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Kelmar Systems Inc.

A S - 7200

THEATRE SOUND SYSTEM

Installation Manual

Kelmar Systems Inc.

PLEASE NOTE:

This AS-7200 Audio System contains a built in non-sync fader module.

This module has been designed to operate in several different ways.

If a single source music system (FM tuner, continuous tape system, Musak) is used, connect 115VAC to terminals 11 and 12. Provide switching across terminals 13 and 14. As 13 and 14 are closed, the non-sync will fade in; as they are opened, it will fade out.

If a normal tape player is used (8-track, casette), install a jumper from terminal 13 to 14. Connect terminals 11 and 12 across the tape deck plug. As AC is provided to the tape deck, the music will fade in; as it is disconnected, it will drop out immediately preventing hearing machine slow down.

This is a monaural input. If a stereo deck is used, use a "Y" connector to parallel the two channels together.

Custom Sound, Control and Projection Systems

284 Broadway ☐ Huntington Station ☐ New York 11746 ☐ 516-692-6131

INTRODUCTION

The Kelmar AS-7200 Theatre Sound System has been designed and manufactured to provide high quality, dependable performance for professional motion picture theatre applications.

The entire system is housed in a single, compact enclosure that mounts on any convenient surface.

The basic system offers full emergency facilities for all necessary functions without additional hardware or stand-by components.

Kelmar solar cells complete with mounting hardware and 25' leads are provided with each system. The only component required to complete the installation is a theatre quality loud speaker system.

Particular care has been applied regarding the design with respect to those interference and noise problems commonly associated with theare sound system installations. The Kelmar AS-7200 system incorporates unique front end and inter-stage coupling concepts which together with controlled gain parameters and a heavily filtered, regulated power supply provide exceptionally stable operation and virtually complete RF and inductive noise rejection.

terminal #7, 8 and 9 as indicated. The non-sync input terminals are designed to accept the output of most current tape cartridge or cassette players. The circuit has a 10k input impedance and functions as an isolated bridging network with pre-set level controls. Whenever the non-sync source is operating, its output will automatically be accepted by the system.

At this point check all completed wiring: A.C. from the panel, speaker run, exciter lamps, solar cells and non-sync input.

Install the exciter lamp supply in the lower tray and secure with the 2 #8-32 flathead screws provided. Plug in the supply cords as indicated.

The AS-7200 has been designed to provide proper gain and output levels with 9 volt exciter lamps operating at 8.2 VDC at the bulb, or with 10 volt lamps operating at 9 VDC. Adjust the voltage at the lamp with the fine adjustment potentiometer. The exciter supply is shipped with the A.C. input to the transformer connected to terminal #6. If sufficient voltage cannot be obtained, remove the top cover of the exciter supply and move this wire to terminal #5, or 4, or 3, or 2, increasing voltage until correct voltage has been achieved. This modification should only be necessary where extra long wire lengths or low line voltage is a condition.

On models for use with the new Century Projector R4 reverse scanning reproducers, the proper exciter lamp voltage is 6.2 VDC at the lamp. These models do not provide input balancing potentiometers.

Machines are balanced by adjusting the optics of the hotter reproducer. Refer to Century projector instructions for adjustment of optics.

At this point check the image on the face of the solar cell. All exciter lamp optics should be clean, and a properly balanced image with uniform field distribution should be centered on the face of the cell.

Slide the auditorium and monitor amplifiers into their trays.

Before starting any tests, make sure that no random light is falling on the face of the solar cells from work lights or booth fixtures. All scanning system optics should be peaked for focus and azimuth adjustment.

Thread both projectors with SMPTE 1000 cycle test stock. Set the balancing pots above TS-1 for projector #1 and #2 at full clockwise position.

Plug an audio VTVM in the jack marked "test". Set the scale for the plus 20 range and position the volume control on the auditorium amplifier at twelve o'clock.

Run both projectors and alternate the sound between the two. The VTVM reading at this point should be +10 DB. The trimmer pots above the input terminal strips can be turned counter clockwise to drop the hotter reproducer as much as 3 DB if necessary. Normally, cell output should fall within $\pm$ 1/2 DB with both pots fully clockwise. If excessive imbalance is indicated, check all soundhead optical components, exciter lamp wiring and alignment procedures.

As shipped from the factory, the noise level relative to +10 DB out at the speaker "test" jack should read -45. Any significant variation

warrants a thorough check of installation procedures and grounding techniques.

The design of the AS-7200 audio system has been optimized for use in the playback of 35 mm optical sound tracks. As shipped from the factory, its frequency response is essentially flat. A warping network has been introduced into the input secion of the system so that the output to the speaker conforms to SMPTE standards. If the final accoustical result in the auditorium is too "bright", the high frequencies may be attenuated at the speaker crossover network, or by the addition of a capacitor across terminals #2 and 3 of the input TB. Start with a .02 MFD. capacitor and try different values up to .1 MFD. If this does not provide sufficient roll-off, remove this capacitor and try it across terminals #1 and 3. Starting with a .02 MFD., try different values up to .1 MFD. Please note that this provides extreme roll-off and should be used only in extremely "bright" situations.

A jack has been provided on the left side of the enclosure for use with a remote monitor speaker. Use a good quality unit of not less than 8 ohms impedance, properly installed with all wiring above ground and free from short circuits. This is the only point at which an external unit may be connected to the system. No components or auxiliary devices other than the main stage speaker should ever be connected across the output terminals.

OPERATION

Under average conditions, the volume control setting on the amplifier serving the auditorium should be at 12 o'clock. If a setting of greater than 2 o'clock is required for normal operation, defective soundhead components, a wiring error, or a faulty loudspeaker are indicated. The monitor speaker system is designed to provide a constant check on the quality of the sound actually going out to the auditorium. The setting of the volume control on the monitor should be used for reference purposes only. The non-sync level control should be set with average program material under those conditions under which it will be used. This is a question of individual taste and requirements. Select a non-sync source that provides muting of its output signal when the device is not in operation.

Both amplifiers are identical. If the amplifier serving the auditorium should ever fail, it may be replaced with the monitor amplifier. If the D.C. section of the exciter supply should fail, simply flip the switch on the front of the unit to "emergency". Fuse sizes and specifications have been carefully chosen to prevent damage to the devices while providing comfortable operating margins. If the replacement of a fuse is ever necessary, use only those exact replacements as follows:

Amplifier: Buss 3 Ag 1/2 amp SloBlo
Exciter Supply: Buss 3 Ag 2 amp SloBlo

MAINTENANCE

All system components have been carefully selected and incorporated into their respective modules. The silicon transistors used in both the exciter supply and amplifiers operate well below their critical levels with normal convection cooling.

The exciter supply will automatically limit its output if it is short-circuited. Prolonged operation of the supply without a load, however, is to be avoided.

The amplifiers have a unique power supply design that permits dead shorting of the output at sustained high power without damage. Recovery is instantaneous without oscillation or instability.

All components of the exciter supply adapt easily to replacement in the field. Drawing #085, together with its associated parts list, will serve as a guide for the service technician in this area.

The amplifiers, while not critical in design, will perform at their best if major repairs are made at the factory. Schematic drawing #083 covers all phases of amplifier circuitry, board layout and component identification.

Experience has consistently shown that solid state components, when properly applied, rarely exhibit signs of deterioration. The optical and mechanical components of sound heads are, however, subject to continuous contamination and wear. The continued high level of system performance will be insured by a service program that will provide regular quality control and maintenance procedures on the optical reproducers and their associated hardware.

Kelmar Systems, Inc. recommends that the installation and set-up procedures on the system be carried out under the supervision of a professional theatre service organization.

ENGINEERING SPECIFICATIONS

Amplifier:

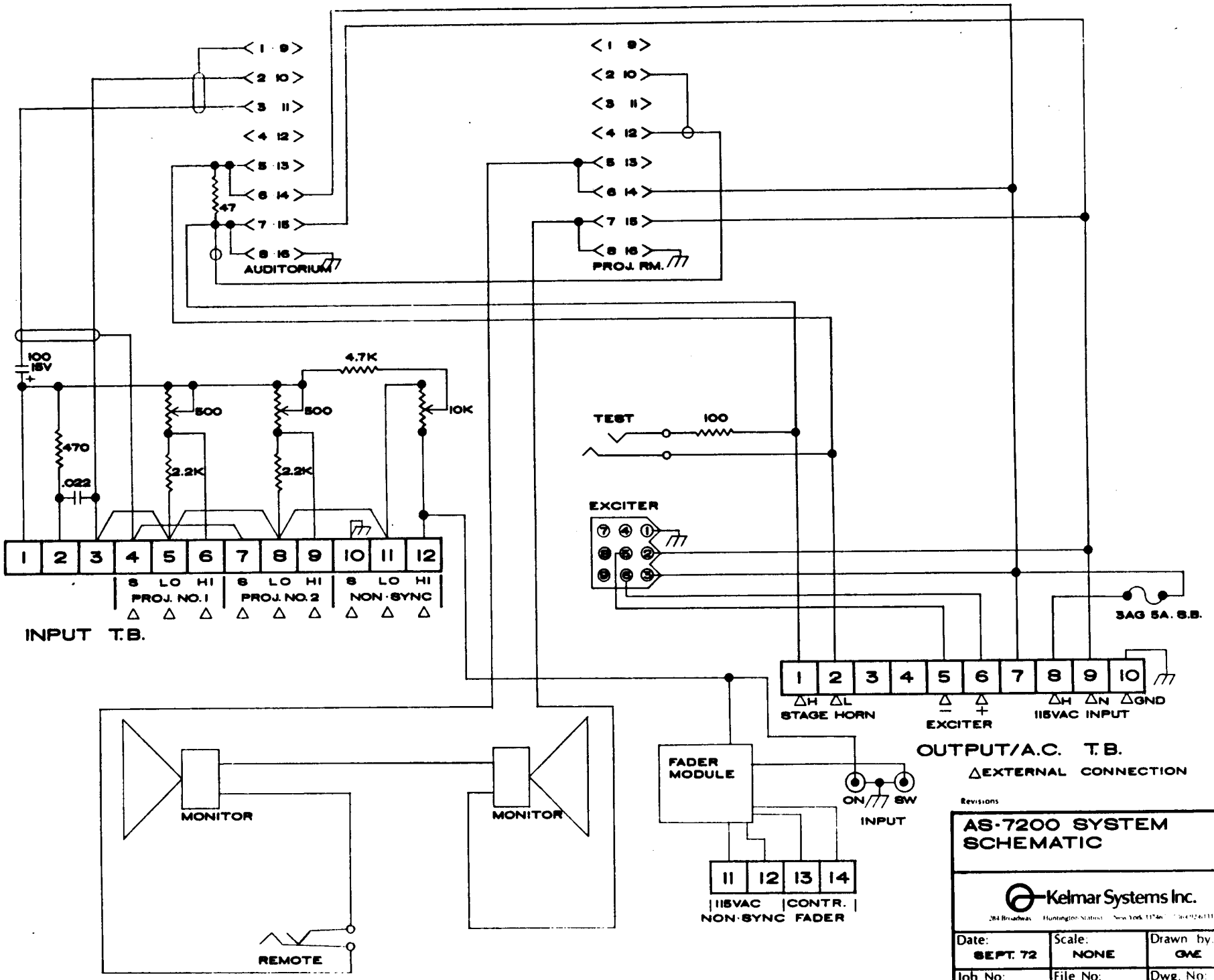
Power output 22 watts rms-continuous, 8 OHM load
Designed for solar cell input, with built-in pre-amp
Low impedance 60 D.B. overall gain
When used with non-sync facility, impedance is high Z, gain is 34 D.B.
Noise level -58 D.B.
Frequency response ±0.5 D.B. 30HZ to 30KHZ
Total harmonic distortion 0.15%
5 AMP output transistors for short and overload protection

Exciter Supply:

Input 115 VAC 1.2 AMPS 60HZ
Output 8-9 volts at 4-5 AMPS D.C.
Voltage adjustments made from front of case with screwdriver
Total ripple at full load, less than 15 MV
Automatic short circuit protection built in
All silicon components and computer grade capacitors
Full A.C. emergency built in

Cabinet Dimensions: 15 1/2" high
11" deep
10 5/8" wide

Weight: Total system 38 lbs.



NOTE USE 8 OHM SPKR. FOR REMOTE

Revisions

AS-7200 SYSTEM SCHEMATIC

Kelmar Systems Inc.

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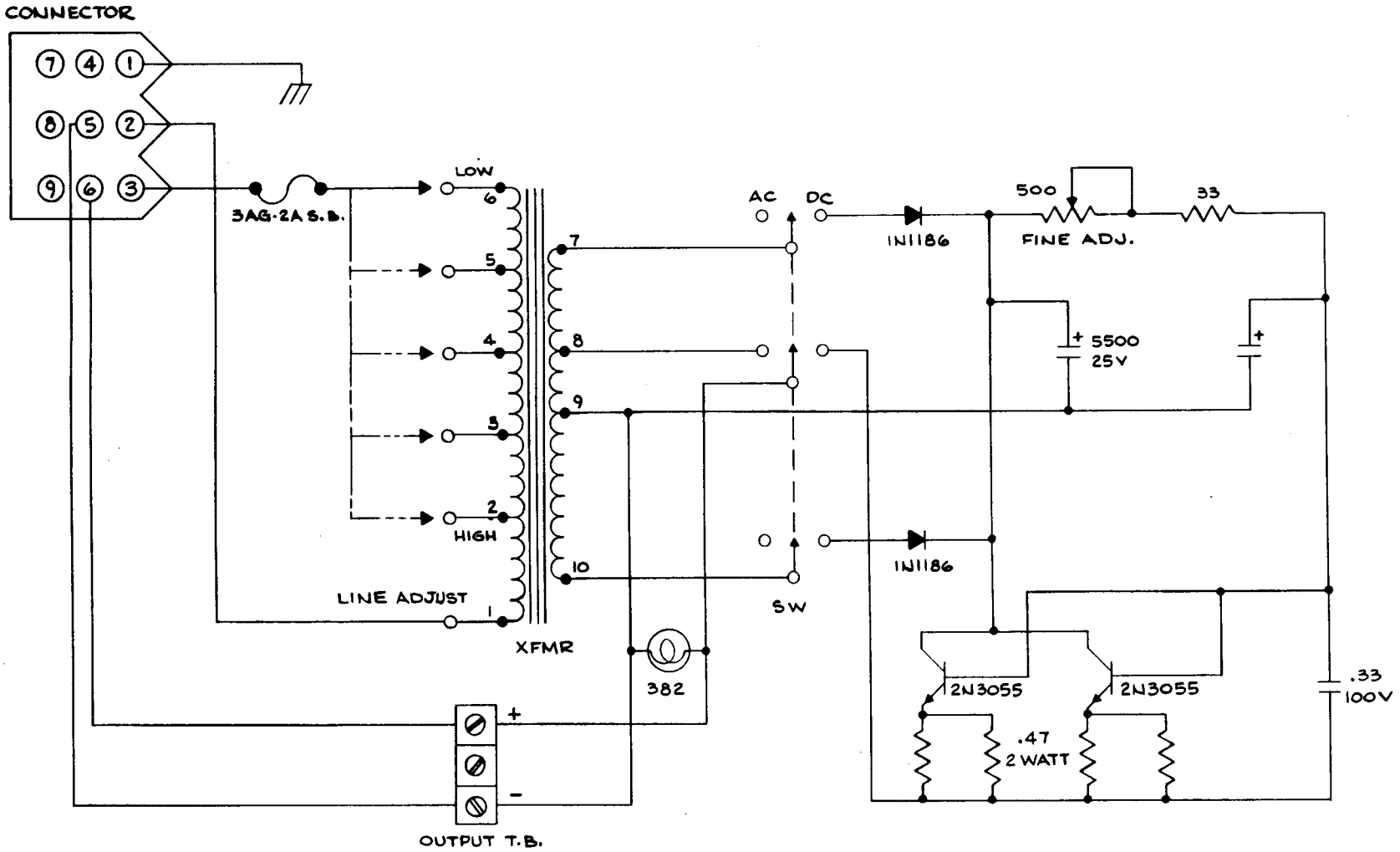

Revisions

7402-B EXCITER SUPPLY SCHEMATIC

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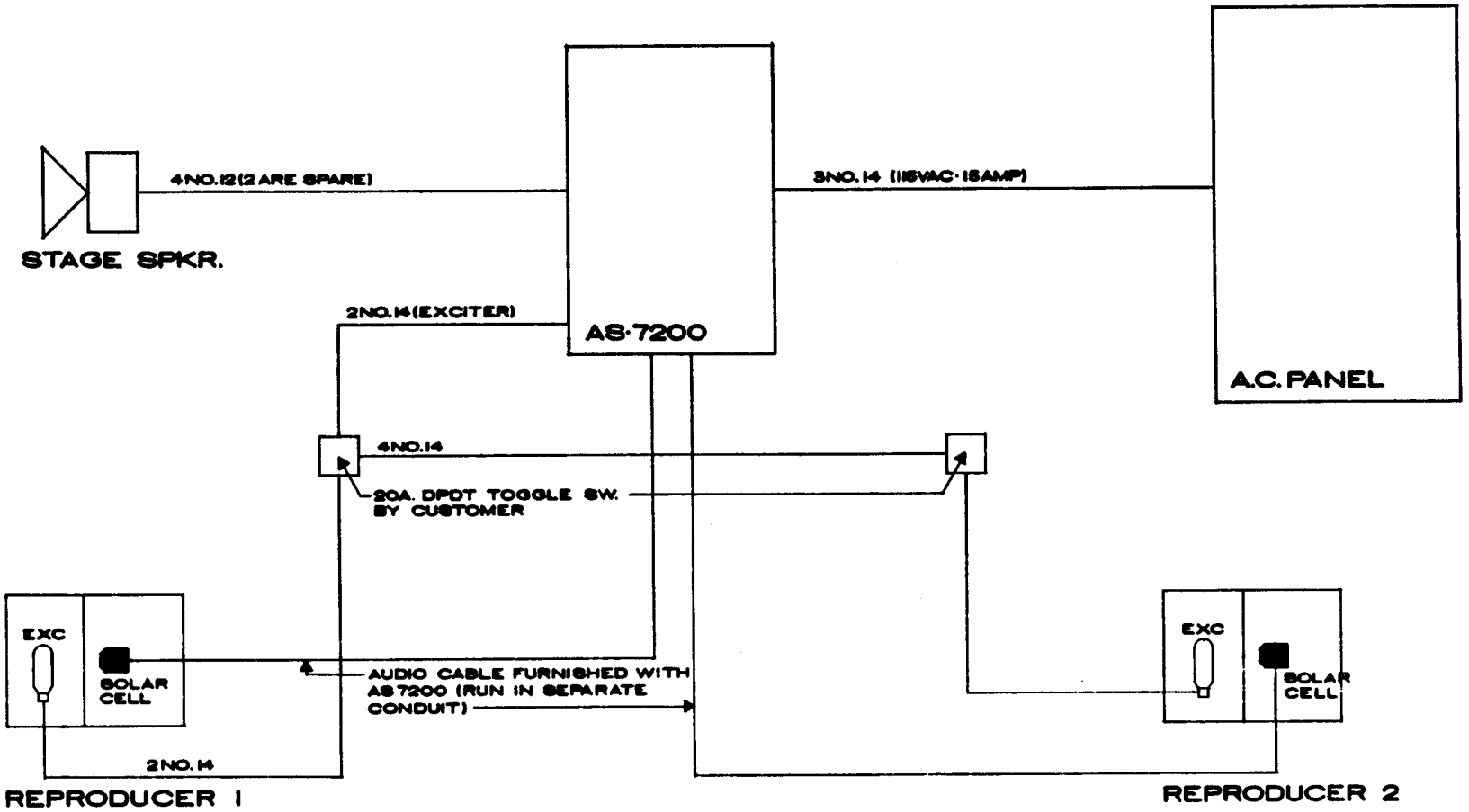

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Revisions

AS7200 RISER DIAGRAM MANUAL SWITCHING

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OCT. 72	NONE	GME
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