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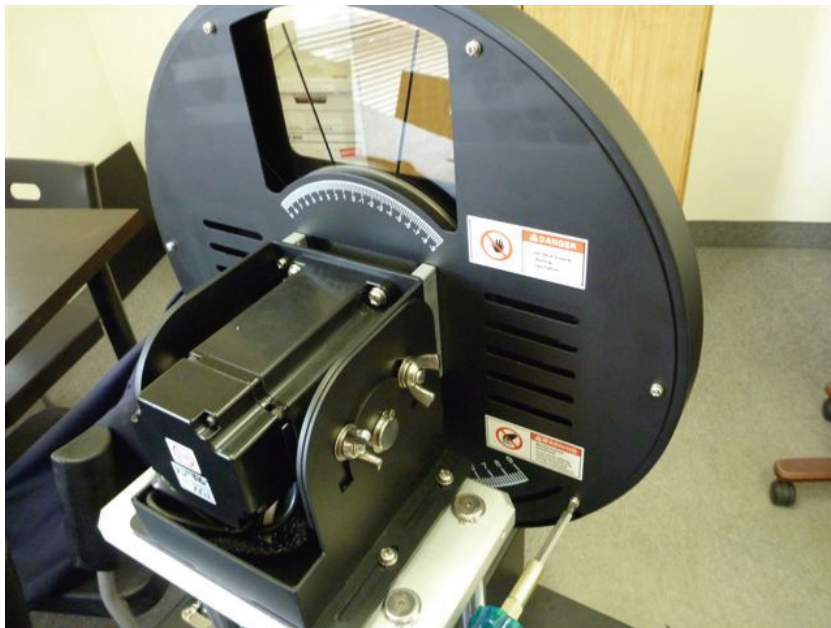


MI-2100

Polarizing Filter Disk Ver 5.0 Upgrade

(For Mk2 Interoperable 3D Glasses)

Document No.: HW_M2100_004



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Revision History

Revision	Release Date	Author	Remarks
A	Nov. 4, 2009	PP	Document to be used with Mk2 interoperable 3D glasses



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1 MI-2100 Polarizing Filter Disk Replacement Ver 5.0

For use with Mk2 interoperable 3D glasses

MasterImage has developed a new polarizing filter disk (PFD) and matching 3D glasses.

The new PFD and 3D glasses have a modified alignment of the polarizing filters, such that they can be used with other circular polarizing 3D glasses and provide proper image coding.

In order for the new PFD and Mk2 glasses to work properly together, the current Mk1 PFD must be changed, and the theatre glasses inventory must be immediately switched from Mk1 to Mk2 glasses, since Mk1 and Mk2 glasses cannot be used at the same time.

For optimum 3D image performance, with minimal image crosstalk or ghosting, and for perfect color display, only masterImage Mk2 glasses should be used with the masterImage MI-2100 system.

This document describes the steps required to remove the current PFD and install the new Version 5.0 PFD for use with Mk2 glasses.

Read all parts of this document before proceeding with the replacement of the PFD and glasses.

2 Warnings and Cautions

Spinning Filter Safety



The MI-2100 operates a high speed rotating filter disk. Keep all hands and objects away from the system when starting up and operating.

Burning Filter Warning



In order to avoid burning the polarizer filters, the MI-2100 filter wheel must be lowered or moved out of the light path during lamp adjustments. In general the filter should always be turning when it is in the light path of the projector.

New Filter Installation Caution



If installing or replacing a new filter wheel, insure that the protective film pieces have been removed from each of the polarizing filter segments.

General Electrical Safety



Disconnect the power cord before doing service work or opening the base compartment.

Filter Disk Brand



Use only filter disks provided by masterImage Co., Ltd. or masterImage USA, Inc.

3 Changing the Polarizing Filter Disk

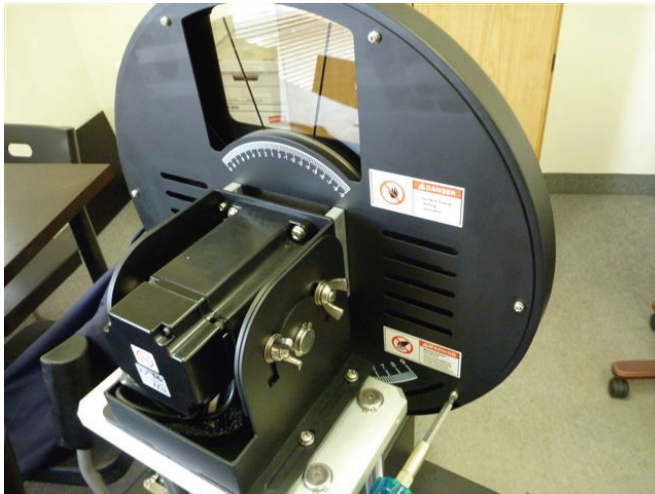
1. Locate the two new Mk2 filter disks, in the bright blue colored disk cover:



One of the new filter disks will be installed and the other is the new spare.

Note: Do not put any of the currently used filter disks in the blue cover.

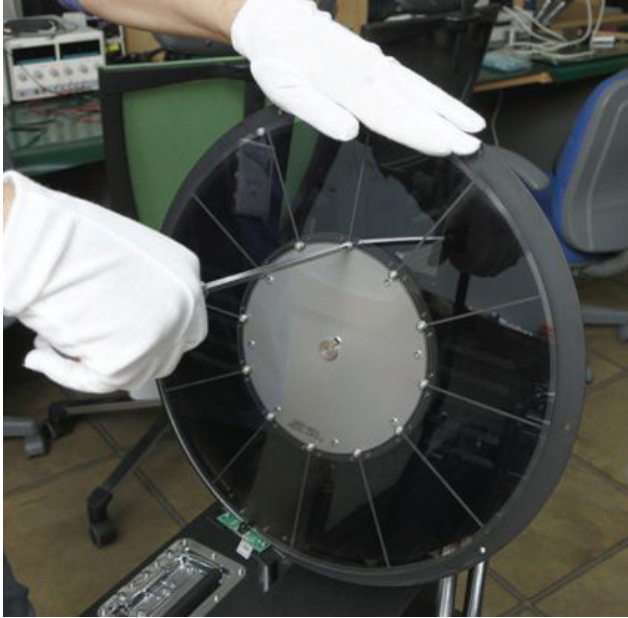
2. Unplug the MI-2100 power cord and sync cable, and move it out from in front of projector in order to have good access and lighting for work on the filter head assembly.
3. Carefully remove the filter cover by removing the six screws. Remove the screws in a sequence of bottom screws to top screws.



4. If cotton gloves are available, use these for all handling of the PFDs. If no gloves are available, use great care not to touch the image area on either side of the disk. Handle the PFD using the centre and edges only.

5. Unfasten the PFD by removing the twelve screws holding it in place.

IMPORTANT: ONLY use a hand screwdriver to loosen and tighten the PFD screws. DO NOT use any powered screw device that could over-tighten the screws and damage the PFD.



6. Carefully remove the filter from the drive hub without hitting the sensor located on the bottom left of the filter cover back



7. Set the old filter aside and **immediately mark it with a Sharpie as “Mk1 – Do not use”**. Instructions on returning it to Technicolor are included in Section 4, [Returning the Mk1 PFDs](#).

8. Wipe any dust out off of the filter cover back with a suitable cleaning cloth (not the filter cleaning cloth).
9. Carefully clean the sensor with the filter cleaning cloth, and inspect for any wear damage.

Note: If the sensor is worn but still working, contact masterImage support or your service provider, and arrange for a later replacement.



10. Unwrap the new PFD as follows:
 - i) First remove the circular protective film from the filter side.



ii) Remove the individual pieces of cling film from each of the 12 filter segments.

Note: This film should be dull and easily removed – if the filter is shiny, these pieces have already been removed.



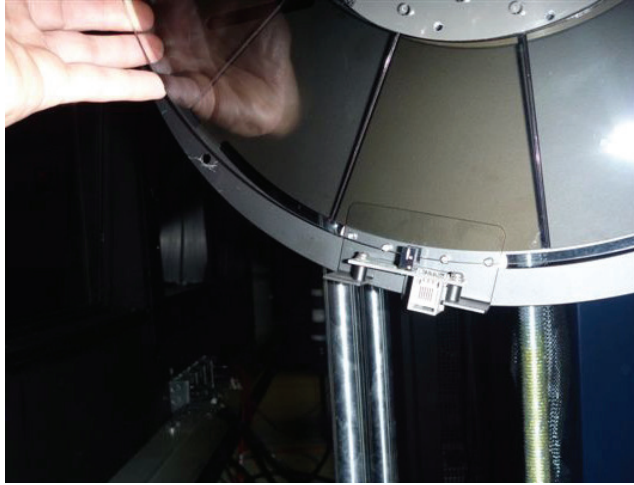
iii) Lastly, peel off the sticky film from the clear side of the filter.

11. Orient the disk with the filter material facing the correct side for your theatre. The PFD is labeled to show “This side is towards screen” and “This side is towards projector”.

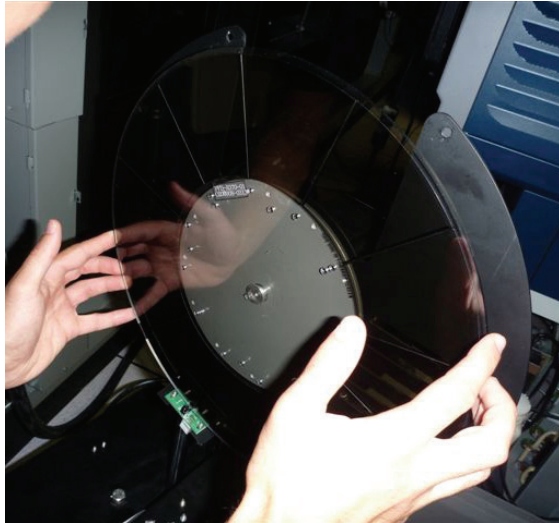


The polarizing filter material side of the PFD must always face the screen.

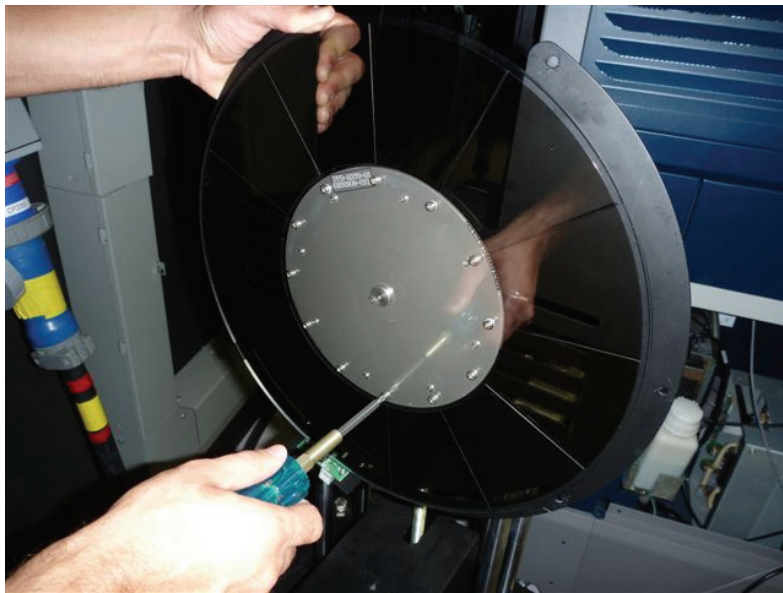
12. Carefully place the filter on the hub by:
- i. Sitting the edge of the filter in the sensor and then,



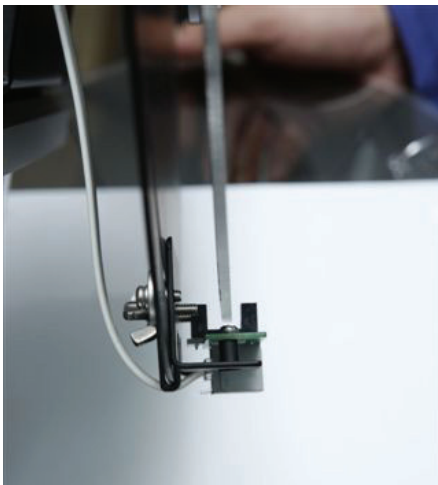
- ii. Fitting the filter over the shaft alignment key.



13. To secure the filter, do the following:
 - i. Insert each of the 12 screws but do not tighten.
 - ii. After all the screws are in place, begin tightening each screw one at a time on opposite sides in order to evenly tighten all sides.
 - iii. **Tighten only hand tight without the use of any powered screw device – DO NOT force as this can damage the filter.** Work once around the filter to check that all screws have been tightened.
 - iv. If a suitable torque measuring tool is available, apply a maximum torque of 12kgf cm or 10.4 in lb (0.868 ft lb) force.



14. Turn the filter slowly by hand and check the clearance of the filter in the sensor. Adjust the sensor position to provide proper clearance.



MI-2100 Polarizing Filter Disk Ver 5.0 Replacement (For use with Mk2 interoperable 3D glasses)

15. Replace the filter cover by carefully placing it over the PFD and sensor filter. Replace all six screws loosely. Tightly fasten the screws firmly from the top to the bottom.
16. Plug in power cable, turn on the system power, and press the **Start/Stop** button to check the filter turning balance. After a successful check, stop the filter, power off the system, and unplug the power cable.
17. Move the MI-2100 back into proper position in front of the projector lens, and check that the filter side of the PFD is facing the screen.
18. **Remove and dispose of all original Mk1 3D glasses in the projection booth, and replace with the new Mk2 glasses:**



Original Mk1 3D glasses (to be returned)



New Mk2 3D glasses

19. Plug in the power cable, reconnect the sync cable, and check that the system is functioning properly with 3D content on the screen.
20. Record the date and comments on the filter change in the Service Data Records.

4 Returning the Mk1 PFDs

Package all the Mk1 PFDs, and return them to Technicolor, with the provided shipping labels:

Address:

MasterImage 3D Returns
Technicolor Digital Cinema
3418 Progress Way
Wilmington, OH 45177 USA

Telephone: 1-800-99-FILMS option 2

To return the Mk1 3D Glasses

1. All loose or opened Mk1 3D glasses in the theatre complex must be disposed of immediately.
2. All cartons of Mk1 3D glasses, whether opened or closed, must be quarantined immediately and not used in the theatre complex.
3. All Mk1 3D glasses' cartons, along with the PFDs, must be returned to Technicolor. Technicolor will arrange to pick up the cartons.



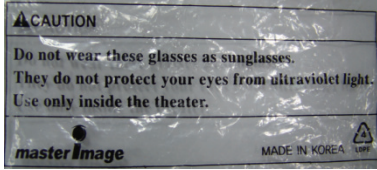



5 Technical Support

If you have any questions about these instructions, or need technical assistance please contact masterImage at 818-558-7900 or support@masterimage3d.com.

Appendix A Comparison Reference: Glasses Change







MasterImage – Glasses Change Reference Comparison

November 2, 2009 v1.0

SECTION	Part Number	MG100-M1	MG100-M2
3D GLASSES	Glasses		
		MK1 - Old Design	- Mk2 New design
	Glasses Wrapper		
		Label	Black
	Shipping Carton		
Size: 520x370x340 250 per box		Size: 525x365x275x8T 300 per box	

MI-2100 Polarizing Filter Disk Ver 5.0 Replacement

(For use with Mk2 interoperable 3D glasses)

	Part Number	MI21-PFD-M370-04	MI21-PFD-R370-01
PFD	Polarizing Filter Disk (PFD) Label		
		Note "M" in label	Note "R" in label
	PFD Packing		
		Package color: black	Package color: Blue
	Replacement PFD Set Shipping Box		
			Size 460x460x58 Includes: 2 PFD's
	Consolidated PFD Shipping Carton		
			Size: 580x470x495x5T Includes: 10 PFD Shipping Boxes