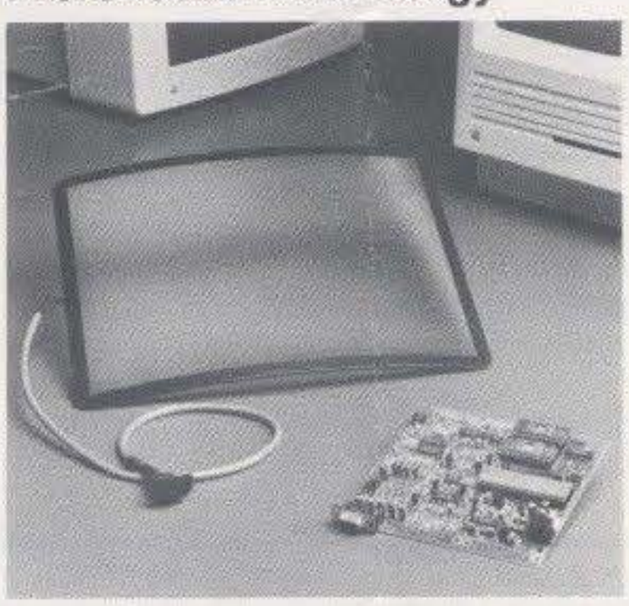
MicroTouch®

Mac 'n Touch™

Technical Data Sheet

MicroTouch Technology



The Mac 'n Touch Screen is based on MicroTouch's patented analog capacitive sensing technology. Each Screen is made of a single glass sheet with a resistive coating bonded to its surface. The glass surface is virtually impervious to scratches from sharp objects such as pencils and pens, and retains its clarity over time. Any point on the Screen will accurately read at least two million touches.

The Screen's controller measures the position of a capacitive coupling when a finger or conductive stylus touches the surface. The Screen offers a resolution of 1024 x 1024 touch points which results in highly precise readings anywhere on the sensor. In addition, the Screen's controller averages the entire area of touch contact, allowing even a finger to easily address an individual pixel.

Mac 'n Touch Specifications

General

Technology Type	Analog Capacitive Sensing
Touch Screen Resolution	1024 touch points per axis
Interface	Communicates over Apple Desktop Bus (ADB)
Conversion Speed	60 touch points per second
Active Touch Area	Accurate coordinates obtained over entire Macintosh display area
Optical Clarity	85% light transmission

Physical Description

Screen Construction	Single sheet glass with transparent resistive coating. Electrodes printed on perimeter.
Screen Sizes	Available for SE, AppleColor RGB Monitor, Aydin and Intecolor 19" monitors, and most other Mac II monitors.
Circuit Board Dimensions	5.50 x 5.37 inches, .17 inch clearance height.

Software

Mac 'n Touch Driver	Unit includes touch screen software driver. Installs in System folder making touch screen compatible with all Macintosh software, including HyperCard and MultiFinder.
Control Panel	Automatically installs, allows for calibration, user controllable cursor offset above finger, and alternate modes of emulating mouse clicks.
Mouse Click Emulation Modes	Tap Mode: Initial touch locates the cursor. User lifts off and taps screen again to produce mouse click. A second tap produces either a double click or a drag (if there is movement after tap touchdown). Taps must be within user-specified time and distance of initial liftoff. Liftoff Mode: Similar to Tap Mode; initial touch locates the cursor, however first liftoff from screen produces immediate mouse click (both "mouse down" and "mouse up"). A subsequent tap, as in Tap Mode, produces either a double click or a drag.

	Drag: Initial touch locates the cursor and sets the mouse button down. Button stays down until liftoff. If a dragging is done after the first touchdown, a second tap produces a double click.
Calibration	Routine accessed from control panel. Calibration is done by touching two corners of the screen. EEROM on controller automatically stores calibration values.

Standard Kit

Components	Includes screen for Mac SE or Mac II display, controller, and all cables.
Setup	Screen mounts to CRT face; installed behind bezel. Controller mounts in computer; power drawn off system. Communication cable goes from controller to ADB port.
Installation of Standard Kit	Must be done by a qualified technician. General installation instructions provided. Factory Retrofitting also available by MicroTouch.

Snap-on Kit (SE only)

Components	Includes screen for Mac SE with attractive add-on bezel, controller in box with switch, and wall socket power supply.
Setup	Screen with bezel snaps on to outside of SE case. Self-orienting, can be installed by any user. Screen plugs into controller; controller to ADB port.

Touch Monitors

Various pre-fitted touch monitors available, including the 13" AppleColor High Resolution RGB, 19" Aydin and Intecolor monitors. Retrofitted units available with controllers mounted inside display or packaged separately for user installation inside CPU.

Operations

Use of Stylus	A finger or conductive stylus may be used. Stylus should be soft to assure good capacitive contact.
Cleaning	Water, isopropyl alcohol, Windex and similar cleaners.

Reliability

MTBF	Greater than 80,000 hours (per MIL-Handbook-217D).
FCC Compliance	Class A Certified.
Surface Durability	Cannot be scratched by use of any stylus with Mohs rating of less than 7 (hardness of glass).
Chemical Resistance	Highly resistive to corrosives.
Touch Life	Greater than 7 million touches in any one location.

Environmental

Operating Temperature Range	Controller board: 0 to 55 degrees C. Touch Screen: -15 to 70 degrees C.
Storage Temperature Range	Controller and touch screen: -62 to 85 degrees C.
Electrostatic Protection	20 KV discharge to touch screen.
Relative Humidity	0-95%, non-condensing.

MicroTouch
MicroTouch Systems, Inc. /55 Jonspin Road /Wilmington, MA 01887
508 694 9900 /FAX 508 694 9980

MTD-1.0-989