MTA WIRING DIAGRAM

AUTOLOADER WITH PUNCH OPTION (BETA RELEASE)

SYSTEM BLOCK DIAGRAM
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SYSTEM BLOCK DIAGRAM, PAGE 1

SYSTEM BLOK DIAGRAM CONTINUED
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SYSTEM BLOCK DIAGRAM, PAGE 2

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PAGE 4_SAFETY CIRCUIT

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EMERGENCY STOP SWITCH
WRITE LASER SAFETY INTERLOCK
MECHANICAL SAFETY INTERLOCK
DRUM AMP SAFETY INTERLOCK
DRUM BRAKE SAFETY INTERLOCK
SERVICE INTERLOCK OVERRIDE SWITCH
SERVICE INTERLOCK OVERRIDE INDICATORS

SAFETY CIRCUIT CONTINUED
PAGE 5_SAFETY CIRCUIT CONTINUED

SAFETY DOOR LOOP
EMERGENCY STOP SWITCH
WRITE LASER SAFETY INTERLOCK
MECHANICAL SAFETY INTERLOCK
DRUM AMP SAFETY INTERLOCK
DRUM BRAKE SAFETY INTERLOCK
SERVICE INTERLOCK OVERRIDE SWITCH
SERVICE INTERLOCK OVERRIDE INDICATORS

POWER ENTRY WIRING
PAGE 6_POWER ENTRY WIRING

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SERVICE INTERLOCK OVERRIDE INDICATORS
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EMERGENCY STOP SWITCH
MECHANICAL SAFETY INTERLOCK
DRUM RESISTIVE BRAKE CONTROL
SERVICE INTERLOCK OVERRIDE SWITCH
SERVICE INTERLOCK OVERRIDE INDICATORS
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AC FANS
TEC MAGNETS CONTROL

MASTER CONTROL ELECTRONIC WIRING
PAGE 8_MASTER CONTROL ELECTRONICS WIRING

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PNEUMATIC SOLENOID DRIVE OUTPUTS
DRUM AMP CONTROL
ANLOG SENSORS
PLATE FLYOFF SENSOR
WORKSTATION CONNECTIONS
ENCODER
DEBRIS REMOVAL SENSOR
PLATE REGISTRATION ELECTRONICS

MCE DIGITAL SENSORS WIRING
PAGE 9_MCE DIGITAL SENSORS WIRING

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HOME & AWAY BALANCE SENSORS
BACKBONE MECHANISM SENSORS
P-DOOR SENSORS
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TEC COILS
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DRUM AMPLIFIER & MOTOR WIRING
PAGE 10_DRUM AMPLIFIER & MOTOR WIRING

DRUM DRIVER
DRUM MOTOR
DRUM RESISTIVE BRAKE

LIONEL BOARD WIRING
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STATUS LIGHTS
CUSTOMER RELAY INTERFACE
EXTERNAL CHILLER CONNECTOR

DRUM RESISTIVE BRAKE ASSY
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RESISTIVE BRAKE WIRING

INTERNAL HEAD COOLER & DEBRIS REMOVAL
PAGE13_INTERNAL HEAD COOLER & DEBRIS REMOVAL

INTERNAL HEAD COOLING PUMP WIRING
INTERNAL DEBRIS REMOVAL WIRING

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PAGE 14_GENINE 0_FETCHER

FETCHER
BACK PROCESSOR INTERFACE
Z-STAGE

LOAD TABLE, SIDE EJECTOR & SIDE PROCESSOR
PAGE 15_GENINE 1_LOAD TABLE & SIDE EJECTOR

LOAD TABLE
SIDE EJECTOR
SIDE PROCESSOR INTERFACE

UNLOAD TABLE
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UNLOAD TABLE

MCU PDB1 WIRING
PAGE 17_MCU PDB1 WIRING

CANBUS
POWER SUPPLIES

MCU GENINE 3 WIRING
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MCU & SSR SENSORS
MCU VALVE MANIFOLDS

MCU SAFETY INTERFACE BOARD
PAGE 19_MCU SAFETY INTERFACE BOARD

MCU SAFETY LOOP

SSR WIRING
PAGE 20_SSR WIRING

SSR MODULE

MCU LIONEL 1 WIRING
PAGE 21_MCU LIONEL 1 WIRING

MCU USER INTERFACE
SSR USER INTERFACE
EMERGENCY STOP

PROCESSOR INTERFACE BOARD
PAGE22_PROCESSOR INTERFACE BOARD

PROCESSOR INTERFACE BOARD

MANTA DRUM VACUUM PUMP
PAGE 23_MANTA DRUM VACUUM PUMP

EXTERNAL DRUM VACUUM PUMP

PUNCH CONTROL
PAGE24_GENINE 4_PUNCH CONTROL

PUNCH CONTROL

PUNCH CONTROL
PAGE25_DAPHNE 0_PUNCH CONTROL

PUNCH MOTOR CONTROL
PRESSURE REGULATORS CONTROL

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MTA AUTOLOADER
SYSTEM WIRING DIAGRAM

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DRAWN BY: S.FOUDIMOV	LAST REVISED BY: S.FOUDIMOV	APPROVED BY:
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SEE PAGE 3

CAN BUS

SEE PAGE 3

Chiller Sensors
Debris Removal Sensor
TEC/LEC Sensors

Carriage Home/Away Sensors
Engine Actuation Sensors
Plate Length Sensors
Temperature Sensors
Plate Flyoff Sensor

LIONEL 0 BOARD

STATUS LIGHT LEDs BRD.

CONTROL of MTA-DVP

WORKSTATION CONSOLE

Service Diagnostics RS-232

Workstation Control RS-232

Workstation SCSI 16 bit Ultra SCSI

RESPONSE CENTER REMOTE DIAL-UP SERVICE

WS / RIP INTERFACE

DATA PATH

CAN BUS
+24V
+48V
CAN H/L

TURBO MASTER CONTROL ELECTRONICS (TMCE BOARD)

ENGINE I/O

ENGINE SOLENOID MANIFOLD

EH - Control

RS422

DATA (HOT LINK)

High Speed Serial

CARRIAGE DRIVER INTERFACE

48VDC Power

RS422 +5V Analog plus

CARRIAGE DRIVE

Carriage Motor

THERMAL EXPOSURE HEAD

PLL & LINE TIMING (SCLK)

RS422 (Incremental Quadrature)

Tach Encoder

DRUM

DRUM AMP INTERFACE

+-10V Analog or TTL PWM

Drum Motor

DRUM DRIVE

DRUM RESISTIVE BRAKE

INTERNAL CHILLER

200 - 240 VAC

200 - 240 VAC

DOOR LOOP
E-STOP SWITCH
SERVICE INTERLOCK
OVERIDE SWITCHES

PS1 POWER
24VDC
Pneumatics

CAN BUS

SAFETY LOOP

PS1 POWER
Unswitched
Pneumatics

PS2 POWER
Switched
Stepper Motors

PS3 POWER
Switched
Write Laser

PS4 POWER
Unswitched
Thermal Head Logic

SYSTEM COOLING FANS

+24V

POWER DISTRIBUTION BOARD
(PDB 0)

200 - 240 VAC

200 - 240 VAC

200 - 240 VAC

200 - 240 VAC

200 - 240 VAC

200 - 240 VAC

200 - 240 VAC

PS2 POWER
48VDC
Stepper Motors

PS3 POWER
48VDC
Thermal Exposure Head
Write Laser

PS4 POWER
48VDC
Thermal Exposure Head Logic

MAIN DISCONNECT SWITCH ES1

CB1

CB2

F1

F2

CB3

POWER ENTRY BOX
(PEB)

POWER BOX AC SWITCH, SW2

200-240 VAC, 50/60HZ, 24A , LINE 1

200-240 VAC, 50/60HZ, 24A ,LINE 2

POWER BOX FAN 1

REAR HOOD FAN 1- 5

FAN 1

FAN 2

FAN 3

FAN 4

FAN 5

To MCU - PDB1
(See PAGE 3)

200 - 240 VAC

CARRIAGE MOTOR FAN 2

EXHAUST FAN 3

DEBRIS REMOVAL DR-FAN 1

CHILLER COOLING FAN 4

200-240 VAC, 50/60HZ, 24A , LINE 3

DRUM VACUUM PUMP (MTA-DVP)
EXTERNAL

200 - 240 VAC

DEBRIS REMOVAL
INTERNAL

+24V

DRUM MOTOR DC FAN 5

+24V

DRUM MOTOR DC FAN 6

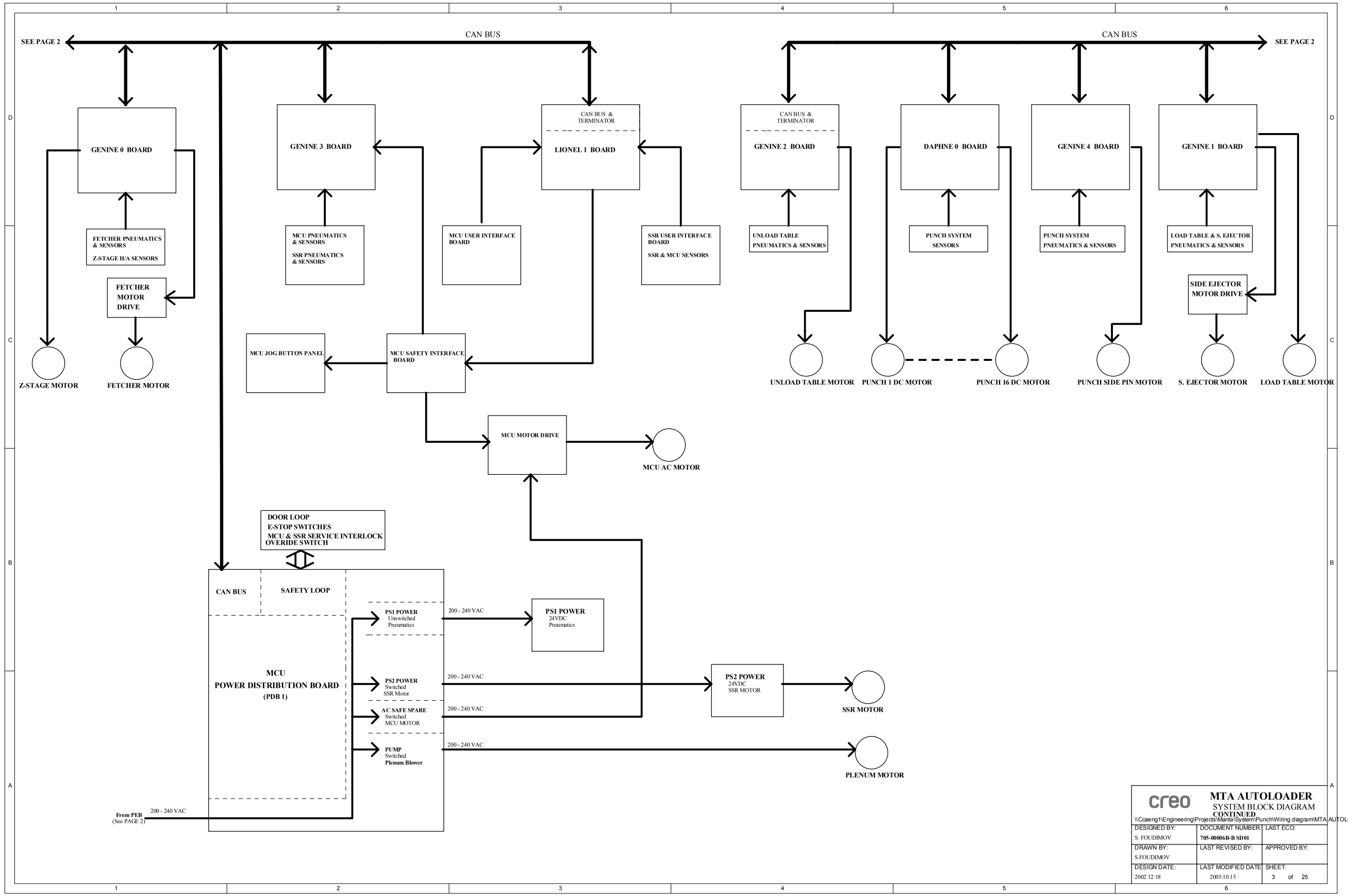
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MTA AUTOLOADER

SYSTEM BLOCK DIAGRAM

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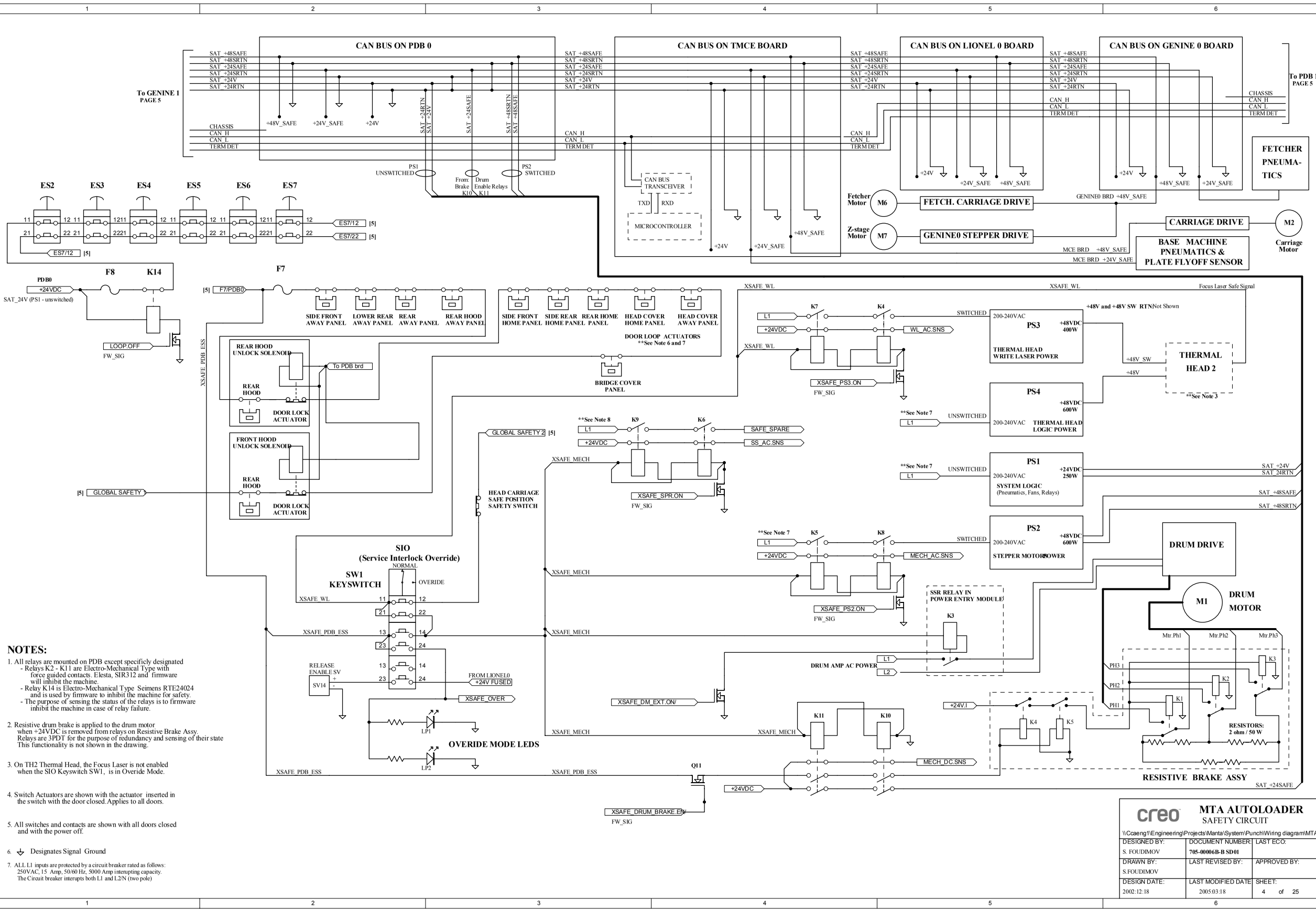


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MTA AUTOLOADER
SYSTEM BLOCK DIAGRAM CONTINUED

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NOTES:

1. All relays are mounted on PDB except specificly designated
   - Relays K2 - K11 are Electro-Mechanical Type with force guided contacts. Elesta, SIR312 and firmware will inhibit the machine.
   - Relay K14 is Electro-Mechanical Type Seimens RTE24024 and is used by firmware to inhibit the machine for safety.
   - The purpose of sensing the status of the relays is to firmware inhibit the machine in case of relay failure.
2. Resistive drum brake is applied to the drum motor when +24VDC is removed from relays on Resistive Brake Assy. Relays are 3PDT for the purpose of redundancy and sensing of their state This functionality is not shown in the drawing.
3. On TH2 Thermal Head, the Focus Laser is not enabled when the SIO Keyswitch SW1, is in Overide Mode.
4. Switch Actuators are shown with the actuator inserted in the switch with the door closed. Applies to all doors.
5. All switches and contacts are shown with all doors closed and with the power off.
6. ⏚ Designates Signal Ground
7. ALL L1 inputs are protected by a circuit breaker rated as follows: 250VAC,15 Amp, 50/60 Hz, 5000 Amp interupting capacity. The Circuit breaker interupts both L1 and L2(N (two pole)

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MTA AUTOLOADER
SAFETY CIRCUIT

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CAN BUS ON PDB 1

FROM GENINE 0 PAGE 4

CHASSIS
CAN_H
CAN_L
TERM DET

+24V_SAFE
+24V
SAT_+24V
SAT_+24RTN

SAT_+24SAFE
SAT_+24SRTN
SAT_+24V
SAT_+24RTN
CAN_H
CAN_L
TERM DET

CAN BUS ON GENINE 3 BOARD

CAN BUS ON LIONEL 1 BOARD

TERMINATOR
LIONEL 1 - J13
120 OHMS
2.7 K OHMS

MCU-PS1
L1
UNSWITCHED
200-240VAC 200W
SYSTEM LOGIC
(Pneumatics, Relays)
+24VDC
24VRTN

MCU, SSR & PICKER PNEUMATICS

SAT_+48SAFE
SAT_+48SRTN
SAT_+24SAFE
SAT_+24SRTN
SAT_+24V
SAT_+24RTN
CAN_H
CAN_L
TERM DET

CAN BUS ON GENINE 2 BOARD

TERMINATOR
GENINE 2 - J26

+48V_SAFE

UNLOAD TABLE PNEUMATICS

GENINE 2 STEPPER DRIVE
M5
Unload Table Motor

From PDB 0 PAGE 4

CAN BUS ON GENINE 1 BOARD

LOAD TABLE & SIDE EJECTOR PNEUMATICS

GENINE 1 STEPPER DRIVE
M3
Load Table Motor

SIDE EJECTOR DRIVE
M4
Side Ejector Motor

ES1-MCU
ES2-MCU
ES1-SSR
11
12
21
22
1211
2221
ES7/22 [4]
F7/PDB0 [4]
ES7/12 [4]

MCU-PDB1
+24VDC
SAT_24V (PS1 - unswitched)
F8
K14
LOOP.OFF
FW_SIG

[4] GLOBAL SAFETY
GLOBAL SAFETY 2 [4]
GLOBAL SAFETY LOOP
[4] ES2/21
F7
XSAFE_PDB_ESS

CART HOME SAFETY SWITCH
SS BIN REAR DOOR
SS BIN COVER
MCU CASSETTE DOOR
MCU REAR RIGHT DOOR
MCU REAR LEFT DOOR
MCU SIDE ACCESS DOOR
MCU SIDE ACCESS DOOR
MCU LEFT ROOF SAFETY SWITCHES
MCU RIGHT ROOF SAFETY SWITCHES

**See Note 8
F6
K9
K6
L1
+24VDC
SAFE_SPARE
SS_AC.SNS
XSAFE_SPR.ON
FW_SIG

MCU AC MOTOR DRIVE

XSAFE_MECH

Mcu & SSR Service Interlock Override SIO
MCU-SW5
NORMAL
OVERIDE
XSAFE_WL
XSAFE_PDB_ESS
XSAFE_MECH

SSR Roller Motor
SSR +24V
SSR M1
SSR MOTOR OVERRIDE PBTN.
SSR-SW2

**See Note 7
K5
K8
L1
+24VDC
MECH_AC.SNS
SWITCHED
XSAFE_PS2.ON
FW_SIG

MCU POWER BOX RELAYS
K3
K4

MCU-PS2
200-240VAC
+24VDC 200W
SSR DC MOTOR POWER
SSR +24V

XSAFE_MECH

RUN_FORWARD_REVERSE_FREQ1_FREQ2

MCU-K1
MCU-K2
1 L1
2 T1
3 L2
4 T2
5 L3
6 T3
21 NC
22
A1 +
A2 -
MCU M1
MCU Casset Motor

CONTACTORS SENSE
CONTACTORS ON

MCU JOG BUTTON PANEL
MCU-SW1
2 POSITION LEVER SWITCH
SEMI-AUTO MODE
POS 2
MANUAL JOG MODE
POS 1
MCU-SW2 PUSHBUTTON HOLD FOR SEMI-AUTO
MCU-SW3 JOG UP PUSHBUTTON
MCU-SW4 JOG DOWN PUSHBUTTON
13A
14A
MANUAL JOG, SEMI-AUTO
JOGGED RUN, SEMI/AUTO RUN, JOG DOWN, MOTOR RUN

SSR MODULE
SSR LOCAL SAFETY LOOP
SS BIN FRONT DOOR SWITCH
+24VSAFE
SSR PNEUMATICS
SSR ROLLER EXTEND OVERRIDE PBTN.
SSR-SW1

MCU SAFETY BOARD

**See Note 8
F3
K1
L1
SAFE_SPARE
MCU M2
MCU Plenum Motor

XSAFE_OVER
LP1
MCU OVERIDE MODE LEDS
LP2

MTA AUTOLOADER
SAFETY CIRCUIT CONTINUED

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POWER ENTRY BOX (PEB) 11-1064A

200-240 VAC, 50/60HZ, 24A , LINE 1

AC Input 1 Plug — L1 BRN 12 / L2/N BLU 12 / GND G/Y 12

10-9088A (or 220-00437A)

LF1 FILT30A — P / E / N → P' / N' — 13-5176

GND G/Y 12 — 10-9089A — M5 BOLT ENGINE

GND G/Y 12 — 10-9089A — M5 BOLT CHASSIS

M5 BOLT CHASSIS — M5 STUD PEB

GND G/Y 12 — 10-9092A — M5 STUD PEB

GND G/Y 12 — M5 STUD PEB

BLU 12 — BRN12 — 10-9090A — 10-5217A

CB1 CIRBKR 15A — BRN 12 / 12 — 11 / BRN 14 — TB1 — 10-5222A — BRN 14 — 1 — 2 — BLK 14

BLU 12 / 22 — 12 / BLU 14 — 15-3085 — 10-5221A — WHT 14

K1 — 4 / 3 — 15-3249 RELAY,25A,SOLID STATE

BLK-22 — RED-22 — To K2 [6] K2 CONTROL

RED 22 / BLK 22 — 10-9073A — J1 1 2 3 4 — WHT 22 / GRN 22 / RED 22 / BLK 22 — MATE 1X4 — 10-9068A — To PDB J37 — HEAD COOLER & BLOWER ON/OFF [7]

SELV

10-9084A — L1 / L2/N / GND — G/Y 14 — M5 STUD PEB — AC POWER to CHILLER — HEAD COOLER AC POWER [13]

ES1 EMRGENCY STOP & MAIN SWITCH 25A — 1 2 / 3 4 / 5 6 / 7 8 — **15-3525**

10-9090A — 10-5218A

220-00042A — J3 1 2 — MATE 1X2 — 220-00044A — RED 22 / BLK 22 — To PDB J44 — DRUM DRIVE AC ON/OFF [7]

SELV

BLK 22 — RED 22 — K3 — 4 / 3 — **15-3249** RELAY,25A,SOLID STATE

220-00049A — BRN14 — 1 — 2 — BRN 14 — BLU 14

10-9075A — L1 / L2/N / GND — G/Y 14 — M5 STUD PEB — To SW2-1,3 in POWER BOX — DDRIVE AC POWER - SW2 [7]

200-240 VAC, 50/60HZ, 24A , LINE 2

AC Input 2 Plug — L1 BRN 12 / L2/N BLU 12 / GND G/Y 12

10-9088A (or 220-00437A)

LF2 FILT30A — P / E / N → P' / N' — 13-5176 — BRN12 — BLU12

GND G/Y 12 — 10-9092A — M5 STUD PEB

GND G/Y 12 — M5 STUD PEB

CB2 CIRBKR 15A — BRN 12 / 12 — 11 / BRN 14

BLU 12 / 22 — 21 / BLU 14 — 15-3085

10-9077A — L1 / L2/N / GND — G/Y 14 — M5 STUD PEB — To SW2-5,7 in POWER BOX — PDB AC POWER - SW2 [7]

220-00833A

F1, F2: 10A, 600V, BUSSMANN, Type LP-CC for 60 Hz
F1, F2: 12A, 600V, BUSSMANN, Type LP-CC for 50 Hz
(F1 & F2 replaced the former CB3)
182-00018 for 60 Hz
182-00016 for 50 Hz

BLK 22 / RED 22 — 10-9073A — K2 CONTROL [6] — 4 / 3 — K2 — RELAY,25A,SOLID STATE 15-3249 — SELV

BRN 12 — F1 — BRN 14 — **220-00834A** — 1 — 2 — BLK 14

BLU 12 — F2 — WHT 14

F1, F2 FUSEHOLDER, 182-00015

10-9086B — L1 / L2/N / GND — G/Y 14 — M5 STUD PEB — AC POWER to DEBRIS REMOVAL MOTOR — M3 DEBRIS BLOWER AC POWER [13]

10-5220A

CB3 (former CB4) CIRBKR 15A — BRN 12 / 12 — 11 / BRN 14

BLU 12 / 22 — 21 / BLU 14 — 15-3085

220-00352A — L1 / L2/N / GND — G/Y 14 — M5 STUD PEB — AC POWER to MCU — MCU AC POWER [17]

SW1 NORMAL — (Shown in normal position) OVERRIDE

SIO KEYSWITCH (2 POS) **15-3334**

OVERRIDE MODE LEDS — LP1 — LP2

10-3721A — 1 2 — 10-3721A

+24V RED 22 / RTN BLK 22 / +24V RED 22 / RTN BLK 22

XSAFE WL / XSAFE ESS / MCU OVER / MCU_SAFE / XSAFE_OVER / XSAFE_MCU1

YEL 22 / BLK 22 / RED 22 / WHT 22 / BLU 22 / ORG 22

+24V WHT 22 / RTN GRN 22

BRN 22 DOOR LOOP

11 12 / 21 22 — **15-3067** DUAL NC Contact Block

13 14 / 23 24 — **15-3238** DUAL NO Contact Block

13 14 / 23 24 — **15-3238** DUAL NO Contact Block (For MCU option only)

MINIFIT 2X6 — **10-9083A** — J2 1 2 3 4 5 6 7 8 9 10 11 12 — **10-9091B**

RED 22 / BLK 22 — To RELEASE SV ADAPTOR — RELEASE ADPT 1 [8]

RED 22 / BRN 22 / WHT 22 / GRN 22 / BLU 22 / BLK 22 / BLU 22 / ORG 22 — To PDB J34, J35, J41 — OVERRIDE SW & LED [7]

SELV

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MTA AUTOLOADER
POWER ENTRY BOX
WIRING DIAGRAM

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S. FOUDIMOV	705-00006B-B SD01	
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
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POWER DISTRIBUTION BOARD 0 (PDB 0)

10-4112 H

BOARD ADDRESS = 0X10h

SELV CIRCUITRY

NON-SELV CIRCUITRY
200-240 VAC

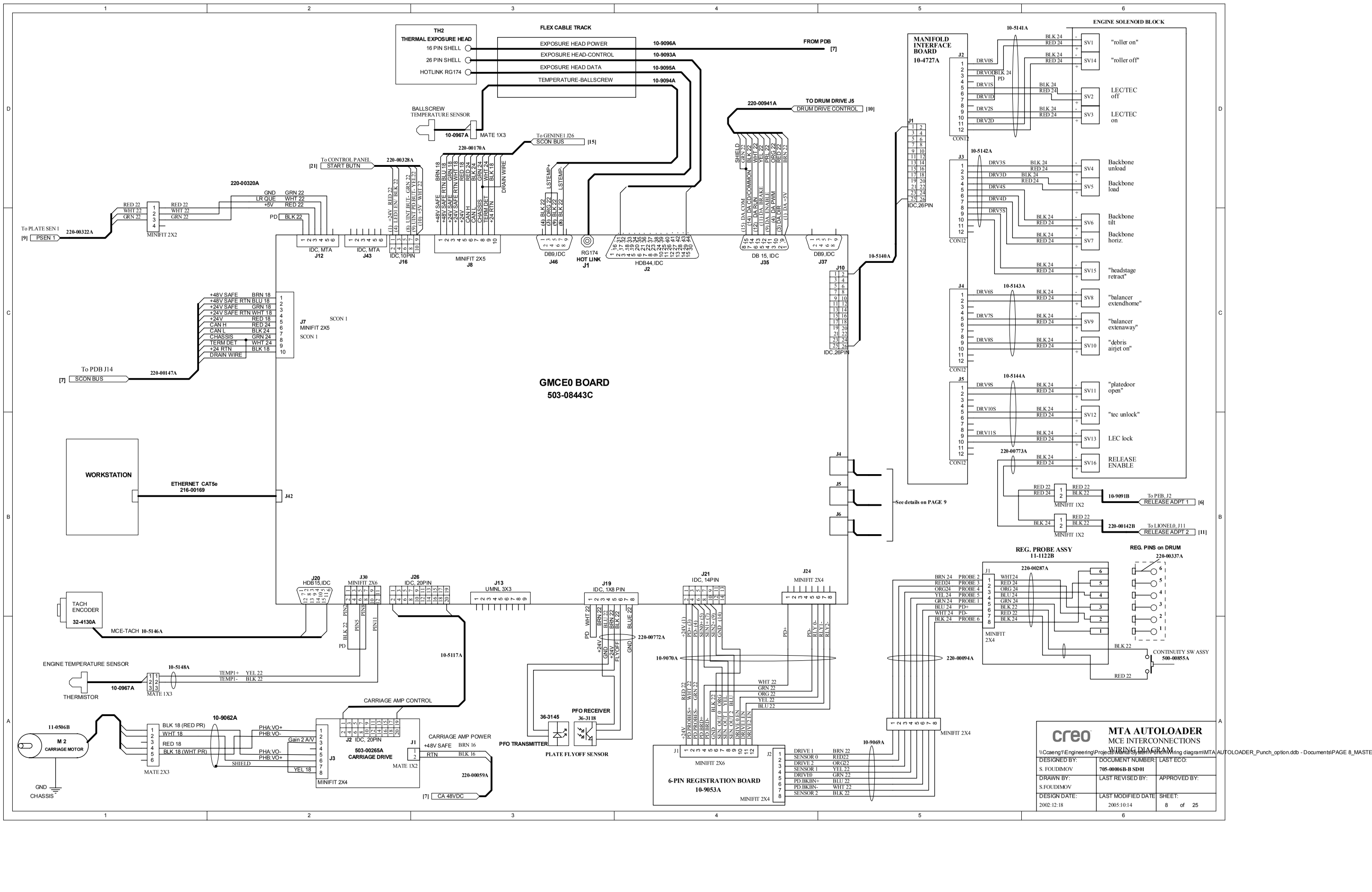
TH2
Thermal Exposure Head

MTA AUTOLOADER
PDB BOARD CONNECTIONS
WIRING DIAGRAM

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TH2
THERMAL EXPOSURE HEAD
16 PIN SHELL
26 PIN SHELL
HOTLINK RG174
FLEX CABLE TRACK
EXPOSURE HEAD POWER
EXPOSURE HEAD-CONTROL
EXPOSURE HEAD DATA
TEMPERATURE-BALLSCREW
10-9096A
10-9093A
10-9095A
10-9094A
FROM PDB [7]
BALLSCREW TEMPERATURE SENSOR
10-0967A
MATE 1X3
To GENINE1 J26
SCON BUS [15]
220-00170A
220-00941A
TO DRUM DRIVE J5
DRUM DRIVE CONTROL [10]
To CONTROL PANEL [21]
START BUTN
220-00328A
220-00320A
To PLATE SEN 1 [9]
PSEN 1
220-00322A
MINIFIT 2X2
IDC, MTA J12
IDC, MTA J43
IDC, 10PIN J16
MINIFIT 2X5 J8
DB9,IDC J46
RG174 HOT LINK J1
HDB44,IDC J2
DB 15, IDC J35
DB9,IDC J37
MANIFOLD INTERFACE BOARD 10-4727A
IDC,26PIN
10-5140A
ENGINE SOLENOID BLOCK
10-5141A
10-5142A
10-5143A
10-5144A
SV1 "roller on"
SV14 "roller off"
SV2 LEC/TEC off
SV3 LEC/TEC on
SV4 Backbone unload
SV5 Backbone load
SV6 Backbone tilt
SV7 Backbone horiz.
SV15 "headstage retract"
SV8 "balancer extendhome"
SV9 "balancer extenaway"
SV10 "debris airjet on"
SV11 "platedoor open"
SV12 "tec unlock"
SV13 LEC lock
SV16 RELEASE ENABLE
220-00773A
10-9091B
To PEB, J2 RELEASE ADPT 1 [6]
220-00142B
To LIONEL0, J11 RELEASE ADPT 2 [11]
See details on PAGE 9
GMCE0 BOARD
503-08443C
J7 MINIFIT 2X5 SCON 1
To PDB J14 [7] SCON BUS
220-00147A
WORKSTATION
ETHERNET CAT5e 216-00169
J42
J20 HDB15,IDC
J30 MINIFIT 2X6
J26 IDC, 20PIN
J13 UMNL 3X3
J19 IDC, 1X8 PIN
J21 IDC, 14PIN
J24 MINIFIT 2X4
TACH ENCODER 32-4130A
MCE-TACH 10-5146A
10-5117A
220-00772A
10-9070A
ENGINE TEMPERATURE SENSOR
10-0967A
10-5148A
THERMISTOR
CARRIAGE AMP CONTROL
10-9062A
11-0506B
M 2 CARRIAGE MOTOR
GND CHASSIS
MATE 2X3
J2 IDC, 20PIN
J3 MINIFIT 2X4
503-00265A CARRIAGE DRIVE
J1 MATE 1X2
CARRIAGE AMP POWER
220-00059A
[7] CA 48VDC
36-3145
36-3118
PFO RECEIVER
PFO TRANSMITTER
PLATE FLYOFF SENSOR
6-PIN REGISTRATION BOARD 10-9053A
10-9069A
REG. PROBE ASSY 11-1122B
220-00287A
220-00094A
REG. PINS on DRUM
220-00337A
CONTINUITY SW ASSY 500-00855A
creo
MTA AUTOLOADER
MCE INTERCONNECTIONS
WIRING DIAGRAM
\\Caeng1\Engineering\Projects\Mantis\System Pdf\Wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE 8_MASTER CONTROL ELECTRONICS WIRI
DESIGNED BY: S. FOUDIMOV
DOCUMENT NUMBER: 705-00006B-B SD01
LAST ECO:
DRAWN BY: S.FOUDIMOV
LAST REVISED BY:
APPROVED BY:
DESIGN DATE: 2002:12:18
LAST MODIFIED DATE: 2005:10:14
SHEET: 8 of 25

DETAILS OF J4, J5, J6 WIRING FROM PAGE 6

GMCE0 BOARD
503-08443C

J4 DB37M, IDC

J5 DB25,JDC

J6 DB37F, IDC

10-5129A

220-00983A

220-00306A

RLR_DOWN Away Side — 36-3125 — 10-4982A
- LED+ RED 22 — TO DSEN1 LED+ (3)
- LED- BLK 22 — TO DSEN1 LED- 22)
- COLLECTOR WHT 22 — TO DSEN1 C (4)
- EMITTER GRN 22 — TO DSEN1 E (23)

RLR_UP Away Side — 36-3125 — 10-4982A
- LED+ RED 22 — TO DSEN2 LED+ (5)
- LED- BLK 22 — TO DSEN2 LED- (24)
- COLLECTOR WHT 22 — TO DSEN2 C (6)
- EMITTER GRN 22 — TO DSEN2 E (25)

LEC_DOWN Away Side — 36-3125 — 10-4982A
- LED+ RED 22 — TO DSEN3 LED+ (7)
- LED- BLK 22 — TO DSEN3 LED- (26)
- COLLECTOR WHT 22 — TO DSEN3 C (8)
- EMITTER GRN 22 — TO DSEN3 E (27)

LEC_UP Away Side — 36-3125 — 10-4982A
- LED+ RED 22 — TO DSEN4 LED+ (9)
- LED- BLK 22 — TO DSEN4 LED- (28)
- COLLECTOR WHT 22 — TO DSEN4 C (10)
- EMITTER GRN 22 — TO DSEN4 E (29)

CAR_AWAY — 36-3125 — 10-4982A
- (11) TO DSEN5 LED+ RED 22
- (30) TO DSEN5 LED- BLK 22
- (12) TO DSEN5 C WHT 22
- (31) TO DSEN5 E GRN 22
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

BAL_DETECT Away Side — 36-3125 — 10-4733A
- (13) TO DSEN6 LED+ BLU 24
- (32) TO DSEN6 LED- BLU/BLK 24
- (14) TO DSEN6 C BLU/WHT 24
- (33) TO DSEN6 E BLU/RED 24
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

BAL_EXTEND Away Side — 36-3125 — 10-4982A
- (15) TO DSEN 7 LED+ GRN 24
- (34) TO DSEN7 LED- GRN/BLK 24
- (16) TO DSEN7 C GRN/WHT 24
- (35) TO DSEN7 E BLK/WHT 24
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

BAL_RETRACT Away Side — 36-3125 — 10-4982A
- (17) TO DSEN8 LED+ ORG 24
- (36) TO DSEN8 LED- ORG/BLK 24
- (18) TO DSEN8 C BLK/RED 24
- (37) TO DSEN8 E ORG/RED 24
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

10-5065A — RSW1 RSW2 RSW3 RSW4 RSW5 RSW6 RSW7 RSW8 RSW9 RSW10

10-9060A
- (1) TO DSEN 0 LED+ RED 22
- (20) TO DSEN0 LED- BLK 22
- (2) TO DSEN0 C WHT 22
- (21) TO DSEN0 E GRN 22
- WHT 22
- RED 22
- BLK 22

BM_FORWARD Away Side — 36-3125 — 10-4733A
- (1) TO DSEN 18 LED+ RED 24
- (14) TO DSEN 18 LED- RED/BLK 24
- (2) TO DSEN 18 C RED/WHT 24
- (15) TO DSEN 18 E RED/GRN 24
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

BM_CENTER BACK Away Side — 36-3125 — 10-4733A
- (3) TO DSEN 19 LED+ GRN 24
- (16) TO DSEN 19 LED- GRN/BLK 24
- (4) TO DSEN 19 C GRN/WHT 24
- (17) TO DSEN 19 E BLK/WHT 24
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

BM_CENTER FORWARD Away Side — 36-3125 — 10-4733A
- (5) TO DSEN 20 LED+ WHT 24
- (18) TO DSEN 20 LED- WHT/BLK 24
- (6) TO DSEN 20 C WHT/RED 24
- (19) TO DSEN 20 E BLK 24
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

BM_BACK Away Side — 36-3125 — 10-4733A
- (7) TO DSEN21 LED+ BLU 24
- (20) TO DSEN21 LED- BLU/BLK 24
- (8) TO DSEN21 C BLU/WHT 24
- (21) TO DSEN21 E BLU/RED 24
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

500-00271A START BUTTON 3 — Text Text
- RED 22 — WHT 22
- BLK 22 — BLK 22
- WHT 22 — RED 22
- GRN 22

500-00271A START BUTTON 2 — Text Text
- BLK 22 — WHT 22
- BLK 22 — BLK 22
- WHT 22 — RED 22
- GRN 22

(9) TO DSEN13 LED+ RED 22
(28) TO DSEN13 LED- BLK 22
(10) TO DSEN13 C WHT 22
(29) TO DSEN13 E GRN 22

220-00537A: RED 22 / BLK 22 / WHT 22 / GRN 22
220-00538A: WHT 22 / WHT 22 / RED 22 / ORG 22
220-00539A: RED 22 / BLK 22 / WHT 22 / GRN 22
220-00540A: RED 22 / BLK 22 / WHT 22 / GRN 22

K1-ENG 15-3248
- 1 BLK 22
- 3 BLK 22
- 2
- 4
- 5
- 1
- 6
- 8
- 7

To PDB0- J37 |7| K1-ENG — 10-9068A — RED 22 / BLK 22

CAR_HOME — 36-3125 — 10-4982A
- RED 22 / BLK 22 / WHT 22 / GRN 22
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

CAR_HOME CLEANING — 36-3125 — 10-4982A
- RED 22 / BLK 22 / WHT 22 / GRN 22
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

220-00446A
- (11) TO DSEN14 LED+ RED 22
- (30) TO DSEN14 LED- BLK 22
- (12) TO DSEN14 C WHT 22
- (31) TO DSEN14 E GRN 22
- RED 22
- BLK 22
- WHT 22
- GRN 22

LOAD RAMP PLATE SENSOR 1 — 36-3210
- RED 22
- WHT 22
- GRN 22

220-00322A — To TMCE J12 ADAPTOR — PSEN 1 |8|

LOAD RAMP PLATE SENSOR 2 — 36-3210
- RED 22
- WHT 22
- GRN 22

LOAD RAMP PLATE SENSOR 3 — 36-3210
- RED 22
- WHT 22
- GRN 22

220-00323A — MINIFIT 2X4
- RED 22 — TO DSEN16 LED+ (15)
- WHT 22 — TO DSEN16 C (16)
- GRN 22 — TO DSEN16 E (35)
- ORG 22 — TO DSEN17 LED+ (17)
- BLUE 22 — TO DSEN17 C (18)
- YEL 22 — TO DSEN17 E (37)

To RESISTIVE BRAKES ASSY |8| BRAKE RELAYS SENSE
- RED 22 — TO DSEN9 LED+ (1)
- BLK 22 — TO DSEN9 LED- (20)
- WHT 22 — TO DSEN9 C (2)
- GRN 22 — TO DSEN9 E (21)

BAL_DETECT Home Side — 36-3125 — 10-4733A
- (13) TO DSEN15 LED+ ORG 24
- (32) TO DSEN15 LED- ORG/BLK 24
- (14) TO DSEN15 C BLK/RED 24
- (33) TO DSEN15 E ORG/RED 24
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

BAL_EXTEND Home Side — 36-3125 — 10-4982A
- (3) TO DSEN10 LED+ BLU 24
- (22) TO DSEN10 LED- BLU/BLK 24
- (4) TO DSEN10 C BLU/WHT 24
- (23) TO DSEN10 E BLU/RED 24
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

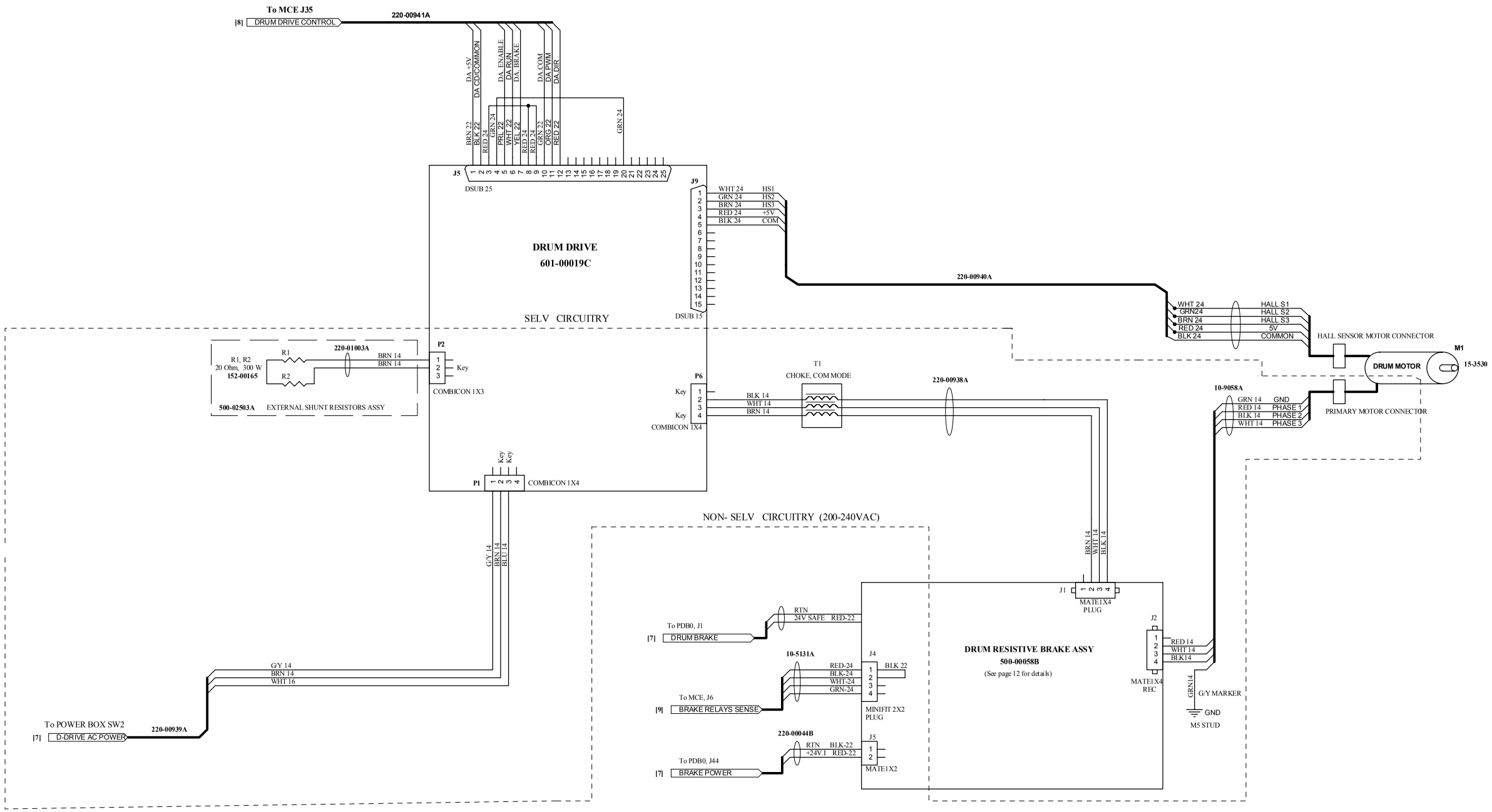
BAL_RETRACT Home Side — 36-3125 — 10-4982A
- (6) TO DSEN 11 LED+ GRN 24
- (24) TO DSEN11 LED- GRN/BLK 24
- (6) TO DSEN11 C GRN/WHT 24
- (25) TO DSEN11 E BLK/WHT 24
- LED+ RED 22
- LED- BLK 22
- COLLECTOR WHT 22
- EMITTER GRN 22

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MTA AUTOLOADER
MCE DIGITAL SENSORS WIRING DIAGRAM

\\Caeng1\Engineering\Projects\World System\Wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE 9_MCE DIGITAL SENSORS WIRING

DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
S. FOUDIMOV	705-00006B-B SD01	
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
S.FOUDIMOV		
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MTA AUTOLOADER

DRUM DRIVER & MOTOR WIRING DIAGRAM

\\Ccaeng1\Engineering\Projects\MTA\System Wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE 10_DRUM AMPLIFIER & MOTOR WIRING

DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
S. FOUDIMOV	705-00006B-B SD01	
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
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NOTE: INSTALL POLYSWITCH F2, F5, F6 ON THE LIONEL BOARD

LIONEL BOARD 0
10-4801B
Board Address = 0x40h

SCON1

J9 — SCON2 — 2X5 MINIFIT JR
+48V SAFE BRN 18
+48V SAFE RTN BLU 18
+24V SAFE GRN 18
+24V SAFE RTN WHT 18
+24V RED 18
CAN H RED 24
CAN L BLK 24
CHASSIS GRN 24
TERM DET WHT 24
+24 RTN BLK 18
DRAIN WIRE

To PDB J13 [7] SCON BUS — 10-5138A

J7 — DIG_IN2 — IDC,20PIN

J21 — 2X3 MINI-TAPE

CHILLER PRESSURE SWITCH
172-00045
PS: NO, C

220-00411B — MATE1X4
RED 22
BLK 22
BLK 22

10-9085A

RED-22 TO DSEN9. LED+ (1)
WHT-22 TO DSEN9.C (2)
GRN-22 TO DSEN9.E (3)
BLK-22 TO DSEN9. LED- (4)
RED-22 DSEN10.C (6)
BLK-22 DSEN10.E (7)

To DEBRIS REMOVAL [13] DEBRIS REMOVAL SENSORS

RED-22 TO DSEN11 LED+ (9)
WHT-22 TO DSEN11 C (10)
GRN-22 TO DSEN11 E (11)
BLK-22 TO DSEN11 LED- (12)
ORG-22 TO DSEN12 LED+ (13)
BLU-22 TO DSEN12 C (14)
YEL-22 TO DSEN12 E (15)
BRN-22 TO DSEN12 LED- (16)
RED-22 TO DSEN13 LED+ (17)
WHT-22 TO DSEN13 C (18)
GRN-22 TO DSEN13 E (19)
BLK-22 TO DSEN13 LED- (20)
ORG-22 TO DSEN14 LED+ (21)
BLU-22 TO DSEN14 C (22)
YEL-22 TO DSEN14 E (23)
BRN-22 TO DSEN14 LED- (24)

J8 — DIG_IN3 — HDR 2X15

MINIFIT 2X4 PWM_OUT2 J1

J16 AN_2 1X6 MTA
J17 AN_1 1X6 MTA

RED 22 +24V
ORG 22 +24V
BRN 22 PWM4
PWM1
WHT 22 PWM2
GRN 22 PWM3
BLU 22 PWM5
BLK 22 PWM6

518-00552A — To DRUM VACUUM PUMP — DRUM VAC. PUMP CONTROL [23]

J13 — SCON 1 — MINIFIT 2X8 CAN
SAT +48SAFE
SAT +48SRTN
SAT +24SAFE
SAT +24SRTN
SAT +24V
BRD_LOC+
BRD_LOC1-
BRD_LOC3-
CAN_H
CAN_L
CHASSIS
TERM_DET
SAT +24RTN
BRD_LOC+
BRD_LOC0-
BRD_LOC2-

220-00169A — To GENINE 0 J24 — SCON BUS [14]

J5 — PWM_OUT1 — MINIFIT 2X3 REC

J2 — SOL_DRV1 — SAMTEC, 2X8
BLK 22
PD
ACT 3
+24 V
ACT 4
+24 V
ACT 5
+24 V
ACT 6
ACT 7

220-00141A — MINIFIT 2X4
BLK-22
RED-22
GRN-22
WHT-22
BRN-22
ORG-22
BLU-22
YEL-22
BLK 22
RED 22
WHT 22
GRN 22

220-00142B — To RELEASE SV ADAPTOR — RELEASE ADPT 2 [8]
(1) +24V RED-22
(12) RTN BLK-22

J11 — IDC, 14PIN
(5) EREG.SEN0+ RED-22
(6) EREG.SEN0- BLK-22
(7) EREG.SEN1+ ORG-22
(8) EREG.SEN1- GRN-22
(9) EREG.SEN2+ WHT-22
(10) EREG.SEN2- BRN-22

MINIFIT 2X3
ORG 22
BLU-22

220-00363A

220-00566A
RED 22 +24VDC
WHT 22 4-20mA Out
GRN 22 GND
BLU 22 PD+
BRN 22 PD-

DRUM VACUUM
PSEB BOARD
10-4581A
MTA 1X6

220-00413A
RED 22 +24V
BLK 22 GRN LEDs
WHT 22 BLUE LEDs
GRN 22 YEL LEDs
ORG 22 PD+
BLU 22 PD-

MINIFIT 2X3

J1 — 1ROW IDC
STATUS LIGHT LEDS BRD
10-9063A
(Will be replaced with 503-09063B)

TEC_LOCK
36-3125
10-4982A
LED+ RED 22
LED- BLK 22
COLLECTOR WHT 22
EMITTER GRN 22

220-00145A
RED 24 TO DSEN11 LED+ (9)
BLK 24 TO DSEN11 LED- (12)
WHT 24 TO DSEN11 C (10)
GRN 24 TO DSEN11 E (11)

MINIFIT 2X4
RED-22
BLK-22
WHT-22
GRN-22
ORG-22
BRN-22
BLU-22
YEL-22

TEC_UNLOCK
36-3125
10-4982A
LED+ RED 22
LED- BLK 22
COLLECTOR WHT 22
EMITTER GRN 22

ORG 24 TO DSEN12 LED+ (13)
BRN 24 TO DSEN12 LED- (16)
BLU 24 TO DSEN12 C (14)
YEL 24 TO DSEN12 E (15)

LEC_LOCK
36-3125
10-4982A
LED+ RED 22
LED- BLK 22
COLLECTOR WHT 22
EMITTER GRN 22

220-00146A
RED 24 TO DSEN13 LED+ (17)
BLK 24 TO DSEN13 LED- (20)
WHT 24 TO DSEN13 C (18)
GRN 24 TO DSEN13 E (19)

MINIFIT 2X4
RED-22
BLK-22
WHT-22
GRN-22
ORG-22
BRN-22
BLU-22
YEL-22

LEC_UNLOCK
36-3125
10-4982A
LED+ RED 22
LED- BLK 22
COLLECTOR WHT 22
EMITTER GRN 22

ORG 24 TO DSEN14 LED+ (21)
BRN 24 TO DSEN14 LED- (24)
BLU 24 TO DSEN14 C (22)
YEL 24 TO DSEN14 E (23)

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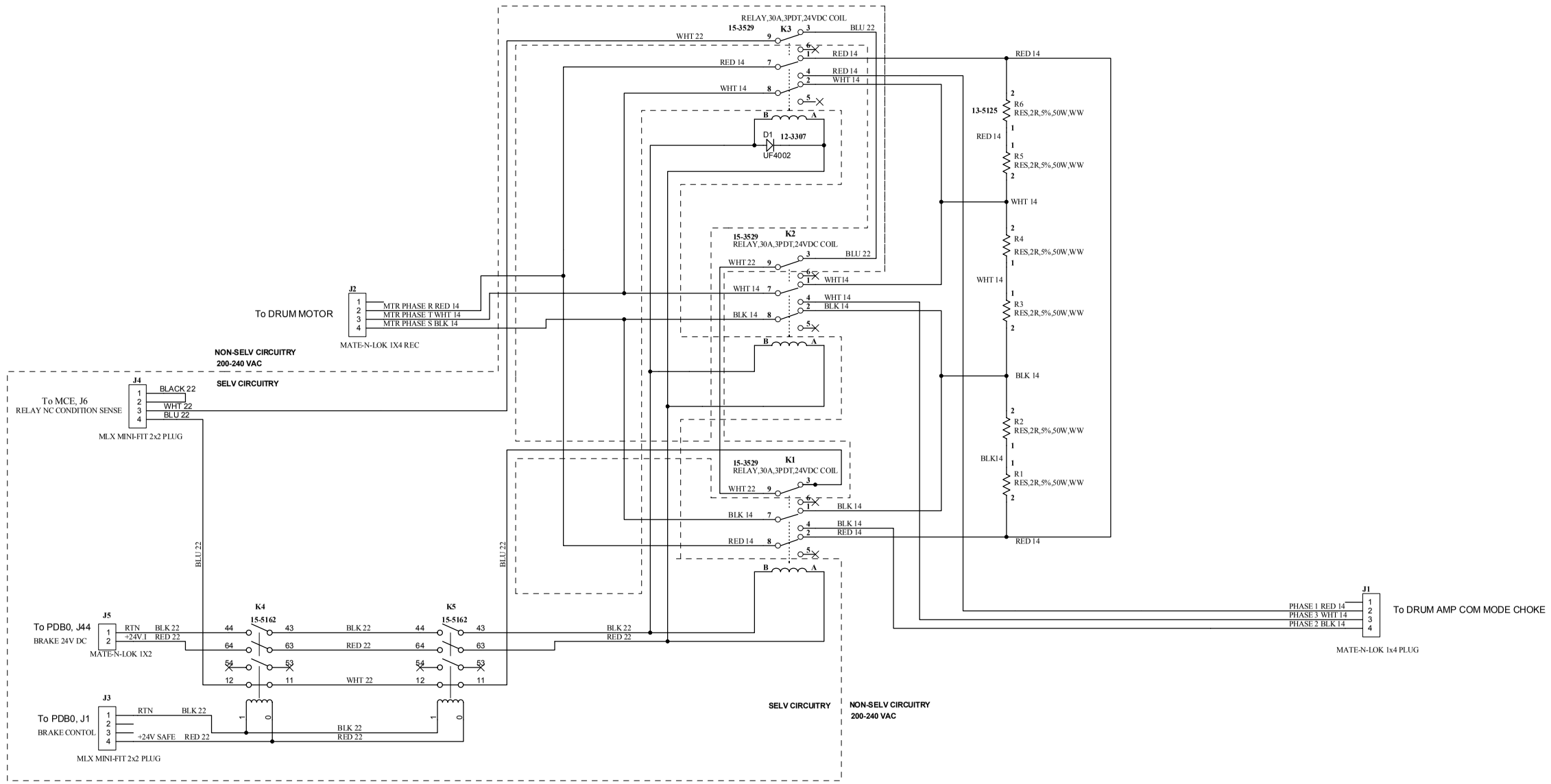
MTA AUTOLOADER
LIONEL BOARD
WIRING DIAGRAM

\\Ccaeng1\Engineering\Projects\Manufacturing\wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE 11_LIONEL BOARD WIRING

DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
S. FOUDIMOV	705-00006B-B SD01	
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
S.FOUDIMOV		
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DRUM RESISTIVE BRAKE ASSEMBLY 500-00058B

(See page 10 for details)



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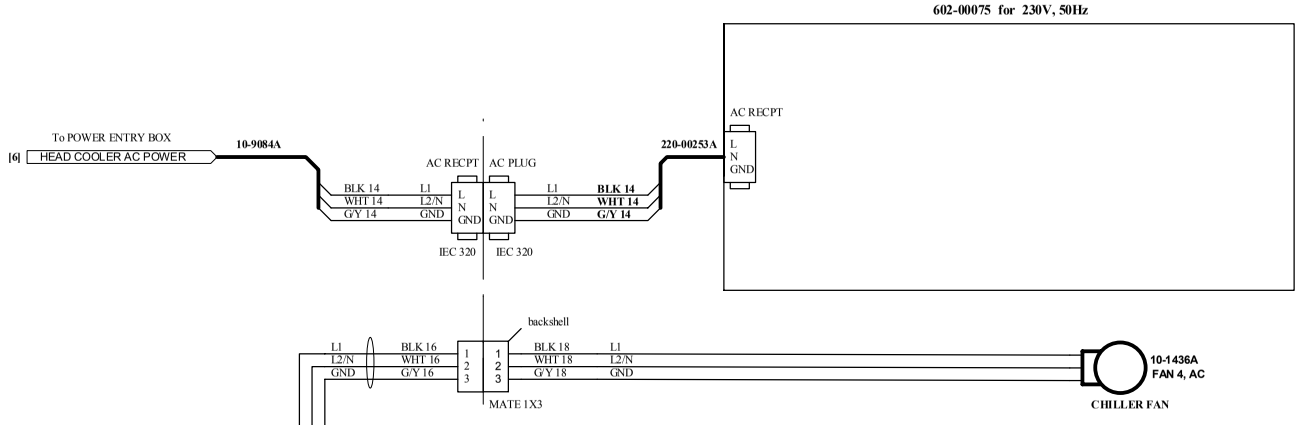
MTA AUTOLOADER
DRUM RESISTIVE BRAKE
WIRING DIAGRAM

\\Ccaeng1\Engineering\Projects\Mantis\System Portion\wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE 12_DRUM RESISTIVE BRAKE ASSY

DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
S. FOUDIMOV	**705-00006B-B SD01**	
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
S.FOUDIMOV		
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
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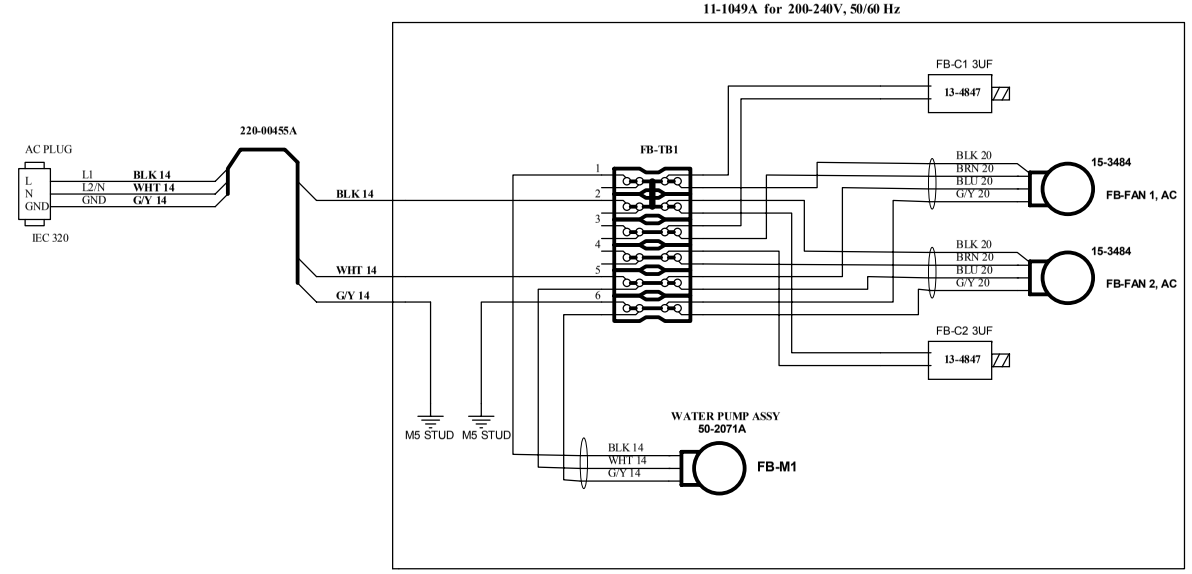
INTERNAL CHILLER

602-00076 for 200-230V, 60Hz or 200V, 50Hz
602-00075 for 230V, 50Hz



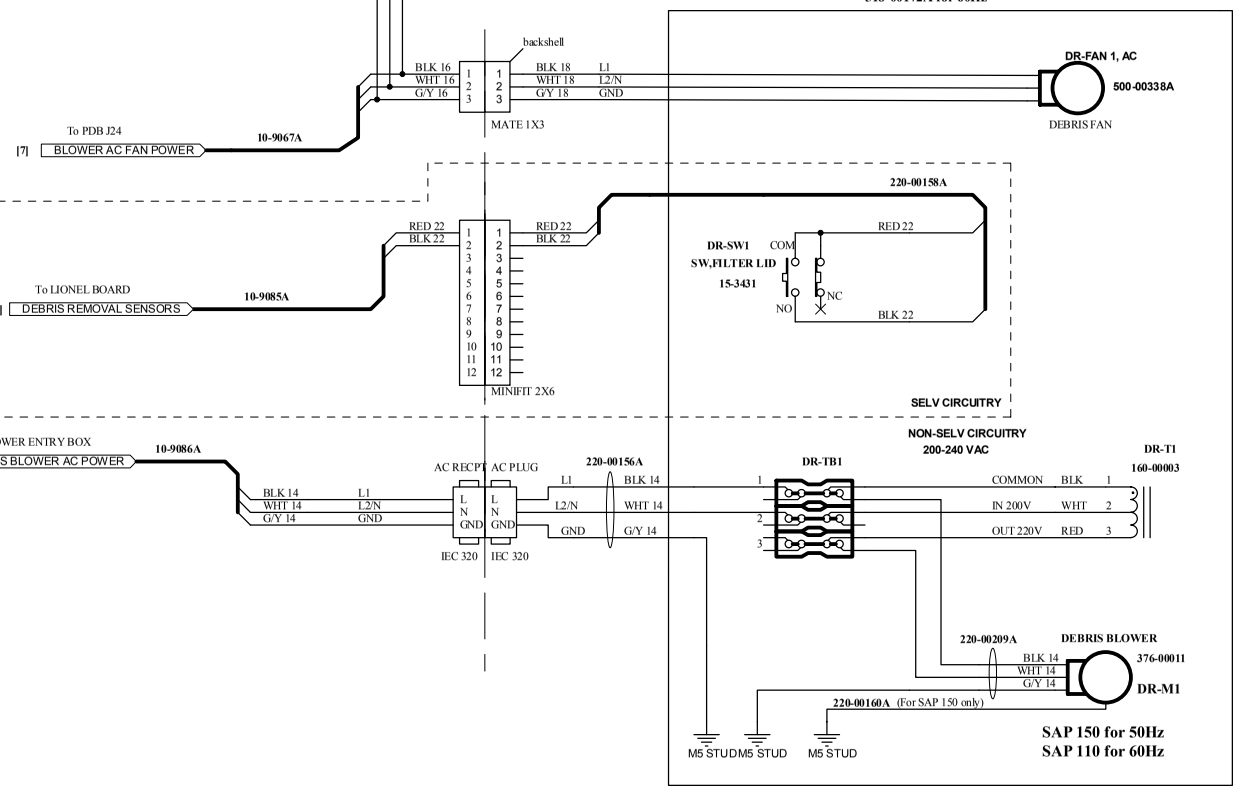
INTERNAL HEAT EXCHANGER (FAN BOX) ASSY

11-1049A for 200-240V, 50/60 Hz



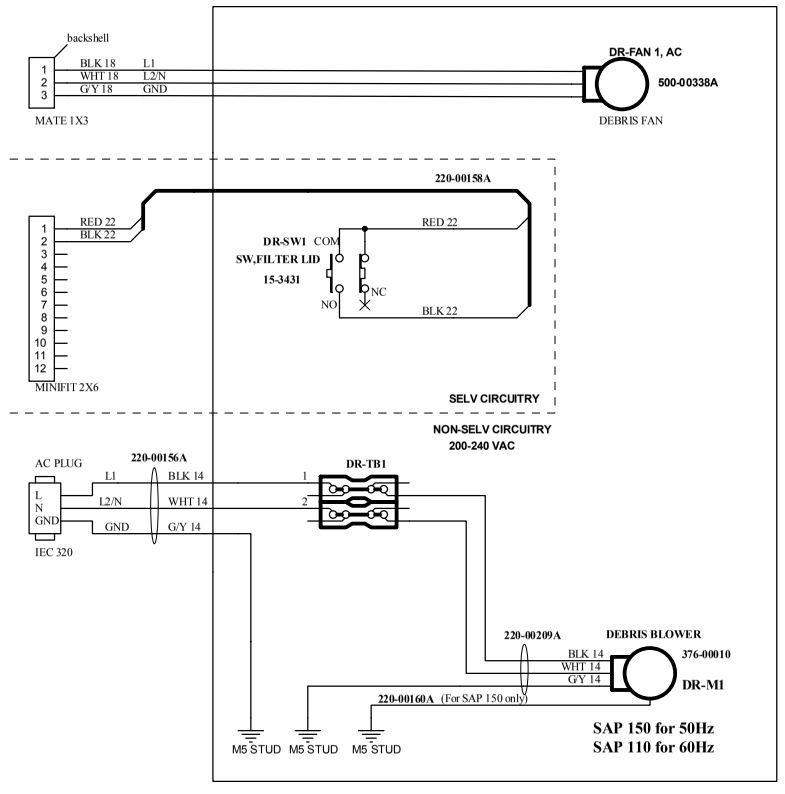
INTERNAL DEBRIS REMOVAL ASSY

200-208V INPUT POWER ONLY
518-00171A for 50Hz
518-00172A for 60Hz



INTERNAL DEBRIS REMOVAL ASSY

220-240V INPUT POWER ONLY
518-00639A for 50Hz
518-00640A for 60Hz

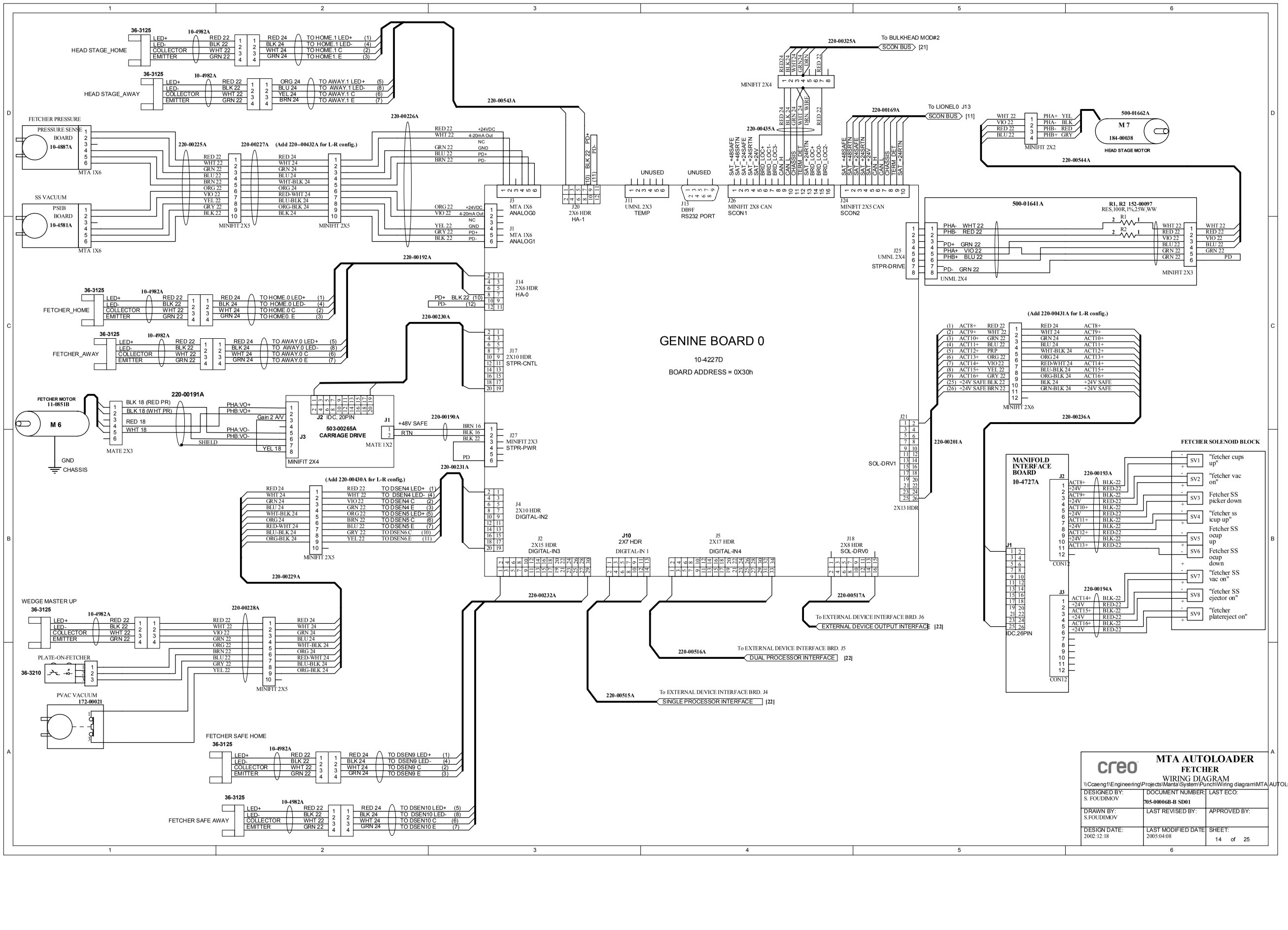


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MTA AUTOLOADER
HEAD COOLER & DEBRIS WIRING DIAGRAM

\\Ccaeng1\Engineering\Projects\Manta\System\Punch\Wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE13_INTERNAL HEAD COOLER & DEBRIS RE

DESIGNED BY: S. FOUDIMOV	DOCUMENT NUMBER: **705-00006B-B SD01**	LAST ECO:
DRAWN BY: S.FOUDIMOV	LAST REVISED BY:	APPROVED BY:
DESIGN DATE: 2002:12:18	LAST MODIFIED DATE: 2005:04:08	SHEET: 13 of 25


GENINE BOARD 0
10-4227D
BOARD ADDRESS = 0X30h
HEAD STAGE_HOME
HEAD STAGE_AWAY
FETCHER PRESSURE
SS VACUUM
FETCHER_HOME
FETCHER_AWAY
FETCHER MOTOR
11-0851B
WEDGE MASTER UP
PLATE-ON-FETCHER
PVAC VACUUM
FETCHER SAFE HOME
FETCHER SAFE AWAY
503-00265A
CARRIAGE DRIVE
UNUSED
UNUSED
DB9F
RS232 PORT
UML 2X3
TEMP
HA-1
HA-0
STPR-CNTL
STPR-PWR
DIGITAL-IN3
DIGITAL-IN 1
DIGITAL-IN4
SOL-DRV0
SOL-DRV1
SCON1
SCON2
SCON BUS [21]
To BULKHEAD MOD#2
To LIONEL0 J13
SCON BUS [11]
HEAD STAGE MOTOR
STPR-DRIVE
MANIFOLD INTERFACE BOARD 10-4727A
FETCHER SOLENOID BLOCK
"fetcher cups up"
"fetcher vac on"
Fetcher SS picker down
"fetcher ss icup up"
Fetcher SS ocup up
Fetcher SS ocup down
"fetcher SS vac on"
"fetcher SS ejector on"
"fetcher platereject on"
To EXTERNAL DEVICE INTERFACE BRD. J6
EXTERNAL DEVICE OUTPUT INTERFACE [22]
To EXTERNAL DEVICE INTERFACE BRD. J5
DUAL PROCESSOR INTERFACE [22]
To EXTERNAL DEVICE INTERFACE BRD. J4
SINGLE PROCESSOR INTERFACE [22]
(Add 220-00430A for L-R config.)
(Add 220-00431A for L-R config.)
MTA AUTOLOADER
FETCHER
WIRING DIAGRAM
\\Caeng1\Engineering\Projects\Manta\System\Punch\Wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE 14_GENINE 0_FETCHER
DESIGNED BY: S. FOUDIMOV
DOCUMENT NUMBER: 705-00006B-B SD01
LAST ECO:
DRAWN BY: S.FOUDIMOV
LAST REVISED BY:
APPROVED BY:
DESIGN DATE: 2002:12:18
LAST MODIFIED DATE: 2005:04:08
SHEET: 14 of 25

GENINE BOARD 1

10-4227D

BOARD ADDRESS = 0X31h

(ADD 220-00425A FOR L-R CONFIG.)

220-00255A

36-3205 BAUMER SLIP SHEET UNDER PLATE SENSOR FZAM18N6460/S14

BRN 22, BLU 22, BLK 22 — MINIFIT 2X2

220-00248A: BLK 22, RED 22, GRN 22, WHT 22, GRY 22

15-3359 K1

(1) +24V, (5) ES 0, (6) ES 0, (13) GND

J10 2X7 HDR DIG_IN 1

To TMCE J8 [8] SCON BUS

220-00170A

SAT +48SAFE, SAT +48SRTN, SAT +24SAFE, SAT +24SRTN, SAT +24V, BRD_LOC4+, BRD_LOC1-, BRD_LOC3-, CAN H, CAN L, CHASSIS, TERM_DET, SAT +24RTN, BRD_LOC1+, BRD_LOC3+, BRD_LOC2-, RID23

J3 MTA 1X6 ANALOG0

J26 MINIFIT 2X8 CAN SCON1

220-01370A

SAT +48SAFE, SAT +48SRTN, SAT +24SAFE, SAT +24SRTN, SAT +24V, CAN H, CAN L, CHASSIS, TERM_DET, SAT +24RTN

J24 MINIFIT 2X5 CAN SCON2

To GENINE4 J26 SCON BUS [24]

J25 UMNL 2X4 STPR-DRIVE

PHA+ RED 22, PHB- BLK 22 (WHITE PAIR), PD+ GRN 22, PHA- BLK 22(RED PAIR), PHB+ WHT 22, Chassis, PD- GRN 22

220-00184A — Shield — MINIFIT 2X2: PHA+ BLK, PHA- GRN, PHB- BLU, PHB+ RED

500-00717A M 3 — LOAD TABLE CARRIAGE MOTOR

LOAD CARRIAGE_HOME

36-3125 — LED+, LED-, COLLECTOR, EMITTER — WHT 22, GRN 22

10-4982A — RED 22, BLK 22

220-00195A — RED 24, BLK 24, WHT 24, GRN 24

TO HOME.1 LED+ (1), TO HOME.1 LED- (4), TO HOME.1 C (2), TO HOME1. E (3)

J20 2X6 HDR HA-1 — PD+ BLK 22 (10), PD- (11)

LOAD CARRIAGE_AWAY

36-3125 — LED+, LED-, COLLECTOR, EMITTER — WHT 22, GRN 22

10-4982A — RED 22, BLK 22

RED 24, BLK 24, WHT 24, GRN 24

TO AWAY.1 LED+ (5), TO AWAY.1 LED- (8), TO AWAY.1 C (6), TO AWAY.1 E (7)

SIDE EJECTOR_HOME

36-3125 — LED+, LED-, COLLECTOR, EMITTER — WHT 22, GRN 22

10-4982A — RED 22, BLK 22

220-00196A — RED 24, BLK 24, WHT 24, GRN 24

TO HOME.0 LED+ (1), TO HOME.0 LED- (4), TO HOME.0 C (2), TO HOME0. E (3)

J14 2X6 HDR HA-0 — PD+ BLK 22 (10), PD- (12)

SIDE EJECTOR_AWAY

36-3125 — LED+, LED-, COLLECTOR, EMITTER — WHT 22, GRN 22

10-4982A — RED 22, BLK 22

220-00187A — RED 24, BLK 24, WHT 24, GRN 24

TO AWAY.0 LED+ (5), TO AWAY.0 LED- (8), TO AWAY.0 C (6), TO AWAY.0 E (7)

J17 STPR-CNTL — 2X10 HDR

SIDE EJECTOR MOTOR 11-0851B — M 4 — GND CHASSIS

BLK 18 (RED PR), WHT 18, RED 18, BLK 18 (WHT PR) — MATE 2X3

220-00186A — PHA:VO+, PHB:VO-, PHA:VO-, PHB:VO+, SHIELD, Gain 2 A/V, YEL 18

J3 MINIFIT 2X4

J2 IDC, 20PIN — 503-00265A CARRIAGE DRIVE

J1 MATE 1X2 — +48V SAFE, RTN — 220-00188A BRN 16, BLK 16

J27 STEPPER POWER — PD, BLK22

J5 2X17 HDR DIGITAL-IN4 — MINIFIT 2X3 — 220-00249B

J2 2X15 HDR DIGITAL-IN3 — 220-00250A

J4 2X10 HDR DIGITAL-IN2 — 220-00251B

J21 — SOL-DRV1 — 2X13 HDR — 220-00185A — J1 IDC,26PIN

MANIFOLD INTERFACE BOARD 10-4727A

J2 — 220-00197A — CON12

ACT8+ +24V, ACT9+ +24V, ACT10+ +24V, ACT11+ +24V, ACT12+ +24V, ACT13+ +24V — BLK-22, RED-22

J3 — 220-00198A — CON12

ACT14+ +24V, ACT15+ +24V, ACT16+ +24V, ACT17+ +24V, ACT18+ +24V, ACT19+ +24V — BLK-22, RED-22

J4 — 220-00483A — CON12

ACT20+ +24V, ACT22+ +24V — BLK-22, RED-22

J5 — CON12

LOAD TABLE SOLENOID BLOCK

SV1 Loadtable centercups up/n
SV2 Loadtable centercups dn/n
SV3 Loadtable leftrightcups up/n
SV4 Loadtable leftrightcups dn/n
SV5 "loadtable centercups vac on"
SV6 "loadtable leftcups vac on"
SV7 "loadtable rightcups vac on"
SV8 "ejector pusher1 down"
SV9 Unloadtable tilt/stop
SV10 "loadtable centering unlock"
SV11 "loadtable wrifle lock"
SV12 Unloadtable untilt/stop
SV13 "loadtable platestop up"
SV14 "loadtable pullout lock"

LOAD TABLE CLOSED 1 (LOCATED CLOSER TO DRUM)

36-3210 — RED 22, WHT 22, GRN 22 — TO DSEN16 LED+ (1), TO DSEN16 C (2), TO DSEN16 E (3)

LOAD TABLE CLOSED 2 (LOCATED FARTHER FROM DRUM)

36-3210 — RED 22, WHT 22, GRN 22 — TO DSEN17 LED+ (5), TO DSEN17 C (6), TO DSEN17 E (7)

UNLOAD TABLE_TILT

36-3210 — RED 22, WHT 22, GRN 22 — TO DSEN19 LED+ (13), TO DSEN19 C (14), TO DSEN19 E (15)

UNLOAD TABLE_HORIZONTAL

36-3210 — RED 22, WHT 22, GRN 22 — TO DSEN20 LED+ (17), TO DSEN20 C (18), TO DSEN20 E (19)

ACCESS PANEL CLOSED SW 15-3355 — 220-00426A — (ADD 220-00436A FOR L-R CONFIG.) — RED 22, BLK 22 — MINIFIT 1X2 — TO DSEN21.C (22), TO DSEN21.E (23)

LOADER VAC CUPS CENTER

172-00021 — RED 22 — TO DSEN9.C (2); BLK 22 — TO DSEN9.E (3)

LOADER VAC CUPS LEFT

172-00021 — ORG 22 — TO DSEN10.C (6); BRN 22 — TO DSEN10.E (7)

LOADER VAC CUPS RIGHT

172-00021 — YEL 22 — TO DSEN11.C (10); WHT 22 — TO DSEN 11.E (11)

SIDE BRIDGE IN POSITION

36-3210 — RED 22, WHT 22, GRN 22 — TO DSEN 4 LED+ (1), TO DSEN 4 C (2), TO DSEN 4 E (3)

PLATE ON PROCESSOR

36-3210 — RED 22, WHT 22, GRN 22 — 220-00364A — P? — MINIFIT 2X2 — TO DSEN 5 LED+ (5), TO DSEN 5 C (6), TO DSEN 5 E (7)

PLATE STOP UP

36-3125 — LED+, LED-, COLLECTOR, EMITTER — WHT 22, GRN 22

10-4982A — RED 22, BLK 22

220-00482A — RED 22, BLK 22, WHT 22, GRN 22

TO DSEN12 LED+ (13), TO DSEN12 LED- (16), TO DSEN12 C (14), TO DSEN12 E (15)

PLATE STOP DOWN

36-3125 — LED+, LED-, COLLECTOR, EMITTER — WHT 22, GRN 22

10-4982A — RED 22, BLK 22

ORG 22, BRN 22, BLU 22, YEL 22

TO DSEN13 LED+ (17), TO DSEN13 LED- (20), TO DSEN13 C (18), TO DSEN13 E (19)

MINIFIT 2X4

creo — MTA AUTOLOADER LOAD TABLE & SIDE EJECTOR WIRING DIAGRAM \\Ccaeng1\Engineering\Projects\MTA\System Architecture\wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE 15_GENINE 1_LOAD TABLE & SIDE EJECTO		
DESIGNED BY: S. FOUDIMOV	DOCUMENT NUMBER: 705-00006B-B SD01	LAST ECO:
DRAWN BY: S.FOUDIMOV	LAST REVISED BY:	APPROVED BY:
DESIGN DATE: 2002:12:18	LAST MODIFIED DATE: 2005:09:09	SHEET: 15 of 25

GENINE BOARD 2

10-4227D

BOARD ADDRESS = 0X32h

220-00171B To 220-01372A SCON BUS [25]

220-00168A

J1 MTA 1X6 ANALOG1 — J6 MTA 1X6 ANALOG2 — J3 MTA 1X6 ANALOG0 — J11 UMNL 2X3 TEMP — J13 DB9F RS232 PORT — J26 MINIFIT 2X8 CAN SCON1 — J24 MINIFIT 2X5 CAN SCON2

J25 UMNL 2X4 STPR-DRIVE

220-00172A

J25		J24
PHA- RED 22		SAT_+48SNFE
PHB- BLK 22 (WHITE PAIR)		SAT_+48SRTN
PD+ GRN 22		SAT_+24SAFE
PHA+ BLK 22 (RED PAIR)		SAT_+24SRTN
PHB+ WHT 22		SAT_+24V
Chassis	Shield	CAN_H
PD- GRN 22		CAN_L
		CHASSIS
		FEEDBACK_EF
		SAT_+24RTN

220-00172A — MINIFIT 2X2: PHA+ BLK, PHA- GRN, PHB- BLU, PHB+ RED

500-00717A M 5 — UNLOAD CARRIAGE MOTOR

220-00189A

J20 2X6 HDR HA-1

PD+ BLK 22 (10)
PD- (11)

36-3125 / **10-4733A**

UNLOAD CARRIAGE_HOME1

LED+	RED 22	TO HOME.1 LED+	(1)
LED-	BLK 22	TO HOME.1 LED-	(4)
COLLECTOR	WHT 22	TO HOME.1 C	(2)
EMITTER	GRN 22	TO HOME1. E	(3)

36-3125 / **10-4733A**

UNLOAD CARRIAGE_AWAY1

LED+	RED 22	TO AWAY.1 LED+	(5)
LED-	BLK 22	TO AWAY.1 LED-	(8)
COLLECTOR	WHT 22	TO AWAY.1 C	(6)
EMITTER	GRN 22	TO AWAY.1 E	(7)

220-00245A

J5 — DIGITAL-IN4 — 2X17 HDR

36-3125 / **10-4982A**

PLATE ROTATOR_HOME

LED+	RED 22	TO DSEN16 LED+	(1)
LED-	BLK 22	TO DSEN16 LED-	(4)
COLLECTOR	WHT 22	TO DSEN16 C	(2)
EMITTER	GRN 22	TO DSEN16 E	(3)

36-3210

PLATE ROTATOR VACUUM CAPS_DOWN

	ORG 24	TO DSEN17 LED+	(5)
	RED-WHT 24	TO DSEN17 C	(6)
	BLK-WHT24	TO DSEN17 E	(7)

36-3210

UNLOADER VACUUM CAPS LEFT_DOWN

	RED-BLK 24	TO DSEN18 LED+	(9)
	GRN-WHT 24	TO DSEN18 C	(10)
	ORG-BLK 24	TO DSEN18 E	(11)

36-3210

UNLOADER VACUUM CAPS RIGHT_DOWN

	RED 24	TO DSEN19 LED+	(13)
	WHT 24	TO DSEN19 C	(14)
	GRN 24	TO DSEN19 E	(15)

172-00021 To PLATE ROTATOR VACUUM LINE — BLU 24 TO DSEN21.C (22); ORG 24 TO DSEN21.E (23)

172-00021 To UNLOADER VACUUM LINE LEFT CUPS — RED-WHT 24 TO DSEN22.C (26); BLK-WHT 24 TO DSEN22.E (27)

172-00021 To PLATE ROTATOR VACUUM LINE RIGHT CUPS — BLU-BLK 24 TO DSEN23.C (30); ORG-BLK 24 TO DSEN 23.E (31)

J2 2X15 HDR DIGITAL-IN3

J14 2X6 HDR HA-0

J10 2X7 HDR DIGITAL-IN1

220-00246A

36-3125 / **10-4733A**

UNLOAD CARRIAGE @ ROTATOR

LED+	RED 22	TO DSEN9 LED+	(1)
LED-	BLK 22	TO DSEN9 LED-	(4)
COLLECTOR	WHT 22	TO DSEN9 C	(2)
EMITTER	GRN 22	TO DSEN9 E	(3)

36-3125 / **10-4982A**

UT FRONT PLATE DEFLECTOR

LED+	RED 22	TO DSEN13 LED+	(17)
LED-	BLK 22	TO DSEN13 LED-	(20)
COLLECTOR	WHT 22	TO DSEN13 C	(18)
EMITTER	GRN 22	TO DSEN13 E	(19)

J18 SOL-DRV0 2X8 HDR

220-00182A

J18		SOL-DRV0
ACT0+	BLK 22	
ACT1+		
ACT2+		
+24V	RED 22	
ACT3+	BLK 22	
+24V	RED 22	
ACT4+	BLK 22	
+24V	RED 22	
ACT5+	BLK 22	
+24V	RED 22	
ACT6+	BLK 22	
+24V	RED 22	

J21 SOL-DRV1 2X13 HDR

UNLOAD TABLE MANIFOLD

SV1	"unloadtable centercups rotate"
SV2	"unloadtable centercups up"
SV3	"unloadtable centercups vac on"
SV4	"unloadtable left/rightcups up"
SV5	"unloadtable left/rightcups vac on"

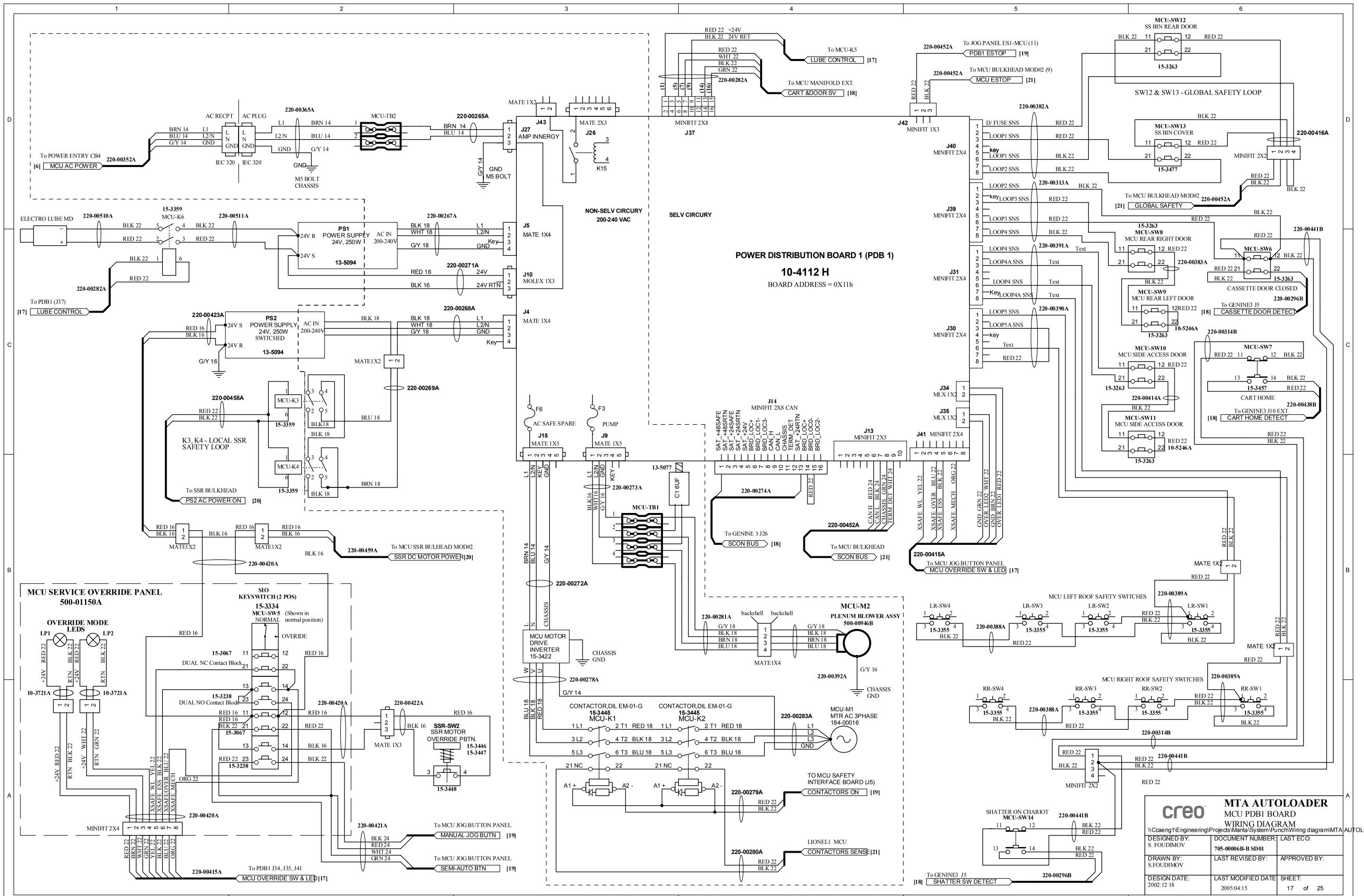
creo

MTA AUTOLOADER

UNLOAD TABLE WIRING DIAGRAM

\\Ccaeng1\Engineering\Projects\Manta\System\Punch\Wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE 16_GENINE 2_ UNLOAD TABLE

DESIGNED BY: S. FOUDIMOV	DOCUMENT NUMBER: **705-00006X-X SD01**	LAST ECO:
DRAWN BY: S.FOUDIMOV	LAST REVISED BY:	APPROVED BY:
DESIGN DATE: 2002:12:18	LAST MODIFIED DATE: 2005:09:09	SHEET: 16 of 25


POWER DISTRIBUTION BOARD 1 (PDB 1)
10-4112 H
BOARD ADDRESS = 0X11h
SELV CIRCURY
NON-SELV CIRCURY
200-240 VAC
MCU SERVICE OVERRIDE PANEL
500-01150A
OVERRIDE MODE LEDS
K1, K2 - MAIN CONTACTOR
K3, K4 - LOCAL SSR SAFETY LOOP
SW12 & SW13 - GLOBAL SAFETY LOOP
CASSETTE DOOR CLOSED
CART HOME
MCU LEFT ROOF SAFETY SWITCHES
MCU RIGHT ROOF SAFETY SWITCHES
MTA AUTOLOADER
MCU PDB1 BOARD
WIRING DIAGRAM
creo
\\Csaeng1\Engineering\Projects\Manta\System\Punch\Wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE 17_MCU PDB1 WIRING
DESIGNED BY: S. FOUDIMOV
DOCUMENT NUMBER: 705-00006B-B SD01
LAST ECO:
DRAWN BY: S.FOUDIMOV
LAST REVISED BY:
APPROVED BY:
DESIGN DATE: 2002:12:18
LAST MODIFIED DATE: 2005:04:15
SHEET: 17 of 25

GENINE BOARD 3

10-4227D

BOARD ADDRESS = 0X33h

PICKER PRESSURE
PRESSURE SENSE BOARD 10-4887A
220-00288A
MTA 1X6
RED 22 WHT 22 +24VDC 4-20mA Out
GRN 22 BLU 22 BRN 22 GND PD+ PD-

13-5062 BAUMER SLIP SHEET SENSOR OZDM 16P1901
220-00357A BRN 22 WHT 22 BLU 22
220-00354A RED 22 WHT 22 GRN 22
MCU-K5
15-3359
RED 22 BLK 22 ACT5+ +24V
To GENINE3 J18 [18] SS SENSOR POWER 220-00290A

WHT 22 SIG
GRN 22 GND
PD
BLK 22

J6 MTA 1X6 ANALOG2
J3 MTA 1X6 ANALOG0
J1 MTA 1X6 ANALOG1
UNUSED
J11 UMNL 2X3 TEMP
UNUSED
J13 DB9F RS232 PORT

To PDB1 J14 [17] SCON BUS
220-XXXXA
SAT +48SAFE, SAT +48SRTN, SAT +24SAFE, SAT +24SRTN, SAT +24V, BRD LOC1+, BRD LOC1-, RED232, CAN H, CAN L, CHASSIS, TERM RETN, SAT +24RTN, BRD LOC2+, BRD LOC2-
J26 MINIFIT 2X8 CAN SCON1

220-00289A
SAT +48SAFE, SAT +48SRTN, SAT +24SAFE, SAT +24SRTN, SAT +24V, CAN H, CAN L, CHASSIS, TERM RETN, SAT +24RTN
J24 MINIFIT 2X5 CAN SCON2
To LIONEL1 J9 [21] SCON BUS

PICKER MANIFOLD
SV1 "picker down"
SV2 "picker slider in"
SV3 "picker pcups on"
SV4 "picker pcups on"

J18 SOL-DRV0 2X8 HDR
ACT0+ BLK 22, +24V RED 22
ACT1+ BRN 22, +24V ORG 22
ACT2+ BLU 22, +24V VIO 22
ACT3+ GRN 22, +24V YEL 24
ACT4+ GRY 24, +24V WHT 24
ACT5+ BLK 22, +24V RED 22
220-00290A
220-00456A
MINIFIT 2X5
To RELAY K5 SS SENSOR POWER [18]

CART PARK
15-3457 SW6
RED 22
BLK 22
220-00438B
MINIFIT 2X4
RED 22 EREGSEN0+ (5)
ORG 22 EREGSEN0- (6)
YEL 22 EREGSEN1+ (7)
GRN 22 EREGSEN1- (8)
WHT 22 EREGSEN2+ (9)
BLU 22 EREGSEN2- (10)
BRN 22 EREGSEN3+ (11)
BLK 22 EREGSEN3- (12)

To PLATE W. SENSOR ADAPTOR [18] +24V
220-00837A
RED 22 WHT 22 +24V +24V
MINIFIT 1X2
220-00295B
RED 22 (1) WHT 22 (2) PD (3) BLK 22 (4)
J10
IDC, 14PIN

[17] CART & DOOR SV
220-00282A
220-00419A
MINIFIT 2X2
BLK 22 RED 22 GRN 22 WHT 22
BLK 22 RED 22 BLK 22 RED 22
MCU MANIFOLD
SV1 "cassette door open"
SV7 "cassette cartpin up"
SV2 Cassette casslock
SV3 Cassette casseject
SV4 "plenum separator on"
SV5 "plenum float high"
SV6 "plenum ssmirror out"

J21 SOL-DRV1 2X13 HDR
220-00291A
MANIFOLD INTERFACE BOARD 10-4727A
J2
ACT8+ +24V, AC19+ -24V, ACT10+ -24V, ACT11+ -24V, ACT12+ +24V, ACT13+ -24V
BLK-24 RED-24 BLK-24 RED-24 BLK-24 RED-24 BLK-24 RED-24 BLK-24 RED-24 BLK-24 RED-24
CON12
J1 2X20 HDR
IDC,26PIN
220-00292A
J3
ACT14+ +24V, ACT15+ -24V, ACT16+ +24V, ACT17+ +24V, ACT18+ +24V, ACT19+ +24V
BLK-24 BLK-24 BLK-24 BLK-24 BLK-24 RED-24
CON12
220-00293A
MINIFIT 2X3
BLK 22 BRN 22 BLU 22 WHT 22 RED 22
220-00285A
To SSR BULKHED SSR MANIFOLD [20]
J4
ACT20+ +24V, ACT22+ +24V, ACT24+ +24V
BLK 22, WHT 22, GRN 22 RED-22
CON12
220-00294A
To MCU SAFETY INTERFACE BOARD J3 MCU SAFETY CONTROL [20]
J5
ACT26+ +24V, ACT28+ +24V, ACT30+ +24V
CON12

To CART HOME SW5 [17] CART HOME DETEC
RED 22
BLK 22

J5 DIGITAL-IN4
J2 DIGITAL-IN3 2X15 HDR
2X17 HDR
2X10 HDR DIGITAL-IN2
J4
220-00296B
220-00297B
220-00298A

36-3125 10-4982A
CASSETTE DOOR OPENED
LED+ RED 22 TO DSEN16 LED+ (1)
LED- BLK 22 TO DSEN16 LED- (4)
COLLECTOR WHT 22 TO DSEN16 C (2)
EMITTER GRN 22 TO DSEN16 E (3)
[17] CASSETTE DOOR DETECT
RED 22 TO DSEN17 C (6)
BLK 22 TO DSEN17 E (7)

36-3210
CASSETTE LOCK
RED 22 TO DSEN18 LED+ (9)
WHT 22 TO DSEN18 C (10)
GRN 22 TO DSEN18 E (11)
CASSETTE EJECT
RED 22 TO DSEN19 LED+ (13)
WHT 22 TO DSEN19 C (14)
GRN 22 TO DSEN19 E (15)
CASSETTE LOCKED ON CHARRIOT 1
RED 22 TO DSEN20 LED+ (17)
WHT 22 TO DSEN20 C (18)
GRN 22 TO DSEN20 E (19)
CASSETTE LOCKED ON CHARRIOT 2
RED 22 TO DSEN21 LED+ (21)
WHT 22 TO DSEN21 C (22)
GRN 22 TO DSEN21 E (23)
LOCK EJECT CYLINDER IN
RED 22 TO DSEN22 LED+ (25)
WHT 22 TO DSEN22 C (26)
GRN 22 TO DSEN22 E (27)
To SHATTER SWITCH - SW 14 [17] SHATTER SW DETECT
RED 22 TO DSEN23 C (30)
BLK 22 TO DSEN23 E (31)

CASS POS 1
RED 22 TO DSEN9 LED+ (1)
WHT 22 TO DSEN9 C (2)
GRN 22 TO DSEN9 E (3)
CASS POS 2
RED 22 TO DSEN10 LED+ (5)
WHT 22 TO DSEN10 C (6)
GRN 22 TO DSEN10 E (7)
CASS POS 3
RED 22 TO DSEN11 LED+ (9)
WHT 22 TO DSEN11 C (10)
GRN 22 TO DSEN11 E (11)
CASS POS 4
RED 22 TO DSEN12 LED+ (13)
WHT 22 TO DSEN12 C (14)
GRN 22 TO DSEN12 E (15)
CASS LOAD/UNLOAD POS
RED 22 TO DSEN13 LED+ (17)
WHT 22 TO DSEN13 C (18)
GRN 22 TO DSEN13 E (19)
CASS LOCK/EJECT POS
RED 22 TO DSEN14 LED+ (21)
WHT 22 TO DSEN14 C (22)
GRN 22 TO DSEN14 E (23)
To GENINE 3, J10 [18] +24V
BLK 22 GRN 22 BLK 22 TO DSEN15 C (26) GRN 22 TO DSEN15 E (27)
MINIFIT 1X2
RED 22 WHT 22

P-CUP ARM UP
RED 22 TO DSEN 4 LED+ (1)
WHT 22 TO DSEN 4 C (2)
GRN 22 TO DSEN 4 E (3)
P-CUP SLIDER RETRACT
RED 22 TO DSEN 5 LED+ (5)
WHT 22 TO DSEN 5 C (6)
GRN 22 TO DSEN 5 E (7)
P-CUPS MOTION DOWN 10-9048A
36-3209
LED+ GRY 24 TO DSEN6 LED+ (9)
COLLECTOR WHT 24 TO DSEN6 C (10)
EMITTER GRN 24 TO DSEN6 E (11)
SS MIRROR EXTENDED 10-4982A
36-3125
LED+ RED 22 TO DSEN 7 LED+ (13)
LED- BLK 22 TO DSEN7 LED- (16)
COLLECTOR WHT 22 TO DSEN 7 C (14)
EMITTER GRN 22 TO DSEN 7 E (15)
CASS PICK POS
RED 22 TO DSEN8 LED+ (17)
WHT 22 TO DSEN8 C (18)
GRN 22 TO DSEN8 E (19)

220-00837A
RED 22 GRN 22 BLK 22 WHT 22
MINIFIT 2X2
BRN 22 PINK 22 BLUE 22 BLK 22 NC
PLATE WIDTH SENSOR 10-4652A
36-3200

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MTA AUTOLOADER

MCU GENINE 3

WIRING DIAGRAM

\\Ccaeng1\Engineering\Projects\Manual System\Current\wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE 18_MCU GENINE 3 WIRING

DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
S. FOUDIMOV	705-000068-B SD01	
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
S.FOUDIMOV		
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
2002:12:18	2005:04:22	18 of 25

MCU SERVICE OVERRIDE PANEL
500-01150A

MCU-SW1
2 POSITION
LEVER SWITCH
15-3536

LEFT - SEMI-AUTO MODE
POS 2

RIGHT - MANUAL JOG MODE
POS 1

MODES OF OPERATION:

JOG MODE:

PUT OVERRIDE SWITCH IN OVERRIDE POSITION.
PUT LEVER SWITCH IN POS. 1
TO MOVE FORKS UP - PRESS AND HOLD PUSHBUTTON MCU-SW3
TO MOVE FORKS DOWN - PRESS AND

SEMI-AUTOMATIC MODE:

PUT OVERRIDE SWITCH IN OVERRIDE POSITION.
PUT LEVER SWITCH IN POS. 2
PRESS AND HOLD MCU-SW2 WHILE REGULAR AUTOMATIC OPERATION

MCU-SW2
PUSHBUTTON
HOLD FOR SEMI-AUTO
15-3446
15-3447
15-3448

15-3238

WHT 24
GRN 24
BLK 24

MCU-SW3
PUSHBUTTON
JOG UP

MCU-SW4
PUSHBUTTON
JOG DOWN

220-00421A

To MCU OVERRIDE SW. [17] SEMI-AUTO BTN

To MCU OVERRIDE SW. [17] MANUAL JOG BUTN

UPPER & LOWER LIMIT SWITCHES
15-3457
UPPER LIM SWITCH
SW2
SW3
LOWER LIM SWITCH
15-3457
220-00315A
RED 22
BLK 22
WHT 22
GRN 22
J1
2X2 MINIFITJR

J4
220-00421A
RED 24 — +24VSAFE
WHT 24 — JOG MODE
GRN 24 — ACT20+(MOTOR RUN)
YEL 24 — SEMI/AUTO RUN
ORG 24 — JOGGED RUN
BLK 24 — JOG DOWN
SERV PNL SW OVR
GND

MCU SAFETY INTERFACE BOARD
10-4697C

SELV CIRCUITRY

NON-SELV CIRCUITRY

15-3422
MCU MOTOR DRIVE
KEBCO INVERTER

J2
220-00311A
INVERTER CONTROL
2X6 MINIFIT

N/O CONTACT1	1	RED 22	1 N/O CONTACT
N/O CONTACT2	2		2
FREQ 1 (FAST)	3	WHT 22	3 SW COMMON
FREQ 2 (SLOW)	4	GRN 22	4 FREQ 1 (FAST)
+15V DC	5	BLK 22	5 FREQ2 (SLOW)
REVERSE	6	BRN 22	6 DC COMMON
FORWARD	7		7
DC COMMON	8		8
CONT REL (RUN)	9		9
	10	YEL 22	10
	11	BLU 22	11 15VDC
	12	ORG 22	12 REVERSE
		GREY 22	13 FORWARD
			14 CONT REL (RUN)

DIRECTION
UP
DOWN
K2 RTE24024
D4 UF4002

RUN
K1 RTE24024
D1 UF4002

DIR DOWN ISOLATION
K3 RTE24024
D2 UF4002

SPEED SLOW
K4 RTE24024
D3 UF4002

MOTOR RUN
SENS ISOLATION
R1 1K
U1A ILQ30

J3
220-00294A
RED 22 — 24V SAFE
BLK 22 — ACT20+(MOTOR RUN)
WHT 22 — ACT22+(DIR DOWN)
GRN 22 — ACT24+(FREQ SLOW)
SENS 13.E (MOTOR RUN)
SENS 13.C (MOTOR RUN)
SENS14.C(SFTY LOOP)
SENS14.E(SFTY LOOP)
GND
2X5 MINIFITJR

TO MCU MANIFOLD INT. BRD (J4) [18] MCU SAFETY CONTROL

24V OK
DS1
LED,GRN
R3 2K2

GRN 22
WHT 22
BLK 22
MINIFIT 2X2

To MCU LIONEL1 (J8) [21] MCU SAFETY SENSING 220-00280A

SAFETY LOOP OK
DS2 LED,YEL
D8 UF4002
R4 2K2

J5
RED 22
BLK 22
CONTACTOR COIL+
GND
2X3 MnL

To MCU CONTACTOR COILS [17] CONTACTORS ON 220-00279A

DIRECTION SIGNAL
PULLED LOW = DOWN

RUN SIGNAL
CONTROLLED BY F/W
AND K6, K7. ACTIVE LOW

AUTO/JOG SIGNAL SELECTOR 1
DIR DOWN REQ
SPEED SLOW REQ

J8
RED 22 — 24V SAFE
1X2 MnL

K5 RTE24024
D5 UF4002

J9
2X2 MnL

AUTO/JOG SIGNAL SELECTOR2
RUN SIGNAL CONTACTOR
RUN REQ

J6
1X2 MnL

K6 RTE24024
D6 UF4002

K7 RTE24024
D7 UF4002

U2A ILQ30
R2 1K8

J7
1X2 MnL

J10
CONTACTOR COIL+
1X2 MnL

220-00418A

EMERGENCY STOP SWITCH
ES1-MCU 15-3474
ES2-MCU 15-3474
ES3-SSR 15-3474
220-00317A
220-00417A
RED 22
BLK 22

To PDB1 (J42) [17] PDB1 ESTOP 220-00452A
To MCU BULKHEAD MOD#2 (10) [21] ES3-SSR 220-00452A
To MCU BULKHEAD MOD#2 (11) [21] ESTOP1 FOM MCU 220-00452A
To MCU BULKHEAD (12) [21] ESTOP3 FROM SSR 220-00452A

K5, K6 ENERGIZED WHEN LEVER SWITCH SET TO JOG MODE

RELAY ENERGIZED WHEN MCU SAFETY LOOP IS OK

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MTA AUTOLOADER
MCU SAFETY INTERFACE BOARD
WIRING DIAGRAM

\\Csaeng1\Engineering\Projects\Manta\System\Punch\Wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE 19_MCU SAFETY INTERFACE BOARD

DESIGNED BY: S.FOUDIMOV	DOCUMENT NUMBER: 705-00006B-B SD01	LAST ECO:
DRAWN BY: S.FOUDIMOV	LAST REVISED BY:	APPROVED BY:
DESIGN DATE: 2002.12.18	LAST MODIFIED DATE: 2005.04.08	SHEET: 19 of 25

SSR 500-00307A

SSR UMBILICAL CABLE 220-00453A

To MCU LIONEL1 J11
[21] SSR SENSORS 3

220-00458A

EREG.PD+ RED 22
EREG.PD- BLK 22
EREG.SEN0+ WHT 22
EREG.SEN1+ GRN 22
EREG.SEN2+ YEL 22
EREG.SEN3+ BLU 22
+24V SAFE SWITCHED RED 22
+24V ORG 22
EREG.SEN3- (GND) BRN 22
DSEN 10.C RED 22

DSEN10.E BLK 22

To K3,K4 MCU PDB1
[17] PS2 AC POWER ON
RED 22
BLK 22

To MCU LIONEL1 J8
[21] SSR SENSORS 2

220-00459A

ACT16+ BLK 22
SENS12.LED- BLK 22
SENS11.LED+ RED 22
SENS11.C BRN 22
SENS11.E BLU 22
SENS11.LED- WHT 22
+24V SAFE RED 22
ACT17+ BRN 22
ACT18+ BLU 22
ACT19+ WHT 22
RED 16
BLK 16

To MCU LIONEL1 J8
[21] SSR SENSORS 1

To MCU MANIFOLD INT. BOARD
[18] SSR MANIFOLD

PS2 +24V
PS2 +24VRTN

To MCU PS2
[17] SSR DC MOTOR POWER

MINIFIT 2X7

GND RED/WHT & BLK STRIPES 24
EREG.PD+ BLU/BLK STRIPE 24
EREG.PD- GRN 24
EREG.SEN0+ RED/BLK STRIPE 24
EREG.SEN1+ BLU 24
EREG.SEN2+ WHT/BLK STRIPE 24
EREG.SEN3+ BLU/RED STRIPE 24
+24VSAFE(SW) BLK/WHT STRIPE 24
+24V WHT/RED STRIPE 24
EREG.SEN3- BLU/WHT STRIPE 24
DSEN 10.C GRN/WHT & BLK STRIPES 24
SPARE ORG/RED STRIPE 24

ACT16+ GRN/BLK STRIPE 24
SENS12.LED- WHT/RED & BLK STRIPES 24
SENS11.LED+ GRN/WHT STRIPE 24
SENS11.C ORG 24
SENS11.E BLK 24
SENS11.LED- BLK/RED STRIPE 24
+24VSAFE ORG/BLK STRIPE 24
ACT17+ RED 24
ACT18+ RED/WHT STRIPE 24
ACT19+ WHT 24
PS2 +24V RED 16
PS2 +24VRTN BLK 16

M5 BOLT MCU CHASSIS GND
G/Y 16 220-00523A
M5 BOLT SSBIN PANEL GND

MODULE #1 220-00461A

1 RED
2 RED 22
3 +5V
4 RED 22
5 BLK 22
6 WHT 22
7 GND
8 +24VSAFE (SWITCHED) RED 22
9 RED 22
10 GND GRN 22
11 BLK 22
12 N/C

MODULE #2 220-00462A

1 BLK 22
2 RED 22
3 +5V RED 22
4 GRN 22
5 BLK 22
6 RED 22
7 +24VSAFE
8 BLK 22
9 BLK 22
10
11 +24V
12 RTN

COMPACTOR RETRACT SENSOR
CONTACTS CLOSE WHEN COMPACTOR RETRACTS
15-3355

COMPACTOR EXTEND SENSOR
CONTACTS CLOSE WHEN COMPACTOR EXTENDS
15-3355

SSR-SW1
ROLLER CLOSE OVERRIDE PBTN.
15-3447
3 4 RED 22
15-3448

ROLLER OPEN SENSOR
36-3210

SSR LOCAL SAFETY LOOP
SS BIN FRONT DOOR SWITCH
+24VSAFE RED 22
11 12 BLK 22
21 22 WHT 22
15-3263

GRN 22
RED 22
BLK 22

1 RED 2 YEL 3 BLK 4 WHT
16-3666
YEL TUBE

10-5247A YEL 22
FAR END 15-3355
NEAR END 15-3355
ROLLER CLOSED SWITCHES
CONTACTS 3 AND 4 ARE CLOSED WHEN ROLLER IS CLOSED
10-5247A RED 22

ASSY BIN FULL SENSOR 10-4652A
1 RED 22
2 GRN 22
3 BLK 22
4 NC
36-3200

RED 22
BLK 22
16-4248
SSR compactor off

SSR roller close
RED 22 BLK 22 16-4248

SSR roller open
RED 22 BLK 22 16-4248

SSR compactor on
RED 22 BLK 22 16-4248

MOTOR ON SENSE SSR-K3 15-3359
RED 22
BLK 22
15-3359

SSR-CB1
15-3472 4A
P&B W28-XQ1A4
RED 16
BLK 16

SSR-M1
SSR MOTOR
10-4756A

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MTA AUTOLOADER
SLIP SHEET REMOVAL MODULE
WIRING DIAGRAM

\\Ccaeng1\Engineering\Projects\Manta System\Electrical\Wiring diagram\MTA AUTOLOADER_Punch_option.ddb - Documents\PAGE 20_ SSR WIRING

DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
S. FOUDIMOV	705-00006B-B SD01	
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
S.FOUDIMOV		
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
2002.12.18	2005.07.22	20 of 25

NOTE: INSTALL POLYSWITCH F2, F5, F6 ON THE LIONEL BOARD

CL PLUG 220-00477A

LIONEL BOARD 1
10-4801B
Board Address = 0x41h

MCU-MACHINE UMBILICAL CABLE 220-00451A

MACHINE BULKHEAD

MCU USER INTERFACE BOARD 503-00102A

SSR USER INTERFACE BOARD 503-00101A

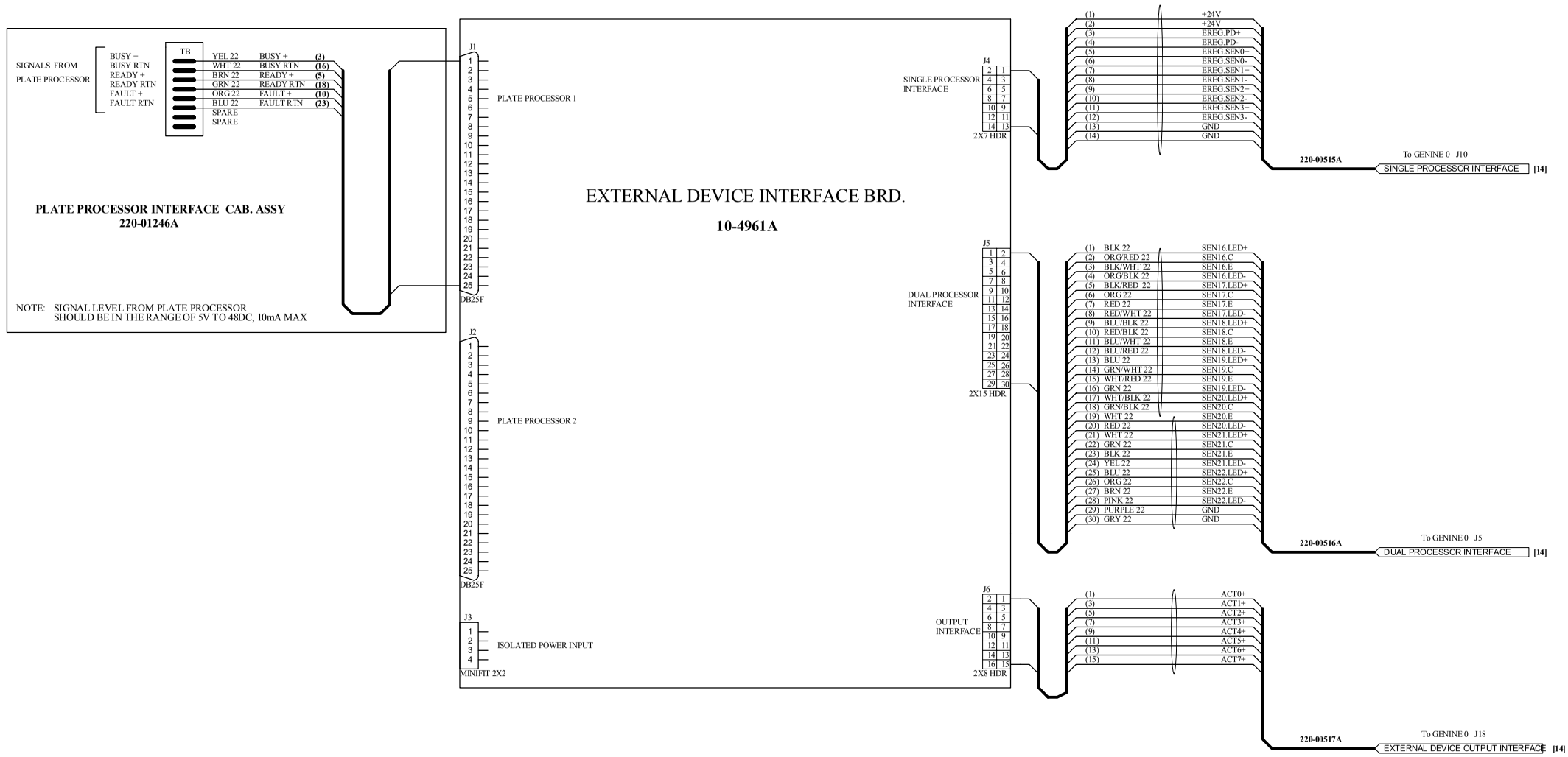
CONTROL PANEL

SHOULDER HOME PANEL

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	MCU LIONEL 1
	WIRING DIAGRAM

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DESIGNED BY: S. FOUDIMOV	DOCUMENT NUMBER: **705-00006X-X SD01**	LAST ECO:
DRAWN BY: S.FOUDIMOV	LAST REVISED BY:	APPROVED BY:
DESIGN DATE: 2002:12:18	LAST MODIFIED DATE: 2005:09:07	SHEET: 21 of 25



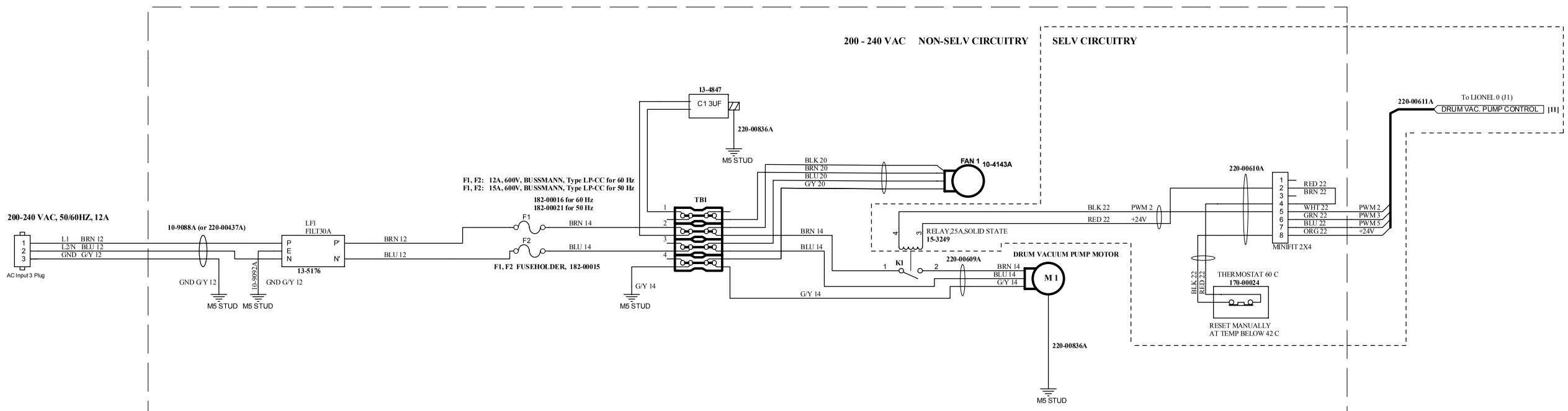
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MTA AUTOLOADER
PROCESSOR INTERFACE BOARD
WIRING DIAGRAM

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DESIGNED BY: S. FOUDIMOV	DOCUMENT NUMBER: **765-00006B-B SD01**	LAST ECO:
DRAWN BY: S.FOUDIMOV	LAST REVISED BY:	APPROVED BY:
DESIGN DATE: 2003:12:09	LAST MODIFIED DATE: 2005:06:07	SHEET: 22 of 25

MTA DRUM VACUUM PUMP ASSY (MTA-DVP) 518-01555B



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MTA AUTOLOADER
DRUM VACUUM PUMP
WIRING DIAGRAM

\\Ccaeng1\Engineering\Projects\MantaSystem\Documents\wiring diagram\MTA\AUTOLOADER_Punch_option.ddb - Documents\PAGE 23_MANTA DRUM VACUUM PUMP

DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
S. FOUDIMOV	**705-00006B-B SD01**	
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
S.FOUDIMOV		
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
2003:12:09	2005:04:08	23 of 25

GENINE BOARD 4

10-4227D

BOARD ADDRESS = 0X34h

To GENINE1 J24 [15] SCON BUS — 220-01370A — To DAPHNE0 J31 [25] SCON BUS — 220-01371A

SAT_48SAFE, SAT_48SRTN, SAT_24SAFE, SAT_24SRTN, SAT_24V, BRD_LOC1-, BRD_LOC3-, CAN_H, CHASSIS, TERM_DET, CAN_L, BRD_LOC4-, BRD_LOC2-, RED22

J3 MTA 1X6 ANALOG0

J26 MINIFIT 2X8 CAN SCON1

J24 MINIFIT 2X5 CAN SCON2

J10 2X7 HDR DIG_IN 1

J20 2X6 HDR HA-1

PD+ BLK 22 (10)
PD- (11)

J2 2X15 HDR DIGITAL-IN3

J4 2X10 HDR DIGITAL-IN2

J21 2X13 HDR SOL-DRV1

220-01374A — IDC,26PIN — J1 — MANIFOLD INTERFACE BOARD 10-4727A

220-01373A — Shield

J25 UMNL 2X4 STPR-DRIVE
PHA+ BRN 22
PHB- WHT 22
PD+ GRN 22
PHA- GRN 22
PHB+ YEL 22
Chassis
PD- GRN 22

GRN 22, GRN 22, YEL 22, GRN 22, BRN 22, WHT 22 — 15-3267 PUNCH-M0 — SIDE PIN MOTOR

SIDE PIN MTR_HOME

36-3125 — 10-4982A — 220-01367A

LED+	RED 22	WHT 22 (RED PAIR)	TO HOME.1 LED+ (1)
LED-	BLK 22	TO HOME.1 LED- (4)	
COLLECTOR	WHT 22	ORG 22	TO HOME.1 C (2)
EMITTER	GRN 22	WHT 22 (ORG PAIR)	TO HOME1.E (3)

SIDE PIN MTR_AWAY

36-3125 — 10-4982A

LED+	RED 22	WHT 22 (RED PAIR)	TO AWAY.1 LED+ (5)
LED-	BLK 22	TO AWAY.1 LED- (8)	
COLLECTOR	WHT 22	ORG 22	TO AWAY.1 C (6)
EMITTER	GRN 22	WHT 22 (ORG PAIR)	TO AWAY.1 E (7)

PUNCH DEFLECTOR UP

36-3125 — 10-4982A — 220-01368A

LED+	RED 22	BLK 22	TO DSEN9 LED+ (1)
LED-	BLK 22	TO DSEN9 LED- (4)	
COLLECTOR	WHT 22	WHT 22	TO DSEN9 C (2)
EMITTER	GRN 22	GRN 22	TO DSEN9 E (3)

PUNCH MECHANISM IN PLACE 1

36-3125 — 10-4982A

LED+	RED 22	BLK 22	TO DSEN10 LED+ (5)
LED-	BLK 22	TO DSEN10 LED- (8)	
COLLECTOR	WHT 22	WHT 22	TO DSEN10 C (6)
EMITTER	GRN 22	GRN 22	TO DSEN10 E (7)

PUNCH MECHANISM IN PLACE 2

36-3125 — 10-4982A

LED+	RED 22	BLK 22	TO DSEN11 LED+ (9)
LED-	BLK 22	TO DSEN11 LED- (12)	
COLLECTOR	WHT 22	WHT 22	TO DSEN11 C (10)
EMITTER	GRN 22	GRN 22	TO DSEN11 E (11)

SIDE PIN FINE HOME POSITION

36-3209 — 220-01398A — GRY 24

LED+	GRY 24	RED 22	TO DSEN4 LED+ (1)
COLLECTOR	WHT 24	ORG 22	TO DSEN4 C (2)
EMITTER	GRN 24	WHT 22 (ORG PAIR)	TO DSEN4 E (3)
		WHT 22 (RED PAIR)	TO DSEN4 LED- (4)

RESERVED FOR THE PLATE SENSOR

RED 22	TO DSEN 5 LED+	(5)
ORG 22	TO DSEN 5 C	(6)
WHT 22 (ORG PAIR)	TO DSEN 5 E	(7)

EMERGENCY STOP SW REAR UPPER AWAY

ES3 15-3474

EMERGENCY STOP SW REAR UPPER HOME

ES4 15-3474

220-01400A — BLK 22 — RED 22

To TB1 [21] ES 3 — 220-01399A

220-01401A — To TB 2 [21] ES 4

REAR HOOD ASSY

To PDB J24 ADAPTOR [7] RHOOD FANS POWER — 220-0XXXXA

BLK 16, RED 16, G/Y 16 — MATE 1X3

MATE 1X2 — backshell — G/Y 16 — L1, L2/N, GND

11-0453A

GND REAR HOOD

FAN1, AC, REAR HOOD
FAN2, AC, REAR HOOD
FAN3, AC, REAR HOOD
FAN4, AC, REAR HOOD
FAN5, AC, REAR HOOD

PUNCH MANIFOLD

220-01375A — CON12

ACT8+	BLK 24	SV1 "deflector up "
+24V	RED 24	SV2 "deflector dn"
ACT9+	BLK 24	SV3 "press reg home on"
+24V	RED 24	SV4 "press reg home off"
ACT10+	BLK 24	SV5 "press reg away on"
+24V	RED 24	SV6 "press reg away off"
ACT11+	BLK 24	SV7 "suction cups up"
+24V	RED 24	SV8 "reg bar float on"
ACT12+	BLK 24	SV9 "reg bar float off"
+24V	RED 24	SV10 "vac gen on"
ACT13+	BLK 24	SV11 "debris collection on"
+24V	RED 24	SV12 "reg pins 3 & 4 rotate"

220-01376A — CON12

ACT14+	BLK 24	SV13 "reg pins 2 & 5 rotate"
+24V	RED 24	SV14 "reg pins 1 & 6 rotate"
ACT15+	BLK 24	SV15 "spare 1"
+24V	RED 24	SV16 "spare 2"
ACT16+	BLK 24	SV17 "var punch pos 1"
+24V	RED 24	SV18 "var punch pos 2"
ACT17+	BLK 24	
+24V	RED 24	
ACT18+	BLK 24	
+24V	RED 24	
ACT19+	BLK 24	
+24V	RED 24	

SPARE

220-01377A — CON12

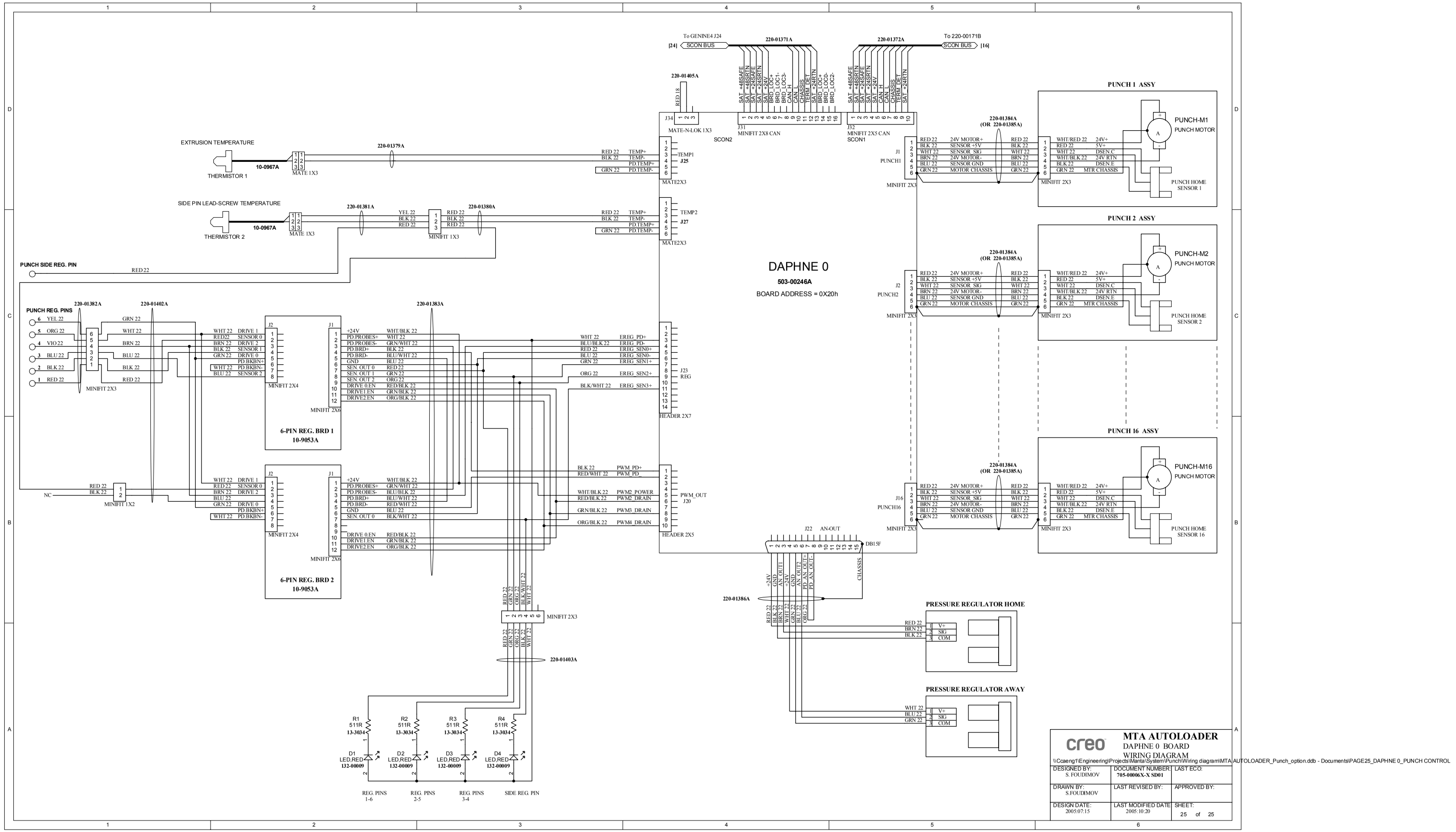
ACT20+	BLK 24	
+24V	RED 24	
ACT21+	BLK 24	
+24V	RED 24	
ACT22+	BLK 24	
+24V	RED 24	
ACT23+	BLK 24	
+24V	BLK 24	
ACT24+	RED 24	
+24V	BLK 24	
ACT25+	RED 24	
+24V	BLK 24	

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MTA AUTOLOADER
GENINE 4 BOARD
WIRING DIAGRAM

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DESIGNED BY: S. FOUDIMOV	DOCUMENT NUMBER: **705-00006X-X SD01**	LAST ECO:
DRAWN BY: S.FOUDIMOV	LAST REVISED BY:	APPROVED BY:
DESIGN DATE: 2005:07:15	LAST MODIFIED DATE: 2005:11:03	SHEET: 24 of 25



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MTA AUTOLOADER

DAPHNE 0 BOARD

WIRING DIAGRAM

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S. FOUDIMOV	705-00006X-X SD01	
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
S.FOUDIMOV		
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
2005:07:15	2005:10:20	25 of 25