Fundamentals and Applications of Hardcopy Communication

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Fundamentals and Applications of Hardcopy Communication

Conveying Side Information by Printed Media

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We dedicate this book to our families.

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Acronyms

A/D	Analog to digital
AWGN	Additive white Gaussian noise
BCH	Bose, Chaudhuri, and Hocquenghem
BER	Bit error rate
BW	Black and white
CAD	Computer-aided design
CCD	Charge-coupled device
CDM	Code division modulation
D/A	Digital to analog
DFT	Discrete Fourier transform
ECC	Error correction code
EM	Expectation-maximization
FFT	Fast Fourier transform
GUI	Graphic user interface
HCCB	Microsoft High Capacity Color Barcode
HSV	Hue, Saturation, Value Color Model
HVS	Human vision system
IPS	Inkjet Print Scan
IQM	Index quantization modulation
LOG	Laplacian of Gaussian filter
NP	Neyman-Pearson
NPI	Non-payload indicia
OCR	Optical character recognition
PAM	Pulse amplitude modulation
PBC	Position-based coding
PDF	Probability density function
PFN	Probability of false negative
PFP	Probability of false positive
PRS	Pseudo-random sequence
PS	Print and scan
PSD	Power spectral density

PSNR	Peak signal-to-noise ratio
PSWR	Peak signal-to-watermark ratio
RS	Reed-Solomon
RSA	Ron Rivest, Adi Shamir, and Leonard Adleman algorithm
SM	Sequential modulation
SSIM	Structural Similarity Index Metric
TCM	Text color modulation
TDM	Time division modulation
THM	Text halftoning modulation
TLM	Text luminance modulation
TSA	Text self authentication
VDP	Variable data printing
XOR	Exclusive OR