

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

Summary

The technical training curriculum provides a basic understanding of the Hi·Art® treatment system including the system network and communication, system operation, and major system components. The session also includes the service tools training and troubleshooting method for the Hi·Art® system.

TomoTherapy Technical Training Scope

All aspects of servicing, from planned maintenance requirements through calibrations and troubleshooting to the subassembly or circuit board level are included in our training. All basic system support modules begin with a thorough functional description of the system or sub-system and its applications. Subsystem interconnectivity and interoperability are other key focus areas. Operation and configuration menus are discussed and practiced. Functional flow is presented at a block diagram level.

Hands-On Focus

Course modules include a discussion of key theories of operation essential to troubleshooting techniques. Most of the class modules are structured to provide a 50/50 mixture of lecture and "hands-on" lab. Often times, entire class modules are held in the system bunker to maximize hands-on time. Troubleshooting labs provide an opportunity to build confidence in using troubleshooting techniques, tips and diagnostics presented during the course. As we own the equipment installed at our training facility – lab work can be as thorough as needed for a comprehensive hands-on troubleshooting experience.

Course Benefits

Upon completion of this course you will be able to:

1. Explain the functional operation of the Hi·Art® treatment system
2. Demonstrate basic operation of the Hi·Art® treatment system
3. Perform complete system Planned Maintenance procedures.
4. Gain the ability to troubleshoot and diagnose problems with assistance from the Customer Support Center
5. Replace and calibrate system components
6. Demonstrate use of all Service Tools for troubleshooting purposes

Course Details

Course Name: TomoTherapy® Hi·Art® Basic System Support Technical Training Program

Part Number: T-TIL-050-0409

Duration: 6 Weeks

General Information

Prerequisites:

1. Ability to demonstrate a working knowledge and understanding of general PC service concepts and the Windows 2000/XP Operating System.
2. Bachelor's degree in engineering or physics. Other qualifications with significant related work experience may also be considered.

3. Knowledge of X-Ray and radiation theory & service. 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.
4. Steel toed shoes are required while working in the system vault.
5. Hands-on experience with electronic test equipment.
6. Participants must complete the Health and Safety Training, Electrical Safety and Radiation Safety Training from TomoTherapy Regulatory Department. Or provide evidence of successful completion of equivalent training.
7. Participants must also complete the appropriate TomoTherapy Field Service Engineer Apprenticeship Program. (TomoTherapy Field Service Engineer, or Distributor/Partner Service Engineer program – refer to program details)

Hardware required:

1. Laptop with:
 - a. Windows 2000/XP (English language version with SP2)
 - b. CD/DVD ROM drive
 - c. RS232 port or USB to RS232 converter/adaptor
2. Cat5e (or better) Ethernet Cable with RJ-45 Connectors

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® 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 troubleshooting skills assessment in the bunker (system gantry and couch) and in the cluster room.

Contact

Note: For more information please contact our Customer Service Department:

TomoTherapy Incorporated

Customer Support Dept
1240 Deming Way
Madison, WI 53717-1954

(866) 368-4807 (North America only)
+1 608 824-2800 (all other locations)

Course Outline

Week One <i>(Lecture & Lab Time)</i>	M	Partners/Distributors Only: Apprenticeship Program review*
	T	Hi-Art® Overview, Job Expectations (Duties/Responsibilities), Optimizer Theory and Operation
	W	Optimizer Theory and Operation, Hi-Art® System Software
	Th	Hi-Art® System Software, Applications Training, Post Service Function Test (Planning Station & Operating Station)
	F	Master Node Creation, Node Change, Software Installation (Online Software Distributor), RDS Service Pack, Basic Service Tools
Week Two <i>(Lecture & Lab Time)</i>	M	PDU Theory and Operation & Hands-on, Basic Service Operations
	T	Interlock Theory and Operation & Hands-on
	W	DAS, Slip Rings, Aux Board, DRS, STC, and OBC, Detectors, Cleaning Slip Rings
	Th	Diagnostic Tools Operation & Hands-on, Gantry Calibration, Magnetron Replacement
	F	SSM Theory and Operation, SSM Test Utilities/AMCON
Week Three <i>(Lecture & Lab Time)</i>	M	Injector Theory and Operation, Injector Hands-on
	T	LINAC and Gun Theory and Operation, LINAC and Target Replacement
	W	Tuning Theory, AOM Tuning
	Th	AFC and MFL Tuning Procedures
	F	System Analysis
Week Four <i>(Lecture & Lab Time)</i>	M	Collimation Overview (Jaws and MLC), MLC Replacement and Testing
	T	TCS Theory and Operation, TCS Hands-on
	W	Hi-Art® Couch Theory and Operation, Couch Calibration
	Th	High Performance Couch Theory and Operation & Hands-on
	F	PerforM SM planned maintenance, Beam 30, 90, 150
Week Five <i>(Lecture, Lab Time and focus on Troubleshooting)</i>	M	Lasers
	T	DMS, Optimizer Troubleshooting
	W	Optimizer Troubleshooting
	Th	System Troubleshooting
	F	System Troubleshooting, Beam 30, 90, 150, 300, 600, 1200
Week Six <i>(Testing and Troubleshooting Assessment)</i>	M	System Troubleshooting
	T	System Troubleshooting
	W	Testing (Written, Cluster & System)
	Th	Testing (Written, Cluster & System)
	F	Test Review/Final Checkout/TTM Feedback (finish at 1:00 PM)

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 or Trade Secrets except as expressly authorized by the terms of this agreement, beginning on the date of receipt of such confidential information or Trade Secret and extending until such date that Recipient no longer utilizes TomoTherapy® products to deliver services to patients or Recipient's customers (the "License Period"). During the license period, Recipient may use such Confidential Information or Trade Secrets only for the purposes of providing services to patients, utilizing TomoTherapy® products (including but not limited to the Hi-Art® treatment system) for such provision of services or for maintenance of such TomoTherapy® products. Use of Confidential Information or Trade Secrets in a manner detrimental to Company is expressly prohibited.

In addition, for a period of two (2) years following the License Period, Recipient shall not use or disclose, directly or indirectly, any Confidential Information. This prohibition does not apply to Confidential Information after it has become generally known in the industry in which the Company conducts its business.

2. Nondisclosure of Trade Secrets. Recipient agrees that Recipient shall not disclose any Company Trade Secrets at any time during or after the License Period so long as the Company's Trade Secrets remain, without misappropriation, protected Trade Secrets of the company. Recipient shall do what is reasonably necessary to prevent unauthorized misappropriation or disclosure of the Company's Trade Secrets both during and after the License Period.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. 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.

9. 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.

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

(a) "Confidential Information" means information, to the extent it is not a Trade Secret, 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.

11. 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.

12. 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.

13. 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.

14. 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.

15. 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.