LECIP’S BUS TRANSIT CUSTOMERS

East Asia area, including Japan, Hong Kong and Singapore, is said to be the most advanced area in the world for transportation technologies. LECIP has been a leading solution provider to bus transit customers in this area for over 50 years.

Market share in Japanese bus industry

- Approx. 61,000 fixed route buses in total -

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-board Lamp</td>
<td>60%</td>
</tr>
<tr>
<td>Farebox</td>
<td>45%</td>
</tr>
<tr>
<td>Magnetic Card Reader</td>
<td>49%</td>
</tr>
<tr>
<td>Contactless Smartcard Reader</td>
<td>53%</td>
</tr>
<tr>
<td>Passenger Information Display</td>
<td>65%</td>
</tr>
<tr>
<td>LED Destination Sign</td>
<td>42%</td>
</tr>
</tbody>
</table>

Japan

- Automated fare collection
- Passenger information system
- LED destination sign system
- On-board lamps
- Others

Hong Kong

- Automated fare collection (transit, parking, vending machines, shops)

Singapore

- Automated vehicle location
- Automated fare collection

Consortium with a leading provider of AVL in U.S.A.

TRANSPORTATION TECHNOLOGIES

CATALOG

- OBC-Vision - Master Controller of All On-Board Equipment
- On-Board Fare Collection System
- LED Destination Sign System
WHO IS LECIP?

Overview
LECIP is a Japanese full line manufacturer of on-board equipment and systems for buses, and is the supplier for the Japanese market. LECIP’s system is a one stop solution for your on-board technology needs. LECIP has in-depth knowledge in modern smartcard fare collection systems, LED destination signs, announcement systems, and on-board processors. Outside Japan, LECIP is well established in Hong Kong and Singapore. These locations are the most advanced areas in the world for transportation technologies. With exceptional technologies, LECIP can provide benefits and advancement to U.S. transportation industry.

Company Profile
Address Head Facility: 1260-2 Kaminoh, Mototsu City, Gifu Prefecture, 501-0401 Japan
Established: March, 1953
Capital: 735 million yen (7.4 million USD)
Total number of shares issued: 6,999,100 shares
Stock Listing: Tokyo Stock Exchange (2nd section), Nagoya Stock Exchange (2nd section)
Gross Sales Fiscal year ending March 2008: 18.5 billion yen (185 million USD)
Employees: 546
Specialties: Transport Equipment
- Production and sales of systems for bus, rail and automotive axes
- Sign and Display Line
- Production and sales of various types of high voltage equipment
Industrial Equipment Division
- Production and sales of industrial equipment

THE NAME “LECIP”
The name LECIP comes from the initial characters of Lighting, Electric Power Conversion, and Information Processing, the three regions of the company’s technological expertise.

WHAT WE DO
Designing, development, production and maintenance of your all on-board products and systems.
- Automated Fare Collection: YES
- Automated Vehicle Location: YES
- Passenger Information System: YES
- Destination Sign System: YES
- On Board Lamp: YES

LECIP Strengths
- Performance and reliability: No. 1 in Japan
- Sales & service: No. 1 in Japan
- Technology: Unique & Sophisticated

LECIP automates your entire bus...
LECIP’s Products & Systems

LED Destination Sign
20 x 160 dots and 40 x 168 dots models are available. With the built-in ambient light sensor, the sign ensures maximum readability day and night. The signs are easily controlled with our easy-to-use control panel and can be interfaced with other equipment. (See page 7 for more information.)

OBC-VISION
OBC-VISION (On-Bus-Computer) is a powerful, computerized controller for on-board system of buses and trains. As a fully integrated on-board system, OBC-VISION is equipped with a high quality LCD display to provide various passenger information and attractive entertainment content. This is the next-generation controller in transit industry. (See pages 5 and 6 for more information.)

LED Passenger Information Sign
This is a LED display that is installed inside a vehicle and can show the next stop, useful information, time, advertisement and others.
- Three colors (green, red, orange) are available. You can display each character or word in different colors.
  (note: orange is displayed by lighting green and red together)
- Display dimensions: approx. 20 x 5 inches, 32 x 128 dots
- Enrich passenger information for your riders.

Interior lamps
(Florescent and LED)
LECIP initially entered transit industry with florescent lamps for on-board use. For over 50 years since then, we have met various customers’ needs, building up a broad range of florescent lamps product line.
LECIP is the pioneer who developed florescent lamps for trucks and passenger automobiles. Most Japanese trucks use our florescent lamp unit now. (See page 8 for more information.)

Illuminating Stop-Request Button
Press this button if you are getting off at next stop. The built-in lamp illuminates to let the driver and other passengers know the bus should stop at the next stop. Being interfaced with a voice controller, voice messages such as “This bus will be stopping at the next stop” can be played back. Also texts and/or images can be displayed on OBC-VISION and/or LED Passenger Information Sign in relation to operation of Stop-Request Button. Reset this button by a reset switch or door switch.

Farebox
Our integrated farebox features advanced on-board technologies, such as contactless smartcard reader, magnetic card reader, bar code reader, and coin validator. (See pages 9 and 10 for more information.)
OBC-VISION (On-Bus Computer) is a powerful, computerized controller for on-board system of buses and trains. As a fully integrated on-board system, OBC-VISION is equipped with a high-quality LCD display to provide various passenger information and attractive entertainment content.

With Windows XP Embedded adopted as its OS, you can edit images (jpg, bmp, etc.) and movies (mpg, etc.) using standard application programs. The OBC-VISION efficiently uses limited space in buses and trains by integrating control and display components into a single unit. Furthermore, its power conditioning and construction are built strong for the tough transit vehicle environments.

With the OBC-VISION, you can:
- integrate your on-board system,
- easily create, edit, and update your own display content, and
- download new display content to the OBC via WLAN or USB.

### Interfacing with back-office system
Upload and/or download various information (vehicle data, etc.) to and/or from your control center via WLAN. Reduce human errors and employment costs.

### Integrating on-board equipment into a single system
Integrate and streamline your on-board system.

### Voice announcement
Play back voice announcement linked with or independent from the display.

### Basic Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>OBC-VISION &quot;D&quot;</th>
<th>OBC-VISION &quot;S&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor size and number</td>
<td>1920 x 1200 pixels, each of 2 screens</td>
<td>1920 x 1200 pixels</td>
</tr>
<tr>
<td>Pixel dimensions</td>
<td>1,234 x 768 pixels, each of 2 screens</td>
<td>1,234 x 768 pixels</td>
</tr>
<tr>
<td>Number of display colors</td>
<td>65,536 colors</td>
<td>65,536 colors</td>
</tr>
<tr>
<td>Brightness</td>
<td>300 cd/m²</td>
<td>300 cd/m²</td>
</tr>
<tr>
<td>Angle of visibility</td>
<td>100° / 100° / 100° / 100°</td>
<td>100° / 100° / 100° / 100°</td>
</tr>
<tr>
<td>Contrast ratio</td>
<td>500:1</td>
<td>500:1</td>
</tr>
<tr>
<td>CPU</td>
<td>ProColormenu: 303MHz</td>
<td>ProColormenu: 303MHz</td>
</tr>
<tr>
<td>RAM</td>
<td>DDR3 1 Gbyte</td>
<td>DDR3 1 Gbyte</td>
</tr>
<tr>
<td>Graphics</td>
<td>Integrated Graphics</td>
<td>Integrated Graphics</td>
</tr>
<tr>
<td>Built-in memory (Compact Flash)</td>
<td>64 MB</td>
<td>64 MB</td>
</tr>
<tr>
<td>Memory expansion</td>
<td>User applications and USB disk memory (USB 2.0 type)</td>
<td>User applications and USB disk memory (USB 2.0 type)</td>
</tr>
<tr>
<td>Serial port</td>
<td>One universal serial bus (USB 2.0 x 2)</td>
<td>One universal serial bus (USB 2.0 x 2)</td>
</tr>
<tr>
<td>Network</td>
<td>LAN: 10M/100M conversion 1 x 1</td>
<td>LAN: 10M/100M conversion 1 x 1</td>
</tr>
<tr>
<td>USB 2.0 x 2</td>
<td>One universal serial bus (USB 2.0 x 2)</td>
<td>One universal serial bus (USB 2.0 x 2)</td>
</tr>
<tr>
<td>Power supply voltage</td>
<td>200V DC ± 20%</td>
<td>200V DC ± 20%</td>
</tr>
<tr>
<td>Dimensions (W x H x D)</td>
<td>367 x 171 x 46.7 mm</td>
<td>367 x 171 x 46.7 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>11.2 Kg</td>
<td>11.2 Kg</td>
</tr>
</tbody>
</table>

### OBC-VISION "D" and OBC-VISION "S"

OBC-VISION "D" and OBC-VISION "S" are the same in terms of interface, controller, and display module. The differences are

- **Basic Specifications**: CPU, RAM, and other specifications vary between the two models.

- **Dimensions and Weight**: The dimensions and weight are identical, but the specific models may differ in details.

- **Power Supply Voltage**: The voltage specifications are the same.

### Edit the makeup of the display to suit the audience.

1. **Setup of the content**
   - Photographs and video segments of commercial messages are edited with standard applications. The system will also accommodate image data from digital cameras and scanners.
   - Note: You are free to make use of sample data that we have on hand, for such uses as gauging the system.

2. **Editing the display pattern**
   - With the dedicated OBC-VISION graphics arrangement software, the user inputs and revises route data, and further sets up images for such presentations as commercial messages.

3. **Loading the display data**
   - The display content is updated automatically by USB or WLAN.

### Your desired contents on full color LCD display

Unlike OBC-VISION-D’s dual display system to display operational information on the left screen while displaying attractive passenger information on the right screen, Display movies and pictures as required.

- **e.g.** Route map on the left screen, and advertisement, entertainment, weather report on the right.

Use GPS signals to trigger switching of the contents.
LED Destination Sign System

LECIP provides a complete state-of-the-art destination sign system, including front, side, and rear signs. The signs are easily controlled with our easy-to-use control panel and can be interfaced with other equipment.

High Visibility
- High-intensity, louvered LEDs for high readability.
- Wide display area with large LED matrix (40 x 168 dots)
- Wide-view angle (160 degrees)

Easy Maintenance
- All solid state PCB construction eliminates the need for periodic inspection and minimizes maintenance requirements.

Automatic Brightness Control
- The built-in ambient light sensor ensures maximum readability day and night.

Current Consumption Control
- Current consumption is controlled according to engine status (off or on) and display ambient temperature, preventing battery drain.

High Visibility
- Sign Editor
  - Our LED destination signs are programmed by our LED Painter software, featuring ease of use and expandability to fit your multiple requirements.
  - What you see is what you get
  - Dynamic simulation
  - Screen library
  - Thumbail list
  - User-defined external characters
  - Output to MC (Memory Card) file

Lighting Fixture for Rail

SY-A80-LED
- Input: 24VDC
- Dimensions: W 27 x H 7.7 x D 3.0 inches
- Lamp Tube: 180 x 1.6W LED

SY-MT-7
- Input: 24VDC
- Dimensions: W 16.5 x H 7.2 x D 1.1 inches
- Lamp Tube: 1 x 8W Fluorescent Lamp

MDT-LED
- Input: 24VDC
- Dimensions: W 16.5 x H 2 x D 1.1 mm
- Lamp Tube: 50 x 0.6W LED

Standard Models

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Fluorescent Lamps</th>
<th>LED Lamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>24VDC 1 x 8 Watts</td>
<td>SY-MT-7</td>
<td>SY-MT-LED</td>
</tr>
<tr>
<td>24VDC 2 x 8 Watts</td>
<td>MDT 10</td>
<td>MDT-LED</td>
</tr>
<tr>
<td>24VDC 1 x 20 Watts</td>
<td>SY-A80</td>
<td>SY-A80-LED</td>
</tr>
<tr>
<td>DC or AC 1 x 40 Watts</td>
<td>can be available with Fluorescent tube or LED</td>
<td></td>
</tr>
<tr>
<td>Average Life</td>
<td>2,400 hours (8 Watts) / 8,000 hours (40 Watts)</td>
<td>40,000 hours (at 70%)</td>
</tr>
</tbody>
</table>
On-Board Fare Collection System

Our integrated farebox features advanced on-board technologies, such as contactless smartcard reader, magnetic card reader, barcode reader, and coin validator.

- **Full-Color LCD**
  Displays fare, card data, error data, etc.

- **Coin Validation**
  Validates 10 coins per second at a 99.8 % accuracy rate. Farebox is equipped with the full-color LCD monitor, which shows various operational information including fare and value paid by the passenger. This ensures correct fare collection at a glance. Furthermore, the farebox also reads barcodes printed on tickets.

- **Cash Viewing Window**
  The slope conveyor belt and LED lamps make it easy to recognize what is being carried on the belt. The driver can easily find a coin jam.

- **Built-In or Attached Contactless Smartcard Reader**
  Built-in and attached contactless smartcard readers are available.

- **Cash Box**
  Stores smartcard data (e.g. paid amount), vehicle data, etc.
  Storage capacity up to 4MB RAM.
  Ensures safety by electrical signal and motor-driven lock bar and shutter.
  Bills and coins are stored in separate bins for ease of control.

**Compact and Thin Design**
The thin body design allows installation in a tight space.
(LF-C width x depth x height – approx. 20 x 6.3 x 29.4 inches)

**Easy Inspection and Maintenance**
Modular construction allows easy inspection, repair, and module replacement.