

# THE SAENGER THEATRE RENEWAL PROJECT

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7502

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02.19.10 1 PERMIT SET

04.02.10 2 GMP CONTRACT SET

11.11.10 - CONTRACT SET

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**AV SYSTEMS SCHEDULES**

AV-005

## PERFORMANCE AUDIO SYSTEMS NOTE:

THE PERFORMANCE AUDIO SYSTEMS ARE NOT SHOWN ON THE ELECTRICAL DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE AUDIO SYSTEM DRAWINGS AND SPECIFICATION SECTIONS FOR THE PERFORMANCE AUDIO SYSTEMS REQUIREMENTS (SHOWN ON THE EA SERIES DRAWINGS FOR REFERENCE ONLY).

EXCEPTIONS TO ABOVE:

- THE AUDIO TECHNICAL POWER SEQUENCING PANEL BOARD (TERMINATION "X1, X2") AND ALL LOADS SERVED BY THIS PANEL ARE SHOWN ON THE ELECTRICAL POWER FLOOR PLAN DRAWINGS.

THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR:

- PROVIDING AND INSTALLING THE CONDUIT AND JUNCTION BOXES FOR THE PERFORMANCE AUDIO SYSTEMS.
- PROVIDING AND INSTALLING THE AUDIO TECHNICAL POWER SYSTEM CONDUIT, CONDUCTORS, AUDIO TECHNICAL POWER TRANSFORMER, DISTRIBUTION PANEL BOARD AND ISOLATED GROUND DUPLEX RECEPTACLES.
- OBTAINING THE AUDIO TECHNICAL POWER SEQUENCING PANEL BOARD (TERMINATION "X1, X2") FROM THE AUDIO CONTRACTOR AND INSTALL WHERE INDICATED ON THE ELECTRICAL POWER DRAWINGS.
- FURNISH AND INSTALL ISOLATED GROUND RECEPTACLES WITH WALL PLATES LABELED "AUDIO ONLY - SWITCHED TECHNICAL POWER" AND PANEL BOARD AND CIRCUIT BREAKER NUMBER.
- PROVIDE ALL CONDUIT AND CONDUCTORS FROM AUDIO TECHNICAL POWER SEQUENCING LOAD CENTER TO THE AUDIO EQUIPMENT RACKS AND MAKE FINAL CONNECTIONS AT BOTH ENDS. (THE RECEPTACLES IN THE EQUIPMENT RACKS TO BE PROVIDED BY THE AUDIO CONTRACTOR).
- OBTAIN ALL OF THE PERFORMANCE AUDIO SYSTEMS DEVICE ENCLOSURES FROM THE AUDIO CONTRACTOR AND INSTALL THESE ENCLOSURES AS DIRECTED.
- PROVIDE AND INSTALL ALL CONDUITS BETWEEN DEVICE ENCLOSURES ACCORDING TO THE "AUDIO SCHEDULE OF TERMINATIONS" FOR BUSS SYSTEMS (INTERCOM, BACKSTAGE SPEAKER SYSTEM, LOBBY SPEAKER SYSTEM, ETC.) WHERE THE "AUDIO SCHEDULE OF TERMINATIONS" INDICATES THE CONDUITS TO BE ROUTED BETWEEN NEARBY DEVICES, THE ELECTRICAL CONTRACTOR SHALL SUBMIT PLANS SHOWING THE CONDUIT SIZE AND ROUTING FOR EACH SYSTEM. CONDUITS SHALL BE SIZED PER THE NATIONAL ELECTRICAL CODE FOR THE NUMBER AND TYPE OF CONDUCTOR OR CABLES THEREIN AND FOR THE TYPE OF CONDUIT. MINIMUM CONDUIT SIZE SHALL BE 3/4".
- PROVIDE NYLON PULL STRINGS IN ALL EMPTY (AUDIO) CONDUITS. (ALL AUDIO CABLES AND CONDUCTORS SHALL BE PROVIDED AND INSTALLED BY THE AUDIO CONTRACTOR).

CLASSIFY ALL CONDUITS BY WIRING SIGNAL LEVEL PER THE "AUDIO SCHEDULE OF TERMINATIONS". INSTALL CONDUIT ACCORDING TO THE SEPARATION CRITERIA PROVIDED IN THE AUDIO SYSTEM DRAWINGS "AUDIO CONDUIT SEPARATION TABLE". COORDINATE WITH THE ARCHITECT PRIOR TO INSTALLING.

## 02 PERFORMANCE AV NOTE

AUDIO CONDUIT SEPARATION TABLE										
	SIGNAL LEVEL A	SIGNAL LEVEL B	SIGNAL LEVEL C	SIGNAL LEVEL D	SIGNAL LEVEL E	DIMMER CONTROLLED LIGHTING WIRING	220 / 440 VAC WIRING	ALL OTHER SERVICES	ALL OTHER SERVICE WITH SCRs	
SIGNAL LEVEL A MICROPHONE	--	6 [154]	12 [305]	12 [305]	6 [154]	24 [610]	6 [154]	6 [154]	24 [610]	
SIGNAL LEVEL B TIE LINE	6 [154]	--	12 [305]	6 [154]	6 [154]	12 [305]	6 [154]	6 [154]	12 [305]	
SIGNAL LEVEL C NETWORK	12 [305]	12 [305]	--	6 [154]	6 [154]	6 [154]	6 [154]	6 [154]	6 [154]	
SIGNAL LEVEL D DRIVE	12 [305]	6 [154]	6 [154]	--	6 [154]	12 [305]	6 [154]	6 [154]	12 [305]	
SIGNAL LEVEL E DATA AND VIDEO FIBER OPTIC	6 [154]	6 [154]	6 [154]	6 [154]	--	6 [154]	6 [154]	6 [154]	6 [154]	

NOTE:  
1. SIGNAL LEVEL CLASSES MUST NEVER BE INTERMIXED WITH A GIVEN CONDUIT.  
2. CONDUIT MAY ONLY BE IN CLOSE PROXIMITY IF IT CROSSES AT A NINETY DEGREE ANGLE.  
3. AUDIO CONDUIT NEAR CONDUIT WITH HIGH CURRENT CIRCUITS REQUIRES GREATER SEPARATION THEN LISTED ABOVE.  
4. AUDIO CONDUIT IN LONG PARALLEL RUNS WITH ANY CONDUIT CLASSES LISTED ABOVE REQUIRES GREATER SEPARATION THEN LISTED ABOVE.

## 03 CONDUIT SEPARATION TABLE

AUDIO CABLE AND WIRE INFORMATION TABLE																			
BELDEN TRADE No.	USE	CONDUCTOR COUNT	GAGE	CABLE TYPE (NEC)	CONSTRUCTION	MAX. RECOMMENDED PULLING TENSION (lbs.)	MIN. BEND RADIUS (INSTALL)	OVERALL NOMINAL DIAMETER	AREA	EMT CONDUIT CAPACITY - NO BENDS - STRAIGHT AND LEVEL - 40% FILL	BELDEN TRADE No.								
										3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	
8108	RS-232/422	16	24	CMR	PAIRED, SHIELDED, 24 AWG DRAIN WIRE	93.5	3.75	0.370	0.1075	1	3	5	7	12	21	32	42	54	8108
8240	IR EMITTER SIGNAL	1	20	CMR	RG-58/U TYPE, 50 Ohm	47	2	0.193	0.0293	7	11	20	27	45	79	120	157	201	8240
8444	POWER SEQUENCER CONTROLLER	4	22	CMG	UNSHIELDED	35	1.8	0.185	0.0269	7	12	22	30	49	87	131	171	219	8444
8465	PAGE SYSTEM CONTROL	5	18	CMG	UNSHIELDED	125	2.8	0.282	0.0625	3	5	9	13	21	37	56	73	94	8465
8469	PAGE SYSTEM CONTROL	12	18	CMG	UNSHIELDED	300	4.1	0.412	0.1333	1	2	4	6	10	17	26	34	44	8469
8467	PAGE SYSTEM CONTROL	7	18	CMG	UNSHIELDED	146	3.1	0.314	0.0774	2	4	7	10	17	30	45	59	75	8467
8468	PAGE SYSTEM CONTROL	15	18	CMG	UNSHIELDED	375	4.7	0.500	0.1963	1	1	3	4	6	11	18	23	30	8468
8469	PAGE SYSTEM CONTROL	9	18	CMG	UNSHIELDED	187	3.6	0.364	0.1041	2	3	5	7	12	22	33	44	56	8469
8471	70 VOLTS SPEAKER	2	18	CMG	UNSHIELDED	81	5.1	0.274	0.059	3	5	10	13	22	38	59	78	100	8471
8489	PAGE SYSTEM CONTROL	4	18	CMG	UNSHIELDED	93	2.6	0.267	0.0619	4	6	11	15	25	45	68	89	113	8489
8619	PAGE SYSTEM CONTROL	19	18	CMG	UNSHIELDED	475	4.9	0.490	0.1886	1	1	3	4	7	12	18	24	31	8619
8620	PRIORITY VOLUME CONTROL - NO LOCAL KILL	4	16	--	UNSHIELDED	121	3.75	0.111	1	3	5	7	12	21	31	41	53	8620	
8621	PRIORITY VOLUME CONTROL - LOCAL KILL	7	16	--	UNSHIELDED	212	4.6	0.459	0.1647	1	2	3	4	6	14	21	28	35	8621
8622	PRIORITY VOLUME CONTROL - LOCAL KILL	12	16	--	UNSHIELDED	364	6	0.627	0.3088	0	1	1	2	4	7	11	14	19	8622
8623	PRIORITY VOLUME CONTROL - LOCAL KILL	15	16	--	UNSHIELDED	466	6.7	0.694	0.3783	0	0	1	2	3	6	9	12	15	8623
8624	PRIORITY VOLUME CONTROL - LOCAL KILL	19	16	--	UNSHIELDED	577	7	0.740	0.4301	0	0	1	1	3	5	8	10	13	8624
8722	CREDSNET	4	20	CMG	1PAIR SHIELDED, 22 AWG DRAIN WIRE, 1 PAIR UNSHIELDED	56	2.3	0.226	0.0401	5	8	14	20	33	58	89	115	147	8722
9451	AUDIO SIGNAL	2	22	CMR	SHIELDED, 22 AWG DRAIN WIRE	27	1.4	0.135	0.0143	14	24	41	56	93	163	247	322	412	9451
9460	INTERCOM	2	18	CM	SHIELDED, 20 AWG DRAIN WIRE	70	2.25	0.230	0.0415	5	8	14	19	32	56	85	111	142	9460
9539	PRIORITY VOLUME CONTROL - LOCAL KILL	9	24	CMG	NON-PAIRED, SHIELDED, 24 AWG DRAIN WIRE	49.5	2.5	0.244	0.0468	4	7	12	17	28	50	75	98	126	9539
9620	PRIORITY VOLUME CONTROL - LOCAL KILL	5	16	--	UNSHIELDED	152	4	0.411	0.1327	1	2	4	6	10	17	26	34	44	9620
9621	PRIORITY VOLUME CONTROL - LOCAL KILL	9	16	--	UNSHIELDED	273	5.2	0.533	0.2231	0	1	2	3	6	10	15	20	26	9621
9622	PRIORITY VOLUME CONTROL - LOCAL KILL	25	16	--	UNSHIELDED	760	8.5	0.879	0.6068	0	0	1	2	3	5	7	9	9622	
9626	PAGE SYSTEM CONTROL	25	18	CMG	UNSHIELDED	625	8.1	0.612	0.2942	0	1	2	2	4	7	12	15	20	9626
9721	PRIORITY VOLUME CONTROL - LOCAL KILL	8	16	--	UNSHIELDED	243	5	0.496	0.1932	1	1	3	4	6	12	18	23	30	9721
9832	RS-232/422	10	24	CM	PAIRED, SHIELDED, 24 AWG DRAIN WIRE	--	3.5	0.338	0.0897	2	3	6	9	12	26	39	51	65	9832
9841	RS-485	2	24	CM	SHIELDED, 24 AWG DRAIN WIRE	72	2.5	0.232	0.0423	5	8	14	19	31	55	83	109	139	9841
1698A	VIDEO - ANALOG / DIGITAL	1	18	CMR	RG-6/U, 75 Ohm	69.3	2.75	0.274	0.059	3	5	10	13	22	39	59	78	100	1698A
1909B	AES / EBU DIGITAL AUDIO	2	24	CMG	SHIELDED, 24 AWG DRAIN WIRE	16.5	1.75	0.177	0.0246	8	14	24	33	54	95	143	197	239	1909B
5700UP	SPEAKER	2	10	CL2 (AUDIO USE)	JACKETED, UNSHIELDED, HIGH FLEX	260	3.6	0.356	0.0995	1	3	6	8	13	23	35	46	59	5700UP
7712A	VIDEO - ANALOG / DIGITAL	5	18	CMR	RG-6/U, 75 Ohm	345	10	0.970	0.739	0	0	1	1	3	4	6	7	7712A	
7810A	RF ANTENNA	1	10	--	RG-8/U, 50 Ohm	150	4	0.403	0.1276	1	2	4	6	10	18	27	36	46	7810A
7811A	ETHERNET	8	23	CMR	UTP ENHANCED CATEGORY 6	45	0.25	227 X 315	--	--	--	--	--	--	--	--	--	--	--

NOTE:  
1. THIS TABLE SHOULD BE ONLY USED AS A GUIDELINE FOR CABLE REQUIREMENTS.  
2. THESE REQUIREMENTS ARE MINIMUM VALUES AND DO NOT TAKE INTO ACCOUNT ADDITIONAL FACTORS THAT MAY AFFECT CABLE AND WIRE INSTALLATION.

## 04 CABLE AND WIRE CHART

AUDIO SYSTEM SCHEDULE OF TERMINATIONS										
PANEL	DESCRIPTION	QUANTITY	ENCLOSURE (VERTICAL x HORIZONTAL x DEPTH)	MOUNTING	MOUNTING HEIGHT ABOVE FINISHED FLOOR	SIGNAL LEVEL	SIGNAL TYPE	WIRE TYPE	TERMINATES AT	
A1	DOWN STAGE LEFT PLUG BOX	1	16 INCH x 12 INCH x 6 INCH, GALVANIZED, NO KNOCKOUTS.	SURFACE	24 INCH	A	MICROPHONE	(16) 9451	A10	
						B	TIE LINE	(4) 1800B	A10	
						C	INTERCOM	(4) 9460	S1	
						D	VIDEO	(2) 1694A	R1	
A2	DOWN STAGE RIGHT PLUG BOX	1	16 INCH x 12 INCH x 6 INCH, GALVANIZED, NO KNOCKOUTS.	SURFACE	24 INCH	A	MICROPHONE	(16) 9451	A10	
						B	TIE LINE	(4) 1800B	A10	
						C	INTERCOM	(4) 9460	S1	
						D	VIDEO	(2) 1694A	R1	
A3	UP STAGE LEFT PLUG BOX	1	16 INCH x 12 INCH x 6 INCH, GALVANIZED, NO KNOCKOUTS.	SURFACE	24 INCH	A	MICROPHONE	(12) 9451	A10	
						B	TIE LINE	(4) 1800B	A10	
						C	INTERCOM	(4) 9460	S1	
						D	VIDEO	(2) 1694A	R1	
A4	UP STAGE RIGHT PLUG BOX	1	16 INCH x 12 INCH x 6 INCH, GALVANIZED, NO KNOCKOUTS.	SURFACE	24 INCH	A	MICROPHONE	(12) 9451	A10	
						B	TIE LINE	(4) 1800B	A10	
						C	INTERCOM	(4) 9460	S1	
						D	VIDEO	(2) 1694A	R1	
A5	ORCHESTRA PIT STAGE LEFT PLUG BOX	1	12 INCH x 12 INCH x 6 INCH, GALVANIZED, NO KNOCKOUTS.	SURFACE	18 INCH	A	MICROPHONE	(8) 9451	A10	
						B	TIE LINE	(4) 1800B	A10	
						C	INTERCOM	(4) 9460	S1	
						D	VIDEO	(1) 1694A	R1	
A6	ORCHESTRA PIT STAGE RIGHT PLUG BOX	1	12 INCH x 12 INCH x 6 INCH, GALVANIZED, NO KNOCKOUTS.	SURFACE	18 INCH	A	MICROPHONE	(8) 9451	A10	
						B	TIE LINE	(4) 1800B	A10	
						C	INTERCOM	(4) 9460	S1	
						D	VIDEO	(1) 1694A	R1	
A7	STAGE LEFT GALLERY PLUG BOX	1	12 INCH x 12 INCH x 6 INCH, GALVANIZED, NO KNOCKOUTS.	SURFACE	18 INCH	A	MICROPHONE	(8) 9451	R1	
						B	TIE LINE	(4) 1800B	R1	
						C	INTERCOM	(4) 9460	S1	
						D	VIDEO	(1) 1694A	R1	
A8	STAGE RIGHT GALLERY PLUG BOX	1	12 INCH x 12 INCH x 6 INCH, GALVANIZED, NO KNOCKOUTS.	SURFACE	18 INCH	A	MICROPHONE	(8) 9451	R1	
						B	TIE LINE	(4) 1800B	R1	
						C	INTERCOM	(4) 9460	S1	
						D	VIDEO	(1) 1694A	R1	
A9	HOUSE MIX PLUG BOX	1	16 INCH x 16 INCH x 6 INCH, GALVANIZED, NO KNOCKOUTS.	FLUSH	18 INCH	B	TIE LINE	(4) 1800B	R1</	