

TomoTherapy® Hi·Art® Basic System Support Technical Training Program

Course Summary

This 6-week technical training course provides a comprehensive understanding of the TomoTherapy® Hi·Art® treatment system's network and communication, system operation, and system components. In addition to discussions on system theory and operation, the sessions and modules include extensive service tools training and troubleshooting methods for the Hi·Art® treatment system. This course is rich with hands-on learning experience to make immediate use of troubleshooting methods and problem diagnosis for the Hi·Art® treatment system.

TomoTherapy Technical Training Overview

Course modules include classroom discussions of key topics as they relate to the Hi·Art® treatment system. These modules may also be held in the system bunker to offer effective hands-on opportunities. Lab sessions provide an effective way to build confidence in understanding system technology presented during the course. The TomoTherapy Institute of LearningSM (TIL) has four Hi·Art® treatment systems which provide a comprehensive hands-on learning experience.

Course Benefits

Upon completion of this course you will be able to:

1. Troubleshoot and diagnose Hi·Art® treatment system issues with assistance from the TomoTherapy Customer Interaction Center.
2. Describe the theory and functionality of system components associated with radio frequency production, radiation generation and collimation.
3. Explain the theory and operation of computing system components associated with treatment plan optimization, data storage, and network connectivity.
4. Demonstrate proper operation of the Hi·Art® treatment system.
5. Maintain system health by performing Planned Maintenance procedures.
6. Verify system performance and make necessary adjustments to system parameters to ensure the system is running optimally.
7. Replace and support the calibration of critical system components.
8. Demonstrate the use of hardware and software service tools to analyze, adjust, and repair various system issues.

Course Details

Course Name	TIL Course Number	Duration
Hi·Art® Basic System Support	T-TIL-050-0410	29.5 business days

General Information

Target Audience:

This course is designed for TomoTherapy Service Engineers, as well as authorized Third-Party Distributor and Partnership service engineers, which provide full support for TomoTherapy® equipment.

Required Prerequisites:

1. Completion of the TomoTherapy® Field Service Engineer Apprenticeship Program.
2. Participants must complete the Health and Safety Training, Electrical Safety and Radiation Safety Training from the TomoTherapy Regulatory Department, or provide evidence of successful completion of equivalent training.
3. Bachelor's degree in engineering or physics. Other qualifications with significant related work experience may also be considered.
4. At least 2 years of field support, engineering, or manufacturing experience with high technology electrical/electronic products. 2 to 3 years of Radiation Therapy or diagnostic imaging related service experience preferred.
5. Hands-on experience with electronic test equipment.
6. Ability to demonstrate a working knowledge and understanding of general PC service concepts and the Microsoft® Windows® 2000/XP Operating System.

Recommended Prerequisites:

A working knowledge of radiation theory & service.

Materials Provided:

TomoTherapy® Hi·Art® Basic System Support Training Documentation
TomoTherapy Customer Login Account

Participant Materials Required:

The participant should bring the following items to the training course:

Laptop computer with:

- Microsoft® Windows® 2000/XP (English language version with SP2)
- CD/DVD ROM drive
- RS232 port or USB to RS232 converter/adaptor
- Cat5e (or better) Ethernet Cable with RJ-45 Connectors
- Adobe® Acrobat Reader
- Microsoft® PowerPoint® 2003 or later

Steel toed shoes are required when replacing components on the treatment system. If the participant does not bring steel toed shoes, safety toe covers will be provided while attending training.

Testing and Assessment

At the heart of our course certificate programs are carefully developed exams that measure the ability to perform specific service and maintenance functions. This includes troubleshooting techniques and service concepts. These thorough exams go beyond testing terminology and knowledge of the Hi·Art® treatment system. In the clinic, the service professional is rarely called upon to recite a list of facts. Instead, they need to apply their knowledge to a situation, analyze technical solutions, solve problems, and make decisions. Our exams measure these real-world cognitive skills, helping to ensure the competence of service and biomedical professionals. This is accomplished via an end-of-course comprehensive written exam as well as hands-on practical assessment, using a functioning Hi·Art® treatment system.

Course Agenda

Week One

(Lecture & Lab Time)

- M** Hi-Art® System Hardware
- T** Introduction to System Power & Interlocks
TomoTherapy® Hi-Art® Computing Systems
- W** TomoTherapy® Hi-Art® Network Overview
Hi-Art® System Software
- Th** TomoTherapy® Hi-Art® Collimation Overview
Fundamentals of System Monitoring
Introduction to TomoTherapy® Clinical Applications
Introduction to TomoTherapy® Physics
- F** Temperature Control System
TomoTherapy® Product Platform & Features
Temperature Control System Practical

Week Two

(Lecture & Lab Time)

- M** Basic Service Operations
Data Collection
- T** Diagnostic Tools
SSM Test Utility & AMCON
- W** Post Service Function Test
PerforMSM PM Concept Overview
- Th** Review & Fault Identification
PerforMSM PM Concept Overview
- F** Week 2 Written and Practical Assessments

Week Three

(Lecture & Lab Time)

- M** System Power & Interlocks II
Radiation Delivery System Log Analysis
- T** Gantry Communication
Gantry Calibration
- W** Basics of the Hi-Art® Imaging System
Detector and Auxiliary Data Analysis
- Th** TomoTherapy® Hi-Art® Collimation II
MLC Replacement and Jaw Test Utility
- F** Radio Frequency eCourse Review Session
Week 3 Troubleshooting Lab

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Week Four
(Lecture & Lab Time)

- M** Injector Assembly
- T** Linac Theory and Operation
Linac Replacement Lab
- W** Magnetron Replacement Lab
Radio Frequency (RF) System Tuning Theory
- Th** Radio Frequency (RF) System Tuning Lab
- F** Week 4 Troubleshooting Lab

Week Five
(Lecture & Lab Time)

- M** TomoTherapy® Hi-Art® Computing Systems II
Hi-Art® System Software
- T** Laser Operation and Alignment Lab
- W** Hi-Art® Couch Operation
Hi-Art® Couch Calibration
- Th** High Performance Couch Operation and Service
- F** 3.x System Software
Week 5 Troubleshooting Lab

Week Six
(Lecture & Lab Time)

- M** Optimizer Troubleshooting
- T** System Troubleshooting Lab
- W** Review and Final Written Exam
- Th** Final Practical Exam
- F** Test Review and Final Checkout
(Course completes by 1pm)

For more information, please contact:

TomoTherapy Institute of Learning

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Madison, WI 53717-1954
(866) 368-4807 (North America only)
+1 608 824-2900 (all other locations)
tomoinstituteoflearning@tomotherapy.com



CONFIDENTIALITY TERMS

In consideration of the training and information received by the training recipient and his or her employer (collectively, "Recipient"), Recipient and TomoTherapy Incorporated ("Company") **AGREE AS FOLLOWS:**

1. **Nondisclosure of Confidential Information.** Recipient shall not use or disclose, directly or indirectly, any Confidential Information except in strict accordance with the licenses for such Confidential Information during the term in which Recipient owns and/or operates the Company equipment that is the subject of the training provided under the terms of this Agreement (the "License Period") and for a term of two (2) years thereafter. During the License Period and for a term of two (2) years thereafter, Recipient shall do what is reasonably necessary to prevent unauthorized misappropriation or disclosure and threatened misappropriation or disclosure of the Confidential Information, including any Trade Secrets. These obligations do not apply to Confidential Information after it has become generally known in the industry in which the Company conducts its business. The contractual protections provided by this Agreement are in addition to, and not in lieu of, protections under the laws governing trade secrets, which may well extend beyond the contractual limitation period and Recipient agrees to treat any Trade Secrets accordingly.

2. **General Know-How.** Nothing in this Agreement shall be deemed to prevent Recipient's post-engagement use of Recipient's general knowledge and skills acquired or enhanced during the License Period or to prohibit Recipient from seeking other work after the License Period, so long as such use or work does not violate the provisions of this Agreement.

3. **Delivery of Materials to Company.** Immediately upon termination of the License Period, Recipient will return to the Company all written, recorded, and graphical material, documents, hardware, software and items relating to the business of the Company (and copies thereof) (other than owned by Recipient) in Recipient's possession or under Recipient's control regardless of whether such materials, documents and items contained Confidential Information.

4. **Representations and Warranties.** Recipient represents and warrants (i) that Recipient has no obligations, legal or otherwise, inconsistent with the terms of this Agreement or with Recipient's undertaking of a relationship with the Company, and (ii) that Recipient has not entered into and will not enter into any agreement (whether oral or written) in conflict with this Agreement. Recipient's representations, warranties, and obligations contained in this Agreement shall survive after the License Period.

5. **Change in Employment Status.** The covenants of this Agreement shall remain in force in the event of any change in the employment status of any of Recipient's employees.

6. **Injunctive Relief; Breach.** Recipient acknowledges that failure to carry out any obligation under this Agreement, or a breach of any provision herein, will constitute immediate and irreparable damage to the Company, which cannot be fully and adequately compensated in money damages and which will warrant preliminary and other injunctive relief, an order for specific performance, and other equitable relief. Such remedy, however, shall be cumulative and nonexclusive and shall be in addition to any other remedy to which the parties may be entitled.

7. **Assignment.** Neither this Agreement nor any rights or duties of Recipient hereunder shall be assignable by Recipient, and any such purported assignment shall be void. The Company may, however, assign all or any of its rights hereunder.

8. **Entire Agreement; Amendment.** This Agreement constitutes the complete understanding between Recipient and the Company on this subject and may not be modified or amended, except by writing and executed by a duly authorized representative of the Company and by Recipient. This Agreement is intended to be the final, complete, and exclusive statement of the terms of the parties' agreements regarding these subjects and supersedes all other prior and contemporaneous

agreements and statements on these subjects. This Agreement is effective for Recipient's entire License Period, even if such period commenced prior to the date of this Agreement.

9. **Definitions.** All capitalized terms not defined in the text of this Agreement, have the following meanings:

(a) "Confidential Information" means information, including Trade Secret information, which is possessed by or developed for the Company and which relates to the Company's existing or potential business or technology, which information is generally not known to the public and which information the Company seeks to protect from disclosure to its existing or potential competitors or others, including, without limitation, business plans, strategies, existing or proposed bids, costs, technical developments, existing or proposed research projects, financial or business projections, investments, marketing plans, negotiation strategies, training information and materials, information generated for client engagements and information stored or developed for use in or with computers. Confidential Information also includes information received by the Company from others which the Company has an obligation to treat as confidential, including all information obtained in connection with client engagements and partnering arrangements.

(b) "Trade Secret" means all information possessed by or developed for the Company, including, without limitation, a compilation, program, device, method, system, technique or process, to which all of the following apply: (i) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use and (ii) the information is the subject of efforts to maintain secrecy that are reasonable under the circumstances.

10. **Waiver of Breach.** The waiver by either party of the breach of any provision of this Agreement shall not operate or be construed as a waiver of any subsequent breach by either party. Any waiver by either party must be in writing and signed by a representative who has the authority to bind such party.

11. **Invalidity of any Provision.** The provisions of this Agreement are severable, it being the intention of the parties hereto that should any provision hereof be invalid or unenforceable, such invalidity or unenforceability of any provisions shall not effect the remaining provisions hereof, but the same shall remain in full force and effect as if such invalid or unenforceable provision or provisions were omitted.

12. **Governing Law; Jurisdiction and Venue; Construction.** This Agreement shall be governed by the internal laws of the State of Wisconsin. The parties irrevocably consent to the sole and exclusive jurisdiction and venue in the appropriate state or federal court in Wisconsin. This Agreement shall be construed without regard to any rules of construction concerning the draftsman hereof.

13. **Notices.** Any notice, request, consent or approval required or permitted to be given under this Agreement or pursuant to law shall be sufficient if it is in writing, and if and when it is hand delivered, faxed, or sent by regular mail, with postage prepaid, to Recipient's residence (as noted in the Company's records), or to the Company's principal office, as the case may be.

14. **Recipient Acknowledgment.** Recipient acknowledges that Recipient has read and understands this Agreement, and that Recipient has entered into it freely and voluntarily based on Recipient's own judgment and not on any representations or promises other than those contained in this Agreement.