Film-Tech

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These manuals are designed to facilitate the exchange of information related to cinema projection and film handling, with no warranties nor obligations from the authors, for qualified field service engineers.

If you are not a qualified technician, please make no adjustments to anything you may read about in these Adobe manual downloads.

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LIST OF OPTIONAL EQUIPMENT	
Part Number	Nomenclature
CDMK471	Mounting Kit for Century 70mm Projector (without Turret)
CDMK471T	Mounting Kit for Century 70mm Projector (with Turret)
CDMK472	Mounting Kit for Simplex 70mm Projector
CDMK473	Mounting Kit for Norelco DP70 70mm Projector
CDMK474	Mounting Kit for Cinemeccanica 70mm Projector
CDMK475	Mounting Kit for Norelco DP70 70mm Projector
DEQ7	Yamaha Digital Equalizer
CDPS221	Second Reader Exciter Lamp Power Supply
CDPS222	Spare Power Supply

ACCESSORIES		
Part Number		
70mm	35mm	Description
4066-0037	4066-0038	Digital Pink Noise Reference Test Film
4066-0036	4066-0035	Digital Delay Sync Test Film
4066-0028	4066-0031	Digital Pink Noise Rotate Test Film
4066-0030	4066-0032	Digital Pink Noise Bounce Test Film
4066-0033	4066-0034	Digital Swept Tone Test Film
4066-0029	4066-0027	Digital Zero Noise Test Film
4066-0026	4066-0025	"Sounds Like The Reel World"

TEST EQUIPMENT REQUIRED FOR INSTALLATION
Oscilloscope (100 Mhz preferred)
Sound Level Meter (theatre equalization)
Audio Spectrum Analyzer (theatre equalization)
Frequency/Event Counter (with one second interval event count average capability)

SPARE PARTS FOR CDP-1000 PROCESSOR	
Part Number	Description
909022-001 or 909483-001	Digital-to-Analog Converter 6-Channel Printed Circuit Board
909025-001	Camera Acquisition System Printed Circuit Board
909070-002	Front Panel Printed Circuit Board
909101-002	Error Correction Processor Printed Circuit Board
909104-001	Digital Sound Processor Printed Circuit Board
909107-001	Data Acquisition System Printed Circuit Board
909514-001	AIC Heatsink Assembly
909232-001	LCD Module
909233-001	Switcher Power Supply
909234-001	18-Volt Linear Power Supply
909236-001	Relay Assembly
909331-002	EQ Panel, Yamaha Full Configuration
909403-001	Automation Panel
909425-001	Digital-to-Analog 6-Channel Audio Cable
909508-001	Automatic Illumination Control Circuit Board
909318-001	Automation Control Printed Circuit Board
909340-001	Audio Line Switcher Printed Circuit Board (Barrier Strips)

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Appendix II - CABLE AND CONNECTOR SPECIFICATIONS

Cable	Wire Specification	Connector Specification
Power Cable	Standard AC Power Cable, 3-conductor	Moulded Connector each end (IEC, 3-pin type at Processor)
CDS READER/PROCESSOR (CAMERA/OUTPUT) Video Cable (Reader to J5 or J8 on Processor)	RG59/U 75-ohm Coaxial Cable (20 ft. min.)	Twist-on BNC Type (2 required). (See figure A-1 and instructions on page A-5)
CAMERA CONTROL (Reader to J6 or J9 on Processor)	Flat, Twisted-pair Cable, 16-conductor, within a plastic jacket (Part No. 3166-0410)	One male 15-pin "D" connector One female 15-pin "D" connector (see figure A-2)
LAMP POWER (Reader to Barrier Strip on Processor)	2-conductor, No 12 AWG, stranded, insulated wire (50 ft. max.)	Barrier strip contacts, both ends
AUDIO INPUT	(As supplied with the external equipment	XLR audio connectors or barrier strip terminals (as may be installed)
AUDIO OUTPUT	Six, shielded, twisted-pair audio cables	XLR audio connectors or barrier strip terminals (as may be installed)
AUX POWER SUPPLY (to J1, J2, J3, and J4 on Processor)	Furnished with auxiliary power supply	J1 = 6-pin Molex J2 = 9-pin Molex J3 = 12-pin Molex J4 = 15-pin Molex
AUXILIARY READER LAMP SUPPLY	2-conductor, -12 AWG, stranded, insulated wire	Barrier strip contact, both ends
Digital Equalizer (optional) (6 required)	8-conductor, round cable, molded	8-pin DIN connectors, both ends

CDS READER/PROCESSOR Video Cable Preparation Instructions

Install the BNC connectors on each end of the Reader/Processor Video Cable as follows:

1. Using a coaxial cable stripper, cut the outer sheath, braid, and dielectric of the RG59/U coaxial cable as shown in **Step 1** of figure A-1. There shall be 9/16 inch of solid conductor exposed; the outer sheath and dielectric shall be trimmed ¼-inch back from solid conductor as shown.

2. Twist the coaxial cable braid clockwise (when viewed from the solid conductor end of the cable) until the braiding is pulled back and the center dielectric is exposed as shown in **Step 2** of figure A-1.

3. Carefully insert the solid conductor of the RG59/U coaxial cable into the center hole, deep inside, of the twist-on BNC conductor.

4. Push the coaxial cable into the BNC connector until the braiding starts into the BNC connector housing.

5. Twist the BNC connector clockwise (as viewed from the center conductor end of the connector) until the outer plastic sheath of the RG59/U coaxial cable goes into the BNC connector housing, tightening firmly.

6. Using an ohmmeter:

   a. Check the BNC outer case and the center pin for continuity while shorting the case and center pin on the opposite end of the cable. (This verifies ground and signal integrity along the entire length of the cable.)

   b. Check that there is no short circuit between the BNC connector outer case and the center pin, with the cable open at both ends.

WARNING: Extreme care should be used while applying these terminations. Poor workmanship will cause severe signal degradation.

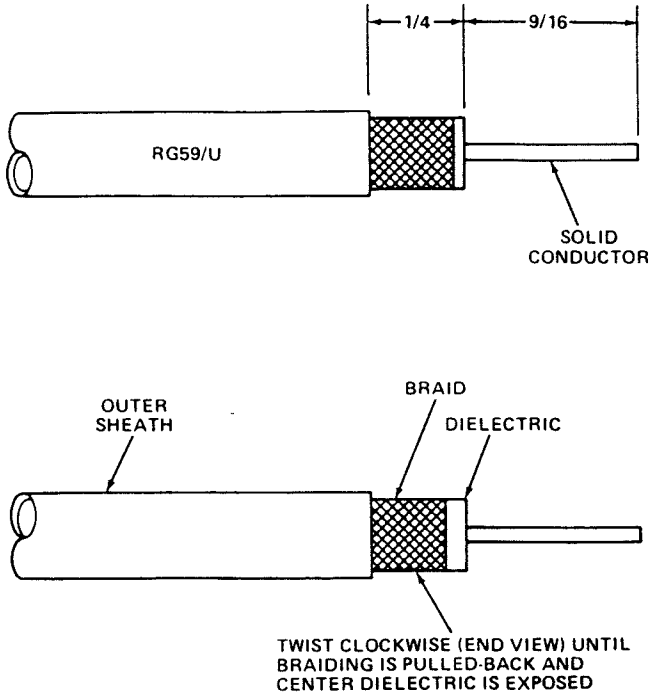
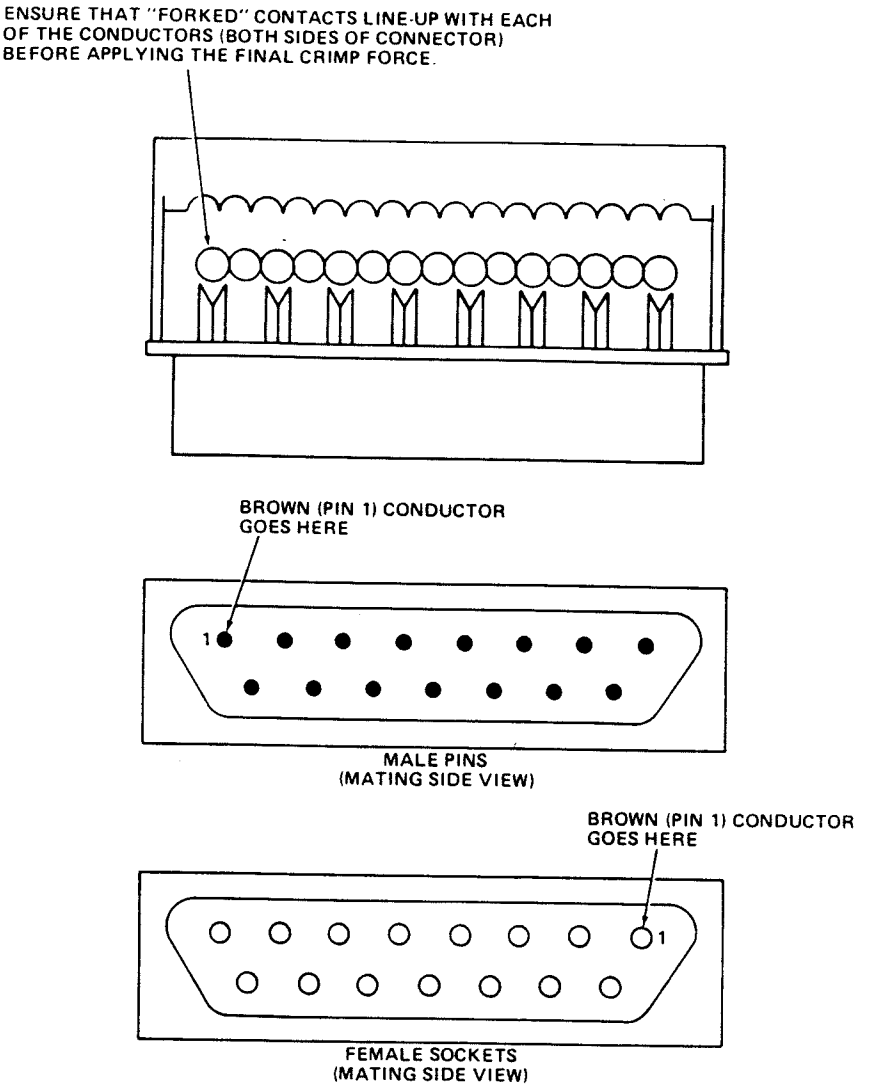


Figure A-1. Reader/Processor Video Cable Preparation

SPECIAL TOOLS AND INSTRUCTIONS

PART NO. (Source)	NOMENCLATURE	REMARKS (See Figure A-2)
2CSK-B (Xcelite)	Coax Cable Stripper	For use on RG59/U Cable (CDS Reader/Processor Video Cable)
Flat Cable Connector Press		To install DB15 Connectors on Camera Control Cable
{779-2100 and 779-2179} (Thomas & Betts) 276-1596 (Radio Shack)		Assembly of 9-37 pin D-subs Connectors (Hand Press Tool Frame/Die)

Warning: Extreme care should be used while applying these terminations. Poor workmanship will cause severe signal degradation.



Notes: 1. Remove 16th conductor from "flat" area of cable before insertion into connector. (By pulling back from connector body and cutting short).

2. The plastic, outer jacket of the Control Cable is marked every 20" (approximately) wherever the "flat" portions of the cable appear internally.

Figure A-2. Flat Cable Installation Detail

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Appendix III - READER ADJUSTMENTS FOR FILM SIZE

The Optical Bench in the Reader can be adjusted to read either 35mm or 70mm motion picture film sound tracks. The three Spacer Blocks in the Reader housing provide this adjustment, and move the Optical Bench in and out so as to place the digital sound track between the quartz halogen lamp and the CCD camera unit.

As shown in figure A-3, there are two spacer blocks at the CCD camera unit end of the Optical Bench, and one spacer block at the Lamp Module end. When 35mm film is to be used, the three spacer blocks are swung away from the Optical Bench, and the Optical Bench is mounted flush to the Reader Housing. (The spacer blocks will be free to pivot on their mounting screws.) When 70mm film is to be used, all three spacer blocks are placed between the Optical Bench and the Reader housing.

To modify the Optical Bench to read 70mm or 35mm motion picture film sound tracks, first check whether the Optical bench is set for 35mm or 70mm film; then, proceed as follows:

Setup for 35mm Film: If the Reader is currently set for 70mm film and is to be changed to read 35mm film:

1. Loosen the three attaching screws for the Optical Bench just enough (approximately 1/2 turn) so that the three spacer blocks can be rotated away from under the Optical Bench.

2. While making sure that the three spacer blocks are not under the optical bench, tighten the loosened attaching screws (approximately 10 turns needed to take up the slack).

3. Flip the spring lever (on the top dampener arm) so that **35MM** is shown. (DO NOT ROTATE the lever parallel to the dampener arm.)

Setup for 70mm Film: If the Reader is currently set for 35mm film and is to be changed to read 70mm film:

1. Loosen the three attaching screws for the Optical Bench just enough (approximately 10 turns) to allow room to rotate the spacer blocks so that they are placed between the Optical Bench and the Reader housing.

2. Rotate the three spacer blocks between the Optical Bench and the Reader housing. There will be two spacer blocks between the CCD camera unit end of the Optical Bench and the housing; one spacer block between the lamp module end of the Optical Bench and the housing.

3. Tighten the loosened attaching screws.

4. Flip the spring lever (on the top dampener arm) so that **70MM** is shown. (DO NOT ROTATE the lever parallel to the dampener arm.)

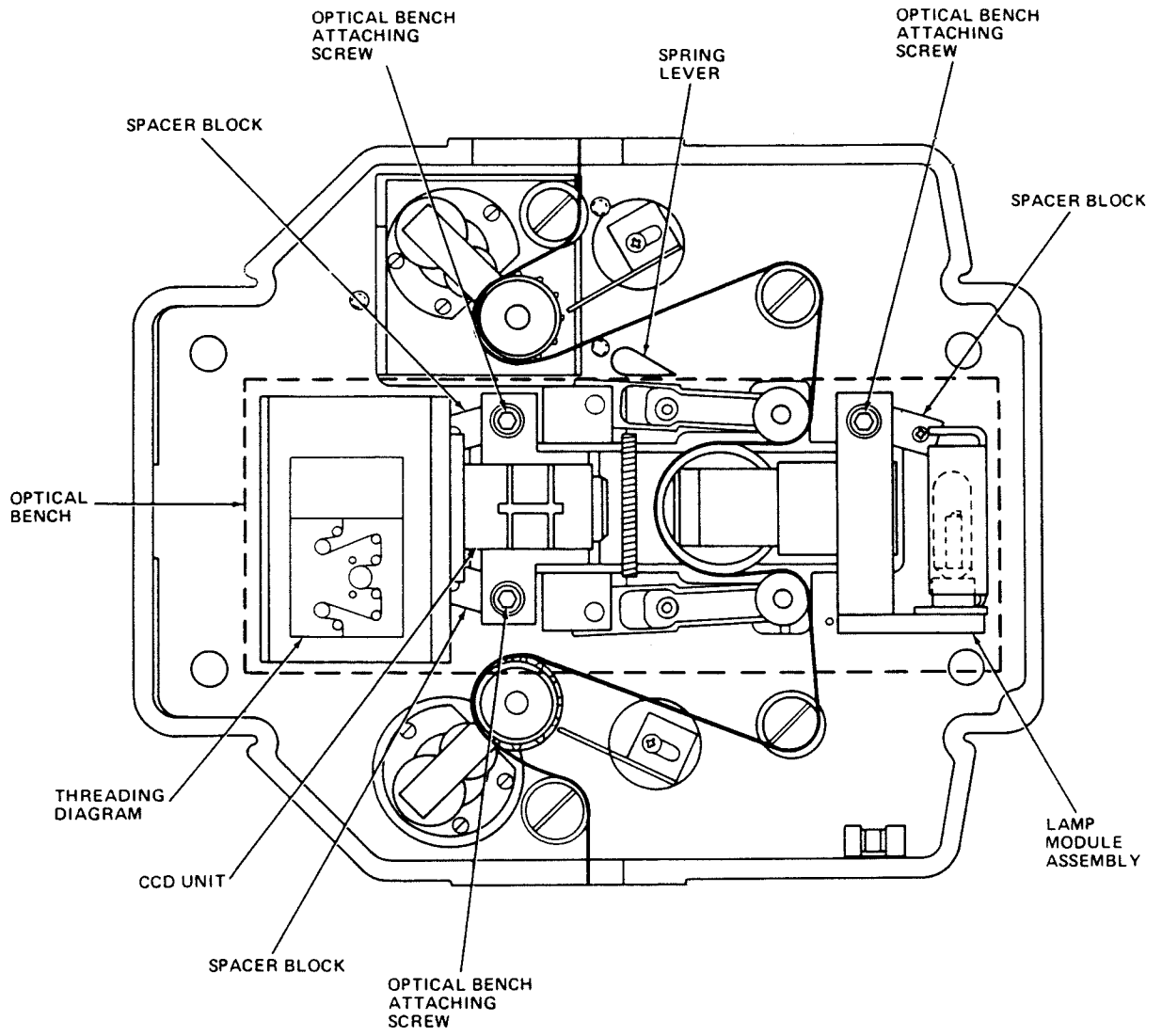

Figure A-3. Changing Optical Bench Position - 35mm/70mm Changeover

Appendix IV - PASSWORD PROCEDURE

All system adjustments are available from the Setup menu. To prevent unauthorized changes that can disturb reference levels and delays, the Setup menu is only accessible by password.

CAUTION: Access to the Setup menu should be limited to only those persons authorized and trained to change reference levels and displays.

Note: After the desired reference levels have been set at the Setup menu, record those settings for later reference in the event unauthorized changes are made. (Use recording sheet in **Appendix VII**)

The combination of button presses (the "password") to gain entry to the Setup menu is sufficiently inconvenient, without being difficult. The password is only accepted when at the Operator menu (shown here).

```
Volume level: +0 dB
  Cnt Ref Aut CDS Ext 35 70  (Proj1)
```

Operator Menu

The button combinations are as follows:

Step 1 Press both the **Go** and **Start** buttons.

Step 2 Release the buttons.

```
Prev Vol Delay Tones Cnts More
Sel  <  >  Aut CDS Ext 35 70  (Proj1)
```

Setup Menu

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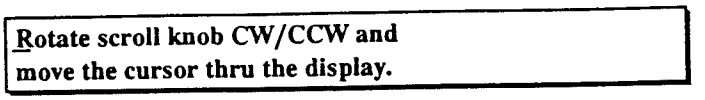
Appendix V - FRONT PANEL DIAGNOSTICS

REQUIREMENTS

The software diagnostics test the LCD display, **SCROLL** knob, control panel buttons and LED's, the serial I/O communications, and the front panel watchdog timer.

The Front Panel requires +5 Vdc which the ECP board supplies through the 8-pin telephone cable.

DIAGNOSTIC TESTING



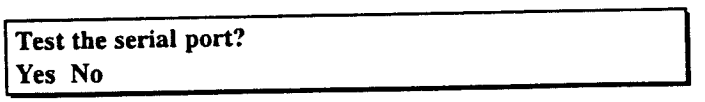
Diagnostic Power Up Display

The figure shows the initial diagnostic display. Advancing from one test to the next is accomplished by pressing the lighted **STOP** button.

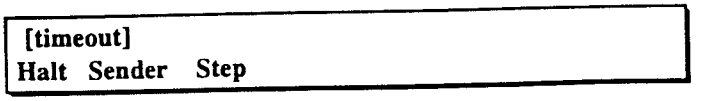
Test 1: Display and Scroll Knob Test

Test 1 uses the Diagnostic Power Up Display shown above. Rotate the **SCROLL** knob clockwise and counterclockwise to move the cursor to all of the characters in the display. Failure of the cursor to move indicates that the **SCROLL** knob signals are not present.

Test 2: Serial I/O Test



Serial I/O Display



Serial I/O Mode Display

This test will test the communication of the Front Panel through the ECP board to the DSP. Once communication is established the user can select an operating mode. Press either **Sender** or **Step** until the LED lights. The DSP board can only operate as a receiver.

Sender Mode

Serial I/O Sender Display

This mode starts sending characters to the DSP. The character received is checked against the character sent. If the two match then the next character is sent. A mismatch causes a **Halt**. The display will show the characters sent and received in hexadecimal. [timeout] indicates that no character has been received.

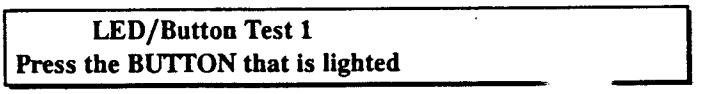
Step Mode

The same as the **Sender** mode except only one character is sent for each button press.

Halt Mode

This mode halts the serial I/O communication.

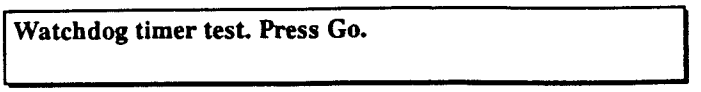
Test 3: Button/LED Test



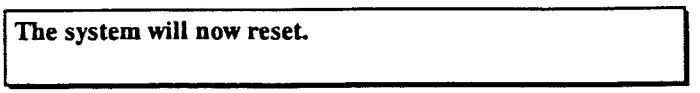
LED/Button Test Display

For this test the user simply presses the button with the lighted LED. Should any LEDs blink the corresponding buttons are shorted. If an LED does not light then it is either faulty or the LED driver is bad. (See **Troubleshooting Hints**, page A-15)

Test 4: Watchdog Timer Test



Watchdog Timer Test



Watchdog Timer Message

This test forces the software to ignore servicing the watchdog timer. It should cause a front panel reset. The display will return to the Operator menu . If the watchdog timer is not operating correctly a failure message will display.

Remote Operation

Setup and adjustment of the theatre environment at times is better accomplished if the Front Panel controls are located down in the theatre itself. The CDP-1000 system allows remote operation by replacing the Front Panel Cable at the ECP board with a cable from a remote Front Panel unit. Cable length, using twisted 4-pair cable, is limited to 1000 feet.

TROUBLESHOOTING HINTS

Troubleshooting the basic hardware of the front panel usually requires only an oscilloscope and a digital voltmeter (DVM). Common sense troubleshooting techniques will quickly localize most troubles that might be encountered with the system.

Troubleshooting Hints

PROBLEM	TROUBLE LOCALIZATION SUGGESTIONS
Faulty **SCROLL** Knob:	Check the signals from the **SCROLL** knob to pins 3 and 4 of 1C. The signals should go low when the knob is rotated. R1 and R2 pull the signals high. If the signals stay high, then pin 2 of the encoder is probably not connected to ground. If the signals stay low, then check the pull-ups.
No Display on LCD:	Several things may be wrong, though the most likely is a bad display cable. A break in any of the signals will cause the display (which has its own intelligence) to hang-up. Check for +5 Vdc. Try another display. Check if the backup light is connected to +5 Vdc. A last possibility is a bad control PAL, 2D, or a dead 80C31.
Unlighted LED:	Two chips drive the LED's: 1D and 2B. Use an oscilloscope to check the signals. The worst possibility is an LED failure. Remove the pushbutton cap. Then, *carefully* unsolder the LED and *gently* pull the LED from the pushbutton. Install a new LED in the circuit, observing polarity like neighboring switches. This procedure should only be performed by a qualified technician.
Bad Button:	Test a malfunctioning pushbutton by removing power, connecting a DVM to the button contacts (right side), and pressing the button. The DVM should indicate a short circuit when the button is pressed, and an open circuit when the button is released. If either function is faulty, replace the pushbutton.
Serial I/O:	If the Front Panel does not communicate with the CDP-1000 Processor, then first look at the ECP cable. To chec) see if the DSP board is receiving UART characters, obs e LED 7. It should blink whenever a character is received.

Appendix VI - PROJECTOR ADAPTER KITS

Century "JJ" Projector, Without Turret
Order No. CDMK-471 (ORC Part No. 909490-001)

Item	ID Number	Description	QTY
1	PE-1305	Plate, Modified PE-1190	1
2	PA-1307	Pad, CDS 70mm Film Gate	1
3	SC-0865	Screw, Film Stabilizer	2
4	SC-0114	Screw	2
5	D114203	CDS, Century Adapter Kit	1
6	909472-001	Installation Diagram Century	1
7	J2-BB-28D	Intermittent Sprocket Assembly	1
8	J3-E-56	Shoe & Pivot Block Assembly	1
9	BR-1445	Bracket, Trap Shoe Front	1
10	RO-209-D	Roller, Pad 70mm	4
11	SC-0054	Screw, Trap Shoe Front	1
12	SC-0564	Screw, Mounting	4
13	SC-1016	Screw, Shoe Mounting	2
14	WA-0105	Washer	4
15	AB-0224	Abrasive Cloth	1
16	FE-0191	File	1
17	909380-001	Reader Bypass Assembly	2

Century "JJ" Projector, With Turret
Order No. CDMK-471-T (ORC Part No. 909490-003)

Item	ID Number	Description	QTY
1	T3-D-40	Turret Gate Assembly, Modification	1
2	D114203	CDS, Century Adapter Kit	1
3	909472-001	Installation Diagram Century	1
4	J2-BB-28D	Intermittent Sprocket Assembly	1
5	J3-E-56	Shoe & Pivot Block Assembly	1
6	BR-1445	Bracket, Trap Shoe Front	1
7	RO-209-D	Roller, Pad 70mm	4
8	SC-0054	Screw, Trap Shoe Front	1
9	SC-0564	Screw, Mounting	4
10	SC-1016	Screw, Shoe Mounting	2
11	WA-0105	Washer	4
12	AB-0224	Abrasive Cloth	1
13	FE-0191	File	1
14	909380-001	Reader Bypass Assembly	2

Simplex "PR-3570" Projector, With Sound Reproducer
Order No. CDMK-472 (ORC Part No. 909490-005)

Item	ID Number	Description	QTY
1	909468-001	Installation Diagram Simplex	1
2	909082-001	Plate, Simplex Adapter	1
3	909227-001	Roller, Delrin	6
4	4596-0065	Bearing, Needle	12
5	5706-0379	Bolt, 3/8-16 x 3/4" Socket Cap. Head	2
6	909380-001	Reader Bypass Assembly	2

Norelco "AA-2" Projector, With Reels
Order No. CDMK-473 (ORC Part No. 909490-007)

Item	ID Number	Description	QTY
1	909469-001	Installation Diagram Norelco	1
2	909083-001	Plate, Norelco Adapter	1
3	909110-001	Guide, Film	1
4	909193-001	Roller, Flange "Lower"	1
5	909194-001	Roller, Non Flange "Upper"	2
6	909195-001	Roller, Delrin	3
7	909244-001	Pad, Norelco 70mm Film Gate	1
8	4596-0069	Bearing, Roller	6
9	5706-0380	Bolt, 5/16-18 x 7/8" Socket Cap. Head	3
10	909380-001	Reader Bypass Assembly	2

Cinemeccanica "V8" Projector, With Reels
Order No. CDMK-474 (ORC Part No. 909490-009)

Item	ID Number	Description	QTY
1	909470-001	Installation Diagram Cinemeccanica	1
2	909253-001	Gate, Cinemeccanica Modification	1
3	909257-001	Spacer, Cinemeccanica V8 (Bottom)	1
4	909258-001	Pad, Short	1
5	909258-003	Pad, Long	1
6	909308-001	Plate, Cinemeccanica Adapter	1
7	909309-001	Roller, 19mm O.D.	4
8	3506-0084	Bolt, 3/8-16 x 2" Flat Socket Head	4
9		Bolt, 5/16-18 x 1-1/4" Hex Head	4
10	909380-001	Reader Bypass Assembly	2

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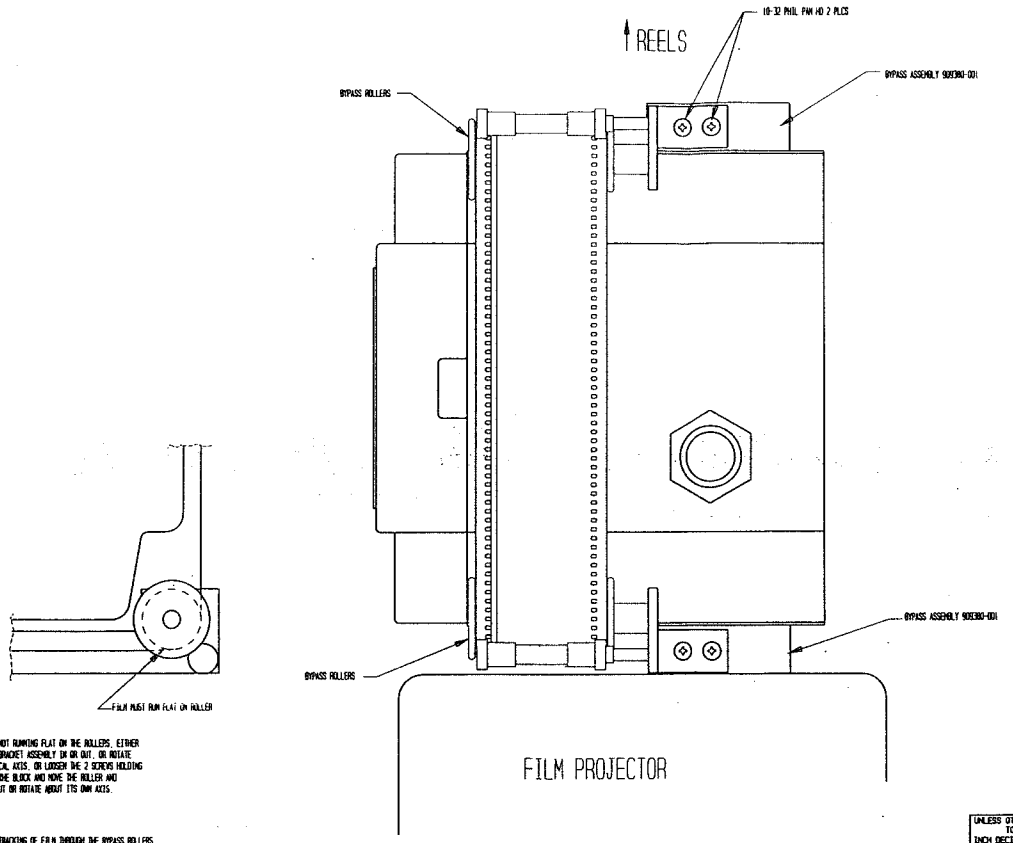
REVISIONS				
DASH	REV	DESCRIPTION	DATE	APPROVE
			8-7-98	



1. IF THE FILM IS NOT RUNNING FLAT ON THE ROLLERS, EITHER MOVE THE BLOCK-BRACKET ASSEMBLY IN OR OUT, OR ROTATE ABOUT THE VERTICAL AXIS, OR LOOSEN THE 2 SCREWS HOLDING THE BRACKET TO THE BLOCK AND MOVE THE ROLLER AND BRACKET IN OR OUT OR ROTATE ABOUT ITS OWN AXIS.

2. VERIFY PROPER TRACKING OF FILM THROUGH THE BYPASS ROLLERS AFTER INSTALLATION BY RUNNING A FILM LOOP THROUGH IT. CHECK FOR THE FILM RUNNING FLAT AGAINST ALL ROLLERS, INCLUDING THOSE IN THE FIRST PART OF THE PROJECTOR

NOTES: UNLESS OTHERWISE SPECIFIED

QTY	DASH#	NEXT ASSY	USED ON
		APPLICATION	

UNLESS OTHERWISE SPECIFIED TOLERANCES
INCH DECIMAL ANGLE
.XX± .03 .XXX± .010 ±
MACHINE FINISH 125 RMS
DO NOT SCALE DRAWING
MATERIAL
FINISH

DRAWN DATE 10-26-90
DRAFTSMAN L. YALOVEGA
DESIGN
ENGR.
APPROVED

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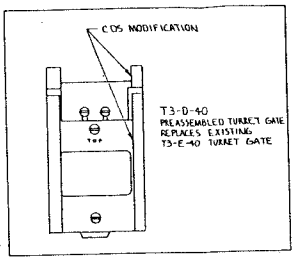
Optical Radiation Corporation

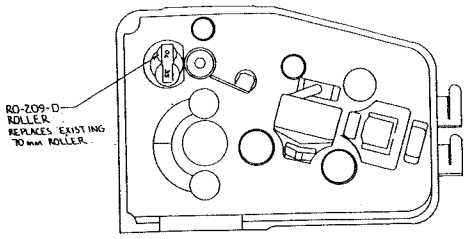
INSTALLATION DIAGRAM

SIZE		REV
D	909472-001	C
SCALE FULL	WT.	SHEET 2 OF 2

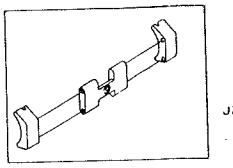
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	RELEASED FOR PRODUCTION	6-17-91	KP TL
	B	E.O.* 0447 CHANGE ITEM NOS. TO MATCH PROJECTOR ADAPTER KITS 909490-AXX	9-18-91	TL
	C	ECR 6712 ADDED NOTES 2 & 3. ADDED PG 2 & 3. ADDED IMPORTANT NOTE	10-29-91	TL

TURRET CDMK-471-T 909490-003



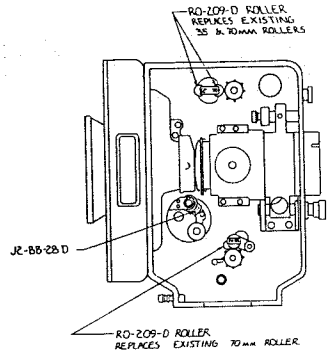


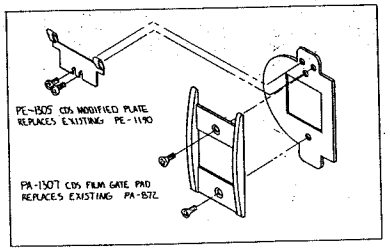
INTERMITTENT PRO BOTH TURRET & NON TURRET



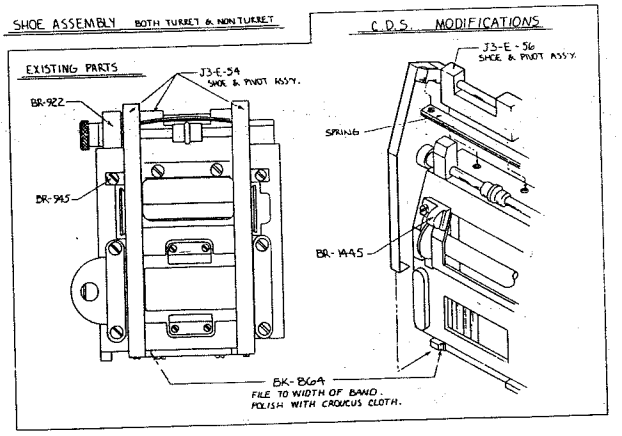
J2-BB-28D PREASSEMBLED INTERMITTEN SPROCKET PADS
REPLACES EXISTING J2-BB-28

NON-TURRET CDMK-471 (909490-001)





SHOE ASSEMBLY BOTH TURRET & NON TURRET



IMPORTANT

ALL PARTS OF THE CINEMA DIGITAL READER MOUNTING HARDWARE SUPPLIED WITH EACH READER, THAT IS BANDS, GATES ROLLERS, ETC., MUST BE USED IN THE INSTALLATION OF EACH READER TO EACH PROJECTOR TO PREVENT DESTRUCTION TO THE DIGITAL SOUND TRACK AND THE PRINT.

IT IS ALSO IMPORTANT THAT ANY AND ALL AREAS OF THE FILM PATH WHERE THE DIGITAL SOUND TRACK MAY TOUCH A BAND, ROLLER OR ANY OTHER OBJECT MUST BE RELIEVED TO PREVENT DAMAGE TO EITHER SIDE OF THE FILM SURFACE.

THE ABOVE APPLIES TO THE MAKE UP TABLE, PLATTER, GUIDANCE HARDWARE, REELS, SPROCKETS, GATES, SHOES, PAD ARMS, FAIL SAFES, ETC., ON THE EMULSION OR NON-EMULSION SIDE OF THE FILM.

THE SAME PROCEDURE SHOULD BE FOLLOWED IF AN ALTERNATE MOUNTING METHOD FOR THE READER IS EMPLOYED.

NOTES — UNLESS OTHERWISE SPECIFIED:

CENTURY PROJECTOR ADAPTOR KITS 909490-001 = CDMK-471 JJ PROJECTOR WITHOUT TURRET 909490-003 = CDMK-471-T JJ PROJECTOR WITH TURRET	UNLESS OTHERWISE SPECIFIED TOLERANCES DO NOT SCALE DRAWING	DRAWN / Wallis 4-7-91 CHECK DESIGN ENGR APPR APPR CONTRACT NO. 90-789	Optical Radiation Corporation INSTALLATION DIAGRAM, CENTURY PROJECTOR D 33030 909472-001 SCALE NONE WEIGHT ABBY PRINT USE SHEET 1 OF 2 SIMILAR TO

70MM Century Projector Adapter Kit
For Turret CDMK-471-T and Non-Turret CDMK-471 Models

REFERENCE DRAWING #909472-001

Shoe Assembly (Both Turret and Non-Turret Models)

1. Remove 2 SC-1842 screws holding the existing Shoe and Pivot Block Assembly including the SH-1861 shoes.

2. Replace the existing Front Trap Shoe Bracket (BR-945) with the new BR-1445.

3. Replace existing Shoe and Pivot Block Assembly with new P/N J3-E-56 assembly supplied.

4. Carefully file (using supplied file) newly exposed, bottom left ridge on the Lower Shoe Retaining Block (BK-864), approximately 1/32" below existing height and polish with crocus cloth. Also check side of Front Control Rod Bracket (BR-922) for possible film rubbing areas and file a clearance if necessary.

Rollers (Both Turret and Non-Turret Models)

1. Remove all 70mm Pad Rollers (RO-209) (3 or 4 depending on model) from each Pad Roller assemblies. Assemblies are located in both the projector and penthouse. Discard these rollers.

2. Replace existing Pad Rollers with new RO-209D's.

Intermittent Pad (Both Turret and Non-Turret Models)

1. Remove the 70mm Intermittent Pad Spring Stud and Plate Assembly (J2-BB-28).

2. Replace with new part number J2-BB-28D.

3. If you want to save the old parts mark them "For Non-CDS use only".

4. Adjust the Loop Stabilizer (if applicable) so it will not make contact with the sound track.

GATE PADS

Non-Turret Model (Kit #CDMK-471)

1. Remove PA-872 Gate Pad and mark it "For Non-CDS use only".

2. Replace Gate Pad with new PA-1307.

3. Replace Upper Film Stabilizer Plate (PE-1190) with new PE-1305. Mark old plate "For Non-CDS use only".

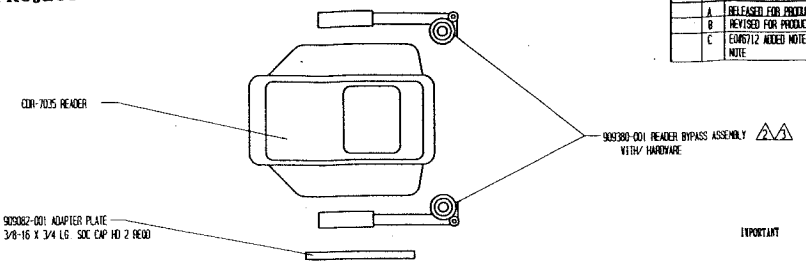
Turret Model (Kit #CDMK-471-T)

1. Remove entire Gate Pad (T3-E-40) and mark it "For Non-CDS use only".

2. Replace with new Gate Pad (T3-D-40).

For those projectors with R-50 reproducers that have no bypass, the film track should be checked to make sure none of the components touch the digital sound track area.

REVISIONS				
DASH	REV	DESCRIPTION	DATE	APPROVED
	A	RELEASED FOR PRODUCTION	9-4-90	LV CRT PR
	B	REVISED FOR PRODUCTION	9-18-90	LV
	C	ECN5712 ADDED NOTES #2 AND 3. ADDED PG #2. ADDED IMPORTANT NOTE	10-24-90	LV



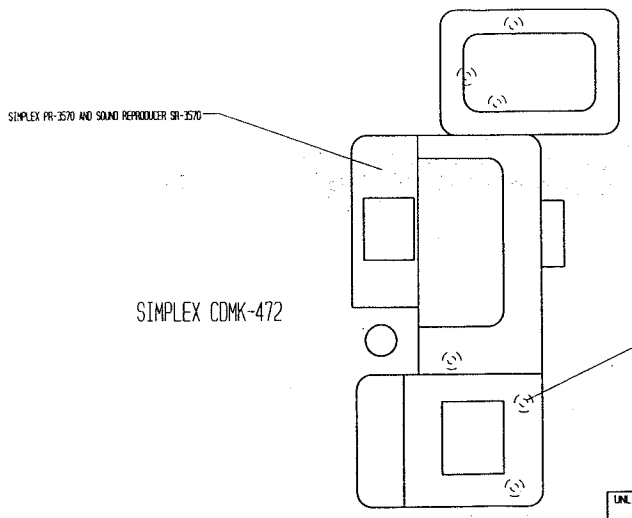
IMPORTANT

ALL PARTS OF THE CINEMA DIGITAL READER MOUNTING HARDWARE SUPPLIED WITH EACH READER, THAT IS BANDS, GATES ROLLERS, ETC., MUST BE USED IN THE INSTALLATION OF EACH READER TO EACH PROJECTOR TO PREVENT DESTRUCTION TO THE DIGITAL SOUND TRACK AND THE PRINT.

IT IS ALSO IMPORTANT THAT ANY AND ALL AREAS OF THE FILM PATH WHERE THE DIGITAL SOUND TRACK MAY TOUCH A BAND, ROLLER OR ANY OTHER OBJECT MUST BE RELIEVED TO PREVENT DAMAGE TO EITHER SIDE OF THE FILM SURFACE.

THE ABOVE APPLIES TO THE MAKE UP TABLE, PLATTER, GUIDANCE HARDWARE, REELS, SPROCKETS, GATES, SHOES, PAD ARMS, FAIL SAFES, ETC., ON THE EMULSION OR NON-EMULSION SIDE OF THE FILM.

THE SAME PROCEDURE SHOULD BE FOLLOWED IF AN ALTERNATE MOUNTING METHOD FOR THE READER IS EMPLOYED.



SIMPLEX COMK-472

1 PROJECTOR ADAPTER KIT #909490-005

NOTES: UNLESS OTHERWISE SPECIFIED

1	-005	909490-005	COMK-472
QTY	DASH#	NEXT ASSY	USED ON
APPLICATION			

UNLESS OTHERWISE SPECIFIED TOLERANCES
INCH DECIMAL ANGLE
.XX= ±.03 .XXX= ±.010 ±
MACHINE FINISH 125 RMS
DO NOT SCALE DRAWING

MATERIAL

FINISH

ORIG DATE	8-23-90
DRAFTSMAN	L. VALDIVIA
DESIGN	
ENGR.	
APPROVED	CRT 9-12-90

Optical Radiation Corporation

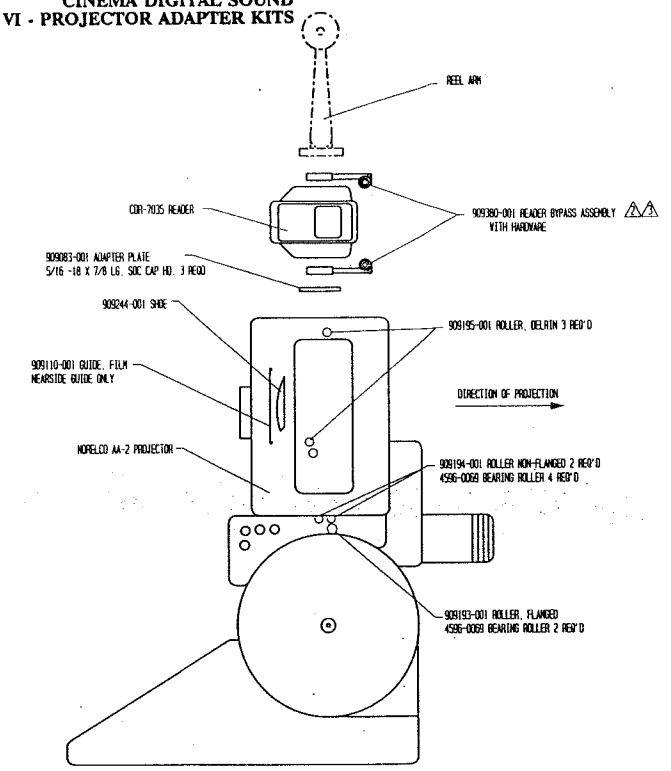
INSTALLATION DIAGRAM,
CDR-7035 READER (SIMPLEX)

SIZE	909468-001	REV.
C		C

SCALE FULL | WT. | SHEET 1 OF 2

PLOT SCALE .250

REVISIONS				
DASH	REV	DESCRIPTION	DATE	APPROVED
	A	RELEASED FOR PRODUCTION	9-4-90	LV CRT PR
	B	EO#6667 REVISED FOR PRODUCTION	9-18-90	LV
	C	EO#6712 ADDED NOTES #2 AND 3 ADDED PG #3, ADDED IMPORTANT NOTE	10-24-90	LV



IMPORTANT

ALL PARTS OF THE CINEMA DIGITAL READER MOUNTING HARDWARE SUPPLIED WITH EACH READER, THAT IS BANDS, GATES ROLLERS, ETC., MUST BE USED IN THE INSTALLATION OF EACH READER TO EACH PROJECTOR TO PREVENT DESTRUCTION TO THE DIGITAL SOUND TRACK AND THE PRINT.

IT IS ALSO IMPORTANT THAT ANY AND ALL AREAS OF THE FILM PATH WHERE THE DIGITAL SOUND TRACK MAY TOUCH A BAND, ROLLER OR ANY OTHER OBJECT MUST BE RELIEVED TO PREVENT DAMAGE TO EITHER SIDE OF THE FILM SURFACE.

THE ABOVE APPLIES TO THE MAKE UP TABLE, PLATTER, GUIDANCE HARDWARE, REELS, SPROCKETS, GATES, SHOES, PAD ARMS, FAIL SAFES, ETC., ON THE EMULSION OR NON-EMULSION SIDE OF THE FILM.

THE SAME PROCEDURE SHOULD BE FOLLOWED IF AN ALTERNATE MOUNTING METHOD FOR THE READER IS EMPLOYED.

1. PROJECTOR ADAPTER KIT #909490-007

NOTES: UNLESS OTHERWISE SPECIFIED

QTY	DASH#	NEXT ASSY	USED ON

APPLICATION

UNLESS OTHERWISE SPECIFIED TOLERANCES
INCH DECIMAL ANGLE
.XX= ±.03 .XXX= ±.010 ±
MACHINE FINISH 125 RMS
DO NOT SCALE DRAWING

MATERIAL

FINISH

QPIS DATE	8-24-90
DRAFTSMAN	L. VALDIVIA
DESIGN	
ENGR.	
APPROVED	CRT 9-12-90

Optical Radiation Corporation

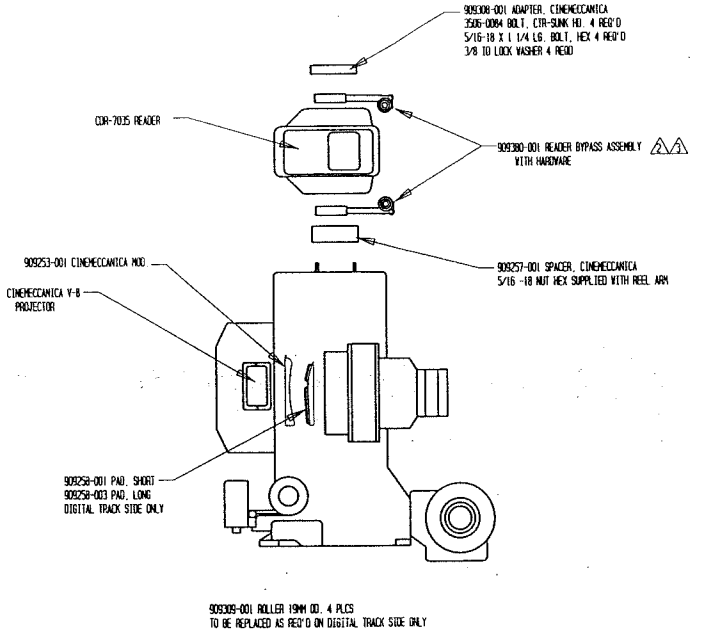
INSTALLATION DIAGRAM,
CDR-7035 READER (NORELCO AA-2)

SIZE		REV.
C	909469-001	C

SCALE FULL WT. SHEET 1 OF 2

PLOT SCALE .117

REVISIONS				
DASH	REV	DESCRIPTION	DATE	APPROVED
	A	RELEASED FOR PRODUCTION	8-29-90	LV
	B	EO#6667 REVISED FOR PRODUCTION	9-18-90	LV
	C	EO #6712 ADDED NOTES #2 AND 3, ADDED PSP3, ADDED IMPORTANT NOTE	10-24-90	LV



IMPORTANT

ALL PARTS OF THE CINEMA DIGITAL READER MOUNTING HARDWARE SUPPLIED WITH EACH READER, THAT IS BANDS, GATES ROLLERS, ETC., MUST BE USED IN THE INSTALLATION OF EACH READER TO EACH PROJECTOR TO PREVENT DESTRUCTION TO THE DIGITAL SOUND TRACK AND THE PRINT.

IT IS ALSO IMPORTANT THAT ANY AND ALL AREAS OF THE FILM PATH WHERE THE DIGITAL SOUND TRACK MAY TOUCH A BAND, ROLLER OR ANY OTHER OBJECT MUST BE RELIEVED TO PREVENT DAMAGE TO EITHER SIDE OF THE FILM SURFACE.

THE ABOVE APPLIES TO THE MAKE UP TABLE, PLATTER, GUIDANCE HARDWARE, REELS, SPROCKETS, GATES, SHOES, PAD ARMS, FAIL SAFES, ETC., ON THE EMULSION OR NON-EMULSION SIDE OF THE FILM.

THE SAVE PROCEDURE SHOULD BE FOLLOWED IF AN ALTERNATE MOUNTING METHOD FOR THE READER IS EMPLOYED.

1. PROJECTOR ADAPTER KIT #909490-009

NOTES: UNLESS OTHERWISE SPECIFIED

QTY	DASH#	NEXT ASSY	USED ON

APPLICATION

UNLESS OTHERWISE SPECIFIED TOLERANCES
INCH DECIMAL ANGLE
.XX± .03 .XXX± .010 ±
MACHINE FINISH 125 RMS
DO NOT SCALE DRAWING

MATERIAL

FINISH

ORIG DATE	8-28-90
DRAFTSMAN	L. VALDIVIA
DESIGN	
ENGR.	
APPROVED	

Optical Radiation Corporation

INSTALLATION DIAGRAM,
CINEMECCANICA V-8

SIZE		REV.
C	909470-001	C
SCALE NONE	WT.	SHEET 1 OF 2

Appendix VII - PROCESSOR CONTROL PANEL SETTINGS

MODEL # _____ DATE: _____

SERIAL # _____ INITIALS: _____

MENU LEVEL	FUNCTION	SETTING
MAIN	VOLUME LEVEL	_____ dB
	Output Select	Auto/CDS / EXT (circle one)
DELAY	Delay select	70mm / 35mm
VOLUME	MASTER Attenuator	_____dB
	LEFT FRONT Attenuator	_____dB
	CENTER Attenuator	_____ dB
	RIGHT FRONT Attenuator	_____dB
	RIGHT SURROUND Attenuator	_____ dB
	LEFT SURROUND Attenuator	_____ dB
	SUB-WOOFER Attenuator	_____ dB
70mm DELAY	SYNC	_____ frames
	ANALOG DETECT SYNC	_____ frames
	DIGITAL DETECT SYNC	_____ frames
35mm DELAY	SYNC	_____ frames
	ANALOG DETECT SYNC	_____ frames
	DIGITAL DETECT SYNC	_____ frames
DAC		NEW / OLD (909483) / (909022)
P1/P2 EDIT		P_____ , P_____
FRONT PANEL REV		_____ REV
DSP REV		_____ REV

TRADEMARKS

CINEMA DIGITAL SOUND	Trademark of Optical Radiation Corporation
Dolby	Registered Trademark of Dolby Laboratories Incorporated
THX	Registered Trademark of Lucasfilm, Ltd.