



# Intellicom

Models OP6600 and OP6700

## User's Manual

019-0078 • 070831-G



# 1. INTRODUCTION

The Intellicom intelligent terminal interface is a high-performance, C-programmable terminal that offers built-in I/O and Ethernet connectivity. A Rabbit<sup>®</sup> 2000 microprocessor operating at 18.5 MHz provides fast data processing.

## 1.1 Features

- C-programmable to create a custom user interface
- 4 protected logic-level digital inputs
- 4 protected sinking digital outputs
- High-visibility backlit 4 × 20 LCD
- 10Base-T Ethernet interface
- TCP/IP capability
- RS-232 and RS-485 serial ports
- 128K SRAM and 256K–512K flash EPROM
- Self-healing lens is scratch, impact, and abrasion-resistant
- Real-time clock
- Watchdog supervisor
- Voltage regulator
- Backup battery
- Can be programmed to emulate a serial terminal
- Splash-resistant when panel-mounted using the supplied gasket
- Can be wall-mounted or panel-mounted

Appendix A provides detailed specifications for the Intellicom.

Two versions of the Intellicom are available. Their standard features are summarized in Table 1.

**Table 1. Intellicom Series Features**

Model	Features
OP6600	Standard terminal <i>without</i> Ethernet interface and only 256K flash EPROM.
OP6700	Full-featured terminal <i>with</i> Ethernet interface and 512K flash EPROM.

Both models are available with a vacuum fluorescent display instead of the LCD.

Visit our [Web site](#) for up-to-date information about additional add-ons and features as they become available. The Web site also has the latest revision of this user's manual.

## 1.2 Development and Evaluation Tools

### 1.2.1 Tool Kit

The Tool Kit has the essentials that you need to understand and program your own Rabbit-based display unit.

The items in the Tool Kit and their use are as follows:

- *Intellicom Getting Started* instructions.
- *Dynamic C* CD-ROM, with complete product documentation on disk.
- Demonstration Board. The Demonstration Board includes pushbutton switches and LEDs, and can be connected to the Intellicom board. Programs that run on the Demonstration Board can be used to flash the LEDs and otherwise demonstrate the capabilities of the Intellicom terminal.
- Programming cable. The programming cable is used to connect your PC serial port to the Intellicom to write and debug C programs that run on the Intellicom board.
- Wire assembly to connect Intellicom board to Demonstration Board.
- Screwdriver.
- AC adapter. The AC adapter is used to power the Intellicom board. The wall transformer is supplied only for Development Kits sold in the North American market. A power supply of 12 V at up to 500 mA is recommended. The Intellicom can also be powered from any DC voltage source between 9.0 V and 40 V.

### 1.2.2 Software

The Intellicom is programmed using Rabbit Semiconductor's Dynamic C. A compatible version is included on the Tool Kit CD-ROM.

Rabbit Semiconductor also offers other Dynamic C modules, which include unique libraries, the software drivers for all Rabbit-based embedded control systems, and feature one-year of telephone-based technical support at no additional charge. Visit our Web site at [www.rabbit.com](http://www.rabbit.com) or contact your Rabbit Semiconductor sales representative or authorized distributor for further information.

## 1.3 CE Compliance

Equipment is generally divided into two classes.

CLASS A	CLASS B
Digital equipment meant for light industrial use	Digital equipment meant for home use
Less restrictive emissions requirement: less than 40 dB $\mu\text{V/m}$ at 10 m (40 dB relative to 1 $\mu\text{V/m}$ ) or 300 $\mu\text{V/m}$	More restrictive emissions requirement: 30 dB $\mu\text{V/m}$ at 10 m or 100 $\mu\text{V/m}$

These limits apply over the range of 30–230 MHz. The limits are 7 dB higher for frequencies above 230 MHz. Although the test range goes to 1 GHz, the emissions from Rabbit-based systems at frequencies above 300 MHz are generally well below background noise levels.

The OP6700 operator interface has been tested and was found to be in conformity with the following applicable immunity and emission standards. The OP6600 operator interface is also CE qualified as it is a sub-version of the OP6700 operator interface. Boards that are CE-compliant have the CE mark.



**NOTE:** Earlier versions of the Intellicom sold before 2003 that do not have the CE mark are *not* CE-complaint.

### Immunity

The Intellicom series of operator interfaces meets the following EN55024/1998 immunity standards.

- EN61000-4-2 (ESD)
- EN61000-4-3 (Radiated Immunity)
- EN61000-4-4 (EFT)
- EN61000-4-6 (Conducted Immunity)

Additional shielding or filtering may be required for a heavy industrial environment.

### Emissions

The Intellicom series of operator interfaces meets the following emission standards emission standards with the Rabbit 2000 spectrum spreader turned on and set to the normal mode. The spectrum spreader is only available with Rev. C or higher of the Rabbit 2000 microprocessor. This microprocessor is used on the Intellicom operator interfaces that carry the CE mark.

- EN55022:1998 Class B
- FCC Part 15 Class B

Your results may vary, depending on your application, so additional shielding or filtering may be needed to maintain the Class B emission qualification.

### 1.3.1 Design Guidelines

Note the following requirements for incorporating the Intellicom series of operator interfaces into your application to comply with CE requirements.

#### General

- The power supply provided with the Tool Kit is for development purposes only. It is the customer's responsibility to provide a CE-compliant power supply for the end-product application.
- When connecting the Intellicom to outdoor cables, the customer is responsible for providing CE-approved surge/lighting protection.
- Rabbit Semiconductor recommends placing digital I/O or analog cables that are 3 m or longer in a metal conduit to assist in maintaining CE compliance and to conform to good cable design practices.
- When installing or servicing the Intellicom, it is the responsibility of the end-user to use proper ESD precautions to prevent ESD damage to the Intellicom.

#### Safety

- All inputs and outputs to and from the Intellicom must not be connected to voltages exceeding SELV levels (42.4 V AC peak, or 60 V DC).
- The lithium backup battery circuit on the Intellicom has been designed to protect the battery from hazardous conditions such as reverse charging and excessive current flows. Do not disable the safety features of the design.

### 1.3.2 Interfacing the Intellicom to Other Devices

Since the Intellicom operator interfaces are designed to be connected to other devices, good EMC practices should be followed to ensure compliance. CE compliance is ultimately the responsibility of the integrator. Additional information, tips, and technical assistance are available from your authorized Rabbit Semiconductor distributor, and are also available on our Web site at [www.rabbit.com](http://www.rabbit.com).