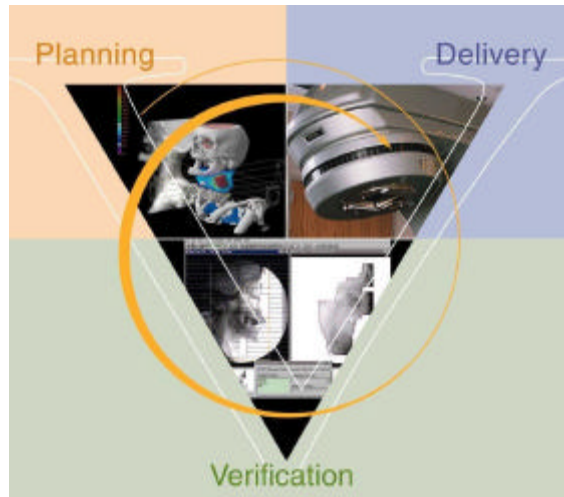


VARIAN

medical systems



INSTALLATION DATA PACKAGE

*Section Five
Eclipse Treatment Planning System
and ARIA[®] Information System
Equipment Information*

"ARIA" and "Eclipse" are trade names for Varian software.

*English Version
December 2006*

**Treatment Planning
ARIA and Eclipse Information**

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“ARIA” and “Eclipse” are trade names for Varian software.

Section Five Notes

Information and Support

This is not the complete Installation Data Package (IDP). This section describes only information on specific equipment facility requirements for the *ARIA* and *Eclipse* Systems. Refer to the "Equipment Information" section for detailed information regarding specific equipment families. For more information, contact your nearest regional support office or Varian's main Planning Department at:

Varian Medical Systems
Planning Department
911 Hansen Way, Bldg. 3 M/S C-165
Palo Alto, CA 94304-1028
(800) 278-2747
(650) 424-5945
(650) 424-6252 Fax
<http://www.varian.com/support>

ARIA Software and Equipment Options

The ARIA product is a complete oncology department information system. It is made up of a suite of software application modules that reside on computer workstations throughout the department and other remote facilities via wide area networks. Workstations are connected over a network to centrally located computer servers where the data is stored. The size and configuration of the system is widely variable. It can range from a very small networked system that has 4 workstations and 1 server to 100 workstations and 3-4 servers. The Varian provided ARIA software applications are all Windows client/server compliant meaning they will operate with Intel class personal computers (PCs) on a network. Customers have the option to provide the PC computers providing they meet Varian's recommendations. Network infrastructure is generally provided and setup for ARIA either by the hospital IS department or through hospital networking contractors.

Varian/Customer Sales Order specifics:

- ARIA software modules to be supplied by Varian
- ARIA computer hardware to be supplied by Varian
- Services to be supplied by Varian
- Special terms or conditions of sale
- Estimated Ship Date
- Shipping Address

Eclipse Software and Equipment Options

Eclipse is a comprehensive treatment planning system for external beam radiation therapy and brachytherapy. Treatment planning usually involves determining the tumor volume to be treated, specifying the dose to deliver under which fractionation scheme, arranging treatment fields, designing beam modifying devices and calculating the resulting isodose distribution. Network infrastructure is generally provided and setup for Eclipse either by the hospital IS department or through hospital networking contractors.

Varian/Customer Sales Contract specifics:

- Eclipse computer hardware to be supplied by Varian
- Eclipse interfaces to external equipment

- Eclipse software modules to be supplied by Varian
- Services to be supplied by Varian
- Special terms or conditions of sale
- Estimated Ship Date
- Shipping Address

IDP Distribution

All participants in the process of designing an ARIA/Eclipse facility should be generally familiar with the entire IDP. As the central project manager, the Architect should control the distribution of all IDP materials. Below is an outline of the drawings in this section to which various parties should pay particular attention on a typical project:

- **Architect** - This entire section.
- **Electrical Engineer** – This entire section and the *Varian-Supplied Component Information Table*.
- **Contractor** - To ensure that accurate, project-specific information is used for construction, the Contractor should obtain all information from the Architect's construction documents.
- **Network Engineer**- To ensure proper network design network cabling, hub, routing, patch panel and server placement.

Typical Duties of the Parties

To ensure a trouble-free project, good communications between the Customer, vendors, contractors and Varian is essential. In addition, defining typical areas of responsibility for each party can help focus efforts in an effective manner.

Varian supplies the *ARIA* and *Eclipse* software, hardware (if purchased through Varian) and training services. However, the network and its associated components are the responsibility of the Customer. Varian expects that the hospital network is fully operational when sending an engineer on site for *ARIA* and *Eclipse* installation. Therefore, a clear scope of work and additional cost estimate should be established prior to installation of Varian supplied equipment and should be so indicated on the equipment sales order.

Refer to the *Varian/Customer Terms and Conditions of Sale and Customer Purchase Order* for any specific responsibilities that may alter what is typical.

Hospital Oncology Department Responsibilities

- Assign an internal ARIA/Eclipse implementation project manager.
- Organize an internal implementation team with representatives from each user group (administration, therapists, reception, physics, physician, etc.)
- Define ARIA/Eclipse users and workspace requirements including both hardware and software workstation needs.

Hospital Oncology Department Responsibilities-cont.

- Coordinate with IS department on network and computer needs.
- Define short and long term implementation goals.

Section Five Notes

- Define work flow and responsibility changes that will occur.
- Define a training plan for users that would include how to use PCs, Microsoft Windows and the ARIA/Eclipse products.
- Assign an internal representative for acceptance verification with Varian installer.
- Schedule initial training for staff with Varian applications specialists.
- Plan and budget for additional training, support and yearly computer upgrades.

Hospital's Architect Responsibilities

- Work with Oncology department project manager and IS department on placement of the equipment.
- Determine if adequate cable conduits exist for power and network cables.
- Determine if adequate AC power and ventilation is available for equipment.
- Determine if user workspace require modification to accommodate workflow changes or equipment.

Hospital's General Contractor Responsibilities

- Provide workspaces to accommodate computers, monitors, printers, and user needs per Architect's recommendations.
- Provide electrical power as required to accommodate computer equipment per hospital IS or Varian defined requirements.
- Provide cooling, air conditioning, etc. for proper computer equipment environmental conditions per IS or Varian defined requirements.

Hospital IS Department Responsibilities

- Perform network design layout and load analysis within the Oncology department as well as connections to other hospital networks and/or wide area networks. Varian can be consulted for network requirements.
- Define capacity, usage and fault tolerance requirements for computers and coordinate with Oncology department on ordering computers, printers, network components, etc.
- Perform installation of network cabling, patch panels, switches, routers, hubs, etc.
- Define installation and day to day support responsibilities for the network and computers.
- Define computer and network standards for Varian and computer vendors (computer preferences, network protocols, IP addresses, etc.)
- Define daily backup process and responsibilities.
- Ensure all computers are installed and running at the network and operating system level prior to Varian coming to site for equipment installation.

Hospital's Computer Vendor Responsibilities

- Supply computer equipment (servers, workstations, monitors, printers, etc.) according to Oncology Department needs, ARIA software use and ARIA hardware requirements.
- Supply network cabling between computers and wall outlets.

- Install ARIA computers at the Customer designated locations and connect to the network.
- Perform computer hand-off with hospital IS department.

Varian Responsibilities

- Varian Installation Coordinator to contact Customer with target ARIA/Eclipse ship month and coordinate site visit for installation planning.
- Varian Service to perform pre-site coordination visit to define ARIA/Eclipse requirements for computers/networks and how the product will be installed.
- Varian Applications to provide an "ARIA/Eclipse System Welcome Package" that will help your department get ready for the implementation process of ARIA/Eclipse.
- Varian Installation Coordinator works with Oncology project manager to determine site readiness date that triggers ARIA/Eclipse shipment from Varian.
- Varian Service installs and tests ARIA/Eclipse software on Customer computers at the Customer site.
- Varian Service to perform Acceptance hand-off with Customer for installed ARIA/Eclipse software.
- Varian Applications to perform initial applications training for getting started with ARIA/Eclipse.

Planning Recommendation

The installation and training for ARIA/Eclipse is somewhat variable depending on what is being purchased and the implementation phases the Customer desires.

The designated onsite project manager for ARIA implementation should plan on spending 10-25% of their time for 3 months leading up to the ARIA installation and 2 months afterwards. On top of that it will be necessary to set aside at least 4 hours/week for department representatives to participate in planning meetings and to plan for how their areas will be affected by having ARIA. If possible 3-4 individuals (administrator, chief therapist, physicist, and IS representative) should plan on attending the off-site ARIA, Eclipse training which Varian offers.

Varian offers consulting services to assist in implementing ARIA/Eclipse. While this may improve the efficiency, coordination and planning it is not a substitute for involvement by Oncology department staff and their representatives. Implementing a department information management system like ARIA/Eclipse requires considerable advance planning in order to make the installation go smoothly and to quickly familiarize the Oncology staff with how to use the product. Varian is committed to developing a cooperative and coordinated approach for implementing ARIA/Eclipse and we encourage close participation by our Customers.

Information and Support

The purpose of the IDP is to aid Customers, Architects, Engineers and Contractors in their understanding of Varian equipment requirements and facility design issues.

The IDP consists of equipment sections as listed below:

Section 1- Clinac 2100C/D,2300C/D,21EX,23EX, iX,Trilogy
 Section 2- Clinac 600C(D),6EX,4EX
 Section 3- Acuity Simulator
 Section 4- VariSource, GammaMed
 Section 5- Treatment Planning ARIA and Eclipse
 Section 7- Silhouette Edition Clinac

For more information, contact your nearest regional support office or Varian's main Planning Department at:

Varian Medical Systems
 Planning Department
 911 Hansen Way, Bldg. 3 M/S C-165
 Palo Alto, CA 94304-1028
 (800) 278-2747
 (650) 424-5945
 (650) 424-6252 Fax
<http://www.varian.com/support>

Digital IDP

Available from the *Varian Web Page are Autocad .DWG and .DXF files for all sections of the IDP. These IBM PC-compatible files contain the Printed IDP details that are most useful for incorporation into the Architect's contract documents. A Printed Installation Data Package or Digital Installation Data Package is required to use the Digital Drawing files.

Included in each self un-archiving file is the complete keynote database saved as a comma-delimited ASCII text file that can be inserted into most word processors, spreadsheets and databases. Each detail, as designated by a letter in the lower left corner, is saved in a separate file for easy insertion into the Architect's documents. A CAD file name can be found in the lower right corner of each detail. These files are provided by Varian to simplify the design and drafting process and must be modified by the Architect and Engineers to satisfy all site-specific conditions and regional regulations.

* Download Autocad DWG and DXF files from:
<http://www.varian.com/support>

Keynotes

The drawings in the following section utilize keynotes to describe all non-graphic information. To simplify their use, these keynotes have been organized into the following general categories:

General Notes

10 General Notes

Layout Notes

20 General Layout Notes
 21 Equipment Layout / Clearances
 22 Rigging
 23 Dimension Descriptions
 24 Installation Notes

Finish Notes

30 Finishes

31 Control Equipment Casework
 32 Room Storage Casework

Structural/Anchorage Notes

40 Base Frame Installation / Anchorage
 41 Component Anchorage Brackets
 42 Laser Positioning Light Mounting

Mechanical Notes

50 General Mechanical Notes
 51 Plumbing
 52 Coolant System
 53 Ventilation
 54 Compressed Air System
 55 Fire Protection

Electrical Notes

60 General Electrical Specifications
 61 Laser Positioning Lights
 62 Room Lighting
 63 Safety Device Systems
 64 Cable Access Runs
 65 Pull / Junction Boxes
 66 Circuit Breakers / UVRs
 67 Communications
 68 Misc Electrical Components
 69 Power Receptacles / Switches

Shielding Notes

70 Radiation Shielding
 71 Other Shielding

Room Description Notes

80 Room Labels / Descriptions

Varian Component Dimensions, Weights and Other Information

Information regarding Varian-supplied components, such as weights, dimensions, wattage and decibel output levels, is located on the *Varian-Supplied Component Information Table* at the end of this section.

The Planning Department provides:

Standard and Supplemental Data

Installation Data Package (IDP) - This package contains equipment and facility information required by the Customer, as well as the Customer's Architect, Engineers and Contractor. The IDP outlines the facility requirements to insure the quick and efficient installation of Varian equipment. All information provided in the IDP shall be processed by the Customer's Design Professionals for local regulatory agency and site-specific facility requirements. This information must then be incorporated into the Construction Documents. Since Varian equipment does not require modification to suit specific sites and all facility requirements are defined in the IDP, Varian does not provide shop drawings.

Supplemental Information - There are many supplemental documents available from the Planning Department's web page www.varian.com/support.

Typical documents available include:

- AutoCAD drawing files.
- Sample Seismic Calculations - These are available on request for all *Clinac* and *Acuity* models. These studies analyze the forces acting on the equipment's base frame connection to the floor.
- Specialized shielding documents.
- Third Party specification documents.

Site-specific Support

All site-specific documents supplied by Varian are provided to aid the Customer during the facility design and construction document preparation processes. These documents are intended to supplement the IDP with site-specific recommendations only. They do not provide additional engineering information and are not construction documents. All information provided in the IDP shall be processed by the Customer's Design Professionals for local regulatory agency and site-specific facility requirements. This information must then be incorporated into the Construction Documents. Since Varian equipment does not require modification to suit specific sites and all facility requirements are defined in the IDP, Varian does not provide shop drawings.

Preliminary Department Plan Review – The planning Department will require a preliminary plan of the proposed department. Upon receiving the plan we will comment on the following: Circulation paths, rig paths, special relationships, control area size and configuration, accelerator and/or simulator room size and configuration. Upon request Varian can supply to our Customer or the Customer's Design Professionals examples of various department floor plans ranging in size and configuration including one or multiple vault layouts.

Proposal Drawing - This drawing shows the equipment in the proposed room in both plan and cross-section. It includes a shielding analysis of the equipment room with the proposed equipment. Any recommended additions to existing shielding are shown. It also includes recommendations for a schematic console layout, cabinets, sinks and support equipment as well as references to the appropriate sections of the IDP for these items. Where there are required site-specific variances to the information in the IDP (usually on existing facilities), additional information may be shown on this drawing. The Planning Department requires a dimensioned floor plan (or an extracted DWG or DXF CAD file of the specific area) room section, existing or proposed shielding layout and existing utility information.

Site Visit by Planning - In special circumstances, a Planning Department or other Varian representative will visit the site to review the facility or to consult with the Customer, Architect, and Engineers.

Construction Document Review - The Review of the Customer's construction documentation is usually Planning Department's final contact with the project. In this review the architectural and engineering documents are checked

to determine that the required additions or modifications to the facility are appropriate for Varian equipment. Varian checks only for those items that affect the operation of our equipment. Varian does not check for compliance with various regulatory agency requirements. The review is made to the extent that the submitted plans allow. This does not include verification of the adequacy of radiation shielding, which must be approved by the facility's Physicist of Record. The review does not constitute nor imply approval of either the architectural or engineering documents. Varian expressly denies any responsibility for the accuracy or adequacy of the construction documents prepared by the Customer's design consultants.

North American Architectural Planning Support

To obtain further Architectural support or information contact:

Western Region - Main Office

Varian Medical Systems
 Planning Department
 911 Hansen Way, Bldg. 3 M/S C-165
 Palo Alto, CA 94304-1028
 (800) 278-2747
 (650) 424-5945
 (650) 424-6252 Fax
<http://www.varian.com/support>

Central Region

Varian Medical Systems
 Planning Department
 403 International Parkway, Suite 503
 Richardson, TX 75081
 (972) 238-1855
 (972) 644-2681 Fax

Northern Region

Varian Medical Systems
 Planning Department
 2397 Hawthorne Drive
 Yorktown Heights, NY 10598
 (914) 243-2953
 (914) 243-2953 Fax

Southern Region

Varian Medical Systems
 Planning Department
 2250 Newmarket Parkway, Suite 120
 Marietta, GA 30067
 (770) 955-1367
 (770) 955-6936 Fax

International Support

<http://www.varian.com/support>



PLANNING REGIONS

North American Regional Installation Offices

An Installation Project Manager inspects the on-site conditions and construction preparations. The Project Manager also supervises critical construction phases, such as base frame installation and final connections. All Planning Department correspondence will identify the Installation Project Manager for the project site. The regional office locations are:

Northern Region

Regional Installation Project Manager
 Varian Medical Systems Service
 200 East Howard Street, Suite 202
 Des Plaines, IL 60018
 (847) 296-0660
 (847) 296-8316 Fax

Southern Region

Regional Installation Project Manager
 Varian Medical Systems Service
 2250 Newmarket Parkway, Suite 120
 Marietta, GA 30067
 (770) 955-1775
 (770)984-6249 Fax

Education Department

For information regarding Varian training courses, contact:

Education Department

Varian Medical Systems
 6883 Spencer Street
 Las Vegas, NV 89119
 (702) 938-4800
 (702) 938-4805 Fax

North American Regional Sales Offices

The Varian Sales Manager is most familiar with the specific equipment order information. To verify equipment ordered, including specific options to be provided, contact either the Customer or the District Sales Manager. The regional office locations are:

Atlanta, Georgia

Varian Medical Systems
 2250 Newmarket Parkway, Suite 120
 Marietta, GA 30067
 (770) 955-1367
 (770) 984-6249 Fax

Chicago, Illinois

Varian Medical Systems
 200 East Howard Street, Suite 202
 Des Plaines, IL 60018
 (847) 296-5533
 (847) 296-0043 Fax

New Jersey

Varian Medical Systems
 100 Walnut Avenue
 Clark, NJ 07066
 (732) 381-5300
 (732) 381-1060 Fax

Southern California

Varian Medical Systems
 650 East Parkridge Suite 109
 Corona, CA 92879
 (909) 280-4401
 (909) 280-4300 Fax

Customer		A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Plan Review														
2	Issue Purchase Order														
3	Drawing Review														
4	Physicist Shielding Review/Source Lic.														
5	Construction Administration														
6	Radiation Test and Survey														
7	System Acceptance														
8	Clinical Operation Begins														

Varian - District Sales Manager 10.630

1	Initial Sales Contact														
2	Formal Price Proposal														
3	Sales Contract/Installation Request														
4	Available by Phone														

Varian - Planning Department 10.631

1	Installation Data Package Sent														
2	Proposal Drawing/Shielding Review														
3	Construction Document Review														
4	Site Visit (if required)														
5	Provide Phone Support														

Varian - Installation Coordination 10.632

1	Installation Request Received														
2	Construction Site Visit														
3	Order/Install Base Frame														
4	Pre-Installation Checklist Completed														
5	Coordinate Clinac/Acuity Delivery														
6	Coordinate HDR Delivery														
7	Coordinate ARIA Delivery														
8	Coordinate MLC/PortalVision Delivery														
9	Coordinate Eclipse Delivery														
10	Equipment Acceptance Testing														
11	Coordinate Application Training														

Varian - Clinical Support 10.659

1	Application Training Services														
2	Customized Capabilities Offerings														

Varian - Customer Support 10.633

1	Warranty / Service														
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Architect/Engineer 10.634

1	Schematic Design														
2	Architect/Engineer Review														
3	Design Development														
4	50% Construction Documents														
5	95% Construction Documents														
6	100% Construction Documents														
7	Construction Administration														
8	Project Close Out														

Contractor 10.635



1	Construction Bid														
2	Construction Contract														
3	Construction														
4	Request Base Frame														
5	Pre-Installation Checklist Complete														
6	Final Utility Connections														
7	Install Finish Flooring														

Regulatory Agencies 10.636 70.574

1	Plan Review														
2	Plan Approval														
3	Inspections as Required														
4	Agency Approval														

A Typical Site Preparation Process 10.627

IDP10001

	 Refer to the Varian Components chart at the end of this section.	Typical Site Preparation Process Clinac / Acuity / VariSource/GammaMed / ARIA / Eclipse				
	Not For Construction					
0.03.0 :page	planning dept.	© Varian Medical Systems 2001 All rights reserved.	01Oct06	revision: 2	doc. #: 1102372	page: 0.03.0

10 - General Notes

10.627

The Typical Site Preparation Process diagram is provided to assist the Customer in the early project planning stages. This diagram can be labeled or modified to reflect a project's specific schedule.

10.628

These items apply only to Clinac and Acuity projects.

10.629

The Customer is responsible for coordinating program requirements with the intended equipment users and the Architect. The Customer should review with the Architect the specific equipment and options ordered as well as any future considerations. All physics design, testing and acceptance coordination is the responsibility of the Customer.

10.630

The Varian District Sales Manager is the primary Customer contact during pre-sale activities.

10.631

The Varian Planning Department provides Customer site preparation support from pre-sale to the start of construction. Site specific drawings, site review, technical phone support and document review are services available to the Customer and the Customer's design representatives.

10.632

The Installation Project Manager becomes the Customer's primary contact from the start of construction to the start of the equipment installation. The Installation Project Manager's responsibilities include the coordination of equipment delivery and installation, technical phone support, shipping notice distribution, verification of pre-installation checklist items and scheduling of product training.

10.633

The Varian Customer Support representatives provide warranty and service support.

10.634

The Architect and Architectural Engineers provide design, documentation and construction administration services to the Customer. The Architect should be the Customer's primary representative for the distribution of Varian provided information during the entire design and construction phases. The Architect should send periodic construction document sets to the Planning Department for review prior to the construction bidding process.

10.635

The Building Contractor is the Customer's representative for construction services.

10.636

Submittals to the required Regulatory Agencies is the responsibility of the Customer. Varian does not check submitted documents for compliance with regional building codes or other regulatory requirements.

10.659

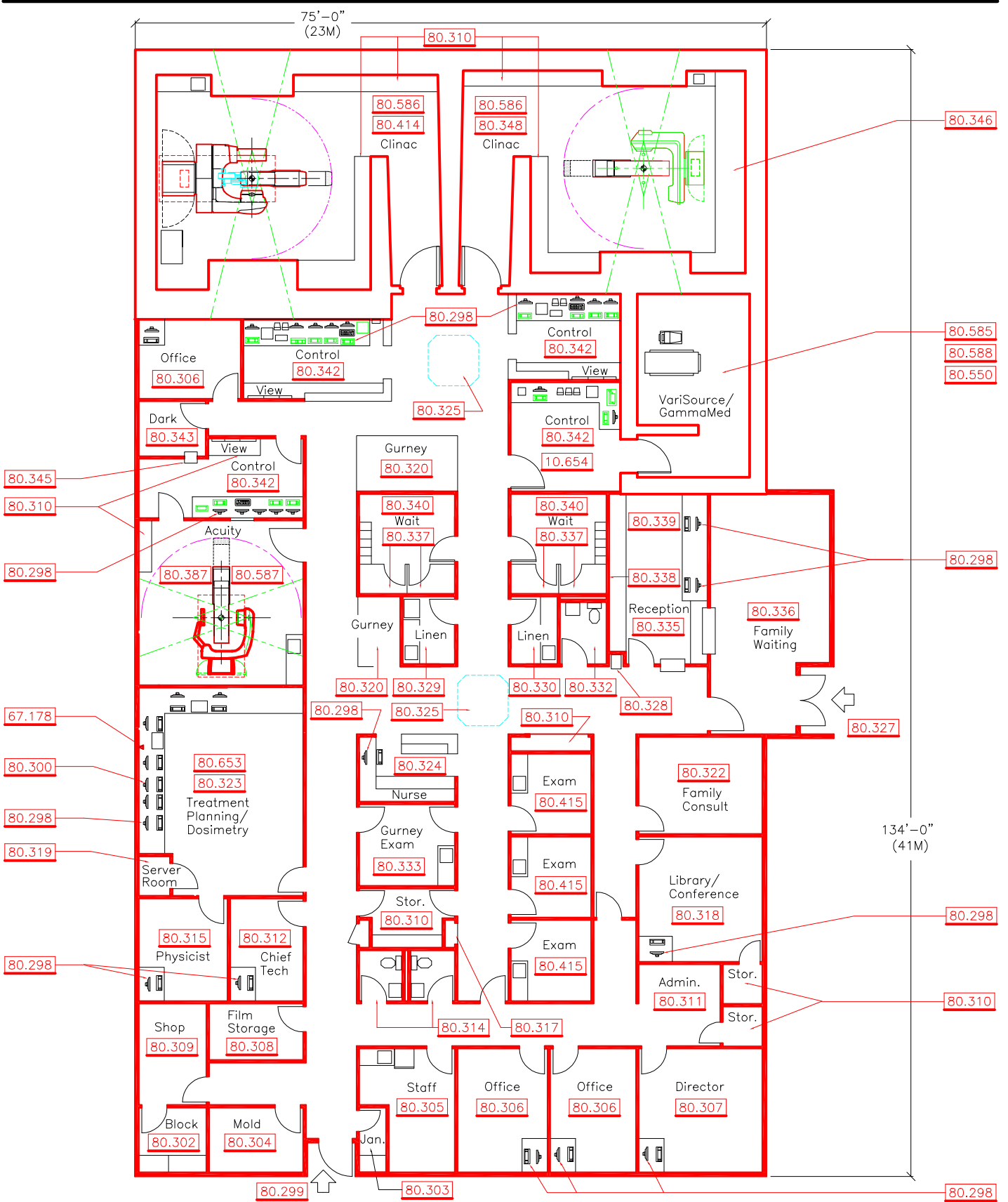
The Clinical Support Department provides on-site instruction (both basic and advanced) on Varian products. Customized capability offerings provide implementation and organizational assistance for new technology and system development.

70 - Radiation Shielding

70.574

Prior to source distribution, Varian is required to verify that Customers have a license to possess and use the source with the high dose rate remote afterloader. Prior to receiving a source, Customers shall provide Varian with a current copy of their license indicating the maximum activity allowed for use.

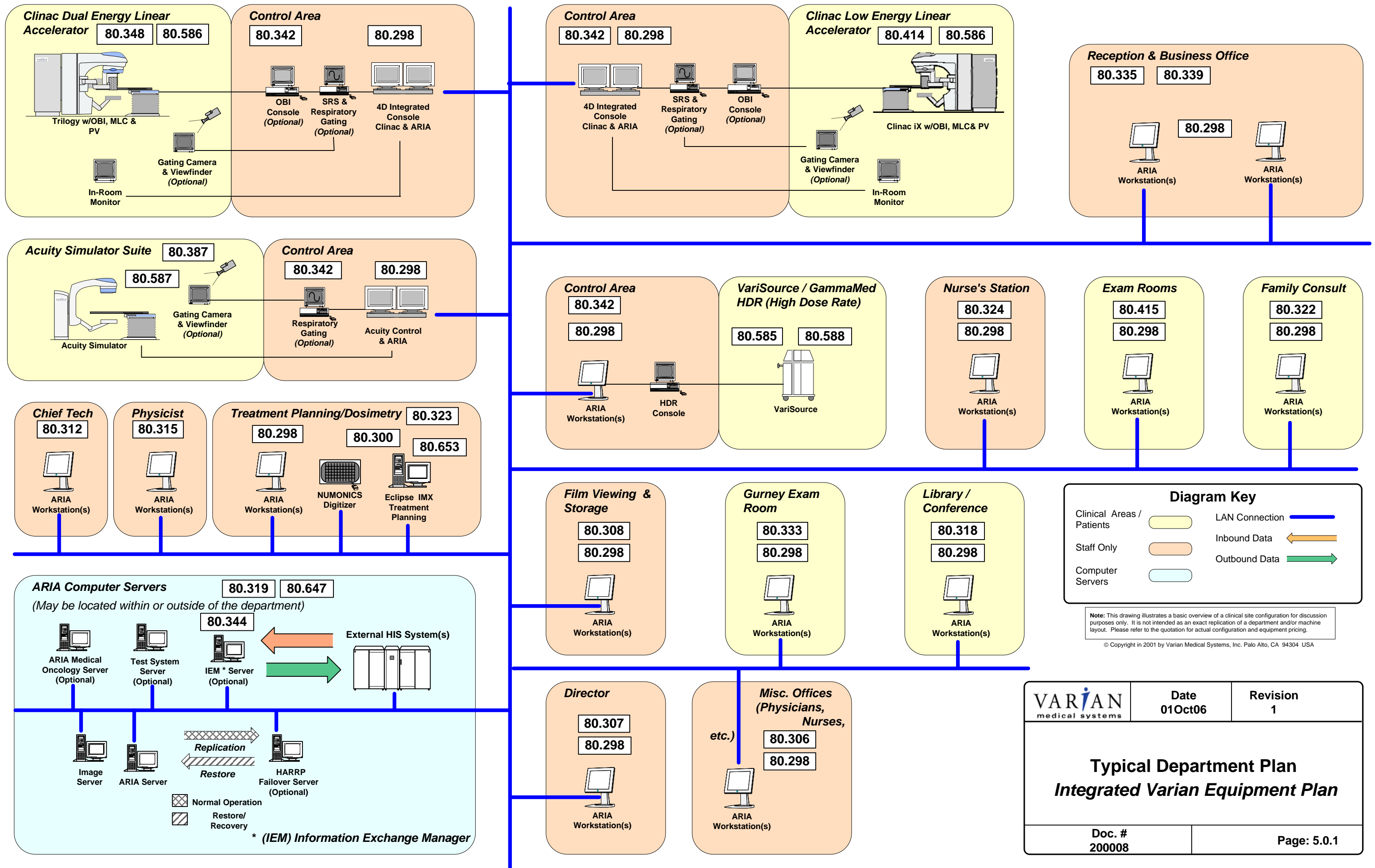
VARIAN medical systems	[000] Refer to the Varian Components Chart at the end of this section.	Typical Site Preparation Process Clinac/Acuity/VariSource/GammaMed/ARIA/Eclipse				
	Not For Construction					
0.03.1 :page	planning dept.	© Varian Medical Systems 2001 All rights reserved.	01Oct06	revision: 2	doc. #: 1102372	page: 0.03.1



A Typical Department Plan 10,050 Sq Ft (943 Sq Meters) 80.347 80.647 IDP10003

scale at:	1 = 200	0	4	8	12	16	20	24
	1/16" = 1'-0"	0	4	8	12	16	20	24

VARIAN medical systems	(000) Refer to the Varian Components chart at the end of this section.	Typical Department Plan Integrated Varian Equipment Plan				
	Not For Construction					
5.0.0 :page	planning dept.	© Varian Medical Systems 2001 All rights reserved.	010ct06	revision: 1	doc. #: 1102361	page: 5.0.0



	Date 01Oct06	Revision 1
	Typical Department Plan Integrated Varian Equipment Plan	
Doc. # 200008	Page: 5.0.1	

10 - General Notes

10.654

The VariSource Transportable 200t system comprises the VariSource Remote Afterloader (VRA) and Electronic Cart Assembly (ECA). The ECA houses the VariSource Treatment Control Console And Treatment Planning System plus peripherals and storage for accessories. The ECA and the VRA form a single articulated vehicle facilitating transport and installation once at the designated site. This ECA is connected via Varian supplied cables to the Varian Wall Box and the grounded duplex electrical power receptacle located in the control console area.

The GammaMed Transportable system comprises the GammaMedplus Remote Afterloader (GRA) and the GammaMedtrolley (Trolley). The trolley houses the GammaMed Control Console and Treatment Planning system plus peripherals and storage for accessories.

The Trolley and GRA form a unified vehicle facilitating transport and installation once at the designated site. This Trolley is connected via Varian supplied cables to the Junction Box and the grounded duplex electrical power receptacle in the control console area.

67 - Communications

67.178

A dedicated analog modem phone line is required at the location of the ARIA System Administrator Workstation.

80 - Room Labels / Descriptions

80.298

ARIA Workstations may be located throughout the department and are linked via a network.

80.299

A secondary entrance is usually provided for use by staff and for ambulance patient access.

80.300

Treatment planning computer with film digitizer.

80.302

The Block Cutting room contains tools that are used to make patient lead blocks. A ventilation hood is required. Typical room size is 60 sq. ft. (5.5 sq.M.).

80.303

Janitor's Closet.

80.304

The Mold Room is a work room where patient immobilization devices are made. Typical room size is 150 sq. ft. (13.9 sq.M.).

80.305

The Staff Room is used by department staff for breaks and conferences. Typical room size is 150 sq. ft. (13.9 sq.M.).

80.306

Several Offices are required in the department. Typical offices include a Physician's Office and a Nurse's Office. Typical room size is 90 sq. ft. (8.4 sq.M.).

80.307

The Director's Office should be located adjacent to other staff offices and administrative support. Typical room size is 150 sq. ft. (13.9 sq.M.).

80.308

The Film Storage and Viewing Room is where RTs and Dosimetrists store and analyze patient films to determine and review treatment plans. Typical room size is 60 sq. ft. (5.5 sq.M.).

80.309

The General Shop Area provides equipment, working area and storage space for patient restraint and other department devices. Typical area size is 150 sq. ft. (13.9 sq.M.).

80.310

General Storage areas should be provided at convenient locations.

80.311

A Department Administration Area is used for staff administrative support services. Typical area size is 100 sq. ft. (9.2 sq.M.).

80.312

The Chief Therapist's Office should be located close to the vaults and exam rooms. Typical room size is 120 sq. ft. (11.1 sq.M.).

80.314

The Staff Toilet Room is an area where staff can change and clean up. Typical room size is 80 sq. ft. (7.4 sq.M.).

80.315

The Physicist's Office should be located near the Treatment Planning and Equipment rooms. Typical room size is 120 sq. ft. (11.1 sq.M.).

80.317

Clean Linen storage should be provided adjacent to the exam rooms.

80.318

The Library / Conference area can be used for meetings of physicians, staff, support groups, etc., and also houses patient and family informative support literature. Typical room size is 150 sq. ft. (13.9 sq.M.).

80.319

The ARIA Servers should be located in an air conditioned server room or well ventilated central location. Routine access to the Server is usually not required, except by authorized service personnel. Depending on purchased options there could be 1-4 servers.

80.320

The Gurney Hold area is located near the staff so they can observe the inpatients on gurneys, shielded with a curtain, away from the outpatients. Typical room size is 40 sq. ft. (3.7 sq.M.).

80.322

The Family Consultation Room is where physicians may meet with patients and their family to discuss the patient's treatment plan. Typical room size is 150 sq. ft. (13.9 sq.M.).

80.323

The Treatment Planning / Dosimetry room houses computer equipment used by the dosimetrist to determine treatment plans for each patient. Typical room size is 600 sq. ft. (55.7 sq.M.).

80.324

The Nurse's Station is a central control point where nurses coordinate patient and staff flow/interaction. Typical room size is 80 sq. ft. (7.4 sq.M.).

80.325

Skylights may be used to improve the aesthetic working and treatment environment. Care should be taken to avoid glare on computer monitors.

80.327

The Main Entrance is used by outpatients and their families.

80.328

A Drinking Fountain should be provided adjacent to the family waiting area.

80.329

The Soiled Linen area is located close to the exam suite, where soiled bed linens and towels are held prior to laundry/sterilization. Typical room size is 40 sq. ft. (3.7 sq.M.).

80.330


The Clean Linen area is located close to the exam suites where clean bed linens and towels are stored. Typical room size is 40 sq. ft. (3.7 sq.M.).

80.332

The Public Toilets are for use by those in the waiting room. Typical room size is 45 sq. ft. (4.1 sq.M.).

80.333

The Gurney Exam Room is used by the RTs and nursing staff to see gurney patients for examination, consultation and treatment procedures. Typical room size is 110 sq. ft. (10.2 sq.M.).

	[000] Refer to the Varian Components Chart at the end of this section.	Typical Department Plan			
	Not For Construction	Integrated Varian Equipment Plan			
5.0.2 :page	planning dept.	© Varian Medical Systems 2001 All rights reserved.	01Oct06	revision: 1	doc. #: 1102361 page: 5.0.2

80.335

The Cashier/Reception area is where patients register and arrange for payments. Typical room size is 100 sq. ft. (9.2 sq.M.).

80.336

The Family Waiting Area is a primary waiting area for patients, family and friends. It is comfortable, spacious, and furnished with diversions.

80.337

A Dressing Room provides an area where patients dress and wait prior to treatment. Treatments continue typically for 5 to 7 weeks. Typical room size if 40 sq. ft. (3.7 sq.M.).

80.338

Provide space for patient Files.

80.339

The Business Office houses the Facility Business Manager who is responsible for the effective operation of the Center. Typical room size is 120 sq. ft. (11.1 sq.M.).

80.340

The Patient Dressing / Gowned Waiting area is where patients wait prior to treatment. The typical size of this area is 150 sq. ft. (13.9 sq.M.).

80.342

The Control Equipment Area is located in close proximity to the treatment vaults or within the simulator room, and centrally to the subwait and exam rooms. Typical area size is 100 sq. ft. (9.2 sq.M.).

80.343

The Darkroom houses film processing equipment where patient films are developed. A film pass-box is required. Typical room size is 80 sq. ft. (7.4 sq.M.).

80.344

An ARIA Workstation may be used as a Gateway to interface the Varian network software with the Customer's other computer systems.

80.345

A Passbox is recommended between the darkroom and the Acuity control equipment area.

80.346

A Garden or Atrium may be used to improve the patient treatment environment. The location of atria within treatment rooms requires the careful design of maze-like openings and must be reviewed by the Physicist of Record early in the design phase. Consider how the light level can be modified by the therapist for the low light level conditions required in the treatment room during patient set-up.

80.347

The Department Study shown on this drawing represents a typical installation only. This is not a construction document. Space for electrical and mechanical equipment is not shown. Refer to the "Equipment Information" Section for specific equipment facility requirements. Verify architectural design program requirements with the Customer.

80.348

Clinac medical linear accelerators are primarily used to treat cancer. They use high energy radiation to localize treatment on a tumor. Since concrete is a very economical material for radiation shielding, most designers use standard concrete as the primary shielding material.

When there are specific design criteria that limit the use of standard concrete, such as space limitations or regional economic consideration, other materials may be used to supplement or replace it. These materials include high density concrete, modular concrete or composite material blocks, lead, steel, polyethylene, paraffin and earth. As the use of any of these alternate materials requires a careful consideration of all radiation components, barrier design must be reviewed by a qualified radiation physicist early in the design phase.

In order to keep the entry door thickness as small as possible and to simplify utility access, most Clinac rooms have an entry maze corridor. This shields the door from direct exposure to the beam source. With thorough attention to door shielding design, patient safety and utility access, rooms may be constructed without a maze.

The larger vault shown here is sized to accommodate a Dual Energy Clinac (up to 20 MV). The required wall thicknesses for the Dual Energy Clinac vault will vary with the highest photon energy available. A typical room size for the Dual Energy Clinac is 1250 sq. ft. (116.1 sq.M.).

80.387

Acuity simulators duplicate the beam geometry of medical linear accelerators and are used during treatment planning to localize the treatment field. Since they use low level x-rays, Acuity rooms are usually constructed with conventional wall framing techniques and finished with lead lined drywall. Typical room size is 350 sq. ft. (32 sq.M.).

80.414

The smaller vault shown here is sized to accommodate a Low Energy Clinac (up to 6 MV). A typical room size for the Low Energy Clinac is 825 sq. ft. (76.6 sq.M.).

80.415

The Exam Rooms are used by the RTs and nursing staff to see patients for examination, consultation and treatment procedures. Typical room size is 90 sq. ft. (8.4 sq.M.).

80.550

The Clinac treatment room can function as a dual use room. The site will provide an Equipment Selector Switch for Clinac or Varisource, GammaMed operation.

80.585

The VariSource, GammaMed Room accommodates the VariSource, GammaMed HDR (High Dose Rate) Remote Afterloader. VariSource, GammaMed is used as one radiation treatment modality for cancer. This may be in conjunction to external radiation treatment with a linear accelerator or it may as the primary form of treatment. The VariSource, GammaMed room has radiation shielded walls constructed with approximately 15"(381) to 26"(660) of concrete, depending on clinical workload and adjacent occupancies, or an equivalent amount of other shielding materials. There is usually a small maze wall. This shields the door and utility penetrations from the radiation source. Proximity to the Acuity room is desirable. Typical room size is 450 sq. ft. (41.4 sq.M.).

VARIAN medical systems	[000] Refer to the Varian Components Chart at the end of this section.	Typical Department Plan Integrated Varian Equipment Plan			
	Not For Construction				
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80.586

Once the simulation has been completed, the patient begins daily treatments in the Clinac linear accelerator treatment room. These treatments can be scheduled for up to eight weeks or for as little as one week. The treatment itself, actual beam-on time, remains the same each day and typically lasts for 25-50 seconds. The larger the dose of radiation to be delivered, the longer the treatment time will be. The most time-consuming step in this process is the setup. The treatment setup must reproduce the simulation process as closely as possible. Setup times vary for each patient and the complexity of their treatment. A lung patient is much easier to setup than a TBI (total body irradiation). Accurate setup is accomplished through the use of the ODI (optical distance indicators), laser positioning lights and patient markings. ODI numbers are projected from the gantry head. Each day the patient is set up precisely the same way, resulting in the patient being in the same position to receive treatments. Most centers schedule patients at ten or fifteen minute intervals. Some treatments, such as TBI or stereotactic radiotherapy, can take one hour or more to setup and treat. Below is an outline of a typical treatment procedure:

1. The Patient arrives and, if needed, changes into a hospital gown.
2. The Patient is brought into the room and the Therapist explains what will be happening during the next fifteen minutes.
3. The Patient gets onto the treatment couch and is moved vertically and longitudinally into the gantry area.
4. The Therapist turns off the lights and uses the ODI and lasers to setup to the patient's treatment marks.
5. At this point the Therapist might take a port film. A port film is a verification film of the intended treatment area. The Physician will check this against the simulation film and approve it for treatment.
6. Once the film has been approved, the treatment will start. The Patient will hear the machine producing the radiation, but will not feel anything unusual and can breath normally during the treatment.
7. Once the treatment is completed the Patient will leave the department and return the following day for the next treatment.

80.587

The Acuity simulator is used after the Patient has a series of diagnostic tests and radiation therapy has been chosen as the selected treatment method. The Radiation Oncologist, with the aid of the Radiation Therapist, will mark out the area that needs to be treated. The simulator is used:

- to position i.e. localize the treatment fields (that will be used to treat the patients tumor)
- verify planned field positions that have to be localized using CT data
- Check for patient movement – especially when using conformal therapy
- re simulate patients who have started treatment but may have found that the set up does not fit as the patient may have lost weight. This is all done utilizing radiographic and fluoroscopic imaging to acquire reference images at the proposed treatment field position. The treatment field will be duplicated on a daily basis in the treatment room. The simulation process typically takes between thirty minutes and two hours depending how much planning has been performed prior to simulation. During the simulation, the Patient remains very still for prolonged periods. Below is an outline of a typical simulation procedure:

1. The Patient is brought into the room and the Therapist explains the simulation procedures to be followed during the next hour.
2. The Patient gets, or is assisted, onto the table.
3. The Therapist moves the simulator couch into position under the gantry head.
4. The Therapist takes the necessary patient separations to get an approximate distance from isocenter to the tumor that needs to be located. This may be done through the use of calipers or lasers.
5. The main room lights are turned off and the Patient is placed in position. Set up marks are put on the patient to use during treatment.
6. The Physician and Therapist will fluoroscopically image the intended treatment area. This process will last a few minutes where changes to the field position may be made on the basis of the image information viewed.
7. Once the field position is correct the Therapist may then take a simulation film or save the digital image as a reference image. The field position will be marked on the patient's skin.
8. A simulation film or digital image will be acquired in order to confirm and record the treatment area. The exposure time necessary to get an image in film is only a matter of seconds. The fluoroscopy time and number of films and exposures used for that patient will be recorded for dose purposes.

VARIAN medical systems	[000] Refer to the Varian Components Chart at the end of this section.	Typical Department Plan Integrated Varian Equipment Plan			
	Not For Construction				
5.0.4 :page	planning dept.	© Varian Medical Systems 2001 All rights reserved.	01Oct06	revision: 1	doc. #: 1102361 page: 5.0.4

80.588

The VariSource, GammaMed Remote Afterloader delivers high radiation doses to patients by way of a radioactive source wire that is extended through catheter(s) into body cavities into or near the tumor. Some tumors require placement of needle(s) directly into the tumor site if a cavity is not near. The needle is then attached to the catheter for treatment. The source wire is stored in a safe until it is extended for treatment via the catheter into the patient to the tumor site. The treatment is computer-controlled from a remote control area. The Patient may be treated in a single session or in several sessions. A typical treatment takes ten to twenty minutes. Patients may or may not be required to be hospitalized during treatment. Below is an outline of a typical clinical procedure:

1. A typical treatment with the Afterloader starts with the placement of the catheter(s) into the Patient's body cavity, i.e. the trachea and into the bronchus for lung cancer, or placement of needle(s) directly into the tumor area. This is normally performed by a doctor (of appropriate specialty, i.e. Internist, Surgeon, Gynecologist) in a sterile environment, not normally the Afterloader treatment room.
2. The Patient is moved to the radiation therapy department to the simulator and is positioned on the simulator couch in the treatment position.
3. The Radiation Oncologist inserts a radio-opaque marker wire into the catheter(s) or needle(s).
4. The Therapist takes several diagnostic images (x-ray films /CT/ ultrasound) of the marker wires. The marker wires are removed.
5. The Patient leaves the diagnostic imaging room with the catheter(s) or needle(s) still in position and waits either in his/her hospital room or a special waiting area in the radiation therapy department.
6. The Radiation Oncologist prescribes the necessary treatment dose.
7. The Physicist or Dosimetrist digitizes data points from the diagnostic images and calculates a treatment plan using the VariSource, GammaMed treatment planning computer. Treatment data containing source positions and time is copied onto a floppy disk. The treatment planning computer is normally located in the treatment planning or physics area of the department.
8. The floppy disk is taken to the VariSource, GammaMed control console and the treatment plan is transferred. For the GammaMed system, there is an additional option of transferring the treatment file via network connection, as both the treatment planning computer and the control console computer are able to networked.
9. The Therapist or Radiation Oncologist moves the Patient into the VariSource, GammaMed treatment room.
10. The Patient is positioned on a treatment bed or gurney in the proper treatment position.
11. The Patient, with the catheter or needle attached, is connected to the Afterloader.
12. The Therapist or Radiation Oncologist leaves the treatment room and shuts the door.
13. The Therapist or Radiation Oncologist starts the treatment by activating commands on the control console. The radioactive source wire will extend into the catheter inside the Patient, stopping at the tumor site to deliver the treatment.
14. The Therapist or Radiation Oncologist monitors the patient on a CCTV system and the progress of the treatment at the console area monitor.
15. When the treatment is completed, the Patient is detached from the VariSource, GammaMed, and if no further treatments are necessary, the catheter(s) or needle(s) are removed by the doctor who placed them.

80.647

The ARIA product is a complete oncology department information management system. Its made up of a suite of software application modules that reside on computer workstations throughout the department and other remote facilities via wide area networks. Workstations are connected over a network to centrally located computer servers where the data is stored. The size and configuration of the system is widely variable. It can range from a very small networked system that has 4 workstations and 1 server to 100 workstations and 3-4 servers. The Varian provided ARIA software applications are all Windows client/server compliant meaning they will operate with Intel class personal computers (PCs) on a network. Customers have the option to provide the PC computers providing they meet Varian's recommendations. Network infrastructure is generally provided and setup for ARIA either by the hospital IS department or through hospital networking contractors.

The design team should review the purchase order with the customer and verify the number of workstations they expect to be available for department use. Show the supporting architecture as described in this IDP.

VARIAN medical systems	[000] Refer to the Varian Components Chart at the end of this section.	Typical Department Plan Integrated Varian Equipment Plan			
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80.653

Eclipse is a comprehensive treatment planning system for external beam radiation therapy and brachytherapy. Treatment planning usually involves determining the tumor volume to be treated, specifying the dose to deliver under which fractionation scheme, arranging treatment fields, designing beam modifying devices and calculating the resulting isodose distribution. The treatment planning task is divided between a team of physicians, medical physicists, dosimetrists and therapists.

A typical treatment planning procedure is as follows:

1. Patient Image Acquisition (3D): A computerized treatment planning procedure begins with a model of the patient anatomy. 3D images of the patient anatomy can come from a variety of sources such as Computed tomography (CT) or Magnetic resonance (MR). Ensure that one of the following methods is available for importing 3D image data into Eclipse:
 - a. Network connection to CT / MRI (most common)
 - b. Magnetic media (becoming rare)
 - c. Film laser scanning system
2. Patient Image Acquisition (2D): Occasionally the patient model is entered manually by tracing the external contour of the patient to produce a representation of the external patient anatomy (ignoring internal anatomy). The 2D patient data is acquired during simulation along with a x-ray image. The physician draws the treatment aperture on the x-ray image. 2D patient images may be transferred to Eclipse electronically or through the use of a digitizer tablet or film digitizer. Ensure that one of the following methods is available for importing 2D image data into Eclipse if 2D planning will be performed:
 - a. Network connection to conventional Acuity simulator
 - b. Film digitizer tablet system
 - c. Film laser scanning system
3. After the dose distributions are calculated, the treatment plan is printed and the resultant dose distributions are plotted for physician review and permanent storage. Within the image management environment, all image data can be transmitted across the network to anywhere in the department. In a non- image management environment it may be necessary to print digitally reconstructed radiograph (DRR) images onto film. Ensure that the appropriate printer is located in or near the treatment planning area:
 - a. 11"x17" Color printer / plotter
 - b. Film laser printer
4. Treatment planning parameters must somehow be transferred to the treatment machine either through the record and verify system or on paper. As part of the treatment plan, field apertures are defined using either the multi-leaf collimator or using poured blocks. Ensure that the following interfaces and equipment are available and configured to accept treatment planning data:
 - a. Network connect to Record and Verify system
 - b. MLC is installed and commissioned
 - c. Block cutter interface
 - d. Network printer

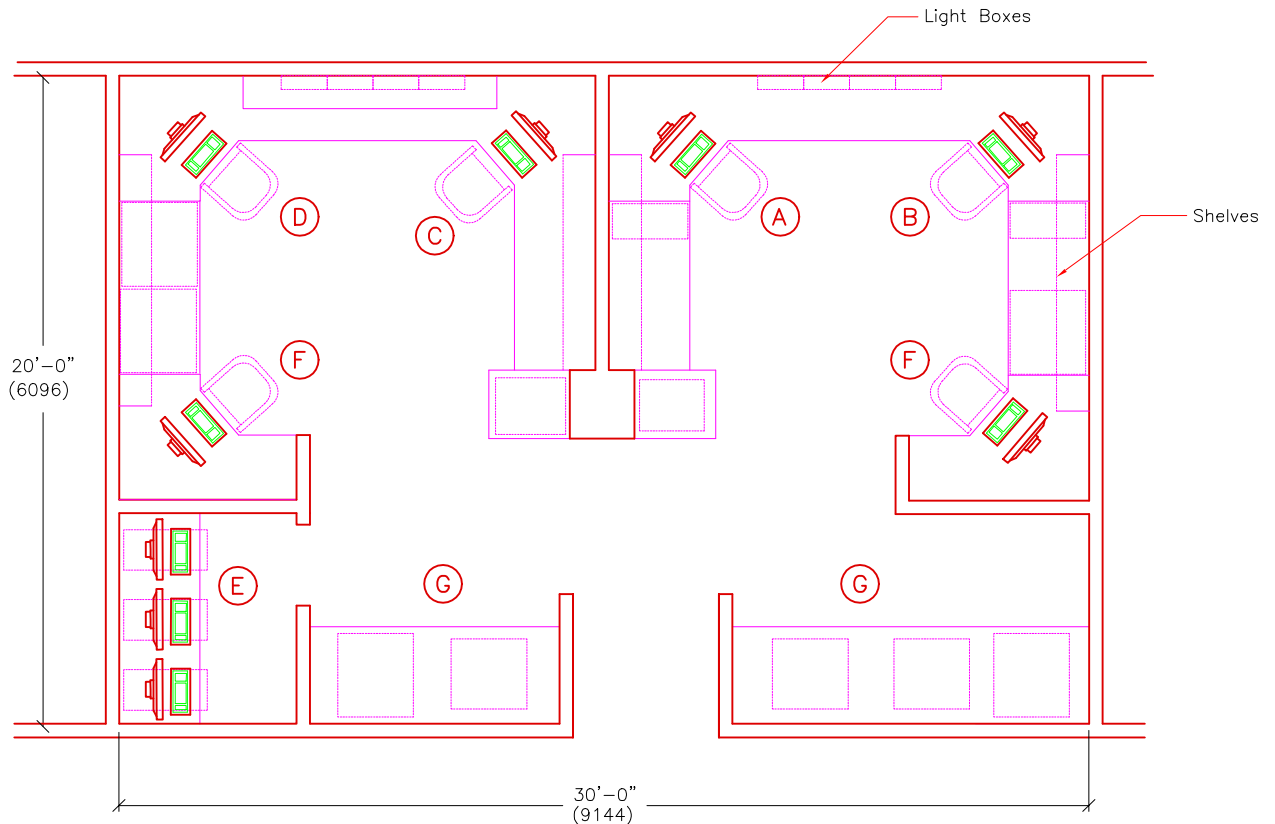
VARIAN medical systems	[000] Refer to the Varian Components Chart at the end of this section.	Typical Department Plan Integrated Varian Equipment Plan			
	Not For Construction				
5.0.6 :page	planning dept.	© Varian Medical Systems 2001 All rights reserved.	01Oct06	revision: 1	doc. #: 1102361 page: 5.0.6

- A Eclipse** 80.653
(see doc. # 1102251, page 5.2.0)
- B Eclipse SV** 31.678
(see doc. # 1102251, page 5.2.0)
- C ARIA** 80.647
(see doc. # 1102251, page 5.2.0)
- D MLC/Shaper** 21.511
(see doc. # 1102252, page 5.3.0)

- E ARIA/Eclipse Servers** 80.319
(see doc. # 1102252, page 5.3.0)
- F Non-CT Planning Equipment** 69.462
(see doc. # 1102252, page 5.3.0)
- G Network Printers** 69.462
(see doc. # 1102252, page 5.3.0)

B Legend

IDP5001



A Typical Room Plan 50.032

IDP5000

	Refer to the Varian Components chart at the end of this section.	Typical Room Plan Treatment Planning				
	Not For Construction					
5.1.0 :page	planning dept.	© Varian Medical Systems 2001 All rights reserved.	14Dec06	revision: 1	doc. #: 1102250	page: 5.1.0

21 - Equipment Layout / Clearances

21.511

The Multileaf Collimator (MLC) is an optional collimator system for the Clinacs that defines the silhouette of the radiation beam. This system reduces the need for blocks and block trays. An Editing Station is located at the control equipment area. A remote Editing Station with a digitizer is usually located in the treatment planning area.

31 - Control Equipment Casework

31.678

Eclipse SV is an advanced contouring, 3D geometric treatment planning and physician review workstation. Eclipse SV combines powerful image processing capabilities with a full range of volume segmentation tools for creating 3D structures necessary for the design and simulation of treatment fields. Eclipse SV integrates treatment planning with ARIA Applications and provides connectivity to the Eclipse treatment planning system. The Eclipse SV Workstation can be linked by the server to form a local area network.

50 - General Mechanical Notes

50.032

Environmental Specifications

- > Humidity range - 15% to 80% Relative Humidity, Non-condensing
- > Temperature range - 60° to 80°F (16° to 27°C)

Provide ventilation sufficient for removal of equipment air heat load for each workstation as follows:

- > 0.5 kW (1,707 Btu/hr) at ARIA Workstation
- > 0.5 kW (1,707 Btu/hr) at Multileaf Collimator Workstation
- > 0.5 kW (1,707 Btu/hr) at Eclipse Workstation
- > 0.5 kW (1,707 Btu/hr) at Eclipse SV Option Workstation
- > 0.5 kW (1,707 Btu/hr) at Per Additional Workstation

69 - Power Receptacles / Switches

69.462

Provide convenience electrical power receptacles as required.

80 - Room Labels / Descriptions

80.319

The ARIA/Eclipse Servers should be located in an air conditioned server room or well ventilated central location. Routine access to the Server is usually not required, except by authorized service personnel. Depending on purchased options there could be 1-4 servers.

80.647

The ARIA product is a complete oncology department information management system. Its made up of a suite of software application modules that reside on computer workstations throughout the department and other remote facilities via wide area networks. Workstations are connected over a network to centrally located computer servers where the data is stored. The size and configuration of the system is widely variable. It can range from a very small networked system that has 4 workstations and 1 server to 100 workstations and 3-4 servers. The Varian provided ARIA software applications are all Windows client/server compliant meaning they will operate with Intel class personal computers (PCs) on a network. Customers have the option to provide the PC computers providing they meet Varian's recommendations. Network infrastructure is generally provided and setup for ARIA either by the hospital IS department or through hospital networking contractors.


The design team should review the purchase order with the customer and verify the number of workstations they expect to be available for department use. Show the supporting architecture as described in this IDP.

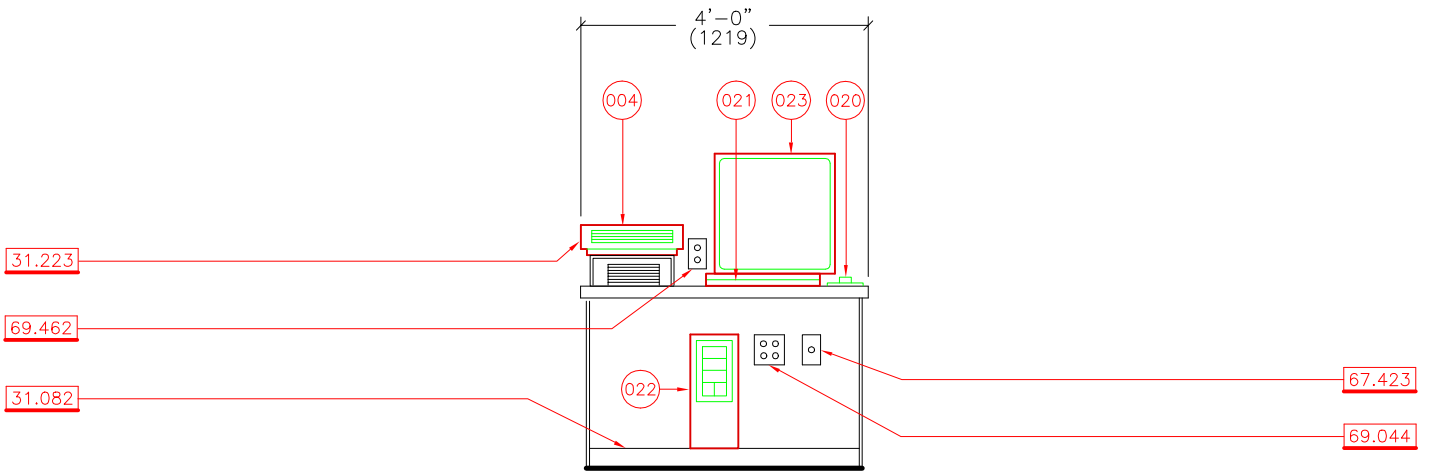
80.653

Eclipse is a comprehensive treatment planning system that plans for all modalities such as IRREG, 3D conformal, intensity-modulated radiation therapy (IMRT), electron, proton and brachytherapy. Eclipse supports advanced processes such as image-guided radiation therapy (IGRT) and dynamic adaptive radiation therapy (DART). The treatment planning process typically involves several steps including target volume delineation, critical structure segmentation, dose prescription, treatment field parameter definition, calculation of dose distributions and evaluation and approval. The team members involved with these steps include the radiation oncologist, medical physicist, dosimetrist and therapist.

A typical treatment planning procedure is as follows:

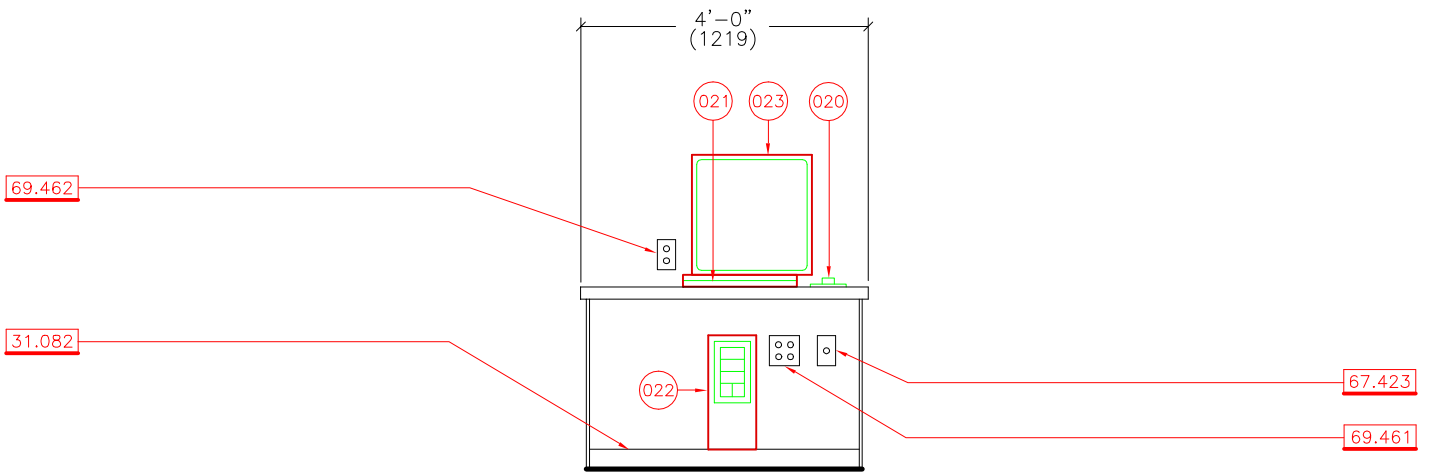
1. Patient Image Acquisition (3D): A computerized treatment planning procedure begins with a model of the patient anatomy. Eclipse can create 3D patient models from any DICOM 3.0 compliant image data sets including CT, MR and PET. Ensure that one of the following methods is available for importing DICOM image data into Eclipse:
 - a. Network connection to CT / MRI (most common)
 - b. Film laser scanning system
2. Patient Image Acquisition (2D): Occasionally, the patient model is entered manually by tracing the body, internal structures and target. Treatment planning would then be done on this manually-created patient model. During simulation, X-ray images may be printed on film or acquired electronically. These images could be used to define treatment field apertures. The doctor may draw the apertures directly on the film which would then be scanned or digitized into Eclipse for further planning. If the X-ray images were acquired electronically, these images could be sent to Eclipse, where the treatment field aperture would be defined. If the patient model or field aperture is going to be manually digitized into Eclipse, ensure that the following is available:
 - a. Film digitizer tablet system
 Ensure that one of the following methods is available for importing acquired X-ray images into Eclipse:
 - a. Network connection to conventional Acuity simulator
 - b. Film laser scanning system
3. After the dose distribution is calculated, the treatment plan and the dose distribution may be printed for physician review. These printed documents would be used as part of the patient's permanent treatment record. Within the image management environment, all image data, such as setup field reference images (DRRs), can be transmitted across the network to anywhere in the department; for example, the treatment machine. In a non-image management environment it may be necessary to print digitally reconstructed radiograph (DRR) images onto paper or film. Ensure that the appropriate printer is located in or near the treatment planning area:
 - a. 11"x17" Color printer / plotter
 - b. Film laser printer
4. Treatment planning parameters must be transferred to the treatment machine either through the record and verify system or through proper documentation. As part of a treatment plan, field apertures may be defined by a multileaf collimator or poured cerrobend blocks. Ensure that the following interfaces and equipment are available and configured to accept treatment planning data:
 - a. Network connected to a Record and Verify system
 - b. MLC is installed and commissioned
 - c. Block-cutter interface that accepts DICOM plan files from Eclipse
 - d. Network printer

	[000] Refer to the Varian Components Chart at the end of this section.	Typical Room Plan Treatment Planning			
	Not For Construction				
5.1.1 :page	planning dept.	© Varian Medical Systems 2001 All rights reserved.	14Dec06	revision: 1	doc. #: 1102250 page: 5.1.1



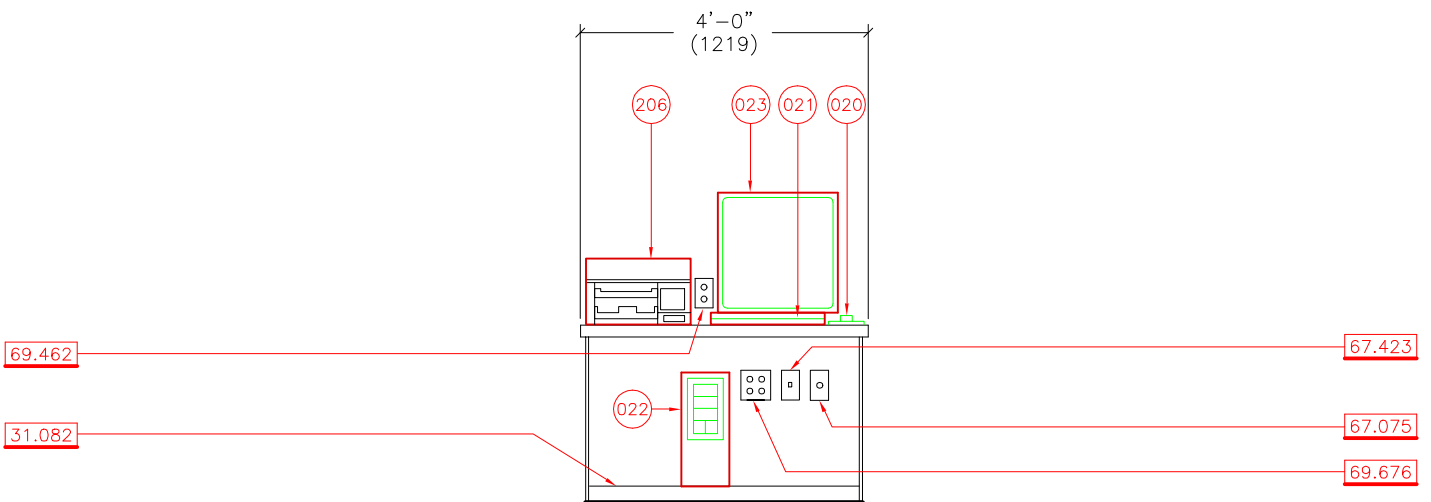
C ARIA Option Editing Station 21.509 21.694

IDP5005



B Eclipse SV Option Station 31.678

IDP5004



A Typical Eclipse Station 31.071

IDP5002

	000 Refer to the Varian Components chart at the end of this section.	Typical Equipment Casework Treatment Planning				
	Not For Construction					
5.2.0 :page	planning dept.	© Varian Medical Systems 2001 All rights reserved.	010ct06	revision: 1	doc. #: 1102251	page: 5.2.0

21 - Equipment Layout / Clearances

21.509

ARIA is an optional computer system designed for use with Clinacs and Acuity to display, verify and store patient records. The control area Editing Workstation can be linked by the File Server to form a local area network. Additional Editing Workstations may be located throughout the radiotherapy department.

21.694

The ARIA product is a complete oncology department information management system that can range from 4 workstations and 1 server to 100 workstations and 3-4 servers. It's made up of a suite of software application modules that reside on PC workstations throughout the department and possibly at other remote facilities via wide area networks. Workstations are connected over a network to centrally located computer servers. Customers have the option to provide the PC computers providing they meet Varian's recommendations. Network infrastructure is generally provided and setup for ARIA either by the hospital IS department or through hospital networking contractors. A typical department will have 8-16 PC workstations around the department for staff to use. The servers should be located in an out of the way area, preferably in air conditioned and locked closets with the other network components (hubs, switches, patch panels).

31 - Control Equipment Casework

31.071

Provide a minimum 3"(75) air and cable space at sides, top and rear of all computers and monitors.

31.082

Provide minimum 4"(100) high platform at computers under the counter to prevent damage. The flooring may be covered up the platform edge for ease of cleaning. Verify under counter clearance height. Where space permits, these components may be located on the counter.

31.223

A paper supply stand is provided with the Log Printer.

31.678

Eclipse SV is an advanced 3D geometric treatment planning and physician review workstation. Eclipse SV combines powerful image processing capabilities with a full range of volume segmentation tools for creating 3D structures necessary for the design and simulation of treatment fields. Eclipse SV integrates treatment planning with ARIA Applications and provides connectivity to the Eclipse treatment planning system. The Eclipse SV Workstation can be linked by the File Server to form a local area network.

67 - Communications

67.075

Provide an outside phone line for remote diagnostics modem. This line must be dedicated to data transmission and shall not go through a PBX or similar phone system.

67.423

Provide network cabling outlets at all server or workstation equipment locations. All network cabling must be in place and tested prior to equipment installation. Network patch panels, hubs and routers are typically located in a server room or closet.

69 - Power Receptacles / Switches

69.044

Provide a grounded 4 plex electrical power receptacle for ARIA option components. Locate adjacent to the underside of the counter to provide maximum power cable extension room.

69.461


Provide a grounded 4 plex electrical power receptacle for image management option components. Locate adjacent to the underside of the counter to provide maximum power cable extension room.

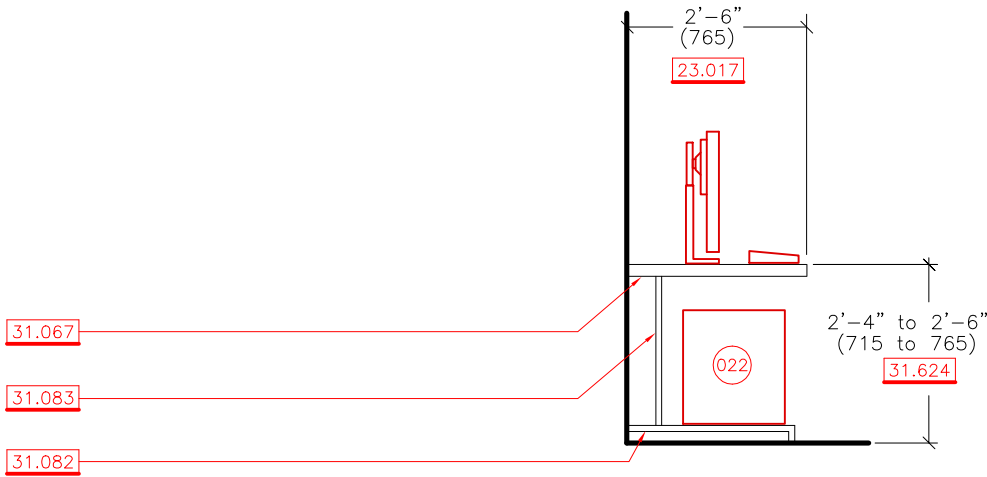
69.462

Provide convenience electrical power receptacles as required.

69.676

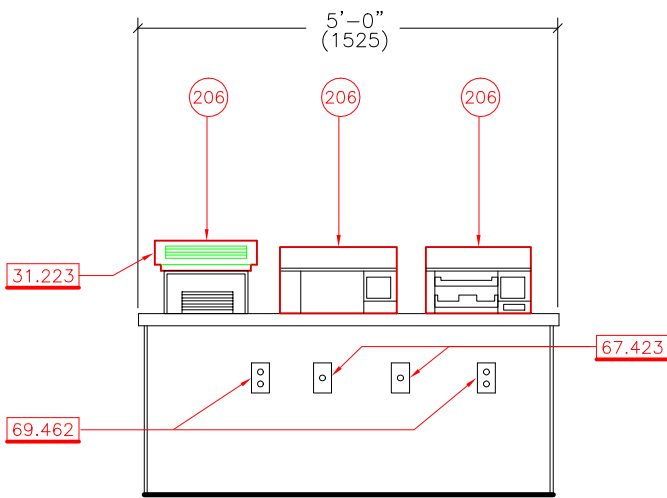
Provide a grounded 4 plex electrical power receptacle for Eclipse option components. Locate adjacent to the underside of the counter to provide maximum power cable extension room.

	[000] Refer to the Varian Components Chart at the end of this section.	Typical Equipment Casework Treatment Planning				
	Not For Construction					
5.2.1 :page	planning dept.	© Varian Medical Systems 2001 All rights reserved.	01Oct06	revision: 1	doc. #: 1102251	page: 5.2.1



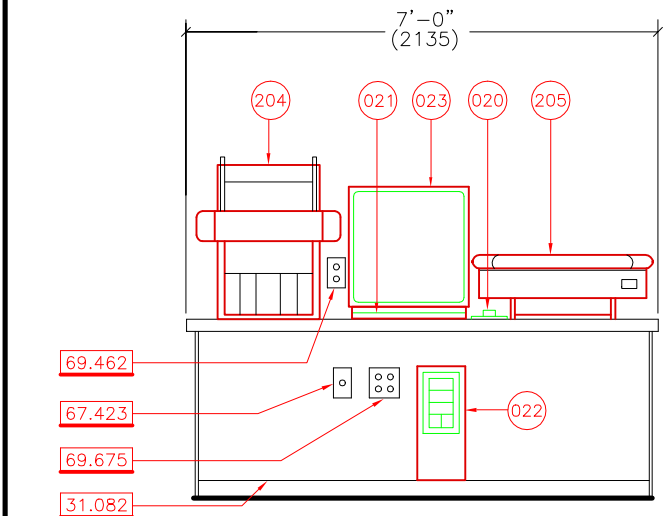
AA Typical Counter Section 31.071

IDP5010



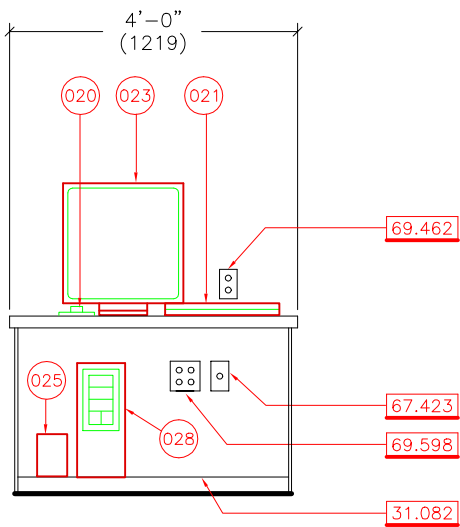
G Network Printers

IDP5009



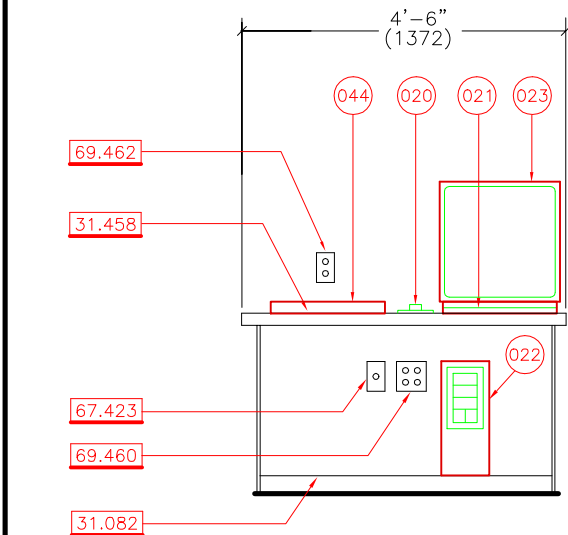
F Non-CT Planning Equipment

IDP5008



E Typical ARIA/Eclipse Server 21.694 80.319

IDP5007



D MLC Option Editing Station 21.511

IDP5006

VARIAN
medical systems

000 Refer to the Varian Components chart at the end of this section.

Not For Construction

**Typical Equipment Casework
Treatment Planning**

21 - Equipment Layout / Clearances

21.511

The Multileaf Collimator (MLC) is an optional collimator system for the Clinacs that defines the silhouette of the radiation beam. This system reduces the need for blocks and block trays. An Editing Station is located at the control equipment area. A remote Editing Station with a digitizer is usually located in the treatment planning area.

21.694

The ARIA product is a complete oncology department information management system that can range from 4 workstations and 1 server to 100 workstations and 3-4 servers. It's made up of a suite of software application modules that reside on PC workstations throughout the department and possibly at other remote facilities via wide area networks. Workstations are connected over a network to centrally located computer servers. Customers have the option to provide the PC computers providing they meet Varian's recommendations. Network infrastructure is generally provided and setup for ARIA either by the hospital IS department or through hospital networking contractors. A typical department will have 8-16 PC workstations around the department for staff to use. The servers should be located in an out of the way area, preferably in air conditioned and locked closets with the other network components (hubs, switches, patch panels).

23 - Dimension Descriptions

23.017

This is a minimum clear dimension.

31 - Control Equipment Casework

31.067

Provide 3"(75) diameter grommeted holes as required at counter and shelf for cables (typical). If possible, in order to accommodate on-site Customer preferences and possible changes in equipment configuration, locate and drill holes after the control equipment has been arranged on location. A gap or slots at the back of the counter and shelf for cable access is also acceptable.

31.071

Provide a minimum 3"(75) air and cable space at sides, top and rear of all computers and monitors.

31.082

Provide minimum 4"(100) high platform at computers under the counter to prevent damage. The flooring may be covered up the platform edge for ease of cleaning. Verify under counter clearance height. Where space permits, these components may be located on the counter.

31.083

A removable panel may be used below control equipment casework to hide cables and receptacles.

31.223

A paper supply stand is provided with the Log Printer.

31.458

Provide a light box or recessed light table with a surface area of 20"(510) wide by 25"(635) deep. The MLC Digitizer [044] rests on top of this light box.

31.624

The recommended counter height range shown assumes that the therapists are seated during typical treatment cycles. Some facilities provide areas at the control area designed for stool height. Adjust dimensions at these areas as required.

67 - Communications

67.423

Provide network cabling outlets at all server or workstation equipment locations. All network cabling must be in place and tested prior to equipment installation. Network patch panels, hubs and routers are typically located in a server room or closet.

69 - Power Receptacles / Switches

69.460

Provide a grounded 4 plex electrical power receptacle for Multileaf Collimator (MLC) option components. Locate adjacent to the underside of the counter to provide maximum power cable extension room.

69.462

Provide convenience electrical power receptacles as required.

69.598

Provide a grounded 4 plex electrical power receptacle for ARIA option components. Locate adjacent to the underside of the counter to provide maximum power cable extension room.


69.675

Provide a grounded 4 plex electrical power receptacle for Misc. computer components. Locate adjacent to the underside of the counter to provide maximum power cable extension room.

80 - Room Labels / Descriptions

80.319

The ARIA/Eclipse Servers should be located in an air conditioned server room or well ventilated central location. Routine access to the Server is usually not required, except by authorized service personnel. Depending on purchased options there could be 1-4 servers.

	[000] Refer to the Varian Components Chart at the end of this section.	Typical Equipment Casework Treatment Planning				
	Not For Construction					
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(A) Eclipse

(B) Eclipse SV

(C) ARIA

(D) MLC/Shaper

(E) ARIA/Eclipse Servers

(F) Non-CT Planning Equipment

(G) Network Printers

 67.423

 67.075

 67.113

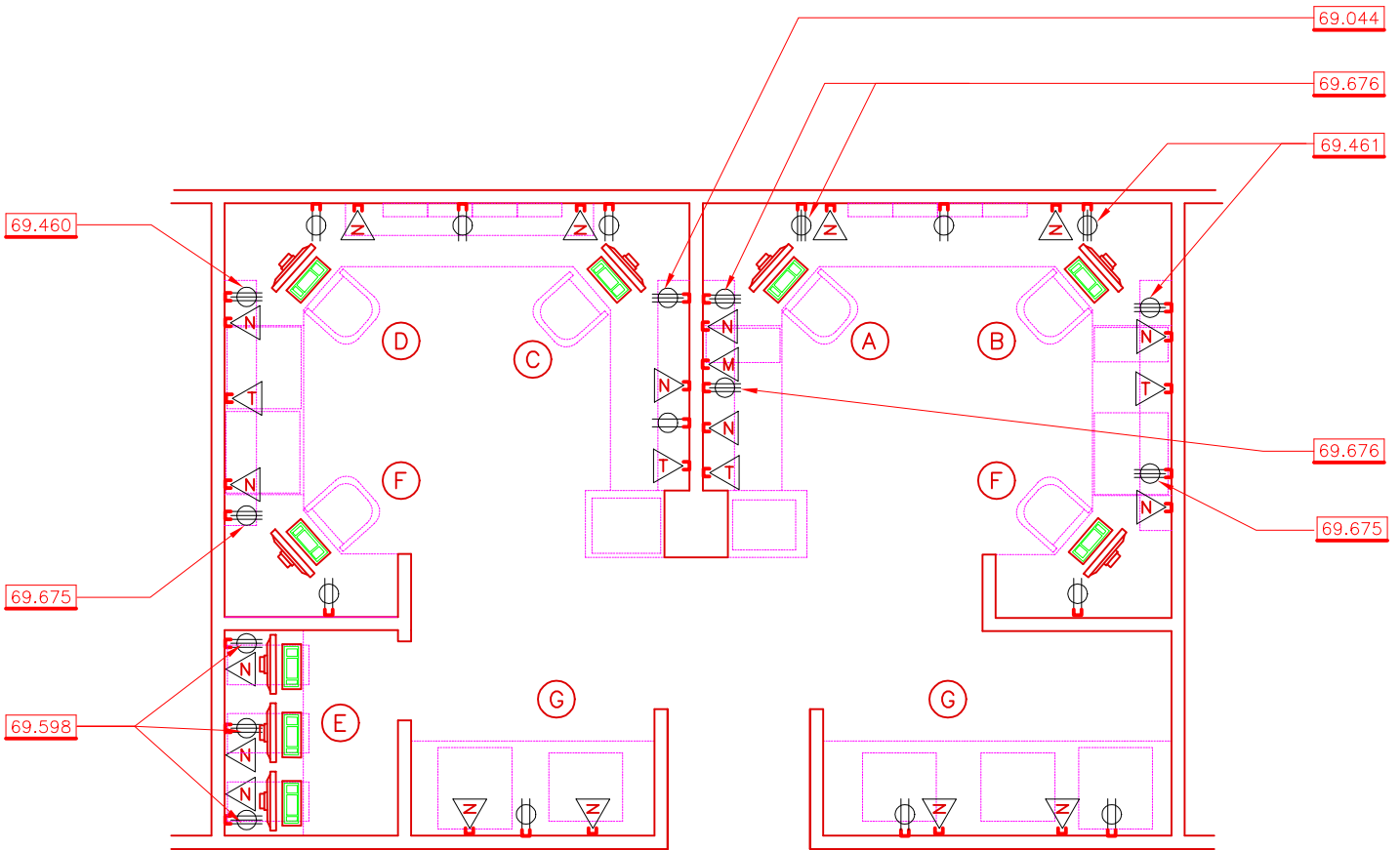
 69.044  69.460  69.461

 69.598  69.675  69.676

 69.462



B Legend

IDP5012



A Typical Room Plan 67.423 50.032

IDP5011

	 Refer to the Varian Components chart at the end of this section.	Typical Service Devices Treatment Planning				
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50 - General Mechanical Notes

50.032

Environmental Specifications

- > Humidity range - 15% to 80% Relative Humidity, Non-condensing
- > Temperature range - 60° to 80°F (16° to 27°C)

Provide ventilation sufficient for removal of equipment air heat load for each workstation as follows:

- > 0.5 kW (1,707 Btu/hr) at ARIA Workstation
- > 0.5 kW (1,707 Btu/hr) at Multileaf Collimator Workstation
- > 0.5 kW (1,707 Btu/hr) at Eclipse Workstation
- > 0.5 kW (1,707 Btu/hr) at Eclipse SV Option Workstation
- > 0.5 kW (1,707 Btu/hr) at Per Additional Workstation

67 - Communications

67.075

Provide an outside phone line for remote diagnostics modem. This line must be dedicated to data transmission and shall not go through a PBX or similar phone system.

67.113

Provide convenience phone jacks as required. A phone jack should be provided at any Varian equipment cabinet not located in the equipment room, near the equipment and within the control equipment casework. The phone system shall be operational prior to the equipment installation.

67.423

Provide network cabling outlets at all server or workstation equipment locations. All network cabling must be in place and tested prior to equipment installation. Network patch panels, hubs and routers are typically located in a server room or closet.

69 - Power Receptacles / Switches

69.044

Provide a grounded 4 plex electrical power receptacle for ARIA option components. Locate adjacent to the underside of the counter to provide maximum power cable extension room.

69.460

Provide a grounded 4 plex electrical power receptacle for Multileaf Collimator (MLC) option components. Locate adjacent to the underside of the counter to provide maximum power cable extension room.

69.461

Provide a grounded 4 plex electrical power receptacle for image management option components. Locate adjacent to the underside of the counter to provide maximum power cable extension room.

69.462

Provide convenience electrical power receptacles as required.

69.598


Provide a grounded 4 plex electrical power receptacle for ARIA option components. Locate adjacent to the underside of the counter to provide maximum power cable extension room.

69.675

Provide a grounded 4 plex electrical power receptacle for Misc. computer components. Locate adjacent to the underside of the counter to provide maximum power cable extension room.

69.676


Provide a grounded 4 plex electrical power receptacle for Eclipse option components. Locate adjacent to the underside of the counter to provide maximum power cable extension room.

	[000] Refer to the Varian Components Chart at the end of this section.	Typical Service Devices Treatment Planning				
	Not For Construction					
5.4.1 :page	planning dept.	© Varian Medical Systems 2001 All rights reserved.	14Dec06	revision: 1	doc. #: 1102253	page: 5.4.1

The following component information is designed to be used in conjunction with the IDP section listed below. The dimensions and weights listed are subject to change. The weights and dimensions listed represent the installed condition. The decibel levels listed represent the maximum dB in the workplace under normal conditions as measured on response curve "A". Several component sets (i.e. ARIA, MLC PV) may be sold as Customer options with the Clinac and Acuity or may be sold separately. With the exception of the VM/IRM components, ARIA component models vary and the dimensions given are typical only. Verify the actual equipment ordered with the Customer or the Varian District Sales Manager. "n/a" means either "not applicable" or "not available".

Varian ARIA and Eclipse Components

Key	Equipment	Height	Width	Depth	Weight	Max Watts	Max dbA	Reference Keynotes
		inch (mm)	inch (mm)	inch (mm)	lb (kg)			
004	Log Printer	5 (127)	17 (432)	8 (203)	12 (5)	50	n/a	31.223
020	Workstation Mouse	1.5 (38)	3.5 (89)	5.5 (140)	0.25 (0)	n/a	n/a	
021	Workstation Keyboard	2 (51)	19 (483)	8 (203)	4 (2)	n/a	n/a	
022	Workstation Computer	19 (483)	8 (203)	17 (432)	27 (12)	240	n/a	
023	Workstation Monitor	20 (508)	22 (559)	4 (102)	18 (8)	n/a	n/a	
024	Workstation Printer	7 (178)	15 (381)	14 (356)	16 (7)	380	n/a	
025	Un-Interruptable Power Supply	11 (279)	5.2 (132)	17 (432)	45 (20)	n/a	n/a	
028	Server Computer	26 (660)	18 (457)	26 (660)	50 (23)	240	n/a	21.278
044	MLC Digitizer	2.5 (64)	26 (660)	7 (178)	9.5 (4)	12	n/a	
204	Film Scanner	29 (737)	25.5 (648)	24 (610)	41 (19)	n/a	n/a	
205	Digitizer	28.3 (719)	42 (1067)	30.25 (768)	207 (94)	n/a	n/a	
206	Network Printer	20.2 (513)	27.4 (696)	25.8 (655)	217 (98)	n/a	n/a	

	[XX.XXX] See the referenced keynotes on the appropriate drawings.	Varian Component Table ARIA and Eclipse			
	Not For Construction				
5.5.1 :page	planning dept.	© Varian Medical Systems 2001 All rights reserved.	01Oct06	revision: 1	doc. #: 1102254 page: 5.5.1

ARIA Pre-Installation Checklist

In accordance with current Varian "Standard Terms and Conditions of Sale" RAD 1652, para 8 & 16, and the ARIA Purchase Order, the following are the required lines to be filled in and minimum facility requirements to be accomplished by the Customer before the installation of the ARIA System can begin. Request for any exceptions or clarifications should be referred to your Varian Regional ARIA Installation Coordinator. I have explained these requirements to the Customer on this date along with the specific requirements listed below.

Varian Representative	Date	Customer Representative	Date
Site	Equipment Type	Serial Number	

GENERAL:

- Y N
 Does the ARIA Installation need to be coordinated with a Clinac Installation?
 Are the necessary personnel trained on Microsoft Windows?
 If not, will training be completed before or during the installation?
_____ Number of Clinacs connecting to the Varian system database.

Estimated Patient Load per Clinac:

_____ Number of new patients per month
_____ Number of field photos per patient

NETWORK:

Who will be providing on-going support for the ARIA network, MIS Department, Oncology Department person, third party Service, etc.?

The following contacts may be necessary before and during the Installation. List the name and telephone for the person responsible:

Network Cabling: _____
Computer Hardware Maintenance: _____
Operation System Maintenance: _____
Network Backups: _____
ARIA Backups: _____
Printer Configurations: _____

- Is it possible to have the Treatment workstation and VM/IRM Interface Computer on a separate network segment than the rest of the hospital network? This is recommended.

Are qualified personnel available to perform System Administration? Skill Level (1 = Limited, 5 = Very Good)

- NT Server _____
 Sybase _____
 ARIA _____
 If using an existing network, is it part of a RMS System?
 If using an existing network, is Portal Vision or Multileaf Collimator system part of the network?
 Has all network cabling been tested at each workstation?
 Will the Server / Network be dedicated to ARIA?
 Will the Server be used for File or Print services (**NOT** recommended)?
 Will the ARIA network be connected to another network? Explain. _____

List any existing Server Name(s) and Network Number(s). _____

ARIA Pre-Installation Checklist

CABLING:

Y N

- Network cabling to each workstation.
- Network cable to servers.
- CCX cabling (Non-C Cables).

COMPUTERS:

Who will be supplying and installing computers? _____

_____ Number of existing ARIA compatible workstations

_____ Number of new ARIA workstations.

_____ Number of ARIA servers

- Is power available for each workstation and monitor?
- Is network cabling connected to each workstation?
- Network connections tested?
- Is the appropriate network software loaded on each workstation/ server per the current ARIA hardware recommendations?
- Windows 95 or Windows NT 4.0 installed on each workstation?
- Are all printers working?

Available Workstation Hard Disk Space. Approximately 100 MB of disk space is required for ALL ARIA software. _____

CLINACS:

CLINAC (600C/D, 6EX, 2100C/D, 2300C/D, 21EX, 2300C/D, 23EX, iX, Trilogy) READINESS

- Software V2.31 or later installed.
- RV Interface Enabled.
- Couch Position Readouts operating.
- Gantry Position Readouts operating.
- Auto-Setup working properly.

MECHANICAL READINESS

- Gantry Rotation operating properly.
- Couch Rotation operating properly.
- Couch Lift operating properly.
- Couch Lateral operating properly.
- Pendant operating properly.
- Gantry Rotation operating properly.

TREATMENT ROOM:

- New In-Room Monitor.
- Two inch conduit available from In-room Monitor to Control Area.
- Space available and mounting brackets for new In-Room monitor.
- Power available for In-room Monitor.
- In-room Monitor **NOT** placed in the Primary Beam path.

THIRD PARTY CONVERSION:

- Does existing data need to be converted to ARIA If not, skip this section
- _____ Number of patients in the database?
- All INACTIVE patients archived before conversion?