

# Tracked Mobile Robot Platform



- ❖ Remotely controlled tracked vehicle platform, built by D. Green and K. Mohamed in 1978
- ❖ Household garbage can, with lid, and additional metal work to enable attachment of components
- ❖ Separately-driven left and right ground tracks, each consisting of a pair of pulley wheels and a drive belt
  - ◆ Each front wheel free-running, each rear wheel fixed to a (split left/right) rear drive axle
  - ◆ Each axle driven (internally) by a pulley-belt mechanism and a gear-head (windshield wiper) motor
- ❖ Main power provided by a 12 Vdc lead-acid (car) battery; drive motors operating nominally at 12 Vdc
- ❖ Motors controlled (switched on/off) independently using power relays between motors and main battery
- ❖ Drive relays engaged/disengaged by 2-channel remote control receiver board (from RC model car)
- ❖ Fiber-glass upper dome (lamp shade), including RC receiver with antenna, voice radio (walkie-talkie) with antenna, voice radio speaker/mic, bystander voice transmit button, and main power switch button
- ❖ Port (red) and starboard (green) lights attached to main lid on each side of dome, for good looks
- ❖ Recessed subsystem control panel on front of the can, including power and function switches
- ❖ Continually-arcing prongs (1 cm gap) centered in panel, just below switches (for incredibly good looks)
  - ◆ 12 V-to-30 kV spark generator (internal) capable of supporting visually continuous arcing current
- ❖ Hand-held remote voice radio transceiver (walkie-talkie) and remote control radio transmitter