

## VIPAC speeds up parcel sorting

### Intelligent solutions for rapid parcel identification

#### The task

In the parcel receiving department of the largest parcel distribution center of UPS located in Louisville, Kentucky (World Port), Vitronic's identification system VIPAC recognizes and reads barcodes and 2D codes on parcels from three sides having a size of up to 1600 mm x 1000 mm x 1000 mm (L x W x H), and on smalls (large-format and normal letters). Data that cannot be machine-read is transferred to one of 83 video-coding stations, where it is processed remotely. The volume and weight of the parcels are also measured and registered automatically during the scanning process.

#### Benefit

Modern logistics centers place high requirements on automatic identification systems. All distribution and relevant data are automatically recognized and processed, so that the location of a package within the logistics chain can be established at any time. Parcel identification with VIPAC minimizes the number of parcels that have to be processed manually. High read rates are ensured by the use of CCD cameras.

#### Implementation

The parcel distribution center is designed for a throughput of 304,000 items per hour, including 144,000 parcels and 160,000 large-format letters. Every item is identified at the parcel receiving inbounds by a Vitronic camera system and video-coded if necessary. All parcels are scanned and identified, sorted according to destination, and directed on to the correct outbound delivery vehicle. There are 167 three-sided parcel identification systems with

integral volume measurement and weighing installed, which identify the codes at the customer required conveyor speed of 0.75 m/s.

Smalls identification (large-format letters) takes place at 28 tray-tipping sorters from Vanderlande Industries at a speed of 1.7 m/s. The different parcel surfaces are read by high-resolution CCD line cameras with a resolution of up to 8,000 pixels per line. A camera-based 3D measurement system controls the dynamic auto-focus. The cameras have a resolution of up to 250 dpi, corresponding to 0.1 mm per pixel. Multi-side reading systems, which depending on the application can read up to six sides of the parcel, also allow the use of conveyor systems in which the information is not located on any defined side of the parcel.

#### Technical Data

Cameras:	Parcels: 167 x three-sided 2 CCD-camera systems Large-format letters: 28 CCD-cameras
Illumination:	Adaptive sodium vapor lamps (date 2003) since 2005 maintenance free LED-illumination
Speed / Throughput:	2,000 Parcels per hour and per line 12,000 Smalls per hour and per line
Resolution:	0,1 mm
Total throughput:	300,000 packages per hour
Hardware / Interfaces:	Ethernet-LAN I/O interface, opto-isolated Volume measurement system VOLUME C