

# RZ Ecosystem Partner Solution

## Grape Barcode / Two-dimensional code Source Code Library



### Overview

Grape Systems provides various range of source code libraries to encode and decode one-dimensional barcode and two-dimensional code. All code products are developed in-house, and we also undertake related contract development.

Using the DRP (Dynamic Configuration Processor) peculiar to [RZ/A2M](#), a multi-code read demo (using [GR-MANGO](#)) that reads and compares with the open source "ZXing" shows the high accuracy of our code products. You can see high-speed scanning.

### Product Features

- Source code written in C language is provided.
- Flat, one-time fee, royalty-free.
- Platform(CPU, OS) independent.
- Small footprint, compact libraries optimized for embedded systems.
- Help customers shorten development cycle, reduce cost, and expedite product launch.
- Feel free to contact us if you need any further information.

### Diagram



GR-QR

Encoder/Decoder



GR-BARCODE

Encoder/Decoder



GR-DataMatrix

Encoder/Decoder



GR-PDF417

Encoder



GR-Aztec Encoder

(Under development)



GR-GS1 DataBar Encoder/Decoder

(Under development)

### Target Market and Use case

- Encoding Library Product : A device that generates various codes such as printer printing and screen display
- Decoding Library Product : A device that reads various codes from images captured by an image scanner or camera.

## GR-QR

QR Code® Encode/Decode

### Encode Features

- QR Code® model 2, micro QR Code® supported.
- JIS-X0510 compliant.
- Numbers, alphanumeric, 8-bit byte, and kanji mode supported.
- Fixed-length data applications supported.



### Decode Features

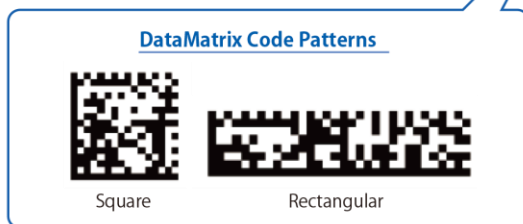
- QR Code recognized and decoded from 8-bit monochrome images.
- QR Code® Model 2 supported.
- Micro QR Code® supported. (optional)
- JIS-X0510 compliant.
- Numbers, alphanumeric, 8-bit byte, and kanji mode supported.
- High-speed error correction by Berlekamp-Massey algorithm.
- Noise removal and distortion correction from original images.
- Mass customization capability according to various needs.

## GR-DataMatrix

DataMatrix Code Encode/Decode

### Encode Features

- A wide range of DataMatrix types supported.
- ECC200 supported.
- ISO/IEC 16022 compliant.



### Decode Features

- DataMatrix Code recognized and decoded from 8-bit monochrome images.
- Multiple Data Matrix code in images supported.
- ECC200 supported.
- ISO/IEC 16022 compliant.
- High-speed error correction by Berlekamp-Massey algorithm.
- Image rotation, rectangle, parallelogram distortion supported.
- Trapezoidal distortion caused by image depth supported.
- Evaluation project for VC8 included.

## GR-BARCODE

One-dimensional Barcode Encode/Decode

### Encode Features

- Various one-dimensional barcode supported.
  - JAN8/13(GS1-8 /13)
  - UPC-A / UPC-E
  - CODE39
  - GS1 DataBar (one-dimensional)
  - ITF
  - NW-7(CODABAR)
  - CODE128 / EAN128 (GS1-128)



### Decode Features

- Various one-dimensional barcode supported.
  - JAN8/13(GS1-8 /13)
  - UPC-A / UPC-E
  - CODE39
  - ITF
  - NW-7(CODABAR)
  - CODE128 / EAN128 (GS1-128)
- One-dimensional barcode existing on 8-bit monochrome image lines can be recognized.
- Multiple barcode on the line from forward and reverse directions are supported.
- Logic resistant to various distortions.

※ CODE128/EAN128 carries restrictions.  
Please contact us for the details of the specifications.

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 ※ "DataMatrix" is a registered trademark of International Data Matrix, Inc. of US.  
 ※ "QR Code" is a registered trademark of Denso Inc. of Japan.

