Spacelabs Medical
An OSI Systems Company

Ultraview® 1050 Monitor

90369

Technical Reference

070-0707-00 Rev. D

more time to care

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Chapter Page

Spacelabs Medical considers itself responsible for the effects on safety, reliability and performance of the equipment only if:

- *assembly operations, re-adjustments, modifications or repairs are carried out by persons authorized by Spacelabs Medical, and*
- *the electrical installation of the relevant room complies with the requirements of the standard in force, and*
- *the equipment is used in accordance with the operations manual.*

Spacelabs Medical will make available, on request, such circuit diagrams, component part lists, descriptions, calibration instructions or other information which will assist appropriately qualified technical personnel to repair those parts of the equipment which are classified by Spacelabs Medical as field repairable.

Spacelabs Medical is committed to providing comprehensive customer support beginning with your initial inquiry through purchase, training, and service for the life of your Spacelabs Medical equipment.

CORPORATE OFFICES

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CAUTION:

Rx Only **US Federal law restricts the devices documented herein to sale by, or on the order of, a physician.**

Drawings

Contents

Schematics

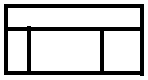
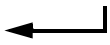
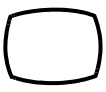
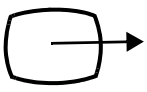
Title	Drawing
90369 P/N 676-0151-03	1-1 (39 sheets)
90369 P/N 676-0151-01	2-1 (7 sheets)

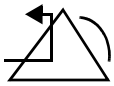
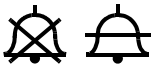
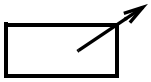
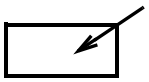
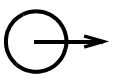
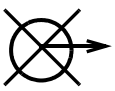
CAUTION:

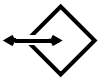
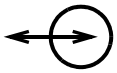
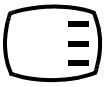
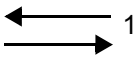
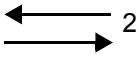
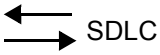
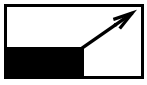
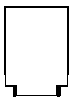
- **Printed circuit boards in this equipment contain static sensitive devices; only handle at a static-safe workstation.**

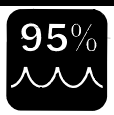
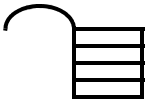
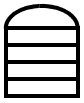
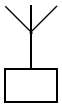
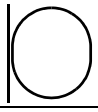
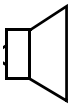
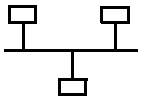
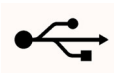
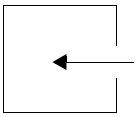
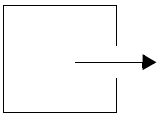
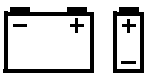
Symbols

The following list of international and safety symbols describes all symbols used on Spacelabs Medical products. No one product contains every symbol.

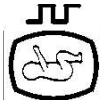
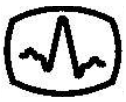
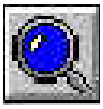
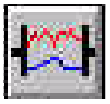
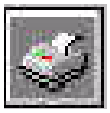
Symbol	Description	Symbol	Description
	HELP Key		Keyboard Connection
	SPECIAL FUNCTIONS Key		Mouse connection
	RECORD Key		START/STOP Key
	NORMAL SCREEN Key		START/STOP
	MONITOR SETUP Key		STOP or CANCEL Key
	ALARMS Key		CONTINUE Key
	PREVIOUS MENU Key		ENTER Key
	ON — Power Connection to Mains		OFF — Power Disconnection from Mains
	ON Position for Push Button Power Switch		OFF Position for Push Button Power Switch
	On Direction		ON/OFF
	Television; Video Display		Video Output
	ON — Part of the Instrument Only		OFF — Part of the Instrument Only

Symbol	Description	Symbol	Description
	Stand-by		STAND-BY Key
	PAUSE or INTERRUPT		Slow Run
	Reset		Power Indicator LED
	Alarm		Temporary Shut Off of Alarm Tone or Screen Indicators
	Indicator — Remote Control		Indicator — Local Control
	PRINT REPORT Key		Indicator — Out of Paper
	Partial ON/OFF		Recorder Paper
	Normal Screen		Return to Prior Menu
	Clock/Time Setting Key		TREND/TIMER Key
	HELP (Explain Prior Screen) Key		Keypad
	Activate Recorder for Graphics		Indoor Use Only
	START (NIBP) Key		Auto Mode (NIBP)
	Output		No Output (Terminated)

Symbol	Description	Symbol	Description
	Data Input/Output		Input/Output
	Input		Reset
	Menu Keys		Waveform/Parameter Keys
	Monitor Setup Select Program Options		Set Initial Conditions Menu
	Access Special Function Menu		Return Unit to Monitor Mode
	Serial Port 1		Serial Port 2
	External marker push button connection		SDLC Port
	Arterial Pulse		Electrocardiograph or Defibrillator Synchronization
	Gas Exhaust		Foot Switch
	Enlarge, Zoom		Delete
	PCMCIA Card		Event
	Keep Dry		Fragile; handle with care
	Environmental Shipping/Storage Altitude Limitations		This Way Up

Symbol	Description	Symbol	Description
	Environmental Shipping/Storage Temperature Limitations		Environmental Shipping/Storage Humidity Limitations
	Open Padlock		Closed Padlock
	Down Arrow		Up Arrow
	Hard Drive		Power Indicator LED
	Antenna		Mermaid Connector
	Microphone		Omnidirectional Microphone
	Audio Output, Speaker		Activate Telemetry Recorder
	Network Connection		Universal Serial Bus
	Gas Sampling Port		Gas Return Port
	Remote Alarm; Nurse Alert		Nurse Call
	Battery Status		Low Battery
	Battery Replace only with the appropriate battery.		Replace only with the appropriate battery. (+ / - signs may be reversed)

Symbol	Description	Symbol	Description
	All batteries should be disposed of properly to protect the environment. Lithium batteries should be fully discharged before disposal. Batteries such as lead-acid (Pb) and nickel-cadmium (Ni-Cd) must be recycled. Please follow your internal procedures and or local (provincial) laws regarding disposal or recycling.		Caution - hazardous voltages. To reduce risk of electric shock, do not remove the cover or back. Refer servicing to a qualified service personnel (U.S.A.). DANGER - High Voltage (International)
	Protective Earth Ground		Functional Earth Ground
	Replace Fuse Only as Marked		Fuse
	Power supply jack polarity. (+ / - signs may be reversed)		Equipotentiality Terminal
	Alternating Current		Direct Current
	Both Direct and Alternating Current		AC/DC Input
A	Amperes	Hz	Hertz
V	Volts	W	Watts
	IEC 601-1 Type B equipment. The unit displaying this symbol contains an adequate degree of protection against electric shock.		Class II Equipment
	IEC 601-1 Type BF equipment which is defibrillator-proof. The unit displaying this symbol contains an F-type isolated (floating) patient-applied part which contains an adequate degree of protection against electric shock, and is defibrillator-proof.		IEC 601-1 Type BF equipment. The unit displaying this symbol contains an F-type isolated (floating) patient-applied part providing an adequate degree of protection against electric shock.

Symbol	Description	Symbol	Description
	IEC 601-1 Type CF equipment. The unit displaying this symbol contains an F-type isolated (floating) patient-applied part providing a high degree of protection against electric shock, and is defibrillator-proof.		IEC 601-1 Type CF equipment. The unit displaying this symbol contains an F-type isolated (floating) patient-applied part providing a high degree of protection against electric shock.
	Loop Filter		Adult NIBP
	ETL Laboratory Approved		Canadian Standards Association Approved
	Risk of Explosion if Used in the Presence of Flammable Anesthetics		Operates on Non-Harmonized Radio Frequencies in Europe
Note	Note		Attention - Consult Operations or Service Manual for Description
WARNING	Warning About Potential Danger to Human Beings	**CAUTION**	Caution About Potential Danger to a Device
	Noninvasive Blood Pressure (NIBP), Neonate		Fetal Monitor Connection (Analog)
	Fetal Monitor Connection RS232 (Digital)		Physiological Monitor Connection RS232 (Digital)
	Happy Face		Sad Face
	Magnifying Glass		Compression
	File Cabinet		List of Rooms
	Arrows		Printer
	Recycle		Service Message

Symbol	Description	Symbol	Description
	Radio transmitting device; elevated levels of non-ionizing radiation		

Abbreviations used as symbols are shown below.

Symbol	Description	Symbol	Description
1 - 32	Access Codes 1 Through 32	**AIR**	Air
ANT 1 **ANT 2**	Diversity Antenna System 1 Diversity Antenna System 2	**Arr1** **ArrNet2**	Arrhythmia Net 1 Arrhythmia Net 2
CH **ch**	EEG, EMG, or ECG Channel EEG Channels - CH1, CH2, CH3, CH4 EMG Channel - CH5	**cmH_2O**	Centimeters of Water
C.O. **CO** **co**	Cardiac Output	**DIA** **dia**	Diastolic
ECG **ecg**	Electrocardiogram	**EEG** **eeg**	Electroencephalogram
EMG **emg**	Electromyogram	**ESIS**	Electrosurgical Interference Suppression
EXT	External	**FECG**	Fetal Electrocardiogram
FHR1 **FHR2**	Fetal Heart Rate, Channel 1 Fetal Heart Rate, Channel 2	**GND** **gnd**	Patient Isolated Ground
HLO **hlo**	High-Level Output	**Multiview**	Multi-Lead Electrocardiogram
NIBP **nibp**	Noninvasive Blood Pressure	**N_2O**	Nitrous Oxide
O_2	Oxygen	**PRESS** **press** **PRS**	Pressure

Symbol	Description	Symbol	Description
RESP **resp**	Respiration	**SDLC**	Synchronous Data Link Control
SPO2 **SpO2** **SpO_2** **SaO_2**	Arterial Oxygen Saturation as Measured by Pulse Oximetry	**SVO2** **$S\underline{v}O2$** **SvO_2**	Mixed Venous Oxygen Saturation
SYS **sys**	Systolic	**T1** **T2** **T3** **T4**	Temperature 1 Temperature 2 Temperature 3 Temperature 4
TEMP **temp**	Temperature	**UA**	Uterine Activity or Umbilical Artery
VAC	Vacuum Connection		