LCRU2 Pinout
J1–1 – Power - (provides power to RailSounds P3-1)
J1–2 – Chassis - (provides Ground to RailSounds P3-2)
J1–3 – NC (Unknown)
J1–4 – LCRU data - (Provides serial data to RailSounds P3-4)

J2–1 – Front Coupler (return from coupler is grounded to chassis)
J2–2 – Rear Coupler (return from coupler is grounded to chassis)

J3–1 – Program/Run Switch
J3–2 – Program/Run Switch

J4–1 – Rear Lamp (return goes to J4-4 or local chassis ground)
J4–2 – Headlamp (return goes to J4-4 or local chassis ground)
J4–3 – Smoke (Steam) or Rear Lamp (diesel)
J4–4 – Ground
J4–5 – NC (Unknown)

Molex-1 – Ground (component side view, Molex to left, Pin 1 is upper right corner)
Molex-2 – Power (center rail)
Molex-3 – NC (Unknown)
Molex-4 – Motor Brush – Blue (component side view, Molex to left, Pin 4 is upper left corner)
Molex-5 – Motor Brush - Yellow
Molex-6 – Field - Green

Antenna-1 – NC (Unknown)
Antenna-2 – Antenna (Inboard pin)

RailSounds 2.5 Pinout
P1-1 – Sound Switch
P1-2 – Sound Switch

P2-1 – Volume Control outside terminal - Green
P2-2 – Volume Control middle terminal - Yellow
P2-3 – Volume Control outside terminal - Blue

P3-1 – Power - Red
P3-2 – Chassis - Black
P3-3 – NC (Unknown)
P4-4 – LCRU Data – Violet (caution: Lionel documents sometimes show this data line connected to P3-3)

P4-1 – Speaker
P4-2 – NC (Unknown)
P4-3 – Speaker

P5-1 – Speed sensor (Hall effect) - Green
P5-2 – Speed sensor (Hall effect or reed switch) – Blue (Hall effect) or Black (cherry/reed switch)
P5-3 – Speed sensor (Hall effect or reed switch) – Yellow (Hall effect) or Yellow (cherry/reed switch)