

# Sinar Technology

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## Sinar Technology Moisture Network

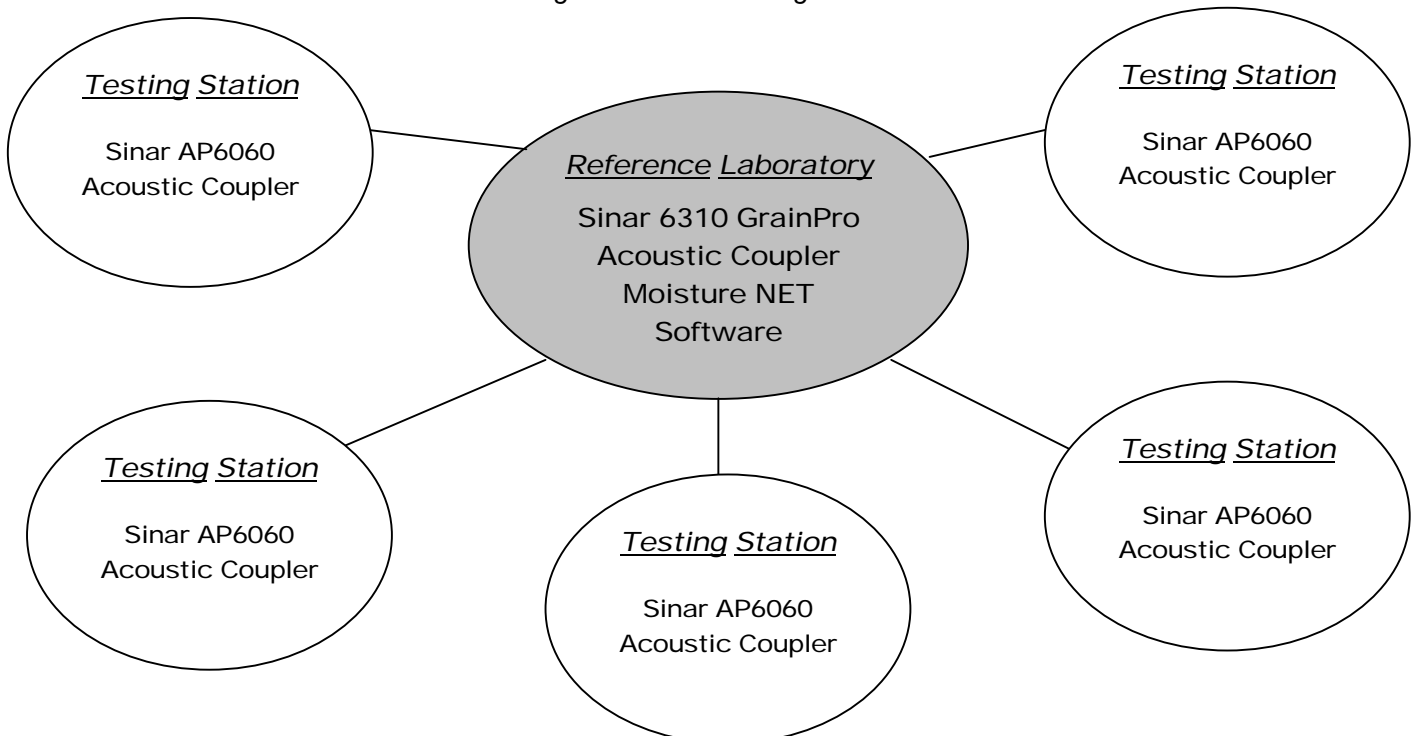
### 1. Introduction

The Sinar Moisture Network is run from a centralized, accredited laboratory for the purposes of guaranteeing accurate moisture analysis across a geographical area. Moisture is possibly the most important constituent measured in today's food produce and accurate results are crucial to guarantee the quality and storage potential of the crop. By setting up a network with a recognized laboratory at its hub, all calibration issues and guarantees are assured. Expensive claims and counter claims as regards moisture content (between buyer - seller) are eradicated immediately since all instrumentation is linked directly to a master instrument held at recognized laboratory. Any questions, issues or conflicts as regards moisture in a given tradable commodity are immediately removed.

### 2. The Network

There are many possible configurations for a Sinar Moisture network. The customer's requirements, budget, facilities all are important considerations. The following diagram outlines a basic configuration of a network with a Reference Laboratory and five testing stations.

Figure 1: Network configuration



### 3. Reference Laboratory

The laboratory holds the following equipment:

- Sinar 6310 Grainpro Moisture Analyser
- Sinar 6230 Acoustic Modem
- Sinar 19006309 Moisture Net Communications Software

The **6310 Grainpro** is held at the Laboratory and becomes the MASTER INSTRUMENT for the network. It is used to generate all calibrations for the network AND it is also used as a reference point on a regular basis. Samples are analyzed in the Laboratory for Moisture using the REFERENCE oven method. These samples are then passed through the Grainpro and an electrical reading (it is actually a capacitance measurement) is taken on the sample. From this simple data, calibrations are made for the relevant commodities that wish to be tested.

The Laboratory inputs the calibration data into the **Moisture Net Communications Software**. This intelligent software uses the data to automatically plot calibration curves for the relevant commodities. Once calibrations are made they are transferred into the Sinar Grainpro in the laboratory as a set where they can then be checked and tested against known oven tested samples. If results are acceptable, the Laboratory is then in a position to give these calibrations to the outlying testing stations. The Moisture Net software is able to download the calibrations into the testing stations Analyser using the supplied 6230 acoustic coupler.

The Sinar **6230 Acoustic Coupler** is used by the Laboratory (as a modem) to transfer the calibration data to the outlying testing stations.

### 4. Testing Stations

The testing station holds the following equipment:

- Sinar AP6060 Moisture Analyzer
- Sinar 6320 Acoustic Modem

Once the laboratory has prepared suitable calibrations, they can be transferred to the testing station. Using the Sinar 6320 Acoustic Coupler the testing station can receive NEW or UPDATED calibrations directly from the reference laboratory. Once the download is complete, the reference laboratory can perform a check on the remote AP6060 Analyzer to CONFIRM that it has successfully received the CORRECT set of calibration data.

This method of updating the calibrations can then be followed for all testing stations until every point in the measurement chain has the CORRECT and CURRENT calibration data.

### 5. Additional Notes

- The MASTER Sinar Grainpro held at the Reference Laboratory must obviously be kept in good working order and checked regularly for mechanical performance. This can be done easily by use of reference check samples as supplied by Sinar Technology - part no 19006352. Such

checks should be performed on at least a monthly basis if the machine is in constant use, or before any calibration work is begun.

- The reference laboratory may also see fit to set up a regular check scheme to guarantee the accuracy of the instruments in the outlying Testing Stations. A monthly or quarterly check sample can be posted to the member Testing Stations. These samples can be Reference Check Samples as supplied by Sinar Technology (part no. 1900-6352) OR known Moisture and Weight samples as supplied by the reference laboratory. If any instrument falls outside of acceptable tolerances the machine can be removed from the network and the problem possibly resolved via remote connection through the Sinar 6320 Acoustic Coupler.

Please direct any relevant questions about the points raised in this document to: David Wheeler (Sales and Support Manager) 0044 (0) 1276 671620 or davidw@sinar.co.uk