2176	GBHeavy	Soil moisture tension sensor for heavy soils
2195	GBLite	Soil moisture tension sensor for sandy soils
Theta	Theta Probe	Soil moisture content sensor for all soils
2193	GBAuger	For efficient GBSensor installation
MEA102	MEA AWS	Weather station used with base station