

INSTRUCTION MANUAL
QRK 5 AUDIO CONSOLE

SPECIFICATIONS

QRK 5

<u>Input</u>	Low level microphones	-50 dbm into 200 ohm load bal.
	High level	-10 dbm into 600 ohm load bal.
<u>Output</u>	Program Output	+4 dbm into 600 ohm load, bal.
	Audition Output	+4 dbm into 600 ohm load, unbal.
	Monitor Output	10 watts into 4 ohm load, unbal.
<u>Frequency Response</u>	Program:	± 1.5 db - 20 Hz to 20 KHz
	Monitor:	± 2 db - 40 Hz to 20 KHz
<u>Distortion</u>	Program:	0.5% or less at +4 dbm output No greater than 0.5% at +18 dbm output
	Monitor:	1% at 10 watts
<u>Noise</u>	Less than -65 db reference +4 dbm output	
<u>Power</u>	117 volts AC 60 Hz	
<u>Muting Relay</u>	Contact current not to exceed 1 amp at 24 volts	
<u>Size</u>	18" long x 12" deep x 7 7/8" high	
<u>Finish</u>	Cabinet: Blue armorhide	

TECHNICAL DESCRIPTION

The QRK 5 is a totally self-contained audio console capable of handling up to fourteen audio inputs and mixing any five into the single output stage. Mixers one through four will each accommodate two inputs, which are selected through a three position lever switch, the center position being off. The input to mixer five is also selected through a lever switch; however, in its B position it is connected to a rotary switch, which is used to select any one of five additional inputs. Also associated with this input is a three position lever switch, which will place this input either on the cueing buss, to the mixer five input, or in feed position will permit signal from the monitor amplifier to be fed down an incoming remote line. Each mixer will accept either the 1011 or the 1013 plug-in, solid state input device. As standard equipment a 1011 low level preamplifier is supplied in mixer one, and a 1013 balanced high level transformer card is furnished for each of the remaining four. Additional 1011 units are optional for use with any of the five mixers if more than one low level input is desired. No tools or soldering are required to replace or interchange these input devices.

The five mixer pots are Altec Lansing precision step attenuators. It is unlikely that these Altec attenuators will ever require cleaning. However, if they should, they may be easily cleaned without being disconnected from the audio console. Each of these mixers is switched to the cueing buss by a full counter-clockwise rotation.

A powerful ten watt, plug-in, solid state monitor amplifier is provided with the QRK 5 audio console. This amplifier serves

a dual purpose in that the cueing buss is mixed through a balance control into its input along with the monitor gain control. The output of this amplifier is fed to an internally mounted monitor/cue speaker, with terminals provided for the connection of an external speaker, if so desired.

Program material in the QRK 5 is fed through the master gain control to the 1010 plug-in, solid state amplifier. The output of this amplifier is then connected through a repeat coil to a three position lever switch, which will permit the output signal to be switched to one of three separate lines. An illuminated VU meter is provided for the output of this console.

A heavy duty power supply is internally mounted. The major regulator components for this power supply are mounted on a plug-in printed circuit card. A four pole double-throw muting relay is also internally mounted and wired to function with the mixer one input select switch. This relay is prewired to mute the monitor amplifier and terminals are provided for its use in other studio functions, such as on-the-air lights.

All input and output connections to the console are made through barrier-type terminal strips and are accessible through the front of the console. There are no connections on the outside of the cabinet to mar its appearance in the studio.

INSTALLATION OF PLUG-IN MODULES

To prevent damage, the plug-in modules are packaged separately for shipping. They are installed as follows:

(1) Lower the front panel and locate the card connector sockets from left to right on the internal mounting plate.

(2) The first five plugs running from left to right are keyed to accept an input device, either the 1011 preamplifier or the 1013 high level transformers. The normal arrangement is for the 1011 to be plugged into the number one socket, and the four 1013 transformers into the next four sockets.

(3) The sixth socket is keyed for the program line amplifier, model 1010. Install this amplifier in its socket.

(4) In the seventh socket, install the 1012 monitor amplifier. The socket is keyed so that the amplifier can only be inserted in its proper direction.

(5) The eighth socket is not keyed. The 1020 regulator card should be installed in this socket with the component side of the card facing the left side of the console, or in the same direction as the other modules in the console.

UNPACKING & INSTALLATION

Unpacking. Your QRK console has been packaged with great care in a specially designed container to prevent any damage during shipment. The console is wrapped in a plastic bag, and the entire unit suspended from the outer packing. Immediately upon unpacking the console should be inspected carefully for any signs of physical damage which might have occurred during shipment. Report any damage immediately to the shipping line and file any necessary forms.

Installation. A thorough understanding of the console's operation is necessary to perform the proper installation. It is therefore suggested that the entire instruction manual and enclosed drawings be studied before beginning installation. A complete set of schematic drawings are included in the rear pocket of this book. They should be examined and understood before installation.

The plug-in modules (1010, 1011, 1012, 1013, and 1020) have been packaged separately for shipping. The installation of these units is explained under "Installation of Plug-in Modules" found elsewhere in this manual.

The front panel of the console is hinged and will open forward upon removal of the two small fastening screws located on each of the upper side corners. Taped to the inside bottom of the console is the power line cord. An A.C. receptacle is on the right side of the interior mounting plate, and the line cord

should be plugged into it and routed through the nearest access hole in the bottom of the console. Also located on the interior mounting plate is the fuse holder and an on-off switch. A three amp 3ag fuse is used in this holder. It is recommended that the power switch be left in its on position, and the console be wired with other control room equipment to a single convenience switch.

All input, output, and relay connections are made to the Cinch Jones barrier terminal strips located on the internal mounting plate and behind the rear panel (relay connections). The wiring may be routed through either of the two access holes located in the bottom of the console. It is strongly recommended that no low level wiring be routed through the same hole as the line cord, as an AC hum pickup may result. The connections for barrier strips TS-1 through TS-5 are outlined in the following section of this instruction manual.

Relay. The four pole double-throw relay mounted in the rear of the console is factory wired to operate with the Channel One input select switch in either its A or B position. It is also prewired to mute the monitor/cueing speaker. The remaining contacts of the relay may be used for other studio functions such as control of an on-the-air light. The connections to these contacts should be made through barrier strip TS-5 located behind the internal mounting plate and reached by removing the rear plate of the console cabinet. This relay should not be used to directly control a light, but should be used to operate an externally mounted relay, which would in turn operate the light. This should be done to avoid running A.C. lines into the audio console. Only

low voltage D.C. control lines should be used in conjunction with this relay. The D.C. control voltage may be obtained from the console's power supply (see drawings enclosed).

Grounding. One of the most important considerations in installing your console is the proper grounding system. Many times faulty operation of equipment can be directly attributed to poor or faulty grounding practices. The ideal situation would be that all control room equipment, including the audio console, be strapped together with a braid or copper ground strap. A strap such as this might be connected to the bottom of the console with several machine screws. Care should be taken at all times to avoid creating ground loops.

CONTROLS AND THEIR FUNCTIONS

Input Selector Switches. Located in the upper left-hand corner of the control panel are the five input selector switches. They are three position lever switches with the upper position selecting one input (A), the lower position selecting one input (B), and the center position being off. A switch is provided for each input Channels One through Five. Channel One input is equipped with a low level microphone preamplifier and should be used for the announcer's microphone. Channels Two through Five have balanced, high level transformers for use with turntables, tape recorders, etc.

Master Gain Control. Located next to the group of input selector switches on the upper panel is the master gain control. It may be set for the most comfortable operating position of the input mixer controls.

Channel Five B Controls. These controls are affected when the Channel Five input selector switch is in its B position. A five position rotary switch is used to select one of five high level inputs, such as remote lines, and route them to the Channel Five mixer. Also associated with this switch is a three position lever switch marked cue, feed, and mix. In the cue position, the incoming signal will be heard through the cueing speaker; in the mix position, the incoming signal will be fed to mixer Five; and in the feed position, signal from the monitor amplifier will be fed down the incoming remote line.

Mixers One Through Five. These controls are located on the

lower panel from left to right and control the input level of the signal selected through the input select switches. Each of the mixers has a cue position at its full counterclockwise rotation.

Phones. A headphone jack and headphone gain control is placed in the lower left-hand corner of the console's front panel.

Monitor Gain Control: The monitor gain control is located in the lower right-hand corner of the front panel. This determines the level of the monitor/cue speaker and any external speakers that may be connected. Its rotation, however, does not affect the level of the cue signal heard through the monitor/cue amplifier.

Cue Level Control. The cue level control will be found on the internal mounting plate near the upper right-hand corner and is labeled cue. Its rotation will determine the level of the cue signal that will be heard through the monitor/cue amplifier. This control acts as a balance control with the monitor gain control, determining the input to the 1012 monitor/cue amplifier.

P A Level. A PA level control located on the internal mounting plate next to the cue level determines the level of the PA output. This output should be used when connecting the console to a public address system, and a separate output control is required other than the master gain control.

BARRIER TERMINAL STRIP CONNECTIONS

Terminal Strip TS-1

- make*
- 1 Input Channel 1 A \pm
 - 2 Input Channel 1 A Common
 - 3 Shield
 - 4 Input Channel 1 B \pm
 - 5 Input Channel 1 B Common
 - 6 Shield
 - 7 Input Channel 2 A \pm
 - 8 Input Channel 2 A Common
 - 9 Shield
 - 10 Input Channel 2 B \pm
 - 11 Input Channel 2 B Common
 - 12 Shield
 - 13 Input Channel 3 A \pm
 - 14 Input Channel 3 A Common
 - 15 Shield
 - 16 Input Channel 3 B \pm
 - 17 Input Channel 3 B Common
 - 18 Shield
 - 19 Input Channel 4 A \pm
 - 20 Input Channel 4 A Common
 - 21 Shield

make

Terminal Strip TS-2

- 1 Output Line 1 \pm
- 2 Output Line 1 Common
- 3 Shield
- 4 Output Line 2 \pm
- 5 Output Line 2 Common
- 6 Shield
- 7 Output Line 3 \pm
- 8 Output Line 3 Common
- 9 Shield

Terminal Strip TS-3

- 1 Input Channel 4 B \pm
- 2 Input Channel 4 B Common
- 3 Shield
- 4 Input Channel 5 A \pm
- 5 Input Channel 5 A Common
- 6 Shield
- 7 Input Channel 5 B-1 \pm
- 8 Input Channel 5 B-1 Common
- 9 Shield
- 10 Input Channel 5 B-2 \pm
- 11 Input Channel 5 B-2 Common
- 12 Shield
- 13 Input Channel 5 B-3 \pm
- 14 Input Channel 5 B-3 Common
- 15 Shield
- 16 Input Channel 5 B-4 \pm

Terminal Strip TS-3 (cont.)

- 17 Input Channel 5 B-4 Common
- 18 Shield
- 19 Input Channel 5 B-5 †
- 20 Input Channel 5 B-5 Common
- 21 Shield

Terminal Strip TS-4

- 1 PA Output †
- 2 PA Output Ground
- 3 External Speaker †
- 4 External Speaker Common

DESCRIPTION OF PLUG-IN UNITS

1010 Line Amplifier. The 1010 line amplifier is a plug-in unit with an output level capacity of +18 dbm with very low distortion (less than one-half of one percent). The plug-in card is used in the program output of the console and has a gain of 40 db and equivalent noise input of -113 dbm. Frequency response is ± 1.5 db 10 Hz to 20 KHz.

1011 Preamplifier. The 1011 preamplifier has an output capacity of +15 dbm with extremely low distortion (less than one-fourth of one percent). The unit has a 200 ohm balanced input and a gain of 50 db. The equivalent noise input is -129 dbm. Frequency response is ± 0.5 db 10 Hz to 30 KHz. B.S.

1012 Power Amplifier. The 1012 power amplifier is a unique self-contained solid state ten watt rms amplifier. It is designed to operate into a load of 4 ohms. The amplifier may be driven to rated output with an applied input level of -20 dbm. Distortion content is 0.5% or less at rated output. Frequency response is ± 2 db 40 Hz to 20 KHz.

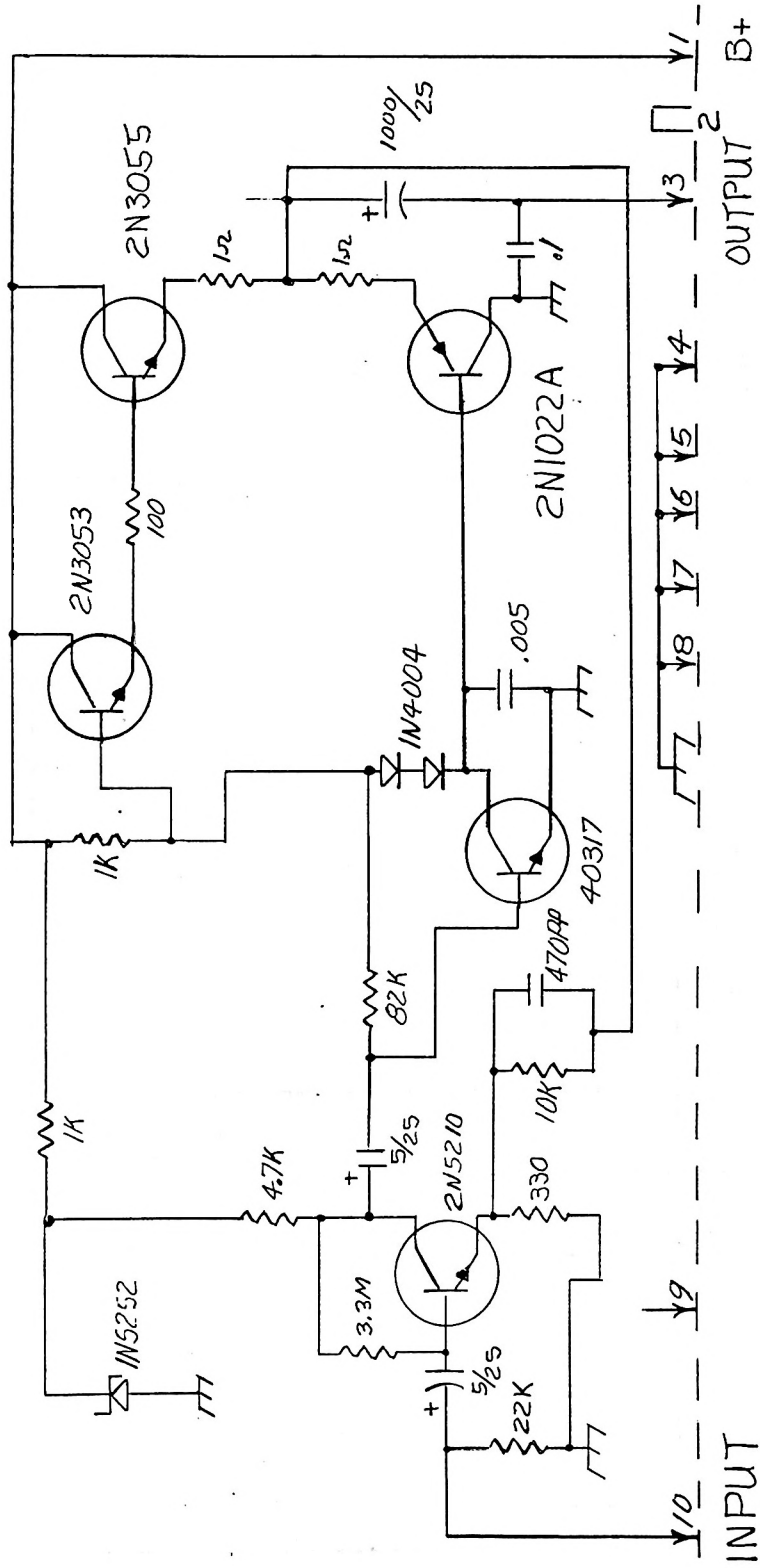
1013 Transformer Card. The 1013 transformer card is designed to provide a balanced, high level input with an impedance of 600 ohms.

1020 Regulator Card. The 1020 regulator card contains the regulating and circuit-protecting components used in the audio console. An integrated circuit is used to provide exceptional regulation and stability as well as short circuit protection. Although it is not recommended as a daily exercise, the supply, if accidentally shorted for short periods of time (less than one minute), will restore and continue to operate as soon as the short is removed.

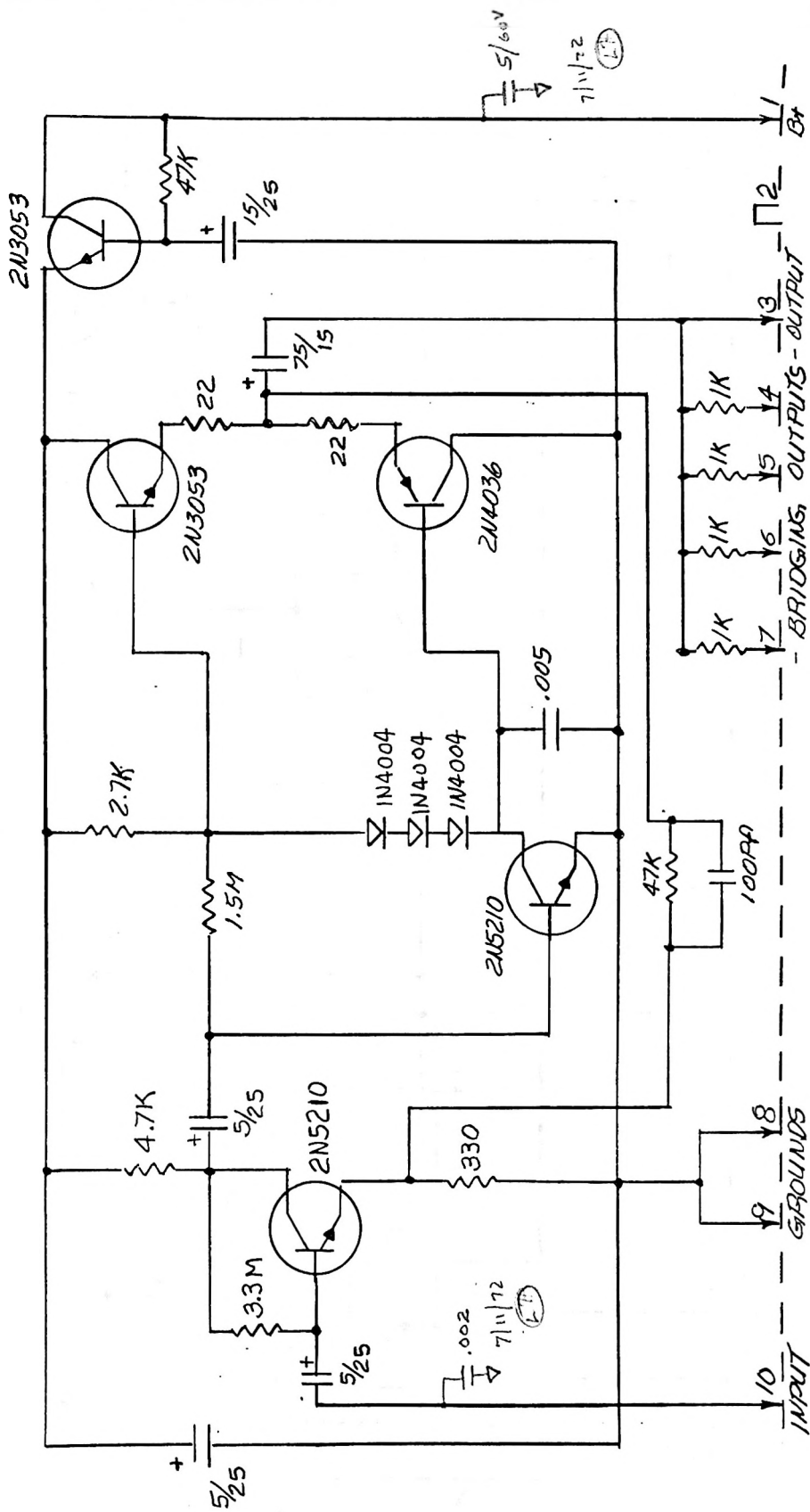
WARRANTY

The manufacturer warrants to the purchaser of the QRK audio console that any part thereof which proves to be defective within six months from the date of shipment will be repaired or replaced free of charge. All returns must be sent to the factory prepaid and must be specifically authorized by the factory prior to shipment.

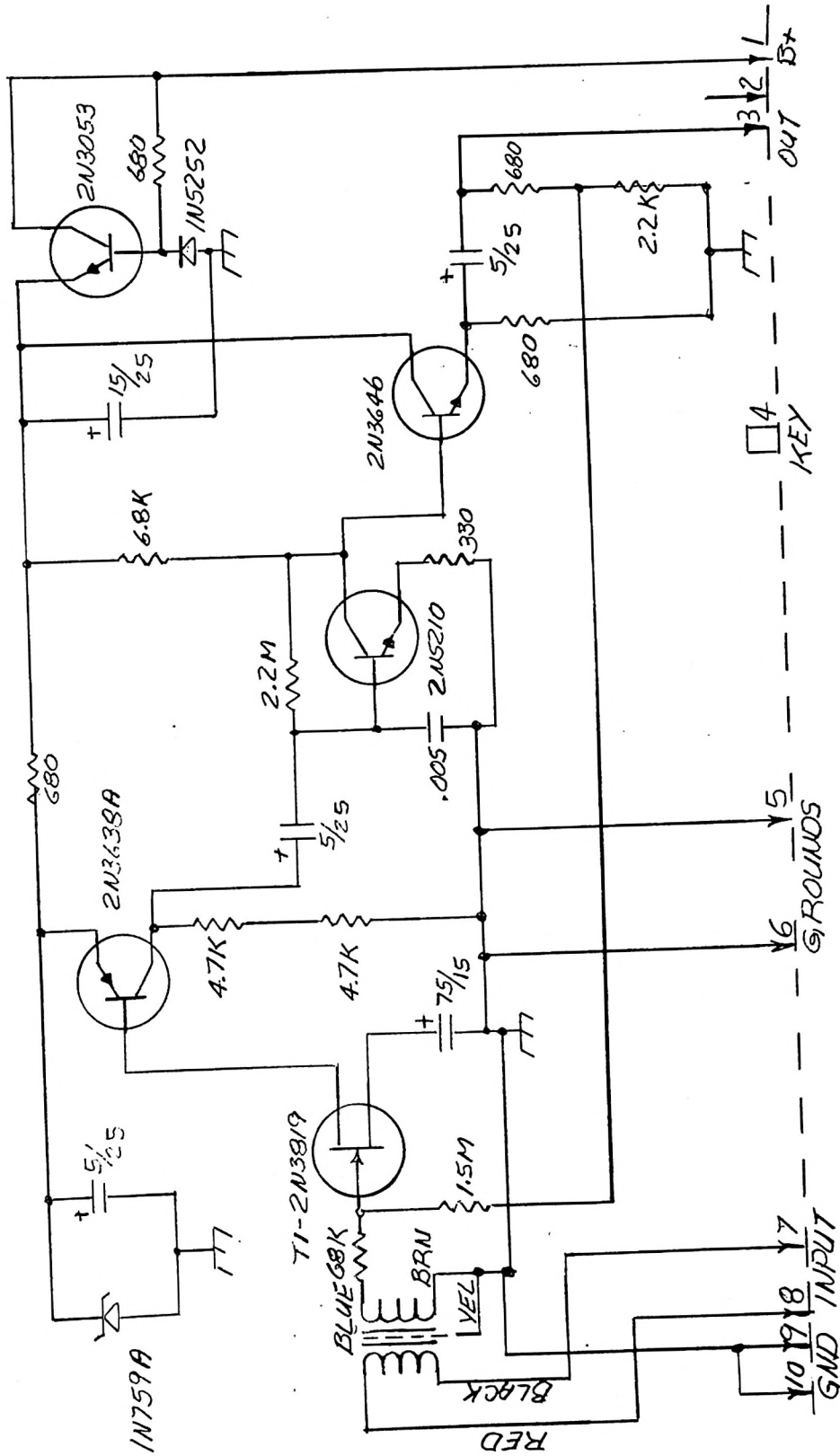
This warranty is expressly in lieu of all other warranties express or implied and does not apply to damage resulting from shipment, misuse, unauthorized modifications, or any other cause or condition other than normal useage.



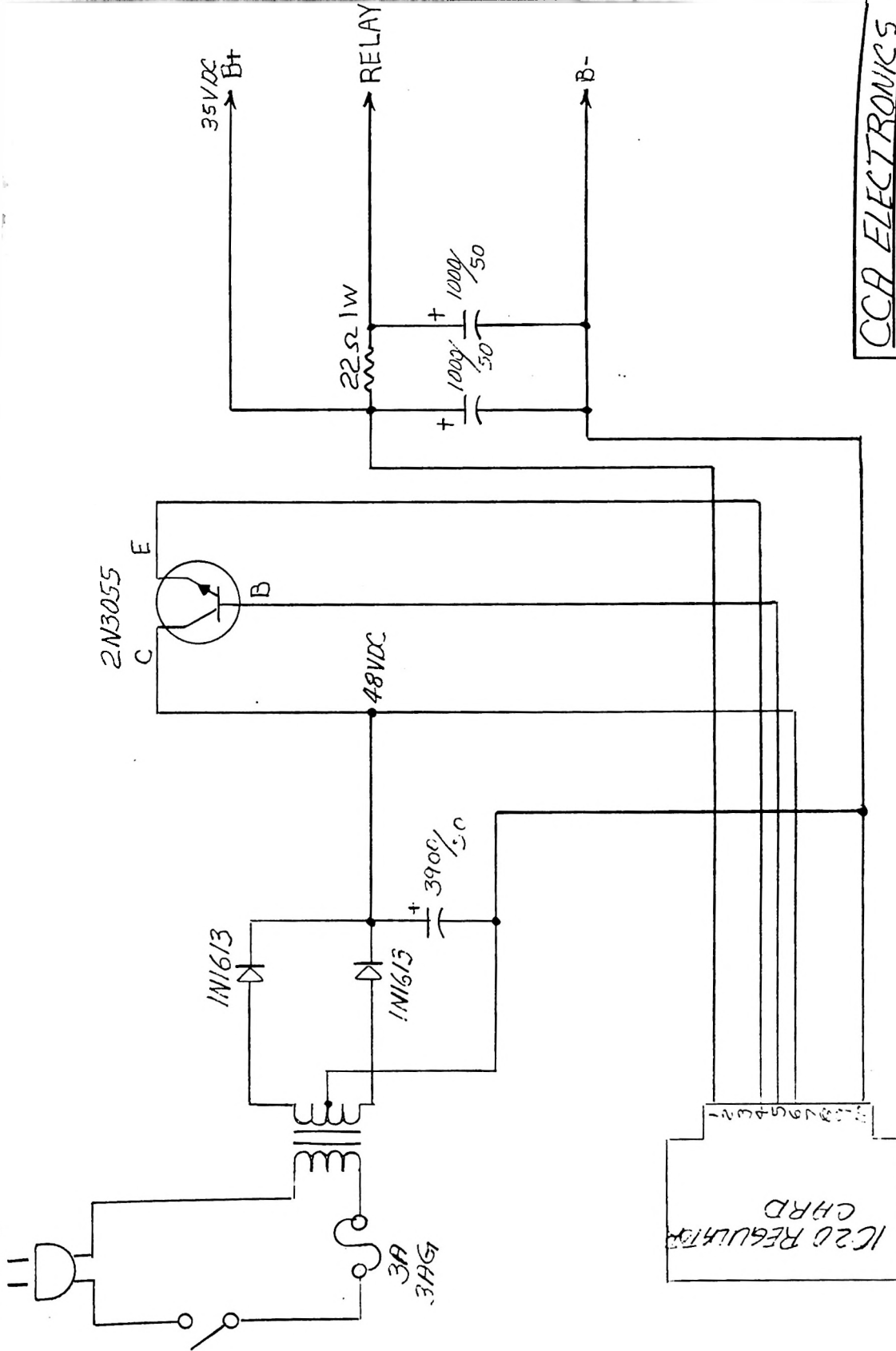
CCA ELECTRONICS INC
 NYPH 5/20/70
 1012 MONITOR AMP



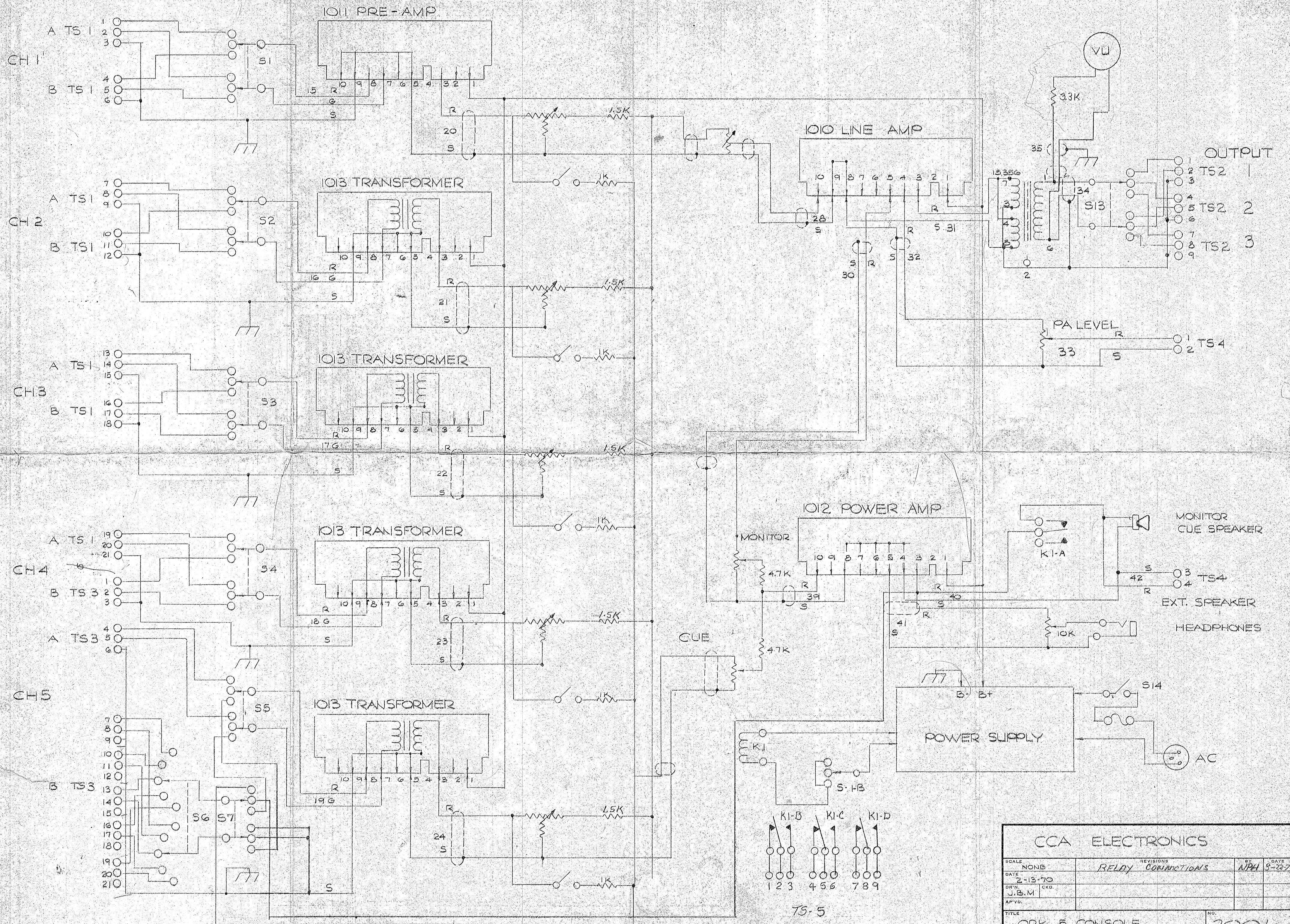
CCA ELECTRONICS
 N774 5-20-70
 1010 LINE-AMP



CCA ELECTRONICS INC.
N.P.H. 5-20-70
1011 PRE-AMP



CCA ELECTRONICS
 APR 5-20-70
 POWER SUPPLY



CCA ELECTRONICS			
SCALE	REVISIONS	BY	DATE
NONE	RELAY CONNECTIONS	NPH	8-22-70
DATE			
2-13-70			
DR'N	CKD		
J.B.M			
AP'VD			
TITLE	NO.		
QRK 5 CONSOLE	2001		