

## OEM-5400 Windows Prototyping & Development Kit

# OEM-5400 Windows Prototyping & Development Kit



### Windows-based evaluation, Prototyping and Development System for ScreenKey technology

#### Overview

Designed around the flexibility of ScreenKeys, the OEM-5400 Controller Board is designed for Windows programmers to familiarise themselves with ScreenKey technology. This kit includes a comprehensive software development toolset that allows developers to quickly deploy and test ScreenKey solutions.

The software toolset enables the integration of ScreenKey controls into high-level programming languages. Windows COM objects are employed making it easy to integrate ScreenKeys with most Windows based high-level programming languages, e.g. VC++, VB, Delphi, etc.

It is the ideal starting point for Product and System Designers who want to fully integrate ScreenKey technology into their own product designs.

The OEM-5400 Kit is supplied with a panel of 12 ScreenKeys in a 3x4 matrix and is offered in one of four configurations:

- 12 x RGB24 ScreenKeys (36x24 - RGB)
- 12 x RGB16 ScreenKeys (32x16 - RGB)
- 12 x LC24 ScreenKeys (36x24 - RG)
- 12 x LC16 ScreenKeys (32x16 - RG)

Additional panels may be purchased and are interchangeable. The controller board automatically detects the type of panel attached and configures itself accordingly.

The OEM-5400 Controller board interfaces to a host computer via an RS-232 serial interface.

Typical markets that can benefit from the dynamic functionality of ScreenKey technology include: Aerospace, Media and Broadcasting production, Telecommunications devices, Point-of-Sale, Audio/Video production, Vending Machines, Military Systems, Automotive, Industrial Control Systems, Financial Services/Stock Trading, Air Traffic Control, Medical equipment, or any application that employs a Man-Machine interface.

#### OEM-5400 Kit – component parts

For rapid evaluation and prototyping, the OEM-5400 Development Kit comprises of the following:

- OEM-5400 CPU Controller Board
- 5V DC Power Supply Unit
- Data/Power Cabling
- Windows Software Suite on CD-Rom
- 1 panel of 12 ScreenKeys (3x4 matrix)

# OEM-5400 Windows Prototyping & Development Kit

## Features

- Modular Development System
- Extensive Windows Software Suite
- Allows for rapid ScreenKey evaluation and Prototyping
- Supports LC16, LC24, RGB16 and RGB24 ScreenKeys
- Different ScreenKey panel layouts and configurations supported
- Published schematics for direct component integration
- Operates via standard serial RS-232 connection

## Windows Software Toolset

As ScreenKey technology is best employed using drill-down menus, a Windows based Editor application (called the 'SAC Editor') allows users to design the User-Interface (graphics, text, colors and interactivity), as well as the runtime menu files. The runtime menu files contain multiple menu designs, navigation instructions between these menus and the final key-press information to return on a selection key-press.

We provide an extensive range of software drivers for Windows platforms that simplify the use of the OEM Controller Board (visit our website at: [www.screenkeys.com](http://www.screenkeys.com)) for these freely downloadable programs/applications. Language specific wrappers are available for development languages that do not support COM technology.

- 1 A stand-alone server application (**SAC Controller**) can be used to control the ScreenKey console solely based on a separate SAC Editor generated data file. The Controller application uses this runtime file to control the ScreenKey menu display and to feed Windows messages or events to the OEM application. This method greatly speeds the initial integration task. The SAC Controller allows for easy integration with third party applications and does not require any application changes.
- 2 Tighter integration and control of the ScreenKey console can be achieved by means of the **SAC Engine**, which offers a COM based ActiveX Control that operates on the SAC Editor generated data file.
- 3 Finally, a simple low-level **ActiveX Control** is available for dynamic and frequently changing data display on the ScreenKeys.

## Non-Windows Software Toolset

Non-windows platforms can utilize the low-level interface protocol to directly control the ScreenKey module. Commands are provided to directly control individual ScreenKey text, graphics and colors on individual keys and to detect key presses.

## About ScreenKeys

ScreenKeys are full-travel Programmable LCD push-button keyswitches with multi-color LED backlighting. ScreenKeys change function and display text, graphics or animations under software control. Regardless of where you are in a process or transaction, only the relevant options valid at that stage need be displayed.

### ScreenKey LED Backlighting:

Each ScreenKey can be backlit illuminated to provide a wide variety of different backlight colors options:

- LC Trend ScreenKeys feature 4 red and 4 green Light Emitting Diodes (LED's)
- **RGB** Trend ScreenKeys feature 4 red, 4 green and 4 blue LED's in each key

### ScreenKey LCD Resolutions:

LC Trend ScreenKeys and RGB Trend ScreenKeys are offered with two LCD resolutions:

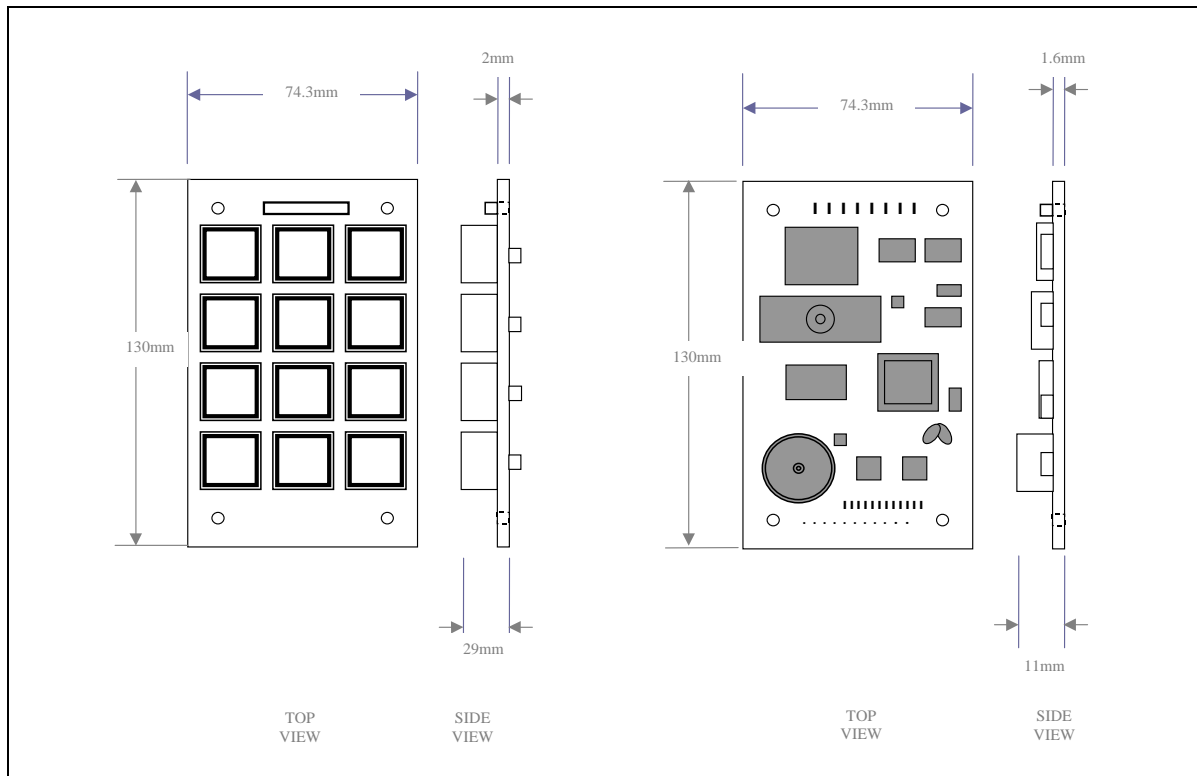
- 32x16 pixel matrix resolution
- 36x24 pixel matrix resolution

## ScreenKey Firmware

The ScreenKey Controller Board will run from the built-in ROM or a new ROM may be downloaded over the communication interface. This facility future-proofs the ScreenKey Keyboard since it means that new features can be added easily. The ROM handles the low-level control, including refreshing the LCD as necessary, preparing text, graphics and color commands for the ScreenKeys.

# OEM-5400 Windows Prototyping & Development Kit

## Technical Specifications



### LC Trend ScreenKey Specifications:

Supply Voltage:	+5vDC+/- 0.1v
Current consumption:	1 amp per module for 12 ScreenKeys (max) (max) 87mA per ScreenKey when showing Bright Orange
Operating Temperature:	-10° to +70° Celsius
Storage Temperature:	-20° to +80° Celsius
Relative Humidity max.	max. 80% relative at +40C
LC16.2 Pixel matrix:	32 columns x 16 rows
LC24.2 Pixel matrix:	36 columns x 24 rows
Operational Lifecycle (Standard):	>1 million operations
Operational Lifecycle (Tactile):	>3 million operations
Interface:	RS-232

### **SK Interfaces Ltd.**

Unit 11, Keypoint Business Park,  
42 Rosemount Park Drive,  
Ballycoolin Road,  
Dublin 11, Ireland.

Tel : +353 1 88 55 075  
Fax: +353 1 88 55 095  
Email: [sales@screenkeys.com](mailto:sales@screenkeys.com)  
Web: [www.screenkeys.com](http://www.screenkeys.com)



The products described in this publication may change due to enhancements and advances in technology. Contact SKI for the most up-to-date information.