

# Film-Tech

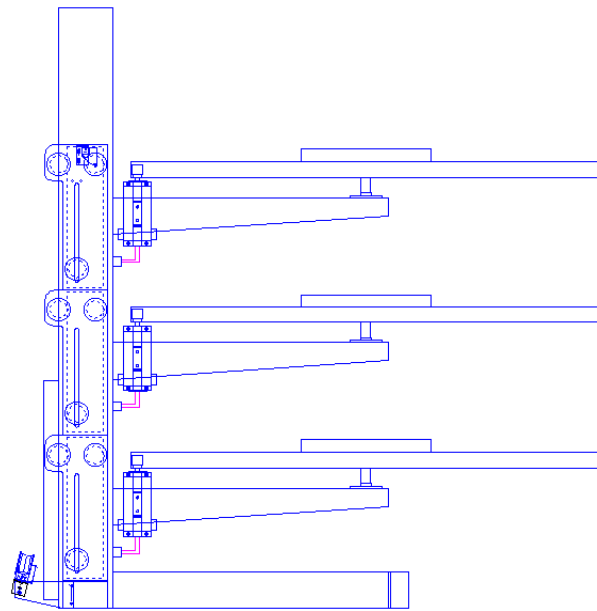
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**P-SERIES FILM TRANSPORT \_\_\_\_\_**  
User's Manual



The P3550 Platter Film Transport System

Thank you for selecting the BIG SKY P-SERIES Film winding system. This manual will provide the user and installer with technical information needed to install and operate the platter and related equipment in this system. For all other equipment (cleaners, static, tension, etc.), please refer to the proper manuals furnished by the manufacturer.

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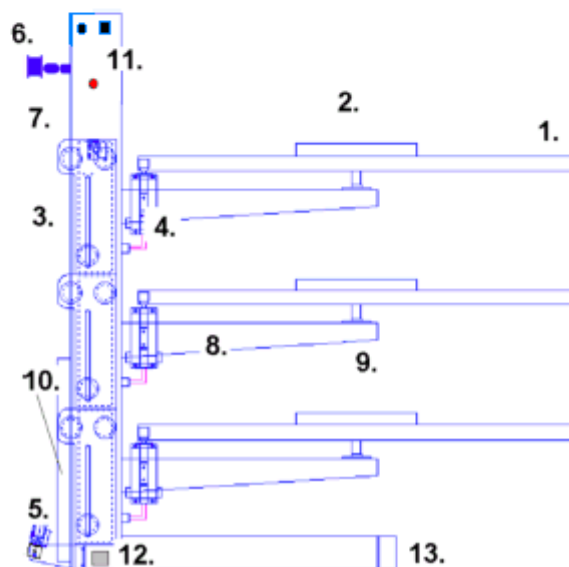
**BIG SKY P-SERIES Platter Specifications:**

- 3-Deck System
- Low profile design allows easier top deck access, only 49" high
- 52" Aluminum decks, holds up to 25,000' of film (approx. 4 hrs)
- Simple threading pattern; no awkward reaching, looping, or pulling
- Electronic demand-only system; no switches, arms, etc.
- Mechanical Pay-out head, no electrical connections or plugs
- Each deck operates as an independent unit; no switches or moveable assemblies
- Modular design contains a minimum of spare parts
- Built-in failsafe protection from Brain wrap
- Audio and flashing light alarm when tension sensor activated
- Tension sensor easily connects with most automations for full system shut-down
- Built-in sensors for protection from excessive tension and pulling
- Ready to run, no adjustments needed
- Platter dimensions: 66" H x 62" L x 52" Dia. decks
- Platter weight: approx. 350 lbs.
- 110/220V 50/60Hz operation
- Tested and approved to U.L. standards

## Standard Platter Layout:

Shown below is a diagram of the P3350 Platter, indicating most major components and controls. Further technical explanations of these components and systems are elsewhere in this manual.

1. Platter Deck (3): 52" aluminum deck
2. Take-Up Ring (2): Ring around which film is wound during take-up  
Pay-Out Head: Assembly that locates in the center of the film, controls deck speed during pay-out, and aligns film to the rollers on the main mast
3. Speed Control Assembly (3): Part of main mast, controls individual deck speed and function
4. Deck Drive Motor (3): DC motor, located under the decks
5. Take-Up Entry Roller Assembly: Guides film from projector to proper deck control assembly
6. Pay-Out Exit Roller assembly: Guides film from tension sensor to projector
7. Pay-Out film Rollers (opposite side): guides film to tension sensor and detects film speed
8. Motor Engage Lever (3) (opp. side): Engages and disengages drive motors from decks
9. Work Lights: For bottom two decks, illuminates deck area
10. Tension Sensor: Detects fatal Brain wraps, and shuts down platter and console
11. Power Plate Switches and Indicators: Main On/Off Switch and Fuse, Tension Alarm light and Beeper.
12. A.C. Input Module: AC input cord location
13. Leveling Feet (4): for leveling platter on uneven surfaces.



## Unpacking and Set-Up

### Unpacking:

The BIG SKY P-Series Platter is shipped in two boxes. The mast is contained in the rectangular box, and the three decks are packed in the square box. Unpack the mast box, and check for the main mast assembly, horizontal crossbar, and accessories (p-o heads, rings, etc.). Make sure all parts are present and undamaged. Inspect the deck box for any damage before opening, then open and inspect the contents for any damage. If there is any damage, be sure to contact the carrier or your dealer.

### Assembly:

Only two operations need to be done:

First, attach the bottom crossbar to the bottom horizontal leg, with the feet towards the floor. Leveling the platter is recommended in case of an uneven floor, to avoid erratic platter operation and film shift.

Second, slide each platter deck over and down each spindle until it is seated. Make sure that the motors are in the disengaged position before lowering the deck on the spindle.

### Power-Up

The power input module is located on the bottom of the mast. Plug the line cord into a wall outlet. The switch is marked 0" for off and I for on. When the platter is first turned on, a short beep is heard as the system initializes itself. Check that all sliders operate their motors, and that the pay-out heads also work. The platter is now ready for use. If any adjustments are needed, consult the control plate drawing for adjustment types and locations. No adjustments should be needed, as each platter is factory tested and calibrated before shipment.

## **Operation:**

### General Operation:

The basic operation of the BIG SKY P-SERIES Platter is similar to most other platters available today. The entire presentation is built into one length of film on one deck. It is wound from the beginning (inside), including previews, policies, and advertising, to the end of the feature film (outside). The film is fed through a pay-out head, which governs that deck's speed, through guidance rollers, to and through the projector, and back to the platter through guidance rollers, to a speed control for a different deck on the same platter, and is wound around a take-up ring on that corresponding deck. The film is ready for the next presentation by exchanging the pay-out head and take-up ring, and re-threading the system.

### P-SERIES Platters:

The same basic principle as described above is applied to the P-SERIES Platters. The differences are in the specific designs of the decks, film path, speed controls, function switches, etc.

The main control for each deck is its control plate, mounted on the side of the main mast, correspondingly located just below the top surface of its controlled deck. Each deck operates as its own independent unit, with the location of the take-up slider determining if the deck is in take-up or pay-out mode. If the slider is at rest (bottom of its travel), the pay-out head will be enabled as the deck speed control. Once the slider is raised from the bottom position, control is transferred to the slider itself for take-up speed control.

### PAY-OUT:

In Pay-Out mode, the speed of the deck is controlled by the position of the swinging arm in the pay-out head assembly. The pay-out head is placed in the center of the deck, and the take-up ring is removed. Film is threaded through the pay-out head (see the drawing for Payout Head Threading for film path) and to the pay-out sensor rollers on the mast. These rollers sense that film is being pulled by the projector, and the film is moving normally. As long as these rollers are turning, operation is normal. If no movement is sensed, the control will interrupt the speed control, and stop the deck until the rollers are being turned by the film, which is being pulled by the projector.



The speed of the deck during pay-out mode is controlled by the position of the swinging arm. As the film demand exceeds current deck speed, the arm is pulled clockwise, and deck speed is increased to provide more film until the demand is met. If too much film is being fed, the arm will swing in a counter-clockwise direction, and slow the deck down until the excess film has been fed into the projector. A smooth, constant speed indicates normal operation.

The film path through the rollers on the mast is shown in the drawings in the rear of this manual. Different layouts are shown, depending if any cleaning or static attachments are used, and the needed corresponding roller layout. The basic path of the film is through the pay-out head, turning down around the sensor rollers to the tension sensor, and up to the exit roller assembly at the top of the mast, and on to the projector. If a film cleaning or static device is used, it is attached to the mast using the provided holes, and a second roller is used on the tension sensor. This film path is accommodated with a second loop from the first tension roller to the cleaner, back to the second tension roller, and then to the exit roller.

## TAKE-UP

After the film has traveled through the projector, sound readers, and cue sensors, it is directed back to the platter via film guidance hardware. The film enters the platter at the bottom of the mast through the take-up entry roller assembly. Depending on which deck will be used for take-up, the film is then routed to the corresponding control plate's entry roller. The film is then routed over this roller, down to the sliding roller, back up to the swiveling exit roller, and to and around the take-up ring, including securing the film in the take-up ring's catch.

The speed of the deck is controlled by the position of the slider. At rest, the slider is at its bottom position, transferring control to the pay-out head. As the slider is raised, the motor's speed is gradually increased from stopped to full, depending on how high the slider rises in its track. At the top of the slider's travel is the brake position, which will immediately stop the motor and deck until the slider lowers back into its run area. On the control plate are four LEDs, listed from bottom to top, which give the status of the deck's operation:

- Yellow - Low speed, deck is in low speed
- Green - Cruise speed, deck is in normal speed
- Red - High speed, deck is in high speed
- Red - Brake on, indicates motor is being braked

Drawing No. Control Plate Definitions defines all control plate functions.

## Tension Sensor

The BIG SKY P-Series platters are all equipped with a tension sensor on the pay-out film path. This sensor will stop the platter and sound an alarm, put the console's automation and projector in stop mode (if connected via the fail-safe), and provide extra film for projector wind-down should a brain wrap occur.

The Tension Sensor is a sliding roller that is normally at rest in its bottom position. Should a wrap or problem occur where the film stops feeding from the pay-out head, the roller assembly is pulled up on its slider by the film tension. As the roller rises from its rest position, it closes a switch which is connected to the platter speed control, and should also be wired to the fail-safe connection on the console's automation. When the switch closes, the control system stops the motor(s), and sounds an audio and visible alarm (marked FILM TENSION WARNING on power panel of mast). By stopping the platter, no more film is allowed to be fed into the developing problem. By also shutting down the console (via the fail-safe), no system or film damage can occur since the whole system is halted. The travel of the slider provides extra film needed for the time period needed by the projector to stop turning.

Electrical connections and details of this sensor are depicted in the drawing, Film wrap Switch Wiring in the drawing section of this manual.

## Switches and Controls:

### Main Power Switch:

Located on top panel on the Take-up side of the platter. Marked as POWER  
The power switch is only used to turn the platter on and off.

### Fuse Location and Ratings:

The fuse is located next to the power switch, and marked for rating and type.

### Plug Location:

The platter uses a standard IEC type input plug assembly, and uses a standard computer-type AC cord. It is located at the bottom of the mast on the same side.

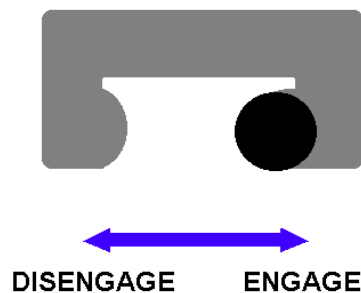
The platters are pre-wired from the factory for either 110 or 220V operation, and noted on the Serial Number label.

### Motor Engage Control:

Each of the three motors has its own latch to engage or disengage the motor drive puck against the inside lip of the deck. This latch applies pressure against the motor, so the drive puck positively turns the deck. The handle for the latch has two positions:

ENGAGE (towards mast)	pushes drive motor against platter rim
DISENGAGE (away from mast)	drive motor is pulled clear of platter

If the motor is not in the correct location, the platter deck will not turn. Always be sure motors are engaged before starting any show.



## Running The Show...

Now that the Platter is ready to use, a show can be made up and run. A typical show consists of three parts (in order): Policy(fire, food, marquee and organization advertising), upcoming film previews, and the feature film.

### Making-up the show:

Since a platter requires the show to be one piece of film, building the print is quite important. Typically, a make-up table is used to feed the individual segments from a reel or roller onto a platter deck in the order of the show. Great care must be taken to insure that all splices feature correct film orientation(front-back and left right), and are neat and clean to ensure a correct and easy running show the first time. Build the print in the correct order, including the correct reel # order of the feature film. Use the supplied take-up ring, and wind the leader from the first piece around the ring, and secure in the film catch. Continue to add policies, previews, etc. in order, paying attention to proper orientation from film to film.

The BIG SKY Make-Up Table is part if the Film Transport System. This table works directly with the platter to provide a simple system to make-up and break-down films. The MUT is described on pages 12 &13 of this manual. Be sure to follow individual theater and company instructions regarding making-up of films.

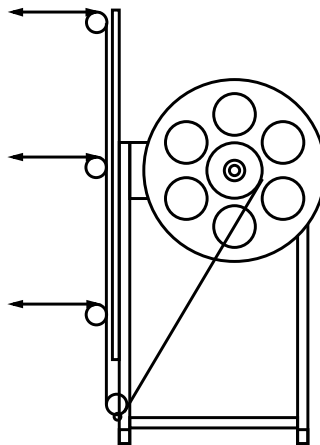
### Running the show:

Once the show is built, it can be threaded and run. First, remove the take-up ring from the center of the film by releasing the catch, compressing the ring, and lifting straight up from the film without disturbing the wrap. Place the ring on another deck by placing the locating pins in the correct holes. This deck is now the take-up deck. Place the pay-out head in the center of the deck with the film, taking care to be sure that the main body slides fully down the center opening, and the anti-rotation pin is fully seated in its slot. This deck is now designated the pay-out deck.

Thread the film through the pay-out head, rollers, tension sensor, projector, and take-up rollers as described in the OPERATING section of this manual. Diagrams are provided in the drawing section. The sensor roller will have to be turned by hand to allow the deck to spin while pulling enough film out through the pay-out head to fully thread the projector and platter. Once the film is threaded, rotate the take-up deck CCW, allowing the motor to start and pull the excess film onto the ring, stopping by itself when the slack is taken up. Start the console, and the platter will automatically run as a slave to the projector's demands and running speed. Once the show ends, simply reverse the ring and pay-out head locations, re-thread the system, and start again.

## MAKE-UP TABLE:

The MUT (make-up table) is an important part of the film transport system. The MUT is used for making-up and breaking down of any film onto/off of a platter. During make-up, film is un-wound from a reel or core that is secured to the MUT spindle, routed through the rollers, and wound onto a platter deck around the take-up ring. The motor on the platter is un-plugged, and connected to, and controlled by the external motor cable from the MUT. The typical film order is theater information and previews first, a company or corporate promo next, and then the feature. The feature typically arrives in four to ten smaller reels, or one to two large reels. All these individual pieces of film must be assembled together (in the correct order and orientation) into one length of film that is used with a platter system. Break-down is the reverse process, where this one length of film is removed and returned to its original individual components. The film is pulled from the deck back onto an empty reel or core on the MUT spindle by the internal MUT motor. The platter motor is dis-engaged, so there is less drag on the MUT.

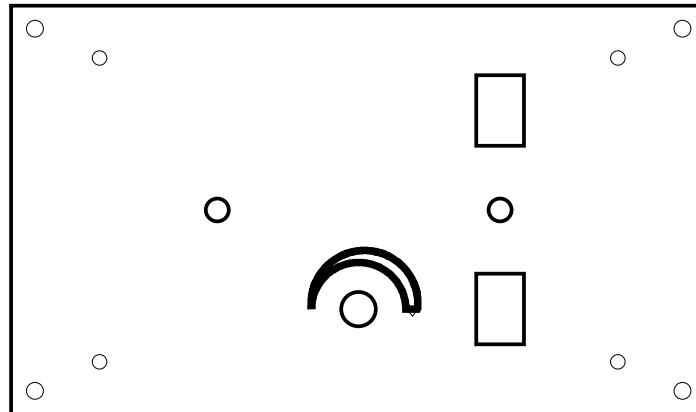


Film reels can have different central spindle bores, and each MUT is supplied with two spindle assemblies,  $\frac{5}{16}$ " and  $\frac{1}{2}$ ". Spindle assemblies are changed by sliding the shaft collar rearwards toward the table, and removing the spindle assembly by pulling it forwards out of the coupling. Insert the desired spindle assembly into the coupling, and release the collar, being sure that the locking detents are properly oriented. If needed, the drive dogs can be repositioned on each spindle assembly to properly catch the reel drive holes. The film reel is slid onto the spindle shaft via its central bore, being sure to align the drive dog through one of the drive holes in the film reel hub. The film reel **MUST** be secured to the spindle assembly with the safety clip, so that the reel cannot slide off the spindle during winding. Failing to do so will result in film and equipment damage. The exit roller assembly is moved vertically up and down the vertical post by loosening the arm clamp. Position the exit roller assembly so that the film path is parallel to the platter deck being used, and winds the film flat and even on the deck. Refer to DWG.# PMUT FILM PATH for the proper threading path of the MUT. Proper operating procedure includes smooth and gradual film speed changes to avoid any sudden jerking or spillage of film.

## Power and Switch location:

The main power switch is on the bottom panel of the main enclosure, towards the right front corner. The fuse holder is behind the switch, and the receptacle for the power cord is farthest rearward. Fuse replacement is as marked by the fuse label, using a 5 amp, slow-blow fuse only.

## MAKE-UP TABLE CONTROL PANEL:



All table functions are controlled from the control panel. Power is indicated by the POWER LED. The MAKE-UP / BREAK-DOWN Switch controls spindle direction and power. In Make-up mode, power is diverted to the Platter deck motor via the connecting cable. Speed is controlled by rotating the speed knob, increasing speed as the knob is rotated clockwise. During Break-Down, the internal table motor runs, pulling the film off the platter, and onto a reel mounted on the spindle. The platter motor is dis-engaged, allowing the deck to spin freely. Speed is controlled by the speed knob. If, during the film transfer operation, the reel or deck needs to be stopped or slowed down, depressing the BRAKE switch will slow and stop the controlled function. Remember that both motors will be slowed during make-up, but only the table motor will be slowed during break-down, as the platter motor is dis-engaged, and the deck is spinning free. The RUN light lights green when the table is operating normally, and off when the brake is applied. After the brake is used, the control must be reset by rotating the speed control fully counter-clockwise, and waiting for the RUN light to turn green again. Proceed again with the film winding process.

**Parts List:**

The following is a listing of frequently ordered spare parts available for the P-SERIES Platter and MUT. They may be ordered through your dealer. For parts not listed or for more information, please contact your dealer or BIG SKY directly.

PPLATE	Control Plate Assembly (exchange only)
PHEAD	Pay Out Head Assy.
PLROLLER	Large 2-Pc. Roller
PSROLLER	Sense Roller Assy.
PTPLATE	Transformer Plate Assy.
PMUTMTR	Make-Up Table (MUT) Motor
PMUTSP-5/16	MUT 5/16" Spindle Assy
PMUTSP-1/2	MUT 1/2" Spindle Assy
PMUTDB	MUT Drive Belt
PMUTCP	MUT Control Panel Assy
PMUTLTRA	MUT Lower Turn-around Roller Assy.
PMUTESRA	MUT Exit Swivel Roller Assy.
PMUTESBA	MUT Exit Slide Bracket Assy

## Equipment List:

The P-SERIES Platter is one of a series of motion picture projection, lighting and accessory equipment available from BIG SKY Industries. A complete line of automations, lighting controls, consoles, projectors, sound equipment, platter systems, lamphouses, power supplies and ignitors, film guidance hardware and accessories are available. For product specifications, pricing and ordering information, contact your dealer.

### Consoles:

C2000 2K console  
C3000 3K console  
C4000 4K console  
C7000 5-7K console

### Deluxe consoles:

C2000D 2k extended console  
C3000D 3k extended console

### Console options:

Rotron blower w/air vane switch  
Additional breakers  
Prewire sound in deluxe consoles  
Prewire projector  
Time-delay circuit for blowers  
Main contactor

### Automations:

A2000 Matrix automation  
A2108 8-screen remote  
A2116 16-screen remote  
A2124 24-screen remote

### Automation options/accessories:

Clock timer  
Optical failsafe w/micro-switch failsafe  
Sensing tape, optical

### Lighting controls:

D4000 Single-channel 4K Dimmer  
D4400 Dual-channel 4K Dimmer

### Projectors:

E15M Ernemann 15 Projector/Manual  
E15A Ernemann 15 Projector/aut.  
ESRD Dolby Digital Reader  
E15 Ernemann 15 Complete System

### Replacement Parts:

C1050 10.5" Dichroic Reflector  
C1060 13.5" Dichroic Reflector  
C1070 12" Glass Dichroic Reflector

### Sound Equipment:

S1000 Sound Rack; 40 rack  
S1200 Sound Rack; 40 rack, blower, contactor, receptacles  
S1400 Sound Rack; X1200 plus prewire for custom comp.  
S2000 Monitor Panel

### Film guidance Hardware:

FH1000 Arms w/platter guidance hardware  
FH1100 Wall-mount guidance hardware  
FH1200 Wall-mount fixed roller  
FH1300 Swing-arm accumulator  
FH1400 Roller on bar

### Platter Systems:

P3350 3-Deck Platter System  
P3700 3-Deck Platter System  
P5350 5-Deck Platter System  
PMT35 35mm Make-up Table  
PMT70 35/70 mm Make-Up Table

### Platter Accessories:

P1350 35mm Payout Head  
P1700 70mm Payout Head  
P1351 35mm Take-Up Ring  
P171 70mm Take-Up Ring

### Lamphouses:

L2000 1-2000w Lamphouse  
L3000 2-3000w Lamphouse  
L4000 3-4000w Lamphouse  
L7000 5-7000w Lamphouse

### Power Supplies & ignitors:

N3X75 IREM 2000 watt power supply  
N3X7595 IREM 3000 watt power supply  
N3X95159 IREM 4000 watt power supply  
N3X180 IREM 7000 watt power supply  
N3X10K IREM 10,000 watt power supply  
AFU200 Auxiliary Filter Unit  
AS16D40M IREM Ignitor  
ASN700A IREM Ignitor, low-noise



**Warranty:**

All BIG SKY products and accessories are warranted against malfunction or failure due to defects in workmanship or materials for a period of one year from the date of shipment. If a problem occurs during the warranty period, the unit will be repaired or replaced (at BIG SKY's option) without charge for materials or labor. This limited warranty does not cover products that have been altered, abused, modified, or operated in other than specified conditions.

Our limited warranty does not cover damages resulting from accident, misuse or abuse, lack of responsible care, or failures not attributable to manufacturing defects. BIG SKY INDUSTRIES Inc. makes no warranties, express or implied, including warranties of merchantability or fitness for a particular purpose. Final warranty decisions are to be made by BIG SKY INDUSTRIES only.

**RETURN POLICY:** Factory authorization **MUST** be obtained before returning any product. A 15% restocking charge will be issued on unused equipment (in original box) that is returned for credit. Credit is issued to the dealer's account only.

**WARRANTY SHIPPING:** All returns must be shipped freight pre-paid by the dealer. Equipment returned without a factory return authorization (RA) will be refused. RA number must be written clearly on the shipping box. If air freight is requested by the dealer, the difference between air and ground will be billed to the dealer.

## Troubleshooting guide:

If the platter should not operate properly, first check the following guide to determine the cause. If, after checking the guide, operation is still not proper, contact your dealer or an authorized theatre equipment service person.

Problem:	Solution:
Platter does not Power-up	<ul style="list-style-type: none"> <li>Power switch off</li> <li>Platter fuse open</li> <li>Breaker in console off</li> <li>Breaker in wall box off</li> <li>AC line cord plug not properly connected</li> </ul>
Platter does not operate in Pay-Out	<ul style="list-style-type: none"> <li>Pay-out head not fully inserted</li> <li>Take-up slider not fully seated</li> <li>Sensor rollers not turning</li> <li>Motor not engaged or plugged in</li> <li>Loose, damaged, or missing motor drive puck</li> <li>Pay-out head out of adjustment</li> <li>Gradient damaged or missing on target puck</li> <li>Loose, damaged, or missing internal wiring</li> <li>Tension sensor not at bottom position</li> </ul>
Platter does not operate in Take-up	<ul style="list-style-type: none"> <li>Slider not in operating range</li> <li>Motor not engaged or plugged in</li> <li>Loose, damaged, or missing motor drive puck</li> <li>Tension sensor not at bottom position</li> <li>Loose, damaged, or missing internal wiring</li> <li>Check for film wrap or jam</li> </ul>
Make-Up Table does not Power-up	<ul style="list-style-type: none"> <li>Power switch off</li> <li>Main fuse open</li> <li>Plug not fully seated in power input module</li> <li>No power at outlet being used</li> <li>Problem with main board in MUT</li> </ul>
Make-Up Table operates incorrectly	<ul style="list-style-type: none"> <li>Film threaded incorrectly</li> <li>Exit roller assembly not clamped or correctly aligned with platter deck</li> <li>Speed control not reset after using the brake</li> <li>MUT in wrong mode (Make-up vs, Break down)</li> <li>Wrong spindle assembly (shaft dia) or drive dog position</li> <li>Spindle assembly not fully seated in locking collar</li> </ul>

**Factory assistance & information:**

If you have checked the troubleshooting guide and are still having problems with operation, contact your theatre equipment dealer. If you are unable to resolve your problem quickly or easily, contact BIG SKY Industries Engineering department at:

BIG SKY INDUSTRIES  
259 Center St.  
Phillipsburg, NJ 08865

908-454-6344  
908-454-6373(fax)  
Monday to Friday, 8:30AM to 5:00PM E.S.T.

You may also obtain additional product information by calling this number.