

SPECIAL SPECIFICATION

A9004

TS2 Controller Cabinet Assembly

1.0 Controller Cabinet Assembly

- 1.1 These specifications set forth the minimum requirements for a TS2 Type 1 traffic control cabinet assembly. The cabinet assembly shall meet, as a minimum, all applicable sections of the NEMA Standards Publication No. TS2-1998 and all subsequent revisions to date. Where differences occur, these specifications shall govern.
- 1.2 The cabinet shall be constructed from Type 5052-H32 aluminum with a minimum thickness of 0.125 inches. The top, doors, and each side of the cabinet shall each be a single sheet of aluminum. Welding pieces together to form any of these surfaces shall not be permitted. The cabinet shall be provided with a front and rear door.
- 1.3 The welds shall be neatly formed, smooth and continuous. Spot welding of the cabinet exterior seams and sealing the remainder of the seams with sealant is not acceptable.
- 1.4 The cabinet exterior shall be painted **Dark Bronze** and the cabinet interior shall be painted **Semi-Gloss White**.
- 1.5 The top of the cabinet shall incorporate a slope from front to rear to prevent rain accumulation.

2.0 Size and Mounting

- 2.1 The cabinet shall be a Size 6 with the following minimum dimensions: 54" H x 44" W x 27" D.
- 2.2 The cabinet shall be designed for mounting on a concrete foundation or raised aluminum base using anchor bolt flanges inside the cabinet adjacent to the sidewalls. Slotted anchor bolt holes 2" long (front to back) by 1" wide shall be provided for securing the cabinet to the foundation.
- 2.3 The raised aluminum is to have minimum dimensions: 18" H x 44" W x 26" D.

- 2.4 The bolt pattern for cabinet mounting shall be 40 5/8" wide by 18 1/2" deep. (These measurements are center-to-center of the anchor bolt holes.)

3.0 Cabinet Doors

- 3.1 Both cabinet door openings shall be at least 80 percent of the front and rear surface of the cabinet. A stiffener plate shall be welded across the inside of the door to prevent flexing.
- 3.2 A rain channel shall be incorporated into the design of the door openings of the cabinet to prevent water from entering the cabinet enclosure.
- 3.3 Both main doors shall be equipped with three-point latching mechanisms to firmly secure the door at the top, bottom, and center of the cabinet.
- 3.4 Both main doors shall be hinged on the right side of the cabinet as viewed facing the cabinet door opening. The door hinge shall be a one-piece, continuous stainless steel piano hinge, with a stainless steel pin, running the entire length of the door.
- 3.5 Both main doors shall include a doorstop mechanism capable of holding the door open at approximately 90, 125, and 150 degrees under windy conditions. The field technician shall not require manual placement of the mechanism. The doorstop shall be designed to minimize the accidental release of the door from any of the stop positions.
- 3.6 Both main doors shall be equipped with a Corbin No. 2 lock. Two keys shall be supplied.
- 3.7 Both main doors shall contain a weatherproof and dust-tight, closed-cell neoprene gasket seal residing in a channel mounted to the inside of the door. The gasket material shall be a minimum of 0.375 inches thick by 1.0 inches wide. The gasket shall be attached to the channel in the door using a permanent adhesive bond. The mating surfaces of the gasket shall be coated with a silicon lubricant to prevent sticking to the cabinet flange.

4.0 Police Compartment

- 4.1 A hinged police compartment door shall be provided on the outside face of the front main door only to permit access to a switch panel. There shall be no exposed

electrical terminals accessible from the police compartment and no dust or liquid shall be able to enter the main cabinet compartment from the police compartment. The size of the police compartment and door shall be as needed to accommodate the required switches, plug, and/or jacks and to provide for storage of the manual push button switch.

- 4.2 The police compartment door shall be provided with a Corbin Police lock and one key.
- 4.3 The police compartment door shall close against a weatherproof and dust-tight, closed-cell neoprene gasket seal. The gasket material shall be a minimum of 0.250 inches thick by 0.500 inches wide. The gaskets shall be attached to the cabinet with a permanent adhesive bond. The mating surface of the gasket shall be coated with a silicon lubricant to prevent sticking.

5.0 Ventilation and Fans

- 5.1 The lower section of the cabinet front door shall be equipped with a louvered air entrance. The air inlet shall be large enough to allow sufficient airflow for the rated fan capacity. Louvers must satisfy the NEMA rod entry test for 3R-ventilated enclosures.
- 5.2 A 14" x 25" x 1" non-corrosive, vermin and insect-proof, removable, replaceable air filter shall be secured to the air entrance and shall fit snugly against the inside of the door.
- 5.3 The cabinet shall be provided with two (2) individually thermostat-controlled (adjustable between 80 and 150 degrees Fahrenheit) ventilation fans in the top of the cabinet plenum. The fans shall be a ball bearing-type and each shall be rated at 100 CFM.

6.0 Shelves/Drawer

- 6.1 All cabinets shall be supplied with two (2) removable and adjustable shelves manufactured from 5052-H32 aluminum. The shelves shall be a minimum of 10 inches deep.
- 6.2 It shall be possible to position the shelves to within 20 inches of the bottom of the cabinet and to within 8 inches of the top of the cabinet.
- 6.3 The two shelves shall be installed prior to the cabinet delivery. In order to facilitate future equipment maintenance, the bottom shelf shall be positioned to provide at least .75 inch clearance between the top of the detector rack and cabinet power supply and the lowest point of the top shelf. The Controller Unit and the MMU will be placed on the top shelf when the cabinet is prepared for installation.
- 6.4 A 1.5 inch drawer shall be provided in the cabinet, mounted directly beneath the controller support shelf. The drawer shall have a hinged top cover and shall be capable of storing documents and miscellaneous equipment. This drawer shall support up to 50 pounds in mass when fully extended. The drawer shall open and close smoothly. Drawer dimensions shall make the maximum use of available depth offered by the controller shelf and be a minimum of 23.5 inches wide.

7.0 Shelf/Panel Mounting

- 7.1 One set of vertical "C" channels shall be mounted on each interior wall of the cabinet for the purpose of mounting the cabinet shelves. The channels shall accommodate spring-mounted nuts or studs and shall be continuously adjustable from top to bottom of mounting rails.
- 7.2 One additional set of vertical "C" channels shall be provided on each sidewall of the cabinet with center-to-center spacing as needed to provide secure support for panels and/or any other mounted equipment.

8.0 Back Panel Design

- 8.1** The back panel shall be constructed from 5052-H32 aluminum of 0.125 inches minimum thickness and formed so as to minimize flexing when plug-in components are installed.
- 8.2** Access to the rear of the back panel shall be via the rear door of the cabinet as defined in Section 3.0, Cabinet Doors.
- 8.3** The back panel shall be fully wired for the following:
1. Sixteen (16) load switch sockets
 2. Six (6) flash transfer relays
 3. Two (2) wired BIU rack slots
 4. One (1) Type 16 MMU
 5. Terminals for the Controller input-output functions
 6. Terminals for field circuit connections (signal circuits, pedestrian detector circuits, OPTICOM preemption circuits, etc.)
 7. Harness with connector for NEMA TS2 cabinet Power Supply
 8. Four pedestrian detector test switches, toggle, 3-position (on, off, locked call)
 9. Sixteen (16) vehicle detector test switches, toggle, 3-position (on, off, locked-call)
 10. Four (4) EVP detector test switch, toggle, 3-position (on, off, momentary)
- 8.4** Rack style mounting shall be provided to accommodate the required BIUs. A dual-row, 64-pin female DIN 41612 Type B connector shall be provided for each BIU rack position. Card guides inside the BIU enclosure shall be provided for both edges of the BIU. Terminal and facilities BIU mounting shall be an integral part of the main panel.
- 8.5** All pedestrian pushbuttons inputs from the field to the controller shall be opto-isolated through the BIU and operate at 12 VAC.
- 8.6** The sixteen (16) load switch sockets shall be mounted in one horizontal row.
- 8.7** A bracket shall provide support for all load switches and the flasher.

9.0 Terminal Blocks

- 9.1 Load switch outputs shall be routed to terminals on a series of Marathon A4813-12 or equivalent terminal blocks with solder connections on the rear. These blocks shall be installed on the back panel. All vehicular and pedestrian signal field circuits shall be connected to these terminals. Compression type terminal blocks are not acceptable.
- 9.2 Load switches shall be assigned on a per-phase basis in the Controller Unit. All three load switch outputs shall be assigned to the same controller phase, and any unused load switch outputs shall not be reassigned to a different phase.
- 9.3 All Controller and Malfunction Management Unit input and output terminations on the back panel shall be permanently labeled. Cabinet prints shall identify the function for each terminal position.

10.0 Flasher/Flash Operation

- 10.1 The cabinet shall be wired for one (1) dual-circuit flasher unit, separate from the Controller Unit that shall permit the flashing of the field circuits.
- 10.2 The flasher socket shall be designed for a 15-amp dual-circuit NEMA solid-state flasher. The flasher shall be mounted to the back panel and supported by a bracket.
- 10.3 All field red and yellow flash color selection shall be accomplished at the field terminals with the use of a screwdriver only. It shall also be possible to select, through terminal connection, which of the two flasher circuits is connected to each phase.
- 10.4 The coil of the flash transfer relay shall be de-energized for flash operation.
- 10.5 One RC network shall be wired parallel for each flash-transfer relay and any other AC relay coils in the cabinet.
- 10.6 Flash Relays shall be Mid-TEX (PART NO. 1326062T3A1) or exact equivalent.

11.0 Connector Cables

- 11.1 All Controller Unit and Malfunction Management Unit cables shall be of sufficient length to allow the units to be placed on either shelf.
- 11.2 Each cabinet shall be provided with four RS-485 Port 1 SDLC communication cables to allow full capabilities of the cabinet. Each communication cable connector shall be a 15-pin metal shell "D" type subminiature type. The cable shall be a shielded cable suitable for RS-485 communications.
- 11.3 All wiring shall be neat in appearance. All cabinet wiring shall be continuous from point of origin to termination point. Butt-type connections/splices are not acceptable.
- 11.4 All wires going to the door shall be routed to protect against damage from repetitive opening and closing of the door.

12.0 Grounding

- 12.1 The grounding system in the cabinet shall be divided into three separate circuits (AC neutral, Earth Ground and Logic Ground).

13.0 Power Panel

- 13.1 The power panel shall be securely fastened to the lower right side wall of the cabinet. The power panel shall be wired to provide the necessary power to the cabinet, Controller, Malfunction Management Unit, cabinet power supply and auxiliary equipment. It shall be manufactured from 0.125 inch 5052-H32 aluminum with a removable clear plastic front cover.
- 13.2 The power panel shall contain the following components:
 - 1. A 40-amp main circuit breaker. This breaker shall supply power to the Controller, MMU, signals, cabinet power supply and auxiliary panels. All circuit breakers shall be thermal type, UL listed for HACR service, with a

minimum of 10,000 amp interrupting capacity. The breakers shall be Square-D QUO-150 SERIES, or exact equivalent.

2. A 10-amp equipment circuit breaker. This breaker shall supply power to the Controller, MMU and cabinet power supply.
3. A 15-amp auxiliary circuit breaker. This breaker shall supply power to the fans, light and GFI outlet.
4. An EDCO model SHA-1250 pluggable surge arrester shall protect the Controller, MMU and cabinet power supply.
5. A 50-amp, 120 VAC radio interference line filter.
6. A 75 amp solid state power relay with a heat sink.
7. A neutral buss bar capable of connecting one #6 stranded wire in each position, minimum 15-position.
8. A ground buss bar capable of connecting one #6 stranded wire in each position, minimum 7-position.
9. A NEMA Type 5-15R GFI convenience outlet.
10. A barrier terminal block with a minimum of three (3) compression fitting terminals designed to accept up to a No. 4 AWG stranded wire shall be provided for connection of the AC power lines. The block shall be rated at 50 amperes.

14.0 Cabinet Lights

- 14.1 One fluorescent lighting fixture mounted in the top of the cabinet and one flex arm incandescent fixture mounted in the bottom of the cabinet, which can be adjusted and be operated from a normal power factor UL or ETL listed ballast shall be provided. They shall be mounted on the inside top near the front and rear of the cabinet. The lights shall be automatically illuminated when the cabinet door is opened but shall also be equipped with an on-off switch mounted on a fixture that shall permit the lights to be turned off when the door is in the open position.

15.0 Cabinet Plans/Document Storage

- 15.1 Two sets of complete and accurate cabinet drawings shall be supplied with each cabinet.
- 15.2 A sealable print pouch shall be mounted to the front door of the cabinet. The pouch shall be of sufficient size to accommodate one complete set of cabinet prints.

16.0 Technician Switches

- 16.1 A technician switch panel shall be mounted on the inside of the main door.
- 16.2 A test switch panel shall be provided with the following:
 - 1. AUTO/FLASH SWITCH. When placed in the “flash” (up) position, the vehicular signal heads shall all display the programmed flashing red or amber indications generated by the flasher unit. The pedestrian indications, if any, shall be dark. Power shall not be removed from the controller. Stop time shall not be applied.
 - 2. SIGNAL POWER. This switch shall control AC power to the signals. The “up” position is signals “on”, and the down position is signals “off”.
 - 3. EQUIPMENT POWER ON/OFF SWITCH. This switch shall control the Controller, MMU, and the cabinet power supply 120 VAC power. The “up” position shall be power “on” and the “down” position shall be power off.
 - 4. STOP TIME SWITCH.

17.0 Police Compartment Switches

- 17.1 The following switches shall be installed in the police compartment:
 - 1. EMERGENCY FLASH SWITCH. When placed in the “flash” (up) position, the vehicular heads shall display the programmed flashing red or amber indications generated by the flasher unit. Pedestrian indications, if any, shall be dark. Power shall not be removed from the controller. Stop time shall be

applied. When this switch is returned to the “off” (down) position, the controller shall initiate the start-up sequence.

2. SIGNALS ON/OFF SWITCH.
3. AUTO/MANUAL SWITCH.
4. MANUAL PUSHBUTTON JACK.
5. PUSHBUTTON HAND CORD, MINIMUM TEN (10) FEET EXTENDED

18.0 Switches-General

- 18.1 All door mounted toggle type switches shall be heavy duty and rated at 10 amps minimum. Single, double or triple pole switches shall be provided as required.

19.0 Malfunction Management Unit

- 19.1 The cabinet assembly shall be wired for one Type 16 Malfunction Management Unit (MMU) as defined by the requirements of Section 4 of the NEMA TS2-1998 Standard.
- 19.2 The Malfunction Management Unit shall be Type 16 Model MMU-16.

20.0 Bus Interface Unit (BIU)

- 20.1 All BIUs shall meet the requirements of Section 8 of the NEMA TS2-1998 Standard.

21.0 Cabinet Power Supply

- 21.1 The cabinet power supply shall meet the requirements of Section 5.3.5 of the NEMA TS2-1998 Standard with the following exception; the 12 VDC output shall be rated at 5 amps.

22.0 Cabinet Detector Card Rack

22.1 Each cabinet shall contain a 14-position (single slots) card rack mounted to the lower shelf, and wired as follows:

1. Slots 1-2 shall be wired for one Bus Interface Unit.
2. Slots 3-10 shall be wired to accept four-4 channel TS2 card rack detectors using TS2 slot convention.
3. Slots 11-12 to be wired to accept 2-2channel cards or 1-4 channel card.
4. All card rack slots shall be labeled on the front flange.

23.0 Loop Detector Panel

23.1 The cabinet shall have a loop detector panel mounted on the lower left wall of the cabinet.

23.2 The detector panel shall provide all connections between the detector loops and the detector amplifiers.

23.3 The panel shall be constructed from 0.125 inch aluminum.

23.4 All field loop loops shall be wired to 10-32 x 5/16 inch binder head screw terminals.

23.5 Each loop pair shall be protected by an EDCO Model number SRA-6LC lightning surge suppressor. A minimum of sixteen suppressors shall be provided on the detector panel.

23.6 The panel shall be provided with the test switches described in Section 8.3, paragraphs 8, 9, and 10.

23.7 All wiring to the card rack shall be labeled and neatly run to other parts of the cabinet and detector panel. All loop inputs shall be wired with shielded twisted pair leads (Belden 9451, 2 conductor, 22 AWG w/24 AWG drain wire, shielded cable (or approved equivalent) to improve signal isolation. All grounds within the twisted pair leads shall be connected at the detector terminal panel.

23.8 A chassis ground bar bus shall be provided on the panel and connected to the cabinet by an insulated braided copper ground strap and shall be tied to the loop lead-in grounds. The strap shall be bonded to the cabinet. An additional neutral bus bar shall be provided on the panel and tied to the pedestrian commons.

23.9 Sufficient terminals shall be provided on the panel for terminating the emergency vehicle sensor inputs to the EVP modules in the card rack. These terminals shall be minimum 10-32 x 5/16 inch binder head screws.

23.10 The panel shall be provided with a plug-in four circuit pedestrian call isolation card. The module shall be a Genesis Technologies Part Number PT98121-4.

24.0 Video Detection Interface

The cabinet shall be completely wired for and provided with all the necessary ancillary equipment to allow Autoscope Solo Pro Camera/Video Processor Units (C/VPU) to be added later by simply wiring in the cables from the sensor units.

24.1 Each cabinet shall be provided with a Camera Interface Module (CIM) that plugs directly into the Card Rack. The CIM shall provide detector inputs to the Controller from up to eight C/VPU's. The communication link with the Controller shall be via a DB-15 SDLC connector on the front of the module.

24.2 Each cabinet shall be provided with one or more four sensor Communication Interface Panel(s) (CIP) depending on the number of sensors required at the intersection. The CIP shall contain terminal blocks for attaching the cable from the sensor. All communication lines between the CIP and the Solo Pro sensor in the field shall be provided with the lightning protection. This panel shall also provide an RS-232 Port with a DB-9 connector for interfacing to a Laptop Computer or remote communication via some type of modem.

24.3 Each cabinet shall be provided with a Lightning Protection Panel (LPP) containing, as a minimum; one (1) EDCO ACP-340, 1-10 amp circuit breaker, a 10 position terminal block, and a dual convenience outlet. This LPP shall be dedicated to protecting the Autoscope Solo Pro sensors in the field.

25.0 Testing

25.1 The cabinet shall be assembled and tested by the manufacturer to ensure proper component integration and operation before delivery to the Town of Addison.

- 25.2 Each Assembly shall be delivered with a signed document detailing the cabinet tests performed.
- 25.3 The supplier, or his representative, shall be available within 24 hours to assist in locating and correcting any operation problems with the cabinets during test operations.

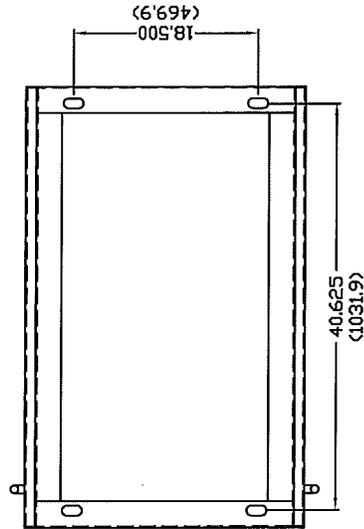
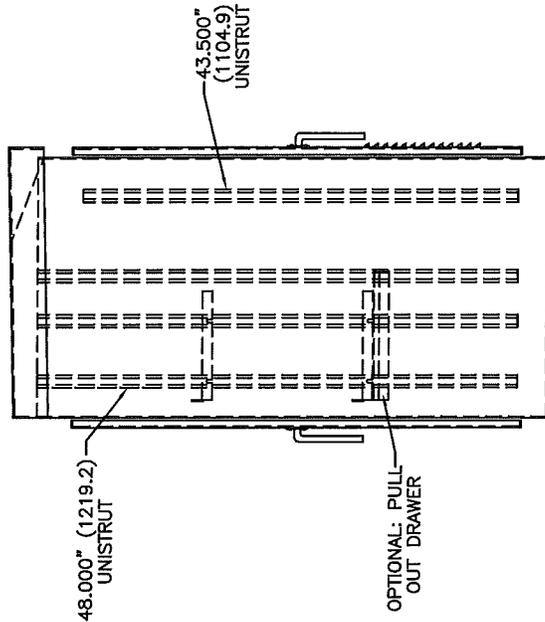
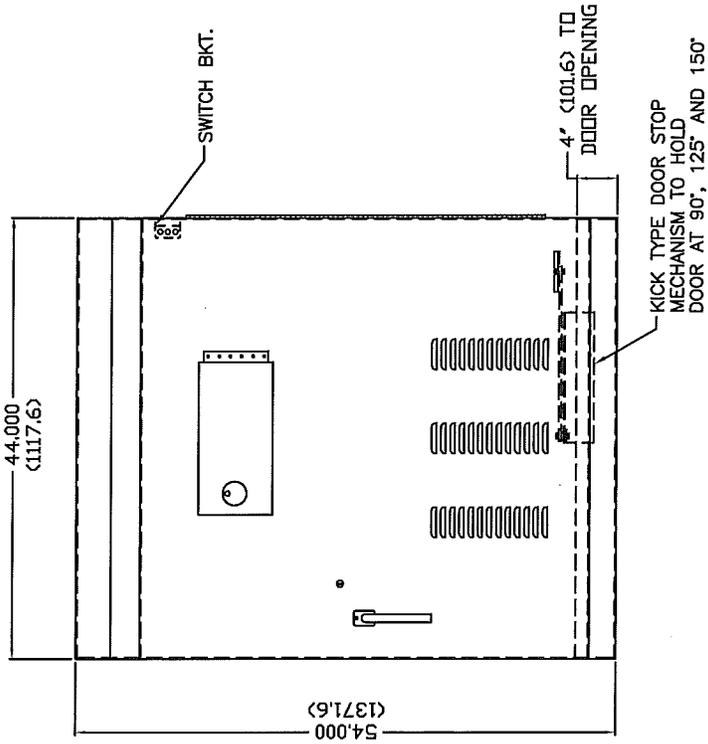
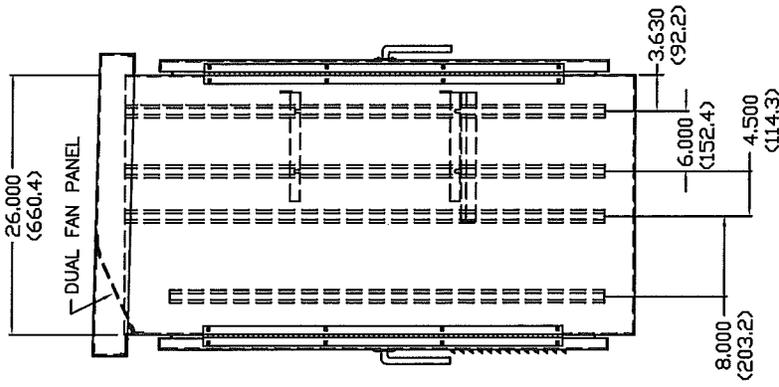
26.0 Cabinet Configuration

26.1 Each TS2 Type 1 cabinet shall be provided with the following components:

1. One each Size 6 (P-44) Cabinet with **TWO (2) doors**, sixteen (16) position back panel, one (1) 14-position detector card rack, and one (1) drawer.
2. One each NEMA TS2 Type 1 Controller Timer with removable EEPROM card and RS-232 Communication Module.
Econolite ASC/3-1000 Controller
3. One each Type 16 Malfunction Management Unit (MMU)
Econolite MMU16-E-BS Malfunction Management Unit.
4. Four each Bus Interface Units (BIU)
Econolite Part Number 32860G1
5. One each TS2 card rack Camera Interface Module (CIM).
Econolite Part Number 34905G1
6. One (or more) four camera Communication Interface Panel (CIP).
Econolite Part Number 34930G1
7. One each video detection lighting protection panel. (LPP).
8. One each TS2 Cabinet Power Supply.
EDI Model PS250
9. Sixteen (16) NEMA Load Switches with 3-LED's on input side and 3-LEDs on output side.
10. One each NEMA 2-Circuit Flasher.
11. Six each Flash Relays.

MID-TEX (Part No 136-62-T3A1) or equivalent

12. One each, Four Circuit Pedestrian Isolation Card.

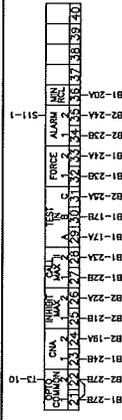
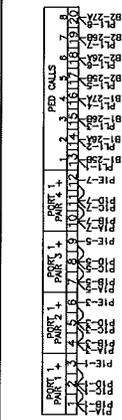
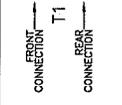
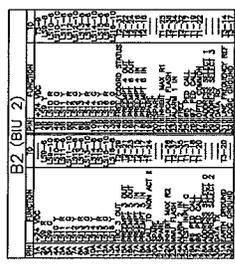
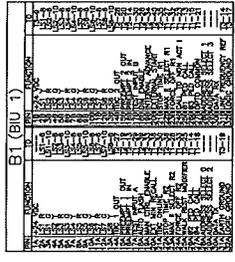
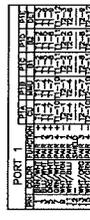
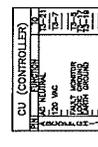
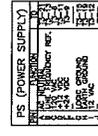
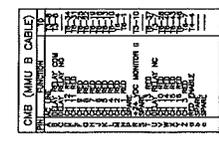
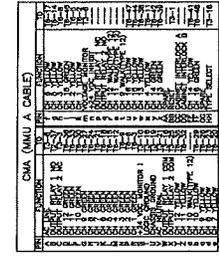


- NOTES:**
1. MATERIAL: 0.125 (3.18) THK. 5052 ALUMINUM.
 2. FULL LENGTH SST HINGE.
 3. FULL PERIMETER 1/2" X 2" (12.7 X 50.8) CLOSED CELL NEOPRENE GASKET.
 4. TWO 11.000" (279.4) DEEP ADJUSTABLE SHELVES TO BE PROVIDED.
 5. MAIN DOOR LOCK IS A #2 CORBIN LOCK
 6. POLICE DOOR LOCK IS A #1 CORBIN LOCK
 7. 3-POINT LATCHING SYSTEM WITH PADLOCKABLE SST HANDLE.
 8. FILTER SIZE TO BE 14" X 25" (355.6 X 635.0)
 9. CONTINUOUSLY WELDED EXTERNAL SEAMS.
 10. SHIPPED ON A PLYWOOD PALLET WITH 4 X 4 RUNNERS.
 11. FINISH: MILL IF REQUIRED.
PAINT IF REQUIRED: REECE SUPPLY
(313 DARK BRONZE AKZO METAFLX) OUTSIDE, WHITE INSIDE.
 12. OPTIONAL: 13" X 24" PULL OUT DRAWER ASSEMBLY.

REV.	DATE	DESCRIPTION	BY	DATE
A		RELEASE	JCH	10/08
B		ADD DRAWER OPTION NOTE 12	SES	10/10/09

DATE	3/2/99
BY	JCH
FOR	SEE NOTE 11
DATE	11
BY	DP

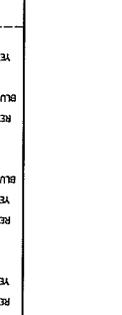
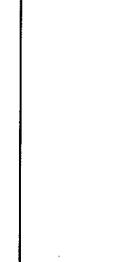
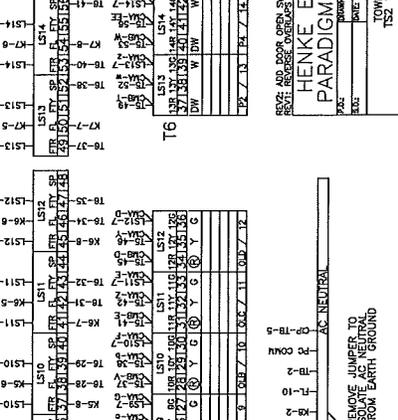
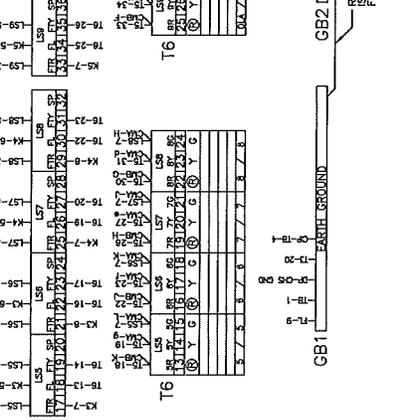
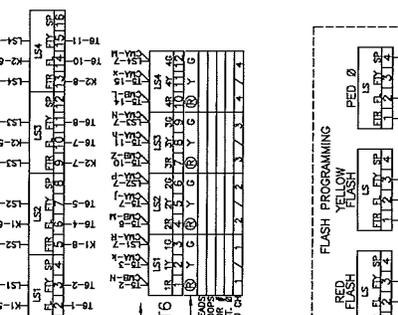
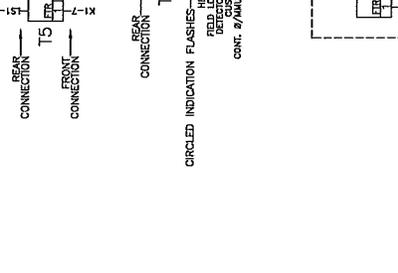
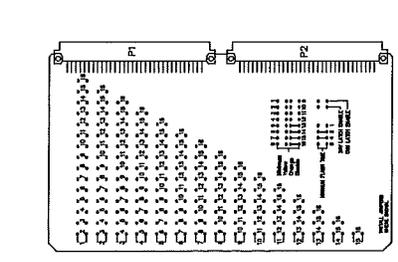
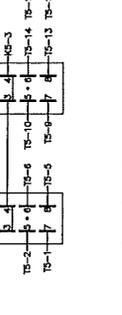
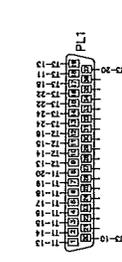
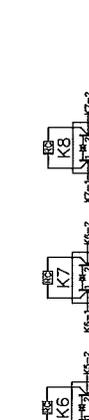
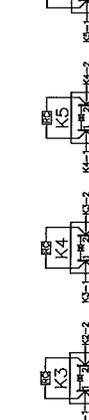
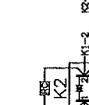
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DESCRIPTION	(137.8 X 117.6 X 60.4) 2 DOOR (FRONT & REAR) CAB
DESIGNER	PARADIGM
CHECKED	SEE NOTE 11



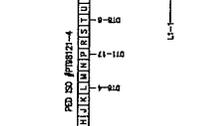
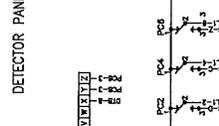
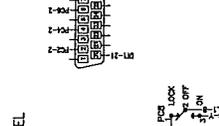
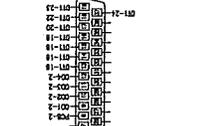
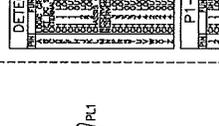
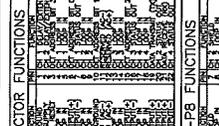
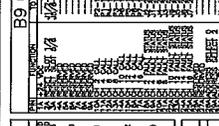
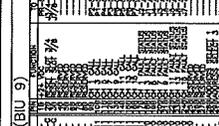
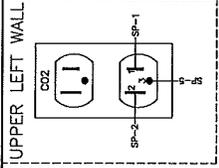
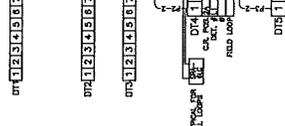
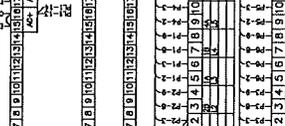
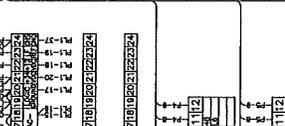
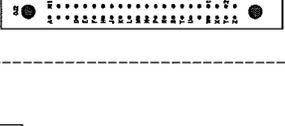
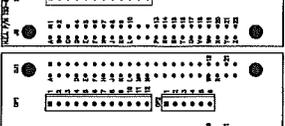
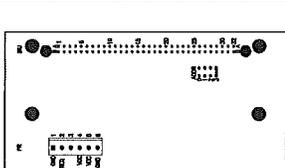
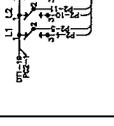
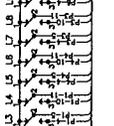
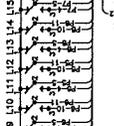
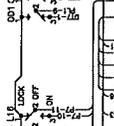
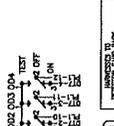
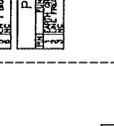
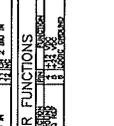
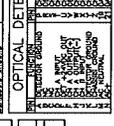
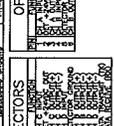
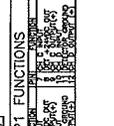
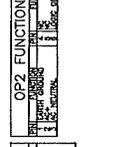
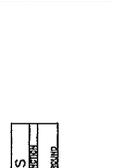
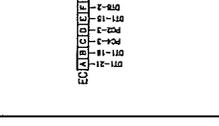
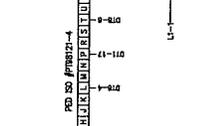
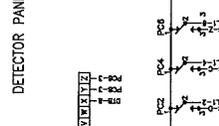
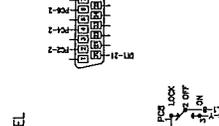
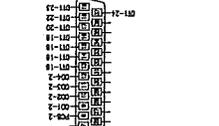
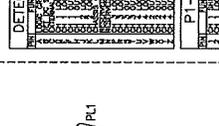
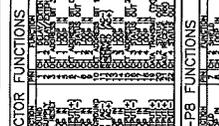
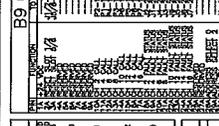
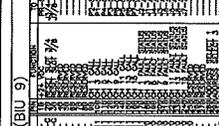
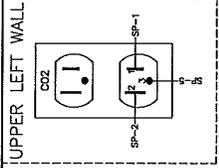
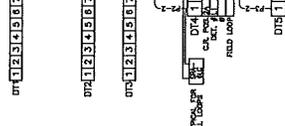
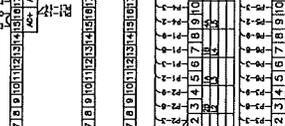
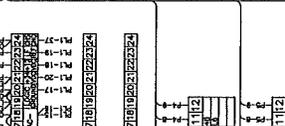
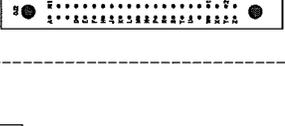
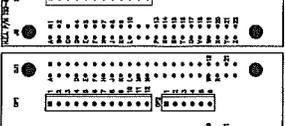
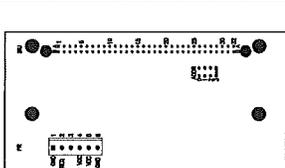
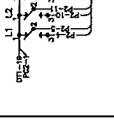
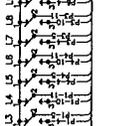
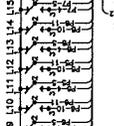
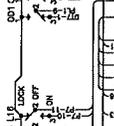
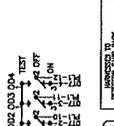
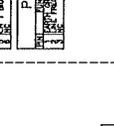
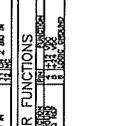
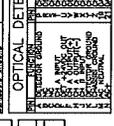
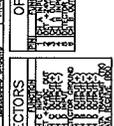
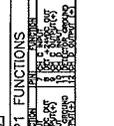
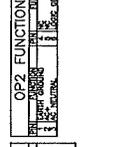
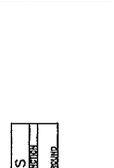
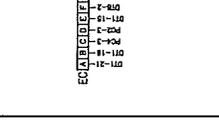
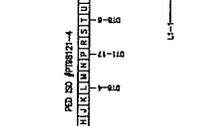
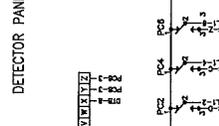
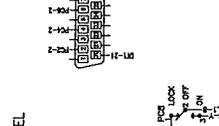
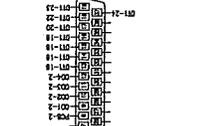
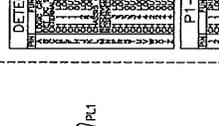
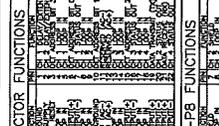
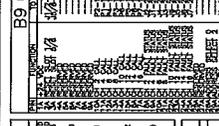
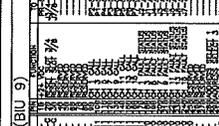
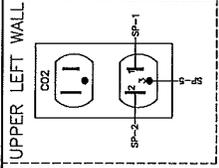
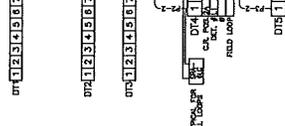
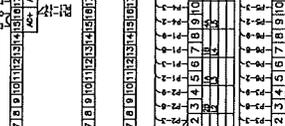
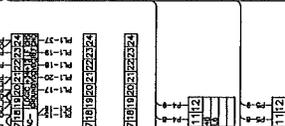
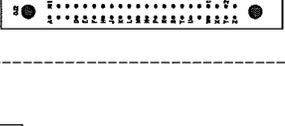
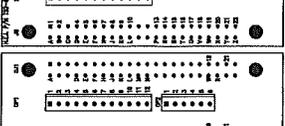
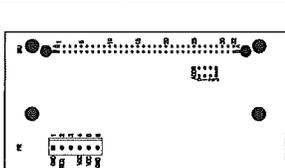
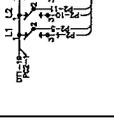
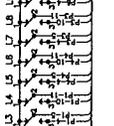
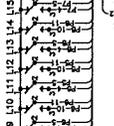
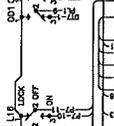
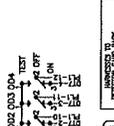
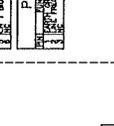
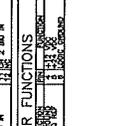
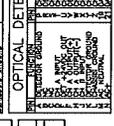
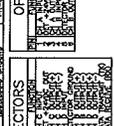
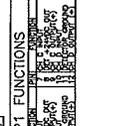
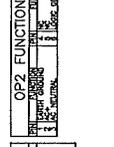
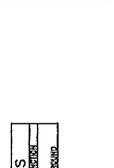
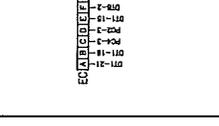
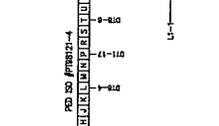
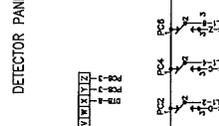
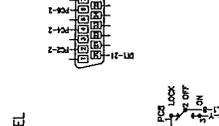
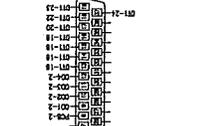
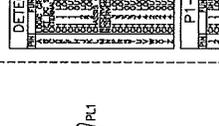
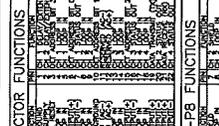
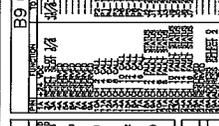
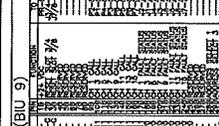
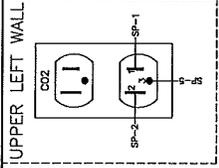
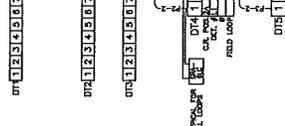
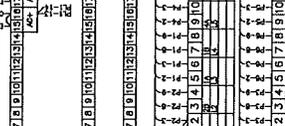
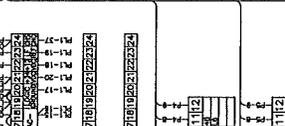
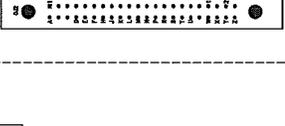
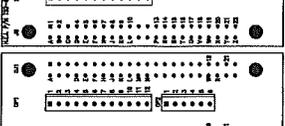
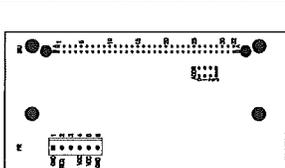
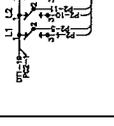
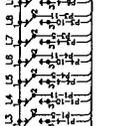
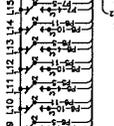
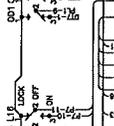
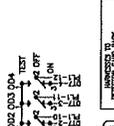
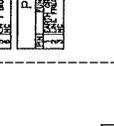
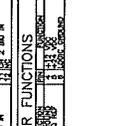
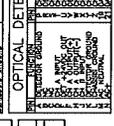
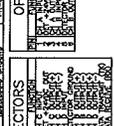
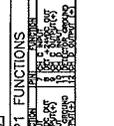
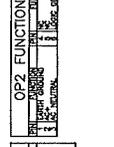
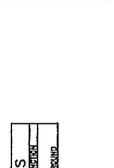
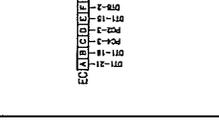
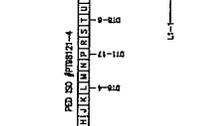
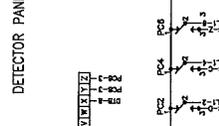
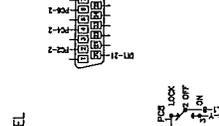
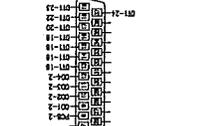
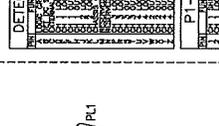
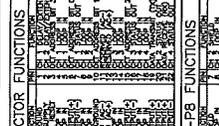
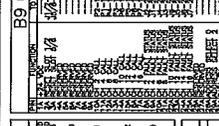
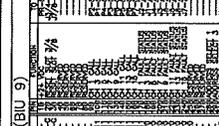
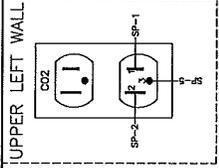
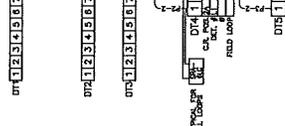
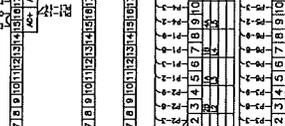
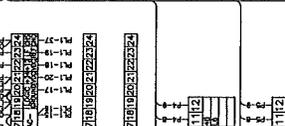
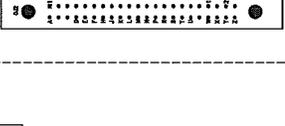
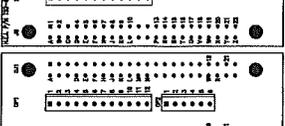
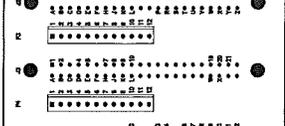
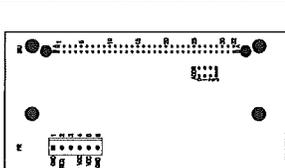
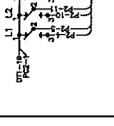
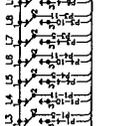
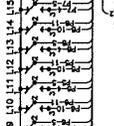
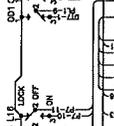
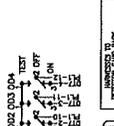
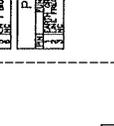
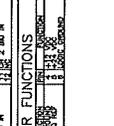
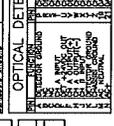
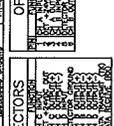
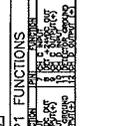
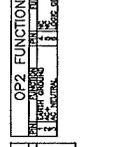
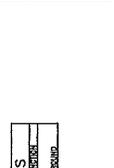
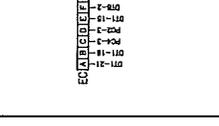
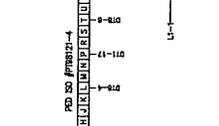
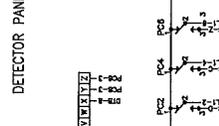
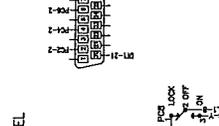
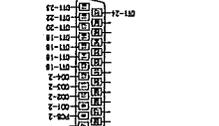
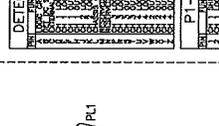
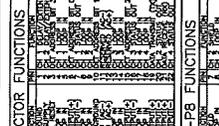
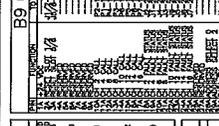
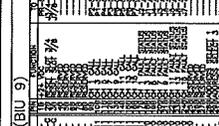
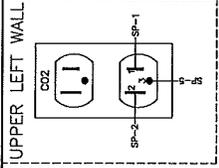
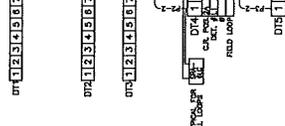
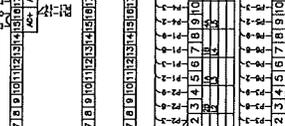
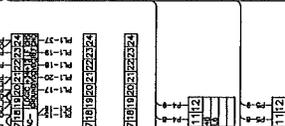
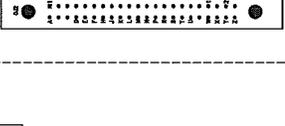
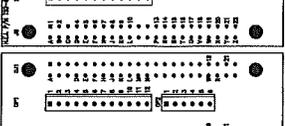
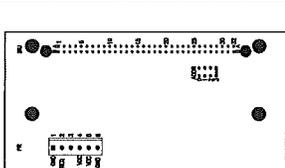
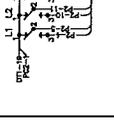
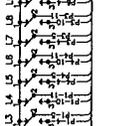
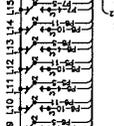
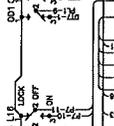
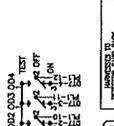
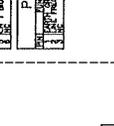
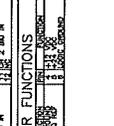
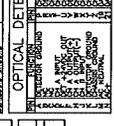
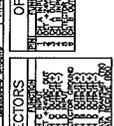
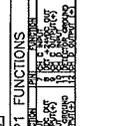
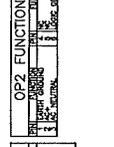
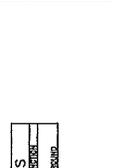
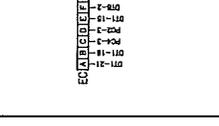
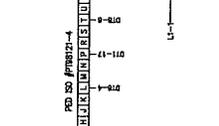
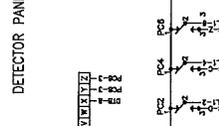
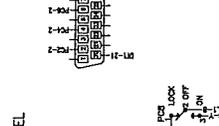
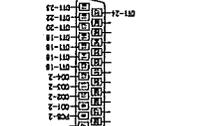
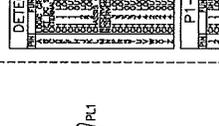
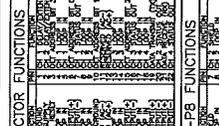
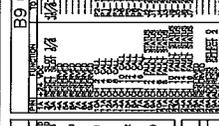
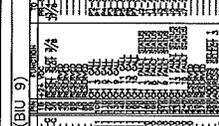
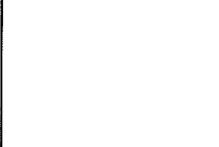
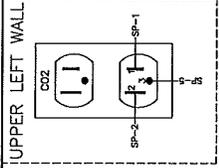
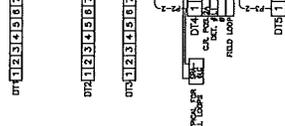
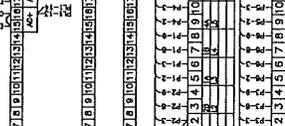
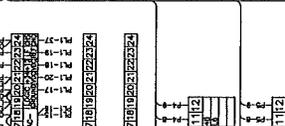
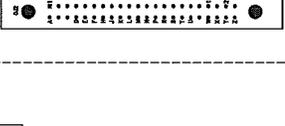
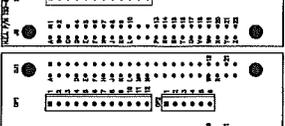
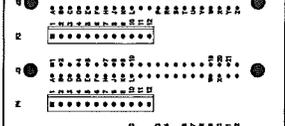
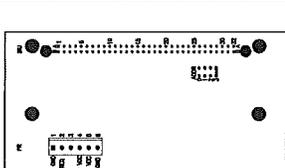
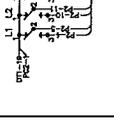
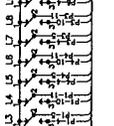
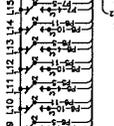
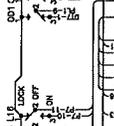
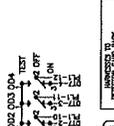
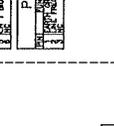
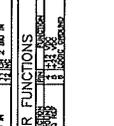
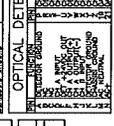
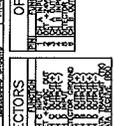
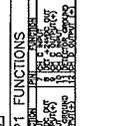
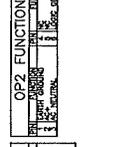
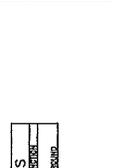
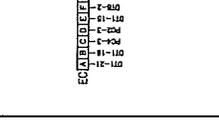
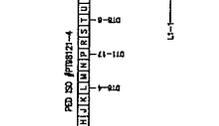
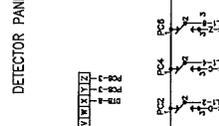
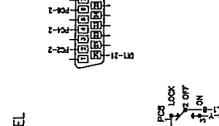
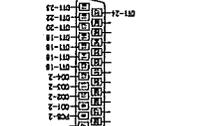
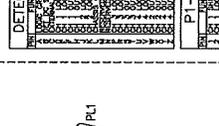
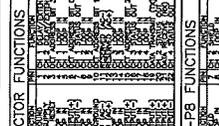
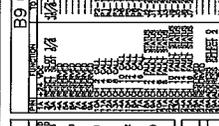
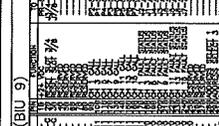
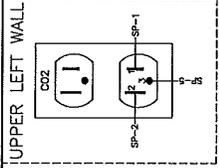
FRONT CONNECTION	REAR CONNECTION	FRONT CONNECTION	REAR CONNECTION	FRONT CONNECTION	REAR CONNECTION
B1-208	B1-208	B1-208	B1-208	B1-208	B1-208
B1-209	B1-209	B1-209	B1-209	B1-209	B1-209
B1-210	B1-210	B1-210	B1-210	B1-210	B1-210
B1-211	B1-211	B1-211	B1-211	B1-211	B1-211
B1-212	B1-212	B1-212	B1-212	B1-212	B1-212
B1-213	B1-213	B1-213	B1-213	B1-213	B1-213
B1-214	B1-214	B1-214	B1-214	B1-214	B1-214
B1-215	B1-215	B1-215	B1-215	B1-215	B1-215
B1-216	B1-216	B1-216	B1-216	B1-216	B1-216
B1-217	B1-217	B1-217	B1-217	B1-217	B1-217
B1-218	B1-218	B1-218	B1-218	B1-218	B1-218
B1-219	B1-219	B1-219	B1-219	B1-219	B1-219
B1-220	B1-220	B1-220	B1-220	B1-220	B1-220
B1-221	B1-221	B1-221	B1-221	B1-221	B1-221
B1-222	B1-222	B1-222	B1-222	B1-222	B1-222
B1-223	B1-223	B1-223	B1-223	B1-223	B1-223
B1-224	B1-224	B1-224	B1-224	B1-224	B1-224
B1-225	B1-225	B1-225	B1-225	B1-225	B1-225
B1-226	B1-226	B1-226	B1-226	B1-226	B1-226
B1-227	B1-227	B1-227	B1-227	B1-227	B1-227
B1-228	B1-228	B1-228	B1-228	B1-228	B1-228
B1-229	B1-229	B1-229	B1-229	B1-229	B1-229
B1-230	B1-230	B1-230	B1-230	B1-230	B1-230
B1-231	B1-231	B1-231	B1-231	B1-231	B1-231
B1-232	B1-232	B1-232	B1-232	B1-232	B1-232
B1-233	B1-233	B1-233	B1-233	B1-233	B1-233
B1-234	B1-234	B1-234	B1-234	B1-234	B1-234
B1-235	B1-235	B1-235	B1-235	B1-235	B1-235
B1-236	B1-236	B1-236	B1-236	B1-236	B1-236
B1-237	B1-237	B1-237	B1-237	B1-237	B1-237
B1-238	B1-238	B1-238	B1-238	B1-238	B1-238
B1-239	B1-239	B1-239	B1-239	B1-239	B1-239
B1-240	B1-240	B1-240	B1-240	B1-240	B1-240

FRONT CONNECTION	REAR CONNECTION	FRONT CONNECTION	REAR CONNECTION
B1-151	B1-151	B1-151	B1-151
B1-152	B1-152	B1-152	B1-152
B1-153	B1-153	B1-153	B1-153
B1-154	B1-154	B1-154	B1-154
B1-155	B1-155	B1-155	B1-155
B1-156	B1-156	B1-156	B1-156
B1-157	B1-157	B1-157	B1-157
B1-158	B1-158	B1-158	B1-158
B1-159	B1-159	B1-159	B1-159
B1-160	B1-160	B1-160	B1-160
B1-161	B1-161	B1-161	B1-161
B1-162	B1-162	B1-162	B1-162
B1-163	B1-163	B1-163	B1-163
B1-164	B1-164	B1-164	B1-164
B1-165	B1-165	B1-165	B1-165
B1-166	B1-166	B1-166	B1-166
B1-167	B1-167	B1-167	B1-167
B1-168	B1-168	B1-168	B1-168
B1-169	B1-169	B1-169	B1-169
B1-170	B1-170	B1-170	B1-170
B1-171	B1-171	B1-171	B1-171
B1-172	B1-172	B1-172	B1-172
B1-173	B1-173	B1-173	B1-173
B1-174	B1-174	B1-174	B1-174
B1-175	B1-175	B1-175	B1-175
B1-176	B1-176	B1-176	B1-176
B1-177	B1-177	B1-177	B1-177
B1-178	B1-178	B1-178	B1-178
B1-179	B1-179	B1-179	B1-179
B1-180	B1-180	B1-180	B1-180
B1-181	B1-181	B1-181	B1-181
B1-182	B1-182	B1-182	B1-182
B1-183	B1-183	B1-183	B1-183
B1-184	B1-184	B1-184	B1-184
B1-185	B1-185	B1-185	B1-185
B1-186	B1-186	B1-186	B1-186
B1-187	B1-187	B1-187	B1-187
B1-188	B1-188	B1-188	B1-188
B1-189	B1-189	B1-189	B1-189
B1-190	B1-190	B1-190	B1-190
B1-191	B1-191	B1-191	B1-191
B1-192	B1-192	B1-192	B1-192
B1-193	B1-193	B1-193	B1-193
B1-194	B1-194	B1-194	B1-194
B1-195	B1-195	B1-195	B1-195
B1-196	B1-196	B1-196	B1-196
B1-197	B1-197	B1-197	B1-197
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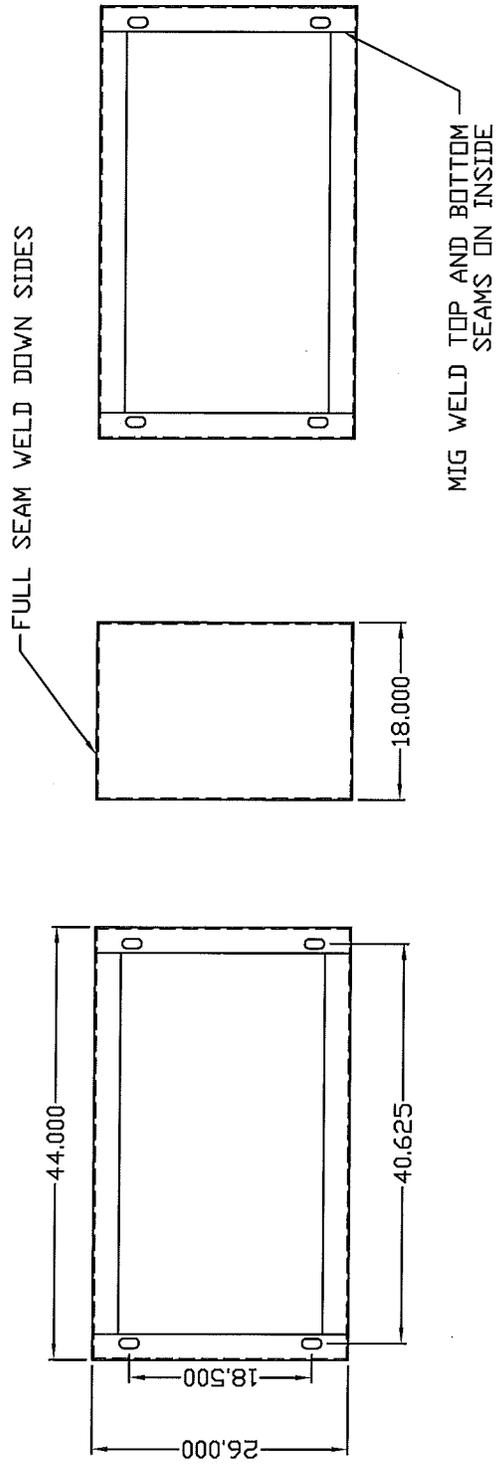
FRONT CONNECTION	REAR CONNECTION
B1-201	B1-201
B1-202	B1-202
B1-203	B1-203
B1-204	B1-204
B1-205	B1-205
B1-206	B1-206
B1-207	B1-207
B1-208	B1-208
B1-209	B1-209
B1-210	B1-210
B1-211	B1-211
B1-212	B1-212
B1-213	B1-213
B1-214	B1-214
B1-215	B1-215
B1-216	B1-216
B1-217	B1-217
B1-218	B1-218
B1-219	B1-219
B1-220	B1-220



REAR AND DOOR OPEN SWITCH
 FRONT AND REAR OVERLOAD & FUSES
HENKE ENTERPRISES, INC.
PARADIGM TRAFFIC SYSTEMS
 DATE: 4/2/08 BY: M. HENKE
 TOWN OF ADDISON, TEXAS
 TS2 T6 POSITION LOAD BAY
 WIRING DIAGRAM
 SHEET 1 OF 2
 P168T-TS2-1
 3993-K



P/N	007782	REV.	A
DESCRIPTION:	18" P CAB RISER WELD DETAIL		
CUSTOMER:	PARADIGM		
MATERIAL:	.125 ALUMINUM		
FINISH:	MILL		
 <p>32227 DOBBIN HUFSMITH, MAGNOLIA, TX, 77354 Phone: 1-800-825-5805 Fax (281) 356-0025</p> <p>THIS DOCUMENT AND THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF BISON PROFAB AND SHALL NOT BE COPIED, REPRODUCED OR UTILIZED IN ANY FASHION WITHOUT THE EXPRESS WRITTEN CONSENT OF BISON PROFAB.</p>			
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APP. BY:		DESCRIPTION:	RELEASE
CHKD BY:		REV.	A



NOTES:
1. FULL WELD CONSTRUCTION.