

**BERKNER HIGH SCHOOL
RICHARDSON, TEXAS
JOB #15010447**

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15010447-02	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	B	SYSTEM RISER	15010447-16	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	B	UNISON U1RS RECEPTACLE STATION - PHYSICAL & ELECTRICAL
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15010447-08	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	B	DIMMER SCHEDULE REFERENCE DRAWING				
15010447-09	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	B	SENSOR+ NET BOX - PHYSICAL & ELECTRICAL				
15010447-10	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	B	UNISON ER4 ARCHITECTURAL CONTROL UNIT - PHYSICAL				
15010447-11	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	B	UNISON ER4 ARCHITECTURAL CONTROL UNIT - ELECTRICAL				
15010447-12	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	B	UNISON U10005 On & Off STATION - PHYSICAL & ELECTRICAL				
15010447-13	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	B	UNISON U11K00 LOCKOUT KEYSWITCH STATION - PHYSICAL & ELECTRICAL				
15010447-14	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	B	UNISON ULCD L.C.D. STATION - PHYSICAL & ELECTRICAL				

IMPORTANT:
PLEASE NOTE THE FOLLOWING INFORMATION:

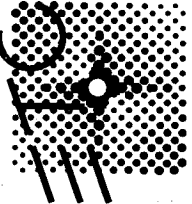
THE PROJECT MANAGER FOR THIS SYSTEM IS **SHAWN FINUCANE**.

ANY QUESTIONS CONCERNING THIS SYSTEM SHOULD BE DIRECTED TO THE PROJECT MANAGER WHO CAN BE REACHED AT OUR FACTORY:

THE TOLL FREE NUMBER IS: 1-800-688-4116
THE FACTORY NUMBER IS: 608-831-4116
THE FAX NUMBER IS: 608-836-1736

FOR SYSTEM ENERGIZATION, CONTACT THE PROJECT MANAGER AT LEAST THREE WEEKS PRIOR TO YOUR REQUESTED DATE.

AS-BUILT

Electronic Theatre Controls Inc 3031 Pleasant View Rd PO Box 620979 Middleton WI 53562 0979 Tel 608 831 4116 Toll Free 800 688 4116 Fax 608 836 1736 www.etcconnect.com				UNLESS OTHERWISE SPECIFIED - ALL DIMENSIONS ARE IN INCHES.	
JOB:	BERKNER HIGH SCHOOL	CONTRACT WITH:	TEXAS SCENIC COMPANY	TITLE:	FILE NAME:
LOCATION:	RICHARDSON, TEXAS	REPRESENTATIVE:	SPECTRUM LIGHTING		INDEX.DWG
				TITLE PAGE / DRAWING INDEX	
				REV. B	
				DATE	
				BY	
				DWG. STATUS	
				SUBMITTAL	
				AS BUILTS	
				10/06/08	
				7/17/08	
				APPD.	
				REV.	
				15010447-00	

PROJECT NOTES

SECTION 1 - CONTACTS:

CONTRACT WITH:

Texas Scenic Company (San Antonio)
5423 Jackwood Drive
San Antonio, Texas 78238
Tel: 800-292-6140
Fax: 210-684-4557

REPRESENTATIVE:

Spectrum Lighting (San Antonio)
2102 Mannix Drive, Suite C
San Antonio, Texas 78217
Tel: 210-822-6140
Fax: 210-822-5367

DIMMING MANUFACTURER:

Electronic Theatre Controls, Inc.
3031 Pleasant View Road
P.O. Box 620979
Middleton, Wisconsin, U.S.A. 53562
Tel: 800-688-4116
Fax: 608-836-1736

PROJECT MANAGER:

Shawn Finucane
Direct Tel: 888-908-2196
E-mail: shawn.finucane@etcconnect.com

SECTION 2 - GENERAL NOTES:

- A.) Dimmer Rack generates approximately 4% of connected load as heat output. Dimmer Room must have climate control. Maintain between 32 degrees Fahrenheit (0 degrees Centigrade) to 104 degrees Fahrenheit (40 degrees Centigrade), humidity between 30%-95%, non-condensing and an altitude below 6500 feet (2000 meters). Consult ETC for installations above 6500 feet (2000 meters).
- B.) Dimmer Rack requires a minimum of 10" top clearance for proper air ventilation. The Dimmer System also requires a minimum of 6" clearance on the left side to allow door-swing for proper module insertion/removal.
- C.) Only the following Control Wiring substitutions may be used: (All network connections to be terminated per TIA/EIA 568B standards.)

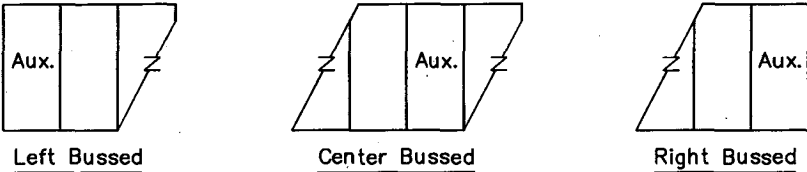
Belden 9728: Alpha 6076C (6 pair) Carol C0912 ProPlex PC248T West Penn DA2404S	Belden 9729: Carol C0910 ProPlex PC244T West Penn DA2402	Belden 8471: Alpha 1899C Belden 5200UE Carol C2405 West Penn 225	Belden 1583A: Comm Scope 5504 West Penn 4245 Cat 5 or better
Plenum Versions (when required)			
Belden 89728 Manhattan M42893	Belden 89729 Belden 82729 West Penn DA252402 Manhattan M42891	Belden 6200UE	Belden 1585A West Penn 254245

- D.) Please contact Electronic Theatre Controls, Inc. if deviations from the control riser are necessary.
- E.) ETC, Inc. Distribution Equipment Wire Range:
All data connection terminals : 22 - 10 AWG.
All 20A terminal blocks : 22 - 8 AWG.
- F.) Load circuit wiring shall have individual neutrals.
- G.) Sensor and Unison Dimming Rack Load Terminations are provided as follows:
50A, 20A, 15A, 10A . . . 4 AWG. Max.
100A 2/0 Max.
- H.) Line Feeds to be determined by others.
- I.) Primary Feed Terminations are provided as follows:
Sensor SR6 Single 2/0 - 14 AWG.
Sensor SR12 Dual 250 kcmil - 6 AWG.
Sensor SR24 Dual 350 kcmil - 6 AWG.
Sensor SR48 Dual 600 kcmil - 2 AWG.
Unison DR6 (1P,3P) Single 2/0 - 14 AWG.
Unison DR12 (3P) Single 250 kcmil - 6 AWG.
Unison DR12 (1P) Dual 250 kcmil - 6 AWG.
Unison AX6 (1P,3P) with MCB Single 350 kcmil - 8 AWG.
Unison AX12 (1P) with 400A. MCB Dual 400 kcmil - 2/0
Unison AX12 (3P) with 200A. MCB Single 350 kcmil - 8 AWG.
Unison AX12X (1P,3P) with Main Lugs Dual 500 kcmil - 4 AWG.
Unison AX12X (1P,3P) with MCB Dual 400 kcmil - 2/0
- All feeder and branch circuit conductors terminating in Sensor dimmer racks must be copper. Utilize 90°C stranded conductors at 75°C ampacity limits specified by the National Electrical Code. For conductor sizing and conduit fill, all branch circuit and feeder neutrals shall be considered current carrying conductors.
- Special Feed Terminations can be requested by contractor.
- J.) GFI Load Wiring Requirements:
• Type XHHW wiring recommended
• Up to 125' (38.1 meters) load wiring length
• Load and neutral wires for each circuit installed in same conduit
• No ganging of neutral (return) wires at any point
- K.) If dimmable fluorescents are used, they must be burned in for 100 hours at full intensity before dimming.

L.) Sensor Auxiliary Rack Feed Terminations are as follows:

Sensor Aux. Bay Configuration:	Wire Range Per Phase:	Neutrals:
Left or Right bussed Main Lugs	(2 Conductors) 2AWG-600 MCM	(2 Conductors) 2AWG-600 MCM
Center bussed Main Lugs	(4 Conductors) 2AWG-600 MCM	(4 Conductors) 2AWG-600 MCM
200-600A. MCB (Left or Right bussed)	(2 Conductors) 3/0-500 MCM	(2 Conductors) 2AWG-600 MCM
200-600A. MCB (Center bussed)	(2 Conductors) 3/0-500 MCM	(4 Conductors) 2AWG-600 MCM
700-1000A. MCB (Left or Right bussed)	(3 Conductors) 1/0-500 MCM	(2 Conductors) 2AWG-600 MCM
700-1000A. MCB (Center bussed)	(3 Conductors) 1/0-500 MCM	(4 Conductors) 2AWG-600 MCM
1200A. MCB	(4 Conductors) 250-500 MCM	(4 Conductors) 2AWG-600 MCM
1400-2000A. MCB	(5 Conductors) 300-600 MCM	(8 Conductors) 1/0-750 MCM

(MCB = Main Circuit Breaker)
Please contact Electronic Theatre Controls, Inc. if requirements vary from above listing.



SECTION 3 - SYSTEM ENERGIZATION

NOTIFICATION:

- 1.) Please notify ETC Project Management three weeks prior to needing a system energization.
2.) No part of this system shall be energized without the knowledge of Electronic Theatre Controls, Inc.

ETC CONTRACTOR CHECKLIST:

If a System Energization is included with the purchase of the system, the following checklist notes the conditions that must be met before the Field Service Technician can commission the system. Please review the checklist with the Installing Contractor.

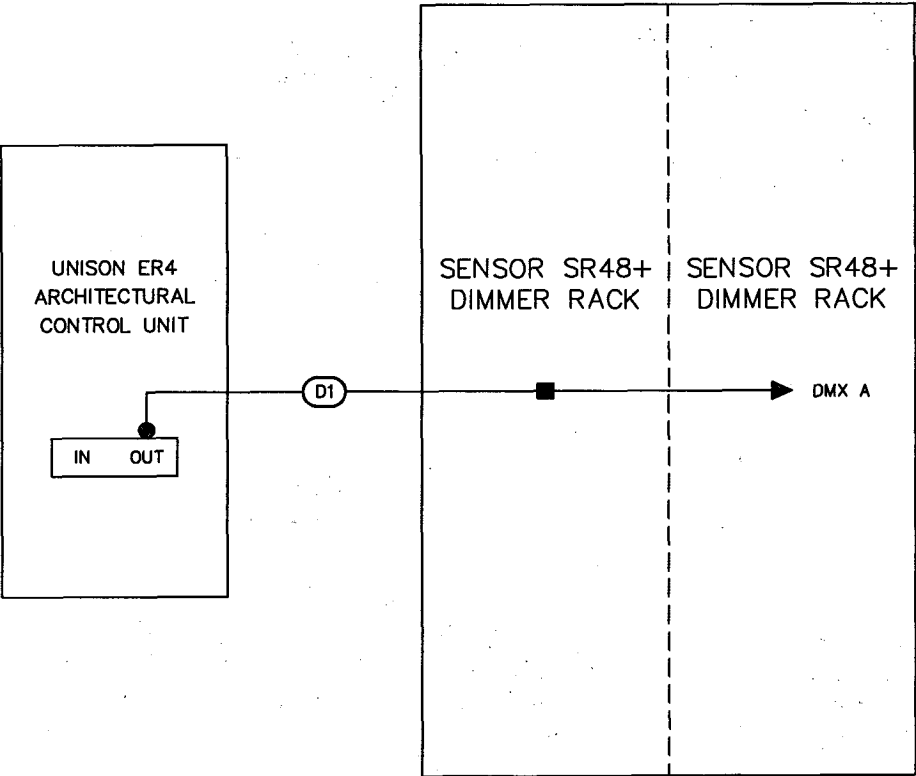
These items MUST be completed before the ETC Field Service Technician arrives at the site !

- Feeder cable is terminated and enter through the top or bottom of dimmer rack(s).
- Dimmer rack(s) have sufficient access to the front and left for door clearance.
- Dimmer rack(s) have ten inches of unobstructed clearance above the fan(s).
- Dimmer rack(s) are rigidly attached to the mounting surface.
- All air gaps in the dimmer rack(s) around feeder, load wiring, and between racks are sealed, (e.g. - duct seal or foam) making each dimmer rack section an air-tight enclosure.
- All branched circuits originating from the dimmer(s) are installed and terminated on both ends.
- All branched circuits are installed in back boxes as specified in drawings.
- If system was sold as 'Contractor Termination' all data terminations should be completed.
- All back boxes are mounted and supplied with specified data cable "tails" at least 3 feet in length.
- Control cable is proper type as specified on ETC's installation drawings.
- When using CAT5 for DMX, the cable must be run through grounded conduit.
- All control wiring runs are installed as specified on ETC's installation drawings.
- All control cable is labeled at BOTH ends as specified on the ETC drawings.
- All appropriate personnel are scheduled and available for training.
- All loads have separate neutrals.

Electronic Theatre Controls Inc		3031 Pleasant View Rd PO Box 620979 Middleton WI 53562 0979 Tel 608 831 4116 Toll Free 800 688 4116 Fax 608 836 1736 www.etcconnect.com	
JOB:	LOCATION:	CONTRACT WITH:	REPRESENTATIVE:
BERKNER HIGH SCHOOL RICHARDSON, TEXAS	TEXAS SCENIC COMPANY	SPECTRUM LIGHTING	
TITLE:		PROJECT NOTES	
REV.	DATE	BY	APPD.
B	7/17/08	CWJ	SF
DRAWING: 15010447-01			

UNLESS OTHERWISE SPECIFIED - ALL DIMENSIONS ARE IN INCHES.

DMX WIRING



CONTROL WIRING LEGEND

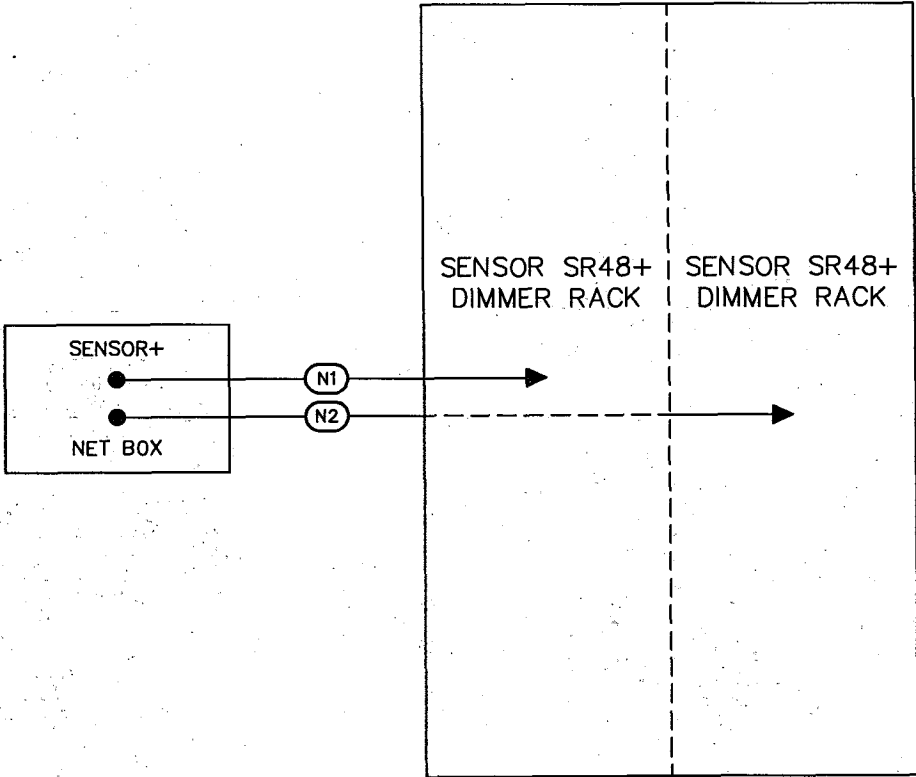
* = WIRE IDENTIFICATION NUMBER (NOT QUANTITY)

D* (1) BELDEN #9729 (DMX INPUT)	●	Start Termination Point
N* (1) BELDEN #1583A (ETCNet)	➔	End Termination Point
UV* (1) BELDEN #8471 (1) #14 AWG. STRANDED WIRE (2) #16 AWG. STRANDED WIRES (UNISON)	■	Termination Point
U* (1) BELDEN #8471 (1) #14 AWG. STRANDED WIRE (UNISON)	■	Splice
	---	Pass through

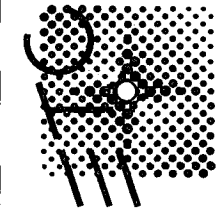
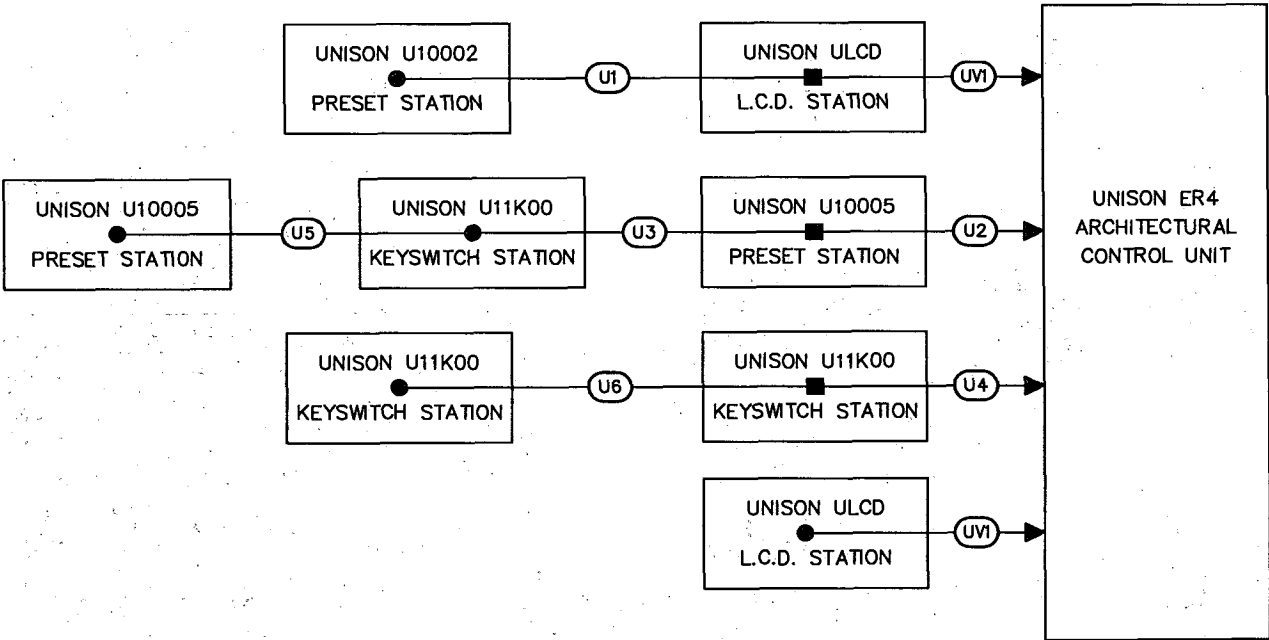
NOTES:

- 1.) ALL CONTROL WIRING IS PROVIDED BY OTHERS UNLESS NOTED OTHERWISE.
- 2.) ALL ETCNet RUNS SHALL BE CONTINUOUS, UNSPLICED RUNS LESS THAN 300 FEET (90 METERS). ALL NETWORK CONNECTIONS TO BE TIA/EIA 568B.
- 3.) TOTAL COMBINED LENGTH OF UNISON WIRING RUNS CANNOT EXCEED 1640 FEET (500 METERS).

ETCNet WIRING

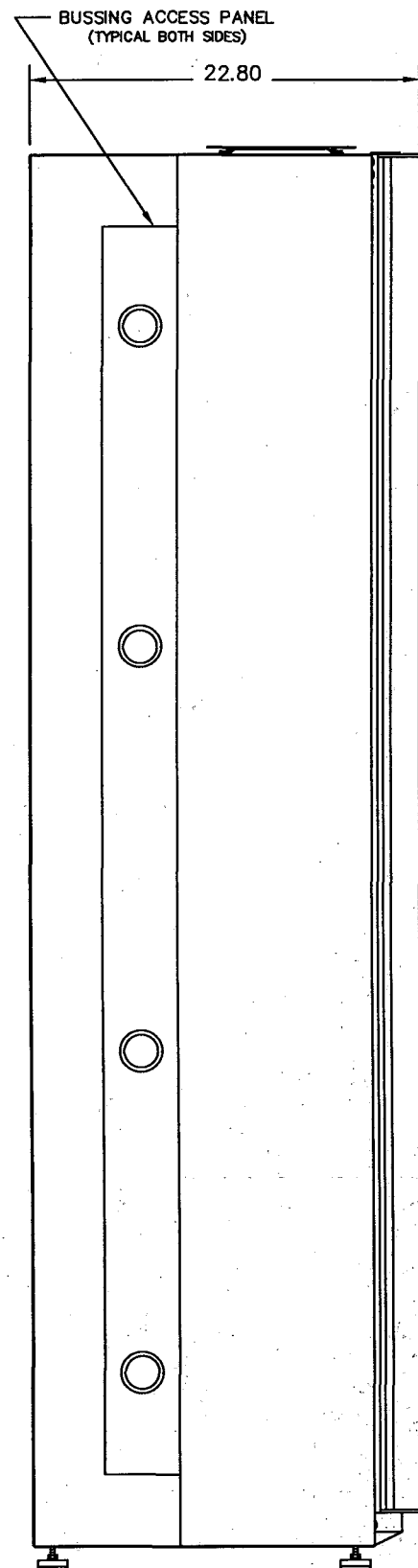


UNISON WIRING

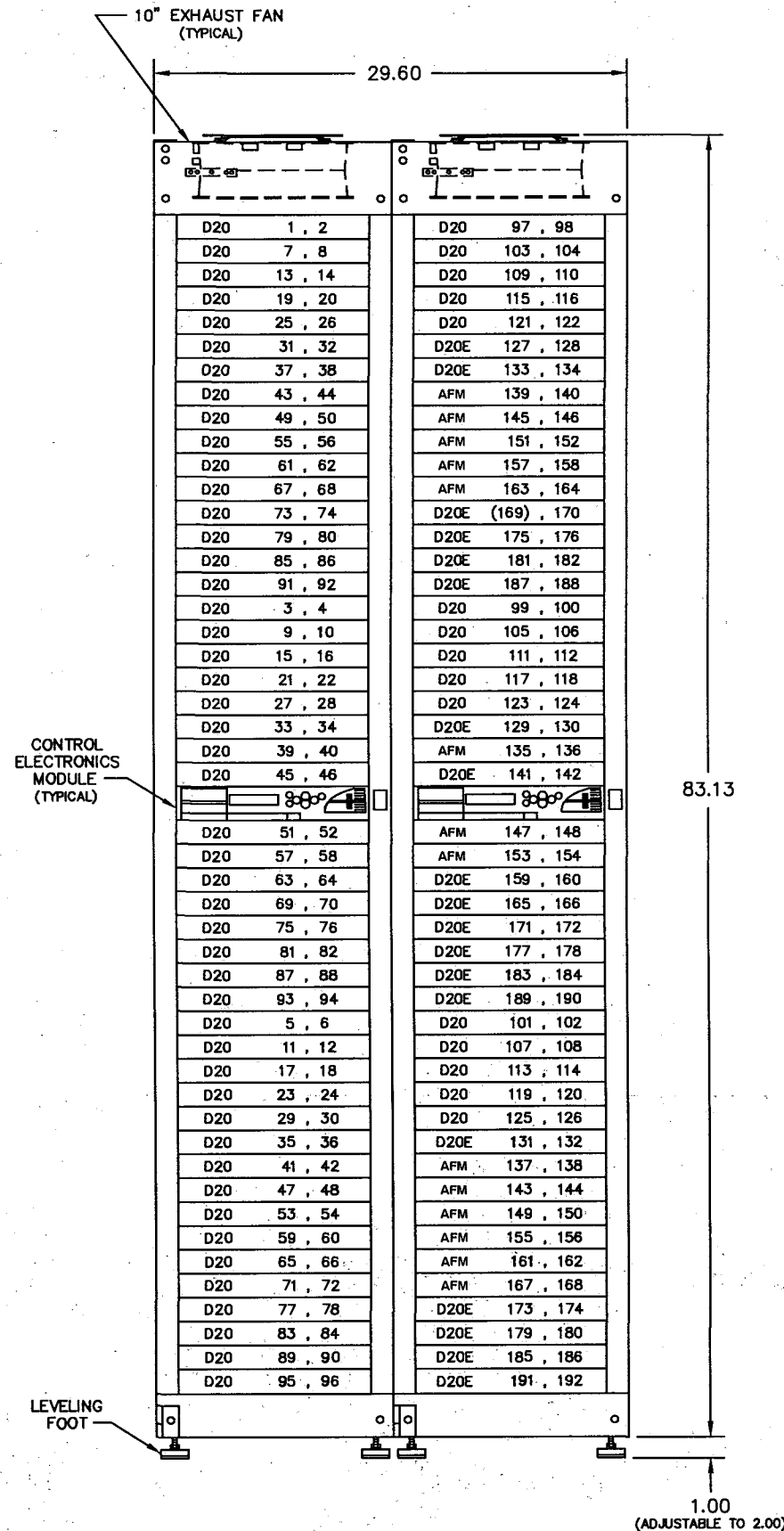


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JOB: BERKNER HIGH SCHOOL				LOCATION: RICHARDSON, TEXAS				CONTRACT WITH: TEXAS SCENIC COMPANY			
REPRESENTATIVE: SPECTRUM LIGHTING				TITLE: DMX, ETCNet & UNISON CONTROL WIRING DIAGRAMS				FILE NAME: WIRE DIAGRAM.DWG			
AS BUILT				DATE				REV. B			
SUBMITTAL				DATE				REV. B			
DWG. STATUS				DATE				REV. B			
DRAWING: 15010447-03				DATE				REV. B			

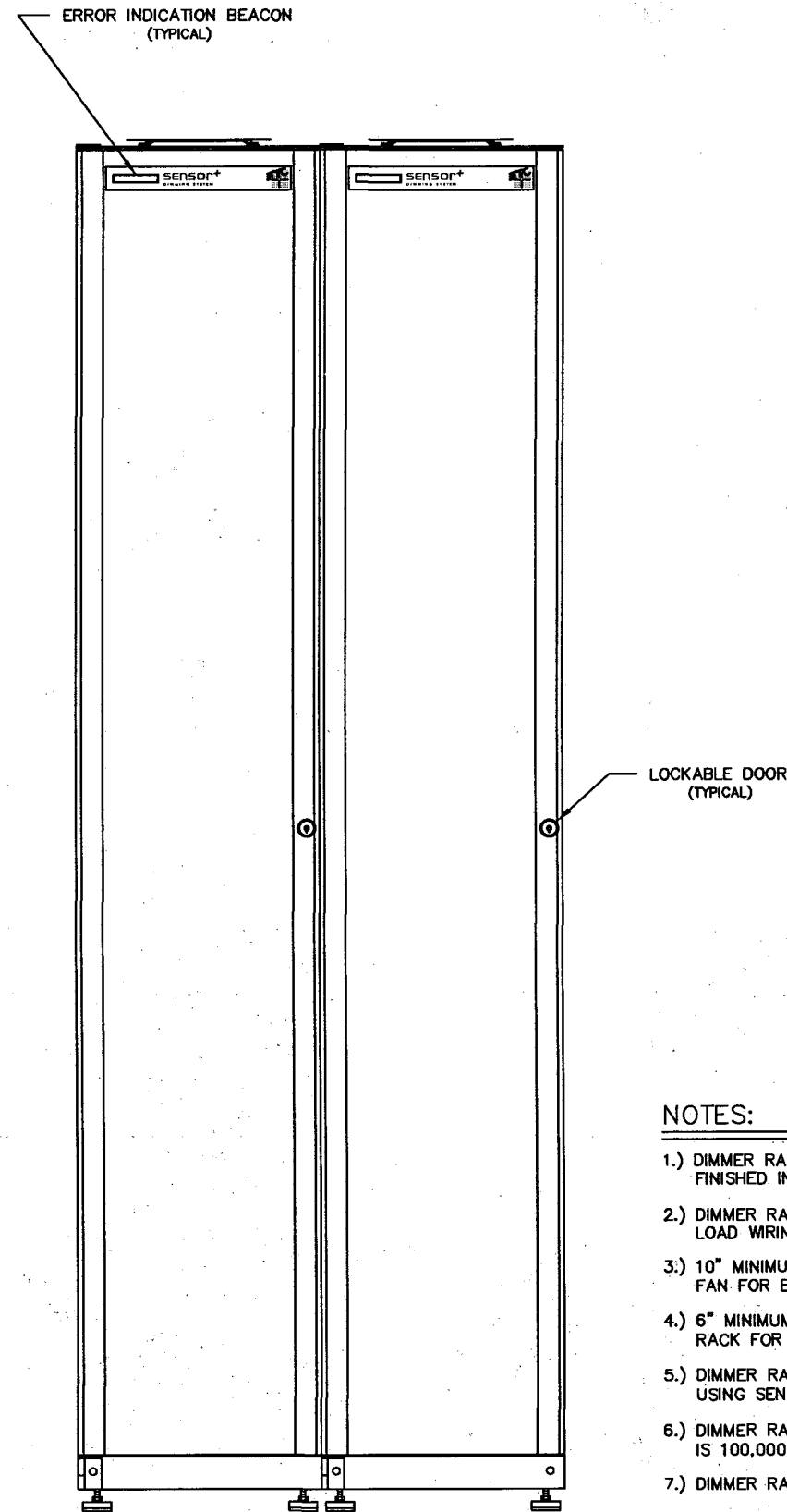
LEFT SIDE VIEW



FRONT VIEW (LOCKABLE DOOR ASSEMBLIES REMOVED)



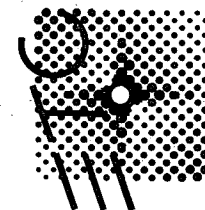
FRONT VIEW



NOTES:

- DIMMER RACK ENCLOSURE IS 16 GA. FORMED STEEL FINISHED IN A FINE-TEXTURED GRAY EPOXY PAINT.
- DIMMER RACK IS DESIGNED FOR FRONT ACCESS LOAD WIRING AND TOP OR BOTTOM FEED WIRING.
- 10" MINIMUM CLEARANCE REQUIRED ABOVE FAN FOR EXHAUST FROM DIMMER RACK.
- 6" MINIMUM CLEARANCE REQUIRED ON LEFT SIDE OF RACK FOR DOOR SWING & MODULE INSERTION/REMOVAL.
- DIMMER RACKS SHALL BE BUSSED TOGETHER USING SENSOR BK48 BUSSING KIT.
- DIMMER RACK SHORT CIRCUIT CURRENT RATING (SCCR) IS 100,000 AMPS.
- DIMMER RACK IS LISTED.

Electronic Theatre Controls Inc



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JOB: BERKNER HIGH SCHOOL
LOCATION: RICHARDSON, TEXAS

CONTRACT WITH: TEXAS SCENIC COMPANY

REPRESENTATIVE: SPECTRUM LIGHTING

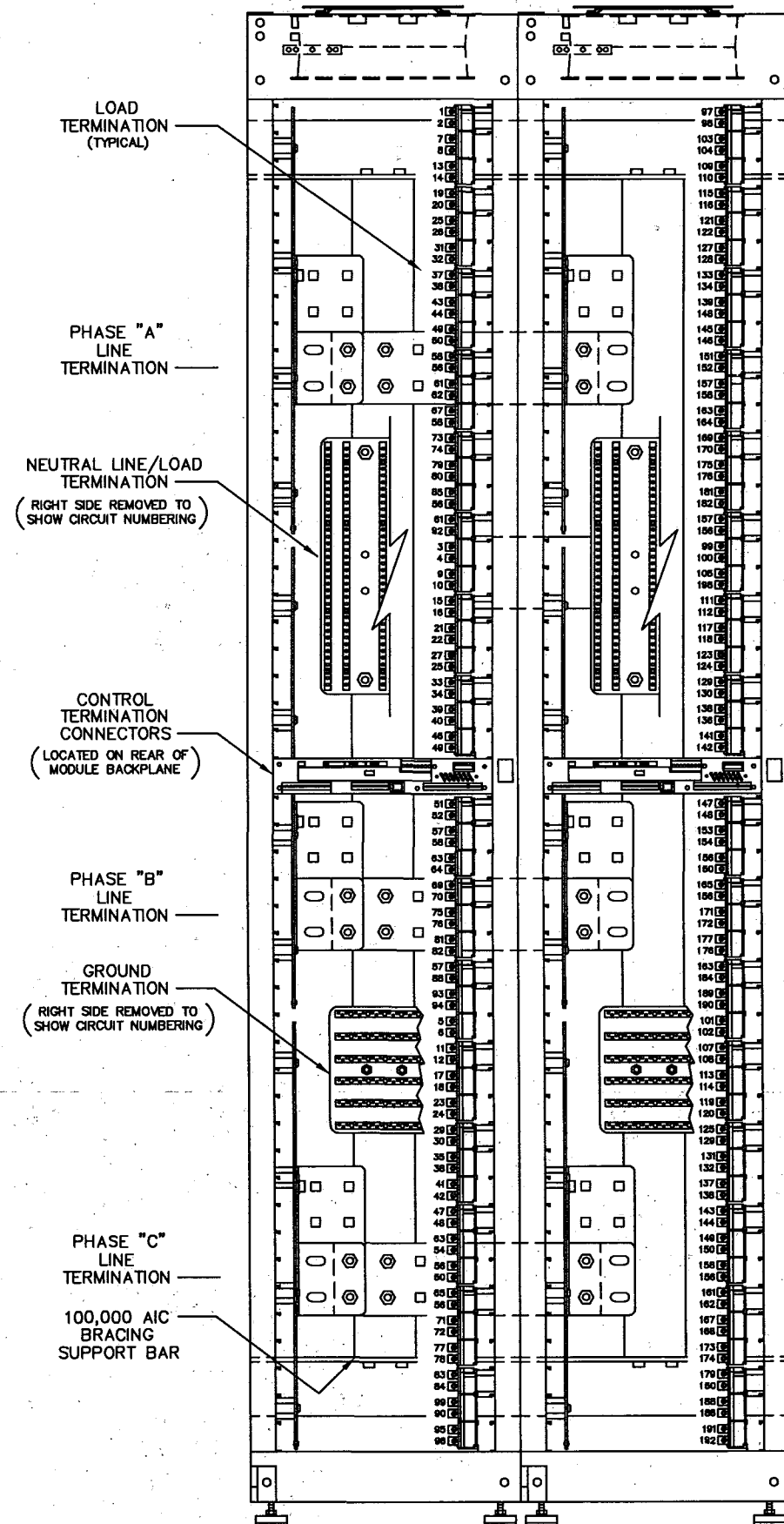
TITLE: SENSOR SR48+ (FRONT/SIDE VIEWS)
DIMMER BANK - PHYSICAL

FILE NAME:
SR48+2B-ADWG

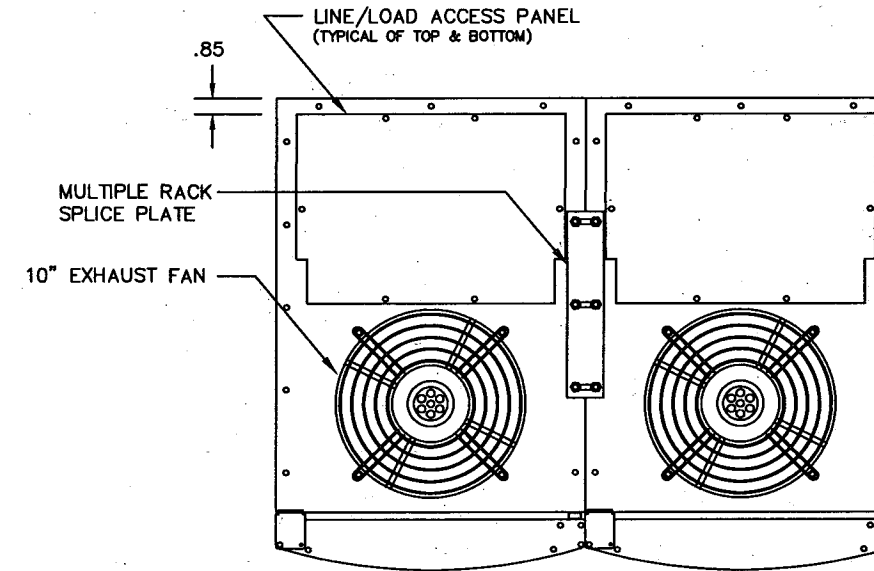
DRAWING: 15010447-04
REV. B

AS BUILT	DATE	BY	DATE	APPD.	REV.
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SUBMITTAL		CWJ			
DWG. STATUS					

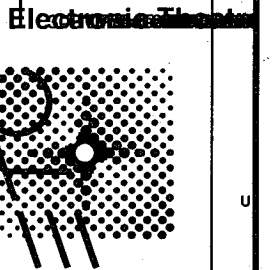
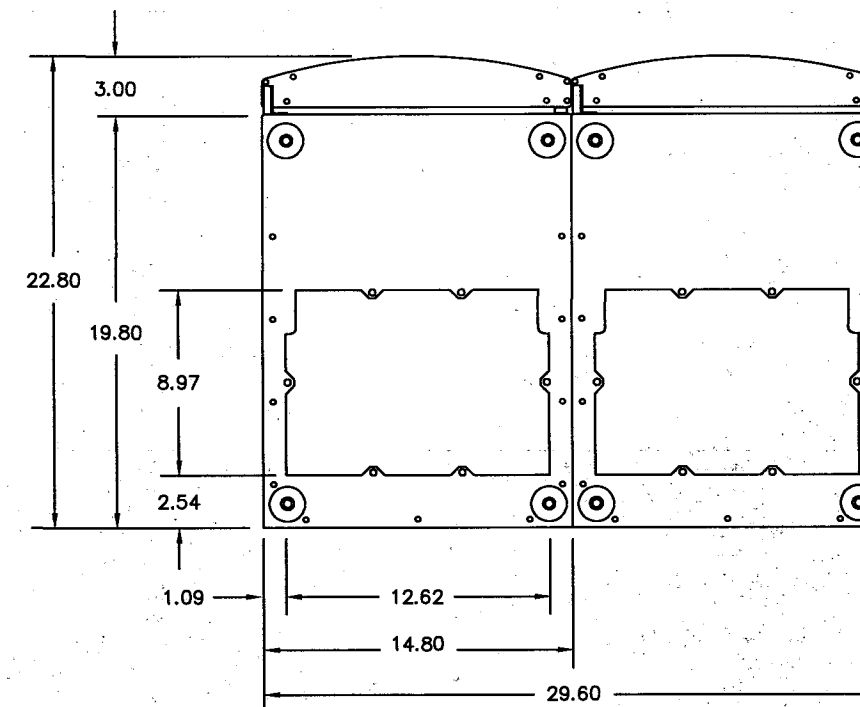
FRONT VIEW
(DOOR ASSEMBLIES & MODULES REMOVED)



TOP VIEW



BOTTOM VIEW



BERKNER HIGH SCHOOL
RICHARDSON, TEXAS
TEXAS SCENIC COMPANY
SPECTRUM LIGHTING

JOB LOCATION RACK REPRESENTATIVE

SENSOR SR48+ (MODULES REMOVED)
DIMMER BANK - PHYSICAL

APP'D. REV. A

DATE 7/17/08
BY CNJ

15010447-05

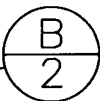
SUBMITAL
DWG. STAT
DRAW

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	7050A1003
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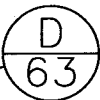
SENSOR MODULES

(FRONT VIEWS)

SENSOR CEM+
CONTROL ELECTRONICS MODULE



SENSOR D20
DUAL 20A. (2.4 kW) DIMMER MODULE



SENSOR AFM
BLANK AIR-FLOW MODULE

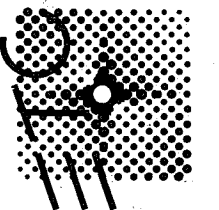


SENSOR D20E
DUAL 20A. (2.4 kW) DIMMER MODULE



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				JOB:	BERKNER HIGH SCHOOL
				LOCATION:	RICHARDSON, TEXAS
				CONTRACT WITH:	TEXAS SCENIC COMPANY
				REPRESENTATIVE:	SPECTRUM LIGHTING
DRAWING:	15010447-06	REV.	B	TITLE:	SENSOR SR48+ (BILL-OF-MATERIALS) DIMMER BANK - PHYSICAL
				FILE NAME:	SEN+BON.DWG

Diagram of the rear panel of the 1000 Series Base Unit. The panel features several connectors and components labeled as follows:

- J29**: A connector located at the top left, indicated by an arrow pointing to a 6-pin connector.
- J14**: A connector located at the top center, indicated by an arrow pointing to a 15-pin connector.
- J16**: A connector located at the bottom left, indicated by an arrow pointing to a 3-pin connector.
- J15**: A connector located at the bottom center-left, indicated by an arrow pointing to a 15-pin connector.
- J11**: A connector located at the bottom center-right, indicated by an arrow pointing to a 15-pin connector.
- J10**: A connector located at the bottom right, indicated by an arrow pointing to a 15-pin connector.

The diagram also shows a large multi-pin connector on the right side, a power switch, and several screws securing the panel.

19" RACK MOUNTABLE

ONLY PASS-THRU (A10)

1 COM	2 -A	3 -A	4 COM	5 -B	6 -B	7 -B	8 -B
1 COM	2 -A	3 -A	4 COM	5 -B	6 -B	7 -B	8 -B
1 COM	2 -A	3 -A	4 COM	5 -B	6 -B	7 -B	8 -B

ONLY PASS-THRU

ONLY B

ONLY A

ON OFF

0000

ONLY TERMINATION

J3

J31

+12V

PASSED

NET

COMMON

IN

OUT

B

A

RECEIVER

TRANSMITTER

J29

FAN	1	5	PHASE A
N/C	2	6	NEUTRAL
N/C	3	7	PHASE B
PHASE C	4	8	N/C

J3

GROUND	>	1
GROUND	>	2
SLP { NET B	>	3
NET A	>	4
PANIC	>	5
PANIC IN	>	6
BEACON	>	7
+12VDC	>	8

Diagram of a 4x8 multiplexer. The inputs are labeled T3, R3, T2, R1, T1, R2, T4, and R4. The outputs are labeled J14 with values 1 through 8. The connections are as follows:

Input	Output
T3	1
R3	2
T2	3
R1	4
T1	5
R2	6
T4	7
R4	8

J10 (DMX A)

ISO COMMON
DMX IN -
DMX IN +

1
2
3
4
5
6
7
8

J15 (DMX THRU)

ISO COMMON
IX A (THRU) -
IX A (THRU) +
ISO COMMON
RU OR OUT) -
RU OR OUT) +

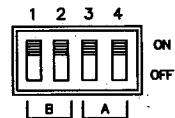
1
2
3
4
5
6
7
8

J11 (DMX B)

ISO COMMON
DMX IN -
DMX IN +

1
2
3
4
5
6
7
8

(DIP SWITCH LOCATED ON ELECTRONICS MODULE BACKPLANE)



- SWITCHES 1 & 2 (ON) TERMINATE DMX "B"
- SWITCHES 3 & 4 (ON) TERMINATE DMX "A"

RACK #	SWITCH #			
	1	2	3	4
1	OFF	OFF	OFF	OFF
2	ON	ON	ON	ON

The diagram illustrates the internal architecture of the CEM+ control electronics module backplane. At the top, five vertical lines represent the power distribution bus: GROUND, NEUTRAL, PHASE "A" LINE FEED, PHASE "B" LINE FEED, and PHASE "C" LINE FEED. The PHASE "A" LINE FEED is connected to a dashed box labeled "TYPICAL DUAL CHANNEL DIMMER MODULE" (MODULE SLOT 1). This module contains two channels (CH.1 C.B. and CH.2 C.B.), each with a CHOKE, leading to an SCR ASSEMBLY, which then connects to two LOAD TERMINALs. Below the power bus, four horizontal boxes represent "MODULE SLOTS 2 - 16", "MODULE SLOTS 17 - 32", "MODULE SLOTS 33 - 48", and a "NEUTRAL BUS ASSEMBLY FOR LOAD TERMINATION". A "FAN" is connected to the bottom of the power bus. The bottom of the diagram features a "CEM+ CONTROL ELECTRONICS MODULE BACKPLANE" with connectors J3, J10, J11, J14, J15, and J16. A "CONTROL INPUT" and a "BEACON P.C.B. ASSEMBLY" are connected to the bottom of the backplane. A "CONTROL DISTRIBUTION ASSEMBLY (TYPICAL OF 4)" is connected to the backplane and the "NEUTRAL BUS ASSEMBLY". A "RIBBON" CABLE ASSEMBLY (TYPICAL OF 4) is connected to the backplane and the "CONTROL DISTRIBUTION ASSEMBLY".

TEXAS SCENIC COMPANY

SENSOR SR48+
DIMMER BANK - ELECTRICAL

JOB LOCATION RACE PRESENTATION

ADDREV.

7

DATE 10/1/74

7-

B 44

010

15

[illegible]

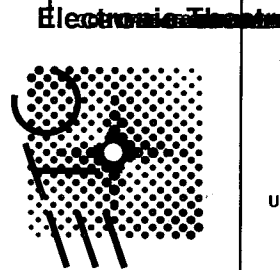
MITTAL

DRAW

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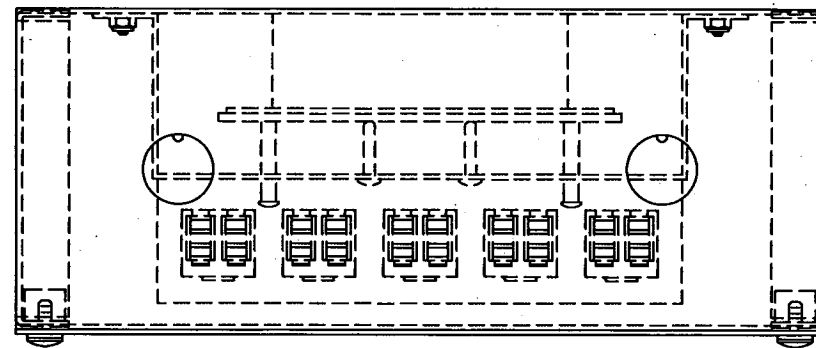
Dimmer load schedules can be included in ETC submittal drawing packages if information is provided to ETC.

***Load schedule templates are available at
<http://www.etcconnect.com/services.projectmanagement.asp>***

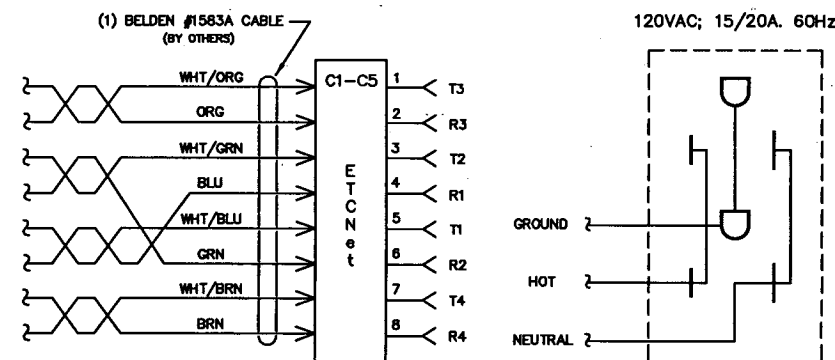


JOB LOCATION		CONTRACT NUMBER		DATE		BY		SUBMITTAL		DWG. STATUS	
BERKNER HIGH SCHOOL RICHARDSON, TEXAS		TEXAS SCENIC COMPANY		SPECTRUM LIGHTING		DIMMER SCHEDULE REFERENCE DRAWING		DIMMER- SCHEDULE-REF.DWG		15010447-08	
				7/17/08		CWJ		DATE		BY	
				SF				APPROVED		15010447-08	

TOP VIEW



ELECTRICAL DIAGRAM



ITEM QTY.
A 1

DESCRIPTION
SENSOR+ NET BOX


PARTS LIST

DESIGNATION

PART NUMBER
7150A1002

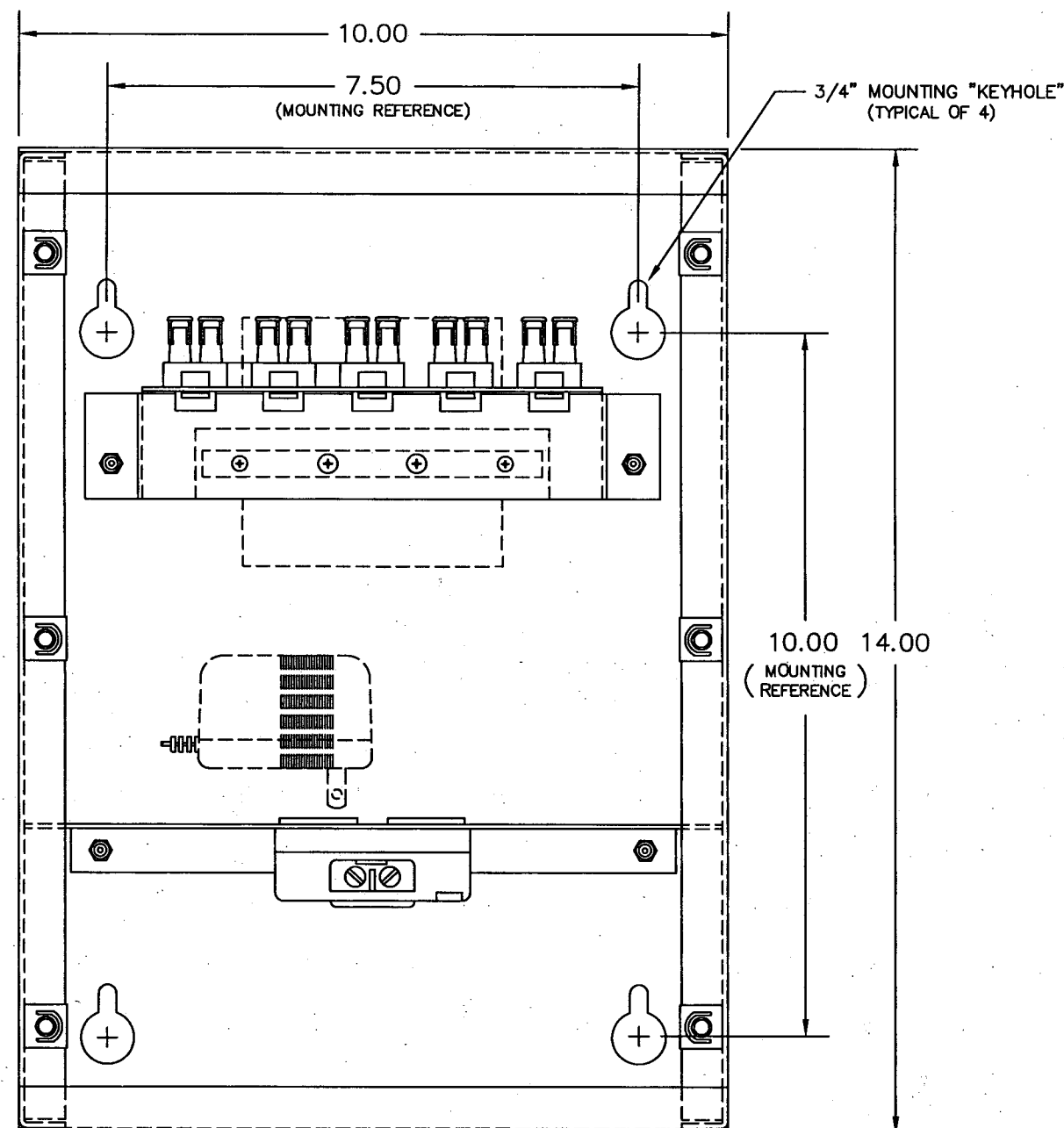
NOTES:

1.) SENSOR+ NET BOX IS CONSTRUCTED OF 16 GA. STEEL AND IS FINISHED IN A GRAY (5C) FINE-TEXTURED POWDER COAT.

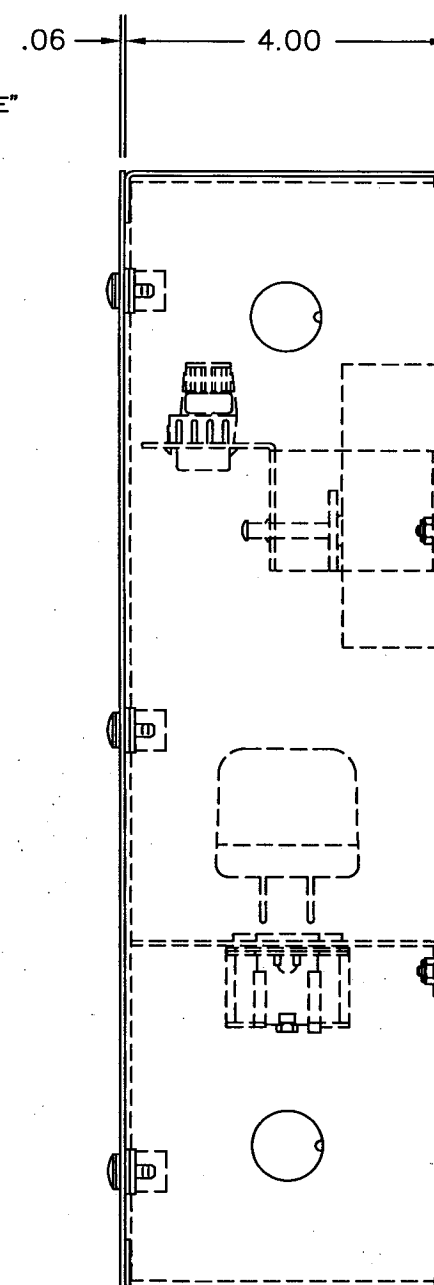
2.) SENSOR+ NET BOX IS  LISTED.

FRONT VIEW

(COVER PANEL REMOVED)

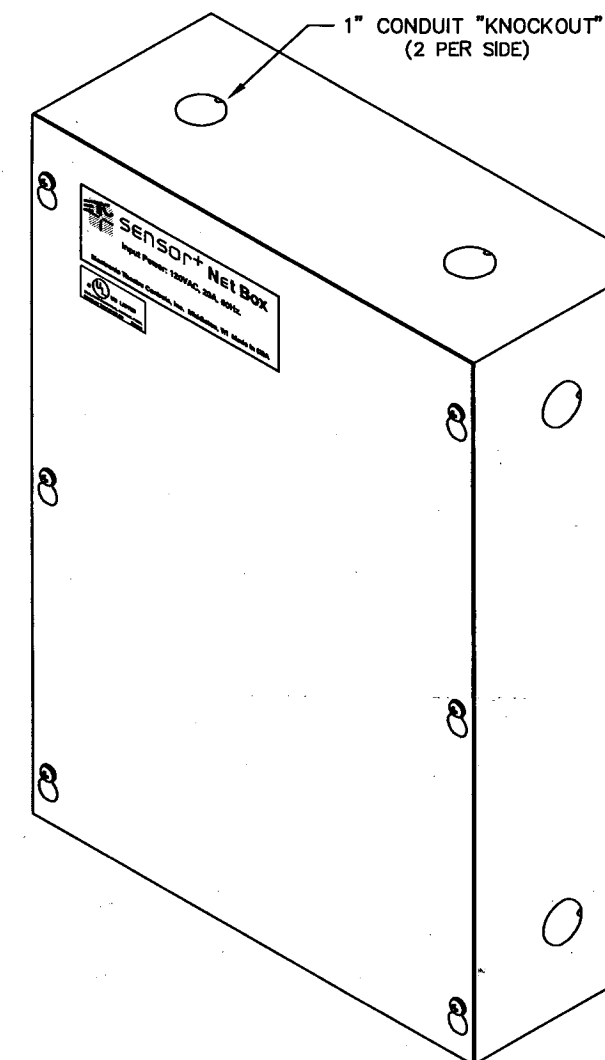


SIDE VIEW



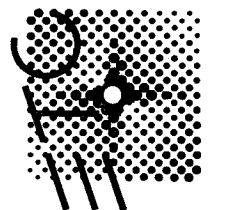
ISOMETRIC VIEW

(5/8 SCALE)



Electronic Theatre Controls Inc

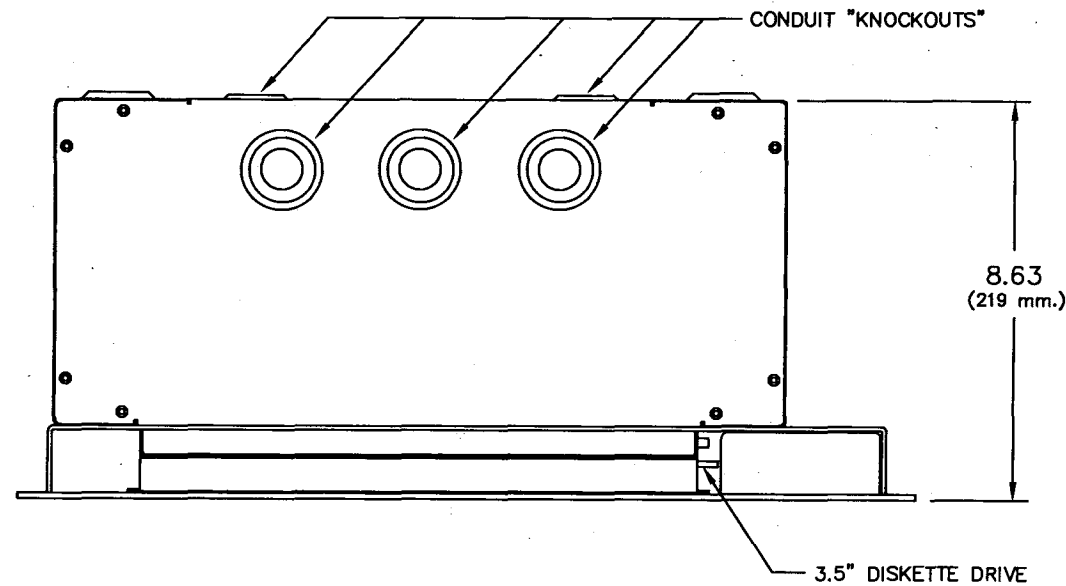
3031 Pleasant View Rd
PO Box 620979
Middleton WI 53562 0979
Tel 608 831 4116
Toll Free 800 688 4116
Fax 608 836 1736
www.etcconnect.com



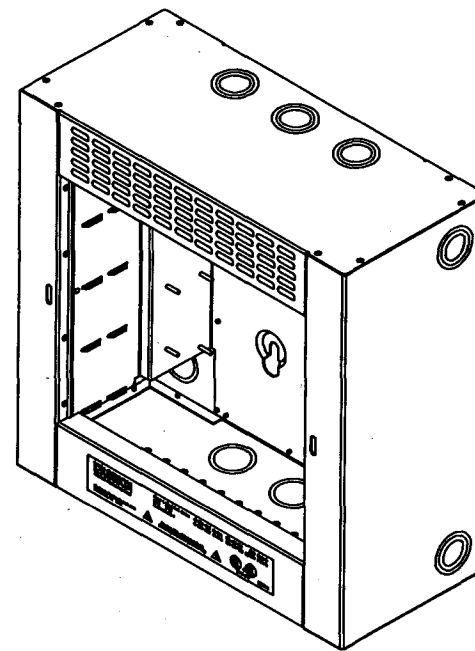
UNLESS OTHERWISE SPECIFIED - ALL DIMENSIONS ARE IN INCHES.

JOB:	BERKNER HIGH SCHOOL	FILE NAME:	SENSOR+ NETBOX.DWG
LOCATION:	RICHARDSON, TEXAS		
CONTRACT WITH:	TEXAS SCENIC COMPANY		
REPRESENTATIVE:	SPECTRUM LIGHTING		
TITLE:	SENSOR+ - PHYSICAL & NET BOX - ELECTRICAL		
REV.	A		
DWG. STATUS	BY	DATE	APPD.
SUBMITTAL	CWJ	7/17/08	SF
DRAWING:	15010447-09		

TOP VIEW




ISOMETRIC VIEW
(1/8 SCALE)
(MODULES & ACCESS/MOUNTING PANEL REMOVED)

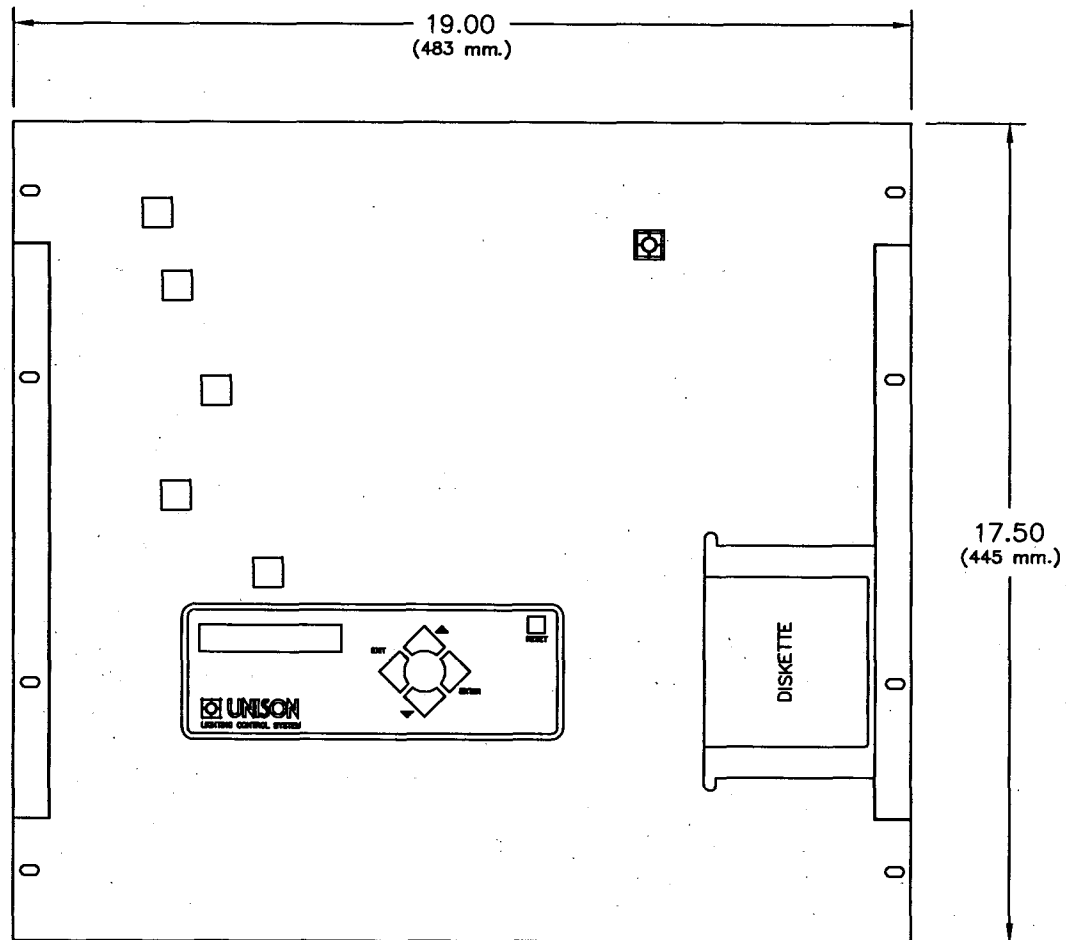


ITEM	QTY.	DESCRIPTION	DESIGNATION	PART NUMBER
A	1	UNISON ER4 ARCHITECTURAL CONTROL UNIT		7080A1009-3
B	1	UNISON CME CONTROL MODULE ASSEMBLY		7080A1011-5
C	2	UNISON BLANK MODULE		7080A1012
D	1	UNISON ER4 19" RACK-MOUNT KIT		7080A1013-6

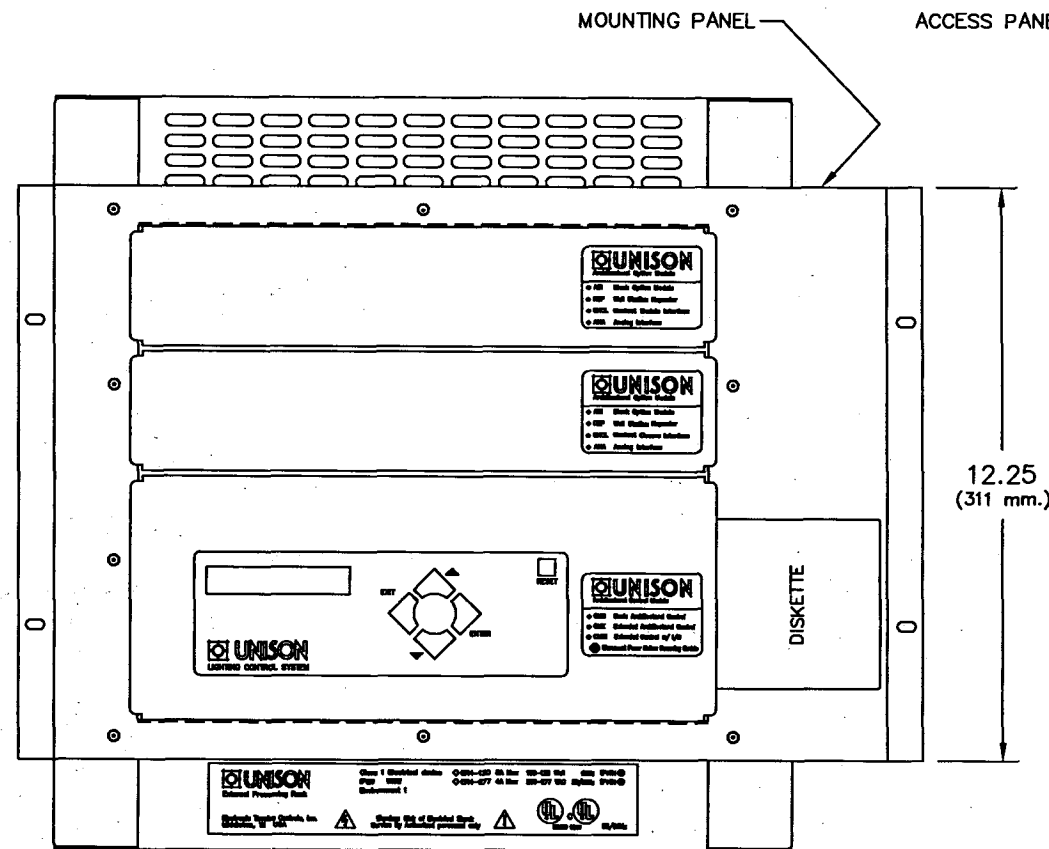
NOTES:

- CONTROL UNIT ENCLOSURE AND MODULES ARE CONSTRUCTED OF 18 GAUGE STEEL AND ARE FINISHED IN A WARM GREY (5C) TEXTURED BAKED POLYESTER EPOXY.
- MOUNTING AND ACCESS PANELS ARE FINISHED IN A BLACK TEXTURED BAKED POLYESTER EPOXY.
- CONTROL UNIT IS  LISTED.

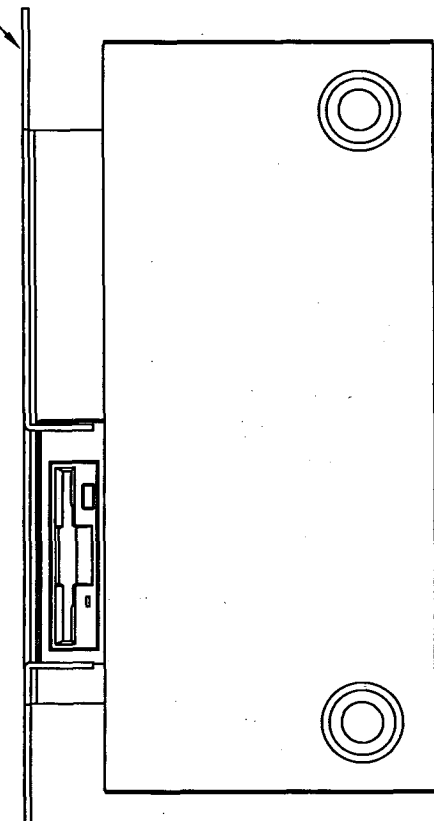
FRONT VIEW



FRONT VIEW
(ACCESS PANEL REMOVED)

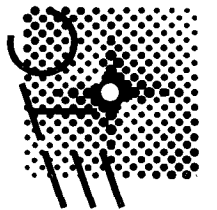


SIDE VIEW



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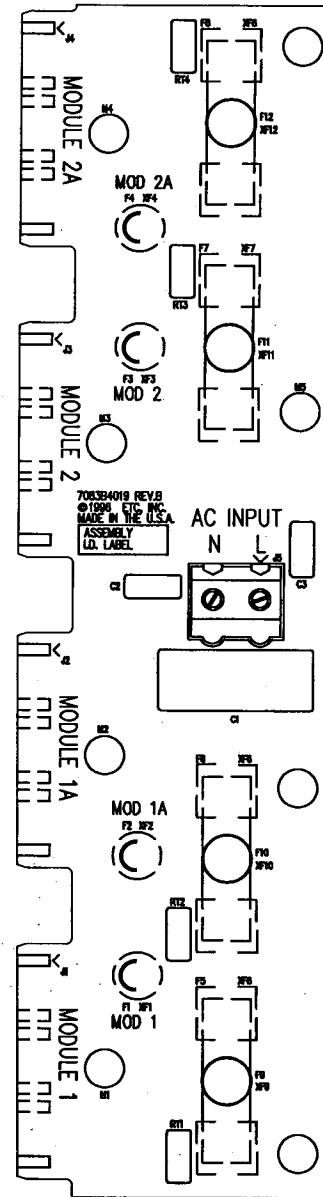


UNLESS OTHERWISE SPECIFIED - ALL DIMENSIONS ARE IN INCHES.

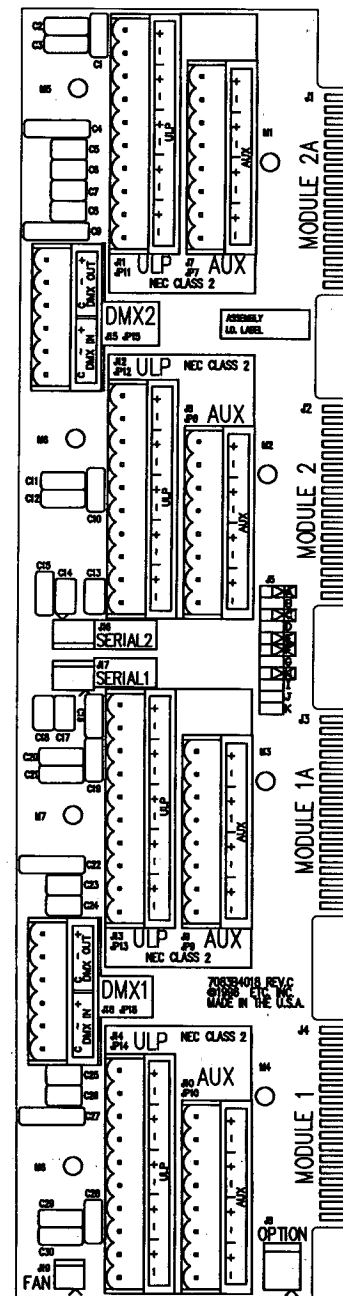
JOB:	BERKNER HIGH SCHOOL RICHARDSON, TEXAS	CONTRACT WITH:	TEXAS SCENIC COMPANY	REPRESENTATIVE:	SPECTRUM LIGHTING	FILE NAME:	UN-ER4.DWG
AS BUILTS	10/06/08	DATE	7/17/08	BY	CMJ	REV.	B
SUBMITTAL	10/06/08	DATE	7/17/08	BY	CMJ	REV.	B
DWG. STATUS	10/06/08	DATE	7/17/08	BY	CMJ	REV.	B
DRAWING:	15010447-10	DATE	7/17/08	BY	CMJ	REV.	B

15010447-10

UNISON ER4 POWER DISTRIBUTION

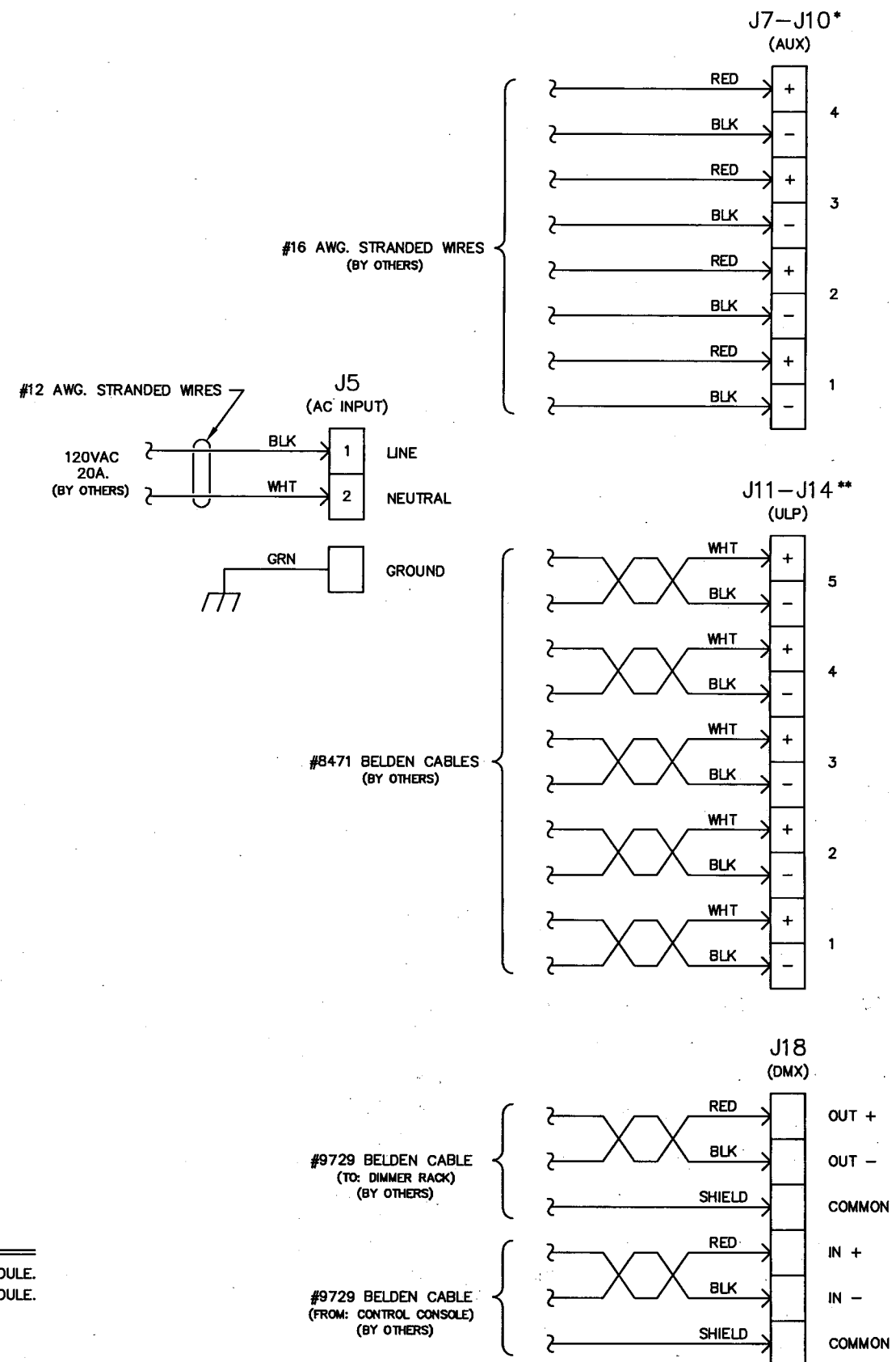


UNISON ER4 SIGNAL DISTRIBUTION



* ONLY "J10" CONNECTOR IS POWERED BY A SINGLE CONTROL MODULE.
** ONLY "J14" CONNECTOR IS POWERED BY A SINGLE CONTROL MODULE.

10



SPECTRUM LIGHTING

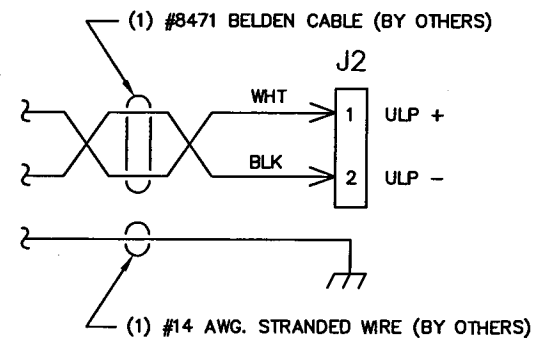
UNISON ER4
ARCHITECTURAL CONTROL UNIT - ELECTRICAL

15010447-11^{TE}

SUBMITTAL	
DWG. STATE	
DRAWN	

PARTS LIST				
ITEM	QTY.	DESCRIPTION	DESIGNATION	PART NUMBER
A	2	FACE PANEL ASSEMBLY; UNISON U10005	_____	7081A2203-1A
B	2	ELECTRONICS ASSEMBLY; UNISON U10005	_____	7081B2020

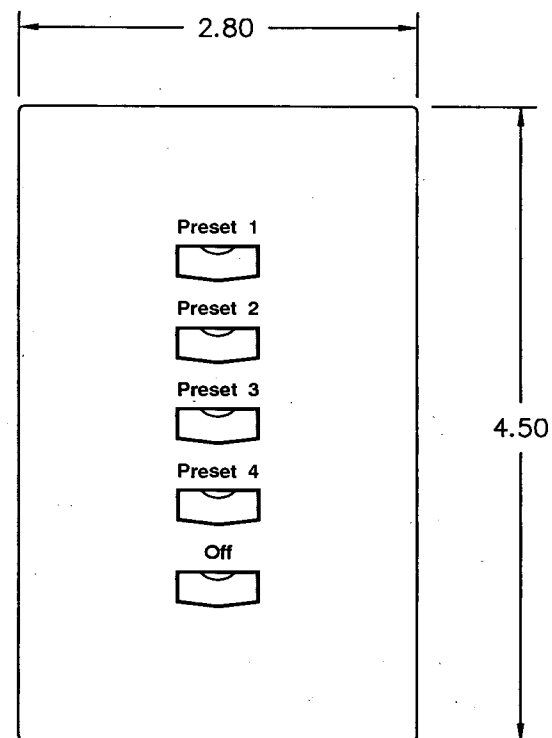
ELECTRICAL DIAGRAM



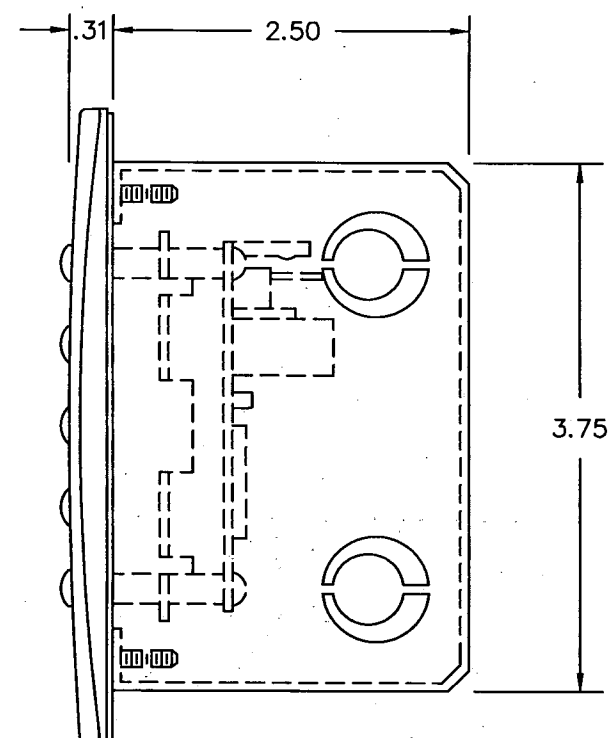
NOTES:

- 1.) FACE PANEL IS A WHITE ABS INJECTION-MOLDED PLASTIC.
- 2.) ALL NOMENCLATURE IS SILKSCREENED WITH A GREY EPOXY INK.
- 3.) BACK BOX SHALL BE SINGLE GANG RACO #690 (OR EQUIVALENT) AND IS SUPPLIED BY OTHERS. GANGLABLE BACK BOX IS NOT ACCEPTABLE.

FRONT VIEW

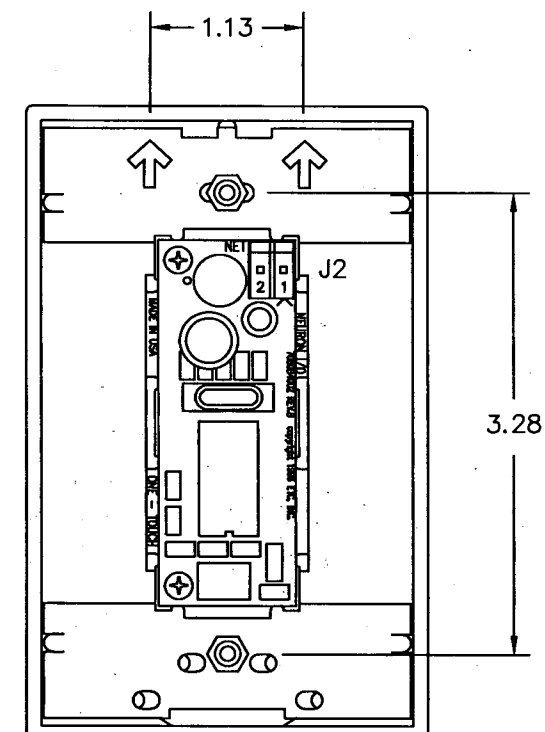


SIDE VIEW



REAR VIEW

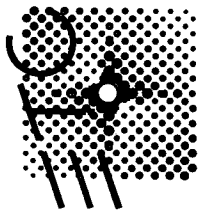
(BACK BOX REMOVED)



DRAWING: 15010447-12				REV. A	TITLE: UNISON U10005 - PHYSICAL & PRESET STATION ELECTRICAL FILE NAME: U10005.DWG	
SUBMITTAL		CMJ	7/17/08	SF	REPRESENTATIVE:	
DWG. STATUS		BY	DATE	APPD.	SPECTRUM LIGHTING	
CONTRACT WITH:					TEXAS SCENIC COMPANY	
LOCATION:					BERKNER HIGH SCHOOL RICHARDSON, TEXAS	
JOB:					Electronic Theatre Controls Inc 3031 Pleasant View Rd PO Box 620979 Middleton WI 53562 0979 Tel 608 831 4116 Toll Free 800 688 4116 Fax 608 836 1736 www.etcconnect.com	

Electronic Theatre Controls Inc

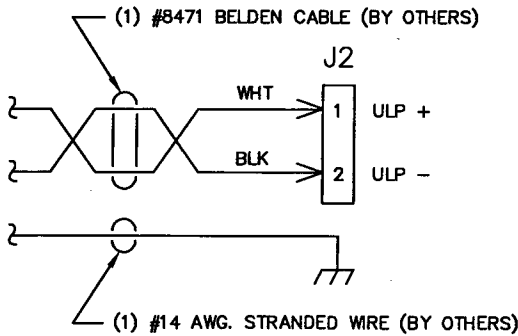
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UNLESS OTHERWISE SPECIFIED - ALL DIMENSIONS ARE IN INCHES.

		PARTS LIST		
ITEM	QTY.	DESCRIPTION	DESIGNATION	PART NUMBER
A	3	FACE PANEL ASSEMBLY; UNISON U11K00/U12K00		7081A2210-1A
B	3	ELECTRONICS ASSEMBLY; UNISON U11K05	(MAINTAINED)	7081B2018

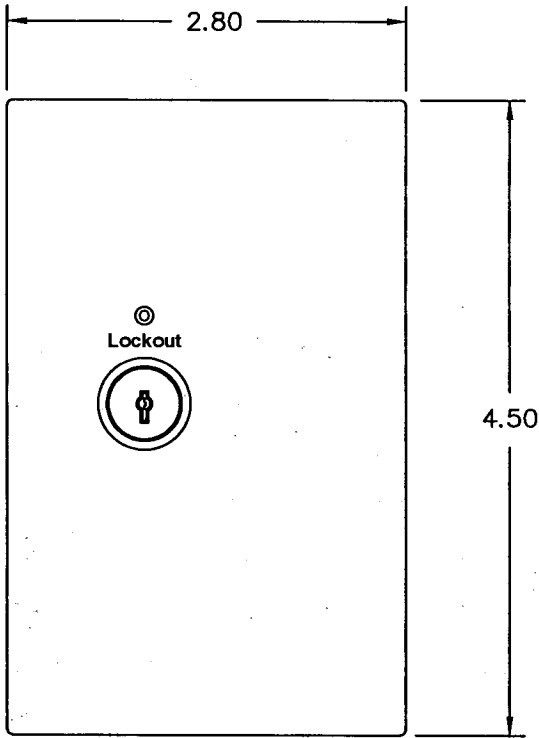
ELECTRICAL DIAGRAM



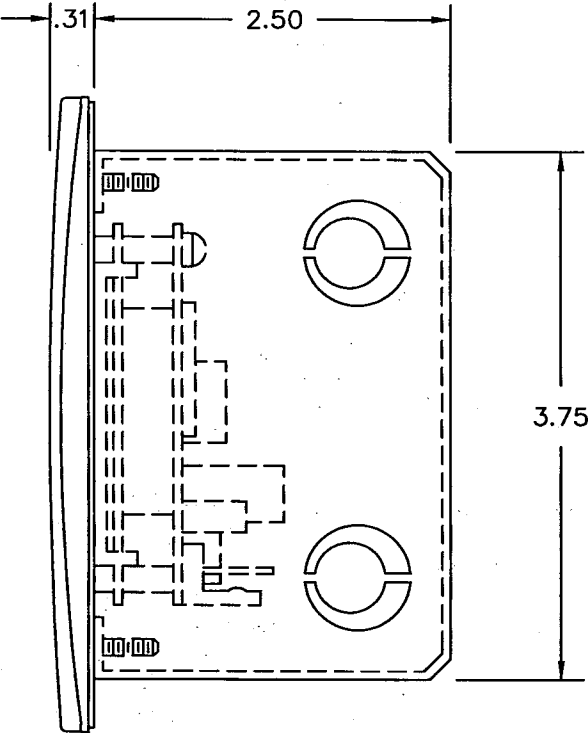
NOTES:

- 1.) FACE PANEL IS A WHITE ABS INJECTION-MOLDED PLASTIC.
- 2.) ALL NOMENCLATURE IS SILKSCREENED WITH A GREY EPOXY INK.
- 3.) BACK BOX SHALL BE SINGLE GANG RACO #690 (OR EQUIVALENT) AND IS SUPPLIED BY OTHERS. GANGABLE BACK BOX IS NOT ACCEPTABLE.

FRONT VIEW

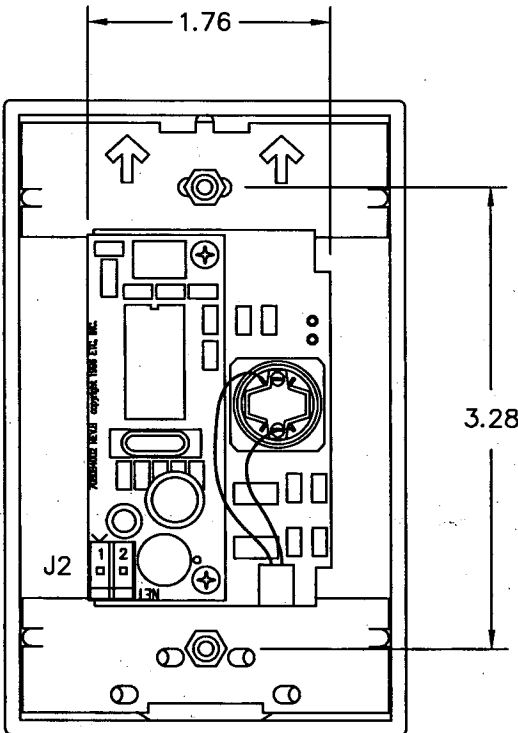


SIDE VIEW



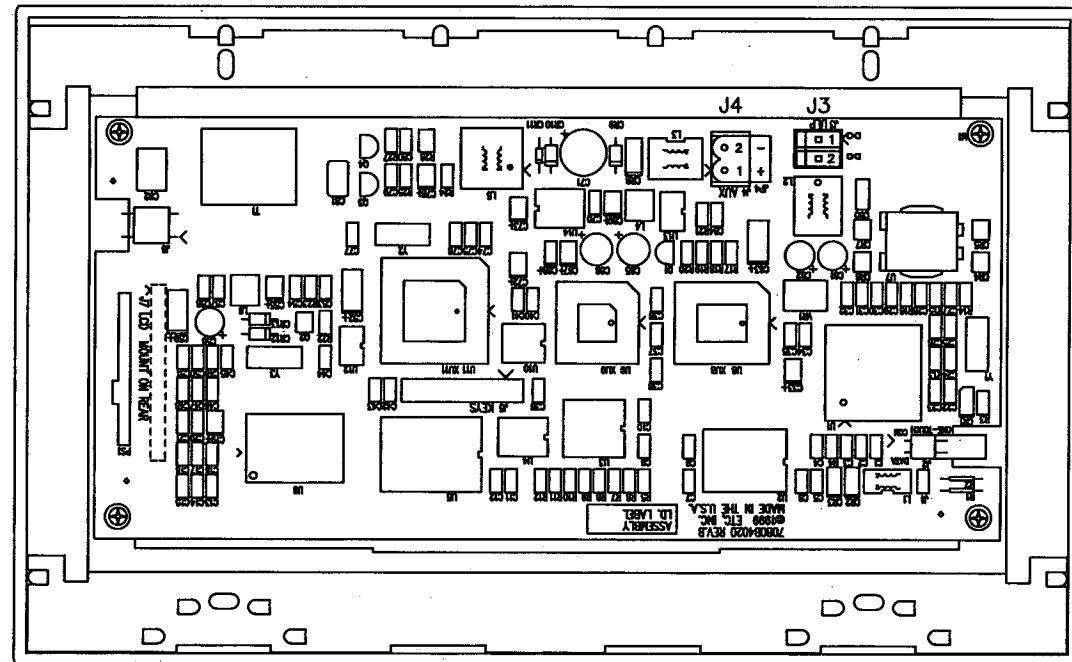
REAR VIEW

(BACK BOX REMOVED)

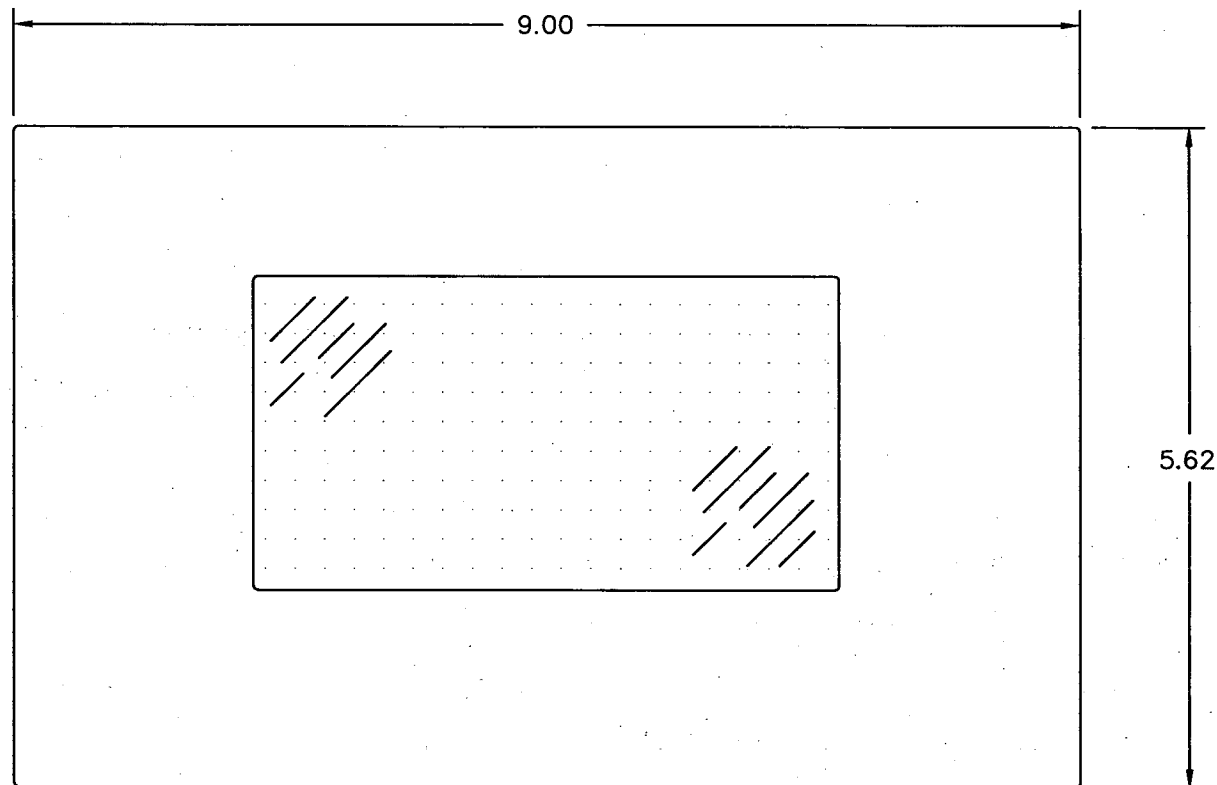


Electronic Theatre Controls Inc 3031 Pleasant View Rd PO Box 620979 Middleton WI 53562 0979 Tel 608 831 4116 Toll Free 800 688 4116 Fax 608 836 1736 www.etcconnect.com				UNLESS OTHERWISE SPECIFIED - ALL DIMENSIONS ARE IN INCHES.			
JOB: BERKNER HIGH SCHOOL LOCATION: RICHARDSON, TEXAS		CONTRACT WITH: TEXAS SCENIC COMPANY		REPRESENTATIVE: SPECTRUM LIGHTING		FILE NAME: U11K00.DWG	
TITLE: UNISON U11K00 LOCKOUT KEYSWITCH STATION - ELECTRICAL		REV. B		DRAWING: 15010447-13		AS BUILT-QTY TO 3	
SUBMITTAL		DATE		BY		APPD.	
DWG. STATUS		DATE		BY		APPD.	

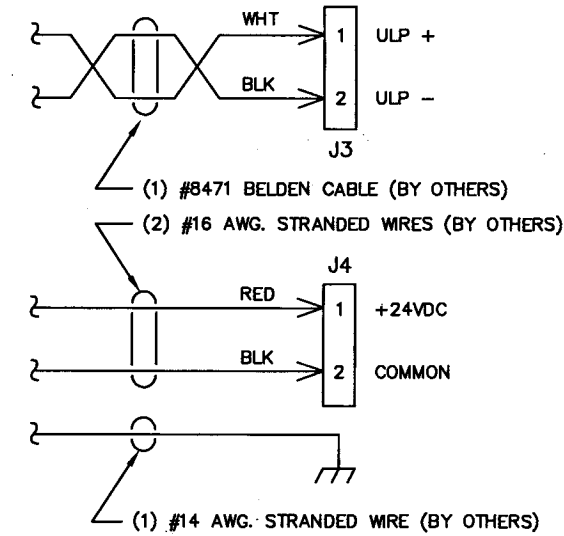
REAR VIEW
(BACK BOX REMOVED)



FRONT VIEW




ELECTRICAL DIAGRAM

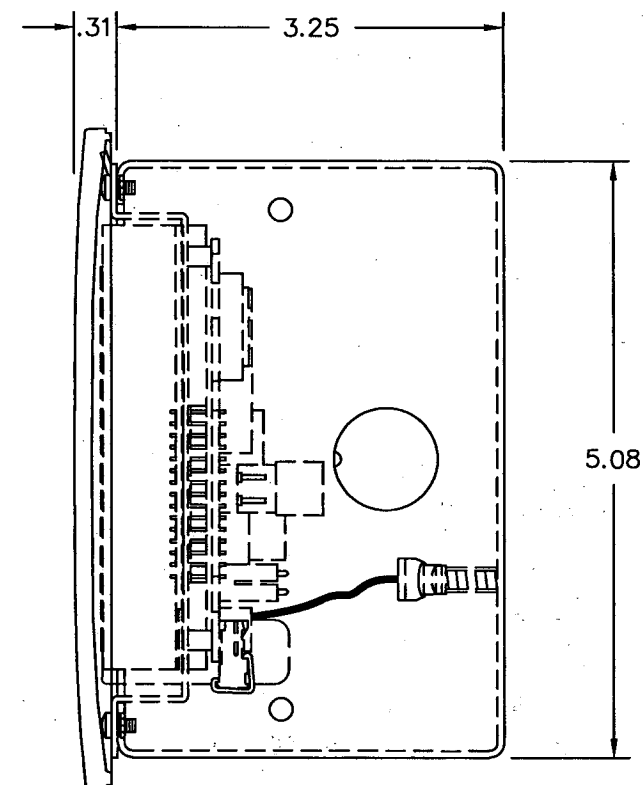


ITEM		QTY.	DESCRIPTION	PARTS LIST	DESIGNATION	PART NUMBER
A	1		FACE PANEL ASSEMBLY; UNISON ULCD			7081A2801-1
B	1		ELECTRONICS ASSEMBLY; UNISON ULCD			7081B2013
C	1		FLUSH-MOUNT BACK BOX ASSEMBLY		(7.88" x 5.08" x 3.25")	7081A2002

NOTES:

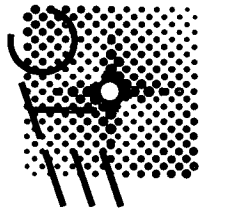
- 1.) FACE PANEL IS A WHITE ABS INJECTION-MOLDED PLASTIC.
- 2.) BACK BOX IS CONSTRUCTED OF 16 GA. STEEL AND IS FINISHED IN A BLACK FINE-TEXTURED POWDER COAT.
- 3.) L.C.D. STATION IS  LISTED.

SIDE VIEW



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UNLESS OTHERWISE SPECIFIED - ALL DIMENSIONS ARE IN INCHES.

JOB: BERKNER HIGH SCHOOL
LOCATION: RICHARDSON, TEXAS

CONTRACT WITH: TEXAS SCENIC COMPANY

REPRESENTATIVE: SPECTRUM LIGHTING

TITLE: UNISON ULCD - PHYSICAL &
L.C.D. STATION - ELECTRICAL

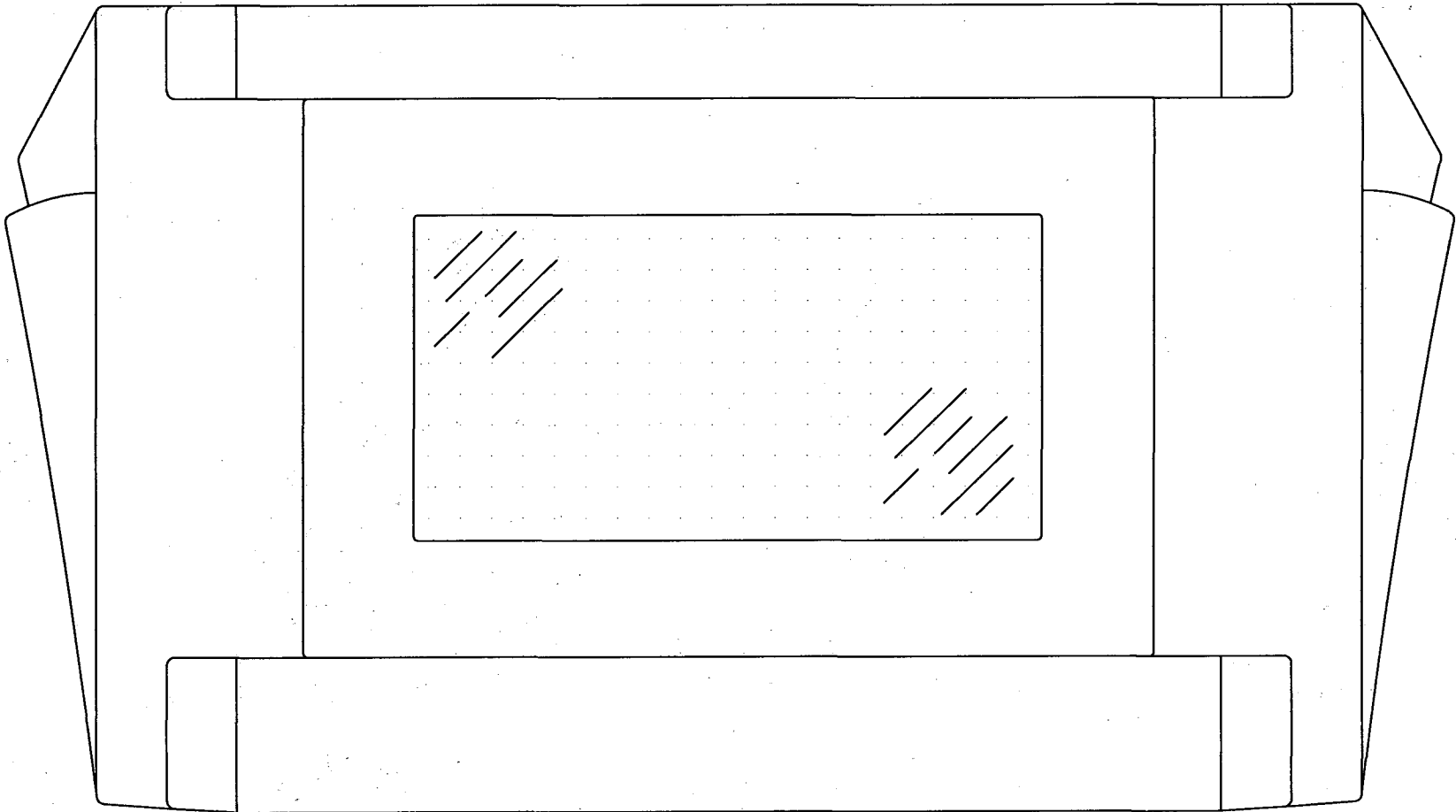
FILE NAME:
ULCD.DWG

REV. B

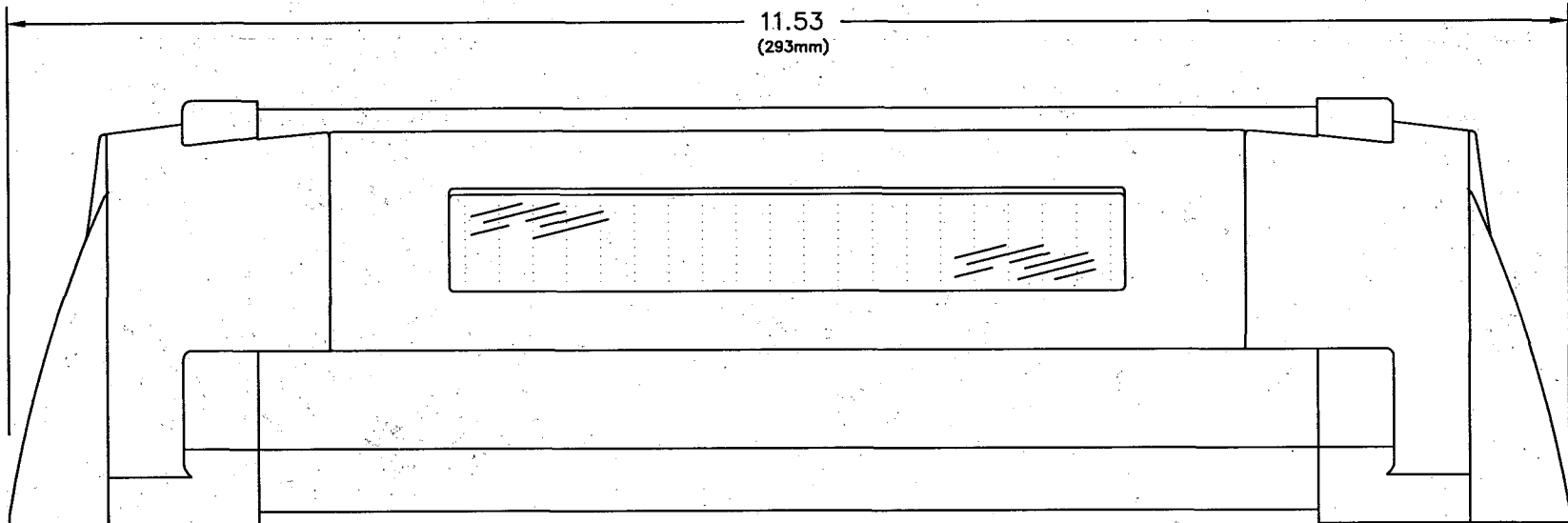
DRAWING: 15010447-14

AS BUILT	DATE	BY	DATE	APPD.
SUBMITTAL	10/08/08	CMJ	7/17/08	SF
DWG. STATUS				

PLAN VIEW



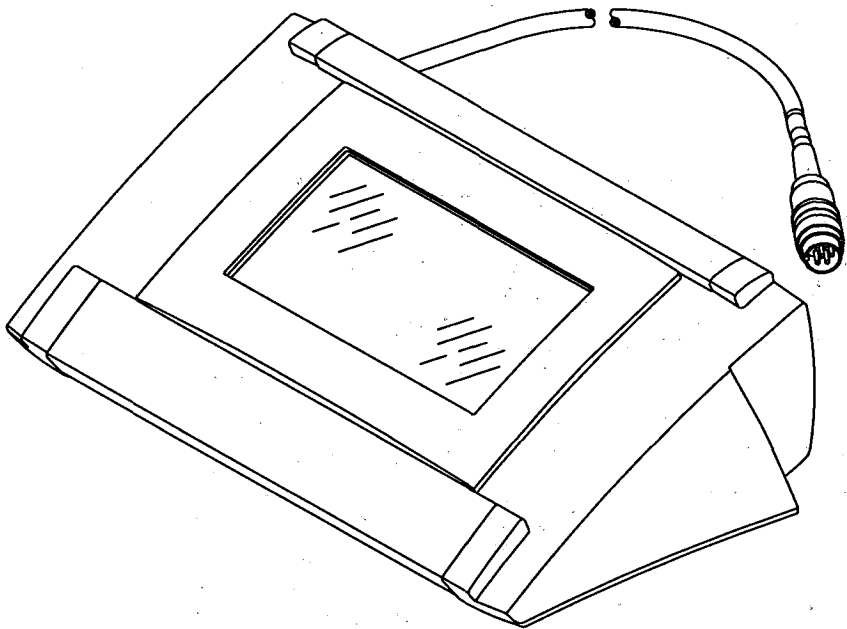
FRONT VIEW



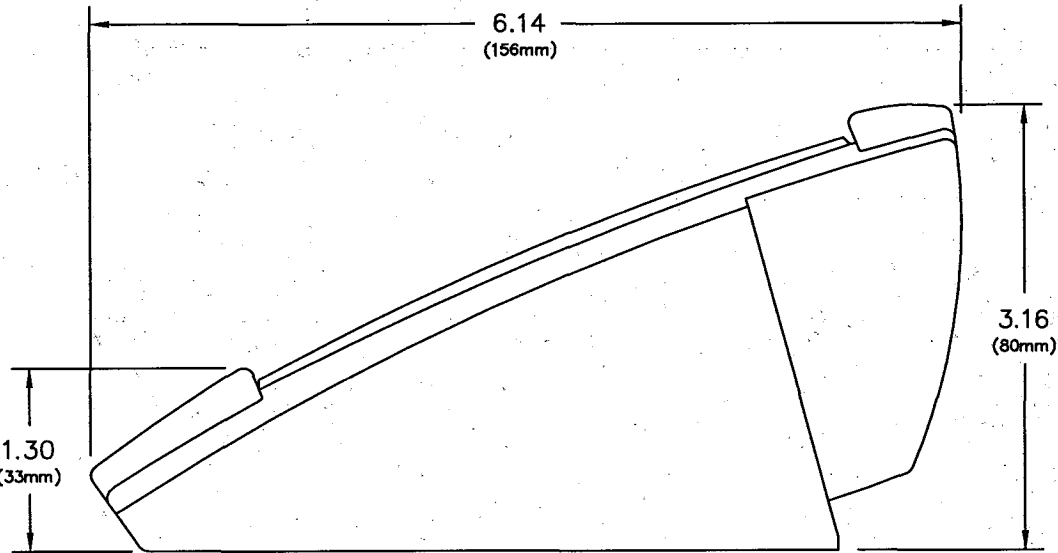
NOTES:

- 1.) FACE PANEL IS A WHITE ABS INJECTION-MOLDED PLASTIC.
- 2.) CHASSIS IS CONSTRUCTED OF EXTRUDED ALUMINUM AND IS FINISHED IN A WHITE FINE-TEXTURED PAINT.
- 3.) FIFTEEN-FOOT (4.57m) CONTROL CABLE IS PROVIDED. (NOT SHOWN EXCEPT IN ISOMETRIC VIEW.)

ISOMETRIC VIEW



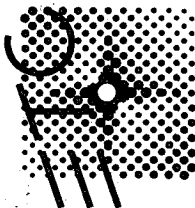
SIDE VIEW



ITEM		QTY.	DESCRIPTION		PARTS LIST	DESIGNATION	PART NUMBER
A		1	UNISON PORTABLE L.C.D. STATION; UPLCD				7081A1100-1

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JOB:		BERKNER HIGH SCHOOL		RICHARDSON, TEXAS		FILE NAME:	
LOCATION:		CONTRACT WITH:		REPRESENTATIVE:		TITLE:	
AS BUILTS		10/06/08		DATE		UNISON UPLCD	
SUBMITTAL		BY		APPD.		PORTABLE L.C.D. STATION - PHYSICAL	
DWG. STATUS		REV.		B		UNLESS OTHERWISE SPECIFIED - ALL DIMENSIONS ARE IN INCHES.	
DRAWING:		15010447-15				ULCD-CONSLET.DWG	

Wiring diagram for the control circuit of a 3-phase motor. The diagram shows a 3-phase supply entering a motor terminal block. The motor has three main terminals: WHT (White), BLK (Black), and a common terminal. The WHT terminal is connected to a 1-pole switch (J1) labeled 'ULP +'. The BLK terminal is connected to a 2-pole switch (J2) labeled 'ULP -'. The common terminal is connected to a 3-pole switch (J3) labeled 'ULP +'. The switches are connected to a 3-phase supply. The motor is labeled 'MOTOR'.

NOTES:

- 1.) FACE PANEL IS A WHITE ABS INJECTION-MOLDED PLASTIC.
- 2.) ALL NOMENCLATURE IS SILKSCREENED WITH A GREY EPOXY INK.
- 3.) BACK BOX SHALL BE SINGLE GANG RACO #690 (OR EQUIVALENT) AND IS SUPPLIED BY OTHERS. GANGABLE BACK BOX IS NOT ACCEPTABLE.


Technical drawing of a portable unit. The drawing shows a rectangular unit with a circular connector in the center. The connector has five pins and a ground symbol. The unit is labeled "Portable". Dimensions are indicated: 2.80 for the width and 4.50 for the height.

Technical drawing of a rectangular plate. The overall width is 2.50 and the overall height is 3.75. A dimension of .31 is shown for the left edge. The plate features two circular holes, each with a diameter of .00. The drawing includes a dashed line indicating the internal structure and a cross-section view on the left side.

Top view of the 7080B4031 PCB assembly. The overall dimensions are 1.73 inches in width and 3.28 inches in height. The assembly includes a central component labeled "7080B4031 REV.0" with copyright information "copyright 1996 ETC, INC." and "MADE IN THE U.S.A.". Key features include:

- Assembly Label:** A rectangular label at the top center.
- J2 AUX:** A connector on the left side with pins 1 and 2.
- J1 NET:** A connector on the right side with pins 1 and 2.
- U1:** A component at the bottom left, labeled "U1" and "CR1".
- U2:** A component at the bottom right, labeled "U2" and "CR2".
- Mounting Holes:** Six circular holes arranged in a hexagonal pattern, labeled "MOUNT ON REAR".
- Dimensions:** A width dimension of 1.73 inches and a height dimension of 3.28 inches.

DRAWING: 15010447-16		REV. B	TITLE: UNISON UIRS RECEPTACLE STATION - PHYSICAL & ELECTRICAL		FILE NAME: UIRS.DWG
OWG. STATUS	BY	OATE	APPO.	REPRESENTATIVE: SPECTRUM LIGHTING	JOB: BERKNER HIGH SCHOOL LOCATION: RICHARDSON, TEXAS CONTRACT WITH: TEXAS SCENIC COMPANY REPRESENTATIVE:
SUBMITTAL					
AS BUILTS	JDM	10/06/08			



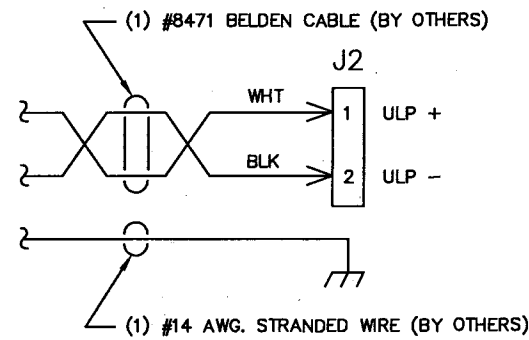
Electronic Theatre Controls Inc

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UNLESS OTHERWISE SPECIFIED - ALL DIMENSIONS ARE IN INCHES.

		PARTS LIST			
ITEM	QTY.	DESCRIPTION	DESIGNATION	PART NUMBER	
A	1	FACE PANEL ASSEMBLY; UNISON U10002		7081A2202-1A	
B	1	ELECTRONICS ASSEMBLY; UNISON U10005		7081B2020	

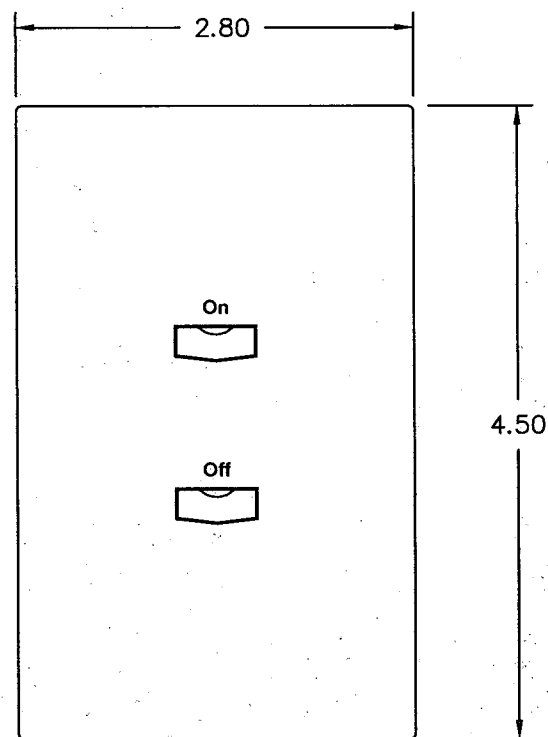
ELECTRICAL DIAGRAM



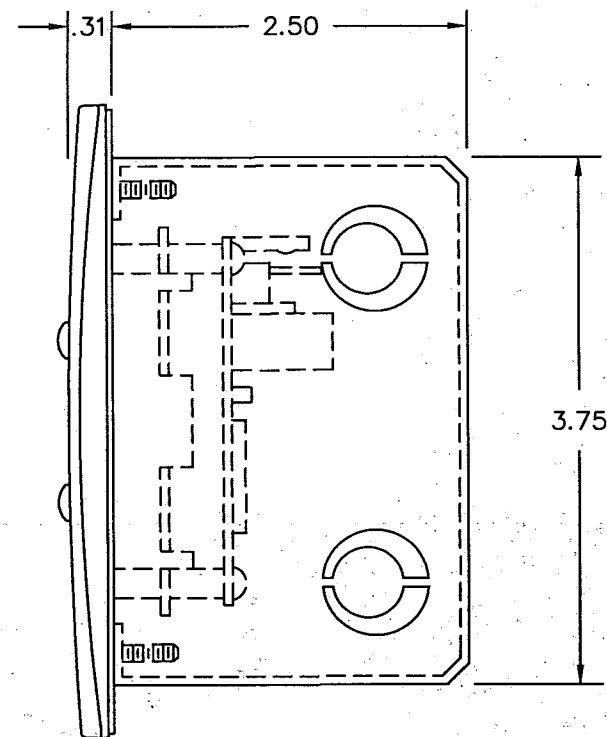
NOTES:

- 1.) FACE PANEL IS A WHITE ABS INJECTION-MOLDED PLASTIC.
- 2.) ALL NOMENCLATURE IS SILKSCREENED WITH A GREY EPOXY INK.
- 3.) BACK BOX SHALL BE SINGLE GANG RACO #690 (OR EQUIVALENT) AND IS SUPPLIED BY OTHERS. GANGABLE BACK BOX IS NOT ACCEPTABLE.

FRONT VIEW

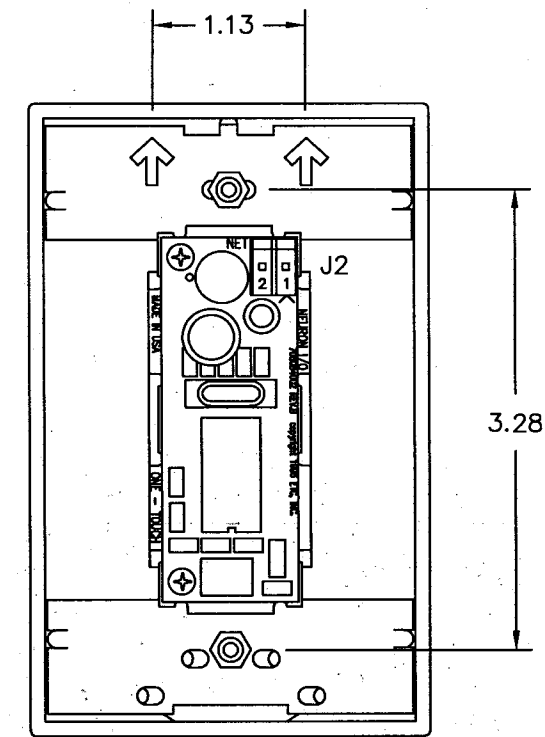


SIDE VIEW

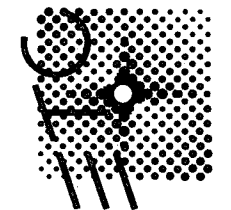


REAR VIEW

(BACK BOX REMOVED)



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JOB:	BERKNER HIGH SCHOOL	LOCATION:	RICHARDSON, TEXAS	CONTRACT WITH:	TEXAS SCENIC COMPANY	REPRESENTATIVE:	SPECTRUM LIGHTING	FILE NAME:	U10002.DWG
AS BUILT	10/06/08	DATE	BY	APPD.	REV.	TITLE: UNISON U10002 On & Off STATION - ELECTRICAL			
DWG. STATUS	15010447-17	DATE	BY	APPD.	REV.	On & Off STATION - ELECTRICAL			
DRAWING:	15010447-17	DATE	BY	APPD.	REV.	On & Off STATION - ELECTRICAL			

UNLESS OTHERWISE SPECIFIED - ALL DIMENSIONS ARE IN INCHES.