

Corporate Information



# SPECTRA

## SPECTRA

Digital Signal Processing & Communications

Spectra, Inc.



# SPECTRA

## Digital signal processing specialists

Spectra Inc. was founded in Maebashi, Gunma Prefecture in 1991 for research and development of digital system.

At the time, calls for the shift from analog to digital were being made and our company, which had predicted the rise of the digital age, quickly set its sights on the field of digital signal processing technology and began on a path of product development using DSP (Digital Signal Processors).

Today, our company receives high praise as a partner of high-tech corporations and research organizations in the high level digital signal processing fields of communications, acoustic, broadcast, control and satellite related equipment.

In the future, by utilizing our company's creative, planning and technical abilities, we will continue our objective of meeting the needs of our customers.

# DSP

Digital Signal Processor



Facility Acoustics

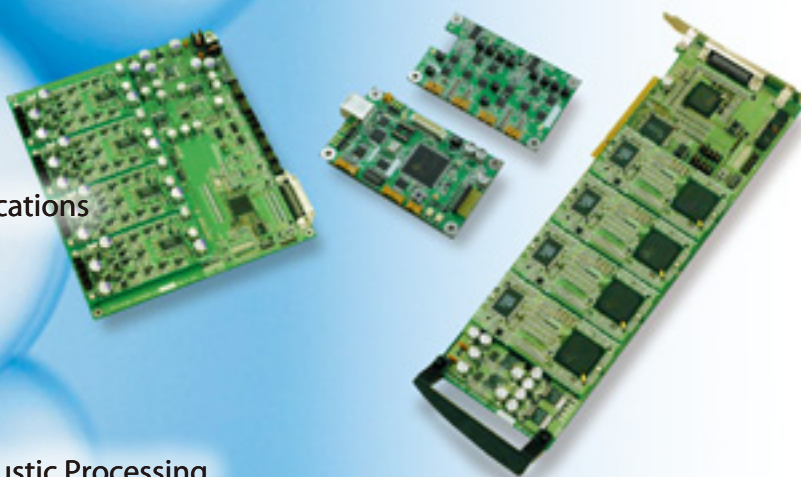
Speech Processing

Communications

Acoustic Processing

Measurement Control

Image Processing



# Corporate Outline

SPECTRA, INC.

Trade Name	Spectra, Inc.
Establishment	March 1991
Capital	10 million yen
Representative	Mizuki Hagiwara C.E.O.
Address	2-9-15, Hirose-Cho, Maebashi-Shi, Gunma-Ken 371-0812, JAPAN TEL.+81-27-263-1178 FAX.+81-27-263-3440
Business Activities	Development, manufacturing and sales of electronics and mechatronics equipment hardware and software

# Corporate History

1991 March	Established in Maebashi-Shi, Gunma-Ken, Japan with start-up capital of 3.5 million yen for research and development of digital system
1993 March	Increased capital by 10 million yen Launched a development service specialized in digital signal processing
1996 March	Business office relocated to the present address for expansion of business
1999 July	Approved as Texas Instruments Japan third-party developer
2001 October	Selected to be part of Gunma Prefecture's "One Company, One Technology" program for our voice analysis device (patented)
2002 March	Expanded the tech sector office
2007 July	Approved as Texas Instruments Japan developer network partner



## Communications

W-CDMA/HS-DPA UE device  
 Radio propagation path simulator  
 Power line OFDM modem  
 Power line QPSK modem  
 $\pi/4$  shift QPSK wireless modem  
 Wireless OFDM transmitter and receiver  
 Wireless LAN  
 GMSK wireless modem  
 GFSK wireless modem  
 D8PSK wireless modem  
 16QAM wireless modem  
 V.26 modem  
 V.27bis modem  
 Project25 digital communication system  
 Underwater ultrasonic acoustic modem  
 High-speed GMSK modem  
 Low bit rate MSK demodulator for railway  
 High-speed equalizer control device for wireless  
 Digital receiver/digital transmitter  
 Infrared communication system  
 Multiple access TDMA communication system  
 HF Band SSB/CW/AM transceiver  
 Noise canceller with adaptive control for optical communication  
 Broadband AM receiver  
 AMI system long-distance data transmission device  
 Software radio (speech and data)  
 Echo canceller for satellite communication  
 Telephone line echo canceller  
 Blind equalizer  
 Wireless repeater with adaptive control  
 Underwater cabled data transmission device  
 Hard-decision BCH code  
 Soft-decision BCH code  
 Shortened BCH code  
 Extended BCH code  
 Reed-Solomon code  
 Reed-Muller code  
 Convolutional code  
 Trellis Code Modulation (TCM)  
 Viterbi decoding  
 Turbo code  
 CRC  
 Compander/Expander  
 Telephone testing device  
 Lossless data compression/expansion

## Measurement control

Servo control  
 Multichannel high-speed FFT device (FPGA)  
 Multichannel high-speed digital filter (FPGA)  
 Vibrometer  
 Laser marking device  
 Laser irradiation noncontact remote vibration measurement device  
 Frequency analysis  
 Various kinds of digital filters  
 Adaptive prediction  
 Shoplifting detector  
 Micro machine control  
 Optical fiber cable inspection device  
 Optical fiber cable monitoring device  
 Power line monitoring device  
 Railway ATS  
 Railway ATC  
 Railway track circuit monitoring device  
 Sound source tracking type monitoring camera mount control  
 Signal processing board for cosmic-ray observation

## Signal processing

Fast Fourier Transform  
 Various kinds of digital filter design and mounting  
 Lossless data compression and expansion  
 C54x multi DSP board  
 C6x parallel processing DSP board  
 DSP evaluation board  
 Daughter board for EVM (high frequency processing)  
 Daughter board for DSK (high frequency processing)  
 Signal processing algorithm development for special application

- Speech processing
  - Voiced sound detection system VOX
  - Speech analyzer
  - Speech synthesizer
  - Low bit rate speech codec
  - G.726 codec
  - Low bit rate ADPCM codec
  - Low bit rate ADM codec
  - Voice converter
  - Wide range speech rate converter
  - Speech scrambler
  - Helium voice reconstructor
  - Voice detector
  - IC compatible ADPCM codec

- Image processing
  - Image recognition
  - Image analysis
  - Various kinds of filtering
  - Various kinds of image conversion
  - Feature extraction
  - Image measurement
  - Image processing
  - Food quality judgment device

※  
Confidential items are not listed here.  
Please feel free to contact us about our many additional development achievements other than those listed above.

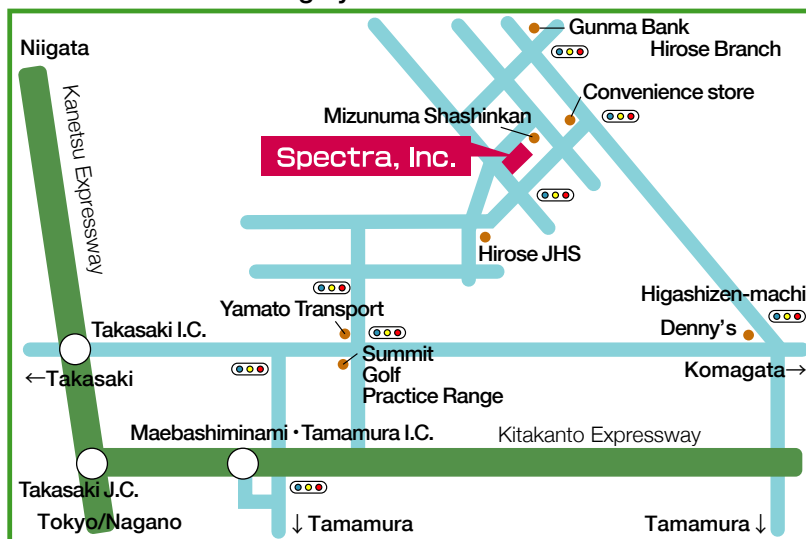
- Acoustic processing
  - Four ear type high accuracy sound source localizer
  - Two ear type sound source localizer
  - Wiener filter noise canceller
  - Spectrum subtraction noise canceller
  - Adaptive filter noise canceller
  - Irregular large amplitude noise suppressor
  - Noise floor suppressor
  - Microphone frequency characteristics corrector
  - Acoustic echo canceller
  - Howling canceller
  - Audio signal generator
  - Microphone beamforming
  - Digital limiter
  - Speech multiplexer
  - Underwater acoustic analyzer

# Spectra, Inc.

2-9-15, Hirose-Cho, Maebashi-Shi, Gunma-Ken, 371-0812, JAPAN  
TEL.+81-27-263-1178 FAX.+81-27-263-3440

<http://www.sp1.co.jp/>

▼ For customers visiting by car



▼ For customers visiting by train

