CURTIS

The Curtis en*Able*® X1

Power Wheelchair Control System

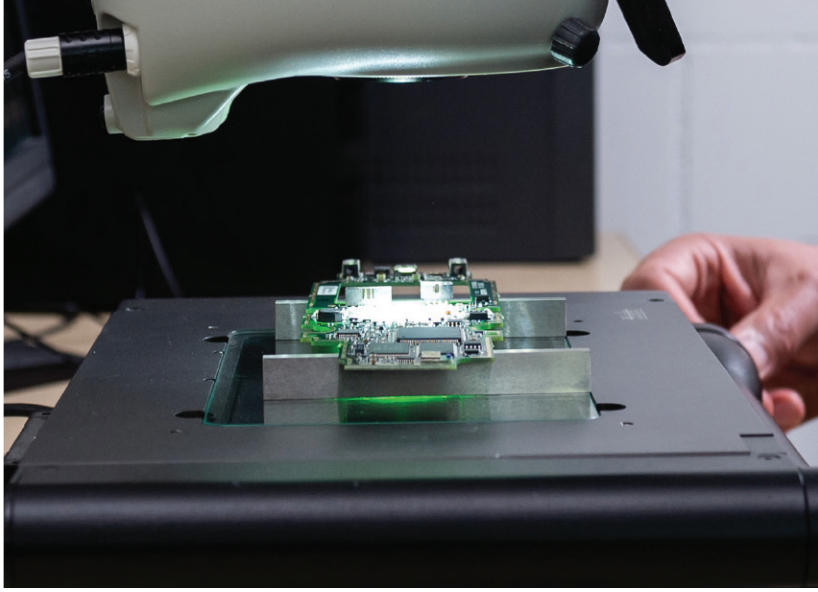
enAble® MOBILITY SYSTEM X1

The Curtis en*Able*® X1 Power Wheelchair Control System

Power • Control • Customization

All that, plus outstanding durability and reliability. It all adds up to the Curtis difference: exceptional drive feel in medical mobility vehicles and powerful user features. Curtis en*Able*® electric vehicle systems are known for superior performance and wide-ranging flexibility. Now, with the introduction of our new en*Able*® X1 technology, we drive mobility capabilities even further. For smoothness of drive and ease of use, nothing drives like a powerchair or rehab chair with Curtis on-board.

The Curtis *difference*



X1

DISPLAY MODULE

HAND CONTROL

ATTENDANT CONTROL

BLUETOOTH

LIGHT MODULE

ACTUATOR MODULE

POWER BASE

Experience • Proven Know-How • Understanding

The Curtis engineering center in Biberist, Switzerland specializes in medical mobility engineering. Since 1996, the Curtis Swiss mobility expert engineers have put their hearts and souls into continually developing the next state-of-the-art generation in mobility technology. Major mobility OEMs trust Curtis to provide the most advanced and flexible vehicle control, easy programming and superb drivability to make their powerchairs and wheelchairs the best they can be. Nearly half a million Curtis mobility control systems are in use worldwide, especially in North America and Europe.

True Engineering Partnership

Curtis is a system solutions provider. We make it easy for our OEM customers during every development stage. Curtis delivers the quality that manufacturers insist on, therapists demand, and users deserve. Curtis will support your engineering team from initial prototype design through to production release, from the hardware and software integration of the entire vehicle control system to programming. It's easy to add features and to expand the system. Curtis assists in major complicated developments, such as positional feedback seating options. Selecting the right set-up and tuning the powerchair has never been easier than with en*Able*® X1. It's logical, fully programmable, and easy to use. Because rehab chair user needs are so unique, we constantly update our systems with new modules and features in a highly customized process.

Advanced Ergonomics

Turnkey Solutions

Curtis helps powerchair users have it all – advanced ergonomics and wide-ranging features, power, safety, and design flexibility. We configure the vehicle control system specifically to OEM requirements, creating special chairs to maximize the user's independence. No matter how challenging the need, manufacturers and therapists will find it easy to build systems that suit each individual application. Curtis vehicle control systems always deliver a ride that is smooth and responsive in all modes: acceleration, deceleration, forward or backward, on smooth indoor surfaces, up a hill, or over gravel.

X1 Always the *perfect* fit

Broad Customization • Unprecedented Flexibility

With X1, wheelchair and powerchair OEMs enjoy great flexibility for customization—high-end rehab-chair features for every user need. The X1 customization capability makes all the difference. Let our rehab chair technology be your starting point, with unique features that are essentially plug-and-play, and a product line so flexible it practically configures itself. Our reliable, high-performance systems make it amazingly easy to custom-fit features and ride to each rehab chair user's medical needs and personal style. From advanced technology that controls the environment, to rugged systems that let you push the limit, Curtis electric mobility is always the perfect fit. With the Curtis ECON™ (enAble® Connect) programming tools, programming is effortless. The direct, user-friendly interface is swift, straightforward, and compatible with both Windows and Apple devices.

Worldwide Support

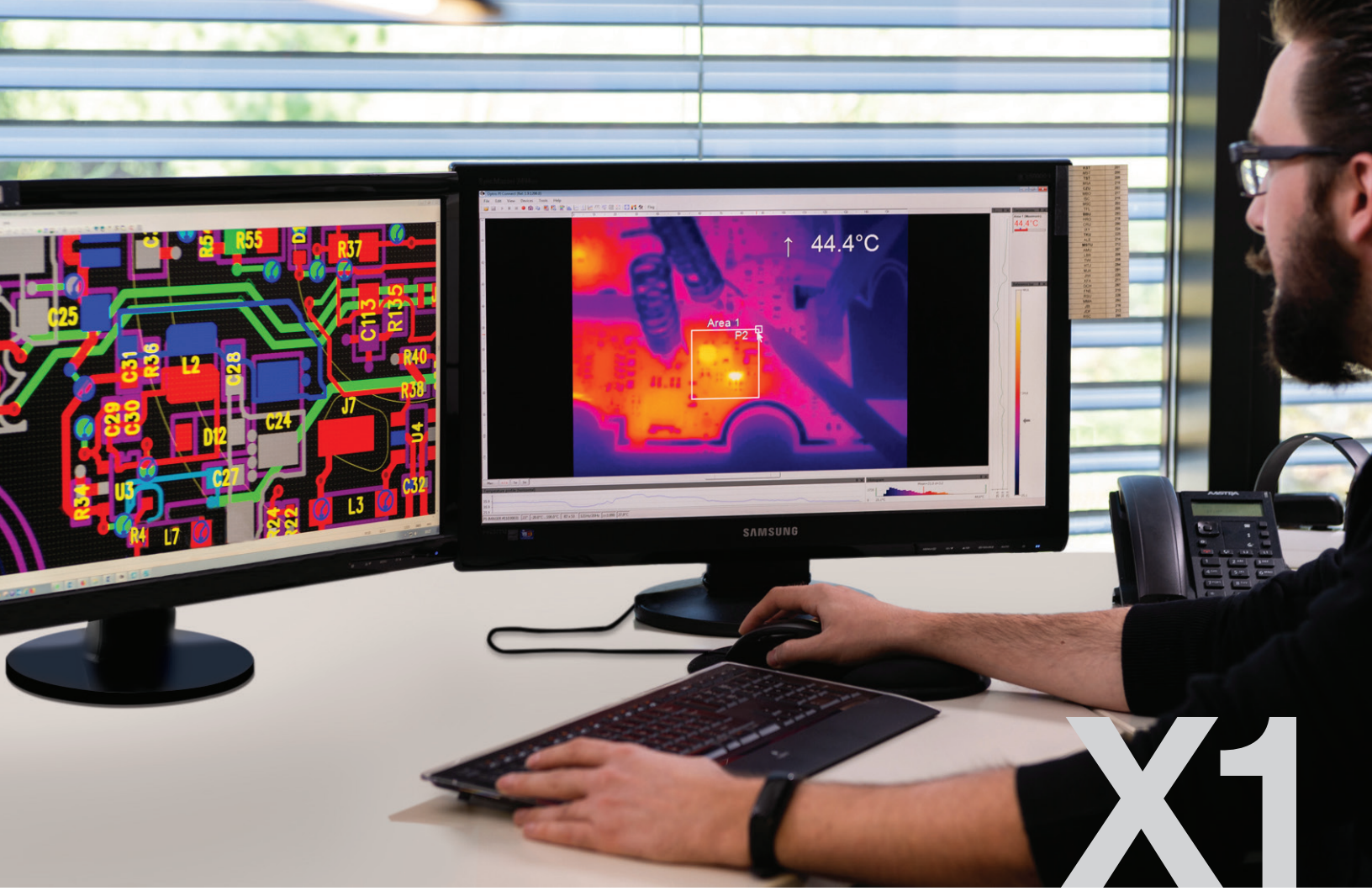
You can also rely on Curtis for prompt customer service and product delivery. Our global support network lets you deal directly with experienced engineers and service staff anytime, anywhere. Curtis high-performance powerchair systems are backed by expert support from dedicated engineering groups in the US and Europe.

Meets International Standards

Curtis en*Able*® products are fully compliant with international standards. Complete documentation and support is available for FDA, CE, TUV and relevant certification systems. Support for customers is available to meet relevant international standards, such as:

- **ISO 7176**
- **RESNA WC-2**
- **EN12184**
- **UL**
- **FCC**
- **FDA**
- **TUV**
- **IEC 62304**

...and more.



Engineered for *excellence*

Total Quality • Total Control • Total Safety Focus

The en*Able*® X1 Power Wheelchair Control System is engineered for excellence in every detail. Not only does the X1 system perform beautifully, it offers the most comprehensive range of built-in features available:

System safety features

– Include proprietary communication bus cables that lock securely in place, with latch and slide to protect from vibration and pull.

Easy field replacement without programming tools

– The system program is stored in the primary module and backed up into the power base. The system recognizes which module is changed and ensures that the programming is transferred to the new module automatically, as long as the newly fitted power base has no prior programming.

Real-time remote connection for programming and monitoring

– ECON-R™ is a remote connection platform using Apple or Android devices to connect to the wheelchair via Bluetooth, allowing technicians to diagnose faults and do basic programming from a remote Windows station.

Memory seat capabilities

– Allows positional feedback from Actuators to set smart seating and memory seating positions.

Input device selection by end-user

– The user/client can switch between multiple input devices on a chair e.g joystick, head control etc.

Front-wheel drive control by gyro

– Provides stability control and excellent driving characteristics when driving a front-wheel drive wheelchair.

Dongle free programming and Cloud-based access control

– Programming does not require any hardware. Connection is done by Bluetooth. Security login through a cloud-based account.

Seat angle programming

– Seating modules have built-in inclinometer functions so that the system always knows what angle the seating is at. Seating and driving conditions can be programmed for the individual based on this data.

Magnetic charger connector

– The newest way to charge the wheelchair. A magnetic charger port makes it easier for wheelchair users to connect up and remove their charger from the chair.

Customizable production process support tool (ECON-P)

– A support tool for OEM production lines to allow swift programming of wheelchairs and allow the OEM flexibility on parameter access and to brand the product specifically to them.

System access and change log possible

– Ability to view the history of program changes on the chair, when they were changed, and by which technician.

The Right System For Every Need

enAble® X1

Powerbase (PB)

- Range of current outputs from 75A to 120A.
- Built in gyro option for stability control.
- Drive only and drive and actuator versions.
- Actuator outputs with built-in switch and positional feedback options.
- Built-in inclinometer for inhibit options based on wheelchair position.
- Built-in real time clock.
- Memory for system configuration backup.
- Auxiliary power output / onboard charger function.

Hand Control Standard (HCS)

- Intuitive at-a-glance color LCD icon display with backlight.
- Five pin XLR port for industry standard charger connection and programming access plus additional magnetic charger port option conveniently mounted on side for easy access.
- Up to 4 selectable and programmable drive profiles with additional seating and auxiliary profiles.
- 3x assignable soft keys with 6 pages allowing up to 18 programmable buttons. Soft key page default can be set for each drive and seat profile.

- USB-C phone charger port (nominal 3A).
- Bluetooth and CAN dongle programming options. CAN dongle via XLR port only.
- 2x 3.5mm programmable stereo jack sockets.
- Field replaceable keypad, joystick, joystick gaiter and cable.
- Day / night background screens.

Hand Control Basic (HCB)

- Three versions: drive only, drive and actuator, and drive actuator and lights.
- Five Pin XLR port for industry standard charger connection and programming access, plus additional magnetic charger port option conveniently mounted on the side for easy access.
- Up to 4 selectable and programmable drive profiles with additional seating profile.
- 2x assignable soft keys.

- 1x 3.5mm programmable stereo jack socket.
- USB-C phone charger port (nominal 3A).
- Bluetooth and CAN dongle programming options. CAN dongle via XLR port only.
- Field replaceable keypad, joystick gaiter, and cable.

Actuator Modules (AM/AAM) and Light Modules (LML)

- Modules offering 2, 3, and 5 actuator options.
- Option to combine different actuator modules.
- All actuator modules offer switched, inclinometer, and positional feedback inhibit options.

- The LML operates lights, indicators, and hazards.
- 12V LED version and 24V LED/lightbulb variants available.

Secondary Adaptive Joystick (SAJ) / Attendant Control (AC)

- Front-mounted joystick (for client use with display) module (chin control or small joystick option).
- Rear-mounted joystick for attendant use.
- Attendant Control: up to 2 selectable and programmable drive profiles with additional seating profile.
- Secondary Adaptive Joystick: Up to 4 selectable and programmable drive profiles with additional seating profile.

- Attendant takeover option from main drive control.
- 2x 3.5mm programmable stereo jack sockets.

Special Control Devices

Display Module (DM)

- Intuitive at-a-glance color LCD display with backlight.
- 5x soft keys for attendant use allowing access to drive, seating, and auxiliary profiles.
- USB-C phone charger port (nominal 3A).
- Bluetooth Programming option (CAN programming only via handcontrol or separate XLR Charging port).
- 2x 3.5mm programmable stereo jack sockets.
- Field replaceable keypad and cable.
- Built-in infrared learning and transmitting LEDs.
- Built-in VGA controller to allow external camera operation.
- Single switch drive scanning option.

X1

Specialty Control Input Module (SCIM)

- Input module for use with display module.
- 9-pin D-Sub input for specialty input devices.
- Allows 2, 3, 4, and 5 switch driving, plus optional specialty proportional devices.
- Up to 4 selectable and programmable drive profiles with additional seating and auxiliary menu profiles.

Sip and Puff Module (SNP)

- 2 or 4 pressure input with additional seating and auxiliary menu profiles.
- Up to 4 selectable and programmable drive profiles with additional seating profile.

Enhanced Switch Module (ESM)

- Fully programmable OLED display module with 8 button operation.
- Toggle and flat switch versions available.
- Up to 8 programmable screens with a maximum of 48 different visible functions.

Accessory Modules and Cable Assemblies

- Additional USB 2.0 Type A power supply module.
- Separately mountable XLR charging / programming connector.
- Separately mountable magnetic charging connector.
- Range of bus cables of different lengths.
- Multiplier extensions to add additional modules.
- Magnetic charger adapter for XLR chargers.
- CAN programming dongle with cable.
- Environmental Control Module (ECM) also available.

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