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| Document Title | On-telescope commissioning plan |
| Document Number | 6.3 D 001 G |
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| Document Prepared By: | Mark Casali | Signature and Date | |
| Document Approved By: | | Signature and Date | |
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CHANGE RECORD

| Issue | Date | Section affected | Change Description |
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| 0.1 | 5/11/03 | All | First Draft. |
| 1.0 | 9/02/04 | All | Revised following discussions with JAC. |



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1 INTRODUCTION

The final phase of commissioning is On-Telescope commissioning in which final adjustments are made and satisfactory camera operation on the telescope is confirmed. This follows an assembly period in Hilo, and cooling and installation of the camera on UKIRT.

The following is a skeleton plan only, and will be developed further as we approach commisioning.

2 PLAN

| Phase and Purpose | Telescope position | Tests |
|---|--|---|
| 1. Autoguider commissioning | Telescope on bright star near zenith | <ul style="list-style-type: none"> • Adjust Field lens autoguider optics for best focus. • Confirm guide star image quality. • Confirm CCD noise performance • Determine CCD pixel scale • Confirm guide star S/W acquisition and tip-tilt guiding at 40Hz. • confirm XY offsets • First pointing model |
| 2. Preliminary staring functionality and performance tests (Confirm there are no serious problems possibly requiring immediate warm-up for single-pointing stare mode) | Telescope on stars near zenith. No autoguiding. Telescope on star at airmass ~1.5 | Obtain reasonable IR images over full science field, as judged by eye and data pipeline image and WF parameters. Determine <ul style="list-style-type: none"> • Set approximate M2 zenith position in three axes. Add/remove shims. • Set approximate cryostat tilt • Approximate M2 and focus offset between filters • the residual focal plane tilt • IR pixel scale • Throughput in JHK • Determine background levels in JK • Run detector Noise tests • Calculate detector spatial offsets and rotation on sky First pipeline tests. Check for serious image degradation with telescope attitude, using nominal M2 lookup table. Including through-zenith. |

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| 3. Remove WFCAM and make internal and external adjustments | Telescope parked. | Adjust the spider to remove any focal plane tilt. Adjust the autoguider filter thicknesses to ensure focus. |
| 4. Final staring functionality and performance tests (final optimisation of single-pointing performance) | Telescope on star near zenith. Autoguiding on. | Obtain best IR images over full science field, as judged by data pipeline image parameters. Determine <ul style="list-style-type: none"> • Accurate pointing model • Accurate M2 and focus offset between filters • refine cryostat tilt • M2 position in three axes • Photometric repeatability • Field distortion • Determine that image degradation with telescope attitude is within spec. Determine the best M2 positions at a series of telescope positions – revise the M2 lookup table. |
| 5. Survey performance (commission software/hardware automatic survey mode) | Automatic acquisition of fields | Automatic acquisition of guide stars and observing fields <ul style="list-style-type: none"> • Meet efficiency spec • Determine faintest guide star magnitude |