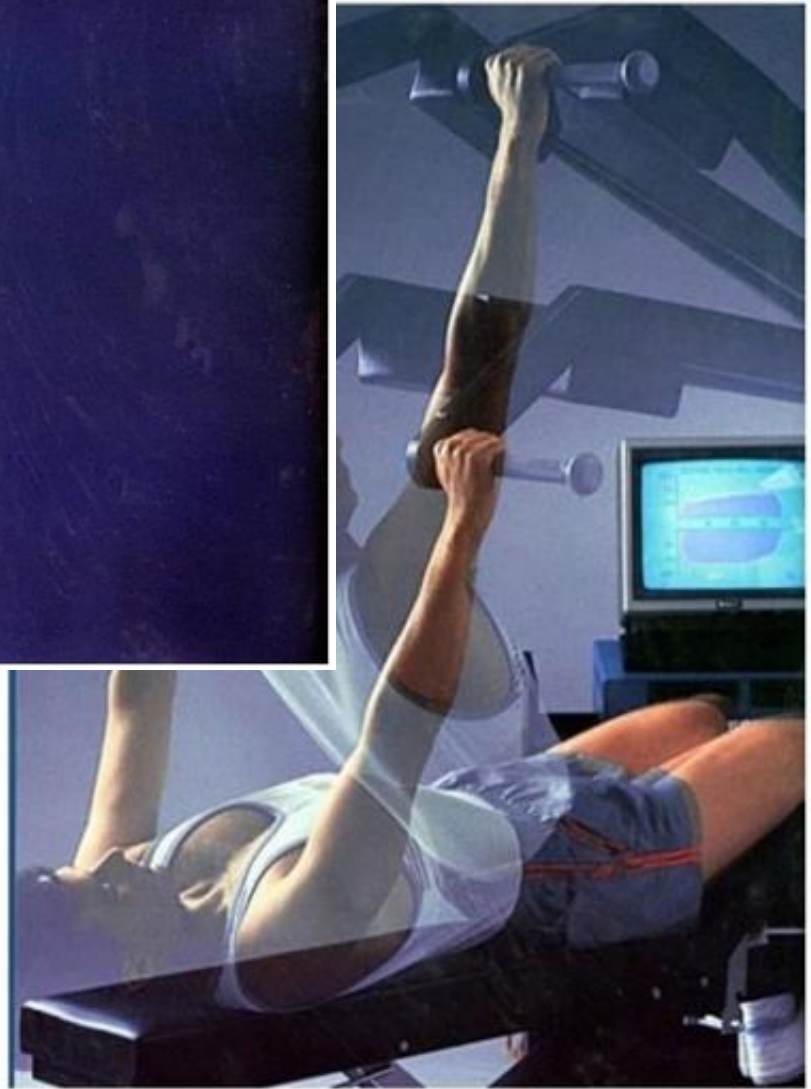
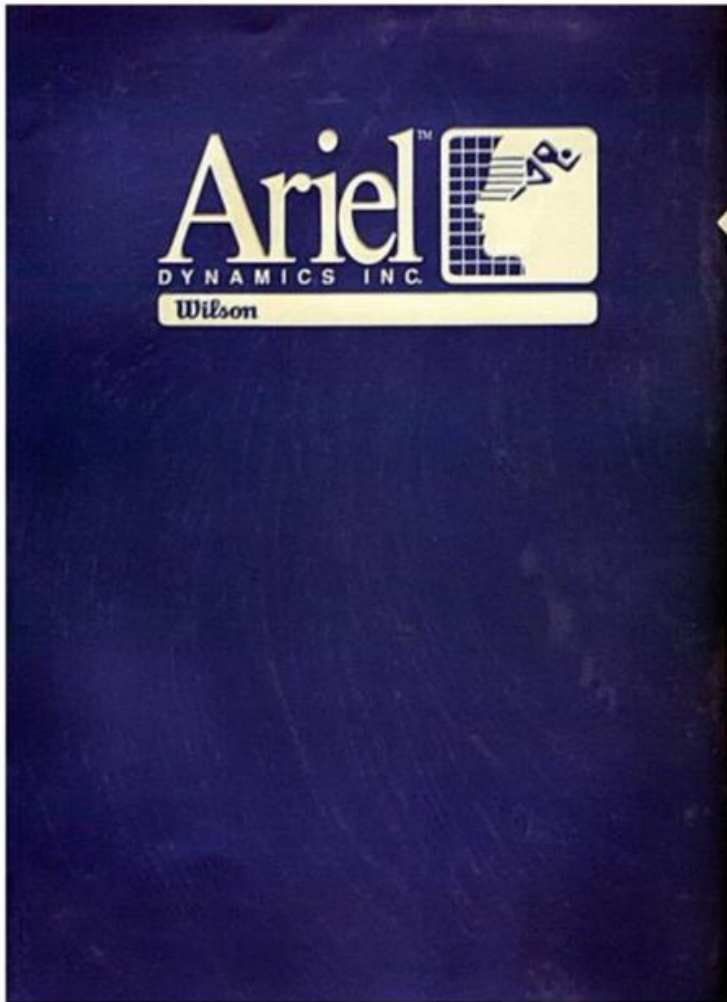
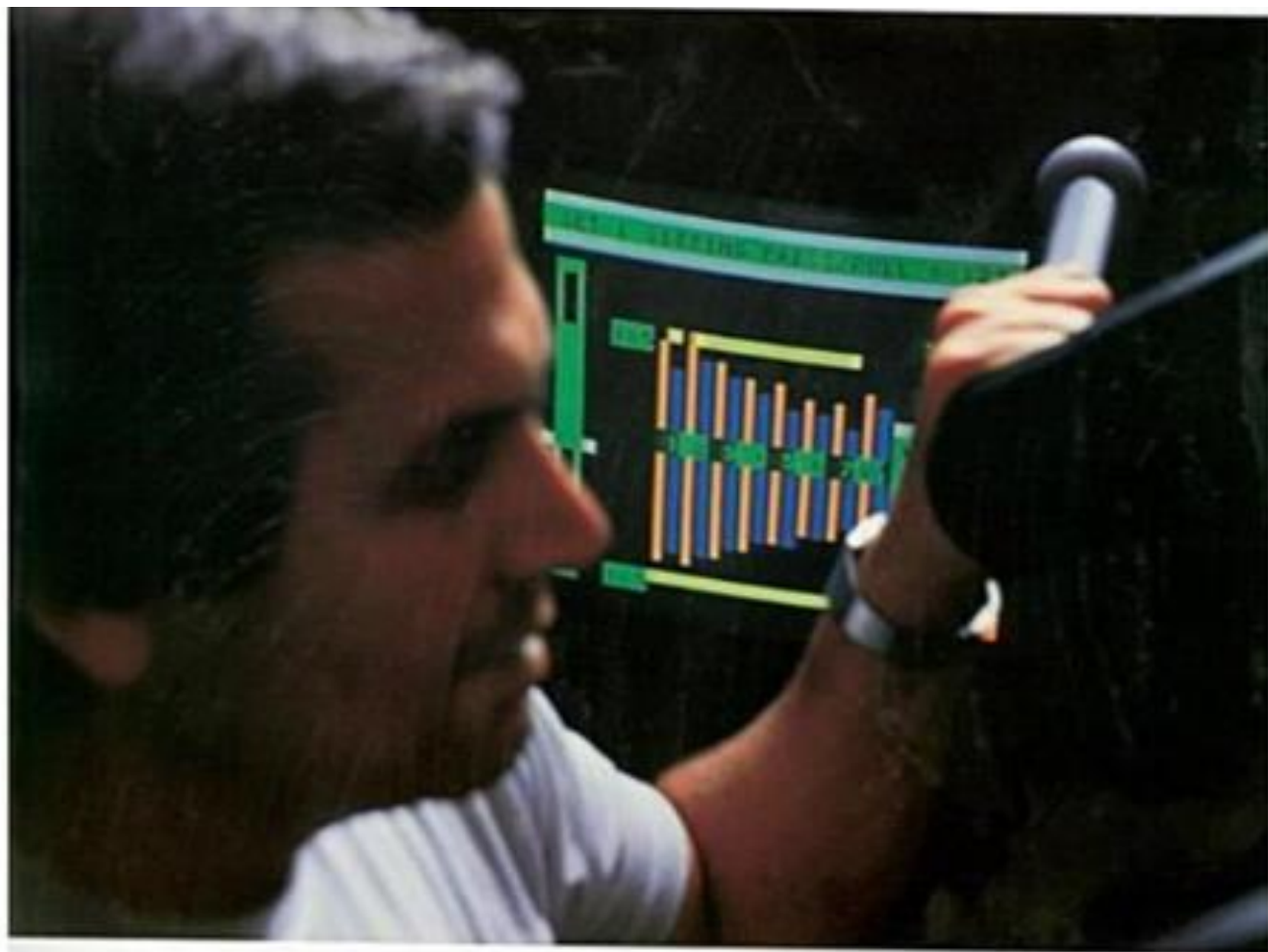


Appendix 12 – The Wilson Brochure

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**T**he skilled hand...the trained eye... traditionally these have been the most valuable tools for experts in the fields of rehabilitation and fitness. However, even these tools cannot help the therapist or trainer evaluate the exact amount of resistance or velocity needed to strengthen or rehabilitate an injury. Although these professionals have the benefit of many years of experience, objective measurements and comparisons with previous performance have often been unavailable.

Over the years, many machines have been developed to provide general exercise and strength training. More recently, equipment that measures and records precise levels of muscular strength and range of movement has become available. But there has been no machine that could intelligently simulate, respond to, and analyze human movement...until now.

**T**he Ariel Computerized Exercise System (CES), invented by Dr. Gideon Ariel, heralds a new era in physical rehabilitation, research, and conditioning. Ariel CES is the only system available that automatically monitors, controls, and modifies resistance and velocity while the person is exercising. It does this safely and efficiently, constantly adjusting itself to accommodate each person's unique capabilities or limitations. Ariel CES also provides extensive and accurate measurements of movement and strength with the capability for storage and subsequent comparison and analysis of the individual's performance.

### **Intelligent System**

That's why we call it the "Intelligent System" for rehabilitation and fitness. Ariel CES senses and responds directly to an individual's performance in real time. In other words, the computer is able to control your movement and adjusts to your effort WHILE YOU EXERCISE. And not only does the Ariel CES sense and respond to specific motions, it also interacts with the individual, providing immediate audio and visual feedback during exercise.

At the heart of Ariel CES's "Intelligence" is a state-of-the-art microcomputer system. The computer and its unique software assume the responsibility for controlling the precise force level, speed of movement, and temporal sequence to achieve a specific pattern of exercise. Unlike other systems, Ariel CES has the ability to adjust and modify its assignment throughout the entire exercise session.

"User-friendly" screen instructions permit anyone to operate the system, even individuals who have never used a computer.

### **Flexibility of Use and Function**

Key to the Ariel Computerized Exercise System is the flexibility it offers. Isotonic, isokinetic, or isometric exercise, or any combination of these exercise modes can be performed... In addition, the Ariel CES can control and measure velocity, resistance, work output, fatigue level, duration of exercise, or combinations of all five.

Another major value of the Ariel CES is its ability to run standard and pre-programmed sequences of exercises as well as customized individual exercise sequences. A physical therapist can follow prescribed testing or training protocols for patients or can create and pro-

gram unique procedures for specifically desired routines. An athletic coach can design specialized exercise routines for each member of the team or a specific protocol for a particular team position, such as for the quarterback or the defensive lineman.

In fact, Ariel Computerized Exercise System encourages innovation and creativity. Because the Ariel CES can adjust the speed or the resistance of an exercise throughout its range of motion... Because the Ariel CES allows the application of an isometric contraction at a selected point within a movement... Because the Ariel CES response can be controlled throughout the entire range of motion... the possibilities for a truly customized personal exercise program are unlimited.

### **Productivity**

While the most attractive feature of the Ariel Computerized Exercise System is its unique ability to create and control exercise, the Ariel CES can also boost your facility's productivity. Because the Ariel CES is truly interactive and easy to use, many patients can follow the program prescribed by the therapist without constant supervision. This situation allows the therapist time to supervise other patients or to analyze and prepare reports of prior patient sessions.

For the Coach or the Fitness Expert, the same freedoms apply. Once the team or class has been assigned an exercise program, the instructor can use his or her time more effectively to attend to individual needs or to examine results.

The computer system interfaces with a video recorder if a facility wishes to use prepared instructional tapes for exercise, Club news items, or save an individual's performance display curves or tables shown on the monitor.

A variety of business management software programs, such as accounting, billing, and data base management systems are also available. An additional option allows the transfer of Ariel CES data to IBM PC compatible computer systems for more extensive data treatment.

Thus, the personal computer approach to the practice of resistive exercise is a quantum change in both thinking and application. The Ariel CES puts resistive exercises into a broad new realm of possibilities for applications in health care, human services, athletics, fitness and training and education.



### **Ariel CES Component Description**

The Ariel Computerized Exercise System is comprised of the following major components:

#### **Exercise Stations**

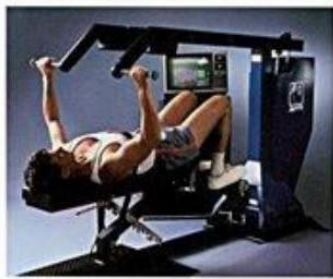
The stations consist of a movable exercise bar and a comfortable, adjustable multiposition bench or seat equipped with stabilization straps. Attachments are available for specialized exercises. The exercise bar provides resistance by a computerized hydraulic mechanism rather than by weights, springs, pneumatics, or fixed-flow hydraulics. This design automatically adapts to individuals of different sizes and strength levels and eliminates the need to manually adjust the machine.

Resistance can be applied in both the "up" and "down" direction of the bar (bi-directional resistance) so that more than one muscle group can be strengthened in a single exercise. Of course, uni-directional as well as bi-directional exercises can be performed.

The exercise stations assure exceptionally safe operation. Since resistance is provided through passive hydraulics, the bar will immediately stop when released. There is no possibility of falling weight stacks and if the individual should suddenly stop exercising, perhaps if pain or discomfort is felt, he or she can do so without having to lower heavy weights. Since the bar movement is inertia-free, the risk of injury from the force of weights moving at high speed is minimized. In addition, the system is inherently quiet.



**Multifunction Exercise Station**



**▲ The multifunction exercise station can perform over 20 different exercises, including those pictured above: incline bench press, bench press, sit-ups, squat and arm curls/extensions.**