



**SHOWCO** INC

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PROPOSAL

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PHOTOGRAPHS





ENTERTAINMENT PRODUCTION • 9011 GOVERNORS ROW • DALLAS, TEXAS 75247 • PHONE (214) 630-1188 • TWX (910) 861-4278

August 25, 1980

Mr. Rob Kingsland  
Unit #308  
9518 South 86th Avenue  
Hickory Hills, Illinois 60457

Dear Rob:

Per our phone conversation of August 15, 1980, the following is a description of the new SHOWCO Pyramid 9000 Sound System for you to consider using for the upcoming STYX 1981 Tour.

I. SPEAKER SYSTEM

The SHOWCO Pyramid 9000 Concert Sound System is the evolution of a unique horn and cabinet design which SHOWCO has patented and which represents the highest state-of-the-art sound equipment available. The new Pyramid system is quite simple in philosophy - denser packaging with no compromise in quality or efficiency.

The system consists of pairs of cabinets, each pair comprising a unit. Each unit consists of 1 bass cabinet and 1 3-way cabinet. The patented Pyramid horn design is used in the bass and mid-bass sections of each unit. The bass cabinet houses 4 JBL K140 speakers; the 3-way cabinet houses 2 JBL K120 speakers, 2 JBL 2482 drivers in 2 SHOWCO 90° radial horns, and a computer-designed array of 15 Motorola Piezo horns. The cabinets are designed to operate either hung or stacked on stage if rigging is not practical.

SHOWCO engineers spent a considerable amount of time in designing a system that would not only sound better than that of any competitor, but would cover better as well. The mid-range horns and high frequency arrays are mounted vertically in the 3-way cabinet, as shown in Figure 1, so that the unit has 90° vertical dispersion and 30° horizontal dispersion instead of the traditional 40° vertical and 90° horizontal dispersion. This concept allows each cabinet in the system to cover the arena from the very top of the balcony to the floor seats right in front of the stage. The cabinets are hung in a curved array, as shown in Figure 2, so that the arena is covered in thin pie-shaped wedges that are 30° wide and extend from floor to ceiling with a minimum of overlap between cabinets, thus eliminating hot spots and holes.



## II. CROSSOVERS

The Pyramid 9000 system is a discrete 4-way system utilizing the SHOWCO Model 1015 crossover and master drive panel to drive the amp racks. This unit is the heart of the SHOWCO sound system and provides not only the electronic crossover circuitry, but transformerless balanced output line amps and calibrated metering in each drive line so the engineer knows at all times how hard the system is being driven. The crossover points of the Pyramid 9000 system are 300 HZ, 800 HZ, and 4,000 HZ.

## III. AMPLIFICATION

SHOWCO uses Crown power amplifiers exclusively. Their outstanding sonic abilities and dependability have been proven over and over again, tour after tour. Each of the Pyramid system amplifier racks as shown in Figure 3 houses 1 Crown PSA-2 and 3 DC-300A amplifiers. Each of these racks feeds 2 units or 4 cabinets. In this configuration, the total power output of each amplifier rack is 2,700 watts RMS.

## IV. RIGGING

The Pyramid system has been designed to set up faster than any system on the market. The cabinets are simply rolled into position under a thin aluminum frame, front cover removed, caster dolly unlatched, 2 nylon load straps attached, and then the assembly is lifted into position. Two 1 ton CM chain motors are used to hang each frame and each frame can support 4 or 5 pairs of cabinets. For a 24 pair system, which would consist of 4 front assemblies and 1 backfill assembly, 10 hanging points of 1,900# each would be required.

## V. RECOMMENDED SYSTEM SIZE

For a group of the stature of "STYX", I recommend a full 24-pair system if backfill for seats behind the stage is required. This size system will cover any indoor coliseum in America and can be used outdoors for up to 25,000 people. SHOWCO has designed a special hanging harness as shown in Figure 4 that allows the Pyramid system to be hung outdoors with very minimal scaffolding and stagehand requirements. This is a very important economic feature to consider when looking at your overall budget in that you would be able to play any venue up to 25,000 people with no additional charge unless more equipment or personnel was required by some unusual circumstance. Also when set up in this special outdoor configuration, the Pyramid system is by far the best sounding and covering outdoor sound system available anywhere.



The power distribution for a 24-pair system is:

A. Bass:	40 HZ - 300 HZ	=	14,400 watts
B. Mid-Bass:	300 HZ - 800 HZ	=	7,200 watts
C. Mid-Range:	800 HZ - 6,000 HZ	=	6,000 watts
D. Highs:	6,000 - 20,000 HZ	=	6,000 watts
Main System Total Power		=	33,600 watts

## VI. MONITOR SYSTEM

### A. Monitor Board

As shown in Figure 5, the monitor board is manufactured by Interface Electronics of Houston, Texas, and it features 30 inputs each with 3 band equalization and 8 discrete mixes, thus giving the monitor engineer the flexibility to give any performer any monitor mix he desires. In addition, the board has been modified by SHOWCO engineers to provide for a complete patch bay on all inputs and outputs, larger, regulated power supply, input snake connector, and individual ground lifts on each input mic line. - For "STYX" requirement of 54 inputs and 8 outputs, 2 boards can be combined to suit your needs.

### B. Monitor Board Accessory Rack

As shown in Figure 6, this unit comes standard with the following equipment:

- 1) 6 Channel M-4 Crossover - This unit consists of 6 discrete 4-way electronic crossovers for the M-4 speaker cabinet. Each crossover is a plug-in module with a common bi-polar power supply. This unit is a proprietary SHOWCO design and is constructed with the traditional SHOWCO ruggedness and quality.
- 2) 12 Channel Floor Monitor Crossover Unit - This unit consists of 12 discrete 3-way, 2 output, electronic crossovers for the bi-amped floor monitors. Each crossover is a plug-in module with a common bi-polar power supply. This unit is a proprietary SHOWCO design and is constructed with the traditional SHOWCO ruggedness and quality.
- 3) 2 UREI 527A 1/3 Octave Band Graphic Equalizers
- 4) 1 UREI 530 Full Octave Band Stereo Graphic Equalizer



- 5) Patch Bay - The patch bay is used to insert the graphics or other effects into the desired mix output or mic output on the monitor board.
- 6) Additional graphics can be added if required.

C. Floor Monitor Cabinet

As shown in Figure 7, the floor monitor cabinet is a bi-amped speaker utilizing a JBL K140 15" speaker, JBL lens horn, JBL 2482 mid-range driver, and 2 JBL 2402 tweeters mounted in a custom designed SHOWCO enclosure. This speaker is powered by 1 Crown DC-300A loaded for 300 watts output.

D. Bi-Amp Floor Monitor Amp Rack (not pictured)

This unit houses 4 Crown DC-300A amplifiers to power the floor monitors. The construction of the rack is basically the same as that for the main system amp rack as shown in picture 3.

E. M-4 Speaker Enclosure

The M-4 enclosure, as shown in Figure 8, is a full range discrete 4-way speaker system that was designed to be used for short throw situations such as front fill for hanging systems and side monitors. Rather than have 2 separate large and efficient horn enclosures to reproduce the 4-way frequency bands as in the main system, a single enclosure was designed that houses 4 different types of transducers to achieve the 4-way design. Although efficiency and projection of sound over great distances were sacrificed, a small box with great 4-way sound was gained. This unit can be used as a monitor cabinet either set on the stage or hung from a lighting truss if sightlines are a problem. The eye bolts necessary for hanging are fastened to steel rods running through the cabinet for quick, easy, and safe rigging. The unit consists of Cetec 12" speakers for bass, JBL 10" speakers for mid-bass, Electrovoice DH-1012 drivers for mid-range, and JBL tweeters for highs. The unit is powered by 3 Crown DC-300A's for a total power input of 1,800 watts RMS.

F. Cabling and Splitter System

SHOWCO uses 27-pair shielded cable for all audio input lines and for the output drive line system from the board. The most critical element however, for a band such as "STYX" who require more than 27 inputs in the front board and monitors, is the SHOWCO engineered



5-way, transformer isolated, splitter J-box shown in Figure 9. This unit provides extremely clean, isolated, high fidelity splits for multiple monitor boards and feeds for mobile recordings and the like. Three of these units would be used for "STYX" to provide for 81 mic inputs.

#### G. Microphone List

- 1) Shure - 548, SM57, SM58, SML7, SM81, 565
- 2) Sennheiser - MD441, MD421, MD409, KZ-U
- 3) AKG - C451-E, D-12, C-510-E, D-224-E, D-1000-E
- 4) EV - RE15, RE20, RE55, PL77
- 5) Beyer - M-160-N

The majority of mics in a system use Shure 548, SM57, and SM58 with various quantities of other models according to need. Microphones other than those listed above can be obtained depending on the scope and length of the tour.

- 6) Direct boxes are SHOWCO designed utilizing a transformer with ground lift.

#### VII. SHOWCO SUPERBOARD

The SHOWCO Superboard as shown in Figure 10, has proven itself to be probably the finest sound reinforcement console in the industry today. The Superboard has 30 full capacity microphone inputs with separate stereo tape input. It has eight pannable subgroups or four discrete stereo subgroups with panning facilities on each individual microphone input. The Superboard also has full quadrophonic panning and output capabilities.

Each input has full three band parametric equalization with peaking and shelving capabilities. Other input module controls include input fader, continuously variable input pad, solo switch, a pre-fade listen overload indication, and three auxiliary sends; each having individual level controls with pre and post fader selects.

The Superboard also includes a comprehensive patch bay that allows line level access to insertion points in each microphone input module, each of the eight subgroups modules, and the quad output module. There are other special mults and access points to echo output modules, etc. Most Superboards include special tape recorder outputs for direct feed to 24-track studio recorders.



The Superboard also includes an exclusive communications module that allows the operator to communicate with the stage and allows him to use the soloing facilities in the board simultaneously.

Equal in importance to the operating features and flexibility just discussed is physical integrity. Each module in the Superboard is plug-in and each amplifier section within each module is also plug-in.

SHOWCO designed and built the Superboard in its own shops for the road!

#### VIII. SUPERBOARD ACCESSORY RACK

Each Superboard has an accessory rack, as shown in Figure 11, that houses the peripheral equipment and accessories to the Superboard. The SHOWCO master panels split the Superboard output into the low, lo-mid, mid, and hi components that drive the 4-way system in the stage area. The other main component is the patch bay. This bay interfaces with the Superboard virtually all accessories including limiters, graphics, flangers, noise gates, etc.

The normal compliment in an accessory rack in addition to the master panels and patch bay is two limiter amplifiers, two graphic equalizers, a real time analyzer, and a high quality cassette deck. A full selection of optional equipment such as phasers, flangers, harmonizers, DDL's, etc. is available. The basic rack proposed for "STYX" would contain:

<u>Qty</u>	<u>Item</u>
2	SHOWCO 4-way master panels
1	Patch bay
2	UREI third octave graphic equalizers
4	Channels of UREI 1176 or DBX 160 limiter amplifiers
1	Eventide harmonizer
1	Technics rack mount cassette deck patched for stereo playback and record
1	White RTA
1	MXR DDL

Other equipment available from stock includes Eventide DDL, AKG BX-10 reverbs, Master Room reverb, parametric equalizers, MXR graphics, reel-to-reel tape machines, Omnicraft noise gates, Eventide phaser, flanger or omnipressor, Delta Lab DL-1 and DL-2, and EXR exciter. Other equipment can be obtained if required. The additional cost depends on the size and scope of the tour.



IX. SUMMARY OF PROPOSED EQUIPMENT

The following is a list of the proposed sound system for "STYX":

A. Main System - 33,600 watts RMS

<u>Qty</u>	<u>Item</u>
24	Pyramid Lo-Bass cabinets
24	Pyramid Hi 3-way cabinets
12	Pyramid amp racks with:
	a. 12 Crown PSA-2 amplifiers
	b. 36 Crown DC-300A amplifiers
1	SHOWCO Superboard 30 in 8 out
2	24 Input Yamaha boards or equivalent
1	Superboard accessory rack with:
	a. 2 SHOWCO 4-way crossovers
	b. 2 27 band graphic equalizers
	c. 2 UREI or DBX limiters
	d. 1 MXR DDL
	e. 1 Eventide harmonizer
	f. 1 Roland space echo
	g. 1 Technics cassette recorder
	h. 1 White RTA

B. Monitor System - 9,000 watts RMS

<u>Qty</u>	<u>Item</u>
3	M-4 4-way fill cabinets
3	M-4 Amp racks with:
	a. 9 Crown DC-300A amplifiers
12	Bi-amped floor monitor amp racks with:
	a. 8 Crown DC-300A amplifiers
2	30 x 8 Monitor consoles
1	Monitor accessory rack with:
	a. 1 6 Channel M-4 crossover
	b. 1 12 Channel floor monitor crossover
	c. 2 UREI 27 band graphics
	d. 1 UREI stereo 10 band graphic
3	Transformer split J-boxes



C. Mics/Cables

<u>Qty</u>	<u>Item</u>
2	Audio trunks with mics and cables
1	Stage cable trunk containing all monitor cables
1	A.C. trunk containing a complete power distribution system for the P.A. system and band equipment
2	Speaker cable trunks containing multicable system for hanging the sound system
2	Snake work trunk containing all necessary snakes and J-boxes
2	Mic stand trunks

D. Rigging Equipment

<u>Qty</u>	<u>Item</u>
5	Aluminum Pyramid sound baskets
11	CM 1 ton chain motors
	All associated wire and rigging hardware and A.C. for motors

X. CREW SIZE AND TRUCK REQUIREMENTS

- A. Crew - A 3 man crew would be required.
- B. Trucks - One 45', 13'6" high, air ride electronics van is required for equipment listed above. If monitor system expands, a small amount of space in another trailer may be required.

The above information should give you a good idea of what we have to offer. I think the main advantages we have over our competitors are:

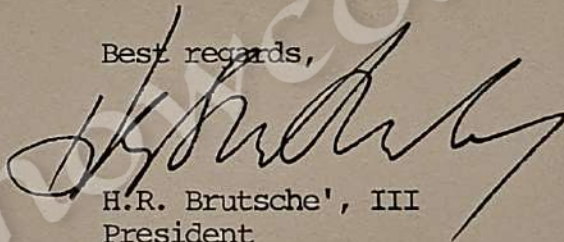
1. For the size system proposed, it requires the least amount of truck space of any other system.
2. Fastest set-up and tear-down time in the industry so you save on stagehand bills.



3. Fully horn loaded system for maximum efficiency and projection.
4. Smoothest and most even coverage of a large arena. No other company approaches us in this area.
5. System is large and efficient enough to handle any venue including a maximum of 25,000 people outdoors without need for additional equipment.
6. Best splitting, cabling, and distribution system in the business.
7. Cleanest and best sounding system available. Very flat response from 40 HZ to 16,000 HZ.
8. We are a large and very experienced company with excellent road crews and have a support staff to provide you the utmost in service.
9. We really want your business.

If you have any questions, please don't hesitate to call. I would welcome the opportunity for SHOWCO to be able to work with you and "STYX".

Best regards,



H.R. Brutsche', III  
President  
SHOWCO, Inc.

RB/pkc



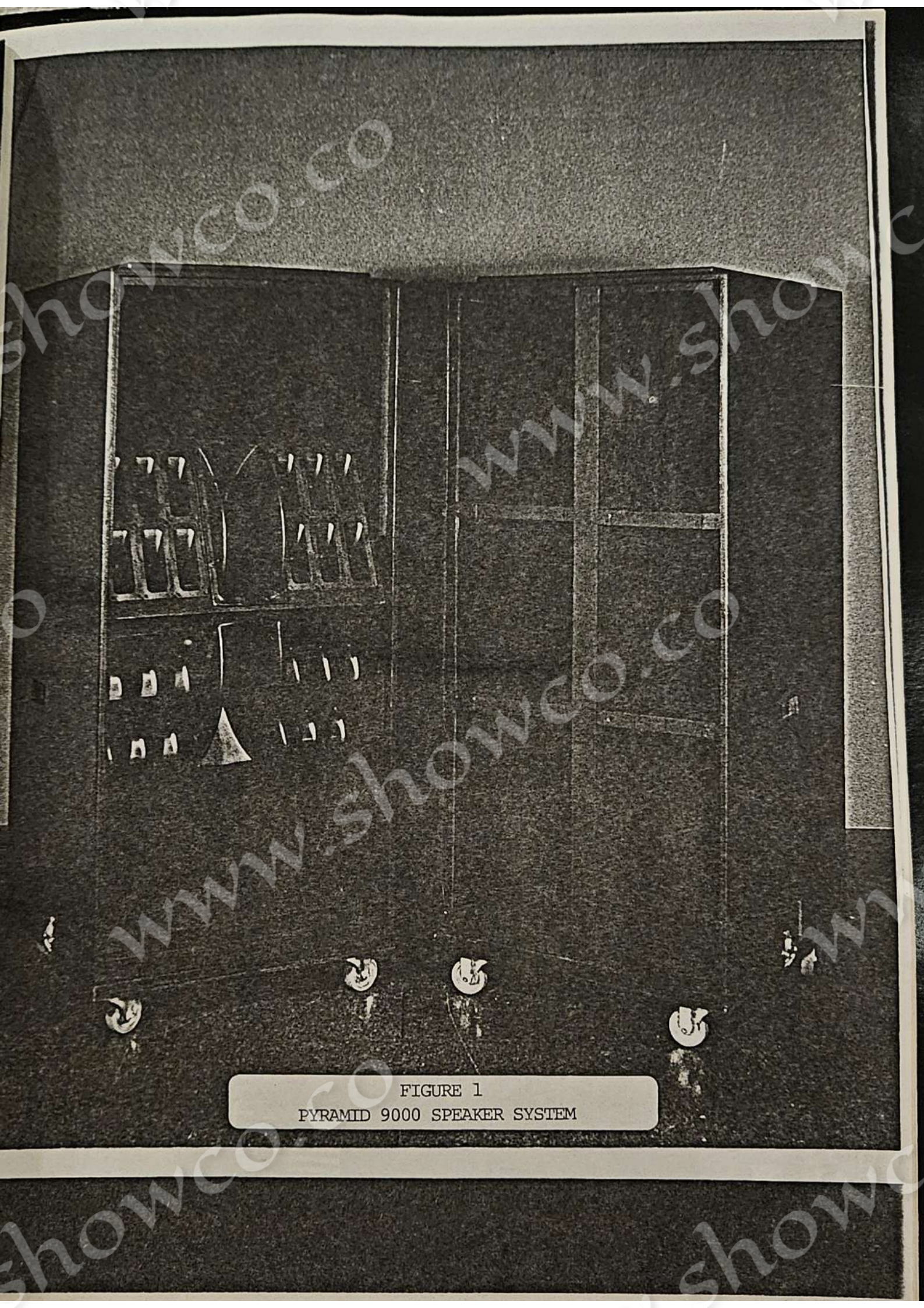


FIGURE 1  
PYRAMID 9000 SPEAKER SYSTEM





FIGURE 3  
PYRAMID 9000 AMPLIFIER RACK



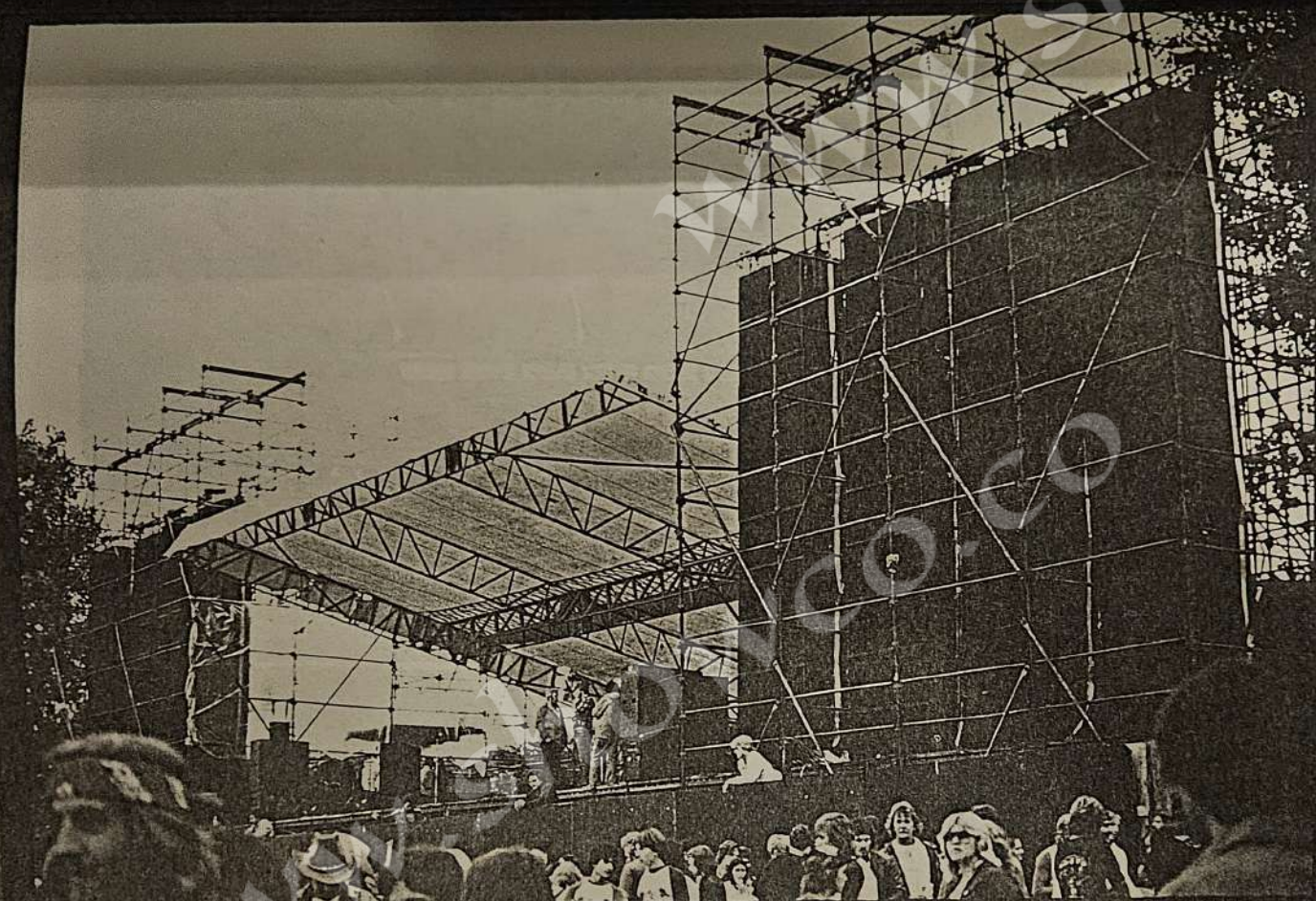


FIGURE 4  
PYRAMID 9000 SPEAKER SYSTEM IN  
SPECIAL OUTDOOR CONFIGURATION





FIGURE 5  
30 x 8 MONITOR BOARD





FIGURE 6  
MONITOR BOARD ACCESSORY RACK





FIGURE 7  
FLOOR MONITOR CABINET





FIGURE 8  
M-4 SPEAKER CABINET



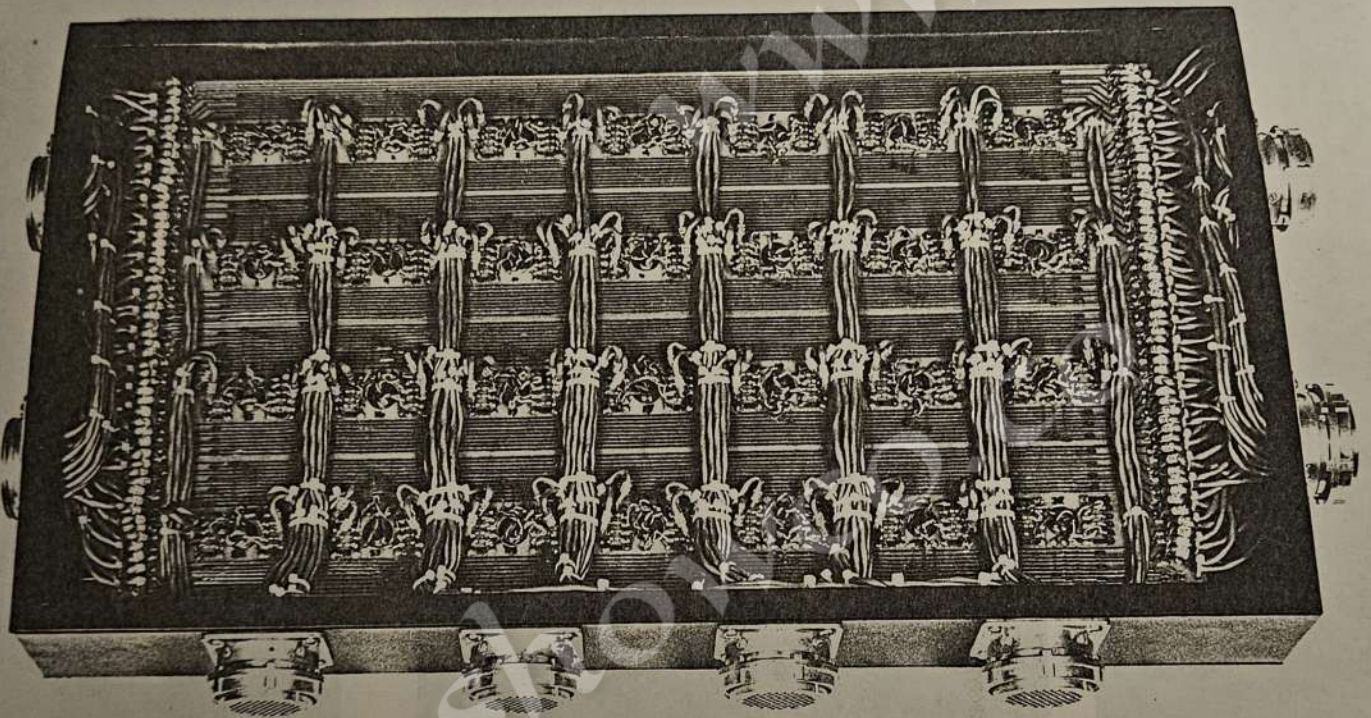


FIGURE 9  
27-PAIR TRANSFORMER SPLIT  
5-WAY J-BOX





FIGURE 10  
SHOWCO SUPERBOARD





FIGURE 11  
SUPERBOARD ACCESSORY RACK