

# **SERIES 20000™\* LEGACY®**

## **SERVICE MANUAL**

**ALCON SURGICAL**

**a division of Alcon Laboratories, Inc.**

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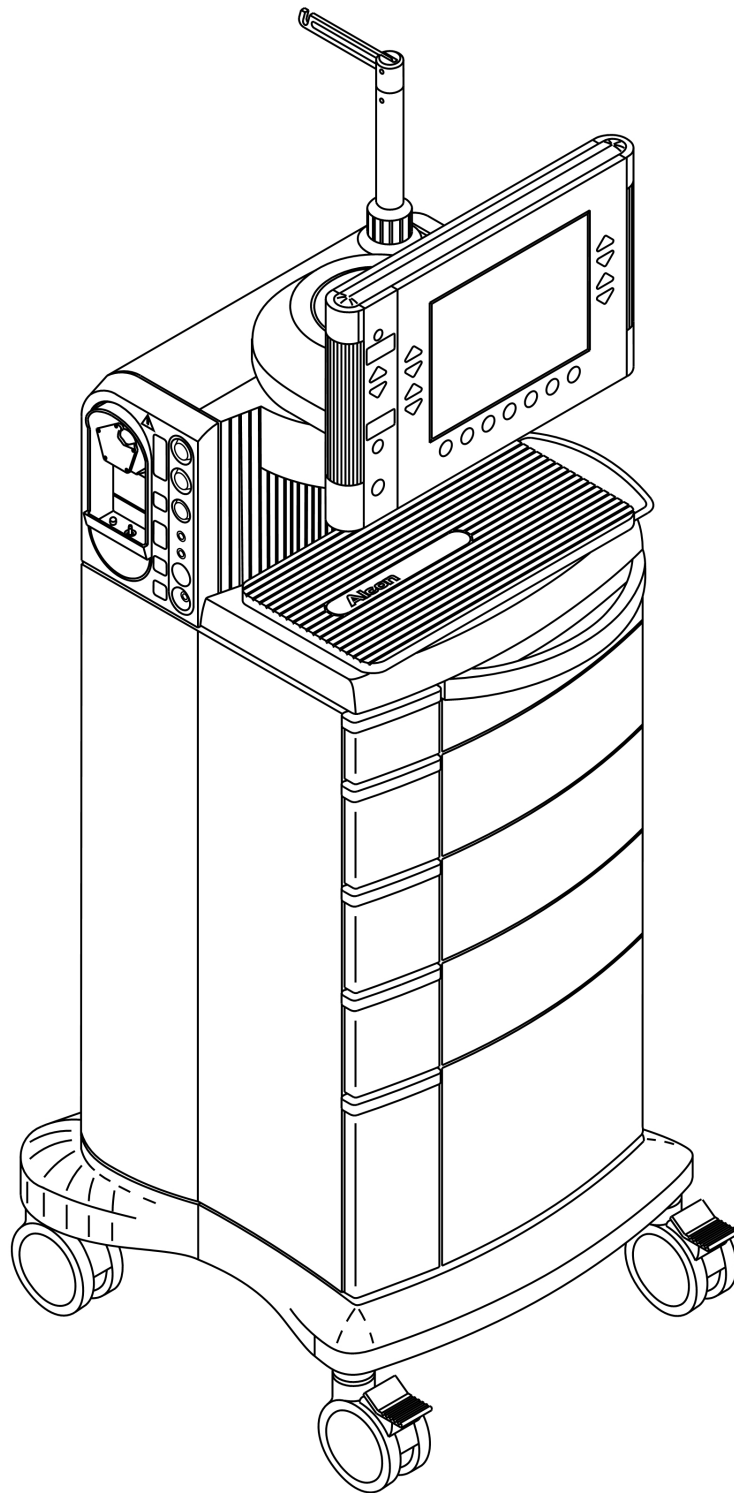
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Alcon Surgical's SERIES 20000™\* LEGACY® (STTL) is a sophisticated ophthalmic surgical instrument manufactured to be durable, reliable, safe and easy to operate. This state-of-the-art instrument has been developed to be user friendly; it combines hardware that is easy to install and maintain along with computer software that increases the effectivity of the user.



**Figure 1-1 The Series 20000™\* Legacy®**

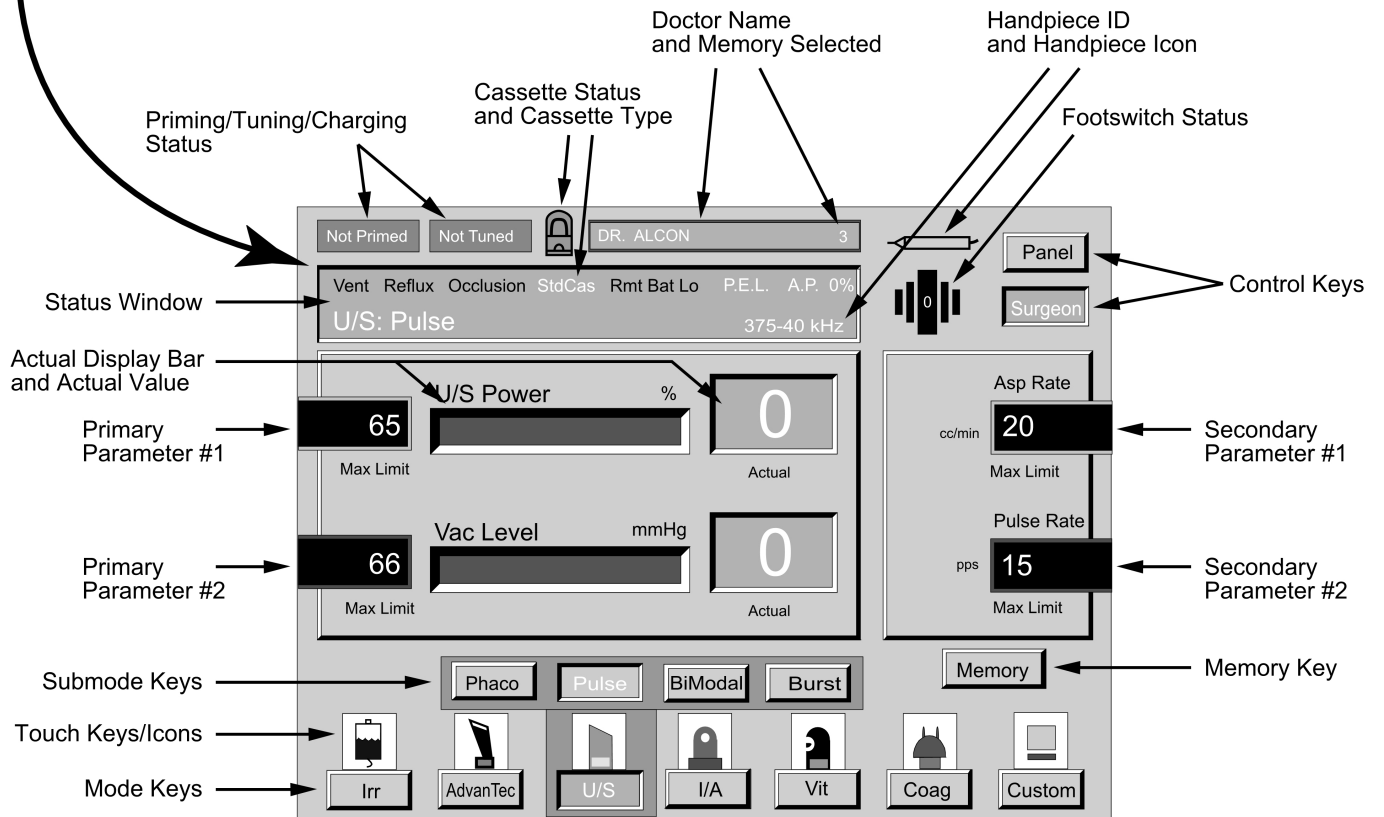
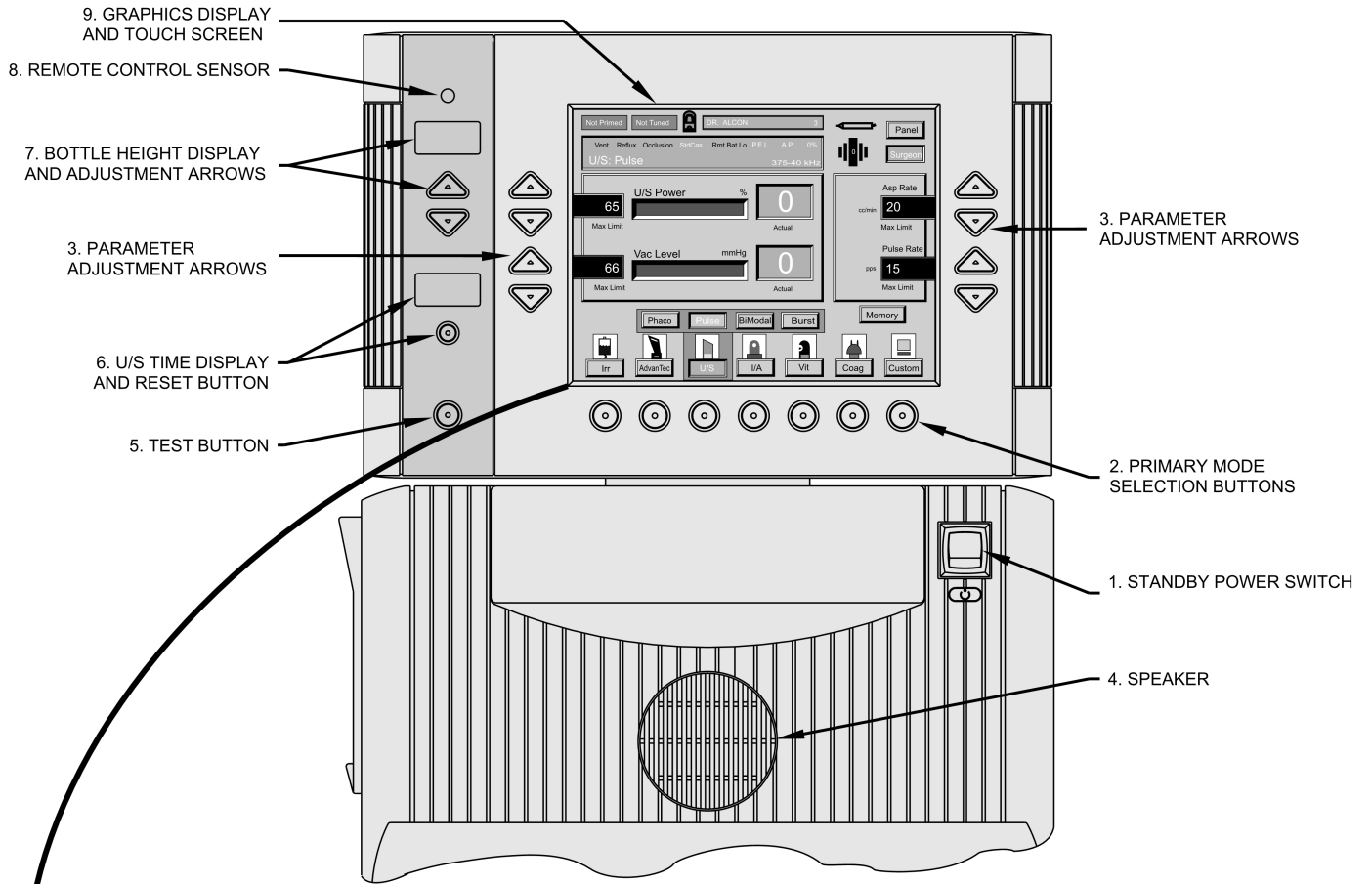


Figure 1-6 FRONT CONTROL PANEL (Display for software versions 3.12 and above shown)

## VIDEO PCB

The Video PCB provides a 640 x 480 pixel resolution and 256 colors to the active matrix color Liquid Crystal Display (LCD). It is controlled by the CPU PCB through the ISA bus and provides visual feedback for Host System voltages for +24V, +15 V, -15 V, +5 V, and +12 V. Figure FO-4 is a block diagram of the Video PCB.

### **FLAT PANEL CONTROLLER**

The Video PCB is designed around the 82C457 Flat Panel Controller. The 82C457 is compatible with IBM's VGA (Video Graphic Array) with additional capabilities to drive flat panel displays. It directly interfaces to the ISA bus through Data and Address Buffers.

The Flat Panel Controller employs an extension register set to control its additional capabilities. These registers are initialized by the on-board BIOS and provide control of the flat-panel interface, timing, and vertical compensation.

### **VIDEO BIOS**

The Video BIOS EPROM supports the extended features of the Flat Panel Controller. During power up, the CPU accesses the BIOS EPROM and uses this information to enable the flat panel mode and disable the CRT mode.

### **VIDEO MEMORY**

Two Dynamic RAM (DRAM) ICs provide 256K bytes of video memory. The video memory is arranged as four planes of 64K bytes each and is controlled by the Flat Panel Controller. The Controller retrieves data from the memory then sends it to the Flat Panel Color Palette via the VID0-7 bus.

### **FLAT PANEL COLOR PALETTE**

The 82C411 Flat Panel Color Palette receives video pixel data from the Flat Panel Controller via the VID0-7 bus. The Color Palette reduces this data to the 256 colors required by the color LCD. The reduced color data (AR0-5, AG0-5, and AB0-5) is sent back to the Controller upon request.

The Flat Panel Controller sends 14 bits of information to the Front Panel Drivers which send it through the System Backplane and the Front Panel Controller directly to the color LCD. No further operation is performed on this data.

