

REMOTE TENSION MONITOR FOR CABLE HAULERS

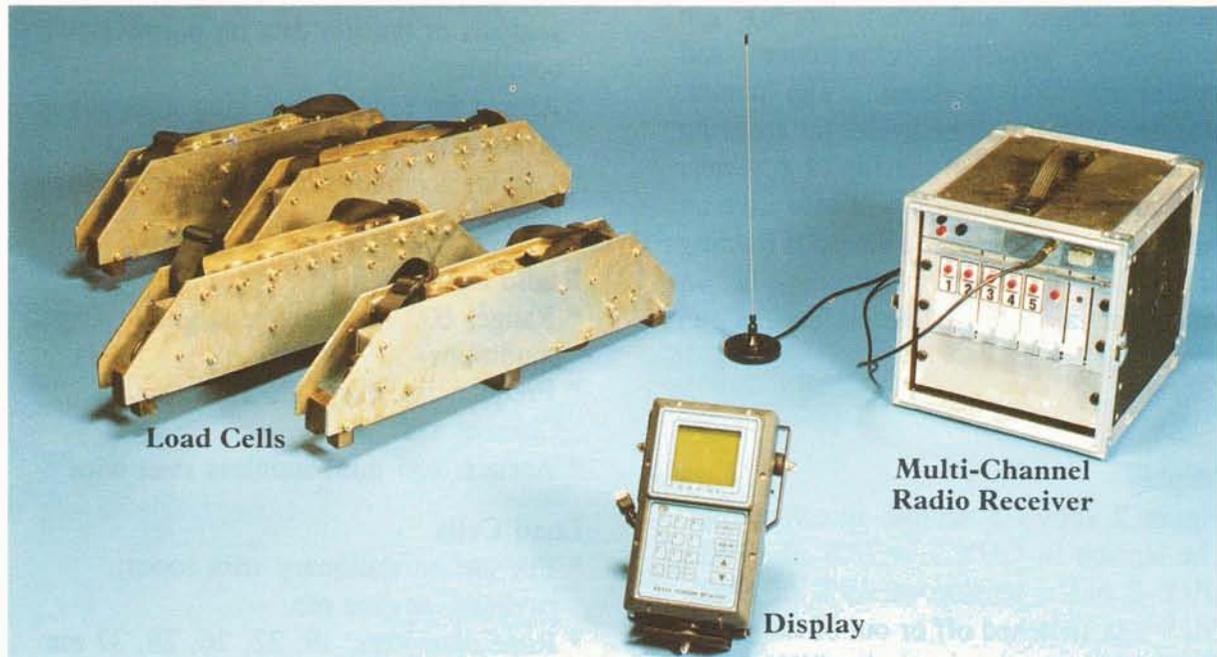


Figure 1 - Remote Tension Monitoring System

INTRODUCTION

Understanding the performance of forestry machinery and monitoring its use is becoming increasingly important in order to maximise productivity while maintaining safety. In the complex and dynamic system of a cable hauler operation, knowledge of line tensions has up until now been very limited and often a matter of operator experience.

In 1990, LIRO commissioned the development of a remote tension monitoring (RTM) system for cable haulers. The aim of the RTM system was to produce a tool for everyday use by hauler operators and contractors. The system measures line tensions on stationary ropes and transmits this information to a display unit in the hauler operator's cab. Up to six load cells can be attached to the guylines and skyline on a hauler.

The prototype system is being trialed in New Zealand to give hauler crews a chance to use and comment on its features.

SYSTEM APPLICATIONS

Safety

To prevent overloading of ropes the system is fitted with an alarm, both visual and audible, which is activated whenever the safe working load (SWL) of a rope is exceeded. The operator, once alerted by the alarm can decrease the line tension to within the SWL.

Training

Displaying tensions to new operators should enable faster familiarisation with the hauler and provide information when experienced personnel are not available. Operator trainers should find the RTM a useful tool for explaining the changes in rope tensions at various parts of the cycle.

