



The Bot Patrol

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What's Going On?

The Prodigious Ultra Trak-Bot Introductory

Inside this issue:

Education	1
I'm Back	1
eM18-ARM	2
iM18-ARM	2
Forager-T Mk2B	3
Forager-T-SandBag	3

c-Link Systems is pleased to announce the awarding of 50 Ultra Trak-Bots to 50 schools to assist in STEM programs.

Commencing on the first of March 2013, a webpage will be activated for schools to sign-up for the Ultra Trak-Bot. Rules and requirements will be available mid February on the c-Link Systems website.

Ultra Trak-Bot contains:

New Trak-Bot Chassis w/Under deck battery

box

New motor/gearbox drive system

One piece urethane tracks

New controller base board w/Freescale Freedom Platform plug-in card and full Inertial Navigation System

Left/Right side IR range sensing

Ultra-sonic front range sensor

Zig-Bee communications module

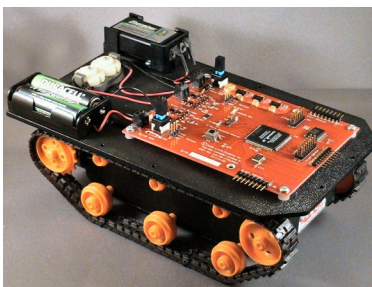
—SEA

Special points of interest:

- www.c-linksystems.com

I'M BACK —TRAK-BOT-C3 WITH UPGRADES

c-Link Systems, Inc. has available for the educational field an inexpensive Autonomous Robotic Vehicle Development Platform



Trak-Bot-C3
ARV Development Platform

called Trak-Bot-C3. Its features include elastomer tracks, dual motor/gearbox combination with speed con-

trol, 2.5A motor drive circuit, under deck battery box, Inertial Navigation System, EP3C5, Altera Cyclone™ III, field pro-

grammable gate array (FPGA), all schematics for electronics supplied and factory example test code sup-

plied.

The Cyclone™ III contains 5,136 Logic Elements and 414Kbits of SRAM. The student's imagination is the only real limitation to what either control card can do. Optional add-on increase the potential exponentially.

The size of the unit is 8.25" long by 2.5" high by 5" wide.

—SEA

eM18-SiFi

The education/demo version of the commercial M18-Arm arrives with new and improved features for educators:

- ◇ Comes with a high tech tripod base.
- ◇ Lower Cost over the industrial version
- ◇ All arm joints use slew rings
- ◇ Units are all aluminum construction
- ◇ Arm joints have limit and home switches
- ◇ Universal end-effector mount
- ◇ Closed loop stepper motor system
- ◇ Preloaded software and test routines
- ◇ Control pendant
- ◇ Complete 3D STEP file supplied for motion analyses and modeling
- ◇ Enclosed electronics, Tower™ System from Freescale Semiconductor (Clear)
- ◇ New Freescale core processor PXD2020
- ◇ Optional work cell is available
 - Frame rail system
 - Corner floor mount stanchions
 - Lexan protection
 - E-Stops, and safety processor module

iM18-Arm

The iM18-Arm is a low cost industrial 4-6 DOF robotic arm. This arm is great for small shops to accomplish pick and place or machine load/unload. New features:

- ◇ Stepper motors will now be 0.225° per step.
- ◇ Closed loop stepper motor system;
 - Analog feedback standard.
 - Digital optical (optional)
 - MEMS system (proto-type)
- ◇ Units are all aluminum construction
- ◇ Arm joints have limit and home switches
- ◇ Universal end-effector mount
- ◇ All arm joints use slew rings
- ◇ Control pendant
- ◇ LCD Display of machine status
- ◇ So the arm can be a head above the rest an 8" riser is available
- ◇ New Freescale core processor PXD2020
- ◇ Pneumatic valve control card
- ◇ Enclosed electronics (IP64), Tower™ System from Freescale Semiconductor



Forager-T Mk2B—Upgrades and new features

Forager has under gone many transitions in the last year as testing and field feedback is evaluated. One of the most common was the request of the tracked version verses wheels. It was never realized just how divided the vehicle drive camp is. Forager-T will be back for testing in the next few months with the addition of the following:

- ◇ New high torque track system
- ◇ New updated electronics – *All processors are from Freescale Semiconductor*
 - Supervisor MPU - Vybrid VF50NN
 - New camera and LIDAR controller – MPC5604B based
 - Motor controllers updated to MC56F8255 with BLDC motors
 - New battery monitoring/charging – MM9Z1-638 monitor and MC56F8255 controller
- ◇ All chassis communications done via CAN Buss
- ◇ RADAR (77GHz) motion monitor
 - Allows for all weather motion monitoring and all sides being monitored
 - RADAR controller uses MPC5604B
- ◇ New IP68 Tower® System housing and structure

Product Announcement

Forager-T-SandBag

Release Q2 2013

The sand bag system is used to assist humans during disaster and general purpose work. The system be used to just fill and stack bags or fill and build a dike for flood control. System with optional bucket can fill its own hopper.

Quick Specifications:

- ⇒ Auto files bags to U.S. Army Corp of Engineers standards,
- ⇒ Configured for 14"x26" bags but can be reset for other sizes
- ⇒ Empty bag bin holder – 500 bags
- ⇒ Auto tie off system for bag top
- ⇒ 0.5 Cubic Yard sand hopper, volume may become dependent on sand weight
- ⇒ Robotic arm capable of 250 pound move capacity
- ⇒ Robotic arm in dike build mode pushes bag into place for conformance fit
- ⇒ Arm has a reach of 76" from base to wrist joint
- ⇒ 270° base rotation
- ⇒ Electronics contained within Forager
- ⇒ Can be controlled via hand controller
- ⇒ Optional camera feedback
- ⇒ Auxiliary battery bank
- ⇒ Auxiliary power connection to generator
- ⇒ All weather capable
- ⇒ End-effector self-changer system (Pat. Pending)

