

P9030TA

Revision 14

LOGIQ 500

Service Manual

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CHAPTER 2 – INSTALLATION

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2-1 PREINSTALLATION

2-1-1 Introduction

This section describes various general electrical, operational, and environmental considerations that must be considered before installing the LOGIQ 500 Ultrasound unit.

2-1-2 Power Line Requirements

The following power line parameters should be monitored for one week before installation. We recommend that you use an analyzer Dranetz Model 606-3 or Dranetz Model 626:

PARAMETER	:	LIMITS
Voltage Range	: Japan.	: 100 VAC $\pm 10\%$ (90–110 VAC)
	: Europe	: 220–240 VAC $\pm 10\%$ (198–264 VAC)
	: USA	: 115 VAC $\pm 10\%$ (103–127 VAC)
Power	: Japan	: MAX. 1350 VA
	: Europe	: MAX. 1350 VA
	: USA	: MAX. 1350VA
Line Frequency	: All applications	: 50/60Hz (± 2 Hz)
Power Transients	: Less than 25 % of nominal peak voltage for less than 1 millisecond for any type of transient, including line frequency, synchronous, asynchronous, or aperiodic transients.	
Decaying Oscillation	: Less than 15 % of peak voltage for less than 1 millisecond.	

2-1-3 Physical Specifications

The LOGIQ 500 (excluding accessories) weighs 180 kg (397 lbs). See Chapter 3, ILLUSTRATION 3-1 for dimensions.

Note

The weight of the console with software version 5.00y or later is approximately 192 kg (423 lbs).
The weight of the Tall-version console with software version 5.00y or later is approximately 200 kg (441 lbs).

Operating Conditions

The LOGIQ 500 is designed to operate within a temperature range of 10 degrees C to 40 degrees C (50 degrees F to 104 degrees F), and a relative humidity range of 30 % to 85 % (Non-condensing).

Patient Comfort

Concerning permissible operating temperature and humidity tolerances, we recommend that ambient room temperature should be maintained between 20 to 26 degrees C (68 to 79 degrees F), Humidity should be maintained between 50 % and 70 % for patient comfort during ultrasound scanning.

Electromagnetic Interference (EMI)

Ultrasound machines are susceptible to interference from the radio frequencies, magnetic fields, and transients in the air or power leads. Possible EMI sources should be identified. Electrical and electronic equipment may produce EMI unintentionally as the result of a malfunction. These sources include medical lasers, cauterizing guns, computers, monitors, fans, gel warmers, microwave ovens, and cellular phones. The presence of broadcast station or van may also cause interference.

Carefully read the following precautions before installing the unit.

1. Connect the power plug for any other equipment into the fixed outlet with ground wire.
2. Securely connect any equipment with permanent ground connection to the earth ground furnished in the building.
3. Install the unit as far from any electrical or electronic equipment as possible.

If any EMI troubles are known or suspected to be present, try to deal with the equipment suspected to have influence on the Ultrasound machine as follows:

1. Move the ultrasound machine as far from the equipment as possible.
2. Change the arrangement of the equipment in the room.
3. Plug the equipment into other outlet.
4. Move the power cable or signal cable connected with the equipment.

Securely re-tighten drive any screws for the Ultrasound machine after re-assembling for service operation.

2-1-4 Recommended Ultrasound Room Layout

Table 2-1 provides the requirements for an ultrasound room:

TABLE 2-1
ULTRASOUND ROOM REQUIREMENTS

POWER SOURCE	220-240VAC, 50Hz, SINGLE PHASE For Europe Version 115V, 60Hz, SINGLE PHASE For USA Version
CURRENT RATING	20A (115V, 100V) ; 7.5A (220-240V) CIRCUIT BREAKER
RADIATION SHIELDING	NONE REQUIRED for ULTRASOUND ENERGY
TEMPERATURE	20-26 DEG. C (68-79 DEG F) for PATIENT COMFORT
HUMIDITY	50% to 70% for PATIENT COMFORT
HEAT DISSIPATION	2000 BTU/Hr for LOGIQ 500 ;
FLOOR LOADING	Approximately 680 – 800 kg/m ² without Accessories
FLOOR CONDITION	Gradient : WITHIN 5 degrees
LOGIQ 500 Weight	180 kg (397lbs) without Accessories

2-1-4 Recommended Ultrasound Room Layout (Continued)

Optional Desirable Ultrasound Room Facilities

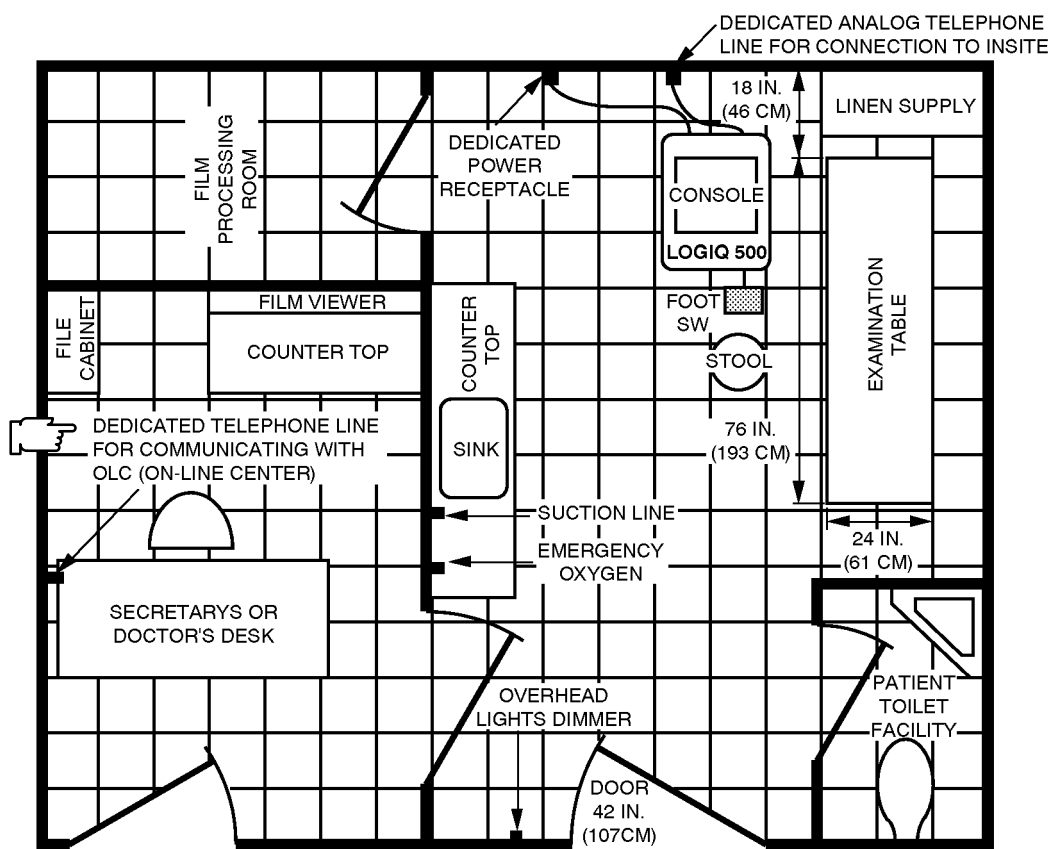
These facilities are:

1. Lab sink with hot and cold water;
2. Emergency oxygen supply;
3. Dimmer control for overhead lights;
4. Film viewer;
5. Film and linen storage;
6. Medical equipment storage;
7. Hospital grade equipment electrical outlet;
8. Analog telephone line for connection to InSite;
9. Document storage area for operating and service manuals;
10. Nearby waiting room, dressing room, lavatory
11. Trash bin.

Recommended and Alternate Ultrasound Console Floor Plans

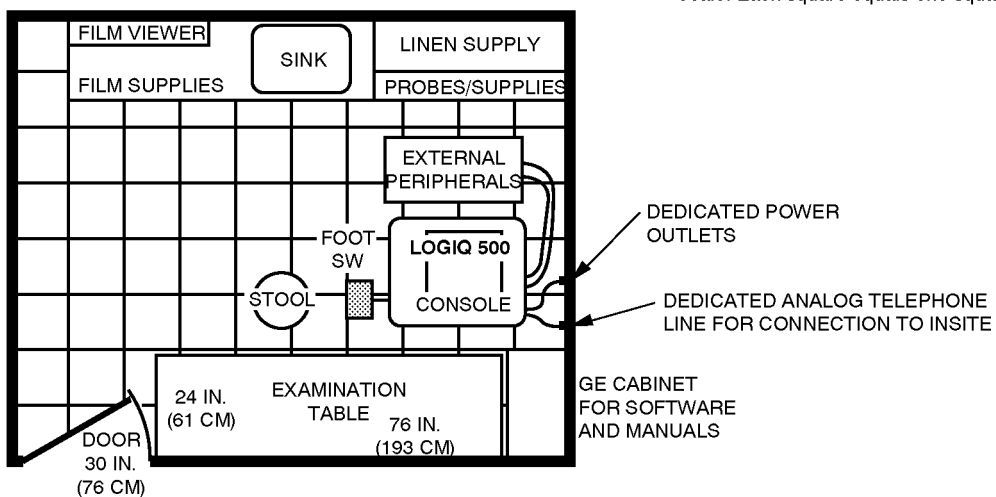
ILLUSTRATION 2-1 provides a recommended standard floor plan and a minimal floor plan for ultrasound equipment

2-1-4 Recommended Ultrasound Room Layout (continued)



A 14 by 17 foot Recommended Floor Plan

Scale: Each square equals one square foot



An 8 by 10 foot Minimal Floor Plan

RECOMMENDED ULTRASOUND FLOOR PLAN

ILLUSTRATION 2-1

2-2 INSTALLATION

2-2-1 Introduction

This section contains many of the procedures required to install the LOGIQ 500 console.

2-2-2 Average Installation Time

The LOGIQ 500 has been designed to be installed and checked out by an experienced service technician in approximately four hours. LOGIQ 500 consoles with optional equipment may take slightly longer.

2-2-3 Installation Warnings

1. Since the LOGIQ 500 weighs approximately 397 lbs (180 kg) without options, preferably two people should unpack it. Two people are also preferable for installing any additional bulky items.
2. There are no operator serviceable components. To prevent shock, do not remove any covers or panels. Should problems or malfunctions occur, unplug the power cord. Only qualified service personnel should carry out servicing and troubleshooting.

Note

For information regarding packing labels, refer to ILLUSTRATION 2-3, LABELS ON PACKAGE.

3. After being transported, the unit may be very cold or hot. If this is the case, allow the unit to acclimate before you turn it on. It requires one hour for each 2.5°C increment it's temperature is below 10°C or above 40°C.



Equipment damage possibility. Turning the system on without acclimation after arriving at site may cause the system to be damaged.

TABLE 2-2
TIME FOR SETTLEMENT

°C	60	55	50	45	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40
°F	140	131	122	113	104	95	86	77	68	59	50	41	32	23	14	5	-4	-13	-22	-31	-40
hrs	8	6	4	2	0	0	0	0	0	0	0	2	4	6	8	10	12	14	16	18	20

2-2-4 Checking the Components

When a new system arrives, check that any components are not damaged and are not in short supply. If shipping damage or shortage occurs, contact the address shown in Chapter 1.

2-2-5 Unpacking LOGIQ 500

CAUTION

Do not lift the unit by the Keyboard. Equipment damage may result.

CAUTION

The unit weighs approximately 180kg (397 lbs). Be prepared for a sudden shift of weight as the unit is removed from its base (pallet).

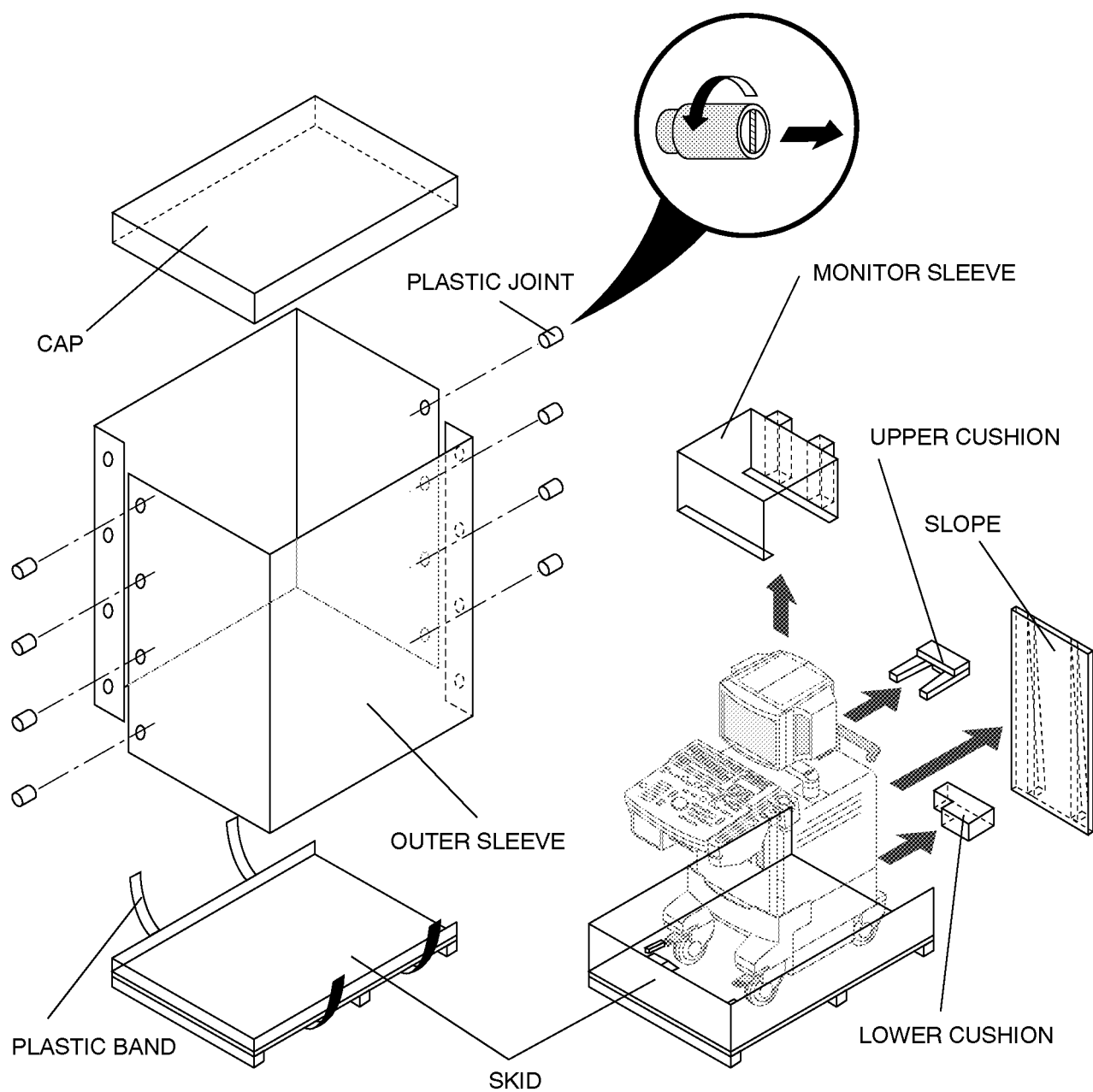
Refer to ILLUSTRATION 2-2 while performing the following procedure.

1. Cut the two PLASTIC BANDS.
2. Lift the CAP up and off.
3. Remove the eight PLASTIC JOINTs from the OUTER SLEEVES.
4. Remove the OUTER SLEEVES.
5. Lift the Monitor up by pressing the <UP/DOWN> button located on the Monitor Arm.
6. Remove the MONITOR SLEEVE.
7. Remove the SLOPE.
8. Remove the UPPER and LOWER CUSHIONS.
9. Unlock the brakes by stepping down on the brake pads in front, then carefully roll the LOGIQ 500 rear side first off the SKID.
10. Remove the Caution Label attached on the CRT Filter and clean the CRT Filter.

Note

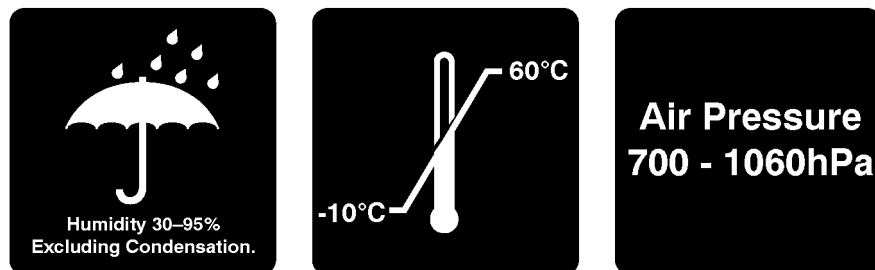
Check the shipping container for special instructions. Verify that the container is intact. In some cases a secondary container may be used. If so, ask the carrier for unpacking instructions.

2-2-5 Unpacking LOGIQ 500 (Continued)



UNPACKING LOGIQ 500
ILLUSTRATION 2-2

2-2-5 Unpacking LOGIQ 500 (Continued)



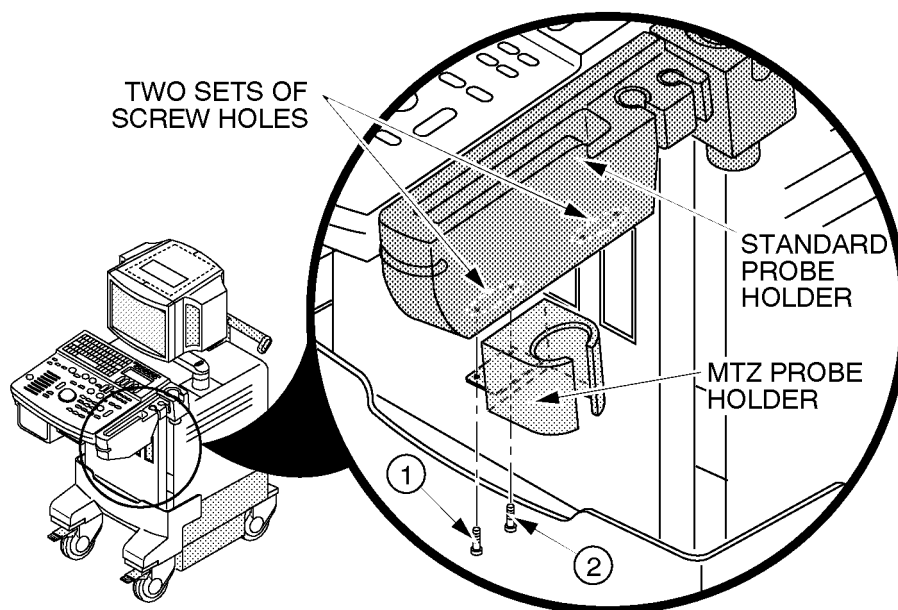
LABELS ON PACKAGE
ILLUSTRATION 2-3

2-2-6 MTZ Probe Holder Installation

One MTZ probe holder is supplied with the LOGIQ 500 console. Assemble the MTZ probe holder at the bottom of standard probe holder by screwing two screws (① and ②: supplied with the starter kit) as shown in ILLUSTRATION 2-4.

Note

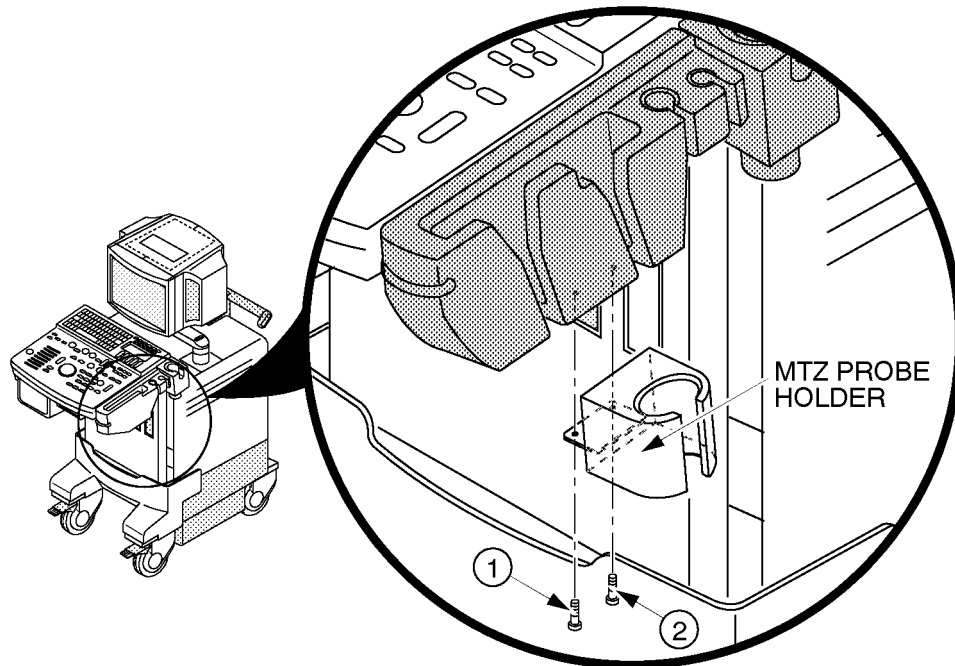
Two sets of screw holes are provided at the bottom of standard probe holder to install the MTZ probe holder. You can choose the most convenient position for your customer between the two sets of screw holes.



MTZ PROBE HOLDER INSTALLATION (a)
ILLUSTRATION 2-4

2-2-6 MTZ Probe Holder Installation (Continued)

The standard probe holder is changed to new one from the LOGIQ 500 console with system software version 2.00. Only one MTZ probe holder can be installed on the console with the new standard probe holder. Refer to ILLUSTRATION 2-5.



MTZ PROBE HOLDER INSTALLATION (b)

ILLUSTRATION 2-5

2-2-7 Transducer Connection

1. Connect a transducer to the upper transducer receptacle as follows:
 - a. Ensure that the transducer twist lock lever points towards the 3 o'clock position.
 - b. Insert the transducer connector on the receptacle guide pin until it touches the receptacle mating surface.
 - c. Twist the transducer twist lock lever to the 7 o'clock position to lock it in place. Twist the lever to the 3 o'clock position to disconnect the transducer.

Note

It is not necessary to turn OFF power to connect or disconnect a transducer.

2. Connect the main power cable to a hospital grade power receptacle with the proper rated voltage checked during preinstallation. Never use a three-to-two prong adapter; this defeats the safety ground.

2-2-8 Moving into Position

CAUTION

Do not lift the unit by the Keyboard.

Do not tilt the unit more than 5 degrees to avoid tipping it over.

To avoid injury by tipping over. Set the monitor to the lowest position before moving.

CAUTION

Equipment Damage Possibility. Lifting the console by holding covers may damage the covers. Do not lift the console by holding any covers.

In general, a single adult can move the LOGIQ 500 along an even surface with no steep grades. At least two people should move the machine when large humps, grooves, or grades will be encountered. (It is better to pull from the rear rather than push from the front of the unit). Before moving, store all loose parts in the unit. Wrap transducers in soft cloth or foam to prevent damage.

Although LOGIQ 500 is a compact and mobile machine, two people should move it over rough surfaces or up and down grades.

2-2-9 Adjusting System Clock

Set the system clock for the LOGIQ 500 to the local time. For procedure of adjusting the system clock, refer to 4-3-3 Utility Menu, (A) TIME ADJUSTMENT, in Chapter 4, FUNCTIONAL CHECKS.

2-2-10 Product Locator Installation Card

Fill out proper customer information on the Product Locator Installation Card. Refer to ILLUSTRATION 2-6. Mail this Installation Card "Product Locator" to the address corresponding to your pole.

Note

The Product Locator Installation Card shown in ILLUSTRATION 2-6 may not be same as the provided Product Locator card.

		Mailing Address GE Medical Systems Product Locator File P.O. Box 414 Milwaukee, WI 53201-0414			
DESCRIPTION		FDA	MODEL		REV SERIAL
PREPARE FOR ORDERS THAT DO NOT HAVE A LOCATOR INSTALLATION REPORT SYSTEM ID NUMBER		OCP	BS	ORD	DATE (MO-DA-YR)
		DIST.-COUNTRY	ROOM		EMPLOYEE NO.
		CUSTOMER NO.			
		DESTINATION - NAME AND ADDRESS			
PRINTED IN USA INSTALLATION INSTALLATION					
		ZIP CODE			

PRODUCT LOCATOR INSTALLATION CARD

ILLUSTRATION 2-6

CHAPTER 3 – SYSTEM CONFIGURATION

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3-1 INTRODUCTION

This chapter describes system configuration and specifications.

3-2 DIMENSIONS

Regarding LOGIQ 500 dimensions, Refer to ILLUSTRATION 3-1 for planning the position of your LOGIQ 500.

Note

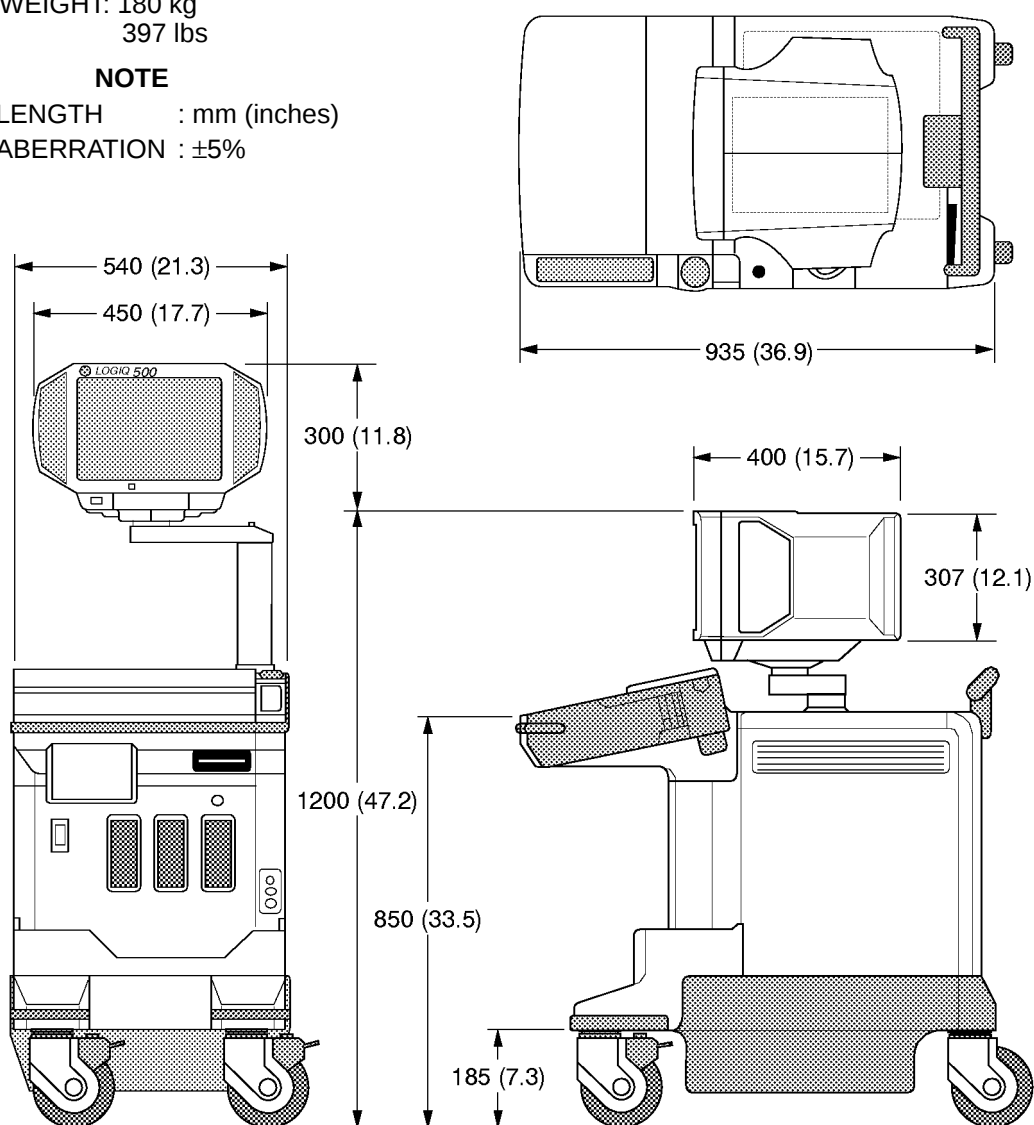
The weight of the console with software version 5.00y or later is approximately 192 kg (423 lbs).

WEIGHT: 180 kg
397 lbs

NOTE

LENGTH : mm (inches)

ABERRATION : $\pm 5\%$



OVERALL DIMENSIONS
ILLUSTRATION 3-1

3-2 DIMENSIONS (continued)

ILLUSTRATION 3-2 shows the dimensions for the LOGIQ™ 500 Tall type console with the software version 5.00 y or later.

Note

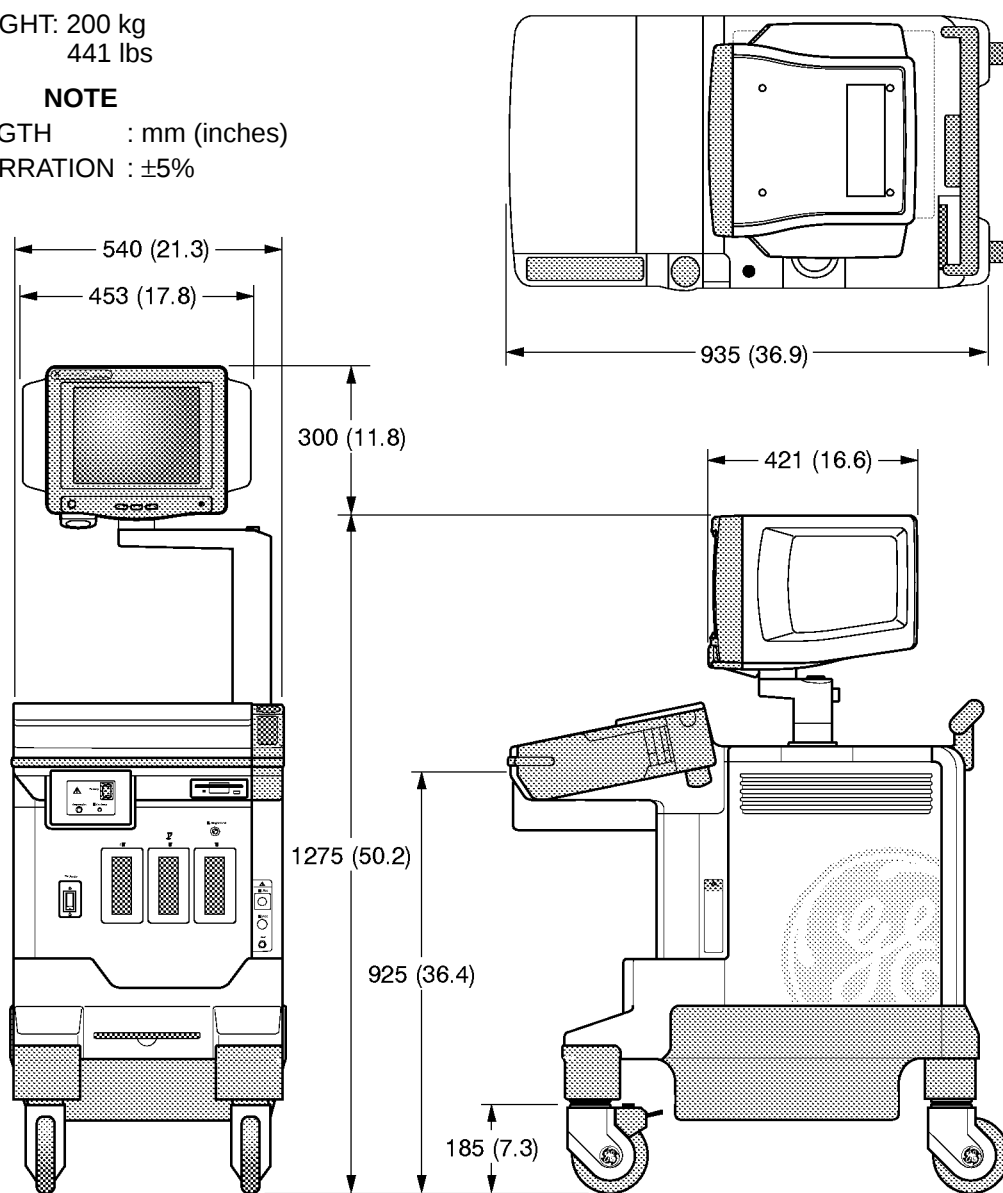
The tall type console is 75 mm taller than the normal height console.

WEIGHT: 200 kg
441 lbs

NOTE

LENGTH : mm (inches)

ABERRATION : $\pm 5\%$



OVERALL DIMENSIONS (for Tall Type Console with S/W V5.00y or Later)

ILLUSTRATION 3-2

3-3 ELECTRICAL SPECIFICATIONS

Electrical conduit, junction boxes, outlets, circuit breakers, and switches should be in place before installing the LOGIQ 500 console.

3-3-1 Power Supply

Voltage setup is performed in the factory, since different rear panels which contain different power cables and circuit breakers are used for the 100 VAC and 220 VAC versions.

3-3-2 Facility Power Receptacle

A separate power outlet with a 20 amp circuit breaker for 115 VAC units, or a 7.5 amp circuit breaker for 220 VAC units, is recommended. The specific power receptacle used depends on your country's power line standards.

The receptacle should have International Electrotechnical Commission (IEC) approval, or equivalent.

3-4 STORAGE AND OPERATION REQUIREMENTS

The LOGIQ 500 is shipped in a single container excluding PROBES. Shipping weight is approximately 472 lbs (214kg). The size of the container is B120 cm x W66 cm x H139 cm. (47 in. x 26 in. x 55 in). Table 3-1 provides a summary of temperature, atmospheric pressure, and humidity tolerances for shipping, installation, and operation:

TABLE 3-1
STORAGE AND OPERATION REQUIREMENTS

PARAMETER	STORAGE	OPERATION
TEMPERATURE (DEG.C) (DEG.F)	-10 to 60 14 to 140	10 to 40 50 to 104
ATMOSPHERIC PRESSURE (hPa)	700 to 1060	700 to 1060
HUMIDITY (%) (Non-condensing)	30 to 95	30 to 85

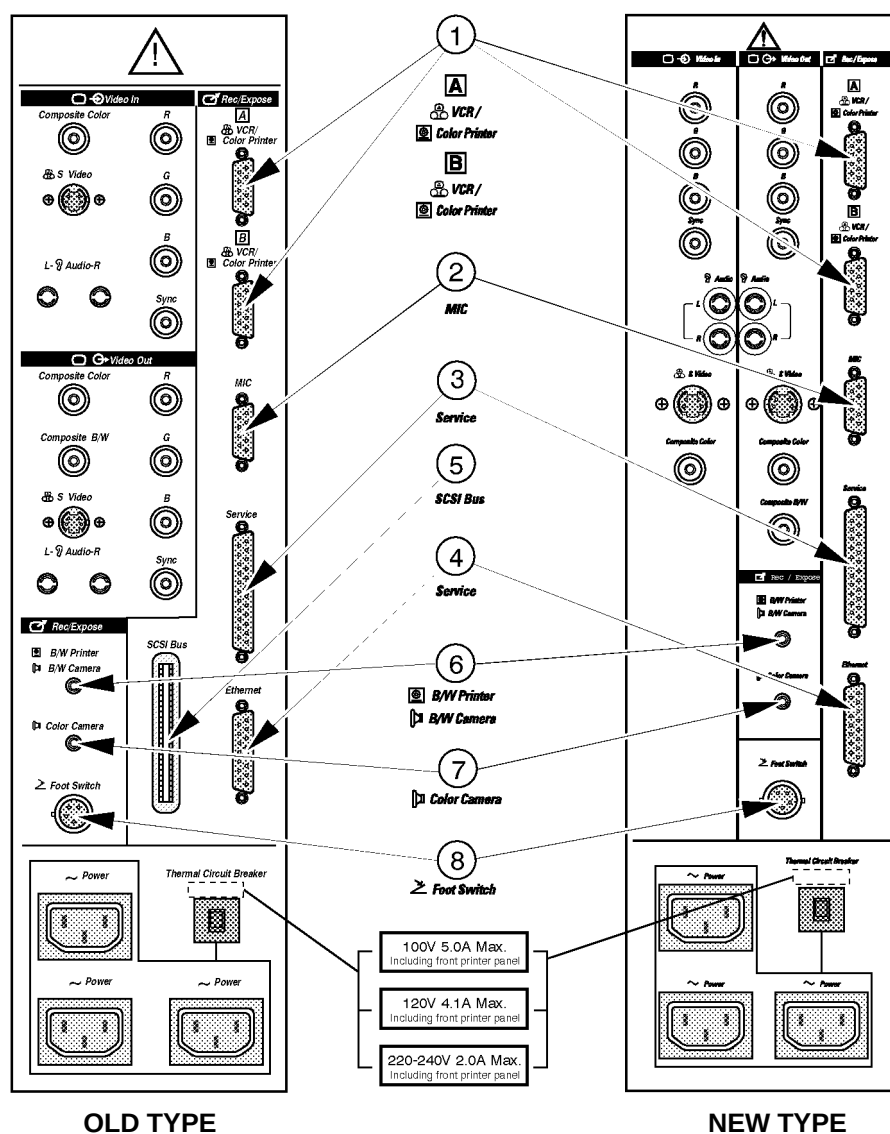
3-5 OPTIONAL PERIPHERALS

3-5-1 Peripherals/Accessories Connector Panel

LOGIQ 500 peripherals and accessories can be properly connected using the rear connector panel located behind the rear door.

Located on the panel are video input and output connectors, audio input and output, camera expose connectors, foot-switch connector power connector and control connections for VCR, printer, MIC and service tools.

This section indicates the pin assignment for each connector (①–⑧) in ILLUSTRATION 3-3 at pages 3-7 through 3-10.



REAR CONNECTOR PANEL
ILLUSTRATION 3-3

3-5-1 Peripherals/Accessories Connector Panel (continued)**Note**

The SCSI port is not available for the console with the 3.5-inch HDD. The SCSI Terminator is not supplied with the console with the 3.5-inch HDD.

Note

The new Rear CONN Panel2 Assy cannot be used for the console with the 2.5-inch HDD Assy. The new Rear CONN Panel2 Assy does not have the SCSI connector.

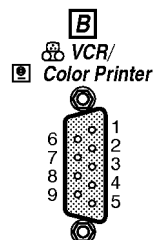
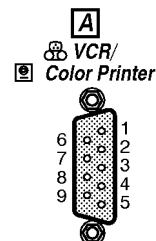
Note

Each outer (case) ground line of peripheral/accessory connectors are protectively grounded. Signal ground lines are Not Isolated, except the Service port (③). All of signal lines (include signal GND) of the Service port are isolated.

① Pin Assignment of RS232C for VCR/Color Printer

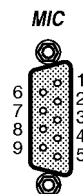
Connector: Male, D-SUB, 9-pin

Pin No.	Signal	Pin No.	Signal
1	(DCD)	6	DSR+12V
2	RXD	7	RTS
3	TXD	8	CTS
4	(DTR+12)	9	NC
5	Signal GND		

**② Pin Assignment of RS232C for MIC (Multi Image Camera)**

Connector: Male, D-SUB, 9-pin

Pin No.	Signal	Pin No.	Signal
1	12V	6	DSR+12V
2	RXD	7	RTS
3	TXD	8	CTS
4	(DTR+12)	9	NC
5	Signal GND		

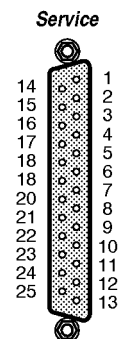
**Note**

Output level of RS232C signals:

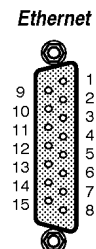
High	+3V to +15V
Low	-15V to 0V

3-5-1 Peripherals/Accessories Connector Panel (continued)**③ Pin Assignment of RS232C for Service****Connector:** Male, D-SUB, 25-pin

Pin No.	Signal	Pin No.	Signal
1		14	
2	TXD	15	
3	RXD	16	
4	RTS	17	
5	CTS	18	
6		19	
7	Signal GND	20	DTR
8	DCD	21	
9		22	
10		23	
11		24	
12		25	
13			

**④ Pin Assignment of RS232C for Ethernet****Connector:** Male, D-SUB, 15-pin

Pin No.	Signal	Pin No.	Signal
1		9	CN
2	CP	10	TN
3	TP	11	
4		12	+12V
5	RP	13	RN
6	Signal GND	14	
7		15	
8			

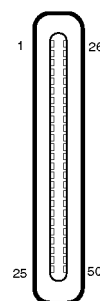
**Note**

Output level of RS232C signals:

High	+3V to +15V
Low	-15V to 0V

3-5-1 Peripherals/Accessories Connector Panel (continued)**⑤ Pin Assignment of SCSI****Connector:** Male, D-SUB, 50-pin, Ribbon Type

Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
1	GND	18	GND	35	GND
2	GND	19	GND	36	GND
3	GND	20	GND	37	(Reserved)
4	GND	21	GND	38	TERMPWP
5	GND	22	GND	39	(Reserved)
6	GND	23	GND	40	GND
7	GND	24	GND	41	ATN
8	GND	25	GND	42	GND
9	GND	26	DB (0)	43	BSY
10	GND	27	DB (1)	44	ACK
11	GND	28	DB (2)	45	RST
12	(Reserved)	29	DB (3)	46	MSG
13	(Open)	30	DB (4)	47	SEL
14	(Reserved)	31	DB (5)	48	D/C
15	GND	32	DB (6)	49	REQ
16	GND	33	DB (7)	50	I/O
17	GND	34	DB (P)		

SCSI Bus**Note**

The SCSI Bus connector and the SCSI Terminator plug are not supplied for the console with the Rear CONN Panel2 Assy, 2211163, 2211164, and 2211165.

Note

The SCSI Bus connector is unavailable for the console with the 3.5-inch HDD.

Note

Output level of RS232C signals:

High	+3V to +15V
Low	-15V to 0V

⑥ Pin Assignment of Mini Jack for Controlling B/W Printer**Connector:** Stereo Mini Jack
 B/W Printer

 B/W Camera


Pin No.	Output Signal
1	PRINT *1
2	Signal GND

*1: Printer starts printing by receiving the LOW pulse more than 100ms.

Note

Output level of control signals indicated in the above tables are TTL level.

3-5-1 Peripherals/Accessories Connector Panel (continued)**⑦ Pin Assignment of Mini Jack for Controlling Color Poraloid Camera****Connector:** Stereo Mini Jack Color Camera

Pin No.	Output Signal
1	SHUTTER *2
2	Signal GND

*2: Camera starts printing by receiving the LOW pulse more than 2ms.

⑧ Pin Assignment of Connector for Foot Switch**Connector:** Round 5-pin connector Foot Switch

Pin No.	Output Signal
1	FSW1+
2	FSW1-
3	FSW2+
4	FSW2-
5	Frame GND

Note

Output level of control signals indicated in the above tables are TTL level.

3-5-2 List of Optional Peripherals

The tables below shows the suggested optional peripherals for LOGIQ™ 500.

1. RECORDING DEVICES

TABLE 3-2
LIST OF RECORDING DEVICES

DEVICE	MANUFACTURER	MODEL	VIDEO SIGNAL
Video Cassette Recorder	SONY	SVO-9500MD	NTSC
	SONY	SVO-9500MDP	PAL
Color Video Printer	SONY	UP-1800	NTSC
	SONY	UP-3030MD	NTSC
	SONY	UP-1800EPM	PAL
	SONY	UP-1850EPM	PAL
	SONY	UP-2950MD	NTSC
	SONY	UP-2900MD	NTSC
	SONY	UP-2850P	PAL
	SONY	UP-2800P	PAL
	SONY	UP870MD	NTSC
Video Graphic Printer	SONY	UP890MD	NTSC
	SONY	UP860CE	PAL
	SONY	UP890CE	PAL
	SONY	UP890MDG	NTSC / PAL
	SONY	UP890MDG	NTSC / PAL
Multi Image Camera	International Imaging Electronics	IIE360	NTSC
	REPRODINE	MX4	PAL
	REPRODINE	MF2	PAL

Note

See each option installation instructions for installation and connection procedures.

Note

The “Quad-Frm” format is available only for the following color printers:

UP-1850MD, UP-1850EPM, UP-2950MD, and UP-2850P

The “Quad-Frms” selection for the Color Printer Memory in the SYSTEM PARAMETER SETUP, is not available for those printers. This function is valid only for the UP-3030MD printer.

3-5-2 List of Optional Peripherals (continued)

2. TRANSDUCER (PROBE)

TABLE 3-3
LIST OF TRANSDUCERS

PROBE NAME	MATERIAL OF HEADSHELL	AREA OF USING	TYPE	CATALOG NO.	REQUIRED ADAPTER	WITH FERRITE BEADS	FAMILY PROBES	PART No.
C364	PES	ABDOMINAL	CONVEX	H45202CF	No need		HEADSHELL IS SAME AS CBF	P9607AB
				H40212LD	No need	√	HEADSHELL IS SAME AS CBF	P9607AA
				H79082P				2259251
CBF	PES	ABDOMINAL	CONVEX	H46022CB	PA 51			2259250
								P9603AD
C551	PES	ABDOMINAL	CONVEX	H45202CE	No need		HEADSHELL IS SAME AS CAE	P9603AA
				H40212LN	No need	√	HEADSHELL IS SAME AS CAE	P9607AD
				H79172P				P9607AC
CAE	PES	ABDOMINAL	CONVEX	H46022CA	PA 51			2261026
								2261025
E721	PES	INTRACAVITY	CONVEX	H45202MT	No need		HEADSHELL IS SAME AS MTZ	P9603AE
				H40212LR	No need	√	HEADSHELL IS SAME AS MTZ	P9603AB
				H79192P				P9607AF
MTZ	PES	INTRACAVITY	CONVEX	H46022MT	PA 51			P9607AE
								2261056
								2261055
739L	NORYL	SUPERFICIAL	LINEAR	H45202AG	No need			P9603AU
				H40212LB	No need	√		P9603AL
				H79062P				2107460-2
S316	PES	CARDIAC/ABDOMINAL	SECTOR	H45202SC	No need		HEADSHELL IS SAME AS UC	2107460
				H40202LB	No need	√	HEADSHELL IS SAME AS UC	2259145
				H79222P				2259144
UC	PES	CARDIAC/ABDOMINAL	SECTOR	H4163B	5S			P9606AB
								P9606AA
L764	PES	SUPERFICIAL	LINEAR	H45202HP	No need		HEADSHELL IS SAME AS LH	2261033
				H40212LG	No need	√	HEADSHELL IS SAME AS LH	2261032
				H79112P				P9600BE
C721	NORYL	NEONATAL	CONVEX	H45202MN	No need			P9600BA
				H40212LP	No need	√		2121377-2
				H79182P				2121377
LH	PES	SUPERFICIAL	LINEAR	H46022LH	PA51			2259256
								2259255
W	PES	CARDIAC	SECTOR	H4162C	5S			2121267-2
								2121267
B510	PU	CARDIAC	BI-PLANE SECTOR	H45202BT	PA51			2261018
				H40202LD	PA51	√		2261017
				H79242P				P9601AS
S220	PES	CARDIAC	SECTOR	H45202WG	No need		HEADSHELL IS SAME AS W	P9601AC
				H40202LA	No need	√	HEADSHELL IS SAME AS W	P9600BH
				H79212P				P9600BD
CWD2	NORYL	CARDIAC	SECTOR	H45202DB	No need			2123593
								2133115
CWD5	NORYL	CARDIAC	SECTOR	H45202DE	No need			2259260
								2259259
CWD5	NORYL	CARDIAC	SECTOR	H45202DE	No need			2121793-2
								2121793
								2261043
CWD5	NORYL	CARDIAC	SECTOR	H45202DE	No need			2261042
								2123594
CWD5	NORYL	CARDIAC	SECTOR	H45202DE	No need			2123116
								2123595
CWD5	NORYL	CARDIAC	SECTOR	H45202DE	No need			2123117
								2123117

3-5-2 List of Optional Peripherals (continued)

2. TRANSDUCER (PROBE)

TABLE 3-3
LIST OF TRANSDUCERS (continued)

PROBE NAME	MATERIAL OF HEADSHELL	AREA OF USING	TYPE	CATALOG NO.	REQUIRED ADAPTER	WITH FERRITE BEADS	FAMILY PROBES	PART No.
546L	NORYL	ABDOMINAL/ SUPERFICIAL	LINEAR	H45202LE	No need			2144266-2 2144266
				H40212LA H79052P	No need	√		2259135 2259134
S317	NORYL	CARDIAC/ABDOMINAL	SECTOR	H45202SD	No need			2144268-2 2144268
				H40212LK H79142P	No need	√		2259230 2259229
S611	NORYL	CARDIAC/NEONATAL/ PEDIATRICS	SECTOR	H45202SF	No need			2144267-2 2144267
				H40212LL H79152P	No need	√		2259238 2259237
C386	NORYL	ABDOMINAL/ OB/GYN	CONVEX	H45202CC	No need			2154186-2 2154186
				H40212LE H79092P	No need	√		2259162 2259160
I739	NORYL	INTRAOPERATIVE/ INTRACAVITY	LINEAR	H45202JG	No need			2147189-2 2147189
				H40212LF H79102P	No need	√		2259206 2259205
T739	NORYL	INTRAOPERATIVE	LINEAR	H45202TG	No need			2147188-2 2147188
				H40212LM H79162P	No need	√		2259246 2259245
LA39	NORYL	SUPERFICIAL	LINEAR	H45202LA	No need		HEADSHELL IS SAME AS 739L	2155078-2 2155078
				H40212LH H79122P	No need	√	HEADSHELL IS SAME AS 739L	2259214 2259213
S222	NORYL	TRANSCRANICAL	SECTOR	H45202TC	No need			2156263 2156263
				H40212LJ H79132P	No need	√		2259222 2259221
P509	PU	CARDIAC	MULTI- PLANE SECTOR	H45202RT	No need			2169773 2169772
				H40202LC H79232P	No need	√		2259258 2259257
C358	PES	ABDOMINAL	CONVEX	H45202CD	No need			2193617 2172443
				H40212LC H79072P	No need	√		2259153 2259152
LD	PES	BIOPSY	LINEAR	H45202LD	PA51			2124318 P9601AD
				H40212LS H79202P	PA51	√		2261049 2261048
ERB7	NORYL	ENDOCAVITY	CONVEX LINEAR	H40392LC	No need			2239590 2204232
				H40202LE H79252P	No need	√		2259263 2259262
3S	NORYL	CARDIOLOGY	SECTOR	H4550SZ H79292P	No need			2252157 2261743
M12L	NORYL	SMALL PARTS	LINEAR	H45282ML H75362SR	No need	√		2236016 2241735

3-5-2 List of Optional Peripherals (continued)**2. TRANSDUCER (PROBE) (continued)**

TABLE 3-3
LIST OF TRANSDUCERS (continued)

PROBE NAME	MATERIAL OF HEADSHELL	AREA OF USING	TYPE	CATALOG NO.	REQUIRED ADAPTER	WITH FERRITE BEADS	FAMILY PROBES	PART No.
CS	PES	ABDOMINAL/ NEONATAL	CONVEX	H45222CS	PA21	√		2202320
				—				—
i12L	ABS	INTRAOPERATIVE	LINEAR	H4012L	PA51	√		2264883
				H79322P				2270556

Note

PES : Polyethersulfone NORYL : Modified Polyphenylene Oxide PU : Polyurethane
 ABS : Acrylonitrile Butadiene Styrene

Note

Some probes indicated on the TABLE 3-3 have two different part numbers. The upper row shows the part numbers of probes for regions other than Japan. The lower row shows the part numbers of probes for Japan.

Probes which have only one part number are not available in Japan.

Note

L764 and C721 probes are available on consoles from software version 1.20.

Note

B510, S220, CWD2 and CWD5 probes are available on consoles from software version 2.00.

Note

B510 probe requires new PA51 probe adapter, 2136306 for Japan and 2136307 for other countries.

3-5-2 List of Optional Peripherals (continued)**2. TRANSDUCER (PROBE) (continued)****Note**

546L, S317, S611, C386, I739 and T739 probes are available on consoles from software version 2.20.

Note

LA39 and S222 probes are available on consoles from software version 3.00.

Note

To use the LA39 probe on the console which is upgraded the software version to 3.00 from 2.20 using the software upgrade kit, it is also required to install the MD Hardware Kit (2165223 for Japan and 2165224 for other regions) in the console.

Note

P509 probe is available on consoles from software version 3.10. In addition, it is necessary to install the optional Multiple TEE Upgrade Kit in the console to use the P509 probe.

Note

C358 probe is available on consoles from software version 4.00.
LD probe is available for the Japanese console with software version 4.00 or later.
LD probe is available for the European console with software version 4.20 or later.

Note

ERB7 probe is available on consoles from software version 4.20.

Note

M12L and 3S probes are available on consoles from software version 5.00.

Note

i12L probes is available on consoles from software version 6.00.

Note

CS probes is available only on consoles for Asia from software version 6.00.

Note

CS probe requires PA21 probe adapter, 2277668 for Asia.

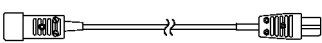
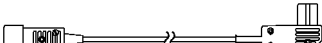
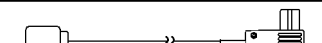
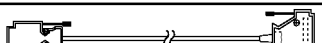
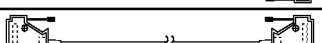
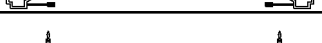
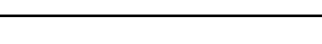
3-5-2 List of Optional Peripherals (continued)

3. CONNECTING CABLES



Equipment damage possibility. Be sure to use the following recommended connecting cables to connect recording devices and a network with LOGIQ 500 console.

TABLE 3-4
LIST OF CONNECTING CABLES

NAME	PART NO.	FIGURE	NOTE
POWER CABLE	P9509EE		
	P9509MM		Used only for installing Color Video Printer facing Sideways
	P9509LH		Used only for installing B/W Video Printer on front of console
RS232C CABLE	P9509MN		For control signals
	P9509NA		For InSite connection
MINI PLUG CABLE	P9509BE		For control signals (used only for B/W Video Printer)
ETHERNET CABLE	2195662		For DICOM capability Included in the DICOM Support option with Tranceivers

3-5-3 Power Consumption of Optional Peripherals

The table below shows the power consumption of each optional peripheral for LOGIQ™ 500.

TABLE 3-5
POWER CONSUMPTION OF OPTIONAL RECORDING DEVICES

DEVICE	MODEL	POWER CONSUMPTION
Video Cassette Recorder	SVO-9500MD	64W
	SVO-9500MDP	
Color Video Printer	UP-3030MD	140W
	UP-1800	
	UP-1850EPM	
	UP-2950MD	220W (at printing)
	UP-2850P	
	UP-2900MD	180W (at printing)
	UP-2800P	
B/W Video Printer	UP870MD	110W
	UP890MD	
	UP860CE	
	UP890CE	
	UP890MDG	120W (at printing)
Multi-Image Camera	IIE360	60W
	MX4	80W
	MF2	380W

3-6 VIDEO SPECIFICATIONS

TABLE 3-6
VIDEO SPECIFICATIONS

		12-inch monitor		15-inch monitor	
		NTSC	PAL	NTSC	PAL
Total Line per Frame	[Line]	525	625	525	625
Vertical Frame Frequency	[Hz]	30	25	60	50
Horizontal Scanning Frequency	[kHz]	15.734	15.625	31.469	31.250
Displayed Image Pixels	[mm]	207.0 by 157.3	207.0 by 157.3	239.5 by 180	239.5 by 180
Total Horizontal Line Time	[μ s]	63.56	64.00	31.78	32.00
Horizontal Display	[μ s]	49.54	48.81	24.77	24.41
Front Porch Width	[μ s]	2.76	3.09	1.39	1.54
Sync Pulse Width	[μ s]	4.73	4.68	2.36	2.34
Back Porch Width	[μ s]	6.53	7.42	3.26	3.71
Total Horizontal Blanking	[μ s]	14.02	15.19	7.01	7.59
Vertical Blanking Interval	[H]	31.50	38.50	31.50	38.50
Vertical Front Porch Width	[H]	6.5	9.0	6.5	9.0
Vertical Sync Width	[H]	3	2.5	3	2.5
Vertical Back Porch Width	[H]	22	27	22	27
Pixel Clock	[MHZ]	12.2727	14.7500	24.5454	29.5000
H	[μ s]	63.56	64	31.78	32