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Nota di contenuto	Front Cover; Handbook of Serial Communications Interfaces; Copyright Page; Contents; Preface; 1. Introduction to Serial I/O Communications; Rationale; Approach; 2. Serial I/O Primer: A Short Course in Data Communications and Networking; Serial versus Parallel Transfer; Serial Data Rate; Data Rate versus Bandwidth; Line Coding; OSI Model; Topology; Balanced versus Unbalanced Configurations; Transmission Medium; Asynchronous versus Synchronous Transmission; Clock and Data Recovery; Protocols; Error Detection and Correction; Access Methods; Duplexing; Miscellaneous Serial Techniques Serial to Parallel and Parallel to Serial Conversion Gearbox Operations; Equalization; Bit Banging; Fieldbuses; 3. Selecting an Appropriate Interface; Important Note; I. Low-Speed Interfaces (0-10 Mb/s); 4. 1-Wire; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 5. Actuator Sensor Interface (AS-i); Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 6. BITBUS Applications Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 7. C-Bus; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium;

Connectors; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 8. Controller Area Network (CAN); Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Connector; Range; Network Configuration; Logic Levels; Protocol; Protocol Variations; IC Sources; 9. DMX512; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Connectors; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 10. FlexRay; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 11. Foundation Fieldbus; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Connectors; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 12. Highway Addressable Remote Transducer Protocol (HART) Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 13. Inter-Integrated Circuit (I2C) Bus; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; Interface and Protocol Variations; IC Sources; 14. IO-Link; Applications; Source; National or International Standard; Key Features; Data Rate; Cable Medium; Range; Network Configuration; Logic Levels; Protocol; IC Sources; 15. Inter-IC Sound (I2S) Bus

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## Sommario/riassunto

This book catalogs the most popular and commonly used serial-port interfaces and provides details on the specifications and the latest standards, enabling you to select an interface for a new design or verify that an interface is working correctly. Each chapter is based on a different interface and is written in an easy to follow, standard format. With this book you will learn: The most widely used serial interfaces How to select the best serial interface for a specific application or design The trade-offs between data rate and distance (length or range) The operation and benefits of serial

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