

# AUTOMATION & ELECTRONICS

Precise Control  
International Systems Integrators

A&E Newsletter 2015



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## INDEPENDENCE LUMBER

The new Independence Lumber facility in Virginia, USA was completed in November 2014, after it experienced a huge fire, which almost burned down the entire mill.

The one sector of the mill to be saved was the Binsorter.

Independence Lumber's contracted engineers, TS Manufacturing, work together with Automation & Electronics USA for their control systems and expertise.



In this instance TS Manufacturing fabricated a new infeed and trimmer and A&E installed and commissioned the new sorter and optimizer trimming controls, including A&E's Binview™ software. The new Independence Lumber Inc facility occupies 27 acres, is one of the largest single site mills in the USA and produces 120,000 board feet of timber per day.

## A&E EXPO STANDS

SEE US AT THE FOLLOWING SHOWS . . .



**Hardwood Manufacturers  
Association**

HMA's Event 2015  
March 25th - 27th  
Nashville TN, USA



**Southern Forest Products  
Assoc (SFPA)**

10-12 June 2015  
Atlanta, GA, USA

**WoodTECH NZ**

18-19 September 2015  
Rotorua, New Zealand

**WoodTECH Aus**

24/25 September 2015  
Melbourne, Australia



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## KRUEGER LUMBER CO INC.

Includes comments from Mr Dan Korinek - Mill Manager, Krueger Lumber. ***"I will definitely use A&E again for any other upgrades we might undertake"***

At Krueger Lumber, situated in Valders, Wisconsin, an outdated edger optimizer required upgrading. In this instance, a PLC and scanner computer while still utilizing existing scanners, servo drives and motors replaced the old computer controllers. In the words of Mr Dan Korinek, Mill Manager of Krueger Lumber - "This upgrade was not an easy task and required pairing new PLC's and computers with old equipment".

Rainer Ansonge, a senior engineer at Automation and Electronics sums up the project in this way:

*"We upgraded an existing Silvatech Networks with a new Automation & Electronics control system. The PLC control system is an Allen Bradley Compact Logix PLC with I/O and AB interface to existing Emerson servo electric positioning modules for the chains combined with new Delta servo hydraulic positioning modules and MTS Temposonic positioning for the saws and laser positioners.*

*A new operator console and scanner interface were supplied. New servo valves will be provided for the two saws and two lasers. Existing hydraulic cylinders will be retained. Our solution involves an interface to the existing Dynavision B8 Scanner, combined with new computing hardware and AE IRIS™ Edger Optimization Software. This allows for boards up to 20ft in length."*

**When asked why Krueger Lumber used the services of A&E, Mr Korinek volunteered the following information . . .**

*"A&E were highly recommended by Algoma Lumber Co and after calling numerous places, A&E kept being mentioned as a reputable company to use". "I called all over the United States," he said.*

Mr Korinek also made mention of the fact that software engineer Martin Dodd and Rainer Ansonge were very knowledgeable about all aspects of the upgrade. "They were willing to help us, no matter what time of the night we called" (meaning the time difference between the U.S and New Zealand).

"This upgrade was no easy task - integrating new PLC's and computers with old equipment and I will definitely use A&E again for any other upgrades we might undertake", he said.



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## AUTOMATION & ELECTRONICS & WINDSOR

### A SHARED PERSPECTIVE

A story from: Mr. Keith Robertson – Windsor International Business Manager.

"The past ten months have again been a busy time for A&E and Windsor, installing and commissioning of our Dryspec and DryTrack Echo systems for process management and HMI for our kiln projects".

"Amongst other projects, in this period, we have successfully completed four more CDK systems in the USA plus another CDK in Canada".

"The next six months will be even busier with another five CDK systems on schedule for the USA plus four New Zealand based projects which includes three sets of batch kilns plus two CDK systems".

"Our order book is healthy with numerous kiln projects for 2015 all including controls software and hardware input from A&E".

"As we have come to expect the service and support from A&E has been excellent and is much appreciated."



# 4

## HIGH COUNTRY LUMBER

High Country Lumber & Mulch, LLC North Carolina - New Compact Logix PLC and Delta Hydraulic positioning module.

With project description from Rainer Ansoerge - a senior engineer at Automation and Electronics.

High Country Lumber & Mulch, LLC are located in the heart of the Appalachian Mountains in Western North Carolina. This region is known for some of the finest hardwoods found in the world. High Country Lumber & Mulch, LLC produce the highest quality lumber our industry has to offer. With a Growing Global demand for Sustainable Hardwoods in the US, expansion and optimization of the mill are a priority.

Recently, Automation and Electronics undertook the following project at High Country Lumber & Mulch, LLC.

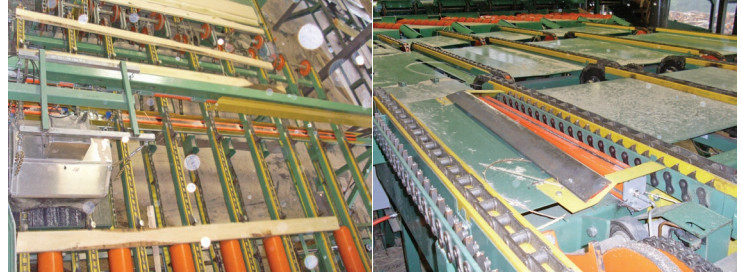
The Trim Line system at High Country Lumber consists of an Unscrambler, Even End spiral rolls, two Accumulation Decks, Lug Loader and a seven-teen Saw Line shaft Trimmer with a two stage Hydraulic fence on linear cylinders. A&E installed a new Compact-Logix PLC and Delta hydraulic positioning module controlling the servo axes as well as new operator consoles with a Panel View plus MMI Screen.

The Unscrambler runs with lug detection and a separate even end roll section.

The lug detection uses a pulse wheel that can be used for guidance through the 'lug' of the Unscrambler. There are two photocells that detect lumber in the lug.

One at the back plate that detects 4/4 boards, and one that detects cants (4" or higher). They are used for speed controls of the Unscrambler discharge in concert with the pulse wheel. If the 'board detect' PC detects lumber at an early stage in the lug then it slows down to a percentage of full speed.

This uses the Unscrambler speeds to help singulation and unscrambling off the top of the Unscrambler. Other items are the 'not even ended' photocells that do a similar. This allows the even end rolls more time to even end prior to having the next lug drop a board on top of it. If the Unscrambler makes it through the lug without seeing a board, then it speeds up to 125% of max speed, since it was an empty lug.



The VFD speeds are all set to speed up and slow down based upon back pressure. The SIM PROX gives backpressure feedback on the accumulation decks and the lug loader.

# 5

## BREAKING NEWS ... CHILE

Automation and Electronics are incorporating two additional kilns to their Dryspec 2000 Kiln control system that is at ITI Chile, in Concepción, Chile.

There are two existing Windsor Kilns™ on site and they are adding controls to two new kilns on site.

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## KIWI TIMBER PROTECTION LTD WAIPAPA PINE KERIKERI N.Z.

*"Good communication, easy to deal with and very good support"*

Grant Arnold, Director – Operations, Kiwi Timber Protection Ltd.

Recently two Windsor™ kilns were relocated from Blue Mountain Lumber in the South Island to Waipapa Pine in Kerikeri in the North Island of New Zealand.

"We wanted to use Dryspec™ on our kilns and Automation & Electronics are the suppliers and the experts of this controls programme", says Grant Arnold, Director – Operations, Kiwi Protection Ltd.

A&E provided and commissioned Dryspec™ controls over both kilns. Grant further commented on his satisfaction in dealing with A&E as follows - "Good communications throughout the project, easy to deal with on site and got on with the job with minimal management". He further stated that A&E provided very good support of their product once the kilns were commissioned.





# 7

## JUKEN NZ LTD WAIRARAPA

Ken Camden, Electrical Supervisor.  
First evaluation was May 14th, 2014. The mechanical hardware was imported from the USA and arrived in New Zealand 24th December. Installed by the Mill staff and commissioned in January 2015.

**“NEW NOT NECESSARILY BEST”**

“I must especially mention A&E’s work in discovering we could retain the use of the SoftPLC earlier last year”, says Ken Camden, Electrical Supervisor at Juken NZ Wairarapa, Masterton.

“We had always been told that the SoftPLC was only capable of controlling a 6-bin stacker, so were expecting to have to spend considerable amounts of money (\$200k to \$300k) to totally replace the controller”, Ken said.



**“Through A&E’s investigative work we were able to add additional IO to the unit and keep our costs down to a minimal level” he said. Ken states, “this has made the work undertaken far more cost effective for us.”**

# 8

## WAVERLEY SAWMILLS LTD

### PROJECT - REVAMP EXISTING EDGER

SOURCED FROM PUKEPINE TIMBER IN TE PUKE

The project also included the addition of Edgerview™ software from Automation & Electronics.

**“Just a ‘phone call away – easy to deal with”** - Syd Irving, Mill Manager, Waverley Sawmills Ltd.

Waverley Sawmills is situated in Waverley, on the North Island’s West coast, just a little north of Whanganui.

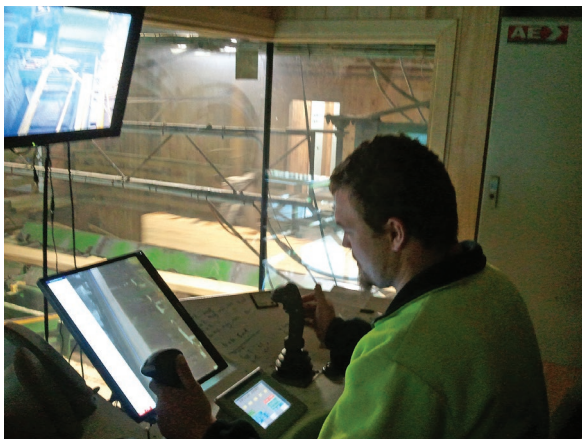
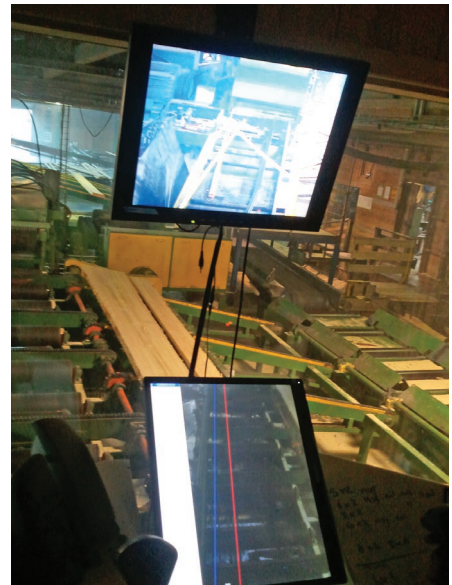
In 2014, the decision was made to replace the existing Breast Bench with an Edger in order to increase production and to meet ever increasing sales demand.

Previously, production in this small to medium mill was 80 cu metres per day (in one 8 hour shift), whereas 140 cu metres per day was required in order to fill existing orders.

Whilst full production capability is yet to be achieved, Mill Manager Syd Irving says “we have yet to get our cutting patterns completely sorted and our operators fully up to speed in order to reach optimum production, however, there is no doubt that with our new machinery we will be able to achieve this very soon”.

“We initially installed a Slabber at the Headrig station and had used A&E for Kiln Controls” said Syd. “We were satisfied with A&E’s performance and as a result of this and for the sake of uniformity, we decided to continue using Automation & Electronics for other upgrades and overall mill expansion”, he said.

“Overall, we are very happy and service is just a ‘phone call away, it’s simple to deal with minor problems on-line and the guys are easy to deal with’ says Syd.





## Industrial IP Camera CC04-IP2M



CC04-IP2M Shown with  
Optional Vibration Mount

### Features

- 1/2.9" 2.43M PS CMOS Sensor
- 3.8mm (F2.0) Fixed Lens
- Max. 30fps @ 2MP (1920x1080)
- Dual Stream(H.264, MJPEG)
- PoE or 12V DC Power
- 8 Piece IR LED Array
- IP67 Waterproof / Dustproof

#### System Integration

Protocols: HTTP, RTP/RTSP, TCP/IP, FTP, Telnet, RARP, PPPoE, SNMP, PAP, CHAP, DHCP, NTP, SMTP client, uPNP, and etc.

#### System Hardware

32bit Embedded CPU / Embedded Linux / 128MByte SDRAM / 128MByte NAND Flash

#### Alarm Management

Trigger Conditions: Video loss / Video recovered / Motion detection (144 area) / Boot finished / Schedule

#### Software Compatibility

3S PocketNet	ACTI Corp.
APPRO	Arecont Vision
Avigilon	AVTech Corp.
AXIS Comm.	AXXONsoft
Bikal	Cellinx
CNB Tech.	DigiFort
DVTEL	Eneo
Exacq Tech.	Genetec
Huper Labs	iCanTek
iOmniscient	IQinVision
JDS Digital Sec.	KT&C Corp.
LuxRiot	Milestone Systems
Mirasys	Mobotix
NetCam Watcher	Nice
Nuuo	OnSSI
Panasonic	Probe Digital
QNAP Security	Samsung Techwin
Synology	TP-Link
Truen	Verint
Vivotek	

**(Supports both ONVIF(ProfileS) and PSIA(v1.0) standards)**

Specifications	CC04-IP2M
Video Encoding	H.264/MJPEG(simultaneous dual stream)
	H.264/H.264 (true H.264 dual streaming)
	Simultaneous streaming with independent control
Resolution	1920x1080, 1280x720,640x352, 320x176, 160x96
Serial Interface	Console, By-pass command to control UART device
Bandwidth Management	Frame rate control / Bandwidth control / CBR / VBR
External Interface	10/100-Base-T Ethernet (auto-sensing), 1 DVI(D) (3.3V TTL), 1UART port(3.3V TTL)
Image Sensor	1/2.9" progressive scan CMOS
	Total number of pixels: 2000H×1241V=2.48M
	Pixel size : 2.5 8 (H) μm × 2.5 8 (V) μm
	Color filter Bayer arrangement of primary colors: R, G, B
	Bit number of internal ADC: 10/12 bits
	Parallel output: 37.125 MHz, 10/12 bits
Image Controls	Maximum frame rate in all-pixel scan mode: 60/30 fps
	Day & Night (Auto/B&W/Off), AWB, Noise Filter (Off/On), Brightness/Contrast/Sharpness/AGCGain Control, Shutter (Manual/Auto), Vertical/Horizontal Flip, Sens Up Level
Illumination	0.0016 Lux
Lens	3.8mm, Fixed, F2.0
Housing	Cast Aluminum Alloy with Vibration Damping Mount
Power	POE or 12V DC (4.8W Max. Consumption)
Dimensions / Weight	80mm(W) x 50mm (D) x 54 mm(H) / 500g
Operation Temp.	-10C ~ 50C

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NEW PRODUCTS

• E LINE DIODE LASER

# E Line Diode Laser



*with many years of industrial laser manufacturing experience, Connexus Industries, Inc. is proud to offer an economical, quality diode laser*

*The E-Line Diode Laser is self-contained with optics housed in a sealed cell to provide added protection against contaminants and moisture*

**Available in:**

5mW – 20mW **RED** models  
5mW and 10mW **GREEN** models

The color **GREEN** appears 4 to 5 times brighter to the human eye than the color **RED**.

## SPECIFICATIONS

<b>laser type</b>	visible laser diode
<b>laser composition</b>	semiconductor InGaIP
<b>laser class</b>	II, IIIa
<b>wavelength</b>	520nm – 635nm
<b>output</b>	5mW – 20mW
<b>beam angle</b>	per line length
<b>operating voltage</b>	Red: 5VDC, 12VDC , 24VDC Green: 5VDC

<b>operating current</b>	100 - 200 ma
<b>operating temperature</b>	-10° to 40°C
<b>mechanical shock</b>	90V for 250 ms
<b>resistance</b>	300g for 1 ms
<b>housing</b>	nickel plated
<b>environmental</b>	NEMA 2 (or NEMA 4)
<b>dimensions</b>	0.75"D x 4.875"L





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## NEW PRODUCTS

### • RENS INDUSTRIAL METAL DETECTORS



**RADAX A60 –**  
Hexagon Coil designed to detect small pieces of metal at random orientations



Custom made fiberglass section bolts directly to conveyor which provides metal free zone for optimum detection

## METAL DETECTORS

For over 70 years, RENS® Metal Detectors have been manufacturing the most dependable and accurate metal detectors on the market. RENS® high powered metal detector system offers efficient and cost effective tramp metal detection for both ferrous and non-ferrous metal. Detection of stray metal helps prevent costly downtime and damage to expensive machinery further down the production line.

Whole log, cant, belt and vibrating conveyor systems are available, along with portable units.

**RENS® has been manufacturing industrial metal detectors for over seventy years.**



**NEW STAFF  
MEMBERS  
NEW ZEALAND**



**A&E NZ WELCOMES  
Project Engineer Alex Trapski.**

**A PERSONAL PROFILE:**

"I have had an interest in electronics from a young age. At school I developed an interest for science and maths which then led to electronic/ electrical engineering".

"I then studied engineering, majoring in electronics, at the University of Waikato".  
"Throughout University I developed a passion for automation and controls and for my second 3 month work placement (university summer paper) I worked for an automation company where I got an insight into sawmill automation".  
"During this time I had the opportunity to study the various parts of a sawmill and experience how they interacted with each other".

"I graduated from University in April 2014 & soon managed to get an interview with Glenn Purcell (A&E Technical Director) leading to my current position with A&E as a project engineer".

"My main department within A&E is kilns which includes managing projects from start to finish". "The stages are: panel/component design; PLC and SCADA programming; organising CAD drawings; overseeing panel building; testing of the panel and then commissioning on site".

"In my spare time I enjoy playing electric guitar, running, listening to music, movies, concerts, water skiing and hanging out with mates".



**A&E NZ WELCOMES  
Project Engineer Scott Arendse.**

**A PERSONAL PROFILE:**

"I began my employment at Automation and Electronics in August of 2014 and have been appointed as Project Engineer focusing on Controls and Systems Engineering".

"After going through the phases of completing my studies, I first began working as a Genset commissioning technician but soon moved towards control systems and PLC programming".

"Since working as a Controls Engineer, I have completed projects using a variety of PLC brands such as Siemens, Schneider, Omron, Delta & Allen Bradley."

"Some of the SCADA/HMI packages that I am familiar with include GE iFix, GE Cimplicity, Siemens WinCC & Factory Talk."

"I enjoy the outdoors so every chance I get, I try and get out there and do a bit of biking or running and spending time with my family".



**NEW STAFF  
MEMBER  
A&E USA**

**Paul Phillips joins Automation & Electronics USA Ltd as Sales and Business Development Manager.**

Paul is from North Louisiana USA and spends most of his free time fishing on the lake where he lives and bow hunting whitetail deer at his camp in Nebraska USA.

He is married to Lisa (34 years this November) and has one married daughter (Jessica and Joey Beavers) with two grandsons (Jax 3 years and AP 6 months).

He brings with him over 30 years of experience supporting the wood products industry through machinery manufacturing, environmental control equipment supply and systems installation.

In addition, Paul has extensive knowledge of the market in this key regional area. Paul's expertise lies in the strategic development of business through understanding the needs of customers based on their core strengths.



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