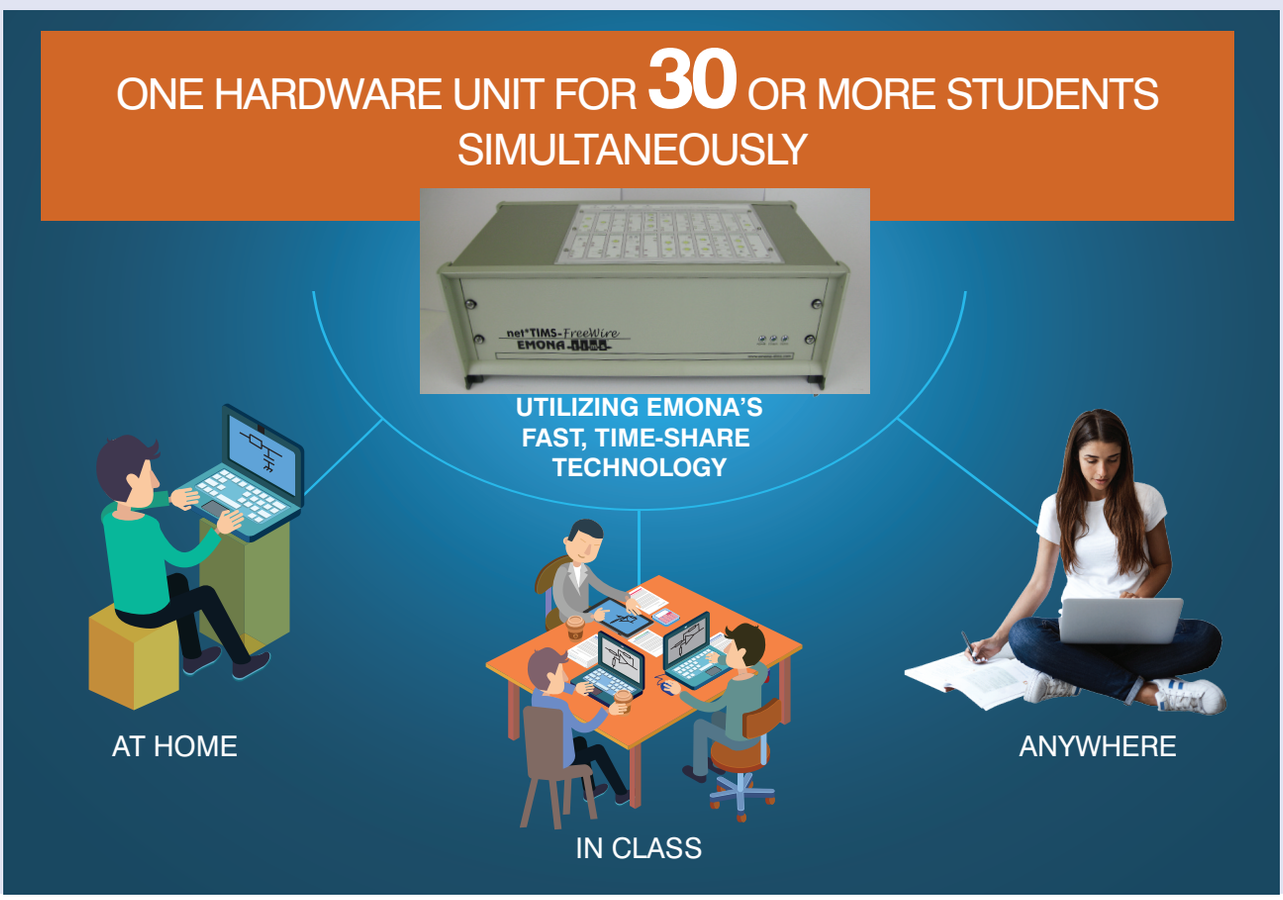
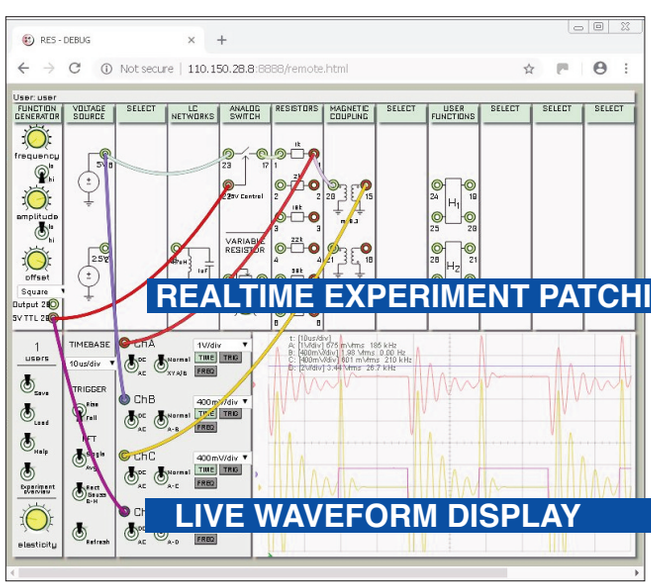
EMONA netTIMS-FreeWire

Basic Communications Experiments Remotely Controlled via Web Browser



- The netTIMS-FreeWire Control Unit is located in your lab or office.
- Fast and easy implementation. No software to install and no setting up required.
- Secure access for professor to all ADMIN functions including student records and tracking.
- Each student can build the experiment of THEIR CHOICE. Any experiment can be built by each student.
- Students access experiments via their web browser. No software to download: simple USERNAME and PASSWORD access.
- Professor has web access to the secure Server Administration pages for student set-up, management and monitoring usage.

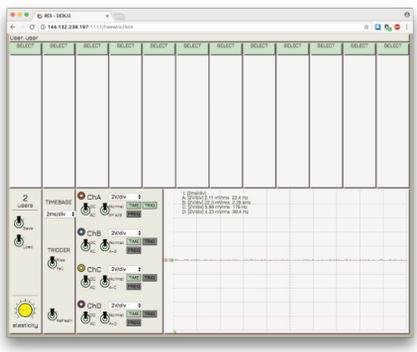


EACH STUDENT HAS UNIQUE EXPERIMENT

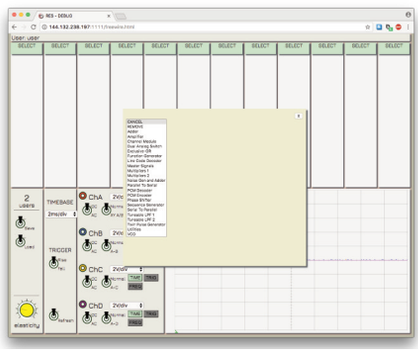
netTIMS-FreeWire - how students wire experiments

Students patch together experiments with a selection of 22 TIMS modules to build 38+ telecoms experiments.

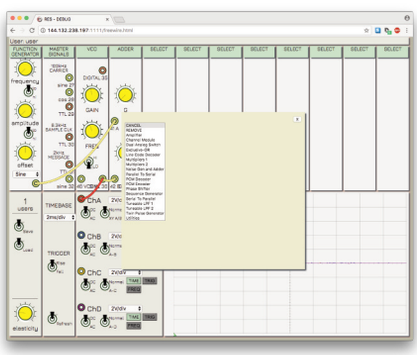
Start > Select > Wire > Measure > Explore



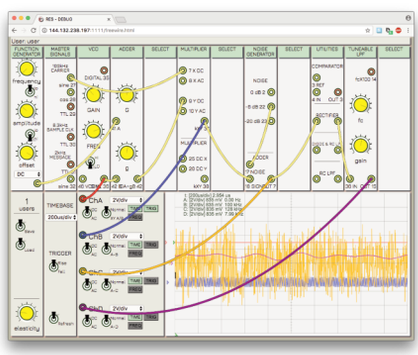
• **START:** log-on with a blank screen



• **SELECT:** select MODULES required for the experiment



• **WIRE:** Patch outputs/inputs to build experiment



LIVE DISPLAY with 4 CHANNEL OSCILLOSCOPE and SPECTRUM DISPLAY

• **MEASURE & EXPLORE:** adjust, measure, review

netTIMS-FreeWire Experiment Capabilities

Intro to netTIMS-FreeWire
Modeling equations
DSBCS generation
Product demodulation
AM method I
AM method II
Envelope detection
Armstrong's phase modulator
FM - WBFM modulation by VCO
FM demo by zero crossing
Sampling and reconstruction
Phase division Multiplex
Phase division demultiplex
PWM mod and demod
Carrier acquisition by PLL
Complex analog messages
PCM encoding
PCM decoding
ASK modulation
ASK demodulation
BPSK modulation
BPSK demodulation
QPSK modulation
QPSK demodulation
FSK modulation
Signal constellations
Eye patterns
The noise channel
Line coding and decoding
QAM modulation
QAM demodulation
BPSK in a noisy passband channel
PCM-TDM
Intro to PAM-TDM
Intro to QASK
Noise generation using binary sequences
Principles of spread spectrum
AM demodulation and SNR

Available from:

Designed and manufactured by:
Emona Instruments Pty Ltd
78 Parramatta Road
Camperdown NSW 2050 AUSTRALIA
Tel: +61-2-9519-3933 Fax: +61-2-9550-1378
URL: www.emona-tims.com
Email: sales@emona-tims.com

(c) copyright 2020 Emona Instruments Pty Ltd net*TIMS-FreeWire Rev3.1 Specifications are subject to change without notice. Printed in Australia