

# SHARP

## XE-A102

Electronic Cash Register



## Maximum Performance in Minimum Space

- New drawer slot provides quick and safe operation
- Key-activated mode switch for secure operation
- Locking cash drawer with 3 bill and 6 coin compartments
- Drum printing ensures for efficient use
- Bright, large-character LED display for easy viewing
- 8 pre-programmed departments
- 80 price look-ups (PLUs) for quick and accurate entry

# Manual For Sharp Xe A102 Electronic Cash Register

**Sharp Electronic Corporation, Shāpu  
Kabushiki Kaisha**



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web in linear algebra a rotation matrix is a transformation matrix that is used to perform a rotation in euclidean space for example using the convention below the matrix rotates points in the  $xy$  plane counterclockwise through an angle  $\theta$  about the origin of a two dimensional cartesian coordinate system

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web coordinates of  $v$  the standard coordinates are  $v_3$  are the  $b_1$   $b$  are assumed if no other basis is speci ed this means  $v = 3e_1 + 4e_2 + 4e_5 + 2e_6$  if  $b = \{v_1, v_2, v_3\}$  is a basis of  $\mathbb{R}^n$  then the matrix  $S$  which contains the vectors  $v_k$  as column vectors is called the coordinate change matrix

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web the vector  $\mathbf{b}$  is parallel to  $\mathbf{a}$  and points in the same direction if  $\alpha > 0$  for  $\alpha < 0$  the vector  $\mathbf{b}$  is parallel to but points in the opposite direction antiparallel if we multiply an arbitrary vector  $\mathbf{a}$  by the inverse of its magnitude  $1/|\mathbf{a}|$  we obtain a

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web and now that we know what  $\mathbf{d}$  is we can now solve for  $\mathbf{a}$  we can now solve for the transformation matrix with respect to the standard basis so to do that we have to figure out  $\mathbf{c}$  and  $\mathbf{c}^{-1}$  so  $\mathbf{c}$  remember  $\mathbf{c}$  is just the change of basis matrix and all that is is the basis vectors it's just a matrix with the basis vectors in the column

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web a translation by a nonzero vector is not a linear map because linear maps must send the zero vector to the zero vector however translations are very useful in performing coordinate transformations i'll introduce the following terminology for the composite of a linear transformation and a translation definition let  $\mathbf{a}$  be a real matrix

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web any vector  $\mathbf{v}$  represented in  $\mathbf{b}$  can be transformed to a representation in  $\mathbf{c}$  as follows under the transformation of basis notice that the superscript on the transformation matrix  $\mathbf{m}$  and the subscript on the coordinate vector  $\mathbf{v}$  are the same and seemingly cancel leaving the remaining subscript

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