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Descrizione fisica	1 online resource (467 p.)
Collana	Technology in Action
Disciplina	004
Soggetti	Computer input-output equipment Software engineering Music Hardware and Maker Software Engineering/Programming and Operating Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Part 1. Music Generation — Using the Arduino as a controller and instrument -- 1. Basic Arduino.-2. Basic MIDI.-3. More MIDI.-4. MIDI Manipulation -- 5. MIDI Instruments.-6. MIDI-Controlled Harp player. -7. Dunocaster: a MIDI Output Guitar.-8. Open Sound Control and Friends -- 9. Many More MIDI Projects -- Part 2. Direct Audio Synthesis - Using the Arduino to generate sound waveforms -- 10. The anatomy of a sound.-11. Simple square wave output.-12. Other wave shapes. -13. The SpoonDuino -- Part 3. Signal processing - Using the Arduino to process a signal -- 14. Sampling.-15. Signal Processing test bed. -16. Time domain processing.-17. Digital filters.
Sommario/riassunto	This book is for musical makers and artists who want to gain knowledge and inspiration for your own amazing creations. “Grumpy Mike” Cook, co-author of several books on the Raspberry Pi and frequent answerer of questions of the Arduino forums, brings you a fun and instructive mix and simple and complex projects to help you understand how the Arduino can work with the MIDI system to create musical instruments and manipulate sound. In Part I you’ll find a set of projects to show you the possibilities of MIDI plus Arduino, covering both the hardware and software aspects of creating musical

instruments. In Part II, you learn how to directly synthesize a wave form to create your own sounds with Arduino and concludes with another instrument project: the SpoonDuino. Finally, in Part III, you'll learn about signal processing with the Arduino Uno and the Due — how to create effects like delay, echo, pitch changes, and realtime backwards audio output. If you want to learn more about how to create music, instruments, and sound effects with Arduino, then get on board for Grumpy Mike's grand tour with Arduino Music and Sound Projects.