*LIGO Laboratory / LIGO Scientific Collaboration*

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*ISC Optics Tables (ISCT):* Acceptance Documentation

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# Requirements documentation

This acceptance package covers the in-air ISC optics tables: ISCT1 (next to HAM1); ISCT6 (next to HAM6); ISCTEX & ISCTEY (End stations). There are no requirements documents for these tables.

# Design overview and detailed design documentation

Design documentation is in the aLIGO DCC tree, starting at:

[LIGO-E1200198](https://dcc.ligo.org/LIGO-E1200198): aLIGO, ISC, Opto-Mechanical Layouts

This entry has links to ISCT1, ISCT6, ISCT End (HAM’s are reviewed separately).

*a) Final Design Document (FDD):* Design documents are found in the DCC tree. Associated with each table type (ISCT1, e.g.) is the following design documentation:

* Optics table layout drawings. There is one file card for each type (ISCT1, e.g.), which contains files for both the H1 and L1 as-built layouts.
* Enclosure drawing
* Enclosure feedthrough panel design
* Mode matching design

*b) Review reports:*

There was no review of the ISC in-air optics tables.

*c) Supporting design documents: models, analyses, specifications, etc.*

All in the DCC tree, see a) above.

*d) Drawings: cite the top level assembly drawing for each major assembly or subsystem.*

There are no assembly drawings that integrate the optics table, enclosure, table components, etc.

*e) Bill(s) of Materials (BOM): cite any collected BOMs. If the BOMs are only to be found on the Assembly and Sub-Assembly drawing sheets, then state so.*

There are no complete bills of materials for these tables. The table layout drawings include the basic properties of the optics (lens focal lengths; beam splitter ratios, e.g.); labels on the optic mounts give the complete vendor part designation. [LIGO-T1100416](https://dcc.ligo.org/LIGO-T1100416) includes a BOM for the table enclosures.

*f) Interface control: cite any documents (such as RODAs) with interface definition/control and/or cite the relevant sections of the DRD and FDD.*

None.

*g) Software: cite any software design description documentation.*

No software.

*h) Design source data:*

*- Confirm that all mechanical design CAD models are in the SolidWorks/PDMWorks vault, or explain what is not and why.*

*- Confirm that all electronics design CAD models (schematics and PWB layouts) are backed up and available on LIGO Lab archives, or explain what is not and why.*

N/A.

# Materials and fabrication specification

*Any special materials, or treatment of materials including preparation for in-vacuum use; this may be integrated into the Design documentation.*

No special materials.

# Parts and in-process spares inventoried

The components for the ISC in-air optics tables are not inventoried in ICS. Most of the components (optics and opto-mechanical) are recycled from initial LIGO.

# Assembly procedures

[LIGO-T1100416](https://dcc.ligo.org/LIGO-T1100416) includes assembly procedures for the table enclosures.

# Installation procedures

None.

# Test documents

The RF photodetectors on the ISC tables are typically tested in-situ using a laser diode source ([LIGO-T1200396](https://dcc.ligo.org/LIGO-T1200396)), and results are posted in the aLog.

# User interface software

None.

# Operation Manual

None.

# Safety

*Safety documentation must be in the DCC for all phases of the subsystem development, including any needed for normal use or foreseen maintenance/repair scenarios.*

N/A