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1971 JAN 8 AM 10 01

CJ AX008 (L IWA391) NL PDB TDIW FAX LOS ANGELES CALIF JAN 7
WESTERN UNION ATTN TELEPHONE 524-6654
WILL CALL 3109 WILSON BLVD ARLINGTON VIR

Declass
Review by
NGA/DoD

STATE
SUBJECT: [] REFERENCE CUSTOMER LETTER OF 4 JANUARY
1971 ON LIGHT TABLE DEFECTS. 1. WE SUBMIT THAT NO SAFETY HAZARD
EXISTS. OTHERWISE WE WOULD HAVE ALTERED TABLE DESIGN. THIS
FIRST UNIT WAS THOROUGHLY EXAMINED BY YOUR PERSONNEL IN LOS
ANGELES. IF YOU ELECT, [] WILL ACCEPT A SCOPE CHANGE TO
CORRECT THE SITUATION. 2. THIS FAULT APPEARS TO BE UNIQUE TO
TABLE S/N001, AND DOES NOT APPEAR ON THE ATTACHMENT NO. 2 REGARDING
THE INSPECTION OF 14 PRODUCTION TABLES. OUR FIELD SERVICE REPRESENTATIVE
WILL INSPECT AND CORRECT THIS DEFICIENCY ON S/N001. 3. MS26565
DOES NOT COVER THE DIMENSIONS OF A 6.6" REEL. [] TOOK THE
POSITION THAT 6.6" FILM WIDTH BE IN EFFECT SUBSTITUTED FOR
THE 5" FILM WIDTH IN SAID STANDARD AND EXTROPOLATED APPROPRIATE
DIMENSIONS FROM THE 5" SPECIFICATION. THIS RESULTED IN A DESIGN
WHERE THE MAXIMUM-TOLERANCED REEL WOULD BE NO GREATER THAN
6.782-INCHES. THE PROTOTYPE PREVIOUSLY DELIVERED AND EVALUATED
BY YOU AND UNIT SERIAL 001 INSPECTED HERE IN LOS ANGELES BOTH
INCORPORATE THIS DESIGN. [] UNDERSTANDS THAT CURRENT 6.6"
REELS AVAILABLE TO THE CUSTOMER EXCEED THIS NUMBER AND THE
CRITICAL NATURE OF THIS PARAMETER. WE WILL IMMEDIATELY INSTITUTE
A CORRECTION WHICH IS FIELD RETROFITTABLE AND FACTORY IMPLEMENTED,
AND WILL SUBMIT A CLAIM COVERING THIS SCOPE CHANGE. 4. []
SUBMITS THAT THE TABLE COMPLETELY MEETS THE REQUIREMENTS OF

not necessarily

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PARAGRAPH 3.4.1.2, AND THAT THE CABLE CAN BE EASILY MOVED ASIDE

BY THE OPERATOR AS A NET ROUTINE PRACTICE. 5. THE COLOR

CODING ON MOTORS IS MEANT ONLY AS A VISUAL REFERENCE GUIDE AND THE PRECISE POSITIONING IS OBTAINED BY MECHANICAL DETENTING IN WHICH AN OPERATOR CAN FEEL LOCK-IN. WHEN MOTORS ARE USED IN THE SPLIT VERTICAL MODE, THIS VISUAL REFERENCE CAN BE OBTAINED BY USING THE LEFT REAR MOTOR ON THE LOWER RIGHT POSITION AND THE RIGHT REAR MOTOR ON THE LOWER LEFT POSITION. MOTORS ARE EASILY INTERCHANGED BY SIMPLE PLUG-IN OPERATION. [] SUBMITS

not good contract

THAT DESIGN MEETS THE REQUIREMENTS OF 3.3.1.2 6. [] RECOGNIZES THE CONDITION OF LOWER COVER BEING PREVENTED FROM OPENING WHEN THE TABLE HAS SHIFTED IN ITS HORIZONTAL POSITION RELATIVE TO THE ELEVATING STAND. WE WILL MAKE AN IN-LINE CORRECTION TO PREVENT THE TABLES FROM SHIFTING; AND PROVIDE FIELD-INSTALLED PLUGS TO HOLD THE TABLES IN THE CORRECT POSITION. OPERATIONAL PROCEDURES WILL REQUIRE THAT THE TABLE BE LOWERED TO THE HORIZONTAL

not strong contractual

POSITION FOR LOADING THE IN-LINE VIEWING OF TWO SIMILAR-WIDTH FILMS. AND THIS IS A SIMPLE OPERATION. 7. [] RECOGNIZES THE INCONVENIENCE OF THE TAKE-UP LOOP BEING BLOCKED IN ONE DIRECTION DUE TO THE CABLE GUIDES, AND WILL MAKE AN IN-LINE CHANGE TO CORRECT THIS AND PROVIDE A BASIS FOR FIELD RETROFIT.

8. THE LOCATION OF THE LOWER COVER LATCHES ARE THE RESULT OF A DESIGN TRADE-OFF FOR SAFETY AND CONVENIENCE OF THE OPERATOR IN THE KNEEWELL AREA. [] SUBMITS THAT THE OPERATION IS

we can't agree this

A SIMPLE ONE, IS NOT AN OPERATING CONTROL, AND IT MEETS THE REQUIREMENTS OF PARAGRAPH 3.2.1.4. 9. PROVISION HAS BEEN MADE FOR ADJUSTMENT BY FACTORY TRAINED PERSONNEL TO BALANCE THE TWO ILLUMINATION SOURCES IN ORDER TO MEET THE REQUIREMENTS

OF THE FIRST PORTION OF PARAGRAPH 3.1.1.1. [] WILL ENSURE THAT FACTORY CHECKOUT PROCEDURES WILL COMPLY WITH THIS REQUIREMENT. OUR TRAINED FIELD PERSONNEL CAN CORRECT THE DIFFERENCE IN S/N002.

THE LIGHT SOURCE CONTAINED IN THE TABLE IS A SIGNIFICANT ADVANCEMENT IN THE STATE-OF-THE-ART. THE REQUIREMENT TO EXCEED 3,000 FT.

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LAMBERTS, MEET THE DIMMING RATIO OF 20:1, AND PROVIDE NO VISIBLE
OBJECTIONABLE FLICKER RESULTED IN DIFFICULT DESIGN TRADE-OFFS.

Approved For Release 2005/06/23 : CIA-RDP78B05171A000400030115-3

[] EXCEEDED ALL THESE REQUIREMENTS SIGNIFICANTLY. TABLE
BRIGHTNESS HAS AN APPROXIMATE OPERATING RANGE FROM 100 FT.
LAMBERTS TO 3,500 FT. LAMBERTS AND FACTORY ADJUSTMENTS ALLOW
THE GOVERNMENT TO TAKE FULL ADVANTAGE OF THIS INCREASED PERFORMANCE.
AS A RESULT OF THIS INCREASED BRIGHTNESS, THE REQUIREMENT OF
THE SECOND PART OF PARAGRAPH 3.1.1.1. MIGHT BE EXCEEDED BY
A SMALL PERCENTAGE POINT FOR A SMALL PERCENTAGE OF THE TABLES.

[] CONSIDERS THIS TO BE OF LITTLE CONSEQUENCE AND THEREFORE
IS SETTING CONTROLS FOR BRIGHTER OPERATION. IF THE GOVERNMENT
DESIRES, [] COULD FACTORY-SET THE TABLES TO OPERATE IN
200 TO 3,000 FT. LAMBERTS RANGE SUCH THAT ILLUMINATION WOULD
FALL WITHIN THE VARIATION REQUIREMENT. 10. [] RECOGNIZES

THE LOW RETAINING FORCE OF S/NO01 PAD LOCKS AND RESULTING OPERATOR
INCONVENIENCE. AN IN-LINE CORRECTION HAS BEEN MADE EFFECTIVE
WITH S/NO02 AND WE WILL FORWARD A CORRECTED MOUNT IMMEDIATELY
FOR FIELD INSTALLATION IN S/NO01. 11. (A) THE TRACK ON THE
LEFT SIDE WAS DESIGNED TO FLOAT AT ONE END TO PROVIDE EASE

What are the means

OF BRIDGE MOTION. 11. (B) THE PLASTIC PROTECTOR COVERS ON THE
Y CHAIN DRIVES WERE DESIGNED TO HAVE ADEQUATE CLEARANCE SUCH
THAT THERE WOULD BE NO DRAG ON THE SYSTEM. HOWEVER, APPARENTLY
SOME MOTION OR DISTORTION TAKES PLACE DURING SHIPMENT WHICH
CAUSES A SLIGHT INTERFERENCE. [] HAS TAKEN CORRECTIVE ACTION

TO INCREASE THE CLEARANCE AS AN IN-LINE CHANGE FOR FUTURE SHIPMENTS.
FOR DELIVERED UNITS, SLIGHT ADJUSTMENTS BY OUR FIELD REPRESENTATIVE
WILL CORRECT THIS MISALIGNMENT. 11. (C) [] HAS REVIEWED
THE DESIGN AND FEELS THAT THE POWER CORD REEL IS ADEQUATELY
ATTACHED TO THE TABLE. THE DESCRIPTION GIVEN IN PARAGRAPH 11. (C)
REQUIRES CLARIFICATION BEFORE WE CAN MAKE FURTHER COMMENT.

11. (D) THE TILT MECHANISM WHICH CONTAINS THE MERCURY SWITCH
IS THOROUGHLY TESTED, INSTALLED AND ADJUSTED PRIOR TO SHIPMENT.
THIS DEFECT APPEARS UNIQUE TO S/NO01, AND WILL BE CORRECTED

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BY OUR FIELD REPRESENTATIVE. [] SUBMITS THAT THIS DESIGN SATISFIES REQUIREMENT. APPROVED FOR RELEASE 2005/06/23 : CIA-RDP78B05171A000400030115-3

BEFORE WE CAN COMMENT FURTHER. GENERALLY WE ARE KEENLY AWARE OF THE IMPORTANCE OF QUALITY CONTROL, AND ARE IN A CONTINUAL REVIEW PROCESS TO ASSURE THAT STANDARDS ARE ACCEPTABLE AND TOTALLY IMPLEMENTED. WE WILL CONTINUE TO BE ALERT TO THESE FACTORS AND INCORPORATE IMPROVEMENTS AS REQUIRED. 12. INASMUCH AS THE ONLY METHOD OF MEASURING THIS PARAMETER IS IN THE SOLE POSSESSION OF OUR GOVERNMENT CUSTOMER, [] REQUESTS DETAILED INFORMATION AS TO HOW THE MEASUREMENTS WERE TAKEN AND, IN PARTICULAR, THE REASONS FOR THE VARIATIONS FROM TEST 1 TO TEST 2. WITH THIS KNOWLEDGE FOR THE FIRST TIME, WE WILL REVIEW WITH OUR SUPPLIER AND TAKE THE NECESSARY CORRECTIVE ACTION ON FUTURE UNITS. [] HAS INCLUDED THESE SPECIFICATIONS TO OUR LAMP SUPPLIER, AND HAVE BEEN WORKING WITH HIM FOR A LENGTHY PERIOD IN AN ATTEMPT TO CLARIFY AND COMPLY WITH THESE DIFFICULT PARAMETERS ATTACHMENT 2 (MAIN HEADING) ITEM 1 THROUGH 3 5 THROUGH 8 10 12 13 AND 14 HAVE BEEN CORRECTED BY OUR FIELD REPRESENTATIVE ITEM 4 THE FIRST 6 UNITS HAVE BEEN COLLIMATED AND BALANCE OF UNITS WILL BE ACCOMPLISHED SHORTLY ITEM 9 JERKY FILM MOTION APPEARS TO BE SUBJECTIVE IN NATURE OR OCCURING UNDER SPECIAL CONDITIONS. WHEN MORE DEFINITIVE INFORMATION IS AVAILABLE WE CAN MAKE EXPLICIT COMMENT. ITEM 11, [] WILL REPLACE GLASS AS REQUIRED. ITEM 15, THIS IS A SUBJECTIVE MATTER; PERHAPS A LIGHT SMOOTHING PROCEDURE WITH FINE STEEL WOOL OR CROCUS CLOTH BY OUR FIELD REPRESENTATIVE MIGHT BE APPROPRIATE CONFIRMING LETTER TO FOLLOW

[]

932A EST JAN 8-1971

Defects

1. The table tilts by lifting the back of the unit and hinging on the front. This creates a nutcracker effect at the hinge. The tilt switch is located very close to the hinge, and it has been determined that an operator could very easily suffer crushed fingers while operating the switch.
2. The Y motion is locked when the table is tilted. This system is actuated by a mercury switch. The adjustment required to provide this locking feature just after tilting starts, and to release the lock after it becomes horizontal, is quite touchy. The prototype table is just as likely to be locked in the horizontal position as unlocked. If this is relieved, the carriage may start to roll forward when tilting occurs before locking takes place.
3. Using a gauge configured to show the maximum overall width of a 6.6" film reel, it was found that interferences exist at all reel stations. Further checks on the production models available at that time showed that 23 of 24 stations checked are too narrow and will not accept the 6.822 inch dimension specified.
4. The cable which connects the focus mechanism to the power supply and electronics at the back of the table prevents the focus mechanism from realizing full travel to the back of the viewing surface.
5. Markers are provided on the table to aid in placing the motors and idlers for various film configurations. The motors have matching markers on one side. However, the motors must be used in such a way that the side not containing the marker is in view. Consequently, markers must be placed on both sides.
6. The MMT is made in two parts, an elevating stand and the light table proper. If the light table is not put on the stand at the right place, or if it shifts while being transported, the lower

Contract References

- Para. 3.6.5 (4) - Moving parts such as ventilating fans, drive belts, or gears, shall be shielded or enclosed to prevent inadvertent access by the operator.
- Para. 3.5.1.4.2 - A manual bridge furnished with tilting stand shall be provided with an optional fail-safe override to prevent uncontrolled motion in the Y direction when the table is tilted. To move the carriage in the Y direction with the table horizontal, it shall be necessary only to release the Y friction lock. In a tilted position, a fail-safe interlock shall be activated preventing Y translation unless the interlock is purposely defeated.
- Para. 2 - The table shall accommodate spools ranging up to and including the size of spool specified in Military Standard MS26565-22 loaded to capacity with film.
- Para. 3.4.1.2 - With any of the microstereoscopes fixed in the mount, and using the center of the scope as a reference, translation in the Y direction shall be adequate to cover the full 15" depth of the glass viewing surface.
- Para. 3.3.1.2 - A visual reference scale and indexing device with positive detents shall be provided to allow accurate positioning of the brackets to hold the various width spools and assure accurate tracking across the glass viewing surfaces of the film parallel to the longitudinal axis of the table and to each other.
- Para. 2 - Provision shall be made for viewing... in-line viewing of two of the same widths, of 7.5", 6.6", or 9.5" wide film.

cover is prevented from dropping by the tilt and elevating switch housing. The lower cover will not open when the table is tilted.

7. The mechanism which takes up the dead loop at the center of the table employs cable guides which hold the actuating mechanism in its track. These cable guides have profiles which prevent the looping mechanism from reversing direction at one point in its travel.

8. The lower cover latches are very difficult to operate, due to their placement and design.

9. The illumination sources are not equal within 100 fL at maximum. The left measured 3225 fL max and the right 3010 fL max.

The change in output of one side when the other is turned completely down or up should not exceed 100 fL. This change was measured to be 150 fL on the left side and 165 fL on the right side.

10. The screws holding the pod in the optics mount do not provide adequate force to prevent unwanted motion.

11. There have been instances of evidence of poor quality control. a) The bearing track on the left side was not fastened tightly. b) The plastic protector covers on the Y chain drives dragged the chain and drive elements. c) The power cord reel fell off of the unit. d) The tilt lock mercury switch was not set properly.

Para. 2 - The table shall include a simple film looping mechanism which shall allow forming a loop of film below the table in order that separated frames, on the same roll of film, may be arranged adjacent to each other for convenient stereo viewing. Looping of parallel rolls of film is not required. This mechanism shall be capable of forming a continuous film loop from 0 to 76 in.

Para 3.2.1.4 - All controls, including the film hand wheels (on the manual version), shall be positioned so they can be easily manipulated. In this respect, it is understood that the location of the controls, as supplied on the preproduction model (when accepted), will be satisfactory.

Para. 3.1.1.1 - The maximum levels of the two illumination sources shall not differ by more than 100 foot lamberts at the time of this measurement. With one of the two sources set at maximum or minimum illumination level, there shall not be a change of more than 100 foot lamberts in illumination level of that source when the illumination level of the other source is adjusted through its full range.

Para 3.5.1 - Mounting devices shall be sufficiently rigid to preclude instrument misalignment and loss of collimation of the optics with respect to the viewing surface during normal handling and operation.

Contract, Page 3, ACCEPTANCE - Final inspection and acceptance of articles shall be by demonstration of successful performance and completion of tests set forth in a mutually approved Acceptance Test Plan (ATP), which shall be provided for approval two (2) weeks prior to commencement of tests on first deliverable units of any item.

Para. 11 (continued)

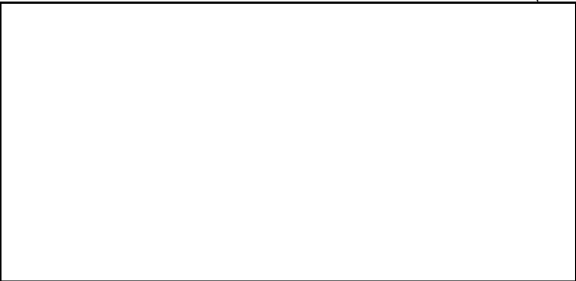
12. The color rendering index (CRI), correlated color temperature (CCT), and chromaticity aim points (X, Y) were measured for each side and are listed below.

	Left Side		Right Side	
	Test 1	Test 2	Test 1	Test 2
CCT	5574	5689	5565	5706
CRI	57.69	55.28	57.53	55.93
X	0.3304	0.3278	0.3311	0.3275
Y	0.3626	0.3616	0.3659	0.3614

Contract, Page 4, WARRANTY OF SUPPLIES - All supplies furnished under this Contract will be free from defects in material or workmanship and will conform with the specifications and all other requirements of this Contract.

Para. 3.1.1.2

CCT 5000+500K
CRI ≥ 70
X 0.345
Y 0.358



1971 JAN 8 AM 10 01

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1145

CJ AX008 (L IN4391) HL PDE TDIV FAX LOS ANGELES CALIF JAN 7
WESTERN UNION ATTN TELEPHONE 524-6654
WILL CALL 3109 WILSON BLVD ARLINGTON VIR

SUBJECT: [] REFERENCE CUSTOMER LETTER OF 4 JANUARY
1971 ON LIGHT TABLE DEFECTS. 1. WE SUBMIT THAT NO SAFETY HAZARD
EXISTS. OTHERWISE WE WOULD HAVE ALTERED TABLE DESIGN. THIS
FIRST UNIT WAS THOROUGHLY EXAMINED BY YOUR PERSONNEL IN LOS
ANGELES. IF YOU ELECT, [] WILL ACCEPT A SCOPE CHANGE TO
CORRECT THE SITUATION. 2. THIS FAULT APPEARS TO BE UNIQUE TO
TABLE S/W001, AND DOES NOT APPEAR ON THE ATTACHMENT NO. 2 REGARDING
THE INSPECTION OF 14 PRODUCTION TABLES. OUR FIELD SERVICE REPRESENTATIVE
WILL INSPECT AND CORRECT THIS DEFICIENCY ON S/W001. 3. MS26565
DOES NOT COVER THE DIMENSIONS OF A 6.6" REEL. [] TOOK THE
POSITION THAT 6.6" FILM WIDTH BE IN EFFECT SUBSTITUTED FOR
THE 5" FILM WIDTH IN SAID STANDARD AND EXTROPOLATED APPROPRIATE
DIMENSIONS FROM THE 5" SPECIFICATION. THIS RESULTED IN A DESIGN
WHERE THE MAXIMUM-TOLERANCED REEL WOULD BE NO GREATER THAN
6.782-INCHES. THE PROTOTYPE PREVIOUSLY DELIVERED AND EVALUATED
BY YOU AND UNIT SERIAL 001 INSPECTED HERE IN LOS ANGELES BOTH
INCORPORATE THIS DESIGN. [] UNDERSTANDS THAT CURRENT 6.6"
REELS AVAILABLE TO THE CUSTOMER EXCEED THIS NUMBER AND THE
CRITICAL NATURE OF THIS PARAMETER. WE WILL IMMEDIATELY INSTITUTE
A CORRECTION WHICH IS FIELD RETROFITTABLE AND FACTORY IMPLEMENTED,
AND WILL SUBMIT A CLAIM COVERING THIS SCOPE CHANGE. 4. []
SUBMITS THAT THE TABLE COMPLETELY MEETS THE REQUIREMENTS OF
PARAGRAPH 3.4.1.2, AND THAT THE CABLE CAN BE EASILY MOVED ASIDE

BY THE OPERATOR AS A BETTER ROUTINE PRACTICE. 5. THE COLOR
CODING ON MOTORS IS MEANT ONLY AS A VISUAL REFERENCE GUIDE
AND THE PRECISE POSITIONING IS OBTAINED BY MECHANICAL DETENTING
IN WHICH AN OPERATOR CAN FEEL LOCK-IN. WHEN MOTORS ARE USED
IN THE SPLIT VERTICAL MODE, THIS VISUAL REFERENCE CAN BE OBTAINED
BY USING THE LEFT REAR MOTOR ON THE LOWER RIGHT POSITION AND
THE RIGHT REAR MOTOR ON THE LOWER LEFT POSITION. MOTORS ARE
EASILY INTERCHANGED BY SIMPLE PLUG-IN OPERATION. [] SUBMITS
THAT DESIGN MEETS THE REQUIREMENTS OF 3.3.1.2 6. [] RECOGNIZES
THE CONDITION OF LOWER COVER BEING PREVENTED FROM OPENING WHEN
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PREVENT THE TABLES FROM SHIFTING; AND PROVIDE FIELD-INSTALLED
PLUGS TO HOLD THE TABLES IN THE CORRECT POSITION. OPERATIONAL
PROCEDURES WILL REQUIRE THAT THE TABLE BE LOWERED TO THE HORIZONTAL
POSITION FOR LOADING THE IN-LINE VIEWING OF TWO SIMILAR-WIDTH
FILMS. AND THIS IS A SIMPLE OPERATION. 7. [] RECOGNIZES
THE INCONVENIENCE OF THE TAKE-UP LOOK BEING BLOCKED IN ONE
DIRECTION DUE TO THE CABLE GUIDES, AND WILL MAKE AN IN-LINE
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8. THE LOCATION OF THE LOWER COVER LATCHES ARE THE RESULT OF
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A SIMPLE ONE, IS NOT AN OPERATING CONTROL, AND IT MEETS THE
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FOR ADJUSTMENT BY FACTORY TRAINED PERSONNEL TO BALANCE THE
TWO ILLUMINATION SOURCES IN ORDER TO MEET THE REQUIREMENTS
OF THE FIRST PORTION OF PARAGRAPH 3.1.1.1. [] WILL ENSURE
THAT FACTORY CHECKOUT PROCEDURES WILL COMPLY WITH THIS REQUIREMENT.
OUR TRAINED FIELD PERSONNEL CAN CORRECT THE DIFFERENCE IN S/W002.
THE LIGHT SOURCE CONTAINED IN THE TABLE IS A SIGNIFICANT ADVANCEMENT
IN THE STATE-OF-THE-ART. WE REQUIREMENT TO EXCEED 90 FT.
LAMBERTS, MEET THE DIMMING RATIO OF 20:1, AND PROVIDE NO VISIBLE
OBJECTIONABLE FLICKER RESULTED IN DIFFICULT DESIGN TRADE-OFFS.

[] EXCEEDED ALL THESE REQUIREMENTS SIGNIFICANTLY. TABLE

TELEGRAM
WESTERN UNION

THE GOVERNMENT TO TAKE FULL ADVANTAGE OF THIS INCREASED PERFORMANCE.
AS A RESULT OF THIS INCREASED BRIGHTNESS, THE REQUIREMENT OF
THE SECOND PART OF PARAGRAPH 3.1.1.1. MIGHT BE EXCEEDED BY
A SMALL PERCENTAGE POINT FOR A SMALL PERCENTAGE OF THE TABLES.
[REDACTED] CONSIDERS THIS TO BE OF LITTLE CONSEQUENCE AND THEREFORE
IS SETTING CONTROLS FOR BRIGHTER OPERATION. IF THE GOVERNMENT
DESIRES, [REDACTED] COULD FACTORY-SET THE TABLES TO OPERATE IN
200 TO 3,000 FT. LAMBERTS RANGE SUCH THAT ILLUMINATION WOULD
FALL WITHIN THE VARIATION REQUIREMENT. 10. [REDACTED] RECOGNIZES
THE LOW RETAINING FORCE OF S/NOO1 PAD LOCKS AND RESULTING OPERATOR
INCONVENIENCE. AN IN-LINE CORRECTION HAS BEEN MADE EFFECTIVE
WITH S/NOO2 AND WE WILL FORWARD A CORRECTED MOUNT IMMEDIATELY
FOR FIELD INSTALLATION IN S/NOO1. 11. (A) THE TRACK ON THE
LEFT SIDE WAS DESIGNED TO FLOAT AT ONE END TO PROVIDE EASE
OF BRIDGE MOTION. 11. (B) THE PLASTIC PROTECTOR COVERS ON THE
Y CHAIN DRIVES WERE DESIGNED TO HAVE ADEQUATE CLEARANCE SUCH
THAT THERE WOULD BE NO DRAG ON THE SYSTEM. HOWEVER, APPARENTLY
SOME MOTION OR DISTORTION TAKES PLACE DURING SHIPMENT WHICH
CAUSES A SLIGHT INTERFERENCE. [REDACTED] HAS TAKEN CORRECTIVE ACTION
TO INCREASE THE CLEARANCE AS AN IN-LINE CHANGE FOR FUTURE SHIPMENTS.
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11. (D) THE TILT MECHANISM WHICH CONTAINS THE MERCURY SWITCH
IS THOROUGHLY TESTED, INSTALLED AND ADJUSTED PRIOR TO SHIPMENT.
THIS DEFECT APPEARS UNIQUE TO S/NOO1, AND WILL BE CORRECTED
BY OUR FIELD REPRESENTATIVE. [REDACTED] SUBMITS THAT THIS DESIGN
SATISFIES REQUIREMENT. ALSO, ADDITIONAL INFORMATION IS REQUIRED
BEFORE WE CAN COMMENT FURTHER. GENERALLY WE ARE KEENLY AWARE
OF THE IMPORTANCE OF QUALITY CONTROL, AND ARE IN A CONTINUAL
REVIEW PROCESS TO ASSURE THAT STANDARDS ARE ACCEPTABLE AND
TOTALLY IMPLEMENTED. WE WILL CONTINUE TO BE ALERT TO THESE
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THE REASONS FOR THE VARIATIONS FROM TEST 1 TO TEST 2. WITH
THIS KNOWLEDGE FOR THE FIRST TIME, WE WILL REVIEW WITH OUR
SUPPLIER AND TAKE THE NECESSARY CORRECTIVE ACTION ON FUTURE
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SUPPLIER, AND HAVE BEEN WORKING WITH HIM FOR A LENGTHY PERIOD
IN AN ATTEMPT TO CLARIFY AND COMPLY WITH THESE DIFFICULT
PARAMETERS ATTACHMENT 2 (MAIN HEADING) ITEM 1 THROUGH 3 5 THROUGH 8
10 12 13 AND 14 HAVE BEEN CORRECTED BY OUR FIELD REPRESENTATIVE ITEM 4
THE FIRST 6 UNITS HAVE BEEN COLLIMATED AND BALANCE OF UNITS WILL BE
ACCOMPLISHED SHORTLY ITEM 9 JERKY FILM MOTION APPEARS TO BE SUBJECTIVE
IN NATURE OR OCCURRING UNDER SPECIAL CONDITIONS. WHEN MORE
DEFINITIVE INFORMATION IS AVAILABLE WE CAN MAKE EXPLICIT COMMENT.
ITEM 11, [REDACTED] WILL REPLACE GLASS AS REQUIRED. ITEM 15, THIS
IS A SUBJECTIVE MATTER; PERHAPS A LIGHT SMOOTHING PROCEDURE
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MIGHT BE APPROPRIATE CONFIRMING LETTER TO FOLLOW

[REDACTED]
932A EST JAN 8 1971

Defects

1. The table tilts by lifting the back of the unit and hinging on the front. This creates a nutcracker effect at the hinge. The tilt switch is located very close to the hinge, and it has been determined that an operator could very easily suffer crushed fingers while operating the switch.
2. The Y motion is locked when the table is tilted. This system is actuated by a mercury switch. The adjustment required to provide this locking feature just after tilting starts, and to release the lock after it becomes horizontal, is quite touchy. The prototype table is just as likely to be locked in the horizontal position as unlocked. If this is relieved, the carriage may start to roll forward when tilting occurs before locking takes place.
3. Using a gauge configured to show the maximum overall width of a 6.6" film reel, it was found that interferences exist at all reel stations. Further checks on the production models available at that time showed that 23 of 24 stations checked are too narrow and will not accept the 6.822 inch dimension specified.
4. The cable which connects the focus mechanism to the power supply and electronics at the back of the table prevents the focus mechanism from realizing full travel to the back of the viewing surface.
5. Markers are provided on the table to aid in placing the motors and idlers for various film configurations. The motors have matching markers on one side. However, the motors must be used in such a way that the side not containing the marker is in view. Consequently, markers must be placed on both sides.
6. The MFT is made in two parts, an elevating stand and the light table proper. If the light table is not put on the stand at the right place, or if it shifts while being transported, the lower

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- Para. 3.6.5 (4) - Moving parts such as ventilating fans, drive belts, or gears, shall be shielded or enclosed to prevent inadvertent access by the operator.
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- Para. 2 - The table shall accommodate spools ranging up to and including the size of spool specified in Military Standard MS26565-22 loaded to capacity with film.
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- Para. 3.3.1.2 - A visual reference scale and indexing device with positive detents shall be provided to allow accurate positioning of the brackets to hold the various width spools and assure accurate tracking across the glass viewing surfaces of the film parallel to the longitudinal axis of the light table and to each other.
- Para. 2 - Provision shall be made for viewing... in-line viewing of two of the same widths, of 70mm, 5", 6.6", or 9.5" wide film.

cover is prevented from dropping by the tilt and elevating switch housing. The lower cover will not open when the table is tilted.

7. The mechanism which takes up the dead loop at the center of the table employs cable guides which hold the actuating mechanism in its track. These cable guides have profiles which prevent the looping mechanism from reversing direction at one point in its travel.

8. The lower cover latches are very difficult to operate, due to their placement and design.

9. The illumination sources are not equal within 100 fL at maximum. The left measured 3225 fL max and the right 3010 fL max.

The change in output of one side when the other is turned completely down or up should not exceed 100 fL. This change was measured to be 150 fL on the left side and 165 fL on the right side.

10. The screws holding the pod in the optics mount do not provide adequate force to prevent unwanted motion.

11. There have been instances of evidence of poor quality control. a) The bearing track on the left side was not fastened tightly. b) The plastic protector covers on the Y chain drives dragged the chain and drive elements. c) The power cord reel fell off of the unit. d) The tilt lock mercury switch was not set properly.

Para. 2 - The table shall include a simple film looping mechanism which shall allow forming a loop of film below the table in order that separated frames, on the same roll of film, may be arranged adjacent to each other for convenient stereo viewing. Looping of parallel rolls of film is not required. This mechanism shall be capable of forming a continuous film loop from 0 to 76 inches.

Para 3.2.1.4 - All controls, including the film hand wheels (on the manual version), shall be positioned so they can be easily manipulated. In this respect, it is understood that the location of the controls, as supplied on the preproduction model (when accepted), will be satisfactory.

Para. 3.1.1.1 - The maximum levels of the two illumination sources shall not differ by more than 100 foot lamberts at the time of this measurement. With one of the two sources set at maximum or minimum illumination level, there shall not be a change of more than 100 foot lamberts in illumination level of that source when the illumination level of the other source is adjusted throughout its full range.

Para 3.5.1 - Mounting devices shall be sufficiently rigid to preclude instrument misalignment and loss of collimation of the optics with respect to the viewing surface during normal handling and operation.

Contract, Page 3, ACCEPTANCE - Final inspection and acceptance of articles shall be by demonstration of successful performance and completion of tests set forth in a mutually approved Acceptance Test Plan (ATP), which shall be provided for approval two (2) weeks prior to commencement of tests on the units of any item.

Para. 11 (continued)

12. The color rendering index (CRI), correlated color temperature (CCT), and chromaticity aim points (X, Y) were measured for each side and are listed below.

	Left Side		Right Side	
	Test 1	Test 2	Test 1	Test 2
CCT	5574	5689	5565	5706
CRI	57.69	55.28	57.53	55.93
X	0.3304	0.3278	0.3311	0.3275
Y	0.3626	0.3616	0.3659	0.3614

Contract, Page 4, WARRANTY OF SUPPLIES - All supplies furnished under this Contract will be free from defects in material or workmanship and will conform with the specifications and all other requirements of this Contract.

Para. 3.1.1.2

CCT 5000+500K
CRI ≥ 70
X 0.345
Y 0.358

