

# Film-Tech

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MICRO-15X  
AUTOMATION  
MANUAL

MAY 1991

*DIV. OF NEUMADE PRODUCTS CORP. Ten Saddle Rd, Cedar Knolls, NJ 07927 U.S.A. Telephone (201) 267-8200*

THE FOLLOWING MANUAL OUTLINING THE OPERATION OF THE MICRO15X AUTOMATION SHOULD CONTAIN THREE SECTIONS:

1. GENERAL INSTALLATION & OPERATING INSTRUCTIONS
2. TECHNICAL DRAWINGS
3. CUE DETECTOR INSTRUCTIONS & PARTS LIST

SHOULD YOU HAVE ANY QUESTIONS, PLEASE DO NOT HESITATE TO CONTACT US AT 201-267-8200

WARRANTY INFORMATION

THIS PRODUCT IS COVERED BY A ONE YEAR WARRANTY. THE WARRANTY IS RESTRICTED TO PARTS ONLY AND LEFT TO THE DETERMINATION OF NEUMADE PRODUCTS IF THE PRODUCT FAILED DUE TO A DEFECTIVE PART OR ANOTHER TYPE OF DAMAGE.



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OPERATION INSTRUCTIONS MICRO 15X

INSTALLATION

1. TERMINATE WIRES TO THE PROPER TERMINAL STRIP ACCORDING TO THE DESIGNATION SHEETS PROVIDED.
2. DO NOT APPLY POWER UNTIL YOU HAVE OPERATED THE MANUAL (BYPASS) SWITCHES TO BE SURE THAT ALL FUNCTIONS OCCUR WITH THEIR DESIGNATED OUTPUTS. IF NOT, CORRECT AS NECESSARY.
3. CHECK AC INPUT. IF PROPER, APPLY POWER. THE UNIT WILL GO THROUGH A BRIEF DIAGNOSTIC PERIOD, DURING WHICH ALL THE INDICATORS WILL TURN ON, THE BEEPER WILL BEEP SEVERAL TIMES AND THE AUTOMATION VERSION NUMBER WILL FLASH ON THE SEVEN SEGMENT DISPLAY. AFTER THE THREE SHORT RAPID BEEPS THE UNIT IS READY FOR OPERATION.

LISTED BELOW IS A BRIEF DESCRIPTION OF THE FRONT PANEL CONTROLS.

**SEVEN SEGMENT DISPLAY:** THE DISPLAY IS USED TO INDICATE SEVERAL ITEMS.

1. WHEN THE AUTOMATION IS INITIALLY POWERED UP THE DISPLAY INDICATES THE "ROM" OR "PROGRAM CHIP" VERSION NUMBER.
2. BEFORE THE SHOW STARTS, THE DISPLAY INDICATES THE CURRENT PROGRAM THAT HAS BEEN SELECTED.
3. WHEN THE UNIT IS STILL IN THE "BEFORE SHOW IDLE MODE", PRESSING THE "CUE MEMORY" BUTTON WILL ALLOW THE OPERATOR TO CHECK THE STATUS OF THE LEARNED CUES. THE STATUS CAN BE EITHER "DISABLED" OR "ENABLED". IF THE LEARNED CUES ARE ENABLED AN "E" WILL APPEAR IN THE DISPLAY WHEN THE CUE MEMORY BUTTON IS PRESSED. THE CUE MEMORY CAN ONLY BE ENABLED IF THERE ARE LEARNED CUE TIMES AVAILABLE. IF THE CUE MEMORY IS ENABLED, BOTH THE MANUAL CUE AND THE INPUT FROM THE CUE DETECTOR ARE DISABLED. IF THERE ARE NO LEARNED CUES AVAILABLE OR THE CUE MEMORY IS DISABLED A "d" WILL APPEAR IN THE SEVEN SEGMENT DISPLAY, AND THE MANUAL CUE BUTTON AND THE CUE DETECTOR INPUTS ARE ENABLED.



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**FRONT PANEL DESCRIPTION CONTINUED**

4. AFTER THE SHOW STARTS, THE DISPLAY INDICATES WHICH CUE HAS LAST OCCURRED. THIS ALLOWS THE OPERATOR TO PINPOINT THE CURRENT STATUS OF THE PROGRAM. THE LED'S ON EITHER SIDE OF THE DISPLAY INDICATE WHICH INFORMATION IS BEING DISPLAYED, IN CONJUNCTION WITH THE BUTTON LOCATED BELOW THE LED. IF A PARTICULAR LED IS FLASHING, THE AUTOMATION IS WAITING FOR THAT FUNCTION TO OCCUR.

**PROGRAM SELECT:** THIS BUTTON IS ACTIVE AFTER THE DIAGNOSTICS AND BEFORE THE SHOW START. ITS PURPOSE IS TO ALLOW THE OPERATOR TO SELECT WHICH PROGRAM (SHOW) WILL BE RUN WHEN START IS INVOKED. THIS BUTTON IS USED IN CONJUNCTION WITH THE STOP PUSHBUTTON. TO SELECT A NEW PROGRAM, PRESS AND HOLD THE STOP PUSHBUTTON AND PUSH THE PROGRAM SELECT PUSHBUTTON UNTIL THE DESIRED PROGRAM IS SELECTED. THE SELECTED PROGRAM WILL BE DISPLAYED ON THE SEVEN SEGMENT DISPLAY. WHEN THIS BUTTON IS ACTIVE, THE LED ABOVE IT IS ILLUMINATED.

**MANUAL CUE:** THE MANUAL CUE IS JUST AS ITS NAME IMPLIES, VIRTUALLY A PARALLEL OF THE CUE DETECTOR. IT MAY BE USED TO PROVIDE A MISSED CUE OR A CUE FOR THE CUE LEARN MODE.

**NOTE-** IF THE AUTOMATION IS RUNNING USING LEARNED CUE TIMES THIS BUTTON IS INACTIVE.

**CUE ADVANCE:** THIS BUTTON IS ACTIVE ONLY WHEN THE PROGRAM IS IN PROGRESS. ITS PURPOSE IS TO ALLOW ADVANCEMENT OF THE CUE SEQUENCE WITHOUT ANY OUTPUT TO THE FUNCTIONS. FOR EXAMPLE, IF A CUE WAS MISSED BUT THE SEQUENCE WAS TOO FAR ADVANCED TO PUSH THE MANUAL CUE, THIS BUTTON COULD BE PRESSED. THIS WOULD ADVANCE THE LOGIC IN THE AUTOMATION WITHOUT PROVIDING ANY OUTPUTS. THE AUTOMATION WOULD THEN AWAIT THE FOLLOWING CUE WHICH WOULD PROVIDE THE PROPER OUTPUTS FOR THAT POINT IN THE PROGRAM.

**NOTE-** THIS BUTTON SHOULD ONLY BE USED TO ADVANCE SINGLE CUE STEPS. IF IT IS PRESSED ENOUGH TIMES TO ADVANCE THROUGH THE ENTIRE SEQUENCE, THE AUTOMATION WILL SHUT DOWN WHEN THE LAST CUE IS REACHED (SHOWS END).



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FRONT PANEL DESCRIPTION CONTINUED

INTERMISSION LED: THIS INDICATES WHEN A PROGRAM CONTAINING AN INTERMISSION HAS BEEN SELECTED. IT IS ON STEADY BEFORE AND AFTER THE INTERMISSION, AND IT IS BLINKING WHEN THE AUTOMATION IS ACTUALLY PAUSED FOR AN INTERMISSION.

INTERLOCK LED: THIS INDICATES THAT A PROGRAM CONTAINING INTERLOCK MODE HAS BEEN SELECTED.

START BUTTON: THIS STARTS THE PROGRAMS OR RESUMES THE PROGRAMS FROM ANY SCHEDULED STOPS, INTERMISSIONS, OR UNSCHEDULED FILM BREAKS.

**NOTE-** IF THE FAILSAFE IS DOWN, AND THE START BUTTON IS PRESSED THE BEEPER WILL SOUND FOR AS LONG AS THE START BUTTON IS HELD. THE AUTOMATION WILL NOT START UNLESS THE PROJECTOR IS THREADED AND THE FAILSAFE IS UP.

CUE MEMORY: THIS BUTTON HAS TWO FUNCTIONS. WHEN THE AUTOMATION IS IN THE IDLE (STOP) MODE, PRESSING THIS BUTTON ALONE WILL DISPLAY THE STATUS OF THE LEARNED CUES. THE USE OF THE LEARNED CUES MAY BE TOGGLED BETWEEN ENABLED OR DISABLED MODE. TO CHANGE THE MODE, PRESS AND HOLD THE "CUE MEMORY" BUTTON THEN PRESS THE "PROGRAM SELECT" BUTTON. THE AUTOMATION WILL BEEP THREE TIMES AND THE SEVEN SEGMENT DISPLAY WILL CHANGE TO THE OPPOSITE MODE. PRESSING THE "PROGRAM SELECT" BUTTON AGAIN WILL RETURN THE UNIT TO THE PREVIOUS MODE. MODE DESIGNATION IS AS FOLLOWS:

"E" = ENABLED MODE.

"d" = DISABLED MODE.

THE "CUE MEMORY" BUTTON USED IN CONJUNCTION WITH THE START BUTTON WILL ACTIVATE THE CUE LEARN SEQUENCE. TO START THE LEARN SEQUENCE, PRESS AND HOLD THE CUE LEARN BUTTON WHILE PRESSING THE START PUSHBUTTON. THE AUTOMATION WILL REMEMBER ANY CUE ENCOUNTERED IN THE RUNNING SEQUENCE. WHEN THE PROGRAM ENDS VIA A SHOW END CUE AND THE FAIL-SAFE (DROPS), THE AUTOMATION WILL AUTOMATICALLY RETURN TO THE NORMAL RUN MODE AND (IF ENABLED) WILL USE THE LEARNED CUES ON ALL FUTURE RUNS. EACH SET OF LEARNED CUES OPERATE ONLY ON THE PROGRAM WITH WHICH THEY WERE LEARNED. IF A DIFFERENT PROGRAM WERE SELECTED A NEW SET OF CUES WOULD HAVE TO BE LEARNED FOR THAT PROGRAM.



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**NOTE-** A SET OF CUES MAY BE LEARNED FOR EACH SEQUENCE. THE LEARNING AND USING OF CUES IN ONE SEQUENCE WILL IN NO WAY AFFECT THE CUES LEARNED FOR ANOTHER SEQUENCE.

**NOTE-** THE LEARNING SEQUENCE MUST BE UNINTERRUPTED. ANY FILM BREAKS OR STOPS DURING A LEARNING SEQUENCE WILL ABORT THE LEARN MODE. THE SEQUENCE WILL HAVE TO BE RESTARTED ON THE NEXT SHOW.

**NOTE-** IN THE EVENT OF A FILM BREAK DURING THE USE OF LEARNED CUES, THE TIME OF THE INTERRUPTION IS STORED INTO MEMORY. WHEN THE FILM BREAK IS REPAIRED AND THE SHOW IS RESTARTED, THE ELAPSED TIME VALUE OF THE CUE COUNTER IS RESTORED AND THE COUNT PROCEEDS FROM THE POINT OF THE FILM BREAK.

**ALARM RESET:** IN THE EVENT OF A FILM BREAK, AN ALARM WILL SOUND. PRESSING THIS BUTTON RESETS OR STOPS THE ALARM.

**NOTE-** IF A FILM BREAK SHOULD OCCUR, THE SEVEN SEGMENT DISPLAY WILL DISPLAY A LOWER CASE "b" INDICATING "BREAK". WHEN THE BREAK IS REPAIRED AND THE FAILSAFE IS LIFTED, THE "b" WILL CHANGE TO A "P" INDICATING A PAUSE MODE. PRESSING THE START PUSHBUTTON WILL RESUME THE PROGRAM.

**STOP:** THIS BUTTON IS A MEANS IN WHICH THE PROGRAM CAN BE PAUSED OR TERMINATED MANUALLY AT ANY POINT. PRESSING THIS BUTTON ONCE, WILL STOP THE PROGRAM AND PUT THE AUTOMATION IN A "PAUSE" MODE. PRESSING THE STOP BUTTON AGAIN WHILE STILL IN THIS MODE, WILL ABORT THE PROGRAM AND RETURN THE UNIT BACK TO THE BEGINNING. ONCE AGAIN PRESSING THE START BUTTON WHILE IN THE "PAUSE" MODE WILL RESUME THE PROGRAM FROM THE POINT IT WAS PAUSED.

**MANUAL (BYPASS) SWITCHES:** THESE SWITCHES ARE PROVIDED IN PARALLEL WITH THE RELAY CONTACTS. THEY CAN BE USED TO OPERATE THE AUDITORIUM AND PROJECTOR FUNCTIONS, IN THE EVENT OF A FAILURE OF THE AUTOMATION.

**FEATURE PRESETS:** ON EVERY PROGRAM A PULSE IS PROVIDED (VIA A CUE) ON CERTAIN OUTPUTS JUST BEFORE THE FEATURE. THE PRESET SWITCHES ARE PROVIDED TO ALLOW THE OPERATOR TO PRESET THE SOUND AND MASKING FORMATS TO CORRESPOND WITH THAT OF THE FEATURE.



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**NOTE- (POWER UP REDRESS) ON POWER-UP THE AUTOMATION GOES THROUGH A BRIEF DIAGNOSTICS PERIOD AND THEN REDRESSES THE HOUSE TO A KNOWN STATE AS FOLLOWS:  
CURTAIN CLOSE, ALL LIGHTS BRIGHT, CHANGEOVER CLOSE, MASKING FLAT, AND NON-SYNC SOUND. THIS REDRESS OCCURS ON POWER-UP REGARDLESS OF WHICH PROGRAM IS SELECTED.**

**NOTE- WITH THE INCREASED USE OF "FRONT SURROUND" TYPE SOUND PROCESSORS AN "A" VERSION OF THE "PROGRAM CHIP" OR "ROM" HAS BEEN DEVELOPED. IN THE CONVENTIONAL "ROM" ALL OUTPUTS ARE PULSED WHEN NECESSARY, BUT IN THE "A" VERSION "ROM" THE NON-SYNC OUTPUT IS HELD ON WHENEVER THE MOTOR IS NOT RUNNING AS CALLED FOR BY SOME OF THESE TYPE SOUND PROCESSORS.**

**IMPORTANT**

**THE PROGRAM FORMATS PROVIDED IN THE STANDARD MICRO 15X ARE A SET THAT HAVE BEEN DEVELOPED USING PAST EXPERIENCE WITH CUSTOMERS SOUND AND HOUSE FORMAT SPECIFICATIONS. IF THESE FORMATS DO NOT EXACTLY FIT YOUR NEEDS, PROVIDE FORMAT SPECIFICATIONS AT THE TIME OF THE ORDER AND THE PROGRAMS CAN BE TAILORED TO YOUR INSTALLATION. CALL XETRON FOR DETAILS.**



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**PROGRAM FORMAT DESCRIPTION**

**PROGRAM 1- BASIC SHOW**

CONSISTS OF 3 CUES AND 4 SECTIONS

- SECTION 1- SHOW START (START PUSHBUTTON)
- SECTION 2- SOUND CHANGE (CUE 1)
- SECTION 3- CREDITS (CUE 2)
- SECTION 4- SHOW END (CUE 3)

**(SHOW START)**

WHEN THE START PUSHBUTTON IS PRESSED THE PROJECTOR STARTS, THE XENON TURNS ON, THE CURTAIN OPENS, THE SCREEN LIGHTS SWITCH TO DIM, THE HOUSE LIGHTS SWITCH TO HALF LIGHT, THE AISLE LIGHTS SWITCH TO HALF LIGHT, AND IN SEVEN SECONDS FROM THE START THE CHANGE OVER DOWSER OPENS, THE EXCITER LAMP TURNS ON AND THE SOUND SWITCHES TO OPTICAL MONO. SEVEN SEGMENT DISPLAY WILL SHOW "0".

**(SOUND CHANGE)**

WHEN CUE 1 OCCURS THE HOUSE LIGHTS SWITCH TO DIM AND THE MASKING AND THE SOUND SWITCH TO THE FORMAT SELECTED BY THE FEATURE PRESET SWITCHES LOCATED ON THE FRONT PANEL. SEVEN SEGMENT DISPLAY WILL SHOW "1".

**(CREDITS)**

WHEN CUE 2 OCCURS THE HOUSE LIGHTS SWITCH TO HALF LIGHT AND THE AISLE LIGHTS SWITCH TO BRIGHT. SEVEN SEGMENT DISPLAY WILL SHOW "2".

**(SHOW END)**

WHEN CUE 3 OCCURS THE XENON TURNS OFF, THE EXCITER TURNS OFF, THE CHANGE OVER DOWSER CLOSES, THE CURTAIN CLOSES, THE SCREEN LIGHTS SWITCH TO BRIGHT, THE HOUSE LIGHTS SWITCH TO BRIGHT, THE MASKING SWITCHES TO FLAT AND THE SOUND SWITCHES TO NON-SYNC. THE SEVEN SEGMENT DISPLAY WILL SHOW "3" THEN "0". THE MOTOR CONTINUES TO RUN UNTIL THE FILM RUNS OUT OF THE PROJECTOR. WHEN THE FAILSAFE DROPS THE PROJECTOR SHUTS DOWN. AT THIS TIME, THE AUTOMATION RESETS AND THE LED INDICATES THE PROGRAM NUMBER.





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**PROGRAM 2- BASIC SHOW WITH CURTAIN CALL**

CONSISTS OF 4 CUES AND 5 SECTIONS

- SECTION 1- SHOW START (START PUSHBUTTON)
- SECTION 2- CURTAIN CALL BEGIN (CUE 1)
- SECTION 3- CURTAIN CALL END/SOUND CHANGE (CUE 2)
- SECTION 4- CREDITS (CUE 3)
- SECTION 5- SHOW END (CUE 4)

**(SHOW START)**

WHEN THE START PUSHBUTTON IS PRESSED THE PROJECTOR STARTS, THE XENON TURNS ON, THE CURTAIN OPENS, THE SCREEN LIGHTS SWITCH TO DIM, THE HOUSE LIGHTS SWITCH TO HALF LIGHT, THE AISLE LIGHTS SWITCH TO HALF LIGHT AND IN SEVEN SECONDS FROM THE START THE CHANGE OVER DOWSER OPENS, THE EXCITER LAMP TURNS ON AND THE SOUND SWITCHES TO OPTICAL MONO. THE SEVEN SEGMENT DISPLAY WILL SHOW "0".

**(CURTAIN CALL BEGIN)**

WHEN CUE 1 OCCURS THE CURTAIN CLOSES AND THE SCREEN LIGHTS SWITCH TO BRIGHT. THE SEVEN SEGMENT DISPLAY WILL SHOW "1".

**(CURTAIN CALL END/SOUND CHANGE)**

WHEN CUE 2 OCCURS THE CURTAIN REOPENS, THE SCREEN LIGHTS SWITCH TO DIM, THE HOUSE LIGHTS SWITCH TO DIM AND THE MASKING AND THE SOUND SWITCH TO THE FORMAT SELECTED BY THE FEATURE PRESET SWITCHES LOCATED ON THE FRONT PANEL. THE SEVEN SEGMENT DISPLAY WILL SHOW "3".

**(CREDITS)**

WHEN CUE 3 OCCURS THE HOUSE LIGHTS SWITCH TO HALF LIGHT AND THE AISLE LIGHTS SWITCH TO BRIGHT. THE SEVEN SEGMENT DISPLAY WILL SHOW "4".



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**(SHOW END)**

WHEN CUE 4 OCCURS THE XENON TURNS OFF, THE EXCITER TURNS OFF, THE CHANGE OVER DOWSER CLOSES, THE CURTAIN CLOSES, THE SCREEN LIGHTS SWITCH TO BRIGHT, THE HOUSE LIGHTS SWITCH TO BRIGHT, THE MASKING SWITCHES TO FLAT AND THE SOUND SWITCHES TO NON-SYNC. THE SEVEN SEGMENT DISPLAY WILL SHOW "4" THEN "o". THE MOTOR CONTINUES TO RUN UNTIL THE FILM RUNS OUT OF THE PROJECTOR. WHEN THE FAILSAFE DROPS THE PROJECTOR SHUTS DOWN.

**PROGRAM 3- BASIC SHOW WITH INTERMISSION**

CONSISTS OF 4 CUES AND 6 SECTIONS

- SECTION 1- SHOW START (START PUSHBUTTON)
- SECTION 2- SOUND CHANGE (CUE 1)
- SECTION 3- INTERMISSION SHUTDOWN (CUE 2)
- SECTION 4- END INTERMISSION (START PUSHBUTTON)
- SECTION 5- CREDITS (CUE 3)
- SECTION 6- SHOW END (CUE 4)

**(SHOW START)**

WHEN THE START PUSHBUTTON IS PRESSED THE PROJECTOR STARTS, THE XENON TURNS ON, THE CURTAIN OPENS, THE SCREEN LIGHTS SWITCH TO DIM, THE HOUSE LIGHTS SWITCH TO HALF LIGHT, THE AISLE LIGHTS SWITCH TO HALF LIGHT AND IN SEVEN SECONDS FROM THE START THE CHANGE OVER DOWSER OPENS, THE EXCITER LAMP TURNS ON AND THE SOUND SWITCHES TO OPTICAL MONO. THE SEVEN SEGMENT DISPLAY WILL SHOW "0".

**(SOUND CHANGE)**

WHEN CUE 1 OCCURS THE HOUSE LIGHTS SWITCH TO DIM AND THE MASKING AND THE SOUND SWITCH TO THE FORMAT SELECTED BY THE FEATURE PRESET SWITCHES LOCATED ON THE FRONT PANEL. THE SEVEN SEGMENT DISPLAY WILL SHOW "1".



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**(INTERMISSION SHUTDOWN)**

WHEN CUE 2 OCCURS THE PROJECTOR SHUTS DOWN, THE XENON SHUTS OFF, THE EXCITER SHUTS OFF, THE CURTAIN CLOSES, THE CHANGE OVER DOWSER CLOSES, THE HOUSE LIGHTS SWITCH TO BRIGHT, THE SCREEN LIGHTS SWITCH TO BRIGHT, THE AISLE LIGHTS SWITCH TO BRIGHT AND THE SOUND SWITCHES TO NON-SYNC. THE SEVEN SEGMENT DISPLAY WILL SHOW "2".

**(END INTERMISSION)**

WHEN THE FEATURE IS TO CONTINUE THE OPERATOR CAN PRESS THE START PUSHBUTTON OR THE UNIT CAN BE PULSED FROM THE REMOTE START INPUT FROM AN INTERMISSION TIMER OR REMOTE.

THE PROJECTOR STARTS, THE XENON TURNS ON, THE CURTAIN OPENS, THE HOUSE LIGHTS SWITCH TO DIM, THE SCREEN LIGHTS SWITCH TO DIM, THE AISLE LIGHTS SWITCH TO HALF LIGHT, AND IN SEVEN SECONDS FROM THE START THE CHANGE OVER DOWSER OPENS, THE EXCITER TURNS ON AND THE MASKING AND SOUND SWITCH TO THE FORMAT SELECTED BY THE FEATURE PRESET SWITCHES LOCATED ON THE FRONT PANEL. THE SEVEN SEGMENT DISPLAY WILL SHOW "2".

**(CREDITS)**

WHEN CUE 3 OCCURS THE HOUSE LIGHTS SWITCH TO HALF LIGHT AND THE AISLE LIGHTS SWITCH TO BRIGHT. THE SEVEN SEGMENT DISPLAY WILL SHOW "3".

**(SHOW END)**

WHEN CUE 4 OCCURS THE XENON TURNS OFF, THE EXCITER TURNS OFF, THE CHANGE OVER DOWSER CLOSES, THE CURTAIN CLOSES, THE SCREEN LIGHTS SWITCH TO BRIGHT, THE HOUSE LIGHTS SWITCH TO BRIGHT, THE MASKING SWITCHES TO FLAT AND THE SOUND SWITCHES TO NON-SYNC. THE SEVEN SEGMENT DISPLAY WILL SHOW "4" THEN "o". THE MOTOR CONTINUES TO RUN UNTIL THE FILM RUNS OUT OF THE PROJECTOR. WHEN THE FAILSAFE DROPS THE PROJECTOR SHUTS DOWN.



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**PROGRAM 4- SHOW WITH CURTAIN CALL AND INTERMISSION**

CONSISTS OF 5 CUES AND 7 SECTIONS

- SECTION 1- SHOW START (START PUSHBUTTON)
- SECTION 2- CURTAIN CALL BEGIN (CUE 1)
- SECTION 3- CURTAIN CALL END/SOUND CHANGE (CUE 2)
- SECTION 4- INTERMISSION SHUTDOWN (CUE 3)
- SECTION 5- END INTERMISSION (START PUSHBUTTON)
- SECTION 6- CREDITS (CUE 4)
- SECTION 7- SHOW END (CUE 5)

**(SHOW START)**

WHEN THE START PUSHBUTTON IS PRESSED THE PROJECTOR STARTS, THE XENON TURNS ON, THE CURTAIN OPENS, THE SCREEN LIGHTS SWITCH TO DIM, THE HOUSE LIGHTS SWITCH TO HALF LIGHT, THE AISLE LIGHTS SWITCH TO HALF LIGHT AND IN SEVEN SECONDS FROM THE START THE CHANGE OVER DOWSER OPENS, THE EXCITER LAMP TURNS ON AND THE SOUND SWITCHES TO OPTICAL MONO. THE SEVEN SEGMENT DISPLAY WILL SHOW "0".

**(CURTAIN CALL BEGIN)**

WHEN CUE 1 OCCURS THE CURTAIN CLOSES AND THE SCREEN LIGHTS SWITCH TO BRIGHT. THE SEVEN SEGMENT DISPLAY WILL SHOW "1".

**(CURTAIN CALL END/SOUND CHANGE)**

WHEN CUE 2 OCCURS THE CURTAIN REOPENS, THE SCREEN LIGHTS SWITCH TO DIM, THE HOUSE LIGHTS SWITCH TO DIM AND THE MASKING AND THE SOUND SWITCH TO THE FORMAT SELECTED BY THE FEATURE PRESET SWITCHES LOCATED ON THE FRONT PANEL. THE SEVEN SEGMENT DISPLAY WILL SHOW "2".

**(INTERMISSION SHUTDOWN)**

WHEN CUE 3 OCCURS THE PROJECTOR SHUTS DOWN, THE XENON SHUTS OFF, THE EXCITER SHUTS OFF, THE CURTAIN CLOSES, THE CHANGE OVER DOWSER CLOSES, THE HOUSE LIGHTS SWITCH TO BRIGHT, THE SCREEN LIGHTS SWITCH TO BRIGHT, THE AISLE LIGHTS SWITCH TO BRIGHT AND THE SOUND SWITCHES TO NON-SYNC. THE SEVEN SEGMENT DISPLAY WILL SHOW "3".



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**(END INTERMISSION)**

WHEN THE FEATURE IS TO CONTINUE, THE OPERATOR CAN PRESS THE START PUSHBUTTON OR THE UNIT CAN BE PULSED FROM THE REMOTE START INPUT FROM AN INTERMISSION TIMER OR REMOTE.

THE PROJECTOR STARTS, THE XENON TURNS ON, THE CURTAIN OPENS, THE HOUSE LIGHTS SWITCH TO DIM, THE SCREEN LIGHTS SWITCH TO DIM, THE AISLE LIGHTS SWITCH TO HALF LIGHT AND IN SEVEN SECONDS FROM THE START THE CHANGE OVER DOWSER OPENS, THE EXCITER TURNS ON AND THE MASKING AND SOUND SWITCH TO THE FORMAT SELECTED BY THE FEATURE PRESET SWITCHES LOCATED ON THE FRONT PANEL. THE SEVEN SEGMENT DISPLAY WILL SHOW "3".

**(CREDITS)**

WHEN CUE 4 OCCURS THE HOUSE LIGHTS SWITCH TO HALF LIGHT AND THE AISLE LIGHTS SWITCH TO BRIGHT. THE SEVEN SEGMENT DISPLAY WILL SHOW "4".

**(SHOW END)**

WHEN CUE 5 OCCURS THE XENON TURNS OFF, THE EXCITER TURNS OFF, THE CHANGE OVER DOWSER CLOSES, THE CURTAIN CLOSES, THE SCREEN LIGHTS SWITCH TO BRIGHT, THE HOUSE LIGHTS SWITCH TO BRIGHT, THE MASKING SWITCHES TO FLAT AND THE SOUND SWITCHES TO NON-SYNC. THE SEVEN SEGMENT DISPLAY WILL SHOW "5" THEN "0". THE MOTOR CONTINUES TO RUN UNTIL THE FILM RUNS OUT OF THE PROJECTOR. WHEN THE FAILSAFE DROPS THE PROJECTOR SHUTS DOWN.



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**DESCRIPTION OF INTERLOCK OPERATION**

1. SELECT CORRESPONDING INTERLOCK PROGRAMS ON ALL MACHINES TO BE INTERLOCKED.
2. PLACE AN CUE ON THE FILM JUST BEFORE THE FIRST PROJECTOR. INTER-THREAD ALL MACHINES INVOLVED. BE SURE ALL INVOLVED FAILSAFES ARE UP.
3. PRESS THE START PUSHBUTTONS ON ALL MACHINES SEQUENTIALLY. THE START INDICATORS ON EACH MACHINE WILL BEGIN TO BLINK BUT THE SYSTEM WILL NOT START UNTIL THE START BUTTON ON THE LAST MACHINE IS PRESSED.

WHEN THE START PUSHBUTTON ON THE **LAST** INTERLOCKED MACHINE IS PRESSED, ONLY THE MOTORS ON THE INTERLOCKED MACHINES WILL START. AS THE CUE PLACED BEFORE THE FIRST MACHINE PASSES THROUGH EACH CUE DETECTOR THE CORRESPONDING AUTOMATION STARTS IT'S SHOW SEQUENCE.

IN THE EVENT OF A FILM BREAK ON ANY ONE OF THE INTERLOCKED MACHINES, ALL OF THE MACHINES WILL SHUT DOWN. THE STOP INDICATOR WILL START TO BLINK AND THE ALARM WILL SOUND **ONLY** ON THE MACHINE AT WHICH THE BREAK OCCURRED. ALL OTHER MACHINES WILL BE FORCED INTO THE STANDBY MODE. WHEN THE BREAK IS REPAIRED, RE-THREAD THE MACHINES AND PRESS THE START BUTTON ON THE MACHINE THAT HAD THE BREAK. THIS WILL RESTART THE SYSTEM AND THE AUTOMATIONS WILL RETURN ALL THE HOUSES TO THEIR STATUS PRIOR TO THE FILM BREAK.

**PROGRAM 5- BASIC INTERLOCKED SHOW**

CONSISTS OF 4 CUES AND 5 SECTIONS

- SECTION 1- MOTOR START (START PUSHBUTTON)
- SECTION 2- SHOW START (CUE 1)
- SECTION 3- SOUND CHANGE (CUE 2)
- SECTION 4- CREDITS (CUE 3)
- SECTION 5- SHOW END (CUE 4)

**(MOTOR START)**

WHEN THE START PUSHBUTTON IS PRESSED ON THE **LAST** MACHINE IN THE INTERLOCKED SET, ONLY THE MOTORS ON ALL INVOLVED MACHINES START. THE SEVEN SEGMENT DISPLAY WILL SHOW "0".



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**(SHOW START)**

WHEN CUE 1 OCCURS **SEQUENTIALLY AT EACH MACHINE** THE XENON TURNS ON, THE CURTAIN OPENS, THE SCREEN LIGHTS SWITCH TO DIM, THE HOUSE LIGHTS SWITCH TO HALF LIGHT, THE AISLE LIGHTS SWITCH TO HALF LIGHT AND IN SEVEN SECONDS FROM THE START THE CHANGE OVER DOWSER OPENS, THE EXCITER LAMP TURNS ON AND THE SOUND SWITCHES TO OPTICAL MONO. THE SEVEN SEGMENT DISPLAY WILL SHOW "1".

**(SOUND CHANGE)**

WHEN CUE 2 OCCURS, THE HOUSE LIGHTS SWITCH TO DIM AND THE MASKING AND THE SOUND SWITCH TO THE FORMAT SELECTED BY THE FEATURE PRESET SWITCHES LOCATED ON THE FRONT PANEL. THE SEVEN SEGMENT DISPLAY WILL SHOW "2".

**(CREDITS)**

WHEN CUE 3 OCCURS THE HOUSE LIGHTS SWITCH TO HALF LIGHT AND THE AISLE LIGHTS SWITCH TO BRIGHT. THE SEVEN SEGMENT DISPLAY WILL SHOW "3".

**(SHOW END)**

WHEN CUE 4 OCCURS THE XENON TURNS OFF, THE EXCITER TURNS OFF, THE CHANGE OVER DOWSER CLOSES, THE CURTAIN CLOSES, THE SCREEN LIGHTS SWITCH TO BRIGHT, THE HOUSE LIGHTS SWITCH TO BRIGHT, THE MASKING SWITCHES TO FLAT AND THE SOUND SWITCHES TO NON-SYNC. ALSO AT THIS POINT THE INTERLOCK STATUS IS SUSPENDED. THE SEVEN SEGMENT DISPLAY WILL SHOW "4" THEN "o". THE MOTORS CONTINUE TO RUN UNTIL THE FILM RUNS OUT OF THE INDIVIDUAL PROJECTORS IN SUCCESSION. WHEN THE FAILSAFES DROP **ONLY** THE CORRESPONDING PROJECTOR SHUTS DOWN. THE DISPLAY WILL CHANGE TO A "-". THE AUTOMATION WILL STAY IN THIS MODE FOR ABOUT 1.25 MINUTES AT WHICH TIME IT WILL REVERT TO THE IDLE MODE IN PREPARATION FOR THE NEXT SHOW.

**NOTE -** THE TIME DELAY MODE IS PROVIDED TO ASSURE THAT ALL MACHINES THAT ARE INTERLOCKED HAVE TIME TO RECEIVE THE FINAL CUE SUSPENDING INTERLOCK IN THE EVENT THAT THE MACHINES ARE SITUATED A LONG DISTANCE FROM EACH OTHER.



MICRO-15X  
AUTOMATION  
MANUAL

MAY 1991

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**PROGRAM 6- INTERLOCKED SHOW WITH CURTAIN CALL**

CONSISTS OF 5 CUES AND 6 SECTIONS

- SECTION 1- MOTOR START (START PUSHBUTTON)
- SECTION 2- SHOW START (CUE 1)
- SECTION 3- CURTAIN CALL BEGIN (CUE 2)
- SECTION 4- CURTAIN CALL END/SOUND CHANGE (CUE 3)
- SECTION 5- CREDITS (CUE 4)
- SECTION 6- SHOW END (CUE 5)

**(MOTOR START)**

WHEN THE START PUSHBUTTON IS PRESSED ON THE LAST MACHINE IN THE INTERLOCKED SET, ONLY THE MOTORS ON ALL INVOLVED MACHINES START. THE SEVEN SEGMENT DISPLAY WILL SHOW "0".

**(SHOW START)**

WHEN CUE 1 OCCURS SEQUENTIALLY AT EACH MACHINE THE PROJECTOR STARTS, THE XENON TURNS ON, THE CURTAIN OPENS, THE SCREEN LIGHTS SWITCH TO DIM, THE HOUSE LIGHTS SWITCH TO HALF LIGHT, THE AISLE LIGHTS SWITCH TO HALF LIGHT AND IN SEVEN SECONDS FROM THE START THE CHANGEOVER DOWSER OPENS, THE EXCITER LAMP TURNS ON AND THE SOUND SWITCHES TO OPTICAL MONO. THE SEVEN SEGMENT DISPLAY WILL SHOW "1".

**(CURTAIN CALL BEGIN)**

WHEN CUE 2 OCCURS THE CURTAIN CLOSES AND THE SCREEN LIGHTS SWITCH TO BRIGHT. THE SEVEN SEGMENT DISPLAY WILL SHOW "2".

**(CURTAIN CALL END/SOUND CHANGE)**

WHEN CUE 3 OCCURS THE CURTAIN REOPENS, THE SCREEN LIGHTS SWITCH TO DIM, THE HOUSE LIGHTS SWITCH TO DIM AND THE MASKING AND THE SOUND SWITCH TO THE FORMAT SELECTED BY THE FEATURE PRESET SWITCHES LOCATED ON THE FRONT PANEL. THE SEVEN SEGMENT DISPLAY WILL SHOW "3".





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**(CREDITS)**

WHEN CUE 4 OCCURS THE HOUSE LIGHTS SWITCH TO HALF LIGHT AND THE AISLE LIGHTS SWITCH TO BRIGHT. THE SEVEN SEGMENT DISPLAY WILL SHOW "4".

**(SHOW END)**

WHEN CUE 4 OCCURS THE XENON TURNS OFF, THE EXCITER TURNS OFF, THE CHANGE-OVER DOWSER CLOSES, THE CURTAIN CLOSES, THE SCREEN LIGHTS SWITCH TO BRIGHT, THE HOUSE LIGHTS SWITCH TO BRIGHT, THE MASKING SWITCHES TO FLAT AND THE SOUND SWITCHES TO NON-SYNC. ALSO AT THIS POINT THE INTERLOCK STATUS IS SUSPENDED. THE SEVEN SEGMENT DISPLAY WILL SHOW "5" THEN "o". THE MOTORS CONTINUE TO RUN UNTIL THE FILM RUNS OUT OF THE INDIVIDUAL PROJECTORS IN SUCCESSION. WHEN THE FAILSAFES DROP ONLY THE CORRESPONDING PROJECTOR SHUTS DOWN. THE DISPLAY WILL CHANGE TO A "-". THE AUTOMATION WILL STAY IN THIS MODE FOR ABOUT 1.25 MINUTES AT WHICH TIME THE UNIT WILL REVERT TO THE IDLE MODE IN PREPARATION FOR THE NEXT SHOW.

**PROGRAM 7- SLIDE PROJECTOR THEN SHOW WITH CURTAIN CALL  
THEN SLIDE PROJECTOR AGAIN.**

CONSISTS OF 4 CUES AND 8 SECTIONS

**SECTION 1- BEFORE FEATURE SLIDE PROJECTOR (START PUSHBUTTON)  
(TO LEARN CUES PRESS CUE MEMORY BUTTON HERE)  
(MODE INDICATED BY "P" IN SEVEN SEGMENT DISPLAY)**

**SECTION 2- HOUSE REDRESS (START PUSHBUTTON)  
SECTION 3- FEATURE START (MANUAL CUE BUTTON)  
(IF USING LEARNED CUES, FEATURE WILL START  
AUTOMATICALLY ACCORDING TO LEARNED TIME.)**

**SECTION 4- CURTAIN CALL BEGIN (CUE 1)  
SECTION 5- CURTAIN CALL END/SOUND CHANGE (CUE 2)  
SECTION 6- CREDITS (CUE 3)  
SECTION 7- SHOW END (CUE 4)  
SECTION 8- AFTER FEATURE SLIDE PROJECTOR (AUTOMATIC)  
(MODE INDICATED BY "E" IN SEVEN SEGMENT DISPLAY)**



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**(BEFORE FEATURE SLIDE PROJECTOR)**

ON POWER-UP AT THE BEGINNING OF THE DAY THE UNIT DRESSES THE HOUSE USING THE POWER-UP REDRESS SEQUENCE. AT A DESIGNATED TIME PRIOR TO THE START OF THE SHOW, THE OPERATOR PRESSES THE START PUSHBUTTON. THE CURTAIN OPENS, THE SCREEN LIGHTS DIM, THE HOUSE LIGHTS DIM TO HALF AND THE SLIDE PROJECTOR TURNS ON. AT THIS TIME A "P" IS DISPLAYED IN THE SEVEN SEGMENT DISPLAY AND THE START LED IS BLINKING.

**(HOUSE REDRESS)**

WHEN IT IS TIME TO START THE SHOW THE OPERATOR WILL PRESS THE START BUTTON AGAIN. THIS CLOSES THE CURTAIN, BRINGS ALL THE LIGHTS UP FULL AND TURNS THE SLIDE PROJECTOR OFF. (PAUSE FOR FEATURE START) THE SEVEN SEGMENT DISPLAY WILL SHOW "c".

**(FEATURE START)**

AFTER ENOUGH TIME HAS ELAPSED TO ALLOW THE CURTAIN TO CLOSE AND THE LIGHTS TO STABILIZE, THE PROJECTIONIST MUST PRESS THE MANUAL CUE BUTTON AT WHICH TIME THE PROJECTOR STARTS, THE XENON TURNS ON, THE CURTAIN OPENS, THE SCREEN LIGHTS SWITCH TO DIM, THE HOUSE LIGHTS SWITCH TO HALF LIGHT, THE AISLE LIGHTS SWITCH TO HALF LIGHT AND IN SEVEN SECONDS FROM THE START THE CHANGE-OVER DOWSER OPENS, THE EXCITER LAMP TURNS ON AND THE SOUND SWITCHES TO OPTICAL MONO. THE SEVEN SEGMENT DISPLAY WILL SHOW "o".

**NOTE-** ONCE THE CUES ARE LEARNED THIS FUNCTION WILL OCCUR AUTOMATICALLY.

**(CURTAIN CALL BEGIN)**

WHEN CUE 1 OCCURS THE CURTAIN CLOSES AND THE SCREEN LIGHTS SWITCH TO BRIGHT. THE SEVEN SEGMENT DISPLAY WILL SHOW "1".

**(CURTAIN CALL END/SOUND CHANGE)**

WHEN CUE 2 OCCURS THE CURTAIN REOPENS, THE SCREEN LIGHTS SWITCH TO DIM, THE HOUSE LIGHTS SWITCH TO DIM AND THE MASKING AND THE SOUND SWITCH TO THE FORMAT SELECTED BY THE FEATURE PRESET SWITCHES LOCATED ON THE FRONT PANEL. THE SEVEN SEGMENT DISPLAY WILL SHOW "2".



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**(CREDITS)**

WHEN CUE 3 OCCURS THE HOUSE LIGHTS SWITCH TO HALF LIGHT AND THE AISLE LIGHTS SWITCH TO BRIGHT. THE SEVEN SEGMENT DISPLAY WILL SHOW "3".

**(SHOW END)**

WHEN CUE 4 OCCURS THE XENON TURNS OFF, THE EXCITER TURNS OFF, THE CHANGE OVER DOWSER CLOSES, THE CURTAIN CLOSES, THE SCREEN LIGHTS SWITCH TO BRIGHT, THE HOUSE LIGHTS SWITCH TO BRIGHT, THE MASKING SWITCHES TO FLAT AND THE SOUND SWITCHES TO NON-SYNC. THE SEVEN SEGMENT DISPLAY WILL SHOW "4" THEN "o". THE MOTOR CONTINUES TO RUN UNTIL THE FILM RUNS OUT OF THE PROJECTOR. WHEN THE FAILSAFE DROPS THE PROJECTOR SHUTS DOWN.

**(AFTER FEATURE SLIDE PROJECTOR)**

THE AUTOMATION REVERTS INTO THE "AFTER FEATURE SLIDE PROJECTOR" MODE JUST A FEW SECONDS FROM TIME THE FILM RUNS OUT OF THE PROJECTOR. BE SURE TO LEAVE ENOUGH LEADER ON THE FILM TO ALLOW THE CURTAIN TO CLOSE AND THE LIGHTS TO STABILIZE. AFTER THE FILM RUNS OUT, THE CURTAIN REOPENS, THE HOUSE LIGHTS SWITCH TO HALF LIGHT, THE SCREEN LIGHTS SWITCH TO DIM AND THE SLIDE PROJECTOR TURNS ON.

**(IMPORTANT NOTE)**

THE "BEFORE" AND "AFTER" FEATURE SLIDE PROJECTORS ARE TWO COMPLETELY DIFFERENT SECTIONS OF THE PROGRAM. THE PROGRAM MUST BE IN THE "BEFORE FEATURE SLIDE PROJECTOR" SECTION IF THE AUTOMATION IS GOING TO START THE FEATURE AS INDICATED IN THE (HOUSE REDRESS/FEATURE START) PORTION OF THE DESCRIPTION OF OPERATION.

THE OPERATOR CAN DETERMINE WHICH SECTION THE AUTOMATION IS IN BY CHECKING THE SEVEN SEGMENT DISPLAY. IF THE UNIT IS IN THE "BEFORE FEATURE SLIDE PROJECTOR" SECTION THERE WILL BE A "P" DISPLAYED IN THE SEVEN SEGMENT DISPLAY. IF THE UNIT IS IN THE "AFTER FEATURE SLIDE PROJECTOR" SECTION, THERE WILL BE AN "E" DISPLAYED.

AFTER THE OPERATOR RETHREADS THE PROJECTOR, HE MUST PRESS AND HOLD THE START PUSHBUTTON TO RETURN THE AUTOMATION TO THE "BEFORE FEATURE SLIDE PROJECTOR" SECTION OF THE PROGRAM. AS MENTIONED BEFORE THE RETURN TO THE "BEFORE FEATURE SLIDE PROJECTOR" MODE WILL BE INDICATED BY A "P" DISPLAYED IN THE SEVEN SEGMENT DISPLAY.



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**NOTE- THE PROJECTOR MUST BE THREADED AND THE FAILSAFE UP FOR THE AUTOMATION TO JUMP BACK INTO THE BEFORE FEATURE MODE. IF THE FAILSAFE IS NOT UP, THE UNIT WILL STOP IN THE IDLE MODE AND THE BEEPER WILL SOUND FOR AS LONG AS THE START BUTTON IS HELD. THIS IS NORMAL. AS IN ANY PROGRAM THE FAILSAFE MUST BE UP BEFORE THE PROGRAM CAN START.**

XAK-145 35MM OPTICAL CUE DETECTOR PARTS LIST - MAY 1991

part number	description	pieces per assembly
XAK-019	FAILSAFE ACTIVATOR ARM	1.00
XAK-019	F.S. ACTIVATOR ARM - screened	1.00
XAK-022	LG SPACER ACTIVATOR ARM	2.00
XAK-023	FAILSAFE ACTIVATOR ARM SHAFT	1.00
XAK-024	SM SPACER ACTIVATOR ARM	1.00
XAK-033	ARM ACTIVATOR STOP	1.00
XAK-046	AMERICAN BRACKET	1.00
XAK-056	MICROSWITCH	1.00
XAK-057	ARM BEARING	5.00
XAK-062	FAILSAFE ARM BEARING SPACER	4.00
XAK-147	CUE DETECTOR PLATE	1.00
XAK-148	DUAL ACTIVATOR	1.00
XAK-158	INFRARED DETECTOR	1.00
XAK-163	35mm detector brkt	1.00
XNR-015	ROLLER	4.00
XNR-015BRG	BEARING	8.00
XNR-020	SPINDLE	4.00
MMMM	P525 Activator Stop - Spacer	1.00
MMMM	DNF 18-206 PANDUIT	2.00
MMMM	1/4" CABLE CLAMP	2.00
MMMM	2 CONDUCTOR CABLE	6.00
MMMM	8/32 x 3/8 FLAT HEAD	4.00
MMMM	10/32 x FLAT HEAD	1.00
MMMM	4/40 x 1/2 FLAT PHILLIPS	2.00
MMMM	4/40 x 3/4 ROUND PHILLIPS	2.00
MMMM	8/32 x 3/8 BUTTON HEAD	2.00
MMMM	10/32 x 5/8 BUTTON HEAD	2.00

XAK-145-70mm OPTICAL DETECTOR PARTS LIST - MAY 1991

part number	description	pieces per assembly
11-0206013	ARM ACTIVATOR STOP	1.00
11-0206151	35/70mm roller	4.00
11-0206153	SPINDLE - 70mm	4.00
XAK-019	F.S. ACTIVATOR ARM - screened	1.00
XAK-019	FAILSAFE ACTIVATOR ARM	1.00
XAK-022	LG SPACER ACTIVATOR ARM	2.00
XAK-024	SM SPACER ACTIVATOR ARM	1.00
XAK-032	Inside Arm Spacer	1.00
XAK-046	AMERICAN BRACKET	1.00
XAK-056	MICROSWITCH	1.00
XAK-057	ARM BEARING	7.00
XAK-062	FAILSAFE ARM BEARING SPACER	4.00
XAK-158	INFRARED DETECTOR	1.00
XAK-160	CUE DETECTOR PLATE 35/70mm	1.00
XAK-162	35/70 detector brkt	1.00
XAK-170	DUAL ACTIVATOR 35/70mm	1.00
XAK-171	F.S ACTIVATOR ARM SHAFT 70mm	1.00
XNR-015BRG	BEARING	8.00
MMMM	Activator Stop - spacer	2.00
MMMM	DNF 18-206 PANDUIT	2.00
MMMM	1/4" CABLE CLAMP	2.00
MMMM	2 CONDUCTOR CABLE	6.00
MMMM	8/32 x 3/8 FLAT HEAD	4.00
MMMM	10/32 x FLAT HEAD	1.00
MMMM	4/40 x 1/2 FLAT PHILLIPS	2.00
MMMM	4/40 x 3/4 ROUND PHILLIPS	2.00
MMMM	8/32 x 3/8 BUTTON HEAD	2.00
MMMM	10/32 x 5/8 BUTTON HEAD	2.00



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**MICRO-15X WALL MOUNT  
TERMINAL DESIGNATION REV. B**

**TERMINAL STRIP JP2 - 120VAC INPUT**

- #1 - LINE HOT
- #2 - LINE NEUTRAL
- #3 - LINE GROUND

**TERMINAL STRIP JP4 - PROJECTOR AND HIGH POWER OUTPUTS**

- #1 - MOTOR FEED
- #2 - MOTOR OUT
- #3 - AUXILIARY (SLIDE PROJECTOR) FEED
- #4 - AUXILIARY (SLIDE PROJECTOR) OUT
- #5 - XENON FEED
- #6 - XENON OUT
- #7 - EXCITER FEED
- #8 - EXCITER OUT
- #9 - C/O COMMON
- #10 - C/O OPEN
- #11 - C/O CLOSE
- #12 - CURTAIN COMMON
- #13 - CURTAIN OPEN
- #14 - CURTAIN CLOSE
- #15 - MASKING COMMON
- #16 - MASKING SCOPE
- #17 - MASKING FLAT

**TERMINAL STRIP JP6 - REMOTE AND PERIPHERAL INPUT/OUTPUT**

- #1 - GROUND
- #2 - REMOTE STOP INDICATOR
- #3 - REMOTE RUN INDICATOR
- #4 - REMOTE ALARM
- #5 - REMOTE INTERLOCK INDICATOR
- #6 - REMOTE INTERMISSION INDICATOR
- #7 - REMOTE STOP SWITCH
- #8 - REMOTE START SWITCH
- #9 - REMOTE ALARM RESET
- #10 - GROUND
- #11 - FAILSAFE IN
- #12 - CUE DETECTOR IN
- #13 - FIRE ALARM IN ( PULL TO GROUND)
- #14 - NC



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**JP6 - CONTINUED**

- #15 - INTERLOCK IN
- #16 - INTERLOCK OUT
- #17 - NC
- #18 - NC
- #19 - GROUND
- #20 - 12VDC OUT FOR OPTICAL CUE DETECTOR (SEE NOTE #2)

**TERMINAL STRIP JP8 - DIMMER AND SOUND OUTPUTS**

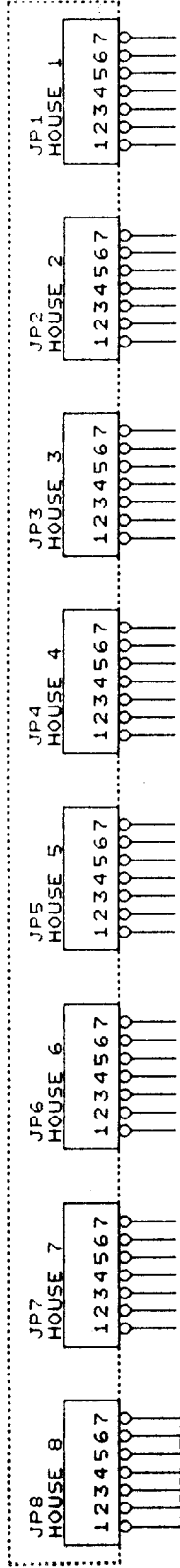
- #1 - LIGHTS-1 COMMON
- #2 - LIGHTS-1 DIM
- #3 - LIGHTS-1 BRIGHT
- #4 - LIGHTS-1 HALF-LIGHT
- #5 - LIGHTS-2 COMMON
- #6 - LIGHTS-2 DIM
- #7 - LIGHTS-2 HALF-LIGHT
- #8 - LIGHTS-2 BRIGHT
- #9 - LIGHTS-3 COMMON
- #10 - LIGHTS-3 DIM
- #11 - LIGHTS-3 HALF-LIGHT
- #12 - LIGHTS-3 BRIGHT
- #13 - LIGHTS COMMON PANIC/NORMAL
- #14 - LIGHTS PANIC
- #15 - LIGHTS NORMAL
- #16 - SOUND STEREO 2
- #17 - SOUND COMMON
- #18 - SOUND NONSYNC
- #19 - SOUND MONO
- #20 - SOUND STEREO 1

**NOTES:**

- 1.** NC - NO CONNECTION
- 2.** THIS 12 VOLT OUTPUT IS PROVIDED TO POWER THE XETRON OPTICUE. THIS OUTPUT IS DERIVED FROM THE AUTOMATION POWER SUPPLY. DO NOT RUN THIS LINE IN A CONDUIT WITH ANY WIRES FEEDING HEAVY NOISE PRODUCING LOADS, SUCH AS MOTORS, HEAVY SOLENOIDS OR DIMMER LOAD WIRES. THIS COULD CAUSE UNPREDICTABLE PROBLEMS WITH THE AUTOMATION.
- 3.** ALL INDICATOR OUTPUTS ARE LOW VOLTAGE OPEN COLLECTOR. (50MA MAXIMUM)

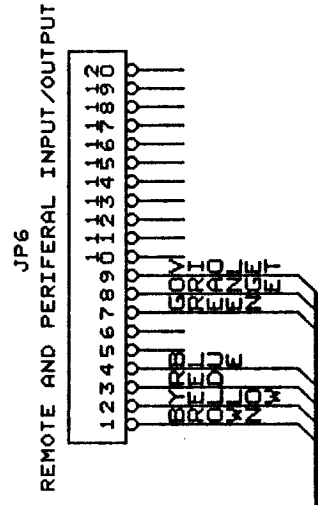


TERMINALS ON REMOTE (UP TO 8 STATIONS) AS VIEWED FROM REAR



WIRING IS THE SAME FROM ANY ONE OF THE STATIONS ON THE REMOTE TO ITS RESPECTIVE AUTOMATION.

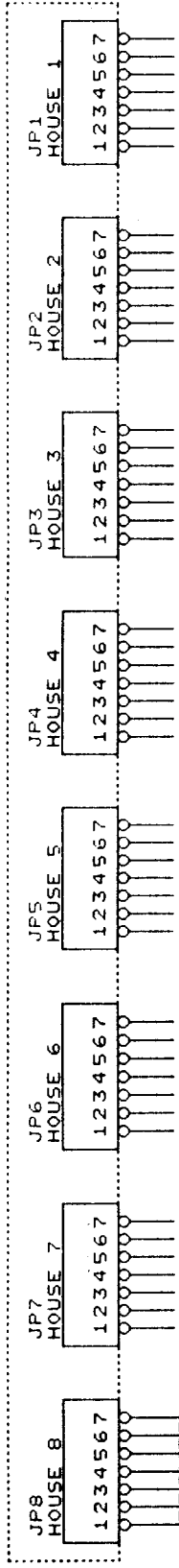
COLORS ARE SHOWN FOR REFERENCE.



7 CONDUCTOR 22 GAGE CABLE (SUPPLIED BY CUSTOMER)

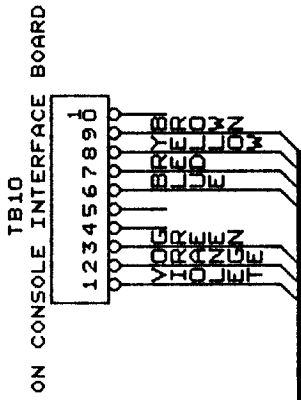
NEUMADE PRODUCTS CORP. XETRON DIVISION	
Title	4 STATION REMOTE WITH WALL MOUNT MICRO 15X
Size	Document Number
A	XAK-167
Date:	April 1, 1991 Sheet 1 of 1

TERMINALS ON REMOTE (UP TO 8 STATIONS) AS VIEWED FROM REAR



WIRING IS THE SAME FROM ANY ONE OF THE STATIONS ON THE REMOTE TO ITS RESPECTIVE AUTOMATION.

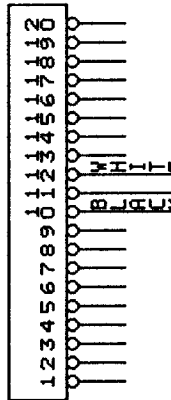
COLORS ARE SHOWN FOR REFERENCE.



7 CONDUCTOR 22 GAGE CABLE (SUPPLIED BY CUSTOMER)

NEUMADE PRODUCTS CORP. XETRON DIVISION	
Title	4 STATION REMOTE WITH MICRO 15X IN CONSOLE
Size	Document Number
A	XAK-166
Date:	April 1, 1991
Sheet	1 of 1

JP6  
 REMOTE AND PERIPHERAL INPUT/OUTPUT  
 LOCATED IN MICRO 15X AUTOMATION BOX MOUNTED ON WALL



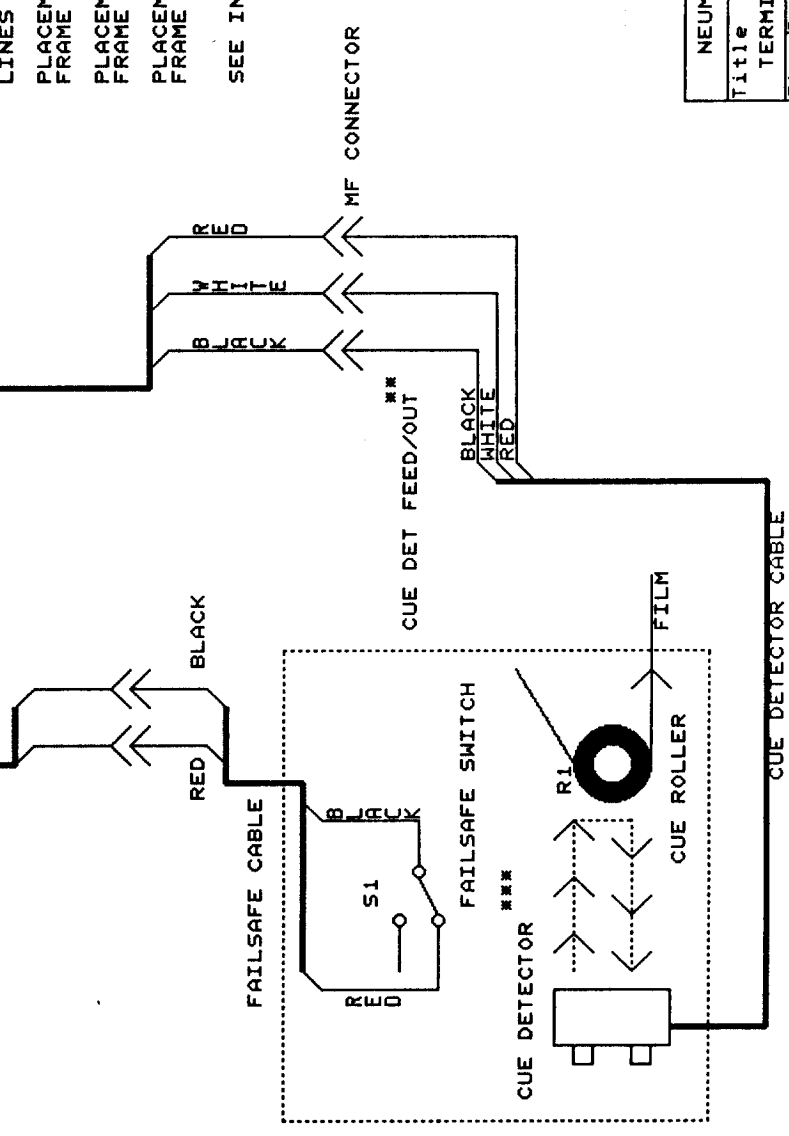
COLORS SHOWN FOR REFERENCE

\*\*\* THE CUE DETECTOR FEED/OUTPUT DEFINITIONS ARE AS FOLLOWS:  
 1=REGULATED 12VDC IN TO CUE DETECTOR.  
 2=CUE DETECTOR OUT.  
 3=GROUND TO CUE DETECTOR.

\*\*\* LOGISTICS OF CUE PLACEMENT IS AS FOLLOWS:  
 PLACEMENT 1 CUE ON FILM BETWEEN FRAME LINES WILL PULSE RELAY 1.  
 PLACEMENT OF 2 CUES ON 2 CONSECUTIVE FRAME LINES WILL PULSE RELAY 2.  
 PLACEMENT OF 3 CUES ON 3 CONSECUTIVE FRAME LINES WILL PULSE RELAY 3.  
 PLACEMENT OF 4 CUES ON 4 CONSECUTIVE FRAME LINES WILL PULSE RELAY 4.

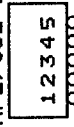
SEE INSTRUCTIONS FOR DETAILS.

WIRES RUNNING THROUGH CONDUIT OR TROUGH.

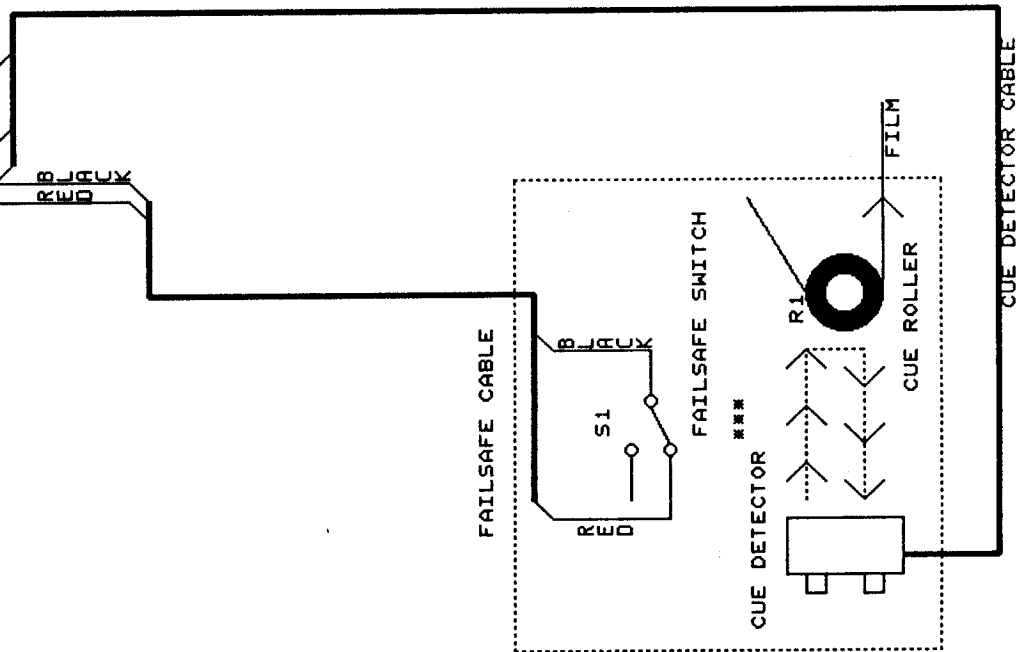


NEUMADE PRODUCTS CORP. XETRON DIVISION	
Title	TERMINATION OPTICUE, MICRO 15X REV.B (W)
Size	Document Number
A	XAK-157
Date:	April 28, 1991 Sheet 1 of 1

TB7  
FAILSAFE/CUE INPUT



THIS WIRE MUST BE CONNECTED TO TERMINAL #2 ON JP10 ON THE AUTOMATION BOARD.



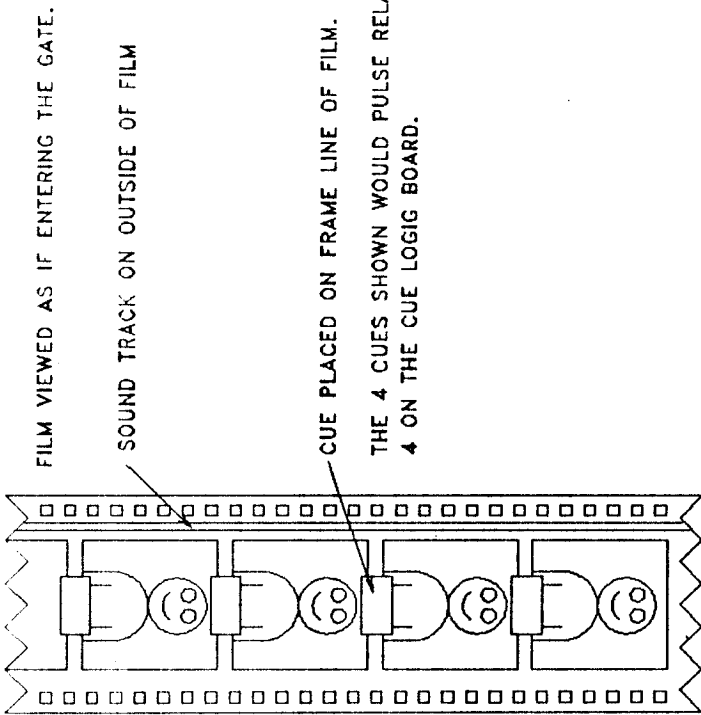
CUE DET FEED/OUT

NOTES

\*\* THE CUE DETECTOR FEED/INPUT DEFINITIONS ARE AS FOLLOWS:  
 1=REGULATED 12VDC IN TO CUE DETECTOR.  
 2=CUE DETECTOR OUT.  
 3=GROUND TO CUE DETECTOR.

TERMINATION OPTICUE WITH  
 CONSOLE MOUNT REV.B MICRO 15X.  
 REV.B XCN-227  
 CONSOLE INTERFACE BOARD

NEUMADE PRODUCTS CORP. XETRON DIVISION	
Title	TERMINATION OPTICUE/15X REV.B/XCN-227 REV.B
Size	Document Number
A	XAK-175.SCH
Date:	May 20, 1991 Sheet 1 of 1

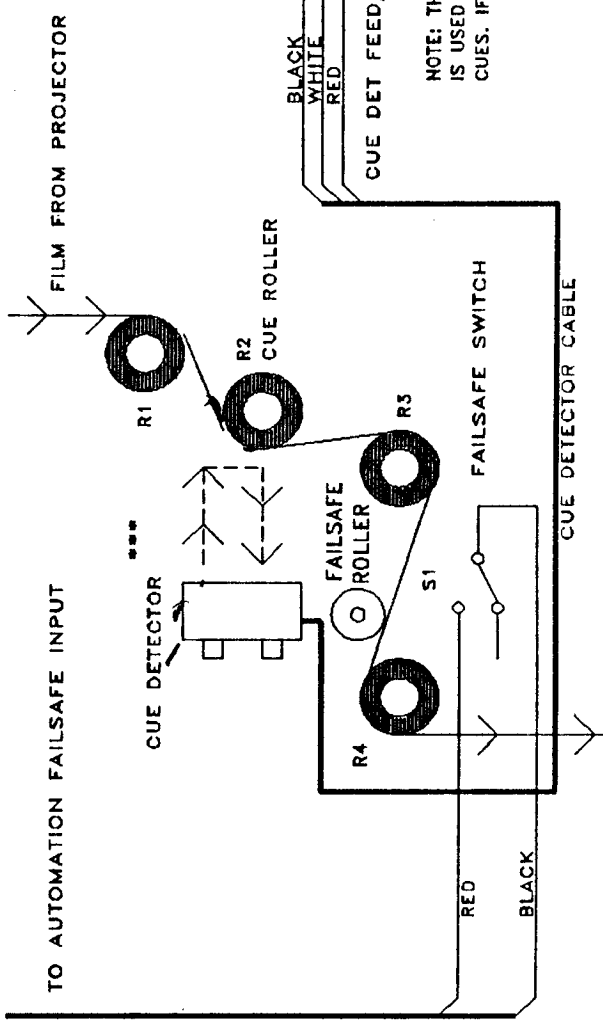


**NOTES**

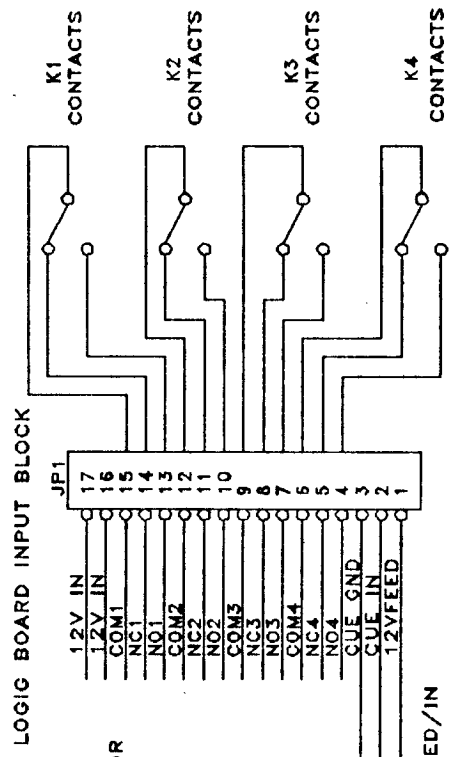
- EITHER AC OR DC VOLTS MAY BE APPLIED TO THE VOLTAGE INPUT PINS OF THE LOGIC BOARD. IF AC VOLTAGE IS APPLIED VOLTAGE MUST BE IN THE RANGE OF 12 TO 24 VOLTS AC. IF DC VOLTAGE IS APPLIED THE VOLTAGE MUST BE IN THE RANGE OF 15 TO 24 VOLTS DC.
- THE CUE DETECTOR FEED/INPUT DEFINITIONS ARE AS FOLLOWS:  
 1=REGULATED 12VDC OUT TO CUE DETECTOR.  
 2=CUE DETECTOR IN.  
 3=GROUND TO CUE DETECTOR.
- LOGISTICS OF CUE PLACEMENT IS AS FOLLOWS:  
 PLACEMENT 1 CUE ON FILM BETWEEN FRAME LINES WILL PULSE RELAY 1.  
 PLACEMENT OF 2 CUES ON 2 CONSECUTIVE FRAME LINES WILL PULSE RELAY 2.  
 PLACEMENT OF 3 CUES ON 3 CONSECUTIVE FRAME LINES WILL PULSE RELAY 3.  
 PLACEMENT OF 4 CUES ON 4 CONSECUTIVE FRAME LINES WILL PULSE RELAY 4.

SEE INSTRUCTIONS FOR DETAILS.

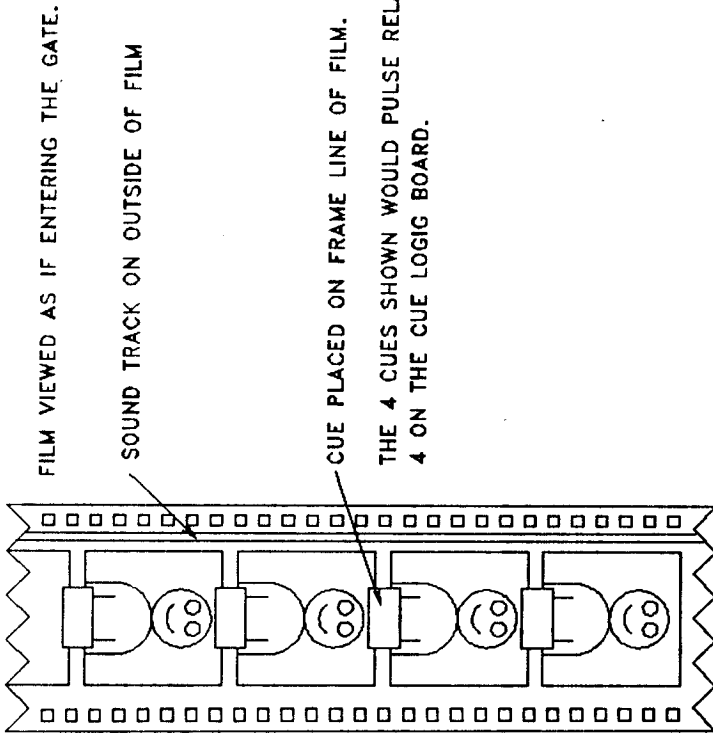
**OPTICUE THREADING DIAGRAM**



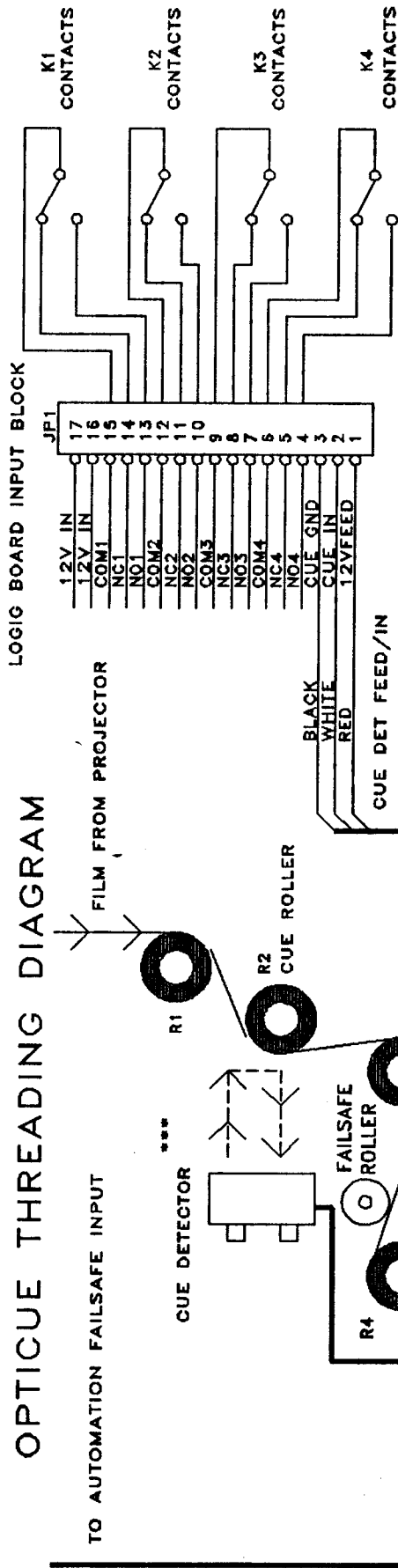
NOTE: THE LOGIC BOARD IS USED ONLY WHEN THE OPTICAL CUE DETECTOR IS USED AS A PERIPHERAL OR WITH AN AUTOMATION THAT REQUIRES MULTIPLE CUES. IF USED WITH THE MICRO 15X, THIS BOARD IS NOT REQUIRED.



NEUMADE PRODUCTS CORP. XETRON DIVISION	
T111	
Size	Document Number
A	XAK-154
REV	



### OPTICUE THREADING DIAGRAM



NOTE: THE LOGIC BOARD IS USED ONLY WHEN THE OPTICAL CUE DETECTOR IS USED AS A PERIPHERAL OR WITH AN AUTOMATION THAT REQUIRES MULTIPLE CUES. IF USED WITH THE MICRO 15X, THIS BOARD IS NOT REQUIRED.

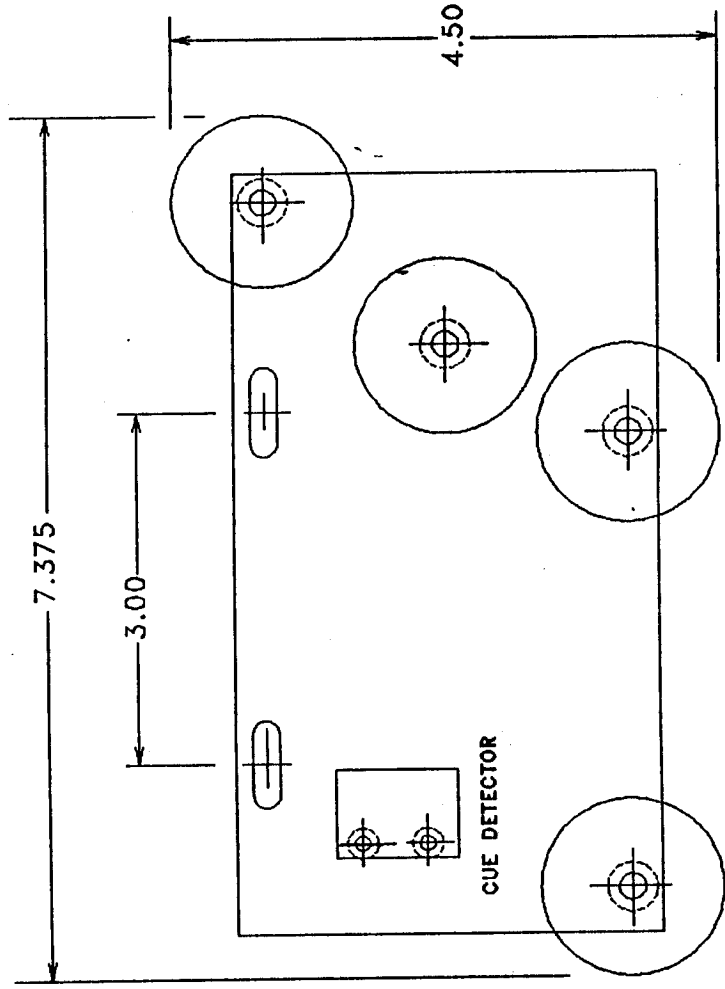
#### NOTES

- EITHER AC OR DC VOLTS MAY BE APPLIED TO THE VOLTAGE INPUT PINS OF THE LOGIC BOARD. IF AC VOLTAGE IS APPLIED VOLTAGE MUST BE IN THE RANGE OF 12 TO 24 VOLTS AC. IF DC VOLTAGE IS APPLIED THE VOLTAGE MUST BE IN THE RANGE OF 15 TO 24 VOLTS DC.
  - THE CUE DETECTOR FEED/INPUT DEFINITIONS ARE AS FOLLOWS:  
 1=REGULATED 12VDC OUT TO CUE DETECTOR.  
 2=CUE DETECTOR IN.  
 3=GROUND TO CUE DETECTOR.
  - LOGISTICS OF CUE PLACEMENT IS AS FOLLOWS:  
 PLACEMENT 1 CUE ON FILM BETWEEN FRAME LINES WILL PULSE RELAY 1.  
 PLACEMENT OF 2 CUES ON 2 CONSECUTIVE FRAME LINES WILL PULSE RELAY 2.  
 PLACEMENT OF 3 CUES ON 3 CONSECUTIVE FRAME LINES WILL PULSE RELAY 3.  
 PLACEMENT OF 4 CUES ON 4 CONSECUTIVE FRAME LINES WILL PULSE RELAY 4.
- SEE INSTRUCTIONS FOR DETAILS.

NEUMADE PRODUCTS CORP. XETRON DIVISION	
T111	
OPTICUE TERMINATION AND CUE PLACEMENT DIAGRAM	
Size	Document Number
A	XAK-154
Date:	September 13, 1990
Sheet	1 of 1

REVISIONS

REV. #	DESCRIPTION	DATE	APPROVED

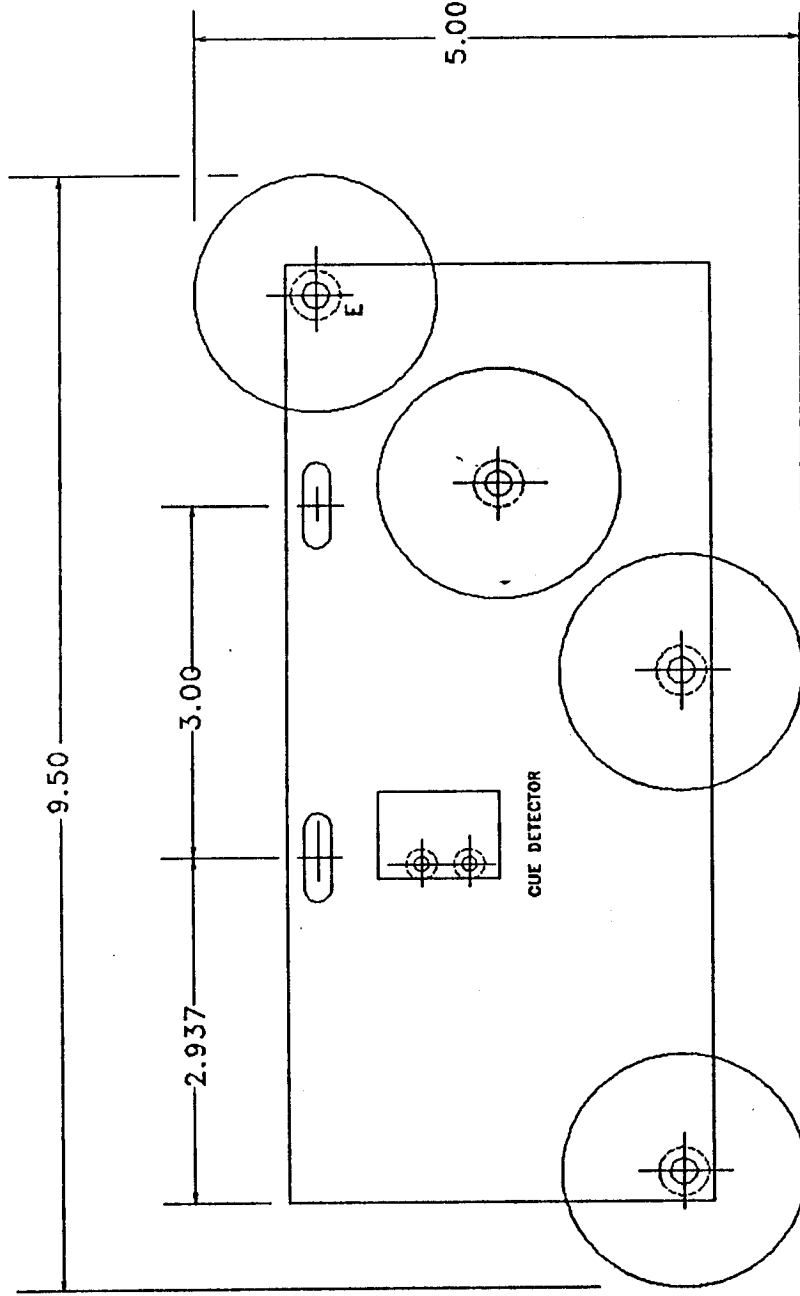


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TOLERANCES	PROJECT:	SCALE	DRAWN BY	APPROVED
		N.T.S.	J.K.	
TITLE:				
		DIMENSIONAL OUTLINE OF 35MM DETECTOR		
DATE:	DRAWING NUMBER:			
5-3-91	35-A			

REVISIONS

REV. #	DESCRIPTION	DATE	APPROVED



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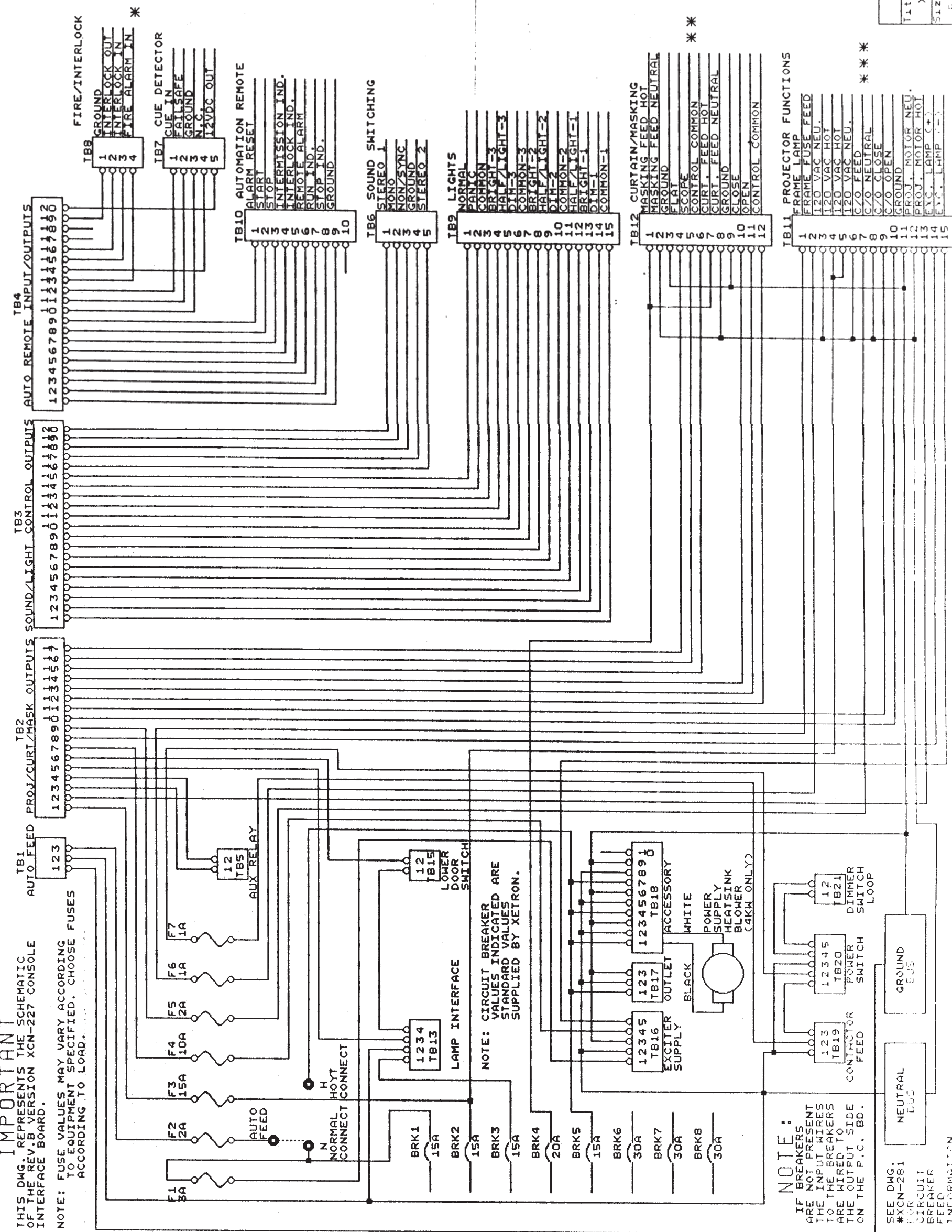
TOLERANCES	PROJECT:	SCALE	DRAWN BY	APPROVED
		N.T.S.	J.K.	
	TITLE:			
	DIMENSIONAL OUTLINE OF 3570MM CUE DETECTOR			
DATE:	DRAWING NUMBER:			
5-3-91	3570-A			



**IMPORTANT**

THIS DWG. REPRESENTS THE SCHEMATIC OF THE REV. B VERSION XCN-227 CONSOLE INTERFACE BOARD.

NOTE: FUSE VALUES MAY VARY ACCORDING TO EQUIPMENT SPECIFIED. CHOOSE FUSES ACCORDING TO LOAD.



**NOTES**

IB'S 3, 4, 6, 7, 8, 9, 10, ARE USED FOR INTERFACE OF THE AUTOMATION FUNCTIONS FROM THE MICRO 15X AUTOMATION.

IF ANOTHER AUTOMATION IS USED, THE INTERFACE TO THE HOUSE FUNCTIONS WILL BE DERIVED FROM THE OUTPUT TERMINALS OF THAT AUTOMATION, UNLESS SPECIFIED BY THE CUSTOMER THAT THEY WOULD LIKE THE AUDITORIUM FUNCTIONS INTERFACED TO THESE BLOCKS.

\* TO ACTIVATE FIRE ALARM MADE IN THE MICRO 15X, THE FIRE ALARM CIRCUIT OF THE COMPLEX MUST PROVIDE A SUSTAINED CONTACT FROM #1 TBB TO #4 TBB.

\* CURTAIN AND MASKING AC FEEDS AS WELL AS CONTROL OUTPUTS ARE PROVIDED FOR CUSTOMERS WHO CHOOSE TO TERMINATE ALL AUDITORIUM WIRING AT THE CONSOLE.

\* THE FRAME AND CHANGEOVER FEEDS HAVE BEEN SEPARATED TO FACILITATE THE USE OF LOW OR HIGH VOLTAGE TYPES.

FRAME LAMP CONNECTIONS:  
FOR 120 VOLT FRAME LAMP JUMPER #'S 2 AND 4 TBB11 AND CONNECT FRAME LAMP TO #1 TBB11.

FOR 12 VOLT FRAME LAMP WITH FUSE IN LINE SIDE OF TRANSFORMER, JUMPER #'S 2 AND 4 TBB11 CONNECT ONE SIDE OF TRANSFORMER PRIMARY TO #1 TBB11 AND THE OTHER SIDE OF TRANSFORMER PRIMARY TO #3 TBB11 CONNECT THE SECONDARY OF THE TRANSFORMER TO THE FRAME LAMP.

FOR 12 VOLT FRAME LAMP WITH THE FUSE IN THE SECONDARY SIDE OF THE TRANSFORMER, CONNECT ONE SIDE OF THE TRANSFORMER PRIMARY TO #3 TBB11 CONNECT THE OTHER SIDE OF THE PRIMARY TO #4 TBB11. CONNECT ONE SIDE OF THE SECONDARY TO #2 TBB11. CONNECT THE OTHER SIDE OF THE SECONDARY TO GROUND. CONNECT ONE SIDE OF THE FRAME LAMP TO #1 TBB11. IF NOT ALREADY, CONNECT THE OTHER SIDE OF THE FRAME LAMP TO GROUND.

**CHANGEOVER CONNECTIONS:**

FOR 120 VOLT "ZIPPER" TYPE CHANGEOVERS JUMPER #'S 5 AND 7 TBB11. CONNECT C/O COMMON TO #8 TBB11. CONNECT THE CLOSE COIL TO #9 TBB11 AND THE OPEN COIL TO #10 TBB11.

FOR LOW VOLTAGE TYPE CHANGEOVERS CONNECT THE 120 VOLT INPUT OF THE C/O POWER SUPPLY TO #'S 5 AND 6 TBB11. CONNECT THE D.C. (+) OUTPUT OF THE SUPPLY TO #7 TBB11. CONNECT THE (-) OF THE SUPPLY DIRECTLY TO THE C/O AS DIRECTED BY THE SUPPLIER. CONNECT THE CLOSE INPUT OF THE CHANGEOVER SYSTEM TO #9 TBB11. CONNECT THE OPEN INPUT OF THE C/O SYSTEM TO #10 TBB11.

NOTE: CONNECTING THE C/O IN THIS MANNER WILL PROVIDE A POSITIVE PULSE TO THE OPEN AND CLOSE INPUTS OF THE C/O CONTROL.

**MICRO 15X**

NEUMADE PRODUCTS CORP. XETRON DIVISION	
Title	XCN-227 BD WITH 15X OUTPUT DESIGNATIONS
Size	Document Number
REV	REV
B	CN-330.SCH
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